

.REM 8

IDENTIFICATION

PRODUCT CODE: AC T724B-MC
PRODUCT NAME: CZUADBO DELUA FUNCT DIAG
PRODUCT DATE: 28-MAR-1986
MAINTAINER: BRUCE RIBOLINI NAC DIAGNOSTIC ENG.
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REVISION HISTORY

REV.	DATE	AUTHOR	REASON/DESCRIPTION OF CHANGE
A0	08-JUL-85	J. CARMODY	INITIAL RELEASE
B0	28-MAR-86	J. CARMODY	<ol style="list-style-type: none">1) Starting after Test 6, change all 'ERRO06' messages immed. following first call to 'CHKFTL' in each test, to 'ERRO42'.2) Extend allowable range of DELUA address and vector.3) Modify error reporting in Test 8, SelfTest Test, and expand comments.4) Add code to Cleanup Coding Section to clear Interrupt Enable bit in PCSRO.5) Change name of Test 3 from 'PCSR1 DELUA ID BIT' to 'DELUA RESET', and add code to verify operation of bit 07, INTR bit, of PCSRO.6) Delete subroutines 'CKINTR', 'SETSER', 'CLRSER', 'CLRRCE' and 'CMRNT'.7) Modify TEST 26, 'EXTERNAL LOOPBACK TEST', and message contained in the Software P-table, so that program now offers the possibility to install the loopback connector during, or prior to the change of the software P-table, and thus avoid attended mode operation. If do select attended mode, and answer no to install loopback now, then install question will be asked when External Loopback Test started. Message will be printed on first pass only.8) Change Software P-table messages to more clearly identify the type of loopback to install, if plan to run in External Loopback mode.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

THIS PRODUCT IS THE PDP-11 FUNCTIONAL TESTING DIAGNOSTIC FOR THE DELUA. A CONFIGURATION OF UP TO EIGHT DELUA UNITS WILL BE ACCEPTED FOR TEST.

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DELUA OPERATIONAL MICROCODE FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DELUA FUNCTION.

THIS DIAGNOSTIC HAS BEEN WRITTEN FOR USE WITH THE DIAGNOSTIC RUNTIME SERVICES SOFTWARE (SUPERVISOR). THESE SERVICES PROVIDE THE INTERFACE TO THE OPERATOR AND TO THE SOFTWARE ENVIRONMENT. THIS PROGRAM CAN BE USED WITH XXDP+, ACT, APT, AND PAPER TAPE. FOR A COMPLETE DESCRIPTION OF THE RUNTIME SERVICES, REFER TO THE XXDP+ USER'S MANUAL. THERE IS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES IN SECTION 2 OF THIS DOCUMENT.

1.2 SYSTEM REQUIREMENTS

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE DELUA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU FROM SUPPORTED LIST (SEE BELOW)
32K MEMORY ;80
CONSOLE TERMINAL
DELUA, WITH H4080 OR EQUIVALENT LOOPBACK CONNECTOR INSTALLED, ;80
IF PLAN TO RUN EXTERNAL LOOPBACK TEST.

SUPPORTED PDP-11 CPU'S:
11/24,11/34A,11/44,11/70,11/84

1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHQUS

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DELUA FUNCTIONAL DIAGNOSTIC ARE ARRANGED IN A TEST HIERARCHY. TESTS SHOULD BE EXECUTED IN CONSECUTIVE ORDER FOR MAXIMUM FAULT ISOLATION.

1.5 ASSUMPTIONS

2.0 OPERATING INSTRUCTIONS

THIS SECTION CONTAINS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES. FOR DETAILED INFORMATION, REFER TO THE XXDP+ USER'S MANUAL (CHQUS).

2.1 COMMANDS

THERE ARE ELEVEN LEGAL COMMANDS FOR THE DIAGNOSTIC RUNTIME SERVICES

(SUPERVISOR). THIS SECTION LISTS THE COMMANDS AND GIVES A VERY BRIEF DESCRIPTION OF THEM. THE XXDP+ USER'S MANUAL HAS MORE DETAILS.

COMMAND	EFFECT
START	START THE DIAGNOSTIC FROM AN INITIAL STATE
RESTART	START THE DIAGNOSTIC WITHOUT INITIALIZING
CONTINUE	CONTINUE AT TEST THAT WAS INTERRUPTED (AFTER ↑C)
PROCEED	CONTINUE FROM AN ERROR HALT
EXIT	RETURN TO XXDP+ MONITOR (XXDP+ OPERATION ONLY!)
ADD	ACTIVATE A UNIT FOR TESTING (ALL UNITS ARE CONSIDERED TO BE ACTIVE AT START TIME)
DROP	DEACTIVATE A UNIT
PRINT	PRINT STATISTICAL INFORMATION (IF IMPLEMENTED BY THE DIAGNOSTIC - SECTION 4.0)
DISPLAY	TYPE A LIST OF ALL DEVICE INFORMATION
FLAGS	TYPE THE STATE OF ALL FLAGS (SEE SECTION 2.3)
ZFLAGS	CLEAR ALL FLAGS (SEE SECTION 2.3)

A COMMAND CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. SO YOU MAY, FOR EXAMPLE, TYPE "STA" INSTEAD OF "START".

2.2 SWITCHES

THERE ARE SEVERAL SWITCHES WHICH ARE USED TO MODIFY SUPERVISOR OPERATION. THESE SWITCHES ARE APPENDED TO THE LEGAL COMMANDS. ALL OF THE LEGAL SWITCHES ARE TABULATED BELOW WITH A BRIEF DESCRIPTION OF EACH. IN THE DESCRIPTIONS BELOW, A DECIMAL NUMBER IS DESIGNATED BY "DDDD".

SWITCH	EFFECT
/TESTS:LIST	EXECUTE ONLY THOSE TESTS SPECIFIED IN THE LIST. LIST IS A STRING OF TEST NUMBERS, FOR EXAMPLE - /TESTS:1:5:7-10. THIS LIST WILL CAUSE TESTS 1,5,7,8,9,10 TO BE RUN. ALL OTHER TESTS WILL NOT BE RUN.
/PASS:DDDD	EXECUTE DDDDD PASSES (DDDD = 1 TO 64000)
/FLAGS:FLGS	SET SPECIFIED FLAGS. FLAGS ARE DESCRIBED IN SECTION 2.3.
/EOP:DDDD	REPORT END OF PASS MESSAGE AFTER EVERY DDDDD PASSES ONLY. (DDDD = 1 TO 64000)
/UNITS:LIST	TEST/ADD/DROP ONLY THOSE UNITS SPECIFIED IN THE LIST. LIST EXAMPLE - /UNITS:0:5:10-12 USE UNITS 0,5,10,11,12 (UNIT NUMBERS = 0-63)

EXAMPLE OF SWITCH USAGE:

START/TESTS:1-5/PASS 1000/EOP:100

THE EFFECT OF THIS COMMAND WILL BE: 1) TESTS 1 THROUGH 5 WILL BE EXECUTED, 2) ALL UNITS WILL TESTED 1000 TIMES AND 3) THE END OF PASS MESSAGES WILL BE PRINTED AFTER EACH 100 PASSES ONLY. A SWITCH CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. YOU MAY, FOR EXAMPLE, TYPE "/TES:1-5" INSTEAD OF "/TESTS:1-5".

BELOW IS A TABLE THAT SPECIFIES WHICH SWITCHES CAN BE USED BY EACH COMMAND.

	TESTS	PASS	FLAGS	EOP	UNITS
START	X	X	X	X	X
RESTART	X	X	X	X	X
CONTINUE		X	X	X	
PROCEED			X		
DROP					X
ADD					X
PRINT					
DISPLAY					X
FLAGS					
ZFLAGS					
EXIT					

2.3 FLAGS

FLAGS ARE USED TO SET UP CERTAIN OPERATIONAL PARAMETERS SUCH AS LOOPING ON ERROR. ALL FLAGS ARE CLEARED AT STARTUP AND REMAIN CLEARED UNTIL EXPLICITLY SET USING THE FLAGS SWITCH. FLAGS ARE ALSO CLEARED AFTER A START COMMAND UNLESS SET USING THE FLAG SWITCH. THE ZFLAGS COMMAND MAY ALSO BE USED TO CLEAR ALL FLAGS. WITH THE EXCEPTION OF THE START AND ZFLAGS COMMANDS, NO COMMANDS AFFECT THE STATE OF THE FLAGS; THEY REMAIN SET OR CLEARED AS SPECIFIED BY THE LAST FLAG SWITCH.

FLAG	EFFECT
HOE	HALT ON ERROR - CONTROL IS RETURNED TO RUNTIME SERVICES COMMAND MODE
LOE	LOOP ON ERROR
IER*	INHIBIT ALL ERROR REPORTS
IBE*	INHIBIT ALL ERROR REPORTS EXCEPT FIRST LEVEL (FIRST LEVEL CONTAINS ERROR TYPE, NUMBER, PC, TEST AND UNIT)
IXE*	INHIBIT EXTENDED ERROR REPORTS (THOSE CALLED BY PRINTX MACRO'S)
PRI	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER AS TEST EXECUTES
BOE	"BELL" ON ERROR
UAM	UNATTENDED MODE (NO MANUAL INTERVENTION)
ISR	INHIBIT STATISTICAL REPORTS (DOES NOT APPLY TO DIAGNOSTICS WHICH DO NOT SUPPORT STATISTICAL REPORTING)
IDR	INHIBIT PROGRAM DROPPING OF UNITS
ADR	EXECUTE AUTODROP CODE
LOT	LOOP ON TEST
EVL	EXECUTE EVALUATION (ON DIAGNOSTICS WHICH HAVE EVALUATION SUPPORT)

*ERROR MESSAGES ARE DESCRIBED IN SECTION 3.1

SEE THE XXDP+ USER'S MANUAL FOR MORE DETAILS ON FLAGS. YOU MAY SPECIFY MORE THAN ONE FLAG WITH THE FLAG SWITCH. FOR EXAMPLE, TO CAUSE THE PROGRAM TO LOOP ON ERROR, INHIBIT ERROR REPORTS

AND TYPE A "BELL" ON ERROR, YOU MAY USE THE FOLLOWING STRING:

/FLAGS:LOE:IER:BOE

2.4 HARDWARE QUESTIONS

WHEN A DIAGNOSTIC IS STARTED, THE RUNTIME SERVICES WILL PROMPT THE USER FOR HARDWARE INFORMATION BY TYPING "CHANGE HW (L) ?" YOU MUST ANSWER "Y" AFTER A START COMMAND UNLESS THE HARDWARE INFORMATION HAS BEEN "PRELOADED" USING THE SETUP UTILITY (SEE CHAPTER 6 OF THE XXDP+ USER'S MANUAL). WHEN YOU ANSWER THIS QUESTION WITH A "Y", THE RUNTIME SERVICES WILL ASK FOR THE NUMBER OF UNITS (IN DECIMAL). YOU WILL THEN BE ASKED THE FOLLOWING QUESTIONS FOR EACH UNIT.

WHAT IS THE PCSRO ADDRESS ?
THIS IS THE ADDRESS AT WHICH PCSRO RESIDES ON THE UNIBUS.
THE ALLOWABLE RANGE IS 160000 - 174600 OCTAL. ;80

WHAT IS THE VECTOR ADDRESS ?
THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.
THE ALLOWABLE RANGE IS 120 - 770 OCTAL. ;80

SAMPLE DIALOGUE:

UNIT 0
WHAT IS THE PCSRO ADDRESS? (0) ? 174510
WHAT IS THE VECTOR ADDRESS? (0) ? 120

UNIT 1
WHAT IS THE PCSRO ADDRESS? (0) ? 174520
WHAT IS THE VECTOR ADDRESS (0) ? 130

2.5 SOFTWARE QUESTIONS

AFTER YOU HAVE ANSWERED THE HARDWARE QUESTIONS OR AFTER A RESTART OR CONTINUE COMMAND, THE RUNTIME SERVICES WILL ASK FOR SOFTWARE PARAMETERS. THESE PARAMETERS WILL GOVERN SOME DIAGNOSTIC SPECIFIC OPERATION MODES. YOU WILL BE PROMPTED BY "CHANGE SW (L) ?" IF YOU WISH TO CHANGE ANY PARAMETERS, ANSWER BY TYPING "Y".

THE ONLY SOFTWARE QUESTIONS FOR THIS DEVICE CONCERN EXTERNAL LOOPBACK TEST:

RUN EXTERNAL LOOPBACK TEST?

THE DEFAULT IS NO (No skips test, This means that
External Loopback will not be tested
at all).

YES, WILL LOOP A FRAME USING EXTERNAL LOOPBACK MODE.

SAMPLE DIALOGUE:

RUN EXTERNAL LOOPBACK TEST (REQ. H4080 OR EQUIVALENT LOOPBACK?
(L) N ? Y <CR>

NOTE: THIS NEXT QUESTION IS ASKED REGARDLESS OF ANSWER TO ABOVE QUESTION.
IF ANSWERED NO TO ABOVE QUESTION, ANSWER NO HERE ALSO.

TO AVOID MAN. INTERVENTION, INSTALL H4080 OR EQUIV. LOOPBACK
NOW? (L) N ? Y <CR>

2.6 EXTENDED P-TABLE DIALOGUE

WHEN YOU ANSWER THE HARDWARE QUESTIONS, YOU ARE BUILDING ENTRIES IN A TABLE THAT DESCRIBES THE DEVICES UNDER TEST. THE SIMPLEST WAY TO BUILD THIS TABLE IS TO ANSWER ALL QUESTIONS FOR EACH UNIT TO BE TESTED. IF YOU HAVE A MULTIPLEXED DEVICE SUCH AS A MASS STORAGE CONTROLLER WITH SEVERAL DRIVES OR A COMMUNICATION DEVICE WITH SEVERAL LINES, THIS BECOMES TEDIOUS SINCE MOST OF THE ANSWERS ARE REPETITIOUS.

TO ILLUSTRATE A MORE EFFICIENT METHOD, SUPPOSE YOU ARE TESTING A FICTIONAL DEVICE, THE XY11. SUPPOSE THIS DEVICE CONSISTS OF A CONTROL MODULE WITH EIGHT UNITS (SUB-DEVICES) ATTACHED TO IT. THESE UNITS ARE DESCRIBED BY THE OCTAL NUMBERS 0 THROUGH 7. THERE IS ONE HARDWARE PARAMETER THAT CAN VARY AMONG UNITS CALLED THE Q-FACTOR. THIS Q-FACTOR MAY BE 0 OR 1. BELOW IS A SIMPLE WAY TO BUILD A TABLE FOR ONE XY11 WITH EIGHT UNITS.

UNITS (D) ? 8<CR>

UNIT 1
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 0<CR>
Q-FACTOR (O) 0 ? 1<CR>

UNIT 2
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 1<CR>
Q-FACTOR (O) 1 ? 0<CR>

UNIT 3
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 2<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 4
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 3<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 5
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 4<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 6
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 5<CR>
Q-FACTOR (O) 0 ? <CR>


```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

```
UNIT 8
CSR ADDRESS (0) 174510<CR>
SUB-DEVICE # (0) ? 7<CR>
Q-FACTOR (0) 1 ? <CR>
```

NOTICE THAT THE DEFAULT VALUE FOR THE Q-FACTOR CHANGES WHEN A NON-DEFAULT RESPONSE IS GIVEN. BE CAREFUL WHEN SPECIFYING MULTIPLE UNITS!

AS YOU CAN SEE FROM THE ABOVE EXAMPLE, THE HARDWARE PARAMETERS DO NOT VARY SIGNIFICANTLY FROM UNIT TO UNIT. THE PROCEDURE SHOWN IS NOT VERY EFFICIENT.

THE RUNTIME SERVICES CAN TAKE MULTIPLE UNIT SPECIFICATIONS HOWEVER. LET'S BUILD THE SAME TABLE USING THE MULTIPLE SPECIFICATION FEATURE.

```
# UNITS (0) ? 8<CR>
```

```
UNIT 1
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1.0<CR>
```

```
UNIT 3
CSR ADDRESS (0) ? 174510<CR>
SUB DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>
```

```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6,7<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

AS YOU CAN SEE IN THE ABOVE DIALOGUE, THE RUNTIME SERVICES WILL BUILD AS MANY ENTRIES AS IT CAN WITH THE INFORMATION GIVEN IN ANY ONE PASS THROUGH THE QUESTIONS. IN THE FIRST PASS, TWO ENTRIES ARE BUILT SINCE TWO SUB-DEVICES AND Q-FACTORS WERE SPECIFIED. THE SERVICES ASSUME THAT THE CSR ADDRESS IS 174510 FOR BOTH SINCE IT WAS SPECIFIED ONLY ONCE. IN THE SECOND PASS, FOUR ENTRIES WERE BUILT. THIS IS BECAUSE FOUR SUB-DEVICES WERE SPECIFIED. THE "-" CONSTRUCT TELLS THE RUNTIME SERVICES TO INCREMENT THE DATA FROM THE FIRST NUMBER TO THE SECOND. IN THIS CASE, SUB-DEVICES 2, 3, 4 AND 5 WERE SPECIFIED. (IF THE SUB-DEVICE WERE SPECIFIED BY ADDRESSES, THE INCREMENT WOULD BE BY 2 SINCE ADDRESSES MUST BE ON AN EVEN BOUNDARY.) THE CSR ADDRESSES AND Q-FACTORS FOR THE FOUR ENTRIES ARE ASSUMED TO BE 174510 AND 0 RESPECTIVELY SINCE THEY WERE ONLY SPECIFIED ONCE. THE LAST TWO UNITS ARE SPECIFIED IN THE THIRD PASS.

THE WHOLE PROCESS COULD HAVE BEEN ACCOMPLISHED IN ONE PASS AS SHOWN BELOW.

```
# UNITS (D) ? 8<CR>
UNIT 1
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 0-7<CR>
Q-FACTOR (0) 0 ? 0,1,0,...,1,1<CR>
```

AS YOU CAN SEE FROM THIS EXAMPLE, NULL REPLIES (COMMAS ENCLOSING A NULL FIELD) TELL THE RUNTIME SERVICES TO REPEAT THE LAST REPLY.

2.7 QUICK START-UP PROCEDURE (XXDP+)

TO START-UP THIS PROGRAM:

1. BOOT XXDP+
2. GIVE THE DATE AND ANSWER ANY QUESTIONS
3. TYPE "R NAME", WHERE NAME IS THE NAME OF THE BIN OR BIC FILE FOR THIS PROGRAM
4. TYPE "START"
5. ANSWER THE "CHANGE HW" QUESTION WITH "Y"
6. ANSWER ALL THE HARDWARE QUESTIONS
7. ANSWER THE "CHANGE SW" QUESTION WITH "N"

WHEN YOU FOLLOW THIS PROCEDURE YOU WILL BE USING ONLY THE DEFAULTS FOR FLAGS AND SOFTWARE PARAMETERS. THESE DEFAULTS ARE DESCRIBED IN SECTIONS 2.3 AND 2.5.

3.0 ERROR INFORMATION

3.1 TYPES OF ERROR MESSAGES

THERE ARE THREE LEVELS OF ERROR MESSAGES THAT MAY BE ISSUED BY A DIAGNOSTIC: GENERAL, BASIC AND EXTENDED. GENERAL ERROR MESSAGES ARE ALWAYS PRINTED UNLESS THE "IER" FLAG IS SET (SECTION 2.3). THE GENERAL ERROR MESSAGE IS OF THE FORM:

```
NAME TYPE NUMBER ON UNIT NUMBER TST NUMBER PC:XXXXXX
ERROR MESSAGE
```

WHERE; NAME = DIAGNOSTIC NAME
TYPE = ERROR TYPE (SYS FATAL, DEV FATAL, HARD OR SOFT)
NUMBER = ERROR NUMBER
UNIT NUMBER = 0 - N (N IS LAST UNIT IN PTABLE)
TST NUMBER = TEST AND SUBTEST WHERE ERROR OCCURRED
PC:XXXXXX = ADDRESS OF ERROR MESSAGE CALL

BASIC ERROR MESSAGES ARE MESSAGES THAT CONTAIN SOME ADDITIONAL INFORMATION ABOUT THE ERROR. THESE ARE ALWAYS PRINTED UNLESS THE "IER" OR "IBE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL MESSAGE.

EXTENDED ERROR MESSAGES CONTAIN SUPPLEMENTARY ERROR INFORMATION SUCH AS REGISTER CONTENTS OR GOOD/BAD DATA. THESE ARE ALWAYS PRINTED UNLESS THE "IER", "IBE" OR "IXE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL ERROR MESSAGE AND ANY ASSOCIATED BASIC ERROR MESSAGES.

3.2 SPECIFIC ERROR MESSAGES

ALL ERROR REPORTS FOR THIS DIAGNOSTIC ARE SELF-EXPLANATORY AND WHENEVER POSSIBLE CALLS OUT THE FAILING DELUA FUNCTION. WHENEVER A DATA COMPARE ERROR IS REPORTED THE "SHOULD BE" AND "WAS" DATA WILL ALSO BE REPORTED.

THE FOLLOWING IS A LIST OF ALL THE POSSIBLE ERRORS:

REGISTER ACCESS ERROR
DATA COMPARE ERROR IN PCSR2
DATA COMPARE ERROR IN PCSR3
DNI BIT FAILED TO SET AFTER DEVICE RESET
SELF TEST FAILURE
WRITING ONE TO CLEAR DNI BIT FAILED
NO DNI INTERRUPT OCCURED AFTER GET PCBB PORT COMMAND
DNI BIT FAILED TO SET AFTER NO' PORT COMMAND
DNI BIT FAILED TO SET AFTER GET PCBB PORT COMMAND
DNI BIT FAILED TO SET AFTER GET CMD PORT COMMAND
DNI BIT FAILED TO SET AFTER START PORT COMMAND
TXI BIT FAILED TO SET
WRITING ONE TO CLEAR TXI BIT FAILED
RXI BIT FAILED TO SET
WRITING ONE TO CLEAR RXI BIT FAILED
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF RDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF TDRB
DNI BIT FAILED TO SET AFTER STOP PORT COMMAND
DATA COMPARE ERROR IN TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN RECEIVE DESCRIPTOR RING
TRANSMIT-RECEIVE DATA COMPARE ERROR
CRC COMPARE ERROR
INTERNAL ROM CRC COMPARE ERROR
RCBI BIT FAILED TO SET
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB
DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING
DNI BIT NOT SET AFTER PORT HALT COMMAND
FATAL ERROR - DELUA ID BIT NOT SET
ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS
INTERNAL RAM MEMORY DATA COMPARE ERROR
DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND
INTERRUPT SUMMARY BIT FAILED TO SET ON DNI SET
'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=0>
'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=1>
PCSR0 INTERRUPT BIT CLEAR ERROR
RECEIVED PACKET COUNTER NOT GREATER THAN 0

4.0 PERFORMANCE AND PROGRESS REPORTS

AT THE END OF EACH PASS, THE PASS COUNT IS GIVEN ALONG WITH THE TOTAL NUMBER OF ERRORS REPORTED SINCE THE DIAGNOSTIC WAS STARTED. THE "EOP" SWITCH CAN BE USED TO CONTROL HOW OFTEN THE END OF PASS MESSAGE IS PRINTED. SECTION 2.2 DESCRIBES SWITCHES.

5.0 DEVICE INFORMATION TABLES

AT THE COMPLETION OF THE FIRST PASS FOR EACH DEVICE BEING TESTED DEVICE INFORMATION FOR THAT DEVICE IS PRINTED. THIS PRINTOUT CONTAINS THE ETHERNET DEFAULT ADDRESS, THE ROM MICROCODE VERSION, AND THE SWITCH PACK SETTINGS FOR SELF TEST LOOP AND REMOTE BOOT.

EXAMPLE PRINTOUT:

ETHERNET DEFAULT ADDRESS (HEX): AA-00-03-00-00-02

ROM MICROCODE VERSION (DECIMAL): 1

SWITCH PACK SET FOR :

 SELF TEST MANUFACTURING MODE DISABLED

 REMOTE BOOT ENABLED WITH ROM

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE DIAGNOSTIC IF TEST 27 IS RUN SEPARATELY VIA THE /TESTS:27 SUPERVISOR SWITCH.

6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS

VERIFIES:

A DEVICE IS PRESENT AT THE PCSRO
UNIBUS ADDRESS SPECIFIED.

TEST 2: PCSR1 READ ACCESS

VERIFIES:

A DEVICE IS PRESENT AT THE PCSR1
UNIBUS ADDRESS SPECIFIED.

TEST 3: DELUA RESET TEST

;80

VERIFIES:

BOTH DNI, AND INTR BITS SET IN PCSRO
FOLLOWING SETTING THE DELUA RESET BIT.

;80
;80

ALSO THAT BIT 06, AND NO OTHER BITS IN THE
IN THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING
A DELUA RESET

TEST 4: PCSR2 READ ACCESS

VERIFIES:

A DEVICE IS PRESENT AT THE PCSR2
UNIBUS ADDRESS SPECIFIED.

TEST 5: PCSR3 READ ACCESS

VERIFIES:

A DEVICE IS PRESENT AT THE PCSR3
UNIBUS ADDRESS SPECIFIED.

TEST 6: PCSR2 STATIC BIT

VERIFIES:

PCSR2 FOR ALL STUCK-AT-0 (SA0) AND STUCK-AT-1
(SA1) ERRORS. THE HOST WILL WRITE PATTERNS
TO PCSR2, AND READ THEM BACK TO VERIFY.

TEST 7: PCSR3 STATIC BIT

VERIFIES:

PCSR3 FOR ALL SA0 AND SA1 ERRORS. THE HOST WILL
WRITE PATTERNS TO PCSR3 AND READ THEM BACK TO VERIFY.

TEST 8: SELF TEST

VERIFIES:

THE ROM BASED SELF TEST CAN BE RUN SUCCESSFULLY
WHEN INVOKED VIA THE SELF TEST PORT COMMAND.

TEST 9: PORT COMMAND

VERIFIES:

NO ERRORS OCCUR WHEN A DELUA PORT COMMAND IS
ISSUED.

TEST 10: INTERRUPT LOGIC

VERIFIES:

A DELUA INTERRUPT CAN BE GENERATED.

TEST 11: READ INTERNAL ROM

VERIFIES:

INTERNAL ROM.

TEST 12: READ/WRITE INTERNAL MEMORY

VERIFIES:

INTERNAL RAM CAN BE WRITTEN AND READ

TEST 13: INTERNAL LOOPBACK

VERIFIES:

NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED
AND RECEIVED IN INTERNAL LOOPBACK MODE.

TEST 14: CRC CHECKING

VERIFIES:

CRC CHECKING LOGIC IS OPERATIONAL.

TEST 15: FORCE CRC ERROR

VERIFIES:
CRC ERROR DETECTION IS OPERATIONAL.

TEST 16: NO RECEIVE BUFFER

VERIFIES:
A RECEIVE BUFFER ERROR (RCBI) CAN BE GENERATED.

TEST 17: DISABLE RECEIVE CHAINING

VERIFIES:
DISABLE RECEIVE CHAINING MODE IS OPERATIONAL.

TEST 18: TRANSMIT CHAINING ERROR

VERIFIES:
DETECTION OF A BUFFER LENGTH ERROR WILL CAUSE
THE CORRESPONDING ERROR BIT, 'BUFL' TO SET IN
THE TRANSMIT DESCRIPTOR RING.

TEST 19: DATA CHAINING

VERIFIES:
TRANSMIT AND RECEIVE DATA CHAINING.

TEST 20: PHYSICAL ADDRESS

VERIFIES:
PHYSICAL ADDRESS FUNCTION IS OPERATIONAL.

TEST 21: MULTICAST ADDRESS

VERIFIES:
MULTICAST ADDRESS FUNCTION IS OPERATIONAL.

TEST 22: PROMISCUOUS ADDRESS

VERIFIES:

THE DELUA IN PROMISCUOUS MODE WILL ACCEPT ALL PACKETS REGARDLESS OF DESTINATION ADDRESS.

TEST 23: ENABLE ALL MULTICAST

VERIFIES:

THE DELUA IN MULTICAST MODE WILL ACCEPT ALL PACKETS WITH MULTICAST DESTINATION ADDRESSES.

TEST 24: INT. LOOPBACK TRANSMIT LENGTH ERROR

VERIFIES:

IF PORT DRIVER ATTEMPTS TO TRANSMIT GREATER THAN A 32 BYTE <DTCR = 0> OR 36 BYTE <DTCR = 1> TRANSMIT FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH' ERROR.

TEST 25: SIMULTANEOUS OPERATIONS

VERIFIES:

SIMULTANEOUS OPERATIONS CAN BE PERFORMED.

TEST 26: EXTERNAL LOOPBACK (MANUAL INTERVENTION REQUIRED ON FIRST PASS) ;B0

NOTE: IN ORDER TO PERFORM, THIS TEST MUST BE SOFTWARE SELECTED

:B0

OPTIONAL SETUPS:

- 1) DEFAULT - (DID NOT CHANGE SOFTWARE P-TABLE), OR ANSWERED NO FOR "RUN EXTERNAL LOOPBACK TEST?" IN SOFTWARE P-TABLE.
ACTION - EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID MAN. INTERVENTION, INSTALL LOOPBACK NOW?", IN SOFTWARE P-TABLE.
ACTION - IF IN ATTENDED MODE, TEST WILL ASK, ON FIRST PASS ONLY, TO HAVE OPERATOR INSTALL LOOPBACK CONNECTOR, THEN PROCEED WITH TEST.

IF IN UAM, WILL ISSUE A SKIP TEST MESSAGE AND EXIT THE TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN. INTERVENTION INSTALL LOOPBACK NOW?", IN

ACTION SOFTWARE P-TABLE.
TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED,
AND WILL RUN WITHOUT OPERATOR INTERVENTION
REGARDLESS OF UAM SELECTION.

VERIFIES:
USING AN H4080, OR EQUIVALENT, LOOPBACK CONNECTOR,
INSURES NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED
AND, RECEIVED IN EXTERNAL LOOPBACK MODE.

TEST 27: PRINT DEVICE PARAMETERS (PERFORMED ON FIRST PASS ONLY)

VERIFIES:
PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
REVISION, AND THE SWITCH PACK SETTINGS.

&

```

896 .TITLE PROGRAM HEADER AND TABLES
897
898 .SBTTL PROGRAM HEADER
916
918 000000 .ENABL ABS,AMA
919 002000 . =2000
921
922 002000 BGNMOD
923
924 ;**
925 ; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
926 ; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
927 ;--
929 002000 POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGNDU,ERRTBL
930
931
932 002000 HEADER CZUAD,B,0,11,0,340
002000
002000 103
002001 132
002002 121
002003 101
002004 104
002005 000
002006 000
002007 000
002010
002010 102
002011
002011 060
002012
002012 000000
002014
002014 000011
002016
002016 104272
002020
002020 104404
002022
002022 002214
002024
002024 002222
002026
002026 104700
002030
002030 000000
002032
002032 000000
002034
002034 000000
002036
002036 000000
002040
002040 002124
002042
002042 000340

```

```

L$NAME::
.ASCII /C/
.ASCII /Z/
.ASCII /U/
.ASCII /A/
.ASCII /D/
.BYTE 0
.BYTE 0
.BYTE 0
L$REV::
.ASCII /B/
L$DEPO::
.ASCII /O/
L$UNIT::
.WORD 0
L$TIML::
.WORD 11
L$HPCP::
.WORD L$HARD
L$SPCP::
.WORD L$SOFT
L$HPTP::
.WORD L$HW
L$SPTP::
.WORD L$SW
L$LADP::
.WORD L$LAST
L$STA::
.WORD 0
L$CO::
.WORD 0
L$DTYP::
.WORD 0
L$APT::
.WORD 0
L$DTP::
.WORD L$DISPATCH
L$PRIO::
.WORD 340

```

```

002044
002044 000000
002046
002046 000000
002050
002050 004
002051 000
002052
002052 000000
002054 000000
002056
002056 000000
002060
002060 020662
002062
002062 035370
002064
002064 000000
002066
002066 000000
002070
002070 036350
002072
002072 036342
002074
002074 000000
002076
002076 020670
002100
002100 104035
002102
002102 020652
002104
002104 035404
002106
002106 036172
002110
002110 036170
002112
002112 035376
002114
002114 000000
002116
002116 000000
002120
002120 000000

```

```

933
934

```

```

L$ENVI:: .WORD 0
L$EXP1:: .WORD 0
L$MREV:: .BYTE C$REVISION
          .BYTE C$EDIT
L$EF:: .WORD 0
        .WORD 0
L$SPC:: .WORD 0
L$DEVP:: .WORD L$DVTYP
L$REPP:: .WORD L$RPT
L$EXP4:: .WORD 0
L$EXPS:: .WORD 0
L$AUT:: .WORD L$AU
L$DUT:: .WORD L$DU
L$LUN:: .WORD 0
L$DESP:: .WORD L$DESC
L$LOAD:: EMT E$LOAD
L$ETP:: .WORD L$ERRTBL
L$ICP:: .WORD L$INIT
L$CCP:: .WORD L$CLEAN
L$ACP:: .WORD L$AUTO
L$PRT:: .WORD L$PROT
L$TEST:: .WORD 0
L$DLY:: .WORD 0
L$HIME:: .WORD 0

```

H2

PROGRAM HEADER AND TABLES
DISPATCH TABLE

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SEQ 20

936
937
938
939
940
941
942
943

.SBTTL DISPATCH TABLE

; THE DISPATCH TABLE CONTAINS THE STARTING ADDRESS OF EACH TEST.
; IT IS USED BY THE SUPERVISOR TO DISPATCH TO EACH TEST.

DISPATCH 27.

002122
002122 000033
002124
002124 036436
002126 036614
002130 037000
002132 037224
002134 037410
002136 037574
002140 040006
002142 040220
002144 041652
002146 042276
002150 042644
002152 043370
002154 044624
002156 046234
002160 047612
002162 051226
002164 052330
002166 053742
002170 055230
002172 057034
002174 062512
002176 066446
002200 072702
002202 075174
002204 076634
002206 100520
002210 102400

.WORD 27
L+DISPATCH:;
.WORD T1
.WORD T2
.WORD T3
.WORD T4
.WORD T5
.WORD T6
.WORD T7
.WORD T8
.WORD T9
.WORD T10
.WORD T11
.WORD T12
.WORD T13
.WORD T14
.WORD T15
.WORD T16
.WORD T17
.WORD T18
.WORD T19
.WORD T20
.WORD T21
.WORD T22
.WORD T23
.WORD T24
.WORD T25
.WORD T26
.WORD T27

944

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947
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949
950
951
952
953
954

.SBTTL DEFAULT HARDWARE P-TABLE

;++
; THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
; THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
; IS IDENTICAL TO THE STRUCTURE OF THE HARDWARE P-TABLES,
; AND IS USED AS A "TEMPLATE" FOR BUILDING THE P-TABLES.
;--

955 002212
002212 000002
002214
002214

BGNHW DFPTBL

.WORD L10000-L\$HW/2
L\$HW::
DFPTBL::

956
957 002214 000000
958 002216 000000
959 002220
002220

.WORD 0
.WORD 0
ENDHW

; PCSRO - UNIBUS ADDRESS
; DELUA INTERRUPT VECTOR

L10000:

J2

```

961          .SBTTL  SOFTWARE P-TABLE
962
963          ;++
964          ; THE SOFTWARE TABLE CONTAINS VARIOUS DATA USED BY THE
965          ; PROGRAM AS OPERATIONAL PARAMETERS.  THESE PARAMETERS ARE
966          ; SET UP AT ASSEMBLY TIME AND MAY BE VARIED BY THE OPERATOR
967          ; AT RUN TIME.
968          ;--
969
970          BGNSW  SFPTBL
          002220          .WORD  L10001-L$SW/2
          002220  000002
          002222          L$SW::
          002222          SFPTBL::
971
972
973          EXLOOP: .WORD 0          ; SELECT EXTERNAL LOOPBACK TEST FLAG
974          LOOPCN: .WORD 0          ; LOOPBACK CONNECTOR INSTALLED FLAG          ;90
975          .EVEN
976          ENDSW
          002226          L10001:
          002226
977
978

```

K2

991
992
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022 002226

.TITLE GLOBAL AREAS
.SBTTL GLOBAL EQUATES SECTION

;++
; THE GLOBAL EQUATES SECTION CONTAINS PROGRAM EQUATES THAT
; ARE USED IN MORE THAN ONE TEST.
;--

EQUALS

; BIT DIFINITIONS

100000	BIT15== 100000
040000	BIT14== 40000
020000	BIT13== 20000
010000	BIT12== 10000
004000	BIT11== 4000
002000	BIT10== 2000
001000	BIT09== 1000
000400	BIT08== 400
000200	BIT07== 200
000100	BIT06== 100
000040	BIT05== 40
000020	BIT04== 20
000010	BIT03== 10
000004	BIT02== 4
000002	BIT01== 2
000001	BIT00== 1

001000	BIT9== BIT09
000400	BIT8== BIT08
000200	BIT7== BIT07
000100	BIT6== BIT06
000040	BIT5== BIT05
000020	BIT4== BIT04
000010	BIT3== BIT03
000004	BIT2== BIT02
000002	BIT1== BIT01
000001	BIT0== BIT00

; EVENT FLAG DEFINITIONS
; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

000040	EF.START== 32.	; BIT POSITION IN SECOND STATUS WORD
000037	EF.RESTART== 31.	; (100000) START COMMAND WAS ISSUED
000036	EF.CONTINUE== 30.	; (040000) RESTART COMMAND WAS ISSUED
000035	EF.NEW== 29.	; (020000) CONTINUE COMMAND WAS ISSUED
000034	EF.PWR== 28.	; (010000) A NEW PASS HAS BEEN STARTED
		; (004000) A POWER-FAIL/POWER-UP OCCURRED

; PRIORITY LEVEL DEFINITIONS

```

000340      PRI07== 340
000300      PRI06== 300
000240      PRI05== 240
000200      PRI04== 200
000140      PRI03== 140
000100      PRI02== 100
000040      PRI01== 40
000000      PRI00== 0
;
; OPERATOR FLAG BITS
;
000004      EVL==      4
000010      LOT==     10
000020      ADR==     20
000040      IDU==     40
000100      ISR==    100
000200      UAM==    200
000400      BOE==    400
001000      PNT==   1000
002000      PRI==   2000
004000      IXE==   4000
010000      IBE==  10000
020000      IER==  20000
040000      LOE==  40000
100000      HOE== 100000
;
1023      ; PCSRO - PORT CONTROL AND STATUS REGISTER 0
1024      SERI ==      BIT15 ; STATUS ERROR INTERRUPT
1025      100000      PCEI ==      BIT14 ; PORT COMMAND ERROR INTERRUPT
1026      040000      RXI  ==      BIT13 ; RECEIVE RING INTERRUPT
1027      020000      TXI  ==      BIT12 ; TRANSMIT RING INTERRUPT
1028      010000      DNI  ==      BIT11 ; DONE INTERRUPT
1029      004000      RCBI ==      BIT10 ; RECEIVE BUFFER UNAVAILABLE
1030      002000      FATL ==      BIT09 ; FATAL ERROR INTERRUPT -
1031      001000      ; ; TELL PORT DRIVER TO IGNORE CONTENTS
1032      ; ; OF PCSR1
1033      ; ; UNSOLICITED STATE CHANGE INTERRUPT
1034      000400      USCI ==      BIT08 ;
1035      175400      CLINTB ==      SERI+PCEI+RXI+TXI+DNI+FATL+USCI ;
1036      ; ; WRITE 1 TO CLEAR MASK - PCSRO UPPER BYTE
1037      000200      SERIB ==      BIT07 ; STATUS ERROR INTERRUPT BYTE REFERENCE
1038      000100      PCEIB ==      BIT06 ; PORT COMMAND ERROR INTERRUPT BYTE REF
1039      000040      RXIB  ==      BIT05 ; RECEIVE RING INTERRUPT BYTE REF
1040      000020      TXIB  ==      BIT04 ; TRANSMIT RING INTERRUPT BYTE REF
1041      000010      DNIB  ==      BIT03 ; DONE INTERRUPT BYTE REF
1042      000004      RCIB  ==      BIT02 ; RECEIVE BUFFER UNAVAILABLE
1043      000002      FATLIB ==      BIT01 ; FATAL ERROR INTERRUPT BYTE REF.
1044      000001      USCIB ==      BIT00 ; UNSOLICITED STATE CHANGE INTERRUPT BYTE REF.
1045      ;
1046      INTR  ==      BIT07 ; INTERRUPT SUMMARY <15:08>
1047      INTE  ==      BIT06 ; INTERRUPT ENABLE
1048      RSET  ==      BIT05 ; DELUA RESET
1049      ;
1050      ; DEVICE ID <06:04> ; IDENTIFIES DEVICE TO HOST
1051      ; PORT COMMANDS <03:00>
1052      000001      GETPCB ==      BIT00
1053      000002      GETCMD ==      BIT01
1054      000003      SLFT  ==      BIT00:BIT01

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1055      000004      START == BIT02
1056      000006      PNOP  == BIT01!BIT02
1057      000010      PDMD  == BIT03
1058      000016      HALT  == BIT03!BIT02!BIT01
1059      000017      STOP  == BIT03!BIT02!BIT01!BIT00
1060
1061      ;PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1062
1063      ;SELF TEST ERROR CODE <13:08>
1064      140377      STMASK == 140377 ; SELF TEST MASK
1065
1066      000200      PCTO  == BIT07 ; PORT COMMAND TIMEOUT
1067
1068      000010      RMTC  == BIT03 ; REMOTE CONSOLE RESERVED
1069
1070
1071      ;DEVICE ID FIELD <06:04>
1072      000020      DELUAI == 20 ;DEVICE IS DELUA IF ONLY BIT SET
1073
1074      ;PORT STATE <02:00>
1075      177770      SMASK == 177770 ; STATE MASK
1076
1077      000000      RESET == 0
1078      000001      PRILD == BIT00 ; PRIMARY LOAD STATE
1079      000002      READY == BIT01
1080      000003      RUN   == BIT00!BIT01
1081      000005      UNHLT == BIT00!BIT02
1082      000006      NHLT  == BIT01!BIT02
1083      000007      NIUNI == BIT00!BIT01!BIT02
1084
1085      ;DESCRIPTOR RING DEFINITIONS
1086      100000      OWN   == BIT15
1087      040000      ERRS  == BIT14
1088      001000      STP   == BIT09
1089      000400      ENP   == BIT08
1090
1091      100000      BUFL  == BIT15
1092      ;GLOBAL EQUATES
1093      000000      ZERO  == 0
1094      177777      ONES  == 177777
1095      000377      TIMASK == 377 ; UPPER BYTE = ONES
1096      000000      GOODST == 0 ; SUCCESSFUL SELF TEST CODE
1097      172377      STATEM == 172377 ; MASK ALL PCSRO BITS EXCEPT STATE BITS
1098      175015      CMODE1 == 175015 ; ALL SETABLE MODE BITS = ONES
1099      007777      TDRMSK == 7777 ; TDR MASK
1100      002540      DTYPE == 2540 ; DIAGNOSTIC TYPE FIELD
1101
1102      000000      INITH == 0 ; INITIAL CRC VALUE
1103      ;POLYH == 120001 ; CRC POLYNOMIAL
1104      120001      POLYHI == 120001 ;CRC POLYNOMIAL
1105
1106      020000      SIZ4K == 20000 ; 4K WORDS
1107      040000      SIZ8K == SIZ4K*2 ; 8K WORDS
1108      000077      SECOND == 63. ;63 LINE CLOCK TICKS = APROX. 1 SECOND
1109      000100      IE    == 100 ;INTERRUPT ENABLE FOR LINE CLOCK

```

```

1111          .SBTTL GLOBAL DATA SECTION
1112
1113          ;**
1114          ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1115          ; IN MORE THAN ONE TEST.
1116          ;--
1117          ; ADDRESSES FOR DELUA UNDER TEST
1118          ;
1119 002226 000000 PCSRO:          .WORD 0          ; ADDRESS OF PCSRO
1120 002230 000000 PCSR1:          .WORD 0          ; ADDRESS OF PCSR1
1121 002232 000000 PCSR2:          .WORD 0          ; ADDRESS OF PCSR2
1122 002234 000000 PCSR3:          .WORD 0          ; ADDRESS OF PCSR3
1123 002236 000000 PCSROUB:         .WORD 0          ; ADDRESS OF THE UPPER BYTE OF PCSRO
1124 002240 000000 PCSROC:          .WORD 0          ; PCSRO DATA SAVE LOCATION
1125          ;
1126 002242 000000 INTVEC:         .WORD 0          ; ADDRESS OF DELUA INTERRUPT VECTOR
1127 002244 000240 UNAPRI:         .WORD 240        ; UNA PRIORITY = 5
1128 002246 000000 UNIT:          .WORD 0          ; UNIT NUMBER
1129          ;
1130 002250 CLKTAB:          ;
1131 002250 000000 CLKCSR:         .WORD 0          ;LINE CLOCK STATUS REGISTER
1132 002252 000000 CLKE?:          .WORD 0          ;LINE CLOCK PRIORITY
1133 002254 000000 CLKVEC:         .WORD 0          ;LINE CLOCK VECTOR
1134 002256 000000 CLKFRE:         .WORD 0          ;LINE CLOCK FREQUENCY
1135          ;
1136 002260 000000 DEST:          .WORD 0          ; DESTINATION ADDRESS
1137 002262 000000          .WORD 0
1138 002264 000000          .WORD 0
1139          ;
1140 002266 000000 SRC:          .WORD 0          ; SOURCE ADDRESS
1141 002270 000000          .WORD 0
1142 002272 000000          .WORD 0
1143          ;
1144 002274 000000 DFAULT:        .WORD 0          ; DEFAULT ADDRESS
1145 002276 000010          .WORD 10
1146 002300 000000          .WORD 0
1147          ;
1148          ; DATA STRUCTURES
1149          ;
1150          ;
1151 002302 PCBB:          .BLKW 4          ; PORT CONTROL BLOCK
1152 002312 UDDB:          .BLKW 100.        ; UNIBUS DATA BLOCK
1153 002622 TDRB:          .BLKW 15.         ; TRANSMIT DESCRIPTOR RING
1154 002662 RDRB:          .BLKW 16.         ; RECEIVE DESCRIPTOR RING
1155 002722 RDRBE:         .BLKW 30.         ; EXTENDED TDRB
1156 003016 TDRX:          .BLKW 196.        ; VERY EXTENDED TDRB
1157 003626 RDRX:          .BLKW 196.        ; VERY EXTENDED RDRB
1158          ;
1159 004436 004000 .WORD TEND-TBUF          ; LENGTH OF TRANSMIT BUFFERS IN BYTES
1160 004440 TBUF:          .BLKW 128.        ; TRANSMIT BUFFER
1161 005040 TBUF2:         .BLKW 128.
1162 005440 TBUF3:         .BLKW 128.
1163 006040 TBUF4:         .BLKW 128.
1164 006440 TBUF5:         .BLKW 128.
1165 007040 TBUF6:         .BLKW 128.
1166 007440 TBUF7:         .BLKW 128.
1167 010040 TBUF8:         .BLKW 128.

```

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1168          010440          TEND = .
1169
1170 010440 004000          .WORD  REND-RBUF          ;LENGTH OF RECEIVE BUFFERS IN BYTES
1171 010442          RBUF:          .BLKW  128.          ; RECEIVE BUFFER
1172 011042          RBUF2:         .BLKW  128.
1173 011042          RBUF3:         .BLKW  128.
1174 012042          RBUF4:         .BLKW  128.
1175 012442          RBUF5:         .BLKW  128.
1176 013042          RBUF6:         .BLKW  128.
1177 013442          RBUF7:         .BLKW  128.
1178 014042          RBUF8:         .BLKW  128.
1179          014442          REND = .
1180
1181          ;
1182          ;DEFAULT PORT FUNCTIONS
1183
1184 014442 000000          NOPF:          .WORD  0          ; NOP FUNCTION
1185 014444 000000          .WORD  0
1186 014446 000000          .WORD  0
1187 014450 000000          .WORD  0
1188          ;
1189 014452 000001          LSMA:          .WORD  1          ; LOAD AND START MICROADDRESS FUNCTION
1190 014454 177777          .WORD  177777      ; STARTING INTERNAL ADDRESS OF SELFTEST
1191 014456 000000          .WORD  0
1192 014460 000000          .WORD  0
1193          ;
1194 014462 000002          RDDEFA:       .WORD  2          ; READ DEFAULT PHYSICAL ADDRESS FUNCTION
1195 014464 000000          .WORD  0
1196 014466 000000          .WORD  0
1197 014470 000000          .WORD  0
1198          ;
1199 014472 000004          RDPHYA:       .WORD  4          ; READ PHYSICAL ADDRESS FUNCTION
1200 014474 000000          .WORD  0
1201 014476 000000          .WORD  0
1202 014500 000000          .WORD  0
1203          ;
1204 014502 000005          WTPHYA:       .WORD  5          ; WRITE PHYSICAL ADDRESS
1205 014504 000000          .WORD  0          ; PHYADR
1206 014506 000000          .WORD  0          ; PHYADR
1207 014510 000000          .WORD  0          ; PHYADR
1208          ;
1209 014512 000006          RDMULA:       .WORD  6          ; READ MULTICAST ADDRESS LIST FUNCTION
1210 014514 002312          .WORD  UD8B      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1211 014516 005000          .WORD  5000      ; MULTICAST ADDR TABLE LENGTH= 10(10)
1212 014520 000000          .WORD  0
1213          ;
1214 014522 000007          WTMULA:       .WORD  7          ; WRITE MULTICAST ADDRESS LIST FUNCTION
1215 014524 002312          .WORD  UD8B      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1216 014526 005000          .WORD  5000      ; MULTICAST ADDR TABLE LENGTH= 10(10)
1217 014530 000000          .WORD  0
1218          ;
1219 014532 000010          RDRNGS:       .WORD  10         ; READ RING FORMAT FUNCTION
1220 014534 002312          .WORD  UD8B      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1221 014536 000000          .WORD  0
1222 014540 000000          .WORD  0
1223          ;
1224 014542 000011          WTRNGS:       .WORD  11         ; WRITE RING FORMAT FUNCTION

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C3

1225	014544	002312	.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1226	014546	000000	.WORD	0	
1227	014550	000000	.WORD	0	
1228					
1229	014552	000012	.WORD	12	; READ COUNTERS FUNCTION
1230	014554	002312	.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1231	014556	000000	.WORD	0	
1232	014560	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1233					
1234	014562	000013	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1235	014564	002312	.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1236	014566	000000	.WORD	0	
1237	014570	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1238					
1239	014572	000014	.WORD	14	; READ MODE FUNCTION
1240	014574	000000	.WORD	0	
1241	014576	000000	.WORD	0	
1242	014600	000000	.WORD	0	
1243					
1244	014602	000015	.WORD	15	; WRITE MODE FUNCTION
1245	014604	100104	.WORD	100104	; PROM AND INTERNAL LOOPBACK MODE
1246					; GENERATE CRC
1247	014606	000000	.WORD	0	
1248	014610	000000	.WORD	0	
1249					
1250	014612	000015	.WORD	15	; WRITE MODE FUNCTION
1251	014614	104104	.WORD	104104	; PROM AND INTERN LOOPBACK AND ENABL COLL TEST
1252					; GENERATE CRC
1253	014616	000000	.WORD	0	
1254	014620	000000	.WORD	0	
1255					
1256	014622	000015	.WORD	15	; WRITE MODE FUNCTION
1257	014624	100114	.WORD	100114	; PROM, INTERNAL LOOPBACK, NO GENERATE CRC
1258	014626	000000	.WORD	0	
1259	014630	000000	.WORD	0	
1260					
1261	014632	000015	.WORD	15	; WRITE MODE FUNCTION
1262	014634	100004	.WORD	100004	; PROM, EXT. LOOPBACK, GENERATE CRC
1263	014636	000000	.WORD	0	
1264	014640	000000	.WORD	0	
1265					
1266	014642	000015	.WORD	15	; WRITE MODE FUNCTION
1267	014644	100014	.WORD	100014	; PROM; EXT. LOOPBACK, NO GENERATE CRC
1268					
1269	014646	000016	.WORD	16	; READ STATUS FUNCTION
1270	014650	000000	.WORD	0	
1271	014652	000000	.WORD	0	
1272	014654	000000	.WORD	0	
1273					
1274	014656	000017	.WORD	17	; READ AND CLEAR STATUS FUNCTION
1275	014660	000000	.WORD	0	
1276	014662	000000	.WORD	0	
1277	014664	000000	.WORD	0	
1278					
1279	014666	000020	.WORD	20	; DUMP INTERNAL MEMORY FUNCTION
1280	014670	002312	.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1281	014672	000000	.WORD	0	

```

1282 014674 000000 .WORD 0
1283
1284 014676 000021 ; LD MEM: .WORD 21 ; LOAD INTERNAL MEMORY FUNCTION
1285 014700 002312 .WORD UDBB ; ADDRESS OF UNIBUS DATA BLOCK BASE
1286 014702 000000 .WORD 0
1287 014704 000000 .WORD 0
1288
1289
1290 ; DEFAULT RING FORMATS
1291
1292 014706 002622 RFRMT: .WORD TDRB ; TRANSMIT DESCRIPTOR RING ADDRESS
1293 014710 002000 .WORD 2000 ; TELEN = 6
1294 014712 000004 .WORD 4 ; TRLEN = 4
1295 014714 002662 .WORD RDRB ; RECEIVE DESCRIPTOR RING ADDRESS
1296 014716 002000 .WORD 2000 ; RELEN = 6
1297 014720 000004 .WORD 4 ; RRLEN = 4
1298
1299 014722 003016 RFRMTX: .WORD TDRX ; TRANSMIT DESCRIPTOR RING ADDRESS
1300 014724 002000 .WORD 2000 ; TELEN = 6
1301 014726 000063 .WORD 51. ; TRLEN = 51
1302 014730 002662 .WORD RDRB ; RECEIVE DESCRIPTOR RING ADDRESS
1303 014732 002000 .WORD 2000 ; RELEN = 6
1304 014734 000062 .WORD 50. ; RRLEN = 50
1305
1306
1307 014736 003016 RFRMTE: .WORD TDRX ; TRANSMIT DESCRIPTOR RING ADDRESS
1308 014740 002000 .WORD 2000 ; TELEN = 6
1309 014742 000063 .WORD 51. ; TRLEN = 51
1310 014744 003626 .WORD RDRX ; RECEIVE DESCRIPTOR RING ADDRESS
1311 014746 002000 .WORD 2000 ; RELEN = 6
1312 014750 000062 .WORD 50. ; RRLEN = 30
1313
1314
1315 ; DEFAULT RECEIVE DESCRIPTOR RINGS
1316
1317 014752 000040 PDRB1A: .WORD 32. ; SLEN = 32 BYTES
1318 014754 010442 .WORD RBUF ; SEGB = RBUF
1319 014756 100000 .WORD 100000 ; OWN = UNA
1320 014760 000000 .WORD 0
1321
1322 014762 000040 ; .WORD 32. ; SLEN = 32 BYTES
1323 014764 010442 .WORD RBUF ; SEGB = RBUF
1324 014766 000000 .WORD 0 ; OWN = PORT DRIVER
1325 014770 000000 .WORD 0
1326
1327 014772 000040 ; .WORD 32. ; SLEN = 32 BYTES
1328 014774 010442 .WORD RBUF ; SEGB = RBUF
1329 014776 000000 .WORD 0 ; OWN = PORT DRIVER
1330 015000 000000 .WORD 0
1331
1332 015002 000040 ; .WORD 32. ; SLEN = 32 BYTES
1333 015004 010442 .WORD RBUF ; SEGB = RBUF
1334 015006 000000 .WORD 0 ; OWN = PORT DRIVER
1335 015010 000000 .WORD 0
1336
1337 015012 000040 RDRB1B: .WORD 32. ; SLEN = 32 BYTES
1338 015014 010442 .WORD RBUF ; SEGB = RBUF

```

E3

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SEQ 30

1339	015016	000000	.WORD	0	; OWN = PORT DRIVER
1340	015020	000000	.WORD	0	
1341			:		
1342	015022	000040	.WORD	32.	; SLEN = 32 BYTES
1343	015024	010442	.WORD	RBUF	; SEGB = RBUF
1344	015026	000000	.WORD	0	; OWN = PORT DRIVER
1345	015030	000000	.WORD	0	
1346			:		
1347	015032	000040	.WORD	32.	; SLEN = 32 BYTES
1348	015034	010442	.WORD	RBUF	; SEGB = RBUF
1349	015036	000000	.WORD	0	; OWN = PORT DRIVER
1350	015040	000000	.WORD	0	
1351			:		
1352	015042	000040	.WORD	32.	; SLEN = 32 BYTES
1353	015044	010442	.WORD	RBUF	; SEGB = RBUF
1354	015046	000000	.WORD	0	; OWN = PORT DRIVER
1355	015050	000000	.WORD	0	
1356			:		
1357	015052	000040	RDRB2A:	.WORD	32. ; SLEN = 32 BYTES
1358	015054	010442	.WORD	RBUF	; SEGB = RBUF
1359	015056	100000	.WORD	100000	; OWN = UNA
1360	015060	000000	.WORD	0	
1361			:		
1362	015062	000040	.WORD	32.	; SLEN = 32 BYTES
1363	015064	010442	.WORD	RBUF	; SEGB = RBUF
1364	015066	100000	.WORD	100000	; OWN = UNA
1365	015070	000000	.WORD	0	
1366			:		
1367	015072	000040	.WORD	32.	; SLEN = 32 BYTES
1368	015074	010442	.WORD	RBUF	; SEGB = RBUF
1369	015076	000000	.WORD	0	; OWN = PORT DRIVER
1370	015100	000000	.WORD	0	
1371			:		
1372	015102	000040	.WORD	32.	; SLEN = 32 BYTES
1373	015104	010442	.WORD	RBUF	; SEGB = RBUF
1374	015106	000000	.WORD	0	; OWN = PORT DRIVER
1375	015110	000000	.WORD	0	
1376			:		
1377	015112	000100	RDRB3A:	.WORD	64. ; SLEN = 64 BYTES
1378	015114	010442	.WORD	RBUF	; SEGB = RBUF
1379	015116	100000	.WORD	100000	; OWN = LUA
1380	015120	000000	.WORD	0	
1381			:		
1382	015122	000100	.WORD	64.	; SLEN = 64 BYTES
1383	015124	011042	.WORD	RBUF2	; SEGB = RBUF2
1384	015126	100000	.WORD	100000	; OWN = LUA
1385	015130	000000	.WORD	0	
1386			:		
1387	015132	000100	.WORD	64.	; SLEN = 64 BYTES
1388	015134	011442	.WORD	RBUF3	; SEGB = RBUF3
1389	015136	100000	.WORD	100000	; OWN = LUA
1390	015140	000000	.WORD	0	
1391			:		
1392	015142	000100	.WORD	64.	; SLEN = 64 BYTES
1393	015144	010442	.WORD	RBUF	; SEGB = RBUF
1394	015146	000000	.WORD	0	; OWN = PORT DRIVER
1395	015150	000000	.WORD	0	

```

1396
1397
1398 015152 000040      ; RDRB48:      .WORD 32.      ; SLEN = 32 BYTES
1399 015154 010442      .WORD RBUF     ; SEGB = RBUF
1400 015156 100000      .WORD 100000   ; OWN = LUA
1401 015160 000000      .WORD 0        ;
1402
1403 015162 000040      ;      .WORD 32.      ;
1404 015164 010442      .WORD RBUF     ;
1405 015166 100000      .WORD 100000   ;
1406 015170 000000      .WORD 0        ;
1407
1408 015172 000040      ;      .WORD 32.      ;
1409 015174 010442      .WORD RBUF     ;
1410 015176 100000      .WORD 100000   ;
1411 015200 000000      .WORD 0        ;
1412
1413 015202 000040      ;      .WORD 32.      ;
1414 015204 010442      .WORD RBUF     ;
1415 015206 100000      .WORD 100000   ;
1416 015210 000000      .WORD 0        ;
1417
1418 015212 000040      ;      .WORD 32.      ;
1419 015214 010442      .WORD RBUF     ;
1420 015216 100000      .WORD 100000   ;
1421 015220 000000      .WORD 0        ;
1422
1423 015222 000040      ;      .WORD 32.      ; SLEN = 32 BYTES
1424 015224 010442      .WORD RBUF     ; SEGB = RBUF
1425 015226 100000      .WORD 100000   ; OWN = LUA
1426 015230 000000      .WORD 0        ;
1427
1428 015232 000040      ;      .WORD 32.      ;
1429 015234 010442      .WORD RBUF     ;
1430 015236 100000      .WORD 100000   ;
1431 015240 000000      .WORD 0        ;
1432
1433 015242 000040      ;      .WORD 32.      ;
1434 015244 010442      .WORD RBUF     ;
1435 015246 100000      .WORD 100000   ;
1436 015250 000000      .WORD 0        ;
1437
1438 015252 000040      ;      .WORD 32.      ;
1439 015254 010442      .WORD RBUF     ;
1440 015256 100000      .WORD 100000   ;
1441 015260 000000      .WORD 0        ;
1442
1443 015262 000040      ;      .WORD 32.      ;
1444 015264 010442      .WORD RBUF     ;
1445 015266 100000      .WORD 100000   ;
1446 015270 000000      .WORD 0        ;
1447
1448 015272 000040      ;      .WORD 32.      ; SLEN = 32 BYTES
1449 015274 010442      .WORD RBUF     ; SEGB = RBUF
1450 015276 100000      .WORD 100000   ; OWN = LUA
1451 015300 000000      .WORD 0        ;
1452

```

1453	015302	000040		.WORD	32.	;
1454	015304	010442		.WORD	RBUF	;
1455	015306	100000		.WORD	100000	;
1456	015310	000000		.WORD	0	;
1457			;			
1458	015312	000040		.WORD	32.	;
1459	015314	010442		.WORD	RBUF	;
1460	015316	100000		.WORD	100000	;
1461	015320	000000		.WORD	0	;
1462			;			
1463	015322	000040		.WORD	32.	;
1464	015324	010442		.WORD	RBUF	;
1465	015326	100000		.WORD	100000	;
1466	015330	000000		.WORD	0	;
1467			;			
1468	015332	000040		.WORD	32.	;
1469	015334	010442		.WORD	RBUF	;
1470	015336	100000		.WORD	100000	;
1471	015340	000000		.WORD	0	;
1472			;			
1473	015342	000040		.WORD	32.	;
1474	015344	010442		.WORD	RBUF	;
1475	015346	100000		.WORD	100000	;
1476	015350	000000		.WORD	0	;
1477			;			
1478	015352	000040		.WORD	32.	;
1479	015354	010442		.WORD	RBUF	;
1480	015356	100000		.WORD	100000	;
1481	015360	000000		.WORD	0	;
1482			;			
1483	015362	000040		.WORD	32.	;
1484	015364	010442		.WORD	RBUF	;
1485	015366	100000		.WORD	100000	;
1486	015370	000000		.WORD	0	;
1487			;			
1488	015372	000040		.WORD	32.	;
1489	015374	010442		.WORD	RBUF	;
1490	015376	100000		.WORD	100000	;
1491	015400	000000		.WORD	0	;
1492			;			
1493	015402	000040		.WORD	32.	;
1494	015404	010442		.WORD	RBUF	;
1495	015406	100000		.WORD	100000	;
1496	015410	000000		.WORD	0	;
1497			;			
1498			;			
1499	015412	000040	RDRB5A:	.WORD	32.	;
1500	015414	010442		.WORD	RBUF	;
1501	015416	100000		.WORD	100000	;
1502	015420	000000		.WORD	0	;
1503			;			
1504	015422	000040		.WORD	32.	;
1505	015424	010442		.WORD	RBUF	;
1506	015426	100000		.WORD	100000	;
1507	015430	000000		.WORD	0	;
1508			;			
1509	015432	000040		.WORD	32.	;

SLEN = 32 BYTES
SEGB = RBUF
OWN = LUA

SLEN = 32 BYTES
SEGB = RBUF
OWN = LUA

SLEN = 32 BYTES

1510	015434	010442	.WORD	RBUF	; SEGB = RBUF
1511	015436	100000	.WORD	100000	; OWN = LUA
1512	015440	000000	.WORD	0	;
1513					;
1514	015442	000040	.WORD	32.	; SLEN = 32 BYTES
1515	015444	010442	.WORD	RBUF	; SEGB = RBUF
1516	015446	100000	.WORD	100000	; OWN = LUA
1517	015450	000000	.WORD	0	;
1518					;
1519	015452	000040	.WORD	32.	; SLEN = 32 BYTES
1520	015454	010442	.WORD	RBUF	; SEGB = RBUF
1521	015456	100000	.WORD	100000	; OWN = LUA
1522	015460	000000	.WORD	0	;
1523					;
1524	015462	000040	.WORD	32.	; SLEN = 32 BYTES
1525	015464	010442	.WORD	RBUF	; SEGB = RBUF
1526	015466	100000	.WORD	100000	; OWN = LUA
1527	015470	000000	.WORD	0	;
1528					;
1529	015472	000040	.WORD	32.	; SLEN = 32 BYTES
1530	015474	010442	.WORD	RBUF	; SEGB = RBUF
1531	015476	100000	.WORD	100000	; OWN = LUA
1532	015500	000000	.WORD	0	;
1533					;
1534	015502	000040	.WORD	32.	; SLEN = 32 BYTES
1535	015504	010442	.WORD	RBUF	; SEGB = RBUF
1536	015506	100000	.WORD	100000	; OWN = LUA
1537	015510	000000	.WORD	0	;
1538					;
1539	015512	000040	.WORD	32.	; SLEN = 32 BYTES
1540	015514	010442	.WORD	RBUF	; SEGB = RBUF
1541	015516	100000	.WORD	100000	; OWN = LUA
1542	015520	000000	.WORD	0	;
1543					;
1544	015522	000040	.WORD	32.	; SLEN = 32 BYTES
1545	015524	010442	.WORD	RBUF	; SEGB = RBUF
1546	015526	100000	.WORD	100000	; OWN = LUA
1547	015530	000000	.WORD	0	;
1548					;
1549	015532	000040	.WORD	32.	; SLEN = 32 BYTES
1550	015534	010442	.WORD	RBUF	; SEGB = RBUF
1551	015536	000000	.WORD	0	; OWN = PORT DRIVER
1552	015540	000000	.WORD	0	;
1553					;
1554					;
1555	015542	000020	.WORD	16.	; SLEN = 16 BYTES
1556	015544	010442	.WORD	RBUF	; SEGB = RBUF
1557	015546	100000	.WORD	100000	; OWN = LUA
1558	015550	000000	.WORD	0	;
1559					;
1560	015552	000026	.WORD	22.	; SLEN = 22 BYTES (INCL. CRC)
1561	015554	011042	.WORD	RBUF2	; SEGB = RBUF2
1562	015556	100000	.WORD	100000	; OWN = LUA
1563	015560	000000	.WORD	0	;
1564					;
1565	015562	000020	.WORD	16.	; SLEN = 16 BYTES
1566	015564	010442	.WORD	RBUF	; SEGB = RBUF

; RDRB4A:

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1567 015566 000000 .WORD 000000 ; OWN = PORT DRIVER
1568 015570 000000 .WORD 0 ;
1569 ;
1570 ;
1571 015572 000040 RDRBXX: .WORD 32. ; SLEN = 32 BYTES
1572 015574 010442 .WORD RBUF ; SEGB = RBUF
1573 015576 100000 .WORD 100000 ; OWN = LUA
1574 015600 000000 .WORD 0 ;
1575 ;
1576 015602 000040 .WORD 32. ;
1577 015604 010442 .WORD RBUF ;
1578 015606 100000 .WORD 100000 ;
1579 015610 000000 .WORD 0 ;
1580 ;
1581 015612 000040 .WORD 32. ;
1582 015614 010442 .WORD RBUF ;
1583 015616 100000 .WORD 100000 ;
1584 015620 000000 .WORD 0 ;
1585 ;
1586 015622 000040 .WORD 32. ;
1587 015624 010442 .WORD RBUF ;
1588 015626 100000 .WORD 100000 ;
1589 015630 000000 .WORD 0 ;
1590 ;
1591 015632 000040 .WORD 32. ; SLEN = 32 BYTES
1592 015634 010442 .WORD RBUF ; SEGB = RBUF
1593 015636 100000 .WORD 100000 ; OWN = LUA
1594 015640 000000 .WORD 0 ;
1595 ;
1596 015642 000040 .WORD 32. ;
1597 015644 010442 .WORD RBUF ;
1598 015646 100000 .WORD 100000 ;
1599 015650 000000 .WORD 0 ;
1600 ;
1601 015652 000040 .WORD 32. ;
1602 015654 010442 .WORD RBUF ;
1603 015656 100000 .WORD 100000 ;
1604 015660 000000 .WORD 0 ;
1605 ;
1606 015662 000040 .WORD 32. ;
1607 015664 010442 .WORD RBUF ;
1608 015666 100000 .WORD 100000 ;
1609 015670 000000 .WORD 0 ;
1610 ;
1611 015672 000040 .WORD 32. ;
1612 015674 010442 .WORD RBUF ;
1613 015676 100000 .WORD 100000 ;
1614 015700 000000 .WORD 0 ;
1615 ;
1616 015702 000040 .WORD 32. ;
1617 015704 010442 .WORD RBUF ;
1618 015706 100000 .WORD 100000 ;
1619 015710 000000 .WORD 0 ;
1620 ;
1621 015712 000040 .WORD 32. ; SLEN = 32 BYTES
1622 015714 010442 .WORD RBUF ; SEGB = RBUF
1623 015716 100000 .WORD 100000 ; OWN = LUA

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J3

1624	015720	000000	.WORD	0	;
1625					
1626	015722	000040	.WORD	32.	;
1627	015724	010442	.WORD	RBUF	;
1628	015726	100000	.WORD	100000	;
1629	015730	000000	.WORD	0	;
1630					
1631	015732	000040	.WORD	32.	;
1632	015734	010442	.WORD	RBUF	;
1633	015736	100000	.WORD	100000	;
1634	015740	000000	.WORD	0	;
1635					
1636	015742	000040	.WORD	32.	;
1637	015744	010442	.WORD	RBUF	;
1638	015746	100000	.WORD	100000	;
1639	015750	000000	.WORD	0	;
1640					
1641	015752	000040	.WORD	32.	;
1642	015754	010442	.WORD	RBUF	;
1643	015756	100000	.WORD	100000	;
1644	015760	000000	.WORD	0	;
1645					
1646	015762	000040	.WORD	32.	;
1647	015764	010442	.WORD	RBUF	;
1648	015766	100000	.WORD	100000	;
1649	015770	000000	.WORD	0	;
1650					
1651	015772	000040	.WORD	32.	;
1652	015774	010442	.WORD	RBUF	;
1653	015776	100000	.WORD	100000	;
1654	016000	000000	.WORD	0	;
1655					
1656	016002	000040	.WORD	32.	;
1657	016004	010442	.WORD	RBUF	;
1658	016006	100000	.WORD	100000	;
1659	016010	000000	.WORD	0	;
1660					
1661	016012	000040	.WORD	32.	;
1662	016014	010442	.WORD	RBUF	;
1663	016016	100000	.WORD	100000	;
1664	016020	000000	.WORD	0	;
1665					
1666	016022	000040	.WORD	32.	;
1667	016024	010442	.WORD	RBUF	;
1668	016026	100000	.WORD	100000	;
1669	016030	000000	.WORD	0	;
1670					
1671	016032	000040	.WORD	32.	;
1672	016034	010442	.WORD	RBUF	;
1673	016036	100000	.WORD	100000	;
1674	016040	000000	.WORD	0	;
1675					
1676	016042	000040	.WORD	32.	;
1677	016044	010442	.WORD	RBUF	;
1678	016046	100000	.WORD	100000	;
1679	016050	000000	.WORD	0	;
1680					

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = DELUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

1681	016052	000040	.WORD	32.	;
1682	016054	010442	.WORD	RBUF	;
1683	016056	100000	.WORD	100000	;
1684	016060	000000	.WORD	0	;
1685					
1686	016062	000040	.WORD	32.	;
1687	016064	010442	.WORD	RBUF	;
1688	016066	100000	.WORD	100000	;
1689	016070	000000	.WORD	0	;
1690					
1691	016072	000040	.WORD	32.	;
1692	016074	010442	.WORD	RBUF	;
1693	016076	100000	.WORD	100000	;
1694	016100	000000	.WORD	0	;
1695					
1696	016102	000040	.WORD	32.	;
1697	016104	010442	.WORD	RBUF	;
1698	016106	100000	.WORD	100000	;
1699	016110	000000	.WORD	0	;
1700					
1701	016112	000040	.WORD	32.	;
1702	016114	010442	.WORD	RBUF	;
1703	016116	100000	.WORD	100000	;
1704	016120	000000	.WORD	0	;
1705					
1706	016122	000040	.WORD	32.	;
1707	016124	010442	.WORD	RBUF	;
1708	016126	100000	.WORD	100000	;
1709	016130	000000	.WORD	0	;
1710					
1711	016132	000040	.WORD	32.	;
1712	016134	010442	.WORD	RBUF	;
1713	016136	100000	.WORD	100000	;
1714	016140	000000	.WORD	0	;
1715					
1716	016142	000040	.WORD	32.	;
1717	016144	010442	.WORD	RBUF	;
1718	016146	100000	.WORD	100000	;
1719	016150	000000	.WORD	0	;
1720					
1721	016152	000040	.WORD	32.	;
1722	016154	010442	.WORD	RBUF	;
1723	016156	100000	.WORD	100000	;
1724	016160	000000	.WORD	0	;
1725					
1726	016162	000040	.WORD	32.	;
1727	016164	010442	.WORD	RBUF	;
1728	016166	100000	.WORD	100000	;
1729	016170	000000	.WORD	0	;
1730					
1731	016172	000040	.WORD	32.	;
1732	016174	010442	.WORD	RBUF	;
1733	016176	100000	.WORD	100000	;
1734	016200	000000	.WORD	0	;
1735					
1736	016202	000040	.WORD	32.	;
1737	016204	010442	.WORD	RBUF	;

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

L3

1738	016206	100000	.WORD	100000	;
1739	016210	000000	.WORD	0	;
1740					
1741	016212	000040	.WORD	32.	;
1742	016214	010442	.WORD	RBUF	;
1743	016216	100000	.WORD	100000	;
1744	016220	000000	.WORD	0	;
1745					
1746	016222	000040	.WORD	32.	; SLEN = 32 BYTES
1747	016224	010442	.WORD	RBUF	; SEGB = RBUF
1748	016226	100000	.WORD	100000	; OWN = LUA
1749	016230	000000	.WORD	0	;
1750					
1751	016232	000040	.WORD	32.	;
1752	016234	010442	.WORD	RBUF	;
1753	016236	100000	.WORD	100000	;
1754	016240	000000	.WORD	0	;
1755					
1756	016242	000040	.WORD	32.	;
1757	016244	010442	.WORD	RBUF	;
1758	016246	100000	.WORD	100000	;
1759	016250	000000	.WORD	0	;
1760					
1761	016252	000040	.WORD	32.	;
1762	016254	010442	.WORD	RBUF	;
1763	016256	100000	.WORD	100000	;
1764	016260	000000	.WORD	0	;
1765					
1766	016262	000040	.WORD	32.	;
1767	016264	010442	.WORD	RBUF	;
1768	016266	100000	.WORD	100000	;
1769	016270	000000	.WORD	0	;
1770					
1771					
1772	016272	000040	.WORD	32.	; SLEN = 32 BYTES
1773	016274	010442	.WORD	RBUF	; SEGB = RBUF
1774	016276	100000	.WORD	100000	; OWN = LUA
1775	016300	000000	.WORD	0	;
1776					
1777	016302	000040	.WORD	32.	;
1778	016304	010442	.WORD	RBUF	;
1779	016306	100000	.WORD	100000	;
1780	016310	000000	.WORD	0	;
1781					
1782	016312	000040	.WORD	32.	;
1783	016314	010442	.WORD	RBUF	;
1784	016316	100000	.WORD	100000	;
1785	016320	000000	.WORD	0	;
1786					
1787	016322	000040	.WORD	32.	;
1788	016324	010442	.WORD	RBUF	;
1789	016326	100000	.WORD	100000	;
1790	016330	000000	.WORD	0	;
1791					
1792	016332	000040	.WORD	32.	;
1793	016334	010442	.WORD	RBUF	;
1794	016336	100000	.WORD	100000	;

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GLOBAL DATA SECTION

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1795 016340 000000 .WORD 0 ;
1796
1797 016342 000040 .WORD 32. ; SLEN = 32 BYTES
1798 016344 010442 .WORD RBUF ; SEGB = RBUF
1799 016346 100000 .WORD 100000 ; OWN = LUA
1800 016350 000000 .WORD 0 ;
1801
1802 016352 000040 .WORD 32. ;
1803 016354 010442 .WORD RBUF ;
1804 016356 100000 .WORD 100000 ;
1805 016360 000000 .WORD 0 ;
1806
1807 016362 000040 .WORD 32. ;
1808 016364 010442 .WORD RBUF ;
1809 016366 100000 .WORD 100000 ;
1810 016370 000000 .WORD 0 ;
1811
1812 016372 000040 .WORD 32. ;
1813 016374 010442 .WORD RBUF ;
1814 016376 000000 .WORD 0 ; OWN = PORT DRIVER
1815 016400 000000 .WORD 0 ;
1816
1817 016402 000040 .WORD 32. ;
1818 016404 010442 .WORD RBUF ;
1819 016406 000000 .WORD 0 ; OWN = PORT DRIVER
1820 016410 000000 .WORD 0 ;
1821
1822
1823
1824 ;
1825 ;DEFAULT TRANSMIT DESCRIPTOR RINGS
1826 016412 000032 ;TDRB1A: .WORD 26. ; SLEN = 26 BYTES
1827 016414 004440 .WORD TBUF ; SEGB = TBUF
1828 016416 101400 .WORD 101400 ; OWN = UNA ;STP,ENP
1829 016420 000000 .WORD 0 ;
1830 ;
1831 016422 000030 .WORD 24. ; SLEN = 24 BYTES
1832 016424 004440 .WORD TBUF ; SEGB = TBUF
1833 016426 000000 .WORD 0 ; OWN = PORT DRIVER
1834 016430 000000 .WORD 0 ;
1835 ;
1836 016432 000030 .WORD 24. ; SLEN = 24 BYTES
1837 016434 004440 .WORD TBUF ; SEGB = TBUF
1838 016436 000000 .WORD 0 ; OWN = PORT DRIVER
1839 016440 000000 .WORD 0 ;
1840 ;
1841 016442 000030 .WORD 24. ; SLEN = 24 BYTES
1842 016444 004440 .WORD TBUF ; SEGB = TBUF
1843 016446 000000 .WORD 0 ; OWN = PORT DRIVER
1844 016450 000000 .WORD 0 ;
1845 ;
1846 016452 000040 ;TDRB1B: .WORD 32. ; SLEN = 32 BYTES
1847 016454 004440 .WORD TBUF ; SEGB = TBUF
1848 016456 101400 .WORD 101400 ; OWN = UNA ;STP,ENP
1849 016460 000000 .WORD 0 ;
1850 ;
1851 016462 000040 .WORD 32. ; SLEN = 32 BYTES

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GLOBAL DATA SECTION

```

1852 016464 004440 .WORD TBUF ; SEGB = TBUF
1853 016466 000000 .WORD 0 ; OWN = PORT DRIVER
1854 016470 000000 .WORD 0
1855 ;
1856 016472 000040 .WORD 32. ; SLEN = 32 BYTES
1857 016474 004440 .WORD TBUF ; SEGB = TBUF
1858 016476 000000 .WORD 0 ; OWN = PORT DRIVER
1859 016500 000000 .WORD 0
1860 ;
1861 016502 000040 .WORD 32. ; SLEN = 32 BYTES
1862 016504 004440 .WORD TBUF ; SEGB = TBUF
1863 016506 000000 .WORD 0 ; OWN = PORT DRIVER
1864 016510 000000 .WORD 0
1865 ;
1866 016512 TDRB1C: .WORD 34. ; SLEN = 34 BYTES
1867 016512 000042 .WORD TBUF ; SEGB = TBUF
1868 016514 004440 .WORD 101400 ; OWN = LUA;STP;ENP
1869 016516 101400 .WORD 0 ;
1870 016520 000000 .WORD 0
1871 ;
1872 016522 000042 .WORD 34. ; SLEN = 34 BYTES
1873 016524 004440 .WORD TBUF ; SEGB = TBUF
1874 016526 001400 .WORD 001400 ; OWN = PORT DRIVER;STP;ENP
1875 016530 000000 .WORD 0
1876 ;
1877 016532 000050 TDRB1D: .WORD 40. ; SLEN = 40 BYTES
1878 016534 004440 .WORD TBUF ; SEGB = TBUF
1879 016536 101400 .WORD 101400 ; OWN = LUA;STP;ENP
1880 016540 000000 .WORD 0
1881 ;
1882 016542 000050 .WORD 40. ; SLEN = 40 BYTES
1883 016544 004440 .WORD TBUF ; SEGB = TBUF
1884 016546 001400 .WORD 001400 ; OWN = PORT DRIVER;STP;ENP
1885 016550 000000 .WORD 0
1886 ;
1887 016552 TDRB1E: .WORD 14. ; SLEN = 14 BYTES
1888 016552 000016 .WORD TBUF ; SEGB = TBUF
1889 016554 004440 .WORD 101000 ; OWN = DELUA ;STP
1890 016556 101000 .WORD 0
1891 016560 000000 .WORD 0
1892 ;
1893 016562 000022 .WORD 18. ; SLEN = 18 BYTES
1894 016564 004440 .WORD TBUF ; SEGB = TBUF
1895 016566 101000 .WORD 101000 ; OWN = DELUA ;STP
1896 016570 000000 .WORD 0
1897 ;
1898 016572 000022 .WORD 18. ; SLEN = 18 BYTES
1899 016574 004440 .WORD TBUF ; SEGB = TBUF
1900 016576 000000 .WORD 0 ; OWN = PRT DRIVER
1901 016600 000000 .WORD 0
1902 ;
1903 ;
1904 016602 000016 TDRB2A: .WORD 14. ; SLEN = 14 BYTES
1905 016604 004440 .WORD TBUF ; SEGB = TBUF
1906 016606 101000 .WORD 101000 ; OWN = DELUA ;STP
1907 016610 000000 .WORD 0
1908 ;

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GLOBAL DATA SECTION

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1909 016612 000022      .WORD 18.      ; SLEN = 18 BYTES
1910 016614 004440      .WORD TBUF     ; SEGB = TBUF
1911 016616 100400      .WORD 100400   ; OWN = DELUA ;ENP
1912 016620 000000      .WORD 0
1913                      ;
1914 016622 000020      .WORD 16.      ; SLEN = 16 BYTES
1915 016624 004440      .WORD TBUF     ; SEGB = TBUF
1916 016626 000000      .WORD 0        ; OWN = PORT DRIVER
1917 016630 000000      .WORD 0
1918                      ;
1919 016632 000020      .WORD 16.      ; SLEN = 16 BYTES
1920 016634 004440      .WORD TBUF     ; SEGB = TBUF
1921 016636 000000      .WORD 0        ; OWN = PORT DRIVER
1922 016640 000000      .WORD 0
1923
1924
1925 016642 000020      TDRB2B:      .WORD 20       ; SLEN = 20 BYTES
1926 016644 004440      .WORD TBUF     ; SEGB = TBUF
1927 016646 101000      .WORD 101000   ; OWN = UNA;STP
1928 016650 000000      .WORD 0
1929
1930 016652 000020      .WORD 20       ; SLEN = 20 BYTES
1931 016654 004440      .WORD TBUF     ; SEGB = TBUF
1932 016656 100400      .WORD 100400   ; OWN = UNA;ENP
1933 016660 000000      .WORD 0
1934
1935 016662 000020      .WORD 20       ; SLEN = 20 BYTES
1936 016664 004440      .WORD TBUF     ; SEGB = TBUF
1937 016666 101000      .WORD 101000   ; OWN = UNA;STP
1938 016670 000000      .WORD 0
1939
1940 016672 000020      .WORD 20       ; SLEN = 20 BYTES
1941 016674 004440      .WORD TBUF     ; SEGB = TBUF
1942 016676 100400      .WORD 100400   ; OWN = UNA;ENP
1943 016700 000000      .WORD 0
1944
1945
1946                      ;
1947 016702 000040      TDRB3A:      .WORD 42       ; SLEN = 42 BYTES
1948 016704 004440      .WORD TBUF     ; SEGB = TBUF
1949 016706 101400      .WORD 101400   ; OWN = LUA ;STP,ENP
1950 016710 000000      .WORD 0
1951                      ;
1952 016712 000042      .WORD 42       ; SLEN = 42 BYTES
1953 016714 004440      .WORD TBUF     ; SEGB = TBUF
1954 016716 100000      .WORD 100000   ; OWN = LUA
1955 016720 000000      .WORD 0
1956                      ;
1957 016722 000052      .WORD 42.      ; SLEN = 42 BYTES
1958 016724 004440      .WORD TBUF     ; SEGB = TBUF3
1959 016726 100400      .WORD 100400   ; OWN = LUA ;ENP
1960 016730 000000      .WORD 0
1961                      ;
1962 016732 000174      .WORD 124.     ; SLEN = 124 BYTES
1963 016734 004440      .WORD TBUF     ; SEGB = TBUF
1964 016736 000000      .WORD 0        ; OWN = PORT DRIVER
1965 016740 000000      .WORD 0

```



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1966 ;
1967 ;
1968 016742 000032 TDRBXX: .WORD 26. ; SLEN = 32 BYTES
1969 016744 004440 .WORD TBUF ; SEGB = TBUF
1970 016746 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1971 016750 000000 .WORD 0
1972 ;
1973 016752 000032 .WORD 26. ; SLEN = 32 BYTES
1974 016754 004440 .WORD TBUF ; SEGB = TBUF
1975 016756 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1976 016760 000000 .WORD 0
1977 ;
1978 016762 000032 .WORD 26. ; SLEN = 32 BYTES
1979 016764 004440 .WORD TBUF ; SEGB = TBUF
1980 016766 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1981 016770 000000 .WORD 0
1982 ;
1983 016772 000032 .WORD 26. ; SLEN = 32 BYTES
1984 016774 004440 .WORD TBUF ; SEGB = TBUF
1985 016776 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1986 017000 000000 .WORD 0
1987 ;
1988 017002 000032 .WORD 26. ; SLEN = 32 BYTES
1989 017004 004440 .WORD TBUF ; SEGB = TBUF
1990 017006 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1991 017010 000000 .WORD 0
1992 ;
1993 017012 000032 .WORD 26. ; SLEN = 32 BYTES
1994 017014 004440 .WORD TBUF ; SEGB = TBUF
1995 017016 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1996 017020 000000 .WORD 0
1997 ;
1998 017022 000032 .WORD 26. ; SLEN = 32 BYTES
1999 017024 004440 .WORD TBUF ; SEGB = TBUF
2000 017026 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2001 017030 000000 .WORD 0
2002 ;
2003 017032 000032 .WORD 26. ; SLEN = 32 BYTES
2004 017034 004440 .WORD TBUF ; SEGB = TBUF
2005 017036 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2006 017040 000000 .WORD 0
2007 ;
2008 017042 000032 .WORD 26. ; SLEN = 32 BYTES
2009 017044 004440 .WORD TBUF ; SEGB = TBUF
2010 017046 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2011 017050 000000 .WORD 0
2012 ;
2013 017052 000032 .WORD 26. ; SLEN = 32 BYTES
2014 017054 004440 .WORD TBUF ; SEGB = TBUF
2015 017056 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2016 017060 000000 .WORD 0
2017 ;
2018 017062 000032 .WORD 26. ; SLEN = 32 BYTES
2019 017064 004440 .WORD TBUF ; SEGB = TBUF
2020 017066 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2021 017070 000000 .WORD 0
2022 ;

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D4

2023	017072	000032	.WORD	26.	; SLEN = 32 BYTES
2024	017074	004440	.WORD	TBUF	; SEGB = TBUF
2025	017076	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2026	017100	000000	.WORD	0	
2027			:		
2028	017102	000032	.WORD	26.	; SLEN = 32 BYTES
2029	017104	004440	.WORD	TBUF	; SEGB = TBUF
2030	017106	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2031	017110	000000	.WORD	0	
2032			:		
2033	017112	000032	.WORD	26.	; SLEN = 32 BYTES
2034	017114	004440	.WORD	TBUF	; SEGB = TBUF
2035	017116	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2036	017120	000000	.WORD	0	
2037			:		
2038	017122	000032	.WORD	26.	; SLEN = 32 BYTES
2039	017124	004440	.WORD	TBUF	; SEGB = TBUF
2040	017126	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2041	017130	000000	.WORD	0	
2042			:		
2043	017132	000032	.WORD	26.	; SLEN = 32 BYTES
2044	017134	004440	.WORD	TBUF	; SEGB = TBUF
2045	017136	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2046	017140	000000	.WORD	0	
2047			:		
2048	017142	000032	.WORD	26.	; SLEN = 32 BYTES
2049	017144	004440	.WORD	TBUF	; SEGB = TBUF
2050	017146	101400	.WORD	101400	; OVN = LUA;STP;ENP
2051	017150	000000	.WORD	0	
2052			:		
2053	017152	000032	.WORD	26.	; SLEN = 32 BYTES
2054	017154	004440	.WORD	TBUF	; SEGB = TBUF
2055	017156	101400	.WORD	101400	; OVN = LUA;STP;ENP
2056	017160	000000	.WORD	0	
2057			:		
2058	017162	000032	.WORD	26.	; SLEN = 32 BYTES
2059	017164	004440	.WORD	TBUF	; SEGB = TBUF
2060	017166	101400	.WORD	101400	; OVN = LUA;STP;ENP
2061	017170	000000	.WORD	0	
2062			:		
2063	017172	000032	.WORD	26.	; SLEN = 32 BYTES
2064	017174	004440	.WORD	TBUF	; SEGB = TBUF
2065	017176	101400	.WORD	101400	; OVN = LUA;STP;ENP
2066	017200	000000	.WORD	0	
2067			:		
2068	017202	000032	.WORD	26.	; SLEN = 32 BYTES
2069	017204	004440	.WORD	TBUF	; SEGB = TBUF
2070	017206	101400	.WORD	101400	; OVN = LUA;STP;ENP
2071	017210	000000	.WORD	0	
2072			:		
2073	017212	000032	.WORD	26.	; SLEN = 32 BYTES
2074	017214	004440	.WORD	TBUF	; SEGB = TBUF
2075	017216	101400	.WORD	101400	; OVN = LUA;STP;ENP
2076	017220	000000	.WORD	0	
2077			:		
2078	017222	000032	.WORD	26.	; SLEN = 32 BYTES
2079	017224	004440	.WORD	TBUF	; SEGB = TBUF

E4

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GLOBAL DATA SECTION

SEQ 43

2080	017226	101400	.WORD	101400	; OWN = LUA;STP;ENP
2081	017230	000000	.WORD	0	;
2082					;
2083	017232	000032	.WORD	26.	; SLEN = 32 BYTES
2084	017234	004440	.WORD	TBUF	; SEGB = TBUF
2085	017236	101400	.WORD	101400	; OWN = LUA;STP;ENP
2086	017240	000000	.WORD	0	;
2087					;
2088	017242	000032	.WORD	26.	; SLEN = 32 BYTES
2089	017244	004440	.WORD	TBUF	; SEGB = TBUF
2090	017246	101400	.WORD	101400	; OWN = LUA;STP;ENP
2091	017250	000000	.WORD	0	;
2092					;
2093	017252	000032	.WORD	26.	; SLEN = 32 BYTES
2094	017254	004440	.WORD	TBUF	; SEGB = TBUF
2095	017256	101400	.WORD	101400	; OWN = LUA;STP;ENP
2096	017260	000000	.WORD	0	;
2097					;
2098	017262	000032	.WORD	26.	; SLEN = 32 BYTES
2099	017264	004440	.WORD	TBUF	; SEGB = TBUF
2100	017266	101400	.WORD	101400	; OWN = LUA;STP;ENP
2101	017270	000000	.WORD	0	;
2102					;
2103	017272	000032	.WORD	26.	; SLEN = 32 BYTES
2104	017274	004440	.WORD	TBUF	; SEGB = TBUF
2105	017276	101400	.WORD	101400	; OWN = LUA;STP;ENP
2106	017300	000000	.WORD	0	;
2107					;
2108	017302	000032	.WORD	26.	; SLEN = 32 BYTES
2109	017304	004440	.WORD	TBUF	; SEGB = LUA;STP;ENP
2110	017306	101400	.WORD	101400	; OWN = LUA;STP;ENP
2111	017310	000000	.WORD	0	;
2112					;
2113	017312	000032	.WORD	26.	; SLEN = 32 BYTES
2114	017314	004440	.WORD	TBUF	; SEGB = TBUF
2115	017316	101400	.WORD	101400	; OWN = LUA;STP;ENP
2116	017320	000000	.WORD	0	;
2117					;
2118	017322	000032	.WORD	26.	; SLEN = 32 BYTES
2119	017324	004440	.WORD	TBUF	; SEGB = TBUF
2120	017326	101400	.WORD	101400	; OWN = LUA;STP;ENP
2121	017330	000000	.WORD	0	;
2122					;
2123	017332	000032	.WORD	26.	; SLEN = 32 BYTES
2124	017334	004440	.WORD	TBUF	; SEGB = TBUF
2125	017336	101400	.WORD	101400	; OWN = LUA;STP;ENP
2126	017340	000000	.WORD	0	;
2127					;
2128	017342	000032	.WORD	26.	; SLEN = 32 BYTES
2129	017344	004440	.WORD	TBUF	; SEGB = TBUF
2130	017346	101400	.WORD	101400	; OWN = LUA;STP;ENP
2131	017350	000000	.WORD	0	;
2132					;
2133	017352	000032	.WORD	26.	; SLEN = 32 BYTES
2134	017354	004440	.WORD	TBUF	; SEGB = TBUF
2135	017356	101400	.WORD	101400	; OWN = LUA;STP;ENP
2136	017360	000000	.WORD	0	;

2137					
2138	017362	000032	.WORD	26.	; SLEN = 32 BYTES
2139	017364	004440	.WORD	TBUF	; SEGB = TBUF
2140	017366	101400	.WORD	101400	; OVN = LUA;STP;ENP
2141	017370	000000	.WORD	0	;
2142					
2143	017372	000032	.WORD	26.	; SLEN = 32 BYTES
2144	017374	004440	.WORD	TBUF	; SEGB = TBUF
2145	017376	101400	.WORD	101400	; OVN = LUA;STP;ENP
2146	017400	000000	.WORD	0	;
2147					
2148	017402	000032	.WORD	26.	; SLEN = 32 BYTES
2149	017404	004440	.WORD	TBUF	; SEGB = TBUF
2150	017406	101400	.WORD	101400	; OVN = LUA;STP;ENP
2151	017410	000000	.WORD	0	;
2152					
2153	017412	000032	.WORD	26.	; SLEN = 32 BYTES
2154	017414	004440	.WORD	TBUF	; SEGB = TBUF
2155	017416	101400	.WORD	101400	; OVN = LUA;STP;ENP
2156	017420	000000	.WORD	0	;
2157					
2158	017422	000032	.WORD	26.	; SLEN = 32 BYTES
2159	017424	004440	.WORD	TBUF	; SEGB = TBUF
2160	017426	101400	.WORD	101400	; OVN = LUA;STP;ENP
2161	017430	000000	.WORD	0	;
2162					
2163	017432	000032	.WORD	26.	; SLEN = 32 BYTES
2164	017434	004440	.WORD	TBUF	; SEGB = TBUF
2165	017436	101400	.WORD	101400	; OVN = LUA;STP;ENP
2166	017440	000000	.WORD	0	;
2167					
2168	017442	000032	.WORD	26.	; SLEN = 32 BYTES
2169	017444	004440	.WORD	TBUF	; SEGB = TBUF
2170	017446	101400	.WORD	101400	; OVN = LUA;STP;ENP
2171	017450	000000	.WORD	0	;
2172					
2173	017452	000032	.WORD	26.	; SLEN = 32 BYTES
2174	017454	004440	.WORD	TBUF	; SEGB = TBUF
2175	017456	101400	.WORD	101400	; OVN = LUA;STP;ENP
2176	017460	000000	.WORD	0	;
2177					
2178	017462	000032	.WORD	26.	; SLEN = 32 BYTES
2179	017464	004440	.WORD	TBUF	; SEGB = TBUF
2180	017466	101400	.WORD	101400	; OVN = LUA;STP;ENP
2181	017470	000000	.WORD	0	;
2182					
2183	017472	000032	.WORD	26.	; SLEN = 32 BYTES
2184	017474	004440	.WORD	TBUF	;
2185	017476	101400	.WORD	101400	;
2186	017500	000000	.WORD	0	;
2187					
2188	017502	000032	.WORD	26.	;
2189	017504	004440	.WORD	TBUF	;
2190	017506	101400	.WORD	101400	;
2191	017510	000000	.WORD	0	;
2192					
2193	017512	000032	.WORD	26.	;

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2194 017514 004440 .WORD TBUF ;
2195 017516 101400 .WORD 101400 ;
2196 017520 000000 .WORD 0 ;
2197 ;
2198 017522 000032 .WORD 26. ;
2199 017524 004440 .WORD TBUF ;
2200 017526 101400 .WORD 101400 ;
2201 017530 000000 .WORD 0 ;
2202 ;
2203 017532 000032 .WORD 26. ;
2204 017534 004440 .WORD TBUF ;
2205 017536 101400 .WORD 101400 ;
2206 017540 000000 .WORD 0 ;
2207 ;
2208 017542 000032 .WORD 26. ;
2209 017544 004440 .WORD TBUF ;
2210 017546 101400 .WORD 101400 ;
2211 017550 000000 .WORD 0 ;
2212 ;
2213 017552 000032 .WORD 26. ; SLEN = 32 BYTES
2214 017554 004440 .WORD TBUF ; SEGB = TBUF
2215 017556 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2216 017560 000000 .WORD 0 ;
2217 ;
2218 017562 000032 .WORD 26. ; SLEN = 32 BYTES
2219 017564 004440 .WORD TBUF ; SEGB = TBUF
2220 017566 001400 .WORD 001400 ; OWN = PORT DRIVER;STP;ENP
2221 017570 000000 .WORD 0 ;
2222 ;
2223 017572 000016 TDRB4A: .WORD 14. ; SLEN = 14 BYTES
2224 017574 004440 .WORD TBUF ; SEGB = TBUF
2225 017576 101000 .WORD 101000 ; OWN = LUA;STP
2226 017600 000000 .WORD 0 ;
2227 ;
2228 017602 000016 .WORD 14. ; SLEN = 14 BYTES
2229 017604 004440 .WORD TBUF ; SEGB = TBUF
2230 017606 100400 .WORD 100400 ; OWN = LUA;ENP
2231 017610 000000 .WORD 0 ;
2232 ;
2233 017612 000016 .WORD 14. ; SLEN = 14 BYTES
2234 017614 004440 .WORD TBUF ; SEGB = TBUF
2235 017616 001400 .WORD 001400 ; OWN = PORT DRIVER;STP;ENP
2236 017620 000000 .WORD 0 ;
2237 ;
2238 ;
2239 ;DEFAULT DATA FOR TEST11
2240 ;
2241 017622 000000 CRCH: .WORD 0 ; CRC STORAGE
2242 ;
2243 ;DEFAULT UDBB FOR TEST11
2244 ;
2245 017624 002000 UDB10A: .WORD 2000 ; FLEN = 1024 WORDS
2246 017626 010442 .WORD RBUF ; HDBB = RBUF
2247 017630 000000 .WORD 0
2248 017632 000000 .WORD 0
2249 017634 000010 .WORD 10
2250

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2251          ;ROM ADDRESS TABLE FOR TEST11
2252
2253 017636    MEM10A:
2254 017636 000000      .WORD 0      ; ADDRESS OF ROM 1ST 1K
2255 017640 002000      .WORD 2000   ; SECOND 1K
2256 017642 004000      .WORD 4000   ; ETC.
2257 017644 006000      .WORD 6000
2258 017646 010000      .WORD 10000
2259 017650 012000      .WORD 12000
2260 017652 014000      .WORD 14000
2261 017654 016000      .WORD 16000
2262 017656 020000      .WORD 20000
2263 017660 022000      .WORD 22000
2264 017662 024000      .WORD 24000
2265 017664 026000      .WORD 26000
2266 017666 030000      .WORD 30000
2267 017670 032000      .WORD 32000
2268 017672 034000      .WORD 34000
2269 017674 036000      .WORD 36000
2270
2271
2272          ;DEFAULT UDBB FOR TST12
2273
2274 017676 004000    UDB11A: .WORD 4000   ; FLEN = 1024. WORDS
2275 017700 000000      .WORD 0      ; HDBB = RBUF OR TBUF (LOADED BY TEST)
2276 017702 000000      .WORD 0
2277 017704 000000      .WORD 0      ; IDBB (LOADED BY TEST)
2278 017706 000000      .WORD 0      ; IDBB (Upper addr bits) loaded by test
2279
2280          ;WCS DOWNLINE LOAD ADDRESS TABLE FOR TEST12
2281
2282 017710 014000    MEM11A: .WORD 14000  ; TOP 1K SECTION OF MEMORY
2283
2284          ;INTERNAL RAM MEMORY ADDRESS TABLE FOR TEST12
2285
2286 017712 000146    .WORD END13A-MEM13A      ; WORD SIZE OF MEM13A
2287
2288 017714 062000    MEM13A: .WORD 062000  ; FIRST 1K BLOCK OF INTERNAL RAM MEMORY
2289 017716 066000      .WORD 066000
2290 017720 072000      .WORD 072000
2291 017722 076000      .WORD 076000
2292 017724 102000      .WORD 102000
2293 017726 106000      .WORD 106000
2294 017730 112000      .WORD 112000
2295 017732 116000      .WORD 116000
2296 017734 122000      .WORD 122000
2297 017736 126000      .WORD 126000
2298 017740 132000      .WORD 132000
2299 017742 136000      .WORD 136000
2300 017744 142000      .WORD 142000
2301 017746 146000      .WORD 146000
2302 017750 152000      .WORD 152000
2303 017752 156000      .WORD 156000
2304 017754 162000      .WORD 162000
2305 017756 166000      .WORD 166000
2306 017760 172000      .WORD 172000
2307 017762 176000      .WORD 176000

```

```

2308 017764 002000 .WORD 002000 ;FROM HERE ON EXT ADDR BIT WILL BE
2309 ;SET IN UD8B+4
2310 017766 006000 .WORD 006000
2311 017770 012000 .WORD 012000
2312 017772 016000 .WORD 016000
2313 017774 022000 .WORD 022000
2314 017776 026000 .WORD 026000
2315 020000 032000 .WORD 032000
2316 020002 036000 .WORD 036000
2317 020004 042000 .WORD 042000
2318 020006 046000 .WORD 046000
2319 020010 052000 .WORD 052000
2320 020012 056000 .WORD 056000
2321 020014 062000 .WORD 062000
2322 020016 066000 .WORD 066000
2323 020020 072000 .WORD 072000
2324 020022 076000 .WORD 076000
2325 020024 102000 .WORD 102000
2326 020026 106000 .WORD 106000
2327 020030 111200 .WORD 111200
2328 020032 116000 .WORD 116000
2329 020034 122000 .WORD 122000
2330 020036 126000 .WORD 126000
2331 020040 132000 .WORD 132000
2332 020042 136000 .WORD 136000
2333 020044 142000 .WORD 142000
2334 020046 146000 .WORD 146000
2335 020050 152000 .WORD 152000
2336 020052 156000 .WORD 156000
2337 020054 162000 .WORD 162000
2338 020056 166000 .WORD 166000
2339 020060 172000 .WORD 172000
2340 020062
2341
2342
2343
2344
2345 020062 125252 ADR21: .WORD 125252 ; DEFAULT PHYSICAL ADDRESS
2346 020064 125252 .WORD 125252
2347 020066 125252 .WORD 125252
2348
2349 020070 052524 ADR21C: .WORD 52524 ; COMPLEMENTED PHYSICAL ADDRESS
2350 020072 052525 .WORD 52525
2351 020074 052525 .WORD 52525
2352
2353 ;MULTICAST ADDRESS LIST FOR TEST 21
2354
2355 020076 125253 MULTL: .WORD 125253 ; MULTICAST ADDRESS LIST
2356 020100 125252 .WORD 125252
2357 020102 125252 .WORD 125252
2358 020104 125253 .WORD 125253
2359 020106 052525 .WORD 052525
2360 020110 125252 .WORD 125252
2361 020112 125253 .WORD 125253
2362 020114 125252 .WORD 125252
2363 020116 052525 .WORD 052525
2364 020120 125253 .WORD 125253

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2365	020122	177777	.WORD	177777
2366	020124	052525	.WORD	052525
2367	020126	125253	.WORD	125253
2368	020130	000000	.WORD	000000
2369	020132	125252	.WORD	125252
2370	020134	177777	.WORD	177777
2371	020136	000000	.WORD	000000
2372	020140	177777	.WORD	177777
2373	020142	177777	.WORD	177777
2374	020144	052525	.WORD	052525
2375	020146	125252	.WORD	125252
2376	020150	177777	.WORD	177777
2377	020152	125252	.WORD	125252
2378	020154	052525	.WORD	052525
2379	020156	177777	.WORD	177777
2380	020160	000000	.WORD	000000
2381	020162	052525	.WORD	052525
2382	020164	177777	.WORD	177777
2383	020166	177777	.WORD	177777
2384	020170	125252	.WORD	125252
2385				
2386	020172	052525	.WORD	052525
2387	020174	052525	.WORD	052525
2388	020176	052525	.WORD	052525
2389	020200	052525	.WORD	052525
2390	020202	125252	.WORD	125252
2391	020204	052525	.WORD	052525
2392	020206	052525	.WORD	052525
2393	020210	052525	.WORD	052525
2394	020212	125252	.WORD	125252
2395	020214	052525	.WORD	052525
2396	020216	000000	.WORD	000000
2397	020220	125252	.WORD	125252
2398	020222	052525	.WORD	052525
2399	020224	177777	.WORD	177777
2400	020226	052525	.WORD	052525
2401	020230	000001	.WORD	000001
2402	020232	000000	.WORD	000000
2403	020234	000000	.WORD	000000
2404	020236	000001	.WORD	000001
2405	020240	125252	.WORD	125252
2406	020242	052525	.WORD	052525
2407	020244	000001	.WORD	000001
2408	020246	052525	.WORD	052525
2409	020250	125252	.WORD	125252
2410	020252	000001	.WORD	000001
2411	020254	177777	.WORD	177777
2412	020256	125252	.WORD	125252
2413	020260	000001	.WORD	000001
2414	020262	000000	.WORD	000000
2415	020264	052525	.WORD	052525

MULTLC:

; COMPLIMENTED ADDRESS LIST

;DEFAULT EXPECTED DATA

2416				
2417				
2418				
2419	020266	000032	.WORD	26.
2420	020270	004440	.WORD	TBUF
2421	020272	021400	.WORD	021400

; EXPECTED TDRB FOR
; TEST13,17,20-23,25,26
; MTCH,STP,ENP

GLOBAL DATA SECTION

2422	020274	000000	.WORD	0	;
2423	020276	000040	TDR15A: .WORD	32.	; EXPECTED TDRB FOR
2424	020300	004440	.WORD	TBUF	; TESTS 14,15
2425	020302	021400	.WORD	021400	; MTCH,STP,ENP
2426	020304	000000	.WORD	0	
2427	020306	000016	TDR18A: .WORD	14.	; FIRST TDRB FOR TEST18
2428	020310	004440	.WORD	TBUF	
2429	020312	041400	.WORD	041400	; ERR,STP,ENP
2430	020314	100000	.WORD	100000	; BUFL ERROR
2431	020316	000022	TDR18B: .WORD	18.	; SECOND TDRB FOR TEST18
2432	020320	004440	.WORD	TBUF	
2433	020322	041400	.WORD	041400	; ERR,STP,ENP
2434	020324	100000	.WORD	100000	; BUFL ERROR
2435	020326	000016	TDR20A: .WORD	14.	; FIRST TDRB FOR TEST19
2436	020330	004440	.WORD	TBUF	
2437	020332	001000	.WORD	001000	; STP
2438	020334	000000	.WORD	0	
2439	020336	000016	TDR20B: .WORD	14.	; SECOND TDRB FOR TEST19
2440	020340	004440	.WORD	TBUF	
2441	020342	020400	.WORD	20400	; MTCH,ENP
2442	020344	000000	.WORD	0	
2443	020346	000032	TDR21X: .WORD	26.	; EXPECTED TDRB FOR
2444	020350	004440	.WORD	TBUF	; TESTS 20,21
2445	020352	001400	.WORD	001400	; STP,ENP
2446	020354	000000	.WORD	0	
2447	020356	000042	TDR24A: .WORD	34.	; EXPECTED TDRB FOR
2448	020360	004440	.WORD	TBUF	; TEST 24, 1ST PASS
2449	020362	041400	.WORD	041400	; BUFL,STP,ENP
2450	020364	100000	.WORD	100000	
2451	020366	000050	TDR24B: .WORD	40.	; EXPECTED TDRB FOR
2452	020370	004440	.WORD	TBUF	; TEST 24, 2ND PASS
2453	020372	041400	.WORD	041400	; BUFL,STP,ENP
2454	020374	100000	.WORD	100000	;
2455					
2456	020376	000040	RDR14B: .WORD	32.	; EXPECTED RDRB
2457	020400	010442	.WORD	RBUF	; FOR TEST 14
2458	020402	001400	.WORD	001400	; STP,ENP
2459	020404	000040	.WORD	32.	
2460	020406	000040	RDR15A: .WORD	32.	; EXPECTED RDRB FOR
2461	020410	010442	.WORD	RBUF	; TESTS 15
2462	020412	065400	.WORD	065400	; ERRS,CRC,FRM,STP,ENP
2463	020414	000040	.WORD	32.	
2464	020416	000040	RDR17A: .WORD	32.	; FIRST RDRB FOR TEST17
2465	020420	010442	.WORD	RBUF	
2466	020422	001400	.WORD	001400	; ERRS,STP,ENP
2467	020424	020036	.WORD	020036	; NCHN
2468	020426	000040	RDR17B: .WORD	32.	; SECOND RDRB FOR TEST17
2469	020430	010442	.WORD	RBUF	
2470	020432	100000	.WORD	100000	; OWN = DELUA
2471	020434	000000	.WORD	0	
2472	020436	000020	RDR20A: .WORD	16.	; FIRST RDRB FOR TEST19
2473	020440	010442	.WORD	RBUF	
2474	020442	001000	.WORD	001000	; STP
2475	020444	000000	.WORD	0	
2476	020446	000026	RDR20B: .WORD	22.	; SECOND RDRB FOR TEST19
2477	020450	011042	.WORD	RBUF2	
2478	020452	000400	.WORD	000400	; ENP

GLOBAL DATA SECTION

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2479 020454 000040
2480 020456 000040      RDR20C:      .WORD 32.
2481 020460 010442      .WORD 32. ; TEST13,20-23,25-26
2482 020462 001400      .WORD RBUF
2483 020464 000036      .WORD 1400 ; STP, ENP
2484
2485
2486
2487 020466 100114      MODE15: .WORD 100114 ; MODE = PROM,DTCR,INTL
2488 020470 120104      MODE17: .WORD 120104 ; MODE = PROM,DRDC,INTL
2489 020472 100000      MODE20: .WORD 100000 ; MODE = PROM
2490 020474 000104      MODE21: .WORD 104 ; INTL LOOPBACK ONLY
2491 020476 040104      MODE24: .WORD 040104 ; MODE = ENAL,INTL
2492 020500 110104      MODE25: .WORD 110104 ; MODE = PROM,TPAD,INTL
2493 020502 000002      UDB28A: .WORD 2 ; UDBB FOR TEST26
2494 020504 000000      .WORD 0 ;
2495 020506 000000      .WORD 0 ;
2496 020510 000000      .WORD 0 ;
2497 020512 000000      .WORD 0 ;
2498 020514 021040      SWADDR: .WORD 21040 ; SWITCH PACK ADDRESS
2499 ;GLOBAL DATA AND FLAGS
2500 ;
2501 020516 000000      EPCSR0: .WORD 0 ; PCSRO AT TIME OF ERROR
2502 020520 000000      EPCSR1: .WORD 0 ; PCSR1 AT TIME OF ERROR
2503 020522 000000      ERDRB0: .WORD 0 ; RDRB+0 AT TIME OF ERROR
2504 020524 000000      ERDRB2: .WORD 0 ; RDRB+2 AT TIME OF ERROR
2505 020526 000000      ERDRB4: .WORD 0 ; RDRB+4 AT TIME OF ERROR
2506 020530 000000      ERDRB6: .WORD 0 ; RDRB+6 AT TIME OF ERROR
2507 020532 000000      XRDRB0: .WORD 0 ; EXPECTED RDRB+0 AT TIME OF ERROR
2508 020534 000000      XRDRB2: .WORD 0 ; EXPECTED RDRB+2 AT TIME OF ERROR
2509 020536 000000      XRDRB4: .WORD 0 ; EXPECTED RDRB+4 AT TIME OF ERROR
2510 020540 000000      XRDRB6: .WORD 0 ; EXPECTED RDRB+6 AT TIME OF ERROR
2511 020542 000000      ETDRB0: .WORD 0 ; TDRB+0 AT TIME OF ERROR
2512 020544 000000      ETDRB2: .WORD 0 ; TDRB+2 AT TIME OF ERROR
2513 020546 000000      ETDRB4: .WORD 0 ; TDRB+4 AT TIME OF ERROR
2514 020550 000000      ETDRB6: .WORD 0 ; TDRB+6 AT TIME OF ERROR
2515 020552 000000      XTDRB0: .WORD 0 ; EXPECTED TDRB+0 AT TIME OF ERROR
2516 020554 000000      XTDRB2: .WORD 0 ; EXPECTED TDRB+2 AT TIME OF ERROR
2517 020556 000000      XTDRB4: .WORD 0 ; EXPECTED TDRB+4 AT TIME OF ERROR
2518 020560 000000      XTDRB6: .WORD 0 ; EXPECTED TDRB+6 AT TIME OF ERROR
2519
2520 020562 000000      BYTCNT: .WORD 0 ; NUMBER OF BYTES/PACKET
2521 020564 000000      DOCRC: .WORD 0 ; CRC REQUIREMENT FOR SUBROUTINES
2522 ; 0 = NO CRC
2523 ; 1 = APPEND CRC
2524
2525 020566 000000      EDAT: .WORD 0 ; ACTUAL DATA AT TIME OF ERROR
2526 020570 000000      XDAT: .WORD 0 ; EXPECTED DATA AT TIME OF ERROR
2527 020572 000000      ECRC: .WORD 0 ; ACTUAL CRC VALUE AT TIME OF ERROR
2528 020574 000000      ECRCB: .WORD 0
2529 020576 000000      XCRC: .WORD 0 ; EXPECTED CRC VALUE AT TIME OF ERROR
2530 020600 000000      XCRCB: .WORD 0
2531 ;
2532 020602 000000      ECODE: .WORD 0 ; SELF TEST ERROR CODE SHIFTED RIGHT
2533 ;
2534 020604 000000      METER: .WORD 0 ; CLOCK TICKS
2535 020606 000000      NEXMEM: .WORD 0 ; NXM TIMEOUT FLAG

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2536	020610	000000	EAFIAG:	.WORD	0	; EXT ADDRESS BITS FLAG
2537	020612	000000	DNIFLG:	.WORD	0	; DNI INTERRUPT FLAG
2538	020614	000000	FRSTIM:	.WORD	0	; FIRST TIME FLAG
2539	020616	166670	POLYH:	.WORD	166670	; HIGH WORD OF PACKET CRC
2540	020620	101440	POLYL:	.WORD	101440	; LOW WORD OF PACKET CRC
2541	020622	000000	PRNTIT:	.WORD	0	; PRINT ENABLED FLAG
2542	020624		REPLY:	.BLKW	2	; DEFAULT STORAGE FOR REPLY TO
2543						; MANUAL INTERVENTION REQUEST
2544			:			
2545	020630	177777	PATRN1:	.WORD	177777	; SA0_SA1 TEST PATTERN
2546	020632	000000		.WORD	0	
2547	020634	052525		.WORD	52525	
2548	020636	125252		.WORD	125252	
2549	020640	155463		.WORD	155463	
2550	020642	036334		.WORD	36334	
2551	020644	141616		.WORD	141616	
2552	020646	052525		.WORD	52525	
2553	020650	125252		.WORD	125252	
2554						
2555	020652		ERRTBL			
	020652					L\$ERRTBL::
	020652	000000	ERRTYP::	.WORD	0	
	020654	000000	ERRNBR::	.WORD	0	
	020656	000000	ERRMSG::	.WORD	0	
	020660	000000	ERRBLK::	.WORD	0	

```

2557          .SBTTL GLOBAL TEXT SECTION
2558
2559          ;++
2560          ; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2561          ; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2562          ; MORE THAN ONE TEST.
2563          ;--
2564
2565          ;
2566          ; NAMES OF DEVICES SUPPORTED BY PROGRAM
2567          ;
2568          DEVTYP <DELUA>
                                L#DVTYP::
                                .ASCIZ *DELUA*
                                .EVEN
                                020662
                                020662      104      105      114
                                020655      125      101      000

2569
2570
2571          ; TEST DESCRIPTION
2572          ;
2573          DESCRIPT      <DELUA - PDP11 FUNCTIONAL DIAGNOSTIC dtd 28-MAR-86>
                                L#DESC::
                                .ASCIZ /DELUA - PDP11 FUNCTI
ONAL DIAGNOSTIC      104      105      114
dtd 28-MAR-86/
                                020673      125      101      040
                                020676      055      040      120
                                020701      104      120      061
                                020704      061      040      106
                                020707      125      116      103
                                020712      124      111      117
                                020715      116      101      114
                                020720      040      104      111
                                020723      101      107      116
                                020726      117      123      124
                                020731      111      103      040
                                020734      040      144      164
                                020737      144      040      062
                                020742      070      055      115
                                020745      101      122      055
                                020750      070      066      000

2574          .EVEN
2575
                                .EVEN
    
```

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2577
2578
2579
2580
2581
2582 020754 045 116 045
      020757 101 120 103
      020762 123 122 045
      020765 104 061 045
      020770 101 040 104
      020773 117 105 123
      020776 040 116 117
      021001 124 040 105
      021004 130 111 123
      021007 124 000
2583 021011 045 116 045 FRM001: .ASCIZ /*N*/APCSR/*D1*/A DOES NOT EXIST/
      021014 101 040 105
      021017 130 120 105
      021022 103 124 105
      021025 104 040 104
      021030 101 124 101
      021033 040 075 040
      021036 045 117 066
      021041 045 116 045
      021044 101 040 101
      021047 103 124 125
      021052 101 114 040
      021055 104 101 124
      021060 101 040 075
      021063 040 040 040
      021066 045 117 066
      021071 000
2584 021072 045 116 045 FRM002: .ASCIZ /*N*/A EXPECTED DATA = /*06*/N/*A ACTUAL DATA = /*06*/
      021075 101 040 120
      021100 103 123 122
      021103 060 040 075
      021106 040 045 117
      021111 066 045 116
      021114 045 101 040
      021117 120 103 123
      021122 122 061 040
      021125 075 040 045
      021130 117 066 000
2585 021133 045 116 045 FRM003: .ASCIZ /*N*/A PCSRO = /*06*/N/*A PCSR1 = /*06*/
      021136 101 040 123
      021141 105 114 106
      021144 040 124 105
      021147 123 124 040
      021152 105 122 122
      021155 117 122 040
      021160 103 117 104
      021163 105 040 075
      021166 040 045 117
      021171 062 000
2586 021173 045 116 045 FRM004: .ASCIZ /*N*/A SELF TEST ERROR CODE = /*02*/
      021176 101 040 105
      021201 130 120 105
      FRM005: .ASCIZ /*N*/A EXPECTED TDRB+0 = /*06*/N/*A ACTUAL TDRB+0 = /*06*/

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	021204	103	124	105	
	021207	104	040	124	
	021212	104	122	102	
	021215	053	060	040	
	021220	075	040	045	
	021223	117	066	045	
	021226	116	045	101	
	021231	040	101	103	
	021234	124	125	101	
	021237	114	040	124	
	021242	104	122	102	
	021245	053	060	040	
	021250	075	040	040	
	021253	040	045	117	
2587	021256	066	000		
	021260	045	116	045	FRM006: .ASCIZ /%N% EXPECTED TDRB+2 = %06%N% ACTUAL TDRB+2 = %06/
	021263	101	040	105	
	021266	130	120	105	
	021271	103	124	105	
	021274	104	040	124	
	021277	104	122	102	
	021302	053	062	040	
	021305	075	040	045	
	021310	117	066	045	
	021313	116	045	101	
	021316	040	101	103	
	021321	124	125	101	
	021324	114	040	124	
	021327	104	122	102	
	021332	053	062	040	
	021335	075	040	040	
	021340	040	045	117	
2588	021343	066	000		
	021345	045	116	045	FRM007: .ASCIZ /%N% EXPECTED TDRB+4 = %06%N% ACTUAL TDRB+4 = %06/
	021350	101	040	105	
	021353	130	120	105	
	021356	103	124	105	
	021361	104	040	124	
	021364	104	122	102	
	021367	053	064	040	
	021372	075	040	045	
	021375	117	066	045	
	021400	116	045	101	
	021403	040	101	103	
	021406	124	125	101	
	021411	114	040	124	
	021414	104	122	102	
	021417	053	064	040	
	021422	075	040	040	
	021425	040	045	117	
2589	021430	066	000		
	021432	045	116	045	FRM008: .ASCIZ /%N% EXPECTED TDRB+6 = %06%N% ACTUAL TDRB+6 = %06/
	021435	101	040	105	
	021440	130	120	105	
	021443	103	124	105	
	021446	104	040	124	
	021451	104	122	102	

D5

	021454	053	066	040	
	021457	075	040	045	
	021462	117	066	045	
	021465	116	045	101	
	021470	040	101	103	
	021473	124	125	101	
	021476	114	040	124	
	021501	104	122	102	
	021504	053	066	040	
	021507	075	040	040	
	021512	040	045	117	
	021515	066	000		
2590	021517	045	116	045	FRM009: .ASCIZ /%N% A EXPECTED RDRB+0 = %06%N% A ACTUAL RDRB+0 = %06/
	021522	101	040	105	
	021525	130	120	105	
	021530	103	124	105	
	021533	104	040	122	
	021536	104	122	102	
	021541	053	060	040	
	021544	075	040	045	
	021547	117	066	045	
	021552	116	045	101	
	021555	040	101	103	
	021560	124	125	101	
	021563	114	040	122	
	021566	104	122	102	
	021571	053	060	040	
	021574	075	040	040	
	021577	040	045	117	
	021602	066	000		
2591	021604	045	116	045	FRM010: .ASCIZ /%N% A EXPECTED RDRB+2 = %06%N% A ACTUAL RDRB+2 = %06/
	021607	101	040	105	
	021612	130	120	105	
	021615	103	124	105	
	021620	104	040	122	
	021623	104	122	102	
	021626	053	062	040	
	021631	075	040	045	
	021634	117	066	045	
	021637	116	045	101	
	021642	040	101	103	
	021645	124	125	101	
	021650	114	040	122	
	021653	104	122	102	
	021656	053	062	040	
	021661	075	040	040	
	021664	040	045	117	
	021667	066	000		
2592	021671	045	116	045	FRM011: .ASCIZ /%N% A EXPECTED RDRB+4 = %06%N% A ACTUAL RDRB+4 = %06/
	021674	101	040	105	
	021677	130	120	105	
	021702	103	124	105	
	021705	104	040	122	
	021710	104	122	102	
	021713	053	064	040	
	021716	075	040	045	
	021721	117	066	045	

E5

	021724	116	045	101	
	021727	040	101	103	
	021732	124	125	101	
	021735	114	040	122	
	021740	104	122	102	
	021743	053	064	040	
	021746	075	040	040	
	021751	040	045	117	
2593	021754	066	000		
	021756	045	116	045	FRM012: .ASCIZ /*NNA EXPECTED RDRB+6 = %06/*NNA ACTUAL RDRB+6 = %06/
	021761	101	040	105	
	021764	130	120	105	
	021767	103	124	105	
	021772	104	040	122	
	021775	104	122	102	
	022000	053	066	040	
	022003	075	040	045	
	022006	117	066	045	
	022011	116	045	101	
	022014	040	101	103	
	022017	124	125	101	
	022022	114	040	122	
	022025	104	122	102	
	022030	053	066	040	
	022033	075	040	040	
	022036	040	045	117	
2594	022041	066	000		
	022043	045	116	045	FRM013: .ASCIZ /*NNA EXPECTED CRC = %06/*NNA %06/
	022046	101	040	105	
	022051	130	120	105	
	022054	103	124	105	
	022057	104	040	103	
	022062	122	103	040	
	022065	075	040	045	
	022070	117	066	045	
	022073	116	045	101	
	022076	040	040	040	
	022101	040	040	040	
	022104	040	040	040	
	022107	040	040	040	
	022112	040	040	040	
	022115	040	045	117	
2595	022120	066	000		
	022122	045	116	045	FRM014: .ASCIZ /*NNA ACTUAL CRC = %06/*NNA %06/
	022125	101	040	101	
	022130	103	124	125	
	022133	101	114	040	
	022136	103	122	103	
	022141	040	040	040	
	022144	075	040	045	
	022147	117	066	045	
	022152	116	045	101	
	022155	040	040	040	
	022160	040	040	040	
	022163	040	040	040	
	022166	040	040	040	
	022171	040	040	040	

	022174	040	045	117	
	022177	066	000		
2596	022201	045	116	045	FRM015: .ASCIZ /#N#T/
	022204	124	000		
2597	022206	045	116	045	FRM016: .ASCIZ /#N#AROM MICROCODE VERSION (DECIMAL): #02/
	022211	101	122	117	
	022214	115	040	115	
	022217	111	103	122	
	022222	117	103	117	
	022225	104	105	040	
	022230	126	105	122	
	022233	123	111	117	
	022236	116	040	050	
	022241	104	105	103	
	022244	111	115	101	
	022247	114	051	072	
	022252	040	045	104	
	022255	062	000		
2598	022257	045	116	045	FRM017: .ASCIZ /#N#ASWITCH PACK = #06/
	022262	101	123	127	
	022265	111	124	103	
	022270	110	040	120	
	022273	101	103	113	
	022276	040	075	040	
	022301	045	117	066	
	022304	000			
2599	022305	045	116	045	FRM018: .ASCIZ /#N#APORT STATUS WORD 1: #06/
	022310	101	120	117	
	022313	122	124	040	
	022316	123	124	101	
	022321	124	125	123	
	022324	040	127	117	
	022327	122	104	040	
	022332	061	072	040	
	022335	045	117	066	
	022340	000			
2600	022341	045	116	045	FRM019: .ASCIZ /#N#A WORD 2: #06/
	022344	101	040	040	
	022347	040	040	040	
	022352	040	040	040	
	022355	040	040	040	
	022360	040	127	117	
	022363	122	104	040	
	022366	062	072	040	
	022371	045	117	066	
	022374	000			
2601	022375	045	116	045	FRM020: .ASCIZ /#N#A WORD 3: #06/
	022400	101	040	040	
	022403	040	040	040	
	022406	040	040	040	
	022411	040	040	040	
	022414	040	127	117	
	022417	122	104	040	
	022422	063	072	040	
	022425	045	117	066	
	022430	000			
2602	022431	045	116	045	FRM021: .ASCIZ /#N#A WORD 4: #06/

	022434	101	040	040	
	022437	040	040	040	
	022442	040	040	040	
	022445	040	040	040	
	022450	040	127	117	
	022453	122	104	040	
	022456	064	072	040	
	022461	045	117	066	
	022464	000			
2603	022465	045	116	045	FRM022: .ASCIZ / N/A EXPECTED UDBB+4 = > 0 N/A ACTUAL UDBB+4 = #06/
	022470	101	040	105	
	022473	130	120	105	
	022476	103	124	105	
	022501	104	040	125	
	022504	104	102	102	
	022507	053	064	040	
	022512	075	040	076	
	022515	040	060	040	
	022520	045	116	045	
	022523	101	040	101	
	022526	103	124	125	
	022531	101	114	040	
	022534	125	104	102	
	022537	102	053	064	
	022542	040	075	040	
	022545	045	117	066	
	022550	000			
2604	022551	045	116	045	FRM023: .ASCIZ / N/A PCSRO = #06/
	022554	101	040	120	
	022557	103	123	122	
	022562	060	040	075	
	022565	040	045	117	
	022570	066	000		
2605					
2606	022572	115	125	123	MSG1: .ASCIZ /MUST INSTALL H4080 OR EQUIV. EXT. LOOPBACK TO AVOID FAULTS./
	022575	124	040	111	
	022600	116	123	124	
	022603	101	114	114	
	022606	040	110	064	
	022611	060	070	060	
	022614	040	117	122	
	022617	040	105	121	
	022622	125	111	126	
	022625	056	040	105	
	022630	130	124	056	
	022633	040	114	117	
	022636	117	120	102	
	022641	101	103	113	
	022644	040	124	117	
	022647	040	101	126	
	022652	117	111	104	
	022655	040	106	101	
	022660	125	114	124	
	022663	123	056	000	
2607	022666	111	106	040	MSG2: .ASCIZ /IF YES, THEN MUST INSTALL H4080 OR EQUIV. EXT LOOPBACK TO AVOID FAULTS/
	022671	131	105	123	
	022674	054	124	110	

H5

022677	105	116	040
022702	115	125	123
022705	124	040	111
022710	116	123	124
022713	101	114	114
022716	040	110	064
022721	060	070	060
022724	040	117	122
022727	040	105	121
022732	125	111	126
022735	056	040	105
022740	130	124	040
022743	114	117	117
022746	120	102	101
022751	103	113	040
022754	124	117	040
022757	101	126	117
022762	111	104	040
022765	106	101	125
022770	114	124	123
022773	000		
2608 022774	111	123	040
022777	110	064	060
023002	070	060	040
023005	117	122	040
023010	105	121	125
023013	111	126	056
023016	040	114	117
023021	117	120	102
023024	101	103	113
023027	040	103	117
023032	116	116	105
023035	103	124	117
023040	122	040	111
023043	116	123	124
023046	101	114	114
023051	105	104	077
023054	040	131	074
023057	103	122	076
023062	040	117	116
023065	114	131	000
2609 023070	105	130	124
023073	056	114	117
023076	117	120	102
023101	101	103	113
023104	040	124	105
023107	123	124	055
023112	040	105	130
023115	124	040	115
023120	117	104	105
023123	040	116	117
023126	124	040	123
023131	105	114	105
023134	103	124	105
023137	104	040	055
023142	040	123	113
023145	111	120	040

MMMSG1: .ASCIZ /IS H4080 OR EQUIV. LOOPBACK CONNECTOR INSTALLED? Y<CR> ONLY/

SKIP: .ASCIZ /EXT.LOOPBACK TEST- EXT MODE NOT SELECTED - SKIP /

I5

2610	023150	000			
	023151	105	130	124	SKIP26: .ASCIZ /EXT.LOOPBACK TEST - MUST BE ATTENDED MODE - SKIP /
	023154	056	114	117	
	023157	117	120	102	
	023162	101	103	113	
	023165	040	124	105	
	023170	123	124	040	
	023173	055	040	115	
	023176	125	123	124	
	023201	040	102	105	
	023204	040	101	124	
	023207	124	105	116	
	023212	104	105	104	
	023215	040	115	117	
	023220	104	105	040	
	023223	055	040	123	
	023226	113	111	120	
	023231	040	000		
2611					
2612					.EVEN

```

2614      ;*****
2615      ;      MESSAGES USED ONLY IN THE INITIALIZE ROUTINE.
2616      ;*****
2617
2618 023234    103    101    116  NOCLK: .ASCIZ/CANNOT CONTINUE - NEED LINE CLOCK/
      023237    116    117    124
      023242    040    103    117
      023245    116    124    111
      023250    116    125    105
      023253    040    055    040
      023256    116    105    105
      023261    104    040    114
      023264    111    116    105
      023267    040    103    114
      023272    117    103    113
      023275    000
2619
2620 023276    103    101    116  M68FLD: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023301    116    117    124
      023304    040    103    117
      023307    116    124    111
      023312    116    125    105
      023315    040    055    040
      023320    116    117    040
      023323    104    116    111
      023326    040    101    106
      023331    124    105    122
      023334    040    122    105
      023337    123    105    124
2621 023342    040    040    040  .ASCIZ/ MICROPROCESSOR SUBSYSTEM FAULT/
      023345    115    111    103
      023350    122    117    120
      023353    122    117    103
      023356    105    123    123
      023361    117    122    040
      023364    123    125    102
      023367    123    131    123
      023372    124    105    115
      023375    040    106    101
      023400    125    114    124
      023403    000
2622
2623 023404    103    101    116  DEVUNI: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023407    116    117    124
      023412    040    103    117
      023415    116    124    111
      023420    116    125    105
      023423    040    055    040
      023426    116    117    040
      023431    104    116    111
      023434    040    101    106
      023437    124    105    122
      023442    040    122    105
      023445    123    105    124
2624 023450    040    040    040  .ASCIZ/ DEVICE OR UNIBUS ERROR/
      023453    104    105    126
      023456    111    103    105
    
```

	023461	040	117	122	
	023464	040	125	116	
	023467	111	102	125	
	023472	123	040	105	
	023475	122	122	117	
	023500	122	000		
2625					
2626	023502	103	101	116	NIUNIB: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
	023505	116	117	124	
	023510	040	103	117	
	023513	116	124	111	
	023516	116	125	105	
	023521	040	055	040	
	023524	116	117	040	
	023527	104	116	111	
	023532	040	101	106	
	023535	124	105	122	
	023540	040	122	105	
	023543	123	105	124	
2627	023546	040	040	040	.ASCIZ/ NI OR UNIBUS HALTED/
	023551	116	111	040	
	023554	117	122	040	
	023557	125	116	111	
	023562	102	125	123	
	023565	040	110	101	
	023570	114	124	105	
	023573	104	000		
2628					
2629	023575	103	101	116	UNDFND: .ASCII/CANNOT CONTINUE - DNI, FATAL, AND USCI BITS/
	023600	116	117	124	
	023603	040	103	117	
	023606	116	124	111	
	023611	116	125	105	
	023614	040	055	040	
	023617	104	116	111	
	023622	054	040	106	
	023625	101	124	101	
	023630	114	054	040	
	023633	101	116	104	
	023636	040	125	123	
	023641	103	111	040	
	023644	102	111	124	
	023647	123			
2630	023650	111	116	040	.ASCIZ/IN ILLEGAL STATE/
	023653	111	114	114	
	023656	105	107	101	
	023661	114	040	123	
	023664	124	101	124	
	023667	105	000		
2631					
2632	023671	103	101	116	DNICLR: .ASCIZ/CANNOT CONTINUE - DNI WOULD NOT CLEAR FOLLOWING RESET/
	023674	116	117	124	
	023677	040	103	117	
	023702	116	124	111	
	023705	116	125	105	
	023710	040	055	040	
	023713	104	116	111	

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023716	040	127	117
023721	125	114	104
023724	040	116	117
023727	124	040	103
023732	114	105	101
023735	122	040	106
023740	117	114	114
023743	117	127	111
023746	116	107	040
023751	122	105	123
023754	105	124	000

2633
2634

.EVEN

```

2636          .SBTTL GLOBAL ERROR REPORT SECTION
2637
2638          ;**
2639          ; THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS
2640          ; USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION. PRINTB
2641          ; (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
2642          ;--
2643
2644
2645
2646          023760          BGNMSG MSG001
2647          023760          PRINTB #FRM001,R2
2648          023760          010246
2649          023762          012746 020754
2650          023766          012746 000002
2651          023772          010600
2652          023774          104414
2653          023776          062706 000006
2654          024002          ENDMSG
2655          024002          104423
2656          ;
2657          024004          BGNMSG MSG002
2658          024004          PRINTB #FRM002,R3,R4
2659          024004          010446
2660          024006          010346
2661          024010          012746 021011
2662          024014          012746 000003
2663          024020          010600
2664          024022          104414
2665          024024          062706 000010
2666          024030          ENDMSG
2667          024030          104423
2668          ;
2669          024032          BGNMSG MSG003
2670          024032          PRINTB #FRM003,EPCSR0,EPCSR1
2671          024032          013746 020520
2672          024036          013746 020516
2673          024042          012746 021072
2674          024046          012746 000003
2675          024052          010600
2676          024054          104414
2677          024056          062706 000010
2678          024062          ENDMSG
2679          024062          104423
2680          ;
2681          024064          BGNMSG MSG004
2682          024064          PRINTB #FRM004,ECODE
2683          024064          013746 020602
2684          024070          012746 021133
2685          024074          012746 000002

```

MSG001::

```

MOV R2,-(SP)
MOV #FRM001,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #6,SP

```

L10002:

TRAP C\$MSG

MSG002::

```

MOV R4,-(SP)
MOV R3,-(SP)
MOV #FRM002,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

L10003:

TRAP C\$MSG

MSG003::

```

MOV EPCSR1,-(SP)
MOV EPCSR0,-(SP)
MOV #FRM003,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

L10004:

TRAP C\$MSG

MSG004::

```

MOV ECODE,(SP)
MOV #FRM004,-(SP)
MOV #2,-(SP)

```


N5

SEQ 65

```

024100 010600
024102 104414
024104 062706 000006
2660 024110          PRINTB  #FRM015,STMSG
024110 013746 040602
024114 012746 022201
024120 012746 000002
024124 010600
024126 104414
024130 062706 000006
2661 024134          ENDMSG
024134
024134 104423
2662
2663 024136          ;      BGNMSG  MSG005
024136
2664 024136          PRINTB  #FRM005,XTDRB0,ETDRB0
024136 013746 020542
024142 013746 020552
024146 012746 021173
024152 012746 000003
024156 010600
024160 104414
024162 062706 000010
2665 024166          PRINTB  #FRM006,XTDRB2,ETDRB2
024166 013746 020544
024172 013746 020554
024176 012746 021260
024202 012746 000003
024206 010600
024210 104414
024212 062706 000010
2666 024216          PRINTB  #FRM007,XTDRB4,ETDRB4
024216 013746 020546
024222 013746 020556
024226 012746 021345
024232 012746 000003
024236 010600
024240 104414
024242 062706 000010
2667 024246          PRINTB  #FRM008,XTDRB6,ETDRB6
024246 013746 020550
024252 013746 020560
024256 012746 021432
024262 012746 000003
024266 010600
024270 104414
024272 062706 000010
2668 024276          ENDMSG
024276
024276 104423
2669
2670 024300          ;      BGNMSG  MSG006
024300
2671 024300          PRINTB  #FRM009,XRDRB0,ERDRB0
024300 013746 020522
024304 013746 020532

```

```

          MOV      SP,RO
          TRAP    C#PNTB
          ADD     #6,SP

          MOV      STMSG,-(SP)
          MOV     #FRM015,-(SP)
          MOV     #2,-(SP)
          MOV     SP,RO
          TRAP    C#PNTB
          ADD     #6,SP

L10005:   TRAP    C#MSG

MSG005::

          MOV     ETDRB0,-(SP)
          MOV     XTDRB0,-(SP)
          MOV     #FRM005,-(SP)
          MOV     #3,-(SP)
          MOV     SP,RO
          TRAP    C#PNTB
          ADD     #10,SP

          MOV     ETDRB2,-(SP)
          MOV     XTDRB2,-(SP)
          MOV     #FRM006,-(SP)
          MOV     #3,-(SP)
          MOV     SP,RO
          TRAP    C#PNTB
          ADD     #10,SP

          MOV     ETDRB4,-(SP)
          MOV     XTDRB4,-(SP)
          MOV     #FRM007,-(SP)
          MOV     #3,-(SP)
          MOV     SP,RO
          TRAP    C#PNTB
          ADD     #10,SP

          MOV     ETDRB6,-(SP)
          MOV     XTDRB6,-(SP)
          MOV     #FRM008,-(SP)
          MOV     #3,-(SP)
          MOV     SP,RO
          TRAP    C#PNTB
          ADD     #10,SP

L10006:   TRAP    C#MSG

MSG006::

          MOV     ERDRB0,-(SP)
          MOV     XRDRB0,-(SP)

```

B6

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GLOBAL ERROR REPORT SECTION

SEQ 66

	024310	012746	021517		MOV	#FRM009,-(SP)
	024314	012746	000003		MOV	#3,-(SP)
	024320	010600			MOV	SP,R0
	024322	104414			TRAP	C#PNTB
	024324	062706	000010		ADD	#10,SP
2672	024330			PRINTB	#FRM010,XRDRB2,ERDRB2	
	024330	013746	020524		MOV	ERDRB2,-(SP)
	024334	013746	020534		MOV	XRDRB2,-(SP)
	024340	012746	021604		MOV	#FRM010,-(SP)
	024344	012746	000003		MOV	#3,-(SP)
	024350	010600			MOV	SP,R0
	024352	104414			TRAP	C#PNTB
	024354	062706	000010		ADD	#10,SP
2673	024360			PRINTB	#FRM011,XRDRB4,ERDRB4	
	024360	013746	020526		MOV	ERDRB4,-(SP)
	024364	013746	020536		MOV	XRDRB4,-(SP)
	024370	012746	021671		MOV	#FRM011,-(SP)
	024374	012746	000003		MOV	#3,-(SP)
	024400	010600			MOV	SP,R0
	024402	104414			TRAP	C#PNTB
	024404	062706	000010		ADD	#10,SP
2674	024410			PRINTB	#FRM012,XRDRB6,ERDRB6	
	024410	013746	020530		MOV	ERDRB6,-(SP)
	024414	013746	020540		MOV	XRDRB6,-(SP)
	024420	012746	021756		MOV	#FRM012,-(SP)
	024424	012746	000003		MOV	#3,-(SP)
	024430	010600			MOV	SP,R0
	024432	104414			TRAP	C#PNTB
	024434	062706	000010		ADD	#10,SP
2675	024440			ENDMSG		
	024440					
	024440	104423				
2676						
2677	024442			BGNMSG	MSG007	
	024442					
2678	024442			PRINTB	#FRM002,XDAT,EDAT	
	024442	013746	020566			
	024446	013746	020570			
	024452	012746	021011			
	024456	012746	000003			
	024462	010600				
	024464	104414				
	024466	062706	000010			
2679	024472			ENDMSG		
	024472					
	024472	104423				
2680						
2681	024474			BGNMSG	MSG008	
	024474					
2682	024474			PRINTB	#FRM013,XCRC,XCRCB	
	024474	013746	020600			
	024500	013746	020576			
	024504	012746	022043			
	024510	012746	000003			
	024514	010600				
	024516	104414				
	024520	062706	000010			

L10007:

TRAP C#MSG

MSG007::

```

MOV EDAT,-(SP)
MOV XDAT,-(SP)
MOV #FRM002,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #10,SP

```

L10010:

TRAP C#MSG

MSG008::

```

MOV XCRCB,-(SP)
MOV XCRC,-(SP)
MOV #FRM013,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #10,SP

```

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2683	024524			PRINTB	#FRM014,ECRC,ECRCB		
	024524	013746	020574			MOV	ECRCB,-(SP)
	024530	013746	020572			MOV	ECRC,-(SP)
	024534	012746	022122			MOV	#FRM014,-(SP)
	024540	012746	000003			MOV	#3,-(SP)
	024544	010600				MOV	SP,RO
	024546	104414				TRAP	C#PNTB
	024550	062706	000010			ADD	#10,SP
2684	024554			ENDMSG			
	024554					L10011:	
	024554	104423				TRAP	C#MSG
2685							
2686	024556			BGNMSG	MSG009		
	024556					MSG009::	
2687	024556			PRINTB	#FRM018,PCBB		
	024556	013746	002302			MOV	PCBB,-(SP)
	024562	012746	022305			MOV	#FRM018,-(SP)
	024566	012746	000002			MOV	#2,-(SP)
	024572	010600				MOV	SP,RO
	024574	104414				TRAP	C#PNTB
	024576	062706	000006			ADD	#6,SP
2688	024602			PRINTB	#FRM019,PCBB+2		
	024602	013746	002304			MOV	PCBB+2,-(SP)
	024606	012746	022341			MOV	#FRM019,-(SP)
	024612	012746	000002			MOV	#2,-(SP)
	024616	010600				MOV	SP,RO
	024620	104414				TRAP	C#PNTB
	024622	062706	000006			ADD	#6,SP
2689	024626			PRINTB	#FRM020,PCBB+4		
	024626	013746	002306			MOV	PCBB+4,-(SP)
	024632	012746	022375			MOV	#FRM020,-(SP)
	024636	012746	000002			MOV	#2,-(SP)
	024642	010600				MOV	SP,RO
	024644	104414				TRAP	C#PNTB
	024646	062706	000006			ADD	#6,SP
2690	024652			PRINTB	#FRM021,PCBB+6		
	024652	013746	002310			MOV	PCBB+6,-(SP)
	024656	012746	022431			MOV	#FRM021,-(SP)
	024662	012746	000002			MOV	#2,-(SP)
	024666	010600				MOV	SP,RO
	024670	104414				TRAP	C#PNTB
	024672	062706	000006			ADD	#6,SP
2691	024676			ENDMSG			
	024676					L10012:	
	024676	104423				TRAP	C#MSG
2692							
2693	024700			BGNMSG	MSG010		
	024700					MSG010::	
2694	024700			PRINTB	#FRM022,UDBB+4		
	024700	013746	002316			MOV	UDBB+4,-(SP)
	024704	012746	022465			MOV	#FRM022,-(SP)
	024710	012746	000002			MOV	#2,-(SP)
	024714	010600				MOV	SP,RO
	024716	104414				TRAP	C#PNTB
	024720	062706	000006			ADD	#6,SP
2695	024724			ENDMSG			
	024724					L10013:	

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	024724	104423							TRAP	C#MSG
2696										
2697	024726				BGNMSG	MSG011				
	024726								MSG011::	
2698	024726					PRINTB	#FRM023,EPCSRO			
	024726	013746	020516						MOV	EPCSRO, -(SP)
	024732	012746	022551						MOV	#FRM023, (SP)
	024736	012746	000002						MOV	#2, -(SP)
	024742	010600							MOV	SP, RO
	024744	104414							TRAP	C#PNTB
	024746	062706	000006						ADD	#6, SP
2699	024752				ENDMSG					
	024752								L10014:	
	024752	104423							TRAP	C#MSG
2700										
2701					.EVEN					
2702										
2703	024754	015	012	122	ERR001:	.ASCIZ	<15><12>/REGISTER ACCESS ERROR/			
	024757	105	107	111						
	024762	123	124	105						
	024765	122	040	101						
	024770	103	103	105						
	024773	123	123	040						
	024776	105	122	122						
	025001	117	122	000						
2704	025004	015	012	104	ERR002:	.ASCIZ	<15><12>/DATA COMPARE ERROR IN PCSR2/			
	025007	101	124	101						
	025012	040	103	117						
	025015	115	120	101						
	025020	122	105	040						
	025023	105	122	122						
	025026	117	122	040						
	025031	111	116	040						
	025034	120	103	123						
	025037	122	062	000						
2705	025042	015	012	104	ERR003:	.ASCIZ	<15><12>/DATA COMPARE ERROR IN PCSR3/			
	025045	101	124	101						
	025050	040	103	117						
	025053	115	120	101						
	025056	122	105	040						
	025061	105	122	122						
	025064	117	122	040						
	025067	111	116	040						
	025072	120	103	123						
	025075	122	063	000						
2706	025100	015	012	123	ERR005:	.ASCIZ	<15><12>/SELF TEST FAILURE/			
	025103	105	114	106						
	025106	040	124	105						
	025111	123	124	040						
	025114	106	101	111						
	025117	114	125	122						
	025122	105	000							
2707	025124	015	012	127	ERR006:	.ASCIZ	<15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/			
	025127	122	111	124						
	025132	111	116	107						
	025135	040	117	116						
	025140	105	040	124						

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	025143	117	040	103	
	025146	114	105	101	
	025151	122	040	104	
	025154	116	111	040	
	025157	102	111	124	
	025162	040	106	101	
	025165	111	114	105	
	025170	104	000		
2708	025172	015	012	116	ERR007: .ASCII <15><12>/NO DNI INTERRUPT OCCURRED /
	025175	117	040	104	
	025200	116	111	040	
	025203	111	116	124	
	025206	105	122	122	
	025211	125	120	124	
	025214	040	117	103	
	025217	103	125	122	
	025222	122	105	104	
	025225	040			
2709	025226	101	106	124	.ASCIZ /AFTER GET PCBB PORT COMMAND/
	025231	105	122	040	
	025234	107	105	124	
	025237	040	120	103	
	025242	102	102	040	
	025245	120	117	122	
	025250	124	040	103	
	025253	117	115	115	
	025256	101	116	104	
	025261	000			
2710	025262	015	012	104	ERR008: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025265	116	111	040	
	025270	102	111	124	
	025273	040	106	101	
	025276	111	114	105	
	025301	104	040	124	
	025304	117	040	123	
	025307	105	124	040	
	025312	101	106	124	
	025315	105	122	040	
2711	025320	116	117	120	.ASCIZ /NOP PORT COMMAND/
	025323	040	120	117	
	025326	122	124	040	
	025331	103	117	115	
	025334	115	101	116	
	025337	104	000		
2712	025341	015	012	104	ERR009: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025344	116	111	040	
	025347	102	111	124	
	025352	040	106	101	
	025355	111	114	105	
	025360	104	040	124	
	025363	117	040	123	
	025366	105	124	040	
	025371	101	106	124	
	025374	105	122	040	
2713	025377	107	105	124	.ASCIZ /GET PCBB PORT COMMAND/
	025402	040	120	103	
	025405	102	102	040	

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	025410	120	117	122	
	025413	124	040	103	
	025416	117	115	115	
	025421	101	116	104	
	025424	000			
2714	025425	015	012	104	ERR010: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025430	116	111	040	
	025433	102	111	124	
	025436	040	106	101	
	025441	111	114	105	
	025444	104	040	124	
	025447	117	040	123	
	025452	105	124	040	
	025455	101	106	124	
	025460	105	122	040	
2715	025463	107	105	124	.ASCIZ /GET CMD PORT COMMAND/
	025466	040	103	115	
	025471	104	040	120	
	025474	117	122	124	
	025477	040	103	117	
	025502	115	115	101	
	025505	116	104	000	
2716					
2717	025510	015	012	115	ERR011: .ASCIZ <15><12>/M68000 SUBSYSTEM FAILURE/
	025513	066	070	060	
	025516	060	060	040	
	025521	123	125	102	
	025524	123	131	123	
	025527	124	105	115	
	025532	040	106	101	
	025535	111	114	125	
	025540	122	105	000	
2718					
2719	025543	015	012	104	ERR012: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025546	116	111	040	
	025551	102	111	124	
	025554	040	106	101	
	025557	111	114	105	
	025562	104	040	124	
	025565	117	040	123	
	025570	105	124	040	
	025573	101	106	124	
	025576	105	122	040	
2720	025601	123	124	101	.ASCIZ /START PORT COMMAND/
	025604	122	124	040	
	025607	120	117	122	
	025612	124	040	103	
	025615	117	115	115	
	025620	101	116	104	
	025623	000			
2721	025624	015	012	124	ERR013: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
	025627	130	111	040	
	025632	102	111	124	
	025635	040	106	101	
	025640	111	114	105	
	025643	104	040	124	
	025646	117	040	123	

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	025651	105	124	040	
	025654	000			
2722	025655	015	012	127	ERR014: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
	025660	122	111	124	
	025663	111	116	107	
	025666	040	117	116	
	025671	105	040	124	
	025674	117	040	103	
	025677	114	105	101	
	025702	122	040	124	
	025705	130	111	040	
	025710	102	111	124	
	025713	040	106	101	
	025716	111	114	105	
	025721	104	000		
2723	025723	015	012	122	ERR015: .ASCIZ <15><12>/RXI BIT FAILED TO SET /
	025726	130	111	040	
	025731	102	111	124	
	025734	040	106	101	
	025737	111	114	105	
	025742	104	040	124	
	025745	117	040	123	
	025750	105	124	040	
	025753	000			
2724	025754	015	012	127	ERR016: .ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
	025757	122	111	124	
	025762	111	116	107	
	025765	040	117	116	
	025770	105	040	124	
	025773	117	040	103	
	025776	114	105	101	
	026001	122	040	122	
	026004	130	111	040	
	026007	102	111	124	
	026012	040	106	101	
	026015	111	114	105	
	026020	104	000		
2725	026022	015	012	124	ERR017: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026025	111	115	105	
	026030	117	125	124	
	026033	040	105	122	
	026036	122	117	122	
	026041	040	055	040	
	026044	104	105	114	
	026047	125	101	040	
	026052	106	101	111	
	026055	114	105	104	
	026060	040	124	117	
	026063	040			
2726	026064	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
	026067	111	116	121	
	026072	125	111	123	
	026075	110	040	117	
	026100	127	116	105	
	026103	122	123	110	
	026106	111	120	040	
	026111	117	106	040	

	026114	122	104	122	
	026117	102	040	000	
2727	026122	015	012	124	ERR018: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026125	111	115	105	
	026130	117	125	124	
	026133	040	105	122	
	026136	122	117	122	
	026141	040	055	040	
	026144	104	105	114	
	026147	125	101	040	
	026152	106	101	111	
	026155	114	105	104	
	026160	040	124	117	
	026163	040			
2728	026164	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF TDRB /
	026167	111	116	121	
	026172	125	111	123	
	026175	110	040	117	
	026200	127	116	105	
	026203	122	123	110	
	026206	111	120	040	
	026211	117	106	040	
	026214	124	104	122	
	026217	102	040	000	
2729	026222	015	012	104	ERR019: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	026225	116	111	040	
	026230	102	111	124	
	026233	040	106	101	
	026236	111	114	105	
	026241	104	040	124	
	026244	117	040	123	
	026247	105	124	040	
	026252	101	106	124	
	026255	105	122	040	
2730	026260	123	124	117	.ASCIZ /STOP PORT COMMAND/
	026263	120	040	120	
	026266	117	122	124	
	026271	040	103	117	
	026274	115	115	101	
	026277	116	104	000	
2731	026302	015	012	104	ERR020: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026305	101	124	101	
	026310	040	103	117	
	026313	115	120	101	
	026316	122	105	040	
	026321	105	122	122	
	026324	117	122	040	
	026327	111	116	040	
2732	026332	124	122	101	.ASCIZ /TRANSMIT DESCRIPTOR RING/
	026335	116	123	115	
	026340	111	124	040	
	026343	104	105	123	
	026346	103	122	111	
	026351	120	124	117	
	026354	122	040	122	
	026357	111	116	107	
	026362	000			

2733	026363	015	012	104	ERR021: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026366	101	124	101	
	026371	040	103	117	
	026374	115	120	101	
	026377	122	105	040	
	026402	105	122	122	
	026405	117	122	040	
	026410	111	116	040	
	026413	040			
2734	026414	122	105	103	.ASCIZ /RECEIVE DESCRIPTOR RING/
	026417	105	111	126	
	026422	105	040	104	
	026425	105	123	103	
	026430	122	111	120	
	026433	124	117	122	
	026436	040	122	111	
	026441	116	107	000	
2735	026444	015	012	124	ERR022: .ASCIZ <15><12>/TRANSMIT-RECEIVE DATA COMPARE ERROR /
	026447	122	101	116	
	026452	123	115	111	
	026455	124	055	122	
	026460	105	103	105	
	026463	111	126	105	
	026466	040	104	101	
	026471	124	101	040	
	026474	103	117	115	
	026477	120	101	122	
	026502	105	040	105	
	026505	122	122	117	
	026510	122	040	000	
2736	026513	015	012	103	ERR023: .ASCIZ <15><12>/CRC COMPARE ERROR /
	026516	122	103	040	
	026521	103	117	115	
	026524	120	101	122	
	026527	105	040	105	
	026532	122	122	117	
	026535	122	040	000	
2737	026540	015	012	111	ERR024: .ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
	026543	116	124	105	
	026546	122	116	101	
	026551	114	040	122	
	026554	117	115	040	
	026557	103	122	103	
	026562	040	103	117	
	026565	115	120	101	
	026570	122	105	040	
	026573	105	122	122	
	026576	117	122	040	
	026601	000			
2738	026602	015	012	122	ERR025: .ASCIZ <15><12>/RCBI BIT FAILED TO SET /
	026605	103	102	111	
	026610	040	102	111	
	026613	124	040	106	
	026616	101	111	114	
	026621	105	104	040	
	026624	124	117	040	
	026627	123	105	124	

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	026632	040	000	
2739				
2740	026634			ERR026:
2741				
2742	026634	015	012	124 ERR027: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	026637	111	115	105
	026642	117	125	124
	026645	040	105	122
	026650	122	117	122
	026653	040	055	040
	026656	104	105	114
	026661	125	101	040
	026664	106	101	111
	026667	114	105	104
	026672	040	124	117
	026675	040	122	105
	026700	114	111	116
	026703	121	125	111
	026706	123	110	
2743	026710	040	117	127 .ASCIZ / OWNERSHIP OF FIRST TDRB/
	026713	116	105	122
	026716	123	110	111
	026721	120	040	117
	026724	106	040	106
	026727	111	122	123
	026732	124	040	124
	026735	104	122	102
	026740	000		
2744	026741	015	012	124 ERR028: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	026744	111	115	105
	026747	117	125	124
	026752	040	105	122
	026755	122	117	122
	026760	040	055	040
	026763	104	105	114
	026766	125	101	040
	026771	106	101	111
	026774	114	105	104
	026777	040	124	117
	027002	040	122	105
	027005	114	111	116
	027010	121	125	111
	027013	123	110	
2745	027015	040	117	127 .ASCIZ / OWNERSHIP OF SECOND TDRB/
	027020	116	105	122
	027023	123	110	111
	027026	120	040	117
	027031	106	040	123
	027034	105	103	117
	027037	116	104	040
	027042	124	104	122
	027045	102	000	
2746				
2747	027047			ERR029:
2748				
2749	027047	015	012	124 ERR030: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	027052	111	115	105

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	027055	117	125	124	
	027060	040	105	122	
	027063	122	117	122	
	027066	040	055	040	
	027071	104	105	114	
	027074	125	101	040	
	027077	106	101	111	
	027102	114	105	104	
	027105	040	124	117	
	027110	040	122	105	
	027113	114	111	116	
	027116	121	125	111	
	027121	123	110		
2750	027123	040	117	127	.ASCIZ / OWNERSHIP OF FIRST RDRB/
	027126	116	105	122	
	027131	123	110	111	
	027134	120	040	117	
	027137	106	040	106	
	027142	111	122	123	
	027145	124	040	122	
	027150	104	122	102	
	027153	000			
2751	027154	015	012	124	ERR031: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	027157	111	115	105	
	027162	117	125	124	
	027165	040	105	122	
	027170	122	117	122	
	027173	040	055	040	
	027176	104	105	114	
	027201	125	101	040	
	027204	106	101	111	
	027207	114	105	104	
	027212	040	124	117	
	027215	040	122	105	
	027220	114	111	116	
	027223	121	125	111	
	027226	123	110		
2752	027230	040	117	127	.ASCIZ / OWNERSHIP OF SECOND RDRB/
	027233	116	105	122	
	027236	123	110	111	
	027241	120	040	117	
	027244	106	040	123	
	027247	105	103	117	
	027252	116	104	040	
	027255	122	104	122	
	027260	102	000		
2753					
2754	027262				ERR032:
2755					
2756	027262	015	012	104	ERR033: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027265	101	124	101	
	027270	040	103	117	
	027273	115	120	101	
	027276	122	105	040	
	027301	105	122	122	
	027304	117	122	040	
	027307	111	116	040	

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2757	027312	106	111	122		.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
	027315	123	124	040		
	027320	124	122	101		
	027323	116	123	115		
	027326	111	124	040		
	027331	104	105	123		
	027334	103	122	111		
	027337	120	124	117		
	027342	122	040	122		
	027345	111	116	107		
	027350	000				
2758	027351	015	012	104	ERR034: .ASCII <15><12>/DATA COMPARE ERROR IN /	
	027354	101	124	101		
	027357	040	103	117		
	027362	115	120	101		
	027365	122	105	040		
	027370	105	122	122		
	027373	117	122	040		
	027376	111	116	040		
2759	027401	123	105	103		.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
	027404	117	116	104		
	027407	040	124	122		
	027412	101	116	123		
	027415	115	111	124		
	027420	040	104	105		
	027423	123	103	122		
	027426	111	120	124		
	027431	117	122	040		
	027434	122	111	116		
	027437	107	000			
2760						
2761	027441				ERR035:	
2762						
2763	027441	015	012	104	ERR036: .ASCII <15><12>/DATA COMPARE ERROR IN /	
	027444	101	124	101		
	027447	040	103	117		
	027452	115	120	101		
	027455	122	105	040		
	027460	105	122	122		
	027463	117	122	040		
	027466	111	116	040		
2764	027471	106	111	122		.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
	027474	123	124	040		
	027477	122	105	103		
	027502	105	111	126		
	027505	105	040	104		
	027510	105	123	103		
	027513	122	111	120		
	027516	124	117	122		
	027521	040	122	111		
	027524	116	107	000		
2765	027527	015	012	104	ERR037: .ASCII <15><12>/DATA COMPARE ERROR IN /	
	027532	101	124	101		
	027535	040	103	117		
	027540	115	120	101		
	027543	122	105	040		
	027546	105	122	122		

M6

	027551	117	122	040	
	027554	111	116	040	
2766	027557	123	105	103	.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
	027562	117	116	104	
	027565	040	122	105	
	027570	103	105	111	
	027573	126	105	040	
	027576	104	105	123	
	027601	103	122	111	
	027604	120	124	117	
	027607	122	040	122	
	027612	111	116	107	
	027615	000			
2767	027616	015	012	104	ERR038: .ASCIZ <15><12>/DNI BIT NOT SET AFTER PORT HALT COMMAND /
	027621	116	111	040	
	027624	102	111	124	
	027627	040	116	117	
	027632	124	040	123	
	027635	105	124	040	
	027640	101	106	124	
	027643	105	122	040	
	027646	120	117	122	
	027651	124	040	110	
	027654	101	114	124	
	027657	040	103	117	
	027662	115	115	101	
	027665	116	104	040	
	027670	000			
2768	027671	015	012	105	ERR039: .ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
	027674	122	122	117	
	027677	122	040	055	
	027702	040	114	117	
	027705	117	120	102	
	027710	101	103	113	
	027713	040	123	125	
	027716	103	103	105	
	027721	123	123	106	
	027724	125	114	040	
	027727	127	111	124	
	027732	110			
2769	027733	015	012	111	.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
	027736	116	126	101	
	027741	114	111	104	
	027744	040	104	105	
	027747	123	124	111	
	027752	116	101	124	
	027755	111	117	116	
	027760	040	101	104	
	027763	104	122	105	
	027766	123	123	040	
	027771	000			
2770	027772	015	012	106	ERR040: .ASCIZ <15><12>/FATAL ERROR - DELUA ID BIT NOT SET/
	027775	101	124	101	
	030000	114	040	105	
	030003	122	122	117	
	030006	122	040	055	
	030011	040	104	105	

N6

	030014	114	125	101	
	030017	040	111	104	
	030022	040	102	111	
	030025	124	040	116	
	030030	117	124	040	
	030033	123	105	124	
	030036	000			
2771					
2772	030037	015	012	111	ERR041: .ASCIZ <15><12>/INTERNAL MEMORY DATA COMPARE ERROR /
	030042	116	124	105	
	030045	122	116	101	
	030050	114	040	115	
	030053	105	115	117	
	030056	122	131	040	
	030061	104	101	124	
	030064	101	040	103	
	030067	117	115	120	
	030072	101	122	105	
	030075	040	105	122	
	030100	122	117	122	
	030103	040	000		
2773					
2774	030105	015	012	104	ERR042: .ASCIZ <15><12>/DNI BIT FAILED TO SET AFTER DELUA RESET/
	030110	116	111	040	
	030113	102	111	124	
	030116	040	106	101	
	030121	111	114	105	
	030124	104	040	124	
	030127	117	040	123	
	030132	105	124	040	
	030135	101	106	124	
	030140	105	122	040	
	030143	104	105	114	
	030146	125	101	040	
	030151	122	105	123	
	030154	105	124	000	
2775					
2776	030157	015	012	047	ERR043: .ASCII <15><12>/'BUFL',IN TORB*6 NOT SET ON XMIT BUFF /
	030162	102	125	106	
	030165	114	047	054	
	030170	111	116	040	
	030173	124	104	122	
	030176	102	053	066	
	030201	040	116	117	
	030204	124	040	123	
	030207	105	124	040	
	030212	117	116	040	
	030215	130	115	111	
	030220	124	040	102	
	030223	125	106	106	
	030226	040			
2777	030227	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=0>/
	030232	122	106	114	
	030235	117	127	040	
	030240	127	111	124	
	030243	110	040	074	
	030246	104	124	103	

B7

	030251	122	075	060	
	030254	076	000		
2778	030256	015	012	047	ERR044: .ASCII <15><12>/'BUFL' IN TDRB+6 NOT SET ON XMIT BUFF /
	030261	102	125	106	
	030264	114	047	040	
	030267	111	116	040	
	030272	124	104	122	
	030275	102	053	066	
	030300	040	116	117	
	030303	124	040	123	
	030306	105	124	040	
	030311	117	116	040	
	030314	130	115	111	
	030317	124	040	102	
	030322	125	106	106	
	030325	040			
2779	030326	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=1>/
	030331	122	106	114	
	030334	117	127	040	
	030337	127	111	124	
	030342	110	040	074	
	030345	104	124	103	
	030350	122	075	061	
	030353	076	000		
2780					
2781	030355	015	012	120	ERR045: .ASCIZ <15><12>/PCSRO INTERRUPT BIT CLEAR ERROR /
	030360	103	123	122	
	030363	060	040	111	
	030366	116	124	105	
	030371	122	122	125	
	030374	120	124	040	
	030377	102	111	124	
	030402	040	103	114	
	030405	105	101	122	
	030410	040	105	122	
	030413	122	117	122	
	030416	040	000		
2782					
2783	030420	015	012	122	ERR046: .ASCIZ <15><12>/RECEIVED PACKET COUNTER NOT GREATER THAN 0 /
	030423	105	103	105	
	030426	111	126	105	
	030431	104	040	120	
	030434	101	103	113	
	030437	105	124	040	
	030442	103	117	125	
	030445	116	124	105	
	030450	122	040	116	
	030453	117	124	040	
	030456	107	122	105	
	030461	101	124	105	
	030464	122	040	124	
	030467	110	101	116	
	030472	040	060	040	
	030475	000			
2784	030476	015	012	111	ERR047: .ASCIZ <15><12>/INTERRUPT SUMMARY BIT IN PCSRO NOT SET WITH DNI SET /
	030501	116	124	105	
	030504	122	122	125	

C7

	030507	120	124	040	
	030512	123	125	115	
	030515	115	101	122	
	030520	131	040	102	
	030523	111	124	040	
	030526	111	116	040	
	030531	120	103	123	
	030534	122	060	040	
	030537	116	117	124	
	030542	040	123	105	
	030545	124	040	127	
	030550	111	124	110	
	030553	040	104	116	
	030556	111	040	123	
	030561	105	124	040	
	030564	000			
2785	030565	015	012	106	ERR048: .ASCIZ <15><12>/FATAL BIT SET DUE TO DEVICE OR UNIBUS ERROR /
	030570	101	124	101	
	030573	114	040	102	
	030576	111	124	040	
	030601	123	105	124	
	030604	040	104	125	
	030607	105	040	124	
	030612	117	040	104	
	030615	105	126	111	
	030620	103	105	040	
	030623	117	122	040	
	030626	125	116	111	
	030631	102	125	123	
	030634	040	105	122	
	030637	122	117	122	
2786	030642	040	000		.EVEN

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```
.SBTTL GLOBAL MACRO AND SUBROUTINES SECTION  
:*****  
: MACRO FTL  
: THIS MACRO CALLS SUBROUTINE 'CHKFTL'  
: CALL: FTL  
:*****  
.MACRO FTL  
.NLIST  
.LIST ME  
.LIST  
JSR PC,CHKFTL ; 'FATL' BIT SET?  
.NLIST ME  
.ENDM
```

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```
*****  
: MACRO PNTMAC  
: THIS MACRO WILL SETUP AND CALL SUBROUTINE 'PNTID',  
: WHICH WILL THEN DISPLAY TEST NUMBER AND NAME.  
: CALL: PNTMAC tname  
: WHERE 'tname' IS THE POINTER TO THE  
: TEST NAME MESSAGE.  
*****  
.MACRO PNTMAC TNAME  
.NLIST  
.LIST ME  
.LIST  
MOV #TNAME,R4 ;GET POINTER TO TEST NAME MESSAGE  
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME  
: END OF MACRO EXPANSION OF 'PNTMAC'  
.NLIST ME  
.ENDM
```

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2861 030644
2862 030644 010146
2863 030646 010246
2864 030650 010546
2865 030652
2866 030652 112105
2867 030654 004737 033034
2868 030660
2869 030660 077204
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2871 030662 005103
2872 030664 005104
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2874 030666 012702 020576
2875 030672 010422
2876 030674 010322
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2878 030576 012605
2879 030700 012602
2880 030702 012601
2881 030704 000207
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```

*****
SUBROUTINE - BLKCRC
THIS ROUTINE PERFORMS A CRC CALCULATION ON A BLOCK OF DATA
THIS ROUTINE USED FOR ALL CRC CALCULATIONS EXCEPT ROM.
INPUTS: R1 CONTAINS BASE ADDRESS OF DATA BLOCK
        R2 CONTAINS DATA BLOCK BYTE COUNT
        R3,R4 CONTAINS INITIAL CRC
OUTPUT: R3,R4 CONTAIN CRC CODE
CALLING SEQUENCE:      MOV     #_,R1      ;GET BASE ADDRESS
                       MOV     #_,R2      ;GET BYTE COUNT
                       JSR     PC,BLKCRC  ;CALCULATE CRC
*****

```

```

BLKCRC:
MOV     R1,-(SP)      ;SAVE R1
MOV     R2,-(SP)      ;SAVE R2
MOV     R5,-(SP)      ;SAVE R5
1$:
MOV     (R1)+,R5      ;GET NEXT BYTE
JSR     PC,GETCRC     ;CALCULATE THE CRC
2$:
SOB     R2,1$         ;LOOP TILL DONE
COM     R3             ;COMPLIMENT
COM     R4             ;RESULTS
MOV     #XCRC,R2      ;BASE ADDRESS OF SAVED CRC
MOV     R4,(R2)+      ;SAVE 1ST WORD
MOV     R3,(R2)+      ;SAVE 2ND WORD
MOV     (SP)+,R5      ;RESTORE R5
MOV     (SP)+,R2      ;RESTORE R2
MOV     (SP)+,R1      ;RESTORE R1
RTS     FC            ;RETURN TO CALLING ROUTINE

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2907 030706 010046
2908 030710 010146
2909 030712 010446
2910 030714 012737 001661 020604
2911 030722 004737 035272
2912 030726 017704 151274
2913 030732 032704 004000
2914 030736 001015
2915 030740
030740 104422
2916 030742 005737 020604
2917 030746 001367
2918 030750 010437 020516
2919 030754 017737 151250 020520
2920 030762 004737 035256
2921 030766 000261
2922 030770 000403
2923 030772 004737 035256
2924 030776 000241
2925 031000 012604
2926 031002 012601
2927 031004 012600
2928 031006 000207
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```
*****
:
: SUBROUTINE - CHKDNI
:
: THIS ROUTINE WAITS FOR DNI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF DNI SETS
:               THEN CARRY = 0
:
:               IF DNI FAILS TO SET
:                 THEN CARRY = 1
:                 PCSRO -> EPCSRO
:                 PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:               JSR      PC,CHKDNI
:
:*****
```

```
CHKDNI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #15,*SECOND,METER ;PUT SOME TIME IN THE TIMER      ;B0
JSR      PC,TIMON      ;TURN ON THE LINE CLOCK
10$:    MOV      @PCSRO,R4 ;GET PCSRO
        BIT      #DNI,R4  ;IS DNI SET?
        BNE     30$      ;YES
        BREAK    ;NO, VISIT DRS FOR A MOMENT      TRAP      C$BRK
        ;
2916:    TST      METER    ;HAS TIMER EXPIRED?
        BNE     10$      ;NOT YET
        MOV     R4,EPCSR0 ; PCSRO -> EPCSRO
        MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
        JSR     PC,TIMOFF ;TURN OFF THE TIMER
        SEC     ; SET CARRY
2922:    BR      40$
2923:    JSR     PC,TIMOFF ;TURN OFF THE TIMER
        CLC     ; DNI SET SO CLEAR CARRY
40$:    MOV     (SP)+,R4   ; RESTORE R4
        MOV     (SP)+,R1   ; RESTORE R1
        MOV     (SP)+,R0   ; RESTORE R0
        RTS     PC        ; AND RETURN
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031010
031010 010046
031012 017700 151210
031016 0327.0 001000
031022 001410
031024
031024 012746 031064
031030 012746 000001
031034 010600
031036 104417
031040 062706 000004
031044 017737 151156 020516
031052 017737 151152 020520
031060 012600
031062 000207
031064 045 116 045
031067 101 047 106
031072 101 124 114
031075 047 040 102
031100 111 124 040
031103 123 105 124
031106 040 055 040
031111 104 101 124
031114 101 040 111
031117 116 040 120
031122 103 123 122
031125 061 040 116
031130 117 124 040
031133 126 101 114
031136 111 104 040
031141 106 117 122
031144 040 124 110
031147 111 123 040
031152 105 122 122
031155 117 122 056
031160 000

```
*****
:
:      SUBROUTINE - CHKFTL
:
:      THIS SUBROUTINE WILL CHECK FOR FATAL ERROR BIT SET
:      IF SET, WILL ISSUE MESSAGE TO IGNORE CONTENTS OF PCSR1
:
:      INPUTS:  NONE
:      OUTPUTS: IF 'FATL' SET, MESSAGE PRINTED
:
:      CALL:   JSR    PC,CHKFTL
:
:*****
```

```
CHKFTL:
MOV     RO,-(SP)      ;SAVE RO
MOV     @PCSR0,RO    ;GET CONTENTS OF CSRO
BIT     #FATL,RO     ;CONTENTS OF PCSR1 VALID?
BEQ     1$           ;YES, EXIT
PRINTF  #FTLSET

MOV     #FTLSET,-(SP)
MOV     #1,-(SP)
MOV     SP,RO
TRAP   C$PNTF
ADD    #4,SP

1$:  MOV     @PCSR0,EPCSR0 ;SAVE CONTENTS OF PCSRO
MOV     @PCSR1,EPCSR1 ;SAVE CONTENTS OF PCSR1
MOV     (SP)+,RO      ;RESTORE RO
RTS     PC            ;RETURN TO CALLING ROUTINE
```

FTLSET:.asciz/%%A'FATL' BIT SET - DATA IN PCSR1 NOT VALID FOR THIS ERROR./

.even

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2976 031162
2977 031162 010046
2978 031164 010446
2979 031166 012704 000010
2980 031172 004737 035272
2981 031176 016500 000004
2982 031202 032700 100000
2983 031206 001406
2984 031210
      031210 104422
2985 031212 005737 020604
2986 031216 001367
2987 031220 000261
2988 031222 000401
2989
2990 031224 000241
2991 031226
2992 031226 004737 035256
2993 031232 012604
2994 031234 012600
2995 031236 000207

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;*****
;
; SUBROUTINE - CHKOWN
;
; THIS ROUTINE CHECKS FOR THE OWNERSHIP BIT IN
; BOTH TRANSMIT AND RECEIVE DESCRIPTOR RINGS.
;
; INPUTS:          R5 = ADDRESS OF DESCRIPTOR RING
;
; OUTPUTS:         IF OWN BIT = 0 (PORT DRIVER)
;                  THEN CARRY = 0
;
;                  IF OWN BIT = 1 (UNA)
;                  THEN CARRY = 1
;
;*****
CHKOWN:
      MOV     R0,-(SP)          ; SAVE R0
      MOV     R4,-(SP)          ; SAVE R4
      MOV     #10,R4           ; DELAY VALUE
      JSR     PC,TIMON          ; TURN ON CLOCK
1$:   MOV     4(R5),R0          ; GET TRDB+4
      BIT     #OWN,R0           ; BIT15, OWNERSHIP SET?
      BEQ     10$              ; NO, EXIT ROUTINE
      BREAK                          ; VISIT DRS WHILE WAITING
                                      TRAP    C$BRK
      TST     METER             ; TIME UP?
      BNE     1$               ; NO, LOOP AGAIN
      SEC
      BR      20$              ; YES, SET CARRY = 1
                                      ; GET OUT
10$:  CLC                      ; CLEAR CARRY
20$:  JSR     PC,TIMOFF         ; TURN OFF TIMER
      MOV     (SP)+,R4          ; RESTORE R4
      MOV     (SP)+,R0          ; RESTORE R0
      RTS     PC                ; AND RETURN

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3028 031276
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3036 031334
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3039 031340
3040 031342

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010146
012737 000473 020604
004737 035272
017737 150744 002240
032737 002000 002240
001016
104422
005737 020604
001365
013737 002240 020516
017737 150712 020520
000261
000403
004737 035256
000241
012601
012600
000207

```
*****
:
: SUBROUTINE - CHKRCE
:
: THIS ROUTINE WAITS FOR RCBI TO SET.
:
: INPUTS:          NONE
:
: OUTPUTS:         IF RCBI SETS
:                   THEN CARRY = 0
:
:                   IF RCBI FAILS TO SET
:                   THEN CARRY = 1
:                   PCSRO -> EPSCRO
:                   PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                   JSR      PC,CHKRCE
:
: *****
```

```
CHKRCE:
: MOV      R0,-(SP)          ; SAVE R0
: MOV      R1,-(SP)          ; SAVE R1
: MOV      #5*SECOND,METER  ; PUT SOME TIME IN THE TIMER
: JSR      PC,TIMON          ; TURN ON THE LINE CLOCK
10$: : MOV      @PCSRO,PCSROC   ; GET PCSRO
: BIT      @RCBI,PCSROC     ; IS RCBI SET?
: BNE     30$              ; YES
: BREAK                                ; NO, VISIT DRS FOR A MOMENT
:                                     TRAP      C$BRK
: TST     METER             ; HAS TIMER EXPIRED?
: BNE     10$              ; NOT YET
: MOV     PCSROC,EPCSRO    ; PCSRO -> EPCSRO
: MOV     @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
: JSR     PC,TIMOFF        ; TURN OFF THE TIMER
: SEC                                ; SET CARRY
: BR     40$
30$: : JSR     PC,TIMOFF        ; TURN OFF THE TIMER
: CLC                                ; RCBI SET SO CLEAR CARRY
40$: : MOV     (SP)+,R1        ; RESTORE R1
: MOV     (SP)+,R0        ; RESTORE R0
: RTS     PC                ; AND RETURN
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3073 031344
3074 031344 010046
3075 031346 010146
3076 031350 010346
3077 031352 010446
3078 031354 012700 000004
3079 031360 012703 020532
3080 031364 010504
3081 031366
3082 031366 022324
3083 031370 001012
3084 031372 005300
3085 031374 001374
3086
3087 031376 011400
3088 031400 042700 007777
3089 031404 011301
3090 031406 042701 007777
3091 031412 020001
3092 031414 001411
3093 031416
3094 031416 012703 020522
3095 031422 010504
3096 031424 012423
3097 031426 012423
3098 031430 012423

```
*****
:
: SUBROUTINE - CHKRDR
:
: THIS SUBROUTINE COMPARES A RECEIVE DESCRIPTOR RING ENTRY
: WITH EXPECTED DATA.
:
: INPUTS: R5 = ADDRESS OF RDRB TO BE COMPARED.
:
: IMPLICIT INPUTS: XRDRB0 = TABLE WITH EXPECTED DATA
:
: OUTPUTS: IF COMPARE IS SUCCESSFUL
: THEN CARRY = 0
:
: IF COMPARE IS UNSUCCESSFUL
: THEN CARRY = 1
: EXPECTED RDRB+0 = XRDRB0
: EXPECTED RDRB+2 = XRDRB2
: EXPECTED RDRB+4 = XRDRB4
: EXPECTED RDRB+6 = XRDRB6
: ACTUAL RDRB+0 -> ERDRB0
: ACTUAL RDRB+2 -> ERDRB2
: ACTUAL RDRB+4 -> ERDRB4
: ACTUAL RDRB+6 -> ERDRB6
:
: CALLING SEQUENCE:
: JSR PC,CHKRDR
*****
```

```
CHKRDR:
MOV R0,-(SP) ; SAVE R0
MOV R1,-(SP) ; SAVE R1
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #4,R0 ; DO FOUR COMPARES
MOV #XRDRB0,R3 ; R3 POINTS TO EXPECTED DATA
MOV R5,R4 ; R4 POINTS TO ACTUAL RDRB
10$:
CMP (R3)+,(R4)+ ; ERROR IN ACTUAL TABLE DATA?
BNE 20$ ; YES
DEC R0 ; REDUCE LOOP COUNT
BNE 10$ ; IF NOT FINISHED, LOOP AGAIN
MOV (R4),R0 ; RDRB+6 -> R0
BIC #TDRMSK,R0 ; MASK OUT TDR VALUE
MOV (R3),R1 ; GET EXPECTED
BIC #TDRMSK,R1 ; MASK OUT TDR VALUE
CMP R0,R1 ; COMPARE ERROR ?
BEQ 30$ ; YES
20$:
MOV #ERDRB0,R3 ; R3 POINTS TO ACTUAL TABLE
MOV R5,R4 ; R4 POINTS TO ACTUAL RDRB
MOV (R4)+,(R3)+ ; LOAD ACTUAL TABLE
MOV (R4)+,(R3)+
MOV (R4)+,(R3)+
```


L7

```
3099 031432 012423      MOV      (R4)+,(R3)+
3100 031434 000261      SEC
3101 031436 000401      BR       40$          ; SET CARRY
3102 031440 000241      30$:    CLC          ; CLEAR CARRY
3103 031442 012604      40$:    MOV      (SP)+,R4  ; RESTORE R4
3104 031444 012603      MOV      (SP)+,R3  ; RESTORE R3
3105 031446 012601      MOV      (SP)+,R1  ; RESTORE R1
3106 031450 012600      MOV      (SP)+,R0  ; RESTORE R0
3107 031452 000207      RTS      PC        ; AND RETURN
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3131 031454
3132 031454 010046
3133 031456 010146
3134 031460 010446
3135 031462 012737 000176 020604
3136 031470 004737 035272
3137 031474 017704 150526
3138 031500 032704 020000
3139 031504 001015
3140 031506
3141 031506 104422
3142 031510 005737 020604
3143 031514 001367
3144 031516 010437 020516
3145 031522 017737 150502 020520
3146 031530 004737 035256
3147 031534 000261
3148 031536 000403
3149 031540 004737 035256
3150 031544 000241
3151 031546 012604
3152 031550 012601
3153 031552 012600
3154 031554 000207

```

*****
:
: SUBROUTINE - CHKRXI
:
: THIS ROUTINE WAITS FOR RXI TO SET.
:
: INPUTS:          NONE
:
: OUTPUTS:         IF RXI SETS
:                   THEN CARRY = 0
:
:                   IF RXI FAILS TO SET
:                   THEN CARRY = 1
:                   PCSRO -> EPSCRO
:                   PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                   JSR      PC,CHKRXI
:
*****

```

```

CHKRXI:
MOV      R0,-(SP)          ; SAVE R0
MOV      R1,-(SP)          ; SAVE R1
MOV      R4,-(SP)          ; SAVE R4
MOV      #2*SECOND,METER  ; PUT SOME TIME IN THE TIMER
JSR      PC,TIMON          ; TURN ON THE LINE CLOCK
10$:    MOV      @PCSRO,R4  ; GET PCSRO
        BIT      #RXI,R4   ; IS RXI SET?
        BNE     30$        ; YES
        BREAK    ; NO, VISIT DRS FOR A MOMENT TRAP C$BRK
        ;
3141:   TST      METER      ; HAS TIMER EXPIRED?
        BNE     10$        ; NOT YET
        MOV     R4,EPCSR0  ; PCSRO -> EPCSR0
        MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
        JSR     PC,TIMOFF  ; TURN OFF THE TIMER
        SEC     ; SET CARRY
3147:   BR      40$
3148:   JSR     PC,TIMOFF  ; TURN OFF THE TIME
3149:   CLC     ; RXI SET SO CLEAR CARRY
3150:   MOV     (SP)+,R4   ; RESTORE R4
        MOV     (SP)+,R1   ; RESTORE R1
        MOV     (SP)+,R0   ; RESTORE R0
        RTS      PC       ; AND RETURN

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*****
:
:      SUBROUTINE - CHKSTR
:
:      THIS TEST CHECKS THE SELF TEST RESULTS.
:
:      INPUTS:          NONE
:
:      OUTPUTS:        IF SELF TEST SUCCESSFUL
:                      THEN CARRY = 0
:
:                      IF SELF TEST FAILED
:                      THEN CARRY = 1
:                      SELF TEST CODE SHIFTED RIGHT -> ECODE
:
:      CALLING SEQUENCE:
:      JSR      PC,CHKSTR
:
*****
    
```

3175
 3176 031556
 3177 031556 010046
 3178 031560 010446
 3179 031562 017704 150442
 3180 031566 042704 140377
 3181 031572 022704 000000
 3182 031576 001413
 3183
 3184
 3185 031600 042704 140377
 3186 031604 012700 000010
 3187 031610 006204
 3188 031612 005300
 3189 031614 001375
 3190 031616 010437 020602
 3191 031622 000261
 3192 031624 000401
 3193 031626 000241
 3194 031630 012604
 3195 031632 012600
 3196 031634 000207

```

CHKSTR:
MOV      R0,-(SP)          ; SAVE R0
MOV      R4,-(SP)          ; SAVE R4
MOV      @PCSR1,R4        ; PCSR1 -> R4
BIC      #STMASK,R4       ; MASK SELF TEST CODE BITS
CMP      #GOODST,R4       ; SELF TEST SUCCESSFUL ?
BEQ      10$              ; YES
;
; SELF TEST FAILED
; SHIFT CODE RIGHT
5$:      BIC      #STMASK,R4
MOV      #8.,R0
ASR      R4
DEC      R0
BNE      5$
MOV      R4,ECODE         ; SHIFTED CODE -> ECODE
SEC                          ; SET CARRY
BR       20$
10$:     CLC              ; SELF TEST PASSED CLEAR CARRY
20$:     MOV      (SP)+,R4 ; RESTORE R4
MOV      (SP)+,R0         ; RESTORE R0
RTS      PC               ; AND RETURN
    
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 3228 031636
 3229 031636 010046
 3230 031640 010346
 3231 031642 010446
 3232 031644 012700 000004
 3233 031650 012703 020552
 3234 031654 010504
 3235 031656
 3236 031656 022324
 3237 031660 001003
 3238 031662 005300
 3239 031664 001374
 3240 031666 000411
 3241 031670 012703 020542
 3242 031674 010504
 3243 031676 012423
 3244 031700 012423
 3245 031702 012423
 3246 031704 012423
 3247 031706 000261
 3248 031710 000401
 3249 031712 000241
 3250 031714 012604
 3251 031716 012603
 3252 031720 012600
 3253 031722 000207

```

*****
SUBROUTINE - CHKTDR
THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.
INPUTS:          R5 = ADDRESS OF TDRB TO BE COMPARED
IMPLICIT INPUTS: XTDRB0 = TABLE WITH EXPECTED DATA
OUTPUTS:         IF COMPARE IS SUCCESSFUL
                  THEN CARRY = 0
                  IF COMPARE IS UNSUCCESSFUL
                  THEN CARRY = 1
                  EXPECTED TDRB+0 = XTDRB0
                  EXPECTED TDRB+2 = XTDRB2
                  EXPECTED TDRB+4 = XTDRB4
                  EXPECTED TDRB+6 = XTDRB6
                  ACTUAL TDRB+0 -> ETDRB0
                  ACTUAL TDRB+2 -> ETDRB2
                  ACTUAL TDRB+4 -> ETDRB4
                  ACTUAL TDRB+6 -> ETDRB6
CALLING SEQUENCE:
                  JSR      PC,CHKTDR
*****
    
```

```

CHKTDR:
MOV      R0,-(SP)          ; SAVE R0
MOV      R3,-(SP)          ; SAVE R3
MOV      R4,-(SP)          ; SAVE R4
MOV      #4,R0             ; DO FOUR COMPARES
MOV      #XTDRB0,R3        ; R3 POINTS TO EXPECTED DATA
MOV      R5,R4             ; R4 POINTS TO ACTUAL TDRB
10$:
CMP      (R3)+,(R4)+       ; ERROR IN ACTUAL TABLE DATA?
BNE      20$               ; YES
DEC      R0                 ; REDUCE LOOP COUNT
BNE      10$                ; IF NOT FINISHED, LOOP AGAIN
BR       30$
20$:
MOV      #ETDRB0,R3        ; R3 POINTS TO ACTUAL TABLE
MOV      R5,R4             ; R4 POINTS TO ACTUAL TDRB
MOV      (R4)+,(R3)+       ; LOAD ACTUAL TABLE
MOV      (R4)+,(R3)+
MOV      (R4)+,(R3)+
MOV      (R4)+,(R3)+
SEC                          ; SET CARRY
BR       40$
30$:
CLC                          ; CLEAR CARRY
40$:
MOV      (SP)+,R4          ; RESTORE R4
MOV      (SP)+,R3          ; RESTORE R3
MOV      (SP)+,R0          ; RESTORE R0
RTS      PC                 ; AND RETURN
    
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 3277 031724
 3278 031724 010046
 3279 031726 010146
 3280 031730 010446
 3281 031732 012737 000176 020604
 3282 031740 004737 035272
 3283 031744 017737 150256 002240 10‡:
 3284 031752 032737 010000 002240
 3285 031760 001016
 3286 031762 104422
 3287 031764 005737 020604
 3288 031770 001365
 3289 031772 013737 002240 020516
 3290 032000 017737 150224 020520
 3291 032006 004737 035256
 3292 032012 000261
 3293 032014 000403
 3294 032016 004737 035256 30‡:
 3295 032022 000241
 3296 032024 012604 40‡:
 3297 032026 012601
 3298 032030 012600
 3299 032032 000207

```

*****
:
: SUBROUTINE - CHKTXI
:
: THIS ROUTINE WAITS FOR TXI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF TXI SETS
:                THEN CARRY = 0
:
:                IF TXI FAILS TO SET
:                THEN CARRY = 1
:                PCSRO -> EPSCRO
:                PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR      PC,CHKTXI
:
*****
    
```

```

CHKTXI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #2*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK
10‡:    MOV      @PCSRO,PCSROC ; GET PCSRO
        BIT      #TXI,PCSROC ; IS TXI SET?
        BNE     30‡      ; YES
        BREAK    ; NO, VISIT DRS FOR A MOMENT
                                TRAP      C‡BRK
TST      METER          ; HAS TIMER EXPIRED?
BNE     10‡            ; NOT YET
MOV      PCSROC,EPCSR0 ; PCSRO -> EPCSR0
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR      PC,TIMOFF     ; TURN OFF THE TIMER
SEC      ; SET CARRY
BR      40‡
30‡:    JSR      PC,TIMOFF ; TURN OFF THE TIMER
        CLC      ; TXI SET SO CLEAR CARRY
40‡:    MOV      (SP)+,R4 ; RESTORE R4
        MOV      (SP)+,R1 ; RESTORE R1
        MOV      (SP)+,R0 ; RESTORE R0
        RTS     PC      ; AND RETURN
    
```


E8

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3352 032140 004737 035256          JSR    PC,TIMOFF          ; TURN OFF THE TIMER
3353 032144 000241                CLC                      ; DNI SET, SO CLEAR C BIT
3354 032146                40$:  MOV    (SP)+,R4          ; RESTORE R4
3355 032146 012604                MOV    (SP)+,R1          ; RESTORE R1
3356 032150 012601                MOV    (SP)+,R0          ; RESTORE R0
3357 032152 012600                RTS     PC                ; AND RETURN
3358 032154 000207
3359
3360 032156    045    116    045  INTMG1:.ASCIZ/*N*A DNI DID NOT SET PRIOR TO SOFTWARE TIMER TIME OUT./
      032161    101    040    104
      032164    116    111    040
      032167    104    111    104
      032172    040    116    117
      032175    124    040    123
      032200    105    124    040
      032203    120    122    111
      032206    117    122    040
      032211    124    117    040
      032214    123    117    106
      032217    124    127    101
      032222    122    105    040
      032225    124    111    115
      032230    105    122    040
      032233    124    111    115
      032236    105    040    117
      032241    125    124    056
      032244    000
3361                                     .even
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3384 032246
3385 032246 004737 032272
3386 032252 004737 032550
3387 032256 000207
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```

*****
SUBROUTINE - CLRBUF
THIS SUBROUTINE WILL CLEAR BOTH THE SOFTWARE BUFFERS NAMED
RECEIVE BUFFER (RBUF) AND TRANSMIT BUFFER (TBUF), BY CALLING
IN SEQUENCE, SUBROUTINES 'CLRCV' AND 'CLRXT'.
INPUT: NONE
OUTPUT: NONE
SUBSIDIARY ROUTINES: SUBROUTINES 'CLRCV' AND 'CLRXT'
PARAMTERS MODIFIED: ON EXIT BOTH RBUF AND TBUF WILL BE CLEARED
CALL: JSR PC,CLRBUF
*****
CLRBUF: JSR PC,CLRCV ;CLEAR RECEIVE BUFFERS
        JSR PC,CLRXT ;CLEAR TRANSMIT BUFFERS
        RTS PC

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3408 032260
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3410 032260
3411 032260 005304
3412 032262 002402
3413 032264 105023
3414 032266 000774
3415 032270
3416 032270 000207
3417

```
*****
:
: SUBROUTINE - CLBYTE
:
: THIS ROUTINE WILL CLEAR A NUMBER OF BYTES (NUMBER PASSED IN R4),
: STARTING AT ADDRESS POINTED TO BY R3.
:
: INPUT - R3 POINTS TO STARTING ADDRESS OF BYTES
: R4 CONTAINS NUMBER OF BYTES TO BE CLEARED
:
: OUTPUT: - NONE
:
: CALL: MOV #X,R3 ;STARTING ADDRESS OF BYTES
: MOV #Y,R4 ;NUMBER OF BYTES TO BE CLEARED
: JSR PC,CLBYTE ;CLEAR THE BYTES
*****
```

```
CLBYTE:
1$: DEC R4
BLT 2$
CLRB (R3)+
BR 1$
2$: RTS PC
```

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```

*****
:
:      SUBROUTINE - CLRCV
:
:      THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER
:      'RBUF'.
:
:      INPUT:  NONE
:
:      OUTPUT: NONE
:
:      SUBSIDIARY ROUTINES: SUBROUTINE 'CLBYTE'
:
:      CALL:   JSR      PC,CLRCV
:
*****

```

```

3436 032272
3437 032272 010346
3438 032274 010446
3439 032276 012703 010442
3440 032302 013704 010440
3441 032306 004737 032260
3442 032312 012604
3443 032314 012603
3444 032316 000207

```

```

CLRCV:
MOV    R3,-(SP)
MOV    R4,-(SP)
MOV    #RBUF,R3
MOV    RBUF-2,R4
JSR    PC,CLBYTE
MOV    (SP)+,R4
MOV    (SP)+,R3
RTS    PC

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3469 032320
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3471 032322
3472 032330
3473 032336
3474 032344
3475 032350
3476 032354
3477 032356
3478 032362
3479 032370
3480 032372
3481 032374
3482 032376
3483 032400

010446
017737 147700 002240
042737 173400 002240
113777 002241 147672
017704 147656
032704 004000
001407
010437 020516
017737 147642 020520
000261
000401
000241
012604
000207

```
*****
SUBROUTINE - CLRDNI
THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE DNI BIT AND VERIFIES ITS SUCCESS.
INPUTS: NONE
OUTPUTS:      IF SUCCESSFUL ( DNI = 0 )
                THEN CARRY = 0
                IF UNSUCCESSFUL ( DNI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1
CALLING SEQUENCE:
                JSR      PC,CLRDNI
*****
```

```
CLRDNI:
MOV      R4, -(SP)           ; SAVE R4
MOV      @PCSRO, PCSROC      ; READ AND SAVE PCSRO DATA
BIC      #173400, PCSROC     ; MASK ALL UPPER BYTE EXCEPT DNI
MOVB     PCSROC+1, @PCSROUB  ; CLEAR DNI
MOV      @PCSRO, R4         ; PCSRO -> R4
BIT      #DNI, R4           ; DNI = 0 ?
BEQ      10$,               ; YES
MOV      R4, EPCSRO         ; NO, PCSRO -> EPCSRO
MOV      @PCSR1, EPCSR1     ; PCSR1 -> EPCSR1
SEC      CARRY              ; SET CARRY
BR       20$,               ;
10$:    CLC                  ; CLEAR CARRY
20$:    MOV      (SP)+, R4   ; RESTORE R4
RTS     PC                  ; AND RETURN
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032402
032402 112777 000400 147616
032410 112777 000000 147610
032416 017737 147604 002240
032424 113777 002241 147604
000207

```

;*****
;
; SUBROUTINE - CLINTR
;
; THIS SUBROUTINE CLEARS LOWER BYTE OF PCSRO (DISABLE INTERRUPTS),
; THEN SAVES PCSRO DATA. IT THEN WRITES UPPER BYTE OF SAVED DATA
; TO THE UPPER BYTE OF PCSRO IN ORDER TO CLEAR ANY INTERRUPT BITS
; (WRITE 1 TO CLEAR), THAT HAVE BEEN PREVIOUSLY SET.
;
; INPUTS: NONE
;
; OUTPUTS: NONE
;
; CALLING SEQUENCE: JSR PC,CLINTR
;*****
CLINTR:
MOV  #USCI,@PCSRO ;CLEAR LOWER BYTE
MOV  #ZERO,@PCSRO ;MAY REQUIRE TWO WRITES
MOV  @PCSRO,PCSROC ;SAVE PCSRO DATA
MOV  PCSROC+1,@PCSROUB ;CLEAR STATUS BITS IN PCSRO UPPER BYTE
RTS  PC

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```

*****
:
: SUBROUTINE - CLRRXI
:
: THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
: THE RXI BIT AND VERIFIES ITS SUCCESS.
:
: INPUTS: NONE
:
: OUTPUTS: IF SUCCESSFUL ( RXI = 0 )
:          THEN CARRY = 0
:
:          IF UNSUCCESSFUL ( RXI = 1 )
:          THEN CARRY = 1
:          PCSRO -> EPCSRO
:          PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,CLRRXI
*****

```

```

3534 032434
3535 032434 010446
3536 032436 112777 000040 147572
3537 032444 017704 147556
3538 032450 032704 020000
3539 032454 001407
3540 032456 010437 020516
3541 032462 017737 147542 020520
3542 032470 000261
3543 032472 000401
3544 032474 000241
3545 032476 012604
3546 032500 000207

```

```

CLRRXI:
MOV R4,-(SP) ; SAVE R4
MOVB #RXIB,@PCSROUB ; WRITE ONE TO CLEAR RXI BIT
MOV @PCSRO,R4 ; PCSRO -> R4
BIT #RXI,R4 ; RXI = 0 ?
BEQ 10$ ; YES
MOV R4,EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 20$
10$: CLC ; CLEAR CARRY
20$: MOV (SP)+,R4 ; RESTORE R4
RTS PC ; AND RETURN

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 3571 032502
 3572 032502 010446
 3573 032504 112777 000020 147524
 3574 032512 017704 147510
 3575 032516 032704 010000
 3576 032522 001407
 3577 032524 010437 020516
 3578 032530 017737 147474 020520
 3579 032536 000261
 3580 032540 000401
 3581 032542 000241
 3582 032544 012604
 3583 032546 000207

```

*****
SUBROUTINE CLRTXI
THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE TXI BIT AND VERIFIES ITS SUCCESS.
INPUTS: NONE
OUTPUTS:      IF SUCCESSFUL ( TXI = 0 )
                THEN CARRY = 0
                IF UNSUCCESSFUL ( TXI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1
CALLING SEQUENCE:
                JSR      PC,CLRTXI
*****
    
```

```

CLRTXI:
MOV      R4,-(SP)           ; SAVE R4
MOVB    #TXIB,@PCSROUB    ; WRITE ONE TO CLEAR TXI BIT
MOV     @PCSRO,R4         ; PCSRO -> R4
BIT     #TXI,R4           ; TXI = 0 ?
BEQ     10$               ; YES
MOV     R4,EPCSRO        ; NO, PCSRO -> EPCSRO
MOV     @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
SEC     ; SET CARRY
BR      20$
10$:    CLC               ; CLEAR CARRY
20$:    MOV     (SP)+,R4   ; RESTORE R4
RTS     PC               ; AND RETURN
    
```

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3603 032550
3604 032550 010346
3605 032552 010446
3606 032554 012703 004440
3607 032560 013704 004436
3608 032564 004737 032260
3609 032570 012604
3610 032572 012603
3611 032574 000207
3612

```
*****  
: SUBROUTINE - CLRXMT  
: THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER  
: 'TBUF'.  
: INPUT: NONE  
: OUTPUT: NONE  
: SUBSIDIARY ROUTINES: SUBROUTINE CLBYTE  
: CALL: JSR PC,CLRXMT  
:*****
```

```
CLRXMT: MOV R3,-(SP)  
MOV R4,-(SP)  
MOV @TBUF,R3  
MOV TBUF-2,R4  
JSR PC,CLBYTE  
MOV (SP)+,R4  
MOV (SP)+,R3  
RTS PC
```

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```

*****
:
: SUBROUTINE - CMPCRC
:
: THIS SUBROUTINE COMPARES A CRC VALUE WITH
: AN EXPECTED CRC VALUE.
:
: INPUTS: R5 = ADDRESS OF ACTUAL CRC VALUE RECEIVED.
:
: INPLICIT INPUTS:
: XCRC = EXPECTED CRC VALUE
:
: OUTPUTS: IF SUCCESSFUL CRC COMPARE
: THEN CARRY = 0
:
: IF UNSUCCESSFUL CRC COMPARE
: THEN CARRY = 1
: EXPECTED CRC = XCRC
: ACTUAL CRC -> ECRC
:
: CALLING SEQUENCE:
: JSR PC,CMPCRC
*****
    
```

3640 032576
 3641 032576 010346
 3642 032600 010446
 3643 032602 012703 020576
 3644 032606 010504
 3645 032610 022324
 3646 032612 001004
 3647 032614 022324
 3648 032616 001002
 3649 032620 000241
 3650 032622 000406
 3651 032624 012703 020572
 3652 032630 010504
 3653 032632 012423
 3654 032634 012423
 3655 032636 000261
 3656 032640 012604
 3657 032642 012603
 3658 032644 000207

```

CMPCRC:
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #XCRC,R3 ; R3 POINTS TO EXPECTED CRC
MOV R5,R4 ; R4 POINTS TO ACTUAL CRC
CMP (R3)+,(R4)+ ; FIRST CRC WORD COMPARE ?
BNE 10$ ; NO
CMP (R3)+,(R4)+ ; SECOND CRC WORD COMPARE ?
BNE 10$ ; NO
CLC ; YES, CLEAR CARRY
BR 20$
10$: MOV #ECRC,R3 ; POINT TO ERROR TABLE
MOV R5,R4 ; POINT TO ACTUAL DATA
MOV (R4)+,(R3)+ ; LOAD ECRC TABLE
MOV (R4)+,(R3)+
SEC ; AND SET CARRY
20$: MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN
    
```


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 032646 010046
 032650 010346
 032652 010446
 032654 010500
 032656 012703 004456
 032662 012704 010460
 032666 022324
 032670 001003
 032672 005300
 032674 001374
 032676 000406
 032700 014337 020570
 032704 014437 020566
 032710 000261
 032712 000401
 032714 000241
 032716 012604
 032720 012603
 032722 012600
 032724 000207

```

*****
SUBROUTINE - CMPDAT
THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
WITH THE TRANSMIT BUFFER (TBUF) DATA FIELD.
INPUTS:      R5 = NUMBER OF WORDS TO COMPARE
OUTPUTS:     IF SUCCESSFUL DATA COMPARE
              THEN CARRY = 0
              IF UNSUCCESSFUL DATA COMPARE
              THEN CARRY = 1
              EXPECTED DATA -> XDAT
              ACTUAL DATA   -> EDAT
CALLING SEQUENCE:
              JSR      PC,CMPDAT
*****
    
```

```

CMPDAT:
MOV      R0,-(SP)      ; SAVE R0
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      R5,R0         ; R0 = NUMBER OF WORDS TO COMPARE
MOV      #TBUF+14.,R3  ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF+14.,R4  ; R4 POINTS TO ACTUAL DATA
10$:    CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE     20$      ; NO
        DEC     R0       ; YES, DONE ?
        BNE     10$      ; NO
        BR     30$       ; YES
20$:    MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC     ; SET CARRY
        BR     40$
30$:    CLC     ; CLEAR CARRY
40$:    MOV      (SP)+,R4  ; RESTORE R4
        MOV      (SP)+,R3  ; RESTORE R3
        MOV      (SP)+,R0  ; RESTORE R0
        RTS     PC        ; AND RETURN
    
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 3728 032726
 3729 032726 010046
 3730 032730 010346
 3731 032732 010446
 3732 032734 010500
 3733 032736 012703 004440
 3734 032742 012704 010442
 3735 032746 022324
 3736 032750 001003
 3737 032752 005300
 3738 032754 001374
 3739 032756 000406
 3740 032760 014337 020570
 3741 032764 014437 020566
 3742 032770 000261
 3743 032772 000401
 3744 032774 000241
 3745 032776 012604
 3746 033000 012603
 3747 033002 012600
 3748 033004 000207
 3749

```

*****
SUBROUTINE - CMPMEM
THIS SUBROUTINE COMPARES THE READ MEMORY BUFFER (RBUF)
WITH THE WRITE MEMORY BUFFER (TSUF).
INPUTS:      R5 = NUMBER OF WORDS TO COMPARE
OUTPUTS:     IF SUCCESSFUL DATA COMPARE
              THEN CARRY = 0
              IF UNSUCCESSFUL DATA COMPARE
              THEN CARRY = 1
              EXPECTED DATA -> XDAT
              ACTUAL DATA  -> EDAT
CALLING SEQUENCE:
              JSR      PC,CMPMEM
*****
    
```

```

CMPMEM:
MOV      R0,-(SP)      ; SAVE R0
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      R5,R0         ; R0 = NUMBER OF WORDS TO COMPARE
MOV      #TBUF,R3      ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF,R4      ; R4 POINTS TO ACTUAL DATA
10$:    CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      20$      ; NO
        DEC      R0         ; YES, DONE ?
        BNE      10$      ; NO
        BR       30$      ; YES
20$:    MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC                ; SET CARRY
30$:    CLC                ; CLEAR CARRY
40$:    MOV      (SP)+,R4   ; RESTORE R4
        MOV      (SP)+,R3   ; RESTORE R3
        MOV      (SP)+,R0   ; RESTORE R0
        RTS      PC        ; AND RETURN
    
```

D9

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3768 033006
3769 033006 010437 020604
3770 033012 004737 035272
3771 033016
3772 033020 005737 020604
3773 033024 001374
3774 033026 004737 035256
3775 033032 000207
3776
3777

```
*****  
: SUBROUTINE - DELAY  
:  
: THIS SUBROUTINE WILL USE THE SYTEM CLOCK TO ENABLE A WAITING  
: PERIOD DETERMINED BY THE VALUE PASSED IN R4.  
:  
: INPUT: R4 CONTAINS DELAY VALUE  
:  
: OUTPUT: NONE  
:  
: CALL:  MOV    #DELAY_VALUE,R4  
:        JSR    PC,DELAY  
:*****
```

```
DELAY:  MOV    R4,METER          ;GET DELAY VALUE  
        JSR    PC,TIMON      ;START DELAY  
1$:     BREAK                ;VISIT DRS WHILE WAITING  
        TST    METER          ;FINISHED?          TRAP  C#BRK  
        BNE    1$            ;CONTINUE WAIT  
        JSR    PC,TIMOFF     ;TURN OFF SYSTEM CLOCK  
        RTS    PC            ;RETURN TO CALLING ROUTINE
```

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3799 033034
3800 033034 010146
3801 033036 010246
3802 033040 010546
3803 033042 042705 177400
3804 033046 074504
3805 033050 013701 020616
3806 033054 013702 020620
3807 033060 012705 000010
3808 033064
3809 033064 000241
3810 033066 006003
3811 033070 006004
3812 033072 103002
3813 033074 074103
3814 033076 074204
3815 033100
3816 033100 077507
3817 033102 012605
3818 033104 012602
3819 033106 012601
3820 033110 000207
3821

```

```

*****
SUBROUTINE - GETCRC
THIS SUBROUTINE IS A BYTE WISE 32-BIT CRC CALCULATOR
INPUTS: R5 CONTAINS NEW BYTE TO ADD TO CRC
        R3,R4 CONTAIN CURRENT PARTIAL CRC CODE
IMPLICIT INPUTS: POLYH = CRC FUNCTION POLYNOMIAL HIGH WORD
                  POLYL = CRC FUNCTION POLYNOMIAL LOW WORD
OUTPUTS: R3,R4 CONTAIN UPDATED CRC
CALLING SEQUENCE:  MOVB (R1)+,R5 ;GET NEXT BYTE
                   JSR PC,GETCRC ;CALCULATE CRC
*****

```

```

GETCRC:
MOV R1,-(SP) ;SAVE R1
MOV R2,-(SP) ;SAVE R2
MOV R5,-(SP) ;SAVE R5
BIC #1C377,R5 ;CLEAR HIGH BYTE
XOR R5,R4 ;MERGE NEW BYTE WITH OLD CRC
MOV POLYH,R1 ;GET CRC POLYNOMIAL HIGH WORD
MOV POLYL,R2 ;GET CRC POLYNOMIAL LOW WORD
MOV #8.,R5 ;LOOP COUNT
1$:
CLC ;CLEAR THE CARRY
ROR R3 ;SHIFT RIGHT THE CRC
ROR R4 ;32 BITS WORTH
BCC 2$ ;SKIP IF BIT 0 NOT SET
XOR R1,R3 ;EXCLUSIVE OR IN THE POLY
XOR R2,R4 ;BOTH HIGH AND LOW WORDS
2$:
SOB R5,1$ ;AND LOOP ON ALL 8 BITS
MOV (SP)+,R5 ;RESTORE R5
MOV (SP)+,R2 ;RESTORE R2
MOV (SP)+,R1 ;RESTORE R1
RTS PC ;RETURN TO CALLING PROGRAM

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```

*****
:
:   SUBROUTINE - HEXDPA
:
:   THIS SUBROUTINE LOADS DEFADR WITH THE ASCII HEX VALUE
:   FOR THE DEFAULT PHYSICAL ADDRESS DPA.
:
:   INPUTS:          NONE
:
:   IMPLICIT
:   INPUTS:          DPA = DEFAULT PHYSICAL ADDRESS
:
:   OUTPUTS:         DEFADR = ASCII HEX VALUE FOR DPA
:
:   CALLING SEQUENCE:
:                   JSR   PC,HEXDPA
:
*****
    
```

3842
 3843 033112
 3844 033112 010046
 3845 033114 010346
 3846 033116 010546
 3847
 3848 033120 012700 000006
 3849 033124 012703 103643
 3850 033130 012705 103560
 3851
 3852 033134 112537 103576
 3853 033140 004737 033174
 3854 033144 113723 103577
 3855 033150 004737 033232
 3856 033154 113723 103577
 3857 033160 105723
 3858 033162 077014
 3859
 3860 033164 012605
 3861 033166 012603
 3862 033170 012600
 3863 033172 000207

```

HEXDPA:
:   MOV   R0,-(SP)           ; SAVE R0
:   MOV   R3,-(SP)           ; SAVE R3
:   MOV   R5,-(SP)           ; SAVE R5
:
:   MOV   #6,R0              ; DO LOOP = 6 BYTES
:   MOV   #DEFADR,R3         ; POINT TO ASCII MESSAGE
:   MOV   #DPA,R5            ; POINT TO DEFAULT PHYSICAL ADDR
:
:10$:  MOVB  (R5)+,HEXDAT      ; LOAD BYTE FOR CONVERSION
:       JSR  PC,HEXH          ; CONVERT HIGH NIBBLE
:       MOVB HEXVAL,(R3)+     ; LOAD INTO ASCII MESSAGE
:       JSR  PC,HEXL          ; CONVERT LOW NIBBLE
:       MOVB HEXVAL,(R3)+     ; LOAD INTO ASCII MESSAGE
:       TSTB (R3)+           ; SKIP OVER HYPHEN IN MESSAGE
:       SOB  R0,10$          ; LOOP TILL ALL 6 BYTES ARE DONE
:
:   MOV   (SP)+,R5           ; RESTORE R5
:   MOV   (SP)+,R3           ; RESTORE R3
:   MOV   (SP)+,R0           ; RESTORE R0
:   RTS   PC                 ; AND RETURN
    
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3885 033174
3886 033174 010146
3887
3888 033176 013701 103576
3889 033202 042701 177417
3890
3891 033206 006201
3892 033210 006201
3893 033212 006201
3894 033214 006201
3895
3896 033216 062701 103667
3897 033222 111137 103577
3898
3899 033226 012601
3900 033230 000207

```
*****  
: SUBROUTINE - HEXH  
:  
: THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE  
: FOR THE HIGH NIBBLE IN HEXDAT  
:  
: INPUTS: NONE  
:  
: IMPLICIT  
: INPUTS: HEXDAT = BYTE TO BE CONVERTED  
:  
: OUTPUTS: HEXVAL = ASCII HEX VALUE FOR THE HIGH NIBBLE  
:  
: CALLING SEQUENCE:  
: JSR PC,HEXH  
: *****
```

```
HEXH:  
: MOV R1,-(SP) ; SAVE R1  
:  
: MOV HEXDAT,R1 ; LOAD DATA FOR CONVERSION  
: BIC #177417,R1 ; MASK HIGH NIBBLE  
:  
: ASR R1 ; SHIFT RIGHT  
: ASR R1  
: ASR R1  
: ASR R1  
:  
: ADD #HEXTBL,R1 ; GET INDEX INTO HEXTBL  
: MOVB (R1),HEXVAL ; AND LOAD HEXVAL  
:  
: MOV (SP)+,R1 ; RESTORE R1  
: RTS PC ; AND RETURN
```

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3922 033232
3923 033232 010146
3924
3925 033234 013701 103576
3926 033240 042701 177760
3927
3928 033244 062701 103667
3929 033250 111137 103577
3930
3931 033254 012601
3932 033256 000207

```
*****  
: SUBROUTINE - HEXL  
:  
: THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE  
: FOR THE LOW NIBBLE IN HEXDAT  
:  
: INPUTS: NONE  
:  
: IMPLICIT  
: INPUTS: HEXDAT = BYTE TO BE CONVERTED  
:  
: OUTPUTS: HEXVAL = ASCII HEX VALUE FOR THE LOW NIBBLE  
:  
: CALLING SEQUENCE:  
: JSR PC,HEXL  
: *****
```

```
HEXL:  
: MOV R1,-(SP) ; SAVE R1  
:  
: MOV HEXDAT,R1 ; LOAD DATA FOR CONVERSION  
: BIC #177760,R1 ; MASK LOW NIBBLE  
:  
: ADD #HEXTBL,R1 ; GET INDEX INTO HEXTBL  
: MOVB (R1),HEXVAL ; AND LOAD HEXVAL  
:  
: MOV (SP)+,R1 ; RESTORE R1  
: RTS PC ; AND RETURN
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3951 033260
3952 033260 010146
3953 033262 010346
3954 033264 010446
3955 033266 012701 002000
3956 033272 011504
3957 033274 012703 004440
3958 033300 010423
3959 033302 062704 000002
3960 033306 005301
3961 033310 001373
3962 033312 012604
3963 033314 012603
3964 033316 012601
3965 033320 000207

```
*****
:
: SUBROUTINE - LDBUF
:
: THIS SUBROUTINE LOADS TBUF WITH AN ADDRESS DATA PATTERN
: STARTING WITH THE ADDRESS POINTED TO BY R5
:
: INPUTS: R5 = ADDRESS OF SPECIFIED DATA ADDRESS
:
: OUTPUTS: TBUF = ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
: JSR PC,LDBUF
*****
```

```
LDBUF:
MOV R1,-(SP) ; SAVE R1
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #1024,R1 ; DO 1024 WORDS
MOV (R5),R4 ; R4 = STARTING DATA ADDRESS
MOV #TBUF,R3 ; R3 POINTS TO TBUF
10$: MOV R4,(R3)+ ; LOAD TBUF
ADD #2,R4 ; ADD 2 TO DATA
DEC R1 ; DONE 1K BLOCK ?
BNE 10$ ; NO
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R1 ; RESTORE R1
RTS PC ; AND RETURN
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3984 033322
3985 033322 010146
3986 033324 010246
3987 033326 010346
3988 033330 010446
3989 033332 012701 002000
3990 033336 011504
3991 033340 012703 004440
3992 033344 010402
3993 033346 005102
3994 033350 010223
3995 033352 062704 000002
3996 033356 005301
3997 033360 001371
3998 033362 012604
3999 033364 012603
4000 033366 012602
4001 033370 012601
4002 033372 000207

```
*****
:
: SUBROUTINE - LDBUFC
:
: THIS SUBROUTINE LOADS TBUF WITH THE COMPLIMENT OF AN
: ADDRESS DATA PATTERN STARTING WITH THE ADDRESS SPECIFIED BY R5
:
: INPUTS: R5 = ADDRESS OF SPECIFIED DATA ADDRESS
:
: OUTPUTS: TBUF = COMPLIMENTTED ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
: JSR PC,LDBUFC
:
*****
```

```
LDBUFC:
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #1024,R1 ; DO 1024. WORDS
MOV (R5),R4 ; R4 = STARTING DATA ADDRESS
MOV #TBUF,R3 ; R3 POINTS TO TBUF
10$: MOV R4,R2
COM R2 ; COMPLIMENT DATA
MOV R2,(R3)+ ; LOAD TBUF
ADD #2,R4 ; ADD 2 TO DATA
DEC R1 ; DONE 1K BLOCK?
BNE 10$ ; NO
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
RTS PC ; AND RETURN
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 4038 033374
 4039 033374 010046
 4040 033376 010146
 4041 033400 010246
 4042 033402 010346
 4043 033404 010446
 4044 033406 010546
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 4046
 4047
 4048
 4049 033410 012705 002260
 4050 033414 012701 004440
 4051 033420 012521
 4052 033422 012521
 4053 033424 011521
 4054
 4055
 4056
 4057 033426 012705 002266
 4058 033432 012521
 4059 033434 012521
 4060 033436 011521

```

*****
SUBROUTINE - LDBUFR    (USED IN ADDRESS TESTS)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGTH WILL BE NO
MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.

A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR,SOURCE ADDR,TYPE,DATA)
B. APPEND CRC IF 'DOCRC' FLAG SET

INPUTS:                DOCRC = 0 THEN NO CRC
                       1 THEN CALCULATE CRC AND APPEND
                       BYTCNT= # OF DATA BYTES IN PACKET

IMPLICIT INPUTS:      DEST: = DESTINATION ADDRESS

OUTPUTS:              TBUF IS SET UP FOR TRANSMIT

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT

CALLING SEQUENCE:
                       INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                       MOV     #X,R3           ;CRC LOW WORD
                       MOV     #Y,R4           ;CRC HIGH WORD
                       MOV     #Z,BYTCNT       ;NUMBER OF BYTES THIS PACKET
                       JSR     PC,LDBUFR
*****
    
```

```

LDBUFR:
    MOV     R0,-(SP)           ; SAVE R0
    MOV     R1,-(SP)           ; SAVE R1
    MOV     R2,-(SP)           ; SAVE R2
    MOV     R3,-(SP)           ; SAVE R3
    MOV     R4,-(SP)           ; SAVE R4
    MOV     R5,-(SP)           ; SAVE R5

;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS
    MOV     #DEST,R5           ; POINT TO DESTINATION ADDRESS
    MOV     #TBUF,R1           ; POINT TO TBUF
    MOV     (R5)+,(R1)+       ; LOAD DESTINATION ADDRESS
    MOV     (R5)+,(R1)+
    MOV     (R5),(R1)+

;LOAD SOURCE ADDRESS
    MOV     #SRC,R5           ; LOAD FOR LATER COMPARISON
    MOV     (R5)+,(R1)+
    MOV     (R5)+,(R1)+
    MOV     (R5),(R1)+
    
```

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4061
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4063
4064 033440 012721 000005          MOV     #5,(R1)+          ; ENTER DIAGNOSTIC ID IN TYPE FIELD
4065
4066
4067          ;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYCNT')
4068 033444 013700 020562          MOV     BYCNT,R0          ; BYTE COUNT
4069 033450 012705 020630          MOV     #PATRN1,R5        ; POINT TO DATA PATTERN
4070 033454 012521          20$:  MOV     (R5)+,(R1)+      ; LOAD DATA PATTERN
4071 033456 005300          DEC     R0                ; DONE ?
4072 033460 002375          BGE     20$              ; NO
4073
4074          ;CALCULATE CRC AND SAVE IN 'XCRC'
4075
4076 033462 010146          MOV     R1,-(SP)          ; SAVE R1
4077 033464 010246          MOV     R2,-(SP)          ; SAVE R2
4078 033466 013702 020562          MOV     BYCNT,R2          ; GET DATA BYTE COUNT
4079 033472 006302          ASL     R2                ; ALIGN
4080 033474 062702 000020          ADD     #16.,R2           ; ADD HEADER
4081 033500 012701 004440          MOV     #TBUF,R1          ; BASE ADDR OF TRANSMIT BUFFER
4082 033504 012703 177777          MOV     #-1,R3            ; INIT CRC
4083 033510 012704 177777          MOV     #-1,R4            ; INIT CRC
4084 033514 004737 030644          JSR     PC,BLKCRC          ; CALCULATE AND SAVE CRC
4085 033520 012602          MOV     (SP)+,R2          ; RESTORE R2
4086 033522 012601          MOV     (SP)+,R1          ; RESTORE R1
4087
4088          ;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
4089
4090 033524 005737 020564          TST     DOCRC              ;APPEND CRC?
4091 033530 001402          BEQ     30$              ;NO, SKIP APPENDING CRC
4092 033532 010421          MOV     R4,(R1)+          ;APPEND CRC LOW WORD
4093 033534 010321          MOV     R3,(R1)+          ;APPEND CRC HIGH WORD
4094
4095
4096 033536          30$:
4097 033536 005037 020564          CLR     DOCRC              ;INSURE CRC FLAG IS CLEARED
4098
4099 033542 012605          MOV     (SP)+,R5          ; RESTORE R5
4100 033544 012604          MOV     (SP)+,R4          ; RESTORE R4
4101 033546 012603          MOV     (SP)+,R3          ; RESTORE R3
4102 033550 012602          MOV     (SP)+,R2          ; RESTORE R2
4103 033552 012601          MOV     (SP)+,R1          ; RESTORE R1
4104 033554 012600          MOV     (SP)+,R0          ; RESTORE R0
4105 033556 000207          RTS     PC                ; AND RESTORE
4106

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4125 033560
4126 033560 010346
4127 033562 010446
4128 033564 010504
4129 033566 012703 002260
4130 033572 012423
4131 033574 012423
4132 033576 012423
4133 033600 012604
4134 033602 012603
4135 033604 000207

```
*****
:
: SUBROUTINE - LDDEST
:
: THIS SUBROUTINE LOADS A SPECIFIED DESTINATION ADDRESS
: INTO DEST: .
:
: INPUTS: R5 = ADDRESS OF SPECIFIED DESTINATION ADDRESS
:
: OUTPUTS: DEST = SPECIFIED DESTINATION ADDRESS
:
: CALLING SEQUENCE:
: JSR PC,LDDEST
:
*****
```

```
LDDEST: MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV R5,R4 ; R4 POINTS TO DESTINATION ADDRESS
MOV #DEST,R3 ; R3 POINTS TO DEST:
MOV (R4)+,(R3)+ ; LOAD DEST:
MOV (R4)+,(R3)+
MOV (R4)+,(R3)+
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN
```

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 4157 033606
 4158 033606 010046
 4159 033610 010146
 4160 033612 010446
 4161 033614 010546
 4162
 4163 033616 012700 002274
 4164 033622 012704 002266
 4165 033626 012705 002260
 4166 033632 012701 000003
 4167 033636
 4168 033636 011024
 4169 033640 012025
 4170 033642 077103
 4171
 4172 033644 012605
 4173 033646 012604
 4174 033650 012601
 4175 033652 012600
 4176
 4177 033654 000207
 4178

```

*****
:
:      SUBROUTINE - LDDFLT
:
:      THIS SUBROUTINE WILL LOAD THE DEFAULT PHYSICAL ADDRESS
:      (TABLE 'DFAULT') INTO BOTH TABLES 'SRC' AND 'DEST'.
:
:      INPUTS - NONE
:
:      IMPLICIT INPUTS - TABLE 'DFAULT' CONTAINS DEFAULT PHYSICAL ADDR.
:
:      OUTPUTS - NONE
:
:      PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' WILL BE MODIFIED
:
:      CALLING SEQUENCE - JSR PC,LDDFLT      ;GET DEFAULT ADDRESS DATA
*****
    
```

```

LDDFLT:
    MOV     R0,-(SP)      ; SAVE R0
    MOV     R1,-(SP)      ; SAVE R1
    MOV     R4,-(SP)      ; SAVE R4
    MOV     R5,-(SP)      ; SAVE R5
    MOV     #DFAULT,R0    ; BASE ADDRESS OF DEFAULT ADDRESS
    MOV     #SRC,R4       ; BASE ADDRESS OF SOURCE ADDRESS
    MOV     #DEST,R5     ; BASE ADDRESS OF DEST. ADDRESS
    MOV     #3,R1        ; INIT COUNTER
1$:
    MOV     (R0),(R4)+    ; LOAD ADDRESS
    MOV     (R0+),(R5)+  ; IN EACH TABLE
    SOB     R1,1$        ; UNTIL DONE
    MOV     (SP)+,R5     ; RESTORE R5
    MOV     (SP)+,R4     ; RESTORE R4
    MOV     (SP)+,R1     ; RESTORE R1
    MOV     (SP)+,R0     ; RESTORE R0
    RTS     PC
    
```

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```

*****
:
: SUBROUTINE - LDPCBB
:
: THIS SUBROUTINE MOVES A SELECTED DEFAULT
: PORT CONTROL FUNCTION INTO PCBB.
:
: INPUTS: R5 = ADDRESS OF DEFAULT PORT CONTROL FUNCTION
:
: OUTPUTS: PCBB = SELECTED DEFAULT PORT FUNCTION
:
: CALLING SEQUENCE:
: JSR PC,LDPCBB
:
*****

```

```

4196 033656
4197 033656 010346
4198 033660 010446
4199 033662 012703 002302
4200 033666 010504
4201 033670 012423
4202 033672 012423
4203 033674 012423
4204 033676 012423
4205 033700 012604
4206 033702 012603
4207 033704 000207

```

```

LDPCBB:
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #PCBB,R3 ; ADDRESS OF PCBB -> R3
MOV R5,R4 ; R4 = ADDRESS OF DEFAULT FUNCTION
MOV (R4)+,(R3)+ ; LOAD PCBB+0
MOV (R4)+,(R3)+ ; LOAD PCBB+2
MOV (R4)+,(R3)+ ; LOAD PCBB+4
MOV (R4)+,(R3)+ ; LOAD PCBB+6
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN

```

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```

*****
:
: SUBROUTINE LDPCSR
:
: THIS ROUTINE MOVES THE ADDRESS OF PCBB
: INTO PCSR2 AND PCSR3.
:
: INPUTS: NONE
:
: OUTPUTS: PCSR2 AND PCSR3 = ADDRESS OF PCBB
:
: CALLING SEQUENCE:
: JSR PC,LDPCSR
:
*****

```

4226 033706
4227 033706 012777 002302 146316
4228 033714 012777 000000 146312
4229 033722 000207

```

LDPCSR: MOV #PCBB,@PCSR2 ; ADDRESS OF PCBB -> PCSR2
        MOV #ZERO,@PCSR3 ; CLEAR PCSR3
        RTS PC ; AND RETURN

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 4250 033724
 4251 033724 010046
 4252
 4253 033726 012700 014504
 4254 033732 012520
 4255 033734 012520
 4256 033736 012520
 4257
 4258 033740 012600
 4259 033742 000207
 4260

```

*****
SUBROUTINE - LDPHYA
THIS SUBROUTINE WILL MODIFY THE DEFAULT PHYSICAL ADDRESS
TABLE AS DETERMINED BY THE DATA IN THE TABLE WHOSE BASE
ADDRESS IS PASSED TO THIS ROUTINE.
INPUT - R5 - CONTAINS BASE ADDRESS OF TABLE OF NEW ADDRESSES
OUTPUT - NONE
PARAMETERS MODIFIED - TABLE 'WTPHYA' MAY BE MODIFIED
SUBROUTINE CALL - MOV #____,R5 ;GET BASE ADDR. OF NEW ADDR.TABLE
                  JSR -PC,LDPHYA ;MODIFY TABLE 'WTPHYA'
*****
    
```

```

LDPHYA:
MOV     R0,-(SP)           ;SAVE R0
MOV     @WTPHYA+2,R0      ;POINT TO 2ND ENTRY IN TABLE
MOV     (R5)+,(R0)+      ;LOAD
MOV     (R5)+,(R0)+      ; NEW
MOV     (R5)+,(R0)+      ; ADDRESS
MOV     (SP)+,R0         ;RESTORE R0
RTS     PC
    
```



```

4262 ;*****
4263 ;
4264 ; SUBROUTINE - LDRDRB
4265 ;
4266 ; THIS SUBROUTINE MOVES A SELECTED DEFAULT
4267 ; RECEIVE DESCRIPTOR RING INTO RDRB.
4268 ;
4269 ; INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO RDRB
4270 ;
4271 ; OUTPUTS: RDRB = SELECTED DEFAULT RECEIVE DESCRIPTOR RING
4272 ;
4273 ; CALLING SEQUENCE:
4274 ; JSR PC,LDRDRB
4275 ;
4276 ;*****
4277 ;
4278 033744 LDRDRB:
4279 033744 010046 MOV R0,-(SP) ; SAVE R0
4280 033746 010346 MOV R3,-(SP) ; SAVE R3
4281 033750 010446 MOV R4,-(SP) ; SAVE R4
4282 033752 012700 000020 MOV #16,R0 ; LOAD 16 WORDS
4283 033756 012703 002662 MOV #RDRB,R3 ; ADDRESS OF RDRB -> R3
4284 033762 010504 MOV R5,R4 ; R4 = ADDRESS OF DEFAULT RDRB
4285 033764 012423 10$: MOV (R4)+,(R3)+ ; LOAD WORD INTO RDRB
4286 033766 005300 DEC R0 ; DONE ?
4287 033770 001375 BNE 10$ ; NO, KEEP ON LOADING RDRB
4288 033772 012604 MOV (SP)+,R4 ; YES, RESTORE R4
4289 033774 012603 MOV (SP)+,R3 ; RESTORE R3
4290 033776 012600 MOV (SP)+,R0 ; RESTORE R0
4291 034000 000207 RTS PC ; AND RETURN
4292

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 4310 034002
 4311 034002 010046
 4312 034004 010346
 4313 034006 010446
 4314 034010 012700 000304
 4315 034014 012703 003626
 4316 034020 010504
 4317 034022
 4318 034022 012423
 4319 034024 005300
 4320 034026 001375
 4321 034030 012604
 4322 034032 012603
 4323 034034 012600
 4324 034036 000207
 4325

```

*****
:
: SUBROUTINE - LDRDRX
:
: THIS SUBROUTINE MOVES A SELECTED DEFAULT RECEIVE
: DESCRIPTOR RING INTO RDRBX.
:
: INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO RDRBX
:
: OUTPUTS: DRRBX = SELECTED DEFAULT RECEIVE DESCR. RING
:
: CALLING SEQUENCE:
: JSR PC,LDRDRX
*****
    
```

```

LDRDRX:
MOV R0,-(SP) ; SAVE R0
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #196,R0 ; LOAD 196 WORDS (49 ENTRIES)
MOV #RDRX,R3 ; BASE ADDRESS OF RDRBX --> R3
MOV R5,R4 ; BASE ADDRESS OF DATA --> R4

10$:
MOV (R4)+,(R3)+ ; LOAD WORD INTO RDRBX
DEC R0 ; DONE?
BNE 10$ ; NO, KEEP ON LOADING
MOV (SP)+,R4 ; YES, RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
    
```

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4343 034040
4344 034040 010046
4345 034042 010346
4346 034044 010446
4347 034046 012700 000020
4348 034052 012703 002622
4349 034056 010504
4350 034060 012423
4351 034062 005300
4352 034064 001375
4353 034066 012604
4354 034070 012603
4355 034072 012600
4356 034074 000207

```

*****
:
:      SUBROUTINE - LDTDRB
:
:      THIS SUBROUTINE MOVES A SELECTED DEFAULT
:      TRANSMIT DESCRIPTOR RING INTO TDRB.
:
:      INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO TDRB
:
:      OUTPUTS:         TDRB = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
:
:      CALLING SEQUENCE:
:      JSR      PC,LDTDRB
:
*****

```

```

LDTDRB:
      MOV      R0,-(SP)          ; SAVE R0
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      #16,R0           ; LOAD 16 WORDS
      MOV      #TDRB,R3        ; ADDRESS OF TDRB -> R3
      MOV      R5,R4           ; R4 = ADDRESS OF DEFAULT TDRB
10$:  MOV      (R4)+,(R3)+       ; LOAD WORD INTO TDRB
      DEC      R0               ; DONE ?
      BNE     10$              ; NO, KEEP ON LOADING TDRB
      MOV      (SP)+,R4         ; YES, RESTORE R4
      MOV      (SP)+,R3         ; RESTORE R3
      MOV      (SP)+,R0         ; RESTORE R0
      RTS      PC              ; AND RETURN

```

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```

*****
:
:      SUBROUTINE - LDTDRX
:
:      THIS SUBROUTINE MOVES A SELECTED DEFAULT
:      TRANSMIT DESCRIPTOR RING INTO TDRX.
:
:      INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO TDRX
:
:      OUTPUTS:         TDRX = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
:
:      CALLING SEQUENCE:
:      JSR      PC,LDTDRX
*****
    
```

4375 034076 010046
 4376 034076 010046
 4377 034100 010346
 4378 034102 010446
 4379 034104 012700 000304
 4380 034110 012703 003016
 4381 034114 010504
 4382 034116 012423
 4383 034120 005300
 4384 034122 001375
 4385 034124 012604
 4386 034126 012603
 4387 034130 012600
 4388 034132 000207

```

LDTDRX:
      MOV      R0,-(SP)          ; SAVE R0
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      #196,R0           ; LOAD 196 WORDS (49 ENTRIES)
      MOV      #TDRX,R3         ; ADDRESS OF TDRX -> R3
      MOV      R5,R4            ; R4 = ADDRESS OF DEFAULT TDRB
10$:  MOV      (R4)+,(R3)+       ; LOAD WORD INTO TDRB
      DEC      R0                ; DONE ?
      BNE     10$                ; NO, KEEP ON LOADING TDRB
      MOV      (SP)+,R4         ; YES, RESTORE R4
      MOV      (SP)+,R3         ; RESTORE R3
      MOV      (SP)+,R0         ; RESTORE R0
      RTS      PC                ; AND RETURN
    
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```

;*****
;
;      SUBROUTINE - LDUDBB
;
;      THIS ROUTINE MOVES A SELECTED DEFAULT
;      DATA STRUCTURE INTO UDBB.
;
;      INPUTS:      R5 = ADDRESS OF DATA TO BE MOVED INTO UDBB
;                  R0 = NUMBER OF WORDS TO BE MOVED
;
;      OUTPUTS:     UDBB = SELECTED DEFAULT DATA STRUCTURE
;
;      CALLING SEQUENCE:
;                  JSR      PC,LDUDBB
;*****
    
```

4408 034134
 4409 034134 010146
 4410 034136 010346
 4411 034140 010446
 4412 034142 010001
 4413 034144 012703 002312
 4414 034150 010504
 4415 034152 012423
 4416 034154 005301
 4417 034156 001375
 4418 034160 012604
 4419 034162 012603
 4420 034164 012601
 4421 034166 000207

```

LDUDBB:
MOV      R1,-(SP)      ; SAVE R1
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      R0,R1         ; R1= NUMBER OF WORDS TO BE MOVED
MOV      #UDBB,R3      ; ADDRESS OF UDBB -> R3
MOV      R5,R4         ; R4= ADDRESS OF DATA TO BE MOVED
10$:    MOV      (R4)+,(R3)+ ; LOAD WORD INTO UDBB
        DEC      R1         ; DONE ?
        BNE     10$        ; NO, KEEP ON LOADING
        MOV     (SP)+,R4    ; YES, RESTORE R4
        MOV     (SP)+,R3    ; RESTORE R3
        MOV     (SP)+,R1    ; RESTORE R1
        RTS      PC        ; AND RETURN
    
```

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 4440

```

*****
:
: NOTE: MAY BE ABLE TO DELETE THIS FROM FINAL PRODUCT
:
: SUBROUTINE - LDXCRC
:
: THIS SUBROUTINE LOADS XCRC WITH EXPECTED CRC DATA.
:
: INPUTS:          R5 = ADDRESS OF EXPECTED DATA
:
: OUTPUTS:         XCRC TABLE = EXPECTED CRC DATA
:
: CALLING SEQUENCE:
: JSR             PC,LDXCRC
*****
    
```

4441 034170
 4442 034170 010346
 4443 034172 010446
 4444 034174 012704 020576
 4445 034200 010503
 4446 034202 012324
 4447 034204 012324
 4448 034206 012604
 4449 034210 012603
 4450 034212 000207

```

LDXCRC:
MOV     R3,-(SP)           ; SAVE R3
MOV     R4,-(SP)           ; SAVE R4
MOV     @XCRC,R4          ; R4 POINTS TO XCRC
MOV     R5,R3              ; R3 POINTS TO DATA
MOV     (R3)+,(R4)+        ; LOAD XCRC TABLE
MOV     (R3)+,(R4)+
MOV     (SP)+,R4           ; RESTORE R4
MOV     (SP)+,R3           ; RESTORE R3
RTS     PC                 ; AND RETURN
    
```

K10

4452
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4463
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4465
4466

```

*****
:
:      SUBROUTINE  LDXRDR
:
:      THIS SUBROUTINE LOADS XRDRBO WITH EXPECTED RDRB DATA.
:
:      INPUTS:      R5 = ADDRESS OF EXPECTED DATA
:
:      OUTPUTS:     XRDRBO TABLE = EXPECTED RDRB DATA
:
:      CALLING SEQUENCE:
:                  JSR      PC,LDXRDR
:
*****

```

4467
4468 034214
4469 034214 010346
4470 034216 010446
4471 034220 012704 020532
4472 034224 010503
4473 034226 012324
4474 034230 012324
4475 034232 012324
4476 034234 012324
4477 034236 012604
4478 034240 012603
4479 034242 000207

```

LDXRDR:
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      @XRDRBO,R4       ; R4 POINTS TO XRDRBO
      MOV      R5,R3            ; R3 POINTS TO DATA
      MOV      (R3)+,(R4)+      ; LOAD XRDRBO TABLE
      MOV      (R3)+,(R4)+
      MOV      (R3)+,(R4)+
      MOV      (R3)+,(R4)+
      MOV      (SP)+,R4         ; RESTORE R4
      MOV      (SP)+,R3         ; RESTORE R3
      RTS      PC               ; AND RETURN

```

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 4497 034244
 4498 034244 010346
 4499 034246 010446
 4500 034250 012700 000004
 4501 034254 012704 020552
 4502 034260 010503
 4503 034262
 4504 034262 012324
 4505 034264 005300
 4506 034266 001375
 4507
 4508 034270 012604
 4509 034272 012603
 4510 034274 000207

```

*****
:
:      SUBROUTINE  LDXTDR
:
:      THIS SUBROUTINE LOADS XTDRBO WITH EXPECTED TDRB DATA.
:
:      INPUTS:      R5 = ADDRESS OF EXPECTED DATA
:
:      OUTPUTS:     XTDRBO TABLE = EXPECTED TDRB DATA
:
:      CALLING SEQUENCE:
:                  JSR      PC,LDXTDR
:
*****
    
```

```

LDXTDR:
        MOV      R3,-(SP)          ; SAVE R3
        MOV      R4,-(SP)          ; SAVE R4
        MOV      #4,R0             ; LOOP COUNT
        MOV      @XTDRBO,R4        ; R4 POINTS TO XTDRBO
        MOV      R5,R3             ; R3 POINTS TO DATA
10$:
        MOV      (R3)+,(R4)+       ; LOAD XTDRBO TABLE
        DEC      R0                 ; REDUCE LOOP COUNT
        BNE     10$                ; LOOP AGAIN IF NOT COMPLETED

        MOV      (SP)+,R4          ; RESTORE R4
        MOV      (SP)+,R3          ; RESTORE R3
        RTS      PC                ; AND RETURN
    
```


M10

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4530
4531
4532
4533

```

*****
:
:      SUBROUTINE  NORXI
:
:      THIS SUBROUTINE VERIFIES THE RXI BIT IS NOT SET.
:
:      INPUTS: NONE
:
:      OUTPUTS:      IF RXI NOT SET ( RXI = 0 )
:                    THEN CARRY = 0
:
:                    IF RXI IS SET ( RXI = 1 )
:                      THEN CARRY = 1
:                      PCSRO -> EPCSRO
:                      PCSR1  > EPCSR1
:
:      CALLING SEQUENCE:
:      JSR      PC,NORXI
:
*****

```

4534 034276
4535 034276 010446
4536 034300 017704 145722
4537 034304 032704 020000
4538 034310 001407
4539 034312 010437 020516
+540 034316 017737 145706 020520
4541 034324 000261
4542 034326 000401
4543 034330 000241
4544 034332 012604
4545 034334 000207

```

NORXI:
MOV      R4,-(SP)          ; SAVE R4
MOV      @PCSRO,R4        ; PCSRO -> R4
BIT      @RXI,R4          ; RXI = 0 ?
BEQ      10$              ; YES
MOV      R4,EPCSR0        ; NO, PCSRO -> EPCSRO
MOV      @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
SEC                      ; SET CARRY
BR       20$
10$:    CLC                ; CLEAR CARRY
20$:    MOV      (SP)+,R4  ; RESTORE R4
RTS     PC                ; AND RETURN

```

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 4568 034336 010046
 4569 034340 010146
 4570 034342 010246
 4571 034344 010546
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 4573 034346 012701 010442
 4574 034352 013702 020562
 4575 034356 012700 020576
 4576 034362 012003
 4577 034364 011004
 4578 034366
 4579 034366 112105
 4580 034370 004737 033034
 4581 034374 077204
 4582
 4583 034376 012700 020576
 4584 034402 010320
 4585 034404 010410
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 4587 034406 012605
 4588 034410 012602
 4589 034412 012601
 4590 034414 012600
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 4592 034416 000207
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```

*****
:
:      SUBROUTINE - ROMCRC (Used specifically in Read Int.ROM Test)
:
:      This subroutine calculates a 16 bit CRC on a block of data.
:      Used explicitly for ROM CRC calculation.
:
:      IMPLICIT
:      INPUTS:      RBUF = BASE ADDRESS OF DATA BLOCK
:                  BYTCNT = DATA BLOCK BYTE COUNT
:
:      OUTPUTS:     R4,R3 = CRC
:                  XCRC = BASE ADDRESS OF CRC STORAGE TABLE,
:                  CONTAINING UPDATED DATA FROM R4,R3
:
:      CALLING SEQUENCE:
:                  JSR      PC,ROMCRC      ;GO CALCULATE CRC
*****
    
```

```

ROMCRC:
    MOV      R0,-(SP)      ; SAVE R0
    MOV      R1,-(SP)      ; SAVE R1
    MOV      R2,-(SP)      ; SAVE R2
    MOV      R5,-(SP)      ; SAVE R5

    MOV      @RBUF,R1      ; GET BASE ADDRESS OF DATA BLOCK
    MOV      BYTCNT,R2     ; GET DATA BLOCK BYTE COUNT
    MOV      @XCRC,R0      ; GET BASE ADDRESS OF INITIAL CRC
    MOV      (R0)+,R3      ; LOAD INITIAL
    MOV      (R0),R4       ; CRC

1$:
    MOVB    (R1)+,R5      ; GET NEXT CHARACTER
    JSR     PC,GETCRC     ; CALCULATE CRC
    SOB    R2,1$         ; DO NEXT CHARACTER IF NOT FINISHED

    MOV     @XCRC,R0      ; POINT TO BASE STORAGE ADDRESS
    MOV     R3,(R0)+     ; UPDATE 1ST WORD
    MOV     R4,(R0)      ; UPDATE 2ND WORD

    MOV     (SP)+,R5     ; RESTORE R5
    MOV     (SP)+,R2     ; RESTORE R2
    MOV     (SP)+,R1     ; RESTORE R1
    MOV     (SP)+,R0     ; RESTORE R0

    RTS     PC
    
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```

*****
SUBROUTINE - SETBF (Used specifically in Int. Loopback Length Err Tst)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
FOR A DATA BYTE LENGTH DETERMINED BY VALUE PASSED IN
R2. CRC WILL ALSO BE CALCULATED, SAVED, AND IF REQUIRED,
APPENDED TO END OF DATA IF PARAMETER 'DOCRC' SO INDICATES.

A. CLEAR RECEIVE BUFFER RBUF
B. LOAD TRANSMIT BUFFER TBUF (DEST. ADDRESS, SOURCE ADDRESS, DATA)
C. CALCULATE CRC IF CRC FLAG SET

INPUTS:          DOCRC = 0 THEN NO CRC CALCULATION
                  1 THEN CALCULATE CRC, SAVE, AND APPEND
                  -1 THEN CALCULATE CRC, SAVE, DO NOT APPEND

                  R2 = number of data bytes

IMPLICIT INPUTS: DEST: = DESTINATION ADDRESS

OUTPUTS:         RBUF IS CLEARED
                  TBUF IS SET UP FOR TRANSMIT
                  R3,R4 AND ALSO 'XCRC' CONTAIN
                  CRC IF 'DOCRC' WAS SET.

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT
                     R3,R4 MODIFIED IF 'DOCRC' SET.

CALLING SEQUENCE:
                  INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                  JSR    PC,SETBF
    
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4633 034420
 4634 034420 010046
 4635 034422 010146
 4636 034424 010346
 4637 034426 010446
 4638 034430 010546
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 4641
 4642 034432 012703 010442
 4643 034436 012700 000036
 4644 034442 005023
 4645 034444 005300
 4646 034446 001375
 4647
 4648
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 4650
 4651 034450 012705 002266
 4652 034454 012703 004440

```

*****
SETBF:
    MOV    R0,-(SP)        ;SAVE R0
    MOV    R1,-(SP)        ;SAVE R1
    MOV    R3,-(SP)        ;SAVE R3
    MOV    R4,-(SP)        ;SAVE R4
    MOV    R5,-(SP)        ;SAVE R5

;CLEAR 'RBUF' 30. WORDS
    MOV    #RBUF,R3        ;POINT TO RBUF
    MOV    #30.,R0         ;COUNT = 60 BYTES
10$:   CLR    (R3)+         ;CLEAR BUFFER
        DEC    R0           ;DONE?
        BNE   10$         ;NO

;SET UP TRANSMIT BUFFER 'TBUF'
;LOAD DESTINATION ADDRESS
    MOV    #SRC,R5         ;POINT TO DESTINATION ADDRESS
    MOV    #TBUF,R3        ;POINT TO TBUF
    
```

```

4653 034460 012523          MOV      (R5)+,(R3)+      ;LOAD DESTINATION ADDRESS
4654 034462 012523          MOV      (R5)+,(R3)+      ;
4655 034464 012523          MOV      (R5)+,(R3)+      ;
4656
4657          ;LOAD SOURCE ADDRESS
4658
4659 034466 012705 002266    MOV      #SRC,R5          ;LOAD FOR LATER COMPARISON
4660 034472 012523          MOV      (R5)+,(R3)+      ;
4661 034474 012523          MOV      (R5)+,(R3)+      ;
4662 034476 012523          MOV      (R5)+,(R3)+      ;
4663
4664          ;SET TYPE FIELD
4665
4666 034500 012723 002540    MOV      #2540,(R3)+     ;TYPE FIELD = DIAGNOSTICS
4667
4668          ;LOAD DATA FIELD
4669
4670 034504 010200          MOV      R2,R0           ;NUMBER OF WORDS
4671 034506 012705 020630    MOV      #PATRN1,R5      ;POINT TO DATA PATTERN
4672 034512 012523          20$: MOV      (R5)+,(R3)+     ;LOAD DATA PATTERN
4673 034514 005300          DEC      R0              ;DONE?
4674 034516 001375          BNE     20$              ;NO
4675
4676          ;CALCULATE CRC AND SAVE IN 'XCRC'
4677
4678 034520 010146          MOV      R1,-(SP)        ;SAVE R1
4679 034522 010246          MOV      R2,-(SP)        ;SAVE R2
4680 034524 010346          MOV      R3,-(SP)        ;SAVE R3
4681 034526 006302          ASL     R2               ;MULTIPLY BY 2 FOR BYTES
4682 034530 062702 000020    ADD     #16.,R2          ;ADD HEADER
4683 034534 012701 004440    MOV     #TBUF,R1         ;BASE ADDR OF TRANSMIT BUFFER
4684 034540 012703 177777    MOV     #-1,R3           ;INIT CRC
4685 034544 012704 177777    MOV     #-1,R4           ;INIT CRC
4686 034550 004737 030644    JSR    PC,BLKCRC         ;CALCULATE AND SAVE CRC
4687 034554 012603          MOV     (SP)+,R3         ;RESTORE R3
4688 034556 012602          MOV     (SP)+,R2         ;RESTORE R2
4689 034560 012601          MOV     (SP)+,R1         ;RESTORE R1
4690
4691          ;IF CRC FLAG SET, APPEND CRC
4692
4693 034562 005737 020564    TST     D0CRC            ;GENERATE CRC?
4694 034566 001402          BEQ     30$              ;NO, SKIP CRC GENERATION
4695 034570 010423          MOV     R4,(R3)+        ;APPEND CRC LOW WORD
4696 034572 010313          MOV     R3,(R3)         ;APPEND CRC HIGH WORD
4697 034574
4698 034574 012605          30$: MOV     (SP)+,R5         ;RESTORE R5
4699 034576 012604          MOV     (SP)+,R4         ;RESTORE R4
4700 034600 012603          MOV     (SP)+,R3         ;RESTORE R3
4701 034602 012601          MOV     (SP)+,R1         ;RESTORE R1
4702 034604 012600          MOV     (SP)+,R0         ;RESTORE R0
4703 034606 000207          RTS     PC               ;RETURN TO CALLING ROUTINE
4704

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034610
 034610 005737 020622
 034614 001412
 034616 010400
 034620
 034620 010046
 034622 012746 034644
 034626 012746 000002
 034632 010600
 034634 104417
 034636 062706 000006
 034642
 034642 000207
 034644 045 123 045
 034647 124 045 101
 034652 040 124 105
 034655 123 124 040
 034660 040 000

```

;*****
;
; SUBROUTINE PNTID
;
; PRINTS THE NAME OF EACH TEST THAT IS RUN, IF PRINT FLAG
; SET, AND IS 1ST LOOP THROUGH TEST.
;
; INPUTS: R4 = POINTER TO TEST NAME MESSAGE
;
; OUTPUT: IF PRINT FLAG SET, TEST NAME WILL BE PRINTED
;
; CALL:  MOV    #MSGNO,R4    ;GET ADDRESS OF MESSAGE
;        JSR    PC,PNTID    ;PRINT TEST NAME
;*****
PNTID:
    TST    PRNTIT            ;PRINT THE TEST NAME?
    BEQ    10$              ;NO
    MOV    R4,R0            ;SETUP FOR PRINT
    PRINTF @TSTFMT,R0      ;PRINT TEST NAME
                                MOV    R0,-(SP)
                                MOV    #TSTFMT,-(SP)
                                MOV    #2,-(SP)
                                MOV    SP,R0
                                TRAP  C#PNTF
                                ADD    #6,SP
10$:  RTS    PC              ;RETURN TO CALLING PROGRAM

TSTFMT:.ASCIZ 'S#T#A TEST '

.EVEN
    
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 4770 034662
 4771 034662 010046
 4772 034664 010146
 4773 034666 010246
 4774 034670 010346
 4775 034672 010446
 4776 034674 010546
 4777
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 4781 034676 012705 002260
 4782 034702 012701 004440
 4783 034706 012521
 4784 034710 012521
 4785 034712 012521
 4786
 4787
 4788
 4789 034714 012705 002266
 4790 034720 012521
 4791 034722 012521
 4792 034724 012521

```

*****
SUBROUTINE - SETBUF

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGTH WILL BE NO
MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.

A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR,SOURCE ADDR,TYPE,DATA)
B. APPEND CRC IF 'DOCRC' FLAG SET

INPUTS:          DOCRC = 0 THEN NO CRC
                  1 THEN CALCULATE CRC AND APPEND
                  BYTCNT= # OF DATA BYTES IN PACKET

IMPLICIT INPUTS: SRC: = SOURCE ADDRESS
                  DEST: = DESTINATION ADDRESS

OUTPUTS:         TBUF IS SET UP FOR TRANSMIT

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT

CALLING SEQUENCE:
                  INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                  MOV    #Z,BYTCNT      ;NUMBER OF BYTES THIS PACKET
                  JSR    PC,SETBUF

*****

SETBUF:
MOV    R0,-(SP)      ; SAVE R0
MOV    R1,-(SP)      ; SAVE R1
MOV    R2,-(SP)      ; SAVE R2
MOV    R3,-(SP)      ; SAVE R3
MOV    R4,-(SP)      ; SAVE R4
MOV    R5,-(SP)      ; SAVE R5

;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS
MOV    #DEST,R5      ; POINT TO DESTINATION ADDRESS
MOV    #TBUF,R1      ; POINT TO TBUF
MOV    (R5)+,(R1)+   ; LOAD DESTINATION ADDRESS
MOV    (R5)+,(R1)+
MOV    (R5)+,(R1)+

;LOAD SOURCE ADDRESS
MOV    #SRC,R5       ; LOAD FOR LATER COMPARISON
MOV    (R5)+,(R1)+
MOV    (R5)+,(R1)+
MOV    (R5)+,(R1)+
    
```

F11

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4793
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4796 034726 012721 002540          MOV    #2540,(R1)+      ; ENTER DIAGNOSTIC ID IN TYPE FIELD
4797
4798                                ;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYTCNT')
4799
4800 034732 013700 020562          MOV    BYTCNT,R0        ; BYTE COUNT
4801 034736 012705 020630          MOV    #PATRN1,R5      ; POINT TO DATA PATTERN
4802 034742 012521                20$:  MOV    (R5)+,(R1)+    ; LOAD DATA PATTERN
4803 034744 005300                DEC    R0               ; DONE ?
4804 034746 002375                BGE    20$             ; NO
4805
4806                                ;CALCULATE CRC AND SAVE IN 'XCRC'
4807
4808 034750 010146                MOV    R1,-(SP)        ; SAVE R1
4809 034752 010246                MOV    R2,-(SP)        ; SAVE R2
4810 034754 013702 020562          MOV    BYTCNT,R2      ; GET DATA BYTE COUNT
4811 034760 006302                ASL    R2              ; ALIGN
4812 034762 005737 020564          TST    D0CRC          ; ADD CRC TO PACKET?
4813 034766 001003                BNE    22$            ; YES
4814 034770 062702 000016          ADD    #14.,R2        ; NO
4815 034774 000402                BR     25$            ; SKIP NO ADD CRC DATA
4816 034776 062702 000020          22$:  ADD    #16.,R2      ; WILL ADD CRC TO PACKET
4817 035002 012701 004440          25$:  MOV    #TBUF,R1      ; BASE ADDR OF TRANSMIT BUFFER
4818 035006 012703 177777          MOV    #-1,R3         ; INIT CRC
4819 035012 012704 177777          MOV    #-1,R4         ; INIT CRC
4820 035016 004737 030644          JSR    PC,BLKCRD      ; CALCULATE AND SAVE CRC
4821 035022 012602                MOV    (SP)+,R2       ; RESTORE R2
4822 035024 012601                MOV    (SP)+,R1       ; RESTORE R1
4823
4824                                ;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
4825
4826 035026 005737 020564          TST    D0CRC          ; APPEND CRC?
4827 035032 001402                BEQ    30$            ; NO, SKIP APPENDING CRC
4828 035034 010421                MOV    R4,(R1)+      ; APPEND CRC LOW WORD
4829 035036 010321                MOV    R3,(R1)+      ; APPEND CRC HIGH WORD
4830
4831
4832 035040                30$:
4833 035040 005037 020564          CLR    D0CRC          ;INSURE CRC FLAG IS CLEARED
4834
4835 035044 012605                MOV    (SP)+,R5       ; RESTORE R5
4836 035046 012604                MOV    (SP)+,R4       ; RESTORE R4
4837 035050 012603                MOV    (SP)+,R3       ; RESTORE R3
4838 035052 012602                MOV    (SP)+,R2       ; RESTORE R2
4839 035054 012601                MOV    (SP)+,R1       ; RESTORE R1
4840 035056 012600                MOV    (SP)+,R0       ; RESTORE R0
4841 035060 000207                RTS    PC              ; AND RESTORE

```

```

4843 :*****
4844 :
4845 :      SUBROUTINE  SRCDST
4846 :
4847 :      THIS SUBROUTINE WILL INDEPENDENTLY, LOAD BOTH TABLES
4848 :      'SRC' AND 'DEST' WITH PHYSICAL ADDRESSES OBTAINED FROM
4849 :      TABLE ADDRESSES PASSED TO THIS ROUTINE.
4850 :
4851 :      INPUT - R1 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'SRC'
4852 :             R2 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'DEST'
4853 :
4854 :      OUTPUT - NONE
4855 :
4856 :      PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' MAY BE CHANGED
4857 :
4858 :      CALLING SEQUENCE - MOV  #____,R1      ; ADDR. OF TABLE TO LOAD 'SRC'
4859 :                       MOV  #____,R2      ; ADDR. OF TABLE TO LOAD 'DEST'
4860 :                       JSR  PC,SRCDST     ; LOAD ADDRESS TABLES
4861 :
4862 :*****
4863 :
4864 035062 SRCDST:
4865 035062      MOV    R0,-(SP)      ;SAVE R0
4866 035064      MOV    R1,-(SP)      ;SAVE R1
4867 035066      MOV    R2,-(SP)      ;SAVE R2
4868 035070      MOV    R4,-(SP)      ;SAVE R4
4869 035072      MOV    R5,-(SP)      ;SAVE R5
4870
4871 035074      MOV    #SRC,R4      ;GET BASE ADDR. OF TABLE 'SRC'
4872 035100      MOV    #DEST,R5     ;GET BASE ADDR. OF TABLE 'DEST'
4873 035104      MOV    #3,R0        ;INIT COUNTER
4874
4875 035110      1$:  MOV    (R1)+,(R4)+ ;LOAD BOTH
4876 035112      MOV    (R2)+,(R5)+ ; ADDRESS TABLES
4877 035114      SOB    R0,1$        ;UNTIL DONE
4878
4879 035116      MOV    (SP)+,R5     ;RESTORE R5
4880 035120      MOV    (SP)+,R4     ;RESTORE R4
4881 035122      MOV    (SP)+,R2     ;RESTORE R2
4882 035124      MOV    (SP)+,R1     ;RESTORE R1
4883 035126      MOV    (SP)+,R0     ;RESTORE R0
4884
4885 035130      RTS    PC

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4909 035132 010246
4910 035134 010502
4911 035136 004737 033656
4912 035142 012705 017676
4913 035146 012700 000005
4914 035152 004737 034134
4915 035156 022712 000021
4916 035162 001404
4917 035164 012737 010442 002314
4918 035172 000403
4919 035174 012737 004440 002314 1\$:
4920 035202 011337 002320 2\$:
4921 035206 005737 020610
4922 035212 001006
4923 035214 022713 176000
4924 035220 001006
4925 035222 005237 020610
4926 035226 000403
4927 035230 012737 000001 002322 3\$:
4928 035236 022701 000001 4\$:
4929 035242 001003
4930 035244 012737 001200 002312
4931 035252 5\$:
4932 035252 012602
4933 035254 000207
4934

```
*****
Subroutine - SRWRAM

THIS SUBROUTINE SETS UP FOR EITHER A LOAD OR A DUMP
OF A 1K SEGMENT OF INTERNAL RAM. LOAD OR DUMP FUNCTION
IS DETERMINED BY VALUE PASSED IN R5.

INPUTS: R5 - IF R5 = 20 THEN DUMP MEMORY
          IF R5 = 21 THEN LOAD MEMORY
        R1 - CONTAINS NUMBER OF 1K RAM BLOCKS TO ACCESS
        R3 - CONTAINS BASE ADDR OF 1K RAM TO R/W

OUTPUTS:      NONE

CALLING SEQUENCE:      MOV FUNCTION,R5      ;GET VALUE OF FUNCTION
                       JSR      PC,SRWRAM    ;EXECUTE
*****
```

```
SRWRAM:
MOV      R2,-(SP)      ;SAVE R2
MOV      R5,R2        ;SAVE R5
JSR      PC,LDPCBB     ;LOAD FUNCTION -> PCBB (USES R5)
MOV      #UDB11A,R5   ;DEFAULT UDBB
MOV      #5,R0        ;FOUR WORDS
JSR      PC,LDUDBB    ;LOAD INTO UDBB
CMP      #21,(R2)     ;IS THIS A LOAD MEMORY?
BEQ      1$           ;YES
MOV      #RBUF,UDBB+2 ;THIS IS A READ MEMORY
BR       2$           ;SKIP SETTING FOR TBUF
MOV      #TBUF,UDBB+2 ;THIS IS A LOAD MEMORY
MOV      (R3),UDBB+6  ;LOAD LINK ADDR -> UDBB+6
TST      EAFLAG      ;NEED TO SET EXT ADDR BITS?
BNE      3$           ;YES
CMP      #176000,(R3) ;TIME TO SET 'EAFLAG'?
BNE      4$           ;NO
INC      EAFLAG      ;YES
BR       4$           ;BUT, ONLY NEXT TIME
MOV      #1,UDBB+10   ;EXT ADDRESS BIT
CMP      #1,R1        ;IS THIS LAST 1K?
BNE      5$           ;NO
MOV      #1200,UDBB  ;YES, ONLY READ 1200(8) WORDS
MOV      (SP)+,R2    ;RESTORE R3
RTS      PC          ;RETURN TO CALLING PROGRAM
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035256
035256 005077 144766
035262
035262 012700 000340
035266 104441
035270 000207

035272
035272
035276 012700 000240
035276 104441
035300 012777 000100 144742
035306 000207

```
*****  
: THIS ROUTINE TURNS THE CLOCK OFF  
: INPUT: NONE  
: OUTPUT: NONE, ON EXIT SUBROUTINE, CLOCK IS OFF  
: CALL: JSR PC,TIMOFF  
*****
```

```
TIMOFF: CLR @CLKCSR ;CLEAR THE INTERRUPT ENABLE  
SETPRI #PRI07 ;UP THE PRIORITY  
MOV #PRI07,R0  
TRAP C$SPRI  
RTS PC ;RETURN TO CALLING ROUTINE
```

```
*****  
: THIS SUBROUTINE TURNS ON THE CLOCK  
: INPUT: NONE  
: OUTPUT: NONE,ON SUBROUTINE EXIT, CLOCK IS ON  
: CALL: JSR PC,TIMON  
*****
```

```
TIMON: SETPRI #PRI05 ;SET PROCESSOR PRIORITY TO 5  
MOV #PRI05,R0  
TRAP C$SPRI  
MOV #IE,@CLKCSR ;ENABLE CLOCK INTERRUPTS  
RTS PC ;RETURN TO CALLING ROUTINE
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4994 035310 010446
4995 035312 017704 144710
4996 035316 004737 032402
4997 035322 032704 001400
4998
4999 035326 001401
5000 035330 000414
5001 035332
5002 035332 017704 144670
5003 035336 001011
5004 035340 017704 144664
5005 035344 042704 177770
5006 035350 022704 000002
5007 035354 001002
5008
5009 035356 000241
5010 035360 000401
5011
5012 035362 000261
5013 035364
5014 035364 012604
5015 035366 000207
5016
5017
5018

```
*****
:
: SUBROUTINE - TINIT
:
: THIS SUBROUTINE IS CALLED TO DETERMINE IF A DEVICE RESET
: IS REQUIRED BEFORE CONTINUING.
:
: INPUTS: NONE
:
: OUTPUTS: IF A DEVICE RESET IS NOT REQUIRED
: THEN CARRY = 0
:
: IF A DEVICE RESET IS REQUIRED
: THEN CARRY = 1
:
: CALLING SEQUENCE:
: JSR PC,TINIT
*****
```

```
TINIT:
MOV R4,-(SP) ; SAVE R4
MOV @PCSR0,R4 ; SAVE CONTENTS OF PCSRO ;B0
JSR PC,CLINTR ; ATTEMPT TO CLEAR PCSRO
BIT #FATL!USCI,R4 ; NI AND/OR UNIBUS HALTED, OR HAVE
; ERROR ;B0
BEQ 5$ ; NO ;B0
BR 10$ ; YES,GO SET CARRY BIT ;B0
5$:
MOV @PCSR0,R4 ; PCSRO = 0 ?
BNE 10$ ; NO, A RESET IS REQUIRED
MOV @PCSR1,R4 ; PCSR1 -> R4
BIC #SMASK,R4 ; MASK DELUA STATE
CMP #READY,R4 ; STATE = READY ?
BNE 10$ ; NO, A RESET IS REQUIRED
CLC ; NO RESET REQUIRED, CLEAR CARRY
BR 20$
;
; 10$: SEC ; A RESET IS REQUIRED, SET CARRY
; 20$:
MOV (SP)+,R4 ; RESTORE R4
RTS PC ; AND RETURN
```

K11

```
5031          .TITLE MISCELLANEOUS SECTIONS
5032          .SBTTL  REPORT CODING SECTION
5053
5054
5055
5056          ;**
5057          ; THE REPORT CODING SECTION CONTAINS THE
5058          ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
5059          ; -
5060
5061 035370      BGNRPT
5061 035370
5062
5063
5064 035370      EXIT  RPT
5064 035370      000167
5064 035372      000000
5065
5066
5067          .EVEN
5068
5069 035374      ENDRPT
5069 035374
5069 035374      104425
5069
5069          L10015: TRAP  C#RPT
5069
5069          L#RPT::
5069          .WORD  J#JMP
5069          .WORD  L10015-2 .
```

L11

```
5071          .SBTTL  PROTECTION TABLE
5072
5073          ;**
5074          ; THIS TABLE IS USED BY THE RUNTIME SERVICES
5075          ; TO PROTECT THE LOAD MEDIA.
5076          ;--
5077
5078 035376      BGNPROT
5079          L$PROT::
5080 035376 177777      -1          ;OFFSET INTO P-TABLE FOR CSR ADDRESS
5081 035400 177777      -1          ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
5082 035402 177777      -1          ;OFFSET INTO P-TABLE FOR DRIVE NUMBER
5083
5084 035404      ENDPROT
5085
```

M11

MISCELLANEOUS SECTIONS MACRO V05.03 Friday 28-Mar 86 15:36 Page 74
INITIALIZE SECTION

SEQ 142

```

5087          .SBTTL  INITIALIZE SECTION
5088
5089          ;**
5090          ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
5091          ; AT THE BEGINNING OF EACH PASS.
5092          ; -
5093
5094 035404          BGNINIT
5095          0354A          L$INIT::
5096 035404 005037 020612          CLR  DNIFLG          ;INIT EXPECT DNI FLAG
5097 035410          READEF  #EF.CONTINUE          ;WAS A CONTINUE COMMAND ENTERED?
5098          035410 012700 000036          MOV  #EF.CONTINUE,R0
5099          035414 104447          TRAP C$REFG
5100 035416          BNCOMPLETE 1$          ;NO, CONTINUE CHECK OF FLAGS
5101          035416 103002          BCC 1$
5102 035420 000137 036140          JMP 60$          ;YES, LEAVE INIT CODE
5103 035424          READEF  #EF.PWR          ;WAS THERE A POWER FAILURE?
5104          035424 012700 000034          MOV  #EF.PWR,R0
5105          035430 104447          TRAP C$REFG
5106 035432          BNCOMPLETE 3$          ;NO
5107          035432 103007          BCC 3$
5108          ; DELAY A PERIOD OF TIME (APPROX 25 SECS ) FOR SELF TEST TO FINISH
5109          ;
5110 035434 012701 000150          MOV  #150,R1          ;INIT OUTER LOOP
5111 035440 005000          CLR  R0          ;INIT INNER LOOP
5112 035442 005300          DEC  R0
5113 035444 001376          BNE  2$
5114 035446 005301          DEC  R1
5115 035450 001374          BNE  2$
5116 035452          READEF  #EF.NEW          ;NEW PASS ?
5117          035452 012700 000035          MOV  #EF.NEW,R0
5118          035456 104447          TRAP C$REFG
5119 035460          BNCOMPLETE 15$          ;NO
5120 035462          READEF  #EF.START          ;START ?
5121          035462 012700 000040          MOV  #EF.START,R0
5122          035466 104447          TRAP C$REFG
5123 035470          BNCOMPLETE 5$          ;NO
5124          035470 103054          BCC 5$
5125 035472 000005          RESET          ;CLEAR THE WORLD
5126 035474 005237 020612          INC  DNIFLG          ;SET TO EXPECT RESULTING DNI
5127 035500 012737 000001 020614          MOV  #1,FRSTIM          ;SET FIRST TIME FLAG
5128 035506          CLOCK  L,R1          ;GET LINE CLOCK INFO
5129          035506 012700 000114          MOV  #L,R0
5130          035512 104462          TRAP C$CLK
5131          035514 010001          MOV  R0,R1
5132 035516          BCOMPLETE 4$          ;NO
5133          035516 103412          BCS 4$
5134 035520          PRINTF  #NOCLK          ;ERROR MESSAGE
5135          035520 012746 023234          MOV  #NOCLK,(SP)
5136          035524 012746 000001          MOV  #1,-(SP)
5137          035530 010600          MOV  SP,R0
5138          035532 104417          TRAP C$PNTF
5139          035534 062706 000004          ADD  #4,SP
5140 035540          JMP 50$          ;CANNOT CONTINUE

```

N11

```

5122 035544 012137 002250      4$:  MOV      (R1)+,CLKCSR      ;LINE CLOCK CSR
5123 035550 012102              MOV      (R1)+,R2        ;SET CLOCK PRIORITY
5124 035552 072227 C00005      ASH      #5,R2
5125 035556 010237 002252      MOV      R2,CLKBR
5126 035562 012137 002254      MOV      (R1)+,CLKVEC    ;VECTOR
5127 035566 012137 002256      MOV      (R1)+,CLKFRE    ;FREQUENCY
5128 035572              SETVEC  CLKVEC,#CLKSRV,CLKBR ;SETUP CLOCK INTERRUPT VECTOR
      035572 013746 002252              MOV      CLKBR,(SP)
      035576 012746 036422              MOV      #CLKSRV,-(SP)
      035602 013746 002254              MOV      CLKVEC,(SP)
      035606 012746 000003              MOV      #3,-(SP)
      035612 104437              TRAP    C$SVEC
      035614 062706 000010              ADD     #10,SP
5129 035620 000402              BR      10$
5130
5131 035622 005037 020614      5$:  CLR      FRSTIM          ;CLEAR FIRST TIME FLAG
5132 035626 012737 177777 002246 10$:  MOV      #-1,UNIT       ;YES, INITIALIZE UNIT NUMBER
5133 035634 005237 002246      15$:  INC      UNIT           ;SET UP FOR NEXT UNIT
5134 035640 023737 002246 002012  CMP     UNIT,L$UNIT     ;TESTED ALL AVAILABLE UNITS?
5135 035646 003132              BGT     50$            ;YES, LEAVE
5136 035650              GPHARD  UNIT,R1        ;GET P-TABLE POINTER FOR THIS UNIT
      035650 013700 002246              MOV      UNIT,R0
      035654 104442              TRAP    C$GPHRD
      035656 010001              MOV      R0,R1
5137 035660              BNCOMPLETE 15$        ;THIS ONE IS NOT AVAILABLE
      035660 103365              BCC     15$
5138 035662 012137 002226      MOV      (R1)+,PCSR0    ;SAVE PCSRO
5139 035666 012137 002242      MOV      (R1)+,INTVEC   ;SAVE VECTOR
5140 035672 013737 002226 002236  MOV     PCSRO,PCSR0UB   ;SET UP ADDRESS OF UPPER BYTE OF PCSRO
5141 035700 062737 000001 002236  ADD     #1,PCSR0UB
5142 035706 013737 002226 002230  MOV     PCSRO,PCSR1    ;SET UP PCSR1
5143 035714 062737 000002 002230  ADD     #2,PCSR1
5144 035722 013737 002230 002232  MOV     PCSR1,PCSR2    ;SET UP PCSR2
5145 035730 062737 000002 002232  ADD     #2,PCSR2
5146 035736 013737 002232 002234  MOV     PCSR2,PCSR3    ;SET UP PCSR3
5147 035744 062737 000002 002234  ADD     #2,PCSR3
5148
5149              ;WAIT FOR DNI FROM PREVIOUS RESET IF APPROPRIATE
5150
5151 035752 005737 020612      TST     DNIFLG          ;EXPECTING DNI TO BE SET?
5152 035756 001470              BEQ     60$            ;NO, SKIP DNI HANDLING
5153 035760 004737 030706      JSR     PC,CHKDNI       ;WAIT FOR DNI
5154 035764 103046              BCC     30$            ;DNI?
5155
5156              ;PCSRO NOT IN RESET STATE, CHECK STATUS
5157
5158 035766 017700 144234      MOV     @PCSRO,R0       ;SAVE CONTENTS OF PCSRO
5159 035772 032700 001400      BIT     #USCI:FATL,R0  ;UPROC. SUBSYSTEM FAILURE?
5160 035776 001011              BNE     22$            ;NO
5161 036000              PRINTF  #M68FLD        ;YES, ISSUE ERROR MESSAGE
      036000 012746 023276              MOV     #M68FLD,-(SP)
      036004 012746 000001              MOV     #1,-(SP)
      036010 010600              MOV     SP,R0
      036012 104417              TRAP    C$PNTF
      036014 062706 000004              ADD     #4,SP
5162 036020 000445              BR      50$            ;CANNOT CONTINUE
5163 036022 032700 001000      22$:  BIT     #FATL,R0       ;DEVICE OR UNIBUS ERROR?

```

```

5164 036026 001411          BEQ      24$          ;NO
5165 036030          PRINTF  #DEVUNI      ;YES, REPORT ERROR
      036030 012746 023404          MOV      #DEVUNI, -(SP)
      036034 012746 000001          MOV      #1, -(SP)
      036040 010600          MOV      SP, R0
      036042 104417          TRAP    C#PNTF
      036044 062706 000004          ADD      #4, SP
5166 036050          BR       50$          ;CANNOT CONTINUE
5167 036052 032700 000400 24$: BIT      #USCI, R0      ;NI OR UNIBUS HALTED?
5168 036056 001426          BEQ      50$          ;NO
5169 036060          PRINTF  #NIUNIB      ;YES, REPORT ERROR
      036060 012746 023502          MOV      #NIUNIB, -(JP)
      036064 012746 000001          MOV      #1, -(SP)
      036070 010600          MOV      SP, R0
      036072 104417          TRAP    C#PNTF
      036074 062706 000004          ADD      #4, SP
5170 036100          BR       50$          ;CANNOT CONTINUE
5171
5172          ;DNI SET, SO CONTINUE
5173
5174 036102          30$:
5175 036102 004737 032320          JSR      PC, CLRDNI
5176 036106 103011          BCC     40$          ;YES, CLEAR IT
5177 036110          PRINTF  #DNICLR      ;CONTINUE IF DNI CLEARED
      036110 012746 023671          ; ELSE ISSUE ERROR MESSAGE
      036114 012746 000001          MOV      #DNICLR, -(SP)
      036120 010600          MOV      #1, -(SP)
      036122 104417          MOV      SP, R0
      036124 062706 000004          TRAP    C#PNTF
      036130 000401          ADD      #4, SP
5178 036130 000401          BR       50$          ; AND EXIT
5179 036132 000402          BR       60$          ;LEAVE
5180 036134 005037 020614 50$: CLR      FRSTIM      ;CLEAR FIRST TIME FLAG
5181
5182 036140 005037 020612 60$: CLR      DNIFLG      ;CLEAR EXPECT DNI FLAG
5183 036144 005037 020622          CLR      PRNTIT      ;CLEAR PRINT TEST ID FLAG
5184 036150          RFLAGS  R0          ;READ FLAGS
      036150 104421          TRAP    C#RFLA
5185 036152 032700 001000          BIT      #PNT, R0      ;PRINT ENABLED?
5186 036156 001403          BEQ     70$          ;NO, DON'T SET PRINT TEST ID FLAG
5187 036160 012737 000001 020622 70$: MOV      #1, PRNTIT
5188 036166          ENDINIT
5189 036166
      036166 104411          L10017:
5190          TRAP    C#INIT

```


C12

5192
5193
5194
5195
5196
5197
5198
5199
5200

.SBTTL AUTODROP SECTION

; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
; THE 'ADR' FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
; SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
; DROPPED FROM TESTING.
;-

5201 036170
036170

BGNAUTO

L#AUTO::

5202
5203

5204 036170
036170
036170 104461

ENDAUTO

L10026

TRAP C#AUTO

```

5206          .SBTTL  CLEANUP CODING SECTION
5207
5208          ;**
5209          ;
5210          ; DELUA IS RESET BEFORE EXITING TEST          ;BO
5211          ;
5212          ;--
5213
5214          036172          BGNCLN
5215          036172          010246          MOV      R2,-(SP)          ;SAVE R2          L$CLEAN::
5216
5217          ;INSURE THAT UNIT IS PRESENT
5218
5219          036174          012746          000340          SETVEC  #4,#ISRNXM,#PRI07          ;SET UP TIMEOUT TRAP VECTOR
5220          036200          012746          036356          MOV      #PRI07,-(SP)
5221          036204          012746          000004          MOV      #ISRNXM,-(SP)
5222          036210          012746          000003          MOV      #4,-(SP)
5223          036214          104437          MOV      #3,-(SP)
5224          036216          062706          000010          TRAP    C$SVEC
5225          036222          005037          020606          ADD     #10,SP
5226
5227          036226          005002          CLR      NEXMEM          ;CLEAR NON-EXISTING MEMORY TIME
5228          036230          012777          004000          143770          CLR      R2          ; OUT LOCATION
5229          036236          005737          020606          MOV      #4000,@PCSR0          ;R2=PCSR BEING ACCE:SED
5230          036242          001031          TST     NEXMEM          ;DOES PCSRO
5231          036244          012700          000004          BNE     10$          ; EXIST?
5232          036250          104436          CLRVEC  #4          ;NO, SKIP RESET
5233          036252          017704          143750          MOV      @PCSR0,R4          ;CLEAR TIMEOUT TRAP VECTOR
5234          036256          004737          032402          JSR     PC,CLINTR          MOV      #4,R0
5235          036262          032704          001400          BIT     #FATL!USCI,R4          TRAP    C$CVEC
5236          036266          001006          BNE     5$          ;READ AND SAVE CONTENTS OF PCSRO ;BO
5237          036270          012777          000000          143730          MOV      #ZERO,@PCSR0          ;ATTEMPT TO CLEAR PCSRO ;BO
5238          036276          017704          143724          MOV      @PCSR0,R4          ;NI AND/OR UNIBUS HALTED OR HAVE ;BO
5239          036302          001411          BEQ     10$          ; AN ERROR? ;BO
5240          036304          012777          004400          143714          MOV      #DNI!USCI,@PCSR0          ;YES, PERFORM A RESET ;BO
5241          036312          012777          004040          143706          MOV      #DNI!RSET,@PCSR0          ;PCSRO SHOULD NOW BE CLEARED ;BO
5242          036320          004737          032034          JSR     PC,CKDNI          ;CHECK IT ;BO
5243          036324          000403          BR      20$          ;IT IS, SKIP RESET ;BO
5244          036326          012700          000004          CLRVEC  #4          ;PRE-CONDITION INTERRUPT ENABLE ;BO
5245          036326          012700          000004          10$:          MOV      #4,R0          ;YES, RESET DELUA ;BO
5246          036332          104436          20$:          TRAP    C$CVEC          ;WAIT FOR DONE INTERRUPT TO SET ;BO
5247          036334          104432          EXIT    CLN          ;EXIT CLEANUP
5248          036336          000002          .WORD   L10021-
5249
5250          036340          .EVEN
5251          036340          ENDCLN
5252          036340          104412          L10021:          TRAP    C$CLEAN
    
```

E12

5247
5248
5249
5250
5251
5252
5253

.SBTTL DROP UNIT SECTION

;++
; THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
; TO NO LONGER BE TESTED.
;--

5254 036342
036342

BGNDU

L\$DU::

5255
5256

5257 036342
036342 000167
036344 000000

EXIT DU

.WORD J\$JMP
.WORD L10022-2-

5258
5259

.EVEN

5260
5261

5262 036346
036346
036346 104453

ENDDU

L10022:
TRAP C\$DU

F12

5264
5265
5266
5267
5268
5269
5270
5271

.SBTTL ADD UNIT SECTION
;***
; THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
; TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
; TO THE TEST CYCLE.
;---

5272 036350
036350

BGNAU

L\$AU::

5273
5274

5275 036350
036350 000167
036352 000000

EXIT AU

.WORD J\$JMP
.WORD L10023-2-

5276
5277
5278
5279

.EVEN

5280 036354
036354
036354 104452

ENDAU

L10023:
TRAP C\$AU

5282
5283
5284
5285
5286
5287
5288
5289
5290
5291
5292
5293
5294
5295
5296
5297
5298
5299

036356
036356 012737 000001 020606
036364
036364 000002

```

.TITLE GLOBAL INTERRUPT SERVICE ROUTINES
.SBTTL ISRNXM NON-EXISTANT MEMORY INTERRUPT SERVICE ROUTINE
;*****
;
; FUNCTIONAL DESCRIPTION:
;
; THIS ROUTINE IS ASSIGNED TO VECTOR 4 BY THE ACCESS TESTS.
; WHEN AN ACCESS IS ATTEMPTED ON NON-EXISTENT MEMORY
; THE NEXMEM FLAG IS SET.
;*****
BGNSRV ISRNXM
MOV #1,NEXMEM ;SET NXM FLAG
ENDSRV
ISRNXM::
L10024:
RTI

```

H12

```

5301
5302          .SBTTL  ISRDNI - DNI INTERRUPT SERVICE ROUTINE
5303
5304          ;*****
5305          ;
5306          ; FUNCTIONAL DESCRIPTION:
5307          ;
5308          ;     THIS ROUTINE IS ASSIGNED TO THE DELUA'S INTERRUPT VECTOR BY
5309          ;     TEST 10.
5310          ;     WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.
5311          ;
5312          ;*****
5313
5314          BGNSRV  ISRDNI
5315
5316          036366 010446
5317          036370 005037 020612
5318          036374 005004
5319          036376 017704 143624
5320          036402 032704 004000
5321          036406 001403
5322          036410 012737 000001 020612
5323          036416 012604 10$:
5324
5325          ENDSRV
          ISRDNI::
          ; SAVE R4
          ; INSURE DNI FLAG IS CLEAR
          ; INSURE R4 IS CLEAR
          ; PCSRO -> R4
          ; DNI SET?
          ; NO, EXIT
          ; YES, SET DNIFLG FLAG
          ; RESTORE R4
          L10025:
          RTI

```

5327
5328
5329
5330
5331
5332
5333
5334
5335
5336
5337
5338
5339
5340
5341
5342

```
*****  
:FUNCTIONAL DESCRIPTION:  
: THIS ROUTINE COUNTS A PRESET NUMBER OF CLOCK TICKS THEN IT  
: TURNS THE CLOCK OFF  
:INPUTS: METER  
:OUTPUTS:METER  
:ROUTINES CALLED: NONE  
:*****
```

5343 036422
036422
5344 036422 005737 020604
5345 036426 001402
5346 036430 005337 020604
5347 036434
5348 036434
036434 000002

```
BGNSRV CLKSRV  
TST METER ;HAS THE METER EXPIRED?  
BEQ 20$ ;YES, STOP COUNTING  
DEC METER ;COUNT TICKS  
20$:  
ENDSRV  
CLKSRV::  
L10026:  
RTI
```

```

5351          .TITLE HARDWARE TESTS
5362
5384          .SBTTL TEST 1: PCSRO READ ACCESS TEST
5385
5386          ;*****
5387          ;
5388          ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSRO
5389          ; UNIBUS ADDRESS SPECIFIED.
5390          ;
5391          ; TEST SEQUENCE:
5392          ;     1. READ PCSRO
5393          ;*****
5396 036436    BGNTST
5397          ;
5398 036436    PNTMAC T01ID
                    T1::
                    MOV #T01ID,R4 ;GET POINTER TO TEST NAME MESSAGE
                    JSR PC,PNTID  ;PRINT TEST NUMBER AND NAME
; END OF MACRO EXPANSION OF 'PNTMAC'
5399 036446    SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
                    MOV #PRI07,-(SP)
                    MOV #ISRNXM,-(SP)
                    MOV #4,-(SP)
                    MOV #3,-(SP)
                    TRAP C$SVEC
                    ADD #10,SP
5400 036474    CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5401 036500    CLR R2 ; R2 = WHICH PCSR IS BEING TESTED
5402 036502    MOV #4000,#PCSRO ; DOES PCSR EXIST?
5403 036510    TST NEXMEM
5404 036514    BEQ 10$ ; YES
5405 036516    CLRVEC #4
                    MOV #4,R0
                    TRAP C$CVEC
5406 036524    ERRDF 001,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
                    TRAP C$ERDF
                    .WORD 1
                    .WORD ERR001
                    .WORD MSG001
5407 036534    DODU UNIT ; DROP UNIT
                    MOV UNIT,R0
                    TRAP C$DODU
5408
5409 036542    10$: CLRVEC #4
                    MOV #4,R0
                    TRAP C$CVEC
5410 036550    JSR PC,CLINTR ;INSURE DELUA INTR ARE CLEAR
5411
5412
5413 036554    EXIT TST
                    TRAP C$EXIT
                    .WORD L10027-
036446 012704 000340
036452 012746 036356
036456 012746 000004
036462 012746 000003
036466 104437
036470 062706 000010
036474 005037 020606
036502 012777 004000 143516
036510 005737 020606
036516 012700 000004
036522 104436
036524 104455
036526 000001
036530 024754
036532 023760
036534 013700 002246
036540 104451
036542 012700 000004
036546 104436
036550 004737 032402
036554 104432
036556 000034

```


K12

```
5414  
5415 ;LOCAL TEST MESSAGE  
5416  
5417 036560 104 105 114 T01ID: .ASCIZ 'DELUA PCSRO READ ACCESS '  
036563 125 101 040  
036566 120 103 123  
036571 122 060 040  
036574 122 105 101  
036577 104 040 101  
036602 103 103 105  
036605 123 123 040  
036610 000
```

```
5418 .EVEN  
5419  
5420 036612 ENDTST  
036612  
036612 104401  
5421
```

L10027: TRAP C#ETST

L12

```

5423 .SBTTL TEST 2: PCSR1 READ ACCESS TEST
5424
5425 ;*****
5426 ;
5427 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR1
5428 ; UNIBUS ADDRESS SPECIFIED.
5429 ;
5430 ; TEST SEQUENCE:
5431 ; 1. READ PCSR1
5432 ;*****
5433
5434
5435 036614 BGNTST
5436 036614 T2::
5437 036614 PNTMAC T02ID
036614 012704 036744 MOV #T02ID,R4 ;GET POINTER TO TEST NAME MESSAGE
036620 004737 034610 JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
5438 036624 012777 004000 143374 MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5439 036632 012746 000340 SETVEC #4,@ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
036632 012746 036356 MOV #PRI07,-(SP)
036636 012746 036356 MOV #ISRNXM,(SP)
036642 012746 000004 MOV #4,-(SP)
036646 012746 000003 MOV #3,-(SP)
036652 104437 TRAP C$SVEC
036654 062706 000010 ADD #10,SP
5440 036660 005037 020606 CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5441 036664 012702 000001 MOV #1,R2 ; R2 = WHICH PCSR IS BEING TESTED
5442 036670 017701 143334 MOV @PCSR1,R1 ; DOES PCSR EXIST?
5443 036674 005737 020606 TST NEXMEM
5444 036700 001412 BEQ 10# ; YES
5445 036702 CLRVEC #4
036702 012700 000004 MOV #4,R0
036706 104436 TRAP C$CVEC
5446 036710 ERRDF 002,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
036710 104455 TRAP C$ERDF
036712 000002 .WORD 2
036714 024754 .WORD ERR001
036716 023760 .WORD MSG001
5447 036720 DODU UNIT ; DROP UNIT
036720 000000 MOV UNIT,R0
036724 000001 TRAP C$DODU
5448 036726 10# CLRVEC #4
036726 000004 MOV #4,R0
036732 000000 TRAP C$CVEC
5449 036734 032402 JSR PC,CLINTR ;INSURE PCSRO INTR ARE CLEARED
5450
5451
5 32 07 EXIT TST
032 432
0034 TRAP C$EXIT
L10030-

```

M12

```
5454  
5455 ;LOCAL TEST MESSAGE  
5456 036744 104 105 114 T02ID: .ASCIZ 'DELUA PCSR1 READ ACCESS '  
036747 125 101 040  
036752 120 103 123  
036755 122 061 040  
036760 122 105 101  
036763 104 040 101  
036766 103 103 105  
036771 123 123 040  
036774 000
```

```
5457 .EVEN  
5458  
5459 036776 ENDTST  
036776  
036776 104401
```

```
L10030: TRAP C#ETST
```

N12

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5471
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5479

.SBTTL TEST 3: DELUA RESET TEST

```

;*****
;
; THIS TEST VERIFIES THAT THE INTR, BIT07 AND DNI, BIT11 OF      ;BO
; PCSR0 WILL SET FOLLOWING A DELUA RESET BY RSET, BIT05.        ;BO
;
; THIS TEST ALSO VERIFIES THAT BIT 06, AND NO OTHER BITS IN
; THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING A DELUA RESET.
;
; TEST SEQUENCE:
; 1. RESET DELUA (SET BIT05 OF PCSR0)                          ;BO
; 2. WAIT FOR DNI                                              ;BO
; 3. VERIFY THAT BOTH DNI AND INTR BITS SET                    ;BO
; 4. VERIFY THAT DELUA ID BIT NOW SET IN PCSR1
;*****

```

5480 037000
037000

BCNTST

T3::

5481
5482 037000

PNTMAC T03ID

037000 012704 037176
037004 004737 034610

MOV #T03ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5483

5484 037010 012777 004100 143210
5485 037016 112777 000140 143202
5486 037024 004737 032034
5487 037030 103010
5488 037032 004737 031010
5489 037036

MOV #DNI+INTE,@PCSR0 ;PRECONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSR0 ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 5# ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 003,ERR006,MSG003 ;NO, REPORT ERROR

TRAP C\$ERHRD
.WORD 3
.WORD ERR006
.WORD MSG003

037036 104456
037040 000003
037042 025124
037044 024032

5490 037046
037046 104410
037050 000152

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10031-

5491

5492 037052
5493 037052 017737 143150 002240
5494 037060 032737 000200 002240
5495 037066 001004
5496 037070

```

;*****
5# : MOV @PCSR0,PCSR0C ;SAVE CONTENTS OF PCSR0
; BIT #INTR,PCSR0C ;DID INTERRUPT SUMMARY BIT SET?
; BNE 10# ;YES, SKIP ERROR REPORT
; ERRHRD 009,ERR047 ;REPORT ERROR
;*****

```

TRAP C\$ERHRD
.WORD 9
.WORD ERR047
.WORD 0

037070 104456
037072 000011
037074 030476
037076 000000

5497

5498 037100
5499 037100 004737 032320
5500 037104 103010

```

;*****
10# : JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI
; BCC 20# ;OK TO CONTINUE
;*****

```

B13

TEST 3: DELUA RESET TEST

```

5501 037106 004737 031010      JSR      PC,CHKFTL      ;FATAL BIT SET?
5502 037112                      ERRHRD  004,ERR006,MSG003 ;NO, REPORT ERROR
                                037112  104456                      TRAP   C#ERRHRD
                                037114  000004                      .WORD 4
                                037116  025124                      .WORD ERR006
                                037120  024032                      .WORD MSG003
5503 037122                      ESCAPE  TST              ; AND ABORT TEST
                                037122  104410                      TRAP   C#ESCAPE
                                037124  000076                      .WORD L10031-.
5504
5505
5506 037126                      20$:
5507 037126 017701 143076      MOV      @PCSR1,R1      ;GET CONTENTS OF PCSR1
5508 037132 142701 000217      BICB    #217,R1        ;CLEAR UNWANTED BITS
5509 037136 122701 000020      CMPB    #20,R1        ;ONLY BIT4 SET?
5510 037142 001411                      BEQ     30$            ;YES, SKIP ERROR REPORT
5511 037144 004737 031010      JSR      PC,CHKFTL      ;FATAL BIT SET?
5512 037150                      ERRDF  005,ERR040
                                037150  104455                      TRAP   C#ERDF
                                037152  000005                      .WORD 5
                                037154  027772                      .WORD ERR040
                                037156  000000                      .WORD 0
5513 037160                      DODU   UNIT            ;ILLEGAL ID, DROP UNIT
                                037160  013700 002246      MOV     UNIT,R0
                                037164  104451                      TRAP   C#DODU
5514
5515 037166                      30$:
5516 037166 004737 032402      JSR      PC,CLINTR      ;INSURE DELUA INTR BIT CLEAR
5517
5518 037172                      EXIT   TST
                                037172  104432                      TRAP   C#EXIT
                                037174  000026                      .WORD L10031-.
5519
5520                      ;LOCAL TEST MESSAGE
5521
5522 037176      104      105      114  T03ID:..ASCIZ 'DELUA PCSR1 ID BIT '
                                037201      125      101      040
                                037204      120      103      123
                                037207      122      061      040
                                037212      111      104      040
                                037215      102      111      124
                                037220      040      000
5523
5524                      .EVEN
5525 037222                      ENDTST
                                037222
                                037222  104401      L10031: TRAP   C#ETST
5526

```

```

5528 .SBTTL TEST 4: PCSR2 READ ACCESS TEST
5529
5530 ;*****
5531 ;
5532 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR2
5533 ; UNIBUS ADDRESS SPECIFIED.
5534 ;
5535 ; TEST SEQUENCE:
5536 ; 1. READ PCSR2
5537 ;
5538 ;*****
5539
5540 037224 BGNTST
5541 037224 T4::
5542 037224 PNTMAC T04ID
037224 012704 037354 MOV #T04ID,R4 ;GET POINTER TO TEST NAME MESSAGE
037230 004737 034610 JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
; END OF MACRO EXPANSION OF 'PNTMAC'
5543 037234 012777 004000 142764 MOV #4000,@PCSR0 ; INSURE DMI CLEAR
5544 037242 SETVEC #4,@ISRNDXN,@PRI07 ; SET UP TIMEOUT TRAP VECTOR
037242 012746 000340 MOV #PRI07,-(SP)
037246 012746 036356 MOV #ISRNDXN,-(SP)
037252 012746 000004 MOV #4,-(SP)
037256 012746 000003 MOV #3,-(SP)
037262 104437 TRAP C$SVEC
037264 062706 000010 ADD #10,SP
5545 037270 005037 020606 CLR NEXMEM ; CLEAR NDM TIMEOUT FLAG
5546 037274 012702 000002 MOV #2,R2 ; R2 = WHICH PCSR IS BEING TESTED
5547 037300 017701 142726 MOV @PCSR2,R1 ; DOES PCSR EXIST?
5548 037304 005737 020606 TST NEXMEM
5549 037310 001412 BEQ 10$ ; YES
5550 037312 CLRVEC #4
037312 012700 000004 MOV #4,R0
037316 104436 TRAP C$CVEC
5551 037320 ERRDF 006,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
037320 104455 TRAP C$ERDF
037322 000006 .WORD 6
037324 024754 .WORD ERR001
037326 023760 .WORD MSG001
5552 037330 DODU UNIT ; DROP UNIT
037330 013700 002246 MOV UNIT,R0
037334 104451 TRAP C$DODU
5553
5554 037336 10$: CLRVEC #4
037336 012700 000004 MOV #4,R0
037342 104436 TRAP C$CVEC
5555 037344 004737 032402 JSR PC,CLINTR ;INSURE DELUA INTR BITS CLEAR
5556
5557 037350 EXIT TST
037350 104432 TRAP C$EXIT
037352 000034 .WORD L10032-

```

D13

```
5559 ;LOCAL TEST MESSAGE
5560
5561 037354 104 105 114 T04ID: .ASCIZ 'DELUA PCSR2 READ ACCESS '
      037357 125 101 040
      037362 120 103 123
      037365 122 062 040
      037370 122 105 101
      037373 104 040 101
      037376 103 103 105
      037401 123 123 040
      037404 000
```

```
5562 .EVEN
5563
5564 037406 ENDTST
      037406
      037406 104401
```

```
L10032: TRAP C#ETST
```

```

5566          .SBTTL  TEST 5: PCRS3 READ ACCESS TEST
5567
5568          ;*****
5569          ;
5570          ;   THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCRS3
5571          ;   UNIBUS ADDRESS SPECIFIED.
5572          ;
5573          ;   TEST SEQUENCE:
5574          ;       1. READ PCRS3
5575          ;
5576          ;*****
5577 037410      BGNTST
5578          ;
5579 037410          T5::
                    PNTMAC  T05ID
                    MOV     #T05ID,R4          ;GET POINTER TO TEST NAME MESSAGE
                    JSR     PC,PNTID          ;PRINT TEST NUMBER AND NAME
;
;   END OF MACRO EXPANSION OF 'PNTMAC'
5580 037420      012777  004000  142600      MOV     #4000,@PCSR0          ; INSURE DNI CLEAR
5581 037426      012746  000340          SETVEC  #4,#ISRNXM,#PRI07    ; SET UP TIMEOUT TRAP VECTOR
                    MOV     #PRI07,-(SP)
                    MOV     #ISRNXM,-(SP)
                    MOV     #4,-(SP)
                    MOV     #3,-(SP)
                    TRAP   C$SVEC
                    ADD    #10,SP
5582 037454      005037  020606      CLR     NEXMEM          ; CLEAR NXM TIMEOUT FLAG
5583 037460      012702  000003      MOV     #3,R2          ; R2 = WHICH PCRS IS BEING TESTED
5584 037464      017701  142544      MOV     @PCSR3,R1      ; DOES PCRS EXIST?
5585 037470      005737  020606      TST    NEXMEM
5586 037474      001412          BEQ    10$             ; YES
5587 037476          CLRVEC  #4
                    MOV     #4,R0
                    TRAP   C$CVEC
5588 037504      012700  000004      ERRDF  007,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
                    TRAP   C$ERDF
                    .WORD  7
                    .WORD  ERR001
                    .WORD  MSG001
5589 037514      013700  002246      DODU   UNIT          ; DROP UNIT
                    MOV     UNIT,R0
                    TRAP   C$DODU
5590
5591 037522          10$: CLRVEC  #4
                    MOV     #4,R0
                    TRAP   C$CVEC
5592 037530      004737  032402      JSR     PC,CLINTR      ; INSURE DELUA INTR BITS DISABLED
5593
5594 037534          EXIT    TST
                    TRAP   C$EXIT
                    .WORD  L10033-

```


F13

```
5596 ;LOCAL TEST MESSAGE
5597
5598 037540 104 105 114 T05ID: .ASCIZ 'DELUA PCSR3 READ ACCESS '
      037543 125 101 040
      037546 120 103 123
      037551 122 063 040
      037554 122 105 101
      037557 104 040 101
      037562 103 103 105
      037565 123 123 040
      037570 000
```

5599 .EVEN

5600

5601 037572 ENDTST

037572 104401

L10033: TRAP C^ETST

5603
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5609
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5615
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5620

.SBTTL TEST 6: PCSR2 STATIC BIT TEST

```
*****
;
; THIS TEST WILL CHECK PCSR2 FOR ALL SA0 AND SA1 ERRORS.
; THE HOST WILL WRITE PATTERNS TO PCSR2 AND READ THEM
; BACK TO VERIFY.
;
; NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.
; THIS BIT WILL BE MASKED BEFORE DOING THE COMPARE.
;
; TEST SEQUENCE:
; 1. WRITE PATTERN TO PCSR2
; 2. COMPARE MASKED PATTERN WITH PCSR2 CONTENTS
; 3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
*****
```

5621 037574
037574
5622
5623 037574

BGNTST

T6::

PNTMAC T06ID

037574 012704 037754
037600 004737 034610

MOV #T06ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5624

5625 037604 004737 035310
5626 037610 103034
5627 037612 012777 004100 142406
5628 037620 112777 000140 142400
5629 037626 004737 032034
5630 037632 103010
5631 037634 004737 031010
5632 037640

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 25# ;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSR0 ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 15# ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 008.,ERR042,MSG003 ;NO, REPORT ERROR

;B0
TRAP C\$ERHRD
.WORD 8
.WORD ERR042
.WORD MSG003

5633 037650
037650 104410
037652 000132

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10034--

5634 037654
5635 037654 004737 032320
5636 037660 103010
5637 037662 004737 031010

15#:

JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI BIT
BCC 25# ;NO
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 010.,ERR006,MSG003 ;YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 10
.WORD ERR006
.WORD MSG003

5638 037666
037666 104456
037670 000012
037672 025124
037674 024032

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10034--

5639 037676
037676 104410
037700 000104

5640

H13

```

5641 037702          25$:
5642
5643 037702 012701 020630      MOV    #PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
5644 037706 012705 000004      MOV    #4,R5          ; COUNT 4 PATTERNS (PASSES)
5645 037712 012103          30$: MOV    (R1)+,R3        ; DATA PATTERN -> R3
5646
5647
5648 037714 010377 142312      MOV    R3,@PCSR2      ; DATA PATTERN -> PCSR2
5649 037720 017704 142306      MOV    @PCSR2,R4      ; READ PCSR2
5650 037724 020304          CMP    R3,R4          ; DATA COMPARE?
5651 037726 001406          BEQ    50$            ; YES, CONTINUE
5652 037730 004737 031010      JSR    PC,CHKFTL      ; FATAL BIT SET?
5653 037734          ERRHRD 011.,ERR002,MSG002 ; NO, REPORT ERROR
                    TRAP   C$ERHRD
                    .WORD  11
                    .WORD  ERR002
                    .WORD  MSG002
                    037734 104456
                    037736 000013
                    037740 025004
                    037742 024004
5654 037744          50$:
5655 037744 005305          DEC    R5              ; DONE?
5656 037746 001361          BNE   30$              ; NO
5657
5658
5659          EXIT    TST
                    TRAP   C$EXIT
                    .WORD  L10034
5660
5661          ;LOCAL TEST MESSAGE
5662
5663 037754      104      105      114  T06ID: .ASCIZ 'DELUA PCSR2 STATIC BIT '
                    037757      125      101      040
                    037762      120      103      123
                    037765      122      062      040
                    037770      123      124      101
                    037773      124      111      103
                    037776      040      102      111
                    040001      124      040      000
5664          .EVEN
5665
5666          040004          ENDTST
                    040004
                    040004 104401          L10034: TRAP   C$ETST

```

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5685

.SBTTL TEST 7: PCSR3 STATIC BIT TEST

```

;*****
;
; THIS TEST WILL CHECK PCSR3 FOR ALL SA0 AND SA1 ERRORS.
; THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM
; BACK TO VERIFY.
;
; NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
; THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.
;
; TEST SEQUENCE:
; 1. WRITE PATTERN TO PCSR3
; 2. COMPARE MASKED PATTERN WITH PCSR3 CONTENTS
; 3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
;*****

```

5686 040006
040006
5687
5688 040006

BGNTST

T7::

PNTMAC T07ID

040006 012704 040166
040012 004737 034610

MOV #T07ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5689
5690 040016 004737 035310
5691 040022 103034
5692 040024 012777 004100 142174
5693 040032 112777 000140 142166
5694 040040 004737 032034
5695 040044 103010
5696 040046 004737 031010
5697 040052

```

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 20# ;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSR0 ;YES, RESET DELUA
JSR PC,CKDNI ;DNI SET?
BCC 10# ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 012.,ERR042,MSG003 ;NO, REPORT ERROR

```

;B0
TRAP C\$ERHRD
.WORD 12
.WORD ERR042
.WORD MSG003

040052 104456
040054 000014
040056 030105
040060 024032

5698 040062
040062 104410
040064 000132

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10035

5699 040066
5700 040066 004737 032320
5701 040072 103010
5702 040074 004737 031010
5703 040100

10#:

```

JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI BIT
BCC 20# ;CLEARED OK
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 013.,ERR006,MSG003 ;NO, REPORT ERROR

```

TRAP C\$ERHRD
.WORD 13
.WORD ERR006
.WORD MSG003

040100 104456
040102 000015
040104 025124
040106 024032

5704 040110
040110 104410
040112 000104

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10035-

5705

K13

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.SBTTL TEST 8: SELF TEST

THIS TEST VERIFIES THAT THE ROM BASED SELF TEST
CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA THE
SELF TEST PORT COMMAND.

NOTE 1: ON A SELFTEST FAILURE, PCSR1 DATA WILL BE CONSIDERED ;B0
VALID ONLY IF THE FAILING TEST WAS THE PHYSICAL ADDR. ;B0
ROM TEST, TIMER INTERRUPT TEST, IBUS LOADING TEST (CLOG), ;B0
OR ONE OF THE LANCE TESTS. IN ALL OTHER CASES READ THE ;B0
ERROR CODE, IN OCTAL, DIRECTLY FROM THE LED DISPLAY. ;B0

NOTE 2: DIFFERENCE BETWEEN ERROR MESSAGES 'PCSR1 ERROR CODE ;B0
UNRELIABLE', AND 'PCSR1 CONTAINS UNDEFINED SELFTEST ;B0
ERROR CODE'. IN THE FIRST INSTANCE, AN ERROR IS BEING ;B0
REPORTED IN WHICH, DUE TO THE NATURE OF THE FAILED TEST, ;B0
THE CORRECT ERROR CODE MAY NOT BE ABLE TO BE LOADED INTO ;B0
THE PCSR1. IN THE SECOND CASE, THE DIAGNOSTIC FOUND AN ;B0
ERROR CODE IN PCSR1 FOR WHICH THERE IS NO DEFINED FAILURE. ;B0

TEST SEQUENCE:

- 1. ISSUE THE SELF TEST PORT COMMAND
- 2. WAIT FOR DNI
- 3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
- 4. REPORT ANY ERROR ;B0
- 5. WRITE ONE TO CLEAR DNI

BGNTST

T8::

PNTMAC T08ID

040220 012704 040560
040224 004737 034610

MOV #T08ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

5767 040230 004737 035310
5768 040234 103034
5769 040236 012777 004100 141762
5770 040244 112777 000140 141754
5771 040252 004737 032034
5772 040256 103010
5773 040260 004737 031010
5774 040264
040264 104456
040266 000017
040270 030105
040272 024032
5775 040274
040274 104410
040276 000302
5776

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25# ; NO
MOV #DNI+INTE,@PCSR0 ; SET INTERRUPT ENABLE
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 015.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP C\$ERHRD ;B0
.WORD 15
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10036-

L13

```

5777 040300 004737 032320      20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
5778                                ; ERROR
5779 040304 103010            BCC    25$              ; NO
5780 040306 004737 031010      JSR    PC,CHKFTL      ; FATL BIT SET?
5781 040312                                ERRHRD 016.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   16
                                .WORD   ERR006
                                .WORD   MSG003
5782 040322                                ESCAPE TST            ; AND ABORT
                                TRAP    C$ESCAPE
                                .WORD   L10036-.
5783                                ;
5784 040326                                ; 25$:
5785 040326 012777 004100 141672 MOV    #DNI-INTE,@PCSR0 ; PRE-CONDITION INTR ENABLE
5786 040334 112777 000103 141664 MOVB   #INTE-SLFT,@PCSR0 ; RUN SELF TEST
5787 040342 004737 032034      JSR    PC,CKDNI      ; SELF TEST COMPLETED OK?
5788 040346 103025            BCC    35$              ; YES, CHECK RESULTS
5789                                ;FIND OUT WHY SELF TEST DID NOT COMPLETE
5790                                ;
5791                                ;
5792 040350 013700 020516      MOV    EPCSR0,R0      ; NO, GET CONTENTS OF PCSRO
5793 040354 042700 172377      BIC    #STATEM,R0    ; MASK UNWANTED BITS
5794 040360 005700            TST    R0              ; 68000 SUBSYSTEM FAULT
5795 040362 001006            BNE    30$              ; NO
5796 040364                                ERRHRD 017.,ERR011,MSG011 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   17
                                .WORD   ERR011
                                .WORD   MSG011
5797 040374                                EXIT    TST            ; AND EXIT TEST
                                TRAP    C$EXIT
                                .WORD   L10036-.
5798 040400                                ;
5799 040400 032700 001000      30$: BIT    #FATL,R0      ; DEVICE OR UNIBUS ERROR?
5800 040404 001406            BEQ    35$              ; NO
5801 040406                                ERRHRD 018.,ERR048,MSG011 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   18
                                .WORD   ERR048
                                .WORD   MSG011
5802 040416                                EXIT    TST            ; AND EXIT TEST
                                TRAP    C$EXIT
                                .WORD   L10036-.
5803                                ;
5804 040422                                ; 35$:
5805 040422 004737 031556      JSR    PC,CHKSTR      ; SELF TEST SUCCESSFUL ?
5806 040426 103035            BCC    40$              ; YES
5807 040430 013704 020602      MOV    ECODE,R4      ; NO, SET UP TO PRINT ERROR
5808 040434 006304            ASL    R4              ; SHIFT CODE FOR INDEX
5809 040436 062704 040604      ADD    #STTBL,R4     ; INDEX INTO SELF TEST TABLE
5810 040442 011437 040602      MOV    (R4),STMSG    ; LOAD INTO SELF TEST MESSAGE
5811 040446 004737 031010      JSR    PC,CHKFTL      ; FATL BIT SET?
5812                                ;*****
5813 040452 022704 040624      CMP    #STTBL+20,R4  ; THIS SECTION ;B0
5814 040456 002406            BLT    36$              ; SELECTS WHETHER OR
5815 040460 022704 040704      CMP    #STTBL+100,R4 ; NOT THE ERROR CODE

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M13

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5816 040464 002410          BLT    37$          ;           IN PCSR1 WILL BE
5817 040466 022704 040744    CMP    #STTBL+140,R4 ;           PRINTED
5818 040472 001405          BEQ    37$          ;           OUT
5819 040474          36$:  ERRHRD 020.,ERR005 ; REPORT SELF TEST FAILURE, BUT NOT
                                TRAP  C$ERRHRD
                                .WORD 20
                                .WORD ERR005
                                .WORD 0
    040474 104456
    040476 000024
    040500 025100
    040502 000000
5820
5821 040504 000404          BR     38$          ; SELFTEST ERROR CODE
5822 040506          37$:  ERRHRD 020.,ERR005,MSG004 ; SKIP ALTERNATE ERROR REPORT
                                ; REPORT SELF TEST FAILURE, AND
                                TRAP  C$ERRHRD
                                .WORD 20
                                .WORD ERR005
                                .WORD MSG004
    040506 104456
    040510 000024
    040512 025100
    040514 024064
5823
5824 040516          38$:  ; INCLUDE SELFTEST ERROR CODE
5825
5826 040516          ;*****
    040516 104410          ESCAPE TST ; AND ABORT TEST
    040520 000060          TRAP  C$ESCAPE
                                .WORD L10036-.
5827
5828 040522 004737 032320    ;
5829          40$:  JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
5830 040526 103010          BCC    50$          ; ERROR?
5831 040530 004737 031010    JSR    PC,CHKFTL ; NO
5832 040534          ERRHRD 021.,ERR006,MSG003 ; FATL BIT SET
                                ; YES, REPORT ERROR
                                TRAP  C$ERRHRD
                                .WORD 21
                                .WORD ERR006
                                .WORD MSG003
    040534 104456
    040536 000025
    040540 025124
    040542 024032
5833 040544          ESCAPE TST ; AND ABORT
    040544 104410          TRAP  C$ESCAPE
    040546 000032          .WORD L10036 .
5834 040550          50$:  JSR    PC,CLINTR ; INSURE DELUA INTR BITS CLEAR
5835 040550 004737 032402    JSR    PC,CLINTR
5836
5837 040554          EXIT  TST
    040554 104432          TRAP  C$EXIT
    040556 000022          .WORD L10036-.
5838
5839          ;LOCAL TEST MESSAGE
5840
5841 040560          104    105    114  T08ID: .ASCIZ 'DELUA SELFTEST '
    040563          125    101    040
    040566          123    105    114
    040571          106    124    105
    040574          123    124    040
    040577          000
5842
5843          .EVEN
5844 040600          ENDTST
    040600
    040600 104401          L10036: TRAP  C$ETST

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N13

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5846
5847 ;LOCAL STORAGE FOR TEST 8
5848
5849 040602 000000 STMSG: .WORD 0 ; SELF TEST MESSAGE ADDRESS
5850
5851 ;SELF TEST MESSAGE TABLE
5852
5853 040604 040746 STTBL: .WORD SMSG00
5854 040606 040771 .WORD SMSG01
5855
5856 ;*****
5857 040610 040771 .WORD SMSG01 ;B0
5858 040612 040771 .WORD SMSG01
5859 040614 040771 .WORD SMSG01
5860 040616 040771 .WORD SMSG01
5861 040620 040771 .WORD SMSG01
5862 040622 040771 .WORD SMSG01
5863 ;*****
5864
5865 040624 041061 .WORD SMSG10
5866 040626 041115 .WORD SMSG11
5867
5868 ;*****
5869 040630 041144 .WORD SMSG13 ;B0
5870 040632 041144 .WORD SMSG13
5871 040634 041144 .WORD SMSG13
5872 040636 041144 .WORD SMSG13
5873 040640 041144 .WORD SMSG13
5874 040642 041144 .WORD SMSG13
5875 ;*****
5876
5877 040644 041223 .WORD SMSG20
5878 040646 041262 .WORD SMSG21
5879 040650 041321 .WORD SMSG22
5880 040652 041350 .WORD SMSG23
5881 040654 041406 .WORD SMSG24
5882 040656 041445 .WORD SMSG25
5883 040660 041504 .WORD SMSG26
5884 040662 041551 .WORD SMSG27
5885 ;*****
5886
5887 040664 041144 .WORD SMSG13 ;B0
5888 040666 041144 .WORD SMSG13
5889 040670 041144 .WORD SMSG13
5890 040672 041144 .WORD SMSG13
5891 040674 041144 .WORD SMSG13
5892 040676 041144 .WORD SMSG13
5893 040700 041144 .WORD SMSG13
5894 040702 041144 .WORD SMSG13
5895 040704 040771 .WORD SMSG01
5896 040706 040771 .WORD SMSG01
5897 040710 040771 .WORD SMSG01
5898 040712 040771 .WORD SMSG01
5899 040714 040771 .WORD SMSG01
5900 040716 040771 .WORD SMSG01
5901 040720 040771 .WORD SMSG01
5902 040722 040771 .WORD SMSG01

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B14

5903	040724	040771	.WORD	SMSG01
5904	040726	040771	.WORD	SMSG01
5905	040730	040771	.WORD	SMSG01
5906	040732	040771	.WORD	SMSG01
5907	040734	040771	.WORD	SMSG01
5908	040736	040771	.WORD	SMSG01
5909	040740	040771	.WORD	SMSG01
5910	040742	040771	.WORD	SMSG01
5911				
5912				
5913	040744	041610	.WORD	SMSG60
5914				

C14

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TEST 8: SELF TEST

SEQ 171

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5916 ;ASCII MESSAGES
5917 040746      120      101      123      SMSG00: .ASCIZ /PASSED SELF TEST/<15><12>
      040751      123      105      104
      040754      040      123      105
      040757      114      106      040
      040762      124      105      123
      040765      124      015      012
      040770      000
5918 040771      103      125      122      SMSG01: .ASCIZ /CURRENTLY,PCSR1 ERROR CODE UNRELIABLE, REFER TO LED'S/<15><12>
      040774      122      105      116
      040777      124      114      131
      041002      054      120      103
      041005      123      122      061
      041010      040      105      122
      041013      122      117      122
      041016      040      103      117
      041021      104      105      040
      041024      125      116      122
      041027      105      114      111
      041032      101      102      114
      041035      105      054      040
      041040      122      105      106
      041043      105      122      040
      041046      124      117      040
      041051      114      105      104
      041054      047      123      015
      041057      012      000
5919 041061      120      110      131      SMSG10: .ASCIZ /PHYSICAL ADDRESS ROM TEST/<15><12>
      041064      123      111      103
      041067      101      114      040
      041072      101      104      104
      041075      122      105      123
      041100      123      040      122
      041103      117      115      040
      041106      124      105      123
      041111      124      015      012
      041114      000
5920
5921 041115      124      111      115      SMSG11: .ASCIZ /TIMER INTERRUPT TEST/<15><12>
      041120      105      122      040
      041123      111      116      124
      041126      105      122      122
      041131      125      120      124
      041134      040      124      105
      041137      123      124      015
      041142      012      000
5922 041144      120      103      123      SMSG13: .ASCIZ /PCSR1 CONTAINS UNDEFINED SELFTEST ERROR CODE/<15><12>
      041147      122      061      040
      041152      103      117      116
      041155      124      101      111
      041160      116      123      040
      041163      125      116      104
      041166      105      106      111
      041171      116      105      104
      041174      040      123      105
      041177      114      106      124
      041202      105      123      124

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D14

	041205	040	105	122	
	041210	122	117	122	
	041213	040	103	117	
	041216	104	105	015	
	041221	012	000		
5923					
5924	041223	114	101	116	MSG20: .ASCIZ /LANCE INTERNAL LOOPBACK TEST/<15><12>
	041226	103	105	040	
	041231	111	116	124	
	041234	105	122	116	
	041237	101	114	040	
	041242	114	117	117	
	041245	120	102	101	
	041250	103	113	040	
	041253	124	105	123	
	041256	124	015	012	
	041261	000			
5925	041262	114	101	116	MSG21: .ASCIZ /LANCE IBUS PARITY ERROR TEST/<15><12>
	041265	103	105	040	
	041270	111	102	125	
	041273	123	040	120	
	041276	101	122	111	
	041301	124	131	040	
	041304	105	122	122	
	041307	117	122	040	
	041312	124	105	123	
	041315	124	015	012	
	041320	000			
5926	041321	114	101	116	MSG22: .ASCIZ /LANCE CRC LOGIC TEST/<15><12>
	041324	103	105	040	
	041327	103	122	103	
	041332	040	114	117	
	041335	107	111	103	
	041340	040	124	105	
	041343	123	124	015	
	041346	012	000		
5927	041350	114	101	116	MSG23: .ASCIZ /LANCE COLLISION DETECT TEST/<15><12>
	041353	103	105	040	
	041356	103	117	114	
	041361	114	111	123	
	041364	111	117	116	
	041367	040	104	105	
	041372	124	105	103	
	041375	124	040	124	
	041400	105	123	124	
	041403	015	012	000	
5928	041406	114	101	116	MSG24: .ASCIZ /LANCE MULTICAST ADDRESS TEST/<15><12>
	041411	103	105	040	
	041414	115	125	114	
	041417	124	111	103	
	041422	101	123	124	
	041425	040	101	104	
	041430	104	122	105	
	041433	123	123	040	
	041436	124	105	123	
	041441	124	015	012	
	041444	000			

E14

5929	041445	114	101	116	MSG25: .ASCIZ /LANCE BROADCAST ADDRESS TEST/<15><12>
	041450	103	105	040	
	041453	102	122	117	
	041456	101	104	103	
	041461	101	123	124	
	041464	040	101	104	
	041467	104	122	105	
	041472	123	123	040	
	041475	124	105	123	
	041500	124	015	012	
	041503	000			
5930	041504	114	101	116	MSG26: .ASCIZ /LANCE PHYSICAL ADDRESS REJECT TEST/<15><12>
	041507	103	105	040	
	041512	120	110	131	
	041515	123	111	103	
	041520	101	114	040	
	041523	101	104	104	
	041526	122	105	123	
	041531	123	040	122	
	041534	105	112	105	
	041537	103	124	040	
	041542	124	105	123	
	041545	124	015	012	
	041550	000			
5931	041551	114	101	116	MSG27: .ASCIZ /LANCE EXTERNAL LOOPBACK TEST/<15><12>
	041554	103	105	040	
	041557	105	130	124	
	041562	105	122	116	
	041565	101	114	040	
	041570	114	117	117	
	041573	120	102	101	
	041576	103	113	040	
	041601	124	105	123	
	041604	124	015	012	
	041607	000			
5932					
5933	041610	104	105	114	MSG60: .ASCIZ /DELUA IBUS LOADING TEST - CLOG/<15><12>
	041613	125	101	040	
	041616	111	102	125	
	041621	123	040	114	
	041624	117	101	104	
	041627	111	116	107	
	041632	040	124	105	
	041635	123	124	040	
	041640	055	040	103	
	041643	114	117	107	
	041646	015	012	000	
5934					.EVEN

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.SBTTL TEST 9: PORT COMMAND TEST

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:*****
:
: THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
: A DELUA PORT COMMAND IS ISSUED.
:
: TEST SEQUENCE:
: 1. ISSUE A DEVICE RESET
: 2. WAIT FOR DNI
: 3. WRITE A ONE TO CLEAR DNI
: 4. ISSUE A NOP PORT COMMAND
: 5. WAIT FOR DNI
: 6. WRITE ONE TO CLEAR DNI
: 7. MOVE NOP FUNCTION INTO PCBB
: 8. ISSUE A GETPCBB PORT COMMAND
: 9. WAIT FOR DNI
: 10. WRITE ONE TO CLEAR DNI
: 11. ISSUE A GETCMD PORT COMMAND
: 12. WAIT FOR DNI
: 13. WRITE ONE TO CLEAR DNI
:*****

```

5960 041652
5961 041652
5962 041652

BGNTST

T9::

PNTMAC T09ID

041652 012704 042250
041656 004737 034610

MOV #T09ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

5963 041662 004737 035310
5964 041666 103034
5965 041670 012777 004100 140330
5966 041676 112777 000140 140322
5967 041704 004737 032034
5968 041710 103010
5969 041712 004737 031010
5970 041716
041716 104456
041720 000026
041722 030105
041724 024032
5971 041726
041726 104410
041730 000344

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25# ; NO
MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 022.,ERR042,MSG003 ; REPORT ERROR

:B0
TRAP C\$ERHRD
.WORD 22
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10037-

5972
5973 041732 004737 032320
5974
5975 041736 103010
5976 041740 004737 031010
5977 041744
041744 104456
041746 000027

:20#: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR
BCC 25# ; NO
JSR PC,CHKFTL ; FATL BIT SET
ERRHRD 023.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 23

G14

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TEST 9: PORT COMMAND TEST

SEQ 175

	041750	025124										.WORD	ERR006
	041752	024032										.WORD	MSG003
5978	041754				ESCAPE	TST							; AND ABORT
	041754	104410										TRAP	C\$ESCAPE
	041756	000316										.WORD	L10037-
5979													
5980	041760	012777	004100	140240	i 25\$:	MOV	#DNI+INTE,@PCSR0						; PRE-CONDITION INTR EN.
5981	041766	112777	000106	140232		MOVB	#INTE!PNOP,@PCSR0						; ISSUE A NOP PORT COMMAND
5982	041774	004737	030706			JSR	PC,CHKDNI						; DNI ?
5983	042000	103010				BCC	30\$; YES
5984	042002	004737	031010			JSR	PC,CHKFTL						; FATL BIT SET?
5985	042006					ERRHRD	024.,ERR008,MSG003						; NO, REPORT ERROR
	042006	104456										TRAP	C\$ERHRD
	042010	000030										.WORD	24
	042012	025262										.WORD	ERR008
	042014	024032										.WORD	MSG003
5986	042016				ESCAPE	TST							; AND ABORT TEST
	042016	104410										TRAP	C\$ESCAPE
	042020	000254										.WORD	L10037 .
5987													
5988	042022	004737	032320		i 30\$:	JSR	PC,CLRDNI						; WRITE ONE TO CLEAR DNI
5989													; ERROR
5990	042026	103010				BCC	40\$; NO
5991	042030	004737	031010			JSR	PC,CHKFTL						; FATL BIT SET?
5992	042034					ERRHRD	025.,ERR006,MSG003						; YES, REPORT ERROR
	042034	104456										TRAP	C\$ERHRD
	042036	000031										.WORD	25
	042040	025124										.WORD	ERR006
	042042	024032										.WORD	MSG003
5993	042044				ESCAPE	TST							; AND ABORT
	042044	104410										TRAP	C\$ESCAPE
	042046	000226										.WORD	L10037-
5994													
5995	042050				i 40\$:								
5996	042050	012705	014442			MOV	#NOPF,R5						; POINT TO DEFAULT NOP FUNCTION
5997	042054	004737	033656			JSR	PC,LDP CBB						; LOAD FUNCTION INTO PCBB
5998	042060	004737	033706			JSR	PC,LDP CSR						; ADDRESS OF PCBB -> PCSR2:3
5999	042064	012777	004100	140134		MOV	#DNI+INTE,@PCSR0						; PRECONDITION INTR EN.
6000	042072	112777	000101	140126		MOVB	#INTE!GETPCB,@PCSR0						; ISSUE A GETPCBB PORT COMMAND
6001	042100	004737	030706			JSR	PC,CHKDNI						; DNI?
6002	042104	103010				BCC	50\$; YES
6003	042106	004737	031010			JSR	PC,CHKFTL						; FATL BIT SET
6004	042112					ERRHRD	026.,ERR009,MSG003						; NO, REPORT ERROR
	042112	104456										TRAP	C\$ERHRD
	042114	000032										.WORD	26
	042116	025341										.WORD	ERR009
	042120	024032										.WORD	MSG003
6005	042122				ESCAPE	TST							; AND ABORT TEST
	042122	104410										TRAP	C\$ESCAPE
	042124	000150										.WORD	L10037-
6006													
6007	042126	004737	032320		i 50\$:	JSR	PC,CLRDNI						; WRITE ONE TO CLEAR DNI
6008													; ERROR ?
6009	042132	103010				BCC	60\$; NO
6010	042134	004737	031010			JSR	PC,CHKFTL						; FATL BIT SET?
6011	042140					ERRHRD	027.,ERR006,MSG003						; YES, REPCRT ERROR
	042140	104456										TRAP	C\$ERHRD

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042142 000033 .WORD 27
042144 025124 .WORD ERR006
042146 024032 .WORD MSG003
6012 042150 ESCAPE TST ; AND ABORT TEST
042150 104410 TRAP C$ESCAPE
042152 000122 .WORD L10037-.

6013
6014 042154 012777 004100 140044 60$: MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
6015 042162 112777 000102 140036 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE A GETCMD PORT COMMAND
6016 042170 004737 030706 JSR PC,CHKDNI ; DNI ?
6017 042174 103010 BCC 70$ ; YES
6018 042176 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6019 042202 ERRHRD 030.,ERR010,MSG003 ; NO, REPORT ERROR
042202 104456 TRAP C$ERHRD
042204 000036 .WORD 30
042206 025425 .WORD ERR010
042210 024032 .WORD MSG003
6020 042212 ESCAPE TST ; AND ABORT TEST
042212 104410 TRAP C$ESCAPE
042214 000060 .WORD L10037-.

6021
6022 042216 004737 032320 70$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6023 BCC 80$ ; ERROR ?
6024 042222 103010 ; NO
6025 042224 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6026 042230 ERRHRD 031.,ERR006,MSG003 ; YES, REPORT ERROR
042230 104456 TRAP C$ERHRD
042232 000037 .WORD 31
042234 025124 .WORD ERR006
042236 024032 .WORD MSG003
6027 042240 ESCAPE TST ; AND ABORT TEST
042240 104410 TRAP C$ESCAPE
042242 000032 .WORD L10037-.

6028 042244 80$:
6029
6030 042244 EXIT TST
042244 104432 TRAP C$EXIT
042246 000026 .WORD L10037-.

6031 ;LOCAL TEST MESSAGE
6032
6033
6034 042250 104 105 114 T09ID:..ASCIZ 'DELUA PORT COMMAND '
042253 125 101 040
042256 120 117 122
042261 124 040 103
042264 117 115 115
042267 101 116 104
042272 040 000

6035 .EVEN
6036
6037 042274 ENDTST
042274 L10037: TRAP C$ETST
042274 104401

```



```

6039          .SBTTL TEST 10: INTERRUPT LOGIC TEST
6040
6041          ;*****
6042          ;
6043          ; THIS TEST VERIFIES THAT A DELUA INTERRUPT CAN BE GENERATED.
6044          ;
6045          ; TEST SEQUENCE:
6046          ; 1. SET UP THE INTERRUPT VECTOR
6047          ; 2. ISSUE A GET PCB PORT COMMAND
6048          ; 3. WAIT FOR A DNI INTERRUPT
6049          ; 4. WRITE ONE TO CLEAR DNI
6050          ;*****
6051
6052
6053 042276      BGNTST
6054          T10::
6055 042276      PNTMAC T10ID
          042276 012704 042612      MOV #T10ID,R4      ;GET POINTER TO TEST NAME MESSAGE
          042302 004737 034610      JSR PC,PNTID      ;PRINT TEST NUMBER AND NAME
          ; END OF MACRO EXPANSION OF 'PNTMAC'
6056 042306 004737 035310      JSR PC,TINIT      ; IS A DEVICE RESET NEEDED?
6057 042312 103034      BCC 25#          ; NO
6058 042314 012777 004100 137704      MOV #DNI+INTE,@PCSRO ; PRECONDITION INTR EN.
6059 042322 112777 000140 137676      MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
6060 042330 004737 032034      JSR PC,CKDNI     ; DNI ?
6061 042334 103010      BCC 20#          ; YES
6062 042336
          042336 004737 031010      JSR PC,CHKFTL    ; 'FATL' BIT SET?
6063 042342      ERRHRD 032.,ERR042,MSG003 ; NO, REPORT ERROR
          042342 104456      TRAP C$ERRHRD ;B0
          042344 000040      .WORD 32      C$ERRHRD
          042346 030105      .WORD ERR042  ;WORD
          042350 024032      .WORD MSG003 ;WORD
6064 042352      ESCAPE TST ; AND ABORT TEST
          042352 104410      TRAP C$ESCAPE ;WORD
          042354 000266      .WORD L10040-.
6065
6066 042356 004737 032320      ;20# JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6067          ; ERROR
6068 042362 103010      BCC 25#          ; NO
6069 042364
          042364 004737 031010      JSR PC,CHKFTL    ; 'FATL' BIT SET?
6070 042370      ERRHRD 033.,ERR006,MSG003 ; YES, REPORT ERROR
          042370 104456      TRAP C$ERRHRD ;WORD
          042372 000041      .WORD 33      C$ERRHRD
          042374 025124      .WORD ERR006  ;WORD
          042376 024032      .WORD MSG003 ;WORD
6071 042400      ESCAPE TST ; AND ABORT
          042400 104410      TRAP C$ESCAPE

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042402 000240                                .WORD  L10040-.
6072
6073                                     ;SET UP INTERRUPT VECTOR
6074
6075 042404                                25$:  SETVEC  INTVEC,#ISRDN1,UNAPRI
      042404 013746 002244                                MOV    UNAPRI,-(SP)
      042410 012746 036366                                MOV    #ISRDN1,-(SP)
      042414 013746 002242                                MOV    INTVEC,-(SP)
      042420 012746 000003                                MOV    #3,-(SP)
      042424 104437                                TRAP   C$SVEC
      042426 062706 000010                                ADD    #10,SP
6076 042432                                SETPRI  #PRI04                                ; SET CPU PRIORITY = 4
      042432 012700 000200                                MOV    #PRI04,R0
      042436 104441                                TRAP   C$SPRI
6077
6078                                     ;ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
6079
6080 042440                                40$:
6081 042440 005037 020612                                CLR    DNIFLG                                ; INSURE DNI BIT SET FLAG IS CLEAR
6082 042444 012705 014442                                MOV    #NOPF,R5                                ; POINT TO DEFAULT NOP FUNCTION
6083 042450 004737 033656                                JSR    PC,LDPCCB                                ; LOAD FUNCTION INTO PCBB
6084 042454 004737 033706                                JSR    PC,LDPCSR                                ; ADDRESS OF PCBB -> PCSR2!3
6085 042460 012777 004100 137540                                MOV    #DNI!INTE,@PCSR0                        ; PRECONDITION INTR EN.
6086 042466 112777 000101 137532                                MOV    #INTE!GETPCB,@PCSR0                    ; ISSUE A GETPCBB PORT COMMAND
6087
6088                                     ;WAIT FOR D I I INTERRUPT
6089
6090 042474 012701 005000                                MOV    #5000,R1                                ;INIT WAIT COUNT
6091 042500
6092 042500 005737 020612                                50$:  TST    DNIFLG                                ;DID DNI INTERRUPT OCCUR?
6093 042504 001020                                BNE    70$                                    ;YES, CONTINUE TEST
6094 042506 005301                                DEC    R1                                    ;REDUCE DELAY
6095 042510 001373                                BNE    50$                                    ;NOT YET
6096 042512
      042512 004737 031010                                JSR    PC,CHKFTL                                ; 'FATL' BIT SET?
6097 042516                                ERRHRD  034.,ERR007                            ; YES, REPORT ERROR
      042516 104456                                TRAP   C$ERRRD
      042520 000042                                .WORD  34
      042522 025172                                .WORD  ERR007
      042524 000000                                .WORD  0
6098 042526                                CLRVEC  INTVEC                                ; DEALLOCATE VECTOR
      042526 013700 002242                                MOV    INTVEC,R0
      042532 104436                                TRAP   C$CVEC
6099 042534                                SETPRI  #PPI07                                ; RESTORE CPU PRIORITY TO 7
      042534 012700 000340                                MOV    #PRI07,R0
      042540 104441                                TRAP   C$SPRI
6100 042542                                ESCAPE  TST                                ; AND ABORT TEST
      042542 104410                                TRAP   C$ESCAPE
      042544 000076                                .WORD  L10040-.
6101
6102                                     ;WRITE ONE TO CLEAR DNI
6103
6104 042546 004737 035256                                70$:  JSR    PC,TIMOFF                            ;TURN OF THE TIMER
6105 042552                                SETPRI  #PRI07                                ; RESTORE CPU PRIORITY TO 7
      042552 012700 000340                                MOV    #PRI07,R0

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K14

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042556 104441
6106 042560 004737 032320 JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI TRAP C$SPRI
6107 ; ERROR?
6108 042564 103010 BCC 80$ ; NO
6109 042566 FTL

042566 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6110 042572 ERRHRD 035.,ERR006,MSG003 ; YES, REPORT ERROR
042572 104456 TRAP C$ERHRD
042574 000043 .WORD 35
042576 025124 .WORD ERR006
042600 024032 .WORD MSG003
6111 042602 ESCAPE TST ; AND ABORT
042602 104410 TRAP C$ESCAPE
042604 000036 .WORD L10040-.
6112 042606 80$:
6113
6114 042606 EXIT TST
042606 104432 TRAP C$EXIT
042610 000032 .WORD L10040 .

6115
6116 ;LOCAL TEST MESSAGE
6117
6118 042612 104 105 114 T10ID:.ASCIZ 'DELUA INTERRUPT LOGIC '
042615 125 101 040
042620 111 116 124
042623 105 122 122
042626 125 120 124
042631 040 114 117
042634 107 111 103
042637 040 000

6119 .EVEN
6120
6121 042642 ENDTST
042642
042642 104401 L10040: TRAP C$ETST

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.SBTTL TEST 11: READ INTERNAL ROM TEST

```

:*****
:
: THIS TEST READS AND VERIFIES THE INTERNAL ROM.
: THE DUMP INTERNAL MEMORY FUNCTION IS USED TO READ THE ROM.
: A CRC IS GENERATED FROM THE ROM DATA READ.
: A CRC VALUE OF ZERO SHOULD BE GENERATED FROM THE ROM
: DATA READ WHICH INCLUDES THE STORED ROM CRC VALUE.
:
: TEST SEQUENCE:
:   1. CLEAR RBUF
:   2. READ 1K OF ROM INTO RBUF
:   3. CALCULATE CRC ON RBUF
:   4. REPEAT STEPS 1-3 FOR EACH 1K BLOCK OF ROM (8 TIMES)
:   5. VERIFY CRC GENERATED = 0
:*****
    
```

6142 042644
 042644
 6143
 6144 042644

BGNTST

T11::

PNTMAC T11ID

042644 012704 043334
 042650 004737 034610

MOV #T11ID,R4
 JSR PC,PNTID

;GET POINTER TO TEST NAME MESSAGE
 ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

6145 042654 004737 035310
 6146 042660 103034
 6147 042662 012777 004100 137336
 6148 042670 112777 000140 137330
 6149 042676 004737 032034
 6150 042702 103010
 6151 042704

JSR PC,TINIT
 BCC 30\$
 MOV #DNI!INTE,@PCSR0
 MOVB #INTE!RSET,@PCSR0
 JSR PC,CKDNI
 BCC 20\$
 FTL

; IS A DEVICE RESET NEEDED?
 ; NO
 ; PRECONDITION INTR EN.
 ; YES, RESET DELUA
 ; DNI ?
 ; YES

042704 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

6152 042710
 042710 104456
 042712 000044
 042714 030105
 042716 024032

ERRHRD 036.,ERR042,MSG003

; NO, REPORT ERROR

;B0
 C\$ERHRD
 .WORD 36
 .WORD ERR042
 .WORD MSG003

6153 042720
 042720 104410
 042722 000444

ESCAPE TST

; AND ABORT TEST

TRAP C\$ESCAPE
 .WORD L10041 .

6154
 6155 042724 004737 032320
 6156
 6157 042730 103010
 6158 042732

20\$: JSR PC,CLRDN1
 BCC 30\$
 FTL

; WRITE ONE TO CLEAR DNI
 ; ERROR ?
 ; NO

042732 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

6159 042736
 042736 104456

ERRHRD 037.,ERR006,MSG003

; YES, REPORT ERROR

TRAP C\$ERHRD

M14

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TEST 11: READ INTERNAL ROM TEST

SEQ 181

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042740 000045
042742 025124
042744 024032
6160 042746          ESCAPE TST          ; AND ABORT TEST
042746 104410
042750 000416          TRAP          C#ESCAPE
                                .WORD          L10041-.

6161
6162 042752 004737 033706          ; 30$: JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
6163 042756 012777 004100 137242      MOV      #DNI!INTE,@PCSR0          ; PRECONDITION INTR EN.
6164 042764 112777 000101 137234      MOVB    #INTE!GETPCB,@PCSR0        ; ISSUE GET_PCBB PORT COMMAND
6165 042772 004737 030706          JSR      PC,CHKDNI          ; DNI ?
6166 042776 103010          BCC     4J$          ; YES
6167 043000          FTL

043000 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

6168 043004          ERRHRD 040.,ERR009,MSG003          ; NO, REPORT ERROR
043004 104456          TRAP          C#ERHRD
043006 000050          .WORD          40
043010 025341          .WORD          ERR009
043012 024032          .WORD          MSG003
6169 043014          ESCAPE TST          ; AND ABORT TEST
043014 104410          TRAP          C#ESCAPE
043016 000350          .WORD          L10041-.

6170
6171 043020 004737 032320          ; 40$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6172          BCC     50$          ; ERROR ?
6173 043024 103010          BCC     50$          ; NO
6174 043026          FTL

043026 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

6175 043032          ERRHRD 041.,ERR006,MSG003          ; YES, REPORT ERROR
043032 104456          TRAP          C#ERHRD
043034 000051          .WORD          41
043036 025124          .WORD          ERR006
043040 024032          .WORD          MSG003
6176 043042          ESCAPE TST          ; AND ABORT TEST
043042 104410          TRAP          C#ESCAPE
043044 000322          .WORD          L10041 .

6177
6178 043046 012705 014666          ; 50$: MOV      #DMPMEM,R5          ; DEFAULT DUMP INTERNAL MEMORY
6179 043052 004737 033656          JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
6180 043056 012705 017624          MOV      #UDB10A,R5          ; DEFAULT UDBB
6181 043062 012700 000005          MOV      #5,R0          ; FOUR WORDS
6182 043066 004737 034134          JSR      PC,LDUDBB          ; LOAD INTO UDBB
6183          ;
6184          ;
6185 043072 012737 002000 020562      MOV      #2000,BYTCNT          ; 1K BYTES FOR SUBROUTINE 'ROMCRC'
6186 043100 012702 017636          MOV      #MEM10A,R2          ; R2 POINTS TO ROM ADDRESS TABLE
6187 043104 012700 020576          MOV      #XCRC,R0          ; POINT TO CRC STORAGE
6188 043110 012720 177777          MOV      #-1,(R0)+          ; SET INITIAL
6189 043114 012710 177777          MOV      #-1,(R0)          ; CRC
6190 043120 012701 000017          MOV      #15.,R1          ; PERFORM 15 ROM DUMPS
6191          ; AND CRC CALCULATIONS
6192
6193 043124 004737 032272          ; 60$: JSR      PC,CLRCV          ; CLEAR RBUF

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N14

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TEST 11: READ INTERNAL ROM TEST

SEQ 182

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6194
6195 043130 012237 002320      ;
6196 043134 012777 004100 137064 MOV      (R2)+,UDBB+6      ; LOAD ROM ADDRESS -> UDBB+6
6197 043142 112777 000102 137056 MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6198 043150 004737 030706      MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6199 043154 103010      JSR      PC,CHKDNI      ; DNI ?
6200 043156      BCC      70$           ; YES
                        FTL
                        ;
043156 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6201 043162      ERRHRD 042.,ERR010,MSG003 ; NO, REPORT ERROR
043162 104456      TRAP   C$ERHRD
043164 000052      .WORD  42
043166 025425      .WORD  ERR010
043170 024032      .WORD  MSG003
6202 043172      ESCAPE  TST      ; AND ABORT TEST
043172 104410      TRAP   C$ESCAPE
043174 000172      .WORD  L10041-.
6203
6204 043176 004737 032320      ;
6205      70$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6206 043202 103010      BCC      80$           ; ERROR ?
6207 043204      FTL      ; NO
                        ;
043204 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6208 043210      ERRHRD 043.,ERR006,MSG003 ; YES, REPORT ERROR
043210 104456      TRAP   C$ERHRD
043212 000053      .WORD  43
043214 025124      .WORD  ERR006
043216 024032      .WORD  MSG003
6209 043220      ESCAPE  TST      ; AND ABORT TEST
043220 104410      TRAP   C$ESCAPE
043222 000144      .WORD  L10041-.
6210
6211 043224      ;
6212 043224 004737 034336      ;
6213 043230 005301      JSR      PC,ROMCRC      ; CALCULATE CRC ON 1K RBUF
6214 043232 020127 000001      DEC      R1             ; REDUCE 1K BLOCK COUNT
6215 043236 002332      CMP      R1,#1         ; NEXT BLOCK LAST ONE?
6216 043240 005701      BGE      60$           ; NO
6217 043242 100404      TST     R1             ; ALL DONE?
6218 043244 012737 001774 020562 BMI     85$           ; YES
6219 043252 000724      MOV     #1774,BYTCNT   ; NO, BUT,DON'T INCLUDE CRC
6220      BR      60$         ; IN LAST 1K CRC CALCULATION
6221      ;
6222      ;VERIFY CRC
6223 043254      85$:
6224 043254 005103      COM     R3             ; COMPLIMENT
6225 043256 005104      COM     R4             ; CRC
6226 043260 012700 020576      MOV     #XCRC,R0       ; BASE ADDRESS OF CALCULATED CRC
6227 043264 010420      MOV     R4,(R0)+      ; SAVE
6228 043266 010310      MOV     R3,(R0)       ; CRC
6229 043270 012700 020576      MOV     #XCRC,R0       ; RESET POINTER
6230
6231 043274 012701 012436      MOV     #RBUF+1774,R1  ; POINT TO ROM CRC
6232 043300 022021      CMP     (R0)+,(R1)+   ; 1ST 2 BYTES CHECK?

```

B15

TEST 11: READ INTERNAL ROM TEST

```

6233 043302 001002          BNE      90$          ; NO, GO REPORT ERROR
6234 043304 021011          CMP      (R0),(R1)   ; 2ND 2 BYTES COMPARE?
6235 043306 001410          BEQ      95$          ; YES, GO EXIT TEST
6236 043310
6237 043310          90$:      FTL

          043310 004737 031010      JSR      PC,CHKFTL   ; 'FATL' BIT SET?
6238 043314          ERRHRD 044.,ERR024 ; NO, ROM CRC ERROR, REPORT ERROR
          043314 104456          TRAP    C$ERHRD
          043316 000054          .WORD  44
          043320 026540          .WORD  ERR024
          043322 000000          .WORD  0
6239 043324          ESCAPE TST      ; AND ABORT TEST
          043324 104410          TRAP    C$ESCAPE
          043326 000040          .WORD  L10041-.
6240 043330          95$:
6241
6242 043330          EXIT      TST
          043330 104432          TRAP    C$EXIT
          043332 000034          .WORD  L10041-.
6243
6244          ;LOCAL TEST MESSAGE
6245
6246 043334          104      105      114      T11ID:.ASCIZ 'DELUA READ INTERNAL ROM '
          043337          125      101      040
          043342          122      105      101
          043345          104      040      111
          043350          116      124      105
          043353          122      116      101
          043356          114      040      122
          043361          117      115      040
          043364          000
6247          .EVEN
6248
6249 043366          ENDTST
          043366
          043366 104401          L10041: TRAP    C$ETST

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.SBTTL TEST 12: READ/WRITE INTERNAL MEMORY TEST

```

*****
:
: THIS TEST READS AND WRITES THE INTERNAL RAM MEMORY.
: THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
: READ/WRITE THE ENTIRE INTERNAL RAM ABOVE THAT USED
: FOR THE LOADED PROCESS.
:
:         LOWEST ADDRESS: 08400(16)
:         HIGHEST ADDRESS: 1F400(16)
:
: TEST SEQUENCE:
:
:     1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
:        TO REMOVE MEMORY FROM THE WIRE
:     2. LOAD TBUF WITH DATA = ADDRESS
:     3. LOAD 1K OF INTERNAL MEMORY WITH TBUF
:     4. REPEAT STEPS 1 AND 2 FOR
:        EACH 1K BLOCK OF MEMORY (    TIMES)
:     5. RESETUP TBUF FOR DATA COMPARE
:     6. CLEAR RBUF
:     7. DUMP INTERNAL MEMORY -> RBUF
:     8. COMPARE RBUF WITH TBUF
:     9. REPEAT STEPS 4,5,6 AND 7 FOR EACH 1K BLOCK
:    10. REPEAT STEPS 1 THRU 8 WITH COMPLIMENT DATA
:
*****

```

6280 043370
043370
6281
6282 043370

BGNTST

T12::

PNTMAC T12ID

043370 012704 044560
043374 004737 034610

MOV #T12ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

6283 043400 004737 035310
6284 043404 103034
6285 043406 012777 0C4100 136612
6286 043414 112777 000140 136604
6287 043422 004737 032034
6288 043426 103010
6289 043430

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

043430 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6290 043434
043434 1C :56
043436 0C0055
043440 030105
043442 024032

ERRHRD 045.,ERR042,MSG003 ; NO, REPORT ERROR

:B0
TRAP C\$ERRRD
.WORD 45
.WORD ERR042
.WORD MSG003

6291 043444
043444 104410
043446 001154

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10042-

D15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 185

```

6292
6293 043450 004737 032320      ; 20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6294                                ; ERROR ?
6295 043454 103010            BCC    30$                ; NO
6296 043456                                FTL
                                JSR    PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD 046.,ERR006,MSG003 ; YES, REPORT ERROR
6297 043462                                TRAP  C$ERHRD
                                043462 104456                .WORD 46
                                043464 000056                .WORD ERR006
                                043466 025124                .WORD MSG003
                                043470 024032
6298 043472                                ESCAPE TST                ; AND ABORT TEST
                                043472 104410                TRAP  C$ESCAPE
                                043474 001126                .WORD L10042-.
6299
6300 043476 004737 033706      ; 30$: JSR    PC,LDPCSR      ; ADDRESS OF PCBB > PCSR2!3
6301 043502 012777 034100 136516 MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6302 043510 112777 000101 136510 MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6303 043516 004737 030706      JSR    PC,CHKDNI
6304 043522 103010            BCC    40$                ; YES
6305 043524                                FTL
                                JSR    PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD 047.,ERR009,MSG003 ; NO, REPORT ERROR
6306 043530                                TRAP  C$ERHRD
                                043530 104456                .WORD 47
                                043532 000057                .WORD ERR009
                                043534 025341                .WORD MSG003
                                043536 024032
6307 043540                                ESCAPE TST                ; AND ABORT TEST
                                043540 104410                TRAP  C$ESCAPE
                                043542 001060                .WORD L10042 .
6308
6309 043544 004737 032320      ; 40$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6310                                ; ERROR ?
6311 043550 103010            BCC    45$                ; NO
6312 043552                                FTL
                                JSR    PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD 050.,ERR006,MSG003 ; YES, REPORT ERROR
6313 043556                                TRAP  C$ERHRD
                                043556 104456                .WORD 50
                                043560 000062                .WORD ERR006
                                043562 025124                .WORD MSG003
                                043564 024032
6314 043566                                ESCAPE TST                ; AND ABORT TEST
                                043566 104410                TRAP  C$ESCAPE
                                043570 001032                .WORD L10042 .
6315
6316                                ; ISSUE A PORT HALT TO INHIBIT NI ACTIVITY
6317
6318 043572                                ; 45$:
6319
6320 043572 012777 004100 136426 MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6321 043600 112777 000116 136420 MOVB   #INTE!HALT,@PCSR0 ; PORT HALT

```

E15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 186

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6322 043606 004737 030706      JSR    PC,CHKDNI      ; DNI ?
6323 043612 103010              BCC    47$           ; YES
6324 043614                      FTL

      043614 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?

6325 043620                      ERRHRD 051.,ERR038,MSG003 ; NO, REPORT ERROR
      043620 104456              TRAP  C$ERHRD
      043622 000063              .WORD 51
      043624 027616              .WORD ERR038
      043626 024032              .WORD MSG003

6326 043630                      ESCAPE TST           ; AND ABORT TEST
      043630 104410              TRAP  C$ESCAPE
      043632 000770              .WORD L10042-.

6327 043634 004737 032320      ;
6328 47$: JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
6329                      ; ERROR ?
6330 043640 103010              BCC    50$           ; NO
6331 043642                      FTL

      043642 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?

6332 043646                      ERRHRD 052.,ERR006,MSG003 ; YES, REPORT ERROR
      043646 104456              TRAP  C$ERHRD
      043650 000064              .WORD 52
      043652 025124              .WORD ERR006
      043654 024032              .WORD MSG003

6333 043656                      ESCAPE TST           ; AND ABORT TEST
      043656 104410              TRAP  C$ESCAPE
      043660 000742              .WORD L10042 .

6334                      ;
6335                      ;WRITE RAM MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
6336 50$:
6337 043662 005037 020610      CLR    EAFLAG        ; CLEAR EXT ADDR BITS FLAG
6338 043666 012703 017714      MOV    #MEM13A,R3    ; R3 POINTS TO LINK MEM ADDRESS TABLE
6339 043672 012701 000065      MOV    #53.,R1      ; DO LOOP

      ;
      ;WRITE TBUF WITH DATA = ADDRESS
6340
6341
6342 60$:
6343 043676 010305              MOV    R3,R5         ; R5 POINTS TO ADDRESS
6344 043700 004737 033322      JSR    PC,LDBUFC     ; LOAD TBUF WITH ADDRESS DATA PATTERN

      ;
      ;LOAD INTERNAL RAM MEMORY
6345
6346 043704 012705 014676      MOV    #LDMEM,R5    ; DEFAULT LOAD INTERNAL MEMORY
6347 043710 004737 035132      JSR    PC,SRWRAM    ; LOAD PCBB AND UD88

6348
6349 65$:
6350 043714 012777 004100 136304 MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6351 043722 112777 000102 136276 MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6352 043730 004737 030706      JSR    PC,CHKDNI    ; DNI ?
6353 043734 103010              BCC    70$           ; YES
6354 043736                      FTL

      043736 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?

6354 043742                      ERRHRD 053.,ERR010,MSG003 ; NO, REPORT ERROR
      043742 104456              TRAP  C$ERHRD
      043744 000065              .WORD 53
      043746 025425              .WORD ERR010

```

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043750 024032
6355 043752          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
      043752 104410
      043754 000646          TRAP C$ESCAPE
6356          ;                                .WORD L10042 .
6357 043756 004737 032320 70$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6358          ;                                ; ERROR ?
6359 043762 103010          BCC 80$          ; NO
6360 043764          FTL
      043764 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
6361 043770          ERRHRD 054.,ERR006,MSG003          ; YES, REPORT ERROR
      043770 104456          TRAP C$ERHRD
      043772 000066          .WORD 54
      043774 025124          .WORD ERR006
      043776 024032          .WORD MSG003
6362 044000          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      044000 104410          ;                                .WORD L10042-.
      044002 000620
6363 044004          80$: TST (R3)+          ; BUMP TABLE POINTER
6364 044004 005723          DEC R1          ; DONE 16 WRITES ?
6365 044006 005301          BNE 60$          ; NO
6366 044010 001332
6367          ;
6368          ;READ INTERNAL RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6369
6370 044012 005037 020610          CLR EAFLAG          ; CLEAR EXT ADDR BITS FLAG
6371 044016 012703 017714          MOV #MEM13A,R3          ; R3 POINTS TO LINK MEM ADDRESS TABLE
6372 044022 012701 000065          MOV #53.,R1          ; DO LOOP
6373          ;
6374          ;SETUP TBUF FOR DATA COMPARE
6375 044026 010305          100$: MOV R3,R5          ; R5 POINTS TO ADDRESS
6376 044030 004737 033322          JSR PC,LDBUFC          ; LOAD TBUF WITH ADDRESS DATA PATTERN
6377          ;
6378          ;CLEAR RBUF
6379
6380 044034 004737 032272          JSR PC,CLRCV          ; CLEAR RECEIVE BUFFER
6381
6382          ;DUMP INTERNAL MEMORY INTO RBUF
6383 044040 012705 014666          MOV #DMPMEM,R5          ; DEFAULT DUMP INTERNAL MEMORY
6384 044044 004737 035132          JSR PC,SRWRAM          ; LOAD PCBB AND UD88
6385
6386 044050 012777 004100 136150 115$: MOV #DNI!INTE,@PCSRO          ; PRECONDITION INTR EN.
6387 044056 112777 000102 136142          MOV #INTE!GETCMD,@PCSRO          ; ISSUE GET COMMAND PORT COMMAND
6388 044064 004737 030706          JSR PC,CHKDNI          ; DNI ?
6389 044070 103010          BCC 120$          ; YES
6390 044072          FTL
      044072 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
6391 044076          ERRHRD 055.,ERR010,MSG003          ; NO, REPORT ERROR
      044076 104456          TRAP C$ERHRD
      044100 000067          .WORD 55
      044102 025425          .WORD ERR010
      044104 024032          .WORD MSG003
6392 044106          ESCAPE TST          ; AND ABORT TEST

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G15

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044106 104410
044110 000512                               TRAP      C$ESCAPE
                                           .WORD    L10042 .
6393
6394 044112 004737 032320           ;120$: JSR      PC,CLRDNI           ; WRITE ONE TO CLEAR DNI
6395                                           ; ERROR ?
6396 044116 103010                     BCC      130$                       ; NO
6397 044120                               FTL
                                           ;
044120 004737 031010                     JSR      PC,CHKFTL                   ; 'FATL' BIT SET?
6398 044124                               ERRHRD   056.,ERR006,MSG003          ; YES, REPORT ERROR
044124 104456                               TRAP      C$ERHRD
044126 000070                               .WORD    56
044130 025124                               .WORD    ERRO06
044132 024032                               .WORD    MSG003
6399 044134                               ESCAPE   TST                         ; AND ABORT TEST
044134 104410                               TRAP      C$ESCAPE
044136 000464                               .WORD    L10042-.
6400
6401           ;COMPARE RBUF WITH TBUF
6402           ;
6403 044140 022701 000001           ;130$: CMP      #1,R1                 ; IS THIS THE LAST 1K BLOCK ?
6404 044144 001003                     BNE     135$                       ; NO
6405 044146 012705 000500                     MOV     #500,R5                     ; YES, ONLY COMPARE 500 WORDS
6406 044152 000402                     BR      136$
6407           ;
6408 044154 012705 002000           ;135$: MOV     #1024.,R5              ; COMPARE 1024. WORDS OF DATA
6409 044160 004737 032726           ;136$: JSR      PC,COMPHEM           ; DATA COMPARE ERROR ?
6410 044164 103010                     BCC     140$                       ; NO
6411 044166                               FTL
                                           ;
044166 004737 031010                     JSR      PC,CHKFTL                   ; 'FATL' BIT SET?
6412 044172                               ERRHRD   057.,ERR041,MSG007          ; YES, REPORT ERROR
044172 104456                               TRAP      C$ERHRD
044174 000071                               .WORD    57
044176 030037                               .WORD    ERRO41
044200 024442                               .WORD    MSG007
6413 044202                               ESCAPE   TST                         ; AND ABORT TEST
044202 104410                               TRAP      C$ESCAPE
044204 000416                               .WORD    L10042-.
6414
6415 044206           ;140$:
6416 044206 005723                     TST     (R3)+                       ; BUMP UP TABLE POINTER
6417 044210 005301                     DEC     R1                          ; DONE 103 READS ?
6418 044212 001305                     BNE     100$
6419           ;
6420           ;REPEAT TEST WITH COMPLIMENTED DATA PATTERN
6421           ;
6422           ;WRITE INTERNAL MEMORY WITH DATA = COMPLIMENT OF ADDRESS BY 1K BLOCKS
6423           ;
6424 044214 005037 020610                     CLR     EAFLAG                       ; CLEAR EXT ADDR BITS FLAG
6425 044220 012703 017714                     MOV     #MEM13A,R3                  ; R3 POINTS TO LINK MEM ADDRESS TABLE
6426 044224 012701 000065                     MOV     #53.,R1                     ; DO LOOP
6427           ;
6428           ;WRITE RBUF WITH DATA = ADDRESS
6429 044230 010305           ;160$: MOV     R3,R5                   ; R5 POINTS TO ADDRESS

```

H15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

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6430 044232 004737 033322          JSR    PC,LDBUFC          ; LOAD TBUF WITH COMPLIMENTED DATA
6431
6432          ;LOAD INTERNAL RAM MEMORY
6433 044236 012705 014676          MOV    #LDMEM,R5          ; DEFAULT LOAD INTERNAL MEMORY
6434 044242 004737 035132          JSR    PC,SRWRAM          ; LOAD PCBB AND UDBB
6435
6436 044246 012777 004100 135752 165$: MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
6437 044254 112777 000102 135744  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6438 044262 004737 030706          JSR    PC,CHKDNI          ; DNI ?
6439 044266 103010          BCC    170$              ; YES
6440 044270
        044270 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6441 044274          ERRHRD 060.,ERR010,MSG003    ; NO, REPORT ERROR
        044274 104456          TRAP   C$ERRHRD
        044276 000074          .WORD 60
        044300 025425          .WORD ERR010
        044302 024032          .WORD MSG003
6442 044304          ESCAPE TST              ; AND ABORT TEST
        044304 104410          TRAP   C$ESCAPE
        044306 000314          .WORD L10042-.
6443
6444 044310 004737 032320          170$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6445          ; ERROR ?
6446 044314 103010          BCC    180$              ; NO
6447 044316
        044316 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6448 044322          ERRHRD 061.,ERR006,MSG007    ; YES, REPORT ERROR
        044322 104456          TRAP   C$ERRHRD
        044324 000075          .WORD 61
        044326 025124          .WORD ERR006
        044330 024032          .WORD MSG003
6449 044332          ESCAPE TST              ; AND ABORT TEST
        044332 104410          TRAP   C$ESCAPE
        044334 000266          .WORD L10042-.
6450 044336          180$:
6451 044336 005301          DEC    R1                ; DONE 16 WRITES ?
6452 044340 001333          BNE    160$              ; NO
6453
6454          ;READ INT RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6455
6456 044342 005037 020610          CLR    EAFLAG            ; CLEAR EXT ADDR BITS FLAG
6457 044346 012703 017714          MOV    #MEM13A,R3        ; R3 POINTS TO LINK MEM ADDRESS TABLE
6458 044352 012701 000065          MOV    #53.,R1           ; DO LOOP
6459
6460          ;SETUP TBUF FOR DATA COMPARE
200$:
6461 044356 010305          MOV    R3,R5             ; R5 POINTS TO ADDRESS
6462 044360 004737 033322          JSR    PC,LDBUFC          ; LOAD TBUF WITH COMPLIMENTED DATA
6463
6464          ;CLEAR RBUF
6465 044364 012704 010442          MOV    #RBUF,R4         ; CLEAR RBUF
6466 044370 012700 002000          MOV    #1024.,R0
6467 044374 005024          CLR    (R4)+
6468 044376 077002          SOB    R0,210$

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6469
6470          ;DUMP INTERNAL RAM MEMORY INTO RBUF
6471 044400 012705 014666      MOV    #DMPMEM,R5      ; DEFAULT DUMP INTERNAL MEMORY
6472 044404 004737 035132      JSR    PC,SRWRAM      ; LOAD PCBB AND UDBB
6473
6474 044410 012777 004100 135610 215$: MOV    #DNI!INTE,@PCSR0      ; PRECONDITION INTR EN.
6475 044416 112777 000102 135602      MOVB   #INTE!GETCMD,@PCSR0      ; ISSUE GET COMMAND PORT COMMAND
6476 044424 004737 030706      JSR    PC,CHKDNI      ; DNI ?
6477 044430 103010              BCC    220$           ; YES
6478 044432
          044432 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
6479 044436
          044436 104456              ERRHRD 062.,ERR010,MSG003      ; NO, REPORT ERROR
          044440 000076              TRAP   C$ERHRD
          044442 025425              .WORD 62
          044444 024032              .WORD ERR010
          .WORD MSG003
6480 044446
          044446 104410              ESCAPE TST           ; AND ABORT TEST
          044450 000152              TRAP   C$ESCAPE
          .WORD L10042-.
6481
6482 044452 004737 032320      220$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6483
6484 044456 103010              BCC    230$           ; ERROR ?
6485 044460
          044460 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
6486 044464
          044464 104456              ERRHRD 063.,ERR006,MSG003      ; YES, REPORT ERROR
          044466 000077              TRAP   C$ERHRD
          044470 025124              .WORD 63
          044472 024032              .WORD ERR006
          .WORD MSG003
6487 044474
          044474 104410              ESCAPE TST           ; AND ABORT TEST
          044476 000124              TRAP   C$ESCAPE
          .WORD L10042-.
6488
6489          ;COMPARE RBUF WITH TBUF
6490
6491 044500 022701 000001      230$: CMP    #1,R1           ; IS THIS THE LAST 1K PLOCK ?
6492 044504 001003              BNE    235$           ; NO
6493 044506 012705 000500      MOV    #500,R5        ; YES, ONLY COMPARE 500 WORDS
6494 044512 000402              BR     236$
6495
6496 044514 012705 002000      235$: MOV    #1024.,R5        ; COMPARE 1024. WORDS OF DATA
6497 044520 004737 032726      236$: JSR    PC,CHPMEM      ; DATA COMPARE ERROR ?
6498 044524 103010              BCC    240$           ; NO
6499 044526
          044526 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
6500 044532
          044532 104456              ERRHRD 064.,ERR041,MSG007      ; YES, REPORT ERROR
          044534 000100              TRAP   C$ERHRD
          044536 030037              .WORD 64
          044540 024442              .WORD ERR041
          .WORD MSG007

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J15

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6501 044542          ESCAPE TST          ; AND ABORT TEST
      044542 104410
      044544 000056          TRAP      C#ESCAPE
                          .WORD      L10042 .
6502
6503 044546          ;
      044546 005723          ;240$:
6504 044546 005723          TST      (R3)+          ; BUMP UP TABLE POINTER
6505 044550 005301          DEC      R1              ; DONE 103 READS ?
6506 044552 001301          BNE     200$
6507
6508
6509 044554          EXIT   TST
      044554 104432          TRAP      C#EXIT
      044556 000044          .WORD      L10042-.
6510
6511          ;LOCAL TEST MESSAGE
6512
6513 044560 104 105 114 T12ID: .ASCIZ 'DELUA READ/WRITE INTERNAL MEMORY '
      044563 125 101 040
      044566 122 105 101
      044571 104 057 127
      044574 122 111 124
      044577 105 040 111
      044602 116 124 105
      044605 122 116 101
      044610 114 040 115
      044613 105 115 117
      044616 122 131 040
      044621 000
6514          .EVEN
6515
6516 044622          ENDTST
      044622
      044622 104401          L10042: TRAP      C#ETST

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.SBTTL TEST 13: INTERNAL LOOPBACK TEST

```
*****
:
: THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
: CAN BE PERFORMED SUCCESSFULLY.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. ISSUE START
: 6. CHECK FOR ERRORS
: 7. ISSUE STOP
:
*****
```

6536 044624
044624
6537
6538 044624

BGNTST

T13::

PNTMAC T13ID

044624 012704 046200
044630 004737 034610

MOV #T13ID,R4
JSR PC,PNTID

;GET POINTER TO TEST NAME MESSAGE
;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

6539 044634 004737 035310
6540 044640 103034
6541 044642 012777 004100 135356
6542 044650 112777 000140 135350
6543 044656 004737 032034
6544 044662 103010
6545 044664

JSR PC,TINIT
BCC 30\$
MOV #DNI!INTE,@PCSR0
MOVB #INTE!RSET,@PCSR0
JSR PC,CKDNI
BCC 20\$
FTL

; IS A DEVICE RESET NEEDED?
; NO
; PRECONDITION INTR EN.
; YES, RESET DELUA
; DNI ?
; YES

044664 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

6546 044670
044670 104456
044672 000101
044674 030105
044676 024032

ERRHRD 065.,ERR042,MSG003

; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 65
.WORD ERR042
.WORD MSG003

6547 044700
044700 104410
044702 001330

ESCAPE TST

; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10043 .

6548
6549 044704 004737 032320
6550
6551 044710 103010
6552 044712

20\$: JSR PC,CLRDN1

; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO

044712 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

6553 044716
044716 104456
044720 000102

ERRHRD 066.,ERR006,MSG003

; YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 66


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044722 025124 .WORD ERRO06
044724 024032 .WORD MSG003
6554 044726 ESCAPE TST ; AND ABORT TEST
044726 104410 TRAP C$ESCAPE
044730 001302 .WORD L10043-.

6555
6556 044732 ;30$: JSR PC,CLRBUF ; CLEAR XMIT,RECV BUFFERS
6557 044732 004737 032246 JSR PC,LDDFLT ; LOAD DEFAULT PHY.ADDRESS TABLES
6558 044736 004737 033606 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
6559 044742 004737 033706 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
6560 044746 012777 004100 135252 MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6561 044754 112777 000101 135244 MOVB #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6562 044762 004737 030706 JSR PC,CHKDNI ; DNI?
6563 044766 103010 BCC 40$ ; YES
6564 044770 FTL

044770 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6565 044774 ERRHRD 067.,ERRO09,MSG003 ; NO, REPORT ERROR
044774 104456 TRAP C$ERHRD
044776 000103 .WORD 67
045000 025341 .WORD ERRO09
045002 024032 .WORD MSG003
6566 045004 ESCAPE TST ; AND ABORT TEST
045004 104410 TRAP C$ESCAPE
045006 001224 .WORD L10043-.

6567
6568 045010 004737 032320 ;40$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
6569 BCC 50$ ; ERROR ?
6570 045014 103010 FTL ; NO
6571 045016

045016 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6572 045022 ERRHRD 070.,ERRO06,MSG003 ; YES, REPORT ERROR
045022 104456 TRAP C$ERHRD
045024 000106 .WORD 70
045026 025124 .WORD ERRO06
045030 024032 .WORD MSG003
6573 045032 ESCAPE TST ; AND ABORT TEST
045032 104410 TRAP C$ESCAPE
045034 001176 .WORD L10043-.

6574
6575 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
6576

6577 045036 012705 014602 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
6578 045042 004737 033656 JSR PC,LDP CBB ; LOAD FUNCTION -> PCBB
6579 045046 012777 004100 135152 MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6580 045054 112777 000102 135144 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6581 045062 004737 030706 JSR PC,CHKDNI ; DNI ?
6582 045066 103010 BCC 60$ ; YES
6583 045070 FTL

045070 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6584 045074 ERRHRD 071.,ERRO10,MSG003 ; NO, REPORT ERROR
045074 104456 TRAP C$ERHRD
  
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M15

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045076 000107
045100 025425
045102 024032
6585 045104 ESCAPE TST ; AND ABORT TEST
045104 104410
045106 001124 TRAP C$ESCAPE
6586 ; WORD 71
6587 045110 004737 032320 ;60$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6588 ; ERROR ?
6589 045114 103010 BCC 70$ ; NO
6590 045116 FTL
045116 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6591 045122 ERRHRD 072.,ERR006,MSG003 ; YES, REPORT ERROR
045122 104456 TRAP C$ERHRD
045124 000110 ; WORD 72
045126 025124 ; WORD ERR006
045130 024032 ; WORD MSG003
6592 045132 ESCAPE TST ; AND ABORT TEST
045132 104410 TRAP C$ESCAPE
045134 001076 ; WORD L10043-.
6593 ;
6594 ;WRITE RING FORMAT
6595 ;
6596 045136 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
6597 045142 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
6598 045146 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
6599 045152 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
6600 045156 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
6601 045162 012777 004100 135036 MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6602 045170 112777 000102 135030 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6603 045176 004737 030706 JSR PC,CHKDNI ; DNI ?
6604 045202 103010 BCC 80$ ; YES
6605 045204 FTL
045204 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6606 045210 ERRHRD 073.,ERR010,MSG003 ; NO, REPORT ERROR
045210 104456 TRAP C$ERHRD
045212 000111 ; WORD 73
045214 025425 ; WORD ERR010
045216 024032 ; WORD MSG003
6607 045220 ESCAPE TST ; AND ABORT TEST
045220 104410 TRAP C$ESCAPE
045222 001010 ; WORD L10043-.
6608 ;
6609 045224 004737 032320 ;80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6610 ; ERROR ?
6611 045230 103010 BCC 90$ ; NO
6612 045232 FTL
045232 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6613 045236 ERRHRD 074.,ERR006,MSG003 ; YES, REPORT ERROR
045236 104456 TRAP C$ERHRD
045240 000112 ; WORD 74

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N15

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045242 025124
045244 024032
6614 045246          ESCAPE TST          ; AND ABORT TEST
045246 104410
045250 000762          TRAP          C$ESCAPE
                                .WORD          L10043-.

6615
6616          ;WRITE PHYSICAL ADDRESS
6617
6618 045252          90$:
6619 045252 012705 002274          MOV          #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
6620 045256 004737 033724          JSR          PC,LDPHYA          ; PLACE IT IN DATA TABLE
6621 045262 012705 014502          MOV          #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
6622 045266 004737 033656          JSR          PC,LDPCCB          ; LOAD FUNCTION -> PCBB
6623 045272 012777 004100 134726          MOV          #DNI!INTE,@PCSR0          ; PRECONDITION INTR EN.
6624 045300 112777 000102 134720          MOVB         #INTE!GETCMD,@PCSR0          ; ISSUE GET_CMD PORT COMMAND
6625 045306 004737 030706          JSR          PC,CHKDNI          ; DNI ?
6626 045312 103010          BCC          100$          ; YES
6627 045314          FTL

045314 004737 031010          JSR          PC,CHKFTL          ; 'FATL' BIT SET?

6628 045320          ERRHRD 075.,ERR010,MSG003          ; NO, REPORT ERROR
045320 104456          TRAP          C$ERHRD
045322 000113          .WORD          75
045324 025425          .WORD          ERR010
045326 024032          .WORD          MSG003
6629 045330          ESCAPE TST          ; AND ABORT TEST
045330 104410          TRAP          C$ESCAPE
045332 000700          .WORD          L10043-.

6630
6631 045334 004737 032320          i100$: JSR          PC,CLR0NI          ; WRITE ONE TO CLEAR DNI
6632          ; ERROR ?
6633 045340 103010          BCC          110$          ; NO
6634 045342          FTL

045342 004737 031010          JSR          PC,CHKFTL          ; 'FATL' BIT SET?

6635 045346          ERRHRD 076.,ERR006,MSG003          ; YES, REPORT ERROR
045346 104456          TRAP          C$ERHRD
045350 000114          .WORD          76
045352 025124          .WORD          ERR006
045354 024032          .WORD          MSG003
6636 045356          ESCAPE TST          ; AND ABORT TEST
045356 104410          TRAP          C$ESCAPE
045360 000652          .WORD          L10043-.

6637
6638          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6639
6640 045362 012705 016412          110$: MOV          #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
6641 045366 004737 034040          JSR          PC,LDTDRB          ; LOAD TDRB
6642 045372 012705 014752          MOV          #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
6643 045376 004737 033744          JSR          PC,LDRDRB          ; LOAD RDRB
6644
6645          ;SET UP BUFFERS AND START
6646
6647 045402 005037 020564          CLR          D0CRC          ; NO APPEND CRC
6648 045406 012737 000006 020562          MOV          #6,BYTCNT          ; DATA BYTE COUNT
  
```

6649	045414	004737	034662		JSR	PC,SETBUF		; SET UP BUFFERS		
6650	045420	012777	004100	134600	MOV	#DNI!INTE,@PCSR0		; PRECONDITION INTR EN.		
6651	045426	112777	000104	134572	MOV	#INTE!START,@PCSR0		; ISSUE START PORT COMMAND		
6652	045434	004737	03C706		JSR	PC,CHKDNI		; DNI?		
6653	045440	103010			BCC	120#		; YES		
6654	045442				FTL					
	045442	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
6655	045446				ERRHRU	077.,ERR012,MSG003		; NO, REPORT ERROR		
	045446	104456							TRAP	C#ERHRD
	045450	000115							.WORD	77
	045452	025543							.WORD	ERR012
	045454	024032							.WORD	MSG003
6656	045456				ESCAPE	TST		; AND ABORT TEST		
	045456	104410							TRAP	C#ESCAPE
	045460	000552							.WORD	L10043-.
6657										
6658	045462	004737	032320	i	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
6659				120#:				; ERROR ?		
6660	045466	103010			BCC	130#		; NO		
6661	045470				FTL					
	045470	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
6662	045474				ERRHRD	080.,ERR006,MSG003		; YES, REPORT ERROR		
	045474	104456							TRAP	C#ERHRD
	045476	000120							.WORD	80
	045500	025124							.WORD	ERR006
	045502	024032							.WORD	MSG003
6663	045504				ESCAPE	TST		; AND ABORT TEST		
	045504	104410							TRAP	C#ESCAPE
	045506	000524							.WORD	L10043-.
6664										
6665	045510	004737	031724	i	JSR	PC,CHKTXI		; TXI ?		
6666	045514	103010		130#:	BCC	140#		; YES		
6667	045516				FTL					
	045516	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
6668	045522				ERRHRD	081.,ERR013,MSG003		; NO, REPORT ERROR		
	045522	104456							TRAP	C#ERHRD
	045524	000121							.WORD	81
	045526	025624							.WORD	ERR013
	045530	024032							.WORD	MSG003
6669	045532				ESCAPE	TST		; AND ABORT TEST		
	045532	104410							TRAP	C#ESCAPE
	045534	000476							.WORD	L10043-.
6670										
6671	045536	004737	032502	i	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
6672				140#:				; ERROR ?		
6673	045542	103010			BCC	150#		; NO		
6674	045544				FTL					
	045544	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
6675	045550				ERRHRD	082.,ERR014,MSG003		; YES, REPORT ERROR		

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TEST 13: INTERNAL LOOPBACK TEST

SEQ 197

045550	104456					TRAP	C\$ERHRD
045552	000122					.WORD	82
045554	025655					.WORD	ERR014
045556	024032					.WORD	MSG003
6676	045560	104410		ESCAPE TST			
	045562	000450				TRAP	C\$ESCAPE
						.WORD	L10043-
6677							
6678	045564	012705	002622	i150\$: MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
6679	045570	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
6680	045574	103010		BCC	160\$; YES
6681	045576			FTL			
				JSR	PC,CHKFTL		; 'FATL' BIT SET?
6682	045602	004737	031010	ERRHRD	083.,ERR018		; NO, REPORT ERROR
	045602	104456				TRAP	C\$ERHRD
	045604	000123				.WORD	83
	045606	026122				.WORD	ERR018
	045610	000000				.WORD	0
6683	045612			ESCAPE TST			; AND ABORT TEST
	045612	104410				TRAP	C\$ESCAPE
	045614	000416				.WORD	L10043-
6684							
6685	045616	012705	020266	i160\$: MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
6686	045622	004737	034244	JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
6687	045626	012705	002622	MOV	#TDRB,R5		; CHECK TDRB
6688	045632	004737	031636	JSR	PC,CHKTDR		; ERRORS ?
6689	045636	103010		BCC	170\$; NO
6690	045640			FTL			
				JSR	PC,CHKFTL		; 'FATL' BIT SET?
6691	045644	004737	031010	ERRHRD	084.,ERR020,MSG005		; YES, REPORT ERROR
	045644	104456				TRAP	C\$ERHRD
	045646	000124				.WORD	84
	045650	026302				.WORD	ERR020
	045652	024136				.WORD	MSG005
6692	045654			ESCAPE TST			; AND ABORT TEST
	045654	104410				TRAP	C\$ESCAPE
	045656	000354				.WORD	L10043-
6693							
6694	045660	004737	031454	i170\$: JSR	PC,CHKRXI		; RXI ?
6695	045664	103010		BCC	180\$; YES
6696	045666			FTL			
				JSR	PC,CHKFTL		; 'FATL' BIT SET?
6697	045672	004737	031010	ERRHRD	085.,ERR015,MSG003		; NO, REPORT ERROR
	045672	104456				TRAP	C\$ERHRD
	045674	000125				.WORD	85
	045676	025723				.WORD	ERR015
	045700	024032				.WORD	MSG003
6698	045702			ESCAPE TST			; AND ABORT TEST
	045702	104410				TRAP	C\$ESCAPE
	045704	000326				.WORD	L10043-
6699							

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TEST 13: INTERNAL LOOPBACK TEST

SEQ 198

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6700 045706 004737 032434      180$: JSR      PC,CLRRXI      ; WRITE ONE TO CLEAR RXI
6701                               ; ERROR ?
6702 045712 103010             BCC      190$               ; NO
6703 045714                               FTL
                                JSR      PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  086.,ERR016,MSG003 ; YES, REPORT ERROR
6704 045720                               TRAP    C$ERHRD
                                045720 104456          .WORD  86
                                045722 000126          .WORD  ERR016
                                045724 025754          .WORD  MSG003
                                045726 024032
6705 045730                               ESCAPE  TST                  ; AND ABORT TEST
                                045730 104410          TRAP    C$ESCAPE
                                045732 000300          .WORD  L10043
6706                               ;
6707 045734 012705 002662      i190$: MOV      #RDRB,R5      ; CHECK RDRB OWNERSHIP
6708 045740 004737 031162      JSR      PC,CHKOWN         ; OWN = PORT DRIVER ?
6709 045744 103010             BCC      200$               ; YES
6710 045746                               FTL
                                JSR      PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  087.,ERR017      ; NO, REPORT ERROR
6711 045752                               TRAP    C$ERHRD
                                045752 104456          .WORD  87
                                045754 000127          .WORD  ERR017
                                045756 026022          .WORD  0
                                045760 000000
6712 045762                               ESCAPE  TST                  ; AND ABORT TEST
                                045762 104410          TRAP    C$ESCAPE
                                045764 000246          .WORD  L10043-
6713                               ;
6714 045766 012705 020456      i200$: MOV      #RDR20C,R5  ; POINT TO EXPECTED RDRB
6715 045772 004737 034214      JSR      PC,LDXRDR         ; LOAD INTO XRDRBO TABLE
6716 045776 012705 002662      MOV      #RDRB,R5         ; CHECK RDRB
6717 046002 004737 031344      JSR      PC,CHKRDR         ; ERRORS ?
6718 046006 103010             BCC      210$               ; NO
6719 046010                               FTL
                                JSR      PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  090.,ERR021,MSG006 ; YES, REPORT ERROR
6720 046014                               TRAP    C$ERHRD
                                046014 104456          .WORD  90
                                046016 000132          .WORD  ERR021
                                046020 026363          .WORD  MSG006
                                046022 024300
6721 046024                               ESCAPE  TST                  ; AND ABORT TEST
                                046024 104410          TRAP    C$ESCAPE
                                046026 000204          .WORD  L10043-
6722                               ;
6723                               ;COMPARE RBUF WITH TBUF
6724                               ;
6725 046030 013705 020562      210$: MOV      BYTCNT,R5   ; NUMBER OF DATA COMPARES
6726 046034 004737 032646      JSR      PC,CMPDAT         ; DATA COMPARE ERROR ?
6727 046040 103006             BCC      220$               ; NO
6728 046042                               ERRHRD  091.,ERR022,MSG007 ; YES, REPORT ERROR
6729 046042 104456                               TRAP    C$ERHRD

```

E16

```

046044 000133
046046 026444
046050 024442
6729 046052          ESCAPE TST          ; AND ABORT TEST
    046052 104410
    046054 000156
6730
6731 046056          ; 220$:
6732 046056 012705 010474      MOV     #RBUF+32,R5      ; BASE ADDRESS
6733                                     ;         OFFSET TO CRC
6734 046062 004737 032576      JSR     PC,CMPCRC        ; ERRORS ?
6735 046066 103006      BCC    230$              ; NO
6736 046070          ERRHRD 092.,ERR023,MSG008 ; YES, REPORT ERROR
    046070 104456          TRAP   C$ERHRD
    046072 000134          .WORD 92
    046074 026513          .WORD ERR023
    046076 024474          .WORD MSG008
6737 046100          ESCAPE TST          ; AND ABORT TEST
    046100 104410          TRAP   C$ESCAPE
    046102 000130          .WORD L10043-.
6738
6739 046104 012777 004100 134114 ; 230$:
6740 046112 112777 000117 134106  MOV     #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6741 046120 004737 030706      MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
6742 046124 103010      JSR     PC,CHKDNI        ; DNI ?
6743 046126          BCC    240$              ; YES
    046126 004737 031010      JSR     PC,CHKFTL        ; 'FATL' BIT SET?
6744 046132          ERRHRD 093.,ERR019,MSG003 ; NO, REPORT ERROR
    046132 104456          TRAP   C$ERHRD
    046134 000135          .WORD 93
    046136 026222          .WORD ERR019
    046140 024032          .WORD MSG003
6745 046142          ESCAPE TST          ; AND ABORT TEST
    046142 104410          TRAP   C$ESCAPE
    046144 000066          .WORD L10043-.
6746
6747 046146 004737 032320      ; 240$:
6748          JSR     PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6749 046152 103010      BCC    250$              ; ERROR ?
6750 046154          FTL                                     ; NO
    046154 004737 031010      JSR     PC,CHKFTL        ; 'FATL' BIT SET?
6751 046160          ERRHRD 094.,ERR006,MSG003 ; YES, REPORT ERROR
    046160 104456          TRAP   C$ERHRD
    046162 000136          .WORD 94
    046164 025124          .WORD ERR006
    046166 024032          .WORD MSG003
6752 046170          ESCAPE TST          ; AND ABORT TEST
    046170 104410          TRAP   C$ESCAPE
    046172 000040          .WORD L10043-.
6753 046174          ; 250$:
6754          EXIT    TST
6755 046174 104432          TRAP   C$EXIT

```

F16

```
046176 000034 .WORD L10043-
6756
6757 ;LOCAL TEST MESSAGE
6758
6759 046200 104 105 114 T13ID: .ASCIZ 'DELUA INTERNAL LOOPBACK '
      046203 125 101 040
      046206 111 116 124
      046211 105 122 116
      046214 101 114 040
      046217 114 117 117
      046222 120 102 101
      046225 103 113 040
      046230 000
6760 .EVEN
6761
6762 046232 ENDTST
      046232
      046232 104401 L10043: TRAP C#ETST
```


6764
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.SBTTL TEST 14: CRC CHECKING TEST

```

:*****
:
:   THIS TEST VERIFIES THAT CRC CHECKING MODE IS OPERATIONAL.
:   AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
:   THE DISABLE TRANSMIT CRC MODE.
:   WITH A GOOD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
:   AN ERROR FREE LOOPBACK IS EXPECTED.
:
:   TEST SEQUENCE:
:       1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
:           and DISABLE TRANSMIT CRC MODE
:       2. WRITE RING FORMAT
:       3. WRITE PHYSICAL ADDRESS
:       4. SET UP RINGS AND BUFFERS
:       5. APPEND GOOD CRC VALUE TO TRANSMIT BUFFER
:       6. ISSUE START
:       7. CHECK FOR ERRORS
:       8. ISSUE STOP
:*****
    
```

6787 046234
 046234
 6788
 6789 046234

BGNTST

T14::

PNTMAC T14ID

046234 012704 047564
 046240 004737 034610

```

MOV #T14ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
    
```

; END OF MACRO EXPANSION OF 'PNTMAC'

6790 046244 004737 035310
 6791 046250 103034
 6792 046252 012777 004100 133746
 6793 046260 112777 000140 133740
 6794 046266 004737 032034
 6795 046272 103010
 6796 046274

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOV #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL
    
```

046274 004737 031010

```

JSR PC,CHKFTL ; 'FATL' BIT SET?
    
```

6797 046300
 046300 104456
 046302 000137
 046304 030105
 046306 024032

```

ERRHRD 095.,ERR042,MSG003 ; NO, REPORT ERROR
    
```

```

;B0
C$ERRHRD
.WORD 95
.WORD ERR042
.WORD MSG003
    
```

6798 046310
 046310 104410
 046312 001276

```

ESCAPE TST ; AND ABORT TEST
    
```

```

TRAP C$ESCAPE
.WORD L10044-.
    
```

6799
 6800 046314 004737 032320
 6801
 6802 046320 103010
 6803 046322

```

;20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
BCC 30$
FTL
    
```

H16

```

046322 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6804 046326      ERRHRD 096.,ERR006,MSG003 ; YES, REPORT ERROR
      046326 104456      TRAP      C$ERHRD
      046330 000140      .WORD    96
      046332 025124      .WORD    ERR006
      046334 024032      .WORD    MSG003
6805 046336      ESCAPE TST      ; AND ABORT TEST
      046336 104410      TRAP      C$ESCAPE
      046340 001250      .WORD    L10044-.
6806
6807 046342      ;30$:
6808 046342 004737 032246      JSR      PC,CLRBUF      ; CLEAR XMIT,RCV BUFFERS
6809 046346 004737 033606      JSR      PC,LDDFLT      ; LOAD DEF PHY.ADDRESS TABLES
6810 046352 004737 033706      JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
6811 046356 012777 004100 133642      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6812 046364 112777 000101 133634      MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6813 046372 004737 030706      JSR      PC,CHKDNI      ; DNI?
6814 046376 103010      BCC     40$           ; YES
6815 046400
      046400 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6816 046404      ERRHRD 097.,ERR009,MSG003 ; NO, REPORT ERROR
      046404 104456      TRAP      C$ERHRD
      046406 000141      .WORD    97
      046410 025341      .WORD    ERR009
      046412 024032      .WORD    MSG003
6817 046414      ESCAPE TST      ; AND ABORT TEST
      046414 104410      TRAP      C$ESCAPE
      046416 001172      .WORD    L10044-.
6818
6819 046420 004737 032320      ;40$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6820                                ; ERROR ?
6821 046424 103010      BCC     50$           ; NO
6822 046426
      046426 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6823 046432      ERRHRD 100.,ERR006,MSG003 ; YES, REPORT ERROR
      046432 104456      TRAP      C$ERHRD
      046434 000144      .WORD    100
      046436 025124      .WORD    ERR006
      046440 024032      .WORD    MSG003
6824 046442      ESCAPE TST      ; AND ABORT TEST
      046442 104410      TRAP      C$ESCAPE
      046444 001144      .WORD    L10044.
6825
6826                                ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
6827
6828 046446 012705 014622      ;50$: MOV      #WTFMOD2,R5      ; WRITE MODE FUNCTION, DISABLE
6829                                ; TRANSMIT CRC
6830 046452 004737 033656      JSR      PC,LDPCBB      ; LOAD FUNCTION -> PCBB
6831 046456 012777 004100 133542      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6832 046464 112777 000102 133534      MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6833 046472 004737 030706      JSR      PC,CHKDNI      ; DNI ?
6834 046476 103010      BCC     60$           ; YES

```

```

6835 046500                                FTL
      046500 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
6836 046504                                ERRHRD 101.,ERR010,MSG003        ; NO, REPORT ERROR
      046504 104456                                TRAP  C$ERRHRD
      046506 000145                                .WORD 101
      046510 025425                                .WORD ERR010
      046512 024032                                .WORD MSG003
6837 046514                                ESCAPE TST                        ; AND ABORT TEST
      046514 104410                                TRAP  C$ESCAPE
      046516 001072                                .WORD L10044-.
6838
6839 046520 004737 032320                ;60$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6840
6841 046524 103010                BCC    70$                        ; ERROR ?
6842 046526                                FTL                                ; NO
      046526 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
6843 046532                                ERRHRD 102.,ERR006,MSG003        ; YES, REPORT ERROR
      046532 104456                                TRAP  C$ERRHRD
      046534 000146                                .WORD 102
      046536 025124                                .WORD ERR006
      046540 024032                                .WORD MSG003
6844 046542                                ESCAPE TST                        ; AND ABORT TEST
      046542 104410                                TRAP  C$ESCAPE
      046544 001044                                .WORD L10044-.
6845
6846                                ;WRITE RING FORMAT
6847
6848 046546 012705 014542                ;70$: MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
6849 046552 004737 033656                JSR    PC,LDPCBB                 ; LOAD FUNCTION -> PCBB
6850 046556 012705 014706                MOV    #RFRMT,R5                ; DEFAULT RING FORMAT
6851 046562 012700 000006                MOV    #6,R0                     ; FORMAT = SIX WORDS
6852 046566 004737 034134                JSR    PC,LDUDBB                 ; LOAD RING FORMAT -> UDBB
6853 046572 012777 004100 133426        MOV    #DNI!INTE,@PCSRO         ; PRECONDITION INTR EN.
6854 046600 112777 000102 133420        MOVB   #INTE!GETCMD,@PCSRO      ; ISSUE GET_CMD PORT COMMAND
6855 046606 004737 030706                JSR    PC,CHKDNI                 ; DNI ?
6856 046612 103010                BCC    80$                        ; YES
6857 046614                                FTL
      046614 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
6858 046620                                ERRHRD 103.,ERR010,MSG003        ; NO, REPORT ERROR
      046620 104456                                TRAP  C$ERRHRD
      046622 000147                                .WORD 103
      046624 025425                                .WORD ERR010
      046626 024032                                .WORD MSG003
6859 046630                                ESCAPE TST                        ; AND ABORT TEST
      046630 104410                                TRAP  C$ESCAPE
      046632 000756                                .WORD L10044-.
6860
6861 046634 004737 032320                ;80$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6862
6863 046640 103010                BCC    90$                        ; ERROR ?
6864 046642                                FTL                                ; NO

```

J16

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046642 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6865 046646      ERRHRD 104.,ERR006,MSG003 ; YES, REPORT ERROR
      046646      104456      TRAP      C$ERRHRD
      046650      000150      .WORD     104
      046652      025124      .WORD     ERR006
      046654      024032      .WORD     MSG003
6866 046656      ESCAPE  TST      ; AND ABORT TEST
      046656      104410      TRAP      C$ESCAPE
      046660      000730      .WORD     L10044-.
6867
6868      ;WRITE PHYSICAL ADDRESS
6869
6870 046662      90$:
6871 046662      012705 002274      MOV      #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
6872 046666      004737 033724      JSR      PC,LDPHYA      ; STORE IT IN DEFAULT TABLE
6873 046672      012705 014502      MOV      #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
6874 046676      004737 033656      JSR      PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
6875 046702      012777 004100 133316      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6876 046710      112777 000102 133310      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6877 046716      004737 030706      JSR      PC,CHKDNI      ; DNI ?
6878 046722      103010      BCC     100$      ; YES
6879 046724      FTL

046724 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6880 046730      ERRHRD 105.,ERR010,MSG003 ; NO, REPORT ERROR
      046730      104456      TRAP      C$ERRHRD
      046732      000151      .WORD     105
      046734      025425      .WORD     ERR010
      046736      024032      .WORD     MSG003
6881 046740      ESCAPE  TST      ; AND ABORT TEST
      046740      104410      TRAP      C$ESCAPE
      046742      000646      .WORD     L10044-.
6882
6883 046744      004737 032320      i100$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6884
6885 046750      103010      BCC     110$      ; ERROR ?
6886 046752      FTL      ; NO

046752 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6887 046756      ERRHRD 106.,ERR006,MSG003 ; YES, REPORT ERROR
      046756      104456      TRAP      C$ERRHRD
      046760      000152      .WORD     106
      046762      025124      .WORD     ERR006
      046764      024032      .WORD     MSG003
6888 046766      ESCAPE  TST      ; AND ABORT TEST
      046766      104410      TRAP      C$ESCAPE
      046770      000620      .WORD     L10044-.
6889
6890      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6891
6892 046772      012705 016452      110$: MOV      #TDRB1B,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
6893 046776      004737 034040      JSR      PC,LDTDRB      ; LOAD TDRB
6894 047002      012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING

```

K16

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TEST 14: CRC CHECKING TEST

SEQ 205

```

6895 047006 004737 03374^          JSR    PC,LDRDRB          ; LOAD RDRB
6896                                     ;
6897                                     ;SET UP BUFFERS AND START
6898                                     ;
6899 047012 012737 000001 020564    MOV    #1,DOCRC          ; APPEND CRC AND SAVE
6900 047020 012737 000006 020562    MOV    #6,BYTCNT        ; DATA BYTES/PACKET
6901 047026 004737 034662          JSR    PC,SETBUF        ; SET UP BUFFERS
6902                                     ;
6903 047032 012777 004100 133166    MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6904 047040 112777 000104 133160    MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
6905 047046 004737 030706          JSR    PC,CHKDNI        ; DNI?
6906 047052 103010          BCC    120$             ; YES
6907 047054          FTL

          047054 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

6908 047060          ERRHRD 107.,ERR012,MSG003 ; NO, REPORT ERROR
          047060 104456          TRAP   C$ERHRD
          047062 000153          .WORD 107
          047064 025543          .WORD ERR012
          047066 024032          .WORD MSG003
6909 047070          ESCAPE TST          ; AND ABORT TEST
          047070 104410          TRAP   C$ESCAPE
          047072 000516          .WORD L10044-.

6910                                     ;
6911 047074 004737 032320          i120$: JSR    PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
6912                                     ; ERROR ?
6913 047100 103010          BCC    130$             ; NO
6914 047102          FTL

          047102 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

6915 047106          ERRHRD 110.,ERR006,MSG003 ; YES, REPORT ERROR
          047106 104456          TRAP   C$ERHRD
          047110 000156          .WORD 110
          047112 025124          .WORD ERR006
          047114 024032          .WORD MSG003
6916 047116          ESCAPE TST          ; AND ABORT TEST
          047116 104410          TRAP   C$ESCAPE
          047120 000470          .WORD L10044-.

6917                                     ;
6918 047122 004737 031724          i130$: JSR    PC,CHKTXI    ; TXI ?
6919 047126 103010          BCC    140$             ; YES
6920 047130          FTL

          047130 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

6921 047134          ERRHRD 111.,ERR013,MSG003 ; NO, REPORT ERROR
          047134 104456          TRAP   C$ERHRD
          047136 000157          .WORD 111
          047140 025624          .WORD ERR013
          047142 024032          .WORD MSG003
6922 047144          ESCAPE TST          ; AND ABORT TEST
          047144 104410          TRAP   C$ESCAPE
          047146 000442          .WORD L10044-.

6923                                     ;
6924 047150 004737 032502          i140$: JSR    PC,CLRTXI    ; WRITE ONE TO CLEAR TXI

```

L16

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TEST 14: CRC CHECKING TEST

SEQ 206

6925											
6926	047154	103010		BCC	150\$; ERROR ?
6927	047156			FTL							; NO
	047156	004737	031010	JSR	PC,CHKFTL						; 'FATL' BIT SET?
6928	047162			ERRHRD	112.,ERR014,MSG003						; YES, REPORT ERROR
	047162	104456							TRAP		C\$ERHRD
	047164	000160							.WORD		112
	047166	025655							.WORD		ERR014
	047170	024032							.WORD		MSG003
6929	047172			ESCAPE	TST						; AND ABORT TEST
	047172	104410							TRAP		C\$ESCAPE
	047174	000414							.WORD		L10044-
6930											
6931	047176	012705	002622			i150\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
6932	047202	004737	031162				JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
6933	047206	103010					BCC	160\$; YES
6934	047210						FTL				
	047210	004737	031010	JSR	PC,CHKFTL						; 'FATL' BIT SET?
6935	047214			ERRHRD	113.,ERR018						; NO, REPORT ERROR
	047214	104456							TRAP		C\$ERHRD
	047216	000161							.WORD		113
	047220	026122							.WORD		ERR018
	047222	000000							.WORD		0
6936	047224			ESCAPE	TST						; AND ABORT TEST
	047224	104410							TRAP		C\$ESCAPE
	047226	000362							.WORD		L10044 .
6937											
6938	047230	012705	020276			i160\$:	MOV	#TDR15A,R5			; POINT TO EXPECTED TDRB
6939	047234	004737	034244				JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE
6940	047240	012705	002622				MOV	#TDRB,R5			; CHECK TDRB
6941	047244	004737	031636				JSR	PC,CHKTOR			; ERRORS ?
6942	047250	103010					BCC	170\$; NO
6943	047252						FTL				
	047252	004737	031010	JSR	PC,CHKFTL						; 'FATL' BIT SET?
6944	047256			ERRHRD	114.,ERR020,MSG005						; YES, REPORT ERROR
	047256	104456							TRAP		C\$ERHRD
	047260	000162							.WORD		114
	047262	026302							.WORD		ERR020
	047264	024136							.WORD		MSG005
6945	047266			ESCAPE	TST						; AND ABORT TEST
	047266	104410							TRAP		C\$ESCAPE
	047270	000320							.WORD		L10044-
6946											
6947	047272	004737	031454			i170\$:	JSR	PC,CHKRXI			; RXI ?
6948	047276	103010					BCC	180\$; YES
6949	047300						FTL				
	047300	004737	031010	JSR	PC,CHKFTL						; 'FATL' BIT SET?
6950	047304			ERRHRD	115.,ERR015,MSG003						; NO, REPORT ERROR
	047304	104456							TRAP		C\$ERHRD

B1

```

6976                                     ;COMPARE RBUF WITH TBUF
6977
6978 047442 013705 020562                210$: MOV     BYTCNT,R5                ; COMPARE DATA
6979 047446 004737 032646                JSR     PC,CMPDAT                ; DATA COMPARE ERROR ?
6980 047452 103006                        BCC    230$                       ; NO
6981 047454                                ERRHRD 121.,ERR022,MSG007         ; YES, REPORT ERROR
                                TRAP   C$ERHRD
                                .WORD  121
                                .WORD  ERR022
                                .WORD  MSG007
                                047454 104456
                                047455 000171
                                047460 026444
                                047462 024442
6982 047464                                ESCAPE TST                        ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10044-.
                                047464 104410
                                047466 000122
6983
6984 047470 012777 004100 132530        i 230$: MOV     #DNI!INTE,@PCSR0        ; PRECONDITION INTR EN.
6985 047476 112777 000117 132522        MOVB   #INTE!STOP,@PCSR0        ; ISSUE STOP PORT COMMAND
6986 047504 004737 030706                JSR     PC,CHKDNI                ; DNI ?
6987 047510 103010                        BCC    240$                       ; YES
6988 047512                                FTL
                                JSR     PC,CHKFTL                ; 'FATL' BIT SET?
                                ERRHRD 122.,ERR019,MSG003         ; NO, REPORT ERROR
                                TRAP   C$ERHRD
                                .WORD  122
                                .WORD  ERR019
                                .WORD  MSG003
6989 047516                                ESCAPE TST                        ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10044-.
                                047516 104456
                                047520 000172
                                047522 026222
                                047524 024032
6990 047526                                ESCAPE TST                        ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10044-.
                                047526 104410
                                047530 000060
6991
6992 047532 004737 032320                i 240$: JSR     PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6993                                BCC    250$                       ; ERROR ?
6994 047536 103010                        FTL
6995 047540                                JSR     PC,CHKFTL                ; 'FATL' BIT SET?
                                ERRHRD 123.,ERR006,MSG003         ; YES, REPORT ERROR
                                TRAP   C$ERHRD
                                .WORD  123
                                .WORD  ERR006
                                .WORD  MSG003
6996 047544                                ESCAPE TST                        ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10044-.
                                047544 104456
                                047546 000173
                                047550 025124
                                047552 024032
6997 047554                                ESCAPE TST                        ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10044-.
                                047554 104410
                                047556 000032
6998 047560                                250$:
6999
7000 047560                                EXIT  TST
                                TRAP   C$EXIT
                                .WORD  L10044-.
                                047560 104432
                                047562 000026

```


CI

```
7002  
7003 ;LOCAL TEST MESSAGE  
7004 047564 104 105 114 T14ID: .ASCIZ 'DELUA CRC CHECKING '  
047567 125 101 040  
047572 103 122 103  
047575 040 103 110  
047600 105 103 113  
047603 111 116 107  
047606 040 000  
7005 .EVEN  
7006  
7007 047610 ENDTST  
047610  
047610 104401
```

L10044: TRAP C#ETST

D1

7009
7010
7011
7012
7013
7014
7015
7016
7017
7018
7019
7020
7021
7022
7023
7024
7025
7026
7027
7028
7029
7030
7031

.SBTTL TEST 15: FORCE CRC ERROR TEST

```

*****
:
: THIS TEST VERIFIES THAT A CRC ERROR CAN BE DETECTED.
: AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
: THE DISABLE TRANSMIT CRC MODE.
: WITH A BAD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
: A CRC ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE TRANSMIT CRC MODE
:
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. APPEND BAD CRC VALUE TO TRANSMIT BUFFER
: 6. ISSUE START
: 7. CHECK FOR CRC ERROR IN RDRB+4
: 8. ISSUE STOP
:
*****

```

7032 047612
047612
7033
7034 047612

BGNTST

T15::

PNTMAC T15ID

047612 012704 051174
047616 004737 034610

MOV #T15ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

7035 047622 004737 035310
7036 047626 103034
7037 047630 012777 004100 13237C
7038 047636 112777 000140 132362
7039 047644 004737 032034
7040 047650 103010
7041 047652

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30# ; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
FTL

047652 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7042 047656
047656 104456
047660 000174
047662 030105
047664 024032

ERRHRD 124.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
C\$ERRHRD
.WORD 124
.WORD ERR042
.WORD MSG003

7043 047666
047666 104410
047670 001374

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10045-

7044
7045 047672 004737 032320
7046
7047 047676 103010
7048 047700

: 20#:

JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30# ; NO
FTL

E1

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TEST 15: FORCE CRC ERROR TEST

SEQ 211

```

047700 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
7049 047704          ERRHRD  125.,ERR006,MSG003 ; YES, REPORT ERROR
047704          104456          TRAP    C$ERHRD
047706          000175          .WORD  125
047710          025124          .WORD  ERR006
047712          024032          .WORD  MSG003
7050 047714          ESCAPE  TST                ; AND ABORT TEST
047714          104410          TRAP    C$ESCAPE
047716          001306          .WORD  L10045-.
7051
7052 047720          ;
7053 047720 004737 032246          JSR      PC,CLRBUF          ; CLEAR TRANSMIT AND RECV BUFFERS
7054 047724 004737 033606          JSR      PC,LDDFLT          ; LOAD DEFAULT PHY.ADDRESS TABLES
7055 047730 004737 033706          JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
7056 047734 012777 004100 132264 MOV      @DNI!INTE,@PCSR0
7057 047742 112777 000101 132256 MOVB    @INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7058 047750 004737 030706          JSR      PC,CHKDNI          ; DNI?
7059 047754 103010          BCC     40$                ; YES
7060 047756          FTL
047756 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
7061 047762          ERRHRD  126.,ERR009,MSG003 ; NO, REPORT ERROR
047762          104456          TRAP    C$ERHRD
047764          000176          .WORD  126
047766          025341          .WORD  ERR009
047770          024032          .WORD  MSG003
7062 047772          ESCAPE  TST                ; AND ABORT TEST
047772          104410          TRAP    C$ESCAPE
047774          001230          .WORD  L10045-.
7063
7064 047776 004737 032320          ;
7065          40$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7066 050002 103010          BCC     50$                ; ERROR ?
7067 050004          FTL                          ; NO
050004 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
7068 050010          ERRHRD  127.,ERR006,MSG003 ; YES, REPORT ERROR
050010          104456          TRAP    C$ERHRD
050012          000177          .WORD  127
050014          025124          .WORD  ERR006
050016          024032          .WORD  MSG003
7069 050020          ESCAPE  TST                ; AND ABORT TEST
050020          104410          TRAP    C$ESCAPE
050022          001202          .WORD  L10045-.
7070
7071          ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
7072
7073 050024 012705 014622          50$:  MOV      @WTMOD2,R5          ; WRITE MODE FUNCTION, DISABLE
7074          MOV      @WTMOD2,R5          ; TRANSMIT CRC
7075 050030 004737 033656          JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7076 050034 013737 020466 002304 MOV      MODE15,PCBB+2          ; LOAD MODE REGISTER
7077 050042 012777 004100 132156 MOV      @DNI!INTE,@PCSR0
7078 050050 112777 000102 132150 MOVB    @INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7079 050056 004737 030706          JSR      PC,CHKDNI          ; DNI ?

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F1

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7080 050062 103010          BCC 60$          ; YES
7081 050064          FTL
      050064 004737 031010    JSR  PC,CHKFTL    ; 'FATL' BIT SET?
7082 050070          ERRHRD 130.,ERR010,MSG003 ; NO, REPORT ERROR
      050070 104456          TRAP  C$ERRHRD
      050072 000202          .WORD 130
      050074 025425          .WORD ERR010
      050076 024032          .WORD MSG003
7083 050100          ESCAPE TST          ; AND ABORT TEST
      050100 104410          TRAP  C$ESCAPE
      050102 001122          .WORD L10045-.
7084
7085 050104 004737 032320    ;60$: JSR  PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7086
7087 050110 103010          BCC 70$          ; ERROR ?
7088 050112          FTL          ; NO
      050112 004737 031010    JSR  PC,CHKFTL    ; 'FATL' BIT SET?
7089 050116          ERRHRD 131.,ERR006,MSG003 ; YES, REPORT ERROR
      050116 104456          TRAP  C$ERRHRD
      050120 000203          .WORD 131
      050122 025124          .WORD ERR006
      050124 024032          .WORD MSG003
7090 050126          ESCAPE TST          ; AND ABORT TEST
      050126 104410          TRAP  C$ESCAPE
      050130 001074          .WORD L10045-.
7091
7092          ;WRITE RING FORMAT
7093
7094 050132 012705 014542    ;70$: MOV  #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
7095 050136 004737 033656    JSR  PC,LDPCCB    ; LOAD FUNCTION -> PCBB
7096 050142 012705 014706    MOV  #RFRMT,R5  ; DEFAULT RING FORMAT
7097 050146 012700 000006    MOV  #6,R0       ; FORMAT = SIX WORDS
7098 050152 004737 034134    JSR  PC,LDUDBB   ; LOAD RING FORMAT -> UDBB
7099 050156 012777 004100 132042 MOV  #DNI!INTE,@PCSR0
7100 050164 112777 000102 132034 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7101 050172 004737 030706    JSR  PC,CHKDNI  ; DNI ?
7102 050176 103010          BCC 80$          ; YES
7103 050200          FTL
      050200 004737 031010    JSR  PC,CHKFTL    ; 'FATL' BIT SET?
7104 050204          ERRHRD 132.,ERR010,MSG003 ; NO, REPORT ERROR
      050204 104456          TRAP  C$ERRHRD
      050206 000204          .WORD 132
      050210 025425          .WORD ERR010
      050212 024032          .WORD MSG003
7105 050214          ESCAPE TST          ; AND ABORT TEST
      050214 104410          TRAP  C$ESCAPE
      050216 001006          .WORD L10045-.
7106
7107 050220 004737 032320    ;80$: JSR  PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7108
7109 050224 103010          BCC 90$          ; ERROR ?
                          ; NO
  
```

G1

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7110 050226                                FTL
      050226 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7111 050232                                ERRHRD 133.,ERR006,MSG003        ; YES, REPORT ERROR
      050232 104456                                TRAP  C$ERHRD
      050234 000205                                .WORD 133
      050236 025124                                .WORD ERR006
      050240 024032                                .WORD MSG003
7112 050242                                ESCAPE TST                        ; AND ABORT TEST
      050242 104410                                TRAP  C$ESCAPE
      050244 000760                                .WORD L10045 .
7113
7114                                ;WRITE PHYSICAL ADDRESS
7115
7116 050246                                90$:
7117 050246 012705 002274                MOV    #DEFAULT,R5                ; GET DEFAULT PHYSICAL ADDRESS
7118 050252 004737 033724                JSR    PC,LDPHYA                  ; SAVE IT IN DEFAULT TABLE
7119 050256 012705 014502                MOV    #WTPHYA,R5                ; DEFAULT WRITE PHYSICAL ADDR FUNC
7120 050262 004737 033656                JSR    PC,LDPCBB                  ; LOAD FUNCTION > PCBB
7121 050266 012777 004100 131732        MOV    #DNI!INTE,@PCSR0
7122 050274 112777 000102 131724        MOVB   #INTE!GETCMD,@PCSR0        ; ISSUE GET_CMD PORT COMMAND
7123 050302 004737 030706                JSR    PC,CHKDNI                  ; DNI ?
7124 050306 103010                BCC    100$                        ; YES
7125 050310                                FTL
      050310 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7126 050314                                ERRHRD 134.,ERR010,MSG003        ; NO, REPORT ERROR
      050314 104456                                TRAP  C$ERHRD
      050316 000206                                .WORD 134
      050320 025425                                .WORD ERR010
      050322 024032                                .WORD MSG003
7127 050324                                ESCAPE TST                        ; AND ABORT TEST
      050324 104410                                TRAP  C$ESCAPE
      050326 000676                                .WORD L10045 .
7128
7129 050330 004737 032320                i100$: JSR    PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
7130
7131 050334 103010                BCC    110$                        ; ERROR ?
7132 050336                                FTL                                ; NO
      050336 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7133 050342                                ERRHRD 135.,ERR006,MSG003        ; YES, REPORT ERROR
      050342 104456                                TRAP  C$ERHRD
      050344 000207                                .WORD 135
      050346 025124                                .WORD ERR006
      050350 024032                                .WORD MSG003
7134 050352                                ESCAPE TST                        ; AND ABORT TEST
      050352 104410                                TRAP  C$ESCAPE
      050354 000650                                .WORD L10045 .
7135
7136                                ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7137
7138 050356 012705 016452                110$: MOV    #TDRB1B,R5            ; DEFAULT ONE BUFFER TRANSMIT RING
7139 050362 004737 034040                JSR    PC,LDTDRB                  ; LOAD TDRB

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HI

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7140 050366 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
7141 050372 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB
7142
7143                          ;SET UP BUFFERS AND START
7144
7145 050376 012705 002304      MOV      #PCBB+2,R5     ; POINT TO DESTINATION ADDRESS
7146 050402 004737 033560      JSR      PC,LDDEST      ; LOAD DEST
7147 050406 012737 000001 020564  MOV      #1,DOCRC       ; APPEND CRC
7148 050414 012737 000006 020562  MOV      #6,BYTCNT      ; DATA BYTES/PACKET
7149 050422 004737 034662      JSR      PC,SETBUF      ; SET UP BUFFERS
7150 050426 012700 004440      MOV      #TBUF,RO       ; BASE ADDRESS
7151 050432 062700 000034      ADD      #34,RO         ; OFFET TO CRC
7152 050436 005020                CLR      (RO)+          ; ALTER DATA TO CAUSE
7153 050440 005020                CLR      (RO)+          ;   CRC ERROR W/CALCULATED
7154 050442 012777 004100 131556  MOV      #DNI!INTE,@PCSR0
7155 050450 112777 000104 131550  MOVVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
7156 050456 004737 030706      JSR      PC,CHKDNI      ; DNI?
7157 050462 103010                BCC     120$           ; YES
7158 050464

      050464 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

7159 050470      ERRHRD 136.,ERR012,MSG003 ; NO, REPORT ERROR
      050470 104456                TRAP    C$ERRHRD
      050472 000210                .WORD  136
      050474 025543                .WORD  ERR012
      050476 024032                .WORD  MSG003

7160 050500      ESCAPE TST                ; AND ABORT TEST
      050500 104410                TRAP    C$ESCAPE
      050502 000522                .WORD  L10045

7161
7162 050504 004737 032320      i120$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7163                          ; ERROR ?
7164 050510 103010                BCC     130$           ; NO
7165 050512

      050512 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

7166 050516      ERRHRD 137.,ERR006,MSG003 ; YES, REPORT ERROR
      050516 104456                TRAP    C$ERRHRD
      050520 000211                .WORD  137
      050522 025124                .WORD  ERR006
      050524 024032                .WORD  MSG003

7167 050526      ESCAPE TST                ; AND ABORT TEST
      050526 104410                TRAP    C$ESCAPE
      050530 000474                .WORD  L10045-.

7168
7169 050532 004737 031724      i130$: JSR      PC,CHKTXI      ; XI ?
7170 050536 103010                BCC     140$           ; YES
7171 050540

      050540 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

7172 050544      ERRHRD 140.,ERR013,MSG003 ; NO, REPORT ERROR
      050544 104456                TRAP    C$ERRHRD
      050546 000214                .WORD  140
      050550 025624                .WORD  ERR013

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7173	050552	024032										.WORD	MSG003
	050554			ESCAPE	TST			:	AND ABORT TEST			TRAP	C\$ESCAPE
	050554	104410										.WORD	L10045 .
	050556	000446										.WORD	
7174													
7175	050560	004737	032502	i40\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI				
7176									; ERROR ?				
7177	050564	103010			BCC	150\$; NO				
7178	050566				FTL								
	050566	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?				
7179	050572				ERRHRD	141.,ERR014,MSG003			; YES, REPORT ERROR			TRAP	C\$ERHRD
	050572	104456										.WORD	141
	050574	000215										.WORD	ERR014
	050576	025655										.WORD	MSG003
	050600	024032										.WORD	
7180	050602				ESCAPE	TST			; AND ABORT TEST			TRAP	C\$ESCAPE
	050602	104410										.WORD	L10045-.
	050604	000420										.WORD	
7181													
7182	050606	012705	002622	i50\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP				
7183	050612	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?				
7184	050616	103010			BCC	160\$; YES				
7185	050620				FTL								
	050620	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?				
7186	050624				ERRHRD	142.,ERR018			; NO, REPORT ERROR			TRAP	C\$ERHRD
	050624	104456										.WORD	142
	050626	000216										.WORD	ERR018
	050630	026122										.WORD	0
	050632	000000										.WORD	
7187	050634				ESCAPE	TST			; AND ABORT TEST			TRAP	C\$ESCAPE
	050634	104410										.WORD	L10045-.
	050636	000366										.WORD	
7188													
7189	050640	012705	020276	i60\$:	MOV	#TDR15A,R5			; POINT TO EXPECTED TDRB				
7190	050644	004737	034244		JSR	PC,LXTDR			; LOAD INTO XTDRBO TABLE				
7191	050650	012705	002622		MOV	#TDRB,R5			; CHECK TDRB				
7192	050654	004737	031636		JSR	PC,CHKTDR			; ERRORS ?				
7193	050660	103010			BCC	170\$; NO				
7194	050662				FTL								
	050662	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?				
7195	050666				ERRHRD	143.,ERR020,MSG005			; YES, REPORT ERROR			TRAP	C\$ERHRD
	050666	104456										.WORD	143
	050670	000217										.WORD	ERR020
	050672	026302										.WORD	MSG005
	050674	024136										.WORD	
7196	050676				ESCAPE	TST			; AND ABORT TEST			TRAP	C\$ESCAPE
	050676	104410										.WORD	L10045-.
	050700	000324										.WORD	
7197													
7198	050702	004737	031454	i70\$:	JSR	PC,CHKRXI			; RXI ?				
7199	050706	103010			BCC	180\$; YES				

J1

7200	050710			FTL				
	050710	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7201	050714			ERRHRD	144.,ERR015,MSG003		; NO, REPORT ERROR	
	050714	104456				TRAP	C\$ERHRD	
	050716	000220				.WORD	144	
	050720	025723				.WORD	ERR015	
	050722	024032				.WORD	MSG003	
7202	050724			ESCAPE	TST		; AND ABORT TEST	
	050724	104410				TRAP	C\$ESCAPE	
	050726	000276				.WORD	L10045-	
7203								
7204	050730	004737	032434	i180\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
7205								; ERROR ?
7206	050734	103010			BCC	190\$; NO
7207	050736				FTL			
	050736	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
7208	050742			ERRHRD	145.,ERR016,MSG003		; YES, REPORT ERROR	
	050742	104456				TRAP	C\$ERHRD	
	050744	000221				.WORD	145	
	050746	025754				.WORD	ERR016	
	050750	024032				.WORD	MSG003	
7209	050752			ESCAPE	TST		; AND ABORT TEST	
	050752	104410				TRAP	C\$ESCAPE	
	050754	000250				.WORD	L10045 .	
7210								
7211	050756	012705	002662	i190\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
7212	050762	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
7213	050766	103010			BCC	200\$; YES
7214	050770				FTL			
	050770	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
7215	050774			ERRHRD	146.,ERR017		; NO, REPORT ERROR	
	050774	104456				TRAP	C\$ERHRD	
	050776	000222				.WORD	146	
	051000	026022				.WORD	ERR017	
	051002	000000				.WORD	0	
7216	051004			ESCAPE	TST		; AND ABORT TEST	
	051004	104410				TRAP	C\$ESCAPE	
	051006	000216				.WORD	L10045-	
7217								
7218	051010	012705	020406	i200\$:	MOV	#RDR15A,R5		; POINT TO EXPECTED RDRB
7219	051014	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
7220	051020	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
7221	051024	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
7222	051030	103010			BCC	210\$; NO
7223	051032				FTL			
	051032	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
7224	051036			ERRHRD	147.,ERR021,MSG006		; YES, REPORT ERROR	
	051036	104456				TRAP	C\$ERHRD	
	051040	000223				.WORD	147	

K1

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051042 026363 .WORD ERR021
051044 024300 .WORD MSG006
7225 051046 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
051046 104410 .WORD L10045 .
051050 000154

7226
7227 ;COMPARE RBUF WITH TBUF
7228
7229 051052 013705 020562 210$: MOV BYTCNT,R5 ; COMPARE DATA
7230 051056 004737 032646 JSR PC,CMPDAT ; DATA COMPARE ERROR ?
7231 051062 103006 BCL 230$ ; NO
7232 051064 ERRHRD 150.,ERR022,MSG007 ; YES, REPORT ERROR
051064 104456 TRAP C$ERHRD
051066 000226 .WORD 150
051070 026444 .WORD ERR022
051072 024442 .WORD MSG007
7233 051074 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
051074 104410 .WORD L10045-.
051076 000126

7234
7235 051100 012777 004100 131120 230$: MOV #DNI!INTE,@PCSR0
7236 051106 112777 000117 131112 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
7237 051114 004737 030706 JSR PC,CHKDNI ; DNI ?
7238 051120 103010 BCC 240$ ; YES
7239 051122 FTL

051122 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

7240 051126 ERRHRD 151.,ERR019,MSG003 ; NO, REPORT ERROR
051126 104456 TRAP C$ERHRD
051130 000227 .WORD 151
051132 026222 .WORD ERR019
051134 024032 .WORD MSG003
7241 051136 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
051136 104410 .WORD L10045 .
051140 000064

7242
7243 051142 004737 032320 240$: JSR PC,CLR0DNI ; WRITE ONE TO CLEAR DNI
7244 FTL ; ERROR ?
7245 051146 103010 BCC 250$ ; NO
7246 051150 FTL

051150 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

7247 051154 ERRHRD 161.,ERR006,MSG003 ; YES, REPORT ERROR
051154 104456 TRAP C$ERHRD
051156 000241 .WORD 161
051160 025124 .WORD ERR006
051162 024032 .WORD MSG003
7248 051164 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
051164 104410 .WORD L10045 .
051166 000036

7249 051170 250$:
7250 FTL
7251 051170 EXIT TST
051170 104432 TRAP C$EXIT
051172 000032 .WORD L10045 .

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L1

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7252  
7253 ;LOCAL TEST MESSAGE  
7254  
7255 051174 104 105 114 T15TD:.ASCIZ 'DELUA FORCE CRC ERROR '  
051177 125 101 040  
051202 106 117 122  
051205 103 105 040  
051210 103 122 103  
051213 040 105 122  
051216 122 117 122  
051221 040 000
```

7256 .EVEN

7257
7258 ENDTST

051224
051224 104401
051224

L10045: TRAP C\$ETST

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7261
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.SBTTL TEST 16: NO RECEIVE BUFFER TEST

THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
THIS ERROR WILL ONLY OCCUR AFTER 47. RECEIVE ENTRIES
(SIZE OF INTERNAL RECEIVE BUFFER), FOR CASE WHERE NO
RECEIVE BUFFERS ARE OWNED BY THE DELUA.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS WITH 49.
TRANSMIT PACKETS, AND NO RECEIVE
BUFFERS OWNED BY THE DELUA.
5. INSURE 'RECEIVE PACKET LOST' COUNTER IS CLEAR
6. ISSUE START
7. AFTER EACH OF THE FIRST 47. TRANSMISSION'S,
'RECEIVE PACKET LOST' COUNTER SHOULD BE CLEAR,
AND THERE SHOULD BE NO 'RCBI' ERROR
8. FOLLOWING NEXT (48TH) TRANSMISSION, 'RCBI' ERROR
BIT IN PCSRO SHOULD SET AND, 'RECEIVE PACKET LOST'
COUNTER SHOULD BE INCREMENTED TO A ONE.
9. ISSUE STOP

7288 051226
051226
7289
7290 051226

BGNTST

T16::

PNTMAC T16ID

051226 012704 052274
051232 004737 034610

MOV #T16ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

7291 051236 004737 035310
7292 051242 103034
7293 051244 012777 004100 130754
7294 051252 112777 000140 130746
7295 051260 004737 032034
7296 051264 103010
7297 051266

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

051266 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7298 051272
051272 104456
051274 000242
051276 030105
051300 024032
7299 051302
051302 104410
051304 001022

ERRHRD 162.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
C\$ERRHRD
.WORD 162
.WORD ERR042
.WORD MSG003

7300

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10046-.

N1

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7301 051306 004737 032320      20$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7302                                ; ERROR ?
7303 051312 103010            BCC    30$              ; NO
7304 051314                                FTL

      051314 004737 031010      JSR    PC,CHKFTL       ; 'FATL' BIT SET?

7305 051320            ERRHRD 163.,ERR006,MSG003 ; YES, REPORT ERROR
      051320 104456                                TRAP  C$ERHRD
      051322 000243                                .WORD 163
      051324 025124                                .WORD ERR006
      051326 024032                                .WORD MSG003

7306 051330            ESCAPE TST                ; AND ABORT TEST
      051330 104410                                TRAP  C$ESCAPE
      051332 000774                                .WORD L10046 .

7307                                ;
7308 051334            ; 30$:
7309 051334 004737 032246      JSR    PC,CLRBUF       ; CLEAR XMIT, RECV BUFFERS
7310 051340 004737 033606      JSR    PC,LDDFLT       ; LOAD DEFAULT PHY.ADDRESS TABLES
7311 051344 004737 033706      JSR    PC,LDPCSR       ; ADDRESS OF PCBB -> PCSR2!3
7312 051350 012777 004100 130650 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTEPRUPTS
7313 051356 112777 000101 130642 MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7314 051364 004737 030706      JSR    PC,CHKDNI       ; DNI?
7315 051370 103010            BCC    40$              ; YES
7316 051372                                FTL

      051372 004737 031010      JSR    PC,CHKFTL       ; 'FATL' BIT SET?

7317 051376            ERRHRD 164.,ERR009,MSG003 ; NO, REPORT ERROR
      051376 104456                                TRAP  C$ERHRD
      051400 000244                                .WORD 164
      051402 025341                                .WORD ERR009
      051404 024032                                .WORD MSG003

7318 051406            ESCAPE TST                ; AND ABORT TEST
      051406 104410                                TRAP  C$ESCAPE
      051410 000715                                .WORD L10046-.

7319                                ;
7320 051412 004737 032320      40$: JSR    PC,CLRDN1       ; WRITE ONE TO CLEAR DNI
7321                                ; ERROR ?
7322 051416 103010            BCC    50$              ; NO
7323 051420                                FTL

      051420 004737 031010      JSR    PC,CHKFTL       ; 'FATL' BIT SET?

7324 051424            ERRHRD 165.,ERR006,MSG003 ; YES, REPORT ERROR
      051424 104456                                TRAP  C$ERHRD
      051426 000245                                .WORD 165
      051430 025124                                .WORD ERR006
      051432 024032                                .WORD MSG003

7325 051434            ESCAPE TST                ; AND ABORT TEST
      051434 104410                                TRAP  C$ESCAPE
      051436 000670                                .WORD L10046-.

7326                                ;
7327                                ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7328                                ;
7329 051440 012705 014602      50$: MOV    #WMODE,R5      ; DEFAULT WRITE MODE FUNCTION
7330 051444 004737 033656      JSR    PC,LDPCBB       ; LOAD FUNCTION -> PCBB

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B2

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TEST 16: NO RECEIVE BUFFER TEST

SEQ 221

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7331 051450 012777 004100 130550      MOV    #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
7332 051456 112777 000102 130542      MOVB  #INTE!GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
7333 051464 0C4737 030706              JSR    PC,CHKDNI             ; DNI ?
7334 051470 103010                      BCC   60$                   ; YES
7335 051472                                FTL

      051472 004737 031010              JSR    PC,CHKFTL             ; 'FATL' BIT SET?

7336 051476                                ERRHRD 166.,ERR010,MSG003    ; NO, REPORT ERROR
      051476 104456                                TRAP  C$ERHRD
      051500 000246                                .WORD 166
      051502 025425                                .WORD ERR010
      051504 024032                                .WORD MSG003

7337 051506                                ESCAPE TST                   ; AND ABORT TEST
      051506 104410                                TRAP  C$ESCAPE
      051510 000616                                .WORD L10046-.

7338
7339 051512 004737 032320      ; 60$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7340                                ; ERROR ?
7341 051516 103010              BCC   70$                   ; NO
7342 051520                                FTL

      051520 004737 031010              JSR    PC,CHKFTL             ; 'FATL' BIT SET?

7343 051524                                ERRHRD 167.,ERR006,MSG003    ; YES, REPORT ERROR
      051524 104456                                TRAP  C$ERHRD
      051526 000247                                .WORD 167
      051530 025124                                .WORD ERR006
      051532 024032                                .WORD MSG003

7344 051534                                ESCAPE TST                   ; AND ABORT TEST
      051534 104410                                TRAP  C$ESCAPE
      051536 000570                                .WORD L10046 .

7345
7346                                ; WRITE RING FORMAT (41 TRANSMIT ENTRIES)
7347                                ;
7348 051540 012705 014542      70$: MOV    #WTRNGS,R5        ; DEFAULT WRITE RING FORMAT FUNCTION
7349 051544 004737 033656      JSR    PC,LDPCCB            ; LOAD FUNCTION -> PCBB
7350 051550 012705 014722      MOV    #RFRMTX,R5          ; DEFAULT RING FORMAT
7351 051554 012700 000006      MOV    #6,R0               ; FORMAT = SIX WORDS
7352 051560 004737 034134      JSR    PC,LDUDBB           ; LOAD RING FORMAT -> UDDB
7353 051564 012777 004100 130434  MOV    #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
7354 051572 112777 000102 130426  MOVB  #INTE!GETCMD,@PCSR0  ; ISSUE GET_CMD PORT COMMAND
7355 051600 004737 030706      JSR    PC,CHKDNI           ; DNI ?
7356 051604 103010              BCC   80$                   ; YES
7357 051606                                FTL

      051606 004737 031010              JSR    PC,CHKFTL             ; 'FATL' BIT SET?

7358 051612                                ERRHRD 170.,ERR010,MSG003    ; NO, REPORT ERROR
      051612 104456                                TRAP  C$ERHRD
      051614 000252                                .WORD 170
      051616 025425                                .WORD ERR010
      051620 024032                                .WORD MSG003

7359 051622                                ESCAPE TST                   ; AND ABORT TEST
      051622 104410                                TRAP  C$ESCAPE
      051624 000502                                .WORD L10046-.

7360

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C2

TEST 16: NO RECEIVE BUFFER TEST

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7361 051626 004737 032320      80$:   JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7362                                     ; ERROR ?
7363 051632 103010             BCC    90$             ; NO
7364 051634                                     FTL
                                051634 004737 031010       JSR    PC,CHKFTL      ; 'FATL' BIT SET?
7365 051640                                     ERRHRD 171.,ERR006,MSG003 ; YES, REPORT ERROR
                                051640 104456                                     TRAP   C$ERHRD
                                051642 000253                                     .WORD 171
                                051644 025124                                     .WORD ERR006
                                051646 024032                                     .WORD MSG003
7366 051650                                     ESCAPE TST           ; AND ABORT TEST
                                051650 104410                                     TRAP   C$ESCAPE
                                051652 000454                                     .WORD L10046-.
7367                                     ;
7368                                     ;WRITE PHYSICAL ADDRESS
7369                                     ;
90$:   MOV    #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7370 051654                                     JSR    PC,LDPHYA     ; SAVE IN DEFAULT TABLE
7371 051654 012705 002274       JSR    #WTPHYA,R5   ; DEFAULT WRITE PHYSICAL ADDR FUNC
7372 051660 004737 033724       MOV    PC,LDPC88    ; LOAD FUNCTION -> PCBB
7373 051664 012705 014502       JSR    #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
7374 051670 004737 033656       MOV    #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
7375 051674 012777 004100 130324 ;
7376 051702 112777 000102 130316 ;
7377 051710 004737 030706       JSR    PC,CHKDNI    ; DNI ?
7378 051714 103010             BCC    100$          ; YES
7379 051716                                     FTL
                                051716 004737 031010       JSR    PC,CHKFTL      ; 'FATL' BIT SET?
7380 051722                                     ERRHRD 172.,ERR010,MSG003 ; NO, REPORT ERROR
                                051722 104456                                     TRAP   C$ERHRD
                                051724 000254                                     .WORD 172
                                051726 025425                                     .WORD ERR010
                                051730 024032                                     .WORD MSG003
7381 051732                                     ESCAPE TST           ; AND ABORT TEST
                                051732 104410                                     TRAP   C$ESCAPE
                                051734 000372                                     .WORD L10046-.
7382                                     ;
7383 051736 004737 032320      100$:  JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
7384                                     ; ERROR ?
7385 051742 103010             BCC    110$          ; NO
7386 051744                                     FTL
                                051744 004737 031010       JSR    PC,CHKFTL      ; 'FATL' BIT SET?
7387 051750                                     ERRHRD 173.,ERR006,MSG003 ; YES, REPORT ERROR
                                051750 104456                                     TRAP   C$ERHRD
                                051752 000255                                     .WORD 173
                                051754 025124                                     .WORD ERR006
                                051756 024032                                     .WORD MSG003
7388 051760                                     ESCAPE TST           ; AND ABORT TEST
                                051760 104410                                     TRAP   C$ESCAPE
                                051762 000344                                     .WORD L10046-.
7389                                     ;
7390                                     ;SET UP RINGS FOR 50. TRANSMIT PACKETS

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D2

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TEST 16: NO RECEIVE BUFFER TEST

SEQ 223

```

7391                ;AND NO RECEIVE BUFFERS OWNED BY DELUA
7392
7393 051764 012705 016742 110$:  MOV    #TDRBXX,R5      ; TRANSMIT RING
7394 051770 004737 034076      JSR    PC,LDTDRX      ; LOAD TDRBX
7395 051774 012705 015012      MOV    #RDRB1B,R5    ; DEFAULT RECEIVE RING (NO BUFFERS)
7396 052000 004737 034002      JSR    PC,LDRDRX     ; LOAD RDRX
7397
7398                ;SET UP BUFFERS AND START
7399
7400 052004 005037 020564      CLR    DUCRC         ; NO CRC
7401 052010 012737 000006 020562  MOV    #6,BYTCNT    ; BYTES/PACKET
7402 052016 004737 034662      JSR    PC,SETBUF     ; SET UP BUFFERS
7403 052022 012777 004100 130176  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7404 052030 112777 000104 130170  MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
7405 052036 004737 030706      JSR    PC,CHKDNI     ; DNI?
7406 052042 103010      BCC   130$          ; YES
7407 052044      FTL
                                ;
                                ; 'FATL' BIT SET?
                                ; NO, REPORT ERROR
                                TRAP  C$ERRHRD
                                .WORD 174
                                .WORD ERR012
                                .WORD MSG003
052044 004737 031010      JSR    PC,CHKFTL
7408 052050      ERRHRD 174.,ERR012,MSG003
052050 104456
052052 000256
052054 025543
052056 024032
7409 052060      ESCAPE TST          ; AND ABORT TEST
052060 104410
052062 000244
                                TRAP  C$ESCAPE
                                .WORD L10046
7410
7411                ;Don't use subroutine CLR DNI until check PCSRO upper byte status
7412
7413                ;WAIT FOR RCBI SET IN PCSRO
7414
7415 052064      130$:
7416 052064 004737 031240      JSR    PC,CHKRCE     ; BUFFER AVAIL ERROR?
7417 052070 103016      BCC   180$          ; YES, SKIP ERROR PRINTOUT
7418 052072 013737 002240 020516  MOV    PCSROC,EPCSR0 ; SET UP DATA FOR
7419 052100 017737 130124 020520  MOV    @PCSR1,EPCSR1 ; ERROR PRINTOUT
7420 052106      FTL
                                ;
                                ; 'FATL' BIT SET?
                                ; NO, REPORT ERROR
                                TRAP  C$ERRHRD
                                .WORD 175
                                .WORD ERR025
                                .WORD MSG003
052106 004737 031010      JSR    PC,CHKFTL
7421 052112      ERRHRD 175.,ERR025,MSG003
052112 104456
052114 000257
052116 026602
052120 024032
7422 052122      ESCAPE TST          ; AND ABORT TEST
052122 104410
052124 000202
                                TRAP  C$ESCAPE
                                .WORD L10046
7423
7424                ;Now can clear PCSRO upper byte
7425
7426 052126 004737 032402 180$:  JSR    PC,CLINTR     ; WRITE ONE'S TO CLEAR UPPER BYTE
7427 052132 017700 130070      MOV    @PCSR0,RO    ; READ UPPER BYTE
7428 052136 032700 175400      BIT    @CLINTB,RO   ; ANY INTERRUPT BITS STILL SET?
7429 052142 001416      BEQ   230$          ; IF NO ERROR, SKIP ERROR REPORT

```


F2

7458	052274	104	105	114	T16ID: .ASCIZ 'DELUA NO RECEIVE BUFFER '
	052277	125	101	040	
	052302	116	117	040	
	052305	122	105	103	
	052310	105	111	126	
	052313	105	040	102	
	052316	125	106	106	
	052321	105	122	040	
	052324	000			

7459

7460

7461

7462

052326
052326 104401

.EVEN

ENDTST

L10046:

TRAP

C#ETST

7464
7465
7466
7467
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7472
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7484

.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

```

*****
:
: THIS TEST VERIFIES DISABLE DATA CHAINING MODE.
: AN INTERNAL LOOPBACK IS PERFORMED WITH RECEIVE BUFFERS CHAINED
: WHILE IN DISABLE DATA CHAINING MODE.
: A NCHN ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE DATA CHAINING MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS FOR RECEIVE DATA CHAINING
: 5. ISSUE START
: 6. CHECK FOR NCHN ERROR IN RDRB+6
: 7. ISSUE STOP
:
*****

```

7485 052330
052330
7486
7487 052330

BGNTST

T17::

PNTMAC T17ID

052330 012704 053700
052334 004737 034610

MOV #T17ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

7488 052340 004737 035310
7489 052344 103034
7490 052346 012777 004100 127652
7491 052354 112777 000140 127644
7492 052362 004737 032034
7493 052366 103010
7494 052370

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30# ; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
FTL

052370 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7495 052374
052374 104456
052376 000312
052400 030105
052402 024032

ERRHRD 202.,ERR042,MSG003 ; NO, REPORT ERROR

7496 052404
052404 104410
052406 001332

ESCAPE TST ; AND ABORT TEST

7497
7498 052410 004737 032320
7499
7500 052414 103010
7501 052416

:
20#: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30# ; NO
FTL

052416 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

:B0
C\$ERHRD
.WORD 202
.WORD ERR042
.WORD MSG003
TRAP C\$ESCAPE
.WORD L10047-

H2

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TEST 17: DISABLE RECEIVE CHAINING TEST

SEQ 227

```

7502 052422          ERRHRD 203.,ERR006,MSG003      ; YES, REPORT ERROR
      052422 104456
      052424 000313
      052426 025124
      052430 024032
      7503 052432          ESCAPE TST                ; AND ABORT TEST
      052432 104410
      052434 001304
      7504
      7505 052436          ; 30$:
      7506 052436 004737 032246          JSR      PC,CLRBUF          ; CLEAR XMIT,RCV BUFFERS
      7507 052442 004737 033606          JSR      PC,LDDFLT         ; LOAD DEFAULT PHY. ADDRESS TABLES
      7508 052446 004737 033706          JSR      PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2:3
      7509 052452 012777 004100 127546    MOV      #DNI!INTE,@PCSR0
      7510 052460 112777 000101 127540    MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
      7511 052466 004737 030706          JSR      PC,CHKDNI        ; DNI?
      7512 052472 103010
      7513 052474          BCC      40$                ; YES
      052474 004737 031010          FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      7514 052500          ERRHRD 204.,ERR009,MSG003      ; NO, REPORT ERROR
      052500 104456
      052502 000314
      052504 025341
      052506 024032
      7515 052510          ESCAPE TST                ; AND ABORT TEST
      052510 104410
      052512 001226
      7516
      7517 052514 004737 032320          ; 40$:
      7518
      7519 052520 103010          JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
      7520 052522          BCC      50$                ; ERROR ?
      052522 004737 031010          FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      7521 052526          ERRHRD 205.,ERR006,MSG003      ; YES, REPORT ERROR
      052526 104456
      052530 000315
      052532 025124
      052534 024032
      7522 052536          ESCAPE TST                ; AND ABORT TEST
      052536 104410
      052540 001200
      7523
      7524
      7525
      7526
      7527 052542 012705 014602          ; 50$:
      7528 052546 004737 033656          MOV      #WTMODE,R5        ; DEFAULT WRITE MODE FUNCTION
      7529 052552 013737 020470 002304    JSR      PC,LDPCCB        ; LOAD FUNCTION -> PCBB
      7530 052560 012777 004100 127440    MOV      MODE17,PCBB+2     ; LOAD MODE REGISTER
      7531 052566 112777 000102 127432    MOV      #DNI!INTE,@PCSR0
      7532 052574 004737 030706          MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      7533 052600 103010          JSR      PC,CHKDNI        ; DNI ?
      7534 052602          BCC      60$                ; YES
      FTL

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052602 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7535 052606      ERRHRD  206.,ERR010,MSG003 ; NO, REPORT ERROR
052606      104456      TRAP      C$ERHRD
052610      000316      .WORD    206
052612      025425      .WORD    ERR010
052614      024032      .WORD    MSG003
7536 052616      ESCAPE  TST      ; AND ABORT TEST
052616      104410      TRAP      C$ESCAPE
052620      001120      .WORD    L10047-.
7537 052622 004737 032320      ;
7538 052622 004737 032320      ;WRITE RING FORMAT
7539 052622 004737 032320      ;
7540 052626 103010      JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7541 052630      BCC      70$      ; ERROR ?
052630      004737 031010      FTL      ; NO
052630      004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7542 052634      ERRHRD  207.,ERR006,MSG003 ; YES, REPORT ERROR
052634      104456      TRAP      C$ERHRD
052636      000317      .WORD    207
052640      025124      .WORD    ERR006
052642      024032      .WORD    MSG003
7543 052644      ESCAPE  TST      ; AND ABORT TEST
052644      104410      TRAP      C$ESCAPE
052646      001072      .WORD    L10047-.
7544
7545      ;WRITE RING FORMAT
7546
7547 052650 012705 014542      70$:  MOV      @WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
7548 052654 004737 033656      JSR      PC,LDPCC8      ; LOAD FUNCTION -> PC88
7549 052660 012705 014706      MOV      @RFRMT,R5      ; DEFAULT RING FORMAT
7550 052664 012700 000006      MOV      #6,R0          ; FORMAT = SIX WORDS
7551 052670 004737 034134      JSR      PC,LDUDB8      ; LOAD RING FORMAT -> UDB8
7552 052674 012777 004100      MOV      @DNI!INTE,@PCSR0
7553 052702 112777 000102      MOV      @INTE!GETCMD,@PCSR0
7554 052710 004737 030706      JSR      PC,CHKDNI      ; ISSUE GET_CMD PORT COMMAND
7555 052714 103010      BCC      80$      ; DNI ?
7556 052716      FTL      ; YES
052716 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7557 052722      ERRHRD  210.,ERR010,MSG003 ; NO, REPORT ERROR
052722      104456      TRAP      C$ERHRD
052724      000322      .WORD    210
052726      025425      .WORD    ERR010
052730      024032      .WORD    MSG003
7558 052732      ESCAPE  TST      ; AND ABORT TEST
052732      104410      TRAP      C$ESCAPE
052734      001004      .WORD    L10047-.
7559
7560 052736 004737 032320      ;
7561 052736 004737 032320      ;
7562 052742 103010      JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7563 052744      BCC      90$      ; ERROR ?
052744      004737 032320      FTL      ; NO
052744      004737 032320      JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
052744      103010      BCC      90$      ; ERROR ?
052744      004737 032320      FTL      ; NO

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J2

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052744 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7564 052750      ERRHRD 211.,ERR006,MSG003 ; YES, REPORT ERROR
052750 104456      TRAP   C$ERHRD
052752 000323      .WORD 211
052754 025124      .WORD ERR006
052756 024032      .WORD MSG003
7565 052760      ESCAPE TST            ; AND ABORT TEST
052760 104410      TRAP   C$ESCAPE
052762 000756      .WORD L10047-.

7566      ;
7567      ;WRITE PHYSICAL ADDRESS
7568      ;
7569 052764      90$:
7570 052764 012705 002274      MOV      #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7571 052770 004737 033724      JSR      PC,LDPHYA      ; SAVE IT IN DEFAULT TABLE
7572 052774 012705 014502      MOV      #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
7573 053000 004737 033656      JSR      PC,LDPCCB      ; LOAD FUNCTION -> PCBB
7574 053004 012777 004100 127214      MOV      #DNI!INTE,@PCSR0
7575 053012 112777 000102 127206      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7576 053020 004737 030706      JSR      PC,CHKDNI      ; DNI ?
7577 053024 103010      BCC     100$           ; YES
7578 053026      FTL

053026 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7579 053032      ERRHRD 212.,ERR010,MSG003 ; NO, REPORT ERROR
053032 104456      TRAP   C$ERHRD
053034 000324      .WORD 212
053036 025425      .WORD ERR010
053040 024032      .WORD MSG003
7580 053042      ESCAPE TST            ; AND ABORT TEST
053042 104410      TRAP   C$ESCAPE
053044 000674      .WORD L10047-.

7581      ;
7582 053046 004737 032320      100$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7583      ; ERROR ?
7584 053052 103010      BCC     110$           ; NO
7585 053054      FTL

053054 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7586 053060      ERRHRD 213.,ERR006,MSG003 ; YES, REPORT ERROR
053060 104456      TRAP   C$ERHRD
053062 000325      .WORD 213
053064 025124      .WORD ERR006
053066 024032      .WORD MSG003
7587 053070      ESCAPE TST            ; AND ABORT TEST
053070 104410      TRAP   C$ESCAPE
053072 000646      .WORD L10047-.

7588      ;
7589      ;SET UP RINGS FOR LOOPBACK
7590      ;
7591 053074 012705 016412      110$: MOV      #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
7592 053100 004737 034040      JSR      PC,LDTDRB      ; LOAD TDRB
7593 053104 012705 015052      MOV      #RDRB2A,R5      ; DEFAULT CHAINED RECEIVE RING
7594 053110 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB

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K2

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7595
7596          ;SET UP BUFFERS AND START
7597
7598 053114 005037 020564          CLR      DDCRC          ; NO CRC
7599 053120 012737 000006 020562  MOV      #6,BYTCNT     ; BYTES/PACKET
7600 053126 004737 034662          JSR      PC,SETBUF     ; SET UP BUFFERS
7601 053132 012777 004100 127066  MOV      #DNI!INTE,@PCSRO
7602 053140 112777 000104 127060  MOV      #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
7603 053146 004737 030706          JSR      PC,CHKDNI     ; DNI?
7604 053152 103010          BCC      120$         ; YES
7605 053154          FTL

          053154 004737 031010          JSR      PC,CHKFTL     ; 'FATL' BIT SET?

7606 053160          ERRHRD 214.,ERR012,MSG003 ; NO, REPORT ERROR
          053160 104456          TRAP    C$ERHRD
          053162 000326          .WORD  214
          053164 025543          .WORD  ERR012
          053166 024032          .WORD  MSG003

7607 053170          ESCAPE TST          ; AND ABORT TEST
          053170 104410          TRAP    C$ESCAPE
          053172 000546          .WORD  L10047-.

7608
7609 053174 004737 032320          i120$: JSR      PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7610          BCC      130$         ; ERROR ?
7611 053200 103010          ; NO
7612 053202          FTL

          053202 004737 031010          JSR      PC,CHKFTL     ; 'FATL' BIT SET?

7613 053206          ERRHRD 215.,ERR006,MSG003 ; YES, REPORT ERROR
          053206 104456          TRAP    C$ERHRD
          053210 000327          .WORD  215
          053212 025124          .WORD  ERR006
          053214 024032          .WORD  MSG003

7614 053216          ESCAPE TST          ; AND ABORT TEST
          053216 104410          TRAP    C$ESCAPE
          053220 000520          .WORD  L10047-.

7615
7616 053222 004737 031724          i130$: JSR      PC,CHKTXI ; TXI ?
7617 053226 103010          BCC      140$         ; YES
7618 053230          FTL

          053230 004737 031010          JSR      PC,CHKFTL     ; 'FATL' BIT SET?

7619 053234          ERRHRD 216.,ERR013,MSG003 ; NO, REPORT ERROR
          053234 104456          TRAP    C$ERHRD
          053236 000330          .WORD  216
          053240 025624          .WORD  ERR013
          053242 024032          .WORD  MSG003

7620 053244          ESCAPE TST          ; AND ABORT TEST
          053244 104410          TRAP    C$ESCAPE
          053246 000472          .WORD  L10047-.

7621
7622 053250 004737 032502          i140$: JSR      PC,CLRTXI ; WRITE ONE TO CLEAR TXI
7623          BCC      150$         ; ERROR ?
7624 053254 103010          ; NO
          BCC      150$

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L2

7625	053256				FTL				
	053256	004737	031010		JSR	PC,CHKFTL		'FATL' BIT SET?	
7626	053262				ERRHRD	217.,ERR014,MSG003		; YES, REPORT ERROR	
	053262	104456					TRAP	C\$ERHRD	
	053264	000331					.WORD	217	
	053266	025655					.WORD	ERR014	
	053270	024032					.WORD	MSG003	
7627	053272				ESCAPE	TST		; AND ABORT TEST	
	053272	104410					TRAP	C\$ESCAPE	
	053274	000444					.WORD	L10047-.	
7628									
7629	053276	012705	002622	i150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP	
7630	053302	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
7631	053306	103010			BCC	160\$; YES	
7632	053310				FTL				
	053310	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7633	053314				ERRHRD	220.,ERR018		; NO, REPORT ERROR	
	053314	104456					TRAP	C\$ERHRD	
	053316	000334					.WORD	220	
	053320	026122					.WORD	ERR018	
	053322	000000					.WORD	0	
7634	053324				ESCAPE	TST		; AND ABORT TEST	
	053324	104410					TRAP	C\$ESCAPE	
	053326	000412					.WORD	L10047-.	
7635									
7636	053330	012705	020266	i160\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB	
7637	053334	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE	
7638	053340	012705	002622		MOV	#TDRB,R5		; CHECK TDRB	
7639	053344	004737	031636		JSR	PC,CHKTDR		; ERRORS ?	
7640	053350	103010			BCC	170\$; NO	
7641	053352				FTL				
	053352	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7642	053356				ERRHRD	221.,ERR020,MSG005		; YES, REPORT ERROR	
	053356	104456					TRAP	C\$ERHRD	
	053360	000335					.WORD	221	
	053362	026302					.WORD	ERR020	
	053364	024136					.WORD	MSG005	
7643	053366				ESCAPE	TST		; AND ABORT TEST	
	053366	104410					TRAP	C\$ESCAPE	
	053370	000350					.WORD	L10047-.	
7644									
7645	053372	004737	031454	i170\$:	JSR	PC,CHKRXI		; RXI ?	
7646	053376	103010			BCC	180\$; YES	
7647	053400				FTL				
	053400	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7648	053404				ERRHRD	222.,ERR015,MSG003		; NO, REPORT ERROR	
	053404	104456					TRAP	C\$ERHRD	
	053406	000336					.WORD	222	
	053410	025723					.WORD	ERR015	


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7676                                     ;CHECK SECOND RING ENTRY
7677
7678 053542 012705 020426                210$: MOV    #RDR178,R5          ; POINT TO EXPECTED RDRB
7679 053546 004737 034214                JSR    PC,LDXRDR           ; LOAD INTO XRDR80 TABLE
7680 053552 012705 002672                MOV    #RDRB+8.,R5        ; CHECK RDRB
7681 053556 004737 031344                JSR    PC,CHKRDR          ; ERRORS ?
7682 053562 103010                        BCC    230$               ; NO
7683 053564
                                053564 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7684 053570                                ERRHRD 226.,ERR037,MSG006      ; YES, REPORT ERROR
                                053570 104456                                TRAP   C$ERHRD
                                053572 000342                                .WORD 226
                                053574 027527                                .WORD ERR037
                                053576 024300                                .WORD MSG006
7685 053600                                ESCAPE TST                  ; AND ABORT TEST
                                053600 104410                                TRAP   C$ESCAPE
                                053602 000136                                .WORD L10047 .
7686
7687 053604 012777 004100 126414        i 230$: MOV    #DNI!INTE,@PCSR0      ;
7688 053612 112777 000117 126406        MOVB   #INTE!STOP,@PCSR0    ; ISSUE STOP PORT COMMAND
7689 053620 004737 030706                JSR    PC,CHKDNI          ; DNI ?
7690 053624 103010                        BCC    240$               ; YES
7691 053626
                                053626 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7692 053632                                ERRHRD 227.,ERR019,MSG003      ; NO, REPORT ERROR
                                053632 104456                                TRAP   C$ERHRD
                                053634 000343                                .WORD 227
                                053636 026222                                .WORD ERR019
                                053640 024032                                .WORD MSG003
7693 053642                                ESCAPE TST                  ; AND ABORT TEST
                                053642 104410                                TRAP   C$ESCAPE
                                053644 000074                                .WORD L10047-.
7694
7695 053646 004737 032320                i 240$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7696
7697 053652 103010                        BCC    250$               ; ERROR ?
7698 053654
                                053654 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7699 053660                                ERRHRD 230.,ERR006,MSG003      ; YES, REPORT ERROR
                                053660 104456                                TRAP   C$ERHRD
                                053662 000346                                .WORD 230
                                053664 025124                                .WORD ERR006
                                053666 024032                                .WORD MSG003
7700 053670                                ESCAPE TST                  ; AND ABORT TEST
                                053670 104410                                TRAP   C$ESCAPE
                                053672 000046                                .WORD L10047-.
7701
7702
7703 053674                                250$: EXIT TST
                                053674 104432                                TRAP   C$EXIT
                                053676 000042                                .WORD L10047-.

```

B3

7704

7705

7706

7707

053700	104	105	114
053703	125	101	040
053706	104	111	123
053711	101	102	114
053714	105	040	122
053717	105	103	105
053722	111	126	105
053725	040	103	110
053730	101	111	116
053733	111	116	107
053736	040	000	

;LOCAL TEST MESSAGE

T17ID:.ASCIZ 'DELUA DISABLE RECEIVE CHAINING '

7708

7709

7710

053740	
053740	
053740	104401

.EVEN

ENDTST

L10047: TRAP C#ETST

C3

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.SBTTL TEST 18: TRANSMIT CHAINING ERROR TEST

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*****
:
: THIS TEST VERIFIES THAT A TRANSMIT BUFL ERROR CAN BE GENERATED.
: AN INTERNAL LOOPBACK IS ATTEMPTED WITH TRANSMIT BUFFERS CHAINED
: AND SUCCESSIVE OWNED RINGS HAVING STP SET.
: A BUFL ERROR IS EXPECTED IN THE TRANSMIT DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
:   TRANSMIT RING = CHAINED WITH SUCCESSIVE STPs
: 5. ISSUE START
: 6. CHECK FOR BUFL ERROR IN TDRB+6
: 7. ISSUE STOP
:
*****

```

7733 053742
053742
7734
7735 053742

BGNTST

T18::

PNTMAC T18ID

053742 012704 055166
053746 004737 034610

MOV #T18ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

7736 053752 004737 035310
7737 053756 103034
7738 053760 012777 004100 126240
7739 053766 112777 000140 126232
7740 053774 004737 032034
7741 054000 103010
7742 054002

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

054002 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7743 054006
054006 104456
054010 000347
054012 030105
054014 024032

ERRHRD 231.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP C\$ERRHRD
.WORD 231
.WORD ERR042
.WORD MSG003

7744 054016
054016 104410
054020 001206

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10050 .

7745
7746 054022 004737 032320
7747
7748 054026 103010
7749 054030

20\$: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

054030 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

D3

HARDWARE TESTS MACRO V05.03 Friday 28 Mar 86 15:36 Page 105-1
TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 236

```

7750 054034          ERRHRD 232.,ERR006,MSG003      ; YES, REPORT ERROR
      054034 104456
      054036 000350
      054040 025124
      054042 024032
      054044          FSCAPE TST                    ; AND ABORT TEST
      054044 104410
      054046 001160
      TRAP      C$ERHRD
      .WORD    232
      .WORD    ERR006
      .WORD    MSG003

7751 054044          FSCAPE TST                    ; AND ABORT TEST
      054044 104410
      054046 001160
      TRAP      C$ESCAPE
      .WORD    L10050-.

7752
7753 054050          ;
7754 054050 004737 032246          ; 30$: JSR PC,CLRBUF          ; CLEAR XMIT,RECV BUFFERS
7755 054054 004737 033606          ; JSR PC,LDDFLT          ; LOAD DEFAULT PHY.ADDRESS TABLES
7756 054060 004737 033706          ; JSR PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
7757 054064 012777 004100 126134  ; MOV #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
7758 054072 112777 000101 126126  ; MOVB #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7759 054100 004737 030706          ; JSR PC,CHKDNI          ; DNI?
7760 054104 103010          ; BCC 40$                ; YES
7761 054106          ;
      054106 004737 031010          ; JSR PC,CHKFTL          ; 'FATL' BIT SET?

7762 054112          ERRHRD 233.,ERR009,MSG003      ; NO, REPORT ERROR
      054112 104456
      054114 000351
      054116 025341
      054120 024032
      TRAP      C$ERHRD
      .WORD    233
      .WORD    ERR009
      .WORD    MSG003

7763 054122          ESCAPE TST                    ; AND ABORT TEST
      054122 104410
      054124 001102
      TRAP      C$ESCAPE
      .WORD    L10050-.

7764
7765 054126 004737 032320          ; 40$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
7766          ;
7767 054132 103010          ; BCC 50$                ; ERROR ?
7768 054134          ;
      054134 004737 031010          ; JSR PC,CHKFTL          ; 'FATL' BIT SET?

7769 054140          ERRHRD 234.,ERR006,MSG003      ; YES, REPORT ERROR
      054140 104456
      054142 000352
      054144 025124
      054146 024032
      TRAP      C$ERHRD
      .WORD    234
      .WORD    ERR006
      .WORD    MSG003

7770 054150          ESCAPE TST                    ; AND ABORT TEST
      054150 104410
      054152 001054
      TRAP      C$ESCAPE
      .WORD    L10050 .

7771
7772          ;
7773          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7774 054154 012705 014602          ; 50$: MOV #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
7775 054160 004737 033656          ; JSR PC,LDPCCB          ; LOAD FUNCTION -> PCBB
7776 054164 012777 004100 126034  ; MOV #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
7777 054172 112777 000102 126026  ; MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7778 054200 004737 030706          ; JSR PC,CHKDNI          ; DNI ?
7779 054204 103010          ; BCC 60$                ; YES
7780 054206          ;
      054206 004737 031010          ; JSR PC,CHKFTL          ; 'FATL' BIT SET?

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E3

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 105-2
 TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 237

```

7781 054212          ERRHRD 235.,ERR010,MSG003      ; NO, REPORT ERROR
      054212 104456
      054214 000353
      054216 025425
      054220 024032
      7782 054222          ESCAPE TST                ; AND ABORT TEST
      054222 104410
      054224 001002
      7783
      7784 054226 004737 032320      ;60$: JSR PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
      7785
      7786 054232 103010          BCC 70$           ; ERROR ?
      7787 054234          FTL                          ; NO
      054234 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?
      7788 054240          ERRHRD 236.,ERR006,MSG003  ; YES, REPORT ERROR
      054240 104456
      054242 000354
      054244 025124
      054246 024032
      7789 054250          ESCAPE TST                ; AND ABORT TEST
      054250 104410
      054252 000754
      7790
      7791          ;WRITE RING FORMAT
      7792 054254 012705 014542      ;70$: MOV #WTRNGS,R5   ; DEFAULT WRITE RING FORMAT FUNCTION
      7793 054260 004737 033656      JSR PC,LDPCBB      ; LOAD FUNCTION -> PCBB
      7794 054264 012705 014706      MOV #RFRMT,R5     ; DEFAULT RING FORMAT
      7795 054270 012700 000006      MOV #6,R0         ; FORMAT = SIX WORDS
      7796 054274 004737 034134      JSR PC,LDUDBB     ; LOAD RING FORMAT -> UDBB
      7797 054300 012777 004100 125720 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
      7798 054306 112777 000102 125712 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      7799 054314 004737 030706      JSR PC,CHKDNI    ; DNI ?
      7800 054320 103010          BCC 80$           ; YES
      7801 054322          FTL
      054322 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?
      7802 054326          ERRHRD 237.,ERR010,MSG003  ; NO, REPORT ERROR
      054326 104456
      054330 000355
      054332 025425
      054334 024032
      7803 054336          ESCAPE TST                ; AND ABORT TEST
      054336 104410
      054340 000666
      7804
      7805 054342 004737 032320      ;80$: JSR PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
      7806
      7807 054346 103010          BCC 90$           ; ERROR ?
      7808 054350          FTL                          ; NO
      054350 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?
      7809 054354          ERRHRD 240.,ERR006,MSG003  ; YES, REPORT ERROR
  
```

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054354 104456
054356 000360
054360 025124
054362 024032
7810          ESCAPE TST          ; AND ABORT TEST
054364 104410
054366 000640
7811
7812          ;WRITE PHYSICAL ADDRESS
7813
7814 054370          90$:
7815 054370 012705 002274          MOV #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
7816 054374 004737 033724          JSR PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
7817 054400 012705 014502          MOV #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
7818 054404 004737 033656          JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7819 054410 012777 004100 125610  MOV #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
7820 054416 112777 000102 125602  MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7821 054424 004737 030706          JSR PC,CHKDNI          ; DNI ?
7822 054430 103010          BCC 100$              ; YES
7823 054432          FTL
054432 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
7824 054436          ERRHRD 241.,ERR010,MSG003          ; NO, REPORT ERROR
054436 104456
054440 000361
054442 025425
054444 024032
7825          ESCAPE TST          ; AND ABORT TEST
054446 104410
054450 000556
7826
7827 054452 004737 032320          100$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7828          BCC 110$              ; ERROR ?
7829 054456 103010          FTL                  ; NO
7830 054460
054460 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
7831          ERRHRD 242.,ERR006,MSG003          ; YES, REPORT ERROR
054464 104456
054466 000362
054470 025124
054472 024032
7832          ESCAPE TST          ; AND ABORT TEST
054474 104410
054476 000530
7833
7834          ;SET UP RINGS
7835 054500 012705 016552          110$: MOV #TDRB1E,R5          ; DEFAULT ERROR TRANSMIT RING
7836 054504 004737 034040          JSR PC,LDTDRB          ; LOAD TDRB
7837 054510 012705 014752          MOV #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
7838 054514 004737 033744          JSR PC,LDRDRB          ; LOAD RDRB
7839
7840          ;SET UP BUFFERS AND START
7841
7842 054520 005037 020564          CLR DOCRC          ; NO CRC
  
```

```

TRAP C$ERHRD
.WORD 240
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.
TRAP C$ERHRD
.WORD 241
.WORD ERR010
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.
TRAP C$ERHRD
.WORD 242
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.
  
```

7843	054524	012737	000006	020562	MOV	#6,BYTCNT	; BYTES/PACKET		
7844	054532	004737	034662		JSR	PC,SETBUF	; SET UP BUFFERS		
7845	054536	012777	004100	125462	MOV	#DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
7846	054544	112777	000104	125454	MOVB	#INTE!START,@PCSR0	; ISSUE START PORT COMMAND		
7847	054552	004737	030706		JSR	PC,CHKDNI	; DNI?		
7848	054556	103010			BCC	120‡	; YES		
7849	054560				FTL				
	054560	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7850	054564				ERRHRD	243.,ERR012,MSG003	; NO, REPORT ERROR		
	054564	104456						TRAP	C\$ERRHRD
	054566	000363						.WORD	243
	054570	025543						.WORD	ERR012
	054572	024032						.WORD	MSG003
7851	054574				ESCAPE	TST	; AND ABORT TEST		
	054574	104410						TRAP	C\$ESCAPE
	054576	000430						.WORD	L10050-.
7852									
7853	054600	004737	032320	i120‡:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
7854							; ERROR ?		
7855	054604	103010			BCC	130‡	; NO		
7856	054606				FTL				
	054606	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7857	054612				ERRHRD	245.,ERR006,MSG003	; YES, REPORT ERROR		
	054612	104456						TRAP	C\$ERRHRD
	054614	000365						.WORD	245
	054616	025124						.WORD	ERR006
	054620	024032						.WORD	MSG003
7858	054622				ESCAPE	TST	; AND ABORT TEST		
	054622	104410						TRAP	C\$ESCAPE
	054624	000402						.WORD	L10050-.
7859									
7860	054626	004737	031724	i130‡:	JSR	PC,CHKTXI	; TXI ?		
7861	054632	103010			BCC	140‡	; YES		
7862	054634				FTL				
	054634	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7863	054640				ERRHRD	246.,ERR013,MSG003	; NO, REPORT ERROR		
	054640	104456						TRAP	C\$ERRHRD
	054642	000366						.WORD	246
	054644	025624						.WORD	ERR013
	054646	024032						.WORD	MSG003
7864	054650				ESCAPE	TST	; AND ABORT TEST		
	054650	104410						TRAP	C\$ESCAPE
	054652	000354						.WORD	L10050-.
7865									
7866	054654	004737	032502	i140‡:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
7867							; ERROR ?		
7868	054660	103010			BCC	150‡	; NO		
7869	054662				FTL				
	054662	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		

H3

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TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 240

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7870 054666          ERRHRD  247.,ERR014,MSG003      ; YES, REPORT ERROR
      054666 104456
      054670 000367
      054672 025655
      054674 024032
      TRAP      C$ERRHRD
      .WORD    247
      .WORD    ERR014
      .WORD    MSG003
7871 054676          ESCAPE  TST                    ; AND ABORT TEST
      054676 104410
      054700 000326
      TRAP      C$ESCAPE
      .WORD    L10050-.
7872
7873          ;CHECK FIRST RING ENTRY
7874
7875 054702 012705 002622      150$:  MOV    #TDRB,R5          ; CHECK TDRB OWNERSHIP
7876 054706 004737 031162      JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
7877 054712 103010             BCC    160$             ; YES
7878 054714             FTL
      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
      ERRHRD  250.,ERR027      ; NO, REPORT ERROR
      TRAP      C$ERRHRD
      .WORD    250
      .WORD    ERR027
      .WORD    0
7879 054720          ESCAPE  TST                    ; AND ABORT TEST
      054720 104456
      054722 000372
      054724 026634
      054726 000000
      TRAP      C$ESCAPE
      .WORD    L10050 .
7880 054730          ESCAPE  TST                    ; AND ABORT TEST
      054730 104410
      054732 000274
      TRAP      C$ESCAPE
      .WORD    L10050 .
7881
7882 054734 012705 020306      i160$: MOV    #TDR18A,R5     ; POINT TO EXPECTED TDRB
7883 054740 004737 034244      JSR    PC,LXTDR         ; LOAD INTO XTDRBO TABLE
7884 054744 012705 002622      MOV    #TDRB,R5        ; CHECK TDRB
7885 054750 004737 031636      JSR    PC,CHKTDR       ; ERRORS ?
7886 054754 103010             BCC    162$             ; NO
7887 054756             FTL
      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
      ERRHRD  251.,ERR033,MSG005 ; YES, REPORT ERROR
      TRAP      C$ERRHRD
      .WORD    251
      .WORD    ERR033
      .WORD    MSG005
7888 054762          ESCAPE  TST                    ; AND ABORT TEST
      054762 104456
      054764 000373
      054766 027262
      054770 024136
      TRAP      C$ESCAPE
      .WORD    L10050 .
7889 054772          ESCAPE  TST                    ; AND ABORT TEST
      054772 104410
      054774 000232
      TRAP      C$ESCAPE
      .WORD    L10050 .
7890
7891          ;CHECK SECOND RING ENTRY
7892
7893 054776 012705 002636      162$:  MOV    #TDRB+12.,R5   ; CHECK TDRB OWNERSHIP
7894 055002 004737 031162      JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
7895 055006 103010             BCC    164$             ; YES
7896 055010             FTL
      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
      ERRHRD  252.,ERR028      ; NO, REPORT ERROR
      TRAP      C$ERRHRD
      .WORD    252
7897 055014          ESCAPE  TST                    ; AND ABORT TEST
      055014 104456
      055016 000374
      TRAP      C$ERRHRD
      .WORD    252

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	055020	026741							.WORD	ERR028
	055022	000000							.WORD	0
7898	055024		ESCAPE	TST				; AND ABORT TEST		
	055024	104410							TRAP	C#ESCAPE
	055026	000200							.WORD	L10050-
7899										
7900	055030	012705	020316		i164#:	MOV	#TDR18B,R5	; POINT TO EXPECTED TDRB		
7901	055034	004737	034244			JSR	PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
7902	055040	012705	002632			MOV	#TDRB+8.,R5	; CHECK TDRB		
7903	055044	004737	031636			JSR	PC,CHKTDR	; ERRORS ?		
7904	055050	103010				BCC	230#	; NO		
7905	055052					FTL				
	055052	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7906	055056					ERRHRD	253.,ERR034,MSG005	; YES, REPORT ERROR		
	055056	104456							TRAP	C#ERHRD
	055060	000375							.WORD	253
	055062	027351							.WORD	ERR034
	055064	024136							.WORD	MSG005
7907	055066		ESCAPE	TST				; AND ABORT TEST		
	055066	104410							TRAP	C#ESCAPE
	055070	000136							.WORD	L10050-
7908										
7909	055072	012777	004100	125126	i230#:	MOV	#DNI!INTE,@PCSRO	; ENABLE INTERRUPTS		
7910	055100	112777	000117	125120		MOVB	#INTE!STOP,@PCSRO	; ISSUE STOP PORT COMMAND		
7911	055106	004737	030706			JSR	PC,CHKDNI	; DNI ?		
7912	055112	103010				BCC	240#	; YES		
7913	055114					FTL				
	055114	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7914	055120					ERRHRD	254.,ERR019,MSG003	; NO, REPORT ERROR		
	055120	104456							TRAP	C#ERHRD
	055122	000376							.WORD	254
	055124	026222							.WORD	ERR019
	055126	024032							.WORD	MSG003
7915	055130		ESCAPE	TST				; AND ABORT TEST		
	055130	104410							TRAP	C#ESCAPE
	055132	000074							.WORD	L10050-
7916										
7917	055134	004737	032320		i240#:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
7918								; ERROR ?		
7919	055140	103010				BCC	250#	; NO		
7920	055142					FTL				
	055142	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7921	055146					ERRHRD	255.,ERR006,MSG003	; YES, REPORT ERROR		
	055146	104456							TRAP	C#ERHRD
	055150	000377							.WORD	255
	055152	025124							.WORD	ERR006
	055154	024032							.WORD	MSG003
7922	055156		ESCAPE	TST				; AND ABORT TEST		
	055156	104410							TRAP	C#ESCAPE
	055160	000046							.WORD	L10050-
7923	055162				250#:					

J3

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7924
7925 055162          EXIT  TST
      055162 104432
      055164 000042
                                TRAP  C$EXIT
                                .WORD  L10050-
7926
7927          ;LOCAL TEST MESSAGE
7928
7929 055166 104 105 114 T18ID:.ASCIZ 'DELUA TRANSMIT CHAINING ERROR '
      055171 125 101 040
      055174 124 122 101
      055177 116 123 115
      055202 111 124 040
      055205 103 110 101
      055210 111 116 111
      055213 116 107 040
      055216 105 122 122
      055221 117 122 040
      055224 000
7930          .EVEN
7931
7932          ENDTST
                                L10050: TRAP  C$ETST
      055226
      055226 104401

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.SBTTL TEST 19: DATA CHAINING TEST

```

*****
:
: THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
: AN INTERNAL WITH TWO TRANSMIT AND TWO RECEIVE BUFFERS CHAINED.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = PROM MODE INTERNAL LOOPBACK MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:      TWO TRANSMIT AND RECEIVE BUFFERS
:   5. ISSUE START
:   6. CHECK FOR ERRORS
:   7. ISSUE STOP
:
*****

```

7954 055230
055230
7955
7956 055230

BGNTST

T19::

PNTMAC T19ID

055230 012704 057004
055234 004737 034610

```

MOV #T19ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

```

: END OF MACRO EXPANSION OF 'PNTMAC'

7957
7958 055240 004737 035310
7959 055244 103034
7960 055246 012777 004100 124752
7961 055254 112777 000140 124744
7962 055262 004737 032034
7963 055266 103010
7964 055270

```

1$: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKONI ; DNI ?
BCC 20$ ; YES
FTL

```

055270 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7965 055274
055274 104456
055276 000400
055300 030105
055302 024032

ERRHRD 256.,ERR042,MSG003 ; NO, REPORT ERROR

```

;B0
TRAP C$ERRHRD
.WORD 256
.WORD ERR042
.WORD MSG003

```

7966 055304
055304 104410
055306 001524

ESCAPE TST ; AND ABORT TEST

```

TRAP C$ESCAPE
.WORD L10051-.

```

7967
7968 055310 004737 032320
7969
7970 055314 103010
7971 055316

```

20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
BCC 30$
FTL

```

055316 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

L3

TEST 19: DATA CHAINING TEST

```

7972 055322          ERRHRD 257.,ERR006,MSG003      ; YES, REPORT ERROR
      055322 104456
      055324 000401
      055326 025124
      055330 024032
      TRAP          C$ERHRD
      .WORD         257
      .WORD         ERR006
      .WORD         MSG003
7973 055332          ESCAPE TST                    ; AND ABORT TEST
      055332 104410
      055334 001476
      TRAP          C$ESCAPE
      .WORD         L10051 .
7974
7975 055336          ; 30$:
7976 055336 004737 032246      JSR      PC,CLRBUF      ; CLEAR XMIT,RCV BUFFERS
7977 055342 004737 033606      JSR      PC,LDDFLT     ; LOAD DEFAULT PHY.ADDRESS TABLES
7978 055346 004737 033706      JSR      PC,LDPCSR    ; ADDRESS OF PCBB -> PCSR2!3
7979 055352 012777 004100 124646  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7980 055360 112777 000101 124640  MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7981 055366 004737 030706      JSR      PC,CHKDNI    ; DNI?
7982 055372 103010      BCC     40$           ; YES
7983 055374          FTL
      055374 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7984 055400          ERRHRD 260.,ERR009,MSG003      ; NO, REPORT ERROR
      055400 104456
      055402 000404
      055404 025341
      055406 024032
      TRAP          C$ERHRD
      .WORD         260
      .WORD         ERR009
      .WORD         MSG003
7985 055410          ESCAPE TST                    ; AND ABORT TEST
      055410 104410
      055412 001420
      TRAP          C$ESCAPE
      .WORD         L10051 .
7986
7987 055414 004737 032320      ; 40$: JSR      PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7988
7989 055420 103010      BCC     50$           ; ERROR ?
7990 055422          FTL
      055422 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7991 055426          ERRHRD 261.,ERR006,MSG003      ; YES, REPORT ERROR
      055426 104456
      055430 000405
      055432 025124
      055434 024032
      TRAP          C$ERHRD
      .WORD         261
      .WORD         ERR006
      .WORD         MSG003
7992 055436          ESCAPE TST                    ; AND ABORT TEST
      055436 104410
      055440 001372
      TRAP          C$ESCAPE
      .WORD         L10051-.
7993
7994 055442          ; 50$:
7995
7996 055442 012705 014602      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, CRC, AND PROM MODE
      MOV      #WTHMODE,R5 ; DEFAULT WRITE MODE FUNCTION
7997 055446 004737 033656      JSR      PC,LDPCCB    ; LOAD FUNCTION -> PCBB
7998 055452 012777 004100 124546  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7999 055460 112777 000102 124540  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8000 055466 004737 030706      JSR      PC,CHKDNI    ; DNI ?
8001 055472 103010      BCC     60$           ; YES
8002 055474          FTL
      055474 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?

```

M3

```

8003 055500          ERRHRD 262.,ERR010,MSG003      ; NO, REPORT ERROR
      055500      104456
      055502      000406
      055504      025425
      055506      024032
      8004 055510          ESCAPE TST                ; AND ABORT TEST
      055510      104410
      055512      001320
      8005
8006 055514 004737 032320      ;60$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8007
8008 055520 103010          BCC      70$                ; ERROR ?
8009 055522          FTL
      055522 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      8010 055526          ERRHRD 263.,ERR006,MSG003  ; YES, REPORT ERROR
      055526      104456
      055530      000407
      055532      025124
      055534      024032
      8011 055536          ESCAPE TST                ; AND ABORT TEST
      055536      104410
      055540      001272
      8012
      8013          ;WRITE RING FORMAT
      8014 055542 012705 014542      ;70$: MOV      @WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
      8015 055546 004737 033656      JSR      PC,LDPCCB          ; LOAD FUNCTION -> PCBB
      8016 055552 012705 014706      MOV      @RFRMT,R5        ; DEFAULT RING FORMAT
      8017 055556 012700 000006      MOV      @6,R0            ; FORMAT = SIX WORDS
      8018 055562 004737 034134      JSR      PC,LUDDBB        ; LOAD RING FORMAT -> UDBB
      8019 055566 012777 004100 124432  MOV      @DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
      8020 055574 112777 000102 124424  MOVVB   @INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      8021 055602 004737 030706      JSR      PC,CHKDNI        ; DNI ?
      8022 055606 103010          BCC      80$                ; YES
      8023 055610          FTL
      055610 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      8024 055614          ERRHRD 264.,ERR010,MSG003  ; NO, REPORT ERROR
      055614      104456
      055616      000410
      055620      025425
      055622      024032
      8025 055624          ESCAPE TST                ; AND ABORT TEST
      055624      104410
      055626      001204
      8026
      8027 055630 004737 032320      ;80$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      8028
      8029 055634 103010          BCC      90$                ; ERROR ?
      8030 055636          FTL
      055636 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      8031 055642          ERRHRD 265.,ERR006,MSG003  ; YES, REPORT ERROR

```

N3

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TEST 19: DATA CHAINING TEST

SEQ 246

```

055642 104456                                TRAP    C$ERHRD
055644 000411                                .WORD  265
055646 025124                                .WORD  ERR006
055650 024032                                .WORD  MSG003
8032    055652                                ESCAPE  TST                                ; AND ABORT TEST
055652 104410                                TRAP    C$ESCAPE
055654 001156                                .WORD  L10051-.

8033
8034    ;WRITE PHYSICAL ADDRESS
8035
8036 055656                                90$:
8037 055656 012705 002274                    MOV     #DEFAULT,R5                        ; GET DEFAULT PHYSICAL ADDRESS
8038 055662 004737 033724                    JSR     PC,LDPHYA                          ; SAVE IN DEFAULT TABLE
8039 055666 012705 014502                    MOV     #WTPHYA,R5                        ; DEFAULT WRITE PHYSICAL ADDR FUNC
8040 055672 004737 033656                    JSR     PC,LDPCCB                          ; LOAD FUNCTION -> PCBB
8041 055676 012777 004100 124322            MOV     #DNI!INTE,@PCSR0                  ; ENABLE INTERRUPTS
8042 055704 112777 000102 124314            MOVB   #INTE!GETCMD,@PCSR0               ; ISSUE GET_CMD PORT COMMAND
8043 055712 004737 030706                    JSR     PC,CHKDNI                          ; DNI ?
8044 055716 103010                    BCC    100$                                ; YES
8045 055720                                FTL

055720 004737 031010                    JSR     PC,CHKFTL                          ; 'FATL' BIT SET?

8046 055724                                ERRHRD  266.,ERR010,MSG003                ; NO, REPORT ERROR
055724 104456                                TRAP    C$ERHRD
055726 000412                                .WORD  266
055730 025425                                .WORD  ERR010
055732 024032                                .WORD  MSG003
8047 055734                                ESCAPE  TST                                ; AND ABORT TEST
055734 104410                                TRAP    C$ESCAPE
055736 001074                                .WORD  L10051-.

8048
8049 055740 004737 032320                    100$: JSR     PC,CLRDNI                    ; WRITE ONE TO CLEAR DNI
8050                                BCC    110$                                ; ERROR ?
8051 055744 103010                    BCC    110$                                ; NO
8052 055746                                FTL

055746 004737 031010                    JSR     PC,CHKFTL                          ; 'FATL' BIT SET?

8053 055752                                ERRHRD  267.,ERR006,MSG003                ; YES, REPORT ERROR
055752 104456                                TRAP    C$ERHRD
055754 000413                                .WORD  267
055756 025124                                .WORD  ERR006
055760 024032                                .WORD  MSG003
8054 055762                                ESCAPE  TST                                ; AND ABORT TEST
055762 104410                                TRAP    C$ESCAPE
055764 001046                                .WORD  L10051-.

8055
8056    ;SET UP RINGS FOR TWO BUFFERS CHAINED LOOPBACK
8057
8058 055766 012705 017572                    110$: MOV     #TDRB4A,R5                    ; DEFAULT TWO BUFFER TRANSMIT RING
8059 055772 004737 034040                    JSR     PC,LDTDRB                          ; LOAD TDRB
8060 055776 012705 015542                    MOV     #RDRB4A,R5                        ; DEFAULT TWO BUFFER RECEIVE RING
8061 056002 004737 033744                    JSR     PC,LDRDRB                          ; LOAD RDRB
8062
8063    ;SET UP BUFFERS AND START
8064

```

8065	056006	005037	020564		CLR	DOCRC		; NO CRC		
8066	056012	012737	000000	020562	MOV	#0,BYTCNT		; BYTES/PACKET		
8067	056020	004737	034662		JSR	PC,SETBUF		; SET UP BUFFERS		
8068	056024	012777	004100	124174	MOV	#DNI!INTE,@PCSRO		; ENABLE INTERRUPTS		
8069	056032	112777	000104	124166	MOV#B	#INTE!START,@PCSRO		; ISSUE START PORT COMMAND		
8070	056040	004737	030706		JSR	PC,CHKDNI		; DNI?		
8071	056044	103010			BCC	120#		; YES		
8072	056046				FTL					
	056046	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8073	056052				ERRHRD	270.,ERR012,MSG003		; NO, REPORT ERROR		
	056052	104456							TRAP	C\$ERHRD
	056054	000416							.WORD	270
	056056	025543							.WORD	ERR012
	056060	024032							.WORD	MSG003
8074	056062				ESCAPE	TST		; AND ABORT TEST		
	056062	104410							TRAP	C\$ESCAPE
	056064	000746							.WORD	L10051-.
8075										
8076	056066	004737	032320		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
8077								; ERROR ?		
8078	056072	103010			BCC	130#		; NO		
8079	056074				FTL					
	056074	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8080	056100				ERRHRD	271.,ERR006,MSG003		; YES, REPORT ERROR		
	056100	104456							TRAP	C\$ERHRD
	056102	000417							.WORD	271
	056104	025124							.WORD	ERR006
	056106	024032							.WORD	MSG003
8081	056110				ESCAPE	TST		; AND ABORT TEST		
	056110	104410							TRAP	C\$ESCAPE
	056112	000720							.WORD	L10051-.
8082										
8083	056114	004737	031724		JSR	PC,CHKTXI		; TXI ?		
8084	056120	103010			BCC	140#		; YES		
8085	056122				FTL					
	056122	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8086	056126				ERRHRD	272.,ERR013,MSG003		; NO, REPORT ERROR		
	056126	104456							TRAP	C\$ERHRD
	056130	000420							.WORD	272
	056132	025624							.WORD	ERR013
	056134	024032							.WORD	MSG003
8087	056136				ESCAPE	TST		; AND ABORT TEST		
	056136	104410							TRAP	C\$ESCAPE
	056140	000672							.WORD	L10051-.
8088										
8089	056142	004737	032502		JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
8090								; ERROR ?		
8091	056146	103010			BCC	150#		; NO		
8092	056150				FTL					
	056150	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		

```

8093 056154          ERRHRD 273.,ERR014,MSG003      ; YES, REPORT ERROR
      056154 104456
      056156 000421
      056160 025655
      056162 024032
      8094 056164          ESCAPE TST                ; AND ABORT TEST
      056164 104410
      056166 000644
      8095
      8096          ;CHECK FIRST RING ENTRY
      8097
      8098 056170 012705 002622      150$: MOV    #TDRB,R5          ; CHECK TDRB OWNERSHIP
      8099 056174 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
      8100 056200 103010              BCC    160$              ; YES
      8101 056202
      056202 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
      8102 056206          ERRHRD 274.,ERR027        ; NO, REPORT ERROR
      056206 104456
      056210 000422
      056212 026634
      056214 000000
      8103 056216          ESCAPE TST                ; AND ABORT TEST
      056216 104410
      056220 000612
      8104
      8105 056222 012705 020326      i60$: MOV    #TDR20A,R5     ; POINT TO EXPECTED TDRB
      8106 056226 004737 034244      JSR    PC,LDXTDR        ; LOAD INTO XTDRBO TABLE
      8107 056232 012705 002622      MOV    #TDRB,R5        ; CHECK TDRB
      8108 056236 004737 031636      JSR    PC,CHKTDR        ; ERRORS ?
      8109 056242 103010              BCC    162$              ; NO
      8110 056244
      056244 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
      8111 056250          ERRHRD 275.,ERR033,MSG005    ; YES, REPORT ERROR
      056250 104456
      056252 000423
      056254 027262
      056256 024136
      8112 056260          ESCAPE TST                ; AND ABORT TEST
      056260 104410
      056262 000550
      8113
      8114          ;CHECK SECOND RING ENTRY
      8115
      8116 056264 012705 002632      162$: MOV    #TDRB+8.,R5   ; CHECK TDRB OWNERSHIP
      8117 056270 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
      8118 056274 103010              BCC    164$              ; YES
      8119 056276
      056276 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
      8120 056302          ERRHRD 276.,ERR028        ; NO, REPORT ERROR
      056302 104456
      TRAP C$ERHRD

```


D4

```

056304 000424
056306 026741
056310 000000
8121 056312 ESCAPE TST ; AND ABORT TEST
056312 104410
056314 000516 TRAP C$ESCAPE
WORD L10051-.
WORD 276
WORD ERR028
WORD 0

8122
8123 056316 012705 020336 i64$: MOV #TDR20B,R5 ; POINT TO EXPECTED TDRB
8124 056322 004737 034244 JSR PC,LDXTDR ; LOAD INTO XTDRBO TABLE
8125 056326 012705 002632 MOV #TDRB+8,R5 ; CHECK TDRB
8126 056332 004737 031636 JSR PC,CHKTDR ; ERRORS ?
8127 056336 103010 BCC 170$ ; NO
8128 056340 FTL

056340 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8129 056344 ERRHRD 277.,ERR034,MSG005 ; YES, REPORT ERROR
056344 104456 TRAP C$ERRHRD
056346 000425 .WORD 277
056350 027351 .WORD ERR034
056352 024136 .WORD MSG005

8130 056354 ESCAPE TST ; AND ABORT TEST
056354 104410 TRAP C$ESCAPE
056356 000454 .WORD L10051-.

8131
8132 056360 004737 031454 i70$: JSR PC,CHKRXI ; RXI ?
8133 056364 103010 BCC 180$ ; YES
8134 056366 FTL

056366 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8135 056372 ERRHRD 280.,ERR015,MSG003 ; NO, REPORT ERROR
056372 104456 TRAP C$ERRHRD
056374 000430 .WORD 280
056376 025723 .WORD ERR015
056400 024032 .WORD MSG003

8136 056402 ESCAPE TST ; AND ABORT TEST
056402 104410 TRAP C$ESCAPE
056404 000426 .WORD L10051-.

8137
8138 056406 004737 032434 i80$: JSR PC,CLRRXI ; WRITE ONE TO CLEAR RXI
8139 BCC 190$ ; ERROR ?
8140 056412 103010 BCC 190$ ; NO
8141 056414 FTL

056414 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8142 056420 ERRHRD 281.,ERR016,MSG003 ; YES, REPORT ERROR
056420 104456 TRAP C$ERRHRD
056422 000431 .WORD 281
056424 025754 .WORD ERR016
056426 024032 .WORD MSG003

8143 056430 ESCAPE TST ; AND ABORT TEST
056430 104410 TRAP C$ESCAPE
056432 000400 .WORD L10051-.

8144
8145 ;

```

E4

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TEST 19: DATA CHAINING TEST

SEQ 250

```

8146                                     ;CHECK FIRST RING ENTRY
8147
8148 056434 012705 002662          190$:  MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
8149 056440 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8150 056444 103010                  BCC   200$             ; YES
8151 056446                          FTL

      056446 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8152 056452                          ERRHRD 282.,ERR030      ; NO, REPORT ERROR
      056452 104456
      056454 000432
      056456 027047
      056460 000000
      TRAP C$ERHRD
      .WORD 282
      .WORD ERR030
      .WORD 0
8153 056462                          ESCAPE TST             ; AND ABORT TEST
      056462 104410
      056464 000346
      TRAP C$ESCAPE
      .WORD L10051-.

8154
8155 056466 012705 020436          ;200$: MOV    #RDR20A,R5      ; POINT TO EXPECTED RDRB
8156 056472 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8157 056476 012705 002662          MOV    #RDRB,R5        ; CHECK RDRB
8158 056502 004737 031344          JSR    PC,CHKRDR        ; ERRORS ?
8159 056506 103010                  BCC   202$             ; NO
8160 056510                          FTL

      056510 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8161 056514                          ERRHRD 283.,ERR036,MSG006 ; YES, REPORT ERROR
      056514 104456
      056516 000433
      056520 027441
      056522 024300
      TRAP C$ERHRD
      .WORD 283
      .WORD ERR036
      .WORD MSG006
8162 056524                          ESCAPE TST             ; AND ABORT TEST
      056524 104410
      056526 000304
      TRAP C$ESCAPE
      .WORD L10051 .

8163
8164                                     ;CHECK SECOND RING ENTRY
8165
8166 056530 012705 002672          202$:  MOV    #RDRB+8.,R5     ; CHECK RDRB OWNERSHIP
8167 056534 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8168 056540 103010                  BCC   204$             ; YES
8169 056542                          FTL

      056542 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8170 056546                          ERRHRD 284.,ERR031      ; NO, REPORT ERROR
      056546 104456
      056550 000434
      056552 027154
      056554 000000
      TRAP C$ERHRD
      .WORD 284
      .WORD ERR031
      .WORD 0
8171 056556                          ESCAPE TST             ; AND ABORT TEST
      056556 104410
      056560 000252
      TRAP C$ESCAPE
      .WORD L10051-.

8172
8173 056562 012705 020446          ;204$:  MOV    #RDR20B,R5     ; POINT TO EXPECTED RDRB
8174 056566 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8175 056572 012705 002672          MOV    #RDRB+8.,R5     ; CHECK RDRB

```

F4

```

8176 056576 004737 031344      JSR      PC,CHKRDR      ; ERRORS ?
8177 056602 103010              BCC      210$          ; NO
8178 056604              FTL

      056604 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
8179 056610              ERRHRD  285.,ERR037,MSG006 ; YES, REPORT ERROR
      056610 104456              ;
      056612 000435              TRAP    C$ERRHRD
      056614 027527              .WORD  285
      056616 024300              .WORD  ERR037
      056620              .WORD  MSG006
8180 056620              ESCAPE  TST           ; AND ABORT TEST
      056620 104410              TRAP    C$ESCAPE
      056622 000210              .WORD  L10051-.

8181
8182
8183 056624              ;
      210$:
8184 056624 012705 011056      MOV      #RBUF2+14,R5 ; POINT TO CRC ADDRESS
8185 056630 022725 152120      CMP      #152120,(R5)+ ; 1ST CRC WORD BAD?
8186 056634 001003              BNE      222$          ; YES
8187 056636 022715 136614      CMP      #136614,(R5) ; 2ND CRC WORD BAD?
8188 056642 001422              BEQ      230$          ; NO, SKIP ERROR REPORT
      222$:
8189 056644              MOV      #XCRC,R3     ; POINT TO ERROR TABLE
8190 056644 012703 020576      MOV      #RBUF2+14,R4 ; POINT TO ACTUAL CRC RECEIVED
8191 056650 012704 011056      MOV      (R3)+,(R4)+ ; LOAD CRC ERROR TABLE
8192 056654 012324              MOV      (R3),(R4)    ;
8193 056656 011314              MOV      #XCRC,R3     ; POINT TO EXPECTED CRC TABLE
8194 056660 012703 020576      MOV      #152120,(R3)+ ; LOAD TABLE
8195 056664 012723 152120      MOV      #136614,(R3) ;
8196 056670 012713 136614      ERRHRD  286.,ERR023,MSG008 ; YES, REPORT ERROR
8197 056674              TRAP    C$ERRHRD
      056674 104456              .WORD  286
      056676 000436              .WORD  ERR023
      056700 026513              .WORD  MSG008
      056702 024474              ;
8198 056704              ESCAPE  TST           ; AND ABORT TEST
      056704 104410              TRAP    C$ESCAPE
      056706 000124              .WORD  L10051-.

8199
8200 056710              ;
      230$:
8201 056710 012777 004100 123310 MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8202 056716 112777 000117 123302 MOVB     #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8203 056724 004737 030706      JSR      PC,CHKDNI    ; DNI ?
8204 056730 103010              BCC      240$          ; YES
8205 056732              FTL

      056732 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
8206 056736              ERRHRD  287.,ERR019,MSG003 ; NO, REPORT ERROR
      056736 104456              TRAP    C$ERRHRD
      056740 000437              .WORD  287
      056742 026222              .WORD  ERR019
      056744 024032              .WORD  MSG003
8207 056746              ESCAPE  TST           ; AND ABORT TEST
      056746 104410              TRAP    C$ESCAPE
      056750 000062              .WORD  L10051-.

8208
  
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G4

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8209 056752 004737 032320      240$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
8210                               ; ERROR ?
8211 056756 103010             BCC    250$      ; NO
8212 056760                               FTL

      056760 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

8213 056764                               ERRHRD 290.,ERR006,MSG003 ; YES, REPORT ERROR
      056764 104456
      056766 000442
      056770 025124
      056772 024032
8214 056774                               ESCAPE TST      ; AND ABORT TEST
      056774 104410
      056776 000034
8215 057000      250$:
8216
8217 057000                               EXIT    TST
      057000 104432
      057002 000030
8218
8219                               ;LOCAL TEST MESSAGE
8220
8221 057004      104      105      114  T19ID: .ASCIZ 'DELUA DATA CHAINING '
      057007      125      101      040
      057012      104      101      124
      057015      101      040      103
      057020      110      101      111
      057023      116      111      116
      057026      107      040      000
8222
8223                               .EVEN
8224 057032                               ENDTST
      057032
      057032 104401

```

TRAP C#ERHRD
.WORD 290
.WORD ERRO06
.WORD MSG003

TRAP C#ESCAPE
.WORD L10051-

TRAP C#EXIT
.WORD L10051-

L10051: TRAP C#ETST

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.SBTTL TEST 20: PHYSICAL ADDRESS TEST

THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION IS OPERATIONAL. A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DELUA'S PHYSICAL ADDRESS. INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED DESTINATION ADDRESS. THE PHYSICAL ADDRESS IS THEN COMPLEMENTED AND THE TEST IS REPEATED.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP
8. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
9. ISSUE START
10. CHECK FOR NO RXI
11. ISSUE STOP
12. WRITE PHYSICAL ADDRESS WITH COMPLEMENTED VAULE
13. REPEAT STEPS 4 - 11

8259 057034
057034

BGNTST

T20::

8260
8261 057034

PNTMAC T20ID

057034 012704 062460
057040 004737 034610

MOV #T20ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

8262 057044 004737 035310
8263 057050 103034
8264 057052 012777 004100 123146
8265 057060 112777 000140 123140
8266 057066 004737 032034
8267 057072 103010
8268 057074

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30# ; NO
MOV #DNI:INTE,@PCSRO ; ENABLE INTERRUPTS
MOVB #INTE:RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
FTL

057074 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

8269 057100
057100 104456
057102 000443
057104 030105

ERRHRD 291.,ERR042,MSG003 ; NO, REPORT ERROR

;80
TRAP C\$ERHRD
.WORD 291
.WORD ERR042


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8297
8298
8299
8300 057246 012705 014602      50$:  MOV    #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
8301 057252 004737 033656      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8302 057256 013737 020474 002304  MOV    MODE21,PCBB+2     ; MODE = INTL LOOPBACK ONLY
8303 057264 012777 004100 122734  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8304 057272 112777 000102 122726  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8305 057300 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8306 057304 103010      BCC   60$                ; YES
8307 057306      FTL

      057306 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8308 057312      ERRHRD 295.,ERR010,MSG003 ; NO, REPORT ERROR
      057312 104456      TRAP  C$ERHRD
      057314 000447      .WORD 295
      057316 025425      .WORD ERR010
      057320 024032      .WORD MSG003
8309 057322      ESCAPE TST          ; AND ABORT TEST
      057322 104410      TRAP  C$ESCAPE
      057324 003164      .WORD L10052-.

8310
8311 057326 004737 032320      60$:  JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
8312      BCC   70$                ; ERROR ?
8313 057332 103010      BCC   70$                ; NO
8314 057334      FTL

      057334 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8315 057340      ERRHRD 296.,ERR006,MSG003 ; YES, REPORT ERROR
      057340 104456      TRAP  C$ERHRD
      057342 000450      .WORD 296
      057344 025124      .WORD ERR006
      057346 024032      .WORD MSG003
8316 057350      ESCAPE TST          ; AND ABORT TEST
      057350 104410      TRAP  C$ESCAPE
      057352 003136      .WORD L10052-.

8317
8318
8319
8320 057354 012705 014542      70$:  MOV    #WTRNGS,R5     ; DEFAULT WRITE RING FORMAT FUNCTION
8321 057360 004737 033656      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8322 057364 012705 014706      MOV    #RFRMT,R5         ; DEFAULT RING FORMAT
8323 057370 012700 000006      MOV    #6,R0             ; FORMAT = SIX WORDS
8324 057374 004737 034134      JSR    PC,LDUD8B         ; LOAD RING FORMAT -> UD8B
8325 057400 012777 004100 122620  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8326 057406 112777 000102 122612  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8327 057414 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8328 057420 103010      BCC   80$                ; YES
8329 057422      FTL

      057422 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?

8330 057426      ERRHRD 297.,ERR010,MSG003 ; NO, REPORT ERROR
      057426 104456      TRAP  C$ERHRD
      057430 000451      .WORD 297
    
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      057432 025425                .WORD  ERR010
      057434 024032                .WORD  MSG003
8331 057436                ESCAPE TST                ; AND ABORT TEST                TRAP  C$ESCAPE
      057436 104410                .WORD  L10052-.
      057440 003050
8332
8333 057442 004737 032320      ; 80$: JSR    PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
8334                                ; ERROR ?
8335 057446 103010                BCC    90$                ; NO
8336 057450                FTL
                                ;
                                ; 'FATL' BIT SET?
      057450 004737 031010                JSR    PC,CHKFTL
8337 057454                ERRHRD 300.,ERR006,MSG003        ; YES, REPORT ERROR
      057454 104456                TRAP  C$ERHRD
      057456 000454                .WORD 300
      057460 025124                .WORD  ERR006
      057462 024032                .WORD  MSG003
8338 057464                ESCAPE TST                ; AND ABORT TEST                TRAP  C$ESCAPE
      057464 104410                .WORD  L10052-.
      057466 003022
8339
8340      ;WRITE PHYSICAL ADDRESS
8341
8342 057470      90$:
8343 057470 012705 020062      MOV    #ADR21,R5                ; GET NEW PHYSICAL ADDRESS
8344 057474 004737 033724      JSR    PC,LDPHYA                ; SAVE IT IN DEFAULT TABLE
8345 057500 012705 014502      MOV    #WTPHYA,R5                ; DEFAULT WRITE PHYSICAL ADDR FUNC
8346 057504 004737 033656      JSR    PC,LDPCCB                ; LOAD FUNCTION -> PCBB
8347 057510 012701 020062      MOV    #ADR21,R1                ; GET PHYSICAL ADDRESS
8348 057514 010102      MOV    R1,R2                ; SOURCE = DESTINATION
8349 057516 004737 035062      JSR    PC,SRCDST                ; LOAD PHY ADR IN ADR TABLES
8350 057522 012777 004100 122476      MOV    #DNI!INTE,@PCSR0        ; ENABLE INTERRUPTS
8351 057530 112777 000102 122470      MOVB   #INTE!GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
8352 057536 004737 030706      JSR    PC,CHKDNI                ; DNI ?
8353 057542 103010                BCC    100$                ; YES
8354 057544                FTL
                                ;
                                ; 'FATL' BIT SET?
      057544 004737 031010                JSR    PC,CHKFTL
8355 057550                ERRHRD 301.,ERR010,MSG003        ; NO, REPORT ERROR
      057550 104456                TRAP  C$ERHRD
      057552 000455                .WORD 301
      057554 025425                .WORD  ERR010
      057556 024032                .WORD  MSG003
8356 057560                ESCAPE TST                ; AND ABORT TEST                TRAP  C$ESCAPE
      057560 104410                .WORD  L10052-.
      057562 002726
8357
8358 057564 004737 032320      ; 100$: JSR    PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
8359                                ; ERROR ?
8360 057570 103010                BCC    110$                ; NO
8361 057572                FTL
                                ;
                                ; 'FATL' BIT SET?
      057572 004737 031010                JSR    PC,CHKFTL
8362 057576                ERRHRD 302.,ERR006,MSG003        ; YES, REPORT ERROR

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057576	104456					TRAP	C\$ERHRD
057600	000456					.WORD	302
057602	025124					.WORD	ERR006
057604	024032					.WORD	MSG003
8363	057606				ESCAPE TST		; AND ABORT TEST
	057606	104410				TRAP	C\$ESCAPE
	057610	002700				.WORD	L10052-
8364							
8365					;SET UP RINGS FOR ONE BUFFER LOOPBACK		
8366							
8367	057612	012705	016412		110\$: MOV #TDRB1A,R5		; DEFAULT ONE BUFFER TRANSMIT RING
8368	057616	004737	034040		JSR PC,LDTDRB		; LOAD TDRB
8369	057622	012705	014752		MOV #RDRB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING
8370	057626	004737	033744		JSR PC,LDRDRB		; LOAD RDRB
8371							
8372					;SET UP BUFFERS AND START		
8373							
8374	057632	005037	020564		CLR DOCRC		; NO CRC
8375	057636	012737	000006	020562	MOV #6,BYTCNT		; BYTES/PACKET
8376	057644	004737	034662		JSR PC,SETBUF		; SET UP BUFFERS
8377	057650	012777	004100	122350	MOV #DNI!INTE,@PCSR0		; ENABLE INTERRUPTS
8378	057656	112777	000104	122342	MOVB #INTE!START,@PCSR0		; ISSUE START PORT COMMAND
8379	057664	004737	030706		JSR PC,CHKDNI		; DNI?
8380	057670	103010			BCC 120\$; YES
8381	057672				FTL		
	057672	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?
8382	057676				ERRHRD 303.,ERR012,MSG003		; NO, REPORT ERROR
	057676	104456				TRAP	C\$ERHRD
	057700	000457				.WORD	303
	057702	025543				.WORD	ERR012
	057704	024032				.WORD	MSG003
8383	057706				ESCAPE TST		; AND ABORT TEST
	057706	104410				TRAP	C\$ESCAPE
	057710	002600				.WORD	L10052-
8384							
8385	057712	004737	032320		120\$: JSR PC,CLR DNI		; WRITE ONE TO CLEAR DNI
8386							; ERROR ?
8387	057716	103010			BCC 130\$; NO
8388	057720				FTL		
	057720	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?
8389	057724				ERRHRD 304.,ERR006,MSG003		; YES, REPORT ERROR
	057724	104456				TRAP	C\$ERHRD
	057726	000460				.WORD	304
	057730	025124				.WORD	ERR006
	057732	024032				.WORD	MSG003
8390	057734				ESCAPE TST		; AND ABORT TEST
	057734	104410				TRAP	C\$ESCAPE
	057736	002552				.WORD	L10052-
8391							
8392	057740	004737	031724		130\$: JSR PC,CHKTXI		; TXI ?
8393	057744	103010			BCC 140\$; YES
8394	057746				FTL		

	057746	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8395	057752				ERRHRD	305.,ERR013,MSG003		; NO, REPORT ERROR		
	057752	104456							TRAP	C\$ERHRD
	057754	000461							.WORD	305
	057756	025624							.WORD	ERR013
	057760	024032							.WORD	MSG003
8396	057762				ESCAPE	TST		; AND ABORT TEST		
	057762	104410							TRAP	C\$ESCAPE
	057764	002524							.WORD	L10052-.
8397										
8398	057766	004737	032502	i140\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
8399								; ERROR ?		
8400	057772	103010			BCC	150\$; NO		
8401	057774				FTL					
	057774	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8402	060000				ERRHRD	306.,ERR014,MSG003		; YES, REPORT ERROR		
	060000	104456							TRAP	C\$ERHRD
	060002	000462							.WORD	306
	060004	025655							.WORD	ERR014
	060006	024032							.WORD	MSG003
8403	060010				ESCAPE	TST		; AND ABORT TEST		
	060010	104410							TRAP	C\$ESCAPE
	060012	002476							.WORD	L10052-.
8404										
8405	060014	012705	002622	i150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
8406	060020	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
8407	060024	103010			BCC	160\$; YES		
8408	060026				FTL					
	060026	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8409	060032				ERRHRD	307.,ERR018		; NO, REPORT ERROR		
	060032	104456							TRAP	C\$ERHRD
	060034	000463							.WORD	307
	060036	026122							.WORD	ERR018
	060040	000000							.WORD	0
8410	060042				ESCAPE	TST		; AND ABORT TEST		
	060042	104410							TRAP	C\$ESCAPE
	060044	002444							.WORD	L10052 .
8411										
8412	060046	012705	020266	i160\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
8413	060052	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
8414	060056	012705	002622		MOV	#TDRB,R5		; CHECK TDRB		
8415	060062	004737	031636		JSR	PC,CHKTDR		; ERRORS ?		
8416	060066	103010			BCC	170\$; NO		
8417	060070				FTL					
	060070	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
8418	060074				ERRHRD	310.,ERR020,MSG005		; YES, REPORT ERROR		
	060074	104456							TRAP	C\$ERHRD
	060076	000466							.WORD	310
	060100	026302							.WORD	ERR020
	060102	024136							.WORD	MSG005

8419	060104			ESCAPE	TST		; AND ABORT TEST		
	060104	104410						TRAP	C#ESCAPE
	060106	002402						.WORD	L10052 .
8420									
8421	060110	004737	031454	i170\$:	JSR	PC,CHKRXI	; RXI ?		
8422	060114	103010			BCC	180\$; YES		
8423	060116				FTL				
	060116	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8424	060122				ERRHRD	311.,ERR015,MSG003	; NO, REPORT ERROR		
	060122	104456						TRAP	C#ERRHRD
	060124	000467						.WORD	311
	060126	025723						.WORD	ERR015
	060130	024032						.WORD	MSG003
8425	060132				ESCAPE	TST	; AND ABORT TEST		
	060132	104410						TRAP	C#ESCAPE
	060134	002354						.WORD	L10052-
8426									
8427	060136	004737	032434	i180\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8428							; ERROR ?		
8429	060142	103010			BCC	190\$; NO		
8430	060144				FTL				
	060144	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8431	060150				ERRHRD	312.,ERR016,MSG003	; YES, REPORT ERROR		
	060150	104456						TRAP	C#ERRHRD
	060152	000470						.WORD	312
	060154	025754						.WORD	ERR016
	060156	024032						.WORD	MSG003
8432	060160				ESCAPE	TST	; AND ABORT TEST		
	060160	104410						TRAP	C#ESCAPE
	060162	002326						.WORD	L10052-
8433									
8434	060164	012705	002662	i190\$:	MOV	#RDR8,R5	; CHECK RDR8 OWNERSHIP		
8435	060170	004737	031162		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
8436	060174	103010			BCC	200\$; YES		
8437	060176				FTL				
	060176	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8438	060202				ERRHRD	313.,ERR017	; NO, REPORT ERROR		
	060202	104456						TRAP	C#ERRHRD
	060204	000471						.WORD	313
	060206	026022						.WORD	ERR017
	060210	000000						.WORD	0
8439	060212				ESCAPE	TST	; AND ABORT TEST		
	060212	104410						TRAP	C#ESCAPE
	060214	002274						.WORD	L10052-
8440									
8441	060216	012705	020456	i200\$:	MOV	#RDR20C,R5	; POINT TO EXPECTED RDR8		
8442	060222	004737	034214		JSR	PC,LDXRDR	; LOAD INTO XRDR80 TABLE		
8443	060226	012705	002662		MOV	#RDR8,R5	; CHECK RDR8		
8444	060232	004737	031344		JSR	PC,CHKRDR	; ERRORS ?		
8445	060236	103010			BCC	210\$; NO		
8446	060240				FTL				

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060240 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8447 060244          ERRHRD  314.,ERR021,MSG006 ; YES, REPORT ERROR
      060244 104456          ;
      060246 000472          TRAP   C$ERRHRD
      060250 026363          .WORD  314
      060252 024300          .WORD  ERR021
8448 060254          ESCAPE  TST          ; AND ABORT TEST
      060254 104410          ;
      060256 002232          TRAP   C$ESCAPE
      .WORD  L10052-.
8449
8450          ;COMPARE RBUF WITH TBUF
8451
8452 060260 013705 020562      210$:  MOV    BYTCNT,R5          ; COMPARE DATA
8453 060264 004737 032646      JSR    PC,CMPDAT          ; DATA COMPARE ERROR ?
8454 060270 103006          BCC    220$              ; NO
8455 060272          ERRHRD  315.,ERR022,MSG007 ; YES, REPORT ERROR
      060272 104456          TRAP   C$ERRHRD
      060274 000473          .WORD  315
      060276 026444          .WORD  ERR022
      060300 024442          .WORD  MSG007
8456 060302          ESCAPE  TST          ; AND ABORT TEST
      060302 104410          ;
      060304 002204          TRAP   C$ESCAPE
      .WORD  L10052 .
8457
8458 060306 012705 010474      i
8459 060312 004737 032576      220$:  MOV    #RBUF+32,R5          ; POINT TO EXPECTED CRC
8460 060316 103006          JSR    PC,CMPCRC          ; ERRORS ?
8461 060320          BCC    230$              ; NO
      060320 104456          ERRHRD  316.,ERR023,MSG008 ; YES, REPORT ERROR
      060322 000474          TRAP   C$ERRHRD
      060324 026513          .WORD  316
      060326 024474          .WORD  ERR023
      .WORD  MSG008
8462 060330          ESCAPE  TST          ; AND ABORT TEST
      060330 104410          ;
      060332 002156          TRAP   C$ESCAPE
      .WORD  L10052-.
8463
8464 060334          i
8465 060334 012777 004100 121664 230$:  MOV    #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
8466 060342 112777 000117 121656  MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8467 060350 004737 030706      JSR    PC,CHKDNI          ; DNI ?
8468 060354 103010          BCC    240$              ; YES
8469 060356          FTL
      060356 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8470 060362          ERRHRD  317.,ERR019,MSG003 ; NO, REPORT ERROR
      060362 104456          TRAP   C$ERRHRD
      060364 000475          .WORD  317
      060366 026222          .WORD  ERR019
      060370 024032          .WORD  MSG003
8471 060372          ESCAPE  TST          ; AND ABORT TEST
      060372 104410          ;
      060374 002114          TRAP   C$ESCAPE
      .WORD  L10052-.
8472
8473 060376 004737 032320      i
      240$:  JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI

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C5

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 261

```

8474
8475 060402 103010          BCC 250$          ; ERROR ?
8476 060404          FTL                      ; NO

      060404 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?

8477 060410          ERRHRD 320.,ERR006,MSG003 ; YES, REPORT ERROR
      060410 104456          TRAP C$ERHRD
      060412 000500          .WORD 320
      060414 025124          .WORD ERR006
      060416 024032          .WORD MSG003

8478 060420          ESCAPE TST          ; AND ABORT TEST
      060420 104410          TRAP C$ESCAPE
      060422 002066          .WORD L10052 .

8479
8480          ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
8481          ;
8482          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8483
8484 060424          250$:
8485 060424 004737 032272          JSR PC,CLRCV          ; CLEAR RECEIVE BUFFER
8486 060430 012705 016412          MOV #TDRB1A,R5        ; DEFAULT ONE BUFFER TRANSMIT RING
8487 060434 004737 034040          JSR PC,LDTDRB        ; LOAD TDRB
8488 060440 012705 014752          MOV #RDRB1A,R5        ; DEFAULT ONE BUFFER RECEIVE RING
8489 060444 004737 033744          JSR PC,LDRDRB        ; LOAD RDRB
8490
8491          ;SET UP BUFFERS AND START
8492
8493 060450 012701 020062          MOV #ADR21,R1          ; SET SOURCE = PHYSICAL ADDRESS
8494 060454 012702 020070          MOV #ADR21C,R2        ; DEST = COMPLEMENTED ADDRESS
8495 060460 004737 035062          JSR PC,SRCDST        ; LOAD PACKET ADDRESSES
8496 060464 005037 020564          CLR DOCRC             ; NO CRC
8497 060470 012737 000006 020562          MOV #6,BYTCNT        ; BYTES/PACKET
8498 060476 004737 034662          JSR PC,SETBUF        ; SET UP BUFFERS
8499 060502 012777 004100 121516          MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8500 060510 112777 000104 121510          MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8501 060516 004737 030706          JSR PC,CHKDNI        ; DNI?
8502 060522 103010          BCC 260$            ; YES
8503 060524          FTL

      060524 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?

8504 060530          ERRHRD 321.,ERR012,MSG003 ; NO, REPORT ERROR
      060530 104456          TRAP C$ERHRD
      060532 000501          .WORD 321
      060534 025543          .WORD ERR012
      060536 024032          .WORD MSG003

8505 060540          ESCAPE TST          ; AND ABORT TEST
      060540 104410          TRAP C$ESCAPE
      060542 001746          .WORD L10052 .

8506
8507 060544 004737 032320          260$: JSR PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
8508          ; ERROR ?
8509 060550 103010          BCC 270$            ; NO
8510 060552          FTL

      060552 004737 031010          JSR PC,CHKFTL      ; 'FATL' BIT SET?

```


E5

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 263

```

8534 060700 012705 020346      300$: MOV    #TDR21X,R5      ; POINT TO EXPECTED TDRB
8535 060704 004737 034244      JSR    PC,LDXTDR      ; LOAD INTO XTDRBO TABLE
8536 060710 012705 002622      MOV    #TDRB,R5      ; CHECK TDRB
8537 060714 004737 031636      JSR    PC,CHKTDR      ; ERRORS ?
8538 060720 103010                BCC    310$           ; NO
8539 060722                FTL

      060722 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

8540 060726                ERRHRD 326.,ERR020,MSG005 ; YES, REPORT ERROR
      060726 104456                TRAP  C$ERHRD
      060730 000506                .WORD 326
      060732 026302                .WORD ERR020
      060734 024136                .WORD MSG005

8541 060736                ESCAPE TST            ; AND ABORT TEST
      060736 104410                TRAP  C$ESCAPE
      060740 001550                .WORD L10052-.

8542                i310$:
8543 060742 004737 034276      JSR    PC,NORXI      ; RXI ?
8544 060746 103010                BCC    320$           ; NO
8545 060750                FTL

      060750 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

8546 060754                ERRHRD 327.,ERR039      ; YES, REPORT ERROR
      060754 104456                TRAP  C$ERHRD
      060756 000507                .WORD 327
      060760 027671                .WORD ERR039
      060762 000000                .WORD 0

8547 060764                ESCAPE TST            ; AND ABORT TEST
      060764 104410                TRAP  C$ESCAPE
      060766 001522                .WORD L10052-.

8548                i320$:
8549 060770                MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8550 060770 012777 004100 121230  MOVB   @INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8551 060776 112777 000117 121222  JSR    PC,CHKDNI      ; DNI ?
8552 061004 004737 030706      BCC    330$           ; YES
8553 061010 103010                FTL

      061012 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

8555 061016                ERRHRD 330.,ERR019,MSG003 ; NO, REPORT ERROR
      061016 104456                TRAP  C$ERHRD
      061020 000512                .WORD 330
      061022 026222                .WORD ERR019
      061024 024032                .WORD MSG003

8556 061026                ESCAPE TST            ; AND ABORT TEST
      061026 104410                TRAP  C$ESCAPE
      061030 001460                .WORD L10052.

8557                i330$:
8558 061032 004737 032320      JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8559                .WORD 1
8560 061036 103010                BCC    340$           ; ERROR ?
8561 061040                FTL

      061040 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

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F5

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8562 061044          ERRHRD 331.,ERR006,MSG003      ; YES, REPORT ERROR
      061044 104456
      061046 000513
      061050 025124
      061052 024032
8563 061054          ESCAPE TST                    ; AND ABORT TEST
      061054 104410
      061056 001432
8564
8565                ;REPEAT WITH COMPLEMENTED PHYSICAL ADDRESS
8566
8567                ;WRITE PHYSICAL ADDRESS
8568
8569 061060          340$:
8570 061060 004737 032272      JSR    PC,CLRCV      ; CLEAR RECEIVE BUFFER
8571 061064 012705 020070      MOV    #ADR21C,R5   ; GET NEW PHYSICAL ADDRESS
8572 061070 004737 033724      JSR    PC,LDPHYA    ; SAVE IT IN DEFAULT TABLE
8573 061074 012705 014502      MOV    #WTPHYA,R5  ; DEFAULT WRITE PHYSICAL ADDR FUNC
8574 061100 004737 033656      JSR    PC,LPCBB     ; LOAD FUNCTION -> PCBB
8575 061104 012701 020070      MOV    #ADR21C,R1  ; GET NEW SOURCE ADDRESS
8576 061110 010102              MOV    R1,R2       ; SOURCE = DESTINATION
8577 061112 004737 035062      JSR    PC,SRCDST   ; SAVE PACKET ADDRESSES
8578 061116 012777 004100 121102  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8579 061124 112777 000102 121074  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8580 061132 004737 030706      JSR    PC,CHKDNI   ; DNI ?
8581 061136 103010              BCC    350$        ; YES
8582 061140
      061140 004737 031010      JSR    PC,CHKFTL   ; 'FATL' BIT SET?
8583 061144          ERRHRD 332.,ERR010,MSG003      ; NO, REPORT ERROR
      061144 104456
      061146 000514
      061150 025425
      061152 024032
8584 061154          ESCAPE TST                    ; AND ABORT TEST
      061154 104410
      061156 001332
8585
8586 061160 004737 032320      350$: JSR    PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8587
8588 061164 103010              BCC    360$        ; ERROR ?
8589 061166
      061166 004737 031010      JSR    PC,CHKFTL   ; 'FATL' BIT SET?
8590 061172          ERRHRD 333.,ERR006,MSG003      ; YES, REPORT ERROR
      061172 104456
      061174 000515
      061176 025124
      061200 024032
8591 061202          ESCAPE TST                    ; AND ABORT TEST
      061202 104410
      061204 001304
8592
8593                ;SET UP RINGS FOR ONE BUFFER LOOPBACK

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8594
8595 061206 012705 016412      360$: MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
8596 061212 004737 034040      JSR    PC,LDTDRB          ; LOAD TDRB
8597 061216 012705 014752      MOV    #RDRB1A,R5        ; DEFAULT ONE BUFFER RECEIVE RING
8598 061222 004737 033744      JSR    PC,LDRDRB         ; LOAD RDRB
8599
8600      ;SET UP BUFFERS AND START
8601
8602 061226 005037 020564      CLR    DOCRC              ; NO CRC
8603 061232 012737 000006 020562  MOV    #6,BYTCNT          ; BYTES/PACKET
8604 061240 004737 034662      JSR    PC,SETBUF          ; SET UP BUFFERS
8605 061244 012777 004100 120754  MOV    #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
8606 061252 112777 000104 120746  MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8607 061260 004737 030706      JSR    PC,CHKDNI          ; DNI?
8608 061264 103010      BCC    370$              ; YES
8609 061266      FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?

8610 061272      ERRHRD 334.,ERR012,MSG003 ; NO, REPORT ERROR
      061272 104456      TRAP   C$ERRHRD
      061274 000516      .WORD 334
      061276 025543      .WORD ERR012
      061300 024032      .WORD MSG003
8611 061302      ESCAPE TST              ; AND ABORT TEST
      061302 104410      TRAP   C$ESCAPE
      061304 001204      .WORD L10052

8612
8613 061306 004737 032320      ;370$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8614      BCC    380$              ; ERROR ?
8615 061312 103010      BCC    380$              ; NO
8616 061314      FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?

8617 061320      ERRHRD 335.,ERR006,MSG003 ; YES, REPORT ERROR
      061320 104456      TRAP   C$ERRHRD
      061322 000517      .WORD 335
      061324 025124      .WORD ERR006
      061326 024032      .WORD MSG003
8618 061330      ESCAPE TST              ; AND ABORT TEST
      061330 104410      TRAP   C$ESCAPE
      061332 001156      .WORD L10052-

8619
8620 061334 004737 031724      ;380$: JSR    PC,CHKTXI      ; TXI ?
8621 061340 103010      BCC    390$              ; YES
8622 061342      FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?

8623 061346      ERRHRD 336.,ERR013,MSG003 ; NO, REPORT ERROR
      061346 104456      TRAP   C$ERRHRD
      061350 000520      .WORD 336
      061352 025624      .WORD ERR013
      061354 024032      .WORD MSG003
8624 061356      ESCAPE TST              ; AND ABORT TEST
      061356 104410      TRAP   C$ESCAPE

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 266

	061360	001130					.WORD	L10052-.
8625								
8626	061362	004737	032502	i	390\$:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI
8627								; ERROR ?
8628	061366	103010				BCC	400\$; NO
8629	061370					FTL		
	061370	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
8630	061374					ERRHRD	337.,ERR014,MSG003	; YES, REPORT ERROR
	061374	104456						TRAP C\$ERHRD
	061376	000521						.WORD 337
	061400	025655						.WORD ERR014
	061402	024032						.WORD MSG003
8631	061404					ESCAPE	TST	; AND ABORT TEST
	061404	104410						TRAP C\$ESCAPE
	061406	001102						.WORD L10052-.
8632								
8633	061410	012705	002622	i	400\$:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP
8634	061414	004737	031162			JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
8635	061420	103010				BCC	410\$; YES
8636	061422					FTL		
	061422	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
8637	061426					ERRHRD	340.,ERR018	; NO, REPORT ERROR
	061426	104456						TRAP C\$ERHRD
	061430	000524						.WORD 340
	061432	026122						.WORD ERR018
	061434	000000						.WORD 0
8638	061436					ESCAPE	TST	; AND ABORT TEST
	061436	104410						TRAP C\$ESCAPE
	061440	001050						.WORD L10052-.
8639								
8640	061442	012705	020266	i	410\$:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB
8641	061446	004737	034244			JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE
8642	061452	012705	002622			MOV	#TDRB,R5	; CHECK TDRB
8643	061456	004737	031636			JSR	PC,CHKTDR	; ERRORS ?
8644	061462	103010				BCC	420\$; NO
8645	061464					FTL		
	061464	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
8646	061470					ERRHRD	341.,ERR020,MSG005	; YES, REPORT ERROR
	061470	104456						TRAP C\$ERHRD
	061472	000525						.WORD 341
	061474	026302						.WORD ERR020
	061476	024136						.WORD MSG005
8647	061500					ESCAPE	TST	; AND ABORT TEST
	061500	104410						TRAP C\$ESCAPE
	061502	001006						.WORD L10052-.
8648								
8649	061504	004737	031454	i	420\$:	JSR	PC,CHKRXI	; RXI ?
8650	061510	103010				BCC	430\$; YES
8651	061512					FTL		
	061512	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?

8652	061516			ERRHRD	342.,ERR015,MSG003	:	NO, REPORT ERROR		
	061516	104456						TRAP	C\$ERHRD
	061520	000526						.WORD	342
	061522	025723						.WORD	ERR015
	061524	024032						.WORD	MSG003
8653	061526			ESCAPE	TST	:	AND ABORT TEST		
	061526	104410						TRAP	C\$ESCAPE
	061530	000760						.WORD	L10052-.
8654									
8655	061532	004737	032434	i	430\$: JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
8656									
8657	061536	103010			BCC	440\$:	ERROR ?	
8658	061540				FTL		:	NO	
	061540	004737	031010		JSR	PC,CHKFTL	:	'FATL' BIT SET?	
8659	061544			ERRHRD	343.,ERR016,MSG003	:	YES, REPORT ERROR		
	061544	104456						TRAP	C\$ERHRD
	061546	000527						.WORD	343
	061550	025754						.WORD	ERR016
	061552	024032						.WORD	MSG003
8660	061554			ESCAPE	TST	:	AND ABORT TEST		
	061554	104410						TRAP	C\$ESCAPE
	061556	000732						.WORD	L10052-.
8661									
8662	061560	012705	002662	i	440\$: MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP	
8663	061564	004737	031162		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
8664	061570	103010			BCC	450\$:	YES	
8665	061572				FTL		:		
	061572	004737	031010		JSR	PC,CHKFTL	:	'FATL' BIT SET?	
8666	061576			ERRHRD	344.,ERR017	:	NO, REPORT ERROR		
	061576	104456						TRAP	C\$ERHRD
	061600	000530						.WORD	344
	061602	026022						.WORD	ERR017
	061604	000000						.WORD	0
8667	061606			ESCAPE	TST	:	AND ABORT TEST		
	061606	104410						TRAP	C\$ESCAPE
	061610	000700						.WORD	L10052-.
8668									
8669	061612	012705	020456	i	450\$: MOV	#RDR20C,R5	:	POINT TO EXPECTED RDRB	
8670	061616	004737	034214		JSR	PC,LDXRDR	:	LOAD INTO XRDRBO TABLE	
8671	061622	012705	002662		MOV	#RDRB,R5	:	CHECK RDRB	
8672	061626	004737	031344		JSR	PC,CHKRDR	:	ERRORS ?	
8673	061632	103010			BCC	460\$:	NO	
8674	061634				FTL		:		
	061634	004737	031010		JSR	PC,CHKFTL	:	'FATL' BIT SET?	
8675	061640			ERRHRD	345.,ERR021,MSG006	:	YES, REPORT ERROR		
	061640	104456						TRAP	C\$ERHRD
	061642	000531						.WORD	345
	061644	026363						.WORD	ERR021
	061646	024300						.WORD	MSG006
8676	061650			ESCAPE	TST	:	AND ABORT TEST		

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 270

8742	062164	000324						.WORD	L10052 .
8743	062166	004737	031724	i520\$:	JSR	PC,CHKTXI			
8744	062172	103010			BCC	530\$; TXI ?
8745	062174				FTL				; YES
8746	062174	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
	062200				ERRHRD	354.,ERR013,MSG003			; NO, REPORT ERROR
	062200	104456						TRAP	C\$ERHRD
	062202	000542						.WORD	354
	062204	025624						.WORD	ERR013
	062206	024032						.WORD	MSG003
8747	062210				ESCAPE	TST			; AND ABORT TEST
	062210	104410						TRAP	C\$ESCAPE
	062212	000276						.WORD	L10052-.
8748				i530\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
8749	062214	004737	032502						; ERROR ?
8750					BCC	540\$; NO
8751	062220	103010			FTL				
8752	062222				JSR	PC,CHKFTL			; 'FATL' BIT SET?
8753	062222	004737	031010		ERRHRD	355.,ERR014,MSG003			; YES, REPORT ERROR
	062226	104456						TRAP	C\$ERHRD
	062226	000543						.WORD	355
	062232	025655						.WORD	ERR014
	062234	024032						.WORD	MSG003
8754	062236				ESCAPE	TST			; AND ABORT TEST
	062236	104410						TRAP	C\$ESCAPE
	062240	000250						.WORD	L10052-.
8755				i540\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
8756	062242	012705	002622		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
8757	062246	004737	031162		BCC	550\$; YES
8758	062252	103010			FTL				
8759	062254				JSR	PC,CHKFTL			; 'FATL' BIT SET?
8760	062254	004737	031010		ERRHRD	356.,ERR018			; NO, REPORT ERROR
	062260	104456						TRAP	C\$ERHRD
	062262	000544						.WORD	356
	062264	026122						.WORD	ERR018
	062266	000000						.WORD	0
8761	062270				ESCAPE	TST			; AND ABORT TEST
	062270	104410						TRAP	C\$ESCAPE
	062272	000216						.WORD	L10052-.
8762				i550\$:	MOV	#TDR21X,R5			; POINT TO EXPECTED TDRB
8763	062274	012705	020346		JSR	PC,LDXTDR			; LOAD INTO XTURBO TABLE
8764	062300	004737	034244		MOV	#TDRB,R5			; CHECK TDRB
8765	062304	012705	002622		JSR	PC,CHKTDR			; ERRORS ?
8766	062310	004737	031636		BCC	560\$; NO
8767	062314	103010			FTL				
8768	062316				JSR	PC,CHKFTL			; 'FATL' BIT SET?
	062316	004737	031010						

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 271

8769	062322				ERRHRD	357.,ERR020,MSG005		; YES, REPORT ERROR		
	062322	104456							TRAP	C\$ERHRD
	062324	000545							.WORD	357
	062326	026302							.WORD	ERR020
	062330	024136							.WORD	MSG005
8770	062332				ESCAPE	TST		; AND ABORT TEST		
	062332	104410							TRAP	C\$ESCAPE
	062334	000154							.WORD	L10052-
8771										
8772	062336	004737	034276		560\$:	JSR	PC,NORXI	; RXI ?		
8773	062342	103010				BCC	570\$; NO		
8774	062344					FTL				
	062344	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8775	062350				ERRHRD	360.,ERR039		; YES, REPORT ERROR		
	062350	104456							TRAP	C\$ERHRD
	062352	000550							.WORD	360
	062354	027671							.WORD	ERR039
	062356	000000							.WORD	0
8776	062360				ESCAPE	TST		; AND ABORT TEST		
	062360	104410							TRAP	C\$ESCAPE
	062362	000126							.WORD	L10052-
8777										
8778	062364				570\$:	MOV	#DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
8779	062364	012777	004100	117634		MOVB	#INTE!STOP,@PCSR0	; ISSUE STOP PORT COMMAND		
8780	062372	112777	000117	117626		JSR	PC,CHKDNI	; DNI ?		
8781	062400	004737	030706			BCC	580\$; YES		
8782	062404	103010				FTL				
8783	062406					JSR	PC,CHKFTL	; 'FATL' BIT SET?		
	062406	004737	031010							
8784	062412				ERRHRD	361.,ERR019,MSG003		; NO, REPORT ERROR		
	062412	104456							TRAP	C\$ERHRD
	062414	000551							.WORD	361
	062416	026222							.WORD	ERR019
	062420	024032							.WORD	MSG003
8785	062422				ESCAPE	TST		; AND ABORT TEST		
	062422	104410							TRAP	C\$ESCAPE
	062424	000064							.WORD	L10052-
8786										
8787	062426	004737	032320		580\$:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
8788								; ERROR ?		
8789	062432	103010				BCC	590\$; NO		
8790	062434					FTL				
	062434	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8791	062440				ERRHRD	362.,ERR006,MSG003		; YES, REPORT ERROR		
	062440	104456							TRAP	C\$ERHRD
	062442	000552							.WORD	362
	062444	025124							.WORD	ERR006
	062446	024032							.WORD	MSG003
8792	062450				ESCAPE	TST		; AND ABORT TEST		
	062450	104410							TRAP	C\$ESCAPE

N5

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      062452 000036
8793 062454          590$:
8794
8795 062454          EXIT  TST
      062454 104432
      062456 000032
8796
8797          ;LOCAL TEST MESSAGE
8798
8799 062460      104      105      114  T20ID: .ASCIZ 'DELUA PHYSICAL ADDRESS '
      062463      125      101      040
      062466      120      110      131
      062471      123      111      103
      062474      101      114      040
      062477      101      104      104
      062502      122      105      123
      062505      123      040      000
8800
8801
8802 062510          ENDTST
      062510
      062510 104401

```

.WORD L10052-.
TRAP C\$EXIT
.WORD L10052-.
L1005? TRAP C\$ETST

8804
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.SBTTL TEST 21: MULTICAST ADDRESS TEST

THIS TEST VERIFIES THAT MULTICAST ADDRESSING
IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
THE DELUA'S MULTICAST ADDRESS LIST.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH
CURRENTLY ENABLED AND THEN CURRENTLY DISABLED
MULTICAST DESTINATION ADDRESSES.
THE MULTICAST ADDRESS LIST IS THEN COMPLEMENTED AND THE
TEST IS REPEATED.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = MULTICAST ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
10. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = COMPLEMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR NO RXI
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES
15. WRITE MULTICAST ADDRESS LIST WITH COMPLEMENTED VAULES
16. REPEAT STEPS 5 - 14

8840 062512
062512

BGNTST

T21::

8841
8842 062512

PNTMAC T21ID

062512 012704 066412
062516 004737 034610

MOV #T21ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

8843 062522 004737 035310
8844 062526 103034
8845 062530 012777 004100 117470
8846 062536 112777 000140 117462
8847 062544 004737 032034
8848 062550 103010
8849 062552

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30# ; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
FTL

062552 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

8850 062556

ERRHRD 363.,ERR042,MSG003 ; NO, REPORT ERROR ;80

D6

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TEST 21: MULTICAST ADDRESS TEST

SEQ 275

```

8877 062720          ESCAPE TST          ; AND ABORT TEST
      062720 104410
      062722 003522          TRAP      C$ESCAPE
                          .WORD      L10053 .
8878
8879          ;WRITE MODE REGISTER = INTERNAL LOOPBACK
8880
8881 062724 012705 014602      50$:  MOV      #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
8882 062730 004737 033656      JSR      PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8883 062734 013737 020474 002304  MOV      MODE21,PCBB+2      ; MODE = INTL LOOPBACK ONLY
8884 062742 012777 004100 117256  MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
8885 062750 112777 000102 117250  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8886 062756 004737 030706      JSR      PC,CHKDNI          ; DNI ?
8887 062762 103010          BCC      60$              ; YES
8888 062764          FTL
      062764 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
8889 062770          ERRHRD 367.,ERR010,MSG003 ; NO, REPORT ERROR
      062770 104456
      062772 000557          TRAP      C$ERHRD
      062774 025425          .WORD      367
      062776 024032          .WORD      ERR010
8890 063000          ESCAPE TST          ; AND ABORT TEST
      063000 104410          TRAP      C$ESCAPE
      063002 003442          .WORD      L10053-.
8891
8892 063004 004737 032320      60$:  JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8893          BCC      70$              ; ERROR ?
8894 063010 103010          FTL              ; NO
8895 063012          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      063012 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
8896 063016          ERRHRD 370.,ERR006,MSG003 ; YES, REPORT ERROR
      063016 104456
      063020 000562          TRAP      C$ERHRD
      063022 025124          .WORD      370
      063024 024032          .WORD      ERR006
8897 063026          ESCAPE TST          ; AND ABORT TEST
      063026 104410          TRAP      C$ESCAPE
      063030 003414          .WORD      L10053 .
8898
8899          ;WRITE RING FORMAT
8900
8901 063032 012705 014542      70$:  MOV      #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
8902 063036 004737 033656      JSR      PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8903 063042 012705 014706      MOV      #RFRMT,R5          ; DEFAULT RING FORMAT
8904 063046 012700 000006      MOV      #6,R0              ; FORMAT = SIX WORDS
8905 063052 004737 034134      JSR      PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
8906 063056 012777 004100 117142  MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
8907 063064 112777 000102 117134  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8908 063072 004737 030706      JSR      PC,CHKDNI          ; DNI ?
8909 063076 103010          BCC      80$              ; YES
8910 063100          FTL
      063100 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?

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8911 063104          ERRHRD 371.,ERR010,MSG003      ; NO, REPORT ERROR
      063104 104456
      063106 000563
      063110 025425
      063112 024032
      TRAP C$ERHRD
      .WORD 371
      .WORD ERR010
      .WORD MSG003
8912 063114          ESCAPE TST                  ; AND ABORT TEST
      063114 104410
      063116 003326
      TRAP C$ESCAPE
      .WORD L10053-.
8913
8914 063120 004737 032320      ;
8915 063124 103010      ; 80$: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI ERROR?
8916 063126          FTL                          ; NO
      063126 004737 031010
      JSR PC,CHKFTL      ; 'FATL' BIT SET?
8917 063132          ERRHRD 372.,ERR006,MSG003    ; YES, REPORT ERROR
      063132 104456
      063134 000564
      063136 025124
      063140 024032
      TRAP C$ERHRD
      .WORD 372
      .WORD ERR006
      .WORD MSG003
8918 063142          ESCAPE TST                  ; AND ABORT TEST
      063142 104410
      063144 003300
      TRAP C$ESCAPE
      .WORD L10053-.
8919
8920          ;WRITE PHYSICAL ADDRESS
8921
8922 063146 012705 002274      ; 90$: MOV #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
8923 063152 004737 033724      ; JSR PC,LDPHYA      ; SAVE IN DEFAULT TABLE
8924 063156 012705 014502      ; MOV #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
8925 063162 004737 033656      ; JSR PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
8926 063166 012777 004100 117032 ; MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8927 063174 112777 000102 117024 ; MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8928 063202 004737 030706      ; JSR PC,CHKDNI      ; DNI ?
8929 063206 103010      ; BCC 100$           ; YES
8930 063210          FTL
      063210 004737 031010
      JSR PC,CHKFTL      ; 'FATL' BIT SET?
8931 063214          ERRHRD 373.,ERR010,MSG003    ; NO, REPORT ERROR
      063214 104456
      063216 000565
      063220 025425
      063222 024032
      TRAP C$ERHRD
      .WORD 373
      .WORD ERR010
      .WORD MSG003
8932 063224          ESCAPE TST                  ; AND ABORT TEST
      063224 104410
      063226 003216
      TRAP C$ESCAPE
      .WORD L10053-.
8933
8934 063230 004737 032320      ; 100$: JSR PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
8935          FTL                          ; ERROR ?
8936 063234 103010      ; BCC 102$           ; NO
8937 063236          FTL
      063236 004737 031010
      JSR PC,CHKFTL      ; 'FATL' BIT SET?
8938 063242          ERRHRD 374.,ERR006,MSG003    ; YES, REPORT ERROR
      063242 104456
      063244 000566
      TRAP C$ERHRD
      .WORD 374

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 TEST 21: MULTICAST ADDRESS TEST

SEQ 277

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      063246 025124                .WORD  ERR006
      063250 024032                .WORD  MSG003
8939          ESCAPE TST           ; AND ABORT TEST
      063252 104410                TRAP   C$ESCAPE
      063254 003170                .WORD  L10053-.

8940          ;
8941          ;WRITE MULTICAST ADDRESS LIST
8942          ;
8943 063256 012705 014522          102$: MOV   #WTMULA,R5      ; DEFAULT WRITE MULTICAST ADDR FUNC
8944 063262 004737 033656          JSR   PC,LDPCCB        ; LOAD FUNCTION -> PCBB
8945 063266 012705 020076          MOV   #MULTL,R5       ; LOAD LIST INTO UD88
8946 063272 012700 000036          MOV   #30.,R0         ; LOAD 30 ENTRIES
8947 063276 004737 034134          JSR   PC,LDUD88       ; MULTICAST LIST -> UD88
8948 063302 012777 004100 116716  MOV   #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8949 063310 112777 000102 116710  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8950 063316 004737 030706          JSR   PC,CHKDNI       ; DNI ?
8951 063322 103010                BCC   104$            ; YES
8952 063324          FTL

      063324 004737 031010          JSR   PC,CHKFTL       ; 'FATL' BIT SET?

8953 063330          ERRHRD 375.,ERR010,MSG003 ; NO, REPORT ERROR
      063330 104456                TRAP   C$ERHRD
      063332 000567                .WORD  375
      063334 025425                .WORD  ERR010
      063336 024032                .WORD  MSG003

8954 063340          ESCAPE TST           ; AND ABORT TEST
      063340 104410                TRAP   C$ESCAPE
      063342 003102                .WORD  L10053 .

8955          ;
8956 063344 004737 032320          104$: JSR   PC,CLRDN1      ; WRITE ONE TO CLEAR DNI ERROR?
8957 063350 103010                BCC   106$            ; NO
8958 063352          FTL

      063352 004737 031010          JSR   PC,CHKFTL       ; 'FATL' BIT SET?

8959 063356          ERRHRD 376.,ERR006,MSG003 ; YES, REPORT ERROR
      063356 104456                TRAP   C$ERHRD
      063360 000570                .WORD  376
      063362 025124                .WORD  ERR006
      063364 024032                .WORD  MSG003

8960 063366          ESCAPE TST           ; AND ABORT TEST
      063366 104410                TRAP   C$ESCAPE
      063370 003054                .WORD  L10053 .

8961          ;
8962          ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8963          ;
8964 063372          106$:
8965 063372 012704 000012          MOV   #10.,R4         ; DO LOOP = TEN
8966 063376 012702 020076          MOV   #MULTL,R2       ; R2 POINTS TO MULTICAST LIST
8967 063402 012701 002274          MOV   #DEFAULT,R1     ; SOURCE = PHYSICAL ADDRESS
8968 063406 004737 035062          JSR   PC,SRCDST       ; STORE THIS IN TABLES
8969          ;
8970          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8971          ;
8972 063412 012705 016412          110$: MOV   #TDRB1A,R5     ; DEFAULT ONE BUFFER TRANSMIT RING
8973 063416 004737 034040          JSR   PC,LDTDRB      ; LOAD TDRB

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G6

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 TEST 21: MULTICAST ADDRESS TEST

SEQ 278

```

8974 063422 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
8975 063426 004737 033744          JSR    PC,LDRDRB         ; LOAD RDRB
8976
8977          ;SET UP BUFFERS AND START
8978
8979 063432 012701 002274          MOV    #DEFAULT,R1      ; POINT TO SOURCE ADDRESS
8980 063436 004737 035062          JSR    PC,SRCDST        ; R2 IS MULTICAST ADR LIST POINTER
8981 063442 005037 020564          CLR    D0CRC            ; NO CRC APPENDED
8982 063446 012737 000006 020562  MOV    #6,BYTCNT        ; BYTES/PACKET
8983 063454 004737 034662          JSR    PC,SETBUF        ; SET UP BUFFERS
8984 063460 012777 004100 116540  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8985 063466 112777 000104 116532  MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8986 063474 004737 030706          JSR    PC,CHKDNI        ; DNI?
8987 063500 103010          BCC   120$              ; YES
8988 063502
          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 377.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERRHRD
          .WORD 377
          .WORD ERR012
          .WORD MSG003
8989 063506
          104456
          063510 000571
          063512 025543
          063514 024032
          ESCAPE TST          ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10053 .
8990 063516
          063516 104410
          063520 002724
          8991
          8992 063522 004737 032320 120$: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
          8993
          8994 063526 103010          BCC   130$              ; ERROR ?
          8995 063530          FTL
          ; NO
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 380.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP   C$ERRHRD
          .WORD 380
          .WORD ERR006
          .WORD MSG003
8996 063534
          063534 104456
          063536 000574
          063540 025124
          063542 024032
          ESCAPE TST          ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10053-.
8997 063544
          063544 104410
          063546 002676
          8998
          8999 063550 004737 031724 130$: JSR    PC,CHKTXI        ; TXI ?
          9000 063554 103010          BCC   140$              ; YES
          9001 063556          FTL
          ; YES
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 381.,ERR013,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERRHRD
          .WORD 381
          .WORD ERR013
          .WORD MSG003
9002 063562
          063562 104456
          063564 000575
          063566 025624
          063570 024032
          ESCAPE TST          ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10053 .
9003 063572
          063572 104410
          063574 002650
  
```

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 TEST 21: MULTICAST ADDRESS TEST

SEQ 279

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9004
9005 063576 004737 032502      i140$: JSR    PC,CLRTXI      ; WRITE ONE TO CLEAR TXI ERROR?
9006 063602 103010              BCC    150$                 ; NO
9007 063604
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 382.,ERR014,MSG003 ; YES, REPORT ERROR
                                TRAP   C$ERHRD
                                .WORD  382
                                .WORD  ERR014
                                .WORD  MSG003
9008 063610
                                063610 104456
                                063612 000576
                                063614 025655
                                063616 024032
9009 063620              ESCAPE TST      ; AND ABORT TEST
                                063620 104410
                                063622 002622
                                TRAP   C$ESCAPE
                                .WORD  L10053-.
9010
9011 063624 012705 002622      i150$: MOV    #TDRB,R5      ; CHECK TDRB OWNERSHIP
9012 063630 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
9013 063634 103010              BCC    160$                 ; YES
9014 063636
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 383.,ERR018      ; NO, REPORT ERROR
9015 063642
                                063642 104456
                                063644 000577
                                063646 026122
                                063650 000000
                                TRAP   C$ERHRD
                                .WORD  383
                                .WORD  ERR018
                                .WORD  0
9016 063652              ESCAPE TST      ; AND ABORT TEST
                                063652 104410
                                063654 002570
                                TRAP   C$ESCAPE
                                .WORD  L10053 .
9017
9018 063656 012705 020266      i160$: MOV    #TDR14A,R5   ; POINT TO EXPECTED TDRB
9019 063662 004737 034244      JSR    PC,LDXTDR          ; LOAD INTO XTDRBO TABLE
9020 063666 012705 002622      MOV    #TDRB,R5          ; CHECK TDRB
9021 063672 004737 031636      JSR    PC,CHKTDR          ; ERRORS ?
9022 063676 103010              BCC    170$                 ; NO
9023 063700
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 384.,ERR020,MSG005 ; YES, REPORT ERROR
9024 063704
                                063704 104456
                                063706 000600
                                063710 026302
                                063712 024136
                                TRAP   C$ERHRD
                                .WORD  384
                                .WORD  ERR020
                                .WORD  MSG005
9025 063714              ESCAPE TST      ; AND ABORT TEST
                                063714 104410
                                063716 002526
                                TRAP   C$ESCAPE
                                .WORD  L10053-.
9026
9027 063720 004737 031454      i170$: JSR    PC,CHKRXI     ; RXI ?
9028 063724 103010              BCC    180$                 ; YES
9029 063726
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 385.,ERR015,MSG003 ; NO, REPORT ERROR
9030 063732
  
```

	063732	104456					TRAP	C\$ERHRD
	063734	000601					.WORD	385
	063736	025723					.WORD	ERR015
	063740	024032					.WORD	MSG003
9031	063742			ESCAPE	TST			; AND ABORT TEST
	063742	104410					TRAP	C\$ESCAPE
	063744	002500					.WORD	L10053-.
9032								
9033	063746	004737	032434	i180\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
9034								; ERROR ?
9035	063752	103010			BCC	190\$; NO
9036	063754				FTL			
	063754	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9037	063760				ERRHRD	386.,ERR016,MSG003		; YES, REPORT ERROR
	063760	104456					TRAP	C\$ERHRD
	063762	000602					.WORD	386
	063764	025754					.WORD	ERR016
	063766	024032					.WORD	MSG003
9038	063770				ESCAPE	TST		; AND ABORT TEST
	063770	104410					TRAP	C\$ESCAPE
	063772	002452					.WORD	L10053-.
9039								
9040	063774	012705	002662	i190\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
9041	064000	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9042	064004	103010			BCC	200\$; YES
9043	064006				FTL			
	064006	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9044	064012				ERRHRD	387.,ERR017		; NO, REPORT ERROR
	064012	104456					TRAP	C\$ERHRD
	064014	000603					.WORD	387
	064016	026022					.WORD	ERR017
	064020	000000					.WORD	0
9045	064022				ESCAPE	TST		; AND ABORT TEST
	064022	104410					TRAP	C\$ESCAPE
	064024	002420					.WORD	L10053-.
9046								
9047	064026	012705	020456	i200\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
9048	064032	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
9049	064036	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
9050	064042	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
9051	064046	103010			BCC	210\$; NO
9052	064050				FTL			
	064050	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9053	064054				ERRHRD	390.,ERR021,MSG006		; YES, REPORT ERROR
	064054	104456					TRAP	C\$ERHRD
	064056	000606					.WORD	390
	064060	026363					.WORD	ERR021
	064062	024300					.WORD	MSG006
9054	064064				ESCAPE	TST		; AND ABORT TEST
	064064	104410					TRAP	C\$ESCAPE
	064066	002356					.WORD	L10053-.

J6

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9055
9056          ;COMPARE RBUF WITH TBUF
9057
9058 064070 013705 020562          210$: MOV    BYCNT,R5          ; COMPARE DATA
9059 064074 004737 032646          JSR    PC,CMPDAT         ; DATA COMPARE ERROR ?
9060 064100 103006                   BCC    220$             ; NO
9061 064102          ERRHRD 391.,ERR022,MSG007 ; YES, REPORT ERROR
          064102 104456          TRAP  C$ERHRD
          064104 000607          .WORD 391
          064106 026444          .WORD ERR022
          064110 024442          .WORD MSG007
9062 064112          ESCAPE TST          ; AND ABORT TEST
          064112 104410          TRAP  C$ESCAPE
          064114 002330          .WORD L10053-.
9063
9064 064116          ;
9065 064116 012705 010474          ;220$: MOV    #RBUF+26.,R5        ; CHECK CRC
9066 064122 004737 032576          JSR    PC,CMPCRC         ; ERRORS ?
9067 064126 103006                   BCC    230$             ; NO
9068 064130          ERRHRD 392.,ERR023,MSG008 ; YES, REPORT ERROR
          064130 104456          TRAP  C$ERHRD
          064132 000610          .WORD 392
          064134 026513          .WORD ERR023
          064136 024474          .WORD MSG008
9069 064140          ESCAPE TST          ; AND ABORT TEST
          064140 104410          TRAP  C$ESCAPE
          064142 002302          .WORD L10053-.
9070
9071 064144          ;
9072 064144 012777 004100 116054   ;230$: MOV    #DNI!INTE,@PCSR0    ;ENABLE INTERRUPTS
9073 064152 112777 000117 116046   MOVB   #INTE!STOP,@PCSR0    ; ISSUE STOP PORT COMMAND
9074 064160 004737 030706          JSR    PC,CHKDNI         ; DNI ?
9075 064164 103010                   BCC    240$             ; YES
9076 064166          FTL
          064166 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
          ERRHRD 393.,ERR019,MSG003 ; NO, REPORT ERROR
9077 064172          TRAP  C$ERHRD
          064172 104456          .WORD 393
          064174 000611          .WORD ERR019
          064176 026222          .WORD MSG003
          064200 024032          ;
9078 064202          ESCAPE TST          ; AND ABORT TEST
          064202 104410          TRAP  C$ESCAPE
          064204 002240          .WORD L10053-.
9079
9080 064206 004737 032320          ;240$: JSR    PC,CLRDN1         ; WRITE ONE TO CLEAR DNI
9081          ; ERROR ?
9082 064212 103010                   BCC    245$             ; NO
9083 064214          FTL
          064214 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
          ERRHRD 394.,ERR006,MSG003 ; YES, REPORT ERROR
9084 064220          TRAP  C$ERHRD
          064220 104456          .WORD 394
          064222 000612          .WORD ERR006
          064224 025124
  
```

K6

```

9085 064226 024032
      064230
      064230 104410
      064232 002212
9086
9087 064234
9088 064234 004737 032272
9089 064240 062702 000006
9090 064244 062703 000004
9091 064250 005304
9092 064252 001402
9093 064254 000137 063412
9094
9095
9096
9097
9098
9099 064260 012704 000012
9100 064264 012702 020172
9101
9102
9103
9104 064270 012705 016412
9105 064274 004737 034040
9106 064300 012705 014752
9107 064304 004737 033744
9108
9109
9110
9111 064310 012701 002266
9112 064314 004737 035062
9113 064320 005037 020564
9114 064324 012737 000006 020562
9115 064332 004737 034662
9116 064336 012777 004100 115662
9117 064344 112777 000104 115654
9118 064352 004737 030706
9119 064356 103010
9120 064360
      064360 004737 031010
9121 064364
      064364 104456
      064366 000613
      064370 025543
      064372 024032
9122 064374
      064374 104410
      064376 002046
9123
9124 064400 004737 032320
9125
9126 064404 103010
9127 064406
      064406 004737 031010

```

```

          ESCAPE TST
          ; AND ABORT TEST
          .WORD MSG003
          TRAP C$ESCAPE
          .WORD L10053-.

;245$:
          JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
          ADD #6,R2 ; UPDATE R2
          ADD #4,R3 ; UPDATE R3
          DEC R4 ; DONE TEN LOOPBACKS?
          BEQ 246$ ; YES
          JMP 110$ ; NO

;
;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
;
246$: MOV #10.,R4 ; DO LOOP = TEN
      MOV #MULTLC,R2 ; R2 POINTS TO COMPLIMENTED LIST
;
;SET UP RINGS FOR ONE BUFFER LOOPBACK
250$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
      JSR PC,LDTDRB ; LOAD TDRB
      MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
      JSR PC,LDRDRB ; LOAD RDRB
;
;SET UP BUFFERS AND START
      MOV #SRC,R1 ; SOURCE = PHY ADDR
      JSR PC,SRCDST ; DEST = COMPLIMENTED MULTICAST ADDR
      CLR DOCRC ; NO APPEND CRC
      MOV #6,BYTCNT ; BYTES/PACKET
      JSR PC,SETBUF ; SET UP BUFFERS
      MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
      MOV #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
      JSR PC,CHKDNI ; DNI?
      BCC 260$ ; YES
      FTL

      JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 395.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP C$ERHRD
          .WORD 395
          .WORD ERR012
          .WORD MSG003
          TRAP C$ESCAPE
          .WORD L10053-.

;260$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
          ; ERROR ?
          ; NO
          BCC 270$
          FTL

      JSR PC,CHKFTL ; 'FATL' BIT SET?

```

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 TEST 21: MULTICAST ADDRESS TEST

SEQ 283

```

9128 064412          ERRHRD 396.,ERR006,MSG003      ; YES, REPORT ERROR
      064412 104456
      064414 000614
      064416 025124
      064420 024032
9129 064422          ESCAPE TST                ; AND ABORT TEST
      064422 104410
      064424 002020
9130
9131 064426 004737 031724      ;
9132 064432 103010          ; 270$: JSR PC,CHKTXI      ; TXI ?
9133 064434          BCC 280$                 ; YES
      FTL
      064434 004737 031010
9134 064440          ERRHRD 397.,ERR013,MSG003  ; NO, REPORT ERROR
      064440 104456
      064442 000615
      064444 025624
      064446 024032
9135 064450          ESCAPE TST                ; AND ABORT TEST
      064450 104410
      064452 001772
9136
9137 064454 004737 032502      ;
9138 064460 103010          ; 280$: JSR PC,CLRTXI      ; WRITE ONE TO CLEAR TXI
9139 064462          BCC 290$                 ; ERROR ?
9140 064462          FTL                       ; NO
      064462 004737 031010
9141 064466          JSR PC,CHKFTL             ; 'FATL' BIT SET?
      064466 104456
      064470 000620
      064472 025655
      064474 024032
9142 064476          ERRHRD 400.,ERR014,MSG003  ; YES, REPORT ERROR
      064476 104410
      064500 001744
9143
9144 064502 012705 002622      ;
9145 064506 004737 031162      ; 290$: MOV #TDRB,R5      ; CHECK TDRB OWNERSHIP
9146 064512 103010          JSR PC,CHKOWN     ; OWN = PORT DRIVER ?
9147 064514          BCC 300$                 ; YES
      FTL
      064514 004737 031010
9148 064520          JSR PC,CHKFTL             ; 'FATL' BIT SET?
      064520 104456
      064522 000621
      064524 026122
      064526 000000
9149 064530          ERRHRD 401.,ERR018       ; NO, REPORT ERROR
      064530 104410
      064532 001712
9150 064532          ESCAPE TST                ; AND ABORT TEST
      064532 001712
  
```

;

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TEST 21: MULTICAST ADDRESS TEST

SEQ 284

9151	064534	012705	020346		300\$:	MOV	#TDR21X,R5		; POINT TO EXPECTED TDRB		
9152	064540	004737	034244			JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
9153	064544	012705	002622			MOV	#TDRB,R5		; CHECK TDRB		
9154	064550	004737	031636			JSR	PC,CHKTDR		; ERRORS ?		
9155	064554	103010				BCC	310\$; NO		
9156	064556					FTL					
	064556	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9157	064562					ERRHRD	402.,ERR020,MSG005		; YES, REPORT ERROR		
	064562	104456								TRAP	C\$ERH(0)
	064564	000622								.WORD	402
	064566	026302								.WORD	ERR020
	064570	024136								.WORD	MSG005
9158	064572					ESCAPE	TST		; AND ABORT TEST		
	064572	104410								TRAP	C\$ESCAPE
	064574	001650								.WORD	L10053.
9159											
9160	064576	004737	034276		i	310\$:	JSR	PC,NORXI		; RXI ?	
9161	064602	103010					BCC	320\$; NO	
9162	064604						FTL				
	064604	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9163	064610					ERRHRD	403.,ERR039		; YES, REPORT ERROR		
	064610	104456								TRAP	C\$ERHRD
	064612	000623								.WORD	403
	064614	027671								.WORD	ERR039
	064616	000000								.WORD	0
9164	064620					ESCAPE	TST		; AND ABORT TEST		
	064620	104410								TRAP	C\$ESCAPE
	064622	001622								.WORD	L10053-.
9165											
9166	064624					i	320\$:				
9167	064624	012777	004100	115374		MOV	#DNI!INTE,@PCSRO		; ENABLE INTERRUPTS		
9168	064632	112777	000117	115366		MOVB	#INTE!STOP,@PCSRO		; ISSUE STOP PORT COMMAND		
9169	064640	004737	030706			JSR	PC,CHKDNI		; DNI ?		
9170	064644	103010				BCC	330\$; YES		
9171	064646					FTL					
	064646	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9172	064652					ERRHRD	404.,ERR019,MSG003		; NO, REPORT ERROR		
	064652	104456								TRAP	C\$ERHRD
	064654	000624								.WORD	404
	064656	026222								.WORD	ERR019
	064660	024032								.WORD	MSG003
9173	064662					ESCAPE	TST		; AND ABORT TEST		
	064662	104410								TRAP	C\$ESCAPE
	064664	001560								.WORD	L10053-.
9174											
9175	064666	004737	032320		i	330\$:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
9176										; ERROR ?	
9177	064672	103010				BCC	335\$; NO		
9178	064674					FTL					
	064674	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		

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9179 064700          ERRHRD 405.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP   C$ERRHRD
      064700 104456                                     .WORD 405
      064702 000625                                     .WORD ERR006
      064704 025124                                     .WORD MSG003
      064706 024032
9180 064710          ESCAPE TST                      ; AND ABORT TEST          TRAP   C$ESCAPE
      064710 104410                                     .WORD L10053-
      064712 001532
9181
9182 064714          ;335$:
9183 064714 004737 032272      JSR    PC,CLRCV      ; CLEAR RECEIVER
9184 064720 062702 000006      ADD    #6,R2        ; UPDATE R2
9185 064724 005304             DEC    R4           ; DONE 10 LOOPBACKS?
9186 064726 001402             BEQ    340$         ; YES, EXIT LOOP
9187 064730 000137 064270      JMP    250$         ; NO, LOOP AGAIN
9188
9189          ;REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
9190
9191          ;WRITE MULTICAST ADDRESS LIST
9192
9193 064734          ;340$:
9194 064734 012705 014522      MOV    #WTMULA,R5   ; DEFAULT WRITE MULTICAST ADDR FUNC
9195 064740 004737 033656      JSR    PC,LDPCCBB   ; LOAD FUNCTION -> PCBB
9196 064744 012705 020172      MOV    #MULTLC,R5   ; LOAD LIST INTO UD8B
9197 064750 012700 000036      MOV    #30,R0       ; LOAD 30 ENTRIES
9198 064754 004737 034134      JSR    PC,LDUD8B    ; MULTICAST LIST -> UD8B
9199 064760 012777 004100 115240  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9200 064766 112777 000102 115232  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9201 064774 004737 030706      JSR    PC,CHKDNI    ; DNI ?
9202 065000 103010             BCC    350$         ; YES
9203 065002
      065002 004737 031010      JSR    PC,CHKFTL    ; 'FATL' BIT SET?
9204 065006          ERRHRD 406.,ERR010,MSG003      ; NO, REPORT ERROR          TRAP   C$ERRHRD
      065006 104456                                     .WORD 406
      065010 000626                                     .WORD ERR010
      065012 025425                                     .WORD MSG003
      065014 024032
9205 065016          ESCAPE TST                      ; AND ABORT TEST          TRAP   C$ESCAPE
      065016 104410                                     .WORD L10053-
      065020 001424
9206
9207 065022 004737 032320      ;350$: JSR    PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
9208                                     ; ERROR ?
9209 065026 103010             BCC    355$         ; NO
9210 065030
      065030 004737 031010      JSR    PC,CHKFTL    ; 'FATL' BIT SET?
9211 065034          ERRHRD 407.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP   C$ERRHRD
      065034 104456                                     .WORD 407
      065036 000627                                     .WORD ERR006
      065040 025124                                     .WORD MSG003
      065042 024032
9212 065044          ESCAPE TST                      ; AND ABORT TEST
  
```

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TEST 21: MULTICAST ADDRESS TEST

SEQ 296

	065044	104410							TRAP	C\$ESCAPE
	065046	001376							.WORD	L10053-
9213										
9214										
9215										
9216										
9217	065050	012704	000012							
9218	065054	012702	020172							
9219										
9220										
9221										
9222	065060	012705	016412							
9223	065064	004737	034040							
9224	065070	012705	014752							
9225	065074	004737	033744							
9226										
9227										
9228										
9229	065100	012701	002266							
9230	065104	004737	035062							
9231	065110	005037	020564							
9232	065114	012737	000006	020562						
9233	065122	004737	034662							
9234	065126	012777	004100	115072						
9235	065134	112777	000104	115064						
9236	065142	004737	030706							
9237	065146	103010								
9238	065150									
	065150	004737	031010							
9239	065154									
	065154	104456								
	065156	000632							TRAP	C\$ERRRD
	065160	025543							.WORD	410
	065162	024032							.WORD	ERR012
9240	065164								.WORD	MSG003
	065164	104410								
	065166	001256							TRAP	C\$ESCAPE
9241									.WORD	L10053 .
9242	065170	004737	032320							
9243										
9244	065174	103010								
9245	065176									
	065176	004737	031010							
9246	065202									
	065202	104456								
	065204	000633							TRAP	C\$ERRRD
	065206	025124							.WORD	411
	065210	024032							.WORD	ERR006
9247	065212								.WORD	MSG003
	065212	104410								
	065214	001230							TRAP	C\$ESCAPE
9248									.WORD	L10053-
9249	065216	004737	031724							

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TEST 21: MULTICAST ADDRESS TEST

SEQ 287

9250	065222	103010		BCC	390\$; YES		
9251	065224			FTL					
	065224	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9252	065230			ERRHRD	412.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065230	104456						.WORD	412
	065232	000634						.WORD	ERR013
	065234	025624						.WORD	MSG003
	065236	024032							
9253	065240			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065240	104410						.WORD	L10053-
	065242	001202							
9254									
9255	065244	004737	032502	390\$: JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
9256							; ERROR ?		
9257	065250	103010		BCC	400\$; NO		
9258	065252			FTL					
	065252	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9259	065256			ERRHRD	413.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065256	104456						.WORD	413
	065260	000635						.WORD	ERR014
	065262	025655						.WORD	MSG003
	065264	024032							
9260	065266			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065266	104410						.WORD	L10053-
	065270	001154							
9261									
9262	065272	012705	002622	400\$: MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
9263	065276	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9264	065302	103010		BCC	410\$; YES		
9265	065304			FTL					
	065304	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9266	065310			ERRHRD	414.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065310	104456						.WORD	414
	065312	000636						.WORD	ERR018
	065314	026122						.WORD	0
	065316	000000							
9267	065320			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065320	104410						.WORD	L10053 .
	065322	001122							
9268									
9269	065324	012705	020266	410\$: MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
9270	065330	004737	034244	JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
9271	065334	012705	002622	MOV	#TDRB,R5		; CHECK TDRB		
9272	065340	004737	031636	JSR	PC,CHKTDR		; ERRORS ?		
9273	065344	103010		BCC	420\$; NO		
9274	065346			FTL					
	065346	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9275	065352			ERRHRD	415.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065352	104456							

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TEST 21: MULTICAST ADDRESS TEST

SEQ 289

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9301 065510 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
9302 065514 103010              BCC    460$           ; NO
9303 065516              FTL

      065516 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9304 065522              ERRHRD 421.,ERR021,MSG006 ; YES, REPORT ERROR
      065522 104456              TRAP  C$ERHRD
      065524 000645              .WORD 421
      065526 026363              .WORD ERR021
      065530 024300              .WORD MSG006
9305 065532              ESCAPE TST           ; AND ABORT TEST
      065532 104410              TRAP  C$ESCAPE
      065534 000710              .WORD L10053 .

9306
9307      ;COMPARE RBUF WITH TBUF
9308
9309 065536 013705 020562      460$: MOV    BYTCNT,R5      ; COMPARE DATA
9310 065542 004737 032646      JSR    PC,CMPDAT     ; DATA COMPARE ERROR ?
9311 065546 103006              BCC    470$           ; NO
9312 065550              ERRHRD 422.,ERR022,MSG007 ; YES, REPORT ERROR
      065550 104456              TRAP  C$ERHRD
      065552 000646              .WORD 422
      065554 026444              .WORD ERR022
      065556 024442              .WORD MSG007
9313 065560              ESCAPE TST           ; AND ABORT TEST
      065560 104410              TRAP  C$ESCAPE
      065562 000662              .WORD L10053-.

9314
9315 065564              ;
9316 065564 012705 010474      470$: MOV    #RBUF+26.,R5    ; CHECK CRC
9317 065570 004737 032576      JSR    PC,CMPCRC     ; ERRORS ?
9318 065574 103006              BCC    480$           ; NO
9319 065576              ERRHRD 423.,ERR023,MSG008 ; YES, REPORT ERROR
      065576 104456              TRAP  C$ERHRD
      065600 000647              .WORD 423
      065602 026513              .WORD ERR023
      065604 024474              .WORD MSG008
9320 065606              ESCAPE TST           ; AND ABORT TEST
      065606 104410              TRAP  C$ESCAPE
      065610 000634              .WORD L10053 .

9321
9322 065612              ;
9323 065612 012777 004100 114406 480$: MOV    #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
9324 065620 112777 000117 114400      MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9325 065626 004737 030706      JSR    PC,CHKDNI     ; DNI ?
9326 065632 103010              BCC    490$           ; YES
9327 065634              FTL

      065634 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9328 065640              ERRHRD 424.,ERR019,MSG003 ; NO, REPORT ERROR
      065640 104456              TRAP  C$ERHRD
      065642 000650              .WORD 424
      065644 026222              .WORD ERR019
      065646 024032              .WORD MSG003
9329 065650              ESCAPE TST           ; AND ABORT TEST

```


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TEST 21: MULTICAST ADDRESS TEST

SEQ 291

	066034	000652						.WORD	426
	066036	025543						.WORD	ERR012
	066040	024032						.WORD	MSG003
9372	066042				ESCAPE	TST			; AND ABORT TEST
	066042	104410						TRAP	C\$ESCAPE
	066044	000400						.WORD	L10053 .
9373									
9374	066046	004737	032320	i510:	JSR	PC,CLRDNI			; WRITE ONE TO CLEAR DNI
9375									; ERROR ?
9376	066052	103010			BCC	520:			; NO
9377	066054				FTL				
	066054	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9378	066060				ERRHRD	427.,ERR006,MSG003			; YES, REPORT ERROR
	066060	104456						TRAP	C\$ERHRD
	066062	000653						.WORD	427
	066064	025124						.WORD	ERR006
	066066	024032						.WORD	MSG003
9379	066070				ESCAPE	TST			; AND ABORT TEST
	066070	104410						TRAP	C\$ESCAPE
	066072	000352						.WORD	L10053-.
9380									
9381	066074	004737	031724	i520:	JSR	PC,CHKTXI			; TXI ?
9382	066100	103010			BCC	530:			; YES
9383	066102				FTL				
	066102	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9384	066106				ERRHRD	430.,ERR013,MSG003			; NO, REPORT ERROR
	066106	104456						TRAP	C\$ERHRD
	066110	000656						.WORD	430
	066112	025624						.WORD	ERR013
	066114	024032						.WORD	MSG003
9385	066116				ESCAPE	TST			; AND ABORT TEST
	066116	104410						TRAP	C\$ESCAPE
	066120	000324						.WORD	L10053-.
9386									
9387	066122	004737	032502	i530:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
9388									; ERROR
9389	066126	103010			BCC	540:			; NO
9390	066130				FTL				
	066130	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9391	066134				ERR	431.,ERR014,MSG003			; YES, REPORT ERROR
	066134	104456						TRAP	C\$ERHRD
	066136	000657						.WORD	431
	066140	025655						.WORD	ERR014
	066142	024032						.WORD	MSG003
9392	066144				ESCAPE	TST			; AND ABORT TEST
	066144	104410						TRAP	C\$ESCAPE
	066146	000276						.WORD	L10053 .
9393									
9394	066150	012705	002622	i540:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
9395	066154	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
9396	066160	103010			BCC	550:			; YES

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9397 066162                                FTL
      066162 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
9398 066166                                ERRHRD 432.,ERR018              ; NO, REPORT FRROR
      066166 104456                                TRAP  C$ERHRD
      066170 000660                                .WORD 432
      066172 026122                                .WORD ERR018
      066174 000000                                .WORD 0
9399 066176                                ESCAPE TST                      ; AND ABORT TEST
      066176 104410                                TRAP  C$ESCAPE
      066200 000244                                .WORD L10053-.
9400
9401 066202 012705 020346                i 550$: MOV    #TDR21X,R5        ; POINT TO EXPECTED TDRB
9402 066206 004737 034244                JSR    PC,LDXTDR                ; LOAD INTO XTDRBO TABLE
9403 066212 012705 002622                MOV    #TDRB,R5                 ; CHECK TDRB
9404 066216 004737 031636                JSR    PC,CHKTDR                ; ERRORS ?
9405 066222 103010                BCC    560$                      ; NO
9406 066224                                FTL
      066224 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
9407 066230                                ERRHRD 433.,ERR020,MSG005      ; YES, REPORT ERROR
      066230 104456                                TRAP  C$ERHRD
      066232 000661                                .WORD 433
      066234 026302                                .WORD ERR020
      066236 024136                                .WORD MSG005
9408 066240                                ESCAPE TST                      ; AND ABORT TEST
      066240 104410                                TRAP  C$ESCAPE
      066242 000202                                .WORD L10053-.
9409
9410 066244 004737 034276                i 560$: JSR    PC,NORXI          ; RXI ?
9411 066250 103010                BCC    570$                      ; NO
9412 066252                                FTL
      066252 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
9413 066256                                ERRHRD 434.,ERR039              ; YES, REPORT ERROR
      066256 104456                                TRAP  C$ERHRD
      066260 000662                                .WORD 434
      066262 027671                                .WORD ERR039
      066264 000000                                .WORD 0
9414 066266                                ESCAPE TST                      ; AND ABORT TEST
      066266 104410                                TRAP  C$ESCAPE
      066270 000154                                .WORD L10053 .
9415
9416 066272                                i 570$: MOV    #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
9417 066272 012777 004100 113726        MOVB   #INTE!STOP,@PCSR0        ; ISSUE STOP PORT COMMAND
9418 066300 112777 000117 113720        JSR    PC,CHKDNI                ; DNI ?
9419 066306 004737 030706                BCC    580$                      ; YES
9420 066312 103010                FTL
9421 066314                                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
      066314 004737 031010
9422 066320                                ERRHRD 435.,ERR019,MSG003      ; NO, REPORT ERROR
      066320 104456                                TRAP  C$ERHRD

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066322 000663
066324 026222
066326 024032
9423 066330          ESCAPE TST          ; AND ABORT TEST
066330 104410
066332 000112          TRAP C$ESCAPE
9424                                     .WORD L10053 .
9425 066334 004737 032320      ;580$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
9426                                     ; ERROR ?
9427 066340 103010          BCC 590$          ; NO
9428 066342          FTL
066342 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
9429 066346          ERRHRD 436.,ERR006,MSG003      ; YES, REPORT ERROR
066346 104456          TRAP C$ERRHRD
066350 000664          .WORD 436
066352 025124          .WORD ERR006
066354 024032          .WORD MSG003
9430 066356          ESCAPE TST          ; AND ABORT TEST
066356 104410          TRAP C$ESCAPE
066360 000064          .WORD L10053 .
9431
9432 066362      ;590$:
9433 066362 004737 032272      JSR PC,CLRCV          ; CLEAR RECEIVE BUFFER
9434 066366 062702 000006      ADD #6,R2            ; UPDATE R2
9435 066372 005304          DEC R4                ; DONE TEN LOOPBACKS ?
9436 066374 001402          BEQ 600$             ; YES, EXIT LOOP
9437 066376 000137 065736      JMP 500$             ; NO, LOOP AGAIN
9438 066402
9439 066402 004737 032402      ;600$: JSR PC,CLINTR          ; INSURE DELUA INTR BITS CLEAR
9440
9441
9442 066406          EXIT TST
066406 104432          TRAP C$EXIT
066410 000034          .WORD L10053 .
9443
9444      ;LOCAL TEST MESSAGE
9445
9446 066412 104 105 114 T21ID:.ASCIZ 'DELUA MULTICAST ADDRESS '
066415 125 101 040
066420 115 125 114
066423 124 111 103
066426 101 123 124
066431 040 101 104
066434 104 122 105
066437 123 123 040
066442 000
9447
9448      .EVEN
9449 066444          ENDTST
066444
066444 104401          L10053: TRAP C$ETST

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.SBTTL TEST 22: PROMISCUOUS ADDRESS MODE TEST

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DELUA'S PHYSICAL ADDRESS.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DELUA'S MULTICAST ADDRESS LIST.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH CURRENTLY ENABLED AND THEN CURRENTLY DISABLED PHYSICAL AND MULTICAST DESTINATION ADDRESSES.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = MULTICAST ADDRESS
14. ISSUE START
15. CHECK FOR ERRORS
16. ISSUE STOP
17. REPEAT STEPS 13 - 16 FOR ALL TEN LIST ENTRIES
18. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS NOT = MULTICAST ADDRESS
19. ISSUE START
20. CHECK FOR ERRORS
21. ISSUE STOP
22. REPEAT STEPS 18 - 21 FOR ALL TEN ENTRIES

9495 066446
066446
9496
9497 066446

BGNTST

T22::

PNTMAC T22ID

066446 012704 072650
066452 004737 034610

MOV #T22ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

9498 066456 004737 035310
9499 066462 103034
9500 066464 012777 004100 113534

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DN1!INTE,@PCSR0 ; ENABLE INTERRUPTS

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9501 066472 112777 000140 113526      MOVB  #INTE!RSET,@PCSR0      ; YES, RESET DELUA
9502 066500 004737 032034              JSR   PC,CKDNI               ; DNI ?
9503 066504 103010                      BCC  20$                     ; YES
9504 066506                              FTL

      066506 004737 031010              JSR   PC,CHKFTL              ; 'FATL' BIT SET?

9505 066512                              ERRHRD 437.,ERR042,MSG003    ; NO, REPORT ERROR
      066512 104456                      TRAP  C$ERRHRD
      066514 000665                      .WORD 437
      066516 030105                      .WORD ERR042
      066520 024032                      .WORD MSG003

9506 066522                              ESCAPE TST                    ; AND ABORT TEST
      066522 104410                      TRAP  C$ESCAPE
      066524 004154                      .WORD L10054

9507 066526 004737 032320      i
9508 066526 004737 032320      20$: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9509 066532 103010                      ; ERROR ?
9510 066532 103010                      BCC  30$                     ; NO
9511 066534                              FTL

      066534 004737 031010              JSR   PC,CHKFTL              ; 'FATL' BIT SET?

9512 066540                              ERRHRD 440.,ERR006,MSG003    ; YES, REPORT ERROR
      066540 104456                      TRAP  C$ERRHRD
      066542 000670                      .WORD 440
      066544 025124                      .WORD ERR006
      066546 024032                      .WORD MSG003

9513 066550                              ESCAPE TST                    ; AND ABORT TEST
      066550 104410                      TRAP  C$ESCAPE
      066552 004126                      .WORD L10054-

9514 066554                              i
9515 066554                              30$:
9516 066554 004737 032246      JSR   PC,CLRBUF              ; CLEAR TBUF AND RBUF
9517 066560 004737 033606      JSR   PC,LDOFLT              ; LOAD DEFAULT PHY.ADDRESS TABLE
9518 066564 004737 033706      JSR   PC,LDPCSR              ; ADDRESS OF PCBB -> PCSR2!3
9519 066570 012777 004100 113430      MOV   #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
9520 066576 112777 000101 113422      MOVB  #INTE!GETPCB,@PCSR0    ; ISSUE GET PCBB PORT COMMAND
9521 066604 004737 030706      JSR   PC,CHKDNI              ; DNI?
9522 066610 103010                      BCC  40$                     ; YES
9523 066612                              FTL

      066612 004737 031010              JSR   PC,CHKFTL              ; 'FATL' BIT SCT?

9524 066616                              ERRHRD 441.,ERR009,MSG003    ; NO, REPORT ERROR
      066616 104456                      TRAP  C$ERRHRD
      066620 000671                      .WORD 441
      066622 025341                      .WORD ERR009
      066624 024032                      .WORD MSG003

9525 066626                              ESCAPE TST                    ; AND ABORT TEST
      066626 104410                      TRAP  C$ESCAPE
      066630 004050                      .WORD L10054-

9526 066632 004737 032320      i
9527 066632 004737 032320      40$: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9528 066636 103010                      ; ERROR ?
9529 066636 103010                      BCC  50$                     ; NO
9530 066640                              FTL

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066640 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9531 066644                ERRHRD  442.,ERR006,MSG003 ; YES, REPORT ERROR
066644 104456                TRAP   C$ERHRD
066646 000672                .WORD 442
066650 025124                .WORD ERR006
066652 024032                .WORD MSG003
9532 066654                ESCAPE  TST            ; AND ABORT TEST
066654 104410                TRAP   C$ESCAPE
066656 004022                .WORD L10054 .
9533
9534      ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9535
9536 066660 012705 014602    50$:  MOV      #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9537 066664 004737 033656    JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
9538 066670 012777 004100    MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9539 066676 112777 000102    MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9540 066704 004737 030706    JSR      PC,CHKDNI       ; DNI ?
9541 066710 103010    BCC     60$              ; YES
9542 066712                FTL
066712 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9543 066716                ERRHRD  443.,ERR010,MSG003 ; NO, REPORT ERROR
066716 104456                TRAP   C$ERHRD
066720 000673                .WORD 443
066722 025425                .WORD ERR010
066724 024032                .WORD MSG003
9544 066726                ESCAPE  TST            ; AND ABORT TEST
066726 104410                TRAP   C$ESCAPE
066730 003750                .WORD L10054-.
9545
9546 066732 004737 032320    60$:  JSR      PC,CLRDNIS   ; WRITE ONE TO CLEAR DNI
9547                ; ERROR ?
9548 066736 103010    BCC     70$              ; NO
9549 066740                FTL
066740 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9550 066744                ERRHRD  444.,ERR006,MSG003 ; YES, REPORT ERROR
066744 104456                TRAP   C$ERHRD
066746 000674                .WORD 444
066750 025124                .WORD ERR006
066752 024032                .WORD MSG003
9551 066754                ESCAPE  TST            ; AND ABORT TEST
066754 104410                TRAP   C$ESCAPE
066756 003722                .WORD L10054 .
9552
9553      ;WRITE RING FORMAT
9554
9555 066760 012705 014542    70$:  MOV      #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
9556 066764 004737 033656    JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
9557 066770 012705 014706    MOV      #RFRMT,R5        ; DEFAULT RING FORMAT
9558 066774 012700 000006    MOV      #6,RO            ; FORMAT = SIX WORDS
9559 067000 004737 034134    JSR      PC,LDUDBB        ; LOAD RING FORMAT -> UDBB
9560 067004 012777 004100    MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

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9561 067012 112777 000102 113206      MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET CMD PORT COMMAND
9562 067020 004737 030706              JSR   PC,CHKDNI           ; DNI ?
9563 067024 103010                      BCC   80$                ; YES
9564 067026                                FTL

          067026 004737 031010          JSR   PC,CHKFTL           ; 'FATL' BIT SET?

9565 067032                                ERRHRD 445.,ERR010,MSG003 ; NO, REPORT ERROR
          067032 1044 6                                TRAP  C$ERRHRD
          067034 000675                                .WORD 445
          067036 025425                                .WORD ERR010
          067040 024032                                .WORD MSG003

9566 067042                                ESCAPE TST                ; AND ABORT TEST
          067042 104410                                TRAP  C$ESCAPE
          067044 003634                                .WORD L10054-.

9567
9568 067046 004737 032020              ; 80$: JSR   PC,CLRDNI           ; WRITE ONE TO CLEAR DNI
9569
9570 067052 103010                      BCC   90$                ; ERROR ?
9571 067054                                FTL                        ; NO

          067054 004737 031010          JSR   PC,CHKFTL           ; 'FATL' BIT SET?

9572 067060                                ERRHRD 446.,ERR006,MSG003 ; YES, REPORT ERROR
          067060 104456                                TRAP  C$ERRHRD
          067062 000676                                .WORD 446
          067064 025124                                .WORD ERR006
          067066 024032                                .WORD MSG003

9573 067070                                ESCAPE TST                ; AND ABORT TEST
          067070 104410                                TRAP  C$ESCAPE
          067072 003606                                .WORD L10054-.

9574
9575                                ; WRITE PHYSICAL ADDRESS
9576
9577 067074                                ; 90$:
9578 067074 012705 002274              MOV   #DEFAULT,R5        ; GET DEFAULT PHYSICAL ADDRESS
9579 067100 004737 033724              JSR   PC,LDPHYA          ; SAVE IN DEFAULT FILE
9580 067104 012705 014502              MOV   #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
9581 067110 004737 033656              JSR   PC,LPCBB           ; LOAD FUNCTION -> PCBB
9582 067114 012777 004100 113104      MOV   #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
9583 067122 112777 000102 113076      MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9584 067130 004737 030706              JSR   PC,CHKDNI           ; DNI ?
9585 067134 103010                      BCC   100$               ; YES
9586 067136                                FTL

          067136 004737 031010          JSR   PC,CHKFTL           ; 'FATL' BIT SET?

9587 067142                                ERRHRD 447.,ERR010,MSG003 ; NO, REPORT ERROR
          067142 104456                                TRAP  C$ERRHRD
          067144 000677                                .WORD 447
          067146 025425                                .WORD ERR010
          067150 024032                                .WORD MSG003

9588 067152                                ESCAPE TST                ; AND ABORT TEST
          067152 104410                                TRAP  C$ESCAPE
          067154 003524                                .WORD L10054-.

9589
9590 067156 004737 032320              ; 100$: JSR   PC,CLRDNI           ; WRITE ONE TO CLEAR DNI

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9591                                     ; ERROR ?
9592 067162 103010                       BCC 102$ ; NO
9593 067164                                     FTL

      067164 004737 031010               JSR PC,CHKFTL ; 'FATL' BIT SET?
9594 067170                               ERRHRD 450.,ERR006,MSG003 ; YES, REPORT ERROR
      067170 104456                       TRAP C$ERHRD
      067172 000702                       .WORD 450
      067174 025124                       .WORD ER006
      067176 024032                       .WORD MSG003
9595 067200                               ESCAPE TST ; AND ABORT TEST
      067200 104410                       TRAP C$ESCAPE
      067202 003476                       .WORD L10054-.

9596                                     ;
9597                                     ;WRITE MULTICAST ADDRESS LIST
9598                                     ;
9599 067204 012705 014522                 102$: MOV #WTMULA,R5 ; DEFAULT WRITE MULTICAST ADDR FUNC
9600 067210 004737 033656                 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
9601 067214 012705 020076                 MOV #MULTL,R5 ; LOAD LIST INTO UDBB
9602 067220 012700 000036                 MOV #30.,R0 ; LOAD 30 ENTRIES
9603 067224 004737 034134                 JSR PC,LDUDBB ; MULTICAST LIST -> UDBB
9604 067230 012777 004100 112770         MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9605 067236 112777 000102 112762         MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9606 067244 004737 030706                 JSR PC,CHKDNI ; DNI ?
9607 067250 103010                       BCC 104$ ; YES
9608 067252                                     FTL

      067252 004737 031010               JSR PC,CHKFTL ; 'FATL' BIT SET?
9609 067256                               ERRHRD 451.,ERR010,MSG003 ; NO, REPORT ERROR
      067256 104456                       TRAP C$ERHRD
      067260 000703                       .WORD 451
      067262 025425                       .WORD ER010
      067264 024032                       .WORD MSG003
9610 067266                               ESCAPE TST ; AND ABORT TEST
      067266 104410                       TRAP C$ESCAPE
      067270 003410                       .WORD L10054 .

9611                                     ;
9612 067272 004737 032320                 104$: JSR PC,CLR0NI ; WRITE ONE TO CLEAR DNI
9613                                     ; ERROR ?
9614 067276 103010                       BCC 110$ ; NO
9615 067300                                     FTL

      067300 004737 031010               JSR PC,CHKFTL ; 'FATL' BIT SET?
9616 067304                               ERRHRD 452.,ERR006,MSG003 ; YES, REPORT ERROR
      067304 104456                       TRAP C$ERHRD
      067306 000704                       .WORD 452
      067310 025124                       .WORD ER006
      067312 024032                       .WORD MSG003
9617 067314                               ESCAPE TST ; AND ABORT TEST
      067314 104410                       TRAP C$ESCAPE
      067316 003362                       .WORD L10054-.

9618                                     ;
9619                                     ;DESTINATION ADDRESS = PHYSICAL ADDRESS
9620                                     ;

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9621                                     ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9622
9623 067320 012705 016412                110$:  MOV    #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
9624 067324 004737 034040                JSR    PC,LDTDRB           ; LOAD TDRB
9625 067330 012705 014752                MOV    #RDRB1A,R5        ; DEFAULT ONE BUFFER RECEIVE RING
9626 067334 004737 033744                JSR    PC,LDRDRB         ; LOAD RDRB
9627
9628                                     ;SET UP BUFFERS AND START
9629
9630 067340 012701 002274                MOV    #DFUALT,R1        ; POINT TO SOURCE ADDRESS
9631 067344 012702 020062                MOV    #ADR21,R2        ; DESTINATION = SOURCE
9632 067350 004737 035062                JSR    PC,SRCDST         ; SAVE FOR PACKET BUILD
9633 067354 005037 020564                CLR    D0CRC            ; NO APPEND CRC
9634 067360 012737 000006 020562        MOV    #6,BYTCNT        ; BYTES/PACKET
9635 067366 004737 034662                JSR    PC,SETBUF        ; SET UP BUFFERS
9636 067372 012777 004100 112626        MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9637 067400 112777 000104 112620        MOV    #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
9638 067406 004737 030706                JSR    PC,CHKDNI        ; DNI?
9639 067412 103010 030706                BCC   120$              ; YES
9640 067414
                                     JSR    PC,CHKFTL         ; 'FATL' BIT SET?
                                     ERRHRD 452.,ERR012,MSG003 ; NO, REPORT ERROR
                                     TRAP   C$ERRHRD
9641 067420                                     .WORD 452
9642 067420 104456                                     .WORD ERR012
9643 067422 000704                                     .WORD MSG003
9644 067424 025543
9645 067426 024032
9646 067430 104410
9647 067432 003246
                                     ESCAPE TST              ; AND ABORT TEST
                                     TRAP   C$ESCAPE
9648 067434 004737 032320                120$: JSR    PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
9649 067440 103010                BCC   130$              ; ERROR ?
9650 067442
                                     FTL
                                     ; NO
9651 067442 004737 031010                JSR    PC,CHKFTL         ; 'FATL' BIT SET?
9652 067446 004737 031010                ERRHRD 453.,ERR006,MSG003 ; YES, REPORT ERROR
9653 067446 104456                                     TRAP   C$ERRHRD
9654 067450 000705                                     .WORD 453
9655 067452 025124                                     .WORD ERR006
9656 067454 024032                                     .WORD MSG003
9657 067456
9658 067456 104410
9659 067460 003220
                                     ESCAPE TST              ; AND ABORT TEST
                                     TRAP   C$ESCAPE
9660 067462 004737 031724                130$: JSR    PC,CHKTXI    ; TXI ?
9661 067466 103010                BCC   140$              ; YES
9662 067470
                                     FTL
9663 067470 004737 031010                JSR    PC,CHKFTL         ; 'FATL' BIT SET?
9664 067474
                                     ERRHRD 454.,ERR013,MSG003 ; NO, REPORT ERROR
9665 067474 104456                                     TRAP   C$ERRHRD
9666 067476 000706                                     .WORD 454

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 301

9681	067636	103010		BCC	180‡		; YES		
9682	067640			FTL					
	067640	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9683	067644			ERRHRD	460.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067644	104456						.WORD	460
	067646	000714						.WORD	ERR015
	067650	025723						.WORD	MSG003
	067652	024032							
9684	067654			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067654	104410						.WORD	L10054 .
	067656	003022							
9685									
9686	067660	004737	032434	180‡:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
9687							; ERROR ?		
9688	067664	103010		BCC	190‡		; NO		
9689	067666			FTL					
	067666	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9690	067672			ERRHRD	461.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067672	104456						.WORD	461
	067674	000715						.WORD	ERR016
	067676	025754						.WORD	MSG003
	067700	024032							
9691	067702			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067702	104410						.WORD	L10054 .
	067704	002774							
9692									
9693	067706	012705	002662	190‡:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
9694	067712	004737	031162		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
9695	067716	103010		BCC	200‡		; YES		
9696	067720			FTL					
	067720	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9697	067724			ERRHRD	462.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067724	104456						.WORD	462
	067726	000716						.WORD	ERR017
	067730	026022						.WORD	0
	067732	000000							
9698	067734			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067734	104410						.WORD	L10054 .
	067736	002742							
9699									
9700	067740	012705	020456	200‡:	MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB		
9701	067744	004737	034214		JSR	PC,LDRDR	; LOAD INTO XRDRBO TABLE		
9702	067750	012705	002662		MOV	#RDRB,R5	; CHECK RDRB		
9703	067754	004737	031344		JSR	PC,CHKRDR	; ERRORS ?		
9704	067760	103010		BCC	210‡		; NO		
9705	067762			FTL					
	067762	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9706	067766			ERRHRD	463.,ERR021,MSG006		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067766	104456							

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 302

067770	000717							.WORD	463
067772	026363							.WORD	ERR021
067774	024300							.WORD	MSG006
9707	067776				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067776	104410						.WORD	L10054 .
	070000	002700							
9708									
9709					;COMPARE RBUF WITH TBUF				
9710									
9711	070002	013705	020562		210\$: MOV BYTCNT,R5		; COMPARE DATA		
9712	070006	004737	032646		JSR PC,CMPCAT		; DATA COMPARE ERROR ?		
9713	070012	103006			BCC 220\$; NO		
9714	070014				ERRHRD 464.,ERR022,MSG007		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070014	104456						.WORD	464
	070016	000720						.WORD	ERR022
	070020	026444						.WORD	MSG007
	070022	024442							
9715	070024				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070024	104410						.WORD	L10054 .
	070026	002652							
9716									
9717	070030				220\$:				
9718	070030	012705	010474		MOV #RBUF+26.,R5		; CHECK CRC		
9719	070034	004737	032576		JSR PC,CMPCRC		; ERRORS ?		
9720	070040	103006			BCC 230\$; NO		
9721	070042				ERRHRD 465.,ERR023,MSG008		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070042	104456						.WORD	465
	070044	000721						.WORD	ERR023
	070046	026513						.WORD	MSG008
	070050	024474							
9722	070052				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070052	104410						.WORD	L10054-
	070054	002624							
9723									
9724	070056				230\$:				
9725	070056	012777	004100	112142	MOV #DNI!INTE,@PCSR0		; ENABLE INTERRUPTS		
9726	070064	112777	000117	112134	MOVB #INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND		
9727	070072	004737	030706		JSR PC,CHKDNI		; DNI ?		
9728	070076	103010			BCC 240\$; YES		
9729	070100				FTL				
	070100	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?		
9730	070104				ERRHRD 466.,ERR019,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070104	104456						.WORD	466
	070106	000722						.WORD	ERR019
	070110	026222						.WORD	MSG003
	070112	024032							
9731	070114				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070114	104410						.WORD	L10054-
	070116	002562							
9732									
9733	070120	004737	032320		240\$: JSR PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
9734							; ERROR ?		
9735	070124	103010			BCC 250\$; NO		
9736	070126				FTL				

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 303

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070126 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
9737 070132 ERRHRD 467.,ERR006,MSG003 ; YES, REPORT ERROR
070132 104456 TRAP C$ERRHRD
070134 000723 .WORD 467
070136 025124 .WORD ERR006
070140 024032 .WORD MSG003
9738 070142 ESCAPE TST ; AND ABORT TEST
070142 104410 TRAP C$ESCAPE
070144 002534 .WORD L10054-.

;
;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
;
;SET UP RINGS FOR ONE BUFFER LOOPBACK
250$:
0744 070146 JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
9745 070146 004737 032272 MOV #TORB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
9746 070152 012705 016412 JSR PC,LDRDB ; LOAD TORB
9747 070156 004737 034040 JSR PC,LDRDB ; DEFAULT ONE BUFFER RECEIVE RING
9748 070162 012705 014752 MOV #RORB1A,R5 ; LOAD RORB
9749 070166 004737 033744 JSR PC,LDRDB ;

;SET UP BUFFERS AND START
9751
9752
9753 070172 012701 002274 MOV #DEFAULT,R1 ; SOURCE = PHYSICAL ADDRESS
9754 070176 012702 020070 MOV #ADR21C,R2 ; DEST = COMPLEMENTED ADDRESS
9755 070202 004737 035062 JSR PC,SRCDST ; SAVE FOR PACKET BUILD
9756 070206 005037 020564 CLR DOCRC ; NO APPEND CRC
9757 070212 012737 000006 020562 MOV #6,BYTCNT ; BYTES/PACKET
9758 070220 004737 034662 JSR PC,SETBUF ; SET UP BUFFERS
9759 070224 012777 004100 111774 MOV #DNI:INTE,@PCSRO ; ENABLE INTERRUPTS
9760 070232 112777 000104 111766 MOVB #INTE:START,@PCSRO ; ISSUE START PORT COMMAND
9761 070240 004737 030706 JSR PC,CHKDNI ; DNI?
9762 070244 103010 BCC 260$ ; YES
9763 070246 FTL

070246 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
9764 070252 ERRHRD 470.,ERR012,MSG003 ; NO, REPORT ERROR
070252 104456 TRAP C$ERRHRD
070254 000726 .WORD 470
070256 025543 .WORD ERR012
070260 024032 .WORD MSG003
9765 070262 ESCAPE TST ; AND ABORT TEST
070262 104410 TRAP C$ESCAPE
070264 002414 .WORD L10054-.

;
;260$:
9767 070266 004737 032320 JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9768 BCC 270$ ; ERROR ?
9769 070272 103010 BCC 270$ ; NO
9770 070274 FTL

070274 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
9771 070300 ERRHRD 471.,ERR006,MSG003 ; YES, REPORT ERROR
070300 104456 TRAP C$ERRHRD
070302 000727 .WORD 471

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	070304	025124							.WORD	ERR006
	070306	024032							.WORD	MSG003
9772	070310			ESCAPE	TST					; AND ABORT TEST
	070310	104410							TRAP	C\$ESCAPE
	070312	002366							.WORD	L10054-.
9773										
9774	070314	004737	031724	i	JSR	PC,CHKTXI				; TXI ?
9775	070320	103010		270\$:	BCC	280\$; YES
9776	070322				FTL					
	070322	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9777	070326				ERRHRD	472.,ERR013,MSG003				; NO, REPORT ERROR
	070326	104456							TRAP	C\$ERHRD
	070330	000730							.WORD	472
	070332	025624							.WORD	ERR013
	070334	024032							.WORD	MSG003
9778	070336				ESCAPE	TST				; AND ABORT TEST
	070336	104410							TRAP	C\$ESCAPE
	070340	002340							.WORD	L10054-.
9779										
9780	070342	004737	032502	i	JSR	PC,CLRTXI				; WRITE ONE TO CLEAR TXI
9781				280\$:						; ERROR ?
9782	070346	103010			BCC	290\$; NO
9783	070350				FTL					
	070350	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9784	070354				ERRHRD	473.,ERR014,MSG003				; YES, REPORT ERROR
	070354	104456							TRAP	C\$ERHRD
	070356	000731							.WORD	473
	070360	025655							.WORD	ERR014
	070362	024032							.WORD	MSG003
9785	070364				ESCAPE	TST				; AND ABORT TEST
	070364	104410							TRAP	C\$ESCAPE
	070366	002312							.WORD	L10054-.
9786										
9787	070370	012705	002622	i	MOV	#TDRB,R5				; CHECK TDRB OWNERSHIP
9788	070374	004737	031162	290\$:	JSR	PC,CHKOWN				; OWN = PORT DRIVER ?
9789	070400	103010			BCC	300\$; YES
9790	070402				FTL					
	070402	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9791	070406				ERRHRD	474.,ERR018				; NO, REPORT ERROR
	070406	104456							TRAP	C\$ERHRD
	070410	000732							.WORD	474
	070412	026122							.WORD	ERR018
	070414	000000							.WORD	0
9792	070416				ESCAPE	TST				; AND ABORT TEST
	070416	104410							TRAP	C\$ESCAPE
	070420	002260							.WORD	L10054-.
9793										
9794	070422	012705	020266	i	MOV	#TDR14A,R5				; POINT TO EXPECTED TDRB
9795	070426	004737	034244	300\$:	JSR	PC,LDXTDR				; LOAD INTO XTDRBO TABLE
9796	070432	012705	002622		MOV	#TDRB,R5				; CHECK TDRB
9797	070436	004737	031636		JSR	PC,CHKTDR				; ERRORS ?

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9798	070442	103010		BCC	310\$; NO		
9799	070444			FTL					
	070444	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9800	070450			ERRHRD	475.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070450	104456						.WORD	475
	070452	000733						.WORD	ERR020
	070454	026302						.WORD	MSG005
	070456	024136							
9801	070460			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070460	104410						.WORD	L10054-
	070462	002216							
9802									
9803	070464	004737	031454	JSR	PC,CHKRXI	310\$:	; RXI ?		
9804	070470	103010		BCC	320\$; YES		
9805	070472			FTL					
	070472	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9806	070476			ERRHRD	476.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070476	104456						.WORD	476
	070500	000734						.WORD	ERR015
	070502	025723						.WORD	MSG003
	070504	024032							
9807	070506			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070506	104410						.WORD	L10054-
	070510	002170							
9808									
9809	070512	004737	032434	JSR	PC,CLRRXI	320\$:	; WRITE ONE TO CLEAR RXI		
9810							; ERROR ?		
9811	070516	103010		BCC	330\$; NO		
9812	070520			FTL					
	070520	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9813	070524			ERRHRD	477.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070524	104456						.WORD	477
	070526	000735						.WORD	ERR016
	070530	025754						.WORD	MSG003
	070532	024032							
9814	070534			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070534	104410						.WORD	L10054 .
	070536	002142							
9815									
9816	070540	012705	002662	MOV	#RDRB,R5	330\$:	; CHECK RDRB OWNERSHIP		
9817	070544	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9818	070550	103010		BCC	340\$; YES		
9819	070552			FTL					
	070552	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9820	070556			ERRHRD	480.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070556	104456						.WORD	480
	070560	000740						.WORD	ERR017
	070562	026022						.WORD	0
	070564	000000							

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9821 070566          ESCAPE TST          ; AND ABORT TEST
      070566 104410
      070570 002110          TRAP      C$ESCAPE
                          .WORD      L10054 .

9822
9823 070572 012705 020456      ;340$: MOV      #RDR20C,R5          ; POINT TO EXPECTED RDRB
9824 070576 004737 034214      JSR      PC,LDRDR          ; LOAD INTO XRDRBO TABLE
9825 070602 012705 002662      MOV      #RDRB,R5          ; CHECK RDRB
9826 070606 004737 031344      JSR      PC,CHKRDR         ; ERRORS ?
9827 070612 103010          BCC      350$              ; NO
9828 070614          FTL

      070614 004737 031010      JSR      PC,CHKFTL         ; 'FATL' BIT SET?

9829 070620          ERRHRD 481.,ERR021,MSG006 ; YES, REPORT ERROR
      070620 104456          TRAP      C$ERHRD
      070622 000741          .WORD      481
      070624 026363          .WORD      ERR021
      070626 024300          .WORD      MSG006

9830 070630          ESCAPE TST          ; AND ABORT TEST
      070630 104410          TRAP      C$ESCAPE
      070632 002046          .WORD      L10054-.

9831
9832      ;COMPARE RBUF WITH TBUF
9833
9834 070634 013705 020562      ;350$: MOV      BYTCNT,R5          ; COMPARE DATA
9835 070640 004737 032646      JSR      PC,CMPCRC         ; DATA COMPARE ERROR ?
9836 070644 103006          BCC      360$              ; NO
9837 070646          ERRHRD 482.,ERR022,MSG007 ; YES, REPORT ERROR
      070646 104456          TRAP      C$ERHRD
      070650 000742          .WORD      482
      070652 026444          .WORD      ERR022
      070654 024442          .WORD      MSG007

9838 070656          ESCAPE TST          ; AND ABORT TEST
      070656 104410          TRAP      C$ESCAPE
      070660 002020          .WORD      L10054 .

9839
9840 070662      ;360$:
9841 070662 012705 010474      MOV      #RBUF+26.,R5      ; CHECK CRC
9842 070666 004737 032576      JSR      PC,CMPCRC         ; ERRORS ?
9843 070672 103006          BCC      370$              ; NO
9844 070674          ERRHRD 483.,ERR023,MSG008 ; YES, REPORT ERROR
      070674 104456          TRAP      C$ERHRD
      070676 000743          .WORD      483
      070700 026513          .WORD      ERR023
      070702 024474          .WORD      MSG008

9845 070704          ESCAPE TST          ; AND ABORT TEST
      070704 104410          TRAP      C$ESCAPE
      070706 001772          .WORD      L10054-.

9846
9847 070710      ;370$:
9848 070710 012777 004100 111310 MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9849 070716 112777 000117 111302 MOVB     #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9850 070724 004737 030706      JSR      PC,CHKDNI         ; DNI ?
9851 070730 103010          BCC      380$              ; YES
9852 070732          FTL

      070732 004737 031010      JSR      PC,CHKFTL         ; 'FATL' BIT SET?

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9853 070736          ERRHRD 484.,ERR019,MSG003      ; NO, REPORT ERROR
      070736 104456
      070740 000744          TRAP C$ERRHRD
      070742 026222          .WORD 484
      070744 024032          .WORD ERR019
      .WORD MSG003
9854 070746          ESCAPE TST                    ; AND ABORT TEST
      070746 104410          TRAP C$ESCAPE
      070750 001730          .WORD L10054-.
9855
9856 070752 004737 032320      ;380$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
9857
9858 070756 103010          BCC 390$          ; ERROR ?
9859 070760          FTL          ; NO
      070760 004737 031010      JSR PC,CHKFTL      ; 'FATL' BIT SET?
9860 070764          ERRHRD 485.,ERR006,MSG003      ; YES, REPORT ERROR
      070764 104456          TRAP C$ERRHRD
      070766 000745          .WORD 485
      070770 025124          .WORD ERR006
      070772 024032          .WORD MSG003
9861 070774          ESCAPE TST                    ; AND ABORT TEST
      070774 104410          TRAP C$ESCAPE
      070776 001702          .WORD L10054-.
9862
9863          ;REWRITE DEFAULT PHYSICAL ADDRESS
9864
9865 071000          ;390$:
9866 071000 012705 002274      MOV #DFault,R5          ; GET DEFAULT PHYSICAL ADDRESS
9867 071004 004737 033724      JSR PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
9868 071010 012705 014502      MOV #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
9869 071014 004737 033656      JSR PC,LDPcBB          ; LOAD FUNCTION -> PCBB
9870 071020 012777 004100 111200  MOV #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
9871 071026 112777 000102 111172  MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9872 071034 004737 030706      JSR PC,CHKDNI          ; DNI ?
9873 071040 103010          BCC 400$          ; YES
9874 071042          FTL
      071042 004737 031010      JSR PC,CHKFTL      ; 'FATL' BIT SET?
9875 071046          ERRHRD 486.,ERR010,MSG003      ; NO, REPORT ERROR
      071046 104456          TRAP C$ERRHRD
      071050 000746          .WORD 486
      071052 025425          .WORD ERR010
      071054 024032          .WORD MSG003
9876 071056          ESCAPE TST                    ; AND ABORT TEST
      071056 104410          TRAP C$ESCAPE
      071060 001620          .WORD L10054-.
9877
9878 071062 004737 032320      ;400$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
9879
9880 071066 103010          BCC 410$          ; ERROR ?
9881 071070          FTL          ; NO
      071070 004737 031010      JSR PC,CHKFTL      ; 'FATL' BIT SET?
  
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9882 071074          ERPHRD 487.,ERR006,MSG003      ; YES, REPORT ERROR
      071074 104456
      071076 000747
      071100 025124
      071102 024032
      TRAP          C$ERHRD
      .WORD        487
      .WORD        ERRO06
      .WORD        MSG003
9883 071104          ESCAPE TST                    ; AND ABORT TEST
      071104 104410
      071106 001572
      TRAP          C$ESCAPE
      .WORD        L10054-.
9884
9885 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
9886 ;
9887 071110          410$:
      9888 071110 004737 032272      JSR    PC,CLRCV      ; CLEAR RECEIVE BUFFER
      9889 071114 012704 000012      MOV    #10.,R4      ; DO LOOP = TEN
      9890 071120 012702 020076      MOV    #MULTL,R2    ; R2 POINTS TO MULTICAST LIST
      ;
      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9894 071124          420$:
      9895 071124 012705 016412      MOV    #TDRB1A,R5   ; DEFAULT ONE BUFFER TRANSMIT RING
      9896 071130 004737 034040      JSR    PC,LDTDRB    ; LOAD TDRB
      9897 071134 012705 014752      MOV    #RDRB1A,R5   ; DEFAULT ONE BUFFER RECEIVE RING
      9898 071140 004737 033744      JSR    PC,LDRDRB    ; LOAD RDRB
      ;
      ;SET UP BUFFERS AND START
9902 071144 012701 002266      MOV    #SRC,R1      ; SOURCE = DEFAULT PHYS. ADDRESS
9903 071150 004737 035062      JSR    PC,SRC DST   ; DEST = MULTICAST ADDRESS
9904 071154 005037 020564      CLR    D0CRC        ; NO APPEND CRC
9905 071160 012737 000006 020562    MOV    #6,BYTCNT    ; BYTES/PACKET
9906 071166 004737 034662      JSR    PC,SETBUF    ; SET UP BUFFERS
9907 071172 012777 004100 111026    MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9908 071200 112777 000104 111020    MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
9909 071206 004737 030706      JSR    PC,CHKDNI    ; DNI?
9910 071212 103010          BCC    430$         ; YES
9911 071214          FTL
      ;
      ; 'FATL' BIT SET?
      071214 004737 031010          JSR    PC,CHKFTL
9912 071220          ERRHRD 490.,ERR012,MSG003      ; NO, REPORT ERROR
      071220 104456
      071222 000752
      071224 025543
      071226 024032
      TRAP          C$ERHRD
      .WORD        490
      .WORD        ERR012
      .WORD        MSG003
9913 071230          ESCAPE TST                    ; AND ABORT TEST
      071230 104410
      071232 001446
      TRAP          C$ESCAPE
      .WORD        L10054 .
9914
9915 071234 004737 032320          430$: JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
9916
9917 071240 103010          BCC    440$         ; ERROR ?
9918 071242          FTL
      ;
      ; 'FATL' BIT SET?
      071242 004737 031010          JSR    PC,CHKFTL
9919 071246          ERRHRD 491.,ERR006,MSG003      ; YES, REPORT ERROR
      071246 104456
      TRAP          C$ERHRD
  
```



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071532 000000
9969 071534          ESCAPE TST          ; AND ABORT TEST          .WORD 0
      071534 104410          ;                               TRAP C$ESCAPE
      071536 001142          ;                               .WORD L10054 .

9970
9971 071540 012705 020456      ;20$: MOV #RDR20C,R5          ; POINT TO EXPECTED RDRB
9972 071544 004737 034214      JSR PC,LDRDR          ; LOAD INTO XRDRBO TABLE
9973 071550 012705 002662      MOV #RDRB,R5          ; CHECK RDRB
9974 071554 004737 031344      JSR PC,CHKRDR         ; ERRORS ?
9975 071560 103010      BCC 530$              ; NO
9976 071562          FTL

      071562 004737 031010      JSR PC,CHKFTL         ; 'FATL' BIT SET?

9977 071566          ERRHRD 501.,ERR021,MSG006 ; YES, REPORT ERROR
      071566 104456          TRAP C$ERRHRD
      071570 000765          .WORD 501
      071572 026363          .WORD ERR021
      071574 024300          .WORD MSG006

9978 071576          ESCAPE TST          ; AND ABORT TEST
      071576 104410          TRAP C$ESCAPE
      071600 001100          .WORD L10054-.

9979
9980
9981          ;COMPARE RBUF WITH TBUF
9982 071602 013705 020562      ;30$: MOV BYCNT,R5          ; COMPARE DATA
9983 071606 004737 032646      JSR PC,CMPDAT         ; DATA COMPARE ERROR ?
9984 071612 103006      BCC 540$              ; NO
9985 071614          ERRHRD 502.,ERR022,MSG007 ; YES, REPORT ERROR
      071614 104456          TRAP C$ERRHRD
      071616 000766          .WORD 502
      071620 026444          .WORD ERR022
      071622 024442          .WORD MSG007

9986 071624          ESCAPE TST          ; AND ABORT TEST
      071624 104410          TRAP C$ESCAPE
      071626 001052          .WORD L10054-.

9987
9988
9989 071630          ;40$:
9989 071630 012705 010474      MOV #RBUF+26.,R5      ;CHECK CRC
9990 071634 004737 032576      JSR PC,CMPCRC         ; ERRORS ?
9991 071640 103006      BCC 550$              ; NO
9992 071642          ERRHRD 503.,ERR023,MSG008 ; YES, REPORT ERROR
      071642 104456          TRAP C$ERRHRD
      071644 000767          .WORD 503
      071646 026513          .WORD ERR023
      071650 024474          .WORD MSG008

9993 071652          ESCAPE TST          ; AND ABORT TEST
      071652 104410          TRAP C$ESCAPE
      071654 001024          .WORD L10054 .

9994
9995 071656          ;50$:
9996 071656 012777 004100 110342 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9997 071664 112777 000117 110334 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9998 071672 004737 030706      JSR PC,CHKDNI         ; DNI ?
9999 071676 103010      BCC 560$              ; YES
10000 071700          FTL

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071700 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
10001 071704          ERRHRD 504.,ERR019,MSG003 ; NO, REPORT ERROR
071704 104456          TRAP  C#ERRHRD
071706 000770          .WORD 504
071710 026222          .WORD ERR019
071712 024032          .WORD MSG003
10002 071714          ESCAPE TST                ; AND ABORT TEST
071714 104410          TRAP  C#ESCAPE
071716 000762          .WORD L10054-.
10003
10004 071720 004737 032320    ;560$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10005          BCC    565$              ; ERROR ?
10006 071724 103010          FTL                      ; NO
10007 071726          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
071726 004737 031010          ERRHRD 505.,ERR006,MSG003 ; YES, REPORT ERROR
10008 071732          TRAP  C#ERRHRD
071732 104456          .WORD 505
071734 000771          .WORD ERR006
071736 025124          .WORD MSG003
10009 071742          ESCAPE TST                ; AND ABORT TEST
071742 104410          TRAP  C#ESCAPE
071744 000734          .WORD L10054 .
10010
10011 071746          ;565$: JSR    PC,CLRCV          ; CLEAR RECEIVE BUFFER
10012 071746 004737 032272    ADD    #6,R2              ; UPDATE R2
10013 071752 062702 000006    ADD    #4,R3              ; UPDATE R3
10014 071756 062703 000004    DEC    R4                 ; DONE TEN LOOPBACKS
10015 071762 005304          BEQ    566$              ; YES
10016 071764 001402          JMP    420$              ; NO
10017 071766 000137 071124
10018
10019
10020          ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10021
10022 071772 012704 000012    ;566$: MOV    #10.,R4          ; DO LOOP = TEN
10023 071776 012702 020172    MOV    #MULTLC,R2        ; R2 POINTS TO COMPLIMENTED LIST
10024
10025          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10026
10027 072002
10028 072002 012705 016412    ;570$: MOV    #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
10029 072006 004737 034040    JSR    PC,LTDORB          ; LOAD TDRB
10030 072012 012705 014752    MOV    #RDRB1A,R5        ; DEFAULT ONE BUFFER RECEIVE RING
10031 072016 004737 033744    JSR    PC,LDRDRB          ; LOAD RDRB
10032
10033          ;SET UP BUFFERS AND START
10034
10035 072022 012701 002266    MOV    #SRC,R1           ; SOURCE = DEF PHYSICAL ADDR
10036 072026 004737 035062    JSR    PC,SRCDST          ; DEST = COMPL MULTICAST ADDR
10037 072032 005037 020564    CLR    D0CRC             ; NO APPEND CRC
10038 072036 012737 000006 020562 MOV    #6,BYTCNT          ; BYTES/PACKET
10039 072044 004737 034662    JSR    PC,SETBUF          ; SET UP BUFFERS
10040 072050 012777 004100 110150 MOV    #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 313

10041	072056	112777	000104	110142	MOVB	#INTE!START,@PCSR0	; ISSUE START PORT COMMAND		
10042	072064	004737	030706		JSR	PC,CHKDNI	; DNI?		
10043	072070	103010			BCC	580\$; YES		
10044	072072				FTL				
	072072	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10045	072076				ERRHRD	506.,ERR012,MSG003	; NO, REPORT ERROR		
	072076	104456						TRAP	C#ERHRD
	072100	000772						.WORD	506
	072102	025543						.WORD	ERR012
	072104	024032						.WORD	MSG003
10046	072106				ESCAPE	TST	; AND ABORT TEST		
	072106	104410						TRAP	C#ESCAPE
	072110	000570						.WORD	L10054
10047									
10048	072112	004737	032320		JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
10049				580\$:			; ERROR ?		
10050	072116	103010			BCC	590\$; NO		
10051	072120				FTL				
	072120	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10052	072124				ERRHRD	507.,ERR006,MSG003	; YES, REPORT ERROR		
	072124	104456						TRAP	C#ERHRD
	072126	000773						.WORD	507
	072130	025124						.WORD	ERR006
	072132	024032						.WORD	MSG003
10053	072134				ESCAPE	TST	; AND ABORT TEST		
	072134	104410						TRAP	C#ESCAPE
	072136	000542						.WORD	L10054-
10054									
10055	072140	004737	031724		JSR	PC,CHKTXI	; TXI ?		
10056	072144	103010		590\$:	BCC	600\$; YES		
10057	072146				FTL				
	072146	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10058	072152				ERRHRD	510.,ERR013,MSG003	; NO, REPORT ERROR		
	072152	104456						TRAP	C#ERHRD
	072154	000776						.WORD	510
	072156	025624						.WORD	ERR013
	072160	024032						.WORD	MSG003
10059	072162				ESCAPE	TST	; AND ABORT TEST		
	072162	104410						TRAP	C#ESCAPE
	072164	000514						.WORD	L10054-
10060									
10061	072166	004737	032502		JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
10062				600\$:			; ERROR ?		
10063	072172	103010			BCC	610\$; NO		
10064	072174				FTL				
	072174	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10065	072200				ERRHRD	511.,ERR014,MSG003	; YES, REPORT ERROR		
	072200	104456						TRAP	C#ERHRD
	072202	000777						.WORD	511

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 315

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10092 072342 103010          BCC      650$          ; NO
10093 072344          FTL
      072344 004737 031010    JSR      PC,CHKFTL    ; 'FATL' BIT SET?
10094 072350          ERRHRD  515.,ERR016,MSG003 ; YES, REPORT ERROR
      072350 104456          TRAP    C$ERHRD
      072352 001003          .WORD  515
      072354 025754          .WORD  ERR016
      072356 024032          .WORD  MSG003
10095 072360          ESCAPE  TST          ; AND ABORT TEST
      072360 104410          TRAP    C$ESCAPE
      072362 000316          .WORD  L10054-.
10096
10097 072364 012705 002662    ;
10098 072370 004737 031162    650$: MOV      #RDRB,R5 ; CHECK RDRB OWNERSHIP
10099 072374 103010          JSR      PC,CHKOWN    ; OWN = PORT DRIVER ?
10100 072376          BCC      660$          ; YES
      072376 004737 031010    FTL
      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
10101 072402          ERRHRD  516.,ERR017    ; NO, REPORT ERROR
      072402 104456          TRAP    C$ERHRD
      072404 001004          .WORD  516
      072406 026022          .WORD  ERR017
      072410 000000          .WORD  0
10102 072412          ESCAPE  TST          ; AND ABORT TEST
      072412 104410          TRAP    C$ESCAPE
      072414 000264          .WORD  L10054 .
10103
10104 072416 012705 020456    ;
10105 072422 012705 002662    660$: MOV      #RDR20C,R5 ; POINT TO EXPECTED RDRB
10106 072426 004737 031344    MOV      #RDRB,R5    ; CHECK RDRB
10107 072432 103010          JSR      PC,CHKRDR    ; ERRORS ?
10108 072434          BCC      670$          ; NO
      072434 004737 031010    FTL
      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
10109 072440          ERRHRD  517.,ERR021,MSG006 ; YES, REPORT ERROR
      072440 104456          TRAP    C$ERHRD
      072442 001005          .WORD  517
      072444 026363          .WORD  ERR021
      072446 024300          .WORD  MSG006
10110 072450          ESCAPE  TST          ; AND ABORT TEST
      072450 104410          TRAP    C$ESCAPE
      072452 000226          .WORD  L10054-.
10111
10112          ;
10113          ;COMPARE RBUF WITH TBUF
10114 072454 013705 020562    670$: MOV      BYTCNT,R5 ; COMPARE DATA
10115 072460 004737 032646    JSR      PC,CMPDAT    ; DATA COMPARE ERROR ?
10116 072464 103006          BCC      680$          ; NO
10117 072466          ERRHRD  520.,ERR022,MSG007 ; YES, REPORT ERROR
      072466 104456          TRAP    C$ERHRD
      072470 001010          .WORD  520
      072472 026444          .WORD  ERR022
      072474 024442          .WORD  MSG007

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10118 072476          ESCAPE TST          ; AND ABORT TEST
      072476 104410
      072500 000200          TRAP      C$ESCAPE
                          .WORD      L10054-.

10119
10120 072502          ;
      072502          ; 680$:
10121 072502 012705 010474          MOV      #RBUF+26.,R5          ; CHECK CRC
10122 072506 004737 032576          JSR      PC,CMPCRC          ; ERRORS ?
10123 072512 103006          BCC     690$          ; NO
10124 072514          ERRHRD 521.,ERR023,MSG008          ; YES, REPORT ERROR
      072514 104456          TRAP      C$ERHRD
      072516 001011          .WORD      521
      072520 026513          .WORD      ERR023
      072522 024474          .WORD      MSG008

10125 072524          ESCAPE TST          ; AND ABORT TEST
      072524 104410          TRAP      C$ESCAPE
      072526 000152          .WORD      L10054 .

10126
10127 072530          ;
      072530          ; 690$:
10128 072530 012777 004100 107470          MOV      #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
10129 072536 112777 000117 107462          MOVB    #INTE!STOP,@PCSR0          ; ISSUE STOP PORT COMMAND
10130 072544 004737 030706          JSR      PC,CHKDNI          ; DNI ?
10131 072550 103010          BCC     700$          ; YES
10132 072552          FTL
      072552 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

10133 072556          ERRHRD 522.,ERR019,MSG003          ; NO, REPORT ERROR
      072556 104456          TRAP      C$ERHRD
      072560 001012          .WORD      522
      072562 026222          .WORD      ERR019
      072564 024032          .WORD      MSG003

10134 072566          ESCAPE TST          ; AND ABORT TEST
      072566 104410          TRAP      C$ESCAPE
      072570 000110          .WORD      L10054-.

10135
10136 072572 004737 032320          ;
      072572          ; 700$:
10137
10138 072576 103010          JSR      PC,CLR0NI          ; WRITE ONE TO CLEAR DNI
10139 072600          BCC     710$          ; ERROR ?
                          FTL          ; NO

      072600 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

10140 072604          ERRHRD 523.,ERR006,MSG003          ; YES, REPORT ERROR
      072604 104456          TRAP      C$ERHRD
      072606 001013          .WORD      523
      072610 025124          .WORD      ERR006
      072612 024032          .WORD      MSG003

10141 072614          ESCAPE TST          ; AND ABORT TEST
      072614 104410          TRAP      C$ESCAPE
      072616 000062          .WORD      L10054-.

10142
10143 072620          ;
      072620          ; 710$:
10144 072620 004737 032272          JSR      PC,CLRCV          ; CLEAR RECEIVE BUFFER
10145 072624 062702 000006          ADD     #6,R2          ; UPDATE R2
10146 072630 062703 000004          ADD     #4,R3          ; UPDATE R3
10147 072634 005304          DEC     R4          ; DONE TEN LOOPBACKS
10148 072636 001402          BEQ     900$          ; YES

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G9

10149 072640 000137 072002 JMP 570\$; NO

10150
10151 072644 ;
10152 900\$:

10153 072644 EXIT TST
072644 104432
072646 000032

TRAP C#EXIT
.WORD L10054-.

10154
10155 ;LOCAL TEST MESSAGE
10156

10157 072650 104 105 114 T22ID: .ASCIZ 'DELUA PROMISCUOUS MODE '

072653 125 101 040
072656 120 122 117
072661 115 111 123
072664 103 125 117
072667 125 123 040
072672 115 117 104
072675 105 040 000

10158
10159 .EVEN

10160 072700 ENDTST

L10054: TRAP C#ETST

072700 104401

H9

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.SBTTL TEST 23: ENABLE ALL MULTICAST MODE TEST

THIS TEST VERIFIES THAT ENABLE ALL MULTICAST MODE IS OPERATIONAL. A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DELUA'S MULTICAST ADDRESS LIST. INTERNAL LOOPBACKS ARE THEN PERFORMED WITH CURRENTLY ENABLED AND THEN CURRENTLY DISABLED MULTICAST DESTINATION ADDRESSES. ALL LOOPBACKS ARE VERIFIED FOR SUCCESSFUL RECEPTION.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK and ENABLE ALL MULTICAST MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = MULTICAST ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
10. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = COMPLEMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR ERRORS
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES

10196 072702
072702
10197
10198 072702

BGNTST

T23: :

PNTMAC T23ID

072702 012704 075130
072706 004737 034610

MOV #T23ID,R4
JSR PC,PNTID

;GET POINTER TO TEST NAME MESSAGE
;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

10199 072712 004737 035310
10200 072716 103034
10201 072720 012777 004100 107300
10202 072726 112777 000140 107272
10203 072734 004737 032034
10204 072740 103010
10205 072742

JSR PC,TINIT
BCC 30#
MOV #DNI!INTE,&PCSRO
MOVB #INTE!RSET,&PCSRO
JSR PC,CKDNI
BCC 20#
FTL

; IS A DEVICE RESET NEEDED?
; NO
; ENABLE INTERRUPTS
; YES, RESET DELUA
; DNI ?
; YES

072742 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

10206 072746
072746 104456
072750 001014

ERRHRD 524.,ERR042,MSG003

; NO, REPORT ERROR

TRAP :80
.WORD C\$ERHRD
524


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073112 002060 .WORD L10055 .
10234
10235 ;WRITE MODE REGISTER = INTERNAL LOOPBACK
10236 ; and ENABLE ALL MULTICAST MODE
10237
10238 073114 012705 014602 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
10239 073120 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10240 073124 013737 020476 002304 MOV MODE24,PCBB+2 ; MODE = INTL LOOPBACK AND ENAL
10241 073132 012777 004100 107066 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10242 073140 112777 000102 107060 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10243 073146 004737 030706 JSR PC,CHKDNI ; DNI ?
10244 073152 103010 BCC 60$ ; YES
10245 073154 FTL

073154 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10246 073160 ERRHRD 530.,ERR010,MSG003 ; NO, REPORT ERROR
073160 104456 TRAP C$ERHRD
073162 001022 .WORD 530
073164 025425 .WORD ERR010
073166 024032 .WORD MSG003
10247 073170 ESCAPE TST ; AND ABORT TEST
073170 104410 TRAP C$ESCAPE
073172 002000 .WORD L10055-.

10248
10249 073174 004737 032320 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10250 ; ERROR ?
10251 073200 103010 BCC 70$ ; NO
10252 073202 FTL

073202 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10253 073206 ERRHRD 531.,ERR006,MSG003 ; YES, REPORT ERROR
073206 104456 TRAP C$ERHRD
073210 001023 .WORD 531
073212 025124 .WORD ERR006
073214 024032 .WORD MSG003
10254 073216 ESCAPE TST ; AND ABORT TEST
073216 104410 TRAP C$ESCAPE
073220 001752 .WORD L10055-.

10255
10256 ;WRITE RING FORMAT
10257 073222 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
10258 073226 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10259 073232 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
10260 073236 012700 000006 MOV #6,RO ; FORMAT = SIX WORDS
10261 073242 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
10262 073246 012777 004100 106752 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10263 073254 112777 000102 106744 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10264 073262 004737 030706 JSR PC,CHKDNI ; DNI ?
10265 073266 103010 BCC 80$ ; YES
10266 073270 FTL

073270 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10267 073274 ERRHRD 532.,ERR010,MSG003 ; NO, REPORT ERROR
073274 104456 TRAP C$ERHRD

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073276 001024 .WORD 532
073300 025425 .WORD ERR010
073302 024032 .WORD MSG003
10268 073304 ESCAPE TST ; AND ABORT TEST
073304 104410 TRAP C$ESCAPE
073306 001664 .WORD L10055-.

10269
10270 073310 004737 032320 ;80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10271 ; ERROR ?
10272 073314 103010 BCC 90$ ; NO
10273 073316 FTL

073316 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10274 073322 ERRHRD 533.,ERR006,MSG003 ; YES, REPORT ERROR
073322 104456 TRAP C$ERHRD
073324 001025 .WORD 533
073326 025124 .WORD ERR006
073330 024032 .WORD MSG003
10275 073332 ESCAPE TST ; AND ABORT TEST
073332 104410 TRAP C$ESCAPE
073334 001676 .WORD L10055-.

10276 ;
10277 ;WRITE PHYSICAL ADDRESS
10278 ;
10279 90$: MOV #DFALT,R5 ; POINT TO DEFAULT PHYS. ADDRESS
10280 073336 012705 002274 JSR PC,LDPHYA ; SAVE DEF PHY ADDR IN DEF TABLE
10281 073342 004737 033724 MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
10282 073346 012705 014502 JSR PC,LDPCBB ; LOAD FUNCTION > PCBB
10283 073352 004737 033656 MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
10284 073356 012777 004100 106642 MOV #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
10285 073364 112777 000102 106634 JSR PC,CHKDNI ; DNI ?
10286 073372 004737 030706 BCC 100$ ; YES
10287 073376 103010 FTL

073400 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10289 073404 ERRHRD 534.,ERR010,MSG003 ; NO, REPORT ERROR
073404 104456 TRAP C$ERHRD
073406 001026 .WORD 534
073410 025425 .WORD ERR010
073412 024032 .WORD MSG003
10290 073414 ESCAPE TST ; AND ABORT TEST
073414 104410 TRAP C$ESCAPE
073416 001554 .WORD L10055 .

10291
10292 073420 004737 032320 ;100$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10293 ; ERROR ?
10294 073424 103010 BCC 102$ ; NO
10295 073426 FTL

073426 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10296 073432 ERRHRD 535.,ERR006,MSG003 ; YES, REPORT ERROR
073432 104456 TRAP C$ERHRD
073434 001027 .WORD 535

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TEST 23: ENABLE ALL MULTICAST MODE TEST

SEQ 322

```

073436 025124 .WORD ERR006
073440 024032 .WORD MSG003
10297 073442 ESCAPE TST ; AND ABORT TEST
073442 104410 TRAP C$ESCAPE
073444 001526 .WORD L10055-.

10298 ;
10299 ;WRITE MULTICAST ADDRESS LIST
10300 ;
10301 073446 012705 014522 102$: MOV #WTMULA,R5 ; DEFAULT WRITE MULTICAST ADDR FUNC
10302 073452 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
10303 073456 012705 020076 MOV #MULTL,R5 ; LOAD LIST INTO UDBB
10304 073462 012700 000036 MOV #30.,R0 ; LOAD 30 ENTRIES
10305 073466 004737 034134 JSR PC,LDUDBB ; MULTICAST LIST -> UDBB
10306 073472 012777 004100 106526 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10307 073500 112777 000102 106520 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10308 073506 004737 030706 JSR PC,CHKDNI ; DNI ?
10309 073512 103010 BCC 104$ ; YES
10310 073514 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10311 073520 ERRHRD 536.,ERR010,MSG003 ; NO, REPORT ERROR
073522 104456 TRAP C$ERHRD
073524 001030 .WORD 536
073526 025425 .WORD ERR010
10312 073530 ESCAPE TST ; AND ABORT TEST
073530 104410 TRAP C$ESCAPE
073532 001440 .WORD L10055-.

10313 ;
10314 073534 004737 032320 104$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10315 BCC 106$ ; ERROR ?
10316 073540 103010 FTL ; NO
10317 073542 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10318 073546 ERRHRD 537.,ERR006,MSG003 ; YES, REPORT ERROR
073546 104456 TRAP C$ERHRD
073550 001031 .WORD 537
073552 025124 .WORD ERR006
073554 024032 .WORD MSG003
10319 073556 ESCAPE TST ; AND ABORT TEST
073556 104410 TRAP C$ESCAPE
073560 001412 .WORD L10055 .

10320 ;
10321 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
10322 ;
10323 073562 106$: JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
10324 073562 004737 032272 MOV #10.,R4 ; DO LOOP = TEN
10325 073566 012704 000012 MOV #MULTL,R2 ; R2 POINTS TO MULTICAST LIST
10326 073572 012702 020076 ;
10327 ;
10328 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10329 ;
10330 073576 012705 016412 110$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10331 073602 004737 034040 JSR PC,LDTDRB ; LOAD TDRB

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10332 073606 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
10333 073612 004737 033744          JSR    PC,LDRDRB         ; LOAD RDRB
10334
10335          ;SET UP BUFFERS AND START
10336
10337 073616 012701 002266          MOV    #SRC,R1           ; SOURCE = PHYSICAL ADDRESS
10338 073622 004737 035062          JSR    PC,SRCDST         ; DEST = MULTICAST ADDRESS
10339 073626 005037 020564          CLR    D0CRC             ; NO APPEND CRC
10340 073632 012737 000006          MOV    #6,BYTCNT        ; BYTES/PACKET
10341 073640 004737 034662          JSR    PC,SETBUF         ; SET UP BUFFERS
10342 073644 012777 004100          MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10343 073652 112777 000104          MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
10344 073660 004737 030706          JSR    PC,CHKDNI        ; DNI?
10345 073664 103010                    BCC    120$              ; YES
10346 073666
10347 073672          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
10348 073672          ERRHRD 540.,ERR012,MSG003 ; NO, REPORT ERROR
10349 073672 104456          TRAP   C$ERRHRD
10350 073674 001034          .WORD 540
10351 073676 025543          .WORD ERR012
10352 073700 024032          .WORD MSG003
10353 073702          ESCAPE TST              ; AND ABORT TEST
10354 073702 104410          TRAP   C$ESCAPE
10355 073704 001266          .WORD L10055-.
10356 073706 004737 032320          ;120$: JSR    PC,CLRDN1   ; WRITE ONE TO CLEAR DNI
10357 073712 103010          ; ERROR ?
10358 073714          BCC    130$              ; NO
10359 073714          FTL
10360 073714 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
10361 073720          ERRHRD 541.,ERR006,MSG003 ; YES, REPORT ERROR
10362 073720 104456          TRAP   C$ERRHRD
10363 073722 001035          .WORD 541
10364 073724 025124          .WORD ERR006
10365 073726 024032          .WORD MSG003
10366 073730          ESCAPE TST              ; AND ABORT TEST
10367 073730 104410          TRAP   C$ESCAPE
10368 073732 001240          .WORD L10055 .
10369 073734 004737 03  4          ;130$: JSR    PC,CHKTXI   ; TXI ?
10370 073740 103010          BCC    140$              ; YES
10371 073742          FTL
10372 073742 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
10373 073746          ERRHRD 542.,ERR013,MSG003 ; NO, REPORT ERROR
10374 073746 104456          TRAP   C$ERRHRD
10375 073750 001036          .WORD 542
10376 073752 025624          .WORD ERR013
10377 073754 024032          .WORD MSG003
10378 073756          ESCAPE TST              ; AND ABORT TEST
10379 073756 104410          TRAP   C$ESCAPE
10380 073760 001212          .WORD L10055-.
    
```

10362									
10363	073762	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI	
10364								; ERROR ?	
10365	073766	103010			BCC	150\$; NO	
10366	073770				FTL				
	073770	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10367	073774				ERRHRD	543.,ERR014,MSG003		; YES, REPORT ERROR	
	073774	104456							TRAP C\$ERHRD
	073776	001037							.WORD 543
	074000	025655							.WORD ERR014
	074002	024032							.WORD MSG003
10368	074004				ESCAPE	TST		; AND ABORT TEST	
	074004	104410							TRAP C\$ESCAPE
	074006	001164							.WORD L10055 .
10369									
10370	074010	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP	
10371	074014	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
10372	074020	103010			BCC	160\$; YES	
10373	074022				FTL				
	074022	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10374	074026				ERRHRD	544.,ERR018		; NO, REPORT ERROR	
	074026	104456							TRAP C\$ERHRD
	074030	001040							.WORD 544
	074032	026122							.WORD ERR018
	074034	000000							.WORD 0
10375	074036				ESCAPE	TST		; AND ABORT TEST	
	074036	104410							TRAP C\$ESCAPE
	074040	001132							.WORD L10055 .
10376									
10377	074042	012705	020266	i60\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB	
10378	074046	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE	
10379	074052	012705	002622		MOV	#TDRB,R5		; CHECK TDRB	
10380	074056	004737	031636		JSR	PC,CHKTDR		; ERRORS ?	
10381	074062	103010			BCC	170\$; NO	
10382	074064				FTL				
	074064	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10383	074070				ERRHRD	545.,ERR020,MSG005		; YES, REPORT ERROR	
	074070	104456							TRAP C\$ERHRD
	074072	001041							.WORD 545
	074074	026302							.WORD ERR020
	074076	024136							.WORD MSG005
10384	074100				ESCAPE	TST		; AND ABORT TEST	
	074100	104410							TRAP C\$ESCAPE
	074102	001070							.WORD L10055-.
10385									
10386	074104	004737	031454	i70\$:	JSR	PC,CHKRXI		; RXI ?	
10387	074110	103010			BCC	180\$; YES	
10388	074112				FTL				
	074112	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	

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TEST 23: ENABLE ALL MULTICAST MODE TEST

SEG 325

10389	074116			ERRHRD	546.,ERR015,MSG003	; NO, REPORT ERROR		
	074116	104456					TRAP	C\$ERHRD
	074120	001042					.WORD	546
	074122	025723					.WORD	ERR015
	074124	024032					.WORD	MSG003
10390	074126			ESCAPE	TST	; AND ABORT TEST		
	074126	104410					TRAP	C\$ESCAPE
	074130	001042					.WORD	L10055-
10391								
10392	074132	004737	032434	i180\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
10393								; ERROR ?
10394	074136	103010			BCC	190\$; NO
10395	074140				FTL			
	074140	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10396	074144			ERRHRD	547.,ERR016,MSG003	; YES, REPORT ERROR		
	074144	104456					TRAP	C\$ERHRD
	074146	001043					.WORD	547
	074150	025754					.WORD	ERR016
	074152	024032					.WORD	MSG003
10397	074154			ESCAPE	TST	; AND ABORT TEST		
	074154	104410					TRAP	C\$ESCAPE
	074156	001014					.WORD	L10055 .
10398								
10399	074160	012705	002662	i190\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
10400	074164	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
10401	074170	103010			BCC	200\$; YES
10402	074172				FTL			
	074172	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10403	074176			ERRHRD	550.,ERR017	; NO, REPORT ERROR		
	074176	104456					TRAP	C\$ERHRD
	074200	001046					.WORD	550
	074202	026022					.WORD	ERR017
	074204	000000					.WORD	0
10404	074206			ESCAPE	TST	; AND ABORT TEST		
	074206	104410					TRAP	C\$ESCAPE
	074210	000762					.WORD	L10055 .
10405								
10406	074212	012705	020456	i200\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
10407	074216	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRB0 TABLE
10408	074222	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
10409	074226	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
10410	074232	103010			BCC	210\$; NO
10411	074234				FTL			
	074234	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10412	074240			ERRHRD	551.,ERR021,MSG006	; YES, REPORT ERROR		
	074240	104456					TRAP	C\$ERHRD
	074242	001047					.WORD	551
	074244	026363					.WORD	ERR021
	074246	024300					.WORD	MSG006
10413	074250			ESCAPE	TST	; AND ABORT TEST		
	074250	104410					TRAP	C\$ESCAPE

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074252 000720                                     .WORD  L10055 .
10414
10415 ;COMPARE RBUF WITH TBUF
10416
10417 074254 013705 020562      210$:  MOV    BYTCNT,R5      ; COMPARE DATA
10418 074260 004737 032646      JSR    PC,CMPCAT      ; DATA COMPARE ERROR ?
10419 074264 103006             BCC   220$           ; NO
10420 074266             ERRHRD 552.,ERR022,MSG007 ; YES, REPORT ERROR
             074266 104456             TRAP  C$ERRRD
             074270 001050             .WORD 552
             074272 026444             .WORD ERR022
             074274 024442             .WORD MSG007
10421 074276             ESCAPE TST           ; AND ABORT TEST
             074276 104410             TRAP  C$ESCAPE
             074300 000672             .WORD L10055 .
10422
10423 074302             ;
10424 074302 012705 010474      220$:  MOV    #RBUF+26.,R5    ; CHECK CRC
10425 074306 004737 032576      JSR    PC,CMPCRC     ; ERRORS ?
10426 074312 103006             BCC   230$           ; NO
10427 074314             ERRHRD 553.,ERR023,MSG008 ; YES, REPORT ERROR
             074314 104456             TRAP  C$ERRRD
             074316 001051             .WORD 553
             074320 026513             .WORD ERR023
             074322 024474             .WORD MSG008
10428 074324             ESCAPE TST           ; AND ABORT TEST
             074324 104410             TRAP  C$ESCAPE
             074326 000644             .WORD L10055 .
10429
10430 074330             ;
10431 074330 012777 004100 105670 230$:  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10432 074336 112777 000117 105662  MOVB  #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10433 074344 004737 030706      JSR    PC,CHKDNI     ; DNI ?
10434 074350 103010             BCC   240$           ; YES
10435 074352             FTL
             074352 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
10436 074356             ERRHRD 554.,ERR019,MSG003 ; NO, REPORT ERROR
             074356 104456             TRAP  C$ERRRD
             074360 001052             .WORD 554
             074362 026222             .WORD ERR019
             074364 024032             .WORD MSG003
10437 074366             ESCAPE TST           ; AND ABORT TEST
             074366 104410             TRAP  C$ESCAPE
             074370 000602             .WORD L10055 .
10438
10439 074372 004737 032320      240$:  JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
10440             ; ERROR ?
10441 074376 103010             BCC   245$           ; NO
10442 074400             FTL
             074400 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
10443 074404             ERRHRD 555.,ERR006,MSG003 ; YES, REPORT ERROR
             074404 104456             TRAP  C$ERRRD
             074406 001053             .WORD 555

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TEST 23: ENABLE ALL MULTICAST MODE TEST

SEQ 327

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074410 025124
074412 024032
10444 074414          ESCAPE TST          ; AND ABORT TEST
074414 104410
074416 000554          TRAP          C$ESCAPE
                                .WORD          L10055 .

10445
10446 074420          ;
245$: JSR          PC,CLRCV          ; CLEAR RECEIVE BUFFER
ADD          #6,R2          ; UPDATE R2
10447 074420 004737 032272          ; UPDATE R3
10448 074424 062702 000006          ; UPDATE R3
10449 074430 062703 000004          ; DONE TEN LOOPBACKS
10450 074434 005304          ; YES
10451 074436 001402          ; YES
10452 074440 000137 073576          ; NO
10453          ;
10454          ;
10455          ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10456          ;
246$: MOV          #10,R4          ; DO LOOP = TEN
MOV          #MULTLC,R2          ; R2 POINTS TO COMPLIMENTED LIST

10457 074444 012704 000012          ;
10458 074450 012702 020172          ;
10459          ;
10460          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10461          ;
250$: MOV          #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
JSR          PC,LDTDRB          ; LOAD TDRB
10462 074454 012705 016412          ;
10463 074460 004737 034040          ;
10464 074464 012705 014752          ;
10465 074470 004737 033744          ;
10466          ;
10467          ;SET UP BUFFERS AND START
10468          ;
MOV          #SRC,R1          ; SOURCE = PHYSICAL ADDRESS
10469 074474 012701 002266          ;
JSR          PC,SRCST          ; DEST = COMPL MULTICAST ADDR
10470 074500 004737 035062          ;
CLR          D0CRC          ; NO APPEND CRC
10471 074504 005037 020564          ;
MOV          #6,BYTCNT          ; BYTES/PACKET
10472 074510 012737 000006 020562          ;
JSR          PC,SETBUF          ; SET UP BUFFERS
10473 074516 004737 034662          ;
MOV          #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
10474 074522 012777 004100 105476          ;
MOV          #INTE!START,@PCSR0          ; ISSUE START PORT COMMAND
10475 074530 112777 000104 105470          ;
10476 074536 004737 030706          ;
JSR          PC,CHKDNI          ; DNI?
10477 074542 103010          ;
BCC          260$          ; YES
10478 074544          ;
                                ;
                                ;
074544 004737 031010          ;
JSR          PC,CHKFTL          ; 'FATL' BIT SET?

10479 074550          ERRHRD 556.,ERR012,MSG003          ; NO, REPORT ERROR
074550 104456          TRAP          C$ERRHRD
074552 001054          .WORD          556
074554 025543          .WORD          ERR012
074556 024032          .WORD          MSG003

10480 074560          ESCAPE TST          ; AND ABORT TEST
074560 104410          TRAP          C$ESCAPE
074562 000410          .WORD          L10055-.

10481          ;
260$: JSR          PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
10482 074564 004737 032320          ;
10483          ;
10484 074570 103010          ;
BCC          270$          ; ERROR ?
10485 074572          ;
                                ; NO
                                ;
074572 004737 031010          ;
JSR          PC,CHKFTL          ; 'FATL' BIT SET?

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 TEST 23: ENABLE ALL MULTICAST MODE TEST

SEQ 329

10509	074720	012705	020266		300‡:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
10510	074724	004737	034244			JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
10511	074730	012705	002622			MOV	#TDRB,R5		; CHECK TDRB		
10512	074734	004737	031636			JSR	PC,CHKTDR		; ERRORS ?		
10513	074740	103010				BCC	420‡		; NO		
10514	074742					FTL					
	074742	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10515	074746					ERRHRD	563.,ERR020,MSG005		; YES, REPORT ERROR		
	074746	104456								TRAP	C#ERHRD
	074750	001063								.WORD	563
	074752	026302								.WORD	ERR020
	074754	024130								.WORD	MSG005
10516	074756					ESCAPE	TST		; AND ABORT TEST		
	074756	104410								TRAP	C#ESCAPE
	074760	000212								.WORD	L10055-
10517											
10518	074762	004737	034276		i	JSR	PC,NORXI		; RXI ?		
10519	074766	103010			420‡:	BCC	480‡		; NO		
10520	074770					FTL					
	074770	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10521	074774					ERRHRD	564.,ERR039,MSG003		; YES, REPORT ERROR		
	074774	104456								TRAP	C#ERHRD
	074776	001064								.WORD	564
	075000	027671								.WORD	ERR039
	075002	024032								.WORD	MSG003
10522	075004					ESCAPE	TST		; AND ABORT TEST		
	075004	104410								TRAP	C#ESCAPE
	075006	000164								.WORD	L10055-
10523											
10524	075010				i						
10525	075010	012777	004100	105210	480‡:	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS		
10526	075016	112777	000117	105202		MOV	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND		
10527	075024	004737	030706			JSR	PC,CHKDNI		; DNI ?		
10528	075030	103010				BCC	490‡		; YES		
10529	075032					FTL					
	075032	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10530	075036					ERRHRD	565.,ERR019,MSG003		; NO, REPORT ERROR		
	075036	104456								TRAP	C#ERHRD
	075040	001065								.WORD	565
	075042	026222								.WORD	ERR019
	075044	024032								.WORD	MSG003
10531	075046					ESCAPE	TST		; AND ABORT TEST		
	075046	104410								TRAP	C#ESCAPE
	075050	000122								.WORD	L10055-
10532											
10533	075052	004737	032320		i	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
10534					490‡:				; ERROR ?		
10535	075056	103010				BCC	495‡		; NO		
10536	075060					FTL					
	075060	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?		

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10537 075064          ERRHRD 566.,ERR006,MSG003      ; YES, REPORT ERROR
      075064 104456
      075066 001066
      075070 025124
      075072 024032
10538 075074          ESCAPE TST                    ; AND ABORT TEST
      075074 104410
      075076 000074
10539
10540 075100          ;
10541 075100 004737 032272          ; 495$: JSR PC,CLRCV      ; CLEAR RECEIVE BUFFER
10542 075104 062702 000006          ; ADD #6,R2           ; UPDATE R2
10543 075110 062703 000004          ; ADD #4,R3           ; UPDATE R3
10544 075114 005304          ; DEC R4              ; DONE TEN LOOPBACKS ?
10545 075116 001402          ; BEQ 500$            ; YES
10546 075120 000137 074454          ; JMP 250$            ; NO
10547
10548 075124          ;
10549
10550 075124          EXIT TST
      075124 104432
      075126 000044
10551
10552          ;LOCAL TEST MESSAGE
10553
10554 075130 104 105 114 T23ID:..ASCIZ 'DELUA ENABLE ALL MULTICAST MODE '
      075133 125 101 040
      075136 105 116 101
      075141 102 114 105
      075144 040 101 114
      075147 114 040 115
      075152 125 114 124
      075155 111 103 101
      075160 123 124 040
      075163 115 117 104
      075166 105 040 000
10555          .EVEN
10556
10557 075172          ENDTST
      075172
      075172 104401
L10055: TRAP C$ETST

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H10

10559
10560
10561
10562
10563
10564
10565
10566
10567
10568
10569
10570
10571
10572
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10574
10575
10576
10577

.SBTTL TEST 24: INTERNAL LOOPBACK TRANSMIT LENGTH ERROR TEST

```
*****
:
: THIS TEST VERIFIES THAT, IF THE PORT DRIVER ATTEMPTS TO
: TRANSMIT GREATER THAN 32 BYTE <DTCR = 0>, OR 36 BYTE <DTCR = 1>
: TRANSMIT FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH' ERROR.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. ISSUE START
: 6. CHECK FOR BUFFER LENGTH ERROR IN TDRB+6
:
*****
```

10578 075174
075174
10579
10580 075174

```
BGNTST
T24::
PNTMAC T24ID
MOV #T24ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
```

; END OF MACRO EXPANSION OF 'PNTMAC'

10581 075204 004737 035310
10582 075210 103034
10583 075212 012777 004100 105006
10584 075220 112777 000140 105000
10585 075226 004737 032034
10586 075232 103010
10587 075234

```
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSR0 ;ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL
```

075234 004737 031010

```
JSR PC,CHKFTL ; 'FATL' BIT SET?
```

10588 075240
075240 104456
075242 001067
075244 030105
075246 024032

```
ERRHRD 567.,ERR042,MSG003 ; NO, REPORT ERROR
TRAP ;80 C$ERRHRD
.WORD 567
.WORD ERR042
.WORD MSG003
```

10589 075250
075250 104410
075252 001360

```
ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10056-
```

10590
10591 075254 004737 032320
10592
10593 075260 103010
10594 075262

```
20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
BCC 30$
FTL
```

075262 004737 031010

```
JSR PC,CHKFTL ; 'FATL' BIT SET?
```

10595 075266
075266 104456

```
ERRHRD 570.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C$ERRHRD
```

```

075270 001072 .WORD 570
075272 025124 .WORD C$R006
075274 024032 .WORD MSG003
10596 075276 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075276 104410 .WORD L10056-
075300 001332

10597
10598 075302 i30$:
10599 075302 004737 033606 JSR PC,LDDFLT ; LOAD DEFAULT PHY. ADDRESS TABLES
10600 075306 012704 000001 MOV #1,R4 ; INIT PASS COUNTER
10601 075312
10602 075312 004737 032246 JSR PC,CLRBUF ; CLEAR TBUF AND RBUF
10603 075316 004737 033706 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
10604 075322 012777 004100 104676 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10605 075330 112777 000101 104670 MOVB #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10606 075336 004737 030706 JSR PC,CHKDNI ; DNI?
10607 075342 103010 BCC 40$ ; YES
10608 075344 FTL

075344 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10609 075350 ERRHRD 571.,ERR009,MSG003 ; NO, REPORT ERROR
075350 104456 TRAP C$ERHRD
075352 001073 .WORD 571
075354 025341 .WORD ERR009
075356 024032 .WORD MSG003
10610 075360 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075360 104410 .WORD L10056 .
075362 001250

10611
10612 075364 004737 032320 i40$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
10613 BCC 50$ ; ERROR ?
10614 075370 103010 FTL ; NO
10615 075372

075372 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10616 075376 ERRHRD 572.,ERR006,MSG003 ; YES, REPORT ERROR
075376 104456 TRAP C$ERHRD
075400 001074 .WORD 572
075402 025124 .WORD ERR006
075404 024032 .WORD MSG003
10617 075406 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075406 104410 .WORD L10056 .
075410 001222

10618 075412
10619
10620 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10621
10622 ;IF 2ND PASS SKIP 1ST PASS PCBB SETUP
10623
10624 075412 005304 DEC R4 ;ADJUST PASS COUNT
10625 075414 005704 TST R4 ;1ST PASS
10626 075416 100425 BMI 55$ ;NO, SKIP THIS SETUP
10627 075420 012705 014602 MOV #WTMODE,R5 ; WRITE MODE FUNCTION (NO CRC)
10628 075424 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10629 075430 012777 004100 104570 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

```

TEST 24: INTERNAL LOOPBACK TRANSMIT LENGTH ERROR TEST

```

10630 075436 112777 000102 104562      MOVB  #INTE!GETCMD,@PCSR0      ; ISSUE GET CMD PORT COMMAND
10631 075444 004737 030706      JSR   PC,CHKDNI                ; DNI ?
10632 075450 103035                BCC   60$                      ; YES
10633 075452                                FTL

      075452 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?

10634 075456                                ERRHRD 573.,ERR010,MSG003      ; NO, REPORT ERROR
      075456 104456                                TRAP   C$ERHRD
      075460 001075                                .WORD 573
      075462 025425                                .WORD ERR010
      075464 024032                                .WORD MSG003
10635 075466                                ESCAPE TST                      ; AND ABORT TEST
      075466 104410                                TRAP   C$ESCAPE
      075470 001142                                .WORD L10056-.

10636
10637 075472                                55$:
10638
10639                                ;2ND PASS PCBB SETUP
10640
10641 075472 012705 014622      MOV   #WTMOD2,R5              ;DEFAULT MODE FUNCTION
10642 075476 004737 033656      JSR   PC,LDPCBB              ;LOAD FUNCTION -> PCBB
10643 075502 012777 004100 104516  MOV   #DNI!INTE,@PCSR0      ;ENABLE INTERRUPTS
10644 075510 112777 000102 104510  MOVB  #INTE!GETCMD,@PCSR0      ;ISSUE GET_CMD PORT COMMAND
10645 075516 004737 030706      JSR   PC,CHKDNI                ;DNI?
10646 075522 103010      BCC   60$                      ;YES, SKIP ERROR REPORT
10647 075524                                FTL

      075524 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?

10648 075530                                ERRHRD 574.,ERR010,MSG003      ;NO, REPORT ERROR
      075530 104456                                TRAP   C$ERHRD
      075532 001076                                .WORD 574
      075534 025425                                .WORD ERR010
      075536 024032                                .WORD MSG003
10649 075540                                ESCAPE TST                      ; AND ABORT TEST
      075540 104410                                TRAP   C$ESCAPE
      075542 001070                                .WORD L10056-.

10650
10651 075544                                ;
10652 075544 004737 032320      JSR   PC,CLRDNI              ;WRITE ONE TO CLEAR DNI
10653                                ;ERROR?
10654 075550 103010      BCC   70$                      ; NO
10655 075552                                FTL

      075552 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?

10656 075556                                ERRHRD 575.,ERR006,MSG003      ; YES, REPORT ERROR
      075556 104456                                TRAP   C$ERHRD
      075560 001077                                .WORD 575
      075562 025124                                .WORD ERR006
      075564 024032                                .WORD MSG003
10657 075566                                ESCAPE TST                      ; AND ABORT TEST
      075566 104410                                TRAP   C$ESCAPE
      075570 001042                                .WORD L10056-.

10658
10659                                ;WRITE RING FORMAT

```

```

10660
10661 075572 012705 014542      70$:  MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
10662 075576 004737 033656      JSR    PC,LDPCCB       ; LOAD FUNCTION > PCBB
10663 075602 012705 014706      MOV    #RFRMT,R5      ; DEFAULT RING FORMAT
10664 075606 012700 000006      MOV    #6,R0          ; FORMAT = SIX WORDS
10665 075612 004737 034134      JSR    PC,LDUDBB      ; LOAD RING FORMAT > UDBB
10666 075616 012777 004100 104402  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10667 075624 112777 000102 104374  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10668 075632 004737 030706      JSR    PC,CHKDNI      ; DNI ?
10669 075636 103010      BCC   80$            ; YES
10670 075640      FTL

      075640 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10671 075644      ERRHRD 576.,ERR010,MSG003 ; NO, REPORT ERROR
      075644 104456      TRAP  C$ERHRD
      075646 001100      .WORD 576
      075650 025425      .WORD ERR010
      075652 024032      .WORD MSG003

10672 075654      ESCAPE TST          ; AND ABORT TEST
      075654 104410      TRAP  C$ESCAPE
      075656 000754      .WORD L10056

10673
10674 075660 004737 032320      ;
      80$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
10675      BCC   90$            ; ERROR ?
10676 075664 103010      FTL                    ; NO
10677 075666      FTL

      075666 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10678 075672      ERRHRD 577.,ERR006,MSG003 ; YES, REPORT ERROR
      075672 104456      TRAP  C$ERHRD
      075674 001101      .WORD 577
      075676 025124      .WORD ERR006
      075700 024032      .WORD MSG003

10679 075702      ESCAPE TST          ; AND ABORT TEST
      075702 104410      TRAP  C$ESCAPE
      075704 000726      .WORD L10056-.

10680
10681      ;WRITE PHYSICAL ADDRESS
10682
10683 075706      90$:
10684 075706 012705 002274      MOV    #DEFAULT,R5    ; POINT TO DEFAULT PHYS. ADDR
10685 075712 004737 033724      JSR    PC,LDPHYA      ; SAVE IN DEFAULT TABLE
10686 075716 012705 014502      MOV    #WTPHYA,R5     ; DEFAULT WRITE PHYSICAL ADDR FUNC
10687 075722 004737 033656      JSR    PC,LDPCCB      ; LOAD FUNCTION > PCBB
10688 075726 012777 004100 104272  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10689 075734 112777 000102 104264  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10690 075742 004737 030706      JSR    PC,CHKDNI      ; DNI ?
10691 075746 103010      BCC   100$           ; YES
10692 075750      FTL

      075750 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10693 075754      ERRHRD 600.,ERR010,MSG003 ; NO, REPORT ERROR
      075754 104456      TRAP  C$ERHRD
      075756 001130      .WORD 600

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L10

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075760 025425 .WORD ERRO10
075762 024032 .WORD MSG003
10694 075764 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075764 104410 ; ERROR ? .WORD L10056
075766 000644 ; NO
10695 075770 004737 032320 ; JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10696 075774 103010 ; BCC 110$ ; ERROR ?
10697 075776 004737 031010 ; JSR PC,CHKFTL ; 'FATL' BIT SET?
10698 075776 004737 031010 ; ERRHRD 601.,ERR006,MSG003 ; YES, REPORT ERROR
10699 075776 004737 031010 ; TRAP C$ERHRD
075776 004737 031010 ; .WORD 601
075776 004737 031010 ; .WORD ERR006
075776 004737 031010 ; .WORD MSG003
10700 076002 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
076002 104456 ; ERROR ? .WORD L10056
076004 001131 ; NO
076006 025124 ; JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
076010 024032 ; BCC 110$ ; ERROR ?
076012 104410 ; JSR PC,CHKFTL ; 'FATL' BIT SET?
076014 000616 ; ERRHRD 602.,ERR012,MSG003 ; YES, REPORT ERROR
10701 076012 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
076012 104410 ; ERROR ? .WORD L10056
076014 000616 ; NO
10702 ; SET UP RINGS FOR ONE BUFFER LOOPBACK
10703 ;
10704 ;
10705 076016 012705 016512 110$: MOV #TDRB1C,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10706 076022 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
10707 076026 012705 014752 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
10708 076032 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
10709 ;
10710 ; SET UP BUFFERS AND START
10711 ;
10712 ; IF 1ST PASS WILL LOAD FOR 32 BYTE PACKET, NO CRC
10713 ;
10714 076036 005704 TST R4 ; 1ST PASS?
10715 076040 100405 BMI 115$ ; NO, SKIP 1ST PASS SETUP
10716 076042 012702 000016 MOV #14.,R2 ; PACKET SIZE (WORDS), NO CRC TO BE ADDED
10717 076046 005037 020564 CLR DOCRC ; NO CRC
10718 076052 000410 BR 117$ ; SKIP 2ND PASS SETUP
10719 076054 ;
10720 076054 012705 016532 115$: MOV #TDRB1D,R5 ; SETUP BUFFER TRANSMIT RING
10721 076060 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
10722 076064 012702 000016 MOV #14.,R2 ; PACKET SIZE (WORDS) CRC TO BE ADDED
10723 076070 005037 020564 CLR DOCRC ; TRANSMITTER TO ADD CRC
10724 076074 ;
10725 076074 004737 034420 117$: JSR PC,SETBF ; LOAD HEADER AND DATA
10726 076100 012777 004100 104120 MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
10727 076106 112777 000104 104112 MOVB #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
10728 076114 004737 030706 JSR PC,CHKDNI ; DNI?
10729 076120 103010 BCC 120$ ; YES
10730 076122 ;
076122 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10731 076126 ERRHRD 602.,ERR012,MSG003 ; NO, REPORT ERROR TRAP C$ERHRD
076126 104456 ; .WORD 602
076130 001132 ; .WORD ERR012
076132 025543

```



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10759 076252 100436          BMI    165$          ; NO, SKIP 1ST PASS CHECK
10760
10761 076254 012705 020356    MOV    #TDR24A,R5    ; POINT TO EXPECTED TDRB
10762 076260 004737 034244    JSR    PC,LDXTDR     ; LOAD INTO XTDRBO TABLE
10763
10764                      ;PERFORM SPECIFIC CHECK THAT 'BUFL' SET IN TDRB+6, THEN
10765                      ; CHECK OTHER TDRB PARAMETERS
10766
10767 076264 013700 002630    MOV    TDRB+6,R0     ; GET CONTENTS OF TDRB+6
10768 076270 005700          TST    R0            ; 'BUFL', BIT15 SET?
10769 076272 100410          BMI    155$         ; YES, SKIP ERROR CHECK
10770 076274
                                FTL
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                076274 004737 031010
10771 076300          ERRHRD 606.,ERR043    ; REPORT ERROR
                                076300 104456          TRAP  C$ERRHRD
                                076302 001136          .WORD 606
                                076304 030157          .WORD ERR043
                                076306 000000          .WORD 0
10772 076310          ESCAPE TST          ; AND EXIT TEST
                                076310 104410          TRAP  C$ESCAPE
                                076312 000320          .WORD L10056-.
10773 076314          155$:
10774 076314 012705 002622    MOV    #TDRB,R5     ; CHECK TDRB
10775 076320 004737 031636    JSR    PC,CHKTDR    ; ERRORS ?
10776 076324 103046          BCC    170$         ; NO
10777 076326
                                FTL
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                076326 004737 031010
10778 076332          ERRHRD 607.,ERR020,MSG005 ; YES, REPORT ERROR
                                076332 104456          TRAP  C$ERRHRD
                                076334 001137          .WORD 607
                                076336 026302          .WORD ERR020
                                076340 024136          .WORD MSG005
10779 076342          ESCAPE TST          ; AND ABORT TEST
                                076342 104410          TRAP  C$ESCAPE
                                076344 000266          .WORD L10056 .
10780 076346 000435          BR     170$         ; SKIP 2ND PASS CHECK
10781
10782                      ;2ND PASS CHECK
10783
10784 076350          165$:
10785 076350 012705 020366    MOV    #TDR24B,R5    ;POINT TO EXPECTED TDRB
10786 076354 004737 034244    JSR    PC,LDXTDR     ;LOAD INTO XTDRBO TABLE
10787
10788                      ;INSURE THAT 'BUFL' BIT SET IN TDRB+6, THEN CHECK REMAINDER
10789                      ; OF TDRB+6.
10790
10791 076360 013700 002630    MOV    TDRB+6,R0     ;GET CONTENTS OF TDRB+6
10792 076364 005700          TST    R0            ;'BUFL', BIT15 SET IN TDRB+6?
10793 076366 100410          BMI    167$         ;YES, SKIP ERROR REPORT
10794 076370
                                FTL
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                076370 004737 031010

```

10795	076374				ERRHRD	610.,ERR044		; NO, REPORT ERROR			
	076374	104456							TRAP	C\$ERHRD	
	076376	001142							.WORD	610	
	076400	030256							.WORD	ERR044	
	076402	000000							.WORD	0	
10796	076404				ESCAPE	TST		; AND EXIT TEST			
	076404	104410							TRAP	C\$ESCAPE	
	076406	000224							.WORD	L10056-	
10797	076410						167\$:				
10798	076410	012705	002622		MOV	#TDRB,R5		; CHECK TDRB			
10799	076414	004737	031636		JSR	PC,CHKTDR		; ERRORS?			
10800	076420	103010			BCC	170\$; NO			
10801	076422				FTL						
	076422	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
10802	076426				ERRHRD	611.,ERR020,MSG005		; YES, REPORT ERROR			
	076426	104456							TRAP	C\$ERHRD	
	076430	001143							.WORD	611	
	076432	026302							.WORD	ERR020	
	076434	024136							.WORD	MSG005	
10803	076436				ESCAPE	TST		; AND ABORT TEST			
	076436	104410							TRAP	C\$ESCAPE	
	076440	000172							.WORD	L10056 .	
10804											
10805	076442						i 170\$:				
10806	076442	012777	004100	103556	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS			
10807	076450	112777	000117	103550	MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND			
10808	076456	004737	030706		JSR	PC,CHKDNI		; DNI ?			
10809	076462	103010			BCC	180\$; YES			
10810	076464				FTL						
	076464	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
10811	076470				ERRHRD	612.,ERR019,MSG003		; NO, REPORT ERROR			
	076470	104456							TRAP	C\$ERHRD	
	076472	001144							.WORD	612	
	076474	026222							.WORD	ERR019	
	076476	024032							.WORD	MSG003	
10812	076500				ESCAPE	TST		; AND ABORT TEST			
	076500	104410							TRAP	C\$ESCAPE	
	076502	000130							.WORD	L10056-	
10813											
10814	076504	004737	032320				i 180\$:				
10815					JSR	PC,CLR0NI		; WRITE ONE TO CLEAR DNI			
10816	076510	103010			BCC	190\$; ERROR ?			
10817	076512				FTL			; NO			
	076512	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
10818	076516				ERRHRD	613.,ERR006,MSG003		; YES, REPORT ERROR			
	076516	104456							TRAP	C\$ERHRD	
	076520	001145							.WORD	613	
	076522	025124							.WORD	ERR006	
	076524	024032							.WORD	MSG003	
10819	076526				ESCAPE	TST		; AND ABORT TEST			
	076526	104410							TRAP	C\$ESCAPE	

C11

```

076530 000102
10820 076532          190$:          .WORD  L10056 .
10821
10822          ;IF DONE ONLY 1 PASS MUST GO FOR 2ND
10823
10824 076532 004737 032272          JSR    PC,CLRCV          ;CLEAR RECEIVE BUFFER
10825 076536 005704          TST    R4                ;2ND PASS?
10826 076540 100402          BMI    200$              ;YES, EXIT TEST
10827 076542 000137 075312          JMP    35$                ;NO, DO 2ND PASS
10828 076546
10829
10830 076546          EXIT    TST
10831 076546 104432
10832 076550 000062          TRAP  C$EXIT
10833          .WORD  L10056 .
10834
10835          ;LOCAL TEST MESSAGE
10836
10837 076552 104 105 114 T24ID: .ASCIZ 'DELUA INTERNAL LOOPBACK TRANSMIT LENGTH ERROR '
10838 076555 125 101 040
10839 076560 111 116 124
10840 076563 105 122 116
10841 076566 101 114 040
10842 076571 114 117 117
10843 076574 120 102 101
10844 076577 103 113 040
10845 076602 124 122 101
10846 076605 116 123 115
10847 076610 111 124 040
10848 076613 114 105 116
10849 076616 107 124 110
10850 076621 040 105 122
10851 076624 122 117 122
10852 076627 040 000
10853
10854          .EVEN
10855
10856          ENDTST
10857 076632          L10056:
10858 076632 104401          TRAP  C$ETST
10859
10860
10861
10862

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.SBTTL TEST 25: SIMULTANEOUS OPERATIONS TEST

```

;*****
;
; THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
; AN INTERNAL LOOPBACK WILL BE PERFORMED SIMULTANEOUSLY WITH A READ
; COUNTERS PORT FUNCTION.
;
; TEST SEQUENCE:
; 1. WRITE MODE REGISTER = PROM and INTERNAL LOOPBACK MODE
; 2. WRITE RING FORMAT
; 3. WRITE PHYSICAL ADDRESS
; 4. SET UP RINGS AND BUFFERS
; 5. SET UP READ COUNTERS FUNCTION
; 6. ISSUE START
; 7. ISSUE GET COMMAND PORT COMMAND
; 8. CHECK FOR ERRORS
; 9. ISSUE STOP
;*****
    
```

10863 076634
 076634
 10864
 10865 076634

BGNTST

T25::

PNTMAC T25ID

076634 012704 100456
 076640 004737 034610

```

MOV #T25ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
    
```

; END OF MACRO EXPANSION OF 'PNTMAC'

10866 076644 004737 035310
 10867 076650 103034
 10868 076652 012777 004100 103346
 10869 076660 112777 000140 103340
 10870 076666 004737 032034
 10871 076672 103010
 10872 076674

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL
    
```

076674 004737 031010

```

JSR PC,CHKFTL ; 'FATL' BIT SET?
    
```

10873 076700
 076700 104456
 076702 001146
 076704 030105
 076706 024032
 10874 076710

```

ERRHRD 614.,ERR042,MSG003 ; NO, REPORT ERROR
    
```

```

;B0
TRAP C$ERHRD
.WORD 614
.WORD ERR042
.WORD MSG003
    
```

076710 104410
 076712 001604

```

ESCAPE TST ; AND ABORT TEST
    
```

```

TRAP C$ESCAPE
.WORD L10057-.
    
```

10875
 10876 076714 004737 032320
 10877
 10878 076720 103010
 10879 076722

```

;20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30$ ; NO
FTL
    
```

076722 004737 031010

```

JSR PC,CHKFTL ; 'FATL' BIT SET?
    
```

E11

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 112-1
TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 341

```

10880 076726          ERRHRD 615.,ERR006,MSG003      ; YES, REPORT ERROR
      076726 104456
      076730 001147
      076732 025124
      076734 024032
10881 076736          ESCAPE TST                  ; AND ABORT TEST
      076736 104410
      076740 001556
10882
10883 076742          ;
      076742 004737 032246          ; 30$:
10884 076742          JSR      PC,CLRBUF           ; CLEAR TBUF AND RBUF
10885 076746          JSR      PC,LDDFLT         ; LOAD DEFAULT PHY. ADDRESS TABLES
10886 076752          JSR      PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2!3
10887 076756          MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10888 076764          MOV     #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10889 076772          JSR      PC,CHKDNI        ; DNI?
10890 076776          BCC     40$              ; YES
10891 077000          FTL
      077000 004737 031010          JSR      PC,CHKFTL           ; 'FATL' BIT SET?
10892 077004          ERRHRD 616.,ERR009,MSG003      ; NO, REPORT ERROR
      077004 104456
      077006 001150
      077010 025341
      077012 024032
10893 077014          ESCAPE TST                  ; AND ABORT TEST
      077014 104410
      077016 001500
10894
10895 077020          ;
10896 077020          ; 40$:
10897 077024          BCC     50$              ; WRITE ONE TO CLEAR DNI
10898 077026          FTL                      ; ERROR ?
      077026 004737 031010          JSR      PC,CHKFTL           ; NO
      077026 004737 031010          JSR      PC,CHKFTL           ; 'FATL' BIT SET?
10899 077032          ERRHRD 617.,ERR006,MSG003      ; YES, REPORT ERROR
      077032 104456
      077034 001151
      077036 025124
      077040 024032
10900 077042          ESCAPE TST                  ; AND ABORT TEST
      077042 104410
      077044 001452
10901
10902          ;
10903          ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10904 077046          ;
10905 077052          ; 50$:
10906 077056          MOV      #WTMODE,R5        ; DEFAULT WRITE MODE FUNCTION
10907 077064          JSR      PC,LDPCCBB       ; LOAD FUNCTION -> PCBB
10908 077072          MOV     #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10909 077076          MOV     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10910 077100          JSR      PC,CHKDNI        ; DNI ?
      077100 004737 031010          BCC     60$              ; YES
      077100 004737 031010          JSR      PC,CHKFTL           ; 'FATL' BIT SET?

```

```

10911 077104          ERRHRD 620.,ERR010,MSG003      ; NO, REPORT ERROR
      077104 104456
      077106 001154
      077110 025425
      077112 024032
      10912 077114          ESCAPE TST              ; AND ABORT TEST
      077114 104410
      077116 001400
      10913
      10914 077120 004737 032320      ;60$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
      10915
      10916 077124 103010
      10917 077126          BCC      70$            ; ERROR ?
      077126 004737 031010          FTL              ; NO
      077126 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      10918 077132          ERRHRD 621.,ERR006,MSG003  ; YES, REPORT ERROR
      077132 104456
      077134 001155
      077136 025124
      077140 024032
      10919 077142          ESCAPE TST              ; AND ABORT TEST
      077142 104410
      077144 001352
      10920
      10921
      10922 077146 012705 014542      ;WRITE RING FORMAT
      10923 077152 004737 033656      70$: MOV      #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
      10924 077156 012705 014736      JSR      PC,LDPCC8      ; LOAD FUNCTION -> PC88
      10925 077162 012700 000006      MOV      #RFRMTE,R5      ; DEFAULT RING FORMAT
      10926 077166 004737 034134      MOV      #6,R0          ; FORMAT = SIX WORDS
      10927 077172 012777 004100 103026 JSR      PC,LDUDB8      ; LOAD RING FORMAT -> UDB8
      10928 077200 112777 000102 103020 MOV      #DNI!INTE,@PCSR0 ;ENABLE INTERRUPTS
      10929 077206 004737 030706      MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      10930 077212 103010
      10931 077214          JSR      PC,CHKDNI      ; DNI ?
      077214 004737 031010          BCC      80$            ; YES
      077214 004737 031010          FTL
      077214 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      10932 077220          ERRHRD 622.,ERR010,MSG003  ; NO, REPORT ERROR
      077220 104456
      077222 001156
      077224 025425
      077226 024032
      10933 077230          ESCAPE TST              ; AND ABORT TEST
      077230 104410
      077232 001264
      10934
      10935 077234 004737 032320      ;80$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
      10936
      10937 077240 103010
      10938 077242          BCC      90$            ; ERROR ?
      077242 004737 031010          FTL              ; NO
      077242 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      10939 077246          ERRHRD 623.,ERR006,MSG003  ; YES, REPORT ERROR

```

G11

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 112-3
TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 343

```

077246 104456
077250 001157
077252 025124
077254 024032
10940 077256          ESCAPE TST          ; AND ABORT TEST
      077256 104410
      077260 001236
10941
10942          ;WRITE PHYSICAL ADDRESS
10943
10944 077262          90$:
10945 077262 012705 002274          MOV      #DEFAULT,R5          ; POINT TO DEFAULT PHYS. ADDRESS
10946 077266 004737 033724          JSR      PC,LDPHYA          ; SAVE IN DEFAULT ADDR TABLE
10947 077272 012705 014502          MOV      #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
10948 077276 004737 033656          JSR      PC,LDPCBB         ; LOAD FUNCTION -> PCBB
10949 077302 012777 004100 102716  MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
10950 077310 112777 000102 102710  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10951 077316 004737 030706          JSR      PC,CHKDNI        ; DNI ?
10952 077322 103010          BCC     100$             ; YES
10953 077324          FTL
      077324 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10954 077330          ERRHRD 624.,ERR010,MSG003 ; NO, REPORT ERROR
      077330 104456
      077332 001160
      077334 025425
      077336 024032
10955 077340          ESCAPE TST          ; AND ABORT TEST
      077340 104410
      077342 001154
10956
10957 077344 004737 032320          ;100$: JSR      PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
10958
10959 077350 103010          BCC     110$             ; ERROR ?
10960 077352          FTL          ; NO
      077352 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10961 077356          ERRHRD 625.,ERR006,MSG003 ; YES, REPORT ERROR
      077356 104456
      077360 001161
      077362 025124
      077364 024032
10962 077366          ESCAPE TST          ; AND ABORT TEST
      077366 104410
      077370 001126
10963
10964          ;SET UP RING BUFFER LOOPBACK
10965
10966 077372 012705 016742          110$: MOV      #TDRBXX,R5    ; DEFAULT BUFFER TRANSMIT RING
10967 077376 004737 034076          JSR      PC,LDTDRX        ; LOAD TDRB
10968 077402 012705 015572          MOV      #RDRBXX,R5      ; DEFAULT BUFFER RECEIVE RING
10969 077406 004737 034002          JSR      PC,LDRDRX        ; LOAD RDRB
10970
10971          ;SET UP BUFFERS
10972

```

```

TRAP  C$ERHRD
.WORD 623
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057-.

```

```

TRAP  C$ERHRD
.WORD 624
.WORD ERR010
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057-.

```

```

TRAP  C$ERHRD
.WORD 625
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057 .

```

H11

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 112-4
TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 344

```

10973 077412 005037 020564          CLR    DOCRC          ; NO APPEND CRC
10974 077416 012737 000006 020562    MOV    #6,BYTCNT     ; BYTES/PACKET
10975 077424 004737 034662          JSR    PC,SETBUF     ; SET UP BUFFERS
10976
10977                                ;SET UP READ COUNTERS FUNCTION
10978
10979 077430 012705 014552          MOV    #RDCNT,R5     ; DEFAULT READ COUNTERS FUNCTION
10980 077434 004737 033656          JSR    PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
10981 077440 005037 002316          CLR    UDBB+4        ; INSURE RECEIVED PACKET COUNTER
10982                                ; IS CLEAR
10983
10984                                ;CLEAR INTERRUPT BITS
10985
10986 077444 012777 175400 102554      MOV    #CLINTB,@PCSR0 ; CLEAR INTERRUPT BITS
10987
10988                                ;ISSUE START
10989                                ;ISSUE START PORT COMMAND
10990 077452 112777 000004 102546      MOVB   #START,@PCSR0 ; ISSUE START PORT COMMAND
10991 077460 004737 030706          JSR    PC,CHKDNI     ; DNI?
10992 077464 103010          BCC   112$          ; YES, SKIP ERROR REPORT
10993 077466          FTL
                                ; 'FATL' BIT SET?
                                ; REPORT ERROR
                                TRAP   C$ERRHRD
                                .WORD  626
                                .WORD  ERR012
                                .WORD  MSG003
                                AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10057
                                ;
077466 004737 031010          JSR    PC,CHKFTL
10994 077472          ERRHRD 626.,ERR012,MSG003
                                TRAP   C$ERRHRD
                                .WORD  626
                                .WORD  ERR012
                                .WORD  MSG003
10995 077502          ESCAPE TST          ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10057
10996
10997 077506          112$:
10998 077506 004737 032320          JSR    PC,CLRDNI     ; CLEAR DNI
10999 077512 103010          BCC   113$          ; IF DNI CLEARED SKIP ERROR REPORT
11000 077514          FTL
                                ; 'FATL' BIT SET?
                                ; ELSE REPORT ERROR
                                TRAP   C$ERRHRD
                                .WORD  627
                                .WORD  ERR006
                                .WORD  MSG003
                                AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10057-
077514 004737 031010          JSR    PC,CHKFTL
11001 077520          ERRHRD 627.,ERR006,MSG003
                                TRAP   C$ERRHRD
                                .WORD  627
                                .WORD  ERR006
                                .WORD  MSG003
11002 077530          ESCAPE TST          ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10057-
11003
11004                                ;ISSUE GET COMMAND FOR READ COUNTERS FUNCTION
11005
11006 077534          113$:
11007 077534 112777 000002 102464      MOVB   #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11008
11009                                ;WAIT FOR DNI BEFORE CONTINUING
11010
11011 077542 004737 030706          JSR    PC,CHKDNI     ; CHECK FOR DNI

```


J11

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TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 346

```

11036 077672 024032
077674 ESCAPE TST ; AND ABORT TEST .WORD MSG003
077674 104410 ; TRAP C$ESCAPE
077676 000620 ; .WORD L10057-.

11037
11038 ;CHECK 1ST RING ENTRY
11039
11040 077700 012705 003016 150$: MOV #TDRX,R5 ; CHECK TDRB OWNERSHIP
11041 077704 004737 031162 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
11042 077710 103010 BCC 160$ ; YES
11043 077712 FTL

077712 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11044 077716 ERRHRD 634.,ERR027 ; NO, REPORT ERROR
077716 104456 TRAP C$ERHRD
077720 001172 .WORD 634
077722 026634 .WORD ERR027
077724 000000 .WORD 0

11045 077726 ESCAPE TST ; AND ABORT TEST
077726 104410 TRAP C$ESCAPE
077730 000566 .WORD L10057 .

11046
11047 077732 012705 020266 160$: MOV #TDR14A,R5 ; POINT TO EXPECTED TDRB
11048 077736 004737 034244 JSR PC,LDXTDR ; LOAD INTO XTDRBO TABLE
11049 077742 012705 003016 MOV #TDRX,R5 ; CHECK TDRB
11050 077746 004737 031636 JSR PC,CHKTDR ; ERRORS ?
11051 077752 103010 BCC 162$ ; NO
11052 077754 FTL

077754 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11053 077760 ERRHRD 635.,ERR033,MSG005 ; YES, REPORT ERROR
077760 104456 TRAP C$ERHRD
077762 001173 .WORD 635
077764 027262 .WORD ERR033
077766 024136 .WORD MSG005

11054 077770 ESCAPE TST ; AND ABORT TEST
077770 104410 TRAP C$ESCAPE
077772 000524 .WORD L10057 .

11055
11056 ;CHECK LAST RING ENTRY
11057
11058 077774 012705 003322 162$: MOV #TDRX+196.,R5 ; CHECK TDRB OWNERSHIP
11059 100000 004737 031162 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
11060 100004 103010 BCC 164$ ; YES
11061 100006 FTL

100006 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11062 100012 ERRHRD 636.,ERR028 ; NO, REPORT ERROR
100012 104456 TRAP C$ERHRD
100014 001174 .WORD 636
100016 026741 .WORD ERR028
100020 000000 .WORD 0

11063 100022 ESCAPE TST ; AND ABORT TEST
100022 104410 TRAP C$ESCAPE

```

```

100024 000472 .WORD L10057 .
11064
11065 100026 012705 020266 164$: MOV #TDR14A,R5 ; POINT TO EXPECTED TDRB
11066 100032 004737 034244 JSR PC,LDXTDR ; LOAD INTO XTDRBO TABLE
11067 100036 012705 003316 MOV #TDRX+192.,R5 ; CHECK TDRB
11068 100042 004737 031636 JSR PC,CHKTDR ; ERRORS ?
11069 100046 103010 BCC 190$ ; NO
11070 100050

100050 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11071 100054 ERRHRD 637.,ERR034,MSG005 ; YES, REPORT ERROR
100054 104456 TRAP C$ERHRD
100056 001175 .WORD 637
100060 027351 .WORD ERR034
100062 024136 .WORD MSG005
11072 100064 ESCAPE TST ; AND ABORT TEST
100064 104410 TRAP C$ESCAPE
100066 000430 .WORD L10057-.

11073
11074 ;CHECK 1ST RING ENTRY
11075
11076 100070 012705 003626 190$: MOV #RDRX,R5 ; CHECK RDRB OWNERSHIP
11077 100074 004737 031162 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
11078 100100 103010 BCC 200$ ; YES
11079 100102

100102 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11080 100106 ERRHRD 640.,ERR030 ; NO, REPORT ERROR
100106 104456 TRAP C$ERHRD
100110 001200 .WORD 640
100112 027047 .WORD ERR030
100114 000000 .WORD 0
11081 100116 ESCAPE TST ; AND ABORT TEST
100116 104410 TRAP C$ESCAPE
100120 000376 .WORD L10057-.

11082
11083 100122 012705 020456 200$: MOV #RDR20C,R5 ; POINT TO EXPECTED RDRB
11084 100126 004737 034214 JSR PC,LXRDR ; LOAD INTO XRDRBO TABLE
11085 100132 012705 003626 MOV #RDRX,R5 ; CHECK RDRB
11086 100136 004737 031344 JSR PC,CHKRDR ; ERRORS ?
11087 100142 103010 BCC 202$ ; NO
11088 100144

100144 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

11089 100150 ERRHRD 641.,ERR036,MSG006 ; YES, REPORT ERROR
100150 104456 TRAP C$ERHRD
100152 001201 .WORD 641
100154 027441 .WORD ERR036
100156 024300 .WORD MSG006
11090 100160 ESCAPE TST ; AND ABORT TEST
100160 104410 TRAP C$ESCAPE
100162 000334 .WORD L10057 .

11091
11092 ;CHECK LAST RING ENTRY

```

L11

```

11093
11094 100164 012705 004132      202$: MOV    #RDRX+196.,R5      ; CHECK RDRB OWNERSHIP
11095 100170 004737 031162      JSR    PC,CHKOWN      ; OWN = PORT DRIVER ?
11096 100174 103010              BCC    204$           ; YES
11097 100176              FTL

      100176 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

11098 100202              ERRHRD  642.,ERR031    ; NO, REPORT ERROR
      100202 104456
      100204 001202              TRAP   C$ERRHRD
      100206 027154              .WORD 642
      100210 000000              .WORD ERR031
      11099 100212              ESCAPE TST           ; AND ABORT TEST
      100212 104410              TRAP   C$ESCAPE
      100214 000302              .WORD L10057 .

11100
11101 100216 012705 020456      204$: MOV    #RDR20C,R5      ; POINT TO EXPECTED RDRB
11102 100222 004737 034214      JSR    PC,LDXRDR      ; LOAD INTO XRDRB0 TABLE
11103 100226 012705 004126      MOV    #RDRX+192.,R5  ; CHECK RDRB
11104 100232 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
11105 100236 103010              BCC    210$           ; NO
11106 100240              FTL

      100240 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

11107 100244              ERRHRD  643.,ERR037,MSG006 ; YES, REPORT ERROR
      100244 104456
      100246 001203              TRAP   C$ERRHRD
      100250 027527              .WORD 643
      100252 024300              .WORD ERR037
      11108 100254              ESCAPE TST           ; AND ABORT TEST
      100254 104410              TRAP   C$ESCAPE
      100256 000240              .WORD L10057-.

11109
11110
11111      ;COMPARE RBUF WITH TBUF
11112
11113 100260 013705 020562      210$: MOV    BYTCNT,R5      ; COMPARE DATA
11114 100264 004737 032646      JSR    PC,CMPDAT      ; DATA COMPARE ERROR ?
11115 100270 103006              BCC    220$           ; NO
11116 100272              ERRHRD  644.,ERR022,MSG007 ; YES, REPORT ERROR
      100272 104456
      100274 001204              TRAP   C$ERRHRD
      100276 026444              .WORD 644
      100300 024442              .WORD ERR022
      11117 100302              ESCAPE TST           ; AND ABORT TEST
      100302 104410              TRAP   C$ESCAPE
      100304 000212              .WORD L10057-.

11118
11119 100306              ;
11120 100306 012705 010474      ;220$: MOV    #RBUF+32,R5      ; OFFSET TO CRC
11121 100312 004737 032576      JSR    PC,CMPCRC      ; ERRORS ?
11122 100316 103006              BCC    225$           ; NO
11123 100320              ERRHRD  645.,ERR023,MSG008 ; YES, REPORT ERROR
      100320 104456
      100322 001205              TRAP   C$ERRHRD
      .WORD 645
  
```


N11

11150 100452
100452 104432
100454 000042

EXIT TST

TRAP C\$EXIT
.WORD L10057-

11151
11152
11153

;LOCAL TEST MESSAGE

11154 100456 104 105 114
100461 125 101 040
100464 123 111 115
100467 125 114 124
100472 101 116 105
100475 117 125 123
100500 040 117 120
100503 105 122 101
100506 124 111 117
100511 116 123 040
100514 000

T25ID: .ASCIZ 'DELUA SIMULTANEOUS OPERATIONS '

11155
11156

.EVEN

11157 100516
100516
100516 104401

ENDTST

L10057: TRAP C\$ETST

11159
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11202
11203

11204 100520
100520
11205
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11207
11208 100520 005737 002222
11209 100524 001006
11210 100526

100526 012704 023070
100532 004737 034610

.SBTTL TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK CONN.)

THIS TEST VERIFIES THAT AN EXTERNAL LOOPBACK OPERATION
CAN BE PERFORMED SUCCESSFULLY.
SELECTION OF THIS TEST, AND THE DETERMINATION OF WETHER,
OR NOT, TEST WILL ISSUE A MESSAGE ASKING OPERATOR TO
INSTALL LOOPBACK CONNECTORS IS BASED ON OPERATOR RESPONSES
TO SOFTWARE P-TABLE QUESTIONS.

OPTIONS:

- 1) DEFAULT (DID NOT CHANGE SOFTWARE P-TABLE), OR
ANSWERED NO FOR "RUN EXTERNAL LOOPBACK TEST?".
ACTION: EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID
MAN. INTERVENTION, INSTALL LOOPBACK NOW", IN
SOFTWARE P-TABLE.
ACTION: IF IN ATTENDED MODE, TEST WILL ASK, ON
FIRST PASS ONLY, TO HAVE LOOPBACK INSTALLED
BEFORE CONTINUING.
IF UAM, WILL ISSUE A MESSAGE, AND SKIP TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN.
INTERVENTION, INSTALL LOOPBACK NOW", IN
SOFTWARE P-TABLE.
ACTION: TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED,
AND WILL RUN WITHOUT OPERATOR INTERVENTION
RECARDLESS OF UAM SELECTION.

NOTE: IF AN EXTERNAL LOOPBACK IS NOT INSTALLED, WHEN ATTEMPTING TO
LOOP EXTERNALLY, TEST WILL FAIL.

TEST SEQUENCE:

- 1. WRITE MODE REGISTER = EXTERNAL LOOPBACK, PROM MODE
- 2. WRITE RING FORMAT
- 3. WRITE PHYSICAL ADDRESS
- 4. SET UP RINGS AND BUFFERS
- 5. ISSUE START
- 6. CHECK FOR ERROR
- 7. ISSUE STOP

BGNTST

T26::

;IS EXTERNAL LOOPBACK OPERATION DESIRED?

TST	EXLOOP	;SELECTED?
BNE	1\$;YES, CONTINUE WITH TEST
PNTMAC	SKIP	;PRINT TEST ID AND REASON FOR SKIP
MOV	#SKIP,R4	;GET POINTER TO TEST NAME MESSAGE
JSR	PC,PNTID	;PRINT TEST NUMBER AND NAME

C12

```

;      END OF MACRO EXPANSION OF 'PNTMAC'
11211 100536      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100536      104432      .WORD   L10060-.
      100540      001636
11212
11213
;*****
11214      ;PRINT TEST NAME      ;BO
11215      ;IF LOOPBACK ALREADY INSTALLED, SKIP CHECK FOR UNATTENDED MODE
11216
11217
11218 100542      1$:
11219 100542      PNTMAC  T26ID
      100542      012704      102344      MOV   #T26ID,R4      ;GET POINTER TO TEST NAME MESSAGE
      100546      004737      034610      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'
11220
11221 100552      005737      002224      TST   LOOPCN      ;LOOPBACK INSTALLED?
11222 100556      001036      BNE   10$      ;YES
11223      ;*****
11224 100560      MANUAL
      100560      104450
11225 100562      BCOMPLETE      5$      ;IF NOT UAM, CONTINUE TEST      TRAP   C$MANI
      100562      103406      BCS   5$
11226 100564      PNTMAC  SKIP26      ;PRINT TEST ID AND REASON FOR SKIP
      100564      012704      023151      MOV   #SKIP26,R4      ;GET POINTER TO TEST NAME MESSAGE
      100570      004737      034610      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'
11227 100574      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100574      104432      .WORD   L10060-.
      100576      001600
11228 100600      5$:
11229
;NOTIFY OPERATOR TO INSTALL LOOPBACK UNIT, IF FIRST PASS      ;BO
11230
11231      TST   FRSTIM      ;FIRST PASS?      ;BO
11232 100600      005737      020614      BEQ   10$      ;NO, SKIP MESSAGE      ;BO
11233 100604      001423
11234
11235 100606      7$:
11236 100606      PRINTF  #MSG1      ;PRINT OPERATOR MESSAGE, AND WAIT
      100606      012746      022572      MOV   #MSG1,-(SP)
      100612      012746      000001      MOV   #1,-(SP)
      100616      010600      MOV   SP,R0
      100620      104417      TRAP  C$PNTF
      100622      062706      000004      ADD   #4,SP
11237
11238      ;FOR HIS RESPONSE
      100626      104443      GMANIL  MNMSG1,REPLY,0,NO      ;BO
      100630      000404      TRAP  C$GMAN
      100632      020624      BR    10000$
      100634      000120      .WORD  REPLY
      .WORD  T$CODE

```


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100636	022774									.WORD	MMMSG1
100640	000000									.WORD	0
100642											
11239											
11240											
11241	100642										
	100642	103361									
11242	100644	022737	000001	020624							
11243	100652	001355									
11244	100654				10\$:						
11245	100654	004737	035310								
11246	100660	103034									
11247	100662	012777	004100	101336							
11248	100670	112777	000140	101330							
11249	100676	004737	032034								
11250	100702	103010									
11251	100704										
	100704	004737	031010								
11252	100710										
	100710	104456									
	100712	001213									
	100714	030105									
	100716	024032									
11253	100720										
	100720	104410									
	100722	001454									
11254											
11255	100724	004737	032320		20\$:						
11256											
11257	100730	103010									
11258	100732										
	100732	004737	031010								
11259	100736										
	100736	104456									
	100740	001214									
	100742	025124									
	100744	024032									
11260	100746										
	100746	104410									
	100750	001426									
11261											
11262	100752				30\$:						
11263	100752	004737	032246								
11264	100756	004737	033606								
11265	100762	004737	033706								
11266	100766	012777	004100	101232							
11267	100774	112777	000101	101224							
11268	101002	004737	030706								
11269	101006	103010									
11270	101010										
	101010	004737	031010								

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TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

SEQ 354

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11271 101014          ERRHRD  653.,ERR009,MSG003      ; NO, REPORT ERROR
      101014 104456
      101016 001215
      101020 025341
      101022 024032
      11272 101024          ESCAPE  TST              ; AND ABORT TEST
      101024 104410
      101026 001350
      11273
11274 101030 004737 032320      ; 40$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11275
11276 101034 103010          BCC      50$              ; ERROR ?
11277 101036          FTL
      101036 004737 031010          JSR      PC,CHKFTL         ; 'FATL' BIT SET?
      11278 101042          ERRHRD  654.,ERR006,MSG003      ; YES, REPORT ERROR
      101042 104456
      101044 001216
      101046 025124
      101050 024032
      11279 101052          ESCAPE  TST              ; AND ABORT TEST
      101052 104410
      101054 001322
      11280
      11281      ;WRITE MODE REGISTER = EXTERNAL LOOPBACK AND PROM MODE
      11282
11283 101056 012705 014632      50$:  MOV      #WTHMOD3,R5          ; DEFAULT WRITE MODE FUNCTION
11284 101062 004737 033656      JSR      PC,LDPCCB         ; LOAD FUNCTION -> PCBB
11285 101066 012777 004100 101132  MOV      #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
11286 101074 112777 000102 101124  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11287 101102 004737 030706      JSR      PC,CHKDNI        ; DNI ?
11288 101106 103010          BCC      60$              ; YES
11289 101110          FTL
      101110 004737 031010          JSR      PC,CHKFTL         ; 'FATL' BIT SET?
      11290 101114          ERRHRD  655.,ERR010,MSG003      ; NO, REPORT ERROR
      101114 104456
      101116 001217
      101120 025425
      101122 024032
      11291 101124          ESCAPE  TST              ; AND ABORT TEST
      101124 104410
      101126 001250
      11292
11293 101130 004737 032320      ; 60$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11294
11295 101134 103010          BCC      70$              ; ERROR ?
11296 101136          FTL
      101136 004737 031010          JSR      PC,CHKFTL         ; 'FATL' BIT SET?
      11297 101142          ERRHRD  656.,ERR006,MSG003      ; YES, REPORT ERROR
      101142 104456
      101144 001220
      101146 025124

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TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

SEQ 355

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101150 024032
11298 101152          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      101152 104410
      101154 001222
      TRAP   C$ESCAPE
      .WORD  L10060 .
11299
11300          ;WRITE RING FORMAT
11301
11302 101156 012705 014542      70$:  MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
11303 101162 004737 033656      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
11304 101166 012705 014706      MOV    #RFRMT,R5         ; DEFAULT RING FORMAT
11305 101172 012700 000006      MOV    #6,R0             ; FORMAT = SIX WORDS
11306 101176 004737 034134      JSR    PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
11307 101202 012777 004100 101016  MOV    #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
11308 101210 112777 000102 101010  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11309 101216 004737 030706      JSR    PC,CHKDNI         ; DNI ?
11310 101222 103010      BCC    80$              ; YES
11311 101224
      FTL
      101224 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
11312 101230          ERRHRD 657.,ERR010,MSG003      ; NO, REPORT ERROR
      101230 104456
      101232 001221
      101234 025425
      101236 024032
      TRAP   C$ERHRD
      .WORD  657
      .WORD  ERR010
      .WORD  MSG003
11313 101240          ESCAPE TST          ; AND ABORT TEST
      101240 104410
      101242 001134
      TRAP   C$ESCAPE
      .WORD  L10060-.
11314
11315 101244 004737 032320      80$:  JSR    PC,CLRDN1         ; WRITE ONE TO CLEAR DNI
11316
      BCC    90$           ; ERROR ?
11317 101250 103010
      FTL
      ; NO
      101252 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
11319 101256          ERRHRD 658.,ERR006,MSG003      ; YES, REPORT ERROR
      101256 104456
      101260 001222
      101262 025124
      101264 024032
      TRAP   C$ERHRD
      .WORD  658
      .WORD  ERR006
      .WORD  MSG003
11320 101266          ESCAPE TST          ; AND ABORT TEST
      101266 104410
      101270 001106
      TRAP   C$ESCAPE
      .WORD  L10060-.
11321
11322          ;WRITE PHYSICAL ADDRESS
11323
11324 101272      90$:  MOV    #DEFAULT,R5         ; GET DEFAULT PHYSICAL ADDRESS
11325 101272 012705 002274      JSR    PC,LDPHYA         ; PLACE IT IN DATA TABLE
11326 101276 004737 033724      MOV    #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
11327 101302 012705 014502      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
11328 101306 004737 033656      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
11329 101312 012777 004100 100706  MOV    #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
11330 101320 112777 000102 100700  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11331 101326 004737 030706      JSR    PC,CHKDNI         ; DNI ?
11332 101332 103010      BCC    100$            ; YES
11333 101334
      FTL

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101334 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11334 101340      ERRHRD 660.,ERR010,MSG003 ; NO, REPORT ERROR
101340 104456      TRAP   C$ERHRD
101342 001224      .WORD 660
101344 025425      .WORD  ERR010
101346 024032      .WORD  MSG003
11335 101350      ESCAPE TST           ; AND ABORT TEST
101350 104410      TRAP   C$ESCAPE
101352 001024      .WORD  L10060-.
11336
11337 101354 004737 032320      ;
11338      ;100$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
11339 101360 103010      BCC    110$          ; ERROR ?
11340 101362      FTL                ; NO
101362 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11341 101366      ERRHRD 661.,ERR006,MSG003 ; YES, REPORT ERROR
101366 104456      TRAP   C$ERHRD
101370 001225      .WORD 661
101372 025124      .WORD  ERR006
101374 024032      .WORD  MSG003
11342 101376      ESCAPE TST           ; AND ABORT TEST
101376 104410      TRAP   C$ESCAPE
101400 000776      .WORD  L10060 .
11343
11344      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
11345
11346 101402 012705 016412      ;110$: MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
11347 101406 004737 034040      JSR    PC,LDTDRB      ; LOAD TDRB
11348 101412 012705 014752      MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
11349 101416 004737 033744      JSR    PC,LDRDRB      ; LOAD RDRB
11350
11351      ;SET UP BUFFERS AND START
11352
11353 101422 005037 020564      CLR    D0CRC          ; NO APPEND CRC
11354 101426 012737 000006 020562  MOV    #6,BYTCNT      ; DATA BYTE COUNT
11355 101434 004737 034662      JSR    PC,SETBUF      ; SET UP BUFFERS
11356
11357      ;INSURE SOURCE AND DESTINATION ADDRESSES = DEFAULT PHYSICAL ADDRESS
11358
11359 101440 012737 000004 002302  MOV    #4,PCBB        ; READ DEFAULT PHYSICAL ADDRESS
11360 101446 012777 004100 100552  MOV    #DNI!INTE,@PCSRO ; PRECONDITION INTR ENABLE
11361 101454 112777 000102 100544  MOVB  #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
11362 101462 004737 030706      JSR    PC,CHKDNI      ; DNI?
11363 101466 103010      BCC    112$          ; YES
11364 101470      FTL
101470 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11365 101474      ERRHRD 662.,ERR012,MSG003
101474 104456      TRAP   C$ERHRD
101476 001226      .WORD 662
101500 025543      .WORD  ERR012
101502 024032      .WORD  MSG003

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 TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

SEQ 357

```

11366 101504          ESCAPE TST
      101504 104410
      101506 000670
11367 101510          112$:
11368 101510 004737 032320      JSR    PC,CLRDNI      ; CLEAR DNI
11369 101514 103010          BCC    114$
11370 101516 004737 031010      JSR    PC,CHKFTL     ; CHECK FOR FATL BIT SET
11371 101522          ERRHRD 663.,ERR006,MSG003
      101522 104456
      101524 001227
      101526 025124
      101530 024032
11372 101532          ESCAPE TST          ; EXIT TEST
      101532 104410
      101534 000642
11373 101536          114$:
11374
11375          ;LOAD DEFAULT PHYSICAL ADDRESS INTO SOURCE AND DESTINATION ADDRESS
11376
11377 101536 012700 000002      MOV    #2,R0          ; INIT COUNTER
11378 101542 012701 004440      MOV    #TBUF,R1      ; BASE ADDRESS OF XMIT BUFFER
11379 101546          116$:
11380 101546 013721 002304      MOV    PCBB+2,(R1)+   ; READ OUT
11381 101552 013721 002306      MOV    PCBB+4,(R1)+   ;   PHYSICAL
11382 101556 013721 002310      MOV    PCBB+6,(R1)+   ;   ADDRESS
11383 101562 077007          SOB    R0,116$       ; DO TWICE
11384
11385          ;SEND PACKET
11386
11387 101564 012777 004100 100434      MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
11388 101572 112777 000104 100426      MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
11389 101600 004737 030706          JSR    PC,CHKDNI     ; DNI?
11390 101604 103010          BCC    120$
11391 101606          FTL
      101606 004737 031010          JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11392 101612          ERRHRD 664.,ERR012,MSG003 ; NO, REPORT ERROR
      101612 104456
      101614 001230
      101616 025543
      101620 024032
11393 101622          ESCAPE TST          ; AND ABORT TEST
      101622 104410
      101624 000552
11394
11395 101626 004737 032320          120$: JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
11396
11397 101632 103010          BCC    130$
11398 101634          FTL
      101634 004737 031010          JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11399 101640          ERRHRD 665.,ERR006,MSG003 ; YES, REPORT ERROR
      101640 104456
      101642 001231
      101644 025124

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11400	101646	024032								.WORD	MSG003
	101650			ESCAPE	TST			; AND ABORT TEST		TRAP	C\$ESCAPE
	101650	104410								.WORD	L10060 .
	101652	000524									
11401											
11402	101654	004737	031724	i30\$:	JSR	PC,CHKTXI		; TXI ?			
11403	101660	103010				140\$; YES			
11404	101662				FTL						
	101662	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
11405	101666				ERRHRD	666.,ERR013,MSG003		; NO, REPORT ERROR		TRAP	C\$ERHRD
	101666	104456								.WORD	666
	101670	001232								.WORD	ERR013
	101672	025624								.WORD	MSG003
	101674	024032									
11406	101676				ESCAPE	TST		; AND ABORT TEST		TRAP	C\$ESCAPE
	101676	104410								.WORD	L10060-.
	101700	000476									
11407											
11408	101702	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI			
11409								; ERROR ?			
11410	101706	103010			BCC	150\$; NO			
11411	101710				FTL						
	101710	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
11412	101714				ERRHRD	667.,ERR014,MSG003		; YES, REPORT ERROR		TRAP	C\$ERHRD
	101714	104456								.WORD	667
	101716	001233								.WORD	ERR014
	101720	025655								.WORD	MSG003
	101722	024032									
11413	101724				ESCAPE	TST		; AND ABORT TEST		TRAP	C\$ESCAPE
	101724	104410								.WORD	L10060 .
	101726	000450									
11414											
11415	101730	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP			
11416	101734	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRTVER ?			
11417	101740	103010			BCC	160\$; YES			
11418	101742				FTL						
	101742	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
11419	101746				ERRHRD	668.,ERR018		; NO, REPORT ERROR		TRAP	C\$ERHRD
	101746	104456								.WORD	668
	101750	001234								.WORD	ERR018
	101752	026122								.WORD	0
	101754	000000									
11420	101756				ESCAPE	TST		; AND ABORT TEST		TRAP	C\$ESCAPE
	101756	104410								.WORD	L10060-.
	101760	000416									
11421											
11422	101762	012705	020266	i60\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB			
11423	101766	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE			
11424	101772	012705	002622		MOV	#TDRB,R5		; CHECK TDRB			
11425	101776	004737	031636		JSR	PC,CHKTDR		; ERRORS ?			
11426	102002	103010			BCC	170\$; NO			

11427	102004			FTL					
	102004	004737	031010	JSR	PC,CHKFTL			; 'FATL' BIT SET?	
11428	102010			ERRHRD	670.,ERR020,MSG005			; YES, REPORT ERROR	
	102010	104456					TRAP	C\$ERHRD	
	102012	001236					.WORD	670	
	102014	026302					.WORD	ERR020	
	102016	024136					.WORD	MSG005	
11429	102020			ESCAPE	TST			; AND ABORT TEST	
	102020	104410					TRAP	C\$ESCAPE	
	102022	000354					.WORD	L10060	
11430									
11431	102024	004737	031454	i170\$: JSR	PC,CHKRXI			; RXI ?	
11432	102030	103010		BCC	180\$; YES	
11433	102032			FTL					
	102032	004737	031010	JSR	PC,CHKFTL			; 'FATL' BIT SET?	
11434	102036			ERRHRD	671.,ERR015,MSG003			; NO, REPORT ERROR	
	102036	104456					TRAP	C\$ERHRD	
	102040	001237					.WORD	671	
	102042	025723					.WORD	ERR015	
	102044	024032					.WORD	MSG003	
11435	102046			ESCAPE	TST			; AND ABORT TEST	
	102046	104410					TRAP	C\$ESCAPE	
	102050	000326					.WORD	L10060	
11436									
11437	102052	004737	032434	i180\$: JSR	PC,CLRRXI			; WRITE ONE TO CLEAR RXI	
11438								; ERROR ?	
11439	102056	103010		BCC	190\$; NO	
11440	102060			FTL					
	102060	004737	031010	JSR	PC,CHKFTL			; 'FATL' BIT SET?	
11441	102064			ERRHRD	672.,ERR016,MSG003			; YES, REPORT ERROR	
	102064	104456					TRAP	C\$ERHRD	
	102066	001240					.WORD	672	
	102070	025754					.WORD	ERR016	
	102072	024032					.WORD	MSG003	
11442	102074			ESCAPE	TST			; AND ABORT TEST	
	102074	104410					TRAP	C\$ESCAPE	
	102076	000300					.WORD	L10060	
11443									
11444	102100	012705	002662	i190\$: MOV	#RDRB,R5			; CHECK RDRB OWNERSHIP	
11445	102104	004737	031162	JSR	PC,CHKOWN			; OWN = PORT DRIVER ?	
11446	102110	103010		BCC	200\$; YES	
11447	102112			FTL					
	102112	004737	031010	JSR	PC,CHKFTL			; 'FATL' BIT SET?	
11448	102116			ERRHRD	673.,ERR017			; NO, REPORT ERROR	
	102116	104456					TRAP	C\$ERHRD	
	102120	001241					.WORD	673	
	102122	026022					.WORD	ERR017	
	102124	000000					.WORD	0	
11449	102126			ESCAPE	TST			; AND ABORT TEST	

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102126	104410						TRAP	C\$ESCAPE
102130	000246						.WORD	L10060 .
11450								
11451	102132	012705	020456	200\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
11452	102136	004737	034214		JSR	PC,LDRDR		; LOAD INTO XRDRBO TABLE
11453	102142	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
11454	102146	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
11455	102152	103010			BCC	210\$; NO
11456	102154				FTL			
	102154	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
11457	102160				ERRHRD	674.,ERR021,MSG006		; YES, REPORT ERROR
	102160	104456					TRAP	C\$ERHRD
	102162	001242					.WORD	674
	102164	026363					.WORD	ERR021
	102166	024300					.WORD	MSG006
11458	102170				ESCAPE	TST		; AND ABORT TEST
	102170	104410					TRAP	C\$ESCAPE
	102172	000204					.WORD	L10060-.
11459								
11460								
11461								
11462	102174	013705	020562	210\$:	MOV	BYTCNT,R5		; NUMBER OF DATA COMPARES
11463	102200	004737	032646		JSR	PC,CMPDAT		; DATA COMPARE ERROR ?
11464	102204	103006			BCC	220\$; NO
11465	102206				ERRHRD	675.,ERR022,MSG007		; YES, REPORT ERROR
	102206	104456					TRAP	C\$ERHRD
	102210	001243					.WORD	675
	102212	026444					.WORD	ERR022
	102214	024442					.WORD	MSG007
11466	102216				ESCAPE	TST		; AND ABORT TEST
	102216	104410					TRAP	C\$ESCAPE
	102220	000156					.WORD	L10060-.
11467								
11468	102222			220\$:				
11469	102222	012705	010474		MOV	#RBUF+32,R5		; BASE ADDRESS
11470								; OFFSET TO CRC
11471	102226	004737	032576		JSR	PC,CMPCRC		; ERRORS ?
11472	102232	103006			BCC	230\$; NO
11473	102234				ERRHRD	676.,ERR023,MSG008		; YES, REPORT ERROR
	102234	104456					TRAP	C\$ERHRD
	102236	001244					.WORD	676
	102240	026513					.WORD	ERR023
	102242	024474					.WORD	MSG008
11474	102244				ESCAPE	TST		; AND ABORT TEST
	102244	104410					TRAP	C\$ESCAPE
	102246	000130					.WORD	L10060-.
11475								
11476	102250	012777	004100	077750	230\$:	MOV	#DNI!INTE,@PCSR0	; PRECONDITION INTR EN.
11477	102256	112777	000117	077742	MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND
11478	102264	004737	030706		JSR	PC,CHKDNI		; DNI ?
11479	102270	103010			BCC	240\$; YES
11480	102272				FTL			
	102272	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?

L12

```

11481 102276          ERRHRD  677.,ERR019,MSG003      ; NO, REPORT ERROR
      102276 104456
      102300 001245
      102302 026222
      102304 024032
11482 102306          ESCAPE  TST                  ; AND ABORT TEST
      102306 104410
      102310 000066
11483
11484 102312 004737 032320      ;240$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11485
11486 102316 103010          BCC    250$                ; ERROR ?
11487 102320          FTL
      102320 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11488 102324          ERRHRD  680.,ERR006,MSG003      ; YES, REPORT ERROR
      102324 104456
      102326 001250
      102330 025124
      102332 024032
11489 102334          ESCAPE  TST                  ; AND ABORT TEST
      102334 104410
      102336 000040
11490 102340          ;250$:
11491
11492 102340          EXIT    TST
      102340 104432
      102342 000034
11493
11494          ;LOCAL TEST MESSAGE
11495
11496 102344      104      105      114  T26ID:..ASCIZ 'DELUA EXTERNAL LOOPBACK '
      102347      125      101      040
      102352      105      130      124
      102355      105      122      116
      102360      101      114      040
      102363      114      117      117
      102366      120      102      101
      102371      103      113      040
      102374      000
11497          .EVEN
11498
11499 102376          ENDTST
      102376
      102376 104401
      L10060: TRAP    C$ETST

```

```

11501
11502
11503
11504
11505
11506
11507
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11510
11511
11512
11513
11514
11515
11516
11517 102400
11518 102400 005737 020614
11519 102404 001006
11520 102406
11521 102416
11522 102416 104432
11523 102420 001136
11524 102422
11525 102422 012704 103454
11526 102426 004737 034610
11527 102432 004737 035310
11528 102436 103034
11529 102440 012777 004100 077560
11530 102446 112777 000140 077552
11531 102454 004737 032034
11532 102460 103010
11533 102462 004737 031010
11534 102466
11535 102466 104456
11536 102470 001251
11537 102472 030105
11538 102474 024032
11539 102476
11540 102476 104410
11541 102500 001056
    
```

```

.SBTTL TEST 27: PRNT DEVIC PARAMETERS TEST
;*****
;
; THIS TEST PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
; REVISION AND THE SWITCH PACK SETTINGS.
;
; TEST SEQUENCE:
; 1. READ DEFAULT PHYSICAL ADDRESS
; 2. READ MICROCODE REVISION
; 3. READ SWITCH PACK SETTINGS
; 4. PRINT
;*****
    BGNTST
    TST FRSTIM ; RUN THIS TEST ?
    BNE 5$ ; YES
    PNTMAC T27SKP
    MOV #T27SKP,R4 ;GET POINTER TO TEST NAME MESSAGE
    JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
    EXIT TST ; NO, EXIT
;
; TRAP C$EXIT
; .WORD L10061-.
;
; 5$:
;
; PNTMAC T27ID
;
; MOV #T27ID,R4 ;GET POINTER TO TEST NAME MESSAGE
; JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
;
; JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
; BCC 30$ ; NO
; MOV #DNT!INTE,@PCSR0 ; ENABLE INTERRUPTS
; MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
; JSR PC,CKDNI ; DNI ?
; BCC 20$ ; YES
; FTL
;
; JSR PC,CHKFTL ; 'FATL' BIT SET?
;
; ERRHRD 681.,ERR042,MSG003 ; NO, REPORT ERROR
;
; TRAP C$ERHRD
; .WORD 681
; .WORD ERR042
; .WORD MSG003
;
; ESCAPE TST ; AND ABORT TEST
;
; TRAP C$ESCAPE
; .WORD L10061-.
    
```

N12

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TEST 27: PRINT DEVICE PARAMETERS TEST

SEQ 363

```

11534
11535 102502 004737 032320      ;20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11536                                     ; ERROR ?
11537 102506 103010                                     ; NO
11538 102510
                                     JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                     ERRHRD 682.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP  C$ERRHRD
11539 102514                                     .WORD 682
102514 104456                                     .WORD ERR006
102516 001252                                     .WORD MSG003
102520 025124
102522 024032
11540 102524 ESCAPE TST      ; AND ABORT TEST
102524 104410                                     TRAP  C$ESCAPE
102526 001030                                     .WORD L10061-.
11541
11542 102530 004737 033706      ;30$: JSR    PC,LDPCSR      ; ADDRESS OF PCBB > PCSR2!3
11543 102534 012777 004100 077464 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
11544 102542 112777 000101 077456 MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
11545 102550 004737 030706 JSR    PC,CHKDNI      ; DNI?
11546 102554 103010 BCC    40$           ; YES
11547 102556
                                     FTL
                                     JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                     ERRHRD 683.,ERR009,MSG003 ; NO, REPORT ERROR
                                     TRAP  C$ERRHRD
11548 102562                                     .WORD 683
102562 104456                                     .WORD ERR009
102564 001253                                     .WORD MSG003
102566 025341
102570 024032
11549 102572 ESCAPE TST      ; AND ABORT TEST
102572 104410                                     TRAP  C$ESCAPE
102574 000762                                     .WORD L10061-.
11550
11551 102576 004737 032320      ;40$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11552                                     ; ERROR ?
11553 102602 103010 BCC    50$           ; NO
11554 102604
                                     FTL
                                     JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                     ERRHRD 684.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP  C$ERRHRD
11555 102610                                     .WORD 684
102610 104456                                     .WORD ERR006
102612 001254                                     .WORD MSG003
102614 025124
102616 024032
11556 102620 ESCAPE TST      ; AND ABORT TEST
102620 104410                                     TRAP  C$ESCAPE
102622 000734                                     .WORD L10061.
11557
11558                                     ;READ DEFAULT PHYSICAL ADDRESS
11559
11560 102624 012705 014462      ;50$: MOV    #RDDEFA,R5      ; READ DEFAULT PHYA FUNCTION
11561 102630 004737 033656 JSR    PC,LDPCCBB      ; LOAD FUNCTION > PCBB
11562 102634 012777 004100 077364 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
11563 102642 112777 000102 077356 MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND

```

B13

```

11564 102650 004737 030706      JSR    PC,CHKDNI      ; DNI ?
11565 102654 103010      BCC    60$           ; YES
11566 102656
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 685.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERRHRD
                                .WORD   685
                                .WORD   ERR010
                                .WORD   MSG003
11567 102662
                                102662 104456
                                102664 001255
                                102666 025425
                                102670 024032
11568 102672      ESCAPE TST      ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10061-.
                                102674 104410
                                102674 000662
11569
11570 102676 004737 032320      60$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11571      BCC    70$           ; ERROR ?
11572 102702 103010      FTL
11573 102704
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 686.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERRHRD
                                .WORD   686
                                .WORD   ERR006
                                .WORD   MSG003
11574 102710
                                102710 104456
                                102712 001256
                                102714 025124
                                102716 024032
11575 102720      ESCAPE TST      ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10061-.
                                102720 104410
                                102722 000634
11576
11577      ;MOVE DEFAULT PHYSICAL ADDRESS FROM PCBB -> DPA
11578
11579 102724 013737 002304 103560 70$: MOV    PCBB+2,DPA
11580 102732 013737 002306 103562      MOV    PCBB+4,DPA+2
11581 102740 013737 002310 103564      MOV    PCBB+6,DPA+4
11582
11583      ;LOAD ASCII MESSAGE (DEFADR)
11584
11585 102746 004737 033112      JSR    PC,HEXDPA      ; CONVERT TO ASCII HEX
11586
11587      ;READ MICROCODE REVISION
11588
11589 102752 012705 014646      100$: MOV    #R0STA,R5      ; READ PORT STATUS FUNCTION
11590 102756 004737 033656      JSR    PC,LDP0CBB     ; LOAD FUNCTION -> PCBB
11591 102762 012777 004100 077236  MOV    #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
11592 102770 112777 000102 077230  MOV0B #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
11593 102776 004737 030706      JSR    PC,CHKDNI      ; DNI ?
11594 103002 103010      BCC    110$          ; YES
11595 103004
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 687.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERR HRD
                                .WORD   687
                                .WORD   ERR010
11596 103010
                                103010 104456
                                103012 001257
                                103014 025425

```

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TEST 27: PRINT DEVICE PARAMETERS TEST

SEQ 365

```

11597 103016 024032
103020          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
103020 104410          ;                               TRAP C$ESCAPE
103022 000534          ;                               .WORD L10061-.

11598
11599 103024 004737 032320      ;110$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11600          ;                               ; ERROR ?
11601 103030 103010          BCC 120$          ; NO
11602 103032          FTL

          103032 004737 031010      JSR PC,CHKFTL          ; 'FATL' BIT SET?

11603 103036          ERRHRD 690.,ERR006,MSG003      ; YES, REPORT ERROR
103036 104456          ;                               TRAP C$ERHRD
103040 001262          ;                               .WORD 690
103042 025124          ;                               .WORD ERR006
103044 024032          ;                               .WORD MSG003
11604 103046          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
103046 104410          ;                               .WORD L10061 .
103050 000506          ;

11605          ;MOVE MICROCODE REVISION FROM PCBB -> RREV
11606          ;
11607          ;
11608 103052 013737 002304 103566 120$: MOV PCBB+2,RREV
11609 103060 042737 177700 103566      BIC #177700,RREV          ; MASK RREV
11610          ;
11611          ;READ SWITCH PACK
11612          ;
11613 103066 012705 014666      130$: MOV #DMPMEM,R5          ; DEFAULT DUMP INTERNAL MEMORY
11614 103072 004737 033656      JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11615 103076 012705 020502      MOV #UDB28A,R5          ; DEFAULT UDBB
11616 103102 012700 000005      MOV #5,R0              ; FIVE WORDS
11617 103106 004737 034134      JSR PC,LDUDBB          ; LOAD INTO UDBB
11618 103112 012737 103570 002314      MOV #SWPACK,UDBB+2      ; LOAD ADDRESS
11619 103120 012737 000002 002320      MOV #2,UDBB+6          ; LOAD INTERNAL
11620 103126 012737 000030 002322      MOV #30,UDBB+10        ; ADDRESS (6000002 OCTAL)
11621 103134 012777 004100 077064      MOV #DNI:INTE,@PCSRO    ; ENABLE INTERRUPTS
11622 103142 112777 000102 077056      MOVB #INTE!GETCMD,@PCSRO ; ISSUE GET COMMAND PORT COMMAND
11623 103150 004737 030706      JSR PC,CHKDNI          ; DNI ?
11624 103154 103010          BCC 140$          ; YES
11625 103156          FTL

          103156 004737 031010      JSR PC,CHKFTL          ; 'FATL' BIT SET?

11626 103162          ERRHRD 691.,ERR010,MSG003      ; NO, REPORT ERROR
103162 104456          ;                               TRAP C$ERHRD
103164 001263          ;                               .WORD 691
103166 025425          ;                               .WORD ERR010
103170 024032          ;                               .WORD MSG003
11627 103172          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
103172 104410          ;                               .WORD L10061 .
103174 000362          ;

11628
11629 103176 004737 032320      ;140$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11630          ;                               ; ERROR ?
11631 103202 103010          BCC 150$          ; NO
11632 103204          FTL

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103204 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
11633 103210          ERRHRD  692.,ERR006,MSG003 ; YES, REPORT ERROR
103210 104456          TRAP    C$ERRRD
103212 001264          .WORD  692
103214 025124          .WORD  ERR006
103216 024032          .WORD  MSG003
11634 103220          ESCAPE  TST          ; AND ABORT TEST
103220 104410          TRAP    C$ESCAPE
103222 000334          .WORD  L10061
11635
11636          ;GET SWITCH PACK INFO READY TO PRINT
11637
11638 103224 013704 103570 150$: MOV      SWPACK,R4          ; SWITCH PACK -> R4
11639 103230 005704          TST      R4              ; MFG MODE ENABLED?
11640 103232 100404          BMI     160$            ; YES
11641 103234 012737 103756 103572 MOV     #LPMSG0,LPMMSG ; POINT TO MFG MODE DISABLED MSG ;B0
11642 103242 000403          BR      170$            ; SKIP DISABLED MSG
11643 103244 012737 104033 103572 160$: MOV     #LPMSG1,LPMMSG ; POINT TO MFG MODE ENABLED MSG ;B0
11644 103252 013704 103570 170$: MOV     SWPACK,R4          ; SWITCH PACK -> R4
11645 103256 042704 117777 BIC     #117777,R4       ; MASK BITS 14 AND 13
11646 103262 012700 000014 MOV     #12.,R0          ; SHIFT BITS FOR INDEX
11647 103266 006204          180$: ASR     R4              ;
11648 103270 005300          DEC     R0              ;
11649 103272 001375          BNE     180$            ;
11650 103274 062704 103714 ADD     #BTBL,R4          ; INDEX INTO BOOT TABLE
11651 103300 011437 103574 MOV     (R4),BTMSG       ; LOAD INTO BOOT MESSAGE
11652
11653          ; PRINT
11654          ;
11655 103304          PRINTB  #FRM015,#DEFHDR ; PRINT DEFAULT PHYSICAL ADDRESS
103304 012746 103600          MOV     #DEFHDR,-(SP)
103310 012746 022201          MOV     #FRM015,-(SP)
103314 012746 000002          MOV     #2,-(SP)
103320 010600          MOV     SP,R0
103322 104414          TRAP   C$PNTB
103324 062706 000006          ADD     #6,SP
11656 103330          PRINTB  #FRM016,RREV    ; PRINT MICROCODE REV
103330 013746 103566          MOV     RREV,-(SP)
103334 012746 022206          MOV     #FRM016,-(SP)
103340 012746 000002          MOV     #2,-(SP)
103344 010600          MOV     SP,R0
103346 104414          TRAP   C$PNTB
103350 062706 000006          ADD     #6,SP
11657 103354          PRINTB  #FRM015,#SWHDR  ; PRINT SWITCH PACK HEADER
103354 012746 103724          MOV     #SWHDR,-(SP)
103360 012746 022201          MOV     #FRM015,-(SP)
103364 012746 000002          MOV     #2,-(SP)
103370 010600          MOV     SP,R0
103372 104414          TRAP   C$PNTB
103374 062706 000006          ADD     #6,SP
11658 103400          PRINTB  #FRM015,LPMMSG ; PRINT LOOPBACK MESSAGE
103400 013746 103572          MOV     LPMMSG,-(SP)
103404 012746 022201          MOV     #FRM015,-(SP)
103410 012746 000002          MOV     #2,-(SP)
103414 010600          MOV     SP,R0
    
```

E13

SEQ 367

103416 104414
103420 062706 000006
11659 103424
103424 013746 103574
103430 012746 022201
103434 012746 000002
103440 010600
103442 104414
103444 062706 000006

PRINTB #FRM015,BTMSG ; PRINT BOOT MESSAGE

TRAP C#PNTB
ADD #6,SP
MOV BTMSG,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #6,SP

11660
11661 103450
11662 103450
103450 104432
103452 000104

;250\$:
EXIT TST

TRAP C#EXIT
.WORD L10061-

11663
11664
11665

;LOCAL TEST MESSAGES

11666 103454 104 105 114
103457 125 101 040
103462 120 122 111
103465 116 124 040
103470 104 105 126
103473 111 103 105
103476 040 120 101
103501 122 101 115
103504 105 124 105
103507 122 040 000

T27ID:.ASCIZ 'DELUA PRINT DEVICE PARAMETER '

11667

.EVEN
T27SKP:.ASCIZ 'THIS TEST PERFORMED 1ST PASS ONLY '

11668 103512 124 110 111
103515 123 040 124
103520 105 123 124
103523 040 120 105
103526 122 106 117
103531 122 115 105
103534 104 040 061
103537 123 124 040
103542 120 101 123
103545 123 040 117
103550 116 114 131
103553 040 000

11669

.EVEN
ENDTST

11670 103556
103556
103556 104401

L10061:
TRAP C#ETST

F13

```

11672                ;LOCAL STORAGE FOR TEST 27
11673 103560 000000   DPA:                .WORD 0                ; DEFAULT PHYSICAL ADDRESS (15:00)
11674 103562 000000                .WORD 0                ; DEFAULT PHYSICAL ADDRESS (31:16)
11675 103564 000000                .WORD 0                ; DEFAULT PHYSICAL ADDRESS (47:32)
11676                ;
11677 103566 000000   RREV:                .WORD 0                ; MICROCODE REVISION
11678                ;
11679 103570 000000   SWPACK: .WORD 0                ; SWITCH PACK CONTENTS
11680 103572 000000   LPMSG:                .WORD 0                ; LOOPBACK MESSAGE ADDRESS
11681 103574 000000   BTMSG:                .WORD 0                ; BOOT MESSAGE ADDRESS
11682                ;
11683 103576 000      HEXDAT: .BYTE 0                ; HEX DATA FOR CONVERSION
11684 103577 000      HEXVAL: .BYTE 0                ; ASCII HEX VALUE
11685                ;
11686 103600 015 012 105 DEFHDR: .ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX): /
      103603 124 110 105
      103606 122 116 105
      103611 124 040 104
      103614 105 106 101
      103617 125 114 124
      103622 040 101 104
      103625 104 122 105
      103630 123 123 040
      103633 050 110 105
      103636 130 051 072
      103641 040 040
11687 103643 040 040 DEFADR: .ASCII / /
11688 103645 055      .ASCII /-/
11689 103646 040 040      .ASCII / /
11690 103650 055      .ASCII /-/
11691 103651 040 040      .ASCII / /
11692 103653 055      .ASCII /-/
11693 103654 040 040      .ASCII / /
11694 103656 055      .ASCII /-/
11695 103657 040 040      .ASCII / /
11696 103661 055      .ASCII /-/
11697 103662 040 040      .ASCII / /
11698 103664 015 012 000      .ASCIZ <15><12>
11699                ;
11700 103667 060      HEXTBL: .ASCII /0/
11701 103670 061      .ASCII /1/
11702 103671 062      .ASCII /2/
11703 103672 063      .ASCII /3/
11704 103673 064      .ASCII /4/
11705 103674 065      .ASCII /5/
11706 103675 066      .ASCII /6/
11707 103676 067      .ASCII /7/
11708 103677 070      .ASCII /8/
11709 103700 071      .ASCII /9/
11710 103701 101      .ASCII /A/
11711 103702 102      .ASCII /B/
11712 103703 103      .ASCII /C/
11713 103704 104      .ASCII /D/
11714 103705 105      .ASCII /E/
11715 103706 106      .ASCII /F/
11716                .EVEN
11717                ;

```



```

11718
11719 103710 103756
11720 103712 104033
11721
11722 103714 104107
11723 103716 104223
11724 103720 104145
11725 103722 104107
11726
11727 103724 015 012 123
      103727 127 111 124
      103732 103 110 040
      103735 120 101 103
      103740 113 040 123
      103743 105 124 040
      103746 106 117 122
      103751 040 072
11728 103753 015 012 000
11729 103756 040 040 040
      103761 040 040 123
      103764 105 114 106
      103767 040 124 105
      103772 123 124 040
      103775 115 101 116
      104000 125 106 101
      104003 103 124 125
      104006 122 111 116
      104011 107 040 115
      104014 117 104 105
      104017 040 104 111
      104022 123 101 102
      104025 114 105 104
11730 104030 015 012 000
11731 104033 040 040 040
      104036 040 040 123
      104041 105 114 106
      104044 040 124 105
      104047 123 124 040
      104052 115 101 116
      104055 125 106 101
      104060 103 124 125
      104063 122 111 116
      104066 107 040 115
      104071 117 104 105
      104074 040 105 116
      104077 101 102 114
      104102 105 104
11732 104104 015 012 000
11733 104107 040 040 040
      104112 040 040 116
      104115 117 040 122
      104120 105 115 117
      104123 124 105 040
      104126 102 117 117
      104131 124 040 105
      104134 116 101 102
      104137 114 105 104

;LOOP MESSAGE TABLE
LPTBL: .WORD LPMSG0
      .WORD LPMSG1

;BOOT MESSAGE TABLE
BTTBL: .WORD BTMSG0
      .WORD BTMSG2
      .WORD BTMSG1
      .WORD BTMSG0

;ASCII MESSAGES
SWHDR: .ASCII <15><12>/SWITCH PACK SET FOR :/

LPMSG0: .ASCII / .ASCIZ <15><12>
        SELF TEST MANUFACTURING MODE DISABLED/

LPMSG1: .ASCII / .ASCIZ <15><12>
        SELF TEST MANUFACTURING MODE ENABLED/

BTMSG0: .ASCII / .ASCIZ <15><12>
        NO REMOTE BOOT ENABLED/

```

H13

11734	104142	015	012	000	
11735	104145	040	040	040	BTMSG1: .ASCII / .ASCIZ <15><12>
	104150	040	040	122	REMOTE BOOT, WITH SYSTEM LOAD, ENABLED/
	104153	105	115	117	
	104156	124	105	040	
	104161	102	117	117	
	104164	124	054	040	
	104167	127	111	124	
	104172	110	040	123	
	104175	131	123	124	
	104200	105	115	040	
	104203	114	117	101	
	104206	104	054	040	
	104211	105	116	101	
	104214	102	114	105	
	104217	104			
11736	104220	015	012	000	
11737	104223	040	040	040	BTMSG2: .ASCII / .ASCIZ <15><12>
	104226	040	040	122	REMOTE BOOT ENABLED WITH ROM/
	104231	105	115	117	
	104234	124	105	040	
	104237	102	117	117	
	104242	124	040	105	
	104245	116	101	102	
	104250	114	105	104	
	104253	040	127	111	
	104256	124	110	040	
11738	104261	122	117	115	
11739	104264	015	012	000	.ASCIZ <15><12>
					.EVEN

```

11742          .TITLE PARAMETER CODING
11753
11754          .SBTTL  HARDWARE PARAMETER CODING SECTION
11773
11774
11775          ;++
11776          ; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
11777          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
11778          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
11779          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
11780          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11781          ; WITH THE OPERATOR.
11782          ;--
11783
11784 104270          BGNHRD
11785          104270          000010
11786          104272          000021
11787          104274          104312
11788          104276          160000
11789          104300          174610
11790
11791          104302          001021
11792          104304          104345
11793          104306          000120
11794          104310          000770
11795          104312          000
11796          104315          124
11797          104320          123
11798          104323          110
11799          104326          120
11800          104331          122
11801          104334          101
11802          104337          122
11803          104342          123
11804          104345          127
11805          104350          124
11806          104353          123
11807          104356          110
11808          104361          126
11809          104364          124
11810          104367          040
11811          104372          104
11812          104375          123
11813          104400          000
11814          104312          110
11815          104315          040
11816          104320          040
11817          104323          105
11818          104326          103
11819          104331          060
11820          104334          104
11821          104337          105
11822          104342          077
11823          104345          110
11824          104350          040
11825          104353          040
11826          104356          105
11827          104361          105
11828          104364          117
11829          104367          101
11830          104372          122
11831          104375          123
11832          104400          000
11833          104312          101
11834          104315          111
11835          104320          124
11836          104323          040
11837          104326          123
11838          104331          040
11839          104334          104
11840          104337          123
11841          104342          000
11842          104345          101
11843          104350          111
11844          104353          124
11845          104356          040
11846          104361          103
11847          104364          122
11848          104367          104
11849          104372          105
11850          104375          077
11851          104400          000
11852          104312          101
11853          104315          111
11854          104320          124
11855          104323          040
11856          104326          123
11857          104331          040
11858          104334          104
11859          104337          123
11860          104342          000
11861          104345          101
11862          104350          111
11863          104353          124
11864          104356          040
11865          104361          103
11866          104364          122
11867          104367          104
11868          104372          105
11869          104375          077
11870          104400          000
11871          104312          101
11872          104315          111
11873          104320          124
11874          104323          040
11875          104326          123
11876          104331          040
11877          104334          104
11878          104337          123
11879          104342          000
11880          104345          101
11881          104350          111
11882          104353          124
11883          104356          040
11884          104361          103
11885          104364          122
11886          104367          104
11887          104372          105
11888          104375          077
11889          104400          000
11890          104312          101
11891          104315          111
11892          104320          124
11893          104323          040
11894          104326          123
11895          104331          040
11896          104334          104
11897          104337          123
11898          104342          000
11899          104345          101
11900          104350          111
11901          104353          124
11902          104356          040
11903          104361          103
11904          104364          122
11905          104367          104
11906          104372          105
11907          104375          077
11908          104400          000
11909          104312          101
11910          104315          111
11911          104320          124
11912          104323          040
11913          104326          123
11914          104331          040
11915          104334          104
11916          104337          123
11917          104342          000
11918          104345          101
11919          104350          111
11920          104353          124
11921          104356          040
11922          104361          103
11923          104364          122
11924          104367          104
11925          104372          105
11926          104375          077
11927          104400          000
11928          104312          101
11929          104315          111
11930          104320          124
11931          104323          040
11932          104326          123
11933          104331          040
11934          104334          104
11935          104337          123
11936          104342          000
11937          104345          101
11938          104350          111
11939          104353          124
11940          104356          040
11941          104361          103
11942          104364          122
11943          104367          104
11944          104372          105
11945          104375          077
11946          104400          000
11947          104312          101
11948          104315          111
11949          104320          124
11950          104323          040
11951          104326          123
11952          104331          040
11953          104334          104
11954          104337          123
11955          104342          000
11956          104345          101
11957          104350          111
11958          104353          124
11959          104356          040
11960          104361          103
11961          104364          122
11962          104367          104
11963          104372          105
11964          104375          077
11965          104400          000
11966          104312          101
11967          104315          111
11968          104320          124
11969          104323          040
11970          104326          123
11971          104331          040
11972          104334          104
11973          104337          123
11974          104342          000
11975          104345          101
11976          104350          111
11977          104353          124
11978          104356          040
11979          104361          103
11980          104364          122
11981          104367          104
11982          104372          105
11983          104375          077
11984          104400          000
11985          104312          101
11986          104315          111
11987          104320          124
11988          104323          040
11989          104326          123
11990          104331          040
11991          104334          104
11992          104337          123
11993          104342          000
11994          104345          101
11995          104350          111
11996          104353          124
11997          104356          040
11998          104361          103
11999          104364          122
12000          104367          104
12001          104372          105
12002          104375          077
12003          104400          000
12004          104312          101
12005          104315          111
12006          104320          124
12007          104323          040
12008          104326          123
12009          104331          040
12010          104334          104
12011          104337          123
12012          104342          000
12013          104345          101
12014          104350          111
12015          104353          124
12016          104356          040
12017          104361          103
12018          104364          122
12019          104367          104
12020          104372          105
12021          104375          077
12022          104400          000
12023          104312          101
12024          104315          111
12025          104320          124
12026          104323          040
12027          104326          123
12028          104331          040
12029          104334          104
12030          104337          123
12031          104342          000
12032          104345          101
12033          104350          111
12034          104353          124
12035          104356          040
12036          104361          103
12037          104364          122
12038          104367          104
12039          104372          105
12040          104375          077
12041          104400          000
12042          104312          101
12043          104315          111
12044          104320          124
12045          104323          040
12046          104326          123
12047          104331          040
12048          104334          104
12049          104337          123
12050          104342          000
12051          104345          101
12052          104350          111
12053          104353          124
12054          104356          040
12055          104361          103
12056          104364          122
12057          104367          104
12058          104372          105
12059          104375          077
12060          104400          000
12061          104312          101
12062          104315          111
12063          104320          124
12064          104323          040
12065          104326          123
12066          104331          040
12067          104334          104
12068          104337          123
12069          104342          000
12070          104345          101
12071          104350          111
12072          104353          124
12073          104356          040
12074          104361          103
12075          104364          122
12076          104367          104
12077          104372          105
12078          104375          077
12079          104400          000
12080          104312          101
12081          104315          111
12082          104320          124
12083          104323          040
12084          104326          123
12085          104331          040
12086          104334          104
12087          104337          123
12088          104342          000
12089          104345          101
12090          104350          111
12091          104353          124
12092          104356          040
12093          104361          103
12094          104364          122
12095          104367          104
12096          104372          105
12097          104375          077
12098          104400          000
12099          104312          101
12100          104315          111
12101          104320          124
12102          104323          040
12103          104326          123
12104          104331          040
12105          104334          104
12106          104337          123
12107          104342          000
12108          104345          101
12109          104350          111
12110          104353          124
12111          104356          040
12112          104361          103
12113          104364          122
12114          104367          104
12115          104372          105
12116          104375          077
12117          104400          000
12118          104312          101
12119          104315          111
12120          104320          124
12121          104323          040
12122          104326          123
12123          104331          040
12124          104334          104
12125          104337          123
12126          104342          000
12127          104345          101
12128          104350          111
12129          104353          124
12130          104356          040
12131          104361          103
12132          104364          122
12133          104367          104
12134          104372          105
12135          104375          077
12136          104400          000
12137          104312          101
12138          104315          111
12139          104320          124
12140          104323          040
12141          104326          123
12142          104331          040
12143          104334          104
12144          104337          123
12145          104342          000
12146          104345          101
12147          104350          111
12148          104353          124
12149          104356          040
12150          104361          103
12151          104364          122
12152          104367          104
12153          104372          105
12154          104375          077
12155          104400          000
12156          104312          101
12157          104315          111
12158          104320          124
12159          104323          040
12160          104326          123
12161          104331          040
12162          104334          104
12163          104337          123
12164          104342          000
12165          104345          101
12166          104350          111
12167          104353          124
12168          104356          040
12169          104361          103
12170          104364          122
12171          104367          104
12172          104372          105
12173          104375          077
12174          104400          000
12175          104312          101
12176          104315          111
12177          104320          124
12178          104323          040
12179          104326          123
12180          104331          040
12181          104334          104
12182          104337          123
12183          104342          000
12184          104345          101
12185          104350          111
12186          104353          124
12187          104356          040
12188          104361          103
12189          104364          122
12190          104367          104
12191          104372          105
12192          104375          077
12193          104400          000
12194          104312          101
12195          104315          111
12196          104320          124
12197          104323          040
12198          104326          123
12199          104331          040
12200          104334          104
12201          104337          123
12202          104342          000
12203          104345          101
12204          104350          111
12205          104353          124
12206          104356          040
12207          104361          103
12208          104364          122
12209          104367          104
12210          104372          105
12211          104375          077
12212          104400          000
12213          104312          101
12214          104315          111
12215          104320          124
12216          104323          040
12217          104326          123
12218          104331          040
12219          104334          104
12220          104337          123
12221          104342          000
12222          104345          101
12223          104350          111
12224          104353          124
12225          104356          040
12226          104361          103
12227          104364          122
12228          104367          104
12229          104372          105
12230          104375          077
12231          104400          000
12232          104312          101
12233          104315          111
12234          104320          124
12235          104323          040
12236          104326          123
12237          104331          040
12238          104334          104
12239          104337          123
12240          104342          000
12241          104345          101
12242          104350          111
12243          104353          124
12244          104356          040
12245          104361          103
12246          104364          122
12247          104367          104
12248          104372          105
12249          104375          077
12250          104400          000
12251          104312          101
12252          104315          111
12253          104320          124
12254          104323          040
12255          104326          123
12256          104331          040
12257          104334          104
12258          104337          123
12259          104342          000
12260          104345          101
12261          104350          111
12262          104353          124
12263          104356          040
12264          104361          103
12265          104364          122
12266          104367          104
12267          104372          105
12268          104375          077
12269          104400          000
12270          104312          101
12271          104315          111
12272          104320          124
12273          104323          040
12274          104326          123
12275          104331          040
12276          104334          104
12277          104337          123
12278          104342          000
12279          104345          101
12280          104350          111
12281          104353          124
12282          104356          040
12283          104361          103
12284          104364          122
12285          104367          104
12286          104372          105
12287          104375          077
12288          104400          000
12289          104312          101
12290          104315          111
12291          104320          124
12292          104323          040
12293          104326          123
12294          104331          040
12295          104334          104
12296          104337          123
12297          104342          000
12298          104345          101
12299          104350          111
12300          104353          124
12301          104356          040
12302          104361          103
12303          104364          122
12304          104367          104
12305          104372          105
12306          104375          077
12307          104400          000
12308          104312          101
12309          104315          111
12310          104320          124
12311          104323          040
12312          104326          123
12313          104331          040
12314          104334          104
12315          104337          123
12316          104342          000
12317          104345          101
12318          104350          111
12319          104353          124
12320          104356          040
12321          104361          103
12322          104364          122
12323          104367          104
12324          104372          105
12325          104375          077
12326          104400          000
12327          104312          101
12328          104315          111
12329          104320          124
12330          104323          040
12331          104326          123
12332          104331          040
12333          104334          104
12334          104337          123
12335          104342          000
12336          104345          101
12337          104350          111
12338          104353          124
12339          104356          040
12340          104361          103
12341          104364          122
12342          104367          104
12343          104372          105
12344          104375          077
12345          104400          000
12346          104312          101
12347          104315          111
12348          104320          124
12349          104323          040
12350          104326          123
12351          104331          040
12352          104334          104
12353          104337          123
12354          104342          000
12355          104345          101
12356          104350          111
12357          104353          124
12358          104356          040
12359          104361          103
12360          104364          122
12361          104367          104
12362          104372          105
12363          104375          077
12364          104400          000
12365          104312          101
12366          104315          111
12367          104320          124
12368          104323          040
12369          104326          123
12370          104331          040
12371          104334          104
12372          104337          123
12373          104342          000
12374          104345          101
12375          104350          111
12376          104353          124
12377          104356          040
12378          104361          103
12379          104364          122
12380          104367          104
12381          104372          105
12382          104375          077
12383          104400          000
12384          104312          101
12385          104315          111
12386          104320          124
12387          104323          040
12388          104326          123
12389          104331          040
12390          104334          104
12391          104337          123
12392          104342          000
12393          104345          101
12394          104350          111
12395          104353          124
12396          104356          040
12397          104361          103
12398          104364          122
12399          104367          104
12400          104372          105
12401          104375          077
12402          104400          000
12403          104312          101
12404          104315          111
12405          104320          124
12406          104323          040
12407          104326          123
12408          104331          040
12409          104334          104
12410          104337          123
12411          104342          000
12412          104345          101
12413          104350          111
12414          104
```

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11797          .SBTTL  SOFTWARE PARAMETER CODING SECTION
11798
11799          ;**
11800          ; THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
11801          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
11802          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
11803          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
11804          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11805          ; WITH THE OPERATOR.
11806          ;
11807          ;NOTE: SEE 'EXTERNAL LOOPBACK TEST' DESCRIPTION FOR OPTIONS.
11808          ; -
11809
11810 104402          BGNSFT
11811          104402 000006
11812          104404
11813          104404          GPRML  ASKEXT,0,1,YES
11814          104406 000130
11815          104410 000001
11816          104412          GPRML  CNLOOP,2,1,YES
11817          104412 001130
11818          104414 104526
11819          104416 000001
11820          104420          .EVEN
11821          104420          ENDSFT
11822          104420          .EVEN
11823          104420          L10063:
11824          104420 122 125 116 ASKEXT: .ASCIZ *RUN EXTERNAL LOOPBACK MODE TEST (REQ. H4080 OR EQUIV. LOOPBACK ? Y/N *
11825          104423 040 105 130
11826          104426 124 105 122
11827          104431 116 101 114
11828          104434 040 114 117
11829          104437 117 120 102
11830          104442 101 103 113
11831          104445 040 115 117
11832          104450 104 105 040
11833          104453 124 105 123
11834          104456 124 040 050
11835          104461 122 105 121
11836          104464 056 040 110
11837          104467 064 060 070
11838          104472 060 040 117
11839          104475 122 040 105
11840          104500 121 125 111
11841          104503 126 056 040
11842          104506 114 117 117
11843          104511 120 102 101
11844          104514 103 113 040
11845          104517 077 040 131
11846          104522 057 116 040
    
```

K13

```

11822 104525 000
11823 104526 124 117 040 CNLOOP: .ASCIZ *TO AVOID MAN. INTERVENTION INSTALL H4080 OR EQUIV. LOOPBACK NOW? Y/N *
      104531 101 126 117
      104534 111 104 040
      104537 115 101 116
      104542 056 040 111
      104545 116 124 105
      104550 122 126 105
      104553 116 124 111
      104556 117 116 040
      104561 111 116 123
      104564 124 101 114
      104567 114 040 110
      104572 064 060 070
      104575 060 040 117
      104600 122 040 105
      104603 121 125 111
      104606 126 056 040
      104611 114 117 117
      104614 120 102 101
      104617 103 113 040
      104622 116 117 127
      104625 077 040 131
      104630 057 116 040
      104633 000

11824
11825 .EVEN
11826
11827 104634 $PATCH:
11828 104634 .BLKW 20
11829
11830 104674 LASTAD

      104674 000000 .EVEN
      104676 000000 .WORD 0
      104700 .WORD 0
11831 104700 L$LAST::
11832 ENDMOD
11833 000001 .END

```

ADR = 000020 G	CLKFRE 002256	C\$MMU = 000103	ERRBLK 020660 G	EXLOOP 002222
ADR21 020062	CLKSRV 036422 G	C\$MESSG = 000023	ERRMSG 020656 G	E\$END = 002100
ADR21C 020070	CLKTAB 002250	C\$OPNR = 000034	ERRNBR 020654 G	E\$LOAD = 000035
ASKCSR 104312	CLKVEC 002254	C\$OPNW = 000104	ERRS = 040000 G	FATL = 001000 G
ASKEXT 104420	CLRBUF 032246	C\$PNTB = 000014	ERRTYP 020652 G	FATLIB = 000002 G
ASKVEC 104345	CLRCNT 014562	C\$PNTF = 000017	ERR001 024754	FRM001 020754
ASSEMB = 000010	CLRCV 032272	C\$PNTS = 000016	ERR002 025004	FRM002 021011
BIT0 = 000001 G	CLRDNI 032320	C\$PNTX = 000015	ERR003 025042	FRM003 021072
BIT00 = 000001 G	CLRRXI 032434	C\$PUTB = 000072	ERR005 025100	FRM004 021133
BIT01 = 000002 G	CLRSTA 014656	C\$PUTW = 000073	ERR006 025124	FRM005 021173
BIT02 = 000004 G	CLRTXI 032502	C\$QIO = 000377	ERR007 025172	FRM006 021260
BIT03 = 000010 G	CLRXMT 032550	C\$RDBU = 000007	ERR008 025262	FRM007 021345
BIT04 = 000020 G	CMODE1 = 175015 G	C\$REFG = 000047	ERR009 025341	FRM008 021432
BIT05 = 000040 G	CMPCRC 032576	C\$REL = 000077	ERR010 025425	FRM009 021517
BIT06 = 000100 G	CMPDAT 032646	C\$RESE = 000033	ERR011 025510	FRM010 021604
BIT07 = 000200 G	CMPMEM 032726	C\$REVI = 000004	ERR012 025543	FRM011 021671
BIT08 = 000400 G	CNL00P 104526	C\$RFLA = 000021	ERR013 025624	FRM012 021756
BIT09 = 001000 G	CRCH 017622	C\$RPT = 000025	ERR014 025655	FRM013 022043
BIT1 = 000002 G	C\$AU = 000052	C\$SEFG = 000046	ERR015 025723	FRM014 022122
BIT10 = 002000 G	C\$AUTO = 000061	C\$SPRI = 000041	ERR016 025754	FRM015 022201
BIT11 = 004000 G	C\$BRK = 000022	C\$SVEC = 000037	ERR017 026022	FRM016 022206
BIT12 = 010000 G	C\$BSEG = 000004	C\$TOME = 000076	ERR018 026122	FRM017 022257
BIT13 = 020000 G	C\$BSUB = 000002	DEFADR 103643	ERR019 026222	FRM018 022305
BIT14 = 040000 G	C\$CLCK = 000062	DEFHDR 103600	ERR020 026302	FRM019 022341
BIT15 = 100000 G	C\$CLEA = 000012	DELAY 033006	ERR021 026363	FRM020 022375
BIT2 = 000004 G	C\$CLOS = 000035	DELUAI = 000020 G	ERR022 026444	FRM021 022431
BIT3 = 000010 G	C\$CLP1 = 000006	DEST 002260	ERR023 026513	FRM022 022465
BIT4 = 000020 G	C\$CPBF = 000074	DEVUNI 023404	ERR024 026540	FRM023 022551
BIT5 = 000040 G	C\$CPME = 000075	DFALT 002274	ERR025 026602	FRSTIM 020614
BIT6 = 000100 G	C\$CVEC = 000036	DFPTBL 002214 G	ERR026 026634	FTLSET 031064
BIT7 = 000200 G	C\$DCLN = 000044	DIAGMC = 000000	ERR027 026634	F\$AU = 000015
BIT8 = 000400 G	C\$DODU = 000051	DMPMEM 014666	ERR028 026741	F\$AUTO = 000020
BIT9 = 001000 G	C\$DRPT = 000024	DNI = 004000 G	ERR029 027047	F\$BGN = 000040
BLKCRC 030644	C\$DU = 000053	DNIB = 000010 G	ERR030 027047	F\$CLEA = 000007
BOE = 000400 G	C\$EDIT = 000000	DNICLR 023671	ERR031 027154	F\$DU = 000016
BTMSG 103574	C\$ERDF = 000055	DNIFLG 020612	ERR032 027262	F\$END = 000041
BTMSG0 104107	C\$ERHR = 000056	DOCRC 020564	ERR033 027262	F\$HARD = 000004
BTMSG1 104145	C\$ERRO = 000060	DPA 103560	ERR034 027351	F\$HW = 000013
BTMSG2 104223	C\$FRSF = 000054	DTYPE = 002540 G	ERR035 027441	F\$INIT = 000006
BTTBL 103714	C\$ERSO = 000057	EAFLAG 020610	ERR036 027441	F\$JMP = 000050
BUFL = 100000 G	C\$ESCA = 000010	ECODE 020602	ERR037 027527	F\$MOD = 000000
BYTCNT 020562	C\$ESEG = 000005	ECRC 020572	ERR038 027616	F\$MESSG = 000011
CHKDNI 030706	C\$ESUB = 000003	ECRCB 020574	ERR039 027671	F\$PROT = 000021
CHKFTL 031010	C\$ETST = 000001	EDAT 020566	ERR040 027772	F\$PWR = 000017
CHKOWN 031162	C\$EXIT = 000032	EF.CON = 000036 G	ERR041 030037	F\$RPT = 000012
CHKRCE 031240	C\$FREQ = 000101	EF.NEW = 000035 G	ERR042 030105	F\$SEG = 000003
CHKRDR 031344	C\$FRME = 000100	EF.PWR = 000034 G	ERR043 030157	F\$SOFT = 000005
CHKRXI 031454	C\$GETB = 000026	EF.RES = 000037 G	ERR044 030256	F\$SRV = 000010
CHKSTR 031556	C\$GETW = 000027	EF.STA = 000040 G	ERR045 030355	F\$SUB = 000002
CHKTDR 031636	C\$GMAN = 000043	END13A = 020062	ERR046 030420	F\$SW = 000014
CHKTXI 031724	C\$GPHR = 000042	ENP = 000400 G	ERR047 030476	F\$TEST = 000001
CKDNI 032034	C\$GPRI = 000040	EPCSR0 020516	ERR048 030565	GETCMD = 000002 G
CLBYTE 032260	C\$INIT = 000011	EPCSR1 020520	ETDRB0 020542	GETCRC 033034
CLINTB = 175400 G	C\$INLP = 000020	ERDRB0 020522	ETDRB2 020544	GETPCB = 000001 G
CLINTR 032402	C\$MANI = 000050	ERDRB2 020524	ETDRB4 020546	GOODST = 000000 G
CLKBR 002252	C\$MAP = 000102	ERDRB4 020526	ETDRB6 020550	G\$CNT0 = 000200
CLKCSR 002250	C\$MEM = 000031	ERDRB6 020530	EVL = 000004 G	G\$DELM = 000372

G\$DISP=	000003	J\$JMP =	000167	L\$ICP	002104 G	L10043	046232	O\$BGNS=	000001
G\$EXCP=	000400	LDBUF	033260	L\$INIT	035404 G	L10044	047610	O\$DU =	000001
G\$HILI=	000002	LDBUFC	033322	L\$LADP	002026 G	L10045	051224	O\$ERRT=	000001
G\$LOLI=	000001	LDBUFR	033374	L\$LAST	104700 G	L10046	052326	O\$GNSW=	000001
G\$NO =	000000	LDEEST	033560	L\$LLOAD	002100 G	L10047	053740	O\$POIN=	000001
G\$OFFS=	000400	LDDFLT	033606	L\$LUN	002074 G	L10050	055226	O\$SETU=	000000
G\$OFSI=	000376	LDMEM	014676	L\$MREV	002050 G	L10051	057032	PA\$TRN1	020630
G\$PRMA=	000001	LDPCCB	033656	L\$NAME	002000 G	L10052	062510	PCBB =	002302
G\$PRMD=	000002	LDPCSR	033706	L\$PRIO	002042 G	L10053	066444	PCEI =	040000 G
G\$PRML=	000000	LDPHYA	033724	L\$PROT	035376 G	L10054	072700	PCEIB =	000100 G
G\$RADA=	000140	LDRDRB	033744	L\$PRT	002112 G	L10055	075172	PCSR0	002226
G\$RADB=	000000	LDRDRX	034002	L\$REPP	002062 G	L10056	076632	PCSR0C	002240
G\$RADD=	000040	LDTDRB	034040	L\$REV	002010 G	L10057	100516	PCSR0U	002236
G\$RADL=	000120	LDTDRX	034076	L\$RPT	035370 G	L10060	102376	PCSR1	002230
G\$RADO=	000020	LDUDBB	034134	L\$SOFT	104404 G	L10061	103556	PCSR2	002232
G\$XFER=	000004	LDXCRC	034170	L\$SPC	002056 G	L10062	104312	PCSR3	002234
G\$YES =	000010	LUXRDR	034214	L\$SPCP	002020 G	L10063	104420	PCTO =	000200 G
HALT =	000016 G	LDXTDR	034244	L\$SPTP	002024 G	MEM10A	017636	PDMD =	000010 G
HELP =	000000	LOE =	040000 G	L\$STA	002030 G	MEM11A	017710	PNOP =	000006 G
HEXDAT	103576	LOOPCN	002224	L\$SW	002222 G	MEM13A	017714	PNT =	001000 G
HEXDPA	033112	LOT =	000010 G	L\$TEST	002114 G	METER	020604	PNTID	034610
HEXH	033174	LPMSG	103572	L\$TIML	002014 G	MMSG1	022774	POLYH	020616
HEXL	033232	LPMSG0	103756	L\$UNIT	002012 G	MODE15	020466	POLYHI=	120001 G
HEXTBL	103667	LPMSG1	104033	L10000	002220	MODE17	020470	POLYL	020620
HEXVAL	103577	LPTBL	103710	L10001	002226	MODE20	020472	PRI =	002000 G
HOE =	100000 G	LSMA	014452	L10002	024002	MODE21	020474	PRILD =	000001 G
IBE =	010000 G	L\$ACP	002110 G	L10003	024030	MODE24	020476	PRI00 =	000000 G
IDU =	000040 G	L\$APT	002036 G	L10004	024062	MODE25	020500	PRI01 =	000040 G
IE =	000100 G	L\$AU	036350 G	L10005	024134	MSG001	023760 G	PRI02 =	000100 G
IER =	020700 G	L\$AUT	002070 G	L10006	024276	MSG002	024004 G	PRI03 =	000140 G
INITH =	000000 G	L\$AUTO	036170 G	L10007	024440	MSG003	024032 G	PRI04 =	000200 G
INTE =	000100 G	L\$CCP	002106 G	L10010	024472	MSG004	024064 G	PRI05 =	000240 G
INTMG1	032156	L\$CLEA	036172 G	L10011	024554	MSG005	024136 G	PRI06 =	000300 G
INTR =	000200 G	L\$CO	002032 G	L10012	024676	MSG006	024300 G	PRI07 =	000340 G
INTVEC	002242	L\$DEPO	002011 G	L10013	024724	MSG007	024442 G	PRNTIT	020622
ISR =	000100 G	L\$DESC	020670 G	L10014	024752	MSG008	024474 G	RBUF	010442
ISRDN1	036366 G	L\$DESP	002076 G	L10015	035374	MSG009	024556 G	RBUF2	011042
ISRNXM	036356 G	L\$DEVP	002060 G	L10017	036166	MSG010	024700 G	RBUF3	011442
IXE =	004000 G	L\$DISP	002124 G	L10020	036170	MSG011	024726 G	RBUF4	012042
I\$AU =	000041	L\$DLY	002116 G	L10021	036340	MSG1	022572	RBUF5	012442
I\$AUTO=	000041	L\$DTP	002040 G	L10022	036346	MSG2	022666	RBUF6	013042
I\$CLN =	000041	L\$DTYP	002034 G	L10023	036354	MULT	020076	RBUF7	013442
I\$DU =	000041	L\$DU	036342 G	L10024	036364	MULTLC	020172	RBUF8	014042
I\$HRD =	000041	L\$DUT	002072 G	L10025	036420	M68FLD	023276	RCBI =	002000 G
I\$INIT=	000041	L\$DVTY	020662 G	L10026	036434	NEXMEM	020606	RCBIB =	000004 G
I\$MOD =	000041	L\$EF	002052 G	L10027	036612	NIHLT =	000006 G	RDCNT	014552
I\$MSG =	000041	L\$ENVI	002044 G	L10030	036776	NIUNI =	000007 G	RDEF A	014462
I\$PROT=	000040	L\$ERRT	020652 G	L10031	037222	NIUNIB	023502	RDMODE	014572
I\$PTAB=	000041	L\$ETP	002102 G	L10032	037406	NOCLK	023234	RDMLA	014512
I\$PWR =	000041	L\$EXP1	002046 G	L10033	037572	NOPF	014442	RDPHYA	014472
I\$RPT =	000041	L\$EXP4	002064 G	L10034	040004	NORXI	034276	RDRB	002662
I\$SEG =	000041	L\$EXP5	002066 G	L10035	040216	ONEFIL=	000001	RDRBE	002722
I\$SETU=	000041	L\$HARD	104272 G	L10036	040600	ONES =	177777 G	RDRBXX	015572
I\$SFT =	000041	L\$HIME	002120 G	L10037	042274	OWN =	100000 G	RDRB1A	014752
I\$SRV =	000041	L\$HPCP	002016 G	L10040	042642	O\$APTS=	000000	RDRB1B	015012
I\$SUB =	000041	L\$HPTP	002022 G	L10041	043366	O\$AU =	000001	RDRB2A	015052
I\$TST =	000041	L\$HW	002214 G	L10042	044622	O\$BGNR=	000001	RDRB3A	015112

RDRB4A	015542	SMSG24	041406	TDR18B	020316	T##SOF=	010063	T26ID	102344
RDRB4B	015152	SMSG25	041445	TDR20A	020326	T##SRV=	010026	T27	102400 G
RDRB5A	015412	SMSG26	041504	TDR20B	020336	T##SW =	010001	T27ID	103454
RDRNGS	014532	SMSG27	041551	TDR21X	020346	T##TES=	010061	T27SKP	103512
RDRX	003626	SMSG60	041610	TDR24A	020356	T01ID	036560	T3	037000 G
RDR14B	020376	SRC	002266	TDR24B	020366	T02ID	036744	T4	037224 G
RDR15A	020406	SRC DST	035062	TEND =	010440	T03ID	037176	T5	037410 G
RDR17A	020416	SRWRAM	035132	TIMASK=	000377 G	T04ID	037354	T6	037574 G
RDR17B	020426	START =	000004 G	TIMOFF	035256	T05ID	037540	T7	040006 G
RDR20A	020436	STATEM=	172377 G	TIMON	035272	T06ID	037754	T8	040220 G
RDR20B	020446	STMASK=	140377 G	TINIT	035310	T07ID	040166	T9	041652 G
RDR20C	020456	STMSG	040602	TSTFMT	034644	T08ID	040560	UAM =	000200 G
RDSTA	014646	STOP =	000017 G	TXI =	010000 G	T09ID	042250	UDB8	002312
READY =	000002 G	STP =	001000 G	TXIB =	000020 G	T1	036436 G	UDB10A	017624
REND =	014442	STTBL	040604	T\$ARGC=	000002	T10	042276 G	UDB11A	017676
REPLY	020624	SVCGBL=	000000	T\$CODE=	001130	T10ID	042612	UDB28A	020502
RESET =	000000 G	SVCINS=	000001	T\$ERRN=	001264	T11	042644 G	UNAPRI	002244
RFRMT	014706	SVC SUB=	000001	T\$EXCP=	000000	T11ID	043334	UNDFND	023575
RFRMTE	014736	SVCTAG=	000001	T\$FLAG=	000040	T12	043370 G	UNIHLT=	000005 G
RFRMTX	014722	SVCTST=	000001	T\$GMAN=	000000	T12ID	044560	UNIT	002246
RMTC	= 000010 G	SWADDR	020514	T\$HILI=	000770	T13	044624 G	USCI =	000400 G
ROMCRC	034336	SWHDR	103724	T\$LAST=	000001	T13ID	046200	USCIB =	000001 G
RREV	103566	SWPACK	103570	T\$LOLI=	000120	T14	046234 G	WTMODE	014602
RSET =	000040 G	S\$LSYM=	010000	T\$LSYM=	010000	T14ID	047564	WTMOD1	014612
RUN =	000003 G	TBUF	004440	T\$LTNO=	000033	T15	047612 G	WTMOD2	014622
RXI =	020000 G	TBUF2	005040	T\$NEST=	177777	T15ID	051174	WTMOD3	014632
RXIB =	000040 G	TBUF3	005440	T\$NSO =	000000	T16	051226 G	WTMOD4	014642
SECOND=	000077 G	TBUF4	006040	T\$NS1 =	000005	T16ID	052274	WTMULA	014522
SERI =	100000 G	TBUF5	006440	T\$PTNU=	000000	T17	052330 G	WTPHYA	014502
SERIB =	000200 G	TBUF6	007040	T\$SAVL =	177777	T17ID	053700	WTRNGS	014542
SETBF	034420	TBUF7	007440	T\$SEGL =	177777	T18	053742 G	XCRC	020576
SETBUF	034662	TBUF8	010040	T\$SUBN=	000000	T18ID	055166	XCRCB	020600
SFPTBL	002222 G	TDRB	002622	T\$TAGL =	177777	T19	055230 G	XDAT	020570
SIZ4K =	020000 G	TDRBXX	016742	T\$TAGN=	010064	T19ID	057004	XRDRB0	020532
SIZ8K =	040000 G	TDRB1A	016412	T\$TEMP=	000000	T2	036614 G	XRDRB2	020534
SKIP	023070	TDRB1B	016452	T\$TEST=	000033	T20	057034 G	XRDRB4	020536
SKIP26	023151	TDRB1C	016512	T\$TSTM=	177777	T20ID	062460	XRDRB6	020540
SLFT =	000003 G	TDRB1D	016532	T\$TSTS=	000001	T21	062512 G	XTDRB0	020552
SMASK =	177770 G	TDRB1E	016552	T\$#AU =	010023	T21ID	066412	XTDRB2	020554
SMSG00	040746	TDRB2A	016602	T\$#AUT =	010020	T22	066446 G	XTDRB4	020556
SMSG01	040771	TDRB2B	016642	T\$#CLE=	010021	T22ID	072650	XTDRB6	020560
SMSG10	041061	TDRB3A	016702	T\$#DU =	010022	T23	072702 G	X\$ALWA=	000000
SMSG11	041115	TDRB4A	017572	T\$#HAR=	010062	T23ID	075130	X\$FALS=	000040
SMSG13	041144	TDRMSK=	007777 G	T\$#HW =	010000	T24	075174 G	X\$OFFS=	000400
SMSG20	041223	TDRX	003016	T\$#INI=	010017	T24ID	076552	X\$TRUE=	000020
SMSG21	041262	TDR14A	020266	T\$#MSG=	010014	T25	076634 G	ZERO =	000000 G
SMSG22	041321	TDR15A	020276	T\$#PRO=	010016	T25ID	100456	\$PATCH	104634
SMSG23	041350	TDR18A	020306	T\$#RPT=	010015	T26	100520 G		

. ABS. 104700 000 (RW,I,GBL,ABS,OVR)
000000 001 (RW,I,LCL,REL,CON)

Errors detected: 0

*** Assembler statistics

Work file reads: 319

B14

PARAMETER CODING
Symbol table

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SEQ 377

Work file writes: 326
Size of work file: 36765 Words (144 Pages)
Size of core pool: 19684 Words (75 Pages)
Operating system: RSX-11M/PLUS (Under VAX/VMS)

Elapsed time: 00:12:08.62
CZUADB.CZUADB/-SP/NL:TOC=SVC40/ML.CZUADB