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## IDENTIFICATION

PRODUCT CODE: AC-7365C-MC  
PRODUCT NAME: CZUABCO FUNCTIONAL DIAG  
PRODUCT DATE: 21-OCT-84  
MAINTAINER: DISTRIBUTED SYSTEMS DIAGNOSTIC ENGINEERING  
AUTHOR: BRUCE A. MALE

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## REVISION HISTORY

DATE	AUTHOR	DESCRIPTION OF CHANGE
10-FEB 83	MICHAEL CINNAMON (MAC001)	ADD THIS SECTION. CHANGE INIT CODE TO DELAY A PERIOD OF TIME AFTER A POWER FAILURE OCCURS TO ALLOW SELF TEST TO FINISH. INCREASE AMOUNT OF TIME TO WAIT FOR DMI AFTER ISSUING A RESET TO PCSRO. FIX SELF TEST. UPDATE SELF TEST ERROR DESCRIPTIONS. USE LINE CLOCK AS TIMER INSTEAD OF SOFTWARE LOOPS UPDATE 'HEADER' STATEMENT TO REV A1.
24 MAR 83	RONALD JONES (RSJ001)	CHANGED ALL WORD WRITE REFERENCES TO THE UPPER BYTE OF PCSRO, TO BYTE REFERENCES ADDED VARIABLE TO ADDRESS UPPER BYTE OF PCSRO AND VARIABLES TO CLEAR THE BITS UPDATED HEADER TO REV A-2.
31-MAR 83	RONALD JONES (RSJ002)	INCREASED LENGTH OF TIME TO WAIT FOR SELF TEST COMPLETION AFTER RESET, FROM 2 SECONDS TO 12. UPDATED HEADER TO REV B-0.
3-OCT 83	RONALD JONES (RSJ003)	IN THE ROUTINE "TINIT", CHANGED THE ACCESS TO PCSRO FROM WORD TO TWO BYTE WRITES. MODIFIED THE VARIABLE "TIMASK" FROM 177400 TO 377.  ADDED A SHORT WAIT BETWEEN ACCESSSES TO THE PORT COMMAND FIELD OF PCSRO.  TEST 14 SUBTEST 2. THE INITIALIZATION ROUTINE FOLLOWING THE RESET DOES NOT RESTORE THE STATE SUFFICIENTLY TO CONTINUE TESTING. ADDED SETUP OF PCBB IN PCSR2 AND 3.
4-SEP-84	JOHN P. BEIKE (JPB001)	TEST 9. TEST WOULD HANG IF DEUNA DID NOT INTERRUPT. TURNED THE CLOCK ON FOR TIME OUT, AND RESET PRI BACK TO 4. UPDATED HEADER TO REV C-0.

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## 1.0 GENERAL INFORMATION

### 1.1 PROGRAM ABSTRACT

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

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DEUNA OPERATIONAL MICROCODE. FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DEUNA 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, SLIDE 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 DEUNA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU  
16K MEMORY  
CONSOLE TERMINAL  
DEUNA WITH EXTERNAL LOOPBACK CONNECTOR OR TRANSCEIVER CABLE CONNECTED TO COAXIAL CABLE.

### 1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHGUS

### 1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DEUNA FUNCTIONAL TESTING 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 (CHGUS).

### 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	HEX
---------	-----

START	START THE DIAGNOSTIC FROM AN INITIAL STATE
RESTART	START THE DIAGNOSTIC WITHOUT INITIALIZING
CONTINUE	CONTINUE AT TEST THAT WAS INTERRUPTED (AFTER ? IC)
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 "DDDDD".

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:DDDDD	EXECUTE DDDDD PASSES (DDDDD = 1 TO 64000)
/FLAGS:FLGS	SET SPECIFIED FLAGS. FLAGS ARE DESCRIBED IN SECTION 2.3.
/EOP:DDDDD	REPORT END OF PASS MESSAGE AFTER EVERY DDDDD PASSES ONLY. (DDDDD = 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      Y
PROCEED
DROP
ADD
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 150000 - 177776 OCTAL.

WHAT IS THE VECTOR ADDRESS ?

THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.  
THE ALLOWABLE RANGE IS 000 - 776 OCTAL.

SAMPLE DIALOGUE:

UNIT 0

WHAT IS THE PCSRO ADDRESS? (0) ? 170000

WHAT IS THE VECTOR ADDRESS? (0) ? 700

## 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 FOLLOWING IS THE ONLY SOFTWARE QUESTION FOR THIS DEVICE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?

THE DEFAULT IS N (NO).

NO, RUNS TEST 20 IN INTERNAL LOOPBACK MODE.

YES, DOES NOT SET INTERNAL LOOPBACK MODE AND THEREFORE  
THE PACKET WILL BE LOOPED EXTERNAL.

SAMPLE DIALOGUE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ? (L) N ? Y

## 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 (0) ? 160000<CR>
SUB-DEVICE # (0) ? 0<CR>
Q-FACTOR (0) 0 ? 1<CR>

UNIT 2
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 1<CR>
Q-FACTOR (0) 1 ? 0<CR>

UNIT 3
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 2<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 4
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 3<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 5
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 4<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 6
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 5<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 7
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 6<CR>
Q-FACTOR (0) 0 ? 1<CR>

UNIT 8
CSR ADDRESS (0) 160000<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) ? 160000<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1,0<CR>

UNIT 3
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>

UNIT 7
CSR ADDRESS (0) ? 160000<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 160000 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 160000 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 (0) ? 8<CR>

UNIT 1
CSR ADDRESS (0) ? 160000<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 DEUNA 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 NOP PORT COMMAND  
DNI BIT FAILED TO SET AFTER GET PCBB PORT COMMAND  
DNI BIT FAILED TO SET AFTER GET CMD PORT COMMAND  
DATA COMPARE ERROR IN MODE REGISTER  
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 - DENUA FAILED TO RELINQUISH OWNERSHIP OF RDRB  
TIMEOUT ERROR - DENUA 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  
WRITING ONE TO CLEAR RCBI BIT FAILED  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD TDRB  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB  
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD RDRB  
DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING  
DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING  
DATA COMPARE ERROR IN THIRD TRANSMIT DESCRIPTOR RING  
DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING  
DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING  
DATA COMPARE ERROR IN THIRD RECEIVE DESCRIPTOR RING  
ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS  
BUFL BIT FAILED TO SET WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET  
PAD RUNT PACKET FAILURE  
WCS MEMORY DATA COMPARE ERROR  
LINK MEMORY DATA COMPARE ERROR  
DNI BIT FAILED TO SET AFTER READ COUNTERS PORT COMMAND  
DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND  
ERROR - LOOPBACK SUCCESSFUL WITH HALF DUPLEX MODE SET  
ERROR DIAGNOSTIC TYPE PACKET RECEIVED FROM ANOTHER NODE

#### 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 LOOP DISABLED

REMOTE BOOT ENABLED

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE DIAGNOSTIC IF TEST 28 IS RUN SEPARATELY VIA THE /TESTS:28 SUPERVISOR SWITCH.

#### 6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSRO UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSRO

TEST 2: PCSR1 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR1 UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR1

TEST 3: PCSR2 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR2 UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR2

TEST 4: PCSR3 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR3 UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR3

TEST 5: PCSR2 STATIC BIT TEST

THIS TEST CHECKS PCSR2 FOR ALL SA0 AND SA1 ERRORS. THE HOST WRITES PATTERNS TO PCSR2 AND READS THEM BACK TO VERIFY.

NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.  
THIS BIT IS 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

TEST 6: PCSR3 STATIC BIT TEST

THIS TEST CHECKS PCSR3 FOR ALL SA0 AND SA1 ERRORS.  
THE HOST WRITES PATTERNS TO PCSR3 AND READS THEM  
BACK TO VERIFY.

NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.  
THESE BITS ARE 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

TEST 7: SELF TEST

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

TEST SEQUENCE:

1. ISSUE THE SELF TEST PORT COMMAND
2. WAIT FOR DNI
3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
4. WRITE ONE TO CLEAR DNI

TEST 8: PORT COMMAND TEST

THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN  
A DEUNA PORT COMMAND IS ISSUED.

TEST SEQUENCE:

1. ISSUE A NOP PORT COMMAND
2. WAIT FOR DNI
3. WRITE ONE TO CLEAR DNI
4. MOVE NOP FUNCTION INTO PCBB
5. ISSUE A GETPCBB PORT COMMAND
6. WAIT FOR DNI
7. WRITE ONE TO CLEAR DNI
8. ISSUE A GETCMD PORT COMMAND
9. WAIT FOR DNI
10. WRITE ONE TO CLEAR DNI

TEST 9: INTERRUPT LOGIC TEST

THIS TEST VERIFIES THAT A DEUNA INTERRUPT CAN BE GENERATED.

## TEST SEQUENCE:

1. SET UP THE INTERRUPT VECTOR
2. ISSUE A GET PCBB PORT COMMAND
3. WAIT FOR A DNI INTERRUPT
4. WRITE ONE TO CLEAR DNI

## TEST 10: 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

## TEST 11: READ/WRITE INTERNAL WCS TEST

THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY. THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO READ/WRITE THE RESERVED DOWNLINK LOAD PORTION OF THE WCS MEMORY. THE TOP 1K OF WCS. TEST SEQUENCE:

1. LOAD TBUF WITH DATA = ADDRESS
2. LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
3. RESETUP TBUF FOR DATA COMPARE
4. CLEAR RBUF
5. DUMP INTERNAL WCS MEMORY -> RBUF
6. COMPARE RBUF WITH TBUF
7. REPEAT STEPS 1 THRU 6 WITH COMPLEMENT DATA

## TEST 12: READ/WRITE MODE FUNCTION TEST

THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS. TEST SEQUENCE:

1. WRITE MODE REGISTER WITH ALL ONES
2. READ AND COMPARE MODE REGISTER
3. WRITE MODE REGISTER WITH ALL ZEROS
4. READ AND COMPARE MODE REGISTER

## TEST 13: READ/WRITE LINK MEMORY TEST

THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY. THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO READ/WRITE THE ENTIRE 16K LINK MEMORY. TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE

- TO REMOVE LINK MEMORY FROM THE WIRE
2. LOAD TBUF WITH DATA = ADDRESS
  3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
  4. REPEAT STEPS 1 AND 2 FOR EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
  5. RESETUP TBUF FOR DATA COMPARE
  6. CLEAR RBUF
  7. DUMP INTERNAL LINK 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

#### TEST 14: INTERNAL LOOPBACK TEST

PART 1 OF THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION CAN BE PERFORMED SUCCESSFULLY.  
 PART 2 OF THIS TEST VERIFIES THAT THE HEARTBEAT DETECTION CIRCUITRY IS OPERATING CORRECTLY.

##### 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
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE COLLISION TEST CIRCUITRY
9. SET UP RINGS AND BUFFERS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. ISSUE READ PORT STATUS
14. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD ?

#### TEST 15: 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

#### TEST 16: 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 RORB.4
8. ISSUE STOP

#### 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 NCMN 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 NCMN ERROR IN RORB.6
7. ISSUE STOP

#### TEST 18: TRANSMIT CHAINING ERROR TEST

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

#### TEST 19: NO RECEIVE BUFFER TEST

THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.  
AN INTERNAL LOOPBACK IS ATTEMPTED WITH  
NO RECEIVE BUFFERS OWNED BY THE DEUNA.



A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRR0.  
TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM: MODE
2. WRITE RING FORMAT (16 TRANSMIT ENTRIES)
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS  
WITH 16 TRANSMIT PALETS  
AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
5. ISSUE START
6. CHECK FOR RCBI ERROR IN PCSRO
7. ISSUE STOP

#### TEST 20: DATA CHAINING TEST

THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.  
AN INTERNAL OR EXTERNAL LOOPBACK IS PERFORMED  
WITH THREE TRANSMIT AND THREE RECEIVE BUFFERS CHAINED.  
INTERNAL LOOPBACK IS DEFAULT WITH EXTERNAL LOOPBACK BEING  
SELECTED VIA A SOFTWARE QUESTION.

TEST SEQUENCE:

1. WRITE MODE REGISTER = PROM MODE AND EITHER  
INTERNAL(D) OR EXTERNAL LOOPBACK MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS  
THREE TRANSMIT AND RECEIVE BUFFERS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP

#### TEST 21: PHYSICAL ADDRESS TEST

THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION  
IS OPERATIONAL.

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET  
THE DEUNA'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

**TEST 22: MULTICAST ADDRESS TEST**

THIS TEST VERIFIES THAT MULTICAST ADDRESSING IS OPERATIONAL.

A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

**TEST 23: PROMISCUOUS ADDRESS MODE TEST**

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DEUNA'S PHYSICAL ADDRESS.

A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

**TEST 24: 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 DEUNA'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

**TEST 25: PAD RUNT PACKETS TEST**

THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.  
THIS TEST WILL

FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET  
WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A  
BUFL ERROR IN TDRB+6 OCCURS.  
SECOND, TRANSMIT A RUNT PACKET

WHEN IN PAD RUNT PACKET MODE AND VERIFY  
SUCCESSFUL TRANSMISION AS WELL AS PADDING OCCURS.  
TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS  
WITH THE TRANSMIT BUFFER = RUNT PACKET
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB+6
7. ISSUE STOP
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM  
AND PAD RUNT PACKET MODE
9. SET UP RINGS AND BUFFERS  
WITH THE TRANSMIT BUFFER = RUNT PACKET
10. ISSUE START
11. CHECK FOR ERRORS
12. VERIFY PACKET HAS BEEN PADDED
13. ISSUE STOP

#### TEST 26: HALF DUPLEX TEST

THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL.  
WHILE IN HALF DUPLEX MODE,  
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET  
THE DESTINATION'S PHYSICAL ADDRESS.  
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A  
CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED  
DESTINATION ADDRESS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND  
HALF DUPLEX MODES
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 (MATCH BIT SHOULD BE SET)
7. CHECK FOR NO RXI
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS  
WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
12. CHECK FOR NO RXI
13. ISSUE STOP

#### TEST 27: SIMULTANEOUS OPERATIONS TEST

THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.  
A CHAINED 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  
THREE TRANSMIT AND RECEIVE BUFFERS
5. SET UP READ COUNTERS FUNCTION
6. ISSUE START
7. ISSUE GET COMMAND PORT COMMAND
8. CHECK FOR ERRORS
9. ISSUE STOP

TEST 28: PRINT DEVICE 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

&

J2

```

1152 .TITLE PROGRAM HEADER AND TABLES
1153
1154 .SBTTL PROGRAM HEADER
1180
1182 000000 .ENABL ABS,AMA
1183 .ENABL AMA
1184 002000 . 2000
1186
1187 002000 BGNMOD
1188
1189 ;**
1190 ; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
1191 ; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
1192 ;--
1193
1194 002000 POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGMDU,ERRTBL
1195
1212
1213 002000 HEADER CZUAB,C,0,0,0,340

```

```

;RSJ001
L$NAME:: .ASCII /C/
          .ASCII /Z/
          .ASCII /U/
          .ASCII /A/
          .ASCII /B/
          .BYTE C
          .BYTE 0
          .BYTE 0
L$REV:: .ASCII /C/
L$DEPO:: .ASCII /O/
L$UNIT:: .WORD 0
L$TIML:: .WORD 0
L$MPCP:: .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::

```

002042 000340  
002044  
002044 000000  
002046  
002046 000000  
002050  
002050 003  
002051 003  
002052  
002052 000000  
002054 000000  
002056  
002056 000000  
002060  
002060 015252  
002062  
002062 027536  
002064  
002064 000000  
002066  
002066 000000  
002070  
002070 030174  
002072  
002072 030166  
002074  
002074 000000  
002076  
002076 015260  
002100  
002100 104035  
002102  
002102 015242  
002104  
002104 027552  
002106  
002106 030160  
002110  
002110 030156  
002112  
002112 027544  
002114  
002114 000000  
002116  
002116 000000  
002120  
002120 000000

L\$ENVI:: .WORD 340  
L\$EXP1:: .WORD 0  
L\$MREV:: .WORD 0  
L\$LF:: .BYTE C\$REVISION  
          .BYTE C\$EDIT  
L\$SPC:: .WORD 0  
L\$DEVP:: .WORD 0  
L\$REPP:: .WORD L\$DVTYP  
L\$EXP4:: .WORD L\$RPT  
L\$EXP5:: .WORD 0  
L\$AUT:: .WORD C  
L\$DUT:: .WORD L\$AU  
L\$LUN:: .WORD L\$DU  
L\$DESP:: .WORD C  
L\$LOAD:: .WORD L\$DESC  
          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  
          ;RSJ002  
          ;RSJ003

1214  
1215

1227  
1228  
1229  
1230  
1231  
1232  
1233  
1234 002122  
002122 000034  
002124  
002124 030254  
002126 030352  
002130 030452  
002132 030552  
002134 030652  
002136 030726  
002140 031002  
002142 035002  
002144 035276  
002146 035604  
002150 036134  
002152 037110  
002154 037654  
002156 041062  
002160 043036  
002162 044150  
002164 045262  
002166 046370  
002170 047366  
002172 050260  
002174 052054  
002176 054736  
002200 060012  
002202 063412  
002204 065450  
002206 067170  
002210 070502  
002212 072232

1235

.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 28

.WORD 28  
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  
.WORD T28



M<sub>0</sub>

1243  
 1244  
 1245  
 1246  
 1247  
 1248  
 1249  
 1250  
 1251  
 1252 002214  
       002214 000002  
       002216  
       002216  
 1253  
 1263 002216 000000  
 1264 002220 000000  
 1265 002222  
       002222

.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.

BGNM' DFPTBL

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

.WORD 0  
 .WORD 0  
 ENDMW

; PCSRD - UNIBUS ADDRESS  
 ; DEUNA INTERRUPT VECTOR

L10000:

1267  
1268  
1269  
1270  
1271  
1272  
1273  
1274  
1275  
1276  
1277  
1285  
1286  
1287  
1288  
1289  
1290

.SBTTL SOFTWARE P TABLE

\*\*\*  
; THE SOFTWARE TABLE CONTAINS VARIOUS DATA USED BY THE  
; PROGRAM AS OPERATIONAL PARAMETERS. THESE PARAMETERS ARE  
; SET UP AT ASSEMBLY TIME AND MAY BE VARIED BY THE OPERATOR  
; AT RUN TIME.  
;

          BGNSW  SFPTBL

002222  
002222 000001  
002224  
002224

                          .WORD  L10001-L\$SW/2  
L\$SW::  
SFPTBL::

002224 000000  
002226  
002226

EXLOOP: .WORD  0      ; TEST20 EXTERNAL LOOPBACK FLAG  
          .EVEN  
          ENDSW

L10001:

1303  
1304  
1332  
1342  
1343  
1344  
1345  
1346  
1347  
1348  
1349  
1364  
1365 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

```

;
; 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

```

;
; EVENT FLAG DEFINITIONS
; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION
;
000040 EF.START== 32. ; START COMMAND WAS ISSUED
000037 EF.RESTART== 31. ; RESTART COMMAND WAS ISSUED
000036 EF.CONTINUE== 30. ; CONTINUE COMMAND WAS ISSUED
000035 EF.NEW== 29. ; A NEW PASS HAS BEEN STARTED
000034 EF.PWR== 28. ; A POWER-FAIL/POWER UP OCCURRED
;

```

; PRIORITY LEVEL DEFINITIONS

```

;
; PRIORITY LEVEL DEFINITIONS
;
000340 PRI07== 340

```

```

000300          PRI06.. 300
000240          PRI05.. 240
000200          PRI04.. 200
000140          PRI03.. 140
000100          PRI02.. 100
0C0040          PRI01.. 40
000300          PRI00.. 0
;
; OPERATOR FLAG BITS
;
000004          EVL..      4
0C0010          LOT..     10
000C20          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          MOE.. 100000
;
; PCSR0 - PORT CONTROL AND STATUS REGISTER 0
1366          ; SERI .. BIT15 ; STATUS ERROR INTERRUPT
1367          ; SERIB .. BIT07 ; STATUS ERROR INTERRUPT BYTE REFERENCE ;RSJ001
1368          ; PCEI .. BIT14 ; PORT COMMAND ERROR INTERRUPT
1369          ; PCEIB .. BIT06 ; PORT COMMAND ERROR INTERRUPT BYTE REF ;RSJ001
1370          ; RXI .. BIT13 ; RECEIVE RING INTERRUPT
1371          ; RXIB .. BIT05 ; RECEIVE RING INTERRUPT BYTE REF ;RSJ001
1372          ; TXI .. BIT12 ; TRANSMIT RING INTERRUPT
1373          ; TXIB .. BIT04 ; TRANSMIT RING INTERRUPT BYTE REF ;RSJ001
1374          ; DNI .. BIT11 ; DONE INTERRUPT
1375          ; DNIB .. BIT03 ; DONE INTERRUPT BYTE REF ;RSJ001
1376          ; RCBI .. BIT10 ; RECEIVE BUFFER UNAVAILABLE
1377          ; RCBIB .. BIT02 ; RECEIVE BUFFER UNAVAILABLE ;RSJ001
1378          ;
1379          ; FATI .. BIT08 ; FATAL ERROR INTERRUPT
1380          ; FATIB .. BIT00 ; FATAL ERROR INTERRUPT BYTE REF ;RSJ001
1381          ; INTR .. BIT07 ; INTERRUPT SUMMARY <15:08>
1382          ; INTE .. BIT06 ; INTERRUPT ENABLE
1383          ; RSET .. BIT05 ; UNA RESET
1384          ;
1385          ; PORT COMMANDS <03:00>
1386          ; GETPCB .. BIT00
1387          ; GETCHD .. BIT01
1388          ; SLFT .. BIT00:BIT01
1389          ; STAR1 .. BIT02
1390          ; PNOP .. BIT01:BIT02
1391          ; PDND .. BIT03
1392          ; STOP .. BIT03:BIT02:BIT01:BIT00
1393          ;
1394          ; PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1395          ; XPMR .. BIT15 ; TRANSCEIVER POWER OK
1396          ; ICAB .. BIT14 ; PORT/LINK CABLING OK
1397
1398
1399

```

04

```

1399
1400          ; SELF TEST ERROR CODE <13:08>
1401      140377 STMASK  **      140377          ; SELF TEST MASK
1402
1403          ;
1404          ; PCTO      **      BIT07          ; PORT COMMAND TIMEOUT
1405          ;
1406          ; RMTC      **      BIT03          ; REMOTE CONSOLF RESERVED
1407          ;
1408          ; PORT STATE <02:00>
1409          ; SMASK    **      177770          ; STATE MASK
1410          ;
1411          ; RESET    **      0              ;
1412          ; PRILO   **      BIT00          ; PRIMARY LOAD STATE
1413          ; READY   **      BIT01
1414          ; RUN     **      BIT00!BIT01
1415          ; UNHLT   **      BIT00!BIT02
1416          ; NIHLT   **      BIT01!BIT02
1417          ; NIUNI   **      BIT00!BIT01!BIT02
1418          ;
1419          ; DESCRIPTOR RING DEFINITIONS
1420          ; OWN      **      BIT15
1421          ; ERRS    **      BIT14
1422          ; STP     **      BIT09
1423          ; ENP     **      BIT08
1424          ;
1425          ; BUFL    **      BIT15
1426          ; GLOBAL EQUATES
1427          ; ZERO    **      0
1428          ; ONES   **      177777
1429          ; TIMASK  **      377          ; UPPER BYTE = ONES ;RSJ003
1430          ; GOODST  **      0          ; SUCCESSFUL SELF TEST CODE
1431          ; CMODE1  **      175015      ; ALL SETABLE MODE BITS = ONES
1432          ; TDRMSK  **      7777       ; TDR MASK
1433          ; DTYPE   **      2540       ; DIAGNOSTIC TYPE FIELD
1434          ;
1435          ; IKITH   **      0          ; INITIAL CRC VALUE
1436          ; POLYH   **      120001     ; CRC POLYNOMIAL
1437          ;
1438          ; SIZ4K   **      20000      ; 4K WORDS
1439          ; SIZ8K   **      SIZ4K*2    ; 8K WORDS
1440          ; SECOND  **      63.        ; 63 LINE CLOCK TICKS = APROX. 1 SECOND ;MAC001
          ; IE      **      100         ; INTERRUPT ENABLE FOR LINE CLOCY ;MAC001
    
```

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1442 .SBTTL GLOBAL DATA SECTION
1443
1444
1445 ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1446 ; IN MORE THAN ONE TEST.
1447 ; --
1448 ; ADDRESSES FOR DEUNA UNDER TEST
1449 ;
1450 002226 000000 PCSR0:: .WORD 0 ; ADDRESS OF PCSR0
1451 002230 000000 PCSR1:: .WORD 0 ; ADDRESS OF PCSR1
1452 002232 000000 PCSR2:: .WORD 0 ; ADDRESS OF PCSR2
1453 002234 000000 PCSR3:: .WORD 0 ; ADDRESS OF PCSR3
1454 002236 000000 PCSROUB:: .WORD 0 ; ADDRESS OF THE UPPER BYTE OF PCSR0
1455 ;
1456 002240 000000 INTVEC:: .WORD 0 ; ADDRESS OF DEUNA INTERRUPT VECTOR
1457 002242 000240 UNAPRI:: .WORD 240 ; UNA PRIORITY = 5
1458 002244 000000 UNIT:: .WORD 0 ; UNIT NUMBER
1459 ;
1460 002246 000000 CLKTA9:: ; MAC001
1461 002246 000000 CLKCLR:: .WORD 0 ; LINE CLOCK STATUS REGISTER ; MAC001
1462 002250 000000 CLKBR:: .WORD 0 ; LINE CLOCK PRIORITY ; MAC001
1463 002252 000000 CLKVEC:: .WORD 0 ; LINE CLOCK VECTOR ; MAC001
1464 002254 000000 CLKFRE:: .WORD 0 ; LINE CLOCK FREQUENCY ; MAC001
1465 ;
1466 002256 000000 DEST:: .WORD 0 ; DESTINATION ADDRESS
1467 002260 000000 .WORD 0
1468 002262 000000 .WORD 0
1469 ;
1470 ; DATA STRUCTURES
1471 002264 PCB8:: .BLKW 4 ; PORT CONTROL BLOCK
1472 002274 UOEB:: .BLKW 100 ; UNIBUS DATA BLOCK
1473 002604 TD8B:: .BLKW 16 ; TRANSMIT DESCRIPTOR RING
1474 002644 RDR8:: .BLKW 16 ; RECEIVE DESCRIPTOR RING
1475 002704 TDRX:: .BLKW 64 ; EXTENDED TD8B FOR TEST19
1476 003104 TBUF:: .BLKW 128 ; TRANSMIT BUFFER
1477 003504 TBUF2:: .BLKW 128
1478 004104 TBUF3:: .BLKW 128
1479 004504 TBUF4:: .BLKW 128
1480 005104 TBUF5:: .BLKW 128
1481 005504 TBUF6:: .BLKW 128
1482 006104 TBUF7:: .BLKW 128
1483 006504 TBUF8:: .BLKW 128
1484 007104 RBUF:: .BLKW 128 ; RECEIVE BUFFER
1485 007504 RBUF2:: .BLKW 128
1486 010104 RBUF3:: .BLKW 128
1487 010504 RBUF4:: .BLKW 128
1488 011104 RBUF5:: .BLKW 128
1489 011504 RBUF6:: .BLKW 128
1490 012104 RBUF7:: .BLKW 128
1491 012504 RBUF8:: .BLKW 128
1492 ;
1493 ; DEFAULT PORT FUNCTIONS
1494 013104 000000 NOPF:: .WORD 0 ; NOP FUNCTION
1495 013106 000000 .WORD 0
1496 013110 000000 .WORD 0
1497 013112 000000 .WORD 0
1498 ;

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1499	013114	000001	LSMA::	.WORD	1	; LOAD AND START MICROADDRESS FUNCTION
1500	013116	177777		.WORD	177777	; STARTING INTERNAL ADDRESS OF SELFTEST
1501	013120	000000		.WORD	0	
1502	013122	000000		.WORD	0	
1503						
1504	013124	000002	RDDEFA::	.WORD	2	; READ DEFAULT PHYSICAL ADDRESS FUNCTION
1505	013126	000000		.WORD	0	
1506	013130	000000		.WORD	0	
1507	013132	000000		.WORD	0	
1508						
1509	013134	000004	ROPHYA::	.WORD	4	; READ PHYSICAL ADDRESS FUNCTION
1510	013136	000000		.WORD	0	
1511	013140	000000		.WORD	0	
1512	013142	000000		.WORD	0	
1513						
1514	013144	000005	WTPHYA::	.WORD	5	; WRITE PHYSICAL ADDRESS
1515	013146	000000		.WORD	0	; PHYADR
1516	013150	000010		.WORD	10	; PHYADP
1517	013152	000000		.WORD	0	; PHYADR
1518						
1519	013154	000006	ROMULA::	.WORD	6	; READ MULTICAST ADDRESS LIST FUNCTION
1520	013156	002274		.WORD	U662	; ADDRESS OF UNIBUS DATA BLOCK BASE
1521	013160	005000		.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1522	013162	000000		.WORD	0	
1523						
1524	013164	000007	WTMULA::	.WORD	7	; WRITE MULTICAST ADDRESS LIST FUNCTION
1525	013166	002274		.WORD	U0BB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1526	013170	005000		.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1527	013172	000000		.WORD	0	
1528						
1529	013174	000010	RDRNGS::	.WORD	10	; READ RING FORMAT FUNCTION
1530	013176	002274		.WORD	U0BB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1531	013200	000000		.WORD	0	
1532	013202	000000		.WORD	0	
1533						
1534	013204	000011	WTRNGS::	.WORD	11	; WRITE RING FORMAT FUNCTION
1535	013206	002274		.WORD	U0BB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1536	013210	000000		.WORD	0	
1537	013212	000000		.WORD	0	
1538						
1539	013214	000012	RDCNT::	.WORD	12	; READ COUNTERS FUNCTION
1540	013216	002274		.WORD	U0BB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1541	013220	000000		.WORD	0	
1542	013222	000040		.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1543						
1544	013224	000013	CLRCNT::	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1545	013226	002274		.WORD	U0BB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1546	013230	000000		.WORD	0	
1547	013232	000040		.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1548						
1549	013234	000014	RDMODE::	.WORD	14	; READ MODE FUNCTION
1550	013236	000000		.WORD	0	
1551	013240	000000		.WORD	0	
1552	013242	000000		.WORD	0	
1553						
1554	013244	000015	WTMODE::	.WORD	15	; WRITE MODE FUNCTION
1555	013246	100004		.WORD	100004	; PROM AND INTERNAL LOOPBACK MODE

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1556 013250 000000 .WORD 0
1557 013252 000000 .WORD 0
1558 013254 000015 WTMOD1:: .WORD 15 ; WRITE MODE FUNCTION
1559 013256 104004 .WORD 104004 ; PROM AND INTERN LOOPBACK AND ENABL COLL TEST
1560 013260 000000 .WORD 0
1561 013262 000000 .WORD 0
1562 ;
1563 013264 000016 RDSTA:: .WORD 16 ; READ STATUS FUNCTION
1564 013266 000000 .WORD 0
1565 013270 000000 .WORD 0
1566 013272 000000 .WORD 0
1567 ;
1568 013274 000017 CLHSTA:: .WORD 17 ; READ AND CLEAR STATUS FUNCTION
1569 013276 000000 .WORD 0
1570 013300 000000 .WORD 0
1571 013302 000000 .WORD 0
1572 ;
1573 013304 000020 DMPHEM:: .WORD 20 ; DUMP INTERNAL MEMORY FUNCTION
1574 013306 002274 .WORD UDBB ; ADDRESS OF UNIBUS DATA BLOCK BASE
1575 013310 000000 .WORD 0
1576 013312 000000 .WORD 0
1577 ;
1578 013314 000021 LDHEM:: .WORD 21 ; LOAD INTERNAL MEMORY FUNCTION
1579 013316 002274 .WORD UDBB ; ADDRESS OF UNIBUS DATA BLOCK BASE
1580 013320 000000 .WORD 0
1581 013322 000000 .WORD 0
1582 ;
1583 ;DEFAULT RING FORMATS
1584 ;
1585 013324 002604 RFRMT:: .WORD TDRB ; TRANSMIT DESCRIPTOR RING ADDRESS
1586 013326 002000 .WORD 2000 ; TELEN = 4
1587 013330 000004 .WORD 4 ; TRLEN = 4
1588 013332 002644 .WORD RDRB ; RECEIVE DESCRIPTOR RING ADDRESS
1589 013334 002000 .WORD 2000 ; RELEN = 4
1590 013336 000004 .WORD 4 ; RRELEN = 4
1591 ;
1592 013340 002704 RFRMTX:: .WORD TDRX ; TRANSMIT DESCRIPTOR RING ADDRESS
1593 013342 002000 .WORD 2000 ; TELEN = 4
1594 013344 000020 .WORD 16 ; TRLEN = 16
1595 013346 002644 .WORD RDRB ; RECEIVE DESCRIPTOR RING ADDRESS
1596 013350 002000 .WORD 2000 ; RELEN = 4
1597 013352 000004 .WORD 4 ; RRELEN = 4
1598 ;
1599 ;DEFAULT RECEIVE DESCRIPTOR RINGS
1600 ;
1601 013354 000200 RDRBIA:: .WORD 128 ; SLEN = 128 BYTES
1602 013356 007104 .WORD RBUF ; SEGB = RBUF
1603 013360 100000 .WORD 100000 ; OWN = UNA
1604 013362 000000 .WORD 0
1605 ;
1606 013364 000200 .WORD 128 ; SLEN = 128 BYTES
1607 013366 007104 .WORD RBUF ; SEGB = RBUF
1608 013370 000000 .WORD 0 ; OWN = PORT DRIVER
1609 013372 000000 .WORD 0
1610 ;
1611 013374 000200 .WORD 128 ; SLEN = 128 BYTES
1612 013376 007104 .WORD RBUF ; SEGB = RBUF

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1613 013400 000000 .WORD 0 ; OWN = PORT DRIVER
1614 013402 000000 .WORD 0
1615 ;
1616 013404 000200 .WORD 128 ; SLEN = 128 BYTES
1617 013406 007104 .WORD RBUF ; SEGB = RBUF
1618 013410 000000 .WORD 0 ; OWN = PORT DRIVER
1619 013412 000000 .WORD 0
1620 ;
1621 013414 000200 RDRB1B:: .WORD 128 ; SLEN = 128 BYTES
1622 013416 007104 .WORD RBUF ; SEGB = RBUF
1623 013420 000000 .WORD 0 ; OWN = PORT DRIVER
1624 013422 000000 .WORD 0
1625 ;
1626 013424 000200 .WORD 128 ; SLEN = 128 BYTES
1627 013426 007104 .WORD RBUF ; SEGB = RBUF
1628 013430 000000 .WORD 0 ; OWN = PORT DRIVER
1629 013432 000000 .WORD 0
1630 ;
1631 013434 000200 .WORD 128 ; SLEN = 128 BYTES
1632 013436 007104 .WORD RBUF ; SEGB = RBUF
1633 013440 000000 .WORD 0 ; OWN = PORT DRIVER
1634 013442 000000 .WORD 0
1635 ;
1636 013444 000200 .WORD 128 ; SLEN = 128 BYTES
1637 013446 007104 .WORD RBUF ; SEGB = RBUF
1638 013450 000000 .WORD 0 ; OWN = PORT DRIVER
1639 013452 000000 .WORD 0
1640 ;
1641 013454 000100 RDRB2A:: .WORD 64 ; SLEN = 64 BYTES
1642 013456 007104 .WORD RBUF ; SEGB = RBUF
1643 013460 100000 .WORD 100000 ; OWN = UNA
1644 013462 000000 .WORD 0
1645 ;
1646 013464 000100 .WORD 64 ; SLEN = 64 BYTES
1647 013466 007504 .WORD RBUF2 ; SEGB = RBUF2
1648 013470 100000 .WORD 100000 ; OWN = UNA
1649 013472 000000 .WORD 0
1650 ;
1651 013474 000200 .WORD 128 ; SLEN = 128 BYTES
1652 013476 007104 .WORD RBUF ; SEGB = RBUF
1653 013500 000000 .WORD 0 ; OWN = PORT DRIVER
1654 013502 000000 .WORD 0
1655 ;
1656 013504 000200 .WORD 128 ; SLEN = 128 BYTES
1657 013506 007104 .WORD RBUF ; SEGB = RBUF
1658 013510 000000 .WORD 0 ; OWN = PORT DRIVER
1659 013512 000000 .WORD 0
1660 ;
1661 013514 000400 RDRB3A:: .WORD 256 ; SLEN = 256 BYTES
1662 013516 007104 .WORD RBUF ; SEGB = RBUF
1663 013520 100000 .WORD 100000 ; OWN = UNA
1664 013522 000000 .WORD 0
1665 ;
1666 013524 000400 .WORD 256 ; SLEN = 256 BYTES
1667 013526 007504 .WORD RBUF2 ; SEGB = RBUF2
1668 013530 100000 .WORD 100000 ; OWN = UNA
1669 013532 000000 .WORD 0

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1670
1671 013534 000400 .WORD 256. ; SLEN = 256 BYTES
1672 013536 010104 .WORD RBUF3 ; SEGB = RBUF3
1673 013540 100000 .WORD 100000 ; OWN = UNA
1674 013542 000000 .WORD 0
1675
1676 013544 000200 .WORD 128. ; SLEN = 128 BYTES
1677 013546 007104 .WORD RBUF ; SEGB = RBUF
1678 013550 000000 .WORD 0 ; OWN = PORT DRIVER
1679 013552 000000 .WORD 0
1680
1681 ;DEFAULT TRANSMIT DESCRIPTOR RINGS
1682
1683 013554 000174 ;TDRB1A:: .WORD 124. ; SLEN = 124 BYTES
1684 013556 003104 .WORD TBUF ; SEGB = TBUF
1685 013560 101400 .WORD 101400 ; OWN = UNA ;STP,ENP
1686 013562 000000 .WORD 0
1687
1688 013564 000174 .WORD 124. ; SLEN = 124 BYTES
1689 013566 003104 .WORD TBUF ; SEGB = TBUF
1690 013570 000000 .WORD 0 ; OWN = PORT DRIVER
1691 013572 000000 .WORD 0
1692
1693 013574 000174 .WORD 124. ; SLEN = 124 BYTES
1694 013576 003104 .WORD TBUF ; SEGB = TBUF
1695 013600 000000 .WORD 0 ; OWN = PORT DRIVER
1696 013602 000000 .WORD 0
1697
1698 013604 000174 .WORD 124. ; SLEN = 124 BYTES
1699 013606 003104 .WORD TBUF ; SEGB = TBUF
1700 013610 000000 .WORD 0 ; OWN = PORT DRIVER
1701 013612 000000 .WORD 0
1702
1703 013614 000200 ;TDRB1B:: .WORD 128. ; SLEN = 128 BYTES
1704 013616 003104 .WORD TBUF ; SEGB = TBUF
1705 013620 101400 .WORD 101400 ; OWN = UNA ;STP,ENP
1706 013622 000000 .WORD 0
1707
1708 013624 000200 .WORD 128. ; SLEN = 128 BYTES
1709 013626 003104 .WORD TBUF ; SEGB = TBUF
1710 013630 000000 .WORD 0 ; OWN = PORT DRIVER
1711 013632 000000 .WORD 0
1712
1713 013634 000200 .WORD 128. ; SLEN = 128 BYTES
1714 013636 003104 .WORD TBUF ; SEGB = TBUF
1715 013640 000000 .WORD 0 ; OWN = PORT DRIVER
1716 013642 000000 .WORD 0
1717
1718 013644 000200 .WORD 128. ; SLEN = 128 BYTES
1719 013646 003104 .WORD TBUF ; SEGB = TBUF
1720 013650 000000 .WORD 0 ; OWN = PORT DRIVER
1721 013652 000000 .WORD 0
1722
1723 013654 000072 ;TDRB1C:: .WORD 58. ; SLEN = 58 BYTES (RUNT PACKET)
1724 013656 003104 .WORD TBUF ; SEGB = TBUF
1725 013660 101400 .WORD 101400 ; OWN = UNA ;STP,ENP
1726 013662 000000 .WORD 0

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1727
1728 013664 000174 .WORD 124. ; SLEN = 124 BYTES
1729 013666 003104 .WORD TBUF ; SEGB = TBUF
1730 013670 000000 .WORD 0 ; OWN = PORT DRIVER
1731 013672 000000 .WORD 0
1732
1733 013674 000174 .WORD 124. ; SLEN = 124 BYTES
1734 013676 003104 .WORD TBUF ; SEGB = TBUF
1735 013700 000000 .WORD 0 ; OWN = PORT DRIVER
1736 013702 000000 .WORD 0
1737
1738 013704 000174 .WORD 124. ; SLEN = 124 BYTES
1739 013706 003104 .WORD TBUF ; SEGB = TBUF
1740 013710 000000 .WORD 0 ; OWN = PORT DRIVER
1741 013712 000000 .WORD 0
1742
1743 013714 000174 ; TORB2A:: .WORD 124. ; SLEN = 124 BYTES
1744 013716 003104 .WORD TBUF ; SEGB = TBUF
1745 013720 101000 .WORD 101000 ; OWN = UNA ;STP
1746 013722 000000 .WORD 0
1747
1748 013724 000174 .WORD 124. ; SLEN = 124 BYTES
1749 013726 003104 .WORD TBUF ; SEGB = TBUF
1750 013730 101400 .WORD 101400 ; OWN = UNA ;STP ;ENP
1751 013732 000000 .WORD 0
1752
1753 013734 000174 .WORD 124. ; SLEN = 124 BYTES
1754 013736 003104 .WORD TBUF ; SEGB = TBUF
1755 013740 000000 .WORD 0 ; OWN = PORT DRIVER
1756 013742 000000 .WORD C
1757
1758 013744 000174 .WORD 124. ; SLEN = 124 BYTES
1759 013746 003104 .WORD TBUF ; SEGB = TBUF
1760 013750 000000 .WORD 0 ; OWN = PORT DRIVER
1761 013752 000000 .WORD 0
1762
1763 013754 000400 ; TORB3A:: .WORD 256. ; SLEN = 256 BYTES
1764 013756 003104 .WORD TBUF ; SEGB = TBUF
1765 013760 101000 .WORD 101000 ; OWN = UNA ;STP
1766 013762 000000 .WORD 0
1767
1768 013764 000400 .WORD 256. ; SLEN = 256 BYTES
1769 013766 003504 .WORD TBUF2 ; SEGB = TBUF2
1770 013770 100000 .WORD 100000 ; OWN = UNA
1771 013772 000000 .WORD 0
1772
1773 013774 000374 .WORD 252. ; SLEN = 252 BYTES
1774 013776 004104 .WORD TBUF3 ; SEGB = TBUF3
1775 014000 100400 .WORD 100400 ; OWN = UNA ;ENP
1776 014002 000000 .WORD 0
1777
1778 014004 000174 .WORD 124. ; SLEN = 124 BYTES
1779 014006 003104 .WORD TBUF ; SEGB = TBUF
1780 014010 000000 .WORD 0 ; OWN = PORT DRIVER
1781 014012 000000 .WORD 0
1782
1783 014014 000174 ; TORBXX:: .WORD 124. ; SLEN = 124 BYTES
    
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1784	014016	003104	.WORD	TBUF	; SEGB = TBUF
1785	014020	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1786	014022	000000	.WORD	0	
1787			:		
1788	014024	000174	.WORD	124.	; SLEN = 124 BYTES
1789	014026	003104	.WORD	TBUF	; SEGB = TBUF
1790	014030	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1791	014032	000000	.WORD	0	
1792			:		
1793	014034	000174	.WORD	124.	; SLEN = 124 BYTES
1794	014036	003104	.WORD	TBUF	; SEGB = TBUF
1795	014040	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1796	014042	000000	.WORD	0	
1797			:		
1798	014044	000174	.WORD	124.	; SLEN = 124 BYTES
1799	014046	003104	.WORD	TBUF	; SEGB = TBUF
1800	014050	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1801	014052	000000	.WORD	0	
1802			:		
1803	014054	000174	.WORD	124.	; SLEN = 124 BYTES
1804	014056	003104	.WORD	TBUF	; SEGB = TBUF
1805	014060	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1806	014062	000000	.WORD	0	
1807			:		
1808	014064	000174	.WORD	124.	; SLEN = 124 BYTES
1809	014066	003104	.WORD	TBUF	; SEGB = TBUF
1810	014070	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1811	014072	000000	.WORD	0	
1812			:		
1813	014074	000174	.WORD	124.	; SLEN = 124 BYTES
1814	014076	003104	.WORD	TBUF	; SEGB = TBUF
1815	014100	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1816	014102	000000	.WORD	0	
1817			:		
1818	014104	000174	.WORD	124.	; SLEN = 124 BYTES
1819	014106	003104	.WORD	TBUF	; SEGB = TBUF
1820	014110	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1821	014112	000000	.WORD	0	
1822			:		
1823	014114	000174	.WORD	124.	; SLEN = 124 BYTES
1824	014116	003104	.WORD	TBUF	; SEGB = TBUF
1825	014120	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1826	014122	000000	.WORD	0	
1827			:		
1828	014124	000174	.WORD	124.	; SLEN = 124 BYTES
1829	014126	003104	.WORD	TBUF	; SEGB = TBUF
1830	014130	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1831	014132	000000	.WORD	0	
1832			:		
1833	014134	000174	.WORD	124.	; SLEN = 124 BYTES
1834	014136	003104	.WORD	TBUF	; SEGB = TBUF
1835	014140	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1836	014142	000000	.WORD	0	
1837			:		
1838	014144	000174	.WORD	124.	; SLEN = 124 BYTES
1839	014146	003104	.WORD	TBUF	; SEGB = TBUF
1840	014150	101400	.WORD	101400	; OWN = UNA ;STP ;ENP

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1841 014152 000000 .WORD 0
1842
1843 014154 000174 .WORD 124. ; SLEN = 124 BYTES
1844 014156 003104 .WORD TBUF ; SEGB = TBUF
1845 014160 101400 .WORD 101400 ; OWN = UNA ;STP ;ENP
1846 014162 000000 .WORD 0
1847
1848 014164 000174 .WORD 124. ; SLEN = 124 BYTES
1849 014166 003104 .WORD TBUF ; SEGB = TBUF
1850 014170 101400 .WORD 101400 ; OWN = UNA ;STP ;ENP
1851 014172 000000 .WORD 0
1852
1853 014174 000174 .WORD 124. ; SLEN = 124 BYTES
1854 014176 003104 .WORD TBUF ; SEGB = TBUF
1855 014200 101400 .WORD 101400 ; OWN = UNA ;STP ;ENP
1856 014202 000000 .WORD 0
1857
1858 014204 000174 .WORD 124. ; SLEN = 124 BYTES
1859 014206 003104 .WORD TBUF ; SEGB = TBUF
1860 014210 101400 .WORD 101400 ; OWN = UNA ;STP ;ENP
1861 014212 000000 .WORD 0
1862
1863 ;DEFAULT DATA FOR TEST10
1864 014214 000000 CRCH:: .WORD 0 ; CRC STORAGE
1865 ;DEFAULT UDBB FOR TEST10
1866 014216 004000 UDB10A:: .WORD 4000 ; FLEN = 1024 WORDS
1867 014220 007104 .WORD RBUF ; HDBB = RBUF
1868 014222 000000 .WORD 0
1869 014224 000000 .WORD 0
1870 ;ROM ADDRESS TABLE FOR TEST10
1871 014226 040000 MEM10A:: .WORD 40000 ; ADDRESS OF ROM FIRST 1K
1872 014230 044000 .WORD 44000 ; SECOND 1K
1873 014232 050000 .WORD 50000 ; ETC
1874 014234 054000 .WORD 54000
1875 014236 060000 .WORD 60000
1876 014240 064000 .WORD 64000
1877 014242 070000 .WORD 70000
1878 014244 074000 .WORD 74000
1879 ;DEFAULT UDBB FOR TEST11 AND TEST12
1880 014246 004000 UDB11A:: .WORD 4000 ; FLEN = 1024 WORDS
1881 014250 000000 .WORD 0 ; HDBB = RBUF OR TBUF (LOADED BY TEST)
1882 014252 000000 .WORD 0
1883 014254 000000 .WORD 0 ; IDBB (LOADED BY TEST)
1884 ;MCS DOWNLINE LOAD ADDRESS TABLE FOR TEST11
1885 014256 014000 MEM11A:: .WORD 14000 ; TOP 1K SECTION OF MCS
1886 ;LINK MEMORY ADDRESS TABLE FOR TEST13
1887 014260 100000 MEM13A:: .WORD 100000 ; FIRST 1K BLOCK OF LINK MEMORY
1888 014262 104000 .WORD 104000
1889 014264 110000 .WORD 110000
1890 014266 114000 .WORD 114000
1891 014270 120000 .WORD 120000
1892 014272 124000 .WORD 124000
1893 014274 130000 .WORD 130000
1894 014276 134000 .WORD 134000
1895 014300 140000 .WORD 140000
1896 014302 144000 .WORD 144000
1897 014304 150000 .WORD 150000
    
```



1955	014464	052525	.WORD	052525	
1956	014466	000001	.WORD	000001	
1957	014470	000000	.WORD	000000	
1958	014472	000000	.WORD	000000	
1959	014474	000001	.WORD	000001	
1960	014476	125252	.WORD	125252	
1961	014500	052525	.WORD	052525	
1962	014502	000001	.WORD	000001	
1963	014504	052525	.WORD	052525	
1964	014506	125252	.WORD	125252	
1965	014510	000001	.WORD	000001	
1966	014512	177777	.WORD	177777	
1967	014514	125252	.WORD	125252	
1968	014516	000001	.WORD	000001	
1969	014520	000000	.WORD	000000	
1970	014522	052525	.WORD	052525	
1971					
1972	014524	000174	:DEFAULT EXPECTED DATA		
1973	014526	003104	TDR14A::	.WORD	124. ; EXPECTED TDRB FOR
1974	014530	021400		.WORD	TBUF ; TESTS 14
1975	014532	000000		.WORD	021400 ; MTCH,STP,ENP
1976	014534	000200	TDR15A::	.WORD	0
1977	014536	003104		.WORD	128. ; EXPECTED TDRB FOR
1978	014540	021400		.WORD	TBUF ; TESTS 15,16
1979	014542	000000		.WORD	021400 ; MTCH,STP,ENP
1980	014544	000174	TDR18A::	.WORD	0
1981	014546	003104		.WORD	124. ; FIRST TDRB FOR TEST18
1982	014550	001000		.WORD	TBUF ;
1983	014552	000000		.WORD	001000 ; STP
1984	014554	000174	TDR18B::	.WORD	0
1985	014556	003104		.WORD	124. ; SECOND TDRB FOR TEST18
1986	014560	041400		.WORD	TBUF ;
1987	014562	100000		.WORD	041400 ; ERRS,STP,ENP
1988	014564	000400	TDR20A::	.WORD	100000 ; BUFL
1989	014566	003104		.WORD	256. ; FIRST TDRB FOR TEST20
1990	014570	001000		.WORD	TBUF ;
1991	014572	000000		.WORD	001000 ; STP
1992	014574	000400	TDR20B::	.WORD	0
1993	014576	003504		.WORD	256. ; SECOND TDRB FOR TEST20
1994	014600	000000		.WORD	TBUF2 ;
1995	014602	000000		.WORD	0
1996	014604	000374	TDR20C::	.WORD	0
1997	014606	004104		.WORD	252. ; THIRD TDRB FOR TEST20
1998	014610	020400		.WORD	TBUF3 ;
1999	014612	000000		.WORD	020400 ; MTCH,ENP
2000	014614	000174	TDR21X::	.WORD	0
2001	014616	003104		.WORD	124. ; EXPECTED TDRB FOR
2002	014620	001400		.WORD	TBUF ; TESTS21,22
2003	014622	000000		.WORD	001400 ; STP,ENP
2004	014624	000072	TDR25A::	.WORD	0
2005	014626	003104		.WORD	58. ; EXPECTED TDRB FOR
2006	014630	021400		.WORD	TBUF ; TEST25
2007	014632	000000		.WORD	021400 ; MTCH,STP,ENP
2008	014634	000200	TDR14A::	.WORD	0
2009	014636	007104		.WORD	128. ; EXPECTED RDRB FOR
2010	014640	045400		.WORD	RBUF ; TESTS 14,16
2011	014642	000000		.WORD	045400 ; ERRS,CRC,STP,ENP
				.WORD	0

2012	014644	007200	RDR15A::	.WORD	128.	EXPECTED RDRB FOR
2013	014646	007104		.WORD	RBUF	TESTS 15
2014	014650	001400		.WORD	001400	STP,ENP
2015	014652	000000		.WORD	0	
2016	014654	000100	RDR17A::	.WORD	64.	FIRST RDRB FOR TEST17
2017	014656	007104		.WORD	RBUF	
2018	014660	041400		.WORD	041400	ERRS,STP,ENP
2019	014662	120000		.WORD	120000	BUFL,NCHN
2020	014664	000100	RDR17B::	.WORD	64.	SECOND RDRB FOR TEST17
2021	014666	007504		.WORD	RBUF2	
2022	014670	100000		.WORD	100000	OWN = DELNA
2023	014672	000000		.WORD	0	
2024	014674	000400	RDR20A::	.WORD	256.	FIRST RDRB FOR TEST20
2025	014676	007104		.WORD	RBUF	
2026	014700	001000		.WORD	001000	STP
2027	014702	000000		.WORD	0	
2028	014704	000400	RDR20B::	.WORD	256.	SECOND RDRB FOR TEST20
2029	014706	007504		.WORD	RBUF2	
2030	014710	000000		.WORD	0	
2031	014712	000000		.WORD	0	
2032	014714	000400	RDR20C::	.WORD	256.	THIRD RDRB FOR TEST20
2033	014716	010104		.WORD	RBUF3	
2034	014720	044400		.WORD	044400	ERRS, CRC, ENP
2035	014722	000000		.WORD	0	
2036	014724	006474	CRC14A::	.WORD	6474	EXPECTED CRC FOR TEST 14
2037	014726	131527		.WORD	131527	
2038	014730	006474	CRC15H::	.WORD	6474	GOOD CRC VALUE FOR TEST15
2039	014732	131527	CRC15L::	.WORD	131527	
2040	014734	000000	CRC16H::	.WORD	0	BAD CRC VALUE FOR TEST16
2041	014736	000000	CRC16L::	.WORD	0	
2042	014740	106101	CRC20A::	.WORD	106101	EXPECTED CRC FOR TEST20
2043	014742	101153		.WORD	101153	
2044	014744	065161	CRC21A::	.WORD	65161	EXPECTED CRC'S FOR TEST 21
2045	014746	050063		.WORD	50063	
2046	014750	065223	CRC21B::	.WORD	65223	
2047	014752	025351		.WORD	25351	
2048	014754	056142	CRC22A::	.WORD	056142	CRC TABLE FOR TEST 22
2049	014756	171072		.WORD	171072	
2050	014760	111710		.WORD	111710	
2051	014762	043441		.WORD	043441	
2052	014764	066722		.WORD	066722	
2053	014766	111422		.WORD	111422	
2054	014770	025213		.WORD	025213	
2055	014772	044464		.WORD	044464	
2056	014774	152221		.WORD	152221	
2057	014776	116407		.WORD	116407	
2058	015000	152243		.WORD	152243	
2059	015002	176367		.WORD	176367	
2060	015004	100525		.WORD	100525	
2061	015006	130346		.WORD	130346	
2062	015010	077517		.WORD	077517	
2063	015012	062325		.WORD	062325	
2064	015014	173674		.WORD	173674	
2065	015016	005750		.WORD	005750	
2066	015020	004646		.WORD	004646	
2067	015022	157733		.WORD	157733	
2068	015024	063264	CRC22B::	.WORD	063264	



2069	015026	006474	.WORD	J06474	
2070	015030	124436	.WORD	124436	
2071	015032	134047	.WORD	134047	
2072	015034	053404	.WORD	053404	
2073	015036	066024	.WORD	066024	
2074	015040	010135	.WORD	010135	
2075	015042	133062	.WORD	133062	
2076	015044	167107	.WORD	167107	
2077	015046	061001	.WORD	061001	
2078	015050	020737	.WORD	020737	
2079	015052	133352	.WORD	133352	
2080	015054	135603	.WORD	135603	
2081	015056	047740	.WORD	047740	
2082	015060	042631	.WORD	042631	
2083	015062	115723	.WORD	115723	
2084	015064	146552	.WORD	146552	
2085	015066	172356	.WORD	172356	
2086	015070	031560	.WORD	031560	
2087	015072	020335	.WORD	020335	
2088	015074	050247	.WORD	050247	
2089	015076	127465	.WORD	127465	
2090	015100	072767	.WORD	072767	; EXPECTED CRC FOR TEST25
2091	015102	162562	.WORD	162562	
2092	015104	005116	.WORD	005116	; EXPECTED CRC FOR TEST27
2093	015106	171012	.WORD	171012	
2094	015110	100014	.WORD	100014	; MODE = PROM,DTCR,INTL
2095	015112	120004	.WORD	120004	; MODE = PROM,DRDC,INTL
2096	015114	100000	.WORD	100000	; MODE = PROM
2097	015116	000004	.WORD	4	; INTL LOOPBACK ONLY
2098	015120	040004	.WORD	040004	; MODE = ENAL,INTL
2099	015122	110004	.WORD	110004	; MODE = PROM,TPAD,INT
2100	015124	000005	.WORD	5	; MODE = INTL,MDUP
2101	015126	000002	.WORD	2	; UDBB FOR TEST28
2102	015130	000000	.WORD	0	
2103	015132	000000	.WORD	0	
2104	015134	000000	.WORD	0	
2105	015136	021040	.WORD	21040	; SWITCH PACK ADDRESS
2106					
2107					
2108	015140	000000	.WORD	0	; PCSR0 AT TIME OF ERROR
2109	015142	000000	.WORD	0	; PCSR1 AT TIME OF ERROR
2110	015144	000000	.WORD	0	; RDRB.0 AT TIME OF ERROR
2111	015146	000000	.WORD	0	; RDRB.2 AT TIME OF ERROR
2112	015150	000000	.WORD	0	; RDRB.4 AT TIME OF ERROR
2113	015152	000000	.WORD	0	; RDRB.6 AT TIME OF ERROR
2114	015154	000000	.WORD	0	; EXPECTED RDRB.0 AT TIME OF ERROR
2115	015156	000000	.WORD	0	; EXPECTED RDRB.2 AT TIME OF ERROR
2116	015160	000000	.WORD	0	; EXPECTED RDRB.4 AT TIME OF ERROR
2117	015162	000000	.WORD	0	; EXPECTED RDRB.6 AT TIME OF ERROR
2118	015164	000000	.WORD	0	; TDRB.0 AT TIME OF ERROR
2119	015166	000000	.WORD	0	; TDRB.2 AT TIME OF ERROR
2120	015170	000000	.WORD	0	; TDRB.4 AT TIME OF ERROR
2121	015172	000000	.WORD	0	; TDRB.6 AT TIME OF ERROR
2122	015174	000000	.WORD	0	; EXPECTED TDRB.0 AT TIME OF ERROR
2123	015176	000000	.WORD	0	; EXPECTED TDRB.2 AT TIME OF ERROR
2124	015200	000000	.WORD	0	; EXPECTED TDRB.4 AT TIME OF ERROR
2125	015202	000000	.WORD	0	; EXPECTED TDRB.6 AT TIME OF ERROR

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2126 015204 000000      EDAT::      .WORD 0      ; ACTUAL DATA AT TIME OF ERROR
2127 015206 000000      XDAT::      .WORD 0      ; EXPECTED DATA AT TIME OF ERROR
2128 015210 000000      ECRC::      .WORD 0      ; ACTUAL CRC VALUE AT TIME OF ERROR
2129 015212 000000      ECRCB::     .WORD 0
2130 015214 000000      XCRC::      .WORD 0      ; EXPECTED CRC VALUE AT TIME OF ERROR
2131 015216 000000      XCRCB::     .WORD 0
2132
2133 015220 000000      ECODE::     .WORD 0      ; SELF TEST ERROR CODE SHIFTED RIGHT
2134
2135 015222 000000      METER::     .WORD 0      ; CLOCK TICKS ;MAC001
2136 015224 000000      NEXMEM::    .WORD 0      ; NXM TIMEOUT FLAG
2137 015226 000000      DNIFLG::    .WORD 0      ; DNI INTERRUPT FLAG
2138 015230 000000      FRSTIM::    .WORD 0      ; FIRST TIME FLAG
2139
2140 015232 177777      PATRN1::    .WORD 177777 ; SAO_SAI TEST PATTERN
2141 015234 000000      .WORD 0
2142 015236 052525      .WORD 52525
2143 015240 125252      .WORD 125252
2156
2157 015242      ERRATBL
      015242      LERRATBL::
      015242 000000      ERRATYP::   .WORD 0
      015244 000000      ERRATNR::   .WORD 0
      015246 000000      ERRATMSG::  .WORD 0
      015250 000000      ERRATBLK::  .WORD 0

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2159 .SBTTL GLOBAL TEXT SECTION
2160
2161 ***
2162 ; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2163 ; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2164 ; MORE THAN ONE TEST.
2165 ;
2166
2167 ;
2168 ; NAMES OF DEVICES SUPPORTED BY PROGRAM
2169 ;
2170     DEVTYP <DEUNA>
2171     LADVTYP:: .ASCIZ /DEUNA/
2172     .EVEN
2173
2174 ; TEST DESCRIPTION
2175 ;
2176     DESCRIPT <DEUNA - POP11 FUNCTIONAL DIAGNOSTIC>
2177     LDESC:: .ASCIZ /DEUNA - POP11 FUNCT
2178     IONAL DIAGNOSTIC/
2179     015260 104 105 125
2180     015263 116 101 040
2181     015266 055 040 120
2182     015271 104 120 061
2183     015274 061 040 106
2184     015277 125 116 103
2185     015302 124 111 117
2186     015305 116 101 114
2187     015310 040 104 111
2188     015313 101 107 116
2189     015316 117 123 124
2190     015321 111 103 000
2191     .EVEN
2192
2193 ;
2194 ; FORMAT STATEMENTS USED IN PRINT CALLS
2195 ;
2204 ;
2205 ;
2213 ;
2214     FRM001:: .ASCIZ /%N%APCSR#D1%A DOES NOT EXIST/
2215     015324 045 116 045
2216     015327 101 120 103
2217     015332 123 122 045
2218     015335 104 061 045
2219     015340 101 040 104
2220     015343 117 105 123
2221     015346 040 116 117
2222     015351 124 040 105
2223     015354 130 111 123
2224     015357 124 000
2225     FRM002:: .ASCIZ /%N%A EXPECTED DATA = %06%N%A ACTUAL DATA = %06/
2226     015361 045 116 045
2227     015364 101 040 105
    
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	015367	130	120	105		
	015372	103	124	105		
	015375	104	040	104		
	015400	101	124	101		
	015403	040	075	040		
	015406	045	117	066		
	015411	045	116	045		
	015414	101	040	101		
	015417	103	124	125		
	015422	101	114	040		
	015425	104	101	124		
	015430	101	040	075		
	015433	040	040	040		
	015436	045	117	066		
	015441	000				
2216	015442	045	116	045	FRM003::	.ASCIZ /#N#A PCSR0 = #06#N#A PCSR1 = #06/
	015445	101	040	120		
	015450	103	123	122		
	015453	060	040	075		
	015456	040	045	117		
	015461	066	045	116		
	015464	045	101	040		
	015467	120	103	123		
	015472	122	061	040		
	015475	075	040	045		
	015500	117	066	000		
2217	015503	045	116	045	FRM004::	.ASCIZ /#N#A SELF TEST ERROR CODE = #02/
	015506	101	040	123		
	015511	105	114	106		
	015514	040	124	105		
	015517	123	124	040		
	015522	105	122	122		
	015525	117	122	040		
	015530	103	117	104		
	015533	105	040	075		
	015536	040	045	117		
	015541	062	000			
2218	015543	045	116	045	FRM005::	.ASCIZ /#N#A EXPECTED TDRB.0 = #06#N#A ACTUAL TDRB.0 = #06/
	015546	101	040	105		
	015551	130	120	105		
	015554	103	124	105		
	015557	104	040	124		
	015562	104	122	102		
	015565	053	060	040		
	015570	075	040	045		
	015573	117	066	045		
	015576	116	045	101		
	015601	040	101	103		
	015604	124	125	101		
	015607	114	040	124		
	015612	104	122	102		
	015615	053	060	040		
	015620	075	040	040		
	015623	040	045	117		
	015626	066	000			
2219	015630	045	116	045	FRM006::	.ASCIZ /#N#A EXPECTED TDRB.2 = #06#N#A ACTUAL TDRB.2 = #06/
	015633	101	040	105		

	015636	130	120	105		
	015641	103	124	105		
	015644	104	040	124		
	015647	104	122	102		
	015652	053	062	040		
	015655	075	040	045		
	015660	117	066	045		
	015663	116	045	101		
	015666	040	101	103		
	015671	124	125	101		
	015674	114	040	124		
	015677	104	122	102		
	015702	053	062	040		
	015705	075	040	040		
	015710	040	045	117		
	015713	066	000			
2220	015715	045	116	045	FRM007::	.ASCIZ /SMA EXPECTED TDRB.4 * #06#SMA ACTUAL TDRB.4 * #06/
	015720	101	040	105		
	015723	130	120	105		
	015726	103	124	105		
	015731	104	040	124		
	015734	104	122	102		
	015737	053	064	040		
	015742	075	040	045		
	015745	117	066	045		
	015750	116	045	101		
	015753	040	101	103		
	015756	124	125	101		
	015761	114	040	124		
	015764	104	122	102		
	015767	053	064	040		
	015772	075	040	040		
	015775	040	045	117		
	016000	066	000			
2221	016002	045	116	045	FRM008::	.ASCIZ /SMA EXPECTED TDRB.6 * #06#SMA ACTUAL TDRB.6 * #06/
	016005	101	040	105		
	016010	130	120	105		
	016013	103	124	105		
	016016	104	040	124		
	016021	104	122	102		
	016024	053	066	040		
	016027	075	040	045		
	016032	117	066	045		
	016035	116	045	101		
	016040	040	101	103		
	016043	124	125	101		
	016046	114	040	124		
	016051	104	122	102		
	016054	053	066	040		
	016057	075	040	040		
	016062	040	045	117		
	016065	066	000			
2222	016067	045	116	045	FRM009::	.ASCIZ /SMA EXPECTED RDRB.0 * #06#SMA ACTUAL RDRB.0 * #06/
	016072	101	040	105		
	016075	130	120	105		
	016100	103	124	105		
	016103	104	040	122		

	016106	104	122	102		
	016111	053	060	040		
	016114	075	040	045		
	016117	117	066	045		
	016122	116	045	101		
	016125	040	101	103		
	016130	124	125	101		
	016133	114	040	122		
	016136	104	122	102		
	016141	053	060	040		
	016144	075	040	040		
	016147	040	045	117		
	016152	066	000			
2223	016154	045	116	045	FRM010::	.ASCIZ /%N% EXPECTED RDRB.2 * %06%N% ACTUAL RDRB.2 * %06/
	016157	101	040	105		
	016162	130	120	105		
	016165	103	124	105		
	016170	104	040	122		
	016173	104	122	102		
	016176	053	062	040		
	016201	075	040	045		
	016204	117	066	045		
	016207	116	045	101		
	016212	040	101	103		
	016215	124	125	101		
	016220	114	040	122		
	016223	104	122	102		
	016226	053	062	040		
	016231	075	040	040		
	016234	040	045	117		
	016237	066	000			
2224	016241	045	116	045	FRM011::	.ASCIZ /%N% EXPECTED RDRB.4 * %06%N% ACTUAL RDRB.4 * %06/
	016244	101	040	105		
	016247	130	120	105		
	016252	103	124	105		
	016255	104	040	122		
	016260	104	122	102		
	016263	053	064	040		
	016266	075	040	045		
	016271	117	066	045		
	016274	116	045	101		
	016277	040	101	103		
	016302	124	125	101		
	016305	114	040	122		
	016310	104	122	102		
	016313	053	064	040		
	016316	075	040	040		
	016321	040	045	117		
	016324	066	000			
2225	016326	045	116	045	FRM012::	.ASCIZ /%N% EXPECTED RDRB.6 * %06%N% ACTUAL RDRB.6 * %06/
	016331	101	040	105		
	016334	130	120	105		
	016337	103	124	105		
	016342	104	040	122		
	016345	104	122	102		
	016350	053	066	040		
	016353	075	040	045		

	016356	117	066	045			
	016361	116	045	101			
	016364	040	101	103			
	016367	124	125	101			
	016372	114	040	122			
	016375	104	122	102			
	016400	053	066	040			
	016403	075	040	040			
	016406	040	045	117			
	016411	066	000				
2226	016413	045	116	045	FRM013::	.ASCIZ /#N#A EXPECTED CRC = #06#N#A	#06/
	016416	101	040	105			
	016421	130	120	105			
	016424	103	124	105			
	016427	104	040	103			
	016432	122	103	040			
	016435	075	040	045			
	016440	117	066	045			
	016443	116	045	101			
	016446	040	040	040			
	016451	040	040	040			
	016454	040	040	040			
	016457	040	040	040			
	016462	040	040	040			
	016465	040	045	117			
	016470	066	000				
2227	016472	045	116	045	FRM014::	.ASCIZ /#N#A ACTUAL CRC = #06#N#A	#06/
	016475	101	040	101			
	016500	103	124	125			
	016503	101	114	040			
	016506	103	122	103			
	016511	040	040	040			
	016514	075	040	045			
	016517	117	066	045			
	016522	116	045	101			
	016525	040	040	040			
	016530	040	040	040			
	016533	040	040	040			
	016536	040	040	040			
	016541	040	040	040			
	016544	040	045	117			
	016547	066	000				
2228	016551	045	116	045	FRM015::	.ASCIZ /#N#T/	
	016554	124	000				
2229	016556	045	116	045	FRM016::	.ASCIZ /#N#AROM MICROCODE VERSION (DECIMAL): #02/	
	016561	101	122	117			
	016564	115	040	115			
	016567	111	103	122			
	016572	117	103	117			
	016575	104	105	040			
	016600	126	105	122			
	016603	123	111	117			
	016606	116	040	050			
	016611	104	105	103			
	016614	111	115	101			
	016617	114	051	072			
	016622	040	045	104			

2230	016625	062	000				
	016627	045	116	045	FRM017::	.ASCIZ	/#N#ASWITCH PACK = #06/
	016632	101	123	127			
	016635	111	124	103			
	016640	110	040	120			
	016643	101	103	113			
	016646	040	075	040			
	016651	045	117	066			
	016654	000					
2231	016655	045	116	045	FRM018::	.ASCIZ	/#N#APORT STATUS WORD 1: #06/
	016660	101	120	117			
	016663	122	124	040			
	016666	123	124	101			
	016671	124	125	123			
	016674	040	127	117			
	016677	122	104	040			
	016702	061	072	040			
	016705	045	117	066			
	016710	000					
2232	016711	045	116	045	FRM019::	.ASCIZ	/#N#A WORD 2: #06/
	016714	101	040	040			
	016717	040	040	040			
	016722	040	040	040			
	016725	040	040	040			
	016730	040	127	117			
	016733	122	104	040			
	016736	062	072	040			
	016741	045	117	066			
	016744	000					
2233	016745	045	116	045	FRM020::	.ASCIZ	/#N#A WORD 3: #06/
	016750	101	040	040			
	016753	040	040	040			
	016756	040	040	040			
	016761	040	040	040			
	016764	040	127	117			
	016767	122	104	040			
	016772	063	072	040			
	016775	045	117	066			
	017000	000					
2234	017001	045	116	045	FRM021::	.ASCIZ	/#N#A WORD 4: #06/
	017004	101	040	040			
	017007	040	040	040			
	017012	040	040	040			
	017015	040	040	040			
	017020	040	127	117			
	017023	122	104	040			
	017026	064	072	040			
	017031	045	117	066			
	017034	000					
2235						.EVEN	



2237  
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017036 010246  
017040 012746 015324  
017044 012746 000002  
017050 010600  
017052 104414  
017054 062706 000006  
017060  
017060 104423  
017062  
017062  
017062 010446  
017064 010346  
017066 012746 015361  
017072 012746 000003  
017076 010600  
017100 104414  
017102 062706 000010  
017106  
017106 104423  
017110  
017110  
017110 013746 015142  
017114 013746 015140  
017120 012746 015442  
017124 012746 000003  
017130 010600  
017132 104414  
017134 062706 000010  
017140  
017140 104423  
017142  
017142  
017142 013746 015220  
017146 012746 015503  
017152 012746 000002

.SBTTL GLOBAL ERROR REPORT SECTION

\*\*\*  
; THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS  
; USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION. PRINTB  
; (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.  
;

BGNMSG MSG001

PRINTB #FRM001,R2

ENDMSG

BGNMSG MSG002

PRINTB #FRM002,R3,R4

ENDMSG

BGNMSG MSG003

PRINTB #FRM003,EPCSR0,EPCSR1

ENDMSG

BGNMSG MSG004

PRINTB #FRM004,ECODE

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)

017156	010600				MOV	SP,R0	
017160	104414				TRAP	C#PNTB	
017162	062706	000006			ADD	#6,SP	
2276	017166			PRINTB	#FRM015,STMSG		
	017166	013746	031244			MOV	STMSG,-(SP,
	017172	012746	016551			MOV	#FRM015,-(SP)
	017176	012746	000002			MOV	#2,(SP)
	017202	010600				MOV	SP,R0
	017204	104414				TRAP	C#PNTB
	017206	062706	000006			ADD	#6,SP
2277	017212			ENDMSG			
	017212					L10005:	
	017212	104423				TRAP	C#MSG
2278							
2279	017214			BGNMSG	MSG005		
	017214					MSG005::	
2280	017214			PRINTB	#FRM005,XTDRB0,ETDRB0		
	017214	013746	015164			MOV	ETDRB0,-(SP)
	017220	013746	015174			MOV	XTDRB0,-(SP)
	017224	012746	015543			MOV	#FRM005,(SP)
	017230	012746	000003			MOV	#3,(SP)
	017234	010600				MOV	SP,R0
	017236	104414				TRAP	C#PNTB
	017240	062706	000010			ADD	#10,SP
2281	017244			PRINTB	#FRM006,XTDRB2,ETDRB2		
	017244	013746	015166			MOV	ETDRB2,-(SP)
	017250	013746	015176			MOV	XTDRB2,-(SP)
	017254	012746	015630			MOV	#FRM006,(SP)
	017260	012746	000003			MOV	#3,(SP)
	017264	010600				MOV	SP,R0
	017266	104414				TRAP	C#PNTB
	017270	062706	000010			ADD	#10,SP
2282	017274			PRINTB	#FRM007,XTDRB4,ETDRB4		
	017274	013746	015170			MOV	ETDRB4,(SP)
	017300	013746	015200			MOV	XTDRB4,-(SP)
	017304	012746	015715			MOV	#FRM007,(SP)
	017310	012746	000003			MOV	#3,-(SP)
	017314	010600				MOV	SP,R0
	017316	104414				TRAP	C#PNTB
	017320	062706	000010			ADD	#10,SP
2283	017324			PRINTB	#FRM008,XTDRB6,ETDRB6		
	017324	013746	015172			MOV	ETDRB6,(SP)
	017330	013746	015202			MOV	XTDRB6,-(SP)
	017334	012746	016002			MOV	#FRM008,(SP)
	017340	012746	000003			MOV	#3,-(SP)
	017344	010600				MOV	SP,R0
	017346	104414				TRAP	C#PNTB
	017350	062706	000010			ADD	#10,SP
2284	017354			ENDMSG			
	017354					L10006:	
	017354	104423				TRAP	C#MSG
2285							
2286	017356			BGNMSG	MSG006		
	017356					MSG006::	
2287	017356			PRINTB	#FRM009,XRDRB0,ERDRB0		
	017356	013746	015144			MOV	ERDRB0,(SP)
	017362	013746	015154			MOV	XRDRB0,(SP)

	017366	012746	016067		MOV	#FRM009, -(SP,
	017372	012746	000003		MOV	#3, (SP)
	017376	010600			MOV	SP, R0
	017400	104414			TRAP	C#PNTB
	017402	062706	000010		ADD	#10, SP
2288	017406			PRINTB	#FRM010, XRDRB2	ERDRB2
	017406	013746	015146		MOV	ERDRB2, (SP)
	017412	013746	015156		MOV	XRDRB2, -(SP)
	017416	012746	016154		MOV	#FRM010, -(SP)
	017422	012746	000003		MOV	#3, -(SP)
	017426	010600			MOV	SP, R0
	017430	104414			TRAP	C#PNTB
	017432	062706	000010		ADD	#10, SP
2289	017436			PRINTB	#FRM011, XRDRB4,	ERDRB4
	017436	013746	015150		MOV	ERDRB4, (SP)
	017442	013746	015160		MOV	XRDRB4, (SP)
	017446	012746	016241		MOV	#FRM011, -(SP)
	017452	012746	000003		MOV	#3, (SP)
	017456	010600			MOV	SP, R0
	01746C	104414			TRAP	C#PNTB
	017462	062706	000010		ADD	#10, SP
2290	017466			PRINTB	#FRM012, XRDRB6,	ERDRB6
	017466	013746	015152		MOV	ERDRB6, (SP)
	017472	013746	015162		MOV	XRDRB6, -(SP)
	017476	012746	016326		MOV	#FRM012, (SP)
	017502	012746	000003		MOV	#3, -(SP)
	017506	010600			MOV	SP, R0
	017510	104414			TRAP	C#PNTB
	017512	062706	000010		ADD	#10, SP
2291	017516			ENDMSG		
	017516					
	017516	104423				
2292						
2293	017520			BGNMSG	MSG007	
	017520					
2294	017520			PRINTB	#FRM002, XDAT,	EDAT
	017520	013746	015204		MOV	EDAT, -(SP)
	017524	013746	015206		MOV	XDAT, -(SP)
	017530	012746	015361		MOV	#FRM002, (SP)
	017534	012746	000003		MOV	#3, (SP)
	017540	010600			MOV	SP, R0
	017542	104414			TRAP	C#PNTB
	017544	062706	000010		ADD	#10, SP
2295	017550			ENDMSG		
	017550					
	017550	104423				
2296						
2297	017552			BGNMSG	MSG008	
	017552					
2298	017552			PRINTB	#FRM013, XCRC,	XCRCB
	017552	013746	015216		MOV	XCRCB, -(SP)
	017556	013746	015214		MOV	XCRC, (SP)
	017562	012746	016413		MOV	#FRM013, (SP)
	017566	012746	000003		MOV	#3, (SP)
	017572	010600			MOV	SP, R0
	017574	104414			TRAP	C#PNTB
	017576	062706	000010		ADD	#10, SP

2299	017602				PRINTB	#FRM014,ECRC,ECRCB			
	017602	013746	015212				MOV	ECRCB,(SP)	
	017606	013746	015210				MOV	ECRC,(SP)	
	017612	012746	016472				MOV	#FRM014,(SP)	
	017616	012746	000003				MOV	#3,(SP)	
	017622	010600					MOV	SP,R0	
	017624	104414					TRAP	C#PNTB	
	017626	062706	000010				ADD	#10,SP	
2300	017632				ENDMSG				
	017632						L10011:		
	017632	104423					TRAP	C#MSG	
2301									
2302	017634				BGNMSG	MSG009			
	017634						MSG009::		
2303	017634				PRINTB	#FRM018,PCBB			
	017634	013746	002264				MOV	PCBB,(SP)	
	017640	012746	016655				MOV	#FRM018,(SP)	
	017644	012746	000002				MOV	#2,-(SP)	
	017650	010600					MOV	SP,R0	
	017652	104414					TRAP	C#PNTB	
	017654	062706	000006				ADD	#6,SP	
2304	017660				PRINTB	#FRM019,PCBB+2			
	017660	013746	002266				MOV	PCBB+2,-(SP)	
	017664	012746	016711				MOV	#FRM019,(SP)	
	017670	012746	000002				MOV	#2,-(SP)	
	017674	010600					MOV	SP,R0	
	017676	104414					TRAP	C#PNTB	
	017700	062706	000006				ADD	#6,SP	
2305	017704				PRINTB	#FRM020,PCBB+4			
	017704	013746	002270				MOV	PCBB+4,-(SP)	
	017710	012746	016745				MOV	#FRM020,-(SP)	
	017714	012746	000002				MOV	#2,-(SP)	
	017720	010600					MOV	SP,R0	
	017722	104414					TRAP	C#PNTB	
	017724	062706	000006				ADD	#6,SP	
2306	017730				PRINTB	#FRM021,PCBB+6			
	017730	013746	002272				MOV	PCBB+6,-(SP)	
	017734	012746	017001				MOV	#FRM021,(SP)	
	017740	012746	000002				MOV	#2,(SP)	
	017744	010600					MOV	SP,R0	
	017746	104414					TRAP	C#PNTB	
	017750	062706	000006				ADD	#6,SP	
2307	017754				ENDMSG				
	017754						L10012:		
	017754	104423					TRAP	C#MSG	
2308									
2309	017756	015	012	122	ERR001::	.ASCIZ <15><12>/REGISTER ACCESS ERROR/			
	017761	105	107	111					
	017764	123	124	105					
	017767	122	040	101					
	017772	103	103	105					
	017775	123	123	040					
	020000	105	122	122					
	020003	117	122	000					
2310	020006	015	012	104	ERR002::	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR2/			
	020011	101	124	101					
	020014	040	103	117					

	020017	115	120	101		
	020022	122	105	040		
	020025	105	122	122		
	020030	117	122	040		
	020033	111	116	040		
	020036	120	103	123		
	020041	122	062	000		
2311	020044	015	012	104	ERROR03::	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR3/
	020047	101	124	101		
	020052	040	103	117		
	020055	115	120	101		
	020060	122	105	040		
	020063	105	122	122		
	020066	117	122	040		
	020071	111	116	040		
	020074	120	103	123		
	020077	122	063	000		
2312	020102	015	012	104	ERROR04::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020105	116	111	040		
	020110	102	111	124		
	020113	040	106	101		
	020116	111	114	105		
	020121	104	040	124		
	020124	117	040	123		
	020127	105	124	040		
	020132	101	106	124		
	020135	105	122	040		
2313	020140	104	105	126		.ASCIZ /DEVICE RESET /
	020143	111	103	105		
	020146	040	122	105		
	020151	123	105	124		
	020154	040	000			
2314	020156	015	012	123	ERROR05::	.ASCIZ <15><12>/SELF TEST FAILURE/
	020161	105	114	106		
	020164	040	124	105		
	020167	123	124	040		
	020172	106	101	111		
	020175	114	125	122		
	020200	105	000			
2315	020202	015	012	127	ERROR06::	.ASCIZ <15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/
	020205	122	111	124		
	020210	111	116	107		
	020213	040	117	116		
	020216	105	040	124		
	020221	117	040	103		
	020224	114	105	101		
	020227	122	040	104		
	020232	116	111	040		
	020235	102	111	124		
	020240	040	106	101		
	020243	111	114	105		
	020246	104	000			
2316	020250	015	012	116	ERROR07::	.ASCII <15><12>/NO DNI INTERRUPT OCCURED /
	020253	117	040	104		
	020256	116	111	040		
	020261	111	116	124		
	020264	105	122	122		

	020267	125	120	124		
	020272	040	117	103		
	020275	103	125	122		
	020300	105	104	040		
2317	020303	101	106	124	.ASCIZ	/AFTER GET PCBB PORT COMMAND/
	020306	105	122	040		
	020311	107	105	124		
	020314	040	120	103		
	020317	102	102	040		
	020322	120	117	122		
	020325	124	040	103		
	020330	117	115	115		
	020333	101	116	104		
	020336	000				
2318	020337	015	012	104	ERROR08::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020342	116	111	040		
	020345	102	111	124		
	020350	040	106	101		
	020353	111	114	105		
	020356	104	040	124		
	020351	117	040	123		
	020364	105	124	040		
	020367	101	106	124		
	020372	105	122	040		
2319	020375	116	117	120	.ASCIZ	/NOP PORT COMMAND/
	020400	040	120	117		
	020403	122	124	040		
	020406	103	117	115		
	020411	115	101	116		
	020414	104	000			
2320	020416	015	012	104	ERROR09::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020421	116	111	040		
	020424	102	111	124		
	020427	040	106	101		
	020432	111	114	105		
	020435	104	040	124		
	020440	117	040	123		
	020443	105	124	040		
	020446	101	106	124		
	020451	105	122	040		
2321	020454	107	105	124	.ASCIZ	/GET PCBB PORT COMMAND/
	020457	040	120	103		
	020462	102	102	040		
	020465	120	117	122		
	020470	124	040	103		
	020473	117	115	115		
	020476	101	116	104		
	020501	000				
2322	020502	015	012	104	ERROR10::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020505	116	111	040		
	020510	102	111	124		
	020513	040	106	101		
	020516	111	114	105		
	020521	104	040	124		
	020524	117	040	123		
	020527	105	124	040		
	020532	101	106	124		

	020535	105	122	040	
2323	020540	107	105	124	.ASCIZ /GET CMD PORT COMMAND/
	020543	040	103	115	
	020546	104	040	120	
	020551	117	122	124	
	020554	040	103	117	
	020557	115	115	101	
	020562	116	104	000	
2324	020565	015	012	104	ERR011:: .ASCIZ <15><12>/DATA COMPARE ERROR IN MODE REGISTER/
	020570	101	124	101	
	020573	040	103	117	
	020576	115	120	101	
	020601	122	105	040	
	020604	105	122	122	
	020607	117	122	040	
	020612	111	116	040	
	020615	115	117	104	
	020620	105	040	122	
	020623	105	107	111	
	020626	123	124	105	
	020631	122	000		
2325	020633	015	012	104	ERR012:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020636	116	111	040	
	020641	102	111	124	
	020644	040	106	101	
	020647	111	114	105	
	020652	104	040	124	
	020655	117	040	123	
	020660	105	124	040	
	020663	101	106	124	
	020666	105	122	040	
2326	020671	123	124	101	.ASCIZ /START PORT COMMAND/
	020674	122	124	040	
	020677	120	117	122	
	020702	124	040	103	
	020705	117	115	115	
	020710	101	116	104	
	020713	000			
2327	020714	015	012	124	ERR013:: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
	020717	130	111	040	
	020722	102	111	124	
	020725	040	106	101	
	020730	111	114	105	
	020733	104	040	124	
	020736	117	040	123	
	020741	105	124	040	
	020744	000			
2328	020745	015	012	127	ERR014:: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
	020750	122	111	124	
	020753	111	116	107	
	020756	040	117	116	
	020761	105	040	124	
	020764	117	040	103	
	020767	114	105	101	
	020772	122	040	124	
	020775	130	111	040	
	021000	102	111	124	

	021003	040	106	101		
	021006	111	114	105		
	021011	104	000			
2329	021013	015	012	122	ERR015::	.ASCIZ <15><12>/RXI BIT FAILED TO SET /
	021016	130	111	040		
	021021	102	111	124		
	021024	040	106	101		
	021027	111	114	105		
	021032	104	040	124		
	021035	117	040	123		
	021040	105	124	040		
	021043	000				
2330	021044	015	012	127	ERR016::	.ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
	021047	122	111	124		
	021052	111	116	107		
	021055	040	117	116		
	021060	105	040	124		
	021063	117	040	103		
	021066	114	105	101		
	021071	122	040	122		
	021074	130	111	040		
	021077	102	111	124		
	021102	040	106	101		
	021105	111	114	105		
	021110	104	000			
2331	021112	015	012	124	ERR017::	.ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO /
	021115	111	115	105		
	021120	117	125	124		
	021123	040	105	122		
	021126	122	117	122		
	021131	040	055	040		
	021134	104	105	116		
	021137	125	101	040		
	021142	106	101	111		
	021145	114	105	104		
	021150	040	124	117		
	021153	040				
2332	021154	122	105	114		.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
	021157	111	116	121		
	021162	125	111	123		
	021165	110	040	117		
	021170	127	116	105		
	021173	122	123	110		
	021176	111	120	040		
	021201	117	106	040		
	021204	122	104	122		
	021207	102	040	000		
2333	021212	015	012	124	ERR018::	.ASCII <15><12>/TIMEOUT ERROR DENJA FAILED TO /
	021215	111	115	105		
	021220	117	125	124		
	021223	040	105	122		
	021226	122	117	122		
	021231	040	055	040		
	021234	104	105	116		
	021237	125	101	040		
	021242	106	101	111		
	021245	114	105	104		



	021250	040	124	117	
	021253	040			
2334	021254	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF TDRE /
	021257	111	116	121	
	021262	125	111	123	
	021265	110	040	117	
	021270	127	116	105	
	021273	122	123	110	
	021276	111	120	040	
	021301	117	106	040	
	021304	124	104	122	
	021307	102	040	000	
2335	021312	015	012	104	ERR019:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	021315	116	111	040	
	021320	102	111	124	
	021323	040	106	101	
	021326	111	114	105	
	021331	104	040	124	
	021334	117	040	123	
	021337	105	124	040	
	021342	101	106	124	
	021345	105	122	040	
2336	021350	123	124	117	.ASCIZ /STOP PORT COMMAND/
	021353	120	040	120	
	021356	117	122	124	
	021361	040	103	117	
	021364	115	115	101	
	021367	116	104	000	
2337	021372	015	012	104	ERR020:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	021375	101	124	101	
	021400	040	103	117	
	021403	115	120	101	
	021406	122	105	040	
	021411	105	122	122	
	021414	117	122	040	
	021417	111	116	040	
2338	021422	124	122	101	.ASCIZ /TRANSMIT DESCRIPTOR RING/
	021425	116	123	115	
	021430	111	124	040	
	021433	104	105	123	
	021436	103	122	111	
	021441	120	124	117	
	021444	122	040	122	
	021447	111	116	107	
	021452	000			
2339	021453	015	012	104	ERR021:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	021456	101	124	101	
	021461	040	103	117	
	021464	115	120	101	
	021467	122	105	040	
	021472	105	122	122	
	021475	117	122	040	
	021500	111	116	040	
	021503	040			
2340	021504	122	105	103	.ASCIZ /RECEIVE DESCRIPTOR RING/
	021507	105	111	126	
	021512	105	040	104	

	021515	105	123	103		
	021520	122	111	120		
	021523	124	117	122		
	021526	040	122	111		
	021531	116	107	000		
2341	021534	015	012	124	ERR022::	.ASCIZ <15><12>/TRANSMIT RECEIVE DATA COMPARE ERROR /
	021537	122	101	116		
	021542	123	115	111		
	021545	124	055	122		
	021550	105	103	105		
	021553	111	126	105		
	021556	040	104	101		
	021561	124	101	040		
	021564	103	117	115		
	021567	120	101	122		
	021572	105	040	105		
	021575	122	122	117		
	021600	122	040	000		
2342	021603	015	012	103	ERR023::	.ASCIZ <15><12>/CRC COMPARE ERROR /
	021606	122	103	040		
	021611	103	117	115		
	021614	120	101	122		
	021617	105	040	105		
	021622	122	122	117		
	021625	122	040	000		
2343	021630	015	012	111	ERR024::	.ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
	021633	116	124	105		
	021636	122	116	101		
	021641	114	040	122		
	021644	117	115	040		
	021647	103	122	103		
	021652	040	103	117		
	021655	115	120	101		
	021660	122	105	040		
	021663	105	122	122		
	021666	117	122	040		
	021671	000				
2344	021672	015	012	122	ERR025::	.ASCIZ <15><12>/RCBI BIT FAILED TO SET /
	021675	103	102	111		
	021700	040	102	111		
	021703	124	040	106		
	021706	101	111	114		
	021711	105	104	040		
	021714	124	117	040		
	021717	123	105	124		
	021722	040	000			
2345	021724	015	012	127	ERR026::	.ASCIZ <15><12>/WRITING ONE TO CLEAR RCBI BIT FAILED /
	021727	122	111	124		
	021732	111	116	107		
	021735	040	117	116		
	021740	105	040	124		
	021743	117	040	103		
	021746	114	105	101		
	021751	122	040	122		
	021754	103	102	111		
	021757	040	102	111		
	021762	124	040	106		

	021765	101	111	114		
	021770	105	104	000		
2346	021773	015	012	124	ERR027::	.ASCII <15><12>/TIMEOUT ERROR DENJA FAILED TO RELINQUISH/
	021776	111	115	105		
	022001	117	125	124		
	022004	040	105	122		
	022007	122	117	122		
	022012	040	055	040		
	022015	104	105	116		
	022020	125	101	040		
	022023	106	101	111		
	022026	114	105	104		
	022031	040	124	117		
	022034	040	122	105		
	022037	114	111	116		
	022042	121	125	111		
	022045	123	110			
2347	022047	040	117	127		.ASCIZ / OWNERSHIP OF FIRST TORB/
	022052	116	105	122		
	022055	123	110	111		
	022060	120	040	117		
	022063	106	040	106		
	022066	111	122	123		
	022071	124	040	124		
	022074	104	122	102		
	022077	000				
2348	022100	015	012	124	ERR028::	.ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO RELINQUISH/
	022103	111	115	105		
	022106	117	125	124		
	022111	040	105	122		
	022114	122	117	122		
	022117	040	055	040		
	022122	104	105	116		
	022125	125	101	040		
	022130	106	101	111		
	022133	114	105	104		
	022136	040	124	117		
	022141	040	122	105		
	022144	114	111	116		
	022147	121	125	111		
	022152	123	110			
2349	022154	040	117	127		.ASCIZ / OWNERSHIP OF SECOND TORB/
	022157	116	105	122		
	022162	123	110	111		
	022165	120	040	117		
	022170	106	040	123		
	022173	105	103	117		
	022176	116	104	040		
	022201	124	104	122		
	022204	102	000			
2350	022206	015	012	124	ERR029::	.ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO RELINQUISH/
	022211	111	115	105		
	022214	117	125	124		
	022217	040	105	122		
	022222	122	117	122		
	022225	040	055	040		
	022230	104	105	116		

	022233	125	101	040	
	022236	106	101	111	
	022241	114	105	104	
	022244	040	124	117	
	022247	040	122	105	
	022252	114	111	116	
	022255	121	125	111	
	022260	123	110		
2351	022262	040	117	127	.ASCIZ / OWNERSHIP OF THIRD TORB/
	022265	116	105	122	
	022270	123	110	111	
	022273	120	040	117	
	022276	106	040	124	
	022301	110	111	122	
	022304	104	040	124	
	022307	104	122	102	
	022312	000			
2352	022313	015	012	124	ERROR30:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022316	111	115	105	
	022321	117	125	124	
	022324	040	105	122	
	022327	122	117	122	
	022332	040	055	040	
	022335	104	105	116	
	022340	125	101	040	
	022343	106	101	111	
	022346	114	105	104	
	022351	040	124	117	
	022354	040	122	105	
	022357	114	111	116	
	022362	121	125	111	
	022365	123	110		
2353	022367	040	117	127	.ASCIZ / OWNERSHIP OF FIRST RDRB/
	022372	116	105	122	
	022375	123	110	111	
	022400	120	040	117	
	022403	106	040	106	
	022406	111	122	123	
	022411	124	040	122	
	022414	104	122	102	
	022417	000			
2354	022420	015	012	124	ERROR31:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022423	111	115	105	
	022426	117	125	124	
	022431	040	105	122	
	022434	122	117	122	
	022437	040	055	040	
	022442	104	105	116	
	022445	125	101	040	
	022450	106	101	111	
	022453	114	105	104	
	022456	040	124	117	
	022461	040	122	105	
	022464	114	111	116	
	022467	121	125	111	
	022472	123	110		
2355	022474	040	117	127	.ASCIZ / OWNERSHIP OF SECOND RDRB/

	022477	116	105	122		
	022502	123	110	111		
	022505	120	040	117		
	022510	106	040	123		
	022513	105	103	117		
	022516	116	104	040		
	022521	122	104	122		
	022524	102	000			
2356	022526	015	012	124	ERR032::	.ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022531	111	115	105		
	022534	117	125	124		
	022537	040	105	122		
	022542	122	117	122		
	022545	040	055	040		
	022550	104	105	116		
	022553	125	101	040		
	022556	106	101	111		
	022561	114	105	104		
	022564	040	124	117		
	022567	040	122	105		
	022572	114	111	116		
	022575	121	125	111		
	022600	123	110			
2357	022602	040	117	127		.ASCIZ / OWNERSHIP OF THIRD RORB/
	022605	116	105	122		
	022610	123	110	111		
	022613	120	040	117		
	022616	106	040	124		
	022621	110	111	122		
	022624	104	040	122		
	022627	104	122	102		
	022632	000				
2358	022633	015	012	104	ERR033::	.ASCII <15><12>/DATA COMPARE ERROR IN
	022636	101	124	101		
	022641	040	103	117		
	022644	115	120	101		
	022647	122	105	040		
	022652	105	122	122		
	022655	117	122	040		
	022660	111	116	040		
2359	022663	106	111	122		.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
	022666	123	124	040		
	022671	124	122	101		
	022674	116	123	115		
	022677	111	124	040		
	022702	104	105	123		
	022705	103	122	111		
	022710	120	124	117		
	022713	122	040	122		
	022716	111	116	107		
	022721	000				
2360	022722	015	012	104	ERR034::	.ASCII <15><12>/DATA COMPARE ERROR IN /
	022725	101	124	101		
	022730	040	103	117		
	022733	115	120	101		
	022736	122	105	040		
	022741	105	122	122		

	022744	117	122	040	
	022747	111	116	040	
2361	022752	123	105	103	.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
	022755	117	116	104	
	022760	040	124	122	
	022763	101	116	123	
	022766	115	111	124	
	022771	040	104	105	
	022774	123	103	122	
	022777	111	120	124	
	023002	117	122	040	
	023005	122	111	116	
	023010	107	000		
2362	023012	015	012	104	ERR035:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023015	101	124	101	
	023020	040	103	117	
	023023	115	120	101	
	023026	122	105	040	
	023031	105	122	122	
	023034	117	122	040	
	023037	111	116	040	
2363	023042	124	110	111	.ASCIZ /THIRD TRANSMIT DESCRIPTOR RING/
	023045	122	104	040	
	023050	124	122	101	
	023053	116	123	115	
	023056	111	124	040	
	023061	104	105	123	
	023064	103	122	111	
	023067	120	124	117	
	023072	122	040	122	
	023075	111	116	107	
	023100	000			
2364	023101	015	012	104	ERR036:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023104	101	124	101	
	023107	040	103	117	
	023112	115	120	101	
	023115	122	105	040	
	023120	105	122	122	
	023123	117	122	040	
	023126	111	116	040	
2365	023131	106	111	122	.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
	023134	123	124	040	
	023137	122	105	103	
	023142	105	111	126	
	023145	105	040	104	
	023150	105	123	103	
	023153	122	111	120	
	023156	124	117	122	
	023161	040	122	111	
	023164	116	107	000	
2366	023167	015	012	104	ERR037:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023172	101	124	101	
	023175	040	103	117	
	023200	115	120	101	
	023203	122	105	040	
	023206	105	122	122	
	023211	117	122	040	

	023214	111	116	040	
2367	023217	123	105	103	.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
	023222	117	116	104	
	023225	040	122	105	
	023230	103	105	111	
	023233	126	105	040	
	023236	104	105	123	
	023241	103	122	111	
	023244	120	124	117	
	023247	122	040	122	
	023252	111	116	107	
	023255	000			
2368	023256	015	012	104	ERR039:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023261	101	124	101	
	023264	040	103	117	
	023267	115	120	101	
	023272	122	105	040	
	023275	105	122	122	
	023300	117	122	040	
	023303	111	116	040	
2369	023306	124	110	111	.ASCIZ /THIRD RECEIVE DESCRIPTOR RING/
	023311	122	104	040	
	023314	122	105	103	
	023317	105	111	126	
	023322	105	040	104	
	023325	105	123	103	
	023330	122	111	120	
	023333	124	117	122	
	023336	040	122	111	
	023341	116	107	000	
2370	023344	015	012	105	ERR039:: .ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
	023347	122	122	117	
	023352	122	040	055	
	023355	040	114	117	
	023360	117	120	102	
	023363	101	103	113	
	023366	040	123	125	
	023371	103	103	105	
	023374	123	123	106	
	023377	125	114	040	
	023402	127	111	124	
	023405	110			
2371	023406	015	012	111	.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
	023411	116	126	101	
	023414	114	111	104	
	023417	040	104	105	
	023422	123	124	111	
	023425	116	101	124	
	023430	111	117	116	
	023433	040	101	104	
	023436	104	122	105	
	023441	123	123	040	
	023444	000			
2372	023445	015	012	102	ERR040:: .ASCII <15><12>/BUFL BIT FAILED TO SET /
	023450	125	106	114	
	023453	040	102	111	
	023456	124	040	106	

	023461	101	111	114		
	023464	105	104	040		
	023467	124	117	040		
	023472	123	105	124		
	023475	040				
2373	023476	127	110	105		.ASCIZ /WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET/
	023501	116	040	101		
	023504	124	124	105		
	023507	115	120	124		
	023512	111	116	107		
	023515	040	124	117		
	023520	040	124	122		
	023523	101	116	123		
	023526	115	111	124		
	023531	040	101	040		
	023534	122	125	116		
	023537	124	040	120		
	023542	101	103	113		
2374	023545	105	124	000		
	023550	015	012	120	ERROR41::	.ASCIZ <15><12>/PAD RUNT PACKET FAILURE /
	023553	101	104	040		
	023556	122	125	116		
	023561	124	040	120		
	023564	101	103	113		
	023567	105	124	040		
	023572	106	101	111		
	023575	114	125	122		
2375	023600	105	040	000		
	023603	015	012	127	ERROR42::	.ASCIZ <15><12>/MCS MEMORY DATA COMPARE ERROR /
	023606	103	123	040		
	023611	115	105	115		
	023614	117	122	131		
	023617	040	104	101		
	023622	124	101	040		
	023625	103	117	115		
	023630	120	101	122		
	023633	105	040	105		
	023636	122	122	117		
2376	023641	122	040	000		
	023644	015	012	114	ERROR43::	.ASCIZ <15><12>/LINK MEMORY DATA COMPARE ERROR /
	023647	111	116	113		
	023652	040	115	105		
	023655	115	117	122		
	023660	131	040	104		
	023663	101	124	101		
	023666	040	103	117		
	023671	115	120	101		
	023674	122	105	040		
	023677	105	122	122		
	023702	117	122	040		
	023705	000				
2377	023706	015	012	104	ERROR44::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	023711	116	111	040		
	023714	102	111	124		
	023717	040	106	101		
	023722	111	114	105		
	023725	104	040	124		



	023730	117	040	123	
	023733	105	124	040	
	023736	101	106	124	
	023741	105	122	040	
2378	023744	122	105	101	.ASCIZ /READ COUNTERS PORT COMMAND/
	023747	104	040	103	
	023752	117	125	116	
	023755	124	105	122	
	023760	123	040	120	
	023763	117	122	124	
	023766	040	103	117	
	023771	115	115	101	
2379	023774	116	104	000	
	023777	015	012	104	ERR045:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	024002	116	111	040	
	024005	102	111	124	
	024010	040	106	101	
	024013	111	114	105	
	024016	104	040	124	
	024021	117	040	123	
	024024	105	124	040	
	024027	101	106	124	
2380	024032	105	122	040	
	024035	123	105	114	.ASCIZ /SELF TEST PORT COMMAND/
	024040	106	040	124	
	024043	105	123	124	
	024046	040	120	117	
	024051	122	124	040	
	024054	103	117	115	
	024057	115	101	116	
2381	024062	104	000		
	024064	015	012	105	ERR046:: .ASCII <15><12>/ERROR - LOUPBACK SUCCESSFUL WITH/
	024067	122	122	117	
	024072	122	040	055	
	024075	040	114	117	
	024100	117	120	102	
	024103	101	103	113	
	024106	040	123	125	
	024111	103	103	105	
	024114	123	123	106	
	024117	125	114	040	
	024122	127	111	124	
2382	024125	110			
	024126	015	012	110	.ASCIZ <15><12>/HALF DUPLEX MODE SET /
	024131	101	114	106	
	024134	040	104	125	
	024137	120	114	105	
	024142	130	040	115	
	024145	117	104	105	
	024150	040	123	105	
2383	024153	124	040	000	
	024156	015	012	105	ERR047:: .ASCII <15><12>/ERROR DIAGNOSTIC TYPE PACKET /
	024161	122	122	117	
	024164	122	040	055	
	024167	040	104	111	
	024172	101	107	116	
	024175	117	123	124	

	024200	111	103	040		
	024203	124	131	120		
	024206	105	040	120		
	024211	101	103	113		
	024214	105	124	040		
2384	024217	122	105	103	.ASCIZ	/RECEIVED FROM ANOTHER NODE/
	024222	105	111	126		
	024225	105	104	040		
	024230	106	122	117		
	024233	115	040	101		
	024236	116	117	124		
	024241	110	105	122		
	024244	040	116	117		
	024247	104	105	000		
2385	024252	015	012	123	ERROR48::	.ASCIZ <15><12>/SERI BIT FAILED TO SET /
	024255	105	122	111		
	024260	040	102	111		
	024263	124	040	106		
	024266	101	111	114		
	024271	105	104	040		
	024274	124	117	040		
	024277	123	105	124		
	024302	040	000			
2386	024304	015	012	127	ERROR49::	.ASCIZ <15><12>/WRITING ONE TO CLEAR SERI BIT FAILED/
	024307	122	111	124		
	024312	111	116	107		
	024315	040	117	116		
	024320	105	040	124		
	024323	117	040	103		
	024326	114	105	101		
	024331	122	040	123		
	024334	105	122	111		
	024337	040	102	111		
	024342	124	040	106		
	024345	101	111	114		
	024350	105	104	000		
2387	024353	015	012	105	ERROR50::	.ASCII <15><12>/ERROR SUMMARY BIT FAILED TO SET IN /
	024356	122	122	117		
	024361	122	040	123		
	024364	125	115	115		
	024367	101	122	131		
	024372	040	102	111		
	024375	124	040	106		
	024400	101	111	114		
	024403	105	104	040		
	024406	124	117	040		
	024411	123	105	124		
	024414	040	111	116		
	024417	040				
2388	024420	120	117	122	.ASCIZ	/PORT STATUS WORD 2/
	024423	124	040	123		
	024426	124	101	124		
	024431	125	123	040		
	024434	127	117	122		
	024437	104	040	062		
	024442	000				
2389	024443	015	012	103	ERROR51::	.ASCII <15><12>/COLLISION TEST ERROR BIT FAILED TO SET IN /

	024446	117	114	114
	024451	111	123	111
	024454	117	116	040
	024457	124	105	123
	024462	124	040	105
	024465	122	122	117
	024470	122	040	102
	024473	111	124	040
	024476	106	101	111
	024501	114	105	104
	024504	040	124	117
	024507	040	123	105
	024512	124	040	111
	024515	116	040	
2390	024517	120	117	122
	024522	124	040	123
	024525	124	101	124
	024530	125	123	040
	024533	127	117	122
	024536	104	040	062
2391	024541	000		

.ASCIZ /PORT STATUS WORD 2/

.EVEN

```

2393      .SBTTL GLOBAL SUBROUTINES SECTION
2453
2454      ;*****
2455      ; THIS ROUTINE TURNS ON THE CLOCK
2456      ;
2457      ;*****
2458
2459
2460 024542 TIMON:: SETPRI #PRI05      ;SET PROCESSOR PRIORITY TO 5
      024542 012700 000240      MOV      #PRI05,R0
      024546 104441      TRAP     _ISPRI
2461 024550      MOV      #IE,BCLKCSR      ;ENABLE CLOCK INTERRUPTS
2462 024556 000207      RTS      PC
2463
2464
2465      ;*****
2466      ; THIS ROUTINE TURNS THE CLOCK OFF
2467      ;
2468      ;*****
2469
2470
2471 024560 TIMOFF:: CLR      BCLKCSR      ;CLEAR INTERRUPT ENABLE
2472 024564      SETPRI  #PRI07      ;PUT PRIORITY BACK UP
      024564 012700 000340      MOV      #PRI07,R0
      024570 104441      TRAP     CISPRI
2473 024572      RTS      PC

```



2523	024642	017737	155362	015142	MOV	BPCSR1,EPCSR1	; PCSR1 > EPCSR1	
2524	024650	004737	024560		JSR	PC,TIMOFF	;TURN OFF THE TIMER	;MAC001
2525	024654	000261			SEC		; SET CARRY	
2526	024656	000403			BR	40:		
2527	024660	004737	024560	30:	JSR	PC,TIMOFF	;TURN OFF THE TIMER	;MAC001
2528	024664	000241			CLC		; DNI SET SO CLEAR CARRY	;MAC001
2529	024666	012604		40:	MOV	(SP),R4	; RESTORE R4	
2530	024670	012601			MOV	(SP),R1	; RESTORE R1	
2531	024672	012600			MOV	(SP),R0	; RESTORE R0	
2532	024674	000207			RTS	PC	; AND RETURN	

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 2553 024676 010346  
 2554 024700 010446  
 2555 024702 010503  
 2556 024704 012304  
 2557 024706 012304  
 2558 024710 012304  
 2559 024712 100002  
 2560 024714 000261  
 2561 024716 000401  
 2562 024720 000241  
 2563 024722 012604  
 2564 024724 012603  
 2565 024726 000207

```

:.....
:
:      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 (UMA)
:                   THEN CARRY = 1
:
:.....
    
```

```

CHKOWN::
      MOV      R3,-(SP)      ; SAVE R3
      MOV      R4,-(SP)      ; SAVE R4
      MOV      R5,R3        ; R3 POINTS TO DESCRIPTOR RING
      MOV      (R3),R4      ; INDEX TO THIRD RING ENTRY
      MOV      (R3),R4
      BPL      10f          ; OWN = 0 ?
                          ; YES
      SEC                          ; NO, SET CARRY = 1
      BR       20f
10f:  CLC                          ; CLEAR CARRY
20f:  MOV      (SP),R4        ; RESTORE R4
      MOV      (SP),R3        ; RESTORE R3
      RTS      PC           ; AND RETURN
    
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 2589 024730  
 2590 024730 010046  
 2591 024732 010146  
 2592 024734 010446  
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 2605  
 2606 024736 012737 000176 015222  
 2607 024744 004737 024542  
 2608 024750 017704 155252  
 2609 024754 032704 002000  
 2610 024760 001015  
 2611 024762  
 024762 104422

```

    ;.....
    ;
    ; SUBROUTINE  CHKRCCE
    ;
    ; 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 -> FPSCRO
    ;               PCSR1 -> EPCSR1
    ;
    ; CALLING SEQUENCE:
    ;                 JSR      PC,CHKRCCE
    ;.....
    
```

```

CHKRCCE::
    MOV     R0, -(SP)           ; SAVE R0
    MOV     R1, -(SP)           ; SAVE R1
    MOV     R4, -(SP)           ; SAVE R4

;MAC001;
;MAC001; LOOP FOR APPROX 2 SEC
;MAC001 MOV     #3, R1           ; INIT OUTER LOOP
;MAC001100:   CLR     R0           ; INNER LOOP
;MAC001200:   MOV     @PCSR0, R4    ; PCSRO -> R4
;MAC001 BIT     @RCBI, R4         ; RCBI SET ?
;MAC001 BNE    300             ; YES
;MAC001 DEC     R0              ; INNER LOOP EXHAUSTED ?
;MAC001 BNE    200             ; NO, CHECK FOR RCBI AGAIN
;MAC001 DEC     R1              ; OUTER LOOP EXHAUSTED ?
;MAC001 BNE    200             ; NO, KEEP CHECKING FOR RCBI
;MAC001;
;MAC001;
;MAC001; LOOP EXHAUSTED AND NO RCBI
;MAC001 MOV     #2*SECOND, METER ; PUT SOME TIME IN THE TIMER
;MAC001 JSR     PC, TIMON        ; TURN ON THE LINE CLOCK
;MAC001 MOV     @PCSR0, R4      ; GET PCSRO
;MAC001 BIT     @RCBI, R4      ; IS RCBI SET?
;MAC001 BNE    300             ; YES
;MAC001 BREAK                    ; NO, VISIT DRS FOR A MOMENT
;MAC001 TRAP                    ;
;MAC001 CBRK
    
```



```

2612 024764 005737 015222          TST  METER          ;HAS TIMER EXPIRED?
2613 024770 001367                   BNE  10$           ;NOT YET
2614 024772 010437 015140          MOV  R4,EPCSRO    ; PCSRO -> EPCSRO
2615 024776 017737 155226 015142  MOV  @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
2616 025004 004737 024560          JSH  PC,TIMOFF   ;TURN OFF THE TIMER
2617 025010 000261                   SEC                   ; SET CARRY
2618 025012 000403                   BR   40$
2619 025014 004737 024560          30$: JSR PC,TIMOFF ;TURN OFF THE TIMER
2620 025020 000241                   CLC                   ;RCBI SET SO CLEAR CARRY
2621 025022 012604          40$: MOV (SP)+,R4
2622 025024 012601          MOV (SP)+,R1
2623 025026 012600          MOV (SP)+,R0
2624 025030 000207          RTS  PC           ; AND RETURN
;MAC001
;MAC001
;MAC001
;MAC001
;MAC001
;MAC001

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```

    *****
    SUBROUTINE - CHKRDR
    THIS SUBROUTINE COMPARES A RECEIVE DESCRIPTOR RING ENTRY
    WITH EXPECTED DATA.
    INPUTS:          R5 = ADDRESS OF RDRB TO BE COMPARED.
    INPLICIT 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
    *****
    
```

2657 025032  
 2658 025032 010046  
 2659 025034 010346  
 2660 025036 010446  
 2661 025040 012700 000003  
 2662 025044 012703 015154  
 2663 025050 010504  
 2664 025052 022423  
 2665  
 2666 025054 001010  
 2667 025056 005300  
 2668 025060 001374  
 2669 025062 011400  
 2670 025064 042700 007777  
 2671 025070 020013  
 2672 025072 001001  
 2673 025074 000411  
 2674 025076 012703 015144

```

CHKRDR::
    MOV     R0,-(SP)          ; SAVE R0
    MOV     R3,-(SP)          ; SAVE R3
    MOV     R4,-(SP)          ; SAVE R4
    MOV     #3,R0             ; DO THREE COMPARES
    MOV     @XRDRB0,R3        ; R3 POINTS TO EXPECTED DATA
    MOV     R5,R4             ; R4 POINTS TO ACTUAL RDRB
10$:     CMP     (R4)+,(R3)+   ; COMPARE RDRB TO EXPECTED DATA
    ; ERROR ?
    BNE     20$              ; YES
    DEC     R0                ; NO, DONE COMPARING ?
    BNE     10$              ; NO, KEEP ON COMPARING
    MOV     (R4),R0           ; RDRB+6 -> R0
    BIC     @TDRMSK,R0        ; MASK OUT TDR VALUE
    CMP     R0,(R3)          ; COMPARE ERROR ?
    BNE     20$              ; YES
    BR      30$
20$:     MOV     @ERDRB0,R3    ; R3 POINTS TO ACTUAL TABLE
    
```

```

2675 025102 010504      MOV      R5,R4          ; R4 POINTS TO ACTUAL RDR3
2676 025104 012423      MOV      (R4)+,(R3)+   ; LOAD ACTUAL TABLE
2677 025106 012423      MOV      (R4)+,(R3)+
2678 025110 012423      MOV      (R4)+,(R3)+
2679 025112 012423      MOV      (R4)+,(R3)+
2680 025114 000261      SEC
2681 025116 000401      BR       40$          ; SET CARRY
2682 025120 000241      30$:  CLC          ; CLEAR CARRY
2683 025122 012604      40$:  MOV      (SP)+,R4  ; RESTORE R4
2684 025124 012603      MOV      (SP)+,R3    ; RESTORE R3
2685 025126 012600      MOV      (SP)+,R0    ; RESTORE R0
2686 025130 000207      RTS      PC          ; AND RETURN

```

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```

    ;*****
    ;
    ; 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 -> EPCSRO
    ;                PCSR1  > EPCSR1
    ;
    ; CALLING SEQUENCE:
    ;                JSR      PC,CHKRXI
    ;*****
    
```

2710 025132  
 2711 025132 010446  
 2712 025134 010146  
 2713 025176 010446  
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 2727 025140 012737 000176 015222  
 2728 025146 004737 024542  
 2729 025152 017704 155050  
 2730 025156 032704 020000  
 2731 025162 001015  
 2732 025164 104422  
 2733 025166 005737 015222  
 2734 025172 001367  
 2735 025174 010437 015140  
 2736 025200 017737 155024 015142  
 2737 025206 004737 024560

```

CHKRXI::
    MOV     R0,-(SP)      ; SAVE R0
    MOV     R1,-(SP)      ; SAVE R1
    MOV     R4,-(SP)      ; SAVE R4

;MAC001;
;MAC001; LOOP FOR APPRUX 2 SEC
;MAC001 MOV     #3,R1      ; INIT OUTER LOOP
;MAC00110+: CLR     R0      ; INNER LOOP
;MAC00120+: MOV     @PCSRO,R4 ; PCSRO -> R4
;MAC001 BIT     @RXI,R4    ; RXI SET ?
;MAC001 BNE    30$        ; YES
;MAC001 DEC     R0         ; INNER LOOP EXHAUSTED ?
;MAC001 BNE    20$        ; NO, CHECK FOR RXI AGAIN
;MAC001 DEC     R1         ; OUTER LOOP EXHAUSTED ?
;MAC001 BNE    20$        ; NO, KEEP CHECKING FOR RXI
;MAC001;
;MAC001;
;MAC001; LOOP EXHAUSTED AND NO RXI
;MAC001 MOV     @2*SECOND,METER ; PUT SOME TIME IN THE TIMER
;MAC001 JSR     PC,TIMON    ; TURN ON THE LINE CLOCK
;MAC001 10$: MOV     @PCSRO,R4 ; GET PCSRO
;MAC001 BIT     @RXI,R4    ; IS RXI SET?
;MAC001 BNE    30$        ; YES
;MAC001 BREAK    ; NO, VISIT DRS FOR A MOMENT
;MAC001 TRAP    ;
;MAC001
;MAC001 TST     METER      ; HAS TIMER EXPIRED?
;MAC001 BNE    10$        ; NOT YET
;MAC001 MOV     R4,EPCSRO  ; PCSRO -> EPCSRO
;MAC001 MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
;MAC001 JSR     PC,TIMOFF  ; TURN OFF THE TIMER
    
```

2738	025212	000261			SEC				; SET CARRY	
2739	025214	000403			BR	40:				
2740	025216	004737	024560	30:	JSR	PC,TIMOFF			; TURN OFF THE TIMER	;MAC001
2741	025222	000241			CLC				; RXI SET SO CLEAR CARRY	;MAC00;
2742	025224	012604		40:	MOV	(SP)+,R4			; RESTORE R4	
2743	025226	012601			MOV	(SP)+,R1			; RESTORE R1	
2744	025230	012600			MOV	(SP)+,R0			; RESTORE R0	
2745	025232	000207			RTS	PC			; AND RETURN	

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025234  
 025234 010046  
 025236 010446  
 025240 017704 154764  
 025244 042704 140377  
 025250 022704 000000  
 025254 001414  
 025256 005104  
 025260 042704 140377  
 025264 012700 000010  
 025270 006204  
 025272 005300  
 025274 001375  
 025276 010437 015220  
 025302 000261  
 025304 000401  
 025306 000241  
 025310 012604  
 025312 012600  
 025314 000207

```

*****
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
*****
    
```

```

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
; MATCH THE LED'S      ;MAC001
COM    R4
BIC    @STMASK,R4    ;MAC001
MOV    @B.,R0
; SHIFT CODE RIGHT
5$:   ASR    R4
      DEC    R0
      BNE    5$
      MOV    R4,ECODE
; SHIFTED CODE -> ECODE
; SET CARRY
      SEC
      BR     20$
10$:  CLC
20$:  MOV    (SP)+,R4
      MOV    (SP)+,R0
      RTS   PC
; AND RETURN
    
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025316  
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 025320 010346  
 025322 010446  
 025324 012700 000004  
 025330 012703 015174  
 025334 010504  
 025336 022423  
 025340 001003  
 025342 005300  
 025344 001374  
 025346 000411  
 025350 012703 015164  
 025354 010504  
 025356 012423  
 025360 012423  
 025362 012423  
 025364 012423  
 025366 000261  
 025370 000401  
 025372 000241  
 025374 012604  
 025376 012603  
 025400 012600  
 025402 000207

```

    .....
    |
    | SUBROUTINE - CHKTDR
    |
    | THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
    | WITH EXPECTED DATA.
    |
    | INPUTS:          R5 = ADDRESS OF TDRB TO BE COMPARED
    |
    | IMPLICIT INPUTS:
    |                  XTDRRO = 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
100:      CMP     (R4),.(R3) ; COMPARE TDRB TO EXPECTED DATA
    ; ERROR ?
    ; YES
    BNE     200          ; NO, DONE COMPARING ?
    ; NO, KEEP ON COMPARING
    BR      300
200:      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
    BR      400          ; SET CARRY
300:      CLC
400:      MOV     (SP),R4   ; CLEAR CARRY
    MOV     (SP),R3       ; RESTORE R4
    MOV     (SP),R0       ; RESTORE R3
    MOV     (SP),R0       ; RESTORE R0
    RTS     PC            ; AND RETURN
    
```

```

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2850 .....
2851 |
2852 | SUBROUTINE CHKTXI
2853 |
2854 | THIS ROUTINE WAITS FOR TXI TO SET.
2855 |
2856 | INPUTS: NONE
2857 |
2858 | OUTPUTS: IF TXI SETS
2859 | THEN CARRY = 0
2860 |
2861 | IF TXI FAILS TO SET
2862 | THEN CARRY = 1
2863 | PCSRO -> EPCSR0
2864 | PCSR1 -> EPCSR1
2865 |
2866 | CALLING SEQUENCE:
2867 | JSR PC,CHKTXI
2868 |
2869 .....
    
```

```

2870
2871 025404 CHKTXI::
2872 025404 010046 MOV RO,-(SP) ; SAVE RO
2873 025406 010146 MOV R1,-(SP) ; SAVE R1
2874 025410 010446 MOV R4,-(SP) ; SAVE R4
2875 ;MAC001;
2876 ;MAC001; LOOP FOR APPROX 2 SEC
2877 ;MAC001 MOV #3,R1 ; INIT OUTER LOOP
2878 ;MAC00110: CLR RO ; INNER LOOP
2879 ;MAC00120: MOV @PCSR0,R4 ; PCSRO -> R4
2880 ;MAC001 BIT @TXI,R4 ; TXI SET ?
2881 ;MAC001 BNE 30: ; YES
2882 ;MAC001 DEC RO ; INNER LOOP EXHAUSTED ?
2883 ;MAC001 BNE 20: ; NO, CHECK FOR TXI AGAIN
2884 ;MAC001 DEC R1 ; OUTER LOOP EXHAUSTED ?
2885 ;MAC001 BNE 20: ; NO, KEEP CHECKING FOR TXI
2886 ;MAC001;
2887 ;MAC001;
2888 025412 012737 000176 015222 MOV #2*SECOND,METER ; LOOP EXHAUSTED AND NO TXI
2889 025420 004737 024542 JSR PC,TIMON ; PUT SOME TIME IN THE TIMER ;MAC001
2890 025424 017704 154576 10: MOV @PCSR0,R4 ; TURN ON THE LINE CLOCK ;MAC001
2891 025430 032704 010000 BIT @TXI,R4 ; GET PCSRO ;MAC001
2892 025434 001015 BNE 30: ; IS TXI SET? ;MAC001
2893 025436 BREAK ; YES ;MAC001
2894 025436 104422 ; NO, VISIT DRS FOR A MOMENT ;MAC001
2895 025440 005737 015222 TST METER ; HAS TIMER EXPIRED? ;MAC001
2896 025444 001367 BNE 10: ; NOT YET ;MAC001
2897 025446 010437 015140 MOV R4,EPCSR0 ; PCSRO -> EPCSR0
2898 025452 017737 154552 MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
2899 025460 004737 024560 JSR PC,TIMOFF ; TURN OFF THE TIMER ;MAC001
    
```



2899 025464 000261  
2900 025466 000403  
2901 025470 004737 024560  
2902 025474 000241  
2903 025476 012604  
2904 025500 012601  
2905 025502 012600  
2906 025504 000207

SEC  
BR 401  
301: JSR PC,TIMOFF  
CLC  
401: MOV (SP),R4  
MOV (SP),R1  
MOV (SP),R0  
RTS PC

; SET CARRY  
; TURN OFF THE TIMER ;MAC001  
; TXI SET SO CLEAR CARRY ;MAC001  
; RESTORE R4  
; RESTORE R1  
; RESTORE R0  
; AND RETURN

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025506 010446  
 025510 017704 154512  
 025514 032704 100000  
 025520 001007  
 025522 010437 015140  
 025526 017737 154476 015142  
 025534 000261  
 025536 000401  
 025540 000241  
 025542 012604  
 025544 000207

```

    .....
    :
    : SUBROUTINE - CHKSER
    :
    : THIS ROUTINE CHECKS FOR THE SERI BIT IN PCSRO.
    :
    : INPUTS: NONE
    :
    : OUTPUTS: IF SERI BIT SET THEN CARRY = 0
    :
    : IF SERI BIT NOT SET THEN CARRY = 1
    : PCSRO -> EPCSRO
    : PCSR1 -> EPCSR1
    :
    : CALLING SEQUENCE:
    : JSR PC,CHKSER
    :
    .....
    
```

```

CHKSER: MOV R4, -(SP) ;SAVE R4
        MOV @PCSRO, R4 ;GET PCSRO CONTENTS
        BIT @SERI, R4 ;IS SERI BIT SET?
        BNE 10$ ;YES
        MOV R4, EPCSRO ;NO, SAVE PCSRO CONTENTS
        MOV @PCSR1, EPCSR1 ;GET PCSR1 CONTENTS TOO
        SEC ;INDICATE NO SERI BIT
        BR 20$ ;LEAVE
10$: CLC ;INDICATE SERI BIT SET
20$: MOV (SP)+, R4 ;RESTORE R4
        RTS PC
    
```

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    .....
    :
    : 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
    :
    .....
    
```

2963 025546  
 2964 025546 010446  
 2965 025550 112777 000010 154460  
 2966 025556 017704 154444  
 2967 025562 032704 004000  
 2968 025566 001407  
 2969 025570 010437 015140  
 2970 025574 017737 154430 015142  
 2971 025602 000261  
 2972 025604 000401  
 2973 025606 000241  
 2974 025610 012604  
 2975 025612 000207

```

CLRDNI::
MOV R4, -(SP) ; SAVE R4
MOVB #DNIB, @PCSR0UB ; WRITE ONE TO CLEAR DNI BIT ;RSJ001
MOV @PCSR0, R4 ; PCSRO -> R4
BIT @DNI, R4 ; DNI = 0 ?
BEQ 101 ; YES
MOV R4, EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1, EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 201
101: CLC ; CLEAR CARRY
201: MOV (SP), R4 ; RESTORE R4
RTS PC ; AND RETURN
    
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.....
:
: SUBROUTINE CLRCE
:
: THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
: THE RCBI BIT AND VERIFIES ITS SUCCESS.
:
: INPUTS: NONE
:
: OUTPUTS: IF SUCCESSFUL ( RCBI = 0 )
:          THEN CARRY = 0
:
:          IF UNSUCCESSFUL ( RCBI = 1 )
:          THEN CARRY = 1
:          PCSRO -> EPCSRO
:          PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,CLRCE
:
.....
    
```

3000 025614  
 3001 025614 010446  
 3002 025616 112777 000004 154412  
 3003 025624 017704 154376  
 3004 025630 032704 002000  
 3005 025634 001407  
 3006 025636 010437 015140  
 3007 025642 017737 154362 015142  
 3008 025650 000261  
 3009 025652 000401  
 3010 025654 000241  
 3011 025656 012604  
 3012 025660 000207

```

CLRCE::
MOV R4, -(SP) ; SAVE R4
MOVB @RCBIB, @PCSROUB ; WRITE ONE TO CLEAR RCBI BIT ;RSJ001
MOV @PCSRO, R4 ; PCSRO -> R4
BIT @RCBI, R4 ; RCBI = 0 ?
BEQ 101 ; YES
MOV R4, EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1, @EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 201
101: CLC ; CLEAR CARRY
201: MOV (SP)+, R4 ; RESTORE R4
RTS PC ; AND RETURN
    
```

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 3037 025662  
 3038 025662  
 3039 025664  
 3040 025672  
 3041 025676  
 3042 025702  
 3043 025704  
 3044 025710  
 3045 025716  
 3046 025720  
 3047 025722  
 3048 025724  
 3049 025726

```

    ;*****
    ;
    ; 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
    ;*****
    
```

```

CLRRXI::
    MOV     R4, -(SP)                ; SAVE R4
    MOVB   @RXIB, @PCSROUR          ; WRITE ONE TO CLEAR RXI BIT ;RSJ001
    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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.....
:
: 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
:
.....

```

3074 025730  
3075 025730 010446  
3076 025732 112777 000020 154276  
3077 025740 017704 154262  
3078 025744 032764 010000  
3079 025750 001407  
3080 025752 010437 015140  
3081 025756 017737 154246 015142  
3082 025764 000261  
3083 025766 000401  
3084 025770 000241  
3085 025772 012604  
3086 025774 000207

```

CLRTXI::
MOV R4, -(SP) ; SAVE R4
MOVB @TXIB, @PCSROUB ; WRITE ONE TO CLEAR TXI BIT ;RSJ001
MOV @PCSRO, R4 ; PCSRO -> R4
BIT @TXI, R4 ; TXI = 0 ?
BEQ 100 ; YES
MOV R4, EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1, EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 200
100: CLC ; CLEAR CARRY
200: MOV (SP)+, R4 ; RESTORE R4
RTS PC ; AND RETURN

```

```

3088 ;
3089 ;
3090 ; SUBROUTINE CLRSER
3091 ;
3092 ; THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
3093 ; THE SERI BIT AND VERIFIES ITS SUCCESS.
3094 ;
3095 ; INPUTS: NONE
3096 ;
3097 ; OUTPUTS: IF SUCCESSFUL ( SERI = 0 )
3098 ; THEN CARRY = 0
3099 ;
3100 ; IF UNSUCCESSFUL ( SERI = 1 )
3101 ; THEN CARRY = 1
3102 ; PCSRO -> EPCSRO
3103 ; PCSR1 -> EPCSR1
3104 ;
3105 ; CALLING SEQUENCE:
3106 ; JSR PC,CLRSER
3107 ;
3108 ;
3109 ;
3110 CLRSER::
3111 025776 010446 MOV R4,-(SP) ; SAVE R4
3112 026000 112777 000200 154230 MOVB #SERIB,#PCSROUB ; WRITE ONE TO CLEAR SERI BIT ;RSJ001
3113 026006 017704 154214 MOV #PCSRO,R4 ; PCSRO -> R4
3114 026012 032704 100000 BIT #SERI,R4 ; SERI = 0 ?
3115 026016 001407 BEQ 10# ; YES
3116 026020 010437 015140 MOV R4,EPCSRO ; NO, PCSRO -> EPCSRO
3117 026024 017737 154200 015142 MOV #PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
3118 026032 000261 SEC ; SET CARRY
3119 026034 000401 BR 20#
3120 026036 000241 10#: CLC ; CLEAR CARRY
3121 026040 012604 20#: MOV (SP)+,R4 ; RESTORE R4
3122 026042 000207 RTS ; AND RETURN
  
```

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 3147 026044  
 3148 026044 010046  
 3149 026046 010346  
 3150 026050 010446  
 3151 026052 010500  
 3152 026054 012703 003120  
 3153 026060 012704 007120  
 3154 026064 022324  
 3155 026066 001003  
 3156 026070 005300  
 3157 026072 001374  
 3158 026074 000406  
 3159 026076 014337 015206  
 3160 026102 014437 015204  
 3161 026106 000261  
 3162 026110 000401  
 3163 026112 000241  
 3164 026114 012604  
 3165 026116 012603  
 3166 026120 012600  
 3167 026122 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+12.,R3  ; R3 POINTS TO EXPECTED DATA
    MOV     @RBUF+12.,R4  ; R4 POINTS TO ACTUAL DATA
100:    CMP     (R3),(R4)   ; DATA COMPARE ?
        BNE     200       ; NO
        DEC     R0        ; YES, DONE ?
        BNE     100       ; NO
        BR      300       ; YES
200:    MOV     -(R3),XDAT ; SAVE EXPECTED DATA
        MOV     -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC     CARRY     ; SET CARRY
        BR      400
300:    CLC             ; CLEAR CARRY
400:    MOV     (SP),R4   ; RESTORE R4
        MOV     (SP),R3   ; RESTORE R3
        MOV     (SP),R0   ; RESTORE R0
        RTS     PC       ; AND RETURN
    
```



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```

    .....
    :
    : SUBROUTINE CMPCRC
    :
    : THIS SUBROUTINE COMPARES A CRC VALUE WITH
    : AN EXPECTED CRC VALUE.
    :
    : INPUTS: R5 = ADDRESS OF ACTUAL CRC VALUE TO BE COMPARED.
    :
    : 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
    :
    .....
    
```

3195 026124  
 3196 026124 010346  
 3197 026126 010446  
 3198 026130 012703 015214  
 3199 026134 010504  
 3200 026136 022324  
 3201 026140 001004  
 3202 026142 022324  
 3203 026144 001002  
 3204 026146 000241  
 3205 026150 000406  
 3206 026152 012703 015210  
 3207 026156 010504  
 3208 026160 012423  
 3209 026162 012423  
 3210 026164 000261  
 3211 026166 012604  
 3212 026170 012603  
 3213 026172 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 101 ; NO
    CMP (R3), (R4) ; SECOND CRC WORD COMPARE ?
    BNE 101 ; NO
    CLC ; YES, CLEAR CARRY
    BR 201
    101: 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
    201: MOV (SP), R4 ; RESTORE R4
    MOV (SP), R3 ; RESTORE R3
    RTS PC ; AND RETURN
    
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 3238 026174  
 3239 026174 010046  
 3240 026176 010346  
 3241 026200 010446  
 3242 026202 010500  
 3243 026204 012703 003104  
 3244 026210 012704 007104  
 3245 026214 022324  
 3246 026216 001003  
 3247 026220 005300  
 3248 026222 001374  
 3249 026224 000406  
 3250 026226 014337 015206  
 3251 026232 014437 015204  
 3252 026236 000261  
 3253 026240 000401  
 3254 026242 000241  
 3255 026244 012604  
 3256 026246 012603  
 3257 026250 012600  
 3258 026252 000207

```

.....
:
: SUBROUTINE CMPMEM
:
: THIS SUBROUTINE COMPARES THE READ MEMORY BUFFER (RBUF )
: WITH THE WRITE MEMORY BUFFER (TBUF).
:
: 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
    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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026254  
026254 010046  
026256 010346  
026260 010446  
026262 010500  
026264 012703 000000  
026270 012704 007176  
026274 020324  
026276 001003  
026300 005300  
026302 001374  
026304 000406  
026306 010337 015206  
026312 014437 015204  
026316 000261  
026320 000401  
026322 000241  
026324 012604  
026326 012603  
026330 012600  
026332 000207

```

.....
SUBROUTINE  CMPRNT

THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
TO VERIFY ZERO PADDING HAS OCCURED.

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,CMPRNT
.....
    
```

```

CMPRNT::
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    @ZERO,R3      ; R3 IS EXPECTED DATA (ZERO'S)
MOV    @RBUF+58,,R4  ; R4 POINTS TO ACTUAL DATA
10$:  CMP    R3,(R4)+  ; DATA = ZERO'S ?
      BNE   20$      ; 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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 3325 026334 010046  
 3326 026336 010146  
 3327 026340 010246  
 3328 026342 010346  
 3329 026344 010546  
 3330  
 3331 026346 012702 007104  
 3332 026352 012703 004000  
 3333 026356 013704 014214  
 3334 026362 012705 120001  
 3335  
 3336 026366 112200  
 3337 026370 042700 177400  
 3338 026374 074004  
 3339 026376 012701 000010  
 3340 026402 000241  
 3341 026404 006004  
 3342 026406 103001  
 3343 026410 074504  
 3344 026412 077105  
 3345 026414 077314  
 3346  
 3347 026416 012605  
 3348 026420 012603  
 3349 026422 012602  
 3350 026424 012601  
 3351 026426 012600  
 3352 026430 000207

```

.....
:
:      SUBROUTINE  CRCBLK
:
:      THIS SUBROUTINE CALCULATES A 16 BIT CRC
:      ON A BLOCK OF DATA.
:
:      IMPLICIT
:      INPUTS:      RBUF = ADDRESS OF DATA BLOCK
:                  BYTE COUNT = 2048. WORDS*2
:
:      OUTPUTS:     R4 = CRC
:
:      CALLING SEQUENCE:
:                  JSR  PC,CRCBLK
:
:.....
CRCBLK:
      MOV  R0,-(SP)      ; SAVE R0
      MOV  R1,-(SP)      ; SAVE R1
      MOV  R2,-(SP)      ; SAVE R2
      MOV  R3,-(SP)      ; SAVE R3
      MOV  R5,-(SP)      ; SAVE R5
:
      MOV  @RBUF,R2      ; R2 = ADDRESS OF DATA BLOCK
      MOV  @2048.,R3     ; R3 = 2048. WORDS * 2
      MOV  CRCH,R4       ; INITIAL CRC
      MOV  @POLYH,R5     ; CRC POLYNOMIAL
:
10:   MOVB  (R2)+,R0      ; GET NEXT BYTE
      BIC  @+C377,R0     ; CLEAR HIGH BYTE
      XOR  R0,R4         ; MERGE BYTE WITH OLD CRC
      MOV  @8.,R1        ; LOOP COUNT
20:   CLC
      ROR  R4            ; SHIFT RIGHT THE CRC
      BCC  30            ; SKIP IF BIT ZERO NOT SET
      XOR  R5,R4         ; EXCLUSIVE OR IN THE POLY
30:   SOB  R1,20        ; AND LOOP ON ALL 8 BITS
      SOB  R3,10
:
      MOV  (SP)+,R5      ; RESTORE R5
      MOV  (SP)+,R3      ; RESTORE R3
      MOV  (SP)+,R2      ; RESTORE R2
      MOV  (SP)+,R1      ; RESTORE R1
      MOV  (SP)+,R0      ; RESTORE R0
      RTS  PC            ; AND RETURN

```

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3372

```

.....
:
:   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
:
:.....

```

3373  
3374 026432  
3375 026432 010046  
3376 026434 010346  
3377 026436 010546  
3378  
3379 026440 012700 000006  
3380 026444 012703 073237  
3381 026450 012705 073154  
3382  
3383 026454 112537 073172  
3384 026460 004737 026514  
3385 026464 113723 073173  
3386 026470 004737 026552  
3387 026474 113723 073173  
3388 026500 105723  
3389 026502 077014  
3390  
3391 026504 012605  
3392 026506 012603  
3393 026510 012600  
3394 026512 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
:
:101:  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  R0,101     ; 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

```

3396  
3397  
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3402  
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3404  
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```

.....
:
: 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
:
.....

```

3416 026514  
3417 026514 010146  
3418  
3419 026516 013701 073172  
3420 026522 042701 177417  
3421  
3422 026526 006201  
3423 026530 006201  
3424 026532 006201  
3425 026534 006201  
3426  
3427 026536 062701 073263  
3428 026542 111137 073173  
3429  
3430 026546 012601  
3431 026550 000207

```

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

```

3433  
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3459  
3460  
3461  
3462  
3463

026552  
026552 010146  
  
026554 013701 073172  
026560 042701 177760  
  
026564 062701 073263  
026570 111137 073173  
  
026574 012601  
026576 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 @NEXTBL,R1 ; GET INDEX INTO NEXTBL
: MOVB (R1),HEXVAL ; AND LOAD HEXVAL
:
: MOV (SP)+,R1 ; RESTORE R1
: RTS PC ; AND RETURN

```

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 3481

```

    .....
    |
    |          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
    |
    |          .....
    
```

3482 026600  
 3483 026600 010146  
 3484 026602 010346  
 3485 026604 010446  
 3486 026606 012701 002000  
 3487 026612 011504  
 3488 026614 012703 003104  
 3489 026620 010423  
 3490 026622 062704 000002  
 3491 026626 005301  
 3492 026630 001373  
 3493 026632 012604  
 3494 026634 012603  
 3495 026636 012601  
 3496 026640 000207

```

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
104:      MOV     R4,(R3)+    ; LOAD TBUF
    ADD     #2,R4            ; ADD 2 TO DATA
    DEC     R1               ; DONE 1K BLOCK ?
    BNE    104              ; NO
    MOV     (SP)+,R4         ; RESTORE R4
    MOV     (SP)+,R3         ; RESTORE R3
    MOV     (SP)+,R1         ; RESTORE R1
    RTS     PC               ; AND RETURN
    
```



3498  
 3499  
 3500  
 3501  
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 3514

```

.....
:
: 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 = COMPLIMENTED ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
:                   JSR    PC,LDBUFC
:
:
:.....
    
```

3515 026642  
 3516 026642 010146  
 3517 026644 010246  
 3518 026646 010346  
 3519 026650 010446  
 3520 026652 012701 002000  
 3521 026656 011504  
 3522 026660 012703 003104  
 3523 026664 010402  
 3524 026666 005102  
 3525 026670 010223  
 3526 026672 062704 000002  
 3527 026676 005301  
 3528 026700 001371  
 3529 026702 012604  
 3530 026704 012603  
 3531 026706 012602  
 3532 026710 012601  
 3533 026712 000207

```

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
101:    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   101                ; 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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 3548  
 3549  
 3550  
 3551  
 3552 026714  
 3553 026714 010346  
 3554 026716 010446  
 3555 026720 010504  
 3556 026722 012703  
 3557 026726 012423  
 3558 026730 012423  
 3559 026732 012423  
 3560 026734 012604  
 3561 026736 012603  
 3562 026740 000207

002256

```

.....
:
: 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
    
```

3564  
3565  
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3575  
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3577  
3578  
3579  
3580  
3581 026742  
3582 026742 010346  
3583 026744 010446  
3584 026746 012703 002264  
3585 026752 010504  
3586 026754 012423  
3587 026756 012423  
3588 026760 012423  
3589 026762 012423  
3590 026764 012604  
3591 026766 012603  
3592 026770 000207

```

.....
:
: 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
:
:
:
.....

```

```

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

```

3594  
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3600  
3601  
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3608  
3609  
3610

```
.....  
:                                     :  
: 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                       :  
:                                     :  
:.....
```

3611 026772  
3612 026772 012777 002264 153232  
3613 027000 012777 000000 153226  
3614 027006 000207

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

3616  
 3617  
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 3626  
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 3630  
 3631  
 3632  
 3633 027010  
 3634 027010 010046  
 3635 027012 010346  
 3636 027014 010446  
 3637 027016 012700 000020  
 3638 027022 012703 002644  
 3639 027026 010504  
 3640 027030 012423  
 3641 027032 005300  
 3642 027034 001375  
 3643 027036 012604  
 3644 027040 012603  
 3645 027042 012600  
 3646 027044 000207

```

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

```

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

```

3648
3649
3650
3651
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3664
    :.....
    :
    :      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
    :.....
    
```

```

3665 027046
3666 027046 010046
3667 027050 010346
3668 027052 010446
3669 027054 012700 000020
3670 027060 012703 002604
3671 027064 010504
3672 027066 012423
3673 027070 075300
3674 027072 001375
3675 027074 012604
3676 027076 012603
3677 027100 012600
3678 027102 000207
    
```

```

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         ; F.1 = 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
    
```

3680  
 3681  
 3682  
 3683  
 3684  
 3685  
 3686  
 3687  
 3688  
 3689  
 3690  
 3691  
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 3693  
 3694  
 3695  
 3696

3697 027104  
 3698 027104 010046  
 3699 027106 010346  
 3700 027110 010446  
 3701 027112 012700 000100  
 3702 027116 012703 002704  
 3703 027122 010504  
 3704 027124 012423  
 3705 027126 005300  
 3706 027130 001375  
 3707 027132 012604  
 3708 027134 012603  
 3709 027136 012600  
 3710 027140 000207

```

.....
:
: SUBROUTINE LDTDX
:
: 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,LDTDX
:
.....
    
```

```

LDTDX::
    MOV R0,-(SP) ; SAVE R0
    MOV R3,-(SP) ; SAVE R3
    MOV R4,-(SP) ; SAVE R4
    MOV #64,R0 ; LOAD 64 WORDS
    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
    
```

3712  
3713  
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3728  
3729

```

*****
:
: SUBROUTINE LDUBB
:
: 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,LDUBB
*****

```

3730 027142  
3731 027142 010146  
3732 027144 010346  
3733 027146 010446  
3734 027150 010001  
3735 027152 012703 002274  
3736 027156 010504  
3737 027160 012423  
3738 027162 005301  
3739 027164 001375  
3740 027166 012604  
3741 027170 012603  
3742 027172 012601  
3743 027174 000207

```

LDUBB::
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

```



3745  
3746  
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```

.....
:
: 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
:
:
:.....

```

```

3761 027176
3762 027176 010346
3763 027200 010446
3764 027202 012704 015214
3765 027206 010503
3766 027210 012324
3767 027212 012324
3768 027214 012604
3769 027216 012603
3770 027220 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

```

09

3772  
 3773  
 3774  
 3775  
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```

    ;.....
    ;
    ;       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
    ;.....
    
```

3788 027222  
 3789 027222 010346  
 3790 027224 010446  
 3791 027226 012704 015154  
 3792 027232 010503  
 3793 027234 012324  
 3794 027236 012324  
 3795 027240 012324  
 3796 027242 012324  
 3797 027244 012604  
 3798 027246 012603  
 3799 027250 000207

```

LDXRDR::
    MOV     R3,-(SP)      ; SAVE R3
    MOV     R4,-(SP)      ; SAVE R4
    MOV     @XPDRBO,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
    
```

3801  
3802  
3803  
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3807  
3808  
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3817 027252  
3818 027252 010346  
3819 027254 010446  
3820 027256 012704 015174  
3821 027262 010503  
3822 027264 012324  
3823 027266 012324  
3824 027270 012324  
3825 027272 012324  
3826 027274 012604  
3827 027276 012603  
3828 027300 000207

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

```
LDXTDR::  
MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV @XTDRBO,R4 ; R4 POINTS TO XTDRBO  
MOV R5,R3 ; R3 POINTS TO DATA  
MOV (R3), (R4) ; LOAD XTDRBO TABLE  
MOV (R3), (R4)  
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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3850

```

.....
:
: 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
:
.....

```

3851  
3852 027302  
3853 027302 010446  
3854 027304 017704 152716  
3855 027310 032704 020000  
3856 027314 001407  
3857 027316 010437 015140  
3858 027322 017737 152702 015142  
3859 027330 000261  
3860 027332 000401  
3861 027334 000241  
3862 027336 012604  
3863 027340 000207

```

NORXI::
MOV R4,-(SP) ; SAVE R4
MOV @PCSRO,R4 ; PCSRO -> R4
BIT @RXI,R4 ; RXI = 0 ?
BEQ 101 ; YES
MOV R4,EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 201
101: CLC ; CLEAR CARRY
201: MOV (SP)+,R4 ; RESTORE R4
RTS PC ; AND RETURN

```

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3886  
3887  
3888 027342  
3889 027342 010046  
3890 027344 010346  
3891 027346 010546  
3892  
3893 027350 012703 007104  
3894 027354 012700 002000  
3895 027360 005023  
3896 027362 005300  
3897 027364 001375  
3898  
3899  
3900 027366 012705 002256  
3901 027372 012703 003104  
3902 027376 012523  
3903 027400 012523  
3904 027402 012523  
3905  
3906 027404 012705 002256  
3907 027410 012523  
3908 027412 012523  
3909 027414 012523  
3910  
3911 027416 005023  
3912  
3913 027420 012700 001771  
3914 027424 012705 015232  
3915 027430 011523  
3916 027432 005300  
3917 027434 001375  
3918 027436 012605  
3919 027440 012603  
3920 027442 012600  
3921 027444 000207

```

.....
SUBROUTINE  SETBUF
THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
FOR A 128 BYTE DATA LOOPBACK.
A. CLEAR RECEIVE BUFFER RBUF
B. LOAD TRANSMIT BUFFER TBUF

INPUTS:      NONE

IMPLICIT INPUTS:
              DEST:: = DESTINATION ADDRESS

OUTPUTS:     RBUF IS CLEARED
              TBUF IS SET UP FOR TRANSMIT

CALLING SEQUENCE:
              JSR    PC,SETBUF
.....

SETBUF::
MOV    R0, -(SP)           ; SAVE R0
MOV    R3, -(SP)           ; SAVE R3
MOV    R5, -(SP)           ; SAVE R5
;CLEAR RBUF (1024 WORDS)
MOV    @RBUF, R3           ; POINT TO RBUF
MOV    #1024, R0           ; COUNT 1024 WORDS
101:   CLR    (R3)+         ; CLEAR BUFFER
      DEC    R0             ; DONE ?
      BNE   101            ; NO
;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS
MOV    @DEST, R5           ; POINT TO DESTINATION ADDRESS
MOV    @TBUF, R3           ; POINT TO TBUF
MOV    (R5)+, (R3)+       ; LOAD DESTINATION ADDRESS
MOV    (R5)+, (R3)+
MOV    (R5)+, (R3)+
;LOAD SOURCE ADDRESS
MOV    @DEST, R5           ; LOAD FOR LATER COMPARISON
MOV    (R5)+, (R3)+
MOV    (R5)+, (R3)+
MOV    (R5)+, (R3)+
;CLEAR TYPE FIELD
CLR    (R3)+               ; CLEAR TYPE FIELD
;LOAD DATA FIELD (1017 WORDS)
MOV    #1017, R0          ; COUNT 1017 WORDS
MOV    @PATRN1, R5        ; POINT TO DATA PATTERN
201:   MOV    (R5), (R3)+  ; LOAD DATA PATTERN
      DEC    R0             ; DONE ?
      BNE   201            ; NO
      MOV    (SP)+, R5     ; YES, RESTORE R5
      MOV    (SP)+, R3     ; RESTORE R3
      MOV    (SP)+, R0     ; RESTORE R0
      RTS    PC            ; AND RESTORE

```

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3943  
3944  
3945 027446  
3946 027446 010446  
3947 027450 112777 000377 152560  
3948 027456 105077 152544  
3949 027462 105077 152540  
3950 027466 012746 000062  
3951 027472  
3952 027472 005316  
3953 027474 003376  
3954 027476 005726  
3955 027500 017704 152522  
3956 027504 001011  
3957 027506 017704 152516  
3958 027512 042704 177770  
3959 027516 022704 000002  
3960 027522 001002  
3961  
3962 027524 000241  
3963 027526 000401  
3964  
3965 027530 000261  
3966 027532 012604  
3967 027534 000207  
3968

```

.....
:
: SUBROUTINE TINIT
:
: THIS SUBROUTINE IS CALLED AT THE BEGINNING OF A TEST
: TO DETERMINE IF A DEVICE RESET IS REQUIRED BEFORE
: THE REST OF THE TEST IS EXECUTED.
:
: 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 @TIMASK, @PCSR0UB ; ATTEMPT TO CLEAR PCSRO UPPER BYTE
CLRB @PCSR0 ; AND LOWER BYTE
CLRB @PCSR0 ; AND AGAIN TO CLEAR COMMAND FIELD
MOV @SO, -(SP) ; INITIATE APPROX SOUS WAIT LOOP

54:
DEC (SP) ; COUNT DOWN
BGT 54 ; DO UNTIL 0
TST (SP)+ ; POP THE STACK TO CLEAN UP
MOV @PCSR0, R4 ; PCSRO = 0 ?
BNE 104 ; NO, A RESET IS REQUIRED
MOV @PCSR1, R4 ; PCSR1 -> R4
BIC @SMASK, R4 ; MASK DEUNA STATE
CMP @READY, R4 ; STATE = READY ?
BNE 104 ; NO, A RESET IS REQUIRED

;
; NO RESET REQUIRED CLEAR CARRY
CLC
BR 204

;
104: SEC ; A RESET IS REQUIRED SET CARRY
204: MOV (SP)+, R4 ; RESTORE R4
RTS PC ; AND RETURN

```

3981 .TITLE MISCELLANEOUS SECTIONS  
3982 .SBTTL REPORT CODING SECTION

4011  
4012  
4013  
4014 ;\*\*  
4015 ; THE REPORT CODING SECTION CONTAINS THE  
4016 ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.  
4017 ;

4019 027536 BGNRPT  
027536

L1RPT:

4020  
4032  
4033 027536 EXIT RPT  
027536 000167  
027540 000000

.WORD JSJMP  
.WORD L10013-2

4034  
4046 .EVEN  
4047  
4048  
4049 027542 ENDRPT  
027542  
027542 104425

L10013:  
TRAP C1RPT

4051  
4052  
4053  
4054  
4055  
4056  
4057  
4058 027544  
027544  
4059  
4060 027544 177777  
4061 027546 177777  
4062 027550 177777  
4063  
4064 027552  
4065

.SBTTL PROTECTION TABLE

THIS TABLE IS USED BY THE RUNTIME SERVICES  
TO PROTECT THE LOAD MEDIA.

BGNPROT

L#PROT::

-1  
1  
-1

OFFSET INTO P-TABLE FOR CSR ADDRESS  
OFFSET INTO P-TABLE FOR MASSBUS ADDRESS  
OFFSET INTO P-TABLE FOR DRIVE NUMBER

ENDPROT



```

4080          .SBTTL INITIALIZE SECTION
4081
4082          : **
4083          ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
4084          ; AT THE BEGINNING OF EACH PASS.
4085          ; -
4086
4087 027552          BGNINIT
027552
4088
4089
4112
4113
4114 027552          READEF @EF.CONTINUE          ; WAS A CONTINUE COMMAND ENTERED?
027552 012700 000036          MOV          @EF.CONTINUE,R0
027556 104447          TRAP          C@REFG
4115 027560          BCCOMplete          30$          ; YES, LEAVE INIT CODE
4116 027562          READEF @EF.PWR          ; WAS THERE A POWER FAILURE?
027562 012700 000034          BCS          30$
027566 104447          MOV          @EF.PWR,R0
4117          ;MAC001 BCCOMplete          30$          ; YES, LEAVE INIT CODE
4118 027570          BNCOMplete          2$          ; NO
027570 103007          TRAP          C@REFG
4119          ;
4120          ; DELAY A PERIOD OF TIME (APPROX 25 SECS ) FOR SELF TEST TO FINISH
4121          ;
4122 027572 012701 000150          MOV          @150,R1          ; INIT OUTER LOOP
4123 027576 005000          CLR          R0          ; INIT INNER LOOP
4124 027600 005300          3$: DEC          R0          ;MAC001
4125 027602 001376          BNE          3$          ;MAC001
4126 027604 005301          DEC          R1          ;MAC001
4127 027606 001374          BNE          3$          ;MAC001
4128 027610          2$: READEF @EF.NEW          ; NEW PASS ?
027610 012700 000035          MOV          @EF.NEW,R0
027614 104447          TRAP          C@REFG
4129 027616          BNCOMplete          10$          ; NO
4130 027620          READEF @EF.START          ; START ?
027620 012700 000040          MOV          @EF.START,R0
027624 104447          TRAP          C@REFG
4131 027626          BNCOMplete          5$          ; NO
4132 027630 103051          RESET          ; CLEAR THE WORLD
4133 027632 012737 000001 015230          MOV          @1,FRSTIM          ; SET FIRST TIME FLAG
4134 027640          CLOCK          L,R1          ; GET LINE CLOCK INFO
027640 012700 000114          MOV          @L,R0          ;MAC001
027644 104462          TRAP          C@CLK          ;MAC001
027646 010001          MOV          R0,R1          ;MAC001
4135 027650          BCCOMplete          1$          ;MAC001
4136 027652          PRINTF @NOCLK          ; ERROR MESSAGE
027652 012746 030114          MOV          @NOCLK,(SP)
027656 012746 000001          MOV          @1,(SP)
027662 010600          MOV          SP,R0
027664 104417          TRAP          C@PRINTF
027666 062706 000004          ADD          @4,SP
4137 027672 000504          BR          20$          ; CANNOT CONTINUE

```

```

4138 027674 012137 002244      14:  MOV      (R1)+,CLKCSR      ;LINE CLOCK CSR      ;MAC001
4139 027700 012102              MOV      (R1)+,R2        ;GET CLOCK PRIORITY ;MAC001
4140 027702 072227 000005      ASH      #5,R2           ;MAC001
4141 027706 010237 002250      MOV      R2,CLKBR       ;MAC001
4142 027712 012137 002252      MOV      (R1)+,CLKVEC   ;VECTOR              ;MAC001
4143 027716 012137 002254      MOV      (R1)+,CLKFRE   ;FREQUENCY           ;MAC001
4144 027722              SETVEC  CLKVEC,#CLKSRV,CLKBR ;SETUP CLOCK INTERRUPT VECTOR ;MAC001
                                MOV      CLKBR, (SP)
                                MOV      #CLKSRV, -(SP)
                                MOV      CLKVEC, -(SP)
                                MOV      #3, -(SP)
                                TRAP     C#SVEC
                                ADD      #10,SP
4145 027750 000402              BR       6#
4146 027752 005037 015230      CLR      FRSTIM         ;CLEAR FIRST TIME FLAG
4147 027756 012737 177777 002244  6#:  MOV      #-1,UNIT      ;YES, INITIALIZE UNIT NUMBER
4148 027764 005237 002244      10#:  INC      UNIT          ;SET UP FOR NEXT UNIT
4149 027770 023737 002244 002012  CMP      UNIT,L#UNIT    ;TESTED ALL AVAILABLE UNITS?
4150 027776 003042              BGT     20#            ;YES, LEAVE
4151 030000              GPHARD  UNIT,R1        ;GET P-TABLE POINTER FOR THIS UNIT
                                MOV      UNIT,R0
                                TRAP     C#GPHRD
                                MOV      R0,R1
4152 030010              BNCOMPLETE 10#        ;THIS ONE IS NOT AVAILABLE
                                BCC     10#
4153 030012 012137 002226      MOV      (R1)+,PCSR0    ;SAVE PCSRO
4154 030016 012137 002240      MOV      (R1)+,INTVEC   ;SAVE VECTOR
4155
4156 030022 013737 002226 002236      MOV      PCSRO,PCSR0UB ;SET UP ADDRESS OF UPPER BYTE OF PCSRO ;RSJ001
4157 030030 062737 000001 002236      ADD     #1,PCSR0UB
4158 030036 013737 002226 002230      MOV      PCSRO,PCSR1   ;SET UP PCSR1
4159 030044 062737 000002 002230      ADD     #2,PCSR1
4160 030052 013737 002230 002232      MOV      PCSR1,PCSR2   ;SET UP PCSR2
4161 030060 062737 000002 002232      ADD     #2,PCSR2
4162 030066 013737 002232 002234      MOV      PCSR2,PCSR3   ;SET UP PCSR3
4163 030074 062737 000002 002234      ADD     #2,PCSR3
4164 030102 000403              BR       30#
4165 030104 005037 015230      20#:  CLR      FRSTIM        ;LEAVE
4166 030110              DOCLN                    ;CLEAR FIRST TIME FLAG
                                ;ABORT PASS
                                TRAP     C#DOCLN
4167 030112              ENDINIT
                                L10015: TRAP     C#INIT
                                ;MAC001
4179 030114 103 101 116 NOCLK:: .ASCIZ /CANNOT CONTINUE - NEED LINE CLOCK/
4180 030117 116 117 124
030122 040 103 117
030125 116 124 111
030130 116 125 105
030133 040 055 040
030136 116 105 105
030141 104 040 114
030144 111 116 105
030147 040 103 114
030152 117 103 113
030155 000

```

```
4182          .SBTTL AUTODROP SECTION
4183
4184          ;**
4185          ; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
4186          ; THE "ADR" FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
4187          ; SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
4188          ; DROPPED FROM TESTING.
4189          ;--
4190
4191          030156          BGNAUTO
4192          030156
4193
4194          030156          ENDAUTO
4195          030156
4196          030156 104461
4197
4198          L$AUTO::
4199
4200          L10016: TRAP C$AUTO
```

4202  
4203  
4204  
4205  
4206  
4207  
4208  
4209 030160  
030160  
4210  
4219  
4220 030160  
030160 104432  
030162 000002  
4221  
4233  
4234  
4235  
4236 030164  
030164  
030164 104412

.SBTTL CLEANUP CODING SECTION

\*\*\*  
; THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED  
; AFTER THE HARDWARE TESTS HAVE BEEN PERFORMED.  
---

BGNCLN

L\$CLEAN::

EXIT CLN

TRAP C\$EXIT  
.WORD L10017 .

.EVEN

ENDCLN

L10017:  
TRAP C\$CLEAN

```

4238 .SBTTL DROP UNIT SECTION
4239
4240 : **
4241 : THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
4242 : TO NO LONGER BE TESTED.
4243 :
4244
4245 030166 BGNDU
030166 L$DU.:
4246
4255
4256 030166 EXIT DU
030166 000167 .WORD J$JMP
030170 000000 .WORD L10020 2 .
4257
4269
4270 .EVEN
4271
4272 030172 ENDDU
030172
030172 104453 L10020: TRAP C$DU

```

4274  
4275  
4276  
4277  
4278  
4279  
4280  
4281  
4282 030174  
030174  
4283  
4292  
4293 030174  
030174 000167  
030176 000000  
4294  
4306  
4307  
4308  
4309 030200  
030200  
030200 104452

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.  
;

BGNAU

L\$AU::

EXIT AU

.WORD J\$JMP  
.WORD L10021 2 .

.EVEN

ENDAU

L10021: TRAP C\$AU

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4327  
4328

```

.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:
;
; L:0022:
; RTI

```

```

030202
030202 012737 000001 015224
030210
030210
030210 000002

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4330  
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030212  
030212  
030212  
030214  
030220  
030224  
030226  
030234  
030236  
030236  
030236

030212  
030212  
010446  
017704 152006  
032704 004000  
001403  
012737 000001 015226  
012604  
030236  
030236  
000002

.SBTTL ISRDN1 - DNI INTERRUPT SERVICE ROUTINE  
:.....  
: FUNCTIONAL DESCRIPTION:  
: THIS ROUTINE IS ASSIGNED TO THE DEUNA'S INTERRUPT VECTOR BY  
: TEST 9.  
: WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.  
:.....

BGNSRV ISRDN1

ISRDN1::

MOV R4, -(SP) ; SAVE R4  
MOV @PCSRO, R4 ; PCSRO -> R4  
BIT @DNI, R4 ; DNI SET?  
BEQ 100 ; NO, EXIT  
MOV @1, DNIFLG ; YES, SET DNIFLG FLAG  
MOV (SP)+, R4 ; RESTORE R4

ENDSRV

L10023  
RTI



4354  
4355  
4356  
4357  
4358  
4359  
4360  
4361  
4362  
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4364  
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4370  
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4372  
4373  
4374  
4375  
4376

030240  
030240 005737 015222  
030244 001402  
030246 005337 015222  
030252  
030252  
030252 000002

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

BGNSRV CLKSRV

TST METER  
BEQ 201  
DEC METER  
201:  
ENDSRV

CLKSRV::  
;HAS THE METER EXPIRED?  
;YES, STOP COUNTING  
;COUNT TICKS

L10024:  
RTI

4379  
 4390  
 4457  
 4458  
 4459  
 4460  
 4461  
 4462  
 4463  
 4464  
 4465  
 4466  
 4467  
 4468  
 4469 030254  
 030254  
 4470 030254  
 030254 012746 000340  
 030260 012746 030202  
 030264 012746 000004  
 030270 012746 000003  
 030274 104437  
 030276 062706 000010  
 4471 030302 005037 015224  
 4472 030306 005002  
 4473 030310 017701 151712  
 4474 030314 005737 015224  
 4475 030320 001410  
 4476 030322  
 030322 104455  
 030324 000001  
 030326 017756  
 030330 017030  
 4477 030332  
 030332 013700 002244  
 030336 104451  
 4478 030340  
 030340 104444  
 4479 030342  
 030342 012700 000004  
 030346 104436  
 4480 030350  
 030350  
 030350 104401  
 4481

.TITLE HARDWARE TESTS

.SBTTL TEST 1: PCSRO READ ACCESS TEST

```

:.....
:
:   THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSRO
:   UNIBUS ADDRESS SPECIFIED.
:
:   TEST SEQUENCE:
:       1. READ PCSRO
:.....

```

BGNTST

SETVEC 04,ISRDNM,0PRI07

```

T1:
: SET UP TIMEOUT TRAP VECTOR
:
:   MOV 0PRI07,-(SP)
:   MOV 0ISRDNM,-(SP)
:   MOV 04,-(SP)
:   MOV 03,-(SP)
:   TRAP C0SVEC
:   ADD 010,SP

```

CLR NEXMEM ; CLEAR NDM TIMEOUT FLAG  
 CLR R2 ; R2 = WHICH PCSR IS BEING TESTED  
 MOV 0PCSRO,R1 ; DOES PCSR EXIST?

TST NEXMEM ; YES  
 BEQ 100 ; NO, PRINT DEVICE FATAL ERROR MESSAGE  
 ERROF 001,ERRO01,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE  
 TRAP C0EROF  
 .WORD 1  
 .WORD ERRO01  
 .WORD MSG001

DODU UNIT ; DROP UNIT  
 MOV UNIT,R0  
 TRAP C0DODU

DOCLN ; AND ABORT PASS  
 TRAP C0DCLN

100: CLRVEC 04 ; YES  
 MOV 04,R0  
 TRAP C0CVEC

ENDTST  
 L10025: TRAP C0ETST

4483  
4484  
4485  
4486  
4487  
4488  
4489  
4490  
4491  
4492  
4493  
4494

.SBTTL TEST 2: PCSR1 READ ACCESS TEST

.....  
: THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR1  
: UNIBUS ADDRESS SPECIFIED.  
: TEST SEQUENCE:  
: 1. READ PCSR1  
: .....

4495 030352  
030352  
4496 030352  
030352 012746 000340  
030356 012746 030202  
030362 012746 000004  
030366 012746 000003  
030372 104437  
030374 062706 000010  
4497 030400 005037 015224  
4498 030404 012702 000001  
4499 030410 017701 151614  
4500 030414 005737 015224  
4501 030420 001410  
4502 030422  
030422 104455  
030424 000002  
030426 017756  
030430 017036  
4503 030432  
030432 013700 002244  
030436 104451  
4504 030440  
030440 104444  
4505 030442  
030442 012700 000004  
030446 104436  
4506 030450  
030450  
030450 104401

BGNTST

SETVEC #4, #ISRNXM, #PRI07

T2::  
: SET UP TIMEOUT TRAP VECTOR  
MOV #PRI07, -(SP)  
MOV #ISRNXM, -(SP)  
MOV #4, -(SP)  
MOV #3, -(SP)  
TRAP C#SVEC  
ADD #10, SP

CLR NEXMEM  
MOV #1, R2  
MOV #PCSR1, R1  
TST NEXMEM  
BEQ 10#  
ERRDF 002, ERR001, MSG001

: CLEAR NXM TIMEOUT FLAG  
: R2 = WHICH PCSR IS BEING TESTED  
: DOES PCSR EXIST?  
: YES  
: NO, PRINT DEVICE FATAL ERROR MESSAGE

TRAP C#ERRDF  
.WORD 2  
.WORD ERR001  
.WORD MSG001

DODU UNIT

: DROP UNIT

MOV UNIT, R0  
TRAP C#DODU

DOCLN

: AND ABORT PASS

TRAP C#DOCLN

10#: CLRVEC #4

MOV #4, R0  
TRAP C#CVEC

ENDTST

L10026:  
TRAP C#ETST

4508  
 4509  
 4510  
 4511  
 4512  
 4513  
 4514  
 4515  
 4516  
 4517  
 4518  
 4519

.SBTTL TEST 3: PCSR2 READ ACCESS TEST

```

.....
:
:   THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR2
:   UNIBUS ADDRESS SPECIFIED.
:
:   TEST SEQUENCE:
:       1. READ PCSR2
:
.....
  
```

4520 030452  
 030452  
 4521 030452  
 030452 012746 000340  
 030455 012746 030202  
 030462 012746 000004  
 030466 012746 000003  
 030472 104437  
 030474 062706 000010  
 4522 030500 005037 015224  
 4523 030504 012702 000002  
 4524 030510 017701 151516  
 4525 030514 005737 015224  
 4526 030520 001410  
 4527 030522  
 030522 104455  
 030524 000003  
 030526 017756  
 030530 017036  
 4528 030532  
 030532 013700 002244  
 030536 104451  
 4529 030540  
 030540 104444  
 4530 030542  
 030542 012760 000004  
 030546 104436  
 4531 030550  
 030550  
 030550 104401

```

      BGNTST
      SETVEC #4,#ISRNXH,#PRI07      ; SET UP TIMEOUT TRAP VECTOR
                                     T3:
                                     MOV #PRI07,-(SP)
                                     MOV #ISRNXH,-(SP)
                                     MOV #4,-(SP)
                                     MOV #3,-(SP)
                                     TRAP C#SVEC
                                     ADD #10,SP
      CLR NEXMEM                      ; CLEAR NON TIMEOUT FLAG
      MOV #2,R2                       ; R2 = WHICH PCSR IS BEING TESTED
      MOV #PCSR2,R1                   ; DOES PCSR EXIST?
      TST NEXMEM
      BEQ 10#                          ; YES
      ERROF 003,ERR001,MSG001         ; NO, PRINT DEVICE FATAL ERROR MESSAGE
                                     TRAP C#EROF
                                     .WORD 3
                                     .WORD ERR001
                                     .WORD MSG001
      DODU UNIT                        ; DROP UNIT
                                     MOV UNIT,R0
                                     TRAP C#DODU
      GOCLN                             ; AND ABORT PASS
                                     TRAP C#DCLN
10#: CLRVEC #4
                                     MOV #4,R0
                                     TRAP C#CVEC
      ENDTST
                                     L10027:
                                     TRAP C#ETST
  
```



4557  
 4558  
 4559  
 4560  
 4561  
 4562  
 4563  
 4564  
 4565  
 4566  
 4567  
 4568  
 4569  
 4570  
 4571  
 4572  
 4573  
 4574  
 4575 030652  
 030652  
 4576  
 4577 030652 012701 015232  
 4578 030656 012705 000004  
 4579 030662 012103  
 4580  
 4581 030664  
 030664 104404  
 4582  
 4583 030666 010377 151340  
 4584 030672 017704 151334  
 4585 030676 042703 000001  
 4586 030702 020304  
 4587 030704 001404  
 4588  
 4589 030706  
 030706 104456  
 030710 000005  
 030712 020006  
 030714 017062  
 4590  
 4591 030716  
 4592 030716  
 030716 104405  
 4593 030720 005305  
 4594 030722 001357  
 4595  
 4596 030724  
 030724  
 030724 104401

.SBTTL TEST 5: 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
;.....
    
```

```

                                BGNTST
                                T5::
                                ; GET ADDRESS OF DATA PATTERNS
                                MOV    #PATRN1,R1
                                ; COUNT 4 PATTERNS (PASSES)
                                MOV    #4,R5
                                ; DATA PATTERN -> R3
                                MOV    (R1)+,R3
                                10$:
                                BGNSEG
                                TRAP    C#BSEG
                                MOV    R3,#PCSR2
                                ; DATA PATTERN -> PCSR2
                                MOV    #PCSR2,R4
                                ; READ PCSR2
                                BIC    #1,R3
                                ; MASK BIT00
                                CMP    R3,R4
                                ; DATA COMPARE?
                                SEQ    201
                                ; YES, CONTINUE
                                ERRHRD 005,ERR002,MSG002
                                ; NO, REPORT ERROR
                                TRAP    C#ERRRD
                                .WORD 5
                                .WORD ERR002
                                .WORD MSG002
                                20$:
                                ENDSEG
                                10000$:
                                TRAP    C#ESEG
                                DEC    R5
                                ; DONE?
                                BNE    10$
                                ; NO
                                ENDTST
                                L10031:
                                TRAP    C#ETST
    
```

4598  
 4599  
 4600  
 4601  
 4602  
 4603  
 4604  
 4605  
 4606  
 4607  
 4608  
 4609  
 4610  
 4611  
 4612  
 4613  
 4614  
 4615

.SBTTL TEST 6: PCRS3 STATIC BIT TEST

```

    ;
    ; *****
    ; THIS TEST WILL CHECK PCRS3 FOR ALL SA0 AND SA1 ERRORS.
    ; THE HOST WILL WRITE PATTERNS TO PCRS3 AND READ THEM
    ; BACK TO VERIFY.
    ;
    ; NOTE: PCRS3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
    ; THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.
    ;
    ; TEST SEQUENCE:
    ; 1. WRITE PATTERN TO PCRS3
    ; 2. COMPARE MASKED PATTERN WITH PCRS3 CONTENTS
    ; 3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
    ;
    ; *****
    
```

```

4616 030726          BGNTST
      03C 76
      T6::
4617 03072J 012701 015232      MOV    @PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
4618 03072J 012701 015232      MOV    @4,R5           ; COUNT 4 PATTERNS (PASSES)
4619 030732 012705 000004      MOV    (R1),R3        ; DATA PATTERN -> R3
4620 030736 012103
4621
4622 030740          BGNSEG
      030740 104404
      TRAP    C#BSEG
4623
4624 030742 010377 151266      MOV    R3,@PCRS3     ; DATA PATTERN -> PCRS3
4625 030746 017704 151262      MOV    @PCRS3,R4     ; READ PCRS3
4626 030752 042703 177774      BIC    @177774,R3    ; MASK BIT02 THRU BIT15
4627 030756 020304          CMP    R3,R4         ; DATA COMPARE?
4628 030760 001404          BEQ    20#          ; YES, CONTINUE
4629
4630 030762          ERPHRD 006,ERR003,MSG002      ; NO, REPORT ERROR
      030762 104456
      TRAP    C#ERPHRD
      030764 000006
      .WORD 6
      030766 020044
      .WORD ERR003
      030770 017062
      .WORD MSG002
4631
4632 030772          20#:
4633 030772          ENDSEG
      030772
      10000#:
      TRAP    C#ESEG
4634 030774 005305          DEC    R5           ; DONE?
4635 030776 001357          BNE   10#          ; NO
4636
4637 031000          ENDTST
      031000
      L10032:
      TRAP    C#ETST
      031000 104401
    
```

4639  
4640  
4641  
4642  
4643  
4644  
4645  
4646  
4647  
4648  
4649  
4650  
4651  
4652  
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4671  
4672  
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4674  
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4676  
4677  
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4679  
4680  
4681  
4682

.SBTTL TEST 7: SELF TEST

.....  
: THIS TEST VERIFIES THAT THE ROM BASED SELF TEST  
: CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA  
: THE SELF TEST PORT COMMAND.  
: TEST SEQUENCE:  
: 1. ISSUE THE SELF TEST PORT COMMAND  
: 2. WAIT FOR DNI  
: 3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST  
: 4. WRITE ONE TO CLEAR DNI  
: .....

BGNTST

T7::  
JSR PC,INIT ; IS A DEVICE RESET NEEDED?  
BCC 251 ; NO  
MOV #RSET,BPCSRO ; YES, RESET DELINA  
JSR PC,CHKDNI ; DNI ?  
BCC 201 ; YES  
ERRHRD 007.,ERR004,MSG003 ; NO, REPORT ERROR

TRAP C\$ERRRD  
.WORD 7  
.WORD ERR004  
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE  
.WORD L10033 .

201: JSR PC,CLRDMI ; WRITE ONE TO CLEAR DNI  
; ERROR  
BCC 251 ; NO  
ERRHRD 008.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERRRD  
.WORD 8  
.WORD ERR006  
.WORD MSG003

ESCAPE TST ; AND ABORT

TRAP C\$ESCAPE  
.WORD L10033 .

251: MOV #SLFT,BPCSRO ; RUN SELF TEST  
;MAC001: WAIT FOR SELF TEST DNI  
;MAC001: LOOP FOR APPROX 20 SEC (11/24 CPU)  
;MAC001 MOV #28.,R1 ; INIT OUTER LOOP  
;MAC001261: CLR RO ; INNER LOOP  
;MAC001271: MOV BPCSRO,R4 ; PCSRO -> R4  
;MAC001 BIT #DNI,R4 ; DNI SET ?  
;MAC001 BNE 301 ; YES  
;MAC001 DEC RO ; INNER LOOP EXHAUSTED ?  
;MAC001 BNE 271 ; NO, CHECK FOR DNI AGAIN  
;MAC001 DEC R1 ; OUTER LOOP EXHAUSTED ?  
;MAC001 BNE 271 ; NO, KEEP CHECKING FOR DNI



4683					;MAC001								
4684	031070	012737	001364	015222		MOV	#12.*SECOND,METER		; LOOP EXHAUSTED AND NO DNI				
4685	031076	004737	024542			JSR	PC,TIMON		;PREPARE TIMER FOR 12 SEC COUNT	;MAC001			
4686	031102	017704	151120		26:	MOV	#PCSR0,R4		;TURN ON THE CLOCK	;MAC001			
4687	031106	032704	004000			BIT	#DNI,R4		;GET PCSRO	;MAC001			
4688	031112	001020				BNE	29:		;IS DNI SET?	;MAC001			
4689	031114					BREAK			;YES. STOP THE CLOCK	;MAC001			
	031114	104422							;NO. VISIT THE DRS	;MAC001			
4690	031116	005737	015222			TST	METER			TRAP	C#BRK		
4691	031122	001367				BNE	26:		;HAS THE COUNT EXPIRED?	;MAC001			
4692	031124	004737	024560			JSR	PC,TIMOFF		;NOT YET	;MAC001			
4693	031130	010437	015140			MOV	R4,EPCSR0		;YES, TURN OFF THE TIMER	;MAC001			
4694	031134	017737	151070	015142		MOV	#PCSR1,EPCSR1		; PCSRO -> EPCSR0				
4695	031142					ERRHRD	009.,ERR045,MSG003		; PCSR1 -> EPCSR1				
	031142	104456							; NO. REPORT ERROR				
	031144	000011								TRAP	C#ERHRD		
	031146	023777								.WORD	9		
	031150	017110								.WORD	ERR045		
4696	031152	000402				BR	30:			.WORD	MSG003		
4697					;MAC001	ESCAPE	TST		; AND CHECK SELF TEST RESULT	;MAC001			
4698	031154	004737	024560		29:	JSR	PC,TIMOFF		; AND ABORT TEST				
4699	031160	004737	025234		30:	JSR	PC,CHKSTR						
4700	031164	103015				BCC	40:		; SELF TEST SUCCESSFUL ?				
4701	031166	013704	015220			MOV	ECODE,R4		; YES				
4702	031172	006304				ASL	R4		; NO, SET UP TO PRINT ERROR				
4703	031174	062704	031246			ADD	#STBL,R4		; SHIFT CODE FOR INDEX				
4704	031200	011437	031244			MOV	(R4),STMSG		; INDEX INTO SELF TEST TABLE				
4705	031204					ERRHRD	010.,ERR005,MSG004		; LOAD INTO SELF TEST MESSAGE				
	031204	104456							; REPORT SELF TEST FAILURE				
	031206	000012								TRAP	C#ERHRD		
	031210	020156								.WORD	10		
	031212	017142								.WORD	ERR005		
4706	031214					ESCAPE	TST			.WORD	MSG004		
	031214	104410							; AND ABORT TEST				
	031216	000024								TRAP	C#ESCAPE		
4707										.WORD	L10033		
4708	031220	004737	025546		40:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI				
4709									; ERROR?				
4710	031224	103006				BCC	50:		; NO				
4711	031226					ERRHRD	011.,ERR006,MSG003		; YES. REPORT ERROR				
	031226	104456								TRAP	C#ERHRD		
	031230	000013								.WORD	11		
	031232	020202								.WORD	ERR006		
	031234	017110								.WORD	MSG003		
4712	031236					ESCAPE	TST		; AND ABORT				
	031236	104410								TRAP	C#ESCAPE		
	031240	000002								.WORD	L10033		
4713	031242				50:	ENDTST							
4714	031242												
	031242									L10033:			
	031242	104401								TRAP	C#ETST		

4716  
 4717 031244 000000  
 4718  
 4719 031246 031446  
 4720 031250 031472  
 4721 031252 031521  
 4722 031254 031534  
 4723 031256 031573  
 4724 031260 031636  
 4725 031262 031671  
 4726 031264 031742  
 4727 031266 032014  
 4728 031270 032070  
 4729 031272 032117  
 4730 031274 032134  
 4731 031276 032170  
 4732 031300 032204  
 4733 031302 032220  
 4734 031304 032234  
 4735 031306 032250  
 4736 031310 032273  
 4737 031312 032307  
 4738 031314 032323  
 4739 031316 032337  
 4740 031320 032353  
 4741 031322 032367  
 4742 031324 032403  
 4743 031326 032417  
 4744 0313 0 032474  
 4745 031332 032546  
 4746 031334 032621  
 4747 031336 032665  
 4748 031340 032736  
 4749 031342 033001  
 4750 031344 033052  
 4751 031346 033115  
 4752 031350 033205  
 4753 031352 033272  
 4754 031354 033360  
 4755 031356 033437  
 4756 031360 033523  
 4757 031362 033601  
 4758 031364 033615  
 4759 031366 033631  
 4760 031370 033717  
 4761 031372 034002  
 4762 031374 034066  
 4763 031376 034143  
 4764 031400 034225  
 4765 031402 034301  
 4766 031404 034315  
 4767 031406 034331  
 4768 031410 034354  
 4769 031412 034407  
 4770 031414 034442  
 4771 031416 034471  
 4772 031420 034504

;LOCAL STORAGE FOR TEST 7  
 STMSG:: .WORD 0  
 ;SELF TEST MESSAGE TABLE  
 STTBL:: .WORD SMSG00  
 .WORD SMSG01  
 .WORD SMSG02  
 .WORD SMSG03  
 .WORD SMSG04  
 .WORD SMSG05  
 .WORD SMSG06  
 .WORD SMSG07  
 .WORD SMSG10  
 .WORD SMSG11  
 .WORD SMSG12  
 .WORD SMSG13  
 .WORD SMSG14  
 .WORD SMSG15  
 .WORD SMSG16  
 .WORD SMSG17  
 .WORD SMSG20  
 .WORD SMSG21  
 .WORD SMSG22  
 .WORD SMSG23  
 .WORD SMSG24  
 .WORD SMSG25  
 .WORD SMSG26  
 .WORD SMSG27  
 .WORD SMSG30  
 .WORD SMSG31  
 .WORD SMSG32  
 .WORD SMSG33  
 .WORD SMSG34  
 .WORD SMSG35  
 .WORD SMSG36  
 .WORD SMSG37  
 .WORD SMSG40  
 .WORD SMSG41  
 .WORD SMSG42  
 .WORD SMSG43  
 .WORD SMSG44  
 .WORD SMSG45  
 .WORD SMSG46  
 .WORD SMSG47  
 .WORD SMSG50  
 .WORD SMSG51  
 .WORD SMSG52  
 .WORD SMSG53  
 .WORD SMSG54  
 .WORD SMSG55  
 .WORD SMSG56  
 .WORD SMSG57  
 .WORD SMSG60  
 .WORD SMSG61  
 .WORD SMSG62  
 .WORD SMSG63  
 .WORD SMSG64  
 .WORD SMSG65

; SELF TEST MESSAGE ADDRESS

4773	031422	034525			.WORD	SMSG66	
4774	031424	034546			.WORD	SMSG67	
4775	031426	034571			.WORD	SMSG70	
4776	031430	034612			.WORD	SMSG71	
4777	031432	034645			.WORD	SMSG72	
4778	031434	034671			.WORD	SMSG73	
4779	031436	034705			.WORD	SMSG74	
4780	031440	034721			.WORD	SMSG75	
4781	031442	034735			.WORD	SMSG76	
4782	031444	034751			.WORD	SMSG77	
4783							
4784	031446	116	105	126	;ASCII MESSAGES		
	031451	105	122	040	SMSG00::	.ASCII	/NEVER GOT STARTED/
	031454	107	117	124			
	031457	040	123	124			
	031462	101	122	124			
	031465	105	104				
4785	031467	015	012	000		.ASCIZ	<15><12>
4786	031472	103	120	125	SMSG01::	.ASCII	/CPU INSTRUCTION TEST/
	031475	040	111	116			
	031500	123	124	122			
	031503	125	103	124			
	031506	111	117	116			
	031511	040	124	105			
	031514	123	124				
4787	031516	015	012	000		.ASCIZ	<15><12>
4788	031521	122	117	115	SMSG02::	.ASCII	/ROM TEST/
	031524	040	124	105			
	031527	123	124				
4789	031531	015	012	000		.ASCIZ	<15><12>
4790	031534	127	122	111	SMSG03::	.ASCII	/WRITEABLE CONTROL STORE TEST/
	031537	124	105	101			
	031542	102	114	105			
	031545	040	103	117			
	031550	116	124	122			
	031553	117	114	040			
	031556	123	124	117			
	031561	122	105	040			
	031564	124	105	123			
	031567	124					
4791	031570	015	012	000		.ASCIZ	<15><12>
4792	031573	124	061	061	SMSG04::	.ASCII	/T11 UNIBUS ADDRESS REGISTER TEST/
	031576	040	125	116			
	031601	111	102	125			
	031604	123	040	101			
	031607	104	104	122			
	031612	105	123	123			
	031615	040	122	105			
	031620	107	111	123			
	031623	124	105	122			
	031626	040	124	105			
	031631	123	124				
4793	031633	015	012	000		.ASCIZ	<15><12>
4794	031636	122	105	103	SMSG05::	.ASCII	/RECEIVER UNIBUS DMA TEST/
	031641	105	111	126			
	031644	105	122	040			
	031647	125	116	111			

	031652	102	125	123			
	031655	040	104	115			
	031660	101	040	124			
	031663	105	123	124			
4795	031666	015	012	000			
4796	031671	120	103	123	SMSG06::	.ASCIZ <15><12> .ASCII /PCSR1 LOWER BYTE AND T11 DMA READ TEST/	;MAC001
	031674	122	061	040			
	031677	114	117	127			
	031702	105	122	040			
	031705	102	131	124			
	031710	105	040	101			
	031713	116	104	040			
	031716	124	061	061			
	031721	040	104	115			
	031724	101	040	122			
	031727	105	101	104			
	031732	040	124	105			
	031735	123	124				
4797	031737	015	012	000			
4798	031742	120	103	123	SMSG07::	.ASCIZ <15><12> .ASCII /PCSR0 UPPER BYTE AND T11 DMA WRITE TEST/	;MAC001
	031745	122	060	040			
	031750	125	120	120			
	031753	105	122	040			
	031756	102	131	124			
	031761	105	040	101			
	031764	116	104	040			
	031767	124	061	061			
	031772	040	104	115			
	031775	101	040	127			
	032000	122	111	124			
	032003	105	040	124			
	032006	105	123	124			
4799	032011	015	012	000			
4800	032014	120	103	123	SMSG10::	.ASCIZ <15><12> .ASCII /PCSR0 LOWER BYTE AND LINK MEMORY DMA TEST/	;MAC001
	032017	122	060	040			
	032022	114	117	127			
	032025	105	122	040			
	032030	102	131	124			
	032033	105	040	101			
	032036	116	104	040			
	032041	114	111	116			
	032044	113	040	115			
	032047	105	115	117			
	032052	122	131	040			
	032055	104	115	101			
	032060	040	124	105			
	032063	123	124				
4801	032065	015	012	000			
4802	032070	120	103	123	SMSG11::	.ASCIZ <15><12> .ASCII /PCSR2 AND PCRS3 TEST/	;MAC001
	032073	122	062	040			
	032076	101	116	104			
	032101	040	120	103			
	032104	123	122	063			
	032107	040	124	105			
	032112	123	124				
4803	032114	015	012	000			
4804	032117	124	111	115	SMSG12::	.ASCIZ <15><12> .ASCII /TIMER TEST/	

	032122	105	122	040				
	032125	124	105	123				
	032130	124						
4805	032131	015	012	000		.ASCIZ	<15><12>	
4806	032134	120	110	131	SMSG13.:	.ASCII	/PHYSICAL ADDRESS ROM TEST/	;MAC001
	032137	123	111	103				
	032142	101	114	040				
	032145	101	104	104				
	032150	122	105	123				
	032153	123	040	122				
	032156	117	115	040				
	032161	124	105	123				
	032164	124						
4807	032165	015	012	000		.ASCIZ	<15><12>	
4808	032170	125	116	104	SMSG14.:	.ASCII	/UNDEFINED/	
	032173	105	106	111				
	032176	116	105	104				
4809	032201	015	012	000		.ASCIZ	<15><12>	
4810	032204	125	116	104	SMSG15.:	.ASCII	/UNDEFINED/	
	032207	105	106	111				
	032212	116	105	104				
4811	032215	015	012	000		.ASCIZ	<15><12>	
4812	032220	125	116	104	SMSG16.:	.ASCII	/UNDEFINED/	
	032223	105	106	111				
	032226	116	105	104				
4813	032231	015	012	000		.ASCIZ	<15><12>	
4814	032234	125	116	104	SMSG17.:	.ASCII	/UNDEFINED/	
	032237	105	106	111				
	032242	116	105	104				
4815	032245	015	012	000		.ASCIZ	<15><12>	
4816	032250	114	111	116	SMSG20.:	.ASCII	/LINK MEMORY TEST/	
	032253	113	040	115				
	032256	105	115	117				
	032261	122	131	040				
	032264	124	105	123				
	032267	124						
4817	032270	015	012	000		.ASCIZ	<15><12>	
4818	032273	125	116	104	SMSG21.:	.ASCII	/UNDEFINED/	
	032276	105	106	111				
	032301	116	105	104				
4819	032304	015	012	000		.ASCIZ	<15><12>	
4820	032307	125	116	104	SMSG22.:	.ASCII	/UNDEFINED/	
	032312	105	106	111				
	032315	116	105	104				
4821	032320	015	012	000		.ASCIZ	<15><12>	
4822	032323	125	116	104	SMSG23.:	.ASCII	/UNDEFINED/	
	032326	105	106	111				
	032331	116	105	104				
4823	032334	015	012	000		.ASCIZ	<15><12>	
4824	032337	125	116	104	SMSG24.:	.ASCII	/UNDEFINED/	
	032342	105	106	111				
	032345	116	105	104				
4825	032350	015	012	000		.ASCIZ	<15><12>	
4826	032353	125	116	104	SMSG25.:	.ASCII	/UNDEFINED/	
	032356	105	106	111				
	032361	116	105	104				
4827	032364	015	012	000		.ASCIZ	<15><12>	

4828	032367	125	116	104	MSG26::	.ASCII	/UNDEFINED/	
	032372	105	106	111				
	032375	116	105	104				
4829	032400	015	012	000		.ASCIZ	<15><12>	
4830	032403	125	116	104	MSG27::	.ASCII	/UNDEFINED/	
	032406	105	106	111				
	032411	116	105	104				
4831	032414	015	012	000		.ASCIZ	<15><12>	
4832	032417	114	117	103	MSG30::	.ASCII	/LOCAL LOOPBACK TEST	TRANSMITTER TIMEOUT/
	032422	101	114	040				
	032425	114	117	117				
	032430	120	102	101				
	032433	103	113	040				
	032436	124	105	123				
	032441	124	040	055				
	032444	040	040	124				
	032447	122	101	116				
	032452	123	115	111				
	032455	124	124	105				
	032460	122	040	124				
	032463	111	115	105				
	032466	117	125	124				
4833	032471	015	012	000		.ASCIZ	<15><12>	
4834	032474	114	117	103	MSG31::	.ASCII	/LOCAL LOOPBACK TEST	RECEIVER TIMEOUT/
	032477	101	114	040				
	032502	114	117	117				
	032505	120	102	101				
	032510	103	113	040				
	032513	124	105	123				
	032516	124	040	055				
	032521	040	040	122				
	032524	105	103	105				
	032527	111	126	105				
	032532	122	040	124				
	032535	111	115	105				
	032540	117	125	124				
4835	032543	015	012	000		.ASCIZ	<15><12>	
4836	032546	114	117	103	MSG32::	.ASCII	/LOCAL LOOPBACK TEST	BUFFER COMPARISON/
	032551	101	114	040				
	032554	114	117	117				
	032557	120	102	101				
	032562	103	113	040				
	032565	124	105	123				
	032570	124	040	055				
	032573	040	040	102				
	032576	125	106	106				
	032601	105	122	040				
	032604	103	117	115				
	032607	120	101	122				
	032612	123	111	117				
	032615	116						
4837	032616	015	012	000		.ASCIZ	<15><12>	
4838	032621	114	117	103	MSG33::	.ASCII	/LOCAL LOOPBACK TEST	BYTE COUNT/
	032624	101	114	040				
	032627	114	117	117				
	032632	120	102	101				
	032635	103	113	040				

	032640	124	105	123		
	032643	124	040	055		
	032646	040	040	102		
	032651	131	124	105		
	032654	040	103	117		
	032657	125	116	124		
4U39	032662	015	012	000		.ASCIZ <15><12>
4840	032665	114	117	103	MSG34::	.ASCII /LOCAL LOOPBACK TEST - RECEIVER STATUS/
	032670	101	114	040		
	032673	114	117	117		
	032676	120	102	101		
	032701	103	113	040		
	032704	124	105	123		
	032707	124	040	055		
	032712	040	040	122		
	032715	105	103	105		
	032720	111	126	105		
	032723	122	040	123		
	032726	124	101	124		
	032731	125	123			
4841	032733	015	012	000		.ASCIZ <15><12>
4842	032736	114	117	103	MSG35::	.ASCII /LOCAL LOOPBACK TEST - CRC ERROR/
	032741	101	114	040		
	032744	114	117	117		
	032747	120	102	101		
	032752	103	113	040		
	032755	124	105	123		
	032760	124	040	055		
	032763	040	040	103		
	032766	122	103	040		
	032771	105	122	122		
	032774	117	122			
4843	032776	015	012	000		.ASCIZ <15><12>
4844	033001	114	117	103	MSG36::	.ASCII /LOCAL LOOPBACK TEST - MATCH BIT ERROR/
	033004	101	114	040		
	033007	114	117	117		
	033012	120	102	101		
	033015	103	113	040		
	033020	124	105	123		
	033023	124	040	055		
	033026	040	040	115		
	033031	101	124	103		
	033034	110	040	102		
	033037	111	124	040		
	033042	105	122	122		
	033045	117	122			
4845	033047	015	012	000		.ASCIZ <15><12>
4846	033052	114	117	103	MSG37::	.ASCII /LOCAL LOOPBACK TEST TDR ERROR/
	033055	101	114	040		
	033060	114	117	117		
	033063	120	102	101		
	033066	103	113	040		
	033071	124	105	123		
	033074	124	040	055		
	033077	040	040	124		
	033102	104	122	040		
	033105	105	122	122		

	033110	117	122			
4847	033112	015	012	000	.ASCIZ	<15><12>
4848	033115	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST TRANSMITTER TIMEOUT/
	033120	116	123	115		
	033123	111	124	124		
	033126	105	122	040		
	033131	102	125	106		
	033134	106	105	122		
	033137	040	101	104		
	033142	104	122	105		
	033145	123	123	040		
	033150	124	105	123		
	033153	124	040	055		
	033156	040	124	122		
	033161	101	116	123		
	033164	115	111	124		
	033167	124	105	122		
	033172	040	124	111		
	033175	115	105	117		
	033200	125	124			
4849	033202	015	012	000	.ASCIZ	<15><12>
4850	033205	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST - RECEIVER TIMEOUT/
	033210	116	123	115		
	033213	111	124	124		
	033216	105	122	040		
	033221	102	125	106		
	033224	106	105	122		
	033227	040	101	104		
	033232	104	122	105		
	033235	123	123	040		
	033240	124	105	123		
	033243	124	040	055		
	033246	040	122	105		
	033251	103	105	111		
	033254	126	105	122		
	033257	040	124	111		
	033262	115	105	117		
	033265	125	124			
4851	033267	015	012	000	.ASCIZ	<15><12>
4852	033272	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST - BUFFER COMPARISON/
	033275	116	123	115		
	033300	111	124	124		
	033303	105	122	040		
	033306	102	125	106		
	033311	106	105	122		
	033314	040	101	104		
	033317	104	122	105		
	033322	123	123	040		
	033325	124	105	123		
	033330	124	040	055		
	033333	040	102	125		
	033336	106	106	105		
	033341	122	040	103		
	033344	117	115	120		
	033347	101	122	123		
	033352	111	117	116		
4853	033355	015	012	000	.ASCIZ	<15><12>



4854	033360	124	122	101	MSG43::	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	BYTE COUNT/
	033363	116	123	115				
	033366	111	124	124				
	033371	105	122	040				
	033374	?	125	106				
	033377	..6	105	122				
	033402	040	101	104				
	033405	104	122	105				
	033410	123	123	040				
	033413	124	105	123				
	033416	124	040	055				
	033421	040	102	131				
	033424	124	105	040				
	033427	103	117	125				
	033432	116	124					
4855	033434	015	012	000	MSG44::	.ASCIZ	<15><12>	
4856	033437	124	122	101		.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	RECEIVER STATUS/
	033442	116	123	115				
	033445	111	124	124				
	033450	105	122	040				
	033453	102	125	106				
	033456	106	105	122				
	033461	040	101	104				
	033464	104	122	105				
	033467	123	123	040				
	033472	124	105	123				
	033475	124	040	055				
	033500	040	122	105				
	033503	103	105	111				
	033506	126	105	122				
	033511	040	123	124				
	033514	101	124	125				
	033517	123						
4857	033520	015	012	000	MSG45::	.ASCIZ	<15><12>	
4858	033523	124	122	101		.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	- CRC ERROR/
	033526	116	123	115				
	033531	111	124	124				
	033534	105	122	040				
	033537	102	125	106				
	033542	106	105	122				
	033545	040	101	104				
	033550	104	122	105				
	033553	123	123	040				
	033556	124	105	123				
	033561	124	040	055				
	033564	040	103	122				
	033567	103	040	105				
	033572	122	122	117				
	033575	122						
4859	033576	015	012	000	MSG46::	.ASCIZ	<15><12>	
4860	033601	125	116	104		.ASCII	/UNDEFINED/	
	033604	105	106	111				
	033607	116	105	104				
4861	033612	015	012	000	MSG47::	.ASCIZ	<15><12>	
4862	033615	125	116	104		.ASCII	/UNDEFINED/	
	033620	105	106	111				
	033623	116	105	104				

4863	033626	015	012	000		.ASCIZ	<15><12>	
4864	033631	122	105	103	MSG50::	.ASCII	/RECEIVER BUFFER ADDRESS TEST	TRANSMITTER TIMEOUT/
	033634	105	111	126				
	033637	105	122	040				
	033642	102	125	106				
	033645	106	105	122				
	033650	040	101	104				
	033653	104	122	105				
	033656	123	123	040				
	033661	124	105	123				
	033664	124	040	055				
	033667	040	040	124				
	033672	122	101	116				
	033675	123	115	111				
	033700	124	124	105				
	033703	122	040	124				
	033706	111	115	105				
	033711	117	125	124				
4865	033714	015	012	000		.ASCIZ	<15><12>	
4866	033717	122	105	103	MSG51::	.ASCII	/RECEIVER BUFFER ADDRESS TEST	RECEIVER TIMEOUT/
	033722	105	111	126				
	033725	105	122	040				
	033730	102	125	106				
	033733	106	105	122				
	033736	040	101	104				
	033741	104	122	105				
	033744	123	123	040				
	033747	124	105	123				
	033752	124	040	055				
	033755	040	040	122				
	033760	105	103	105				
	033763	111	126	105				
	033766	122	040	124				
	033771	111	115	105				
	033774	117	125	124				
4867	033777	015	012	000		.ASCIZ	<15><12>	
4868	034002	122	105	103	MSG52::	.ASCII	/RECEIVER BUFFER ADDRESS TEST	BUFFER COMPARISON/
	034005	105	111	126				
	034010	105	122	040				
	034013	102	125	106				
	034016	106	105	122				
	034021	040	101	104				
	034024	104	122	105				
	034027	123	123	040				
	034032	124	105	123				
	034035	124	040	055				
	034040	040	040	102				
	034043	125	106	106				
	034046	105	122	040				
	034051	103	117	115				
	034054	120	101	122				
	034057	123	111	117				
	034062	116						
4869	034063	015	012	000		.ASCIZ	<15><12>	
4870	034066	122	105	103	MSG53::	.ASCII	/RECEIVER BUFFER ADDRESS TEST	BYTE COUNT/
	034071	105	111	126				
	034074	105	122	040				

	034077	102	125	106				
	034102	106	105	122				
	034105	040	101	104				
	034110	104	122	105				
	034113	123	123	040				
	034116	124	105	123				
	034121	124	040	055				
	034124	040	040	102				
	034127	131	124	105				
	034132	040	103	117				
	034135	125	116	124				
4871	034140	015	012	000		.ASCIZ	<15><12>	
4872	034143	122	105	103	MSG54::	.ASCII	/RECEIVER BUFFER ADDRESS TEST - RECEIVER STATUS/	
	034146	105	111	126				
	034151	105	122	040				
	034154	102	125	106				
	034157	106	105	122				
	034162	040	101	104				
	034165	104	122	105				
	034170	123	123	040				
	034173	124	105	123				
	034176	124	040	055				
	034201	040	040	122				
	034204	105	103	105				
	034207	111	126	105				
	034212	122	040	123				
	034215	124	101	124				
	034220	125	123					
4873	034222	015	012	000		.ASCIZ	15><12>	
4874	034225	122	105	103	MSG55::	.ASCII	/RECEIVER BUFFER ADDRESS TEST CRC ERROR/	
	034230	105	111	126				
	034233	105	122	040				
	034236	102	125	106				
	034241	106	105	122				
	034244	040	101	104				
	034247	104	122	105				
	034252	123	123	040				
	034255	124	105	123				
	034260	124	040	055				
	034263	040	040	103				
	034266	122	103	040				
	034271	105	122	122				
	034274	117	122					
4875	034276	015	012	000		.ASCIZ	<15><12>	
4876	034301	125	116	104	MSG56::	.ASCII	/UNDEFINED/	
	034304	105	106	111				
	034307	116	105	104				
4877	034312	015	012	000		.ASCIZ	<15><12>	
4878	034315	125	116	104	MSG57::	.ASCII	/UNDEFINED/	
	034320	105	106	111				
	034323	116	105	104				
4879	034326	015	012	000		.ASCIZ	<15><12>	
4880	034331	122	125	116	MSG60::	.ASCII	/RUNT PACKET TEST/	:MAC001
	034334	124	040	120				
	034337	101	103	113				
	034342	105	124	040				
	034345	124	105	123				

	034350	124						
4881	034351	015	012	000		.ASCIZ	<15><12>	
4882	034354	115	111	116	MSG61::	.ASCII	/MINIMUM PACKET SIZE TEST/	;MAC001
	034357	111	115	125				
	034362	115	040	120				
	034365	101	103	113				
	034370	105	124	040				
	034373	123	111	132				
	034376	105	040	124				
	034401	105	123	124				
4883	034404	015	012	000		.ASCIZ	<15><12>	
4884	034407	115	101	130	MSG62::	.ASCII	/MAXIMUM PACKET SIZE TEST/	;MAC001
	034412	111	115	125				
	034415	115	040	120				
	034420	101	103	113				
	034423	105	124	040				
	034426	123	111	132				
	034431	105	040	124				
	034434	105	123	124				
4885	034437	015	012	000		.ASCIZ	<15><12>	
4886	034442	117	126	105	MSG63::	.ASCII	/OVERSIZE PACKET TEST/	
	034445	122	123	111				
	034450	132	105	040				
	034453	120	101	103				
	034456	113	105	124				
	034461	040	124	105				
	034464	123	124					
4887	034466	015	012	000		.ASCIZ	<15><12>	
4888	034471	103	122	103	MSG64::	.ASCII	/CRC TEST/	;MAC001
	034474	040	124	105				
	034477	123	124					
4889	034501	015	012	000		.ASCIZ	<15><12>	
4890	034504	103	117	114	MSG65::	.ASCII	/COLLISION TEST/	
	034507	114	111	123				
	034512	111	117	116				
	034515	040	124	105				
	034520	123	124					
4891	034522	015	012	000		.ASCIZ	<15><12>	
4892	034525	110	105	101	MSG66::	.ASCII	/HEARTBEAT TEST/	;MAC001
	034530	122	124	102				
	034533	105	101	124				
	034536	040	124	105				
	034541	123	124					
4893	034543	015	012	000		.ASCIZ	<15><12>	
4894	034546	110	101	114	MSG67::	.ASCII	/HALF DUPLEX TEST/	;MAC001
	034551	106	040	104				
	034554	125	120	114				
	034557	105	130	040				
	034562	124	105	123				
	034565	124						
4895	034566	015	012	000		.ASCIZ	<15><12>	
4896	034571	115	125	114	MSG70::	.ASCII	/MULTICAST TEST/	
	034574	124	111	103				
	034577	101	123	124				
	034602	040	124	105				
	034605	123	124					
4897	034607	015	012	000		.ASCIZ	<15><12>	

4898	034612	101	104	104	MSG71::	.ASCII	/ADDRESS RECOGNITION TEST/
	034615	122	105	123			
	034620	123	040	122			
	034623	105	103	117			
	034626	107	116	111			
	034631	124	111	117			
	034634	116	040	124			
	034637	105	123	124			
4899	034642	015	012	000		.ASCIZ	<15><12>
4900	034645	105	130	124	MSG72::	.ASCII	/EXTERNAL LOOPBACK/
	034650	105	122	116			
	034653	101	114	040			
	034656	114	117	117			
	034661	120	102	101			
	034664	103	113				
4901	034666	015	012	000		.ASCIZ	<15><12>
4902	034671	125	116	104	MSG73::	.ASCII	/UNDEFINED/
	034674	105	106	111			
	034677	116	105	104			
4903	034702	015	012	000		.ASCIZ	<15><12>
4904	034705	125	116	104	MSG74::	.ASCII	/UNDEFINED/
	034710	105	106	111			
	034713	116	105	104			
4905	034716	015	012	000		.ASCIZ	<15><12>
4906	034721	125	116	104	MSG75::	.ASCII	/UNDEFINED/
	034724	105	106	111			
	034727	116	105	104			
4907	034732	015	012	000		.ASCIZ	<15><12>
4908	034735	125	116	104	MSG76::	.ASCII	/UNDEFINED/
	034740	105	106	111			
	034743	116	105	104			
4909	034746	015	012	000		.ASCIZ	<15><12>
4910	034751	103	117	115	MSG77::	.ASCII	/COMPLETED - NO ERRORS/
	034754	120	114	105			
	034757	124	105	104			
	034762	040	055	040			
	034765	116	117	040			
	034770	105	122	122			
	034773	117	122	123			
4911	034776	015	012	000		.ASCIZ	<15><12>
4912						.EVEN	

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.SBTTL TEST 8: PORT COMMAND TEST

```

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

```

4935 035002          BGNTST
      035002
4936 035002 004737 027446      JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
4937 03500C 103025          BCC    25$              ; NO
4938 035010 012777 000040 145210  MOV    #RSET,#PCSR0     ; YES, RESET DEUNA
4939 035016 004737 024574      JSR    PC,CHKDNI        ; DNI ?
4940 035022 103006          BCC    20$              ; YES
4941 035024          ERRHRD 012.,ERR004,MSG003 ; NO, REPORT ERROR
      035024 104456          TRAP   C$ERHRD
      035026 000014          .WORD  12
      035030 020102          .WORD  ERR004
      035032 017110          .WORD  MSG003
4942 035034          ESCAPE TST          ; AND ABORT TEST
      035034 104410          TRAP   C$ESCAPE
      035036 000236          .WORD  L10034
4943
4944 035040 004737 025546      ; 20$: JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
4945          20$:          ; ERROR
4946 035044 103006          BCC    25$              ; NO
4947 035046          ERRHRD 013.,ERR006,MSG003 ; YES, REPORT ERROR
      035046 104456          TRAP   C$ERHRD
      035050 000015          .WORD  13
      035052 020202          .WORD  ERR006
      035054 017110          .WORD  MSG003
4948 035056          ESCAPE TST          ; AND ABCRT
      035056 104410          TRAP   C$ESCAPE
      035060 000214          .WORD  L10034
4949
4950 035062 012777 000006 145136 ; 25$: MOV    #PNOP,#PCSR0     ; ISSUE A NOP PORT COMMAND
4951 035070 004737 024574      JSR    PC,CHKDNI        ; DN_ ?
4952 035074 103006          BCC    30$              ; YES
4953 035076          ERRHRD 014.,ERR008,MSG003 ; NO, REPORT ERROR
      035076 104456          TRAP   C$ERHRD
      035100 000016          .WORD  14
      035102 020337          .WORD  ERR008
      035104 017110          .WORD  MSG003
  
```

4954	035106				ESCAPE	TST			; AND ABORT TEST		
	035106	104410								TRAP	C#ESCAPE
	035110	000164								.WORD	L10034 .
4955											
4956	035112	C04737	025546		30#:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
4957									; ERROR		
4958	035116	103006				BCC	40#		; NO		
4959	035120					ERRHRD	015.,ERR006,MSG003		; YES, REPORT ERROR		
	035120	104456								TRAP	C#ERHRD
	035122	000017								.WORD	15
	035124	020202								.WORD	ERR006
	035126	017110								.WORD	MSG003
4960	035130					ESCAPE	TST		; AND ABORT		
	035130	104410								TRAP	C#ESCAPE
	035132	000142								.WORD	L10034 .
4961											
4962	035134	012705	013104		40#:	MOV	#NOPF,R5		; POINT TO DEFAULT NOP FUNCTION		
4963	035140	004737	026742			JSR	PC,LDPCCB		; LOAD FUNCTION INTO PCBB		
4964	035144	004737	026772			JSR	PC,LDPCSR		; ADDRESS OF PCBB > PCSR2!3		
4965	035150	012777	000001	145050		MOV	#GETPCB,@PCSR0		; ISSUE A GETPCB PORT COMMAND		
4966	035156	004737	024574			JSR	PC,CHKDNI		; DNI?		
4967	035162	103006				BCC	50#		; YES		
4968	035164					ERRHRD	016.,ERR009,MSG003		; NO, REPORT ERROR		
	035164	104456								TRAP	C#ERHRD
	035166	000020								.WORD	16
	035170	020416								.WORD	ERR009
	035172	017110								.WORD	MSG003
4969	035174					ESCAPE	TST		; AND ABORT TEST		
	035174	104410								TRAP	C#ESCAPE
	035176	000076								.WORD	L10034 .
4970											
4971	035200	004737	025546		50#:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
4972									; ERROR ?		
4973	035204	103006				BCC	60#		; NO		
4974	035206					ERRHRD	017.,ERR006,MSG003		; YES, REPORT ERROR		
	035206	104456								TRAP	C#ERHRD
	035210	000021								.WORD	17
	035212	020202								.WORD	ERR006
	035214	017110								.WORD	MSG003
4975	035216					ESCAPE	TST		; AND ABORT TEST		
	035216	104410								TRAP	C#ESCAPE
	035220	000054								.WORD	L10034 .
4976											
4977	035222	012777	000002	144776	60#:	MOV	#GETCMD,@PCSR0		; ISSUE A GETCMD PORT COMMAND		
4978	035230	004737	024574			JSR	PC,CHKDNI		; DNI ?		
4979	035234	103006				BCC	70#		; YES		
4980	035236					ERRHRD	018.,ERR010,MSG003		; NO, REPORT ERROR		
	035236	104456								TRAP	C#ERHRD
	035240	000022								.WORD	18
	035242	020502								.WORD	ERR010
	035244	017110								.WORD	MSG003
4981	035246					ESCAPE	TST		; AND ABORT TEST		
	035246	104410								TRAP	C#ESCAPE
	035250	000024								.WORD	L10034 .
4982											
4983	035252	004737	025546		70#:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
4984									; ERROR ?		

4985 035256 103006  
4986 035260  
035260 104456  
035262 000023  
035264 020202  
035266 017110  
4987 035270  
035270 104410  
035272 000002  
4988 035274  
4989 035274  
035274  
035274 104401

BCC 801  
ERRMRD 019.,ERR006,MSG003  
  
ESCAPE TST  
  
801:  
ENDTST

; NO  
; YES, REPORT ERROR

TRAP C#ERRMRD  
.WORD 19  
.WORD ERR006  
.WORD MSG003

; AND ABORT TEST

TRAP C#ESCAPE  
.WORD L10034

L10034:

TRAP C#ETST



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035276 004737 027446  
035302 103025  
035304 012777 000040 144714  
035312 004737 024574  
035316 103006  
035320 104456  
035322 000024  
035324 020102  
035326 017110  
035330  
035332 104410  
035332 000250  
035334 004737 025546  
035340 103006  
035342 104456  
035344 000025  
035346 020202  
035350 017110  
035352 104410  
035354 000226  
035356 013746 002242  
035362 012746 030212  
035366 013746 002240  
035372 012746 000003  
035376 104437  
035400 062706 000010  
035404 012700 000200  
035410 104441  
035412 005037 015226  
035416 012777 000100 144602  
035424 012705 013104

.SBTTL TEST 9: INTERRUPT LOGIC TEST  
.....  
: THIS TEST VERIFIES THAT A DEUNA INTERRUPT CAN BE GENERATED.  
: TEST SEQUENCE:  
: 1. SET UP THE INTERRUPT VECTOR  
: 2. ISSUE A GET PCBB PORT COMMAND  
: 3. WAIT FOR A DNI INTERRUPT  
: 4. WRITE ONE TO CLEAR DNI  
: .....

```

BGNTST
T9::
; IS A DEVICE RESET NEEDED?
JSR PC,TIMIT ; NO
BCC 25; YES, RESET DEUNA
MOV @RSET,@PCSR0 ; DNI ?
JSR PC,CHKDNI ; YES
BCC 20; NO, REPORT ERROR
ERRHRD 020.,ERR004,MSG003 TRAP C$ERRRD
; .WORD 20
; .WORD ERR004
; .WORD MSG003

ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
; .WORD L10035

;
20: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR
; NO
ERRHRD 021.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C$ERRRD
; .WORD 21
; .WORD ERR006
; .WORD MSG003

ESCAPE TST ; AND ABORT
TRAP C$ESCAPE
; .WORD L10035

;
;SET UP INTERRUPT VECTOR
25: SETVEC INTVEC,@ISRDN1,UNAPRI
MOV UNAPRI,-(SP)
MOV @ISRDN1,-(SP)
MOV INTVEC,(SP)
MOV @3,-(SP)
TRAP C$SVEC
ADD @10,SP

SETPRI @PRI04 ; SET CPU PRIORITY = 4
MOV @PRI04,R0
TRAP C$SPRI

CLR DNIFLG ; CLEAR DNI INTERRUPT FLAG
; ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
40: MOV @INTE,@PCSR0 ; ENABLE INTERRUPTS
MOV @NOPF,R5 ; POINT TO DEFAULT NOP FUNCTION

```

5027	035430	004737	026742		JSR	PC,LDPCBB		; LOAD FUNCTION INTO PCBB
5028	035434	004737	026772		JSR	PC,LDPCSR		; ADDRESS OF PCBB -> PCSR2!3
5029	035440	012777	000101	144560	MOV	@GETPCB!INTE,@PCSR0		; ISSUE A GETPCBB PORT COPY AND
5030						;WAIT FOR DNI INTERRUPT		
5031					MAC001			
5032					MAC001	LOOP FOR APPROX 2 SEC.		
5033					MAC001	MOV @3,R1		; INIT OUTER LOOP
5034					MAC001501:	CLR RO		; INNER LOOP
5035					MAC001601:	TST DNIFLG		; DNI INTERRUPT OCCUR ?
5036					MAC001	BNE 701		; YES, CONTINUE TEST
5037					MAC001	DEC RO		; INNER LOOP EXHAUSTED?
5038					MAC001	BNE 601		; NO, CHECK FOR INTERRUPT AGAIN
5039					MAC001	DEC R1		; OUTER LOOP EXHAUSTED?
5040					MAC001	BNE 601		; NO, KEEP CHECKING FOR INTERRUPT
5041	035446	012737	000176	015222	MOV	@2=SECOND,METER		;PUT 2 SECONDS ON THE TIMER
5042	035454	004737	024542		JSR	PC,TIMON		;TURN ON THE CLOCK
5043	035460				SETPRI	@PRI04		;SET PRIORITY BACK TO 4
	035460	012700	000200				MOV	TRAP @PRI04,RO
	035464	104441					TRAP	C!SPRI
5044	035466	005737	015226	501:	TST	DNIFLG		;DID DNI INTERRUPT OCCUR?
5045	035472	001022			BNE	701		;YES, CONTINUE TEST
5046	035474				BREAK			;RETURN TO DRS FOR A MOMENT
	035474	104422					TRAP	C!BRK
5047	035476	005737	015222		TST	METER		;HAS TIMER EXPIRED?
5048	035502	001371			BNE	501		;NOT YET
5049	035504	004737	024560		JSR	PC,TIMOFF		;YES TURN OFF THE TIMER
5050	035510				ERRHRD	022.,ERR007		; YES, REPORT ERROR
	035510	104456					TRAP	C!ERRRD
	035512	000026					.WORD	22
	035514	020250					.WORD	ERR007
	035516	000000					.WORD	0
5051	035520				CLRVEC	INTVEC		; DEALLOCATE VECTOR
	035520	013700	002240				MOV	INTVEC,RO
	035524	104436					TRAP	C!CVEC
5052	035526				SETPRI	@PRI07		; RESTORE CPU PRIORITY TO 7
	035526	012700	000340				MOV	@PRI07,PO
	035532	104441					TRAP	C!SPRI
5053	035534				ESCAPE	TST		; AND ABORT TEST
	035534	104410					TRAP	C!ESCAPE
	035536	000044					.WORD	L10035
5054								
5055						;WRITE ONE TO CLEAR DNI		
5056	035540	004737	024560	701:	JSR	PC,TIMOFF		;TURN OF THE TIMER
5057	035544				CLRVEC	INTVEC		; DEALLOCATE VECTOR
	035544	013700	002240				MOV	INTVEC,RO
	035550	104436					TRAP	C!CVEC
5058	035552				SETPRI	@PRI07		; RESTORE CPU PRIORITY TO 7
	035552	012700	000340				MOV	@PRI07,RO
	035556	104441					TRAP	C!SPRI
5059	035560	004737	025546		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
5060								; ERROR?
5061	035564	103006			BCC	801		; NO
5062	035566				ERRHRD	023.,ERR006,MSG003		; YES, REPORT ERROR
	035566	104456					TRAP	C!ERRRD
	035570	000027					.WORD	23
	035572	020202					.WORD	ERR006
	035574	017110					.WORD	MSG003

5063 035576 104410  
035576 104410  
035600 000002  
5064 035602  
5065 035602  
035602 104401

ESCAPE TST  
801:  
ENDTST

; AND ABORT

TRAP C#ESCAPE  
.WORD L10035 .

L10035:  
TRAP C#ETST

.SBTTL TEST 10: READ INTERNAL ROM TEST

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```

:.....
:
: 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
:.....
    
```

```

5086 035604          BGNSTST
5087 035604 004737 027446          JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
5088 035610 103025          BCC    301              ; NO
5089 035612 012777 000040 144406  MOV    @RSET,@PCSR0     ; YES, RESET DEINA
5090 035620 004737 024574          JSR    PC,CHKDNI        ; DNI ?
5091 035624 103006          BCC    201              ; YES
5092 035626          ERRHRD 024.,ERR004,MSG003 ; NO, REPORT ERROR
:
:                               TRAP    C$ERRRD
:                               .WORD   24
:                               .WORD   ERR004
:                               .WORD   MSG003
5093 035636          ESCAPE TST          ; AND ABORT TEST
:                               TRAP    C$ESCAPE
:                               .WORD   L10036
5094
5095 035642 004737 025546          ; 201: JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
5096
5097 035646 103006          BCC    301              ; ERROR ?
5098 035650          ERRHRD 025.,ERR006,MSG003 ; YES, REPORT ERROR
:
:                               TRAP    C$ERRRD
:                               .WORD   25
:                               .WORD   ERR006
:                               .WORD   MSG003
5099 035660          ESCAPE TST          ; AND ABORT TEST
:                               TRAP    C$ESCAPE
:                               .WORD   L10036
5100
5101 035664 004737 026772          ; 301: JSR    PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2:3
5102 035670 012777 000001 144330  MOV    @GETPCB,@PCSR0  ; ISSUE GET_PCBB PORT COMMAND
5103 035676 004737 024574          JSR    PC,CHKDNI        ; DNI ?
5104 035702 103006          BCC    401              ; YES
5105 035704          ERRHRD 026.,ERR009,MSG003 ; NO, REPORT ERROR
:
:                               TRAP    C$ERRRD
:                               .WORD   26
:                               .WORD   ERR009
:                               .WORD   MSG003
5106 035714          ESCAPE TST          ; AND ABORT TEST
    
```



5144 036076 004737 026334  
5145 036102 010437 014214  
5146 036106 077042  
5147  
5148  
5149 036110 005737 014214  
5150 036114 001406  
5151 036116  
036116 104456  
036120 000036  
036122 021630  
036124 000000  
5152 036126  
036126 104410  
036130 000002  
5153 036132  
5154 036132  
036132  
036132 104401

801: JSR PC,CRCBLK  
MOV R4,CRCH  
SOB RO,601  
  
; VERIFY CRC  
TST CRCH  
BEQ 951  
ERRHRD 030.,ERR024  
  
ESCAPE TST  
  
951: ENDTST

; CALCULATE CRC ON 1K RBUF  
; CRC -> CRCH  
; DO ALL 8K BY 1K BLOCKS  
  
; CRC = 0 ?  
; YES  
; NO, ROM CRC ERROR, REPORT ERROR  
TRAP C#ERRRC  
.WORD 30  
.WORD ERR024  
.WORD 0  
  
; AND ABORT TEST  
TRAP C#ESCAPE  
.WORD L10036  
  
L10036: TRAP C#ETST

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.SBTTL TEST 11: READ/WRITE INTERNAL WCS TEST

```

    *****
    :
    : THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY.
    : THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
    : READ/WRITE THE RESERVED DOWNLINE LOAD PORTION OF THE WCS MEMORY.
    : THE TOP 1K OF WCS.
    :
    : TEST SEQUENCE:
    :
    : 1. LOAD TBUF WITH DATA = ADDRESS
    : 2. LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
    : 3. RESETUP TBUF FOR DATA COMPARE
    : 4. CLEAR RBUF
    : 5. DUMP INTERNAL WCS MEMORY -> RBUF
    : 6. COMPARE RBUF WITH TBUF
    : 7. REPEAT STEPS 1 THRU 6 WITH COMPLIMENT DATA
    :
    *****
    
```

```

5177 036134          BGNTST
      036134
5178 036134 004737 027446      JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
5179 036140 103025          BCC    30$              ; NO
5180 036142 012777 000040 144056  MOV    @RSET,@PCSR0     ; YES, RESET DEUNA
5181 036150 004737 024574      JSR    PC,CHKDNI        ; DNI ?
5182 036154 103006          BCC    20$              ; YES
5183 036156          ERRHRD 031.,ERR004,MSG003 ; NO, REPORT ERROR
      036156 104456          TRAP   C$ERRHRD
      036160 000037          .WORD  31
      036162 020102          .WORD  ERR004
      036164 017110          .WORD  MSG003
5184 036166          ESCAPE TST          ; AND ABORT TEST
      036166 104410          TRAP   C$ESCAPE
      036170 000716          .WORD  L10037
5185
5186 036172 004737 025546      ; 20$: JSR    PC,CLR0NI    ; WRITE ONE TO CLEAR DNI
5187
5188 036176 103006          BCC    30$              ; ERROR ?
5189 036200          ERRHRD 032.,ERR006,MSG003 ; YES, REPORT ERROR
      036200 104456          TRAP   C$ERRHRD
      036202 000040          .WORD  32
      036204 020202          .WORD  ERR006
      036206 017110          .WORD  MSG003
5190 036210          ESCAPE TST          ; AND ABORT TEST
      036210 104410          TRAP   C$ESCAPE
      036212 000674          .WORD  L10037
5191
5192 036214 004737 026772      ; 30$: JSR    PC,LDPCSR    ; ADDRESS OF PCBB -> PCSR2!3
5193 036220 012777 000001 144000  MOV    @GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
5194 036226 004737 024574      JSR    PC,CHKDNI        ; DNI ?
5195 036232 103006          BCC    40$              ; YES
5196 036234          ERRHRD 033.,ERR009,MSG003 ; NO, REPORT ERROR
      036234 104456          TRAP   C$ERRHRD
      036236 000041          .WORD  33
      036240 020416          .WORD  ERR009
    
```

012

```

036242 017110
5197 036244          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
    036244 104410          ;                               TRAP   C#ESCAPE
    036246 000640          ;                               .WORD  L10037
5198
5199 036250 C04737 025546      ;
5200      ; 404: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
5201 036254 103006          ; ECC    504          ; ERROR ?
5202 036256          ERRHRD 034.,ERR006,MSG003 ; NO
    036256 104456          ; ERRHRD 034.,ERR006,MSG003 ; YES, REPORT ERROR
    036260 000042          ;                               TRAP   C#ERRRD
    036262 020202          ;                               .WORD  34
    036264 017110          ;                               .WORD  ERR006
5203 036266          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
    036266 104410          ;                               TRAP   C#ESCAPE
    036270 000616          ;                               .WORD  L10037
5204
5205      ;
5206 036272 012703 014256      ;WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA = ADDRESS
5207      504: MOV    #MEM11A,R3          ; R3 POINTS TO WCS ADDRESS TABLE
5208      ;
5209 036276 010305          ;WRITE TBUF WITH DATA = ADDRESS
5210 036300 004737 026600      604: MOV    R3,R5          ; R5 POINTS TO ADDRESS
    ; JSR    PC,LDBUF          ; LOAD TBUF WITH ADDRESS DATA PATTERN
5211      ;LOAD INTERNAL WCS MEMORY
5212 036304 012705 013314      MOV    #LDMEM,R5          ; DEFAULT LOAD INTERNAL MEMORY
5213 036310 004737 026742      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
5214 036314 012705 014246      MOV    #UDB11A,R5        ; DEFAULT UDBB
5215 036320 012700 000C04      MOV    #4,R0             ; FOUR WORDS
5216 036324 004737 027142      JSR    PC,LDUDBB          ; LOAD INTO UDBB
5217 036330 012737 003104 002276 MOV    #TBUF,UDBB+2        ; LOAD TBUF ADDRESS -> UDBB+2
5218 036336 011337 002302      MOV    (R5),UDBB+6        ; LOAD WCS ADDRESS -> UDBB+6
5219 036342 012777 000002 143656 MOV    #GETCMD,#PCSR0      ; ISSUE GET COMMAND PORT COMMAND
5220 036350 004737 024574      JSR    PC,CHKDNI          ; DNI ?
5221 036354 103006          BCC    704                ; YES
5222 036356          ERRHRD 035.,ERR010,MSG003 ; NO, REPORT ERROR
    036356 104456          ;                               TRAP   C#ERRRD
    036360 000043          ;                               .WORD  35
    036362 020502          ;                               .WORD  ERPC10
    036364 017110          ;                               .WORD  MSG003
5223 036366          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
    036366 104410          ;                               .WORD  L10037
    036370 000516          ;
5224
5225 036372 004737 025546      ;
5226      ; 704: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
5227 036376 103006          ; BCC    804          ; ERROR ?
5228 036400          ERRHRD 036.,ERR006,MSG003 ; NO
    036400 104456          ; ERRHRD 036.,ERR006,MSG003 ; YES, REPORT ERROR
    036402 000044          ;                               TRAP   C#ERRRD
    036404 020202          ;                               .WORD  36
    036406 017110          ;                               .WORD  ERR006
5229 036410          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
    036410 104410          ;                               TRAP   C#ESCAPE
    036412 000474          ;                               .WORD  L10037
5230
5231      ;
5232 036414 012703 014256      ;READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA
    804: MOV    #MEM11A,R3          ; R3 POINTS TO WCS ADDRESS TABLE
    
```





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5272 ;WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA = COMPLIMENT OF ADDRESS
5273 036600 012703 014256 140$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5274 ;
5275 ;WRITE RBUF WITH DATA = ADDRESS
5276 036604 010305 160$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5277 036606 004737 026642 JSR PC,LDBUFC ; LOAD TBUF WITH COMPLIMENTED DATA
5278 ;LOAD INTERNAL WCS MEMORY
5279 036612 012705 013314 MOV #DMPMEM,R5 ; DEFAULT LOAD INTERNAL MEMORY
5280 036616 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
5281 036622 012705 014246 MOV #UDB11A,R5 ; DEFAULT UDBB
5282 036626 012700 000004 MOV #4,R0 ; FOUR WORDS
5283 036632 004737 027142 JSR PC,LDUDBB ; LOAD INTO UDBB
5284 036636 012737 003104 002276 MOV #TBUF,UDBB+2 ; LOAD TBUF ADDRESS -> UDBB+2
5285 036644 011337 002302 MOV (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
5286 036650 012777 000002 143350 MOV #GETCMD,@PCSRO ; ISSUE GET COMMAND PORT COMMAND
5287 036656 004737 024574 JSR PC,CHKDNI ; DNI ?
5288 036662 103006 BCC 170$ ; YES
5289 036664 ERRHRD 040.,ERR010,MSG003 ; NO, REPORT ERROR
;
; TRAP C$ERRHRD
; .WORD 40
; .WORD ERR010
; .WORD MSG003
5290 036674 ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10037
5291 ;
5292 036700 004737 025546 170$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5293 ; ERPOR ?
5294 036704 103006 BCC 180$ ; NO
5295 036706 ERRHRD 041.,ERR006,MSG003 ; YES, REPORT ERROR
; TRAP C$ERRHRD
; .WORD 41
; .WORD ERR006
; .WORD MSG003
5296 036716 ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10037
5297 ;
5298 ;READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA
5299 036722 012703 014256 180$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5300 ;
5301 ;SETUP TBUF FOR DATA COMPARE
5302 036726 010305 200$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5303 036730 004737 026642 JSR PC,LDBUFC ; LOAD TBUF WITH COMPLIMENTED DATA
5304 ;CLEAR RBUF
5305 036734 012704 007104 MOV #RBUF,R4 ; CLEAR RBUF
5306 036740 012700 002000 MOV #1024.,R0
5307 036744 005024 210$: CLR (R4);
5308 036746 077002 SOB R0,210$
5309 ;DUMP INTERNAL WCS MEMORY INTO RBUF
5310 036750 012705 013304 MOV #DMPMEM,R5 ; DEFAULT DUMP INTERNAL MEMORY
5311 036754 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
5312 036760 012705 014246 MOV #UDB11A,R5 ; DEFAULT UDBB
5313 036764 012700 000004 MOV #4,R0 ; FOUR WORDS
5314 036770 004737 027142 JSR PC,LDUDBB ; LOAD INTO UDBB
5315 036774 012737 007104 002276 MOV #RBUF,UDBB+2 ; LOAD RBUF ADDRESS -> UDBB+2
5316 037002 011337 002302 MOV (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
    
```



```

5340 .SBTTL TEST 12: READ/WRITE MODE FUNCTION TEST
5341
5342 ;*****
5343 ;
5344 ; THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS.
5345 ;
5346 ; TEST SEQUENCE:
5347 ; 1. WRITE MODE REGISTER WITH ALL ONES
5348 ; 2. READ AND COMPARE MODE REGISTER
5349 ; 3. WRITE MODE REGISTER WITH ALL ZEROS
5350 ; 4. READ AND COMPARE MODE REGISTER
5351 ;
5352 ;*****
5353
5354 037110 BGNTST
5355 037110 T12::
5355 037110 004737 027446 JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
5356 037114 103025 BCC 30$ ; NO
5357 037116 012777 000040 143102 MOV #RSET,SPCSRO ; YES, RESET DEUNA
5358 037124 004737 024574 JSR PC,CHKDNI ; DNI ?
5359 037130 103006 BCC 20$ ; YES
5360 037132 ERRHRD 045.,ERR004,MSG003 ; NO, REPORT ERROR
5360 037132 104456 TRAP C$ERHRD
5360 037134 000055 .WORD 45
5360 037136 020102 .WORD ERR004
5360 037140 017110 .WORD MSG003
5361 037142 ESCAPE TST ; AND ABORT TEST
5361 037142 104410 TRAP C$ESCAPE
5361 037144 000506 .WORD L10040
5362
5363 037146 004737 025546 ;
5363 20$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
5364 ; ERROR ?
5365 037152 103006 BCC 30$ ; NO
5366 037154 ERRHRD 046.,ERR006,MSG003 ; YES, REPORT ERROR
5366 037154 104456 TRAP C$ERHRD
5366 037156 000056 .WORD 46
5366 037160 020202 .WORD ERR006
5366 037162 017110 .WORD MSG003
5367 037164 ESCAPE TST ; AND ABORT TEST
5367 037164 104410 TRAP C$ESCAPE
5367 037166 000464 .WORD L10040
5368
5369 037170 004737 026772 ;
5369 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
5370 037174 012777 000001 143024 MOV #GETPCB,SPCSRO ; ISSUE GET_PCBB PORT COMMAND
5371 037202 004737 024574 JSR PC,CHKDNI ; DNI?
5372 037206 103006 BCC 40$ ; YES
5373 037210 ERRHRD 047.,ERR009,MSG003 ; NO, REPORT ERROR
5373 037210 104456 TRAP C$ERHRD
5373 037212 000057 .WORD 47
5373 037214 020416 .WORD ERR009
5373 037216 017110 .WORD MSG003
5374 037220 ESCAPE TST ; AND ABORT TEST
5374 037220 104410 TRAP C$ESCAPE
5374 037222 000430 .WORD L10040
5375
5376 037224 004737 025546 ;
5376 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
5377 ; ERROR ?
    
```

```

5378 037230 103006          BCC 501          ; NO
5379 037232          ERRHRD 048.,ERR006,MSG003 ; YES, REPORT ERROR
      037232 104456          TRAP C0ERRRD
      037234 000060          .WORD 48
      037236 020202          .WORD ERRO06
      037240 017110          .WORD MSG003
5380 037242          ESCAPE TST          ; AND ABORT TEST
      037242 104410          TRAP C0ESCAPE
      037244 000406          .WORD L10040
5381
5382 ; WRITE SETABLE MODE REGISTER BITS WITH ONES
5383 037246 012705 013244 501: MOV #WTRMODE,R5 ; POINT TO DEFAULT WRITE MODE FUNCTION
5384 037252 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION INTO PCBB
5385 037256 012737 175015 002266 MOV #CMODE1,PCBB+2 ; SETABLE MODE REGISTER BITS = ALL ONES
5386 037264 012777 000002 142734 MOV #GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
5387 037272 004737 024574 JSR PC,CHKDNI ; DNI ?
5388 037276 103006 BCC 601 ; YES
5389 037300          ERRHRD 049.,ERR010,MSG003 ; NO, REPORT ERROR
      037300 104456          TRAP C0ERRRD
      037302 000061          .WORD 49
      037304 020502          .WORD ERRO10
      037306 017110          .WORD MSG003
5390 037310          ESCAPE TST          ; AND ABORT TEST
      037310 104410          TRAP C0ESCAPE
      037312 000340          .WORD L10040
5391
5392 037314 004737 025546 601: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5393
5394 037320 103006 BCC 701 ; NO
5395 037322          ERRHRD 050.,ERR006,MSG003 ; YES, REPORT ERROR
      037322 104456          TRAP C0ERRRD
      037324 000062          .WORD 50
      037326 020202          .WORD ERRO06
      037330 017110          .WORD MSG003
5396 037332          ESCAPE TST          ; AND ABORT TEST
      037332 104410          TRAP C0ESCAPE
      037334 000316          .WORD L10040
5397
5398 ; READ AND COMPARE MODE REGISTER
5399 037336 012705 013234 701: MOV #RDMODE,R5 ; POINT TO DEFAULT READ MODE FUNCTION
5400 037342 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION INTO PCBB
5401 037346 012777 0000C2 142652 MOV #GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
5402 037354 004737 024574 JSR PC,CHKDNI ; DNI ?
5403 037360 103006 BCC 801 ; YES
5404 037362          ERRHRD 051.,ERR010,MSG003 ; NO, REPORT ERROR
      037362 104456          TRAP C0ERRRD
      037364 000063          .WORD 51
      037366 020502          .WORD ERRO10
      037370 017110          .WORD MSG003
5405 037372          ESCAPE TST          ; AND ABORT TEST
      037372 104410          TRAP C0ESCAPE
      037374 000256          .WORD L10040
5406
5407 037376 004737 025546 801: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5408
5409 037402 103006 BCC 901 ; NO
5410 037404          ERRHRD 052.,ERR006,MSG003 ; YES, REPORT ERROR

```

037404	104456					TRAP	C1ERRRD
037406	000064					.WORD	52
037410	020202					.WORD	ERR006
037412	017110					.WORD	MSG003
5411	037414			ESCAPE	TST	:	AND ABORT TEST
	037414	104410				TRAP	C1ESCAPE
	037416	000234				.WORD	L10040
5412							
5413	037420						
5414	03742C	012703	175015				
5415	037424	013704	002266				
5416	037430	020304					
5417	037432	001406					
5418	037434						
	037434	104456					
	037436	000065				TRAP	C1ERRRD
	037440	020565				.WORD	53
	037442	017062				.WORD	ERR011
	037442	017062				.WORD	MSG002
5419	037444			ESCAPE	TST	:	AND ABORT TEST
	037444	104410				TRAP	C1ESCAPE
	037446	000204				.WORD	L10040
5420							
5421							
5422							
5423	037450	012705	013244				
5424	037454	004737	026742				
5425	037460	012737	000000	002266			
5426	037466	012777	000002	142532			
5427	037474	004737	024574				
5428	037500	103006					
5429	037502						
	037502	104456					
	037504	000066				TRAP	C1ERRRD
	037506	020502				.WORD	54
	037510	017110				.WORD	ERR010
	037510	017110				.WORD	MSG003
5430	037512			ESCAPE	TST	:	AND ABORT TEST
	037512	104410				TRAP	C1ESCAPE
	037514	000136				.WORD	L10040
5431							
5432	037516	004737	025546				
5433							
5434	037522	103006					
5435	037524						
	037524	104456					
	037526	000067				TRAP	C1ERRRD
	037530	020202				.WORD	55
	037532	017110				.WORD	ERR006
	037532	017110				.WORD	MSG003
5436	037534			ESCAPE	TST	:	AND ABORT TEST
	037534	104410				TRAP	C1ESCAPE
	037536	000114				.WORD	L10040
5437							
5438							
5439	037540	012705	013234				
5440	037544	004737	026742				
5441	037550	012777	000002	142450			
5442	037556	004737	024574				
5443	037562	103006					

013



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.SBTTL TEST 13: READ/WRITE LINK MEMORY TEST

```

.....
:
: THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY.
: THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
: READ/WRITE THE ENTIRE 16K LINK MEMORY.
:
: TEST SEQUENCE:
:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
:   TO REMOVE LINK MEMORY FROM THE WIRE
: 2. LOAD TBUF WITH DATA = ADDRESS
: 3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
: 4. REPEAT STEPS 1 AND 2 FOR
:   EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
: 5. RESETUP TBUF FOR DATA COMPARE
: 6. CLEAR RBUF
: 7. DUMP INTERNAL LINK 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
:
.....

```

```

5489 037654          BGNTST
037654
5490 037654 004737 027446          JSR    PC,TINIT          ; T13::
5491 037660 103025          BCC    304              ; IS A DEVICE RESET NEEDED?
5492 037662 012777 000040 142336  MOV    @RSET,@PCSR0     ; NO
5493 037670 004737 024574          JSR    PC,CHKDNI        ; YES, RESET DEUMA
5494 037674 103006          BCC    204              ; DNI ?
5495 037676          ERRHRD 059.,ERR004,MSG003 ; YES
; NO, REPORT ERROR
; TRAP C$ERRRD
; .WORD 59
; .WORD ERR004
; .WORD MSG003
5496 037706          ESCAPE TST          ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10041
5497
5498 037712 004737 025546          JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
5499
5500 037716 103006          BCC    304              ; ERROR ?
5501 037720          ERRHRD 060.,ERR006,MSG003 ; NO
; YES, REPORT ERROR
; TRAP C$ERRRD
; .WORD 60
; .WORD ERR006
; .WORD MSG003
5502 037730          ESCAPE TST          ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10041
5503
5504 037734 004737 026772          JSR    PC,LDPCSR        ; 304:
5505 037740 012777 000001 142260  MOV    @GETPCB,@PCSR0   ; ADDRESS OF PCBB -> PCSR2:3
5506 037746 004737 024574          JSR    PC,CHKDNI        ; ISSUE GET_PCBB PORT COMMAND
5507 037752 103006          BCC    404              ; DNI ?
; YES

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5508 037754          ERRHRD 061.,ERR009,MSG003      ; NO, REPORT ERROR
      037754 104456
      037756 000075          TRAP C$ERRHRD
      037760 020416          .WORD 61
      037762 017110          .WORD ERR009
5509 037764          ESCAPE TST                    ; AND ABORT TEST
      037764 104410          .WORD MSG003
      037766 001072          TRAP C$ESCAPE
5510                                     ;
5511 037770 004737 025546 40$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
5512                                     ; ERROR ?
5513 037774 103006          BCC      4$:
5514 037776          ERRHRD 062.,ERR006,MSG003      ; YES, REPORT ERROR
      037776 104456          TRAP C$ERRHRD
      040000 000076          .WORD 62
      040002 020202          .WORD ERR006
      040004 017110          .WORD MSG003
5515 040006          ESCAPE TST                    ; AND ABORT TEST
      040006 104410          TRAP C$ESCAPE
      040010 001050          .WORD L10041
5516                                     ;
5517                                     ;WRITE MODE REGISTER = INTERNAL LOOPBACK TO TURN OFF LINK MEMORY
5518                                     ;
5519 040012 012705 013244 45$: MOV      @WTHMODE,R5      ; DEFAULT WRITE MODE FUNCTION
5520 040016 004737 026742 JSR      PC,LDPCCB      ; LOAD FUNCTION -> PCBB
5521 040022 012777 000002 142176 MOV      @GETCMD,@PCSR0  ; ISSUE GET_CMD PORT COMMAND
5522 040030 004737 024574 JSR      PC,CHKDNI      ; DNI ?
5523 040034 103006          BCC      47$:
5524 040036          ERRHRD 063.,ERR010,MSG003      ; NO, REPORT ERROR
      040036 104456          TRAP C$ERRHRD
      040040 000077          .WORD 63
      040042 020502          .WORD ERR010
      040044 017110          .WORD MSG003
5525 040046          ESCAPE TST                    ; AND ABORT TEST
      040046 104410          TRAP C$ESCAPE
      040050 001010          .WORD L10041
5526                                     ;
5527 040052 004737 025546 47$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
5528                                     ; ERROR ?
5529 040056 103006          BCC      50$:
5530 040060          ERRHRD 064.,ERR006,MSG003      ; YES, REPORT ERROR
      040060 104456          TRAP C$ERRHRD
      040062 000100          .WORD 64
      040064 020202          .WORD ERR006
      040066 017110          .WORD MSG003
5531 040070          ESCAPE TST                    ; AND ABORT TEST
      040070 104410          TRAP C$ESCAPE
      040072 000766          .WORD L10041
5532                                     ;
5533                                     ;WRITE 16K LINK MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
5534 040074 012703 014260 50$: MOV      @MEM13A,R3      ; R3 POINTS TO LINK MEM ADDRESS TABLE
5535 040100 012701 000020 MOV      @16.,R1        ; DO LOOP = 16
5536                                     ;
5537                                     ;WRITE RBUF WITH DATA = ADDRESS
5538 040104 010305 026600 60$: MOV      R3,R5        ; R5 POINTS TO ADDRESS
5539 040106 004737 026600 JSR      PC,LDBUF      ; LOAD TBUF WITH ADDRESS DATA PATTERN
5540                                     ;

```

```

5541                                     ;LOAD INTERNAL LINK MEMORY
5542 040112 012705 013314                MOV    #LDMEM,R5          ; DEFAULT LOAD INTERNAL MEMORY
5543 040116 004737 026742                JSR    PC,LDPCBB         ; LOAD FUNCTION -> PCBB
5544 040122 012705 014246                MOV    #UDB11A,R5       ; DEFAULT UDBB
5545 040126 012700 000004                MOV    #4,R0            ; FOUR WORDS
5546 040132 004737 027142                JSR    PC,LDUDBB        ; LOAD INTO UDBB
5547 040136 012737 003104 002276        MOV    #TBUF,UDBB+2     ; LOAD TBUF ADDRESS -> UDBB+2
5548 040144 012337 002302                MOV    (R3),UDBB+6     ; LOAD LINK ADDRESS -> UDBB+6
5549                                     ;
5550 040150 022701 000001                CMP    #1,R1           ; IS THIS THE LAST 1K BLOCK ?
5551 040154 001003                        BNE    65#             ; NO
5552 040156 012737 003774 002274        MOV    #3774,UDBB      ; YES, ONLY WRITE 1022. WORDS
5553                                     ;
5554 040164 012777 000002 142034 65# :   MOV    #GETCMD,#PCSR0   ; ISSUE GET COMMAND PORT COMMAND
5555 040172 004737 024574                JSR    PC,CHKDNI       ; DNI ?
5556 040176 103006                        BCC    70#            ; YES
5557 040200 040200 104456 040202 000101  ERRHRD 065.,ERR010,MSG003 ; NO, REPORT ERROR
5558 040210 040210 104410 040212 000646                                     TRAP   C#ERRHRD
5559                                     ;                                     .WORD 65
5560 040214 004 37 025546 70# :         JSR    PC,CLRDN1   ; AND ABORT TEST                                     TRAP   C#ESCAPE
5561                                     ;                                     .WORD L10041 .
5562 040220 103006                        BCC    80#            ; WRITE ONE TO CLEAR DNI
5563 040222 040222 104456 040224 000102  ERRHRD 066.,ERR006,MSG003 ; ERROR ?
5564 040232 040232 104410 040234 000624                                     TRAP   C#ERRHRD
5565 040236 005301 80# :                 DEC    R1           ; NO                                     .WORD 66
5566 040240 001321 80# :                 BNE    60#            ; YES, REPORT ERROR                                     TRAP   C#ERR06
5567                                     ;                                     .WORD MSG003
5568                                     ; AND ABORT TEST                                     TRAP   C#ESCAPE
5569 040242 012703 014260 80# :         JSR    PC,CLRDN1   ; DONE 16 WRITES ?                                     .WORD L10041 .
5570 040246 012701 000020                MOV    #MEM15A,R3      ; DO LOOP = 16
5571                                     ;
5572                                     ;READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA
5573 040252 010305 100# :         MOV    R3,R5          ; R3 POINTS TO LINK MEM ADDRESS TABLE
5574 040254 004737 026600                JSR    PC,LDBUF        ; DO LOOP = 16
5575                                     ;
5576                                     ;SETUP TBUF FOR DATA COMPARE
5577 040260 012704 007104                MOV    #RBUF,R4        ; R5 POINTS TO ADDRESS
5578 040264 012700 002000                MOV    #1024,R0        ; LOAD TBUF WITH ADDRESS DATA PATTERN
5579 040270 005024 110# :         CLR    (R4),R0 ; CLEAR RBUF
5580 040272 077002                SOB    R0,110#
5581                                     ;
5582                                     ;DUMP INTERNAL LINK MEMORY INTO RBUF
5583 040274 012705 013304                MOV    #DMPMEM,R5     ; DEFAULT DUMP INTERNAL MEMORY
5584 040300 004737 026742                JSR    PC,LDPCBB      ; LOAD FUNCTION -> PCBB
5585 040304 012705 014246                MOV    #UDB11A,R5     ; DEFAULT UDBB
    
```

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5586 040310 012700 000004      MOV    #4,R0      ; FOUR WORDS
5587 040314 004737 027142      JSR    PC,LDUDBB  ; LOAD INTO UDBB
5588 040320 012737 007104 002276  MOV    @RBUF,UDBB+2 ; LOAD RBUF ADDRESS > UDBB+2
5589 040326 012337 002302      MOV    (R5),UDBB+6 ; LOAD LINK ADDRESS > UDBB+6
5590                                     ;
5591 040332 022701 000001      CMP    #1,R1     ; IS THIS THE LAST 1K BLOCK ?
5592 040336 001003              BNE    115#      ; NO
5593 040340 012737 003774 002274  MOV    #3774,UDBB ; YES, ONLY READ 1022. WORDS
5594                                     ;
5595 040346 012777 000002 141652 115# : MOV    @GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
5596 040354 004737 024574      JSR    PC,CHKDNI ; DNI ?
5597 040360 103006              BCC    120#      ; YES
5598 040362              ERRHRD 067.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP    C#ERRRD
                                     .WORD 67
040362 104456                                     .WORD ERR010
040364 000103                                     .WORD MSG003
040366 020502
040370 017110
5599 040372              FSCAPE TST      ; AND ABORT TEST
                                     TRAP    C#ESCAPE
040372 104410                                     .WORD L10041
040374 000464
5600                                     ;
5601 040376 004737 025546      JSR    PC,CLRDMI ; WRITE ONE TO CLEAR DMI
5602                                     ; ERROR ?
5603 040402 103006              BCC    130#      ; NO
5604 040404              ERRHRD 068.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP    C#ERRRD
040404 104456                                     .WORD 68
040406 000104                                     .WORD ERR006
040410 020202                                     .WORD MSG003
040412 017110
5605 040414              ESCAPE TST      ; AND ABORT TEST
                                     TRAP    C#ESCAPE
040414 104410                                     .WORD L10041-
040416 000442
5606                                     ;
5607                                     ;COMPARE RBUF WITH TBUF
5608                                     ;
5609 040420 022701 000001      CMP    #1,R1     ; IS THIS THE LAST 1K BLOCK ?
5610 040424 001003              BNE    135#      ; NO
5611 040426 012705 001776      MOV    #1022.,R5 ; YES, ONLY COMPARE 1022. WORDS
5612 040432 000402              BR     136#
5613                                     ;
5614 040434 012705 002000      MOV    #1024.,R5 ; COMPARE 1024. WORDS OF DATA
5615 040440 004737 026174      JSR    PC,CPMEM  ; DATA COMPARE ERROR ?
5616 040444 103006              BCC    140#      ; NO
5617 040446              ERRHRD 069.,ERR043,MSG007 ; YES, REPORT ERROR
                                     TRAP    C#ERRRD
040446 104456                                     .WORD 69
040450 000105                                     .WORD ERR043
040452 023644                                     .WORD MSG007
040454 017520
5618 040456              ESCAPE TST      ; AND ABORT TEST
                                     TRAP    C#ESCAPE
040456 104410                                     .WORD L10041
040460 000400
5619                                     ;
5620 040462 005301      140# : DEC    R1      ; DONE 16 READS ?
5621 040464 001272              BNE    100#
5622                                     ;
5623                                     ;REPEAT TEST WITH COMPLEMENTED DATA PATTERN
5624                                     ;

```

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5625                                     ;WRITE 16K LINK MEMORY WITH DATA = COMPLIMENT OF ADDRESS BY 1K BLOCKS
5626 040466 012703 014260                MOV    #MEM13A,R3                ; R3 POINTS TO LINK MEM ADDRESS TABLE
5627 040472 012701 000020                MOV    #16.,R1                  ; DO LOOP = 16
5628
5629                                     ;
5630 040476 010305                        ;WRITE RBUF WITH DATA = ADDRESS
160#: MOV    R3,R5                    ; R5 POINTS TO ADDRESS
5631 040500 004737 026642                JSR    PC,LDBUFC                ; LOAD TBUF WITH COMPLIMENTED DATA
5632
5633                                     ;
5634 040504 012705 013314                ;LOAD INTERNAL LINK MEMORY
5635 040510 004737 026742                MOV    #LDMEM,R5                ; DEFAULT LOAD INTERNAL MEMORY
5636 040514 012705 014246                JSR    PC,LDPCCB                ; LOAD FUNCTION -> PCBB
5637 040520 012700 000004                MOV    #UDB11A,R5              ; DEFAULT UDBB
5638 040524 004737 027142                MOV    #4,R0                    ; FOUR WORDS
5639 040530 012737 003104 002276        JSR    PC,LDUDBB                ; LOAD INTO UDBB
5640 040536 012337 002302                MOV    #TBUF,UDBB*2            ; LOAD TBUF ADDRESS -> UDBB*2
5641                                     MOV    (R3)+,UDBB*6            ; LOAD LINK ADDRESS -> UDBB*6
5642 040542 022701 000001                CMP    #1,R1                    ; IS THIS THE LAST 1K BLOCK ?
5643 040546 001003                        BNE    165#                     ; NO
5644 040550 012737 003774 002274        MOV    #3774,UDBB              ; YES, ONLY WRITE 1022. WORDS
5645
5646 040556 012777 000002 141442 165#: MOV    #GETCMD,BPCSR0            ; ISSUE GET COMMAND PORT COMMAND
5647 040564 004737 024574                JSR    PC,CHKDNI                ; DNI ?
5648 040570 103006                        BCC    170#                     ; YES
5649 040572                                ERRHRD 070.,ERR010,MSG003        ; NO, REPORT ERROR
5650                                     TRAP   C#ERRRD                 ;
5651                                     .WORD 70                       ;
5652                                     .WORD ERR010                   ;
5653                                     .WORD MSG003                   ;
5654                                     ESCAPE TST                      ; AND ABORT TEST
5655                                     TRAP   C#ESCAPE                ;
5656                                     .WORD L10041                   ;
5657
5658 040606 004737 025546                ;
170#: JSR    PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
5659                                     ; ERROR ?
5660                                     BCC    180#                     ; NO
5661 040612 103006                        ERRHRD 071.,ERR006,MSG003        ; YES, REPORT ERROR
5662                                     TRAP   C#ERRRD                 ;
5663                                     .WORD 71                       ;
5664                                     .WORD ERR006                   ;
5665                                     .WORD MSG003                   ;
5666                                     ESCAPE TST                      ; AND ABORT TEST
5667                                     TRAP   C#ESCAPE                ;
5668                                     .WORD L10041                   ;
5669
5670 040630 005301                        180#: DEC    R1                    ; DONE 16 WRITES ?
5671 040632 001321                        BNE    160#                     ; NO
5672
5673                                     ;
5674 040634 012703 014260                ;READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA
5675 040640 012701 000020                MOV    #MEM13A,R3                ; R3 POINTS TO LINK MEM ADDRESS TABLE
5676                                     MOV    #16.,R1                  ; DO LOOP = 16
5677
5678                                     ;
5679 040644 010305                        ;SETUP TBUF FOR DATA COMPARE
200#: MOV    R3,R5                    ; R5 POINTS TO ADDRESS
5680 040646 004737 026642                JSR    PC,LDBUFC                ; LOAD TBUF WITH COMPLIMENTED DATA
5681
5682                                     ;
5683 040652 012704 007104                ;CLEAR RBUF
5684                                     MOV    #RBUF,R4                ; CLEAR RBUF
    
```

5670	040656	012700	002000		MOV	#1024.,R0			
5671	040662	005024		2104:	CLR	(R4),			
5672	040664	077002			SOB	R0,2104			
5673									
5674									
5675	040666	012705	013304						
5676	040672	004737	026742		MOV	#DMPMEM,R5			; DEFAULT DUMP INTERNAL MEMORY
5677	040676	012705	014246		JSR	PC,LDPCCB			; LOAD FUNCTION -> PCBB
5678	040702	012700	000004		MOV	#UDB11A,R5			; DEFAULT UDBB
5679	040706	004737	027142		MOV	#4,R0			; FOUR WORDS
5680	040712	012737	007104	002276	JSR	PC,LDUDBB			; LOAD INTO UDBB
5681	040720	012337	002302		MOV	#RBUF,UDBB+2			; LOAD RBUF ADDRESS -> UDBB+2
5682					MOV	(R3),UDBB+6			; LOAD LINK ADDRESS -> UDBB+6
5683	040724	022701	000001						
5684	040730	001003			CMP	#1,R1			; IS THIS THE LAST 1K BLOCK ?
5685	040732	012737	003774	002274	BNE	2154			; NO
5686					MOV	#3774,UDBB			; YES, ONLY READ 1022. WORDS
5687	040740	012777	000002	141260	2154:	MOV	#GETCMD,#PCSR0		; ISSUE GET COMMAND PORT COMMAND
5688	040746	004737	024574		JSR	PC,CHKDNI			; DNI ?
5689	040752	103006			BCC	2204			; YES
5690	040754				ERRHRD	072.,ERR010,MSG003			; NO, REPORT ERROR
	040754	104456							TRAP C\$ERRHRD
	040756	000110							.WORD 72
	040760	020502							.WORD ERR010
	040762	017110							.WORD MSG003
5691	040764				ESCAPE	TST			; AND ABORT TEST
	040764	104410							TRAP C\$ESCAPE
	040766	000072							.WORD L10041
5692									
5693	040770	004737	025546		2204:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
5694									; ERROR ?
5695	040774	103006			BCC	2304			; NO
5696	040776				ERRHRD	073.,ERR006,MSG003			; YES, REPORT ERROR
	040776	104456							TRAP C\$ERRHRD
	041000	000111							.WORD 73
	041002	020202							.WORD ERR006
	041004	017110							.WORD MSG003
5697	041006				ESCAPE	TST			; AND ABORT TEST
	041006	104410							TRAP C\$ESCAPE
	041010	000050							.WORD L10041
5698									
5699									
5700									
5701	041012	022701	000001		2304:	CMP	#1,R1		; IS THIS THE LAST 1K BLOCK ?
5702	041016	001003			BNE	2354			; NO
5703	041020	012705	001776		MOV	#1022.,R5			; YES, ONLY COMPARE 1022. WORDS
5704	041024	000402			BR	2364			
5705									
5706	041026	012705	002000		2354:	MOV	#1024.,R5		; COMPARE 1024. WORDS OF DATA
5707	041032	004737	026174		2364:	JSR	PC,CMPMEM		; DATA COMPARE ERROR ?
5708	041036	103006			BCC	2404			; NO
5709	041040				ERRHRD	074.,ERR043,MSG007			; YES, REPORT ERROR
	041040	104456							TRAP C\$ERRHRD
	041042	000112							.WORD 74
	041044	023644							.WORD ERR043
	041046	017520							.WORD MSG007
5710	041050				ESCAPE	TST			; AND ABORT TEST

041050 104410  
041052 000006  
5711  
5712 041054 005301  
5713 041056 001272  
5714  
5715 041060  
041060  
041060 104401

:  
2401: DEC R1  
BNE 2001  
:  
ENDTST

; DONE 16 READS ?

TRAP C#ESCAPE  
.WORD L10041 .

L10041:  
TRAP C#ETST

```

5717 .SBTTL TEST 14: INTERNAL LOOPBACK TEST
5718
5719 :*****
5720 :
5721 : THIS TEST HAS TWO PARTS: SUBTEST #1 AND SUBTEST #2
5722 : SUBTEST #1 VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
5723 : CAN BE PERFORMED SUCCESSFULLY.
5724 : SUBTEST #2 VERIFIES THAT THE HEARTBEAT CIRCUITRY IS OPERATING CORRECTLY
5725 :
5726 : TEST SEQUENCE:
5727 : 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
5728 : 2. WRITE RING FORMAT
5729 : 3. WRITE PHYSICAL ADDRESS
5730 : 4. SET UP RINGS AND BUFFERS
5731 : 5. ISSUE START
5732 : 6. CHECK FOR ERRORS
5733 : 7. ISSUE STOP
5734 : 8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE
5735 : COLLISION TEST CIRCUITRY
5736 : 9. SET UP RINGS AND BUFFERS
5737 : 10. ISSUE START
5738 : 11. ISSUE STOP
5739 : 12. ISSUE READ PORT STATUS
5740 : 13. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD 2
5741 :
5742 :*****
5743

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5744 041062          BGNTST
5745 041062          BGNSUB ;#1
5746 041062 104402
5747 041064 004737 027446 JSR    PC,TINIT      ; IS A DEVICE RESET NEEDED?
5748 041070 103025      BCC    30#          ; NO
5749 041072 012777 000040 141126 MOV    @RSET,@PCSR0 ; YES, RESET DEUNA
5750 041100 004737 024574 JSR    PC,CHKDNI    ; DNI ?
5751 041104 103006      BCC    20#          ; YES
5752 041106          ERRHRD 075.,ERR004,MSG003 ; NO, REPORT ERROR
5753 041106 104456          TRAP    C$ERRRD
5754 041110 000113          .WORD    75
5755 041112 020102          .WORD    ERR004
5756 041114 017110          .WORD    MSG003
5757 041116          ESCAPE TST      ; AND ABORT TEST
5758 041116 104410          TRAP    C$ESCAPE
5759 041120 001714          .WORD    L10042
5760 041122 004737 025546 ;20# JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
5761 041126 103006          BCC    30#          ; ERROR ?
5762 041130          ERRHRD 076.,ERR006,MSG003 ; YES, REPORT ERROR
5763 041130 104456          TRAP    C$ERRRD
5764 041132 000114          .WORD    76
5765 041134 020202          .WORD    ERR006
5766 041136 017110          .WORD    MSG003
5767 041140          ESCAPE TST      ; AND ABORT TEST
5768 041140 104410          TRAP    C$ESCAPE

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      041142 001672                                .WORD L10042 .
5760
5761 041144 004737 026772          ; 30$: JSR    PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2:3
5762 041150 012777 000001 141050    MOV    #GETPCB,#PCSR0    ; ISSUE GET PCBB PORT COMMAND
5763 041156 004737 024574          JSR    PC,CHKDNI        ; DNI?
5764 041162 103006          BCC    40$             ; YES
5765 041164          ERRHRD 077.,ERR009,MSG003 ; NO, REPORT ERROR
      041164 104456                                TRAP  C$ERHRD
      041166 000115                                .WORD 77
      041170 020416                                .WORD ERR009
      041172 017110                                .WORD MSG003
5766 041174          ESCAPE TST                    ; AND ABORT TEST
      041174 104410                                TRAP  C$ESCAPE
      041176 001636                                .WORD L10042
5767
5768 041200 004737 025546          ; 40$: JSR    PC CLR DNI    ; WRITE ONE TO CLEAR DNI
5769                                     ; ERROR ?
5770 041204 103006          PCC    50$             ; NO
5771 041206          ERRHRD 078.,ERR006,MSG003 ; YES, REPORT ERROR
      041206 104456                                TRAP  C$ERHRD
      041210 000116                                .WORD 78
      041212 020202                                .WORD ERR006
      041214 017110                                .WORD MSG003
5772 041216          ESCAPE TST                    ; AND ABORT TEST
      041216 104410                                TRAP  C$ESCAPE
      041220 001614                                .WORD L10042 .
5773
5774                                     ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
5775 041222 012705 013244          ; 50$: MOV    #WTRNGS,R5    ; DEFAULT WRITE MODE FUNCTION
5776 041226 004737 026742          JSR    PC,LDPCBB        ; LOAD FUNCTION -> PCBB
5777 041232 012777 000002 140766    MOV    #GETCMD,#PCSR0    ; ISSUE GET_CMD PORT COMMAND
5778 041240 004737 024574          JSR    PC,CHKDNI        ; DNI ?
5779 041244 103006          BCC    60$             ; YES
5780 041246          ERRHRD 079.,ERR010,MSG003 ; NO, REPORT ERROR
      041246 104456                                TRAP  C$ERHRD
      041250 000117                                .WORD 79
      041252 020502                                .WORD ERR010
      041254 017110                                .WORD MSG003
5781 041256          ESCAPE TST                    ; AND ABORT TEST
      041256 104410                                TRAP  C$ESCAPE
      041260 001554                                .WORD L10042 .
5782
5783 041262 004737 025546          ; 60$: JSR    PC,CLR DNI    ; WRITE ONE TO CLEAR DNI
5784                                     ; ERROR ?
5785 041266 103006          BCC    70$             ; NO
5786 041270          ERRHRD 080.,ERR006,MSG003 ; YES, REPORT ERROR
      041270 104456                                TRAP  C$ERHRD
      041272 000120                                .WORD 80
      041274 020202                                .WORD ERR006
      041276 017110                                .WORD MSG003
5787 041300          ESCAPE TST                    ; AND ABORT TEST
      041300 104410                                TRAP  C$ESCAPE
      041302 001532                                .WORD L10042 .
5788
5789                                     ; WRITE RING FORMAT
5790 041304 012705 013204          ; 70$: MOV    #WTRNGS,R5    ; DEFAULT WRITE RING FORMAT FUNCTION
5791 041310 004737 026742          JSR    PC,LDPCBB        ; LOAD FUNCTION -> PCBB

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5792 041314 012705 013324      MOV    #RFRMT,R5      ; DEFAULT RING FORMAT
5793 041320 012700 000006      MOV    #6,R0          ; FORMAT = SIX WORDS
5794 041324 004737 027142      JSR    PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
5795 041330 012777 000002      MOV    #GETCMD,#PCSR0 ; ISSUE GET_CMD PORT COMMAND
5796 041336 004737 024574      JSR    PC,CHKDNI     ; DNI ?
5797 041342 103006              BCC    80$           ; YES
5798 041344              ERRHRD 081.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C#ERRRD
                                .WORD   81
                                .WORD   ERR010
                                .WORD   MSG003
    041344 104456
    041346 000121
    041350 020502
    041352 017110
5799 041354              ESCAPE TST          ; AND ABORT TEST
    041354 104410              TRAP    C#ESCAPE
    041356 001456              .WORD   L10042
5800
5801 041360 004737 025546      ; 80$: JSR    PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5802
5803 041364 103006              BCC    90$           ; ERROR ?
5804 041366              ERRHRD 082.,ERR006,MSG003 ; NO
                                ; YES, REPORT ERROR
                                TRAP    C#ERRRD
                                .WORD   82
                                .WORD   ERR006
                                .WORD   MSG003
    041366 104456
    041370 000122
    041372 020202
    041374 017110
5805 041376              ESCAPE TST          ; AND ABORT TEST
    041376 104410              TRAP    C#ESCAPE
    041400 001434              .WORD   L10042
5806
5807 ;WRITE PHYSICAL ADDRESS
5808 041402 012705 013144      ; 90$: MOV    #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
5809 041406 004737 026742      JSR    PC,LDPCBB     ; LOAD FUNCTION -> PCBB
5810 041412 012777 000002      MOV    #GETCMD,#PCSR0 ; ISSUE GET_CMD PORT COMMAND
5811 041420 004737 024574      JSR    PC,CHKDNI     ; DNI ?
5812 041424 103006              BCC    100$          ; YES
5813 041426              ERRHRD 083.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C#ERRRD
                                .WORD   83
                                .WORD   ERR010
                                .WORD   MSG003
    041426 104456
    041430 000123
    041432 020502
    041434 017110
5814 041436              ESCAPE TST          ; AND ABORT TEST
    041436 104410              TRAP    C#ESCAPE
    041440 001374              .WORD   L10042
5815
5816 041442 004737 025546      ; 100$: JSR   PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5817
5818 041446 103006              BCC    110$          ; ERROR ?
5819 041450              ERRHRD 084.,ERR006,MSG003 ; NO
                                ; YES, REPORT ERROR
                                TRAP    C#ERRRD
                                .WORD   84
                                .WORD   ERR006
                                .WORD   MSG003
    041450 104456
    041452 000124
    041454 020202
    041456 017110
5820 041460              ESCAPE TST          ; AND ABORT TEST
    041460 104410              TRAP    C#ESCAPE
    041462 001352              .WORD   L10042
5821
5822 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
5823 041464 012705 013554      ; 110$: MOV    #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
5824 041470 004737 027046      JSR    PC,LDTDRB    ; LOAD TDRB
  
```

5825	041474	012705	013354		MOV	#RDRB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING	
5826	041500	004737	027010		JSR	PC,LDRDRB		; LOAD RDRB	
5827									
5828					; SET UP	BUFFERS AND START			
5829	041504	012705	002266		MOV	#PCBB.2,R5		; POINT TO DESTINATION ADDRESS	
5830	041510	004737	026714		JSR	PC,LDDDEST		; LOAD DEST	
5831	041514	004737	027342		JSR	PC,SETBUF		; SET UP BUFFERS	
5832	041520	012777	000004	140500	MOV	#START,@PCSR0		; ISSUE START PORT COMMAND	
5833	041526	004737	024574		JSR	PC,CHKDNI		; DNI?	
5834	041532	103006			BCC	1201		; YES	
5835	041534				ERRMRD	085.,ERR012,MSG003		; NO, REPORT ERROR	
	041534	104456						TRAP	C1ERRMRD
	041536	000125						.WORD	85
	041540	020633						.WORD	ERR012
	041542	017110						.WORD	MSG003
5836	041544				ESCAPE	TST		; AND ABORT TEST	
	041544	104410						TRAP	C1ESCAPE
	041546	001266						.WORD	L10042
5837									
5838	041550	004737	025546		; 1201:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
5839									; ERROR ?
5840	041554	103006			BCC	1301		; NO	
5841	041556				ERRMRD	086.,ERR006,MSG003		; YES, REPORT ERROR	
	041556	104456						TRAP	C1ERRMRD
	041560	000126						.WORD	86
	041562	020202						.WORD	ERR006
	041564	017110						.WORD	MSG003
5842	041566				ESCAPE	TST		; AND ABORT TEST	
	041566	104410						TRAP	C1ESCAPE
	041570	001244						.WORD	L10042
5843									
5844	041572	004737	025404		; 1301:	JSR	PC,CHKTXI		; TXI ?
5845	041576	103006			BCC	1401		; YES	
5846	041600				ERRMRD	087.,ERR013,MSG003		; NO, REPORT ERROR	
	041600	104456						TRAP	C1ERRMRD
	041602	000127						.WORD	87
	041604	020714						.WORD	ERR013
	041606	017110						.WORD	MSG003
5847	041610				ESCAPE	TST		; AND ABORT TEST	
	041610	104410						TRAP	C1ESCAPE
	041612	001222						.WORD	L10042
5848									
5849	041614	004737	025730		; 1401:	JSR	PC,CLRXTI		; WRITE ONE TO CLEAR TXI
5850									; ERROR ?
5851	041620	103006			BCC	1501		; NO	
5852	041622				ERRMRD	088.,ERR014,MSG003		; YES, REPORT ERROR	
	041622	104456						TRAP	C1ERRMRD
	041624	000130						.WORD	88
	041626	020745						.WORD	ERR014
	041630	017110						.WORD	MSG003
5853	041632				ESCAPE	TST		; AND ABORT TEST	
	041632	104410						TRAP	C1ESCAPE
	041634	001200						.WORD	L10042
5854									
5855	041636	012705	002604		; 1501:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
5856	041642	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
5857	041646	103006			BCC	1601		; YES	

5858	041650			ERRHRD	089.,ERR018	:	NO, REPORT ERROR		
	041650	104456						TRAP	C#ERRRD
	041652	000131						.WORD	89
	041654	021212						.WORD	ERR018
	041656	000000						.WORD	0
5859	041660			ESCAPE	TST	:	AND ABORT TEST		
	041660	104410						TRAP	C#ESCAPE
	041662	001152						.WORD	L10042
5860									
5861	041664	012705	014524	160:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB	
5862	04167C	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE	
5863	041674	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB	
5864	041700	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?	
5865	041704	103006			BCC	170:	:	NO	
5866	041706				ERRHRD	090.,ERR020,MSG005	:	YES, REPORT ERROR	
	041706	104456						TRAP	C#ERRRD
	041710	000132						.WORD	90
	041712	021372						.WORD	ERR020
	041714	017214						.WORD	MSG005
5867	041716			ESCAPE	TST	:	AND ABORT TEST		
	041716	104410						TRAP	C#ESCAPE
	041720	001114						.WORD	L10042
5868									
5869	041722	004737	025132	170:	JSR	PC,CHKRXI	:	RXI ?	
5870	041726	103006			BCC	180:	:	YES	
5871	041730				ERRHRD	091.,ERR015,MSG003	:	NO, REPORT ERROR	
	041730	104456						TRAP	C#ERRRD
	041732	000133						.WORD	91
	041734	021013						.WORD	ERR015
	041736	017110						.WORD	MSG003
5872	041740			ESCAPE	TST	:	AND ABORT TEST		
	041740	104410						TRAP	C#ESCAPE
	041742	001072						.WORD	L10042
5873									
5874	041744	004737	025662	180:	JSR	PC,CLRFXI	:	WRITE ONE TO CLEAR RXI	
5875								ERROR ?	
5876	041750	103006			BCC	190:	:	NO	
5877	041752				ERRHRD	092.,ERR016,MSG003	:	YES, REPORT ERROR	
	041752	104456						TRAP	C#ERRRD
	041754	000134						.WORD	92
	041756	021044						.WORD	ERR016
	041760	017110						.WORD	MSG003
5878	041762			ESCAPE	TST	:	AND ABORT TEST		
	041762	104410						TRAP	C#ESCAPE
	041764	001050						.WORD	L10042
5879									
5880	041766	012705	002644	190:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP	
5881	041772	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
5882	041776	103006			BCC	200:	:	YES	
5883	042000				ERRHRD	093.,ERR017	:	NO, REPORT ERROR	
	042000	104456						TRAP	C#ERRRD
	042002	000135						.WORD	93
	042004	021112						.WORD	ERR017
	042006	000000						.WORD	0
5884	042010			ESCAPE	TST	:	AND ABORT TEST		
	042010	104410						TRAP	C#ESCAPE
	042012	001022						.WORD	L10042

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5885
5886 042014 012705 014634      ;
5887 042020 004737 027222      ; 2001: MOV    @RDR14A,R5      ; POINT TO EXPECTED RDRB
5888 042024 012705 002644      ; JSR    PC,LDXRDR      ; LOAD INTO XRDRB0 TABLE
5889 042030 004737 025032      ; MOV    @RDRB,R      ; CHECK RDRB
5890 042034 103006              ; JSR    PC, MKRDT+     ; ERRORS ?
5891 042036 104456              ; DCC    2101          ; NO
                    042036 104456              ; ERRMRD 094.,ERR021,MSG006 ; YES, REPORT ERROR
                    042040 000136              ; TRAP   C1ERRMRD
                    042042 021453              ; .WORD 94
                    042044 017356              ; .WORD ERR021
5892 042046              ESCAPE TST          ; AND ABORT TEST
                    042046 104410              ; TRAP   C1ESCAPE
                    042050 000764              ; .WORD L10042
5893
5894      ;COMPARE RBUF WITH TBUF
5895 042052 012705 000070      ; 2101: MOV    @56.,R5      ; COMPARE 56 WORDS OF DATA
5896 042056 004737 026044      ; JSR    PC,CHPDAT     ; DATA COMPARE ERROR ?
5897 042062 103005              ; BCC    2201          ; NO
5898 042064 104456              ; ERRMRD 095.,ERR022,MSG007 ; YES, REPORT ERROR
                    042064 104456              ; TRAP   C1ERRMRD
                    042066 000137              ; .WORD 95
                    042070 021534              ; .WORD ERR022
                    042072 017520              ; .WORD MSG007
5899 042074              ESCAPE TST          ; AND ABORT TEST
                    042074 104410              ; TRAP   C1ESCAPE
                    042076 000736              ; .WORD L10042
5900
5901 042100 012705 014724      ;
5902 042104 004737 027176      ; 2201: MOV    @CRC14A,R5     ; POINT TO EXPECTED CRCB
5903 042110 012705 007300      ; JSR    PC,LDXCRC     ; LOAD INTO XCRC TABLE
5904 042114 004737 026124      ; MOV    @RBUF+124.,R5 ; CHECK CRC
5905 042120 103006              ; JSR    PC,CHPCRC     ; ERRORS ?
5906 042122 104456              ; BCC    2301          ; NO
                    042122 104456              ; ERRMRD 096.,ERR023,MSG008 ; YES, REPORT ERROR
                    042124 000140              ; TRAP   C1ERRMRD
                    042126 021603              ; .WORD 96
                    042130 017552              ; .WORD ERR023
5907 042132              ESCAPE TST          ; AND ABORT TEST
                    042132 104410              ; TRAP   C1ESCAPE
                    042134 000700              ; .WORD L10042
5908
5909 042136 012777 000017 140062 ; 2301: MOV    @STOP,@PCSR0   ; ISSUE STOP PORT COMMAND
5910 042144 004737 024574      ; JSR    PC,CHKDNI     ; DNI ?
5911 042150 103006              ; BCC    2401          ; YES
5912 042152 104456              ; ERRMRD 097.,ERR019,MSG003 ; NO, REPORT ERROR
                    042152 104456              ; TRAP   C1ERRMRD
                    042154 000141              ; .WORD 97
                    042156 021312              ; .WORD ERR019
                    042160 017110              ; .WORD MSG003
5913 042162              ESCAPE TST          ; AND ABORT TEST
                    042162 104410              ; TRAP   C1ESCAPE
                    042164 000650              ; .WORD L10042
5914
5915 042166 004737 025546      ; 2401: JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
5916 042172 103006              ; BCC    2501          ; ERROR ?
5917 042172 103006              ; BCC    2501          ; NO

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5918 042174          ERRHRD 098.,ERR006,MSG003      ; YES, REPORT ERROR
      042174 104456
      042176 000142
      042200 020202
      042202 017110
5919 042204          ESCAPE TST                    ; AND ABORT TEST
      042204 104410
      042206 000626
5920 042210          2501:
5921 042210          ENDSUB ;#1
      042210 1044G3
5922 042212          BGNSUB ;#2
      042212 104402
5923
5924 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE AND ENABL COLLISION TEST
5925 ;
5926 042214 004737 027446      JSR      PC,TINIT          ;IS A DEVICE RESET NEEDED?
5927 042220 103054          BCC      2551             ;NO
5928 042222 012777 000040 137776  MOV      @RSET,@PCSR0     ;YES, ISSUE RESET
5929 042230 004737 024574      JSR      PC,CHKDNI        ;WAIT FOR DNI
5930 042234 103006          BCC      2511             ;OK
5931 042236          ERRHRD 099.,ERR004,MSG003     ;ERROR, REPORT IT
      042236 104456
      042240 000143
      042242 020102
      042244 017110
5932 042246          ESCAPE TST                    ;ABORT TEST
      042246 104410
      042250 000564
5933
5934 042252 004737 025546      ;2511: JSR      PC,CLRDN1     ;GO CLEAR DNI
5935 042256 103006          BCC      2521             ;OK
5936 042260          ERRHRD 100.,ERR006,MSG003     ;ERROR TRYING TO CLEAR DNI
      042260 104456
      042262 000144
      042264 020202
      042266 017110
5937 042270          ESCAPE TST                    ;ABORT TEST
      042270 104410
      042272 000542
5938
5939 042274 004737 026772      ;2521: JSR      PC,LDPCSR     ; ADDRESS OF PC88 -> PCSR2:3 ;RSJ003
5940 042300 012777 000001 137720  MOV      @GETPCB,@PCSR0  ; ISSUE GET_PC88 PORT COMMAND ;RSJ003
5941 042306 004737 024574      JSR      PC,CHKDNI        ; DNI? ;RSJ003
5942 042312 103006          BCC      2531             ; YES ;RSJ003
5943 042314          ERRHRD 589.,ERR009,MSG003     ; NO, REPORT ERROR ;RSJ003
      042314 104456
      042316 001115
      042320 020416
      042322 017110
5944 042324          ESCAPE TST                    ; AND ABORT TEST
      042324 104410
      042326 000506
5945
5946 042350 004737 025546      ;2531: JSR      PC,CLRDN1     ;GO CLEAR DNI ;RSJ003
    
```

5947	042334	103006			BCC	255:			;UK		;RSJ003
5948	042336				ERRHRD	590.,	ERR006,MSG003		;ERROR TRYING TO CLEAR DNI		;RSJ003
	042336	104456							TRAP		C#ERRHRD
	042340	001116							WORD		590
	042342	020202							WORD		ERR006
	042344	017110							WORD		MSG003
5949	042346				ESCAPE	TST			;ABORT TEST		;RSJ003
	042346	104410							TRAP		C#ESCAPE
	042350	000464							WORD		L10042
5950											
5951											
5952	042352	012705	013254		255:	MOV	#WTRMOD1,R5		; POINT TO WRITE MODE FUNCTION		
5953	042356	004737	026742			JSR	PC,LDPCCB		; LOAD FUNCTION -> PCBB		
5954	042362	012777	000002	137636		MOV	#GETCMD,#PCSR0		; ISSUE GET_CMD PORT COMMAND		
5955	042370	004737	024574			JSR	PC,CHKDNI		; DNI ?		
5956	042374	103006				BCC	260:		; YES		
5957	042376				ERRHRD	101.,	ERR010,MSG003		; NO, REPORT ERROR		
	042376	104456							TRAP		C#ERRHRD
	042400	000145							WORD		101
	042402	020502							WORD		ERR010
	042404	017110							WORD		MSG003
5958	042406				ESCAPE	TST			; AND ABORT TEST		
	042406	104410							TRAP		C#ESCAPE
	042410	000424							WORD		L10042
5959											
5960	042412	004737	025546		260:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
5961									; ERROR ?		
5962	042416	103006				BCC	270:		; NO		
5963	042420				ERRHRD	102.,	ERR006,MSG003		; YES, REPORT ERROR		
	042420	104456							TRAP		C#ERRHRD
	042422	000146							WORD		102
	042424	020202							WORD		ERR006
	042426	017110							WORD		MSG003
5964	042430				ESCAPE	TST			; AND ABORT TEST		
	042430	104410							TRAP		C#ESCAPE
	042432	000402							WORD		L10042
5965											
5966											
5967											
5968	042434	012705	013554		270:	MOV	#TORB1A,R5		; DEFAULT ONE BUFFER TRANSMIT RING		
5969	042440	004737	027046			JSR	PC,LDTDRB		; LOAD TORB		
5970	042444	012705	013354			MOV	#RDRB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING		
5971	042450	004737	027010			JSR	PC,LDRDRB		; LOAD RDRB		
5972											
5973											
5974											
5975	042454	012705	002266			MOV	#PCBB+2,R5		; POINT TO DESTINATION ADDRESS		
5976	042460	004737	026714			JSR	PC,LDDDEST		; LOAD DEST		
5977	042464	004737	027342			JSR	PC,SETBUF		; SET UP BUFFERS		
5978	042470	012777	000004	137530		MOV	#START,#PCSR0		; ISSUE START PORT COMMAND		
5979	042476	004737	024574			JSR	PC,CHKDNI		; DNI?		
5980	042502	103006				BCC	280:		; YES		
5981	042504				ERRHRD	103.,	ERR012,MSG003		; NO, REPORT ERROR		
	042504	104456							TRAP		C#ERRHRD
	042506	000147							WORD		103
	042510	020633							WORD		ERR012
	042512	017110							WORD		MSG003







043024 000162  
043026 020202  
043030 017110  
6039 043032  
6040 043032  
043032  
043032 104403  
6041 043034  
043034  
043034 104401

3904:  
ENDSUB ;#2  
ENDTST

.WORD 114  
.WORD ERR006  
.WORD MSG003

L10044: TRAP C#ESUB  
L10042: TRAP C#ETST

6043  
 6044  
 6045  
 6046  
 6047  
 6048  
 6049  
 6050  
 6051  
 6052  
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 6063  
 6064  
 6065

.SBTTL TEST 15: 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
:
*****
    
```

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6066 043036          BGNTST
        043036
6067 043036 004737 027446          JSR    PC, TINIT          ; IS A DEVICE RESET NEEDED?
6068 043042 103025          BCC    30$              ; NO
6069 043044 012777 000040 137154  MOV    @RSET, @PCSR0    ; YES, RESET DEUNA
6070 043052 004737 024574          JSR    PC, CHKDNI       ; DNI ?
6071 043056 103006          BCC    20$              ; YES
6072 043060          ERRHRD 115., ERR004, MSG003 ; NO, REPORT ERROR
        043060 104456          TRAP   C#ERRRD
        043052 000163          .WORD 115
        043064 020102          .WORD ERR004
        043066 017110          .WORD MSG003
6073 043070          ESCAPE TST          ; AND ABORT TEST
        043070 104410          TRAP   C#ESCAPE
        043072 001054          .WORD L10045
6074
6075 043074 004737 025546          ; 20$: JSR    PC, CLR DNI      ; WRITE ONE TO CLEAR DNI
6076
6077 043100 103006          BCC    30$              ; ERROR ?
6078 043102          ERRHRD 116., ERR006, MSG003 ; YES, REPORT ERROR
        043102 104456          TRAP   C#ERRRD
        043104 000164          .WORD 116
        043106 020202          .WORD ERR006
        043110 017110          .WORD MSG003
6079 043112          ESCAPE TST          ; AND ABORT TEST
        043112 104410          TRAP   C#ESCAPE
        043114 001032          .WORD L10045-
6080
6081 043116 004737 026772          ; 30$: JSR    PC, LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
6082 043122 012777 000001 137076  MOV    @GETPCB, @PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6083 043130 004737 024574          JSR    PC, CHKDNI       ; DNI?
6084 043134 103006          BCC    40$              ; YES
6085 043136          ERRHRD 117., ERR009, MSG003 ; NO, REPORT ERROR
        043136 104456          TRAP   C#ERRRD
    
```

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043140 000165
043142 020416
043144 017110
6086 043146 ESCAPE TST ; AND ABORT TEST
043146 104410 TRAP C$ESCAPE
043150 000776 .WORD L10045
6087
6088 043152 004737 025546 ; 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6089 ; ERROR ?
6090 043156 103006 BCC 50$ ; NO
6091 043150 ERRHRD 118.,ERR006,MSG003 ; YES, REPORT ERROR
043160 104456 TRAP C$ERRRD
043162 000166 .WORD 118
043164 020202 .WORD ERR006
043166 017110 .WORD MSG003
6092 043170 ESCAPE TST ; AND ABORT TEST
043170 104410 TRAP C$ESCAPE
043172 000754 .WORD L10045-
6093 ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
6094 043174 012705 013244 50$: MOV @WTRNGS,R5 ; DEFAULT WRITE MODE FUNCTION
6095 043200 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
6096 043204 013737 015110 002266 MOV MODE15,PCBB+2 ; LOAD MODE REGISTER
6097 043212 012777 000002 137006 MOV @GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
6098 043220 004737 024574 JSR PC,CHKDNI ; DNI ?
6099 043224 103006 BCC 60$ ; YES
6100 043226 ERRHRD 119.,ERR010,MSG003 ; NO, REPORT ERROR
043226 104456 TRAP C$ERRRD
043230 000167 .WORD 119
043232 020502 .WORD ERR010
043234 017110 .WORD MSG003
6101 043236 ESCAPE TST ; AND ABORT TEST
043236 104410 TRAP C$ESCAPE
043240 000706 .WORD L10045
6102
6103 043242 004737 025546 ; 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6104 ; ERROR ?
6105 043246 103006 BCC 70$ ; NO
6106 043250 ERRHRD 120.,ERR006,MSG003 ; YES, REPORT ERROR
043250 104456 TRAP C$ERRRD
043252 000170 .WORD 120
043254 020202 .WORD ERR006
043256 017110 .WORD MSG003
6107 043260 ESCAPE TST ; AND ABORT TEST
043260 104410 TRAP C$ESCAPE
043262 000664 .WORD L10045
6108 ;WRITE RING FORMAT
6109 043264 012705 013204 70$: MOV @WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
6110 043270 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
6111 043274 012705 013324 MOV @RFRMT,R5 ; DEFAULT RING FORMAT
6112 043300 012700 000006 MOV @6,R0 ; FORMAT = SIX WORDS
6113 043304 004737 027142 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
6114 043310 012777 000002 136710 MOV @GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
6115 043316 004737 024574 JSR PC,CHKDNI ; DNI ?
6116 043322 103006 BCC 80$ ; YES
6117 043324 ERRHRD 121.,ERR010,MSG003 ; NO, REPORT ERROR
043324 104456 TRAP C$ERRRD
043326 000171 .WORD 121

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        043330 020502
        043332 017110
    6118 043334          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
        043334 104410          .WORD  MSG003
        043336 000610          TRAP   C$ESCAPE
        043336 000610          .WORD  L10045
    6119
    6120 043340 004737 025546          ; 80$: JSR   PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
    6121          BCC   90$          ; ERROR ?
    6122 043344 103006          ; NO
    6123 043346          ERRHRD 122.,ERR006,MSG003          ; YES, REPORT ERROR
        043346 104456          TRAP   C$ERRRD
        043350 000172          .WORD  122
        043352 020202          .WORD  ERR006
        043354 017110          .WORD  MSG003
    6124 043356          ESCAPE TST          ; AND ABORT TEST
        043356 104410          TRAP   C$ESCAPE
        043360 000566          .WORD  L10045-
    6125          ;WRITE PHYSICAL ADDRESS
    6126 043362 012705 013144          90$:  MOV   #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
    6127 043366 004737 026742          JSR   PC,LDPYCB8          ; LOAD FUNCTION -> PCBB
    6128 043372 012777 000002 136626          MOV   #GETCMD,@PCSR0          ; ISSUE GET_CMD PORT COMMAND
    6129 043400 004737 024574          JSR   PC,CHKDNI          ; DNI ?
    6130 043404 103006          BCC   100$          ; YES
    6131 043406          ERRHRD 123.,ERR010,MSG003          ; NO, REPORT ERROR
        043406 104456          TRAP   C$ERRRD
        043410 000173          .WORD  123
        043412 020502          .WORD  ERR010
        043414 017110          .WORD  MSG003
    6132 043416          ESCAPE TST          ; AND ABORT TEST
        043416 104410          TRAP   C$ESCAPE
        043420 000526          .WORD  L10045-
    6133
    6134 043422 004737 025546          ; 100$: JSR   PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
    6135          BCC   110$          ; ERROR ?
    6136 043426 103006          ; NO
    6137 043430          ERRHRD 124.,ERR006,MSG003          ; YES, REPORT ERROR
        043430 104456          TRAP   C$ERRRD
        043432 000174          .WORD  124
        043434 020202          .WORD  ERR006
        043436 017110          .WORD  MSG003
    6138 043440          ESCAPE TST          ; AND ABORT TEST
        043440 104410          TRAP   C$ESCAPE
        043442 000504          .WORD  L10045
    6139          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
    6140 043444 012705 013614          110$: MOV   #TORB1B,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
    6141 043450 004737 027046          JSR   PC,LDTORB          ; LOAD TORB
    6142 043454 012705 013354          MOV   #RORB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
    6143 043460 004737 027010          JSR   PC,LDRORB          ; LOAD RORB
    6144          ;SET UP BUFFERS AND START
    6145 043464 012705 002266          MOV   #PCBB+2,R5          ; POINT TO DESTINATION ADDRESS
    6146 043470 004737 026714          JSR   PC,LDDDEST          ; LOAD DEST
    6147 043474 004737 027342          JSR   PC,SETBUF          ; SET UP BUFFERS
    6148 043500 013737 014730 003300          MOV   CRC15H,TBUF+124.          ; APPEND GOOD CRC VALUE
    6149 043506 013737 014732 003302          MOV   CRC15L,TBUF+126.          ; TO TRANSMIT DATA
    6150 043514 012777 000004 136504          MOV   #START,@PCSR0          ; ISSUE START PORT COMMAND
    6151 043522 004737 024574          JSR   PC,CHKDNI          ; DNI?
    6152 043526 103006          BCC   120$          ; YES
    
```

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6153	043530			ERRHRD	125.,ERR012,MSG003	; NO, REPORT ERROR		
	043530	104456					TRAP	C#ERHRD
	043532	000175					.WORD	125
	043534	020633					.WORD	ERR012
	043536	017110					WORD	MSG003
6154	043540			ESCAPE	TST	; AND ABORT TEST		
	043540	104410					TRAP	C#ESCAPE
	043542	000404					.WORD	L10045
6155								
6156	043544	004737	025546	120#:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI	
6157							; ERROR ?	
6158	043550	103006			BCC	130#	; NO	
6159	043552				ERRHRD	126.,ERR006,MSG003	; YES, REPORT ERROR	
	043552	104456					TRAP	C#ERHRD
	043554	000176					.WORD	126
	043556	020202					.WORD	ERR006
	043560	017110					.WORD	MSG003
6160	043562			ESCAPE	TST	; AND ABORT TEST		
	043562	104410					TRAP	C#ESCAPE
	043564	000362					.WORD	L10045
6161								
6162	043566	004737	025404	130#:	JSR	PC,CHKTXI	; TXI ?	
6163	043572	103006			BCC	140#	; YES	
6164	043574				ERRHRD	127.,ERR013,MSG003	; NO, REPORT ERROR	
	043574	104455					TRAP	C#ERHRD
	043576	000177					.WORD	127
	043600	020714					.WORD	ERR013
	043602	017110					.WORD	MSG003
6165	043604			ESCAPE	TST	; AND ABORT TEST		
	043604	104410					TRAP	C#ESCAPE
	043606	000340					.WORD	L10045
6166								
6167	043610	004737	025730	140#:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI	
6168							; ERROR ?	
6169	043614	103006			BCC	150#	; NO	
6170	043616				ERRHRD	128.,ERR014,MSG003	; YES, REPORT ERROR	
	043616	104456					TRAP	C#ERHRD
	043620	000200					.WORD	128
	043622	020745					.WORD	ERR014
	043624	017110					.WORD	MSG003
6171	043626			ESCAPE	TST	; AND ABORT TEST		
	043626	104410					TRAP	C#ESCAPE
	043630	000316					.WORD	L10045
6172								
6173	043632	012705	002604	150#:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP	
6174	043636	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?	
6175	043642	103006			BCC	160#	; YES	
6176	043644				ERRHRD	129.,ERR018	; NO, REPORT ERROR	
	043644	104456					TRAP	C#ERHRD
	043646	000201					.WORD	129
	043650	021212					.WORD	ERR018
	043652	000000					.WORD	0
6177	043654			ESCAPE	TST	; AND ABORT TEST		
	043654	104410					TRAP	C#ESCAPE
	043656	000270					.WORD	L10045
6178								
6179	043660	012705	014534	160#:	MOV	#TDR15A,R5	; POINT TO EXPECTED TDRB	

6180	043664	004737	027252		JSR	PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
6181	043670	012705	002604		MOV	#TDRB,R5	; CHECK TDRB		
6182	043674	004737	025316		JSR	PC,CHKTDR	; ERRORS ?		
6183	043700	103006			BCC	170#	; NO		
6184	043702				ERRHRD	130.,ERR020,MSG005	; YES, REPORT ERROR		
	043702	104456						TRAP	C#ERHRD
	043704	000202						.WORD	130
	043706	021372						.WORD	ERR020
	043710	017214						.WORD	MSG005
6185	043712				ESCAPE	TST	; AND ABORT TEST		
	043712	104410						TRAP	C#ESCAPE
	043714	000232						.WORD	L10045.
6186									
6187	043716	004737	025132	i	170#:	JSR	PC,CHKRXI	; RXI ?	
6188	043722	103006			BCC	180#	; YES		
6189	043724				ERRHRD	131.,ERR015,MSG003	; NO, REPORT ERROR		
	043724	104456						TRAP	C#ERHRD
	043726	000203						.WORD	131
	043730	021013						.WORD	ERR015
	043732	017110						.WORD	MSG003
6190	043734				ESCAPE	TST	; AND ABORT TEST		
	043734	104410						TRAP	C#ESCAPE
	043736	000210						.WORD	L10045.
6191									
6192	043740	004737	025662	i	180#:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI	
6193							; ERROR ?		
6194	043744	103006			BCC	190#	; NO		
6195	043746				ERRHRD	132.,ERR016,MSG003	; YES, REPORT ERROR		
	043746	104456						TRAP	C#ERHRD
	043750	000204						.WORD	132
	043752	021044						.WORD	ERR016
	043754	017110						.WORD	MSG003
6196	043756				ESCAPE	TST	; AND ABORT TEST		
	043756	104410						TRAP	C#ESCAPE
	043760	000166						.WORD	L10045.
6197									
6198	043762	012705	002644	i	190#:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP	
6199	043766	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
6200	043772	103006			BCC	200#	; YES		
6201	043774				ERRHRD	133.,ERR017	; NO, REPORT ERROR		
	043774	104456						TRAP	C#ERHRD
	043776	000205						.WORD	133
	044000	021112						.WORD	ERR017
	044002	000000						.WORD	0
6202	044004				ESCAPE	TST	; AND ABORT TEST		
	044004	104410						TRAP	C#ESCAPE
	044006	000140						.WORD	L10045.
6203									
6204	044010	012705	014644	i	200#:	MOV	#RDR15A,R5	; POINT TO EXPECTED RDRB	
6205	044014	004737	027222		JSR	PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
6206	044020	012705	002644		MOV	#RDRB,R5	; CHECK RDRB		
6207	044024	004737	025032		JSR	PC,CHKRDR	; ERRORS ?		
6208	044030	103006			BCC	210#	; NO		
6209	044032				ERRHRD	134.,ERR021,MSG006	; YES, REPORT ERROR		
	044032	104456						TRAP	C#ERHRD
	044034	000206						.WORD	134
	044036	021453						.WORD	ERR021



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.SBTTL TEST 16: FORCE CRC ERROR TEST

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:
: 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 RORB-4
:   8. ISSUE STOP
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044150
044150 004737 027446
044154 103025
044156 012777 000040 136042
044164 004737 024574
044170 103006
044172 104456
044174 000212
044176 020102
044200 017110
044202 104410
044204 001054
044206 004737 025546
044212 103006
044214 104456
044216 000213
044220 020202
044222 017110
044224 104410
044226 001032
044230 004737 026772
044234 012777 000001 135764
044242 004737 024574
044246 103006
044250 104456
  
```

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BGNST
T16::
JSR PC, TINIT ; IS A DEVICE RESET NEEDED?
BCC 301 ; NO
MOV @RSET, @PCSR0 ; YES, RESET DEUNA
JSR PC, CHKDNI ; DNI ?
BCC 201 ; YES
ERRHRD 138., ERR004, MSG003 ; NO, REPORT ERROR
TRAP C1ERRRD
.WORD 138
.WORD ERR004
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C1ESCAPE
.WORD L10046-.
;
; 201:
JSR PC, CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 301 ; NO
ERRHRD 139., ERR006, MSG003 ; YES, REPORT ERROR
TRAP C1ERRRD
.WORD 139
.WORD ERR006
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C1ESCAPE
.WORD L10046-.
;
; 301:
JSR PC, LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
MOV @GETPCB, @PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC, CHKDNI ; DNI?
BCC 401 ; YES
ERRHRD 140., ERR009, MSG003 ; NO, REPORT ERROR
TRAP C1ERRRD
  
```





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044442 02J502
044444 017110
6307 044446             ESCAPE TST           ; AND ABORT TEST
      044446             ;                               ;
      044446 104410      TRAP             C#ESCAPE
      044450 000610      .WORD           L10046

6308
6309 044452 004737 025546 ; 801: JSR      PC,CLADNI      ; WRITE ONE TO CLEAR DNI
6310                                     ; ERROR ?
6311 044456 103006      BCC      901      ; NO
6312 044460             ERRHRD 145.,ERR006,MSG003 ; YES, REPORT ERROR

      044460 104456      TRAP             C#ERRRD
      044462 000221      .WORD           145
      044464 020202      .WORD           ERR006
      044466 017110      .WORD           MSG003

6313 044470             ESCAPE TST           ; AND ABORT TEST
      044470             ;                               ;
      044470 104410      TRAP             C#ESCAPE
      044472 000566      .WORD           L10046

6314 ;WRITE PHYSICAL ADDRESS
6315 044474 012705 013144 901: MOV      @WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
6316 044500 004737 026742 JSR      PC,LDP CBB      ; LOAD FUNCTION -> PCBB
6317 044504 012777 000002 135514 MOV      @GETCMD,@PCSR0  ; ISSUE GET_CMD PORT COMMAND
6318 044512 004737 024574 JSR      PC,CHKDNI      ; DNI ?
6319 044516 103006      BCC      1001     ; YES
6320 044520             ERRHRD 146.,ERR010,MSG003 ; NO, REPORT ERROR

      044520 104456      TRAP             C#ERRRD
      044522 000222      .WORD           146
      044524 020502      .WORD           ERR01C
      044526 017110      .WORD           MSG003

6321 044530             ESCAPE TST           ; AND ABORT TEST
      044530             ;                               ;
      044530 104410      TRAP             C#ESCAPE
      044532 000526      .WORD           L10046

6322 ;
6323 044534 004737 025546 ; 1001: JSR      PC,CLADNI      ; WRITE ONE TO CLEAR DNI
6324                                     ; ERROR ?
6325 044540 103006      BCC      1101     ; NO
6326 044542             ERRHRD 147.,ERR006,MSG003 ; YES, REPORT ERROR

      044542 104456      TRAP             C#ERRRD
      044544 000223      .WORD           147
      044546 020202      .WORD           ERR006
      044550 017110      .WORD           MSG003

6327 044552             ESCAPE TST           ; AND ABORT TEST
      044552             ;                               ;
      044554 000504      TRAP             C#ESCAPE
      044554 000504      .WORD           L10046

6328 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6329 044556 012705 013614 1101: MOV      @TDRB1B,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
6330 044562 004737 027046 JSR      PC,LDTDRB      ; LOAD TDRB
6331 044566 012705 013354 MOV      @RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
6332 044572 004737 027010 JSR      PC,LDRDRB      ; LOAD RDRB
6333 ;SET UP BUFFERS AND START
6334 044576 012705 002266 MOV      @PCBB+2,R5      ; POINT TO DESTINATION ADDRESS
6335 044602 004737 026714 JSR      PC,LDOEST      ; LOAD DEST
6336 044606 004737 027342 JSR      PC,SETBUF      ; SET UP BUFFERS
6337 044612 013737 014734 003300 MOV      CRC16H,TBUF+124 ; APPEND BAD CRC VALUE
6338 044620 013737 014736 003302 MOV      CRC16L,TBUF+126 ; TO TRANSMIT DATA
6339 044626 012777 000004 135372 MOV      @START,@PCSR0  ; ISSUE START PORT COMMAND
6340 044634 004737 024574 JSR      PC,CHKDNI      ; DNI?
6341 044640 103006      BCC      1201     ; YES
    
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6342	044642			ERRHRD	148.,ERR012,MSG003	; NO, REPORT ERROR		
	044642	104456					TRAP	C\$ERRHRD
	044644	000224					.WORD	148
	044646	020633					.WORD	ERR012
	044650	017110					.WORD	MSG003
6343	044652			ESCAPE	TST	; AND ABORT TEST		
	044652	104410					TRAP	C\$ESCAPE
	044654	000404					.WORD	L10046
6344								
6345	044656	004737	025546	120:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI	
6346							; ERROR ?	
6347	044662	103006			BCC	130:	; NO	
6348	044664			ERRHRD	149.,ERR006,MSG003	; YES, REPORT ERROR		
	044664	104456					TRAP	C\$ERRHRD
	044666	000225					.WORD	149
	044670	020202					.WORD	ERR006
	044672	017110					.WORD	MSG003
6349	044674			ESCAPE	TST	; AND ABORT TEST		
	044674	104410					TRAP	C\$ESCAPE
	044676	000362					.WORD	L10046
6350								
6351	044700	004737	025404	130:	JSR	PC,CHKTXI	; TXI ?	
6352	044704	103006			BCC	140:	; YES	
6353	044706			ERRHRD	150.,ERR013,MSG003	; NO, REPORT ERROR		
	044706	104456					T	C\$ERRHRD
	044710	000226					.WORD	150
	044712	020714					.WORD	ERR013
	044714	017110					.WORD	MSG003
6354	044716			ESCAPE	TST	; AND ABORT TEST		
	044716	104410					TRAP	C\$ESCAPE
	044720	000340					.WORD	L10046
6355								
6356	044722	004737	025730	140:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI	
6357							; ERROR ?	
6358	044726	103006			BCC	150:	; NO	
6359	044730			ERRHRD	151.,ERR014,MSG003	; YES, REPORT ERROR		
	044730	104456					TRAP	C\$ERRHRD
	044732	000227					.WORD	151
	044734	020745					.WORD	ERR014
	044736	017110					.WORD	MSG003
6360	044740			ESCAPE	TST	; AND ABORT TEST		
	044740	104410					TRAP	C\$ESCAPE
	044742	000316					.WORD	L10046
6361								
6362	044744	012705	002604	150:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP	
6363	044750	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?	
6364	044754	103006			BCC	160:	; YES	
6365	044756			ERRHRD	152.,ERR018	; NO, REPORT ERROR		
	044756	104456					TRAP	C\$ERRHRD
	044760	000230					.WORD	152
	044762	021212					.WORD	ERR018
	044764	000000					.WORD	0
6366	044766			ESCAPE	TST	; AND ABORT TEST		
	044766	104410					TRAP	C\$ESCAPE
	044770	000270					.WORD	L10046
6367								
6368	044772	012705	014534	160:	MOV	#TDR15A,R5	; POINT TO EXPECTED TDRP	

6369	044776	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
6370	045002	012705	026204		MOV	#TDRB,R5		; CHECK TDRB		
6371	045006	004737	025316		JSR	PC,CHKTDR		; ERRORS ?		
6372	045012	103006			BCC	170#		; NO		
6373	045014				ERRHRD	153.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C#ERRHRD
	045014	104456							.WORD	153
	045016	000231							.WORD	ERR020
	045020	021372							.WORD	MSG005
6374	045024				ESCAPE	TST		; AND ABORT TEST		
	045024	104410							TRAP	C#ESCAPE
	045026	000232							.WORD	L10046
6375										
6376	045030	004737	025132		JSR	PC,CHKRXI		; RXI ?		
6377	045034	103006		170#:	BCC	180#		; YES		
6378	045036				ERRHRD	154.,ERR015,MSG003		; NO, REPORT ERROR		
	045036	104456							TRAP	C#ERRHRD
	045040	000232							.WORD	154
	045042	021013							.WORD	ERR015
	045044	017110							.WORD	MSG003
6379	045046				ESCAPE	TST		; AND ABORT TEST		
	045046	104410							TRAP	C#ESCAPE
	045050	000210							.WORD	L10046
6380										
6381	045052	004737	025662		JSR	PC,CLRAXI		; WRITE ONE TO CLEAR RXI		
6382				180#:				; ERROR ?		
6383	045056	103006			BCC	190#		; NO		
6384	045060				ERRHRD	155.,ERR016,MSG003		; YES, REPORT ERROR		
	045060	104456							TRAP	C#ERRHRD
	045062	000233							.WORD	155
	045064	021044							.WORD	ERR016
	045066	017110							.WORD	MSG003
6385	045070				ESCAPE	TST		; AND ABORT TEST		
	045070	104410							TRAP	C#ESCAPE
	045072	000166							.WORD	L10046
6386										
6387	045074	012705	002644		MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP		
6388	045100	004737	024676	190#:	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6389	045104	103006			BCC	200#		; YES		
6390	045106				ERRHRD	156.,ERR017		; NO, REPORT ERROR		
	045106	104456							TRAP	C#ERRHRD
	045110	000234							.WORD	156
	045112	021112							.WORD	ERR017
	045114	000000							.WORD	0
6391	045116				ESCAPE	TST		; AND ABORT TEST		
	045116	104410							TRAP	C#ESCAPE
	045120	000140							.WORD	L10046
6392										
6393	045122	012705	014634		MOV	#RDR14A,R5		; POINT TO EXPECTED RDRB		
6394	045126	004737	027222	200#:	JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
6395	045132	012705	002644		MOV	#RDRB,R5		; CHECK RDRB		
6396	045136	004737	025032		JSR	PC,CHKRDR		; ERRORS ?		
6397	045142	103006			BCC	210#		; NO		
6398	045144				ERRHRD	157.,ERR021,MSG006		; YES, REPORT ERROR		
	045144	104456							TRAP	C#ERRHRD
	045146	000235							.WORD	157
	045150	021453							.WORD	ERR021

6399	045152	017356				ESCAPE TST		; AND ABORT TEST;	.WORD	MSG006
	045154								TRAP	C#ESCAPE
	045154	104410							.WORD	L10046
	045156	000102								
6400						;COMPARE RBUF WITH TBUF				
6401	045160	012705	000070		210#:	MOV #56,R5		; COMPARE 56 WORDS OF DATA		
6402	045164	004737	026044			JSR PC,CHPDAT		; DATA COMPARE ERROR ?		
6403	045170	103006				BCC 230#		; NO		
6404	045172					ERRHRD 158,ERR022,MSG007		; YES, REPORT ERROR		
	045172	104456							TRAP	C#ERRRD
	045174	000236							.WORD	158
	045176	021534							.WORD	ERR022
	045200	017520							.WORD	MSG007
6405	045202					ESCAPE TST		; AND ABORT TEST		
	045202	104410							TRAP	C#ESCAPE
	045204	000054							.WORD	L10046
6406										
6407	045206	012777	000017	135012	230#:	MOV #STOP,SPCSRO		; ISSUE STOP PORT COMMAND		
6408	045214	004737	024574			JSR PC,CHKDNI		; DNI ?		
6409	045220	103006				BCC 240#		; YES		
6410	045222					ERRHRD 159,ERR019,MSG003		; NO, REPORT ERROR		
	045222	104456							TRAP	C#ERRRD
	045224	000237							.WORD	159
	045226	021312							.WORD	ERR019
	045230	017110							.WORD	MSG003
6411	045232					ESCAPE TST		; AND ABORT TEST		
	045232	104410							TRAP	C#ESCAPE
	045234	000024							.WORD	L10046
6412										
6413	045236	004737	025546		240#:	JSR PC,CLRONI		; WRITE ONE TO CLEAR DNI		
6414								; ERROR ?		
6415	045242	103006				BCC 250#		; NO		
6416	045244					ERRHRD 160,ERR006,MSG003		; YES, REPORT ERROR		
	045244	104456							TRAP	C#ERRRD
	045246	000240							.WORD	160
	045250	020202							.WORD	ERR006
	045252	017110							.WORD	MSG003
6417	045254					ESCAPE TST		; AND ABORT TEST		
	045254	104410							TRAP	C#ESCAPE
	045256	000002							.WORD	L10046
6418	045260				250#:					
6419	045260					ENDTST				
	045260									
	045260	104401						L10046:	TRAP	C#ETST

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.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

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*****
:
: 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 PING.
:
: 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
:
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6442	045262			BGNTST				
	045262					T17::		
6443	045262	004737	027446	JSR	PC,TINIT			; IS A DEVICE RESET NEEDED?
6444	045266	103025		BCC	30:			; NO
6445	045270	012777	000040 134730	MOV	@RSET,@PCSR0			; YES, RESET DEUNA
6446	045276	004737	024574	JSR	PC,CHKDNI			; DNI ?
6447	045302	103006		BCC	20:			; YES
6448	045304			ERRHRD	161.,ERR004,MSG003			; NO, REPORT ERROR
	045304	104456					TRAP	C#ERRHRD
	045306	000241					.WORD	161
	045310	020102					.WORD	ERR004
	045312	017110					.WORD	MSG003
6449	045314			ESCAPE	TST			; AND ABORT TEST
	045314	104410					TRAP	C#ESCAPE
	045316	001050					.WORD	L10047 .
6450								
6451	045320	004737	025546	20:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
6452								; ERROR ?
6453	045324	103006		BCC	30:			; NO
6454	045326			ERRHRD	162.,ERR006,MSG003			; YES, REPORT ERROR
	043326	104456					TRAP	C#ERRHRD
	045330	000242					.WORD	162
	045332	020202					.WORD	ERR006
	045334	017110					.WORD	MSG003
6455	045336			ESCAPE	TST			; AND ABORT TEST
	045336	104410					TRAP	C#ESCAPE
	045340	001026					.WORD	L10047 .
6456								
6457	045342	004737	026772	30:	JSR	PC,LDPCSR		; ADDRESS OF PCBB > PCSR2:3
6458	045346	012777	000001 134652	MOV	@GETPCB,@PCSR0			; ISSUE GET_PCBB PORT COMMAND
6459	045354	004737	024574	JSR	PC,CHKDNI			; DNI?
6460	045360	103006		BCC	40:			; YES
6461	045362			ERRHRD	163.,ERR009,MSG003			; NO, REPORT ERROR
	045362	104456					TRAP	C#ERRHRD
	045364	000243					.WORD	163
	045366	020416					.WORD	ERR009

```

045370 017110
6462 045372          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      045372 104410
      045374 000772          ;                               TRAP  C#ESCAPE
                                          .WORD  L10047
6463
6464 045376 004737 025546      ;
6465      ;                               ; WRITE ONE TO CLEAR DNI
6466 045402 103005          BCC 50#          ; ERROR ?
6467 045404          ERRHRD 164.,ERR006,MSG003 ; NO
                                          ; YES, REPORT ERROR
                                          TRAP  C#ERRHRD
                                          .WORD 164
                                          .WORD  ERR006
                                          .WORD  MSG003
      045404 104456
      045406 000244
      045410 020202
      045412 017110
6468 045414          ESCAPE TST          ; AND ABORT TEST          TRAP  C#ESCAPE
      045414 104410          ;                               .WORD  L10047
      045416 000750
6469
6470      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND
6471      ;                               DISABLE RECEIVE DATA CHAINING MODE
6472 045420 012705 013244      50# : MOV  @WTRNGS,R5          ; DEFAULT WRITE MODE FUNCTION
6473 045424 004737 026742      JSR  PC,LDPCBB          ; LOAD FUNCTION -> PCBB
6474 045430 013737 015112      MOV  MODE17,PCBB+2      ; LOAD MODE REGISTER
6475 045436 012777 000002 134562  MOV  @GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
6476 045444 004737 024574      JSR  PC,CHKDNI          ; DNI ?
6477 045450 103006          BCC 60#          ; YES
6478 045452          ERRHRD 165.,ERR010,MSG003 ; NO, REPORT ERROR
                                          TRAP  C#ERRHRD
                                          .WORD 165
                                          .WORD  ERR010
                                          .WORD  MSG003
      045452 104456
      045454 000245
      045456 020502
      045460 017110
6479 045462          ESCAPE TST          ; AND ABORT TEST          TRAP  C#ESCAPE
      045462 104410          ;                               .WORD  L10047
      045464 000702
6480
6481 045466 004737 025546      ;
6482      ;                               ; WRITE ONE TO CLEAR DNI
6483 045472 103006          BCC 70#          ; ERROR ?
6484 045474          ERRHRD 166.,ERR006,MSG003 ; NO
                                          ; YES, REPORT ERROR
                                          TRAP  C#ERRHRD
                                          .WORD 166
                                          .WORD  ERR006
                                          .WORD  MSG003
      045474 104456
      045476 000246
      045500 020202
      045502 017110
6485 045504          ESCAPE TST          ; AND ABORT TEST          TRAP  C#ESCAPE
      045504 104410          ;                               .WORD  L10047
      045506 000660
6486
6487      ;WRITE RING FORMAT
6488 045510 012705 013204      70# : MOV  @WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
6489 045514 004737 026742      JSR  PC,LDPCBB          ; LOAD FUNCTION -> PCBB
6490 045520 012705 013324      MOV  @RFRMT,R5          ; DEFAULT RING FORMAT
6491 045524 012700 000006      MOV  @G,RO              ; FORMAT = SIX WORDS
6492 045530 004737 027142      JSR  PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
6493 045534 012777 000002 134464  MOV  @GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
6494 045542 004737 024574      JSR  PC,CHKDNI          ; DNI ?
6495 045546 103006          BCC 80#          ; YES
6496 045550          ERRHRD 167.,ERR010,MSG003 ; NO, REPORT ERROR
                                          TRAP  C#ERRHRD
                                          .WORD 167
                                          .WORD  ERR010
                                          .WORD  MSG003
      045550 104456
    
```

KID

045552	000247						.WORD	167
045554	020502						.WORD	ERR010
045556	017110						.WORD	MSG003
6497	045560			ESCAPE	TST			; AND ABORT TEST
	045560	104410					TRAP	C#ESCAPE
	045562	000604					.WORD	L10047
6498								
6499	045564	004737	025546	001:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
6500								; ERROR ?
6501	045570	103006			BCC	901		; NO
6502	045572				ERRHRD	168.,ERR006,MSG003		; YES, REPORT ERROR
	045572	104456					TRAP	C#ERRHRD
	045574	000250					.WORD	168
	045576	020202					.WORD	ERR006
	045600	017110					.WORD	MSG003
6503	045602			ESCAPE	TST			; AND ABORT TEST
	045602	104410					TRAP	C#ESCAPE
	045604	000562					.WORD	L10047
6504								
6505								; WRITE PHYSICAL ADDRESS
6506	045606	012705	013144	901:	MOV	#WTPHYA,R5		; DEFAULT WRITE PHYSICAL ADDR FUNC
6507	045612	004737	026742		JSR	PC,LDPCCB		; LOAD FUNCTION -> PCBB
6508	045616	012777	000002	134402	MOV	#GETCMD,#PCSR0		; ISSU# GET_CMD PORT COMMAND
6509	045624	004737	024574		JSR	PC,CHKDNI		; DNI ?
6510	045630	103006			BCC	1001		; YES
6511	045632				ERRHRD	169.,ERR010,MSG003		; NO, REPORT ERROR
	045632	104456					TRAP	C#ERRHRD
	045634	000251					.WORD	169
	045636	020502					.WORD	ERR010
	045640	017110					.WORD	MSG003
6512	045642			ESCAPE	TST			; AND ABORT TEST
	045642	104410					TRAP	C#ESCAPE
	045644	000522					.WORD	L10047
6513								
6514	045646	004737	025546	1001:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
6515								; ERROR ?
6516	045652	103006			BCC	1101		; NO
6517	045654				ERRHRD	170.,ERR006,MSG003		; YES, REPORT ERROR
	045654	104456					TRAP	C#ERRHRD
	045656	000252					.WORD	170
	045660	020202					.WORD	ERR006
	045662	017110					.WORD	MSG003
6518	045664			ESCAPE	TST			; AND ABORT TEST
	045664	104410					TRAP	C#ESCAPE
	045666	000500					.WORD	L10047
6519								
6520								; SET UP RINGS FOR LOOPBACK
6521	045670	012705	013554	1101:	MOV	#TDRB1A,R5		; DEFAULT ONE BUFFER TRANSMIT RING
6522	045674	004737	027046		JSR	PC,LDTDRB		; LOAD TDRB
6523	045700	012705	013454		MOV	#RDRB2A,R5		; DEFAULT CHAINED RECEIVE RING
6524	045704	004737	027010		JSR	PC,LDRDRB		; LOAD RDRB
6525								
6526								; SET UP BUFFERS AND START
6527	045710	012705	002266		MOV	#PCBB+2,R5		; POINT TO DESTINATION ADDRESS
6528	045714	004737	026714		JSR	PC,LDDST		; LOAD DEST
6529	045720	004737	027342		JSR	PC,SETBUF		; SET UP BUFFERS
6530	045724	012777	000004	134274	MOV	#START,#PCSR0		; ISSUE START PORT COMMAND



6531	045732	004737	024574		JSR	PC,CHKDNI		; DNI?		
6532	045736	103006			BCC	120#		; YES		
6533	045740				ERRHRD	171.,ERR012,MSG003		; NO, REPORT ERROR		
	045740	104456							TRAP	C#ERRHRD
	045742	000253							.WORD	171
	045744	020633							.WORD	ERR012
	045746	017110							.WORD	MSG003
6534	045750				ESCAPE	TST		; AND ABORT TEST		
	045750	104410							TRAP	C#ESCAPE
	045752	000414							.WORD	L10047
6535										
6536	045754	004737	025546	i	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
6537				120#:	BCC	130#		; ERROR ?		
6538	045760	103006			ERRHRD	172.,ERR006,MSG003		; YES, REPORT ERROR		
6539	045762								TRAP	C#ERRHRD
	045762	104456							.WORD	172
	045764	000254							.WORD	ERR006
	045766	020202							.WORD	MSG003
	045770	017110								
6540	045772				ESCAPE	TST		; AND ABORT TEST		
	045772	104410							TRAP	C#ESCAPE
	045774	000372							.WORD	L10047
6541										
6542	045776	004737	025404	i	JSR	PC,CHKTXI		; TXI ?		
6543	046002	103006		130#:	BCC	140#		; YES		
6544	046004				ERRHRD	173.,ERR013,MSG003		; NO, REPORT ERROR		
	046004	104456							TRAP	C#ERRHRD
	046006	000255							.WORD	173
	046010	020714							.WORD	ERR013
	046012	017110							.WORD	MSG003
6545	046014				ESCAPE	TST		; AND ABORT TEST		
	046014	104410							TRAP	C#ESCAPE
	046016	000350							.WORD	L10047
6546										
6547	046020	004737	025730	i	JSR	PC,CLR TXI		; WRITE ONE TO CLEAR TXI		
6548				140#:	BCC	150#		; ERROR ?		
6549	046024	103006			ERRHRD	174.,ERR014,MSG003		; NO		
6550	046026							; YES, REPORT ERROR		
	046026	104456							TRAP	C#ERRHRD
	046030	000256							.WORD	174
	046032	020745							.WORD	ERR014
	046034	017110							.WORD	MSG003
6551	046036				ESCAPE	TST		; AND ABORT TEST		
	046036	104410							TRAP	C#ESCAPE
	046040	000326							.WORD	L10047
6552										
6553	046042	012705	002604	i	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
6554	046046	004737	024676	150#:	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6555	046052	103006			BCC	160#		; YES		
6556	046054				ERRHRD	175.,ERR018		; NO, REPORT ERROR		
	046054	104456							TRAP	C#ERRHRD
	046056	000257							.WORD	175
	046060	021212							.WORD	ERR018
	046062	000000							.WORD	0
6557	046064				ESCAPE	TST		; AND ABORT TEST		
	046064	104410							TRAP	C#ESCAPE
	046066	000300							.WORD	L10047



046244	000264											.WORD	180
046246	023101											.WORD	ERR036
046250	017356											.WORD	MSG006
6590	046252					ESCAPE	TST						; AND ABORT TEST
	046252	104410										TRAP	C#ESCAPE
	046254	000112										.WORD	L10047
6591													
6592	046256	012705	014664			;CHECK	SECOND RING ENTRY						
6593	046262	004737	027222			210#:	MOV #RDR178,R5						; POINT TO EXPECTED RDRB
6594	046266	012705	002654				JSR PC,LDXRDR						; LOAD INTO XRDRBO TABLE
6595	046272	004737	025032				MOV #RDRB+8,,R5						; CHECK RDRB
6596	046276	103006					JSR PC,CHKRDR						; ERRORS ?
6597	046300						BCC 230#						; NO
	046300	104456					ERRHRD 181.,ERR037,MSG006						; YES, REPORT ERROR
	046302	000265										TRAP	C#ERHRD
	046304	023167										.WORD	181
	046306	017356										.WORD	ERR037
6598	046310					ESCAPE	TST					.WORD	MSG006
	046310	104410										TRAP	C#ESCAPE
	046312	000054										.WORD	L10047
6599													
6600	046314	012777	000017	133704		i	MOV #STOP,BPCSR0						; ISSUE STOP PORT COMMAND
6601	046322	004737	024574			230#:	JSR PC,CHKDNI						; DNI ?
6602	046326	103006					BCC 240#						; YES
6603	046330						ERRHRD 182.,ERR019,MSG003						; NO, REPORT ERROR
	046330	104456										TRAP	C#ERHRD
	046332	000266										.WORD	182
	046334	021312										.WORD	ERR019
	046336	017110										.WORD	MSG003
6604	046340					ESCAPE	TST						; AND ABORT TEST
	046340	104410										TRAP	C#ESCAPE
	046342	000024										.WORD	L10047
6605													
6606	046344	004737	025546			i	JSR PC,CLR DNI						; WRITE ONE TO CLEAR DNI
6607						240#:							; ERROR ?
6608	046350	103006					BCC 250#						; NO
6609	046352						ERRHRD 183.,ERR006,MSG003						; YES, REPORT ERROR
	046352	104456										TRAP	C#FRHRD
	046354	000267										.WORD	183
	046356	020202										.WORD	ERR006
	046360	017110										.WORD	MSG003
6610	046362					ESCAPE	TST						; AND ABORT TEST
	046362	104410										TRAP	C#ESCAPE
	046364	000002										.WORD	L10047
6611	046366					250#:							
6612	046366						ENDTST						
	046366												L10047:
	046366	104401										TRAP	C#ETST

BT

6614  
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BT TL TEST 18: TRANSMIT CHAINING ERROR TEST

```

    .....
    |
    | 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 TDAB.6
    | 7. ISSUE STOP
    |
    | .....
  
```

046370  
046370 004737 027446  
046374 103025 133622  
046376 012777 000040  
046404 004737 024574  
046410 103006  
046412 104456  
046414 000270  
046416 020102  
046420 017110  
046422 104410  
046424 000740  
046426 004737 025546  
046432 103006  
046434 104456  
046436 000271  
046440 020202  
046442 017110  
046444 104410  
046446 000716  
046450 004737 026772  
046454 012777 000001 133544  
046462 004737 024574  
046466 103006  
046470 104456  
046472 000272  
046474 020416

```

    BGN1ST
    JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
    BCC 301 ; NO
    MOV @RSET,@PCSR0 ; YES, RESET DEUNA
    JSR PC,CHKDNI ; DNI ?
    BCC 201 ; YES
    ERHRD 184.,ERR004,MSG003 ; NO, REPORT ERROR
    TRAP C1ERHRD
    .WORD 184
    .WORD ERR004
    .WORD MSG003
    ESCAPE TST ; AND ABORT TEST
    TRAP C1ESCAPE
    .WORD L10050
    ;
    ; 201:
    JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
    ; ERROR ?
    BCC 301 ; NO
    ERHRD 185.,ERR006,MSG003 ; YES, REPORT ERROR
    TRAP C1ERHRD
    .WORD 185
    .WORD ERR006
    .WORD MSG003
    ESCAPE TST ; AND ABORT TEST
    TRAP C1ESCAPE
    .WORD L10050
    ;
    ; 301:
    JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
    MOV @GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
    JSR PC,CHKDNI ; DNI?
    BCC 401 ; YES
    ERHRD 186.,ERR009,MSG003 ; NO, REPORT ERROR
    TRAP C1ERHRD
    .WORD 186
    .WORD ERR009
  
```

6655	046476	017110			ESCAPE TST		AND ABORT TEST	.WORD	MSG003
	046500	104410						TRAP	C#ESCAPE
	046502	000662						WORD	L10050
6656									
6657	046504	004737	025546		401: JSR	PC,CLRDN1	WRITE ONE TO CLEAR DNI		
6658							ERROR ?		
6659	046510	103006			BCC	501	NO		
6660	046512				ERRHRD	187.,ERR006,MSG003	YES, REPORT ERROR		
	046512	104456						TRAP	C#ERRHRD
	046514	000273						.WORD	187
	046516	020202						.WORD	ERR006
	046520	017110						.WORD	MSG003
6661	046522				ESCAPE TST		AND ABORT TEST		
	046522	104410						TRAP	C#ESCAPE
	046524	000640						WORD	L10050
6662									
6663									
6664	046526	012705	013244		501: MOV	@WTRNGS,R5	DEFAULT WRITE MODE FUNCTION		
6665	046532	004737	026742		JSR	PC,LDPCBB	LOAD FUNCTION -> PCBB		
6666	046536	012777	000002	133462	MOV	@GETCMD,@PCSR0	ISSUE GET_CMD PORT COMMAND		
6667	046544	004737	024574		JSR	PC,CHKDNI	DNI ?		
6668	046550	103006			BCC	601	YES		
6669	046552				ERRHRD	188.,ERR010,MSG003	NO, REPORT ERROR		
	046552	104456						TRAP	C#ERRHRD
	046554	000274						.WORD	188
	046556	020502						.WORD	ERR010
	046560	017110						.WORD	MSG003
6670	046562				ESCAPE TST		AND ABORT TEST		
	046562	104410						TRAP	C#ESCAPE
	046564	000600						WORD	L10050-
6671									
6672	046566	004737	025546		601: JSR	PC,CLRDN1	WRITE ONE TO CLEAR DNI		
6673							ERROR ?		
6674	046572	103006			BCC	701	NO		
6675	046574				ERRHRD	189.,ERR006,MSG003	YES, REPORT ERROR		
	046574	104456						TRAP	C#ERRHRD
	046576	000275						.WORD	189
	046600	020202						.WORD	ERR006
	046602	017110						.WORD	MSG003
6676	046604				ESCAPE TST		AND ABORT TEST		
	046604	104410						TRAP	C#ESCAPE
	046606	000556						WORD	L10050
6677									
6678									
6679	046610	012705	013204		701: MOV	@WTRNGS,R5	DEFAULT WRITE RING FORMAT FUNCTION		
6680	046614	004737	026742		JSR	PC,LDPCBB	LOAD FUNCTION -> PCBB		
6681	046620	012705	013324		MOV	@RFRMT,R5	DEFAULT RING FORMAT		
6682	046624	012700	000006		MOV	#6,R0	FORMAT = SIX WORDS		
6683	046630	004737	027142		JSR	PC,LDUDBB	LOAD RING FORMAT -> UDBB		
6684	046634	012777	000002	133364	MOV	@GETCMD,@PCSR0	ISSUE GET_CMD PORT COMMAND		
6685	046642	004737	024574		JSR	PC,CHKDNI	DNI ?		
6686	046646	103006			BCC	801	YES		
6687	046650				ERRHRD	190.,ERR010,MSG003	NO, REPORT ERROR		
	046650	104456						TRAP	C#ERRHRD
	046652	000276						.WORD	190
	046654	020502						.WORD	ERR010

```

046656 017110
6688 046660          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      046660 104410          ;                               TRAP   C#ESCAPE
      046662 000502          ;                               .WORD  L10050
6689
6690 046664 004757 025546      ;00:  JSR      PC,CLRDMI          ; WRITE ONE TO CLEAR DMI
6691                                     ; ERROR ?
6692 046670 103006          BCC      901                     ; NO
6693 046672          ERRHRD 191.,ERR006,MSG003 ; YES, REPORT ERROR
      046672 104456          ;                               TRAP   C#ERRRD
      046674 000277          ;                               .WORD  191
      046676 020202          ;                               .WORD  ERR006
      046700 017110          ;                               .WORD  MSG003
6694 046702          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      046702 104410          ;                               .WORD  L10050
      046704 000460          ;
6695                                     ;WRITE PHYSICAL ADDRESS
6696                                     ;
6697 046706 012705 013144      ;00:  MOV      @MTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
6698 046712 004737 026742      JSR      PC,LDPCCB              ; LOAD FUNCTION -> PCBB
6699 046716 012777 000002 133302 MOV      @GETCMD,@PCSR0        ; ISSUE GET_CMD PORT COMMAND
6700 046724 004737 024574      JSR      PC,CHKDMI            ; DMI ?
6701 046730 103006          BCC      1001                   ; YES
6702 046732          ERRHRD 192.,ERR010,MSG003 ; NO, REPORT ERROR
      046732 104456          ;                               TRAP   C#ERRRD
      046734 000300          ;                               .WORD  192
      046736 020502          ;                               .WORD  ERR010
      046740 017110          ;                               .WORD  MSG003
6703 046742          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      046742 104410          ;                               .WORD  L10050
      046744 000420          ;
6704                                     ;
6705 046746 004737 025546      ;100: JSR      PC,CLRDMI          ; WRITE ONE TO CLEAR DMI
6706                                     ; ERROR ?
6707 046752 103006          BCC      1101                   ; NO
6708 046754          ERRHRD 193.,ERR006,MSG003 ; YES, REPORT ERROR
      046754 104456          ;                               TRAP   C#ERRRD
      046756 000301          ;                               .WORD  193
      046760 020202          ;                               .WORD  ERR006
      046762 017110          ;                               .WORD  MSG003
6709 046764          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      046764 104410          ;                               .WORD  L10050
      046766 000376          ;
6710                                     ;SET UP RINGS
6711                                     ;
6712 046770 012705 013714      ;110: MOV      @TORB2A,R5        ; DEFAULT ERROR TRANSMIT RING
6713 046774 004737 027046      JSR      PC,LDTORB              ; LOAD TORB
6714 047000 012705 013354      MOV      @RDRB1A,R5            ; DEFAULT ONE BUFFER RECEIVE RING
6715 047004 004737 027010      JSR      PC,LDRDRB              ; LOAD RDRB
6716                                     ;
6717                                     ;SET UP BUFFERS AND START
6718 047010 012705 002266      MOV      @PCBB+2,R5            ; POINT TO DESTINATION ADDRESS
6719 047014 004737 026714      JSR      PC,LDDDEST            ; LOAD DEST
6720 047020 004737 027342      JSR      PC,SETBUF             ; SET UP BUFFERS
6721 047024 012777 000004 133174 MOV      @START,@PCSR0        ; ISSUE START PORT COMMAND
6722 047032 004737 024574      JSR      PC,CHKDMI            ; DMI?
6723 047036 103006          BCC      1201                   ; YES
    
```

L10

6724	04704C			ERRHRD	194.,ERR012,MSG003	; NO, REPORT ERROR		
	047040	104456					TRAP	C1ERRHRD
	047042	000302					.WORD	194
	047044	020633					.WORD	ERR012
	047046	017110					.WORD	MSG003
6725	047050			ESCAPE	TST	; AND ABORT TEST		
	G17050	104410					TRAP	C1ESCAPE
	047052	000312					.WORD	L10050.
6726								
6727	047054	004737	025546	120:	JSR	PC,CLRDN1		
6728								
6729	047060	103006			BCC	130:		
6730	047062				ERRHRD	195.,ERR006,MSG003	; YES, REPORT ERROR	
	047062	104456					TRAP	C1ERRHRD
	047064	000303					.WORD	195
	047066	020202					.WORD	ERR006
	047070	017110					.WORD	MSG003
6731	047072			ESCAPE	TST	; AND ABORT TEST		
	047072	104410					TRAP	C1ESCAPE
	047074	000270					.WORD	L10050..
6732								
6733	047076	004737	025404	130:	JSR	PC,CHKTXI		
6734	047102	103006			BCC	140:		
6735	047104				ERRHRD	196.,ERR013,MSG003	; NO, REPORT ERROR	
	047104	104456					TRAP	C1ERRHRD
	047106	000304					.WORD	196
	047110	020714					.WORD	ERR013
	047112	017110					.WORD	MSG003
6736	047114			ESCAPE	TST	; AND ABORT TEST		
	047114	104410					TRAP	C1ESCAPE
	047116	000246					.WORD	L10050..
6737								
6738	047120	004737	025730	140:	JSR	PC,CLRTXI		
6739								
6740	047124	103006			BCC	150:		
6741	047126				ERRHRD	197.,ERR014,MSG003	; YES, REPORT ERROR	
	047126	104456					TRAP	C1ERRHRD
	047130	000305					.WORD	197
	047132	020745					.WORD	ERR014
	047134	017110					.WORD	MSG003
6742	047136			ESCAPE	TST	; AND ABORT TEST		
	047136	104410					TRAP	C1ESCAPE
	047140	000224					.WORD	L10050..
6743								
6744	047142	012705	002604	150:	MOV	@TDRB,R5		
6745	047146	004737	024676		JSR	PC,CHKOWN		
6746	047152	103006			BCC	160:		
6747	047154				ERRHRD	198.,ERR027	; NO, REPORT ERROR	
	047154	104456					TRAP	C1ERRHRD
	047156	000306					.WORD	198
	047160	021773					.WORD	ERR027
	047162	000000					.WORD	0
6748	047164			ESCAPE	TST	; AND ABORT TEST		
	047164	104410					TRAP	C1ESCAPE
	047166	000176					.WORD	L10050.
6749								
6750	047170	012705	014544	160:	MOV	@TDR18A,R5		

6751	047174	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
6752	047200	012705	002604		MOV	#TDRB,R5		; CHECK TDRB		
6753	047204	004737	025316		JSR	PC,CHKTDR		; ERRORS ?		
6754	047210	103006			BCC	162#		; NO		
6755	047212				ERRHRD	199.,ERR033,MSG005		; YES, REPORT ERROR		
	047212	104456							TRAP	C#ERHRD
	047214	000307							.WORD	199
	047216	022633							.WORD	ERR033
	047220	017214							.WORD	MSG005
6756	047222				ESCAPE	TST		; AND ABORT TEST		
	047222	104410							TRAP	C#ESCAPE
	047224	000140							.WORD	L10050
6757										
6758	047226	012705	002614		;CHECK	SECOND RING ENTRY				
6759	047232	004737	024676		162#:	MOV	#TDRB+8.,R5		; CHECK TDRB OWNERSHIP	
6760	047236	103006			JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6761	047240				BCC	164#		; YES		
	047240	104456			ERRHRD	200.,ERR02#		; NO, REPORT ERROR		
	047242	000310							TRAP	C#ERHRD
	047244	022100							.WORD	200
	047246	000000							.WORD	ERR028
6762	047250				ESCAPE	TST		; AND ABORT TEST		
	047250	104410							TRAP	C#ESCAPE
	047252	000112							.WORD	L10050
6763										
6764	047254	012705	014554		164#:	MOV	#TDR188,R5		; POINT TO EXPECTED TDRB	
6765	047260	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
6766	047264	012705	002614		MOV	#TDRB+8.,R5		; CHECK TDRB		
6767	047270	004737	025316		JSR	PC,CHKTDR		; ERRORS ?		
6768	047274	103006			BCC	230#		; NO		
6769	047276				ERRHRD	201.,ERR034,MSG005		; YES, REPORT ERROR		
	047276	104456							TRAP	C#ERHRD
	047300	000311							.WORD	201
	047302	022722							.WORD	ERR034
	047304	017214							.WORD	MSG005
6770	047306				ESCAPE	TST		; AND ABORT TEST		
	047306	104410							TRAP	C#ESCAPE
	047310	000054							.WORD	L10050
6771										
6772	047312	012777	000017	132706	230#:	MOV	#STOP,BPCSR0		; ISSUE STOP PORT COMMAND	
6773	047320	004737	024574		JSR	PC,CHKDNI		; DNI ?		
6774	047324	103006			BCC	240#		; YES		
6775	047326				ERRHRD	202.,ERR019,MSG003		; NO, REPORT ERROR		
	047326	104456							TRAP	C#ERHRD
	047330	000312							.WORD	202
	047332	021312							.WORD	ERR019
	047334	017110							.WORD	MSG003
6776	047336				ESCAPE	TST		; AND ABORT TEST		
	047336	104410							TRAP	C#ESCAPE
	047340	000024							.WORD	L10050
6777										
6778	047342	004737	025546		240#:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
6779									; ERROR ?	
6780	047346	103006			BCC	250#		; NO		
6781	047350				ERRHRD	203.,ERR006,MSG003		; YES, REPORT ERROR		
	047350	104456							TRAP	C#ERHRD
	047352	000313							.WORD	203



047354 020202  
047356 017110  
6782 047360  
047360 104410  
047362 000002  
6783 047364  
6784 047364  
047364 104401

ESCAPE TST

2504:

ENDTST

AND ABORT TEST

.WORD ERR006  
.WORD MSG003  
TRAP C#ESCAPE  
.WORD L10050 .

L10050:

TRAP C#ETST

6786  
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.SBTTL TEST 19: NO RECEIVE BUFFER TEST

```

    ;*****
    ;
    ; THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
    ; AN INTERNAL LOOPBACK IS ATTEMPTED WITH
    ; NO RECEIVE BUFFERS OWNED BY THE DEUNA.
    ; A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRR0.
    ;
    ; TEST SEQUENCE:
    ; 1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
    ; 2. WRITE RING FORMAT (16 TRANSMIT ENTRIES)
    ; 3. WRITE PHYSICAL ADDRESS
    ; 4. SET UP PINGS AND BUFFERS
    ;    WITH 16 TRANSMIT PACKETS
    ;    AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
    ; 5. ISSUE START
    ; 6. CHECK FOR RCBI ERROR IN PCSRO
    ; 7. ISSUE STOP
    ;*****
    
```

BGNTST

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    T19::
    JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
    BCC 30$ ; NO
    MOV #RSET,@PCSRO ; YES, RESET DEUNA
    JSR PC,CHKDNI ; DNI ?
    BCC 20$ ; YES
    ERRHRD 204.,ERR004,MSG003 ; NO, REPORT ERROR
    TRAP C$ERRHRD
    .WORD 204
    .WORD ERR004
    .WORD MSG003

    ESCAPE TST ; AND ABORT TEST
    TRAP C$ESCAPE
    .WORD L10051

    ; 20$:
    JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
    ; ERROR ?
    BCC 30$ ; NO
    ERRHRD 205.,ERR006,MSG003 ; YES, REPORT ERROR
    TRAP C$ERRHRD
    .WORD 205
    .WORD ERR006
    .WORD MSG003

    ESCAPE TST ; AND ABORT TEST
    TRAP C$ESCAPE
    .WORD L10051

    ; 30$:
    JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
    MOV #GETPCB,@PCSRO ; ISSUE GET_PCBB PORT COMMAND
    JSR PC,CHKDNI ; DNI?
    BCC 40$ ; YES
    ERRHRD 206.,ERR009,MSG003 ; NO, REPORT ERROR
    TRAP C$ERRHRD
    .WORD 206
    
```

047366  
 047366  
 047366 004737 027446  
 047372 103025  
 047374 012777 000040 132624  
 047402 004737 024574  
 047406 103006  
 047410  
 047410 104456  
 047412 000314  
 047414 020102  
 047416 017110  
 047420  
 047420 104410  
 047422 000634  
 047424 004737 025546  
 047430 103006  
 047432  
 047432 104456  
 047434 000315  
 047436 020202  
 047440 017110  
 047442  
 047442 104410  
 047444 000612  
 047446 004737 026772  
 047452 012777 000001 132546  
 047460 004737 024574  
 047464 103006  
 047466  
 047466 104456  
 047470 000316

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        047472 020416                                .WORD  ERR009
        047474 017110                                .WORD  MSG003
6828 047476                                ESCAPE  TST                                ; AND ABORT TEST
        047476 104410                                TRAP   C$ESCAPE
        047500 040556                                .WORD  L10051
6829
6830 047502 004737 025546    ; 40$: JSR   PC,CLRDN1                        ; WRITE ONE TO CLEAR DNI
6831                                ; ERROR ?
6832 047506 103006                                BCC   50$
6833 047510                                ERRHRD 207.,ERR006,MSG003                ; NO
                                                ; YES, REPORT ERROR
        047510 104456                                TRAP   C$ERHRD
        047512 000317                                .WORD  207
        047514 020202                                .WORD  ERR006
        047516 017110                                .WORD  MSG003
6834 047520                                ESCAPE  TST                                ; AND ABORT TEST
        047520 104410                                TRAP   C$ESCAPE
        047522 000534                                .WORD  L10051
6835
6836                                ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
6837 047524 012705 013244    ; 50$: MOV   #WTRMODE,R5                        ; DEFAULT WRITE MODE FUNCTION
6838 047530 004737 026742                                JSR   PC,LDPCCB                            ; LOAD FUNCTION -> PCBB
6839 047534 012777 000002 132464    MOV   #GETCMD,@PCSR0                        ; ISSUE GET_CMD PORT COMMAND
6840 047542 004737 024574                                JSR   PC,CHKDNI                            ; DNI ?
6841 047546 103006                                BCC   60$
6842 047550                                ERRHRD 208.,ERR010,MSG003                ; YES
                                                ; NO, REPORT ERROR
        047550 104456                                TRAP   C$ERHRD
        047552 000320                                .WORD  208
        047554 020502                                .WORD  ERR010
        047556 017110                                .WORD  MSG003
6843 047560                                ESCAPE  TST                                ; AND ABORT TEST
        047560 104410                                TRAP   C$ESCAPE
        047562 000474                                .WORD  L10051
6844
6845 047564 004737 025546    ; 60$: JSR   PC,CLRDN1                        ; WRITE ONE TO CLEAR DNI
6846                                ; ERROR ?
6847 047570 103006                                BCC   70$
6848 047572                                ERRHRD 209.,ERR006,MSG003                ; NO
                                                ; YES, REPORT ERROR
        047572 104456                                TRAP   C$ERHRD
        047574 000321                                .WORD  209
        047576 020202                                .WORD  ERR006
        047600 017110                                .WORD  MSG003
6849 047602                                ESCAPE  TST                                ; AND ABORT TEST
        047602 104410                                TRAP   C$ESCAPE
        047604 000452                                .WORD  L10051
6850
6851                                ; WRITE RING FORMAT (16 TRANSMIT ENTRIES)
6852 047606 012705 013204    ; 70$: MOV   #WTRNGS,R5                        ; DEFAULT WRITE RING FORMAT FUNCTION
6853 047612 004737 026742                                JSR   PC,LDPCCB                            ; LOAD FUNCTION -> PCBB
6854 047616 012705 013340                                MOV   #RFRMTX,R5                          ; DEFAULT RING FORMAT
6855 047622 012700 000006                                MOV   #6,R0                               ; FORMAT = SIX WORDS
6856 047626 004737 027142                                JSR   PC,LDUDBB                            ; LOAD RING FORMAT -> UDBB
6857 047632 012777 000002 132466    MOV   #GETCMD,@PCSR0                        ; ISSUE GET_CMD PORT COMMAND
6858 047640 004737 024574                                JSR   PC,CHKDNI                            ; DNI ?
6859 047644 103006                                BCC   80$
6860 047646                                ERRHRD 210.,ERR010,MSG003                ; YES
                                                ; NO, REPORT ERROR
        047646 104456                                TRAP   C$ERHRD
        047650 000322                                .WORD  210
    
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010

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        047652 020502
        047654 017110
    6861 047656          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
        047656 104410          ;                               .WORD  MSG003
        047660 000376          ;                               TRAP   C#ESCAPE
    6862          ;                               .WORD  L10051
    6863 047662 004737 025546      80#: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
    6864          ;                               ; ERROR ?
    6865 047666 103006          BCC      90#                    ; NO
    6866 047670          ERRHRD  211.,ERR006,MSG003 ; YES, REPORT ERROR
        047670 104456          ;                               TRAP   C#ERHRD
        047672 000323          ;                               .WORD  211
        047674 020202          ;                               .WORD  ERR006
        047676 017110          ;                               .WORD  MSG003
    6867 047700          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
        047700 104410          ;                               .WORD  L10051
        047702 000354          ;
    6868          ;
    6869          ;WRITE PHYSICAL ADDRESS
    6870 047704 012705 013144      90#: MOV      @WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
    6871 047710 004737 026742          JSR      PC,LDPCCB             ; LOAD FUNCTION > PCBB
    6872 047714 012777 000002 132304  MOV      @GETCMD,@PCSR0        ; ISSUE GET_CMD PORT COMMAND
    6873 047722 004737 024574          JSR      PC,CHKDNI            ; DNI ?
    6874 047726 103006          BCC      100#                  ; YES
    6875 047730          ERRHRD  212.,ERR010,MSG003 ; NO, REPORT ERROR
        047730 104456          ;                               TRAP   C#ERHRD
        047732 000324          ;                               .WORD  212
        047734 020502          ;                               .WORD  ERR010
        047736 017110          ;                               .WORD  MSG003
    6876 047740          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
        047740 104410          ;                               .WORD  L10051
        047742 000314          ;
    6877          ;
    6878 047744 004737 025546      100#: JSR     PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
    6879          ;                               ; ERROR ?
    6880 047750 103006          BCC      110#                  ; NO
    6881 047752          ERRHRD  213.,ERR006,MSG003 ; YES, REPORT ERROR
        047752 104456          ;                               TRAP   C#ERHRD
        047754 000325          ;                               .WORD  213
        047756 020202          ;                               .WORD  ERR006
        047760 017110          ;                               .WORD  MSG003
    6882 047762          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
        047762 104410          ;                               .WORD  L0051
        047764 000272          ;
    6883          ;
    6884          ;SET UP RINGS FOR 16 TRANSMIT PACKETS
    6885          ;AND NO RECEIVE BUFFERS OWNED BY DELNA
    6886 047766 012705 014014      110#: MOV      @TORBX,R5          ; TRANSMIT RING
    6887 047772 004737 027104          JSR      PC,LDTDRX            ; LOAD TORBX
    6888 047776 012705 013414          MOV      @RDRB18,R5           ; DEFAULT RECEIVE RING (NO BUFFERS)
    6889 050002 004737 027010          JSR      PC,LDRDRB            ; LOAD RDRB
    6890          ;
    6891          ;SET UP BUFFERS AND START
    6892 050006 012705 002266          MOV      @PCBB+2,R5           ; POINT TO DESTINATION ADDRESS
    6893 050012 004737 026714          JSR      PC,LDDDEST           ; LOAD DEST
    6894 050016 004737 027342          JSR      PC,SETBUF            ; SET UP BUFFERS
    6895 050022 012777 000004 132176  MOV      @START,@PCSR0        ; ISSUE START PORT COMMAND
    
```

6896	050030	004737	024574		JSR	PC,CHKDNI		; DNI?		
6897	050034	103006			BCC	120#		; YES		
6898	050036				ERRHRD	214.,ERR012,MSG003		; NO, REPORT ERROR		
	050036	104456							TRAP	C#ERHRD
	050040	000326							.WORD	214
	050042	020633							.WORD	ERR012
	050044	017110							.WORD	MSG003
6899	050046				ESCAPE	TST		; AND ABORT TEST		
	05004E	104410							TRAP	C#ESCAPE
	050050	000206							.WORD	L10051 .
6900										
6901	050052	004737	025546	:	JSR	PC,CLPDNI		; WRITE ONE TO CLEAR DNI		
6902				120#:				; ERROR ?		
6903	050056	103006			BCC	130#		; NO		
6904	050060				ERRHRD	215.,ERR006,MSG003		; YES, REPORT ERROR		
	050060	104456							TRAP	C#ERHRD
	050062	000327							.WORD	215
	050064	020202							.WORD	ERR006
	050066	017110							.WORD	MSG003
6905	050070				ESCAPE	TST		; AND ABORT TEST		
	050070	104410							TRAP	C#ESCAPE
	050072	000164							.WORD	L10051 .
6906										
6907	050074	004737	025404	:	JSR	PC,CHKTXI		; TXI ?		
6908	050100	103006		130#:	BCC	140#		; YES		
6909	050102				ERRHRD	216.,ERR013,MSG003		; NO, REPORT ERROR		
	050102	104456							TRAP	C#ERHRD
	050104	000330							.WORD	216
	050106	020714							.WORD	ERR013
	050110	017110							.WORD	MSG003
6910	050112				ESCAPE	TST		; AND ABORT TEST		
	050112	104410							TRAP	C#ESCAPE
	050114	000142							.WORD	L10051 .
6911										
6912	050116	004737	025730	:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
6913				140#:				; ERROR ?		
6914	050122	103006			BCC	170#		; NO		
6915	050124				ERRHRD	217.,ERR014,MSG003		; YES, REPORT ERROR		
	050124	104456							TRAP	C#ERHRD
	050126	000331							.WORD	217
	050130	020745							.WORD	ERR014
	050132	017110							.WORD	MSG003
6916	050134				ESCAPE	TST		; AND ABORT TEST		
	050134	104410							TRAP	C#ESCAPE
	050136	000120							.WORD	L10051 .
6917										
6918				:				;CHECK FOR RCBI SET IN PCSRU		
6919										
6920	050140	004737	024730	:	JSR	PC,CHKRCE		; RCBI ?		
6921	050144	103006		170#:	BCC	180#		; YES		
6922	050146				ERRHRD	218.,ERR025,MSG003		; NO, REPORT ERROR		
	050146	104456							TRAP	C#ERHRD
	050150	000332							.WORD	218
	050152	021672							.WORD	ERR025
	050154	017110							.WORD	MSG003
6923	050156				ESCAPE	TST		; AND ABORT TEST		
	050156	104410							TRAP	C#ESCAPE

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050160 000076
6924
6925 050162 004737 025614      ; 180$: JSR      PC,CLRRCE      ; WRITE ONE TO CLEAR RCFI
6926                               ; BCC      230$      ; ERROR ?
6927 050166 103006             ; ERRHRD   219.,ERR026,MSG003 ; NO
6928 050170 104456             ;                               ; YES, REPORT ERROR
      050172 000333             TRAP      C#ERHRC
      050174 021724             .WORD    219
      050176 017110             .WORD    ERR026
6929 050200             ESCAPE  TST      ; AND ABORT TEST      .WORD    MSG003
      050202 000054             TRAP      C#ESCAPE
      050204 012777 000017 132014 ; 230$: MOV      #STOP,#PCSR0   ; ISSUE STOP PORT COMMAND
6931 050212 004737 024574     ; JSR      PC,CHKDNI      ; DNI ?
6932 050216 103006             ; BCC      240$      ; YES
6933 050220 104456             ; ERRHRD   220.,ERR019,MSG003 ; NO, REPORT ERROR
      050222 000334             TRAP      C#ERHRD
      050224 021312             .WORD    220
      050226 017110             .WORD    ERR019
6935 050230             ESCAPE  TST      ; AND ABORT TEST      .WORD    MSG003
      050232 000024             TRAP      C#ESCAPE
      050234 004737 025546     ; 240$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6936                               ; BCC      250$      ; ERROR ?
6937 050240 103006             ; ERRHRD   221.,ERR006,MSG003 ; NO
6938                               ;                               ; YES, REPORT ERROR
      050242 104456             TRAP      C#ERHRD
      050244 000335             .WORD    221
      050246 020202             .WORD    ERR006
      050250 017110             .WORD    MSG003
6941 050252             ESCAPE  TST      ; AND ABORT TEST      TRAP      C#ESCAPE
      050254 000002             .WORD    L10051-.
6942 050256             ; 250$:
6943 050256             ENDTST
      050256 104401             L10051: TRAP      C#ETST

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050362 000340 .WORD 224
050364 020416 .WORD ERR009
050366 017110 .WORD MSG003
6988 050370 ESCAPE TST ; AND ABORT TEST
050370 104410 TRAP C#ESCAPE
050372 001460 .WORD L10052
6989
6990 050374 004737 025546 40: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6991 ; ERROR ?
6992 050400 103006 BCC 50: ; NO
6993 050402 ERRHRD 225.,ERR006,MSG003 ; YES, REPORT ERROR
050402 104456 TRAP C#ERRRD
050404 000341 .WORD 225
050406 020202 .WORD ERR006
050410 017110 .WORD MSG003
6994 050412 ESCAPE TST ; AND ABORT TEST
050412 104410 TRAP C#ESCAPE
050414 001436 .WORD L10052
6995
6996 ; CHECK IF EXTERNAL LOOPBACK
6997 050416 005737 022274 50: TST EXLOOP ; EXTERNAL LOOPBACK SELECTED ?
6998 050422 071005 BNE 55: ; YES
6999
7000 ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7001 050424 012705 013244 MOV #WTRNGS,R5 ; DEFAULT WRITE MODE FUNCTION
7002 050430 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
7003 050434 000407 BR 56:
7004 ; WRITE MODE REGISTER = PROM MODE ONLY (EXTERNAL LOOPBACK)
7005 050436 012705 013244 55: MOV #WTRNGS,R5 ; DEFAULT WRITE MODE FUNCTION
7006 050442 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
7007 050446 013737 015114 002266 MOV MODE20,PCBB+2 ; PROM MODE ONLY
7008 050454 012777 000002 131544 56: MOV #GETCMD,#PCSR0 ; ISSUE GET_CMD PORT COMMAND
7009 050462 004737 024574 JSR PC,CHKDNI ; DNI ?
7010 050466 103006 BCC 60: ; YES
7011 050470 ERRHRD 226.,ERR010,MSG003 ; NO, REPORT ERROR
050470 104456 TRAP C#ERRRD
050472 000342 .WORD 226
050474 020502 .WORD ERR010
050476 017110 .WORD MSG003
7012 050500 ESCAPE TST ; AND ABORT TEST
050500 104410 TRAP C#ESCAPE
050502 001350 .WORD L10052-
7013
7014 050504 004737 025546 60: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7015 ; ERROR ?
7016 050510 103006 BCC 70: ; NO
7017 050512 ERRHRD 227.,ERR007,MSG003 ; YES, REPORT ERROR
050512 104456 TRAP C#ERRRD
050514 000343 .WORD 227
050516 020202 .WORD ERR006
050520 017110 .WORD MSG003
7018 050522 ESCAPE TST ; AND ABORT TEST
050522 104410 TRAP C#ESCAPE
050524 001326 .WORD L10052
7019
7020 ; WRITE RING FORMAT
7021 050526 012705 013204 70: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION

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7022	050532	004737	026742		JSR	PC,LDPCBB	:	LOAD FUNCTION -> PCBB	
7023	050536	012705	013324		MOV	#RFRMT,R5	:	DEFAULT RING FORMAT	
7024	050542	012705	070006		MOV	#6,R0	:	FORMAT = SIX WORDS	
7025	050546	004737	027142		JSR	PC,LDU0BB	:	LOAD RING FORMAT -> U0BB	
7026	050552	012777	000002	131446	MOV	#GETCMD,#PCSR0	:	ISSUE GET_CMD PORT COMMAND	
7027	050560	004737	024574		JSR	PC,CHKDNI	:	DNI ?	
7028	050564	103006			BCC	80#	:	YES	
7029	050566				ERRHRD	228.,ERR010,MSG003	:	NO, REPORT ERROR	
	050566	104456						TRAP	C#ERRHRD
	050570	000344						.WORD	228
	050572	020502						.WORD	ERR010
	050574	017110						.WORD	MSG003
7030	050576				ESCAPE	TST	:	AND ABORT TEST	
	050576	104410						TRAP	C#ESCAPE
	050600	001252						.WORD	L10052
7031									
7032	050602	004737	025546		JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI	
7033				80#:			:	ERROR ?	
7034	050606	103006			BCC	90#	:	NO	
7035	050610				ERRHRD	229.,ERR006,MSG003	:	YES, REPORT ERROR	
	050610	104456						TRAP	C#ERRHRD
	050612	000345						.WORD	229
	050614	020202						.WORD	ERR006
	050616	017110						.WORD	MSG003
7036	050620				ESCAPE	TST	:	AND ABORT TEST	
	050620	104410						TRAP	C#ESCAPE
	050622	001230						.WORD	L10052
7037									
7038									
7039	050624	012705	013144		WRITE PHYSICAL ADDRESS				
7040	050630	004737	026742		90#:	MOV	#WTPHYA,R5	:	DEFAULT WRITE PHYSICAL ADDR FUNC
7041	050634	012777	000002	131364	JSR	PC,LDPCBB	:	LOAD FUNCTION -> PCBB	
7042	050642	004737	024574		MOV	#GETCMD,#PCSR0	:	ISSUE GET_CMD PORT COMMAND	
7043	050646	103006			JSR	PC,CHKDNI	:	DNI ?	
7044	050650				BCC	100#	:	YES	
	050650	104456			ERRHRD	230.,ERR010,MSG003	:	NO, REPORT ERROR	
	050652	000346						TRAP	C#ERRHRD
	050654	020502						.WORD	230
	050656	017110						.WORD	ERR010
								.WORD	MSG003
7045	050660				ESCAPE	TST	:	AND ABORT TEST	
	050660	104410						TRAP	C#ESCAPE
	050662	001170						.WORD	L10052
7046									
7047	050664	004737	025546		100#:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI
7048							:	ERROR ?	
7049	050670	103006			BCC	110#	:	NO	
7050	050672				ERRHRD	231.,ERR006,MSG003	:	YES, REPORT ERROR	
	050672	104456						TRAP	C#ERRHRD
	050674	000347						.WORD	231
	050676	020202						.WORD	ERR006
	050700	017110						.WORD	MSG003
7051	050702				ESCAPE	TST	:	AND ABORT TEST	
	050702	104410						TRAP	C#ESCAPE
	050704	001146						.WORD	L10052
7052									
7053									
7054	050706	012705	013754		110#:	MOV	#TDRB3A,R5	:	DEFAULT THREE BUFFER TRANSMIT RING



7089	051066	000764		;CHECK FIRST RING ENTRY			WORD	L10052
7090	051070	012705	002604	150\$:	MOV @TDRB,R5	; CHECK TDRB OWNERSHIP		
7091	051074	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7092	051100	103006			BCC 160\$	; YES		
7093	051102				ERRHRD 236.,ERR027	; NO, REPORT ERROR		
	051102	104456					TRAP	C#ERRHRD
	051104	000354					.WORD	236
	051106	021773					.WORD	ERR027
	051110	000000					.WORD	0
7094	051112			ESCAPE TST		; AND ABORT TEST		
	051112	104410					TRAP	C#ESCAPE
	051114	000736					.WORD	L10052--
7095								
7096	051116	012705	014564	160\$:	MOV @TDR20A,R5	; POINT TO EXPECTED TDRB		
7097	051122	004737	027252		JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLF		
7098	051126	012705	002604		MOV @TDRB,R5	; CHECK TDRB		
7099	051132	004737	025316		JSR PC,CHKTDR	; ERRORS ?		
7100	051136	103006			BCC 162\$	; NO		
7101	051140				ERRHRD 237.,ERR033,MSG005	; YES, REPORT ERROR		
	051140	104456					TRAP	C#ERRHRD
	051142	000355					.WORD	237
	051144	022633					.WORD	ERR033
	051146	017214					.WORD	MSG005
7102	051150			ESCAPE TST		; AND ABORT TEST		
	051150	104410					TRAP	C#ESCAPE
	051152	000700					.WORD	L10052
7103				;CHECK SECOND RING ENTRY				
7104	051154	012705	002614	162\$:	MOV @TDRB+8.,R5	; CHECK TDRB OWNERSHIP		
7105	051160	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7106	051164	103006			BCC 164\$	; YES		
7107	051166				ERRHRD 238.,ERR028	; NO, REPORT ERROR		
	051166	104456					TRAP	C#ERRHRD
	051170	000356					.WORD	238
	051172	022100					.WORD	ERR028
	051174	000000					.WORD	0
7108	051176			ESCAPE TST		; AND ABORT TEST		
	051176	104410					TRAP	C#ESCAPE
	051200	000652					.WORD	L10052
7109								
7110	051202	012705	014574	164\$:	MOV @TDR20B,R5	; POINT TO EXPECTED TDRB		
7111	051206	004737	027252		JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
7112	051212	012705	002614		MOV @TDRB+8.,R5	; CHECK TDRB		
7113	051216	004737	025316		JSR PC,CHKTDR	; ERRORS ?		
7114	051222	103006			BCC 166\$	; NO		
7115	051224				ERRHRD 239.,ERR034,MSG005	; YES, REPORT ERROR		
	051224	104456					TRAP	C#ERRHRD
	051226	000357					.WORD	239
	051230	022722					.WORD	ERR034
	051232	017214					.WORD	MSG005
7116	051234			ESCAPE TST		; AND ABORT TEST		
	051234	104410					TRAP	C#ESCAPE
	051236	000614					.WORD	L10052--
7117				;CHECK THIRD RING ENTRY				
7118	051240	012705	002624	166\$:	MOV @TDRB+16.,R5	; CHECK TDRB OWNERSHIP		
7119	051244	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7120	051250	103006			BCC 168\$	; YES		

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7121 051252          ERRHRD 240.,ERR029          ; NO, REPORT ERROR
      051252 104456          TRAP          C$ERHRD
      051254 000360          .WORD          240
      051256 022206          .WORD          ERR029
      051260 000000          .WORD          0
7122 051262          ESCAPE TST          ; AND ABORT TEST
      051262 104410          TRAP          C$ESCAPE
      051264 000566          .WORD          L10052
7123
7124 051266 012705 014604          ; POINT TO EXPECTED TDRB
7125 051272 004737 027252          ; LOAD INTO XTDRBO TABLE
7126 051276 012705 002624          ; CHECK TDRB
7127 051302 004737 025316          ; ERRORS ?
7128 051306 103006          BCC          1704
7129 051310          ERRHRD 241.,ERR035,MSG005          ; YES, REPORT ERROR
      051310 104456          TRAP          C$ERHRD
      051312 000361          .WORD          241
      051314 023012          .WORD          ERR035
      051316 017214          .WORD          MSG005
7130 051320          ESCAPE TST          ; AND ABORT TEST
      051320 104410          TRAP          C$ESCAPE
      051322 000530          .WORD          L10052
7131
7132 051324 004737 025132          ; RXI ?
7133 051330 103006          BCC          1804
7134 051332          ERRHRD 242.,ERR015,MSG003          ; YES
      051332 104456          ; NO, REPORT ERROR
      051334 000362          TRAP          C$ERHRD
      051336 021013          .WORD          242
      051340 017110          .WORD          ERR015
      051342          .WORD          MSG003
7135 051342          ESCAPE TST          ; AND ABORT TEST
      051342 104410          TRAP          C$ESCAPE
      051344 000506          .WORD          L10052
7136
7137 051344 004737 025662          ; WRITE ONE TO CLEAR RXI
7138          BCC          1824          ; ERROR ?
7139 051352 103006          BCC          1824          ; NO
7140 051354          ERRHRD 243.,ERR016,MSG003          ; YES, REPORT ERROR
      051354 104456          TRAP          C$ERHRD
      051356 000363          .WORD          243
      051360 021044          .WORD          ERR016
      051362 017110          .WORD          MSG003
7141 051364          ESCAPE TST          ; AND ABORT TEST
      051364 104410          TRAP          C$ESCAPE
      051366 000464          .WORD          L10052
7142
7143 051370 005737 002224          ; EXTERNAL LOOPBACK
7144 051374 001431          BEQ          1904          ; NO, SKIP EXTERNAL CHECKS
7145          ;EXTERNAL LOOPBACK CHECKS
7146          ;CHECK SOURCE ADDRESS = DESTINATION ADDRESS
7147 051376 012703 007112          MCV          #RBUF+6,R3          ; R3 POINTS TO SOURCE ADDRESS
7148 051402 012704 007104          MOV          #RBUF,R4          ; R4 POINTS TO DESTINATION ADDRESS
7149 051406 022324          CMP          (R3)+,(R4)+          ; FIRST WORD COMPARE ?
7150 051410 001006          BNE          1844          ; NO, GO CHECK TYPE FIELD
7151 051412 022324          CMP          (R3)+,(R4)+          ; SECOND WORD COMPARE ?
7152 051414 001004          BNE          1844          ; NO, GO CHECK TYPE FIELD
7153 051416 021314          CMP          (R3),(R4)          ; THIRD AND LAST COMPARE ?
  
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7154	051420	001002		BNE	184:		; NO, CHECK TYPE FIELD		
7155	051422	000137	051460	JMP	190:		; SCR = DST, GO CHECK RINGS		
7156				; SOURCE NOT EQUAL TO DESTINATION					
7157				; CHECK IF DIAGNOSTIC TYPE					
7158	051426	012704	007120	184:	MOV	#RBUF+12,R4	; POINT TO TYPE FIELD RECEIVED		
7159	051432	022714	002540		CMF	#DTYPE,(R4)	; DIAGNOSTIC TYPE ?		
7160	051436	001402			BEQ	186:	; YES, REPORT ERROR		
7161	051440	000137	050260		JMP	1:	; NO, RESTART TEST		
7162	051444			186:	ERRHRD	244,ERR0-7	; REPORT ERROR		
	051444	104456						TRAP	C#ERRHRD
	051446	000364						.WORD	244
	051450	024156						.WORD	ERR047
	051452	000000						.WORD	0
7163	051454			ESCAPE	TST		; AND ABORT TEST		
	051454	104410						TRAP	C#ESCAPE
	051456	000374						.WORD	L10052
7164									
7165				; CHECK FIRST RING ENTRY					
7166	051460	012705	002644	190:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
7167	051464	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
7168	051470	107006			BCC	200:	; YES		
7169	051472				ERRHRD	245,ERR030	; NO, REPORT ERROR		
	051472	104456						TRAP	C#ERRHRD
	051474	000365						.WORD	245
	051476	022313						.WORD	ERR030
	051500	000000						.WORD	0
7170	051502			ESCAPE	TST		; AND ABORT TEST		
	051502	104410						TRAP	C#ESCAPE
	051504	000346						.WORD	L10052
7171									
7172	051506	012705	014674	200:	MOV	#RDR:0A,R	; POINT TO EXPECTED RDRB		
7173	051512	004737	027222		JSR	F,LDXRDR	; LOAD INTO XRDRB0 TABLE		
7174	051516	012705	002644		MOV	RDRB,R5	; CHECK RDRB		
7175	051522	004737	025032		JSR	PC,CHKRDR	; ERRORS ?		
7176	051526	103006			BCC	202:	; NO		
7177	051530				ERRHRD	246,ERR036,MSG006	; YES, REPORT ERROR		
	051530	104456						TRAP	C#ERRHRD
	051532	000366						.WORD	246
	051534	023101						.WORD	ERR036
	051536	017356						.WORD	MSG006
7178	051540			ESCAPE	TST		; AND ABORT TEST		
	051540	104410						TRAP	C#ESCAPE
	051542	000310						.WORD	L10052
7179				; CHECK SECOND RING ENTRY					
7180	051544	012705	002654	202:	MOV	#RDRB+8,R5	; CHECK RDRB OWNERSHIP		
7181	051550	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
7182	051554	103006			BCC	204:	; YES		
7183	051556				ERRHRD	247,ERR031	; NO, REPORT ERROR		
	051556	104456						TRAP	C#ERRHRD
	051560	000367						.WORD	247
	051562	022420						.WORD	ERR031
	051564	000000						.WORD	0
7184	051566			ESCAPE	TST		; AND ABORT TEST		
	051566	104410						TRAP	C#ESCAPE
	051570	000262						.WORD	L10052
7185									
7186	051572	012705	014704	204:	MOV	#RDR208,R5	; POINT TO EXPECTED RDRB		

7187	051576	004737	027222	JSR	PC,LDXRDR	:	LOAD INTO XRDRBO TABLE		
7188	051602	012705	002654	MOV	#RDRB+8.,R5	:	CHECK RDRB		
7189	051606	004737	025032	JSR	PC,CHKRDR	:	ERRORS ?		
7190	051612	103006		BCC	206#	:	NO		
7191	051614			ERRHRD	248.,ERR037,MSG006	:	YES, REPORT ERROR		
	051614	104456						TRAP	C#ERHRD
	051616	000370						.WORD	248
	051620	023167						.WORD	ERR037
	051622	017356						.WORD	MSG006
7192	051624			ESCAPE	TST	:	AND ABORT TEST		
	051624	104410						TRAP	C#ESCAPE
	051626	000224						.WORD	L10052
7193									
7194	051630	012705	002664						
7195	051634	004737	024676	206#:	MOV #RDRB+16.,R5	:	CHECK RDRB OWNERSHIP		
7196	051640	103006		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?		
7197	051642			BCC	208#	:	YES		
	051642	104456		ERRHRD	249.,ERR032	:	NO, REPORT ERROR		
	051644	000371						TRAP	C#ERHRD
	051646	022526						.WORD	219
	051650	000000						.WORD	ERR032
								.WORD	0
7198	051652			ESCAPE	TST	:	AND ABORT TEST		
	051652	104410						TRAP	C#ESCAPE
	051654	000176						.WORD	L10052
7199									
7200	051656	012705	014714	208#:	MOV #RDR20C,R5	:	POINT TO EXPECTED RDRB		
7201	051662	004737	027222	JSR	PC,LDXRDR	:	LOAD INTO XRDRBO TABLE		
7202	051666	012705	002664	MOV	#RDRB+16.,R5	:	CHECK RDRB		
7203	051672	004737	025032	JSR	PC,CHKRDR	:	ERRORS ?		
7204	051676	103006		BCC	210#	:	NO		
7205	051700			ERRHRD	250.,ERR038,MSG006	:	YES, REPORT ERROR		
	051700	104456						TRAP	C#ERHRD
	051702	000372						.WORD	250
	051704	023256						.WORD	ERR038
	051706	017356						.WORD	MSG006
7206	051710			ESCAPE	TST	:	AND ABORT TEST		
	051710	104410						TRAP	C#ESCAPE
	051712	000140						.WORD	L10052-
7207									
7208									
7209	051714	012705	000570						
7210	051720	004737	026044	210#:	MOV #376.,R5	:	COMPARE 376 WORDS OF DATA		
7211	051724	103006		JSR	PC,CHPDAT	:	DATA COMPARE ERROR :		
7212	051726			BCC	220#	:	NO		
	051726	104456		ERRHRD	251.,ERR022,MSG007	:	YES, REPORT ERROR		
	051730	000373						TRAP	C#ERHRD
	051732	021534						.WORD	251
	051734	017520						.WORD	ERR022
								.WORD	MSG007
7213	051736			ESCAPE	TST	:	AND ABORT TEST		
	051736	104410						TRAP	C#ESCAPE
	051740	000112						.WORD	L10052
7214									
7215	051742	012705	014740	220#:	MOV #CRC20A,R5	:	POINT TO EXPECTED CRC		
7216	051746	004737	027176	JSR	PC,LDXCRC	:	LOAD INTO XCRC TABLE		
7217	051752	012705	010500	MOV	#RBUF+764.,R5	:	CHECK CRC		
7218	051756	004737	026124	JSR	PC,CHPCRC	:	ERRORS ?		
7219	051762	103006		BCC	230#	:	NO		

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7220 051764 ERRHRD 252.,ERR023,MSG008 ; YES, REPORT ERROR TRAP C#ERRRD
      051764 104456 .WORD 252
      051766 000374 .WORD ERR023
      051770 021603 .WORD MSG008
      051772 017552
7221 051774 ESCAPE TST ; AND ABORT TEST TRAP C#ESCAPE
      051774 104410 .WORD L10052
      051776 000054
7222
7223 052000 012777 000017 130220 230: MOV #STOP,SPCSR0 ; ISSUE STOP PORT COMMAND
7224 052006 004737 024574 JSR PC,CHKDNI ; DNI ?
7225 052012 103006 BCC 240: ; YES
7226 052014 ERRHRD 253.,ERR019,MSG003 ; NO, REPORT ERROR TRAP C#ERRRD
      052014 104456 .WORD 253
      052016 000375 .WORD ERR019
      052020 021312 .WORD MSG003
      052022 017110
7227 052024 ESCAPE TST ; AND ABORT TEST TRAP C#ESCAPE
      052024 104410 .WORD L10052-
      052026 000024
7228
7229 052030 004737 025546 240: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7230 BCC 250: ; ERROR ?
7231 052034 103006 BCC 250: ; NO
7232 052036 ERRHRD 254.,ERR006,MSG003 ; YES, REPORT ERROR TRAP C#ERRRD
      052036 104456 .WORD 254
      052040 000376 .WORD ERR006
      052042 020202 .WORD MSG003
      052044 017110
7233 052046 ESCAPE TST ; AND ABORT TEST TRAP C#ESCAPE
      052046 104410 .WORD L10052
      052050 00000?
7234 052052 250:
7235 052052 ENDTST
      052052 104401 L10052: TRAP C#ETST

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.SBTTL TEST 21: PHYSICAL ADDRESS TEST

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:*****
:
:   THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION
:   IS OPERATIONAL.
:   A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
:   THE DEUNA'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
:*****

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BGNTST

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:
:   T21::
:   JSR   PC,TINIT           ; IS 1 DEVICE RESET NEEDED?
:   BCC   30$                ; NO
:   MOV   @RSET,@PCSR0      ; YES, RESET DEUNA
:   JSR   PC,CHKDNI         ; DNI ?
:   BCC   20$                ; YES
:   ERRHRD 255.,ERR004,MSG003 ; NO, REPORT ERROR
:
:   TRAP  C#ERRHRD
:   .WORD 255
:   .WORD ERR004
:   .WORD MSG003
:
:   ESCAPE TST              ; AND ABORT TEST
:
:   TRAP  C#ESCAPE
:   .WORD L10053-.
:
:   ;
:   2C$: JSR   PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
:   ;   ERROR ?
:   BCC   30$                ; NO
:   ERRHRD 256.,ERR006,MSG003 ; YES, REPORT ERROR
:
:   TRAP  C#ERRHRD
:   .WORD 256
:   .WORD ERR006
:   .WORD MSG003

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052054 027446
052054 004737 027446
052060 103025
052062 012777 000040 130136
052070 004737 024574
052074 103006
052076 104456
052100 000377
052102 020102
052104 017110
052.06
052106 104410
052110 002624
052112 004737 025546
052116 103006
052120 104456
052122 000400
052124 020202
052126 017110

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7283 052130          ESCAPE TST          ; AND ABORT TEST
      052130 104410          TRAP          C#ESCAPE
      052132 002602          .WORD          L10053 .
7284
7285 052134 004737 026772 130060 30$: JSR    PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2:3
7286 052140 012777 000001 JSR    #GETPCB,#PCSR0      ; ISSUE GET PCBB PORT COMMAND
7287 052146 004737 024574 JSR    PC,CHKDNI          ; DNI?
7288 052152 103006 BCC   40$                ; YES
7289 052154          ERRHRD 257.,ERR009,MSG003 ; NO, REPORT ERROR
      052154 104456          TRAP          C#ERRHRD
      052156 000471          .WORD          257
      052160 020416          .WORD          ERR009
      052162 017110          .WORD          MSG003
7290          ESCAPE TST          ; AND ABORT TEST
      052164 104410          TRAP          C#ESCAPE
      052166 002546          .WORD          L10053-.
7291
7292 052170 004737 025546 40$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7293          ; ERROR ?
7294 052174 103006 BCC   50$                ; NO
7295 052176          ERRHRD 258.,ERR006,MSG003 ; YES, REPORT ERROR
      052176 104456          TRAP          C#ERRHRD
      052200 000402          .WORD          258
      052202 020202          .WORD          ERR006
      052204 017110          .WORD          MSG003
7296          ESCAPE TST          ; AND ABORT TEST
      052206 104410          TRAP          C#ESCAPE
      052210 002524          .WORD          L10053-.
7297
7298          ;WRITE MODE REGISTER = INTERNAL LOOPBACK
7299 052212 012705 013244 50$: MOV    #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
7300 052216 004737 026742 JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7301 052222 013737 015116 002266 MOV    MODE21,PCBB+2      ; MODE = INTL LOOPBACK ONLY
7302 052230 012777 000002 MOV    #GETCMD,#PCSR0      ; ISSUE GET_CMD PORT COMMAND
7303 052236 004737 024574 JSR    PC,CHKDNI          ; DNI ?
7304 052242 103006 BCC   60$                ; YES
7305 052244          ERRHRD 259.,ERR010,MSG003 ; NO, REPORT ERROR
      052244 104456          TRAP          C#ERRHRD
      052246 000403          .WORD          259
      052250 020502          .WORD          ERR010
      052252 017110          .WORD          MSG003
7306          ESCAPE TST          ; AND ABORT TEST
      052254 104410          TRAP          C#ESCAPE
      052256 002456          .WORD          L10053 .
7307
7308 052260 004737 025546 60$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7309          ; ERROR ?
7310 052264 103006 BCC   70$                ; NO
7311 052266          ERRHRD 260.,ERR006,MSG003 ; YES, REPORT ERROR
      052266 104456          TRAP          C#ERRHRD
      052270 000404          .WORD          260
      052272 020202          .WORD          ERR006
      052274 017110          .WORD          MSG003
7312          ESCAPE TST          ; AND ABORT TEST
      052276 104410          TRAP          C#ESCAPE
      052300 002434          .WORD          L10053-.
7313
  
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7314                                     ;WRITE RING FORMAT
7315 052302 012705 013204                70$:  MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
7316 052306 004737 026742                JSR    PC,LDPCCB           ; LOAD FUNCTION -> PCBB
7317 052312 012705 013324                MOV    #RFRMT,R5         ; DEFAULT RING FORMAT
7318 052316 012700 000006                MOV    #6,R0             ; FORMAT = SIX WORDS
7319 052322 004737 027142                JSR    PC,LDUDBB         ; LOAD RING FORMAT -> UDBB
7320 052326 012777 000002 127672        MOV    #GETCMD,@PCSR0    ; ISSUE GET_CMD PORT COMMAND
7321 052334 004737 024574                JSR    PC,CHKDNI         ; DNI ?
7322 052340 103006                        BCC    80$               ; YES
7323 052342                                ERRHRD 261.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP    C$ERHRD
                                     .WORD   261
7324 052352                                ESCAPE TST                ; AND ABORT TEST
                                     TRAP    C$ESCAPE
                                     .WORD   L10053-.
7325                                     ;
7326 052356 004737 025546                80$:  JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
7327                                     ; ERROR ?
7328 052362 103006                        BCC    90$               ; NO
7329 052364                                ERRHRD 262.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP    C$ERHRD
                                     .WORD   262
7330 052374                                ESCAPE TST                ; AND ABORT TEST
                                     TRAP    C$ESCAPE
                                     .WORD   L10053-.
7331                                     ;
7332                                     ;WRITE PHYSICAL ADDRESS
7333 052400 012705 013144                90$:  MOV    #WTPHYA,R5   ; DEFAULT WRITE PHYSICAL ADDR FUNC
7334 052404 004737 026742                JSR    PC,LDPCCB         ; LOAD FUNCTION -> PCBB
7335                                     ;LOAD DEFAULT PHYSICAL ADDRESS
7336 052410 012703 014320                MOV    #ADR21,R3         ; POINT TO PHYSICAL ADDRESS
7337 052414 012704 002266                MOV    #PCBB+2,R4       ; POINT TO PCBB + 2
7338 052420 012324                        MOV    (R3)+,(R4)+      ; LOAD ADDRESS
7339 052422 012324                        MOV    (R3)+,(R4)+
7340 052424 012324                        MOV    (R3)+,(R4)+
7341 052426 012777 000002 127572        MOV    #GETCMD,@PCSR0    ; ISSUE GET_CMD PORT COMMAND
7342 052434 004737 024574                JSR    PC,CHKDNI         ; DNI ?
7343 052440 103006                        BCC    100$              ; YES
7344 052442                                ERRHRD 263.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP    C$ERHRD
                                     .WORD   263
7345 052452                                ESCAPE TST                ; AND ABORT TEST
                                     TRAP    C$ESCAPE
                                     .WORD   L10053-.
7346                                     ;
7347 052456 004737 025546                100$: JSR    PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
7348                                     ; ERROR ?
7349 052462 103006                        BCC    110$              ; NO
7350 052464                                ERRHRD 264.,ERR005,MSG003 ; YES, REPORT ERROR
                                     TRAP    C$ERHRD
                                     .WORD   264
7351 052466 104456
7352 052466 000410
    
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	052470	020202					.WORD	ERR006
	052472	017110					.WORD	MSG003
7351	052474			ESCAPE TST				; AND ABORT TEST
	052474	104410					TRAP	C#ESCAPE
	052476	002236					.WORD	L10053 .
7352								
7353								
7354	052500	012705	013554					
7355	052504	004737	027046					
7356	052510	012705	013354					
7357	052514	004737	027010					
7358								
7359								
7360	052520	012705	002266					
7361	052524	004737	026714					
7362	052530	004737	027342					
7363	052534	012777	000004	127464				
7364	052542	004737	024574					
7365	052546	103006						
7366	052550							
	052550	104456						
	052552	000411						
	052554	020633						
	052556	017110						
7367	052560							
	052560	104410						
	052562	002152						
7368								
7369	052564	004737	025546					
7370								
7371	052570	103006						
7372	052572							
	052572	104456						
	052574	000412						
	052576	020202						
	052600	017110						
7373	052602							
	052602	104410						
	052604	002130						
7374								
7375	052606	004737	025404					
7376	052612	103006						
7377	052614							
	052614	104456						
	052616	000413						
	052620	020714						
	052622	017110						
7378	052624							
	052624	104410						
	052626	002106						
7379								
7380	052630	004737	025730					
7381								
7382	052634	103006						
7383	052636							
	052636	104456						
	052640	000414						

	052642	020745						.WORD	ERR014
	052644	017110						.WORD	MSG003
7384	052646			ESCAPE	TST		:	AND ABORT TEST	
	052646	104410						TRAP	C#ESCAPE
	052650	002064						.WORD	L10053
7385									
7386	052652	012705	002604	i150#:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
7387	052656	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
7388	052662	103006			BCC	160#	:	YES	
7389	052664				ERRHRD	269.,ERR018	:	NO, REPORT ERROR	
	052664	104456						TRAP	C#ERRHD
	052666	000415						.WORD	269
	052670	021212						.WORD	ERR018
	052672	000000						.WORD	0
7390	052674			ESCAPE	TST		:	AND ABORT TEST	
	052674	104410						TRAP	C#ESCAPE
	052676	002036						.WORD	L10053
7391									
7392	052700	012705	014524	i160#:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB	
7393	052704	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRBO TABLE	
7394	052710	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB	
7395	052714	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?	
7396	052720	103006			BCC	170#	:	NO	
7397	052722				ERRHRD	270,ERR020,MSG005	:	YES, REPORT ERROR	
	052722	104456						TRAP	C#ERRHD
	052724	000416						.WORD	270
	052726	021372						.WORD	ERR020
	052730	017214						.WORD	MSG005
7398	052732			ESCAPE	TST		:	AND ABORT TEST	
	052732	104410						TRAP	C#ESCAPE
	052734	002000						.WORD	L10053
7399									
7400	052736	004737	025132	i170#:	JSR	PC,CHKRXI	:	RXI ?	
7401	052742	103006			BCC	180#	:	YES	
7402	052744				ERRHRD	271.,ERR015,MSG003	:	NO, REPORT ERROR	
	052744	104456						TRAP	C#ERRHD
	052746	000417						.WORD	271
	052750	021013						.WORD	ERR015
	052752	017110						.WORD	MSG003
7403	052754			ESCAPE	TST		:	AND ABORT TEST	
	052754	104410						TRAP	C#ESCAPE
	052756	001756						.WORD	L10053
7404									
7405	052760	004737	025662	i180#:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
7406									
7407	052764	103006			BCC	190#	:	ERROR ?	
7408	052766				ERRHRD	272.,ERR016,MSG003	:	NO	
	052766	104456							
	052770	000420						TRAP	C#ERRHD
	052772	021044						.WORD	272
	052774	017110						.WORD	ERR016
7409	052776			ESCAPE	TST		:	AND ABORT TEST	
	052776	104410						TRAP	C#ESCAPE
	053000	001734						.WORD	L10053-
7410									
7411	053002	012705	002644	i190#:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP	
7412	053006	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	

7413	053012	103006		BCC	200:		: YES		
7414	053014			ERRHRD	273.	ERR017	: NO, REPORT ERROR		
	053014	104456						TRAP	C#ERRHRD
	053016	000421						.WORD	273
	053020	021112						.WORD	ERR017
	053022	000000						.WORD	0
7415	053024			ESCAPE	TST		: AND ABORT TEST		
	053024	104410						TRAP	C#ESCAPE
	053026	001706						.WORD	L10053 .
7416									
7417	053030	012705	014634		200:	MOV	: POINT TO EXPECTED RDRB		
7418	053034	004737	027222			JSR	: LOAD INTO XRDRBO TABLE		
7419	053040	012705	002644			MOV	: CHECK RDRB		
7420	053044	004737	025032			JSR	: ERRORS ?		
7421	053050	103006				BCC	: NO		
7422	053052					ERRHRD	: YES, REPORT ERROR		
	053052	104456						TRAP	C#ERRHRD
	053054	000422						.WORD	274
	053056	021453						.WORD	ERR021
	053060	017356						.WORD	MSG006
7423	053062			ESCAPE	TST		: AND ABORT TEST		
	053062	104410						TRAP	C#ESCAPE
	053064	001650						.WORD	L10053 .
7424									
7425									
7426	053066	012705	000770		210:	MOV	: COMPARE 56 WORDS OF DATA		
7427	053072	004737	026044			JSR	: DATA COMPARE ERROR ?		
7428	053076	103006				BCC	: NO		
7429	053100					ERRHRD	: YES, REPORT ERROR		
	053100	104456						TRAP	C#ERRHRD
	053102	000423						.WORD	275
	053104	021534						.WORD	ERR022
	053106	017520						.WORD	MSG007
7430	053110			ESCAPE	TST		: AND ABORT TEST		
	053110	104410						TRAP	C#ESCAPE
	053112	001627						.WORD	L10053 .
7431									
7432	053114	012705	014744		220:	MOV	: POINT TO EXPECTED CRC		
7433	053120	004737	027176			JSR	: LOAD INTO XCRC TABLE		
7434	053124	012705	007300			MOV	: CHECK CRC		
7435	053130	004737	026124			JSR	: ERRORS ?		
7436	053134	103006				BCC	: NO		
7437	053136					ERRHRD	: YES, REPORT ERROR		
	053136	104456						TRAP	C#ERRHRD
	053140	000424						.WORD	276
	053142	021603						.WORD	ERR023
	053144	017552						.WORD	MSG008
7438	053146			ESCAPE	TST		: AND ABORT TEST		
	053146	104410						TRAP	C#ESCAPE
	053150	001564						.WORD	L10053 .
7439									
7440	053152	012777	000017	127046	230:	MOV	: ISSUE STOP PORT COMMAND		
7441	053160	004737	024574			JSR	: DNI ?		
7442	053164	103006				BCC	: YES		
7443	053166					ERRHRD	: NO, REPORT ERROR		
	053166	104456						TRAP	C#ERRHRD
	053170	000425						.WORD	277

C2

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053172 021312
053174 017110
7444 053176          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR019
                                ;                               .WORD  MSG003
053176 104410          ;                               TRAP   C#ESCAPE
053200 001534          ;                               .WORD  L10053
7445
7446 053202 004737 025546      ; 240: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7447                                ;                               ; ERROR ?
7448 053206 103006          BCC   250:          ; NO
7449 053210          ERRHRD 278.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP   C#ERRRD
                                ;                               .WORD  278
                                ;                               .WORD  ERR006
                                ;                               .WORD  MSG003
7450 053220          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
053220 104410          ;                               .WORD  L10053
053222 001512
7451
7452          ; DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
7453
7454          ; SET UP RINGS FOR ONE BUFFER LOOPBACK
7455 053224 012705 013554      250: MOV   #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
7456 053230 004737 027046          JSR   PC,LDTDRB          ; LOAD TDRB
7457 053234 012705 013354          MOV   #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
7458 053240 004737 027010          JSR   PC,LDRDRB          ; LOAD RDRB
7459
7460          ; SET UP BUFFERS AND START
7461 053244 012705 014326          MOV   #ADR21C,R5          ; POINT TO COMPLEMENTED ADDRESS
7462 053250 004737 026714          JSR   PC,LDDDEST          ; LOAD DEST
7463 053254 004737 027342          JSR   PC,SETBUF          ; SET UP BUFFERS
7464 053260 012777 000004 126740  MOV   #START,SPCSK0          ; ISSUE START PORT COMMAND
7465 053266 004737 024574          JSR   PC,CHKDNI          ; DNI?
7466 053272 103006          BCC   260:          ; YES
7467 053274          ERRHRD 279.,ERR012,MSG003 ; NO, REPORT ERROR          TRAP   C#ERRRD
                                ;                               .WORD  279
                                ;                               .WORD  ERR012
                                ;                               .WORD  MSG003
053274 104456
053276 000427
053300 020633
053302 017110
7468 053304          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
053304 104410          ;                               .WORD  L10053
053306 001426
7469
7470 053310 004737 025546      ; 260: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7471                                ;                               ; ERROR ?
7472 053314 103006          BCC   270:          ; NO
7473 053316          ERRHRD 280.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP   C#ERRRD
                                ;                               .WORD  280
                                ;                               .WORD  ERR006
                                ;                               .WORD  MSG003
053316 104456
053320 000430
053322 020202
053324 017110
7474 053326          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
053326 104410          ;                               .WORD  L10053
053330 001404
7475
7476 053332 004737 025404      ; 270: JSR   PC,CHKTXI          ; TXI ?
7477 053336 103006          BCC   280:          ; YES
7478 053340          ERRHRD 281.,ERR013,MSG003 ; NO, REPORT ERROR
    
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7506	053504	012777	000017	126514	3204:	MOV	#STOP, @PCSR0	:	ISSUE STOP PORT COMMAND		
7507	053512	004737	024574			JSR	PC,CHKDNI	:	DNI ?		
7508	053516	103006				BC	3304	:	YES		
7509	053520					EK PD	286.,ERR019,MSG003	:	NO, REPORT ERROR		
	053520	104456								TRAP	C#ERRRD
	053522	000436								.WORD	286
	053524	021312								.WORD	ERR019
	053526	017110								.WORD	MSG003
7510	053530					ESCAPE	TST	:	AND ABORT TEST		
	053530	104410								TRAP	C#ESCAPE
	053532	001202								.WORD	L10053
7511											
7512	053534	004737	025546		3304:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI		
7513								:	ERROR ?		
7514	053540	103006				BCC	3404	:	NO		
7515	053542					ERRMRD	287.,ERR006,MSG003	:	YES, REPORT ERROR		
	053542	104456								TRAP	C#ERRRD
	053544	000437								.WORD	287
	053546	020202								.WORD	ERR006
	053550	017110								.WORD	MSG003
7516	053552					ESCAPE	TST	:	AND ABORT TEST		
	053552	104410								TRAP	C#ESCAPE
	053554	001160								.WORD	L10053
7517											
7518											
7519											
7520											
7521	053556	012705	013144		3404:	MOV	#WTPHYA,R5	:	DEFAULT WRITE PHYSICAL ADDR FUNC		
7522	053562	004737	026742			JSR	PC,LDPCBB	:	LOAD FUNCTION -> PCBB		
7523											
7524	053566	012703	014326								
7525	053572	012704	002266								
7526	053576	012324									
7527	053600	012324									
7528	053602	012324									
7529	053604	012777	000002	126414		MOV	#ADR21C,R3	:	POINT TO PHYSICAL ADDRESS		
7530	053612	004737	024574			MOV	#PCBB+2,R4	:	POINT TO PCBB + 2		
7531	053616	103006				MOV	(R3)+,(R4)+	:	LOAD ADDRESS		
7532	053620					MOV	(R3)+,(R4)+	:			
	053620	104456				MOV	#GETCMD,@PCSR0	:	ISSUE GET_CMD PORT COMMAND		
	053622	000440				JSR	PC,CHKDNI	:	DNI ?		
	053624	020502				BCC	3504	:	YES		
	053626	017110				ERRMRD	288.,ERR010,MSG003	:	NO, REPORT ERROR		
	053620	104456								TRAP	C#ERRRD
	053622	000440								.WORD	288
	053624	020502								.WORD	ERR010
	053626	017110								.WORD	MSG003
7533	053630					ESCAPE	TST	:	AND ABORT TEST		
	053630	104410								TRAP	C#ESCAPE
	053632	001102								.WORD	L10053
7534											
7535	053634	004737	025546		3504:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI		
7536								:	ERROR ?		
7537	053640	103006				BCC	3604	:	NO		
7538	053642					ERRMRD	289.,ERR006,MSG003	:	YES, REPORT ERROR		
	053642	104456								TRAP	C#ERRRD
	053644	000441								.WORD	289
	053645	020202								.WORD	ERR006
	053650	017110								.WORD	MSG003
7539	053652					ESCAPE	TST	:	AND ABORT TEST		
	053652	104410								TRAP	C#ESCAPE





	054026	000706				.WORD	L10053 .
7573							
7574	054030	012705	002604	400:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP
7575	054034	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
7576	054040	103006			BCC	410:	; YES
7577	054042				ERRHRC	294.,ERR018	; NO, REPORT ERROR
	054042	104456					TRAP C#ERRHRC
	054044	000446					.WORD 294
	054046	021212					.WORD ERR018
	054050	000000					.WORD 0
7578	054052				ESCAPE	TST	; AND ABORT TEST
	054052	104410					TRAP C#ESCAPE
	054054	000660					.WORD L10053 .
7579							
7580	054056	012705	014524	410:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB
7581	054062	004737	027252		JSR	PC,LDXTRP	; LOAD INTO XTDRB0 TABLE
7582	054066	012705	002604		MOV	#TDRB,R5	; CHECK TDRB
7583	054072	004737	025316		JSR	PC,CHKTRP	; ERRORS ?
7584	054076	103006			BCC	420:	; NO
7585	054100				ERRHRD	295.,ERR020,MSG005	; YES, REPORT ERROR
	054100	104456					TRAP C#ERRHRD
	054102	000447					.WORD 295
	054104	021372					.WORD ERR020
	054106	017214					.WORD MSG005
7586	054110				ESCAPE	TST	; AND ABORT TEST
	054110	104410					TRAP C#ESCAPE
	054112	000622					.WORD L10053 .
7587							
7588	054114	004737	025132	420:	JSR	PC,CHKRXI	; RXI ?
7589	054120	103006			BCC	430:	; YES
7590	054122				ERRHRD	296.,ERR015,MSG003	; NO, REPORT ERROR
	054122	104456					TRAP C#ERRHRD
	054124	000450					.WORD 296
	054126	021013					.WORD ERR015
	054130	017110					.WORD MSG003
7591	054132				ESCAPE	TST	; AND ABORT TEST
	054132	104410					TRAP C#ESCAPE
	054134	000600					.WORD L10053 .
7592							
7593	054136	004737	025662	430:	JSR	PC,CLRXXI	; WRITE ONE TO CLEAR RXI
7594							; ERROR ?
7595	054142	103006			BCC	440:	; NO
7596	054144				ERRHRD	297.,ERR016,MSG003	; YES, REPORT ERROR
	054144	104456					TRAP C#ERRHRD
	054146	000451					.WORD 297
	054150	021044					.WORD ERR016
	054152	017110					.WORD MSG003
7597	054154				ESCAPE	TST	; AND ABORT TEST
	054154	104410					TRAP C#ESCAPE
	054156	000556					.WORD L10053 .
7598							
7599	054160	012705	002644	440:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP
7600	054164	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
7601	054170	103006			BCC	450:	; YES
7602	054172				ERRHRD	298.,ERR017	; NO, REPORT ERROR
	054172	104456					TRAP C#ERRHRD
	054174	000452					.WORD 298

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054176 021112 .WORD ERRO17
054200 000000 .WORD 0
7603 054202 ESCAPE TST ; AND ABORT TEST
054202 104410 TRAP C#ESCAPE
054204 000530 .WORD L10053 .

7604
7605 054206 012705 014634 ;
450: MOV #RDR14A,R5 ; POINT TO EXPECTED RDRB
7606 054212 004737 027222 JSR PC,LDXRDR ; LOAD INTO XRDRBO TABLE
7607 054216 012705 002644 MOV #RDRB,R5 ; CHECK RDRB
7608 054222 004737 025032 JSR PC,CHKRDR ; ERRORS ?
7609 054226 103006 BCC 460$ ; NO
7610 054230 ERRHRD 299.,ERRO21,MSG006 ; YES, REPORT ERROR
054230 104456 TRAP C#ERHRD
054232 000453 .WORD 299
054234 021453 .WORD ERRO21
054236 017356 .WORD MSG006
7611 054240 ESCAPE TST ; AND ABORT TEST
054240 104410 TRAP C#ESCAPE
054242 000472 .WORD L10053 .

7612
7613 ;
;COMPARE RBUF WITH TBUF
7614 054244 012705 000070 460: MOV #56.,R5 ; COMPARE 56 WORDS OF DATA
7615 054250 004737 026044 JSR PC,CMPDAT ; DATA COMPARE ERROR ?
7616 054254 103006 BCC 470$ ; NO
7617 054256 ERRHRD 300.,ERRO22,MSG007 ; YES, REPORT ERROR
054256 104456 TRAP C#ERHRD
054260 000454 .WORD 300
054262 021534 .WORD ERRO22
054264 017520 .WORD MSG007
7618 054266 ESCAPE TST ; AND ABORT TEST
054266 104410 TRAP C#ESCAPE
054270 000444 .WORD L10053 .

7619
7620 054272 012705 014750 ;
470: MOV #CRC21B,R5 ; POINT TO EXPECTED CRCB
7621 054276 004737 027176 JSR PC,LDXCRC ; LOAD INTO XCRC TABLE
7622 054302 012705 007300 MOV #RBUF+124.,R5 ; CHECK CRC
7623 054306 004737 026124 JSR PC,CMPCRC ; ERRORS ?
7624 054312 103006 BCC 480$ ; NO
7625 054314 ERRHRD 301.,ERRO23,MSG008 ; YES, REPORT ERROR
054314 104456 TRAP C#ERHRD
054316 000455 .WORD 301
054320 021603 .WORD ERRO23
054322 017552 .WORD MSG008
7626 054324 ESCAPE TST ; AND ABORT TEST
054324 104410 TRAP C#ESCAPE
054326 000406 .WORD L10053-.

7627
7628 054330 012777 000017 125670 ;
480: MOV #STOP,$PCSR0 ; ISSUE STOP PORT COMMAND
7629 054336 004737 024574 JSR PC,CHKDNI ; DNI ?
7630 054342 103006 BCC 490$ ; YES
7631 054344 ERRHRD 302.,ERRO19,MSG003 ; NO, REPORT ERROR
054344 104456 TRAP C#ERHRD
054346 000456 .WORD 302
054350 021312 .WORD ERRO19
054352 017110 .WORD MSG003
7632 054354 ESCAPE TST ; AND ABORT TEST
054354 104410 TRAP C#ESCAPE

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054356 000356 .WORD L10053 .
7633
7634 054360 004737 025546 ;490: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7635 ; ERROR ?
7636 054364 103006 BCC 500# ; NO
7637 054366 ERRHRD 303.,ERR006,MSG003 ; YES, REPORT ERROR
054366 104456 TRAP C#ERHRD
054370 000457 .WORD 303
054372 020202 .WORD ERR006
054374 017110 .WORD MSG003
7638 054376 ESCAPE TST ; AND ABORT TEST
054376 104410 TRAP C#ESCAPE
054400 000334 .WORD L10053 .
7639
7640 ;DESTINATION ADDRESS NOT * PHYSICAL ADDRESS
7641
7642 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7643 054402 012705 013554 500#: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
7644 054406 004737 027046 JSR PC,LDTDRB ; LOAD TDRB
7645 054412 012705 013354 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
7646 054416 004737 027010 JSR PC,LDRDRB ; LOAD RDRB
7647
7648 ;SET UP BUFFERS AND START
7649 054422 012705 014320 MOV #ADR21,R5 ; COMPLIMENT DESTINATION ADDRESS
7650 054426 004737 026714 JSR PC,LDDDEST ; LOAD DEST
7651 054432 004737 027342 JSR PC,SETBUF ; SET UP BUFFERS
7652 054436 012777 000004 125562 MOV #START,BPCSR0 ; ISSUE START PORT COMMAND
7653 054444 004737 024574 JSR PC,CHKDNI ; DNI?
7654 054450 103006 BCC 510# ; YES
7655 054452 ERRHRD 304.,ERR012,MSG003 ; NO, REPORT ERROR
054452 104456 TRAP C#ERHRD
054454 000460 .WORD 304
054456 020633 .WORD ERR012
054460 017110 .WORD MSG003
7656 054462 ESCAPE TST ; AND ABORT TEST
054462 104410 TRAP C#ESCAPE
054464 000250 .WORD L10053 .
7657
7658 054466 004737 025546 ;510: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7659 ; ERROR ?
7660 054472 103006 BCC 520# ; NO
7661 054474 ERRHRD 305.,ERR006,MSG003 ; YES, REPORT ERROR
054474 104456 TRAP C#ERHRD
054476 000461 .WORD 305
054500 020202 .WORD ERR006
054502 017110 .WORD MSG003
7662 054504 ESCAPE TST ; AND ABORT TEST
054504 104410 TRAP C#ESCAPE
054506 000226 .WORD L10053 .
7663
7664 054510 004737 025404 ;520: JSR PC,CHKTXI ; TXI ?
7665 054514 103006 BCC 530# ; YES
7666 054516 ERRHRD 306.,ERR013,MSG003 ; NO, REPORT ERROR
054516 104456 TRAP C#ERHRD
054520 000462 .WORD 306
054522 020714 .WORD ERR013
054524 017110 .WORD MSG003

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7667	054526				ESCAPE TST		; AND ABORT TEST		
	054526	104410						TRAP	C#ESCAPE
	054530	000204						.WORD	L10053 .
7668									
7669	054532	004737	025730	530#:	JSR PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
7670							; ERROR ?		
7671	054536	103006			BCC 540#		; NO		
7672	054540				ERRHRD 307.,ERR014,MSG003		; YES, REPORT ERROR		
	054540	104456						TRAP	C#ERHRD
	054542	000463						.WORD	307
	054544	020745						.WORD	ERR014
	054546	017110						.WORD	MSG003
7673	054550				ESCAPE TST		; AND ABORT TEST		
	054550	104410						TRAP	C#ESCAPE
	054552	000162						.WORD	L10053 .
7674									
7675	054554	012705	002604	540#:	MOV #TDRB,R5		; CHECK TDRB OWNERSHIP		
7676	054560	004737	024676		JSR PC,CHKOWN		; OWN = PORT DRIVER ?		
7677	054564	103006			BCC 550#		; YES		
7678	054566				ERRHRD 308.,ERR018		; NO, REPORT ERROR		
	054566	104456						TRAP	C#ERHRD
	054570	000464						.WORD	308
	054572	021212						.WORD	ERR018
	054574	000000						.WORD	0
7679	054576				ESCAPE TST		; AND ABORT TEST		
	054576	104410						TRAP	C#ESCAPE
	054600	000134						.WORD	L10053-.
7680									
7681	054602	012705	014614	550#:	MOV #TDR21X,R5		; POINT TO EXPECTED TDRB		
7682	054606	004737	027252		JSR PC,LDXTOR		; LOAD INTO XTDRB0 TABLE		
7683	054612	012705	002604		MOV #TDRB,R5		; CHECK TDRB		
7684	054616	004737	025316		JSR PC,CHKTDR		; ERRORS ?		
7685	054622	103006			BCC 560#		; NO		
7686	054624				ERRHRD 309.,ERR020,MSG005		; YES, REPORT ERROR		
	054624	104456						TRAP	C#ERHRD
	054626	000465						.WORD	309
	054630	021372						.WORD	ERR020
	054632	017214						.WORD	MSG005
7687	054634				ESCAPE TST		; AND ABORT TEST		
	054634	104410						TRAP	C#ESCAPE
	054636	000076						.WORD	L10053 .
7688									
7689	054640	004737	027302	560#:	JSR PC,NORXI		; RXI ?		
7690	054644	103006			BCC 570#		; NO		
7691	054646				ERRHRD 310.,ERR039		; YES, REPORT ERROR		
	054646	104456						TRAP	C#ERHRD
	054650	000466						.WORD	310
	054652	023344						.WORD	ERR039
	054654	000000						.WORD	0
7692	054656				ESCAPE TST		; AND ABORT TEST		
	054656	104410						TRAP	C#ESCAPE
	054660	000054						.WORD	L10053 .
7693									
7694	054662	012777	000217 125336	570#:	MOV #STOP,@PCSR0		; ISSUE STOP PORT COMMAND		
7695	054670	004737	024574		JSR PC,CHKDNI		; DNI ?		
7696	054674	103006			BCC 580#		; YES		
7697	054676				ERRHRD 311.,ERR019,MSG003		; NO, REPORT ERROR		



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.SBTTL TEST 22: MULTICAST ADDRESS TEST

\*\*\*\*\*

THIS TEST VERIFIES THAT MULTICAST ADDRESSING IS OPERATIONAL. A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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 VALUES
16. REPEAT STEPS 5 - 14

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7744 054736  
 054736  
 1.45 054736 004737 027446  
 7746 054742 103025  
 7747 054744 012777 000040 125254  
 7748 054752 004737 024574  
 7749 054756 103006  
 7750 054760  
 054760 104456  
 054762 000471  
 054764 020102  
 054766 017110  
 7751 054770  
 054770 104410  
 054772 003016  
 7752  
 7753 054774 004737 025546  
 7754  
 7755 055000 103006  
 7756 055002  
 055002 104456

BGNTST

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                T22:
JSR    PC,TINIT      ; IS A DEVICE RESET NEEDED?
BCC    30$           ; NO
MOV    @RSET,@PCSR0  ; YES, RESET DEUNA
JSR    PC,CHKDNI     ; DNI ?
BCC    20$           ; YES
ERRHRD 313.,ERR004,MSG003 ; NO, REPCRT ERROR
                TRAP    C$ERHRD
                .WCRD   313
                .WORD   ERR004
                .WORD   MSG003
ESCAPE TST          ; AND ABORT TEST
                TRAP    C$ESCAPE
                .WORD   L10054-.
;
20$: JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
                ; ERROR ?
                ; NO
ERRHRD 314.,ERR006,MSG003 ; YES, REPORT ERROR
    
```

TRAP C\$ERHRD  
 .WCRD 313  
 .WORD ERR004  
 .WORD MSG003  
 TRAP C\$ESCAPE  
 .WORD L10054-.  
 TRAP C\$ERHRD

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055004 000472 .WORD 314
055006 020202 .WORD LRR006
055010 017110 .WORD MSG003
7757 055012 ESCAPE TST ; AND ABORT TEST
055012 104410 TRAP C#ESCAPE
055014 002774 .WORD L10054
7758
7759 055016 004737 026772 ; 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
7760 055022 012777 000001 125176 MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7761 055030 004737 024574 JSR PC,CHKDNI ; DNI?
7762 055034 103006 BCC 40$ ; YES
7763 055036 ERRHRD 315.,ERR009,MSG003 ; NO, REPORT ERROR
055036 104456 TRAP C#ERHRD
055040 000473 .WORD 315
055042 020416 .WORD ERR009
055044 017110 .WORD MSG003
7764 055046 ESCAPE TST ; AND ABORT TEST
055046 104410 TRAP C#ESCAPE
055050 002740 .WORD L10054
7765
7766 055052 004737 025546 ; 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7767 BCC 50$ ; ERROR ?
7768 055056 103006 BCC 50$ ; NO
7769 055060 ERRHRD 316.,ERR006,MSG003 ; YES, REPORT ERROR
055060 104456 TRAP C#ERHRD
055062 000474 .WORD 316
055064 020202 .WORD ERR006
055066 017110 .WORD MSG003
7770 055070 ESCAPE TST ; AND ABORT TEST
055070 104410 TRAP C#ESCAPE
055072 002716 .WORD L10054-
7771
7772 ; WRITE MODE REGISTER = INTERNAL LOOPBACK
7773 055074 012705 013244 ; 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
7774 055100 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7775 055104 013737 015116 002266 MOV MODE21,PCBB+2 ; MODE = INTL LOOPBACK ONLY
7776 055112 012777 000002 125176 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7777 055120 004737 024574 JSR PC,CHKDNI ; DNI ?
7778 055124 103006 BCC 60$ ; YES
7779 055126 ERRHRD 317.,ERR010,MSG003 ; NO, REPORT ERROR
055126 104456 TRAP C#ERHRD
055130 000475 .WORD 317
055132 020502 .WORD EPR010
055134 017110 .WORD MSG003
7780 055136 ESCAPE TST ; AND ABORT TEST
055136 104410 TRAP C#ESCAPE
055140 002650 .WORD L10054
7781
7782 055142 004737 025546 ; 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7783 BCC 70$ ; ERROR ?
7784 055146 103006 BCC 70$ ; NO
7785 055150 ERRHRD 318.,ERR006,MSG003 ; YES, REPORT ERROR
055150 104456 TRAP C#ERHRD
055152 000476 .WORD 318
055154 020202 .WORD ERR006
055156 017110 .WORD MSG003
7786 055160 ESCAPE TST ; AND ABORT TEST

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055160	104410					TRAP	C\$ESCAPE
055162	002626					.WORD	L10054
7787							
7788							
7789	055164	012705	013204				
7790	055170	004737	026742				
7791	055174	012705	013324				
7792	055200	012700	000006				
7793	055204	004737	027142				
7794	055210	012777	000002	125010			
7795	055216	004737	024574				
7796	055222	103006					
7797	055224						
	055224	104456				TRAP	C\$ERHRD
	055226	000477				.WORD	319
	055230	020502				.WORD	ERR010
	055232	017110				.WORD	MSG003
7798	055234				ESCAPE TST		; AND ABORT TEST
	055234	104410				TRAP	C\$ESCAPE
	055236	002552				.WORD	L10054
7799							
7800	055240	004737	025546				
7801							
7802	055244	103006					
7803	055246						
	055246	104456				TRAP	C\$ERHRD
	055250	000500				.WORD	320
	055252	020202				.WORD	ERR006
	055254	017110				.WORD	MSG003
7804	055256				ESCAPE TST		; AND ABORT TEST
	055256	104410				TRAP	C\$ESCAPE
	055260	002530				.WORD	L10054
7805							
7806							
7807	055262	012705	013144				
7808	055266	004737	026742				
7809	055272	012777	000002	124726			
7810	055300	004737	024574				
7811	055304	103006					
7812	055306						
	055306	104456				TRAP	C\$ERHRD
	055310	000501				.WORD	321
	055312	020502				.WORD	ERR010
	055314	017110				.WORD	MSG003
7813	055316				ESCAPE TST		; AND ABORT TEST
	055316	104410				TRAP	C\$ESCAPE
	055320	002470				.WORD	L10054
7814							
7815	055322	004737	025546				
7816							
7817	055326	103006					
7818	055330						
	055330	104456				TRAP	C\$ERHRD
	055332	000502				.WORD	322
	055334	020202				.WORD	ERR006
	055336	017110				.WORD	MSG003
7819	055340				ESCAPE TST		; AND ABORT TEST

```

;WRITE RING FORMAT
70$: MOV @WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
      JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
      MOV @RFRMT,R5 ; DEFAULT RING FORMAT
      MOV @6,RO ; FORMAT = SIX WORDS
      JSR PC,LDDDBB ; LOAD RING FORMAT -> DDBB
      MOV @GETCMD,@PCSR0 ; ISSUE GET CMD PORT COMMAND
      JSR PC,CHKDNI ; DNI ?
      BCC 80$ ; YES
      ERRHRD 319.,ERR010,MSG003 ; NO, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 319
.WORD ERR010
.WORD MSG003

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```
; AND ABORT TEST
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TRAP C$ESCAPE
.WORD L10054

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;
80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
      ; ERROR ?
      BCC 90$ ; NO
      ERRHRD 320.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 320
.WORD ERR006
.WORD MSG003

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```
; AND ABORT TEST
```

```

TRAP C$ESCAPE
.WORD L10054

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```

;WRITE PHYSICAL ADDRESS
90$: MOV @WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
      JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
      MOV @GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      JSR PC,CHKDNI ; DNI ?
      BCC 100$ ; YES
      ERRHRD 321.,ERR010,MSG003 ; NO, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 321
.WORD ERR010
.WORD MSG003

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```
; AND ABORT TEST
```

```

TRAP C$ESCAPE
.WORD L10054

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```

;
100$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
       ; ERROR ?
       BCC 102$ ; NO
       ERRHRD 322.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 322
.WORD ERR006
.WORD MSG003

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```
; AND ABORT TEST
```



7859	055534			ESCAPE	TST			; AND ABORT TEST		
	055534	104410							TRAP	C#ESCAPE
	055536	002252							.WORD	L10054-.
7860										
7861	055540	004737	025546	120#:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
7862								; ERROR ?		
7863	055544	103006			BCC	130#		; NO		
7864	055546				ERRHRD	326.,ERR006,MSG003		; YES, REPORT ERROR		
	055547	104456							TRAP	C#ERRHRD
	055550	000506							.WORD	326
	055552	020202							.WORD	ERR006
	055554	017110							.WORD	MSG003
7865	055556				ESCAPE	TST		; AND ABORT TEST		
	055556	104410							TRAP	C#ESCAPE
	055560	002230							.WORD	L10054-.
7866										
7867	055562	004737	025404	130#:	JSR	PC,CHKTXI		; TXI ?		
7868	055566	103006			BCC	140#		; YES		
7869	055570				ERRHRD	327.,ERR013,MSG003		; NO, REPORT ERROR		
	055570	104456							TRAP	C#ERRHRD
	055572	000507							.WORD	327
	055574	020714							.WORD	ERR013
	055576	017110							.WORD	MSG003
7870	055600				FESCAPE	TST		; AND ABORT TEST		
	055600	104410							TRAP	C#ESCAPE
	055602	002206							.WORD	L10054-.
7871										
7872	055604	004737	025730	140#:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
7873								; ERROR ?		
7874	055610	103006			BCC	150#		; NO		
7875	055612				ERRHRD	328.,ERR014,MSG003		; YES, REPORT ERROR		
	055612	104456							TRAP	C#ERRHRD
	055614	000510							.WORD	328
	055616	020745							.WORD	ERR014
	055620	017110							.WORD	MSG003
7876	055622				ESCAPE	TST		; AND ABORT TEST		
	055622	104410							TRAP	C#ESCAPE
	055624	002164							.WORD	L10054-.
7877										
7878	055626	012705	002604	150#:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
7879	055632	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
7880	055636	103006			BCC	160#		; YES		
7881	055640				ERRHRD	329.,ERR018		; NO, REPORT ERROR		
	055640	104456							TRAP	C#ERRHRD
	055642	000511							.WORD	329
	055644	021212							.WORD	ERR018
	055646	000000							.WORD	0
7882	055650				ESCAPE	TST		; AND ABORT TEST		
	055650	104410							TRAP	C#ESCAPE
	055652	002136							.WORD	L10054-.
7883										
7884	055654	012705	014524	160#:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
7885	055660	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
7886	055664	012705	002604		MOV	#TDRB,R5		; CHECK TDRB		
7887	055670	004737	025316		JSR	PC,CHKTDR		; ERRORS ?		
7888	055674	103006			BCC	170#		; NO		
7889	055676				ERRHRD	330.,ERR020,MSG005		; YES, REPORT ERROR		



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7917                                     ;COMPARE RBUF WITH TBUF
7918 056042 012705 000070                210:  MOV    #56.,R5                ; COMPARE 56 WORDS OF DATA
7919 056046 004757 026044                JSR    PC,CMPDAT                ; DATA COMPARE ERROR ?
7920 056052 103006                        BCC    220:                      ; NO
7921 056054                                ERRHRD 335.,ERR022,MSG007        ; YES, REPORT ERROR
                                TRAP  C#ERRHRD
                                .WORD 335
                                .WORD ERR022
                                .WORD MSG007
                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7922 056064                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7923                                     ;
7924 056070 010305                        ; 220:  MOV    R3,R5                ; POINT TO EXPECTED CRC TABLE
7925 056072 004737 027176                JSR    PC,LDXCRC                ; LOAD INTO XCRC TABLE
7926 056076 012705 007300                MOV    #RBUF+124.,R5           ; CHECK CRC
7927 056102 004737 026124                JSR    PC,CMPCRC                ; ERRORS ?
7928 056106 103006                        BCC    230:                      ; NO
7929 056110                                ERRHRD 336.,ERR023,MSG006        ; YES, REPORT ERROR
                                TRAP  C#ERRHRD
                                .WORD 336
                                .WORD ERR023
                                .WORD MSG006
                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7930 056120                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7931                                     ;
7932 056124 012777 000017 124074        ; 230:  MOV    #STOP,#PCSR0        ; ISSUE STOP PORT COMMAND
7933 056132 004737 024574                JSR    PC,CHKDNI                ; DNI ?
7934 056136 103006                        BCC    240:                      ; YES
7935 056140                                ERRHRD 337.,ERR019,MSG003        ; NO, REPORT ERROR
                                TRAP  C#ERRHRD
                                .WORD 337
                                .WORD ERR019
                                .WORD MSG003
                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7936 056150                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7937                                     ;
7938 056154 004737 025546                ; 240:  JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
7939                                     ; ERROR ?
7940 056160 103006                        BCC    245:                      ; NO
7941 056162                                ERRHRD 338.,ERR006,MSG003        ; YES, REPORT ERROR
                                TRAP  C#ERRHRD
                                .WORD 338
                                .WORD ERR006
                                .WORD MSG003
                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7942 056172                                ESCAPE TST                ; AND ABORT TEST
                                TRAP  C#ESCAPE
                                .WORD L10054-.
7943                                     ;
7944 056176 062702 000006                ; 245:  ADD    #6,R2                ; UPDATE R2
7945 056202 062703 000004                ADD    #4,R3                    ; UPDATE R3
7946 056206 005301                        DEC    R1                        ; DONE TEN LOOPBACKS
7947 056210 001402                        BEQ    246:                      ; YES
7948 056212 000137 055456                JMP    110:                      ; NO
7949                                     ;

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7950
7951      ; DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
7952
7953 056216 012701 000012      ;
7954 056222 012702 014430      ; DO LOOP = TEN
7955      ;
7956      ; SET UP RINGS FOR ONE BUFFER LOOPBACK
7957 056226 012705 013554      ;
7958 056232 004737 027046      ; 250$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
7959 056236 012705 013354      ; JSR PC,LDTDRB ; LOAD TDRB
7960 056242 004737 027010      ; MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
7961      ; JSR PC,LDRDRB ; LOAD RDRB
7962
7963      ; SET UP BUFFERS AND START
7964 056246 010205      ; MOV R2,R5 ; POINT TO COMPLEMENTED ADDRESS
7965 056250 004737 026714      ; JSR PC,LDDDEST ; LOAD DEST
7966 056254 004737 027342      ; JSR PC,SETBUF ; SET UP BUFFERS
7967 056260 012777 000004 123740 ; MOV #START,BPCSR0 ; ISSUE START PORT COMMAND
7968 056266 004737 024574      ; JSR PC,CHKDNI ; DNI?
7969 056272 103006      ; BCC 260$ ; YES
7970      ; ERRHRD 339.,ERR012,MSG003 ; NO, REPORT ERROR
7971      ;
7972      ; TRAP C#ERRHD
7973      ; .WORD 339
7974      ; .WORD ERR012
7975      ; .WORD MSG003
7976      ;
7977      ; ESCAPE TST ; AND ABORT TEST
7978      ; TRAP C#ESCAPE
7979      ; .WORD L10054-
7980      ;
7981      ; 260$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7982      ; BCC 270$ ; ERROR ?
7983      ; ERRHRD 340.,ERR006,MSG003 ; NO
7984      ; YES, REPORT ERROR
7985      ; TRAP C#ERRHD
7986      ; .WORD 340
7987      ; .WORD ERR006
7988      ; .WORD MSG003
7989      ;
7990      ; ESCAPE TST ; AND ABORT TEST
7991      ; TRAP C#ESCAPE
7992      ; .WORD L10054-
7993      ;
7994      ; 270$: JSR PC,CHKTXI ; TXI ?
7995      ; BCC 280$ ; YES
7996      ; ERRHRD 341.,ERR013,MSG003 ; NO, REPORT ERROR
7997      ; TRAP C#ERRHD
7998      ; .WORD 341
7999      ; .WORD ERR013
8000      ; .WORD MSG003
8001      ;
8002      ; ESCAPE TST ; AND ABORT TEST
8003      ; TRAP C#ESCAPE
8004      ; .WORD L10054-
8005      ;
8006      ; 280$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
8007      ; BCC 290$ ; ERROR ?
8008      ; ERRHRD 342.,ERR014,MSG003 ; NO
8009      ; YES, REPORT ERROR
8010      ; TRAP C#ERRHD
8011      ; .WORD 342
  
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1-7

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8016 056540 103006          BCC      335#          ; NO
8017 056542          ERRHRD  347.,ERR006,MSG003 ; YES, REPORT ERROR
      056542 104456          TRAP      C#ERHRD
      056544 060533          .WORD    347
      056546 020202          .WORD    ERR006
      056550 017110          .WORD    MSG003
8018 056552          ESCAPE  TST          ; AND ABORT TEST
      056552 104410          TRAP      C#ESCAPE
      056554 001234          .WORD    L10054
8019
8020 056556 062702 000006   ;335#:  ADD      #6,R2          ; UPDATE R2
8021 056562 005301          DEC      R1           ; DONE 10 LOOPBACKS
8022 056564 001220          BNE     250#         ; NO
8023
8024          ;REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
8025
8026          ;WRITE MULTICAST ADDRESS LIST
8027 056566 012705 013164   340#:  MOV      #HTMULA,R5      ; DEFAULT WRITE MULTICAST ADDR FUNC
8028 056572 004737 026742   JSR     PC,LDPCCB      ; LOAD FUNCTION -> PCBB
8029 056576 012705 014430   MOV     #MULTLC,R5     ; LOAD LIST INTO UDBB
8030 056602 012700 000036   MOV     #30.,R0        ; LOAD 30 ENTRIES
8031 056606 004737 027142   JSR     PC,LDUDBB      ; MULTICAST LIST -> UDBB
8032 056612 012777 000002   MOV     #GETCMD,#PCSR0 ; ISSUE GET_CMD PORT COMMAND
8033 056620 004737 024574   JSR     PC,CHKDNI      ; DNI ?
8034 056624 103006          BCC     350#         ; YES
8035 056626          ERRHRD  348.,ERR010,MSG003 ; NO, REPORT ERROR
      056626 104456          TRAP      C#ERHRD
      056630 000534          .WORD    348
      056632 020502          .WORD    ERR010
      056634 017110          .WORD    MSG003
8036 056636          ESCAPE  TST          ; AND ABORT TEST
      056636 104410          TRAP      C#ESCAPE
      056640 001150          .WORD    L10054
8037
8038 056642 004737 025546   ;350#:  JSR     PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8039
8040 056646 103006          BCC     355#         ; NO
8041 056650          ERRHRD  349.,ERR006,MSG003 ; YES, REPORT ERROR
      056650 104456          TRAP      C#ERHRD
      056652 000535          .WORD    349
      056654 020202          .WORD    ERR006
      056656 017110          .WORD    MSG003
8042 056660          ESCAPE  TST          ; AND ABORT TEST
      056660 104410          TRAP      C#ESCAPE
      056662 001126          .WORD    L10054
8043
8044          ;DO TEN LOOPS WITH DEST ADDR = NEW COMPLEMENTED MULTICAST ADDRESS
8045
8046 056664 012701 000012   ;355#:  MOV     #10.,R1        ; DO LOOP = TEN
8047 056670 012702 014430   MOV     #MULTLC,R2     ; R2 = COMPLEMENTED ADDRESS LIST
8048 056674 012703 015024   MOV     #CRC228,R3     ; R3 POINTS TO EXPECTED CRC TABLE
8049
8050          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8051 056700 012705 013554   360#:  MOV     #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
8052 056704 004737 027046   JSR     PC,LDTDRB      ; LOAD TDRB
8053 056710 012705 013354   MOV     #RDRB1A,R5     ; DEFAULT ONE BUFFER RECEIVE PING
8054 056714 004737 027010   JSR     PC,LDRDRB      ; LOAD RDRB

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8055									
8056									
8057	056720	010205							
8058	056722	004737	G26714						
8059	056726	004737	027342						
8060	056732	012777	000004	123266					
8061	056740	004737	024574						
8062	056744	103006							
8063	056746								
	056746	104456							
	056750	000536							
	056752	020633							
	056754	017110							
8064	056756								
	056756	104410							
	056760	001030							
8065									
8066	056762	004737	025546						
8067									
8068	056766	103006							
8069	056770								
	056770	104456							
	056772	000537							
	056774	020202							
	056776	017110							
8070	057000								
	057000	104410							
	057002	001006							
8071									
8072	057004	004737	025404						
8073	057010	103006							
8074	057012								
	057012	104456							
	057014	000540							
	057016	020714							
	057020	017110							
8075	057022								
	057022	104410							
	057024	000764							
8076									
8077	057026	004737	025730						
8078									
8079	057032	103006							
8080	057034								
	057034	104456							
	057036	000541							
	057040	020745							
	057042	017110							
8081	057044								
	057044	104410							
	057046	000742							
8082									
8083	057050	012705	002604						
8084	057054	004737	G24676						
8085	057060	103006							
8086	057062								
	057062	104456							

	057064	000542					.WORD	354
	057066	021212					.WORD	ERR018
	057070	000000					.WORD	0
8087	057072			ESCAPE	TST			; AND ABORT TEST
	057072	104410					TRAP	C#ESCAPE
	057074	000714					.WORD	L10054
8088								
8089	057076	012705	014524	410:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
8090	057102	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
8091	057106	012705	002604		MOV	#TDRB,R5		; CHECK TDRB
8092	057112	004737	025316		JSR	PC,CHKTDR		; ERPGNS ?
8093	057116	103006			BCC	420:		; NO
8094	057120				ERRHRD	355.,ERR020,MSG005		; YES, REPORT ERROR
	057120	104456					TRAP	C#ERHRD
	057122	000543					.WORD	355
	057124	021372					.WORD	ERR020
	057126	017214					.WORD	MSG005
8095	057130			ESCAPE	TST			; AND ABORT TEST
	057130	104410					TRAP	C#ESCAPE
	057132	000656					.WORD	L10054
8096								
8097	057134	004737	025132	420:	JSR	PC,CHKRXI		; RXI ?
8098	057140	103006			BCC	430:		; YES
8099	057142				ERRHRD	356.,ERR015,MSG003		; NO, REPORT ERROR
	057142	104456					TRAP	C#ERHRD
	057144	000544					.WORD	356
	057146	021013					.WORD	ERR015
	057150	017110					.WORD	MSG003
8100	057152			ESCAPE	TST			; AND ABORT TEST
	057152	104410					TRAP	C#ESCAPE
	057154	000634					.WORD	L10054
8101								
8102	057156	004737	025662	430:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
8103								; ERROR ?
8104	057162	103006			BCC	440:		; NO
8105	057164				ERRHRD	357.,ERR016,MSG003		; YES, REPORT ERROR
	057164	104456					TRAP	C#ERHRD
	057166	000545					.WORD	357
	057170	021044					.WORD	ERR016
	057172	017110					.WORD	MSG003
8106	057174			ESCAPE	TST			; AND ABORT TEST
	057174	104410					TRAP	C#ESCAPE
	057176	000612					.WORD	L10054
8107								
8108	057200	012705	002644	440:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
8109	057204	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8110	057210	103006			BCC	450:		; YES
8111	057212				ERRHRD	358.,ERR017		; NO, REPORT ERROR
	057212	104456					TRAP	C#ERHRD
	057214	000546					.WORD	358
	057216	021112					.WORD	ERR017
	057220	000000					.WORD	0
8112	057222			ESCAPE	TST			; AND ABORT TEST
	057222	104410					TRAP	C#ESCAPE
	057224	000564					.WORD	L10054
8113								
8114	057226	012705	014634	450:	MOV	#RDR14A,R5		; POINT TO EXPECTED RDRB

8115	057232	004737	027222		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
8116	057236	012705	002644		MOV	#RDRB,R5		; CHECK RDRB		
8117	057242	004737	025032		JSR	PC,CHKRDR		; ERRORS ?		
8118	057246	103006			BCC	460#		; NO		
8119	057250				ERRHRD	359.,ERR021,MSG006		; YES, REPORT ERROR		
	057250	104456							TRAP	C#EPHRD
	057252	000547							.WORD	359
	057254	021453							.WORD	ERR021
	057256	017356							.WORD	MSG006
8120	057260				ESCAPE	TST		; AND ABORT TEST		
	057260	104410							TRAP	C#ESCAPE
	057262	000526							.WORD	L10054
8121										
8122										
8123	057264	012705	000070							
8124	057270	004737	026044		460#:	MOV	#56.,R5	; COMPARE 56 WORDS OF DATA		
8125	057274	103006				JSR	PC,CMPDAT	; DATA COMPARE ERROR ?		
8126	057276					BCC	470#	; NO		
	057276	104456				ERRHRD	360.,ERR022,MSG007	; YES, REPORT ERROR		
	057300	000550							TRAP	C#ERHRD
	057302	021534							.WORD	360
	057304	017520							.WORD	ERR022
8127	057306				ESCAPE	TST		; AND ABORT TEST		
	057306	104410							TRAP	C#ESCAPE
	057310	000500							.WORD	L10054-
8128										
8129	057312	010305								
8130	057314	004737	027176		470#:	MOV	R3,R5	; POINT TO EXPECTED CRC TABLE		
8131	057320	012705	007300			JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
8132	057324	004737	026124			MOV	#RBUF+124.,R5	; CHECK CRC		
8133	057330	103006				JSR	PC,CMPCRC	; ERRORS ?		
8134	057332					BCC	480#	; NO		
	057332	104456				ERRHRD	361.,ERR023,MSG008	; YES, REPORT ERROR		
	057334	000551							TRAP	C#ERHRD
	057336	021603							.WORD	361
	057340	017552							.WORD	ERR02
8135	057342				ESCAPE	TST		; AND ABORT TEST		
	057342	104410							TRAP	C#ESCAPE
	057344	000444							.WORD	L10054-
8136										
8137	057346	012777	000017	122652	480#:	MOV	#STOP,#PCSR0	; ISSUE STOP PORT COMMAND		
8138	057354	004737	024574			JSR	PC,CHKDNI	; DNI ?		
8139	057360	103006				BCC	490#	; YES		
8140	057362					ERRHRD	362.,ERR019,MSG003	; NO, REPORT ERROR		
	057362	104456							TRAP	C#ERHRD
	057364	000552							.WORD	362
	057366	021312							.WORD	ERR019
	057370	017110							.WORD	MSG003
8141	057372				ESCAPE	TST		; AND ABORT TEST		
	057372	104410							TRAP	C#ESCAPE
	057374	000414							.WORD	L10054-
8142										
8143	057376	004737	025546		490#:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
8144								; ERROR ?		
8145	057402	103006				BCC	495#	; NO		
8146	057404					ERRHRD	363.,ERR006,MSG003	; YES, REPORT ERROR		
	057404	104456							TRAP	C#ERHRD

057406	000553					.WORD	363
057410	020202					.WORD	ERR006
057412	017110					.WORD	MSG003
8147	057414			ESCAPE	TST		; AND ABORT TEST
	057414	104410				TRAP	C\$ESCAPE
	057416	000372				.WORD	L10054
8148							
8149	057420	062702	000006	495:	ADD #6,R2		; UPDATE R2
8150	057424	062703	000004		ADD #4,R3		; UPDATE R3
8151	057430	005301			DEC R1		; DONE TEN LOOPBACKS ?
8152	057432	001402			BEQ 496:		YES
8153	057434	000137	056700		JMP 360:		; NO
8154							
8155							
8156							
8157	057440	012701	000012	496:	MOV #10.,R1		; DO LOOP = TEN
8158	057444	012702	014334		MOV #MULTL,R2		; POINT TO MULTICAST LIST
8159							
8160							
8161	057450	012705	013554	500:	MOV #TDRB1A,R5		; DEFAULT ONE BUFFER TRANSMIT RING
8162	057454	004737	027046		JSR PC,LDTDRB		; LOAD TDRB
8163	057460	012705	013354		MOV #RDRB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING
8164	057464	004737	027010		JSR PC,LDRDRB		; LOAD RDRB
8165							
8166							
8167	057470	010205					
8168	057472	004737	026714		MOV R2,R5		; COMPLIMENT DESTINATION ADDRESS
8169	057476	004737	027342		JSR PC,LDDDEST		; LOAD DEST
8170	057502	012777	000004	122516	JSR PC,SETBUF		; SET UP BUFFERS
8171	057510	004737	024574		MOV #START,SPCSRO		; ISSUE START PORT COMMAND
8172	057514	103006			JSR PC,CHKDNI		; DNI?
8173	057516				BCC 510:		; YES
	057516	104456			ERRHRD 364.,ERR012,MSG003		; NO, REPORT ERROR
	057520	000554				TRAP	C\$ERHRD
	057522	020633				.WORD	364
	057524	017110				.WORD	ERR012
8174	057526			ESCAPE	TST		; AND ABORT TEST
	057526	104410				TRAP	C\$ESCAPE
	057530	000260				.WORD	L10054..
8175							
8176	057532	004737	025546	510:	JSR PC,CLRDNI		; WRITE ONE TO CLEAR DNI
8177							; ERROR ?
8178	057536	103006			BCC 520:		; NO
8179	057540				ERRHRD 365.,ERR006,MSG003		; YES, REPORT ERROR
	057540	104456				TRAP	C\$ERHRD
	057542	000555				.WORD	365
	057544	020202				.WORD	ERR006
	057546	017110				.WORD	MSG003
8180	057550			ESCAPE	TST		; AND ABORT TEST
	057550	104410				TRAP	C\$ESCAPE
	057552	000236				.WORD	L10054..
8181							
8182	057554	004737	025404	520:	JSR PC,CHKTXI		; TXI ?
8183	057560	103006			BCC 530:		; YES
8184	057562				ERRHRD 366.,ERR013,MSG003		; NO, REPORT ERROR
	057562	104456				TRAP	C\$ERHRD
	057564	000556				.WORD	366

	057566	020714					.WORD	ERR013
	057570	017110					.WORD	MSG003
8185	057572				ESCAPE	TST		: AND ABORT TEST
	057572	104410					TRAP	C#ESCAPE
	057574	000214					.WORD	L10054
8186								
8187	057576	004737	025730	i	530#:	JSR	PC,CLRTXI	: WRITE ONE TO CLEAR TXI
8188								: ERROR ?
8189	057602	103006				BCC	540#	: NO
8190	057604					ERRHRD	367.,ERR014,MSG003	: YES, REPORT ERROR
	057604	104456						TRAP
	057606	000557					.WORD	367
	057610	020745					.WORD	ERR014
	057612	017110					.WORD	MSG003
8191	057614					ESCAPE	TST	: AND ABORT TEST
	057614	104410						TRAP
	057616	000172					.WORD	C#ESCAPE
								L10054
8192								
8193	057620	012705	002604	i	540#:	MOV	#TDRB,R5	: CHECK TDRB OWNERSHIP
8194	057624	004737	024676			JSR	PC,CHKOWN	: OWN = PORT DRIVER ?
8195	057630	103006				BCC	550#	: YES
8196	057632					ERRHRD	368.,ERR018	: NO, REPORT ERROR
	057632	104456						TRAP
	057634	000560					.WORD	C#ERHRD
	057636	021212					.WORD	368
	057640	000000					.WORD	ERR018
8197	057642					ESCAPE	TST	: AND ABORT TEST
	057642	104410						TRAP
	057644	000144					.WORD	C#ESCAPE
								L10054
8198								
8199	057646	012705	014614	i	550#:	MOV	#TDR21X,R5	: POINT TO EXPECTED TDRB
8200	057652	004737	027252			JSR	PC,LDXTDR	: LOAD INTO XTDRB0 TABLE
8201	057656	012705	002604			MOV	#TDRB,R5	: CHECK TDRB
8202	057662	004737	025316			JSR	PC,CHKTDR	: ERRORS ?
8203	057666	103006				BCC	560#	: NO
8204	057670					ERRHRD	369.,ERR020,MSG005	: YES, REPORT ERROR
	057670	104456						TRAP
	057672	000561					.WORD	C#ERHRD
	057674	021372					.WORD	369
	057676	017214					.WORD	ERR020
8205	057700					ESCAPE	TST	: AND ABORT TEST
	057700	104410						TRAP
	057702	000106					.WORD	C#ESCAPE
								L10054
8206								
8207	057704	004737	027302	i	560#:	JSR	PC,NORXI	: RXI ?
8208	057710	103006				BCC	570#	: NO
8209	057712					ERRHRD	370.,ERR039	: YES, REPORT ERROR
	057712	104456						TRAP
	057714	000562					.WORD	C#ERHRD
	057716	023344					.WORD	370
	057720	000000					.WORD	ERR039
8210	057722					ESCAPE	TST	: AND ABORT TEST
	057722	104410						TRAP
	057724	000064					.WORD	C#ESCAPE
								L10054
8211								
8212	057726	012777	000017	i	570#:	MOV	#STOP,#PCSR0	: ISSUE STOP PORT COMMAND
8213	057734	004737	024574			JSR	PC,CHKDNI	: DNI ?

8214	057740	103006		BCC	580\$		; YES		
8215	057742			ERRHRD	371.	ERR019,MSG003	; NO, REPORT ERROR		
	057742	104456						TRAP	C#ERHRD
	057744	000563						.WORD	371
	057746	021312						.WORD	ERR019
	057750	017110						.WORD	MSG003
8216	057752			ESCAPE	TST		; AND ABORT TEST		
	057752	104410						TRAP	C#ESCAPE
	057754	000034						.WORD	L10054
8217									
8218	057756	004737	025546	580\$:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
8219							; ERROR ?		
8220	057762	103006			BCC	590\$	; NO		
8221	057764				ERRHRD	372.	ERR006,MSG003	; YES, REPORT ERROR	
	057764	104456						TRAP	C#ERHRD
	057766	000564						.WORD	372
	057770	020202						.WORD	ERR006
	057772	017110						.WORD	MSG003
8222	057774			ESCAPE	TST		; AND ABORT TEST		
	057774	104410						TRAP	C#ESCAPE
	057776	000012						.WORD	L10054-
8223									
8224	060000	062702	000006	590\$:	ADD	#6,R2	; UPDATE R2		
8225	060004	005301			DEC	R1	; DONE TEN LOOPBACKS ?		
8226	060006	001220			BNE	500\$	; NO		
8227									
8228	060010				ENDTST				
	060010							L10054:	
	060010	104401						TR. P	C#ETST

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.SBTTL TEST 23: PROMISCUOUS ADDRESS MODE TEST

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:.....
:
:   THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE
:   IS OPERATIONAL.
:   A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
:   THE DEUNA'S PHYSICAL ADDRESS.
:   A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
:   THE DEUNA'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
:.....

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060012
060012
060012 004737 027446
060016 103025
060020 012777 000040 122200
060026 004737 024574
060032 103006
060034 104456
060036 000565
060040 020102
060042 017110
060044

```

BGNTST

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JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 300 ; NO
MOV @RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 200 ; YES
ERRHRD 373,ERR004,MSG003 ; NO, REPORT ERROR

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TRAP C#ERRRD
.WORD 373
.WORD ERR004
.WORD MSG003

```

ESCAPE TST ; AND ABORT TEST

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060044 104410
060046 003342
8282
8283 060050 004737 025546 ; 201: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8284 ; ERROR ?
8285 060054 103006 BCC 301 ; NO
8286 060056 ERRHRD 374.,ERR006,MSG003 ; YES, REPORT ERROR
060056 104456 TRAP C1ERRRD
060060 000566 .WORD 374
060062 020202 .WORD ERR006
060064 017110 .WORD MSG003
8287 060066 ESCAPE TST ; AND ABORT TEST
060066 104410 TRAP C1ESCAPE
060070 003320 .WORD L10055-.
8288
8289 060072 004737 026772 ; 301: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
8290 060076 012777 000001 122122 MOV @GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
8291 060104 004737 024574 JSR PC,CHKDNI ; DNI?
8292 060110 103006 BCC 401 ; YES
8293 060112 ERRHRD 375.,ERR009,MSG003 ; NO, REPORT ERROR
060112 104456 TRAP C1ERRRD
060114 000567 .WORD 375
060116 020416 .WORD ERR009
060120 017110 .WORD MSG003
8294 060122 ESCAPE TST ; AND ABORT TEST
060122 104410 TRAP C1ESCAPE
060124 003264 .WORD L10055-.
8295
8296 060126 004737 025546 ; 401: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8297 ; ERROR ?
8298 060132 103006 BCC 501 ; NO
8299 060134 ERRHRD 376.,ERR006,MSG003 ; YES, REPORT ERROR
060134 104456 TRAP C1ERRRD
060136 000570 .WORD 376
060140 020202 .WORD ERR006
060142 017110 .WORD MSG003
8300 060144 ESCAPE TST ; AND ABORT TEST
060144 104410 TRAP C1ESCAPE
060146 003242 .WORD L10055-.
8301
8302 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
8303 060150 012705 013244 ; 501: MOV @WTHMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8304 060154 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8305 060160 012777 000002 122040 MOV @GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8306 060166 004737 024574 JSR PC,CHKDNI ; DNI ?
8307 060172 103006 BCC 601 ; YES
8308 060174 ERRHRD 377.,ERR010,MSG003 ; NO, REPORT ERROR
060174 104456 TRAP C1ERRRD
060176 000571 .WORD 377
060200 020502 .WORD ERR010
060202 017110 .WORD MSG003
8309 060204 ESCAPE TST ; AND ABORT TEST
060204 104410 TRAP C1ESCAPE
060206 003202 .WORD L10055-.
8310
8311 060210 004737 025546 ; 601: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8312 ; ERROR ?

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8313 060214 103006          BCC      704          ; NO
8314 060216          ERRMRD   378.,ERR006,MSG003 ; YES, REPORT ERROR
      060216 104456          TRAP     C#ERRMRD
      060220 000572          .WORD   378
      060222 020202          .WORD   ERR006
      060224 017110          .WORD   MSG003
8315 060226          ESCAPE   TST          ; AND ABORT TEST
      060226 104410          TRAP     C#ESCAPE
      060230 003160          .WORD   L10055
8316
8317          ;WRITE RING FORMAT
8318 060232 012705 013204 704:   MOV     @WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
8319 060236 004737 020742          JSR     PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8320 060242 012705 013324          MOV     @RFRMT,R5          ; DEFAULT RING FORMAT
8321 060246 012700 000006          MOV     @6,R0              ; FORMAT = SIX WORDS
8322 060252 004737 027142          JSR     PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
8323 060256 012777 000002 121742  MOV     @GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
8324 060264 004737 024574          JSR     PC,CHKDNI          ; DNI ?
8325 060270 103006          BCC     804              ; YES
8326 060272          ERRMRD   379.,ERR010,MSG003 ; NO, REPORT ERROR
      060272 104456          TRAP     C#ERRMRD
      060274 000573          .WORD   379
      060276 020502          .WORD   ERR010
      060300 017110          .WORD   MSG003
8327 060302          ESCAPE   TST          ; AND ABORT TEST
      060302 104410          TRAP     C#ESCAPE
      060304 003104          .WORD   L10055-
8328
8329 060306 004737 025546 804:   JSR     PC,CLR DNI          ; WRITE ONE TO CLEAR DNI
8330
8331 060312 103006          BCC     904              ; ERROR ?
8332 060314          ERRMRD   380.,ERR006,MSG003 ; YES, REPORT ERROR
      060314 104456          TRAP     C#ERRMRD
      060316 000574          .WORD   380
      060320 020202          .WORD   ERR006
      060322 017110          .WORD   MSG003
8333 060324          ESCAPE   TST          ; AND ABORT TEST
      060324 104410          TRAP     C#ESCAPE
      060326 003062          .WORD   L10055-
8334
8335          ;WRITE PHYSICAL ADDRESS
8336 060330 012705 013144 904:   MOV     @WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
8337 060334 004737 026742          JSR     PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8338          ;LOAD DEFAULT PHYSICAL ADDRESS
8339 060340 012703 014320          MOV     @ADR21,R3          ; POINT TO PHYSICAL ADDRESS
8340 060344 012704 002266          MOV     @PCBB+2,R4         ; POINT TO PCBB + 2
8341 060350 012324          MOV     (R3)+,(R4)+        ; LOAD ADDRESS
8342 060352 012324          MOV     (R3)+,(R4)+
8343 060354 012324          MOV     (R3)+,(R4)+
8344 060356 012777 000002 121642  MOV     @GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
8345 060364 004737 024574          JSR     PC,CHKDNI          ; DNI ?
8346 060370 103006          BCC     1004             ; YES
8347 060372          ERRMRD   381.,ERR010,MSG003 ; NO, REPORT ERROR
      060372 104456          TRAP     C#ERRMRD
      060374 000575          .WORD   381
      060376 020502          .WORD   ERR010
      060400 017110          .WORD   MSG003

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8348 060402          ESCAPE TST          ; AND ABORT TEST
      060402 104410          TRAP          C#ESCAPE
      060404 003004          .WORD          L10055 .

8349
8350 060406 004737 025546      1004: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8351                                     ; ERROR ?
8352 060412 103006          BCC      1024          ; NO
8353 060414          ERRHRD 382.,ERR006,MSG003 ; YES, REPORT ERROR
      060414 104456          TRAP          C#ERRRD
      060416 000576          .WORD          382
      060420 020202          .WORD          ERR006
      060422 017110          .WORD          MSG003

8354 060424          ESCAPE TST          ; AND ABORT TEST
      060424 104410          TRAP          C#ESCAPE
      060426 002762          .WORD          L10055 .

8355
8356                                     ;
8357 060430 012705 013164      1024: MOV      #WTMULA,R5          ; WRITE MULTICAST ADDRESS LIST
8358 060434 004737 026742      JSR      PC,LDPCCB          ; 1024: ; DEFAULT WRITE MULTICAST ADDR FUNC
8359 060440 012705 014334      MOV      #MULTL,R5          ; ; LOAD FUNCTION -> PCBB
8360 060444 012700 000036      MOV      #30.,R0           ; ; LOAD LIST INTO UDBB
8361 060450 004737 027142      JSR      PC,LDUDBB          ; ; LOAD 30 ENTRIES
8362 060454 012777 000002 121544 MOV      #GETCMD,#PCSR0     ; ; MULTICAST LIST -> UDBB
8363 060462 004737 024574      JSR      PC,CHKDNI          ; ; ISSUE GET_CMD PORT COMMAND
8364 060466 103006          BCC      1044          ; ; DNI ?
8365 060470          ERRHRD 383.,ERR010,MSG003 ; YES
      060470 104456          ; ; NO, REPORT ERROR
      060472 000577          TRAP          C#ERRRD
      060474 020502          .WORD          383
      060476 017110          .WORD          ERR010
      060476 017110          .WORD          MSG003

8366 060500          ESCAPE TST          ; AND ABORT TEST
      060500 104410          TRAP          C#ESCAPE
      060502 002706          .WORD          L10055 .

8367
8368 060504 004737 025546      1044: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8369                                     ; ERROR ?
8370 060510 103006          BCC      1104          ; NO
8371 060512          ERRHRD 384.,ERR006,MSG003 ; YES, REPORT ERROR
      060512 104456          TRAP          C#ERRRD
      060514 000600          .WORD          384
      060516 020202          .WORD          ERR006
      060520 017110          .WORD          MSG003

8372 060522          ESCAPE TST          ; AND ABORT TEST
      060522 104410          TRAP          C#ESCAPE
      060524 002664          .WORD          L10055 .

8373
8374                                     ;
8375                                     ; DESTINATION ADDRESS = PHYSICAL ADDRESS
8376                                     ;
8377 060526 012705 013554      1104: MOV      #TDRB1A,R5          ; SET UP RINGS FOR ONE BUFFER LOOPBACK
8378 060532 004737 027046      JSR      PC,LDTDRB          ; 1104: ; DEFAULT ONE BUFFER TRANSMIT RING
8379 060536 012705 013354      MOV      #RDRB1A,R5          ; ; LOAD TDRB
8380 060542 004737 027010      JSR      PC,LDRDRB          ; ; DEFAULT ONE BUFFER RECEIVE RING
8381                                     ; ; LOAD RDRB
8382                                     ;
8383 060546 012705 014320      ; SET UP BUFFERS AND START
8384 060552 004737 026714      MOV      #ADR21,R5          ; MOV      #ADR21,R5          ; POINT TO DESTINATION ADDRESS
      JSR      PC,LDEST          ; JSR      PC,LDEST          ; LOAD DEST

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8385 060556 004737 027342          JSR    PC,SETBUF          ; SET UP BUFFERS
8386 060562 012777 000004 121436  MOV    @START,@PCSR0     ; ISSUE START PORT COMMAND
8387 060570 004737 024574          JSR    PC,CHKDNI         ; DNI?
8388 060574 103006                  BCC    120$              ; YES
8389 060576 104456                  ERRHRD 385.,ERR012,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   385
                                .WORD   ERR012
                                .WORD   MSG003
                                TRAP    C$ESCAPE
                                .WORD   L10055
8390 060606 104410                  ESCAPE TST              ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10055
8391 060612 004737 025546          i 120$: JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
8392 060616 103006                  BCC    130$              ; ERROR ?
8393 060620 104456                  ERRHRD 386.,ERR006,MSG003 ; NO
8394 060622 000602                  ; YES, REPORT ERROR
8395 060624 020202                  TRAP    C$ERHRD
8396 060626 017110                  .WORD   386
8397 060630 104410                  .WORD   ERR006
8398 060634 004737 025404          i 130$: JSR    PC,CHKTXI     ; AND ABORT TEST
8399 060640 103006                  ; YES
8400 060642 104456                  ERRHRD 387.,ERR013,MSG003 ; NO, REPORT ERROR
8401 060644 000603                  TRAP    C$ERHRD
8402 060646 020714                  .WORD   387
8403 060650 017110                  .WORD   ERR013
8404 060652 104410                  .WORD   MSG003
8405 060654 002534                  ESCAPE TST              ; AND ABORT TEST
8406 060656 004737 025730          i 140$: JSR    PC,CLRTXI     ; WRITE ONE TO CLEAR TXI
8407 060662 103006                  ; ERROR ?
8408 060664 104456                  BCC    150$              ; NO
8409 060666 000604                  ERRHRD 388.,ERR014,MSG003 ; YES, REPORT ERROR
8410 060670 020745                  TRAP    C$ERHRD
8411 060672 017110                  .WORD   388
8412 060674 104410                  .WORD   ERR014
8413 060676 002512                  .WORD   MSG003
8414 060700 012705 002074          i 150$: MOV    @YDRB,R5     ; CHECK TDRB OWNERSHIP
8415 060704 004737 024676          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8416 060710 103006                  BCC    160$              ; YES
8417 060712 104456                  ERRHRD 389.,ERR018      ; NO, REPORT ERROR
8418 060714 000605                  TRAP    C$ERHRD
8419 060716 021212                  .WORD   389
8420 060720 000000                  .WORD   ERR018
8421 060722 000000                  .WORD   0
8422 060722 000000                  ESCAPE TST              ; AND ABORT TEST

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060722	104410									TRAP	C#ESCAPE
060724	002464									WORD	L10055 .
8414											
8415	060726	012705	014524	160#:	MOV	#TDR14A,R5					
8416	060732	004737	027252		JSR	PC,LDXTDR					
8417	060736	012705	002604		MOV	#TDRB,R5					
8418	060742	004737	025316		JSR	PC,CHKTDR					
8419	060746	103006			BCC	170#					
8420	060750				ERRHRD	390.,ERR020,MSG005					
	060750	104456								TRAP	C#ERRHRD
	060752	000606								.WORD	390
	060754	021372								.WORD	ERR020
	060756	017214								.WORD	MSG005
8421	060760				ESCAPE	TST					
	060760	104410								TRAP	C#ESCAPE
	060762	002426								.WORD	L10055 .
8422											
8423	060764	004737	025132	170#:	JSR	PC,CHKRXI					
8424	060770	103006			BCC	180#					
8425	060772				ERRHRD	391.,ERR015,MSG003					
	060772	104456								TRAP	C#ERRHRD
	060774	000607								.WORD	391
	060776	021013								.WORD	ERR015
	061000	017110								.WORD	MSG003
8426	061002				ESCAPE	TST					
	061002	104410								TRAP	C#ESCAPE
	061004	002404								.WORD	L10055 .
8427											
8428	061006	004737	025662	180#:	JSR	PC,CLRRXI					
8429											
8430	061012	103006			BCC	190#					
8431	061014				ERRHRD	392.,ERR016,MSG003					
	061014	104456								TRAP	C#ERRHRD
	061016	000610								.WORD	392
	061020	021044								.WORD	ERR016
	061022	017110								.WORD	MSG003
8432	061024				ESCAPE	TST					
	061024	104410								TRAP	C#ESCAPE
	061026	002362								.WORD	L10055 .
8433											
8434	061030	012705	002644	190#:	MOV	#RDRB,R5					
8435	061034	004737	024676		JSR	PC,CHKOWN					
8436	061040	103006			BCC	200#					
8437	061042				ERRHRD	393.,ERR017					
	061042	104456								TRAP	C#ERRHRD
	061044	000611								.WORD	393
	061046	021112								.WORD	ERR017
	061050	000000								.WORD	0
8438	061052				ESCAPE	TST					
	061052	104410								TRAP	C#ESCAPE
	061054	002334								.WORD	L10055 .
8439											
8440	061056	012705	014634	200#:	MOV	#RDR14A,R5					
8441	061062	004737	027222		JSR	PC,LXDRDR					
8442	061066	012705	002644		MOV	#RDRB,R5					
8443	061072	004737	025032		JSR	PC,CHKRDR					
8444	061076	103006			BCC	210#					

8445	061100			ERRHRD	394.,ERR021,MSG006	:	YES, REPORT ERROR		
	061100	104456						TRAP	C#ERRHRD
	061102	000612						.WORD	394
	061104	021453						.WORD	ERR021
	061106	017356						.WORD	MSG006
8446	061110			ESCAPE	TST	:	AND ABORT TEST		
	061110	104410						TRAP	C#ESCAPE
	061112	002276						.WORD	L10055.
8447									
8448									
8449	061114	012705	000070						
8450	061120	004737	026044	210#:	MOV #56.,R5	:	COMPARE 56 WORDS OF DATA		
8451	061124	103006			JSR PC,CMPDAT	:	DATA COMPARE ERROR ?		
8452	061126				BCC 220#	:	NO		
	061126	104456			ERRHRD 395.,ERR022,MSG007	:	YES, REPORT ERROR		
	061130	000613						TRAP	C#ERRHRD
	061132	021534						.WORD	395
	061134	017520						.WORD	ERR022
	061134	017520						.WORD	MSG007
8453	061136			ESCAPE	TST	:	AND ABORT TEST		
	061136	104410						TRAP	C#ESCAPE
	061140	002250						.WORD	L10055-.
8454									
8455	061142	012705	014744	220#:	MOV #CRC21A,R5	:	POINT TO EXPECTED CRC		
8456	061146	004737	027176		JSR PC,LDXCRC	:	LOAD INTO XCRC TABLE		
8457	061152	012705	007300		MOV #RBUF+124.,R5	:	CHECK CRC		
8458	061156	004737	026124		JSR PC,CHPCRC	:	ERRORS ?		
8459	061162	103006			BCC 230#	:	NO		
8460	061164				ERRHRD 396.,ERR023,MSG008	:	YES, REPORT ERROR		
	061164	104456						TRAP	C#ERRHRD
	061166	000614						.WORD	396
	061170	021603						.WORD	ERR023
	061172	017552						.WORD	MSG008
8461	061174			ESCAPE	TST	:	AND ABORT TEST		
	061174	104410						TRAP	C#ESCAPE
	061176	002212						.WORD	L10055.
8462									
8463	061200	012777	000017	121020	230#:	MOV #STOP,BPCSR0	:	ISSUE STOP PORT COMMAND	
8464	061206	004737	024574		JSR PC,CHKDNI	:	DNI ?		
8465	061212	103006			BCC 240#	:	YES		
8466	061214				ERRHRD 397.,ERR019,MSG003	:	NO, REPORT ERROR		
	061214	104456						TRAP	C#ERRHRD
	061216	000615						.WORD	397
	061220	021312						.WORD	ERR019
	061222	017110						.WORD	MSG003
8467	061224			ESCAPE	TST	:	AND ABORT TEST		
	061224	104410						TRAP	C#ESCAPE
	061226	002162						.WORD	L10055.
8468									
8469	061230	004737	025546	240#:	JSR PC,CLRDN1	:	WRITE ONE TO CLEAR DNI		
8470									
8471	061234	103006			BCC 250#	:	ERROR ?		
8472	061236				ERRHRD 398.,ERR006,MSG003	:	NO		
	061236	104456							
	061240	000616						TRAP	C#ERRHRD
	061242	020202						.WORD	398
	061244	017110						.WORD	ERR006
	061244	017110						.WORD	MSG003
8473	061246			ESCAPE	TST	:	AND ABORT TEST		

061246	104410					TRAP	C#ESCAPE
061250	002140					.WORD	L10055 .
8474							
8475							
8476							
8477							
8478	061252	012705	013554				
8479	061256	004737	027046				
8480	061262	012705	013354				
8481	061266	004737	027010				
8482							
8483							
8484	061272	012705	014326				
8485	061276	004737	026714				
8486	061302	004737	027342				
8487	061305	012777	000004	120712			
8488	061314	004737	024574				
8489	061320	103006					
8490	061322						
	061322	104456				TRAP	C#ERRRD
	061324	000617				.WORD	399
	061326	020633				.WORD	ERR012
	061330	017110				.WORD	MSG003
8491	061332						
	061332	104410				TRAP	C#ESCAPE
	061334	002054				.WORD	L10055 .
8492							
8493	061336	004737	025546				
8494							
8495	061342	103006					
8496	061344						
	061344	104456				TRAP	C#ERRRD
	061346	000620				.WORD	400
	061350	020202				.WORD	ERR006
	061352	017110				.WORD	MSG003
8497	061354						
	061354	104410				TRAP	C#ESCAPE
	061356	002032				.WORD	L10055 .
8498							
8499	061360	004737	025404				
8500	061364	103006					
8501	061366						
	061366	104456				TRAP	C#ERRRD
	061370	000621				.WORD	401
	061372	020714				.WORD	ERR013
	061374	017110				.WORD	MSG003
8502	061376						
	061376	104410				TRAP	C#ESCAPE
	061400	002010				.WORD	L10055 .
8503							
8504	061402	004737	025730				
8505							
8506	061406	103006					
8507	061410						
	061410	104456				TRAP	C#ERRRD
	061412	000622				.WORD	402
	061414	020745				.WORD	ERR014

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; DESTINATION ADDRESS NOT - PHYSICAL ADDRESS
; 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 #ADR2+L,R5 ; POINT TO COMPLEMENTED ADDRESS
JSR PC,LDDDEST ; LOAD DEST
JSR PC,SETBUF ; SET UP BUFFERS
MOV #START,#PCSR0 ; ISSUE START PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 260$ ; YES
ERRHRD 399.,ERR012,MSG003 ; NO, REPORT ERROR

ESCAPE TST ; AND ABORT TEST

260$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
      BCC 270$ ; ERROR ?
      ERRHRD 400.,ERR006,MSG003 ; NO
      ; YES, REPORT ERROR

ESCAPE TST ; AND ABORT TEST

270$: JSR PC,CHKTXI ; TXI ?
      BCC 280$ ; YES
      ERRHRD 401.,ERR013,MSG003 ; NO, REPORT ERROR

ESCAPE TST ; AND ABORT TEST

280$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
      BCC 290$ ; ERROR ?
      ERRHRD 402.,ERR014,MSG003 ; NO
      ; YES, REPORT ERROR
    
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8508	061416	01711C		ESCAPE	TST		; AND ABORT TEST	.WORD	MSG003
	061420	104410						TRAP	C#ESCAPE
	061422	001766						.WORD	L10055
8509									
8510	061424	012705	002604	i	290:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8511	061430	004737	024676			JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8512	061434	103006				BCC	300:		; YES
8513	061436					ERRHRD	403.,ERR018		; NO, REPORT ERROR
	061436	104456						TRAP	C#ERRHRD
	061440	000623						.WORD	403
	061442	021212						.WORD	ERR018
	061444	000000						.WORD	0
8514	061446			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	061446	104410						.WORD	L10055-
	061450	001740							
8515									
8516	061452	012705	014524	i	300:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
8517	061456	004737	027252			JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
8518	061462	012705	002604			MOV	#TDRB,R5		; CHECK TDRB
8519	061466	004737	025316			JSR	PC,CHKTDR		; ERRORS ?
8520	061472	103006				BCC	310:		; NO
8521	061474					ERRHRD	404.,ERR020,MSG005		; YES, REPORT ERROR
	061474	104456						TRAP	C#ERRHRD
	061476	000624						.WORD	404
	061500	021372						.WORD	ERR020
	061502	017214						.WORD	MSG005
8522	061504			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	061504	104410						.WORD	L10055-
	061506	001702							
8523									
8524	061510	004737	025132	i	310:	JSR	PC,CHKRXI		; RXI ?
8525	061514	103006				BCC	320:		; YES
8526	061516					ERRHRD	405.,ERR015,MSG003		; NO, REPORT ERROR
	061516	104456						TRAP	C#ERRHRD
	061520	000625						.WORD	405
	061522	021013						.WORD	ERR015
	061524	017110						.WORD	MSG003
8527	061526			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	061526	104410						.WORD	L10055-
	061530	001660							
8528									
8529	061532	004737	025662	i	320:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
8530									; ERROR ?
8531	061536	103006				BCC	330:		; NO
8532	061540					ERRHRD	406.,ERR016,MSG003		; YES, REPORT ERROR
	061540	104456						TRAP	C#ERRHRD
	061542	000626						.WORD	406
	061544	021044						.WORD	ERR016
	061546	017110						.WORD	MSG003
8533	061550			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	061550	104410						.WORD	L10055-
	061552	001636							
8534									
8535	061554	012705	002644	i	330:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
8536	061560	004737	024676			JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8537	061564	103006				BCC	340:		; YES

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8538 061566          ERRHRD 407.,ERR017          ; NO, REPORT ERROR
      061566 104456          ;
      061570 000627          ; TRAP C#ERRHRD
      061572 021112          ; .WORD 407
      061574 000000          ; .WORD ERR017
8539 061576          ESCAPE TST                  ; AND ABORT TEST
      061576 104410          ;
      061600 001610          ; TRAP C#ESCAPE
      ;                      ; .WORD L10055 .
8540          ;
8541 061602 012705 014634 340$: MOV #RDR14A,R5          ; POINT TO EXPECTED RDRB
8542 061606 004737 027222      JSR PC,LDXRDR          ; LOAD INTO XRD780 TABLE
8543 061612 012705 002644      MOV #RDRB,R5          ; CHECK RDRB
8544 061616 004737 025032      JSR PC,CHKRDR          ; ERRORS ?
8545 061622 103006          BCC 350$              ; NO
8546 061624          ERRHRD 408.,ERR021,MSG006    ; YES, REPORT ERROR
      061624 104456          ; TRAP C#ERRHRD
      061626 000630          ; .WORD 408
      061630 021453          ; .WORD ERR021
      061632 017356          ; .WORD MSG006
8547 061634          ESCAPE TST                  ; AND ABORT TEST
      061634 104410          ;
      061636 001552          ; TRAP C#ESCAPE
      ;                      ; .WORD L10055 .
8548          ;
8549          ;COMPARE RBUF WITH TBUF
8550 061640 012705 000070 350$: MOV #56.,R5          ; COMPARE 56 WRDS OF DATA
8551 061644 004737 026044      JSR PC,CMPCAT          ; DATA COMPARE ERROR ?
8552 061650 103006          BCC 360$              ; NO
8553 061652          ERRHRD 409.,ERR022,MSG007    ; YES, REPORT ERROR
      061652 104456          ; TRAP C#ERRHRD
      061654 000631          ; .WORD 409
      061656 021537          ; .WORD ERR022
      061660 017520          ; .WORD MSG007
8554 061662          ESCAPE TST                  ; AND ABORT TEST
      061662 104410          ;
      061664 001524          ; TRAP C#ESCAPE
      ;                      ; .WORD L10055 .
8555          ;
8556 061666 012705 015074 360$: MOV #CRC23B,R5          ; POINT TO EXPECTED CRC
8557 061672 004737 027176      JSR PC,LDXCRC          ; LOAD INTO XCRC TABLE
8558 061676 012705 007300      MOV #RBUF+124.,R5     ; CHECK CRC
8559 061702 004737 026124      JSR PC,CMPCRC          ; ERRORS ?
8560 061706 103006          BCC 370$              ; NO
8561 061710          ERRHRD 410.,ERR023,MSG008    ; YES, REPORT ERROR
      061710 104456          ; TRAP C#ERRHRD
      061712 000632          ; .WORD 410
      061714 021603          ; .WORD ERR023
      061716 017552          ; .WORD MSG008
8562 061720          ESCAPE TST                  ; AND ABORT TEST
      061720 104410          ;
      061722 001466          ; TRAP C#ESCAPE
      ;                      ; .WORD L10055-.
8563          ;
8564 061724 012777 000017 120274 370$: MOV #STOP,#PCSR0      ; ISSUE STOP PORT COMMAND
8565 061732 004737 024574      JSR PC,CHKDNI          ; DNI ?
8566 061736 103006          BCC 380$              ; YES
8567 061740          ERRHRD 411.,ERR019,MSG003    ; NO, REPORT ERROR
      061740 104456          ; TRAP C#ERRHRD
      061742 000633          ; .WORD 411
      061744 021312          ; .WORD ERR019
    
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8568 061746 017110
      061750          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      061750 104410
      061752 001436          TRAP      C#ESCAPE
                                      .WORD  L10055 .

8569
8570 061754 004737 025546      ;380#: JSR      PC,CLRDNI          ; WRITE ONE IJ CLEAR DNI
8571                                     ; ERROR ?
8572 061760 103006          BCC      390#          ; NO
8573 061762          ERRHRD 412.,ERR006,MSG003 ; YES, REPORT ERROR
                                      TRAP      C#ERRRD
                                      .WORD  412
                                      .WORD  ERR006
                                      .WORD  MSG003

8574 061772          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      061772 104410          .WORD  L10055 .
      061774 001414

8575
8576      ;REWRITE DEFAULT PHYSICAL ADDRESS
8577 061776 012705 013144      390#: MOV      #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
8578 062002 004737 026742      JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8579 062006 012777 000002 120212 MOV      #GETCMD,#PCSR0      ; ISSUE GET_CMD PORT COMMAND
8580 062014 004737 024574      JSR      PC,CHKDNI          ; DNI?
8581 062020 103006          BCC      400#          ; YES
8582 062022          ERRHRD 413.,ERR010,MSG003 ; NO, REPORT ERROR
                                      TRAP      C#ERRRD
                                      .WORD  413
                                      .WORD  ERR010
                                      .WORD  MSG003

8583 062032          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      062032 104410          .WORD  L10055 .
      062034 001354

8584
8585 062036 004737 025546      ;400#: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8586                                     ; ERROR ?
8587 062042 103006          BCC      410#          ; NO
8588 062044          ERRHRD 414.,ERR006,MSG003 ; YES, REPORT ERROR
                                      TRAP      C#ERRRD
                                      .WORD  414
                                      .WORD  ERR006
                                      .WORD  MSG003

8589 062054          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      062054 104410          .WORD  L10055 .
      062056 001332

8590
8591      ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8592
8593 062060 012701 000012      ;410#: MOV      #10.,R1          ; DO LOOP = TEN
8594 062064 012702 014334      MOV      #MULTL,R2          ; R2 POINTS TO MULTICAST LIST
8595 062070 012703 014754      MOV      #CRC22A,R3         ; R3 POINTS TO EXPECTED CRC TABLE
8596
8597      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8598 062074 012705 013554      ;420#: MOV      #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
8599 062100 004737 027046      JSR      PC,LDTDRB          ; LOAD TDRB
8600 062104 012705 013354      MOV      #RDRB1A,R5         ; DEFAULT ONE BUFFER RECEIVE RING
8601 062110 004737 027010      JSR      PC,LDRDRB          ; LOAD RDRB
8602
8603      ;SET UP BUFFERS AND START

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8604	062114	010205		MOV	R2,R5	; POINT TO DESTINATION ADDRESS		
8605	062116	004737	026714	JSR	PC,LDDDEST	; LOAD DEST		
8606	062122	004737	027342	JSR	PC,SETBUF	; SET UP BUFFERS		
8607	062126	012777	000004 120072	MOV	@START,@PCSR0	; ISSUE START PORT COMMAND		
8608	062134	004737	024574	JSR	PC,CHKDNI	; DNI?		
8609	062140	103006		BCC	430\$	; YES		
8610	062142			ERRHRD	415.,ERR012,MSG003	; NO, REPORT ERROR		
	062142	104456					TRAP	C\$ERHRD
	062144	000637					.WORD	415
	062146	020633					.WORD	ERR012
	062150	017110					.WORD	MSG003
8611	062152			ESCAPE	TST	; AND ABORT TEST		
	062152	104410					TRAP	C\$ESCAPE
	062154	001234					.WORD	L10055 .
8612								
8613	062156	004737	025546	: 430\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI	
8614								
8615	062162	103006		BCC	440\$	; NO		
8616	062164			ERRHRD	416.,ERR006,MSG003	; YES, REPORT ERROR		
	062164	104456					TRAP	C\$ERHRD
	062166	000640					.WORD	416
	062170	020202					.WORD	ERR006
	062172	017110					.WORD	MSG003
8617	062174			ESCAPE	TST	; AND ABORT TEST		
	062174	104410					TRAP	C\$ESCAPE
	062176	001212					.WORD	L10055 .
8618								
8619	062200	004737	025404	: 440\$:	JSR	PC,CHKTXI	; TXI ?	
8620	062204	103006		BCC	450\$	; YES		
8621	062206			ERRHRD	417.,ERR013,MSG003	; NO, REPORT ERROR		
	062206	104456					TRAP	C\$ERHRD
	062210	000641					.WORD	417
	062212	020714					.WORD	ERR013
	062214	017110					.WORD	MSG003
8622	062216			ESCAPE	TST	; AND ABORT TEST		
	062216	104410					TRAP	C\$ESCAPE
	062220	001170					.WORD	L10055 .
8623								
8624	062222	004737	025730	: 450\$:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI	
8625								
8626	062226	103006		BCC	470\$	; NO		
8627	062230			ERRHRD	418.,ERR014,MSG003	; YES, REPORT ERROR		
	062230	104456					TRAP	C\$ERHRD
	062232	000642					.WORD	418
	062234	020745					.WORD	ERR014
	062236	017110					.WORD	MSG003
8628	062240			ESCAPE	TST	; AND ABORT TEST		
	062240	104410					TRAP	C\$ESCAPE
	062242	001146					.WORD	L10055 .
8629								
8630	062244	012705	002604	: 470\$:	MOV	@TDRB,R5	; CHECK TDRB OWNERSHIP	
8631	062250	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?	
8632	062254	103006		BCC	480\$	; YES		
8633	062256			ERRHRD	419.,ERR018	; NO, REPORT ERROR		
	062256	104456					TRAP	C\$ERHRD
	062260	000643					.WORD	419
	062262	021212					.WORD	ERR018

8634	062264	000000			ESCAPE TST	; AND ABORT TEST	.WORD	0
	062266						TRAP	C#ESCAPE
	062256	104410					.WORD	L10055 .
	062270	001120						
8635								
8636	062272	012705	014524	i 480#:	MOV #TDR14A,R5	; POINT TO EXPECTED TDRB		
8637	062276	004737	027252		JSR PC,LDXTDR	; LOAD INTO XTDRB0 TABLE		
8638	062302	012705	002604		MOV #TDRB,R5	; CHECK TDRB		
8639	062306	004737	025310		JSR PC,CHKTDR	; ERRORS ?		
8640	062312	103006			BCC 490#	; NO		
8641	062314				ERRHRD 420.,ERR020,MSG005	; YES, REPORT ERROR		
	062314	104456					TRAP	C#ERHRD
	062316	000644					.WORD	420
	062320	021372					.WORD	ERR020
	062322	017214					.WORD	MSG005
8642	062324				ESCAPE TST	; AND ABORT TEST		
	062324	104410					TRAP	C#ESCAPE
	062326	001062					.WORD	L10055 .
8643								
8644	062330	004737	025132	i 490#:	JSR PC,CHKRXI	; RXI ?		
8645	062334	103006			BCC 500#	; YES		
8646	062336				ERRHRD 421.,ERR015,MSG003	; NO, REPORT ERROR		
	062336	104456					TRAP	C#ERHRD
	062340	000645					.WORD	421
	062342	021013					.WORD	ERR015
	062344	017110					.WORD	MSG003
8647	062346				ESCAPE TST	; AND ABORT TEST		
	062346	104410					TRAP	C#ESCAPE
	062350	001040					.WORD	L10055 .
8648								
8649	062352	004737	025652	i 500#:	JSR PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8650						; ERROR ?		
8651	062356	103006			BCC 510#	; NO		
8652	062360				ERRHRD 422.,ERR016,MSG003	; YES, REPORT ERROR		
	062360	104456					TRAP	C#ERHRD
	062362	000646					.WORD	422
	062364	021044					.WORD	ERR016
	062366	017110					.WORD	MSG003
8653	062370				ESCAPE TST	; AND ABORT TEST		
	062370	104410					TRAP	C#ESCAPE
	062372	001016					.WORD	L10055 .
8654								
8655	062374	012705	002644	i 510#:	MOV #RDRB,R5	; CHECK RDRB OWNERSHIP		
8656	062400	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
8657	062404	103006			BCC 520#	; YES		
8658	062406				ERRHRD 423.,ERR017	; NO, REPORT ERROR		
	062406	104456					TRAP	C#ERHRD
	062410	000647					.WORD	423
	062412	021112					.WORD	ERR017
	062414	000000					.WORD	0
8659	062416				ESCAPE TST	; AND ABORT TEST		
	062416	104410					TRAP	C#ESCAPE
	062420	000770					.WORD	L10055 .
8660								
8661	062422	012705	014634	i 520#:	MOV #RDR14A,R5	; POINT TO EXPECTED RDRB		
8662	062426	004737	027222		JSR PC,LDXRDR	; LOAD INTO XRDRB0 TABLE		
8663	062432	012705	002644		MOV #RDRB,R5	; CHECK RDRB		

8664	062436	004737	025032		JSR	PC,CHKRDR		; ERRORS ?		
8665	062442	103006			BCC	5301		; NO		
8666	062444				ERRHRD	424.,ERR021,MSG006		; YES, REPORT ERROR		
	062444	104456							TRAP	C1ERRHRD
	062446	000650							.WORD	424
	062450	02145							.WORD	ERR021
	062452	017356							.WORD	MSG006
8667	062454				ESCAPE	TST		; AND ABORT TEST		
	062454	104410							TRAP	C1ESCAPE
	062456	000732							.WORD	L10055
8658										
8669										
8670	062460	012705	000070		5301:	MOV	#56.,R5	; COMPARE 56 WORDS OF DATA		
8671	062464	004737	026044			JSR	PC,CHPDAT	; DATA COMPARE ERROR ?		
8672	062470	103006				BCC	5401	; NO		
8673	062472					ERRHRD	425.,ERR022,MSG007	; YES, REPORT ERROR		
	062472	104456							TRAP	C1ERRHRD
	062474	000651							.WORD	425
	062476	021534							.WORD	ERR022
	062500	017520							.WORD	MSG007
8674	062502				ESCAPE	TST		; AND ABORT TEST		
	062502	104410							TRAP	C1ESCAPE
	062504	000704							.WORD	L10055.
8675										
8676	062506	010305			5401:	MOV	R3,R5	; POINT TO EXPECTED CRC TABLE		
8677	062510	004737	027176			JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
8678	062514	012705	007300			MOV	#RBUF+124.,R5	; CHECK CRC		
8679	062520	004737	026124			JSR	PC,CHPCRC	; ERRORS ?		
8680	062524	103006				BCC	5501	; NO		
8681	062526					ERRHRD	426.,ERR023,MSG008	; YES, REPORT ERROR		
	062526	104456							TRAP	C1ERRHRD
	062530	000652							.WORD	426
	062532	021603							.WORD	ERR023
	062534	017552							.WORD	MSG008
8682	062536				ESCAPE	TST		; AND ABORT TEST		
	062536	104410							TRAP	C1ESCAPE
	062540	000650							.WORD	L10055.
8683										
8684	062542	012777	000017	117456	5501:	MOV	#STOP,BPCSR0	; ISSUE STOP PORT COMMAND		
8685	062550	004737	024574			JSR	PC,CHKDNI	; DNI ?		
8686	062554	103006				BCC	5601	; YES		
8687	062556					ERRHRD	427.,ERR019,MSG003	; NO, REPORT ERROR		
	062556	104456							TRAP	C1ERRHRD
	062560	000653							.WORD	427
	062562	021312							.WORD	ERR019
	062564	017110							.WORD	MSG003
8688	062566				ESCAPE	TST		; AND ABORT TEST		
	062566	104410							TRAP	C1ESCAPE
	062570	000620							.WORD	L10055.
8689										
8690	062572	004737	025546		5601:	JSR	PC,CLR0NI	; WRITE ONE TO CLEAR DNI		
8691								; ERROR ?		
8692	062576	103006				BCC	5651	; NO		
8693	062600					ERRHRD	428.,ERR006,MSG003	; YES, REPORT ERROR		
	062600	104456							TRAP	C1ERRHRD
	062602	000654							.WORD	428
	062604	020202							.WORD	ERR006

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062606 017110
8694 062610 ESCAPE TST ; AND ABORT TEST .WORD MSG003
062610 104410 ; TRAP C#ESCAPE
062612 000576 ; .WORD L10055
8695
8696 062614 062702 000006 ; 565: ADD #6,R2 ; UPDATE R2
8697 062620 062703 000004 ; ADD #4,R3 ; UPDATE R3
8698 062624 005301 ; DEC R1 ; DONE TEN LOOPBACKS
8699 062626 001402 ; BEQ 566: ; YES
8700 062630 000137 062074 ; JMP 420: ; NO
8701
8702
8703 ; DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
8704
8705 062634 012701 000012 ; 566: MOV #10.,R1 ; DO LOOP = TEN
8706 062640 012702 014430 ; MOV #MULTLC,R2 ; R2 POINTS TO COMPLIMENTED LIST
8707 062644 012703 015024 ; MOV #CRC228,R3 ; R3 POINTS TO CRC TABLE
8708
8709 ; SET UP RINGS FOR ONE BUFFER LOOPBACK
8710 062650 012705 013554 ; 570: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
8711 062654 004737 027046 ; JSR PC,LDTDRB ; LOAD TDRB
8712 062660 012705 013354 ; MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
8713 062664 004737 027010 ; JSR PC,LCRDRB ; LOAD RDRB
8714
8715 ; SET UP BUFFERS AND START
8716 062670 010205 ; MOV R2,P5 ; POINT TO COMPLEMENTED ADDRESS
8717 062672 004737 026714 ; JSR PC,LDDDEST ; LOAD DEST
8718 062676 004737 027342 ; JSR PC,SETBUF ; SET UP BUFFERS
8719 062702 012777 000004 117316 ; MOV #START,#PCSR0 ; ISSUE START PORT COMMAND
8720 062710 004737 024574 ; JSR PC,CHKDNI ; DNI?
8721 062714 103006 ; BCC 580: ; YES
8722 062716 ; ERHRD 429.,ERR012,MSG003 ; NO, REPORT ERROR
062716 104456 ; TRAP C#ERHRD
062720 000655 ; .WORD 429
062722 020633 ; .WORD ERR012
062724 017110 ; .WORD MSG003
8723 062726 ESCAPE TST ; AND ABORT TEST
062726 104410 ; TRAP C#ESCAPE
062730 000460 ; .WORD L10055
8724
8725 062732 004737 025546 ; 580: JSR PC,CLRDMI ; WRITE ONE TO CLEAR DNI
8726 ; BCC 590: ; ERROR ?
8727 062736 103006 ; ERHRD 430.,ERR006,MSG003 ; NO
8728 062740 ; YES, REPORT ERROR
062740 104456 ; TRAP C#ERHRD
062742 000656 ; .WORD 430
062744 020202 ; .WORD ERR006
062746 017110 ; .WORD MSG003
8729 062750 ESCAPE TST ; AND ABORT TEST
062750 104410 ; TRAP C#ESCAPE
062752 000436 ; .WORD L10055-
8730
8731 062754 004737 025404 ; 590: JSR PC,CHKTXI ; TXI ?
8732 062760 103006 ; BCC 600: ; YES
8733 062762 ; ERHRD 431.,ERR013,MSG003 ; NO, REPORT ERROR
062762 104456 ; TRAP C#ERHRD
062764 000657 ; .WORD 431

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	062766	020714					.WORD	FRR013
	062770	017110					.WORD	MSG003
8734	062772				ESCAPE TST	; AND ABORT TEST		
	062772	104410					TRAP	C#ESCAPE
	062774	000414					.WORD	L10055
8735								
8736	062776	004737	025730	600#:	JSR PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
8737						; ERROR ?		
8738	063002	103006			BCC 610#	; NO		
8739	063004				ERRHRD 432.,ERR014,MSG003	; YES, REPORT ERROR		
	063004	104456					TRAP	C#ERRRD
	063006	000660					.WORD	432
	063010	020745					.WORD	ERR014
	063012	017110					.WORD	MSG003
8740	063014				ESCAPE TST	; AND ABORT TEST		
	063014	104410					TRAP	C#ESCAPE
	063016	000372					.WORD	L10055-
8741								
8742	063020	012705	002604	610#:	MOV #TDRB,R5	; CHECK TDRB OWNERSHIP		
8743	063024	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
8744	063030	103006			BCC 620#	; YES		
8745	063032				ERRHRD 433.,ERR018	; NO, REPORT ERROR		
	063032	104456					TRAP	C#ERRRD
	063034	000661					.WORD	433
	063036	021212					.WORD	ERR018
	063040	000000					.WORD	0
8746	063042				ESCAPE TST	; AND ABORT TEST		
	063042	104410					TRAP	C#ESCAPE
	063044	000344					.WORD	L10055
8747								
8748	063046	012705	014524	620#:	MOV #TDR14A,R5	; POINT TO EXPECTED TDRB		
8749	063052	004737	027252		JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
8750	063056	012705	002604		MOV #TDRB,R5	; CHECK TDRB		
8751	063062	004737	025316		JSR PC,CHKTDR	; ERRORS ?		
8752	063066	103006			BCC 630#	; NO		
8753	063070				ERRHRD 434.,ERR020,MSG005	; YES, REPORT ERROR		
	063070	104456					TRAP	C#ERRRD
	063072	000662					.WORD	434
	063074	021372					.WORD	ERR020
	063076	017214					.WORD	MSG005
8754	063100				ESCAPE TST	; AND ABORT TEST		
	063100	104410					TRAP	C#ESCAPE
	063102	000306					.WORD	L10055-
8755								
8756	063104	004737	025132	630#:	JSR PC,CHKRXI	; RXI ?		
8757	063110	103006			BCC 640#	; YES		
8758	063112				ERRHRD 435.,ERR015,MSG003	; NO, REPORT ERROR		
	063112	104456					TRAP	C#ERRRD
	063114	000663					.WORD	435
	063116	021013					.WORD	ERR015
	063120	017110					.WORD	MSG003
8759	063122				ESCAPE TST	; AND ABORT TEST		
	063122	104410					TRAP	C#ESCAPE
	063124	000264					.WORD	L10055-
8760								
8761	063126	004737	025662	640#:	JSR PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8762						; ERROR ?		

8763	063132	103006		BCC	650:		; NO		
8764	063134			ERRHRD	436.	ERR016,MSG003	; YES, REPORT ERROR	TRAP	C#ERRHRD
	063134	104456						.WORD	436
	063136	000664						.WORD	ERR016
	063140	021044						.WORD	MSG003
	063142	017110							
8765	063144			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	063144	104410						.WORD	L10055
	063146	000242							
8766									
8767	063150	012705	002644		650:	MOV #RDRB,R5	; CHECK RDRB OWNERSHIP		
8768	063154	004737	024676			JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
8769	063160	103006				BCC 560:	; YES		
8770	063162					ERRHRD 437.	ERR017	; NO, REPORT ERROR	
	063162	104456						TRAP	C#ERRHRD
	063164	000665						.WORD	437
	063166	021112						.WORD	ERR017
	063170	000000						.WORD	0
8771	063172			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	063172	104410						.WORD	L10055
	063174	000214							
8772									
8773	063176	012705	014634		660:	MOV #RDR14A,R5	; POINT TO EXPECTED FDRB		
8774	063202	004737	027222			JSR PC,LDRDR	; LOAD INTO XDRBO TABLE		
8775	063206	012705	002644			MOV #RDRB,R5	; CHECK RDRB		
8776	063212	004737	025032			JSR PC,CHKRDR	; ERRORS ?		
8777	063216	103006				BCC 670:		; NO	
8778	063220					ERRHRD 438.	ERR021,MSG006	; YES, REPORT ERROR	
	063220	104456						TRAP	C#ERRHRD
	063222	000666						.WORD	438
	063224	021453						.WORD	ERR021
	063226	017356						.WORD	MSG006
8779	063230			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	063230	104410						.WORD	L10055
	063232	000156							
8780									
8781									
8782	063234	012705	000070		670:	MOV #56.,R5	; COMPARE 56 WORDS OF DATA		
8783	063240	004737	026044			JSR PC,CHPDAT	; DATA COMPARE ERROR ?		
8784	063244	103006				BCC 680:		; NO	
8785	063246					ERRHRD 439.	ERR022,MSG007	; YES, REPORT ERROR	
	063246	104456						TRAP	C#ERRHRD
	063250	000667						.WORD	439
	063252	021534						.WORD	ERR022
	063254	017520						.WORD	MSG007
8786	063256			ESCAPE	TST		; AND ABORT TEST	TRAP	C#ESCAPE
	063256	104410						.WORD	L10055
	063260	000130							
8787									
8788	063262	010305			680:	MOV R3,R5	; POINT TO EXPECTED CRC TABLE		
8789	063264	004737	027176			JSR PC,LDXCRC	; LOAD INTO XCRC TABLE		
8790	063270	012705	007300			MOV #RBUF+124.,R5	; CHECK CRC		
8791	063274	004737	026124			JSR PC,CHPCRC	; ERRORS ?		
8792	063300	103006				BCC 690:		; NO	
8793	063302					ERRHRD 440.	ERR023,MSG008	; YES, REPORT ERROR	
	063302	104456						TRAP	C#ERRHRD
	063304	000670						.WORD	440

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063306 021603
063310 017552
8794 063312 ESCAPE TST ; AND ABORT TEST
063312 104410
063314 000074 TRAP C#ESCAPE
8795 .WORD L10055 .
8796 063316 012777 000017 116702 690: MOV #STOP,SPCSRO ; ISSUE STOP PORT COMMAND
8797 063324 004737 024574 JSR PC,CHKDNI ; DNI ?
8798 063330 103006 BCC 700: ; YES
8799 063332 ERRHRD 441.,ERR019,MSG003 ; NO, REPORT ERROR
063332 104456 TRAP C#ERHRD
063334 000671 .WORD 441
063336 021312 .WORD ERRO19
063340 017110 .WORD MSG003
8800 063342 ESCAPE TST ; AND ABORT TEST
063342 104410 TRAP C#ESCAPE
063344 000044 .WORD L10055 .
8801
8802 063346 004737 025546 700: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
8803 ERROR ?
8804 063352 103006 BCC 710: ; NO
8805 063354 ERRHRD 442.,ERR006,MSG003 ; YES, REPORT ERROR
063354 104456 TRAP C#ERHRD
063356 000672 .WORD 442
063360 020202 .WORD ERRO06
063362 017110 .WORD MSG003
8806 063364 ESCAPE TST ; AND ABORT TEST
063364 104410 TRAP C#ESCAPE
063366 000022 .WORD L10055 .
8807
8808 063370 062702 000006 710: ADD #6,R2 ; UPDATE R2
8809 063374 062703 000004 ADD #4,R3 ; UPDATE R3
8810 063400 005301 DEC R1 ; DONE TEN LOOPBACKS
8811 063402 001402 BEQ 900: ; YES
8812 063404 000137 062650 JMP 570: ; NO
8813
8814 063410 900:
8815 063410 ENDTST
063410
063410 104401 L10055: TRAP C#ETST
    
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.SBTTL TEST 24: 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 DEUNA'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 = COMPLIMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR ERRORS
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES

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8851 063412  
 8852 063412 004737 027446  
 8853 063416 103025  
 8854 063420 012777 000040 116600  
 8855 063426 004737 024574  
 8856 063432 103006  
 8857 063434  
 063434 104456  
 063436 000673  
 063440 020102  
 063442 017110  
 8858 063444  
 063444 104410  
 063446 002000  
 8859  
 8860 063450 004737 025546  
 8861  
 8862 063454 103006  
 8863 063456  
 063456 104456  
 063460 000674  
 063462 020202

BGNTST

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?  
 BCC 304 ; NO  
 MOV @RSET,@PCSR0 ; YES, RESET DEUNA  
 JSR PC,CHKDNI ; DNI ?  
 BCC 204 ; YES  
 ERRHRD 443.,ERR004,MSG003 ; NO, REPORT ERROR

TRAP C#ERRHRD  
 .WORD 443  
 .WORD ERR004  
 .WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C#ESCAPE  
 .WORD L10056 .

204: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI  
 ; ERROR ?  
 BCC 304 ; NO  
 ERRHRD 444.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C#ERRHRD  
 .WORD 444  
 .WORD ERR006

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      063464 017110
8864 063466          ESCAPE TST          ; AND ABORT TEST          .WORD   MSG003
      063466 104410          TRAP          C#ESCAPE
      063470 001756          .WORD          L10056
8865
8866 063472 004737 026772          ; 30: JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2:3
8867 063476 012777 000001 116522  ; MOV      @GETPCB,@PCSR0          ; ISSUE GET_PCBB PORT COMMAND
8868 063504 004737 024574          ; JSR      PC,CHKDNI          ; DNI?
8869 063510 103006          ; BCC      40:          ; YES
8870 063512          ERRHRD 445.,ERR009,MSG003          ; NO, REPORT ERROR
      063512 104456          TRAP          C#ERRRD
      063514 000675          .WORD          445
      063516 020416          .WORD          ERR009
      063520 017110          .WORD          MSG003
8871 063522          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063522 104410          .WORD          L10056
      063524 001722          .WORD
8872
8873 063526 004737 025546          ; 40: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8874          ; BCC      50:          ; ERROR ?
8875 063532 103006          ; ERRHRD 446.,ERR006,MSG003          ; NO
8876          ;          ; YES, REPORT ERROR
      063534 104456          TRAP          C#ERRRD
      063536 000676          .WORD          446
      06354C 020202          .WORD          ERR006
      063542 017110          .WORD          MSG003
8877 063544          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063544 104410          .WORD          L10056-
      063546 001700          .WORD
8878
8879          ; WRITE MODE REGISTER = INTERNAL LOOPBACK
8880          ; AND ENABLE ALL MULTICAST MODE
8881
8882 063550 012705 013244          ; 50: MOV      @WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
8883 063554 004737 026742          ; JSR      PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8884 063560 013737 015120 002266  ; MOV      MODE24,PCBB+2          ; MODE = INTL LOOPBACK AND ENAL
8885 063566 012777 000002 116432  ; MOV      @GETCMD,@PCSR0          ; ISSUE GET_CMD PORT COMMAND
8886 063574 004737 024574          ; JSR      PC,CHKDNI          ; DNI ?
8887 063600 103006          ; BCC      60:          ; YES
8888 063602          ERRHRD 447.,ERR010,MSG003          ; NO, REPORT ERROR
      063602 104456          TRAP          C#ERRRD
      063604 000677          .WORD          447
      063606 020502          .WORD          ERR010
      063610 017110          .WORD          MSG003
8889 063612          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063612 104410          .WORD          L10056-
      063614 001632          .WORD
8890
8891 063616 004737 025546          ; 60: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8892          ; BCC      70:          ; ERROR ?
8893 063622 103006          ; ERRHRD 448.,ERR006,MSG003          ; NO
8894          ;          ; YES, REPORT ERROR
      063624 104456          TRAP          C#ERRRD
      063626 000700          .WORD          448
      063630 020202          .WORD          ERR006
      063632 017110          .WORD          MSG003
8895 063634          ESCAPE TST          ; AND ABORT TEST

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063634	104410						TRAP	C#ESCAPE
063636	001610						.WORD	L10056 .
8896								
8897								
8898	063640	012705	013204					
8899	063644	004737	026742					
8900	063650	012705	013324					
8901	063654	012700	000006					
8902	063660	004737	027142					
8903	063664	012777	000002	116334				
8904	063672	004737	024574					
8905	063676	103006						
8906	063700							
	063700	104456					TRAP	C#ERRRD
	063702	000701					.WORD	449
	063704	020502					.WORD	ERR010
	063706	017110					.WORD	MSG003
8907	063710				ESCAPE	TST		; AND ABORT TEST
	063710	104410					TRAP	C#ESCAPE
	063712	001534					.WORD	L10056-.
8908								
8909	063714	004737	025546					
8910								
8911	063720	103006						
8912	063722							
	063722	104456					TRAP	C#ERRRD
	063724	000702					.WORD	450
	063726	020202					.WORD	ERR006
	063730	017110					.WORD	MSG003
8913	063732				ESCAPE	TST		; AND ABORT TEST
	063732	104410					TRAP	C#ESCAPE
	063734	001512					.WORD	L10056-.
8914								
8915								
8916	063736	012705	013144					
8917	063742	004737	026742					
8918	063746	012777	000002	116252				
8919	063754	004737	024574					
8920	063760	103006						
8921	063762							
	063762	104456					TRAP	C#ERRRD
	063764	000703					.WORD	451
	063766	020502					.WORD	ERR010
	063770	017110					.WORD	MSG003
8922	063772				ESCAPE	TST		; AND ABORT TEST
	063772	104410					TRAP	C#ESCAPE
	063774	001452					.WORD	L10056-.
8923								
8924	063776	004737	025546					
8925								
8926	064002	103006						
8927	064004							
	064004	104456					TRAP	C#ERRRD
	064006	000704					.WORD	452
	064010	020202					.WORD	ERR006
	064012	017110					.WORD	MSG003
8928	064014				ESCAPE	TST		; AND ABORT TEST

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064014 104410 TRAP C#ESCAPE
064016 G01430 .WORD L10056

8929 ;
8930 ;WRITE MULTICAST ADDRESS LIST
8931 064020 012705 013164 102: MOV #MULTLA,R5 ; DEFAULT WRITE MULTICAST ADDR FUNC
8932 064024 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
8933 064030 012705 014334 MOV #MULTL,R5 ; LOAD LIST INTO UDBB
8934 064034 012700 000036 MOV #30.,R0 ; LOAD 30 ENTRIES
8935 064040 004737 027142 JSR PC,LDUDBB ; MULTICAST LIST -> UDBB
8936 064044 012777 000002 116154 MOV #GETCMD,#PCRSO ; ISSUE GET_CMD PORT COMMAND
8937 064052 004737 024574 JSR PC,CHKDNI ; DNI?
8938 064056 103006 BCC 104: ; YES
8939 064060 ERRHRD 453.,ERR010,MSG003 ; NO, REPORT ERROR

06406C 104456 TRAP C#ERHRD
064062 000705 .WORD 453
064064 020502 .WORD ERR010
064066 017110 .WORD MSG003

8940 064070 ESCAPE TST ; AND ABORT TEST
064070 104410 TRAP C#ESCAPE
064072 001354 .WORD L10056

8941 ;
8942 064074 004737 025546 104: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
8943 ; ERROR?
8944 064100 103006 BCC 106: ; NO
8945 064102 ERRHRD 454.,ERR006,MSG003 ; YES, REPORT ERROR

064102 104456 TRAP C#ERHRD
064104 000706 .WORD 454
064106 020202 .WORD ERR006
064110 017110 .WORD MSG003

8946 064112 ESCAPE TST ; AND ABORT TEST
064112 104410 TRAP C#ESCAPE
064114 001332 .WORD L10056

8947 ;
8948 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8949 ;
8950 064116 012701 000012 106: MOV #10.,R1 ; DO LOOP = TEN
8951 064122 012702 014334 MOV #MULTL,R2 ; R2 POINTS TO MULTICAST LIST
8952 064126 012703 014754 MOV #CRC22A,R3 ; R3 POINTS TO EXPECTED CRC TABLE

8953 ;
8954 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8955 064132 012705 01355: 110: MOV #TORB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
8956 064136 004737 027046 JSR PC,LDTORB ; LOAD TORB
8957 064142 012705 013354 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
8958 064146 004737 027010 JSR PC,LDRDRB ; LOAD RDRB

8959 ;
8960 ;SET UP BUFFERS AND START
8961 064152 010205 MOV R2,R5 ; POINT TO DESTINATION ADDRESS
8962 064154 004737 026714 JSR PC,LDDDEST ; LOAD DEST
8963 064160 004737 027342 JSR PC,SETBUF ; SET UP BUFFERS
8964 064164 012777 000004 116034 MOV #START,#PCRSO ; ISSUE START PORT COMMAND
8965 064172 004737 024574 JSR PC,CHKDNI ; DNI?
8966 064176 103006 BCC 120: ; YES
8967 064200 ERRHRD 455.,ERR012,MSG003 ; NO, REPORT ERROR

064200 104456 TRAP C#ERHRD
064202 000707 .WORD 455
064204 020633 .WORD ERR012
064206 017110 .WORD MSG003

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8968	064210			ESCAPE	TST		; AND ABORT TEST		
	064210	104410						TRAP	C#ESCAPE
	064212	001234						.WORD	L10056-
8969									
8970	064214	004737	025546	i	120:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
8971									; ERROR ?
8972	064220	103006				BCC	130:		; NO
8973	064222					ERRHRD	456.,ERR006,MSG003		; YES, REPORT ERROR
	064222	104456						TRAP	C#ERRRD
	064224	000710						.WORD	456
	064226	020202						.WORD	ERR006
	064230	017110						.WORD	MSG003
8974	064232					ESCAPE	TST		; AND ABORT TEST
	064232	104410						TRAP	C#ESCAPE
	064234	001212						.WORD	L10056 .
8975									
8976	064236	004737	025404	i	130:	JSR	PC,CHKTXI		; TXI ?
8977	064242	103006				BCC	140:		; YES
8978	064244					ERRHRD	457.,ERR013,MSG003		; NO, REPORT ERROR
	064244	104456						TRAP	C#ERRRD
	064246	000711						.WORD	457
	064250	020714						.WORD	ERR013
	064252	017110						.WORD	MSG003
8979	064254					ESCAPE	TST		; AND ABORT TEST
	064254	104410						TRAP	C#ESCAPE
	064256	001170						.WORD	L10056 .
8980									
8981	064260	004737	025730	i	140:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
8982									; ERROR ?
8983	064264	103006				BCC	150:		; NO
8984	064266					ERRHRD	458.,ERR014,MSG003		; YES, REPORT ERROR
	064266	104456						TRAP	C#ERRRD
	064270	000712						.WORD	458
	064272	020745						.WORD	ERR014
	064274	017110						.WORD	MSG003
8985	064276					ESCAPE	TST		; AND ABORT TEST
	064276	104410						TRAP	C#ESCAPE
	064300	001146						.WORD	L10056-
8986									
8987	064302	012705	002604	i	150:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8988	064306	004737	024676			JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8989	064312	103006				BCC	160:		; YES
8990	064314					ERRHRD	459.,ERR018		; NO, REPORT ERROR
	064314	104456						TRAP	C#ERRRD
	064316	000713						.WORD	459
	064320	021212						.WORD	ERR018
	064322	000000						.WORD	0
8991	064324					ESCAPE	TST		; AND ABORT TEST
	064324	104410						TRAP	C#ESCAPE
	064326	001120						.WORD	L10056 .
8992									
8993	064330	012705	014524	i	160:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
8994	064334	004737	027252			JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
8995	064340	012705	002604			MOV	#TDRB,R5		; CHECK TDRB
8996	064344	004737	025316			JSR	PC,CHKTDR		; ERRORS ?
8997	064350	103006				BCC	170:		; NO
8998	064352					ERRHRD	460.,ERR020,MSG005		; YES, REPORT ERROR



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9026 ;COMPARE RBUF WITH TBUF
9027 064516 012705 000070 210$: MOV #56,,R5 ; COMPARE 56 WORDS OF DATA
9028 064522 064737 026044 JSR PC,CMPCAT ; DATA COMPARE ERROR ?
9029 064526 103006 BCC 220$ ; NO
9030 064530 ERRHRD 465.,,ERR022,MSG007 ; YES, REPORT ERROR
;
; TRAP C$ERHRD
; WORD 465
; WORD ERR022
; WORD MSG007
9031 064540 ESCAPE TST ; AND ABORT TEST
9032 064540 104410 ; TRAP C$ESCAPE
9033 064542 000704 ; WORD L10056
;
;
9032 ;
9033 064544 010305 ; 220$: MOV R3,R5 ; POINT TO EXPECTED CRC TABLE
9034 064546 004737 027176 JSR PC,LDXCRC ; LOAD INTO XCRC TABLE
9035 064552 012705 007300 MOV #RBUF+124,,R5 ; CHECK CRC
9036 064556 004737 026124 JSR PC,CMPCRC ; ERRORS ?
9037 064562 103006 BCC 230$ ; NO
9038 064564 ERRHRD 466.,,ERR023,MSG008 ; YES, REPORT ERROR
;
; TRAP C$ERHRD
; WORD 466
; WORD ERR023
; WORD MSG008
9039 064574 ESCAPE TST ; AND ABORT TEST
9040 064574 104410 ; TRAP C$ESCAPE
9041 064576 000650 ; WORD L10056
;
;
9040 ;
9041 064600 012777 000017 115420 ; 230$: MOV #STOP,SPCSRO ; ISSUE STOP PORT COMMAND
9042 064606 004737 024574 JSR PC,CHKDNI ; DNI ?
9043 064612 103006 BCC 240$ ; YES
9044 064614 ERRHRD 467.,,ERR019,MSG003 ; NO, REPORT ERROR
;
; TRAP C$FRHRD
; WORD 467
; WORD ERR019
; WORD MSG003
9045 064624 ESCAPE TST ; AND ABORT TEST
9046 064624 104410 ; TRAP C$ESCAPE
9047 064626 000620 ; WORD L10056
;
;
9046 ;
9047 064630 004737 025546 ; 240$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9048 064634 103006 BCC 245$ ; ERROR ?
9049 064636 ERRHRD 468.,,ERR006,MSG003 ; NO
9050 064636 104456 ; YES, REPORT ERROR
;
; TRAP C$ERHRD
; WORD 468
; WORD ERR006
; WORD MSG003
9051 064646 ESCAPE TST ; AND ABORT TEST
9052 064646 104410 ; TRAP C$ESCAPE
9053 064650 000576 ; WORD L10056
;
;
9052 ;
9053 064652 062702 000006 ; 245$: ADD #6,R2 ; UPDATE R2
9054 064656 062703 000004 ADD #4,R3 ; UPDATE R3
9055 064662 065301 DEC R1 ; DONE TEN LOOPBACKS
9056 064664 001402 BEQ 246$ ; YES
9057 064666 000137 064132 JMP 110$ ; NO
9058 ;

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9059
9060 ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
9061 ;
9062 064672 012701 000012 ;246$: MOV #10.,R1 ; DO LOOP = TEN
9063 064676 012702 014430 MOV #MULTLC,R2 ; R2 POINTS TO COMPLIMENTED LIST
9064 064702 012703 015024 MOV #CRC22B,R3 ; R3 POINTS TO EXPECTED CRC LIST
9065 ;
9066 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9067 064706 012705 013554 ;250$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
9068 064712 004737 027046 JSR PC,LDTDRB ; LOAD TDRB
9069 064716 012705 013354 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
9070 064722 004737 027010 JSR PC,LDRDRB ; LOAD RDRB
9071 ;
9072 ;SET UP BUFFERS AND START
9073 064726 010205 MOV R2,R5 ; POINT TO COMPLEMENTED ADDRESS
9074 064730 004737 026714 JSR PC,LDDDEST ; LOAD DEST
9075 064734 004737 027342 JSR PC,SETBUF ; SET UP BUFFERS
9076 064740 012777 000004 115260 MOV #START,#PCSR0 ; ISSUE START PORT COMMAND
9077 064746 004737 024574 JSR PC,CHKDNI ; DNI?
9078 064752 103006 BCC 260$ ; YES
9079 064754 ERRHRD 469.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP C#ERHRD
          .WORD 469
          .WORD ERR012
          .WORD MSG003
9080 064764 ESCAPE TST ; AND ABORT TEST
          TRAP C#ESCAPE
          .WORD L10056
          064764 104410
          064764 000460
9081 ;
9082 064770 004737 025546 ;260$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
9083 ; ERROR ?
9084 064774 103006 BCC 270$ ; NO
9085 064776 ERRHRD 470.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP C#ERHRD
          .WORD 470
          .WORD ERR006
          .WORD MSG003
          064776 104456
          065000 000726
          065002 020202
          065004 017110
9086 065006 ESCAPE TST ; AND ABORT TEST
          TRAP C#ESCAPE
          .WORD L10056
          065006 104410
          065010 000436
9087 ;
9088 065012 004737 025404 ;270$: JSR PC,CHKTXI ; TXI ?
9089 065016 103006 BCC 280$ ; YES
9090 065020 ERRHRD 471.,ERR013,MSG003 ; NO, REPORT ERROR
          TRAP C#ERHRD
          .WORD 471
          .WORD ERR013
          .WORD MSG003
          065020 104456
          065022 000727
          065024 020714
          065026 017110
9091 065030 ESCAPE TST ; AND ABORT TEST
          TRAP C#ESCAPE
          .WORD L10056
          065030 104410
          065032 000414
9092 ;
9093 065034 004737 025730 ;280$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
9094 ; ERROR ?
9095 065040 103006 BCC 290$ ; NO
9096 065042 ERRHRD 472.,ERR014,MSG003 ; YES, REPORT ERROR
          TRAP C#ERHRD
          065042 104456
    
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	065044	000730				.WORD	472	
	065046	020745				.WORD	ERR014	
	065050	017110				.WORD	MSG003	
9097	065052			ESCAPE	TST		; AND ABORT TEST	
	065052	104410				TRAP	C!ESCAPE	
	065054	000372				.WORD	L10056	
9098								
9099	065056	012705	002604	;	290:	MOV	@TDRB,R5	; CHECK TDRB OWNERSHIP
9100	065062	004737	024676			JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
9101	065066	103006				BCC	300:	; YES
9102	065070					ERRHRD	473.,ERR018	; NO, REPORT ERROR
	065070	104456						
	065072	000731				TRAP	C!ERHRD	
	065074	021212				.WORD	473	
	065076	000000				.WORD	ERR018	
	065076	000000				.WORD	0	
9103	065100			ESCAPE	TST		; AND ABORT TEST	
	065100	104410				TRAP	C!ESCAPE	
	065102	000344				.WORD	L10056 .	
9104								
9105	065104	012705	014524	;	300:	MOV	@TDR14A,R5	; POINT TO EXPECTED TDRB
9106	065110	004737	027252			JSR	PC,LDXTDR	; LOAD INTO XTDRRO TABLE
9107	065114	012705	002604			MOV	@TDRB,R5	; CHECK TDRB
9108	065120	004737	025316			JSR	PC,CHKTDR	; ERRORS ?
9109	065124	103006				BCC	420:	; NO
9110	065126					ERRHRD	474.,ERR020,MSG005	; YES, REPORT ERROR
	065126	104456						
	065130	000732				TRAP	C!ERHRD	
	065132	021372				.WORD	474	
	065134	017214				.WORD	ERR020	
	065134	017214				.WORD	MSG005	
9111	065136			ESCAPE	TST		; AND ABORT TEST	
	065136	104410				TRAP	C!ESCAPE	
	065140	000306				.WORD	L10056 .	
9112								
9113	065142	004737	025132	;	420:	JSR	PC,CHKRXI	; RXI ?
9114	065146	103006				BCC	430:	; YES
9115	065150					ERRHRD	475.,ERR015,MSG003	; NO, REPORT ERROR
	065150	104456						
	065152	000733				TRAP	C!ERHRD	
	065154	021013				.WORD	475	
	065156	017110				.WORD	ERR015	
	065156	017110				.WORD	MSG003	
9116	065160			ESCAPE	TST		; AND ABORT TEST	
	065160	104410				TRAP	C!ESCAPE	
	065162	000264				.WORD	L10056 .	
9117								
9118	065164	004737	025662	;	430:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI
9119								; ERROR ?
9120	065170	103006				BCC	440:	; NO
9121	065172					ERRHRD	476.,ERR016,MSG003	; YES, REPORT ERROR
	065172	104456						
	065174	000734				TRAP	C!ERHRD	
	065176	021044				.WORD	476	
	065200	017110				.WORD	ERR016	
	065200	017110				.WORD	MSG003	
9122	065202			ESCAPE	TST		; AND ABORT TEST	
	065202	104410				TRAP	C!ESCAPE	
	065204	000242				.WORD	L10056 .	
9123								
9124	065206	012705	002644	;	440:	MOV	@RDRB,R5	; CHECK RDRB OWNERSHIP

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9125 065212 004737 024676      JSR      PC,CHKOWN      ; OWN = PORT DRIVER ?
9126 065216 103006              BCC      450$           ; YES
9127 065220              ERRHRD   477.,ERR017    ; NO, REPORT ERROR
          065220 104456              TRAP    C$ERRHRD
          065222 000735              .WORD   477
          065224 021112              .WORD   ERR017
          065226 000000              .WORD   0
9128 065230              ESCAPE   TST           ; AND ABORT TEST
          065230 104410              TRAP    C$ESCAPE
          065232 000214              .WORD   L10056
9129
9130 065234 012705 014634      ; 450$: MOV      @RDR14A,R5      ; POINT TO EXPECTED RDRB
9131 065240 004737 027222      JSR      PC,LDXRDR      ; LOAD INTO XDRRBO TABLE
9132 065244 012705 002644      MOV      @RDRB,R5       ; CHECK RDRB
9133 065250 004737 025032      JSR      PC,CHKRDR      ; ERRORS ?
9134 065254 103006              BCC      460$           ; NO
9135 065256              ERRHRD   478.,ERR021,MSG006 ; YES, REPORT ERROR
          065256 104456              TRAP    C$ERRHRD
          065260 000736              .WORD   478
          065262 021453              .WORD   ERR021
          065264 017356              .WORD   MSG006
9136 065266              ESCAPE   TST           ; AND ABORT TEST
          065266 104410              TRAP    C$ESCAPE
          065270 000156              .WORD   L10056
9137
9138
9139 065272 012705 000070      ; COMPARE RBUF WITH TBUF
9140 065276 004737 026044      ; 460$: MOV      #56.,R5       ; COMPARE 56 WORDS OF DATA
9141 065302 103006              BCC      PC,CHPDAT      ; DATA COMPARE ERROR ?
9142 065304              ERRHRD   479.,ERR022,MSG007 ; YES, REPORT ERROR
          065304 104456              TRAP    C$ERRHRD
          065306 000737              .WORD   479
          065310 021534              .WORD   ERR022
          065312 017520              .WORD   MSG007
9143 065314              ESCAPE   TST           ; AND ABORT TEST
          065314 104410              TRAP    C$ESCAPE
          065316 000130              .WORD   L10056
9144
9145 065320 010305              ; 470$: MOV      R3,R5       ; POINT TO EXPECTED CRC TABLE
9146 065322 004737 027176      JSR      PC,LDXCRC      ; LOAD INTO XCRC TABLE
9147 065326 012705 007300      MOV      @RBUF+124.,R5   ; CHECK CRC
9148 065332 004737 026124      JSR      PC,CHPCRC      ; ERRORS ?
9149 065336 103006              BCC      480$           ; NO
9150 065340              ERRHRD   480.,ERR023,MSG008 ; YES, REPORT ERROR
          065340 104456              TRAP    C$ERRHRD
          065342 000740              .WORD   480
          065344 021603              .WORD   ERR023
          065346 017552              .WORD   MSG008
9151 065350              ESCAPE   TST           ; AND ABORT TEST
          065350 104410              TRAP    C$ESCAPE
          065352 000074              .WORD   L10056
9152
9153 065354 012777 000017 114644 ; 480$: MOV      #STOP,@PCSR0    ; ISSUE STGP PORT COMMAND
9154 065362 004737 024574      JSR      PC,CHKDNI      ; DNI ?
9155 065366 103006              BCC      490$           ; YES
9156 065370              ERRHRD   481.,ERR019,MSG003 ; NO, REPORT ERROR
          065370 104456              TRAP    C$ERRHRD

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.SBTTL TEST 25: PAD RUNT PACKETS TEST  
:.....  
: THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.  
: THIS TEST WILL  
: FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET  
: WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A  
: DUFL ERROR IN TDRB\*6 OCCURS.  
: SECOND, TRANSMIT A RUNT PACKET  
: WHEN IN PAD RUNT PACKET MODE AND VERIFY  
: SUCCESSFUL TRANSMISION AS WELL AS PADDING OCCURS.  
: TEST SEQUENCE:  
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE  
: 2. WRITE RING FORMAT  
: 3. WRITE PHYSICAL ADDRESS  
: 4. SET UP RINGS AND BUFFERS  
: WITH THE TRANSMIT BUFFER = RUNT PACKET  
: 5. ISSUE START  
: 6. CHECK FOR BUFL ERROR IN TDRB\*6  
: 7. ISSUE STOP  
: 8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM  
: AND PAD RUNT PACKET MODE  
: 9. SET UP RINGS AND BUFFERS  
: WITH THE TRANSMIT BUFFER = RUNT PACKET  
: 10. ISSUE START  
: 11. CHECK FOR ERRORS  
: 12. VERIFY PACKET HAS BEEN PADDED  
: 13. ISSUE STOP  
:.....

9207 065450 BGNTST  
065450  
9208 065450 004737 027446 JSR PC, TINIT ; IS A DEVICE RESET NEEDED?  
065450 103025 BCC 304 ; NO  
9209 065454 103025 MOV #RSET, BPCSR0 ; YES, RESET DEUNA  
9210 065456 012777 000040 114542 JSR PC, CHKONI ; DNI ?  
9211 065464 004737 024574 BCC 204 ; YES  
9212 065470 103006 ERRHRD 483., ERR004, MSG003 ; NO, REPORT ERROR  
9213 065472 104456 TRAP C#ERRRD  
065474 000743 .WORD 483  
065476 02C102 .WORD ERR004  
065500 017110 .WORD MSG003  
9214 065502 ESCAPE TST ; AND ABORT TEST  
065502 104410 TRAP C#ESCAPE  
065504 00146c .WORD LIC057-  
9215  
9216 065506 004737 025546 ; 204: JSR PC, CLRONI ; WRITE ONE TO CLEAR DNI  
9217 BCC 304 ; ERROR ?  
9218 065512 103006 BCC 304 ; NO  
9219 065514 ERRHRD 484., ERR006, MSG003 ; YES, REPORT ERROR  
065514 104456 TRAP C#ERRRD  
065516 000744 .WORD 484  
065520 020202 .WORD ERR006  
065522 017110 .WORD MSG003

```

9220 065524          ESCAPE TST          ; AND ABORT TEST
      065524 104410          TRAP          C#ESCAPE
      065526 001440          .WORD          L10057 .

9221
9222 065530 004737 026772          ;
9223 065534 012777 000001 114464 301: JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
9224 065542 004737 024574          MOV      #GETPCB,#PCSR0      ; ISSUE GET_PCBB PORT COMMAND
9225 065546 103006          JSR      PC,CHKDNI          ; DNI?
9226 065550          BCC      401                ; YES
      065550 104456          ERRHRD   485.,ERR009,MSG003      ; NO, REPORT ERROR
      065552 000745          TRAP          C#ERRHRD
      065554 020416          .WORD          485
      065556 017110          .WORD          ERR009
      065556 017110          .WORD          MSG003

9227 065560          ESCAPE TST          ; AND ABORT TEST
      065560 104410          TRAP          C#ESCAPE
      065562 001404          .WORD          L10057 .

9228
9229 065564 004737 025546          ;
9230 065570 103006          401: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9231 065572          BCC      501                ; ERROR ?
9232 065572 104456          ERRHRD   486.,ERR006,MSG003      ; NO
      065574 000746          TRAP          C#ERRHRD
      065576 020202          .WORD          486
      065600 017110          .WORD          ERR006
      065600 017110          .WORD          MSG003

9233 065602          ESCAPE TST          ; AND ABORT TEST
      065602 104410          TRAP          C#ESCAPE
      065604 001362          .WORD          L10057-.

9234
9235          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9236 065606 012705 013244          501: MOV      #WTHMODE,R5          ; DEFAULT WRITE MODE FUNCTION
9237 065612 004737 026742          JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
9238 065616 012777 000002 114402 MOV      #GETCMD,#PCSR0      ; ISSUE GET_CMD PORT COMMAND
9239 065624 004737 024574          JSR      PC,CHKDNI          ; DNI ?
9240 065630 103006          BCC      601                ; YES
9241 065632          ERRHRD   487.,ERR010,MSG003      ; NO, REPORT ERROR
      065632 104456          TRAP          C#ERRHRD
      065634 000747          .WORD          487
      065636 020502          .WORD          ERR010
      065640 017110          .WORD          MSG003

9242 065642          ESCAPE TST          ; AND ABORT TEST
      065642 104410          TRAP          C#ESCAPE
      065644 001322          .WORD          L10057-.

9243
9244 065646 004737 025546          ;
9245 065652 103006          601: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9246 065654          BCC      701                ; ERROR ?
9247 065654          ERRHRD   488.,ERR006,MSG003      ; NO
      065654 104456          TRAP          C#ERRHRD
      065656 000750          .WORD          488
      065660 020202          .WORD          ERR006
      065662 017110          .WORD          MSG003

9248 065664          ESCAPE TST          ; AND ABORT TEST
      065664 104410          TRAP          C#ESCAPE
      065666 001300          .WORD          L10057-.

9249
9250          ;WRITE RING FORMAT

```

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9251 065670 012705 013204      704:  MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
9252 065674 004737 026742      JSR    PC,LDPCCB      ; LOAD FUNCTION -> PCBB
9253 065700 012705 013324      MOV    #RFRMT,R5     ; DEFAULT RING FORMAT
9254 065704 012700 000006      MOV    #6,R0         ; FORMAT = SIX WORDS
9255 065710 004737 027142      JSR    PC,LDUDBB     ; LOAD RING FORMAT > UDBB
9256 065714 012777 000002      MOV    #GETCMD,#PCSP0 ; ISSUE GET_CMD PORT COMMAND
9257 065722 004737 024574      JSR    PC,CHKDNI     ; DNI ?
9258 065726 103006                BCC    804           ; YES
9259 065730                ERRHRD 489.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP   C#ERRHRD
                                .WORD  489
                                .WORD  ERR010
                                .WORD  MSG003
9260 065740                ESCAPE TST           ; AND ABORT TEST
                                TRAP   C#ESCAPE
                                .WORD  L10057
9261                                ;
9262 065744 004737 025546      804:  JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9263                                ; ERROR ?
9264 065750 103006                BCC    904           ; NO
9265 065752                ERRHRD 490.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP   C#ERRHRD
                                .WORD  490
                                .WORD  ERR006
                                .WORD  MSG003
9266 065762                ESCAPE TST           ; AND ABORT TEST
                                TRAP   C#ESCAPE
                                .WORD  L10057
9267                                ;
9268                                ;WRITE PHYSICAL ADDRESS
9269 065766 012705 013144      904:  MOV    #WTPHYA,R5   ; DEFAULT WRITE PHYSICAL ADDR FUNC
9270 065772 004737 026742      JSR    PC,LDPCCB     ; LOAD FUNCTION > PCBB
9271 065776 012777 000002      MOV    #GETCMD,#PCSP0 ; ISSUE GET_CMD PORT COMMAND
9272 066004 004737 024574      JSR    PC,CHKDNI     ; DNI ?
9273 066010 103006                BCC    1004          ; YES
9274 066012                ERRHRD 491.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP   C#ERRHRD
                                .WORD  491
                                .WORD  ERR010
                                .WORD  MSG003
9275 066022                ESCAPE TST           ; AND ABORT TEST
                                TRAP   C#ESCAPE
                                .WORD  L10057
9276                                ;
9277 066026 004737 025546      1004: JSR    PC,CLRDN1   ; WRITE ONE TO CLEAR DNI
9278                                ; ERROR ?
9279 066032 103006                BCC    1104          ; NO
9280 066034                ERRHRD 492.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP   C#ERRHRD
                                .WORD  492
                                .WORD  ERR006
                                .WORD  MSG003
9281 066044                ESCAPE TST           ; AND ABORT TEST
                                TRAP   C#ESCAPE
                                .WORD  L10057
9282                                ;
9283                                ;SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)

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9284 066050 012705 013654      110#:  MOV    #TDRB1C,R0      ; DEFAULT ONE BUFFER (RUNT PACKET)
9285 066054 004737 027046      JSR    PC,LDTDRB          ; LOAD TDRB
9286 066060 012705 013354      MOV    #RDRB1A,R5        ; DEFAULT ONE BUFFER RECEIVE RING
9287 066064 004737 027010      JSR    PC,LDRDRB          ; LOAD RDRB
9288
9289      ;SET UP BUFFERS AND START
9290 066070 012705 002266      MOV    #PCBB+2,R5        ; POINT TO DESTINATION ADDRESS
9291 066074 004737 026714      JSR    PC,LDDDEST        ; LOAD DEST
9292 066100 004737 027342      JSR    PC,SETBUF         ; SET UP BUFFERS
9293 066104 012777 000004      MOV    #START,#PCSR0     ; ISSUE START PORT COMMAND
9294 066112 004737 024574      JSR    PC,CHKDNI         ; DNI?
9295 066116 103006                BCC    120#              ; YES
9296 066120                ERRHRD 493.,ERR012,MSG003 ; NO, REPORT ERROR
          066120 104456                TRAP   C#ERRHRD
          066122 000755                .WORD 493
          066124 020633                .WORD ERR012
          066126 017110                .WORD MSG003
9297 066130                ESCAPE TST              ; AND ABORT TEST
          066130 104410                TRAP   C#ESCAPE
          066132 0C1034                .WORD L10057
9298
9299 066134 004737 025546      120#:  JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9300
9301 066140 103006                BCC    130#              ; ERROR ?
9302 066142                ERRHRD 494.,ERR006,MSG003 ; NO
          066142 104456                ; YES, REPORT ERROR
          066144 000756                TRAP   C#ERRHRD
          066146 020202                .WORD 494
          066150 017110                .WORD ERR006
          066152 017110                .WORD MSG003
9303 066152                ESCAPE TST              ; AND ABORT TEST
          066152 104410                TRAP   C#ESCAPE
          066154 001012                .WORD L10057
9304
9305 066156 004737 025404      130#:  JSR    PC,CHKTXI     ; TXI ?
9306 066162 103006                BCC    140#              ; YES
9307 066164                ERRHRD 495.,ERR013,MSG003 ; NO, REPORT ERROR
          066164 104456                TRAP   C#ERRHRD
          066166 000757                .WORD 495
          066170 020714                .WORD ERR013
          066172 017110                .WORD MSG003
9308 066174                ESCAPE TST              ; AND ABORT TEST
          066174 104410                TRAP   C#ESCAPE
          066176 000770                .WORD L10057
9309
9310 066200 004737 025730      140#:  JSR    PC,CLRTXI     ; WRITE ONE TO CLEAR TXI
9311
9312 066204 103006                BCC    150#              ; ERROR ?
9313 066206                ERRHRD 496.,ERR014,MSG003 ; NO
          066206 104456                ; YES, REPORT ERROR
          066210 000760                TRAP   C#ERRHRD
          066212 020745                .WORD 496
          066214 017110                .WORD ERR014
          066216 017110                .WORD MSG003
9314 066216                ESCAPE TST              ; AND ABORT TEST
          066216 104410                TRAP   C#ESCAPE
          066220 000746                .WORD L10057
9315
9316      ;CHECK FOR BUFL ERROR IN TDRB+6
    
```

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9317 066222 012705 002612      150$:  MOV    #TDRB+6,R5      ; R5 POINTS TO TDRB+6
9318 066226 011504              MOV    (R5),R4          ; R4 = TDRB+6
9319 066230 032704 100000      BIT    @BUFL,R4         ; BUFL SET ?
9320 066234 001006              BNE    160$            ; YES
9321 066236              ERRHRD 497.,ERR040     ; NO, REPORT ERROR
                                TRAP    C#ERRHRD
                                WORD    497
                                .WORD  ERR040
                                .WORD    0
9322 066246              ESCAPE TST
                                TRAP    C#ESCAPE
                                .WORD  L10057
9323
9324 066252 012777 000017 113746 160$:  MOV    #STOP,@PCSR0    ; ISSUE STOP PORT COMMAND
9325 066260 004737 024574      JSR    PC,CHKDNI        ; DNI ?
9326 066264 103006              BCC    170$            ; YES
9327 066266              ERRHRD 498.,ERR019,MSG003 ; NO, REPORT ERROR
                                TRAP    C#ERRHRD
                                WORD    498
                                .WORD  ERR019
                                .WORD  MSG003
9328 066276              ESCAPE TST              ; AND ABORT TEST
                                TRAP    C#ESCAPE
                                .WORD  L10057
9329
9330 066302 004737 025546      170$:  JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
9331                                ; ERROR ?
9332 066306 103006              BCC    180$            ; NO
9333 066310              ERRHRD 499.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C#ERRHRD
                                WORD    499
                                .WORD  ERR006
                                .WORD  MSG003
9334 066320              ESCAPE TST              ; AND ABORT TEST
                                TRAP    C#ESCAPE
                                .WORD  L10057
9335
9336                                ;
9337                                ;PART 2 - VERIFY PAD RUNT PACKET MODE
9338                                ;
9339                                ;WRITE MODE REGISTER = INTERNAL LOOPBACK , PROM
9340                                ; AND PAD RUNT PACKET MODE
9341                                ;
9341 066324 012705 013244      180$:  MOV    #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9342 066330 004737 026742      ISR    PC,LDPCCB        ; LOAD FUNCTION -> PCBB
9343 066334 013737 015122 002266 MOV    MODE25,PCBB+2    ; PROM, TPAD AND INTL MODE
9344 066342 012777 000002 113656 MOV    @GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
9345 066350 004737 024574      JSR    PC,CHKDNI        ; DNI ?
9346 066354 103006              BCC    190$            ; YES
9347 066356              ERRHRD 500.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C#ERRHRD
                                WORD    500
                                .WORD  ERR010
                                .WORD  MSG003
9348 066366              ESCAPE TST              ; AND ABORT TEST
                                TRAP    C#ESCAPE
                                .WORD  L10057
9349

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9350 066372 004737 025546      1901: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9351                                ; ERROR ?
9352 066376 103006              BCC      2001      ; NO
9353 066400 066400 104456      ERHRD   501.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C#ERHRD
                                .WORD     501
                                .WORD     ERR006
                                .WORD     MSG003
                                ESCAPE TST      ; AND ABORT TEST
                                TRAP      C#ESCAPE
                                .WORD     L10057
9354 066410 066410 104410      ;
                                ; SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)
                                2001: MOV      #TDRB1C,R5      ; DEFAULT BUFFER = RUNT PACKET
                                JSR      PC,LDTDRB      ; LOAD TDRB
                                MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
                                JSR      PC,LDRDRB      ; LOAD RDRB
9355                                ;
9356                                ; SET UP BUFFERS AND START
9357 066414 012705 013654      MOV      #WTPHYA+2,R5      ; POINT TO DESTINATION ADDRESS
9358 066420 004737 027046      JSR      PC,LDDDEST      ; LOAD DEST
9359 066424 012705 013354      JSR      PC,SETBUF      ; SET UP BUFFERS
9360 066430 004737 027010      MOV      #START,#PCSR0      ; ISSUE START PORT COMMAND
9361                                JSR      PC,CHKDNI      ; DNI?
9362                                BCC      2101      ; YES
9363 066434 012705 013146      ERHRD   502.,ERR012,MSG003 ; NO, REPORT ERROR
                                TRAP      C#ERHRD
                                .WORD     502
                                .WORD     ERR012
                                .WORD     MSG003
9364 066440 004737 026714      ESCAPE TST      ; AND ABORT TEST
9365 066444 004737 027342      TRAP      C#ESCAPE
9366 066450 012777 000004      .WORD     L10057
9367 066456 004737 024574      ;
9368 066462 103006              ;
9369 066464 066464 104456      ;
                                2101: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
                                BCC      2201      ; NO
                                ERHRD   503.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C#ERHRD
                                .WORD     503
                                .WORD     ERR006
                                .WORD     MSG003
9370 066474 066474 104410      ESCAPE TST      ; AND ABORT TEST
9371 066476 000476              TRAP      C#ESCAPE
9372 066500 004737 025546      .WORD     L10057
9373                                ;
9374 066504 103006              ;
9375 066506 066506 104456      ;
                                2201: JSR      PC,CHKTXI      ; TXI ?
                                BCC      2301      ; YES
                                ERHRD   504.,ERR013,MSG003 ; NO, REPORT ERROR
                                TRAP      C#ERHRD
                                .WORD     504
                                .WORD     ERR013
                                .WORD     MSG003
9376 066516 066516 104410      ESCAPE TST      ; AND ABORT TEST
9377 066520 000446              TRAP      C#ESCAPE
9378 066522 004737 025404      .WORD     L10057
9379 066526 103006              ;
9380 066530 066530 104456      ;
                                2301: JSR      PC,CHKTXI      ; TXI ?
                                BCC      2401      ; YES
                                ERHRD   504.,ERR013,MSG003 ; NO, REPORT ERROR
                                TRAP      C#ERHRD
                                .WORD     504
                                .WORD     ERR013
                                .WORD     MSG003
9381 066540 066540 104410      ESCAPE TST      ; AND ABORT TEST
9382 066542 000424              TRAP      C#ESCAPE
                                .WORD     L10057

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9383 066544 004737 025730      230$: JSR      PC,CLRTXI      ; WRITE ONE TO CLEAR TXI
9384                                     ; ERROR ?
9385 066550 103006             BCC      240$      ; NO
9386 066552             ERRHRD  505.,ERR014,MSG003 ; YES, REPORT ERROR
                                     TRAP      C#ERRHRD
                                     .WORD    505
                                     .WORD    ERR014
                                     .WORD    MSG003
9387 066562             ESCAPE  TST      ; AND ABORT TEST
9388 066562 104410             TRAP      C#ESCAPE
9389 066564 000402             .WORD    L10057 .
9389 066566 012705 002604      ;
9390 066572 004737 024676      240$: MOV      #TDRB,R5      ; CHECK TDRB OWNERSHIP
9391 066576 103006             JSR      PC,CHKOWN  ; OWN = PORT DRIVER ?
9392 066600             BCC      250$      ; YES
9393 066600             ERRHRD  506.,ERR018 ; NO, REPORT ERROR
                                     TRAP      C#ERRHRD
                                     .WORD    506
                                     .WORD    ERR018
                                     .WORD    0
9393 066610             ESCAPE  TST      ; AND ABORT TEST
9394 066610 104410             TRAP      C#ESCAPE
9395 066612 000354             .WORD    L10057-.
9394 066614 012705 014624      ;
9395 066620 004737 027252      250$: MOV      #TDR25A,R5   ; POINT TO EXPECTED TDRB
9396 066624 012705 002604      JSR      PC,LDXTDR  ; LOAD INTO XTDRBO TABLE
9397 066630 004737 025316      MOV      #TDRB,R5   ; CHECK TDRB
9398 066634 103006             JSR      PC,CHKTDR  ; ERRORS ?
9399 066636             BCC      260$      ; NO
9400 066636             ERRHRD  507.,ERR020,MSG005 ; YES, REPORT ERROR
                                     TRAP      C#ERRHRD
                                     .WORD    507
                                     .WORD    ERR020
                                     .WORD    MSG005
9401 066646             ESCAPE  TST      ; AND ABORT TEST
9402 066646 104410             TRAP      C#ESCAPE
9403 066652 004737 025132      ;
9404 066656 103006             260$: JSR      PC,CHKRXI   ; RXI ?
9405 066660             BCC      270$      ; YES
9406 066660             ERRHRD  508.,ERR015,MSG003 ; NO, REPORT ERROR
                                     TRAP      C#ERRHRD
                                     .WORD    508
                                     .WORD    ERR015
                                     .WORD    MSG003
9406 066670             ESCAPE  TST      ; AND ABORT TEST
9407 066670 104410             TRAP      C#ESCAPE
9408 066672 000274             .WORD    L10057 .
9408 066674 004737 025662      ;
9409 066700 103006             270$: JSR      PC,CLRRXI   ; WRITE ONE TO CLEAR RXI
9410 066702             BCC      280$      ; ERROR ?
9411 066702             ERRHRD  509.,ERR016,MSG003 ; YES, REPORT ERROR
                                     TRAP      C#ERRHRD
                                     .WORD    509
                                     .WORD    ERR016
                                     .WORD    MSG003
9411 066702 104456             .WORD    C#ERRHRD
9411 066704 000775             .WORD    509
9411 066706 021044             .WORD    ERR016
9411 066710 017110             .WORD    MSG003

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9412 066712          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      066712 104410          .WORD      L10057 .
      066714 000252
9413
9414 066716 012705 002644      ; 280$: MOV      #RDRB,R5          ; CHECK RDRB OWNERSHIP
9415 066722 004737 024676      JSR      PC,CHKOWN          ; OWN = PORT DRIVER ?
9416 066726 103C06          BCC     290$                ; YES
9417 066730          ERRHRD  510.,ERR017        ; NO, REPORT ERROR
      066730 104456          TRAP      C#ERRRD
      066732 0L 776          .WORD      510
      066734 021112          .WORD      ERR017
      066736 000000          .WORD      0
9418 066740          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      066740 104410          .WORD      L10057 .
      066742 000224
9419
9420 066744 012705 014634      ; 290$: MOV      #RDR14A,R5      ; POINT TO EXPECTED RDRB
9421 066750 004737 027222      JSR      PC,LDXRDR          ; LOAD INTO XRDRBO TABLE
9422 066754 012705 002644      MOV      #RDRB,R5          ; CHECK RDRB
9423 066760 004737 025032      JSR      PC,CHKRDR          ; ERRORS ?
9424 066764 103006          BCC     300$                ; NO
9425 066766          ERRHRD  511.,ERR021,MSG006  ; YES, REPORT ERROR
      066766 104456          TRAP      C#ERRRD
      066770 000777          .WORD      511
      066772 021453          .WORD      ERR021
      066774 017356          .WORD      MSG006
9426 066776          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      066776 104410          .WORD      L10057-.
      067000 000166
9427
9428      ;COMPARE RBUF WITH DEFAULT PADDED RUNT PACKET
9429 067002 012705 000027      300$: MOV      #23.,R5          ; COMPARE 23 WORDS OF DATA
9430 067006 004737 026044      JSR      PC,CHPDAT          ; DATA COMPARE ERROR ?
9431 067012 103006          BCC     310$                ; NO
9432 067014          ERRHRD  512.,ERR022,MSG007  ; YES, REPORT ERROR
      067014 104456          TRAP      C#ERRRD
      067016 001000          .WORD      512
      067020 021534          .WORD      ERR022
      067022 017520          .WORD      MSG007
9433 067024          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      067024 104410          .WORD      L10057 .
      067026 000140
9434
9435      ;CHECK FOR PADDING
9436 067030 012705 000001      310$: MOV      #1.,R5          ; COMPARE 1 WORD OF DATA PADDING
9437 067034 004737 026254      JSR      PC,CHPRNT          ; DATA COMPARE ERROR ?
9438 067040 103006          BCC     320$                ; NO
9439 067042          ERRHRD  513.,ERR041,MSG007  ; YES, REPORT ERROR
      067042 104456          TRAP      C#ERRRD
      067044 001001          .WORD      513
      067046 023550          .WORD      ERR041
      067050 017520          .WORD      MSG007
9440 067052          ESCAPE TST          ; AND ABORT TEST          TRAP      C#ESCAPE
      067052 10441C          .WORD      L10057 .
      067054 000112
9441
9442 067056 012705 015100      ; 320$: MOV      #CRC25B,R5      ; POINT TO EXPECTED CRCB

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Mt

9443	067062	004737	027176		JSR	PC,LDXCRC		; LOAD INTO XCRC TABLE		
9444	067066	012705	007200		MOV	#RBUF+60.,R5		; CHECK CRC		
9445	067072	004737	026124		JSR	PC,CMPCRC		; ERRORS ?		
9446	067076	103006			BCC	330#		; NO		
9447	067100				ERRHRD	514.,ERR023,MSG008		; YES, REPORT ERROR		
	067100	104456							TRAP	C#ERHRD
	067102	001002							.WORD	514
	067104	021603							.WORD	ERR023
	067106	017552							.WORD	MSG008
9448	067110				ESCAPE	TST		; AND ABORT TEST		
	067110	104410							TRAP	C#ESCAPE
	067112	000054							.WORD	L10057
9449										
9450	067114	012777	000017	113104	i	MOV	#STOP,@PCSR0	; ISSUE STOP PORT COMMAND		
9451	067122	004737	024574		330#:	JSR	PC,CHKDNI	; DNI ?		
9452	067126	103006				BCC	340#	; YES		
9453	067130					ERRHRD	515.,ERR019,MSG003	; NO, REPORT ERROR		
	067130	104456							TRAP	C#ERHRD
	067132	001003							.WORD	515
	067134	021312							.WORD	ERR019
	067136	017110							.WORD	MSG003
9454	067140				ESCAPE	TST		; AND ABORT TEST		
	067140	104410							TRAP	C#ESCAPE
	067142	000024							.WORD	L10057
9455										
9456	067144	004737	025546		i	JSR	PC,LLR0NI	; WRITE ONE TO CLEAR DNI		
9457					340#:			; ERROR ?		
9458	067150	103006				BCC	350#	; NO		
9459	067152					ERRHRD	516.,ERR006,MSG003	; YES, REPORT ERROR		
	067152	104456							TRAP	C#ERHRD
	067154	001004							.WORD	516
	067156	020202							.WORD	ERR006
	067160	017110							.WORD	MSG003
9460	067162				ESCAPE	TST		; AND ABORT TEST		
	067162	104410							TRAP	C#ESCAPE
	067164	000002							.WORD	L10057
9461	067166				350#:					
9462	067166					ENDTST				
	067166								L10057:	
	067166	104401							TRAP	C#ETST

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.SBTTL TEST 26: HALF DUPLEX TEST

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:*****
:
: THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL
: WHILE IN HALF DUPLEX MODE,
: A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
: THE DEUNA'S PHYSICAL ADDRESS.
: INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
: CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
: DESTINATION ADDRESS.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER      INTERNAL LOOPBACK AND
:                                     HALF DUPLEX MODES
:   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 (MATCH BIT SHOULD BE SET)
:   7. CHECK FOR NO RXI
:   8. ISSUE STOP
:   9. SET UP RINGS AND BUFFERS
:       WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
:  10. ISSUE START
:  11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
:  12. CHECK FOR NO RXI
:  13. ISSUE STOP
:*****
    
```

```

9496 067170      BGNTST
9497 067170      JSR      PC,TINIT          ; IS A DEVICE RESET NEEDED?
9498 067174      BCC      30$              ; NO
9499 067176      MOV      @RSET,@PCSR0    ; YES, RESET DEUNA
9500 067204      JSR      PC,CHKDNI       ; DNI ?
9501 067210      BCC      20$              ; YES
9502 067212      ERRHRD  517.,ERR004,MSG003 ; NO, REPORT ERROR
          067212      104456              TRAP      C$ERHRD
          067214      001005              .WORD     517
          067216      020102              .WORD     ERR004
          067220      017110              .WORD     MSG003
9503 067222      ESCAPE TST              ; AND ABORT TEST
          067222      104410              TRAP      C$ESCAPE
          067224      001254              .WORD     L10060
9504
9505 067226      004737 025546      20$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
9506
9507 067232      103006      BCC      30$              ; ERROR ?
9508 067234      ERRHRD  518.,ERR006,MSG003 ; YES, REPORT ERROR
          067234      104456              TRAP      C$ERHRD
          067236      001006              .WORD     518
          067240      020202              .WORD     ERR006
          067242      017110              .WORD     MSG003
9509 067244      ESCAPE TST              ; AND ABORT TEST
    
```

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067244 104410
067246 001232
9510
9511 067250 004737 026772 301: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
9512 067254 012777 000001 112744 MOV #GETPCB,BPCSR0 ; ISSUE GET_PCBB PORT COMMAND
9513 067262 004737 024574 JSR PC,CHKDNI ; DNI?
9514 067266 103006 BCC 401 ; YES
9515 067270 ERRMRD 519.,ERR009,MSG003 ; NO, REPORT ERROR
067270 104456
067272 001007
067274 020416
067276 017110
9516 067300 ESCAPE TST ; AND ABORT TEST
067300 104410
067302 001176
9517
9518 067304 004737 025546 401: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9519 BCC 501 ; ERROR ?
9520 067310 103006 ERRMRD 520.,ERR006,MSG003 ; NO
9521 067312 104456 ; YES, REPORT ERROR
067312 104456
067314 001010
067316 020202
067320 017110
9522 067322 ESCAPE TST ; AND ABORT TEST
067322 104410
067324 001154
9523
9524 ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND HALF DUPLEX MODE
9525 067326 012705 013244 501: MOV #WTHODE,RS ; DEFAULT WRITE MODE FUNCTION
9526 067332 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
9527 067336 013737 015124 002266 MOV MODE26,PCBB+2 ; MODE = INTL, HDUP
9528 067344 012777 000002 112654 MOV #GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
9529 067352 004737 024574 JSR PC,CHKDNI ; DNI ?
9530 067356 103006 BCC 601 ; YES
9531 067360 ERRMRD 521.,ERR010,MSG003 ; NO, REPORT ERROR
067360 104456
067362 001011
067364 020502
067366 017110
9532 067370 ESCAPE TST ; AND ABORT TEST
067370 104410
067372 001106
9533
9534 067374 004737 025546 601: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9535 BCC 701 ; ERROR ?
9536 067400 103006 ERRMRD 522.,ERR006,MSG003 ; NO
9537 067402 104456 ; YES, REPORT ERROR
067402 104456
067404 001012
067406 020202
067410 017110
9538 067412 ESCAPE TST ; AND ABORT TEST
067412 104410
067414 001064
9539
9540 ; WRITE RING FORMAT

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TRAP C1ESCAPE
.WORD L10060
TRAP C1ERRRD
.WORD 519
.WORD ERR009
.WORD MSG003
TRAP C1ESCAPE
.WORD L10060
TRAP C1ERRRD
.WORD 520
.WORD ERR006
.WORD MSG003
TRAP C1ESCAPE
.WORD L10060
TRAP C1ERRRD
.WORD 521
.WORD ERR010
.WORD MSG003
TRAP C1ERRRD
.WORD 522
.WORD ERR006
.WORD MSG003
TRAP C1ESCAPE
.WORD L10060

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9541 067416 012705 013204      701:  MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
9542 067422 004737 026742      JSR    PC,LDPCCB      ; LOAD FUNCTION -> PCBB
9543 067426 012705 013324      MOV    #RFRMT,R5     ; DEFAULT RING FORMAT
9544 067432 012700 000006      MOV    #6,R0         ; FORMAT = SIX WORDS
9545 067436 004737 027142      JSR    PC,LDUDBB     ; LOAD RING FORMAT -> UDBB
9546 067442 012777 000002      MOV    #GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
9547 067450 004737 024574      JSR    PC,CHKDNI    ; DNI ?
9548 067454 103006      BCC    801          ; YES
9549 067456      ERRHRD 523.,ERR010,MSG003 ; NO, REPORT ERROR
      067456 104456      TRAP   C1ERRHRD
      067460 001013      .WORD 523
      067462 020502      .WORD ERR010
      067464 017110      .WORD MSG003
9550 067466      ESCAPE TST          ; AND ABORT TEST
      067466 104410      TRAP   C1ESCAPE
      067470 001010      .WORD L10060
9551
9552 067472 004737 025546      ;
9553      801:  JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
9554 067476 103006      BCC    901          ; ERROR ?
9555 067500      ERRHRD 524.,ERR006,MSG003 ; NO
      067500 104456      TRAP   C1ERRHRD
      067502 001014      .WORD 524
      067504 020202      .WORD ERR006
      067506 017110      .WORD MSG003
9556 067510      ESCAPE TST          ; AND ABORT TEST
      067510 104410      TRAP   C1ESCAPE
      067512 000766      .WORD L10060
9557
9558      ;
9559 067514 012705 013144      ; WRITE PHYSICAL ADDRESS
9560 067520 004737 026742      901:  MOV    #WTPHYA,R5   ; DEFAULT WRITE PHYSICAL ADDR FUNC
      JSR    PC,LDPCCB   ; LOAD FUNCTION -> PCBB
9561      ; LOAD DEFAULT PHYSICAL ADDRESS
9562 067524 012703 014320      MOV    #ADR21,R3     ; POINT TO PHYSICAL ADDRESS
9563 067530 012704 002266      MOV    #PCBB*2,R4    ; POINT TO PCBB * 2
9564 067534 012324      MOV    (R3)+,(R4)+   ; LOAD ADDRESS
9565 067536 012324      MOV    (R3)+,(R4)+
9566 067540 012324      MOV    (R3)+,(R4)+
9567 067542 012777 000002      MOV    #GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
9568 067550 004737 024574      JSR    PC,CHKDNI    ; DNI ?
9569 067554 103006      BCC    1001         ; YES
9570 067556      ERRHRD 525.,ERR010,MSG003 ; NO, REPORT ERROR
      067556 104456      TRAP   C1ERRHRD
      067560 001015      .WORD 525
      067562 020502      .WORD ERR010
      067564 017110      .WORD MSG003
9571 067566      ESCAPE TST          ; AND ABORT TEST
      067566 104410      TRAP   C1ESCAPE
      067570 000710      .WORD L10060
9572
9573 067572 004737 025546      ;
9574      1001: JSR    PC,CLRDNI  ; WRITE ONE TO CLEAR DNI
9575 067576 103006      BCC    1101         ; ERROR ?
9576 067600      ERRHRD 526.,ERR006,MSG003 ; NO
      067600 104456      TRAP   C1ERRHRD
      067602 001016      .WORD 526
      067604 020202      .WORD ERR006

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9577	067606	017110		ESCAPE TST		; AND ABORT TEST	.WORD	MSG003
	067610						TRAP	C#ESCAPE
	067610	104410					.WORD	L10060
	067612	000666						
9578								
9579								
9580	067614	012705	013554					
9581	067620	004737	027046	1101:	MOV #TDRB1A,R5			
9582	067624	012705	013354		JSR PC,LDTDRB			
9583	067630	004737	027010		MOV #RDRB1A,R5			
9584					JSR PC,LDRDRB			
9585								
9586	067634	012705	002266					
9587	067640	004737	026714					
9588	067644	004737	027342					
9589	067650	012777	000004	112350				
9590	067656	004737	024574					
9591	067662	103006						
9592	067664							
	067664	104456						
	067666	001017						
	067670	020633						
	067672	017110						
9593	067674							
	067674	104410						
	067676	000602						
9594								
9595	067700	004737	025546					
9596								
9597	067704	103006						
9598	067706							
	067706	104456						
	067710	001020						
	067712	020202						
	067714	017110						
9599	067716							
	067716	104410						
	067720	000560						
9600								
9601	067722	004737	025404					
9602	067726	103006						
9603	067730							
	067730	104456						
	067732	001021						
	067734	020714						
	067736	017110						
9604	067740							
	067740	104410						
	067742	000536						
9605								
9606	067744	004737	025730					
9607								
9608	067750	103006						
9609	067752							
	067752	104456						
	067754	001022						
	067756	020745						



9610	067760	017110			ESCAPE TST	; AND ABORT TEST	.WORD	MSG003
	067762						TRAP	C#ESCAPE
	067762	104410					.WORD	L10060
	067764	000514					.WORD	
9611								
9612	067766	012705	002604	150#:	MOV #TDRB,R5	; CHECK TDRB OWNERSHIP		
9613	067772	004737	024676		JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
9614	067776	103006			BCC 160#	; YES		
9615	070000				ERRHRD 531.,ERR018	; NO, REPORT ERROR		
	070000	104456					TRAP	L#ERRRD
	070002	001023					.WORD	531
	070004	021212					.WORD	ERR018
	070006	000000					.WORD	0
9616	070010				ESCAPE TST	; AND ABORT TEST		
	070010	104410					TRAP	C#ESCAPE
	070012	000466					.WORD	L10060
9617								
9618	070014	012705	014524	160#:	MOV #TDR14A,R5	; POINT TO EXPECTED TDRB		
9619	070020	004737	027252		JSR PC,LDXTR	; LOAD INTO XTDRB0 TABLE		
9620	070024	012705	002604		MOV #TDRB,R5	; CHECK TDRB		
9621	070030	004737	025316		JSR PC,CHKTR	; ERRORS ?		
9622	070034	103006			BCC 170#	; NO		
9623	070036				ERRHRD 532.,ERR020,MSG005	; YES, REPORT ERROR		
	070036	104456					TRAP	C#ERRRD
	070040	001024					.WORD	532
	070042	021372					.WORD	ERR020
	070044	017214					.WORD	MSG005
9624	070046				ESCAPE TST	; AND ABORT TEST		
	070046	104410					TRAP	C#ESCAPE
	070050	000430					.WORD	L10060-
9625								
9626	070052	004737	027302	170#:	JSR PC,NORXI	; RXI ?		
9627	070056	103006			BCC 180#	; NO		
9628	070060				ERRHRD 533.,ERR046	; YES, REPORT ERROR		
	070060	104456					TRAP	C#ERRRD
	070062	001025					.WORD	533
	070064	024064					.WORD	ERR046
	070066	000000					.WORD	0
9629	070070				ESCAPE TST	; AND ABORT TEST		
	070070	104410					TRAP	C#ESCAPE
	070072	000406					.WORD	L10060-
9630								
9631	070074	012777	000017	112124	180#:	MOV #STOP,S#PCSRO	; ISSUE STOP PORT COMMAND	
9632	070102	004737	024574		JSR PC,CHKDNI	; DNI ?		
9633	070106	103006			BCC 240#	; YES		
9634	070110				ERRHRD 534.,ERR019,MSG003	; NO, REPORT ERROR		
	070110	104456					TRAP	C#ERRRD
	070112	001026					.WORD	534
	070114	021312					.WORD	ERR019
	070116	017110					.WORD	MSG003
9635	070120				ESCAPE TST	; AND ABORT TEST		
	070120	104410					TRAP	C#ESCAPE
	070122	000356					.WORD	L10060-
9636								
9637	070124	004737	025546	240#:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
9638						; ERROR ?		
9639	070130	103006			BCC 250#	; NO		

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9640 070132          ERRHRD  535.,ERR006,MSG003      ; YES, REPORT ERROR
      070132 104456
      070134 001027
      070136 020202
      070140 017110
9641 070142          ESCAPE  TST                    ; AND ABORT TEST
      070142 104410
      070144 000334
9642
9643                ; DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
9644
9645                ; SET UP RINGS FOR ONE BUFFER LOOPBACK
9646 070146 012705 013554 250$: MOV    @TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
9647 070152 004737 027046        JSR    PC,LDTDRB      ; LOAD TORB
9648 070156 012705 013354        MOV    @RDRB1A,R5     ; DEFAULT ONE BUFFER RECEIVE RING
9649 070162 004737 027010        JSR    PC,LDRDRB      ; LOAD RDRB
9650
9651                ; SET UP BUFFERS AND START
9652 070166 012705 014326        MOV    @ADR21C,R5    ; POINT TO COMPLEMENTED ADDRESS
9653 070172 004737 026714        JSR    PC,LDDDEST    ; LOAD DEST
9654 070176 004737 027342        JSR    PC,SETBUF     ; SET UP BUFFERS
9655 070202 012777 000004 112016 MOV    @START,@PCSR0 ; ISSUE START PORT COMMAND
9656 070210 004737 024574        JSR    PC,CHKDNI     ; DNI?
9657 070214 103006                BCC    260$         ; YES
9658 070216          ERRHRD  536.,ERR012,MSG003      ; NO, REPORT ERROR
      070216 104456
      070220 001030
      070222 020633
      070224 017110
9659 070226          ESCAPE  TST                    ; AND ABORT TEST
      070226 104410
      070230 000250
9660
9661 070232 004737 025546 260$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9662
9663 070236 103006                BCC    270$         ; NO
9664 070240          ERRHRD  537.,ERR006,MSG003      ; YES, REPORT ERROR
      070240 104456
      070242 001031
      070244 020202
      070246 017110
9665 070250          ESCAPE  TST                    ; AND ABORT TEST
      070250 104410
      070252 000226
9666
9667 070254 004737 025404 270$: JSR    PC,CHKTXI     ; TXI ?
9668 070260 103006                BCC    280$         ; YES
9669 070262          ERRHRD  538.,ERR013,MSG003      ; NO, REPORT ERROR
      070262 104456
      070264 001032
      070266 020714
      070270 017110
9670 070272          ESCAPE  TST                    ; AND ABORT TEST
      070272 104410
      070274 000204
9671
9672 070276 004737 025730 280$: JSR    PC,CLRTXI     ; WRITE ONE TO CLEAR TXI
    
```

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TRAP  C#ERRHRD
.WORD 535
.WORD ERR006
.WORD MSG003

TRAP  C#ESCAPE
.WORD L10060

TRAP  C#ERRHRD
.WORD 536
.WORD ERR012
.WORD MSG003

TRAP  C#ESCAPE
.WORD L10060

TRAP  C#ERRHRD
.WORD 537
.WORD ERR006
.WORD MSG003

TRAP  C#ESCAPE
.WORD L10060

TRAP  C#ERRHRD
.WORD 538
.WORD ERR013
.WORD MSG003

TRAP  C#ESCAPE
.WORD L10060
    
```





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.SBTTL TEST 27: SIMULTANEOUS OPERATIONS TEST

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:*****
:
: THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
: A CHAINED 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
:      THREE TRANSMIT AND RECEIVE BUFFERS
:   5. SET UP READ COUNTERS FUNCTION
:   6. ISSUE START
:   7. ISSUE GET COMMAND PORT COMMAND
:   8. CHECK FOR ERRORS
:   9. ISSUE STOP
:*****
    
```

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9734 070502          BGNTST
      070502
9735 070502 004737 027446      JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
9736 070506 103025          BCC    30$              ; NO
9737 070510 012777 000040 111510  MOV    @RSET,@PCSR0     ; YES, RESET DEUNA
9738 070516 004737 024574      JSR    PC,CHKDNI        ; DNI ?
9739 070522 103006          BCC    20$              ; YES
9740 070524          ERRHRD  545.,ERR004,MSG003      ; NO, REPORT ERROR
      070524 104456          TRAP   C#ERRHRD
      070526 001041          .WORD  545
      070530 020102          .WORD  ERR004
      070532 017110          .WORD  MSG003
9741 070534          ESCAPE  TST                      ; AND ABORT TEST
      070534 104410          TRAP   C#ESCAPE
      070536 001472          .WORD  L10061
9742
9743 070540 004737 025546      ; 20$: JSR    PC,CLR0NI      ; WRITE ONE TO CLEAR DNI
9744
9745 070544 103006          BCC    30$              ; ERROR ?
9746 070546          ERRHRD  546.,ERR006,MSG003      ; YES, REPORT ERROR
      070546 104456          TRAP   C#ERRHRD
      070550 001042          .WORD  546
      070552 020202          .WORD  ERR006
      070554 017110          .WORD  MSG003
9747 070556          ESCAPE  TST                      ; AND ABORT TEST
      070556 104410          TRAP   C#ESCAPE
      070560 001450          .WORD  L10061
9748
9749 070562 004737 026772      ; 30$: JSR    PC,LDP0SR      ; ADDRESS OF PCBB -> PCSR2!3
9750 070566 012777 000001 111432  MOV    @GETPCB,@PCSP0  ; ISSUE GET_PCBB PORT COMMAND
9751 070574 004737 024574      JSR    PC,CHKDNI        ; DNI?
9752 070600 103006          BCC    40$              ; YES
9753 070602          ERRHRD  547.,ERR009,MSG003      ; NO, REPORT ERROR
      070602 104456          TRAP   C#ERRHRD
      070604 001043          .WORD  547
    
```

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070606 020416 .WORD ERRO09
070610 017110 .WORD MSG003
9754 070612 ESCAPE TST ; AND ABORT TEST
070612 104410 TRAP C#ESCAPE
070614 01414 .WORD L10061 .
9755
9756 070616 004737 025546 ; 40$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9757 ; ERROR ?
9758 070622 103006 BCC 50$ ; NO
9759 070624 ERRHRD 548.,ERR006,MSG003 ; YES, REPORT ERROR
070624 104456 TRAP C#ERMPD
070626 001044 .WORD 548
070630 020202 .WORD ERRO06
070632 017110 .WORD MSG003
9760 070634 ESCAPE TST ; AND ABORT TEST
070634 104410 TRAP C#ESCAPE
070636 001372 .WORD L10061 .
9761
9762 ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9763 070640 012705 013244 50$: MOV #WTRNGS,R5 ; DEFAULT WRITE MODE FUNCTION
9764 070644 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
9765 070650 012777 000002 111350 MOV #GETCMD,SPCSR0 ; ISSUE GET_CMD PORT COMMAND
9766 070656 004737 024574 JSR PC,CHKDNI ; DNI ?
9767 070662 103006 BCC 60$ ; YES
9768 070664 ERRHRD 549.,ERR010,MSG003 ; NO, REPORT ERROR
070664 104456 TRAP C#ERHRD
070666 001045 .WORD 549
070670 020502 .WORD ERRO10
070672 017110 .WORD MSG003
9769 070674 ESCAPE TST ; AND ABORT TEST
070674 104410 TRAP C#ESCAPE
070676 001332 .WORD L10061 .
9770
9771 070700 004737 025546 ; 60$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9772 ; ERROR ?
9773 070704 103006 BCC 70$ ; NO
9774 070706 ERRHRD 550.,ERR006,MSG003 ; YES, REPORT ERROR
070706 104456 TRAP C#ERHRD
070710 001046 .WORD 550
070712 020202 .WORD ERRO06
070714 017110 .WORD MSG003
9775 070716 ESCAPE TST ; AND ABORT TEST
070716 104410 TRAP C#ESCAPE
070720 001310 .WORD L10061 .
9776
9777 ; WRITE RING FORMAT
9778 070722 012705 013204 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
9779 070726 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
9780 070732 012705 013324 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
9781 070736 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
9782 070742 004737 027142 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
9783 070746 012777 000002 111252 MOV #GETCMD,SPCSR0 ; ISSUE GET_CMD PORT COMMAND
9784 070754 004737 024574 JSR PC,CHKDNI ; DNI ?
9785 070760 103006 BCC 80$ ; YES
9786 070762 ERRHRD 551.,ERR010,MSG003 ; NO, REPORT ERROR
070762 104456 TRAP C#ERHRD
070764 001047 .WORD 551

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070766 020502 .WORD ERR010
070770 017110 .WORD MSG003
9787 070772 ESCAPE TST ; AND ABORT TEST
070772 104410 TRAP C#ESCAPE
070774 001234 .WORD L10061
9788
9789 070776 004737 025546 ; 80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9790 ; ERROR ?
9791 071002 103006 BCC 90$ ; NO
9792 071004 ERRHRD 552.,ERR006,MSG003 ; YES, REPORT ERROR
071004 104456 TRAP C#ERHRD
071006 001050 .WORD 552
071010 020202 .WORD ERR006
071012 017110 .WORD MSG003
9793 071014 ESCAPE TST ; AND ABORT TEST
071014 104410 TRAP C#ESCAPE
071016 001212 .WORD L10061
9794
9795 ;WRITE PHYSICAL ADDRESS
9796 071020 012705 013144 90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
9797 071024 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
9798 071030 012777 000002 111170 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9799 071036 004737 024574 JSR PC,CHKDNI ; DNI ?
9800 071042 103006 BCC 100$ ; YES
9801 071044 ERRHRD 553.,ERR010,MSG003 ; NO, REPORT ERROR
071044 104456 TRAP C#ERHRD
071046 001051 .WORD 553
071050 020502 .WORD ERR010
071052 017110 .WORD MSG003
9802 071054 ESCAPE TST ; AND ABORT TEST
071054 104410 TRAP C#ESCAPE
071056 001152 .WORD L10061
9803
9804 071060 004737 025546 ; 100$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9805 ; ERROR ?
9806 071064 103006 BCC 110$ ; NO
9807 071066 ERRHRD 554.,ERR006,MSG003 ; YES, REPORT ERROR
071066 104456 TRAP C#ERHRD
071070 001052 .WORD 554
071072 020202 .WORD ERR006
071074 017110 .WORD MSG003
9808 071076 ESCAPE TST ; AND ABORT TEST
071076 104410 TRAP C#ESCAPE
071100 001130 .WORD L10061
9809
9810 ;SET UP RINGS FOR THREE BUFFERS CHAINED LOOPBACK
9811 071102 012705 013754 110$: MOV #TDRB3A,R5 ; DEFAULT THREE BUFFER TRANSMIT RING
9812 071106 004737 027046 JSR PC,LDTDRB ; LOAD TDRB
9813 071112 012705 013514 MOV #RDRB3A,R5 ; DEFAULT THREE BUFFER RECEIVE RING
9814 071116 004737 027010 JSR PC,LDRDRB ; LOAD RDRB
9815
9816 ;SET UP BUFFERS
9817 071122 012705 002266 MOV #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS
9818 071126 004737 026714 JSR PC,LDDDEST ; LOAD DEST
9819 071132 004737 027342 JSR PC,SETBUF ; SET UP BUFFERS
9820
9821 ;SET UP READ COUNTERS FUNCTION
    
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9822 071136 012705 013214      MOV      #RDCNT,R5      ; DEFAULT READ COUNTERS FUNCTION
9823 071142 004737 026742      JSR      PC,LDPCCB     ; LOAD FUNCTION -> PCBB
9824
9825      ;ISSUE START
9826 071146 012777 000004 111052  MOV      #START,#PCSR0 ; ISSUE START PORT COMMAND
9827 071154 004737 024574      JSR      PC,CHKDNI     ; DNI?
9828 071160 103006      BCC     115#          ; YES
9829 071162      ERRHRD 555.,ERR012,MSG003 ; NO, REPORT ERROR
          071162 104456      TRAP   C#ERRHD
          071164 001053      .WORD 555
          071166 020633      .WORD ERR012
          071170 017110      .WORD MSG003
9830 071172      ESCAPE TST          ; AND ABORT TEST
          071172 104410      TRAP   C#ESCAPE
          071174 0C1034      .WORD L10061
9831
9832 071176 004737 025546      ;115#: JSR      PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9833      BCC     120#          ; ERROR ?
9834 071202 103006      ERRHRD 556.,ERR006,MSG003 ; NO
9835 071204      BCC     120#          ; YES, REPORT ERROR
          071204 104456      TRAP   C#ERRHD
          071206 001054      .WORD 556
          071210 020202      .WORD ERR006
          071212 017110      .WORD MSG003
9836 071214      ESCAPE TST          ; AND ABORT TEST
          071214 104410      TRAP   C#ESCAPE
          071216 001012      .WORD L10061
9837
9838      ;ISSUE GET COMMAND FOR READ COUNTERS FUNCTION
9839 071220 012777 000002 111000 120#: MOV      #GETCMD,#PCSR0 ; ISSUE GET_CMD PORT COMMAND
9840 071226 004737 024574      JSR      PC,CHKDNI     ; DNI ?
9841 071232 103006      BCC     125#          ; YES
9842 071234      ERRHRD 557.,ERR044,MSG003 ; NO, REPORT ERROR
          071234 104456      TRAP   C#ERRHD
          071236 001055      .WORD 557
          071240 023706      .WORD ERR044
          071242 017110      .WORD MSG003
9843 071244      ESCAPE TST          ; AND ABORT TEST
          071244 104410      TRAP   C#ESCAPE
          071246 000762      .WORD L10061
9844
9845 071250 004737 025546      ;125#: JSR      PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9846      BCC     130#          ; ERROR ?
9847 071254 103006      ERRHRD 558.,ERR006,MSG003 ; NO
9848 071256      BCC     130#          ; YES, REPORT ERROR
          071256 104456      TRAP   C#ERRHD
          071260 001056      .WORD 558
          071262 020202      .WORD ERR006
          071264 017110      .WORD MSG003
9849 071266      ESCAPE TST          ; AND ABORT TEST
          071266 104410      TRAP   C#ESCAPE
          071270 000740      .WORD L10061
9850
9851 071272 004737 025404      ;130#: JSR      PC,CHKTXI ; TXI ?
9852 071276 103006      BCC     140#          ; YES
9853 071300      ERRHRD 559.,ERR013,MSG003 ; NO, REPORT ERROR
          071300 104456      TRAP   C#ERRHD

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071302 001057 .WORD 559
071304 020714 .WORD ERRO13
071306 017110 .WORD MSG003
9854 071310 ESCAPE TST ; AND ABORT TEST
071310 104410 TRAP C#ESCAPE
071312 000716 .WORD L10051
9855
9856 071314 004737 025730 ; 140#: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
9857 ; ERROR ?
9858 071320 103006 BCC 150# ; NO
9859 071322 ERRHRD 560.,ERR014,MSG003 ; YES, REPORT ERROR
071322 104456 TRAP C#ERHRD
071324 001060 .WORD 560
071326 020745 .WORD ERRO14
071330 017110 .WORD MSG003
9860 071332 ESCAPE TST ; AND ABORT TEST
071332 104410 TRAP C#ESCAPE
071334 000674 .WORD L10061
9861 ;CHECK FIRST RING ENTRY
9862 071336 012705 002604 150#: MOV #TDRB,R5 ; CHECK TDRB OWNERSHIP
9863 071342 004737 024676 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
9864 071346 103006 BCC 160# ; YES
9865 071350 ERRHRD 561.,ERR027 ; NO, REPORT ERROR
071350 104456 TRAP C#ERHRD
071352 001061 .WORD 561
071354 021773 .WORD ERRO27
071356 000000 .WORD 0
9866 071360 ESCAPE TST ; AND ABORT TEST
071360 104410 TRAP C#ESCAPE
071362 000646 .WORD L10061
9867
9868 071364 012705 014564 ; 160#: MOV #TDR20A,R5 ; POINT TO EXPECTED TDRB
9869 071370 004737 027252 JSR PC,L0XTDR ; LOAD INTO XTDRBO TABLE
9870 071374 012705 002604 MOV #TDRB,R5 ; CHECK TDRB
9871 071400 004737 025316 JSR PC,CHKTDR ; ERRORS ?
9872 071404 103006 BCC 162# ; NO
9873 071406 ERRHRD 562.,ERR033,MSG005 ; YES, REPORT ERROR
071406 104456 TRAP C#ERHRD
071410 001062 .WORD 562
071412 022633 .WORD ERRO33
071414 017214 .WORD MSG005
9874 071416 ESCAPE TST ; AND ABORT TEST
071416 104410 TRAP C#ESCAPE
071420 000610 .WORD L10061
9875 ;CHECK SECOND RING ENTRY
9876 071422 012705 002614 162#: MOV #TDRB+8.,R5 ; CHECK TDRB OWNERSHIP
9877 071426 004737 024676 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
9878 071432 103006 BCC 164# ; YES
9879 071434 ERRHRD 563.,ERR028 ; NO, REPORT ERROR
071434 104456 TRAP C#ERHRD
071436 001063 .WORD 563
071440 022100 .WORD ERRO28
071442 000000 .WORD 0
9880 071444 ESCAPE TST ; AND ABORT TEST
071444 104410 TRAP C#ESCAPE
071446 000562 .WORD L10061
9881 ;

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9882	071450	012705	014574	164#:	MOV	#TDR208,R5	:	POINT TO EXPECTED TDRB		
9883	071454	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE		
9884	071460	012705	002614		MOV	#TDRB+8.,R5	:	CHECK TDRB		
9885	071464	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?		
9886	071470	103006			BCC	166#	:	NO		
9887	071472				ERRHRD	564.,ERR034,MSG005	:	YES, REPORT ERROR		
	071472	104456							TRAP	C#ERHRD
	071474	001064							.WORD	564
	071476	022722							.WORD	ERR034
	071500	017214							.WORD	MSG005
9888	071502				ESCAPE	TST	:	AND ABORT TEST		
	071502	104410							TRAP	C#ESCAPE
	071504	000524							.WORD	L10061
9889						:CHECK THIRD RING ENTRY				
9890	071506	012705	002624	166#:	MOV	#TDRB+16.,R5	:	CHECK TDRB OWNERSHIP		
9891	071512	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?		
9892	071516	103006			BCC	168#	:	YES		
9893	071520				ERRHRD	565.,ERR029	:	NO, REPORT ERROR		
	071520	104456							TRAP	C#ERHRD
	071522	001065							.WORD	565
	071524	022206							.WORD	ERR029
	071526	000000							.WORD	0
9894	071530				ESCAPE	TST	:	AND ABORT TEST		
	071530	104410							TRAP	C#ESCAPE
	071532	000476							.WORD	L10061
9895										
9896	071534	012705	014604	168#:	MOV	#TDR20C,R5	:	POINT TO EXPECTED TDRB		
9897	071540	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE		
9898	071544	012705	002624		MOV	#TDRB+16.,R5	:	CHECK TDRB		
9899	071550	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?		
9900	071554	103006			BCC	170#	:	NO		
9901	071556				ERRHRD	566.,ERR035,MSG005	:	YES, REPORT ERROR		
	071556	104456							TRAP	C#ERHRD
	071560	001066							.WORD	566
	071562	023012							.WORD	ERR035
	071564	017214							.WORD	MSG005
9902	071566				ESCAPE	TST	:	AND ABORT TEST		
	071566	104410							TRAP	C#ESCAPE
	071570	000440							.WORD	L10061
9903										
9904	071572	004737	025132	170#:	JSR	PC,CHKRXI	:	RXI ?		
9905	071576	103006			BCC	180#	:	YES		
9906	071600				ERRHRD	567.,ERR015,MSG003	:	NO, REPORT ERROR		
	071600	104456							TRAP	C#ERHRD
	071602	001067							.WORD	567
	071604	021013							.WORD	ERR015
	071606	017110							.WORD	MSG003
9907	071610				ESCAPE	TST	:	AND ABORT TEST		
	071610	104410							TRAP	C#ESCAPE
	071612	000416							.WORD	L10061
9908										
9909	071614	004737	025662	180#:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI		
9910										
9911	071620	103006			BCC	190#	:	ERROR ?		
9912	071622				ERRHRD	568.,ERR016,MSG003	:	NO		
	071622	104456								
	071624	001070							TRAP	C#ERHRD
									.WORD	568

	071626	021044					.WORD	ERR016
	071630	017110					.WORD	MSG003
9913	071632			ESCAPE	TST	:	AND ABORT TEST	
	071632	104410					TRAP	C#ESCAPE
	071634	000374					.WORD	L10061
9914				:CHECK	FIRST RING ENTRY			
9915	071636	012705	002644	190#:	MOV	#RDRB,R5		: CHECK RDRB OWNERSHIP
9916	071642	004737	024676		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
9917	071646	103006			BCC	200#		: YES
9918	071650				ERRHRD	569.,ERR030		: NO, REPORT ERROR
	071650	104456					TRAP	C#ERRRD
	071652	001071					.WORD	569
	071654	022313					.WORD	ERR030
	071656	000000					.WORD	0
9919	071660			ESCAPE	TST	:	AND ABORT TEST	
	071660	104410					TRAP	C#ESCAPE
	071662	000346					.WORD	L10061
9920				:				
9921	071664	012705	014674	200#:	MOV	#RDR20A,R5		: POINT TO EXPECTED RDRB
9922	071670	004737	027222		JSR	PC,LDXRDR		: LOAD INTO XRDRBO TABLE
9923	071674	012705	002644		MOV	#RDRB,R5		: CHECK RDRB
9924	071700	004737	025032		JSR	PC,CHKRDR		: ERRORS ?
9925	071704	103006			BCC	202#		: NO
9926	071706				ERRHRD	570.,ERR036,MSG006		: YES, REPORT ERROR
	071706	104456					TRAP	C#ERRRD
	071710	001072					.WORD	570
	071712	023101					.WORD	ERR036
	071714	017356					.WORD	MSG006
9927	071716			ESCAPE	TST	:	AND ABORT TEST	
	071716	104410					TRAP	C#ESCAPE
	071720	000310					.WORD	L10061
9928				:CHECK	SECOND RING ENTRY			
9929	071722	012705	002654	202#:	MOV	#RDRB+8.,R5		: CHECK RDRB OWNERSHIP
9930	071726	004737	024676		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
9931	071732	103006			BCC	204#		: YES
9932	071734				ERRHRD	571.,ERR031		: NO, REPORT ERROR
	071734	104456					TRAP	C#ERRRD
	071736	001073					.WORD	571
	071740	022420					.WORD	ERR031
	071742	000000					.WORD	0
9933	071744			ESCAPE	TST	:	AND ABORT TEST	
	071744	104410					TRAP	C#ESCAPE
	071746	000262					.WORD	L10061
9934				:				
9935	071750	012705	014704	204#:	MOV	#RDR20B,R5		: POINT TO EXPECTED RDRB
9936	071754	004737	027222		JSR	PC,LDXRDR		: LOAD INTO XRDRBO TABLE
9937	071760	012705	002654		MOV	#RDRB+8.,R5		: CHECK RDRB
9938	071764	004737	025032		JSR	PC,CHKRDR		: ERRORS ?
9939	071770	103006			BCC	206#		: NO
9940	071772				ERRHRD	572.,ERR037,MSG006		: YES, REPORT ERROR
	071772	104456					TRAP	C#ERRRD
	071774	001074					.WORD	572
	071776	023167					.WORD	ERR037
	072000	017356					.WORD	MSG006
9941	072002			ESCAPE	TST	:	AND ABORT TEST	
	072002	104410					TRAP	C#ESCAPE
	072004	000224					.WORD	L10061

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9942
9943 072006 012705 002664
9944 072012 004737 024676
9945 072016 103006
9946 072020
      072020 104456
      072022 001075
      072024 022526
      072026 000000
9947 072030
      072030 104410
      072032 000176

9948
9949 072034 012705 014714
9950 072040 004737 027222
9951 072044 012705 002664
9952 072050 004737 025032
9953 072054 103006
9954 072056
      072056 104456
      072060 001076
      072062 023256
      072064 017356
9955 072066
      072066 104410
      072070 000140

9956
9957
9958 072072 012705 000570
9959 072076 004737 026044
9960 072102 103006
9961 072104
      072104 104456
      072106 001077
      072110 021534
      072112 017520
9962 072114
      072114 104410
      072116 000112

9963
9964 072120 012705 015104
9965 072124 004737 027176
9966 072130 012705 010500
9967 072134 004737 026124
9968 072140 103006
9969 072142
      072142 104456
      072144 001100
      072146 021603
      072150 017552
9970 072152
      072152 104410
      072154 000054

9971
9972 072156 012777 000017 110042
9973 072164 004737 024574
9974 072170 103006

;CHECK THIRD RING ENTRY
206: MOV #RDRB*16.,R5
     JSR PC,CHKOWN
     BCC 208:
     ERRHRD 573.,ERR032

; CHECK RDRB OWNERSHIP
; OWN = PORT DRIVER ?
; YES
; NO, REPORT ERROR
TRAP C#ERRHRD
.WORD 573
.WORD ERR032
.WORD 0

ESCAPE TST ; AND ABORT TEST
TRAP C#ESCAPE
.WORD L10061..

;
208: MOV #RDR20C,R5
     JSR PC,LXRDR
     MOV #RDRB*16.,R5
     JSR PC,CHKRDR
     BCC 210:
     ERRHRD 574.,ERR038,MSG006

; POINT TO EXPECTED RDRB
; LOAD INTO XRDRB0 TABLE
; CHECK RDRB
; ERRORS ?
; NO
; YES, REPORT ERROR
TRAP C#ERRHRD
.WORD 574
.WORD ERR038
.WORD MSG006

ESCAPE TST ; AND ABORT TEST
TRAP C#ESCAPE
.WORD L10061..

;
;COMPARE RBUF WITH TBUF
210: MOV #376.,R5
     JSR PC,CPDAT
     BCC 220:
     ERRHRD 575.,ERR022 MSG007

; COMPARE 376 WORDS OF DATA
; DATA COMPARE ERROR ?
; NO
; YES, REPORT ERROR
TRAP C#ERRHRD
.WORD 575
.WORD ERR022
.WORD MSG007

ESCAPE TST ; AND ABORT TEST
TRAP C#ESCAPE
.WORD L10061..

;
220: MOV #CRC27A,R5
     JSR PC,LXCRC
     MOV #RBUF*764.,R5
     JSR PC,CPCRC
     BCC 230:
     ERRHRD 576.,ERR023,MSG008

; POINT TO EXPECTED CRC
; LOAD INTO XCRC TABLE
; CHECK CRC
; ERRORS ?
; NO
; YES, REPORT ERROR
TRAP C#ERRHRD
.WORD 576
.WORD ERR023
.WORD MSG008

ESCAPE TST ; AND ABORT TEST
TRAP C#ESCAPE
.WORD L10061..

;
230: MOV #STOP,BPCSR0
     JSR PC,CHKDNI
     BCC 240:

; ISSUE STOP PORT COMMAND
; DNI ?
; YES

```



9986  
9987  
9988  
9989  
9990  
9991  
9992  
9993  
9994  
9995  
9996  
9997  
9998  
9,99

.SBTTL TEST 28: PRINT DEVICE 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
:.....

```

10000

10001 072232  
072232  
10002 072232 005737 015230  
10003 072236 001002  
10004 072240  
072240 104432  
072242 000710

BGNTST

```

TST FRSTIM ; RUN THIS TEST ?
BNE 51 ; YES
EXIT TST ; NO, EXIT

```

```

TRAP C#EXIT
.WORD L10062-

```

10005

10006 072244 004737 027446  
10007 072250 103025  
10008 072252 012777 000040 107746  
10009 072260 004737 024574  
10010 072264 103006  
10011 072266

```

51: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 301 ; NO
MOV #RSET,#PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 201 ; YES
ERRHRD 579.,ERR004,MSG003 ; NO, REPORT ERROR

```

```

TRAP C#ERRRD
.WORD 579
.WORD ERRO04
.WORD MSG003

```

10012

072276  
072276 104410  
072300 000652

ESCAPE TST ; AND ABORT TEST

```

TRAP C#ESCAPE
.WORD L10062-

```

10013

10014 072302 004737 025546  
10015  
10016 072306 103006  
10017 072310

```

201: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 301 ; NO
ERRHRD 580.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C#ERRRD
.WORD 580
.WORD ERRO06
.WORD MSG003

```

10018

072320  
072320 104410  
072322 000630

ESCAPE TST ; AND ABORT TEST

```

TRAP C#ESCAPE
.WORD L10062-

```

10019

10020 072324 004737 026772  
10021 072330 012777 000001 107670  
10022 072336 004737 024574

```

301: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,#PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 401 ; YES
ERRHRD 581.,ERR009,MSG003 ; NO, REPORT ERROR

```

```

TRAP C#ERRRD
.WORD 581
.WORD ERRO09

```

10023

072342 103006  
10024 072344  
072344 104456  
072346 001105  
072350 020416

```

10025 072352 017110          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      072354          ;                                     TRAP   C#ESCAPE
      072354 104410          ;                                     .WORD  L10062
      072356 000574          ;
10026 ;
10027 072360 004737 025546 40#: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
10028 ;                                     ; ERROR ?
10029 072364 103006          BCC    50#          ; NO
10030 072366          ERRHRD 582.,ERR006,MSG003 ; YES, REPORT ERROR
      072366 104456          ;                                     TRAP   C#ERRRD
      072370 001106          ;                                     .WORD  582
      072372 020202          ;                                     .WORD  ERR006
      072374 017110          ;                                     .WORD  MSG003
10031 072376          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      072376 104410          ;                                     .WORD  L10062-
      072400 000552          ;
10032 ;
10033 ;READ DEFAULT PHYSICAL ADDRESS
10034 072402 012705 013124 50#: MOV    @RDDEFA,R5      ; READ DEFAULT PHYA FUNCTION
10035 072406 004737 026742      JSR    PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
10036 072412 012777 000002 107606 ; ISSUE GET_CMD PORT COMMAND
10037 072420 004737 024574      JSR    PC,CHKDNI      ; DNI ?
10038 072424 103006          BCC    60#          ; YES
10039 072426          ERRHRD 583.,ERR010,MSG003 ; NO, REPORT ERROR
      072426 104456          ;                                     TRAP   C#ERRRD
      072430 001107          ;                                     .WORD  583
      072432 020502          ;                                     .WORD  ERR010
      072434 017110          ;                                     .WORD  MSG003
10040 072436          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      072436 104410          ;                                     .WORD  L10062-
      072440 000512          ;
10041 ;
10042 072442 004737 025546 60#: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
10043 ;                                     ; ERROR ?
10044 072446 103006          BCC    70#          ; NO
10045 072450          ERRHRD 584.,ERR006,MSG003 ; YES, REPORT ERROR
      072450 104456          ;                                     TRAP   C#ERRRD
      072452 001110          ;                                     .WORD  584
      072454 020202          ;                                     .WORD  ERR006
      072456 017110          ;                                     .WORD  MSG003
10046 072460          ESCAPE TST          ; AND ABORT TEST          TRAP   C#ESCAPE
      072460 104410          ;                                     .WORD  L10062
      072462 000470          ;
10047 ;MOVE DEFAULT PHYSICAL ADDRESS FROM PCBB -> DPA
10048 072464 013737 002266 073154 70#: MOV    PCBB+2,DPA
10049 072472 013737 002270 073156      MOV    PCBB+4,DPA+2
10050 072500 013737 002272 073160      MOV    PCBB+6,DPA+4
10051 ;LOAD ASCII MESSAGE (DEFADR)
10052 072506 004737 026432      JSR    PC,HEXDPA      ; CONVERT TO ASCII HEX
10053 ;READ MICROCODE REVISION
10054 072512 012705 013264 100#: MOV    @RDSTA,R5      ; READ PORT STATUS FUNCTION
10055 072516 004737 026742      JSR    PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
10056 072522 012777 000002 107476 ; ISSUE GET_CMD PORT COMMAND
10057 072530 004737 024574      JSR    PC,CHKDNI      ; DNI ?
10058 072534 103006          BCC    110#         ; YES
10059 072536          ERRHRD 585.,ERR010,MSG003 ; NO, REPORT ERROR
      072536 104456          ;                                     TRAP   C#ERRRD

```

```

072540 001111 .WORD 585
072542 020502 .WORD ERROR10
072544 017110 .WORD MSG003
10060 072546 ESCAPE TST ; AND ABORT TEST
072546 104410 TRAP C#ESCAPE
072550 000402 .WORD L10062 .

10061
10062 072552 004737 025546 110#: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10063 ; ERROR ?
10064 072556 103006 BCC 120# ; NO
10065 072560 ERRHRD 586.,ERR006,MSG003 ; YES, REPORT ERROR
072560 104456 TRAP C#ERHRD
072562 001112 .WORD 586
072564 020202 .WORD ERR006
072566 017110 .WORD MSG003
10066 072570 ESCAPE TST ; AND ABORT TEST
072570 104410 TRAP C#ESCAPE
072572 000360 .WORD L10062-.

10067
10068 ;MOVE MICROCODE REVISION FROM PCBB -> RREV
10069 072574 013737 002266 073162 120#: MOV PCBB+2,RREV
10070 072602 042737 177700 073162 BIC @177700,RREV ; MASK RREV
10071
10072 ;READ SWITCH PACK
10073 072610 012705 013304 130#: MOV @DMPMEM,R5 ; DEFAULT DUMP INTERNAL MEMORY
10074 072614 004737 026742 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10075 072620 012705 015126 MOV @UDB28A,R5 ; DEFAULT UDBB
10076 072624 012700 000004 MOV @4,R0 ; FOUR WORDS
10077 072630 004737 027142 JSR PC,LDUDBB ; LOAD INTO UDBB
10078 072634 012737 073164 002276 MOV @SWPACK,UDBB+2 ; LOAD ADDRESS
10079 072642 013737 015136 002302 MOV SWADDR,UDBB+6 ; LOAD INTERNAL ADDRESS
10080 072650 012777 000002 107350 MOV @GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
10081 072656 004737 024574 JSR PC,CHKDNI ; DNI ?
10082 072662 103006 BCC 140# ; YES
10083 072664 ERRHRD 587 ,ERR010,MSG003 ; NO, REPORT ERROR
072664 104456 TRAP C#ERHRD
072666 001113 .WORD 587
072670 020502 .WORD ERROR10
072672 017110 .WORD MSG003
10084 072674 ESCAPE TST ; AND ABORT TEST
072674 104410 TRAP C#ESCAPE
072676 000254 .WORD L10062-.

10085
10086 072700 004737 025546 140#: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10087 ; ERROR ?
10088 072704 103006 BCC 150# ; NO
10089 072706 ERRHRD 588.,ERR006,MSG003 ; YES, REPORT ERROR
072706 104456 TRAP C#ERHRD
072710 001114 .WORD 588
072712 020202 .WORD ERR006
072714 017110 .WORD MSG003
10090 072716 ESCAPE TST ; AND ABORT TEST
072716 104410 TRAP C#ESCAPE
072720 000232 .WORD L10062-.

10091
10092 072722 013704 073164 ;GET SWITCH PACK INFO READY TO PRINT
10093 072726 042704 167777 150#: MOV SWPACK,R4 ; SWITCH PACK -> R4
BIC @167777,R4 ; MASK BIT 12

```



10094	072732	012700	000013		MOV	#11.,R0		; SHIFT BIT FOR INDEX
10095	072736	006204		160#:	ASR	R4		
10096	072740	005300			DEC	R0		
10097	072742	001375			BNE	160#		
10098	072744	062704	073304		ADD	#LPTBL,R4		; INDEX INTO LOOP TABLE
10099	072750	011437	073166		MOV	(R4),LPMSG		; LOAD INTO LOOP MESSAGE
10100	072754	013704	073164	170#:	MOV	SWPACK,R4		; SWITCH PACK -> R4
10101	072760	042704	171777		BIC	#171777,R4		; MASK BITS 10 AND 11
10102	072764	012700	000011		MOV	#9.,R0		; SHIFT BITS FOR INDEX
10103	072770	006204		180#:	ASR	R4		
10104	072772	005300			DEC	R0		
10105	072774	001375			BNE	180#		
10106	072776	062704	073310		ADD	#BTBL,R4		; INDEX INTO BOOT TABLE
10107	073002	011437	073170		MOV	(R4),BTMSG		; LOAD INTO BOOT MESSAGE
10108								
10109								
10110								
10111	073006							
	073006	012746	073174		PRINTB	#FRM015,#DEFHDR		; PRINT DEFAULT PHYSICAL ADDRESS
	073012	012746	016551				MOV	#DEFHDR,-(SP)
	073016	012746	000002				MOV	#FRM015,-(SP)
	073022	010600					MOV	#2,-(SP)
	073024	104414					MOV	SP,R0
	073026	062706	000006				TRAP	C#PNTB
							ADD	#6,SP
10112	073032				PRINTB	#FRM016,RREV		; PRINT MICROCODE REV
	073032	013746	073162				MOV	RREV,-(SP)
	073036	012746	016556				MOV	#FRM016,-(SP)
	073042	012746	000002				MOV	#2,-(SP)
	073046	010600					MOV	SP,R0
	073050	104414					TRAP	C#PNTB
	073052	062706	000006				ADD	#6,SP
10113	073056				PRINTB	#FRM015,#SWHDR		; PRINT SWITCH PACK HEADER
	073056	012746	073320				MOV	#SWHDR,-(SP)
	073062	012746	016551				MOV	#FRM015,-(SP)
	073066	012746	000002				MOV	#2,-(SP)
	073072	010600					MOV	SP,R0
	073074	104414					TRAP	C#PNTB
	073076	062706	000006				ADD	#6,SP
10114	073102				PRINTB	#FRM015,LPMSG		; PRINT LOOPBACK MESSAGE
	073102	013746	073166				MOV	LPMSG,-(SP)
	073106	012746	016551				MOV	#FRM015,-(SP)
	073112	012746	000002				MOV	#2,-(SP)
	073116	010600					MOV	SP,R0
	073120	104414					TRAP	C#PNTB
	073122	062706	000006				ADD	#6,SP
10115	073126				PRINTB	#FRM015,BTMSG		; PRINT BOOT MESSAGE
	073126	013746	073170				MOV	BTMSG,-(SP)
	073132	012746	016551				MOV	#FRM015,-(SP)
	073136	012746	000002				MOV	#2,-(SP)
	073142	010600					MOV	SP,R0
	073144	104414					TRAP	C#PNTB
	073146	062706	000006				ADD	#6,SP
10116								
10117	073152			250#:				
10118	073152				ENDTST			
	073152							
	073152	104401					L10062:	TRAP C#ETST

```

10120 ;LOCAL STORAGE FOR TEST 28
10121 073154 000000 DPA:: .WORD 0 ; DEFAULT PHYSICAL ADDRESS (15:00)
10122 073156 000000 .WORD 0 ; DEFAULT PHYSICAL ADDRESS (31:16)
10123 073160 000000 .WORD 0 ; DEFAULT PHYSICAL ADDRESS (47:32)
10124 ;
10125 073162 000000 RREV:: .WORD 0 ; MICROCODE REVISION
10126 ;
10127 073164 000000 SWPACK:: .WORD 0 ; SWITCH PACK CONTENTS
10128 073166 000000 LPMSG:: .WORD 0 ; LOOPBACK MESSAGE ADDRESS
10129 073170 000000 BTMSG:: .WORD 0 ; BOOT MESSAGE ADDRESS
10130 ;
10131 073172 000 HEXDAT:: .BYTE 0 ; HEX DATA FOR CONVERSION
10132 073173 000 HEXVAL:: .BYTE 0 ; ASCII HEX VALUE
10133 ;
10134 073174 015 012 105 DEFADR:: .ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX): /
      073177 124 110 105
      073202 122 116 105
      073205 124 040 104
      073210 105 106 101
      073213 125 114 124
      073216 040 101 104
      073221 104 122 105
      073224 123 123 040
      073227 050 110 105
      073232 130 051 072
      073235 040 040
10135 073237 040 040 DEFADR:: .ASCII / /
10136 073241 055 .ASCII /-/
10137 073242 040 040 .ASCII / /
10138 073244 055 .ASCII /-/
10139 073245 040 040 .ASCII / /
10140 073247 055 .ASCII /-/
10141 073250 040 040 .ASCII / /
10142 073252 055 .ASCII /-/
10143 073253 040 040 .ASCII / /
10144 073255 055 .ASCII /-/
10145 073256 040 040 .ASCII / /
10146 073260 015 012 000 .ASCIZ <15><12>
10147 ;
10148 073263 060 HEXTBL:: .ASCII /0/
10149 073264 061 .ASCII /1/
10150 073265 062 .ASCII /2/
10151 073266 063 .ASCII /3/
10152 073267 064 .ASCII /4/
10153 073270 065 .ASCII /5/
10154 073271 066 .ASCII /6/
10155 073272 067 .ASCII /7/
10156 073273 070 .ASCII /8/
10157 073274 071 .ASCII /9/
10158 073275 101 .ASCII /A/
10159 073276 102 .ASCII /B/
10160 073277 103 .ASCII /C/
10161 073300 104 .ASCII /D/
10162 073301 105 .ASCII /E/
10163 073302 106 .ASCII /F/
10164 .EVEN
10165 ;
    
```

10166						
10167	073304	073352				;LOOP MESSAGE TABLE
10168	073306	073411				LPTBL:: .WORD LPMSG0
10169						.WORD LPMSG1
10170	073310	073447				;BOOT MESSAGE TABLE
10171	073312	073505				BTTBL:: .WORD BTMSG0
10172	073314	073540				.WORD BTMSG1
10173	073316	073604				.WORD BTMSG2
10174						.WORD BTMSG3
10175	073320	015	012	123		;ASCII MESSAGES
	073323	127	111	124		SWMDR:: .ASCII <15><12>/SWITCH PACK SET FOR :/
	073326	103	110	040		
	073331	120	101	103		
	073334	113	040	123		
	073337	105	124	040		
	073342	106	117	122		
	073345	040	072			
10176	073347	015	012	000		.ASCIZ <15><12>
10177	073352	040	040	040	LPMSG0::	.ASCII / SELF TEST LOOP DISABLED/
	073355	040	040	123		
	073360	105	114	106		
	073363	040	124	105		
	073366	123	124	040		
	073371	114	117	117		
	073374	120	040	104		
	073377	111	123	101		
	073402	102	114	105		
	073405	104				
10178	073406	015	012	000		.ASCIZ <15><12>
10179	073411	040	040	040	LPMSG1::	.ASCII / SELF TEST LOOP ENABLED/
	073414	040	040	123		
	073417	105	114	106		
	073422	040	124	105		
	073425	123	124	040		
	073430	114	117	117		
	073433	120	040	105		
	073436	116	101	102		
	073441	114	105	104		
10180	073444	015	012	000		.ASCIZ <15><12>
10181	073447	040	040	040	BTMSG0::	.ASCII / NO REMOTE BOOT ENABLED/
	073452	040	040	116		
	073455	117	040	122		
	073460	105	115	117		
	073463	124	105	040		
	073466	102	117	117		
	073471	124	040	105		
	073474	116	101	102		
	073477	114	105	104		
10182	073502	015	012	000		.ASCIZ <15><12>
10183	073505	040	040	040	BTMSG1 :	.ASCII / REMOTE BOOT ENABLED/
	073510	040	040	122		
	073513	105	115	117		
	073516	124	105	040		
	073521	102	117	117		
	073524	124	040	105		
	073527	116	101	102		
	073532	114	105	104		

10184	073535	015	012	000
10185	073540	040	040	040
	073543	040	040	122
	073546	105	115	117
	073551	124	105	040
	073554	102	117	117
	073557	124	040	105
	073562	116	101	102
	073565	114	105	104
	073570	040	127	111
	073573	124	110	040
	073576	122	117	115
10186	073601	015	012	000
10187	073604	040	040	040
	073607	040	040	122
	073612	105	115	117
	073615	124	105	040
	073620	102	117	117
	073623	124	040	101
	073626	116	104	040
	073631	120	117	127
	073634	105	122	040
	073637	125	120	040
	073642	102	117	117
	073645	124	040	102
	073650	117	124	110
	073653	040	105	116
	073656	101	102	114
	073661	105	104	
10188	073663	015	012	000
10189				

BTMSG2:: .ASCIZ <15><12>  
.ASCII / REMOTE BOOT ENABLED WITH ROM/

BTMSG3:: .ASCIZ <15><12>  
.ASCII / REMOTE BOOT AND POWER UP BOOT BOTH ENABLED/

.ASCIZ <15><12>  
.EVEN

LB

```

10192          .TITLE PARAMETER CODING
10203
10204          .SBTTL  HARDWARE PARAMETER CODING SECTION
10232
10233
10234
10235
10236          ;**
10237          ; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
10238          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
10239          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
10240          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
10241          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
10242          ; WITH THE OPERATOR.
10243          ;
10244          BGNHRD
10244          073666          000010          .WORD L10063-L#HARD/2
10244          073665          L#HARD:;
10244          073670
10245
10255          073670          GPRMA  ASKCSR,0,0,160000,177776,NO          ;FIRST P-TABLE QUESTION
10255          073670          000021          .WORD  T#CODE
10255          073672          073710          .WORD  ASKCSR
10255          073674          160000          .WORD  T#LOLIM
10255          073676          177776          .WORD  T#HILIM
10256          073700          GPRMA  ASKVEC,2,0,0,776,NO          ;SECOND P-TABLE QUESTION
10256          073700          001021          .WORD  T#CODE
10256          073702          073743          .WORD  ASK'EC
10256          073704          000000          .WORD  T#LOLIM
10256          073706          000776          .WORD  T#HILIM
10257          073710          ENDRD
10257          073710          .EVEN
10258          L10063:
10265          073710          127          110          101  ASKCSR: .ASCIZ  /WHAT IS THE PCSRO ADDRESS?/
10265          073713          124          040          111
10265          073716          123          040          124
10265          073721          110          105          040
10265          073724          120          103          123
10265          073727          122          060          040
10265          073732          101          104          104
10265          073735          122          105          123
10265          073740          123          077          000
10266          073743          127          110          101  ASKVEC: .ASCIZ  /WHAT IS THE VECTOR ADDRESS?/
10266          073746          124          040          111
10266          073751          123          040          124
10266          073754          110          105          040
10266          073757          126          105          103
10266          073762          124          117          122
10266          073765          040          101          104
10266          073770          104          122          105
10266          073773          123          123          077
10266          073776          000
10267          .EVEN
    
```

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10269          .SBTTL  SOFTWARE PARAMETER CODING SECTION
10270
10271          ;**
10272          ; THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
10273          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P TABLES.  THE
10274          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
10275          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
10276          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
10277          ; WITH THE OPERATOR.
10278          ;
10279
10280          074000          BGNSFT
10281          074000          000003
10282          074002
10283
10284          074002          GPRML  ASKEXT,0,1,YES
10285          074004          000130
10286          074004          074010
10287          074006          000001
10288
10289          .EVEN
10290
10291          074010          ENDSFT
10292
10293          074010
10294
10295          .EVEN
10296          L10064:
10297
10300          074010          122          125          110  ASKEXT: .ASCIZ  /RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?/
10301          074013          040          124          105
10302          074016          123          124          040
10303          074021          062          060          040
10304          074024          111          116          040
10305          074027          105          130          124
10306          074032          105          122          116
10307          074035          101          114          040
10308          074040          114          117          117
10309          074043          120          102          101
10310          074046          103          113          040
10311          074051          115          117          104
10312          074054          105          040          077
10313          074057          000
10314
10315          .EVEN
10316
10317          #PATCH: .BLKW  10
10318
10319          LASTAD
10320
10321          074100          000000
10322          074102          000000
10323          074104
10324          L#LAST: .
10325          074104          ENDMOD
10326          .END
10327
10328          .WORD  L10064  L#SOFT/2
10329          L#SOFT:
10330
10331          .WORD  T#CODE
10332          .WORD  ASKEXT
10333          .WORD  1
10334
10335          .EVEN
10336          L10064:
10337
10338          .EVEN
10339          .WORD  0
10340          .WORD  0

```

PARAMETER CODING  
SYMBOL TABLE

ADR = 000020 G	CLRDNI 025546 G	C#GPRI= 000040	ERR004 020102 G	FATIB = 000001 G
ADR21 014320 G	CLRRCE 025614 G	C#INIT= 000011	ERR005 020156 G	FRM001 015324 G
ADR21C 014326 G	CLRRXI 025662 G	C#INLP= 000020	ERR006 020202 G	FRM002 015361 G
ASKCSR 073710	CLRSER 025776 G	C#MANI= 000050	ERR007 020250 G	FRM003 015442 G
ASKEXT 074010	CLRSTA 013274 G	C#MEM = 000031	ERR008 020357 G	FRM004 015503 G
ASKVEC 073743	CLRTXI 025730 G	C#MSG = 000023	ERR009 020416 G	FRM005 015543 G
ASSEMB= 000010	C#MODE1= 175015 G	C#OPEN= 000034	ERR010 020502 G	FRM006 015630 G
9ITO = 000001 G	C#MPCRC 026124 G	C#PNTB= 000014	ERR011 020565 G	FRM007 015715 G
BIT00 = 000001 G	C#MPDAT 026044 G	C#PNTF= 000017	ERR012 020633 G	FRM008 016002 G
BIT01 = 000002 G	C#MPMEM 026174 G	C#PNTS= 000016	ERR013 020714 G	FRM009 016067 G
BIT02 = 000004 G	C#MPRNT 026254 G	C#PNTX= 000015	ERR014 020745 G	FRM010 016154 G
BIT03 = 000010 G	C#CRCBLK 026334 G	C#GIO = 000377	ERR015 021013 G	FRM011 016241 G
BIT04 = 000020 G	C#CRCH 014214 G	C#RDBU= 000007	ERR016 021044 G	FRM012 016326 G
BIT05 = 000040 G	C#CRC14A 014724 G	C#REFG= 000047	ERR017 021112 G	FRM013 016413 G
BIT06 = 000100 G	C#CRC15H 014730 G	C#RESE= 000033	ERR018 021212 G	FRM014 016472 G
BIT07 = 000200 G	C#CRC15L 014732 G	C#REVI= 000003	ERR019 021312 G	FRM015 016551 G
BIT08 = 000400 G	C#CRC16H 014734 G	C#RFLA= 000021	ERR020 021372 G	FRM016 016556 G
BIT09 = 001000 G	C#CRC16L 014736 G	C#RPT = 000025	ERR021 021453 G	FRM017 016627 G
BIT1 = 000002 G	C#CRC20A 014740 G	C#SEFG= 000046	ERR022 021534 G	FRM018 016655 G
BIT10 = 002000 G	C#CRC21A 014744 G	C#SPRI= 000041	ERR023 021603 G	FRM019 016711 G
BIT11 = 004000 G	C#CRC21B 014750 G	C#SVEC= 000037	ERR024 021630 G	FRM020 016745 G
BIT12 = 010000 G	C#CRC22A 014754 G	C#TPRI= 000013	ERR025 021672 G	FRM021 017001 G
BIT13 = 020000 G	C#CRC22B 015024 G	DEFADR 073237 G	ERR026 021724 G	FRSTIM 015230 G
BIT14 = 040000 G	C#CRC23B 015074 G	DEFHDR 073174 G	ERR027 021773 G	F#AU = 000015
BIT15 = 100000 G	C#CRC25B 015100 G	DEST 002256 G	ERR028 022100 G	F#AUTO= 000020
BIT2 = 000004 G	C#CRC27A 015104 G	DFPTBL 002216 G	ERR029 022206 G	F#BGN = 000040
BIT3 = 000010 G	C#AU = 000052	DIAGMC= 000000	ERR030 022313 G	F#CLEA= 000007
BIT4 = 000020 G	C#AUTO= 000061	D#MPMEM 013304 G	ERR031 022420 G	F#DU = 000016
BIT5 = 000040 G	C#BRK = 000022	DNI = 004000 G	ERR032 022526 G	F#END = 000041
BIT6 = 000100 G	C#BSEG= 000004	DNIB = 000010 G	ERR033 022633 G	F#HARD= 000004
BIT7 = 000200 G	C#BSUB= 000002	DNIFLG 015226 G	ERR034 022722 G	F#HW = 000013
BIT8 = 000400 G	C#CEFG= 000045	DPA 073154 G	ERR035 023012 G	F#INIT= 000006
BIT9 = 001000 G	C#CLCK= 000062	DTYPE = 002540 G	ERR036 023101 G	F#JMP = 000050
BOE = 000400 G	C#CLEA= 000012	ECODE 015220 G	ERR037 023167 G	F#MOD = 000000
BTMSG 073170 G	C#CLOS= 000035	ECRC 015210 G	ERR038 023256 G	F#MSG = 000011
BTMSG0 073447 G	C#CLP1= 000006	ECRCB 015212 G	ERR039 023344 G	F#PROT= 000021
BTMSG1 073505 G	C#CVEC= 000036	EDAT 015204 G	ERR040 023445 G	F#PWR = 000017
BTMSG2 073540 G	C#DCLN= 000044	EF.CON= 000036 G	ERR041 023550 G	F#RPT = 000012
BTMSG3 073604 G	C#DODU= 000051	EF.NEW= 000035 G	ERR042 023603 G	F#SEG = 000003
BTTBL 073310 G	C#DRPT= 000024	EF.PWR= 000034 G	ERR043 023644 G	F#SOFT= 000005
BUFL = 100000 G	C#DU = 000053	EF.RES= 000037 G	ERR044 023706 G	F#SRV = 000010
CHKDNI 024574 G	C#EDIT= 000003	EF.STA= 000040 G	ERR045 023777 G	F#SUB = 000002
CHKOWN 024676 G	C#ERDF= 000055	ENP = 000400 G	ERR046 024064 G	F#SW = 000014
CHKRCE 024730 G	C#ERHR= 000056	EPCSR0 015140 G	ERR047 024156 G	F#TEST= 000001
CHKRDR 025032 G	C#ERRO= 000060	EPCSR1 015142 G	ERR048 024252 G	GETCMD= 000002 G
CHKRXI 025132 G	C#ERSF= 000054	ERDRB0 015144 G	ERR049 024304 G	GETPCB= 000001 G
CHKSER 025506 G	C#ERSO= 000057	ERDRB2 015146 G	ERR050 024353 G	GOODST= 000000 G
CHKSTR 025234 G	C#ESCA= 000010	ERDRB4 015150 G	ERR051 024443 G	G#CNT0= 000200
CHKTDR 025316 G	C#ESEG= 000005	ERDRB6 015152 G	ETDRB0 015164 G	G#DELM= 000372
CHKTXI 025404 G	C#ESUB= 000003	ERRBLK 015250 G	ETDRB2 015166 G	G#DISP= 000003
CLKBR 002250 G	C#ETST= 000001	ERRMSG 015246 G	ETDRB4 015170 G	G#EXCP= 000400
CLKCSR 002246 G	C#EXIT= 000032	ERRNBR 015244 G	ETDRB6 015172 G	G#HILI= 000002
CLKFRE 002254 G	C#GETB= 000026	ERRS = 040000 G	EVL = 000004 G	G#LOLI= 000001
CLKSRV 030240 G	C#GETW= 000027	ERRTYP 015242 G	EXLOOP 002224	G#NO = 000000
CLKTAB 002246 G	C#GMAN= 000043	ERR001 017756 G	E#END = 002100	G#OFFS= 000400
CLKVEC 002252 G	C#GPHR= 000042	ERR002 020006 G	E#LOAD= 000035	G#OFSI= 000376
CLRCNT 013224 G	C#GPLO= 000030	ERR003 020044 G	FATI = 000400 G	G#PRMA= 000001

PARAMETER CODING  
SYMBOL TABLE

MACRO M1200 13-SEP-84 10:27 PAGE 93 2

SEQ 312

G#PRMD=	000002	L#DTRX	027104	G	L#SOFT	074002	G	L10061	072230	POLYM	=	120001	G		
G#PRML=	000000	L#DUDB	027142	G	L#SPC	002056	G	L10062	073152	PRI	=	002000	G		
G#RADA=	000140	L#DXCRC	027176	G	L#SPCP	002020	G	L10063	073710	PRILD	=	000001	G		
G#RADB=	000000	L#DXRDR	027222	G	L#SPTP	002024	G	L10064	074010	PRI00	=	000000	G		
G#RADD=	000040	L#DXTDR	027252	G	L#STA	002030	G	MEM10A	014226	PRI01	=	000040	G		
G#RADL=	000120	LOE	=	040000	L#SW	002224	G	MEM11A	014256	PRI02	=	000100	G		
G#RADO=	000020	LOT	=	000010	L#TEST	002114	G	MEM13A	C14260	PRI03	=	000140	G		
G#XFER=	000004	L#MSG	073166	G	L#TIML	002014	G	METER	015222	PRI04	=	000200	G		
G#YES =	000010	L#MSG0	073352	G	L#UNIT	002012	G	MODE15	015110	PRI05	=	000240	G		
HELP =	000000	L#MSG1	073411	G	L10000	002222	G	MODE17	015112	PRI06	=	000300	G		
HEXDAT	073172	LPTBL	073304	G	L10001	002226	G	MODE20	015114	PRI07	=	000340	G		
HEXDPA	026432	L#SMA	013114	G	L10002	017060	G	MODE21	015116	RBUF	=	007104	G		
HEXH	026514	L#ACP	002110	G	L10003	017106	G	MODE24	015120	RBUF2	=	007504	G		
HEXL	026552	L#APT	002036	G	L10004	017140	G	MODE25	015122	RBUF3	=	010104	G		
HEXTBL	073263	L#AU	030174	G	L10005	017212	G	MODE26	015124	RBUF4	=	010504	G		
HEXVAL	073173	L#AUT	002070	G	L10006	017354	G	MSG001	017036	RBUF5	=	011104	G		
HDE	=	L#AUTO	030156	G	L10007	017516	G	MSG002	017062	RBUF6	=	011504	G		
IBE	=	L#CCP	002106	G	L10010	017550	G	MSG003	017110	RBUF7	=	012104	G		
ICAB	=	L#CLEA	030160	G	L10011	017632	G	MSG004	017142	RBUF8	=	012504	G		
IDU	=	L#CO	002032	G	L10012	017754	G	MSG005	017214	RCBI	=	002000	G		
IE	=	L#DEPO	002011	G	L10013	027542	G	MSG006	017356	RCBIB	=	000004	G		
IER	=	L#DESC	015260	G	L10015	030112	G	MSG007	017520	RDCNT	=	013214	G		
INITH	=	L#DESP	002076	G	L10016	030156	G	MSG008	017552	RDEFA	=	013124	G		
INTE	=	L#DEVP	002060	G	L10017	030164	G	MSG009	017634	ROMODE	=	013234	G		
INTR	=	L#DISP	002124	G	L10020	030172	G	MULTL	014334	ROMULA	=	013154	G		
INTVEC	002240	L#DLY	002116	G	L10021	030200	G	MULTLC	014430	RDPHYA	=	013134	G		
ISR	=	L#DTP	002040	G	L10022	030210	G	NEXMEM	015224	RDR	=	002644	G		
ISRDMI	030212	L#DTP	002034	G	L10023	030236	G	NIMLT	=	000006	G	RDRB1A	013354	G	
ISRDM	030202	L#DU	030166	G	L10024	030252	G	NIUNI	=	000007	G	RDRB1B	013414	G	
IXE	=	L#DUT	002072	G	L10025	030350	G	NOCLK	030114	G	RDRB2A	013454	G		
I#AJ	=	L#DVTY	015252	G	L10026	030450	G	NOFF	013104	G	RDRB3A	013514	G		
I#AUTO=	000041	L#EF	002052	G	L10027	030550	G	NORXI	027302	G	RDRNGS	013174	G		
I#CLN	=	L#ENVI	002044	G	L10030	030650	G	ONEFIL	=	000001	G	RDR14A	014634	G	
I#CU	=	L#ERRT	015242	G	L10031	030724	G	ONES	=	177777	G	RDR15A	014644	G	
I#FRD	=	L#ETP	002102	G	L10032	031000	G	OWN	=	100000	G	RDR17A	014654	G	
I#MIT	=	L#EXP1	002046	G	L10033	031242	G	O#APTS=	000000	G	RDR17B	014664	G		
I#MOD	=	L#EXP4	002064	G	L10034	035274	G	O#AU	=	000001	G	RDR20A	014674	G	
I#MSG	=	L#EXPS	002066	G	L10035	035602	G	O#BGR	=	000001	G	RDR20B	014704	G	
I#PROT=	000040	L#HARD	073670	G	L10036	036132	G	O#BGS	=	000001	G	RDR20C	014714	G	
I#PTAB=	000041	L#HIME	002120	G	L10037	037106	G	O#DU	=	000001	G	RSTA	013264	G	
I#PWR	=	L#HPCP	002016	G	L10040	037652	G	O#ERRT	=	000001	G	READY	=	000002	G
I#RPT	=	L#HPTP	002022	G	L10041	041060	G	O#GNSW	=	000001	G	RESET	=	000000	G
I#SEG	=	L#HW	002216	G	L10042	043034	G	O#POIN	=	000001	G	RFRMT	013324	G	
I#SETU=	000041	L#ICP	002104	G	L10043	042210	G	O#SETU=	000000	G	RFRMTX	013340	G		
I#SFT	=	L#IMIT	027552	G	L10044	043032	G	PATRN1	015232	G	RHTC	=	000010	G	
I#SRV	=	L#LAOP	002026	G	L10045	044146	G	PCBB	002264	G	RREV	073162	G		
I#SUB	=	L#LAST	074104	G	L10046	045260	G	PCEI	=	040000	G	RSET	=	000040	G
I#TST	=	L#LOAD	002100	G	L10047	046366	G	PCEIB	=	000100	G	RUN	=	000003	G
J#JJP	=	L#LUN	002074	G	L10050	047364	G	PCSRO	002226	G	RXI	=	020000	G	
L#BUF	026600	L#PREV	002050	G	L10051	050256	G	PCSROU	002236	G	RXIB	=	000040	G	
L#BUFC	026642	L#NAME	002000	G	L10052	052052	G	PCSRI	002230	G	SECOND	=	000077	G	
L#DEST	026714	L#PRIO	002042	G	L10053	054734	G	PCSRI	002232	G	SERI	=	100000	G	
L#MEM	013314	L#PROT	027544	G	L10054	060010	G	PCSRI	002234	G	SERIB	=	000200	G	
L#PCBR	026742	L#PRT	002112	G	L10055	063410	G	PCTO	=	000200	G	SETBUF	027342	G	
L#PCSR	026772	L#REPP	002062	G	L10056	065446	G	PPMD	=	000010	G	SFPTBL	002224	G	
L#RDRB	027010	L#REV	002010	G	L10057	067166	G	PNOP	=	000006	G	SIZ4K	=	020000	G
L#DTRB	027046	L#RPT	027536	G	L10060	070500	G	PNT	=	001000	G	SIZ8K	=	040000	G



PARAMETER CODING  
SYMBOL TABLE

SLFT = 000003 G	SMSG52 034002 G	TBUF7 006104 G	T#SEGL = 177777	T24 063412 G
SMASK = 177770 G	SMSG53 034066 G	TBUF8 006504 G	T#SEKO = 010000	T25 063450 G
SMSG00 031446 G	SMSG54 034143 G	TORB 002604 G	T#SUBN = 000000	T26 067170 G
SMSG01 031472 G	SMSG55 034225 G	TDRBXX 014014 G	T#TAGL = 177777	T27 070502 G
SMSG02 031521 G	SMSG56 034301 G	TDRB1A 013554 G	T#TAGN = 010065	T28 072232 G
SMSG03 031534 G	SMSG57 034315 G	TDRB1B 013614 G	T#TEMP = 000000	T3 030452 G
SMSG04 031573 G	SMSG60 034331 G	TDRB1C 013654 G	T#TEST = 000034	T4 030552 G
SMSG05 031636 G	SMSG61 034354 G	TDRB2A 013714 G	T#1STM = 177777	T5 030652 G
SMSG06 031671 G	SMSG62 034407 G	TDRB3A 013754 G	T#TSTS = 000001	T6 030726 G
SMSG07 031742 G	SMSG63 034442 G	TDRMSK = 007777 G	T#TAU = 010021	T7 031002 G
SMSG10 032014 G	SMSG64 034471 G	TDRX 002704 G	T#AUT = 010016	T8 035002 G
SMSG11 032070 G	SMSG65 034504 G	TDR14A 014524 G	T#CLE = 010017	T9 035276 G
SMSG12 032117 G	SMSG66 034525 G	TDR15A 014534 G	T#DU = 010020	UAM = 000200 G
SMSG13 032134 G	SMSG67 034546 G	TDR18A 014544 G	T#HAR = 010063	UDB 002274 G
SMSG14 032170 G	SMSG70 034571 G	TDR18B 014554 G	T#HM = 010000	UDB10A 014216 G
SMSG15 032204 G	SMSG71 034612 G	TDR20A 014564 G	T#INI = 010015	UDB11A 014246 G
SMSG16 032220 G	SMSG72 034645 G	TDR20B 014574 G	T#MSG = 010012	UDB28A 015126 G
SMSG17 032234 G	SMSG73 034671 G	TDR20C J14604 G	T#PRO = 010014	UNAPRI 002242 G
SMSG20 032250 G	SMSG74 034705 G	TDR21X 014614 G	T#RPT = 010013	UNHLT = 000005 G
SMSG21 032273 G	SMSG75 034721 G	TDR25A 014624 G	T#SEG = 010000	UNIT 002244 G
SMSG22 032307 G	SMSG76 034735 G	TIMASK = 000377 G	T#SOF = 010064	WTHODE 013244 G
SMSG23 032323 G	SMSG77 034751 G	TIMOFF 024560 G	T#SRV = 010024	WTHOD1 013254 G
SMSG24 032337 G	START = 000004 G	TIMON 024542 G	T#SUB = 010044	WTHULA 013164 G
SMSG25 032353 G	STMASK = 140377 G	TINIT 027446 G	T#SW = 010001	WTPHYA 013144 G
SMSG26 032367 G	STMSG 031244 G	TXI = 010000 G	T#TES = 010062	WTRNGS 013204 G
SMSG27 032403 G	STOP = 000017 G	TXIB = 000020 G	T1 030254 G	XCRC 015214 G
SMSG30 032417 G	STP = 001000 G	T#ARGC = 000002	T10 035604 G	XCRCB 015216 G
SMSG31 032474 G	STTBL 031246 G	T#CODE = 000130	T11 036134 G	XDAT 015206 G
SMSG32 032546 G	STCBL = 000000	T#ERRN = 001114	T12 037110 G	XPAR = 100000 G
SMSG33 032621 G	SVCINS = 000001	T#EXCP = 000000	T13 037654 G	XDRB0 015154 G
SMSG34 032665 G	SVCSUB = 000001	T#FLAG = 000040	T14 041062 G	XDRB2 015156 G
SMSG35 032736 G	SVCTAG = 000001	T#GMN = 000000	T14.1 041062	XDRB4 015160 G
SMSG36 033001 G	SVCTST = 000001	T#HILI = 000776	T14.2 042212	XDRB6 015162 G
SMSG37 033052 G	SMADDR 015136 G	T#LAST = 000031	T15 043036 G	XYDRB0 015174 G
SMSG40 033115 G	SMADR 073320 G	T#LOLI = 000000	T16 044150 G	XTDRB2 015176 G
SMSG41 033205 G	SMPACK 073164 G	T#LSYM = 010000	T17 045262 G	XTDRB4 015200 G
SMSG42 033272 G	S#LSYM = 010000	T#LTND = 000034	T18 046370 G	XTDRB6 015202 G
SMSG43 033360 G	TBUF 003104 G	T#NEST = 177777	T19 047366 G	X#ALMA = 000000
SMSG44 033437 G	TBUF2 003504 G	T#NSO = 000000	T2 030352 G	X#FALS = 000040
SMSG45 033523 G	TBUF3 004104 G	T#NS1 = 000005	T20 050260 G	X#OFFS = 000400
SMSG46 033601 G	TBUF4 004504 G	T#NS2 = 000002	T21 052054 G	X#TRUE = 000020
SMSG47 033615 G	TBUF5 005104 G	T#PTNU = 000000	T22 054736 G	ZEPO = 000000 G
SMSG50 033631 G	TBUF6 005504 G	T#SAVL = 177777	T23 060012 G	#PATCH 074060 G

ABS. 074104 000  
000000 001

ERRORS DETECTED: 0

VIRTUAL MEMORY USED: 28702 WORDS ( 113 PAGES)  
DYNAMIC MEMORY: 20060 WORDS ( 77 PAGES)  
ELAPSED TIME: 00:42:59  
CZUABCO,CZUABCO/-SP=SVC34R/ML,CZUABCO.MAC