

Diagnostic Engineering Publication

1410/7010

12/3/63

Subject:

Diagnostic Program CS41B and CS42B
1410 Memory Reliability Tests
Sequence Number 121 (CS41) and 123 (CS42)
Replaces CS41A and CS42A

1. This release obsoletes and replaces CS41A and CS42A.
2. Both programs have been modified, improved, and revised to be compatible with the new TC50 Diagnostic Tape Control System.
3. These programs require System Control Cards only.

* 107 Pages
Release Sheet : 1
Writeup : 27 (Common to Both)
Summary : 4 (Common to Both)
Listing : 37 (CS41B)
Listing : 38 (CS42B)

** 168 Cards No. 001 - 168 (CS41B)
178 Cards No. 001-170 (CS42B)

Enclosures:

* Pages
Card Deck for CARD ONLY SYSTEMS (as punched by UP51)
8 Cards - Card Loader (1-7) and 1 Core Clear
** Cards No. Data Cards
1 Card Execute Card

Distribution:

1410
7010
X Other 1410 Installations equipped with 20K Memories only.

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1410 MEMORY RELIABILITY TESTS

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2.02.00.0 TEST DESCRIPTION

00.1 MODIFICATIONS

This release obsoletes and replaces CS41A and CS42A.

00.2 DESCRIPTION

The purpose of these programs is to provide a comprehensive test of the 1411 Model 2 or 2A Memory hardware with emphasis on a clear presentation of Memory failures in the 1410 System.

The 20K Memory Test package is released as two programs.

CS41 - Tests upper Memory, (10000-19999).

CS42 - Tests lower Memory, (00001 - 09999).

Each program proceeds automatically to run a series of seventeen tests of Memory function. It starts the sequence with a simple "ones" discrimination test and proceeds through graduated complexity tests of alternate plane discrimination, "checkerboard" discrimination and complemented checkerboards.

The programs assume that the central processing unit and the instruction sets are functioning normally.

Each of the seventeen tests, called Sections, are described as follows:

Section 1 Ones Discrimination - This test checks the ability of Memory to set "all" bits on. Character patterns of group marks (CBA8421 bits up, word mark bit down) are loaded into all O. T. A. (Objective Test Area) addresses and checked for correct set.
Characters used: ≠, (-- ≠)

Section 2 Zeros Discrimination - This test checks the ability of Memory to reset "all" bits off. Character patterns of word mark-blanks (CBA8421 bits down, word mark bit up) are loaded into all OTA addresses and checked for correct set.
Characters used: b, (WMBL)

2.02.00.0 TEST DESCRIPTION (Continued)

Section 3 Alternate Plane Discrimination - This test checks for any interaction between adjacent planes by loading and checking character patterns which set alternate bit planes to one and remaining planes to zero.
Characters used: V, (WM-V)

Section 4 Alternate Plane Discrimination - Reversed
This test is the complement of Section 3 in that alternate plane set characters are inverted, loaded, and checked.
Characters used: !, (---!)

Section 5 Memory Address Placement - This test loads five position numeric addresses at XXXX4 and XXXX9 addresses in Memory and checks that each is correctly stored. This section is a test to determine whether all objective test area positions can be selectively loaded and addressed.

The next twelve sections attempt to exert worst case condition. Each is described as employing a checkerboard. This is simply a descriptive term for the method in which data bit patterns are arranged physically within the boundaries of the X and Y axis of the first bit plane. The arrangement is made with prime consideration of the physical location per address of the paired sense line windings. The remaining bit planes are set to minimize or maximize interplane noise in one of three ways down through the array: alternately on and off in pairs (2D), all on or all off (In-Line), or alternately on and off (Alternate).

Section 6 Two-Dimensional Checkerboard Discrimination - This test loads and checks the basic X-Y checkerboard with data bits set alternately on and off in pairs.
Characters used: c, (WM-C) and @, (---@)

2.02.00.0 TEST DESCRIPTION (Continued)

- Section 6C Two-Dimensional Complemented Checkerboard -
Using the pattern load set from Section 6, this test complements one character at a time and checks it for error-free regen set and inhibit after read-out.
- Section 7 Two-Dimensional Checkerboard Discrimination -
Reversed - This test is the complement of Section 6 in that the checkerboard is inverted, loaded and checked.
Characters used: @, (---@) and Ć, (WM-C)
- Section 7C Two-Dimensional Complemented Checkerboard -
Reversed - Using the pattern load set from Section 7, this test is virtually the same as Section 6C.
- Section 8 In-Line Plane Checkerboard Discrimination -
This test loads and checks the checkerboard with data bits arranged in-line (e.g., all bits up or all bits down).
Characters used: ₣, (---₣) and ḃ (WMBL)
- Section 8C In-Line Plane Complemented Checkerboard -
Using the pattern load set from Section 8, this test is virtually the same as Section 6C.
- Section 9 In-Line Plane Checkerboard Discrimination -
Reversed - This test is the complement of Section 8 in that the checkerboard is inverted, loaded and checked.
Characters used: ḃ, (WMBL) and ₣, (---₣)
- Section 9C In-Line Plane Complemented Checkerboard -
Reversed - Using the pattern load set from Section 9, this test is virtually the same as Section 6C.

Section 10 Alternate Plane Checkerboard Discrimination -
This test loads and checks the checkerboard with
data bits arranged alternately set to one and zero.
Characters used: \checkmark , (WM - V) and ! (_ _ _ !)

Section 10C Alternate Plane Complemented Checkerboard -
Using the pattern load set from Section 10, this
test is virtually the same as Section 6C.

Section 11 Alternate Plane Checkerboard Discrimination -
Reversed - This test is the complement of Section
10 in that the checkerboard is inverted, loaded and
checked.
Characters used: !, (_ _ _ !) and \checkmark , (WM - V)

Section 11C Alternate Plane Complemented Checkerboard -
Reversed - Using the pattern load set from Section
11, this test is virtually the same as Section 6C.

Upon completion of each section, a short typeout (S-01, S-02,
S-03 S-11) is executed to provide visual verification
of the intended sequence of test operation.

00.3 EQUIPMENT (Area of Machine Required)

Units - 1411 Model 2 or 2A Processing Unit
Card or Tape Input capabilities
Typewriter and/or Printer output capabilities.
See Operating Hints and Comments, 2.02.03.4
for Tape Output capabilities.

Memory Locations -

CS41 - Resides in 00001 - 09999 area.

CS42- Resides in 10000 - 19999 area.

00.4 CARD DECK

Each of the CS tests use standard seven-card L1 loaders, a
core clear card, and one execute card.

Program Test Cards: (As punched out by UP51)

CS41 - 168

CS42 - 170

00.5 EC LEVEL OF MACHINE

None applicable.

2.02.01.0 LOADING PROCEDURES

In all cases, the following CPU console switches should be set as follows during program loading:

Check Control Switch - Normal
Print Control Switch - Normal

01.1 CARD

Load Program Deck(s) in Reader.
Depress Start Button.
Depress End of File Button.

Clear Memory from console.
Set Mode Switch to Display.
Depress Start.
Enter Address 00000.
Set Mode Switch to Alter.
Depress Start
Enter $\checkmark\checkmark\%1100011\$^{\checkmark}$ (Channel 1)
Set Mode Switch to Run.
Depress Computer Reset.
Depress Start.

01.2 TAPE

Use program tape file generated by TC50.
Place file-protected tape on Drive # 0 of Channel 1.

Clear Memory from console.
Set Mode Switch to Display.
Depress Start
Enter Address 00000.
Set Mode Switch to Alter.
Depress Start
Enter $\checkmark\checkmark\%B000011\$^{\checkmark}$ (Channel 1)
Set Mode Switch to Run.
Depress Computer Reset.
Depress Start.

2.02.02.0 OPERATING PROCEDURES

These programs may be executed in either of two Check Control modes: Normal or Restart. The recommended conditions under which each mode should be used are as follows:

Normal - During Scheduled Maintenance time, and/or prior to execution test runs of CPU reliability and error-detection programs.

See also Operating Hints and Comments, 2.02.03.7

Restart - When exclusive memory errors are known to exist or suspected.

02.1 NORMAL CHECK CONTROL MODE

Console Switch Setting:

Check Control Switch - Normal
Print Control Switch - Normal

This mode is prescribed for post-power-on usage since either a CPU and/or Memory failure will cause an immediate fail safe machine halt.

If from the standard "E" stop printout it can be ascertained that the error was a definite or suspected Memory failure, the program should be computer reset and started again. If CPU trouble appears evident, load the CPU programs. If in doubt, try again.

02.2 RESTART CHECK CONTROL MODE

Console switch settings:

Check Control Switch - Restart
Print Control Switch - Inhibited

2.02.02.0 OPERATING PROCEDURES (Continued)

02.2 This mode is prescribed for usage during periods when exclusive memory failures are known or suspected so that data error stops can be bypassed. In this way, the program is allowed to compile and indicate an uninterrupted overall analysis as to the what, where, how many, and frequency of errors within the objective test area of Memory.

Note: Known or suspected "C" bit pick or drop failures will not be detected by either the standard "E" stop printout or the program's standard Immediate Error Indication printout while the machine is set to this mode, unless a "C" bit checking facility is installed. If this "C" bit checking facility is not available, set the Print Control Switch to Normal, so that at least "E" stop printouts are executed.

2.02.02.0 OPERATING PROCEDURES (Continued)

02.3 TEST ALTERATION DIGIT SWITCHES (TADS)

TADS are addressable character positions in Memory, which when loaded with a numeric one (1), cause the program to perform a specific added and/or special function.

Each TAD function, when set to 1, is as follows:

		<u>Memory Locations</u>	
		<u>CS41</u>	<u>CS42</u>
TAD 0	Bypass Normal and Error Typeouts	01000	11000
TAD 1	Repeat Section	01001	11001
TAD 2	Halt on Error (not used in the CS series)	01002	11002
TAD 3	Repeat Program	01003	11003
TAD 4	Automatic Section Selection	01004	11004
TAD 5	Not Used	01005	11005
TAD 6	Not Used	01006	11006
TAD 7	Print Immediate Errors on Printer	01007	11007
TAD 8	Bypass Sections 6-11 Discrimination	01008	11008
TAD 9	Bypass Sections 6C - 11C Complements	01009	11009

TAD's 0-3 maintain standard function compatibility with all other 1410 diagnostic programs. TAD's 4-9 are functions exclusive to the CS series memory tests.

See Operating Hints and Comments, 2.02.03.1.

During normal mode operation, all TAD's should be set to a not 1 state. This scheme is based on the premise that if; no errors are encountered or known to exist, no TAD functions are required.

Any TAD can be set to 1 or reset to Not 1 using the simple and efficient Standard Internal Program Alter Routine.

2.02.03.0 OPERATING HINTS AND COMMENTS

03.1 EFFECTIVE TAD USAGE

TAD 0 - Bypass Timeouts

This TAD, when set to a 1, will suppress all Immediate Error and Section Complete Indications. Standard program entrance and exit messages and program mis-usage messages will not be affected by TAD 0. This TAD can be effective in reducing execution time for a large quantity of error indications and for eliminating interruptions of scope tracing.

TAD 1 - Repeat Section

This TAD, when set to a 1, will permit constant repetition of any section within the program. It can be effective for locking the test within any specific section, thereby providing closer observation of solid and/or intermittent error conditions. See Section Repetition, 2.02.03.3.

TAD 2 - Halt on Error

This TAD is not used within any of the CS series programs.

TAD 3 - Repeat Program

This TAD, when set to a 1, will cause the program to repeat the entire sequence of section tests following the completion of Section 11C.

TAD 4 - Automatic Section Selection

This TAD, when set to a 1, allows immediate entrance to any specific section within the program. It is particularly effective as a time saver since it bypasses the necessity of executing any and all sections that lie sequentially ahead of the section desired. See Selection of "C" Sections, 2.02.03.2.

TAD 5 - This TAD has no assigned function.

TAD 6 - This TAD has no assigned function.

2.02.03.0 OPERATING HINTS AND COMMENTS (Continued)

TAD 7 - Immediate Errors on Printer

This TAD, when set to a 1, causes all Immediate Error Indications (except those in Section 05.) to be sent to an on-line ready printer. This TAD is an extremely effective time saver for obtaining "instantaneous" output of immediate error indications.

If and when this TAD is set, an internal program routine inspects the Standard System Control Card for both a Channel 1 or 2 designation and the printer's appropriate Buffer size. If it finds neither specified, a message to this effect will be executed and the output information will be sent to the console typewriter instead. See Tape Output, 2.02.03.4.

TAD 8 - Bypass Discrimination Sections 06, 07, 08, 09, 10, 11

This TAD, when set to a 1, causes each of the discrimination sections to be bypassed. This TAD can be helpful for saving program execution time if discrimination sections are error free. This special purpose TAD allows closer concentration on the "C" (Complement Checkerboard) sections which by their very nature are more complex and exert more stress on memory than do the discrimination tests. Another effective function of this TAD is that of allowing immediate entrance to and/or repetition of any exclusive "C" section if TAD 4 and/or TAD 1 are set to 1.

TAD 9 - Bypass Complement Checkerboard Sections, 06C, 07C, 08C, 09C, 10C, 11C

This TAD, when set to a 1, performs just the opposite function to TAD 8. All of the "C" sections are bypassed. This special function may be used for closer concentration on errors detected within the discrimination sections so that repetition of a section can be held within the discrimination segment only.

03.2 AUTOMATIC SECTION SELECTION

To select any Section -

Set TAD 4 to a 1.
Reset and restart the program.
Wait for message, AUTO SECT SEL
ENTER 2 DIGIT SECTION #
Depress Inquiry.
Enter two numeric digits corresponding to the
Section desired (e.g. 04, 08, 11, etc.)..
Depress Inquiry Release.

To select an exclusive "C" section -

Set TAD 4 and TAD 8 to a 1.
Repeat same procedure as above.

03.3 SECTION REPETITION

To repeat any Section -

Set TAD 1 to a 1.

To repeat any one of sections 06, 07, 08, 09, 10, or 11 exclusively -

Set TAD 1 and TAD 9 to a 1.

To repeat any one of sections 06C, 07C, 08C, 09C, 10C, or 11C
exclusively -

Set TAD 1 and TAD 8 to a 1.

03.4 TAPE OUTPUT OF IMMEDIATE ERROR INDICATIONS

It is recognized that there may be some 1410 installations not equipped with printers on line. In view of this possibility and in consideration of saving valuable machine time for error output, the following changes may be made directly to the CS series programs to allow this output to be sent to tape as an alternate to the printer.

The Immediate Error Indications for all Sections (except Section 05) are written from one location.

In order to keep changes to a minimum, the specification of channel and buffer size could be designated in the same manner and location on the Standard System Control Card as is done for printer output.

This leaves only the tens and units order of the X control field for the write instruction requiring a change. The tens order, since it specifies the type of output unit, must be changed from a "2" (for printer) to a "U" or a "B" (for tape). The units order of the X control field may be changed to any tape drive #. If left unchanged, the output would be sent to Tape Drive # 0.

The location of the tens and units order of the X control field for the Immediate Error Indication write to printer instruction within each program is as follows:

For: CS41 04329 - 04330
 CS42 14253 - 14254

03.5 ERROR-FREE EXECUTION TIME PER SECTION

Timings: Apply to both programs.
 Are given in seconds.
 Are approximate observed durations as taken
 on a 1410 acc.

<u>Section</u>	<u>Time</u>	
S-01	12	
S-02	12	
S-03	12	
S-04	12	
S-05	4	
S-06	12	
S-06C	23	
S-07	12	
S-07C	23	
S-08	12	
S-08C	23	
S-09	12	
S-09C	23	
S-10	12	
S-10C	23	Approx. Total Time 4'30"
S-11	12	
S-11C	23	

03.6 "SCHMOO" CURVE PLOTTING

The worst case Sections 06 through 11C are the most effective to use for this purpose. Before plotting, run one complete error-free program pass at nominal voltage in Normal Mode. Then, employing the automatic section selection feature, start the execution sequence at Section 06 or 08 or 10 and let run through 11C. If error free, raise or lower X-Y voltage as required, reset program, and repeat execution sequence. Continue this procedure until error-free voltage limit is reached.

03.7 "QUICK RUN" MODE

This new feature has been included in order to provide a very simple but effective test of very short duration so that a certain level of confidence can be had on selectivity & accessibility of all of the objective test area of memory.

This mode is called for by manual input of a \$ (Dollar Sign) following the typeout "OPTION?" during TC50 Diagnostic Tape Input Control (SEE TC50 WRITE-UP FOR DETAILS.) The Dollar Sign sets up conditions which, when recognized by each memory program, cause Section 05 only to be executed. This is particularly effective as a time saver for a quick and simple memory check.

NOTE: This mode uses Section 05 alone and checks only for correct address selection and placement of numerical data. Only a full run of all sections will subject memory to the full spectrum of varied character and worst case conditions. If memory trouble is definite or suspected, run the entire test. Do not enter Quick Run Mode only.

Typical typeouts during Quick Run Mode if error-free:

CS41B
TESTS 10000-19999 Area of 20K Memory
QUICK RUN
S-05
PASS 001 - CS41

If execution is not error-free, reset and restart the program. In this way, Quick Run Mode will be blocked and the full section sequence of tests will be executed.

2.02.04.0 PROGRAM STOPS AND RESTARTS

04.1 NORMAL HALTS

There are two normal halts within each program. They will stop the program only if a manual reset and program restart had been made. Their only function is to permit the operator to set or reset two manual switches, as specified by typeouts preceding the halt, on the C. E. console.

The printed messages preceding each halt are shown for reference.

R IF PARITY ERRORS EXIST-
R SET CHECK CNTRL SW TO RESTART
R SET PRINT CNTRL SW TO INHIBIT

S ----- . b -----

The above normal halt follows the three line message executed after the program is reset and restarted. It occurs only once. Any subsequent resets and restarts will bypass both the message and the halt.

Depress Start to continue.

R RESET CHK & PRINT CNTRL SW TO NORMAL

S ----- . b -----

The above normal halt follows the single line message executed prior to program exit. It serves to remind and permit the operator to reset the machine to normal program loading status before loading any subsequent program.

04.2 ERROR HALTS

None programmed.

Any halts occurring within Normal Mode will be of the standard "E" stop printout type. It will be the operator's responsibility to determine whether they are of CPU or data check nature. Program retry may be made in either Normal or Restart Check Control Mode.

04.3 PROGRAM RESTART PROCEDURES

For CS41 -

Depress Computer Reset
Depress Start.

For CS42 -

Depress Computer Reset
Set Mode Switch to Address Set.
Depress Start.
Enter Address 12000.
Set Mode Switch to Run.
Depress Start.

2.00.05.0 PRINTOUTS

05.1 NORMAL TYPEOUT INDICATIONS

CS41- or CS42

The above identifies the program under test.
It is indicated only once.

(CS41) TESTS 10000-19999 AREA OF 20K MEMORY

(CS42) TESTS 00001 -09999 AREA OF 20K MEMORY

The above serves as a reminder to identify the portion and size of memory being tested.
It is indicated only once.

QUICK RUN

The - above - serves to indicate that an abbreviated memory check has been called for by TC50 and that Section 05 only will be executed.

See Operating Hints and Comments, 2.02.03.7.

TAD STATUS -

The above serves to identify the status of each TAD assignment. It is indicated on program entrance and each time the program is reset and restarted. The example shows all TAD's down. Any TAD up would appear as a numeric 1 in its respective position.

S-01
S-02
-
-
-
S-11C

The above serves to indicate when and which section was completed.

Pass 001-CS41 or FASS 001-CS42

The above serves to indicate: when, which, and the total number of program passes completed.

IF PARITY ERRORS EXIST -
SET CHECK CNTRL SW TO RESTART
SET PRINT CNTRL SW TO INHIBIT

The above three line message is executed only if the program had been reset and started again. It serves to remind the operator how to make the transition from Normal to Restart Mode.
It is indicated only once.

RESET CHK & PRINT CNTRL SW TO NORMAL

The above is executed unconditionally prior to program exit if the program had been reset and started again. It serves to remind the operator to restore the machine to Normal Status Mode before subsequent program loading is made.

AUTO SECT SEL
ENTER 2 DIGIT SECTION #

The above two line message is executed whenever the program is reset and restarted and TAD 4 is set to 1. It serves to remind the operator that automatic section selection has been called for and that the program is waiting for him to designate the specific section he wants. He does so as follows:

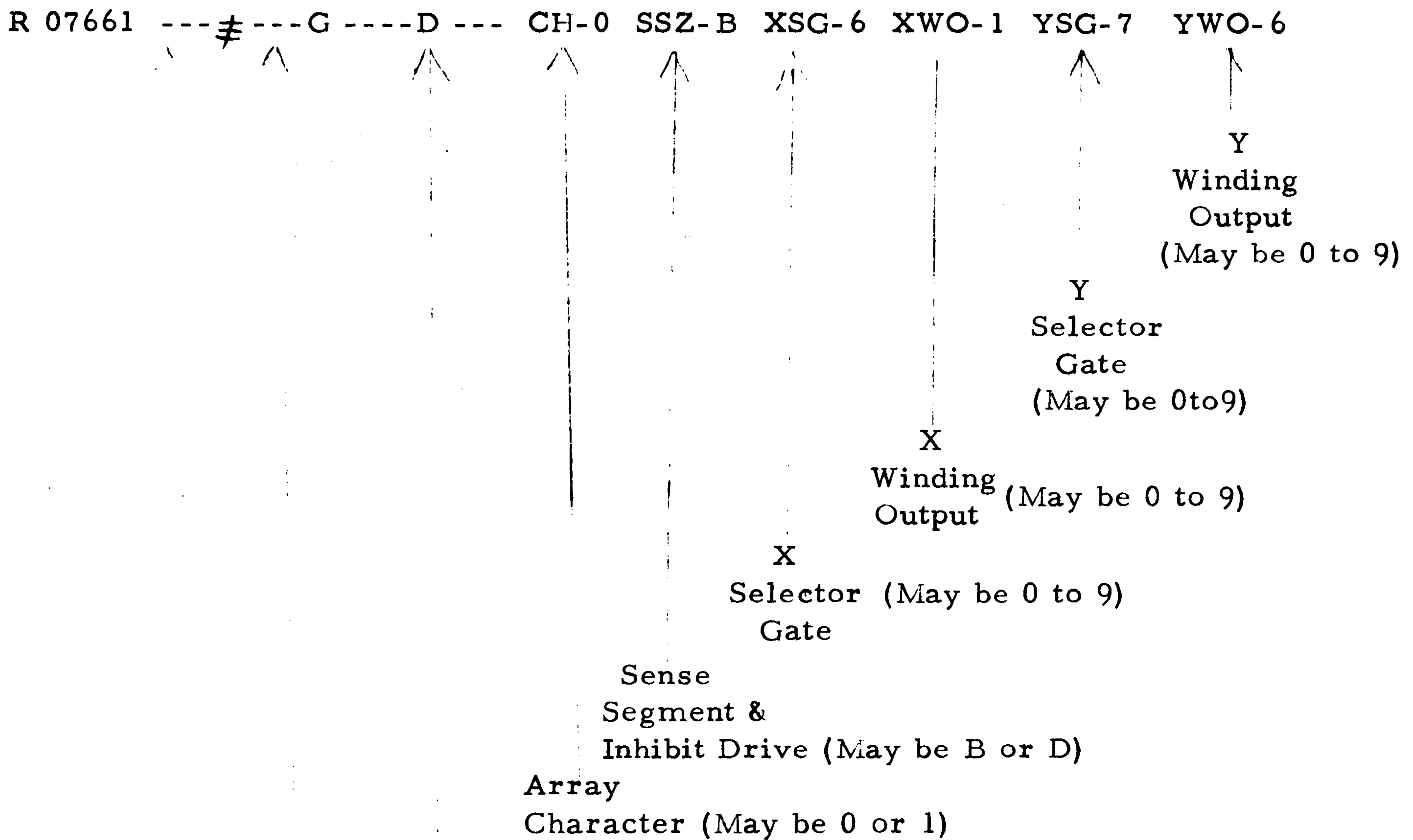
Depress Inquiry Request.
Enter through the keyboard two numerics.
(such as 03, 08, 11, etc.)
Depress Inquiry Release

Note: See Operating Hints and Comments, 2.02.03.1
and 2.02.03.2 for selection of "C" Sections.

2.02.05.0 PRINTOUTS (Continued)

05.2 ERROR TYPEOUT INDICATIONS

The following is a typical format example of an Immediate Error Indication executed when encountered in all Sections (except Section 05).



Bit (Defines by P or D which bit was picked or dropped.
 Breakdown Order in which defined left to right: WM, C, B, A
 8, 4, 2, 1)

Error Character (Indicates actual character found at error address. May be any one of 64 possible characters preceded by WM-or--- denoting that the error character has or has not a word mark respectively)

Should be Character ---≠, or WMBL, or WM-V, or ---!, or WM-C, or ---@

Error Address (Indicates address in which a bit pick or drop error was detected)

2.02.05.0 PRINTOUTS (Continued)

05.2 The following are typical examples of Immediate Error Indications executed when encountered in all sections (except Section 05).

R 18234 ---~~†~~WM -~~‡~~P -----CH-1 SSZ-B XSG-3 XWO-4 YSG-8 YWO-2

The above is interpreted as follows:

- 18234 Address in which error was detected.
- ~~†~~ Character at that address should have been a not word mark-group mark.
- WM -~~‡~~ Character found at that address was a word mark-group mark.
- P----- The bit breakdown indicates that a "Word Mark" bit was picked.
- CH-1 Array character in which error address resides is 1.
- SSZ-B Sense Segment and Inhibit Drive in which error bit resides is B.
- XSG-3 X Selector Gate for the error address is 3.
- XWO-4 X Winding Output for the error address is 4.
- YSG-8 Y Selector Gate for the error address is 8.
- YWO-2 Y Winding Output for the error address is 2.

2.02.05.0 PRINTOUTS (Continued)

05.2

R 14995 WMBL WM-1 -----P CH-1 SSZ-D XSG-9 XWO-5 YSG-4 YWO-9

The above is interpreted as follows:

14995	Address in which error was detected.
WMBL	Character at that address should have been a word mark-blank.
WM-1	Character found at that address was a word mark-1.
-----P	The bit breakdown indicates that a "1" bit was picked.
CH-1	Array character in which error address resides is 1.
SSZ-D	Sense Segment and Inhibit Drive in which the error bit resides is D.
XSG-9	X Selector Gate for the error address is 9.
XWO-5	X Winding Output for the error address is 5.
YSG-4	Y Selector Gate for the error address is 4.
YWO-9	Y Winding Output for the error address is 9.

2.02.05.0 PRINTOUTS (Continued)

05.2

R 04567 WM-V WM-/ -----D-- CH-0 SSZ-D XSG-6 XWO-7 YSG-4 YWO-5

The above is interpreted as follows:

04567	Address in which error was deleted.
WM-V	Character at that address should have been a word mark-V.
WM-/	Character found at that address was a word mark-slash.
-----D--	The bit breakdown indicates that a "4" bit was dropped.
CH-0	Array Character in which error address resides is 0.
SSZ-D	Sense Segment and Inhibit Drive in which the error bit resides is D.
XSG-6	X Selector Gate for the error address is 6.
XWO-7	X Winding Output for the error address is 7.
YSG-4	Y Selector Gate for the error address is 4.
YWO-5	Y Winding Output for the error address is 5.

2.02.05.0 PRINTOUTS (Continued)

05.2

R 18777 ---! ---K ----D--- CH-1 SSZ-B XSG-7 XWO-7 YSG-8 YWO-7

The above is interpreted as follows:

- 18777 Address in which error was detected.
- ! Character at that address should have been a not
word mark-exclamation point.
- K Character found at that address was a not
word mark-K.
- D--- The bit breakdown indicates that an "8" bit was
dropped.
- CH-1 Array Character in which error address resides
is 1.
- SSZ-B Sense Segment and Inhibit Drive in which the error
bit resides is B.
- XSG-7 X Selector Gate for the error address is 7.
- XWO-7 X Winding Output for the error address is 7.
- YSG-8 Y Selector Gate for the error address is 8.
- YWO-7 Y Winding Output for the error address is 7.

2.02.05.0 PRINTOUTS (Continued)

05.2

R 15000 WM-C WM-L ---D---- CH-1 SSZ-B XSG-0 XWO-0 YSG-5 YWO-0

The above is interpreted as follows:

15000	Address in which error was detected.
WM-C	Character at that address should have been a word mark-C.
WM-L	Character found at that address was a word mark-L.
---D----	The bit breakdown indicates that an "A" bit was dropped.
CH-1	Array Character in which error address resides is 1.
SSZ-B	Sense Segment and Inhibit Drive in which the error bit resides is B.
XSG-0	X Selector Gate for the error address is 0.
XWO-0	X Winding Output for the error address is 0.
YSG-5	Y Selector Gate for the error address is 5.
YWO-0	Y Winding Output for the error address is 0.

2.02.05.0 PRINTOUTS (Continued)

05.2

R 14789 ---@ ---* --P----- CH-1 SSZ-D XSG-8 XWO-9 YSG-4 YWO-7

The above is interrupted as follows:

14789 Address in which error was detected.

---@ Character at that address should have been a
 word mark-at sign.

---* Character found at that address was a not word
 mark-asterisk.

--P----- The bit breakdown indicates that a "B" bit was
 picked.

CH-1 Array Character in which error address resides
 is 1.

SSZ-D Sense Segment and Inhibit Drive in which the error
 bit resides is D.

XSG-8 X Selector Gate for the error address is 8.

XWO-9 X Winding Output for the error address is 9.

YSG-4 Y Selector Gate for the error address is 4.

YWO-7 Y Winding Output for the error address is 7.

2.02.05.0 PRINTOUTS (Continued)

05.2 Section 05 Error Typeouts -

The following are possible examples of immediate error indications encountered in Section 5 only. These errors are not table recordable or address repeatable.

A-05004, C-15004

The above is interpreted as follows:

A-05004 Address in which error was detected in one or more positions between 05000-05004.

C-15004 Contents found at that address did not match the address.

A-19584, C-19

The above is interpreted as follows:

A-19584 Address in which error was detected in one or more positions between 19580-19584.

C-19 Contents found at that address did not match the address. In addition, either the third or fourth position character was invalid since the typeout was cut off short. This condition also indicates problems other than those of addressing since bit pick and drop problems exist.

S

CTL 2

PGLIN	LABEL	OPCOD	OPERAND
102	•		-1410-
103	•		MEMORY RELIABILITY TEST
104	•		-CS41-
105	•		TESTS 1411 MODEL 2.2A
1055	•		ALL QUADRANTS
106	•		MOD 2- CHAR 1. AREA 10-20
1099	•		
110	•	SECT 1-	ONES DISCRIMINATION
111	•	SECT 2-	ZEROS DISCRIMINATION
1115	•		
112	•	SECT 3-	ALTERNATE PLANE DISCRIMINATION
113	•	SECT 4-	ALTERNATE PLANE DISCRIMINATION- REVERSED
1135	•		
114	•	SECT 5-	MEMORY ADDRESS PLACEMENT
1145	•		
116	•	SECT 6-	2D PLANE CHECKERBOARD DISCRIMINATION
1164	•	SECT 6C-	2D PLANE COMPLEMENTED CHECKERBOARD
117	•	SECT 7-	2D PLANE CHECKERBOARD DISCRIMINATION- REVERSED
1174	•	SECT 7C-	2D PLANE COMPLEMENTED CHECKERBOARD- REVERSED
1175	•		
118	•	SECT 8-	IN LINE PLANE CHECKERBOARD DISCRIMINATION
1184	•	SECT 8C-	IN LINE PLANE COMPLEMENTED CHECKERBOARD
119	•	SECT 9-	IN LINE PLANE CHECKERBOARD DISCRIMINATION- REVER
1194	•	SECT 9C-	IN LINE PLANE COMPLEMENTED CHECKERBOARD-REVERSED
1195	•		
120	•	SECT 10-	ALT PLANE CHECKERBOARD DISCRIMINATION
1204	•	SECT 10C-	ALT PLANE COMPLEMENTED CHECKERBOARD
121	•	SECT 11-	ALT PLANE CHECKERBOARD DISCRIMINATION- REVERSED
1214	•	SECT 11C-	ALT PLANE COMPLEMENTED CHECKERBOARD- REVERSED
1215	•		
124	•		
125	•		
1255	•		
126	•		
127	•		

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
128	.					
129	.					
S TO 1	.					
TD 2	•STANDARD XTADS.					
TD 3	ORG	1000			01000	UP-ONE
TD 4	TADO	DC	2-2	1	01000	EXECUTE TYPEOUTS BYPASS TYPEOUTS
TD 5	TAD1	DC	2-2	1	01001	NO SECTION REPEAT REPEAT SECTION
TD 6	TAD2	DC	2-2	1	01002	NO ERROR HALTS HALT ON ERROR
TD 7	TAD3	DC	2-2	1	01003	SINGLE PROGRAM PASS REPEAT PROGRAM
TD 79	.					
TD 8	TAD4	DC	2-2	1	01004	NO AUTO SECT SELECT AUTO SECTION SELECT
TD 9	TAD5	DC	2-2	1	01005	NOT USED NOT USED
TD10	TAD6	DC	2-2	1	01006	NOT USED NOT USED
TD11	TAD7	DC	2-2	1	01007	IMMED ERRS ON TYPE IMMED ERRS ON PRINTER
TD12	TAD8	DC	2-2	1	01008	EXECUTE S6-S11 SECTS BYPASS S6-S11 SECTS
TD13	TAD9	DC	2-2	1	01009	EXECUTE S6C-S11C SECS BYPASS S6C-S11C SECTS
TD19	DCW	2A2		1	01010	
S A302	•STANDARD INTERNAL PROGRAM ALTER ROUTINE					
A303	ORG	1100			01100	
A304	ITR	SBR	ITREXT&S	7	01100	STORE BAR FOR RETURN G01167B
A305	ITR1	RCP	ITR2&4	10	01107	ENTER LOCATION TO BE ALTERED M8T001142R
A306		BEX1	ITR1,M	7	01117	RETURN ON ANY BUT WLR & NT R01107M
A3064		BNT1	ITREXT	7	01124	EXIT-IF NO TRANSFER R01162B
A307		BA1	ITR2	7	01131	RESET I/O INTERLOCK R01138M
A308	ITR2	RCPW	0	10	01138	ENTER DATA L8T0000000R
A309		BEX1	ITR2,M	7	01148	RETURN TO REQUEST ON ANY BUT WLR R01138M
A310		BA1	61	7	01155	RETURN TO PROGRAM R01162M
A311	ITREXT	B	0	7	01162	J00000
A312	H			1	01169	.
TC 1	•TAPE CONTROL TC50 CONSTANTS					
TC 15	.		CONFIGURATION- 1410 OR 1410A 20K			
TC18	ORG	01239			01239	
TC19	BLOCK2	DCW	2X+02	3	01239	TENS A BIT IF NOT 7010
TC21	BLOCK1	DC	21C12	3	01242	
TC23	SEQNO	DC	212J2	3	01245	SEQ #-121 . UNITS B BIT IF REL- MODE
TC24	LSADDR	DC	20Z2	2	01249	LAST ADDR-09K . UNITS A BIT IF SYS CTL ONLY

PGLIN LABEL OPCOD OPERAND CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
S PI 1	*PROG IDENT AND SUFFIX					
PI 2	ORG	1250			01250	
PI 3	IDENT	DC	ACS410	4	01250	PROGRAM IDENT
PI 4	DC	282.G		1	01254	SUFFIX LEVEL
S CC 1	*STANDARD SYSTEM CONTROL CARD					
CC 2	ORG	1256			01256	
CC 3	SYS1	DC	202	1	01256	MACHINE TYPE 0-1410, 1-14101, X-7010
CC 4	MEMSEL	DC	212	1	01257	MEMORY SIZE 1-20K
CC 5	DC	2 2		1	01258	SPARE
CC 6	PRTBUF	DC	222	1	01259	CHANNEL 1 PRINTER, BUF SIZE 1-100.2-132
CC 7	DC	2 2		1	01260	2
CC 8	DC	2 2		1	01261	3
CC 9	DC	2 2		1	01262	4
CC10	DC	2 2		1	01263	OVERLAP
CC11	DC	2 2		1	01264	PRIORITY ALERT
CC12	DC	2 2		3	01267	SPARES
CC13	CHARDY	DC	212	1	01268	CHANNEL 1 ON LINE- IF 1
CC14	DC	2 2		1	01269	2
CC15	DC	2 2		1	01270	3
CC16	DC	2 2		1	01271	4
CC17	DC	2 2		3	01274	SPARES
CC18	DC	2 2		1	01275	INTERVAL TIMER
CC19	DC	2 2		1	01276	REAL TIME CLOCK
CC20	DC	2 2		1	01277	RELOCATE AND PROTECT
CC21	DC	2 2		1	01278	FLOATING POINT
CC22	DC	2 2		5	01283	SPARES
CC23	DC	2 2		5	01288	SPARES
1996						
1997						
1998	ORG	1300			01300	
1999						
200	SCMPLT	NOP		1	01300	N
201	BCE		SM11RE,TADO.1	12	01301	BYPASS S-XX T-0 IF TADO UP
202	WCP	SECOND		10	01313	TYPE SECTION COMPLETED AS S-XX
203	BAL	16		7	01323	R01313M

PGLIN	LABEL	OPCOD	OPERAND		CT	ADDRS	INSTRUCTION
2038	•						
2039	•						
204	SW11RE	NOPWM		S-11 SWITCH	1	01330	N
205		B	REPS11		7	01331	J01703
206	SW10RE	NOPWM		S-10 SWITCH	1	01338	N
207		B	REPS10		7	01339	J01665
208	SW9REP	NOPWM		S-9 SWITCH	1	01346	N
209		B	REPS9		7	01347	J01627
210	SW8REP	NOPWM		S-8 SWITCH	1	01354	N
211		B	REPS8		7	01355	J01589
212	SW7REP	NOPWM		S-7 SWITCH	1	01362	N
213		B	REPS7		7	01363	J01551
214	SW6REP	NOPWM		S-6 SWITCH	1	01370	N
215		B	REPS6		7	01371	J01513
216	SW5REP	NOPWM		S-5 SWITCH	1	01378	N
217		B	REPS5		7	01379	J01486
218	SW4REP	NOPWM		S-4 SWITCH	1	01386	N
219		B	REPS4		7	01387	J01467
220	SW3REP	NOPWM		S-3 SWITCH	1	01394	N
221		B	REPS3		7	01395	J01448
222	SW2REP	NOPWM		S-2 SWITCH	1	01402	N
223		B	REPS2		7	01403	J01429
2238	•						
2239	•						
224		BCE	S1SET,TA01.1	REPEAT S-1 IF TA01 UP	12	01410	802605010011
225		B	S2SET		7	01422	J02659
226	REPS2	BCE	S2SET,TA01.1	REPEAT S-2	12	01429	802659010011
227		B	S3SET		7	01441	J02708
228	REPS3	BCE	S3SET,TA01.1	REPEAT S-3	12	01448	802708010011
229		B	S4SET		7	01460	J02757
230	REPS4	BCE	S4SET,TA01.1	REPEAT S-4	12	01467	802757010011
231		B	S5SET		7	01479	J04358
232	REPS5	BCE	S5SET,TA01.1	REPEAT S-5	12	01486	804358010011
2324	QUIEX	NOPWM		QUICK EXIT POST S-05 RUN SW	1	01498	N
2325		B	PASSAD		7	01499	J01734
233		B	S6SET		7	01506	J04667

PGLIN	LABEL	OPCOD	OPERAND	INSTRUCTION	CT	ADDRS	INSTRUCTION
234	REPS6	BCE	REP6R,TAD9,1	BYPASS S-6C IF TAD9 UP	12	01513	801532010091
235		B	CPTSET	GO TO COMPLEMENT SETUP	7	01525	J07087
236	REP6R	BCE	S6SET,TAD1,1	REPEAT S-6 IF TAD1 UP	12	01532	804667010011
237		B	S7SET		7	01544	J04745
238	REPS7	BCE	REP7R,TAD9,1	BYPASS S-7C	12	01551	801570010091
239		B	CPTSET		7	01563	J07087
240	REP7R	BCE	S7SET,TAD1,1	REPEAT S-7	12	01570	804745010011
241		B	S8SET		7	01582	J04829
242	REPS8	BCE	REP8R,TAD9,1	BYPASS S-8C	12	01589	801608010091
243		B	CPTSET		7	01601	J07087
244	REP8R	BCE	S8SET,TAD1,1	REPEAT S-8	12	01608	804829010011
245		B	S9SET		7	01620	J04913
246	REPS9	BCE	REP9R,TAD9,1	BYPASS S-9C	12	01627	801646010091
247		B	CPTSET		7	01639	J07087
248	REP9R	BCE	S9SET,TAD1,1	REPEAT S-9	12	01646	804913010011
249		B	S10SET		7	01658	J04997
250	HEPS10	BCE	REP10R,TAD9,1	BYPASS S-10C	12	01665	801684010091
251		B	CPTSET		7	01677	J07087
252	REP10R	BCE	S10SET,TAD1,1	REPEAT S-10	12	01684	804997010011
253		B	S11SET		7	01696	J05081
254	REPS11	BCE	REP11R,TAD9,1	BYPASS S-11C	12	01703	801722010091
255		B	CPTSET		7	01715	J07087
256	REP11R	BCE	S11SET,TAD1,1	REPEAT S-11	12	01722	805081010011
2569	*						
257	PASSAD	A	CUN1,PASSCT&2	ADD 1 TO PASS COUNT	11	01734	A0892108561
258		WCP	PASS	PASS 001- CS41	10	01745	HXT008554W
259		BA1	**16		7	01755	R01745M
2599	*						
260	TESREP	BCE	SWRES,TAD3,1	REPEAT PROGRAM IF TAD3 IS UP	12	01762	802219010031
261	SWEXIT	NOPWM		MANUAL SWITCH RESET SWITCH	1	01774	N
262		B	**88		7	01775	J01789
263		B	00400	GO TO READ IN NEXT PROGRAM	7	01782	J00400
264		WCP	EXMESS	RESET ALL MANUAL SWITCHES	10	01789	HXT008453M
265		BA1	**16		7	01799	R01789M
266		H		HALT- TO ALLOW SWITCH RESETS	1	01806	.
267		B	00400	GO TO LOAD NEXT PROG	7	01807	J00400

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
2678	*			1	01814	N
2679	*			12	01815	B01844010001
268	CPTCLT	NOP		10	01827	MXT008314H
269		BCE	SC11RE,TAD0,1	7	01837	RO1827M
270		WCP	SECCIN			
271		BA1	*-16			
2718	*			1	01844	N
2719	*			7	01845	J01979
272	SC11RE	NOPWM		1	01852	N
273		B	REP11C	7	01853	J01960
274	SC10RE	NOPWM		1	01860	N
275		B	REP10C	7	01861	J01941
276	SC9RE	NOPWM		1	01868	N
277		B	REP9C	7	01869	J01922
278	SC8RE	NOPWM		1	01876	N
279		B	REP8C	7	01877	J01903
280	SC7RE	NOPWM				
281		B	REP7C			
2819	*			12	01884	B04667010011
282		BCE	S6SET,TAD1,1	7	01896	J04745
283		B	S7SET	12	01903	B04745010011
284	REP7C	BCE	S7SET,TAD1,1	7	01915	J04829
285		B	S8SET	12	01922	B04829010011
286	REP8C	BCE	S8SET,TAD1,1	7	01934	J04913
287		B	S9SET	12	01941	B04913010011
288	REP9C	BCE	S9SET,TAD1,1	7	01953	J04997
289		B	S1CSET	12	01960	B04997010011
290	REP10C	BCE	S1CSET,TAD1,1	7	01972	J05081
291		B	S11SET	12	01979	B05081010011
292	REP11C	BCE	S11SET,TAD1,1	7	01991	J01734
293		B	PASSAD	1	01998	.

• INITIAL INSTRUCTION OF TEST PROGRAM

ORG 2000

02000

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
300	SWINT	NOPWM	SWITCH-INITIAL	1	02000	N
301		B	SWINT2	7	02001	J02091
3019						
302		SW	SWINT&1	6	02008	,02001
303		MLCWA	RESET,00007	12	02014	D0871500007X
3034		MLCWS	RESET&1,00008	12	02026	D08716000087
3039						
305		WCP	IDENT	10	02038	M&T001250W _G
306		BA1	*-16	7	02048	R02038M
3529						
353	MEMIND	WCP	TESTS	10	02055	M&T008320W _G
3534		BA1	*-16	7	02065	R02055M
3551						
3553		BW	SETQCK,00997	12	02072	V02315009971
3555		B	TACSTA	7	02084	J02162
3559						
356	SWINT2	NOPWM	FIRST RESET SWITCH	1	02091	N
3562		B	TADSTA	7	02092	J02162
3569						
357		WCP	PARITY	10	02099	M&T008357W _G
3572		BA1	*-16	7	02109	R02099M
360		WCP	RESTAT	10	02116	M&T008381W _G
362		BA1	*-16	7	02126	R02116M
363		WCP	INH-IB	10	02133	M&T008411W _G
365		BA1	*-16	7	02143	R02133M
3655		SM	SWINT2&1,SMEXIT&1	11	02150	,0209201775
366		H		1	02161	.
3699						
375	TADSTA	WCP	STATUS	10	02162	M&T008441W _G
376		BA1	*-16	7	02172	R02162M
377		WCP	TAD0	10	02179	M&T001000W _G
378		BA1	*-16	7	02189	R02179M
379		HLNA	CON1-2,PASSCT&2	12	02196	D0891908561/
380		CW	QUIEX&1,DIRS&1	11	02208	D0149902387
501						
502			RESET ALL SWITCHES OFF			

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
520	SWRES	CH	SW613A&1,SW11RE&1	11	02219	00563901331
539	*					
543		CH	SW10RE&1,SW9REP&1	11	02230	00133901367
544		CH	SW8REP&1,SW7REP&1	11	02241	00135501363
545		CH	SW6REP&1,SW5REP&1	11	02252	00137101379
546		CH	SW4REP&1,SW3REP&1	11	02263	00138701395
547		CH	SW2REP&1	6	02274	001403
549	*					
550		CH	SC11RE&1,SC10RE&1	11	02280	00184501853
551		CH	SC9RE&1,SC8RE&1	11	02291	00186101869
552		CH	SC7RE&1	6	02302	001877
565		B	CLRENT	7	02308	J02343
600	SETQCK	SW	QUIEX&1,DIRS5&1	11	02315	0149902387
602		WCP	QCKRUN	10	02326	MXT008528W
603		BA1	*-16	7	02336	R02326M
9998	*					
9999	*		MEMORY OBJECTIVE TEST AREA CLEARANCE			
1036	CLRENT	MLNA	FA20H,CLROTA&5	12	02343	D0872902366/
10999	*					
1100		SW	10000	6	02355	010000
1101	CLROTA	CS	19999	6	02361	/19999
1102		SBR	CLROTA&5	7	02367	G02366B
1103		BW	CLROTA,10000	12	02374	V02361100001
11049	*					
1105	CIRSS	NOPWM		1	02386	N
1106		B	S5SET	7	02387	J04358
11099	*					
1149	*		TEST FOR AUTOMATIC SECTION SELECTION			
1150		BCE	SECSEL,TAD4,1	12	02394	B02413010041
1151		B	S1SET	7	02406	J02605
1152	*					
1153	SECSEL	WCP	AUTSEC	10	02413	MXT008490W
1154		BA1	*-16	7	02423	R02413M
1155		WCP	ENTER	10	02430	MXT008504W
1156		BA1	*-16	7	02440	R02430M
1157	*					

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1158		RCP	AUTO-1	10	02447	MXT008764R
1159		BEX1	←-16,M	7	02457	R02447M
1160		BAL	←C1	7	02464	R02471M
11609	•		TEST FOR S-10 OR GREATER			
1161		BCE	S10GTR,AUTO,1,1	12	02471	802586087641
11619	•		TEST FOR S-1 THRU S-9 SELECTED			
1162		BCE	S9SET,AUTO,9	12	02483	804913087659
1163		BCE	S8SET,AUTO,8	12	02495	804829087658
1164		BCE	S7SET,AUTO,7	12	02507	804745087657
1165		BCE	S6SET,AUTO,6	12	02519	804667087656
1166		BCE	S5SET,AUTO,5	12	02531	804358087655
1167		BCE	S4SET,AUTO,4	12	02543	802757087654
1168		BCE	S3SET,AUTO,3	12	02555	802708087653
1169		BCE	S2SET,AUTO,2	12	02567	802659087652
1170		B	S1SET	7	02579	J02605
11709	•		TEST FOR S-10 THRU S-13 SELECTED			
1171	S10GTR	BCE	S10SET,AUTO,0	12	02586	804997087650
11714		B	S11SET	7	02598	J05081
1202	•					
1203	•		SECTION 1 SETUP -CBA8421			
1204	S1SET	MLCWA	CONS1,PLUS&24	12	02605	D0879109442X
1205		MLCWA	CONS1,MINUS&24	12	02617	D0879109468X
1206		CH	PLUS,MINUS	11	02629	00941809444
12064		MLNA	S1,SECIND&3	12	02640	D0892808312/
1207		B	CLBESE	7	02652	J05256
1218	•					
1219	•		SECTION 2 SETUP M-----			
1220	S2SET	MLCWA	CUNS2,PLUS&24	12	02659	D0881609442X
1221		MLCWA	CUNS2,MINUS&24	12	02671	D0881609468X
1223		MLNA	S2,SECIND&3	12	02683	D0893008312/
1225		SW	SW2REPC1	6	02695	01403
1226		B	WMALL	7	02701	J05165
1238	•					
1239	•		SECTION 3 SETUP MC-A-4-1			
1240	S3SET	MLCWA	CONS3,PLUS&24	12	02708	D0884109442X
1241		MLCWA	CONS3,MINUS&24	12	02720	D0884109468X

PGLIN	LABEL	OPCOD	OPERAND	PLACE 03 IN S-XX T-0	CT	ADDRS	INSTRUCTION
1243		MLNA	S3, SECINDE3		12	02732	D0893208312/
1247		SW	SW3REP61		6	02744	01395
1248		B	WMALL		7	02750	J05165
1258							
1259				SECTION 4 SETUP --B-8-2-			
1260	S4SET	MLCWA	CONS4, PLUS&24	PLACE 25 EX PT CHAR	12	02757	D0886609442X
1261		MLCWA	CONS4, MINUS&24	25 EX PT	12	02769	D0886609468X
1262		CW	PLUS, MINUS		11	02781	D0941809444
1263		MLNA	S4, SECINDE3	PLACE 04 IN S-XX T-0	12	02792	D0893408312/
1267		SW	SW4REP61		6	02804	01387
1268		B	CLBESE		7	02810	J05256
12999				COMMON WORD MARK BIT INTERROGATION			
1300	COMWC	SBR	COMWDX&5		7	02817	G02872B
1301		MLNA	COMADD, *611		12	02824	D0941302846/
1302		BW	*68,0	TEST FOR WM DOWN	12	02836	V02855000001
1303		B	*613		7	02848	J02867
1304		MLCS	PICK, BITTER-7	P-----	12	02855	D08687082593
1305	COMWCX	B	00000		7	02867	J00000
13099							
1310	COMWP	SBR	COMWPX&5		7	02874	G02922B
1311		MLNA	COMADD, *611		12	02881	D0941302903/
1312		BW	*613,0	TEST FO- WM UP	12	02893	V02917000001
1313		MLCS	DROP, BITTER-7	D-----	12	02905	D08688082593
1314	COMWPX	B	00000		7	02917	J00000
13498							
13499				COMMON B BIT INTERROGATION			
1350	COMBC	SBR	COMBDX&5		7	02924	G02979B
1351		MLNA	COMADD, *611		12	02931	D0941302953/
1352		BBE	*68,0,-	TEST FOR B BIT DOWN	12	02943	W0296200000-
1353		B	*613		7	02955	J02974
1354		MLCS	PICK, BITTER-5	---P-----	12	02962	D08687082613
1355	COMBOX	B	00000		7	02974	J00000
13599							
1360	COMBP	SBR	COMBPX&5		7	02981	G03029B
1361		MLNA	COMADD, *611		12	02988	D0941303010/
1362		BBE	*613,0,-	TEST FOR B BIT UP	12	03000	W0302400000-

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1363		MLCS	DROP,BITTER-5	12	03012	D08688082613
1364	COM8PX	B	00000	7	03024	J00000
13698	.					
13699	.					
1370	COMAC	SBR	COMAD ₅ X ₅	7	03031	G030868
1371		MLNA	COMADD, ₅ * ₅ 11	12	03038	D0941303060/
1372		BBE	* ₅ 8,0, ₅ 8	12	03050	W0306900000B
1373		B	* ₅ 13	7	03062	J03081
1374		MLCS	PICK,BITTER-4	12	03069	D08687082623
1375	COMACX	B	00000	7	03081	J00000
13799	.					
1380	COMAP	SBR	COMAPX ₅ 5	7	03088	G031368
1381		MLNA	COMADD, ₅ * ₅ 11	12	03095	D0941303117/
1382		BBE	* ₅ 13,0, ₅ 8	12	03107	W0313100000B
1383		MLCS	DROP,BITTER-4	12	03119	D08688082623
1384	COMAPX	B	00000	7	03131	J00000
13998	.					
13999	.					
1400	COM8C	SBR	COM8DX ₅ 5	7	03138	G031938
1401		MLNA	COMADD, ₅ * ₅ 11	12	03145	D0941303167/
1402		BBE	* ₅ 8,0, ₅ 8	12	03157	W0317600000B
1403		B	* ₅ 13	7	03169	J03188
1404		MLCS	PICK,BITTER-3	12	03176	D08687082633
1405	COM8CX	B	00000	7	03188	J00000
14099	.					
1410	COM8P	SBR	COM8PX ₅ 5	7	03195	G032438
1411		MLNA	COMADD, ₅ * ₅ 11	12	03202	D0941303224/
1412		BBE	* ₅ 13,0, ₅ 8	12	03214	W0323800000B
1413		MLCS	DROP,BITTER-3	12	03226	D08688082633
1414	COM8PX	B	00000	7	03238	J00000
14198	.					
14199	.					
1420	COM4D	SBR	COM4DX ₅ 5	7	03245	G033008
1421		MLNA	COMADD, ₅ * ₅ 11	12	03252	D0941303274/
1422		BBE	* ₅ 8,0, ₅ 4	12	03264	W03283000004
1423		B	* ₅ 13	7	03276	J03295

---D-----

COMMON A BIT INTERROGATION

TEST FOR A BIT DOWN

----P-----

TEST FOR A BIT UP

----D-----

COMMON 8 BIT INTERROGATION

TEST FOR 8 BIT DOWN

----P-----

TEST FOR 8 BIT UP

----D-----

COMMON 4 BIT INTERROGATION

TEST FOR 4 BIT DOWN

PGLIN	LABEL	OPCODE	OPERAND		CT	ADDRS	INSTRUCTION
1424		MLCS	PICK,BITTER-2	-----P---	12	03283	008687082643
1425	COM4DX	B	00000		7	03295	J00000
14299	*						
1430	COM4P	SBR	COM4PX&5		7	03302	G033508
1431		MLNA	COMADD,*&11		12	03309	D0941303331/
1432		BBE	*&13,0,4	TEST FOR 4 BIT UP	12	03321	W03345000004
1433		MLCS	DROP,BITTER-2	-----D---	12	03333	008688082643
1434	COM4PX	B	00000		7	03345	J00000
14398	*						
14399	*		COMMON 2 BIT INTERROGATION				
1440	COM2D	SBR	COM2DX&5		7	03352	G034078
1441		MLNA	COMADD,*&11		12	03359	D0941303381/
1442		BBE	*&8,0,2	TEST FOR 2 BIT DOWN	12	03371	W03390000002
1443		B	*&13		7	03383	J03402
1444		MLCS	PICK,BITTER-1	-----P---	12	03390	008687082653
1445	COM2CX	B	00000		7	03402	J00000
14499	*						
1450	COM2P	SBR	COM2PX&5		7	03409	G034578
1451		MLNA	COMADD,*&11		12	03416	D0941303438/
1452		BBE	*&13,0,2	TEST FOR 2 BIT UP	12	03428	W03452000002
1453		MLCS	DROP,BITTER-1	-----D---	12	03440	008688082653
1454	COM2PX	B	00000		7	03452	J00000
14598	*						
14599	*		COMMON 1 BIT INTERROGATION				
1460	COM1D	SBR	COM1DX&5		7	03459	G035148
1461		MLNA	COMADD,*&11		12	03466	D0941303488/
1462		BBE	*&8,0,1	TEST FOR 1 BIT DOWN	12	03478	W03497000001
1463		B	*&13		7	03490	J03509
1464		MLCS	PICK,BITTER	-----P---	12	03497	008687082663
1465	COM1DX	B	00000		7	03509	J00000
14699	*						
1470	COM1P	SBR	COM1PX&5		7	03516	G035648
1471		MLNA	COMADD,*&11		12	03523	D0941303545/
1472		BBE	*&13,0,1	TEST FOR 1 BIT UP	12	03535	W03559000001
1473		MLCS	DROP,BITTER	-----D---	12	03547	008688082663
1474	COM1PX	B	00000		7	03559	J00000

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
14799	•					
14999	•		CH-XSG-YSG-XMO-YMO-SS-Z DETERMINANTS FOR IE T-O			
1500	CHDET	SBR	SSDETX&S	7	03566	G03699B
1501		MLNS	ERRADD-4,CHARNO	12	03573	D08240082721
15049	•					
1505		MLNS	ERRADD-1,XSG	12	03585	D08243082861
1506		MLNS	ERRADD-3,YSG	12	03597	D08241083001
15099	•					
1510		MLNS	ERRADD,XMO	12	03609	D08244082931
1511		MLNS	ERRADD-2,YMO	12	03621	D08242083071
15149	•					
1515	ZDET	MLNS	ERRADD-3,THORD	12	03633	D08241094171
1516		C	NUFOUR,THORD	11	03645	C0869009417
1517		BH	SETZB	7	03656	J03682U
15199	•					
1520		MLCS	DROP,SENSEG	12	03663	D08688082793
1521		B	SSDETX	7	03675	J03694
1522	SETZB	MLCS	BSEG,SENSEG	12	03682	D08689082793
1523	SSDETX	B	00000	7	03694	J00000
1600	•					
1601	•		SECTIONS 1,8-9,12-13			
1602	S18B	MLCA	S18B-6,SBCHAR	12	03701	D0862008250T
1603		MLCWS	CONSI,CORREC	12	03713	D08791087207
16049	•		CHAR ---GM SHOULD BE -CBA8421			
1605		B	COMWD	7	03725	J02817
1607		B	COMBP	7	03732	J02981
1608		B	COMAP	7	03739	J0308H
1609		B	COM8P	7	03746	J03195
1610		B	COM4P	7	03753	J03302
1611		B	COM2P	7	03760	J03409
1612		B	COM1P	7	03767	J03516
1613		B	PLACAD	7	03774	J04021
1639	•					
1650	•		SECTIONS 2,8-9,12-13			
1651	S28B	MLCA	S28B-6,SBCHAR	12	03781	D0863008250T
1653		MLCWS	CONS2-24,CORREC	12	03793	D08792087207

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
16549	.		CHAR WM-8L SHOULD BE W-----			
1655		B	COMWP	7	03805	J02874
1657		B	COMBD	7	03812	J02924
1658		B	COMAD	7	03819	J03031
1659		B	COM8D	7	03826	J03138
1660		B	COM4D	7	03833	J03245
1661		B	COM2D	7	03840	J03352
1662		B	COM1D	7	03847	J03459
1663		B	PLACAD	7	03854	J04021
1700	.		SECTIONS 3,10-11 CHAR V BIT BREAKDOWN			
1701	S388	MLCA	S38B-6,S8CHAR	12	03861	D0864008250T
1703		MLCWS	CONS3-24,CORREC	12	03873	D08817087207
17049	.		CHAR WM-V SHOULD BE WC-A-4-1			
1705		B	COMWP	7	03885	J02874
1707		B	COMBD	7	03892	J02924
1708		B	COMAP	7	03899	J03088
1709		B	COM8D	7	03906	J03138
1710		B	COM4P	7	03913	J03302
1711		B	COM2D	7	03920	J03352
1712		B	COM1P	7	03927	J03516
1713		B	PLACAD	7	03934	J04021
1748	.					
1750	.		SECTIONS 4,10-11 CHAR EX PT BIT BREAKDOWN			
1751	S488	MLCA	S48B-6,S8CHAR	12	03941	D0865008250T
1753		MLCWS	CONS4,CORREC	12	03953	D08866087207
17549	.		CHAR ---EP SHOULD BE --B-8-2-			
1755		B	COMWD	7	03965	J02817
1757		B	COMBP	7	03972	J02981
1758		B	COMAD	7	03979	J03031
1759		B	COM8P	7	03986	J03195
1760		B	COM4D	7	03993	J03245
1761		B	COM2P	7	04000	J03409
1762		B	COM1D	7	04007	J03459
1763		B	PLACAD	7	04014	J04021
1799	.					
1835	PLACAD	MLNA	COMADD,ERRADD	12	04021	D0941308244/

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
18354		B	TABSEA	7	04033	J06717
1836		B	CHDET	7	04040	J03566
18399	*					
1840		HLNA	COMADD,REPCOR&10	12	04047	D0941304069/
1841	REPCOR	MLCWS	CORREC.00000	12	04059	D08720000007
1847	*					
1848	*					
1850	ERRIND	BCE	VARRET-7,TAD0,1	12	04071	B04119010001
18504		BCE	PRTYP,TAD7,1	12	04083	B04133010071
1851		WCP	ERRADD-4	10	04095	M3T008240W
1852		BCB1	*-16	7	04105	R040952
1853		BAL	*&1	7	04112	R04119M
		BNQ	ITR	7	04119	J01100Q
			STRATEGIC INQUIRY-----			
18549	*					
1858	VARRET	B	00000	7	04126	J00000
18699	*					
1870	PRTYP	CS	TEMPOR&131	6	04133	/08231
1871		CS		1	04139	/
18719	*					
1872		MLCS	CHAN1,PRIET&1	12	04140	D08682043283
1873		MLCWS	CHAN1B,PRIET&10	12	04152	D08683043377
1874		MLCWS	CHAN1B,PRIET&17	12	04164	D08683043447
1875		BCE	BUFC32,PRTBUF,2	12	04176	B04303012592
1876		BCE	BUFC,PRTBUF,1	12	04188	B04284012591
18769	*					
1877		MLCS	CHAN2,PRIET&1	12	04200	D08684043283
1878		MLCWS	CHAN2B,PRIET&10	12	04212	D08685043377
1879		MLCWS	CHAN2B,PRIET&17	12	04224	D08685043447
1880		BCE	BUFC32,PRTBUF,2	12	04236	B04303012592
1881		BCE	BUFC,PRTBUF,1	12	04248	B04284012591
18819	*					
1882		WCP	NOP8FS	10	04260	M3T008569M
1883		BAL	*-16	7	04270	R04260M
1884		B	ERRIND&24	7	04277	J04095
18849	*					
1885	BUFC	MLCWS	GM,TEMPOR&100	12	04284	D08308082007

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1886		B	*C13	7	04296	J04315
1887	BUFC32	MLCWS	GM,TEMPOR&132	12	04303	D08308082327
1888		MRCG	ERRADD-4,TEMPOR	12	04315	D0824008100\$
18899						
1890	PRIET	W	TEMPOR	10	04327	M32008100H
1891		BEX1	*-16,3	7	04337	RO43273
1892		BA1	*C1	7	04344	RO4351M
1893		B	VARRET	7	04351	J04126
21498						
21499						
2500						
2501						
2502	SSSET	MLNA	S5INAD,S5ADDR	12	04358	D0875808681/
2503		MLNA	S5INAD,PLACER&10	12	04370	D0875804410/
25034		MLNA	S5,SECIND&3	12	04382	D0893608312/
2505		SW	SWSREPE&1	6	04394	,01379
2506						
2507	PLACER	MLCWA	S5ADDR,10004	12	04400	D0868110004X
2508						
2509		C	PLACER&10,NINES	11	04412	C0441008733
2510		BE	FILLED	7	04423	J04466S
2511	FLIPF	A	S5,S5ADDR	11	04430	A0893608681
2512		A	S5,PLACER&10	11	04441	A0893604410
2513		BNQ	ITR	7	04452	J01100Q
2513		B	PLACER	7	04459	J04400
2532						
2540						
2541	FILLED	MLNA	S5INAD,S5ADDR	12	04466	D0875808681/
2542		MLNA	S5INAD,CHECK&5	12	04478	D0875804495/
2543						
2545	CHECK	C	10004,S5ADDR	11	04490	C1000408681
2546		BE	ORDCHK	7	04501	J04515S
2547		B	S5ERR	7	04508	J04569
2548						
2549	ORDCHK	C	CHECK&5,NINES	11	04515	C0449508733
2550		BE	SCMPLT	7	04526	J01300S

SECTION 5- MEMORY ADDR PLACEMENT

SECTION 5 CHECKING AREA

S

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
2551	FLIPC	A	S5,SSADDR	11	04533	A0893608681
2552		A	S5,CHECK65	11	04544	A0893604495
		BNQ	ITR	7	04555	J01100Q
2553		B	CHECK	7	04562	J04490
2572						
2573						
2575	SSERR	MLNWA	SSADDR,SSERTY66	12	04569	D0868108544V
2576		MLNA	SSADDR,PLCONT65	12	04581	D0868104610/
2577						
2578		MLCWA	BLANKS-5,SSERTY614	12	04593	D0870308552X
2579	PLCONT	MLCWB	0000,SSERTY614	12	04605	D0000008552P
2580			SS ERROR TYPE-OUT			
		BNQ	ITR	7	04617	J01100Q
2581		BCE	GAC,TADO,1	12	04624	B04660010001
2582		WCPW	SSERTY	10	04636	LXT008538M
2583		BCB1	6-16	7	04646	R046362
2584		BA1	GAC	7	04653	R04660M
2585	GAC	B	ORDCHK	7	04660	J04515
2599						
3000						
3001						
3003	S6SET	MLCWA	CONS6,PLUS624	12	04667	D0889109442X
3004		MLCWA	CONS7,MINUSE24	12	04679	D0891609468X
30044		CW	PLUS,MINUS	11	04691	D0941809444
30046		MLNA	S6,SECIN63	12	04702	D0893808312/
30048		MLNA	S6,SECCIN63	12	04714	D0893808317/
3006		SW	SW6REP61	6	04726	01371
3007		SW	SW613A61	6	04732	05639
3015		B	WMPLUS	7	04738	J05228
3020						
3021						
3023	S7SET	MLCWA	CONS7,PLUS624	12	04745	D0891609442X
3024		MLCWA	CONS6,MINUSE24	12	04757	D0889109468X
30244		CW	PLUS,MINUS	11	04769	D0941809444
30246		MLNA	S7,SECIN63	12	04780	D0894008312/
30248		MLNA	S7,SECCIN63	12	04792	D0894008317/

SECTION 6 SETUP W-BA--21

--C--84--

SECTION 7 SETUP -C--84--

W-BA--21

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
3026		SW	SW7REP&1	6	04804	.01363
3028		SW	SW613A&1	6	04810	.05639
3030		SW	SC7RE&1	6	04816	.01877
3035		B	WMMINS	7	04822	J05193
3040			SECTION 8 SETUP -CBA8421			
3041			M-----			
3043	S8SET	MLCWA	CONS1, PLUS&24	12	04829	D0879109442X
3044		MLCWA	CONS2, MINUS&24	12	04841	D0881609468X
30444		CW	PLUS, MINUS	11	04853	D0941809444
30446		MLNA	S8, SECIND&3	12	04864	D0894208312/
30448		MLNA	S8, SECCIN&3	12	04876	D0894208317/
3046		SW	SW8REP&1	6	04888	.01355
3047		SW	SW613A&1	6	04894	.05639
3049		SW	SC8RE&1	6	04900	.01869
3055		B	WMMINS	7	04906	J05193
3060			SECTION 9 SETUP M-----			
3061			-CBA8421			
3063	S9SET	MLCWA	CONS2, PLUS&24	12	04913	D0881609442X
3064		MLCWA	CONS1, MINUS&24	12	04925	D0879109468X
30644		CW	PLUS, MINUS	11	04937	D0941809444
30646		MLNA	S9, SECIND&3	12	04948	D0894408312/
30648		MLNA	S9, SECCIN&3	12	04960	D0894408317/
3066		SW	SW9REP&1	6	04972	.01347
3067		SW	SW613A&1	6	04978	.05639
3069		SW	SC9RE&1	6	04984	.01861
3075		B	WMPLUS	7	04990	J05228
3080			SECTION 10 SETUP MC-A-4-1			
3081			--B-8-2--			
3083	S10SET	MLCWA	CONS3, PLUS&24	12	04997	D0884109442X
3084		MLCWA	CONS4, MINUS&24	12	05009	D0886609468X
30844		CW	PLUS, MINUS	11	05021	D0941809444
30846		MLNA	S10, SECIND&3	12	05032	D0894608312/
30848		MLNA	S10, SECCIN&3	12	05044	D0894608317/
3086		SW	SW10RE&1	6	05056	.01339
3087		SW	SW613A&1	6	05062	.05639
3089		SW	SC10RE&1	6	05068	.01853

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3095		B	WMPLUS	7	05074	J05228
3100	.		SECTION 11 SETUP			--8-8-2-
3101	.		WC-A-4-1			
3103	S11SET	MLCWA	CONS4,PLUS624	12	05081	D0886609442X
3104		MLCWA	CONS3,MINUS624	12	05093	D0884109468X
31044		CW	PLUS,MINUS	11	05105	D0941809444
31046		MLNA	S11,SECIND63	12	05116	D0894808312/
31048		MLNA	S11,SECCIN63	12	05128	D0894808317/
3106		SW	SW11RE61	6	05140	.01331
3107		SW	SW613A61	6	05146	.05639
3109		SW	SC11RE61	6	05152	.01845
3115		B	WMMINS	7	05158	J05193
31699	.		SET WM-S IN PLUS AND MINUS FLO			
3170	WMALL	SW	PLUS624	6	05165	.09442
31702		SW	PLUS623,PLUS611	11	05171	.0944109429
3171		SW		1	05182	.
3172		SW		1	05183	.
3173		SW		1	05184	.
3174		SW		1	05185	.
3175		SW		1	05186	.
3176		SW		1	05187	.
3177		SW		1	05188	.
3178		SW		1	05189	.
3179		SW		1	05190	.
31792		SW		1	05191	.
31794		SW		1	05192	.
3180	WMMINS	SW	MINUS624	6	05193	.09468
31802		SW	MINUS623,MINUS611	11	05199	.0946709455
3181		SW		1	05210	.
3182		SW		1	05211	.
3183		SW		1	05212	.
3184		SW		1	05213	.
3185		SW		1	05214	.
3186		SW		1	05215	.
3187		SW		1	05216	.
3188		SW		1	05217	.

PGLIN	LABEL	OPCODE	OPERAND		CT	ADDRS	INSTRUCTION
3245		MRCWG	PLUS, SETUP8&25	66 25-50	12	05371	D0941809825L ^D
3246		MRCWG	PLUS, SETUP8&50	66 50-75	12	05383	D0941809850L ^D
3247		MRCWG	MINUS, SETUP8&75	-- 75-100	12	05395	D0944409875L ^D
32999	.		FILL 10000-19999				
3300		CW	INFSW&1	CLEAR BINARY INFSW	6	05407	005491
3301		MLNA	&SETUPA, INFIL2&5	SET INFIL2 A ADDR	12	05413	D0990505442/
3302		MLNA	INFAD2, INFIL2&10	SET INFIL2 B ADDR	12	05425	D0875305447/
33049	.						
3305	INFIL2	MRCWG	SETUPA, 00000	FILL 100 POSITIONS PER	12	05437	D0960000000L ^D
3306		C	INFIL2&8, C98	TEST FOR -98---	11	05449	C0544508954
3307		BE	INFIL3		7	05460	J05579S
3308		A	CON100, INFIL2&10	ADD 100 TO INFIL2 B ADDR	11	05467	A0892605447
3309		BCE	INFIB, INFIL2&8, 5	TEST FOR --5---	12	05478	B05548054455
33099	.						
3310	INFSW	NOPWM		BINARY SHIFT SW	1	05490	N
3311		B	INFIA		7	05491	J05523
3312		SW	INFSW&1	SET INFSW	6	05498	005491
3313		MLNA	&SETUPB, INFIL2&5	SET INFIL2 A ADDR HI	12	05504	D0991005442/
3314		B	INFIL2		7	05516	J05437
3315	INFIA	CW	INFSW&1	CLEAR INFSW	6	05523	005491
3316		MLNA	&SETUPA, INFIL2&5	SET INFIL2 A ADDR LO	12	05529	D0990505442/
3317		B	INFIL2		7	05541	J05437
33179	.						
3318	INFIB	BCE	INFIL2, INFIL2&7, 2	NO SHIFT IF -2---	12	05548	B05437054442
3319		BCE	INFIL2, INFIL2&7, 7	NO SHIFT IF -7---	12	05560	B05437054447
3320		B	INFSW		7	05572	J05490
33249	.						
3325	INFIL3	MLCWB	SETUPB&99, 19999	FILL 19900-19999	12	05579	D0989919999P
33258	.						
33259	.						
3326	SCOM	CS	CMPPLA	CLEAR & SET CMP FIELDS A & B	6	05591	/09599
3327		MRCG	SETUPA, CMPFDA	SET CMPFDA W-O WM-S	12	05597	D0960009500\$
33279	.						
3328		CS	CMPLAB		6	05609	/09799
3329		MRCG	SETUPB, CMPFDB	SET CMPFDB W-O WM-S	12	05615	D0980009700\$
33299	.						

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
3399	*					
3400	*		COMMON CHECKING AREA- ALL SECTIONS, EXCEPT S-5			
3408	COCHKA	SW	CMPFDA, CMPFDB	11	05627	,0950009700
34099	*					
3415	SW613A	NOPWM	SECTIONS 6-11 SWITCH	1	05638	N
3416		B	BYDIS	7	05639	J05653
3417		B	DISCRM	7	05646	J05672
3420	BYDIS	BCE	CPTSET, TADB, 1	12	05653	B07087010081
3421		B	DISCRM	7	05665	J05672
3429	*					
3430	*		DISCRIMINATION CHECKING AREA- ALL SECTIONS, EXCEPT S-5			
3431	*					
3435	DISCRM	MLNA	INCMPC, CCCMP&5	12	05672	D0876305713/
3436		MLNA	&CMPLAA, CCCMP&10	12	05684	D0991505718/
34362		CW	CCREV&1	6	05696	B066629
3439	*					
3440		CW	SWSC&1	6	05702	B05832
3441	CCCMP	C	00000, CMPLAA	11	05708	C0000009599
3442		BU	SCSET	7	05719	J05732/
3443		SW	SWSC&1	6	05726	,05832
3444	*					
3445	SCSET	SW	SCCMP&6, CHKWM&6	11	05732	,0584505871
3446		MLNWB	CCCMP&5, SCCMP&10	12	05743	D0571305849N
3447		S	CONRED, SCCMP&10	11	05755	S0874805849
3448		MLNWB	SCCMP&10, CHKWM&10	12	05766	D0584905875N
34484		MLNB	CCCMP&5, HTUADD	12	05778	D0571309416J
3449		SW	CMPSET&1	6	05790	,05820
3450		MLNWB	CCCMP&10, CMPSET&5	12	05796	D0571805824N
3451		S	CONRED, CMPSET&5	11	05808	S0874805824
34538	*					
34539	*					
3454	CMPSET	MLCS	CMPFDA, SCCMP&11	12	05819	D09500058503
3455	SWSC	NOPWM	SWITCH- BYPASS SCCMP	1	05831	N
3456		B	CHKWM	7	05832	J05865
34569	*					
3457	SCCMP	BCE	CHKWM, 00000, M ^G	12	05839	B0586500000M ^G

PGLIN	LABEL	OPCOD	OPERAND		CT	ADDRS	INSTRUCTION
3458		B	NOTEQL	ERROR- THIS CHAR	7	05851	J05884
3459		B	SCINC		7	05858	J06516
34599							
3460	CHKWM	BW	UPWM,00000	TEST EACH CHAR FOR WM	12	05865	V06168000001
3461		B	DOWN		7	05877	J06187
3462							
3465	NOTEQL	SBR	VARRET&S		7	05884	G041318
34654		MLNB	SCCMP&10,COMADD	PLACE SCCMP B ADDR IN COMADD	12	05891	D0584909413J
3466		MLCA	BLITZ,BITTER	RESET BIT BREAKDOWN TO -----	12	05903	D0869808266T
34664		MLCA	BLITZ-4,ISCHAR	RESET ISCHAR TO ----	12	05915	D0869408256T
34669							
3468		B8E	NOTEQ2,SCCMP&11,B	TEST SCCMP D MOD FOR 8 BIT	12	05927	M05946058508
3469		B	NOTEQ4		7	05939	J05977
34699							
3471	NOTEQ2	BCE	S18B,SCCMP&11,M ^G	TEST FOR GM	12	05946	B0370105850M ^G
3473		BCE	S48B,SCCMP&11,.	TEST FOR EX PT	12	05958	B0394105850.
3474		B	S78B	MUST BE @	7	05970	J06088
34749							
3476	NOTEQ4	BCE	S28B,SCCMP&11,	TEST FOR BLANK	12	05977	B0378105850
3478		BCE	S38B,SCCMP&11,V	TEST FOR V	12	05989	B0386105850V
34784		B	S68B	MUST BE C	7	06001	J06008
34789							
3479			SECTIONS 6-7	CHAR C BIT BREAKDOWN			
3480	S68B	MLCA	S65B-6,S8CHAR	PLACE WM-C IN T-O	12	06008	D0866008250T
3483		MLCWS	CONS6-24,CORREC	SET WM-C IN CORRECT CHAR STORAGE	12	06020	D0886708720T
34849			CHAR WM-C SHOULD BE W-BA--21				
3485		B	COMWP	TEST FOR WM UP	7	06032	J02874
3487		B	COMBP	B UP	7	06039	J02981
3488		B	COMAP	A UP	7	06046	J03088
3489		B	COM8D	B DOWN	7	06053	J03138
3490		B	COM4D	4 DOWN	7	06060	J03245
3491		B	COM2P	2 UP	7	06067	J03409
3492		B	COM1P	1 UP	7	06074	J03516
3493		B	PLACAD		7	06081	J04021
35299							
3530				SECTIONS 6-7			CHAR @ BIT BREAKDOWN

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3592	CROPWM	SBR	VARRET65	7	06355	G04131H
35922		MLCA	BLITZ,BITTER	12	06362	D0869808266T
35924		MLCS	DROP,BITTER-7	12	06374	D08688082593
35926		MLNB	CHKWM&10,COMADD	12	06386	D0587509413J
35929						
35934		BCE	DWM4,SCCMP&11,	12	06398	80646005850
35944		BCE	DWM3,SCCMP&11,V	12	06410	80644105850V
35949						
3595	DWM23	MLCA	S6SB,ISCHAR	12	06422	D0866608256T
35954		B	DWM5	7	06434	J06472
3596	DWM3	MLCA	S3SB,ISCHAR	12	06441	D0864608256T
35964		B	DWM5	7	06453	J06472
3597	DWM4	MLCA	S2SB,ISCHAR	12	06460	D0863608256T
35972	DWM5	MLNA	COMADD,STERR&5	12	06472	D0941306489/
35974	STERR	SW	00000	6	06484	,00000
3599						
3600	ADDRPL	MLNA	COMADD,ERRADD	12	06490	D0941308244/
3601		B	CHDET	7	06502	J03566
3602		B	ERRIND	7	06509	J04071
3639						
3640	SCINC	C	SCCMP&10,HTUADD	11	06516	C0584909416
3641		BE	CCINC	7	06527	J06581S
3642						
3643		A	CON1,SCCMP&1C	11	06534	A0892105849
36434		A	CON1,CMPSET&5	11	06545	A0892105824
3644		A	CON1,CHKWM&1C	11	06556	A0892105875
		BNQ	ITR	7	06567	J01100Q
3645		B	CMPSET	7	06574	J05819
36459						
3646	CCINC	CW	SWSC&1	6	06581	005832
3647		C	CCCMP&3,NINES-2	11	06587	C0571108731
3648		BE	SCMPLT	7	06598	J01300S
36489						
3649	CCINCA	A	CON100,CCCMP&5	11	06605	A0892605713
3650		BCE	CCNREV,CCCMP&3,5	12	06616	806686057115
36509						

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3651	CCREV	NOPWM	BINARY SHIFT SM	1	06628	N
36512		B	CCREV1	7	06629	J06661
3652		SM	CCREV&1	6	06636	.06629
36522		MLNA	&CMPLAB,CCCMP&10	12	06642	D0992005718/
3653		B	CCCMP	7	06654	J05708
3654	CCREV1	CW	CCREV&1	6	06661	006629
36542		MLNA	&CMPLAA,CCCMP&10	12	06667	D0991505718/
3655		B	CCCMP	7	06679	J05708
36559						
3656	CCNREV	BCE	CCCMP,CCCMP&2,2	12	06686	B05708057102
3657		BCE	CCCMP,CCCMP&2,7	12	06698	B05708057107
3658		B	CCREV	7	06710	J06628
3668						
3798						
3799						
3800	TABSEA	SBR	SEARET&5	7	06717	G07085B
3801		MLCA	BLITZ-4,ISCHAR	12	06724	D0869408256T
3802		MLCWA	BLITZ-2,SEARCH	12	06736	D0869609408X
38049						
38099						
3810		MLNA	COMADD,JAC&10	12	06748	D0941306842/
3811		MLNA	COMADD,LAC&10	12	06760	D0941306873/
3812		MLNA	COMADD,NAC&10	12	06772	D0941306904/
3813		MLNA	COMADD,PAC&10	12	06784	D0941306935/
3814		MLNA	COMADD,RAC&10	12	06796	D0941306966/
3815		MLNA	COMADD,TAC&10	12	06808	D0941306997/
3816		MLNA	COMADD,VAC&10	12	06820	D0941307028/
38199						
3820	JAC	BW	KAC,0	12	06832	V06851000001
3821		B	LAC	7	06844	J06863
3822	KAC	MLCA	S2S8-8,ISCHAR-2	12	06851	D0862808254T
38229						
3823	LAC	BBE	MAC,0,-	12	06863	W0688200000-
3824		B	NAC	7	06875	J06894
3825	MAC	MLCS	CON1,SEARCH-5	12	06882	D08921094033
3826	NAC	BBE	OAC,0,B	12	06894	W0691300000B

TABLE SEARCH ROUTINE - FOR ACTUAL ERROR CHAR

SET RETURN BR FROM TABLE SEARCH

SET ISCHAR TO ----

SET SEARCH ARGUMENT TO -----

SET BIT INTERROG ADDRESSES

TEST FOR WM

PLACE WM IN ISCHAR WM--

TEST FOR B BIT

1-----

TEST FOR A BIT

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
3827		B	PAC	7	06906	J06925
3828	OAC	MLCS	CON1,SEARCH-4	12	06913	D08921094043
3829	PAC	BBE	QAC,0,8	12	06925	W06944000008
3830		B	RAC	7	06937	J06956
3831	QAC	MLCS	CON1,SEARCH-3	12	06944	D08921094053
3832	RAC	BBE	SAC,0,4	12	06956	W06975000004
3833		B	TAC	7	06968	J06987
3834	SAC	MLCS	CON1,SEARCH-2	12	06975	D08921094063
3835	TAC	BBE	UAC,0,2	12	06987	W07006000002
3836		B	VAC	7	06999	J07018
3837	UAC	MLCS	CON1,SEARCH-1	12	07006	D08921094073
3838	VAC	BBE	WAC,0,1	12	07018	W07037000001
3839		B	LOOKUP	7	07030	J07049
3840	WAC	MLCS	CON1,SEARCH	12	07037	D08921094083
38449	*					
3845	LOOKUP	LE	SEARCH, TLEIAB	12	07049	T09408094022
3846		SBR	PLACIS65	7	07061	G070738
3847	PLACIS	MLCS	00000, ISCHAR	12	07068	D00000082563
3848	SEARET	B	00000	7	07080	J00000
3999	*					
4000	*					
4001	*					
4002	CPTSET	NOP		1	07087	N
40149	*					
4015	SLASH	BBE	SABRC, CMPFOA, /	12	07088	W0713109500/
40159	*		MUST BE SECTION 7,9,OR 11 - CHAR IS BL,EP,OR @			
4016		BCE	SWORDL, CMPFDA,	12	07100	B0714309500
4017		BCE	SWORDH, CMPFDA, .	12	07112	B0715609500.
4018		B	SWORDH	7	07124	J07156
40189	*		MUST BE SECTION 6,8,OR 10 - CHAR IS GM,V,OR C			
4019	SABRE	BCE	SWORDH, CMPFDA, M	12	07131	B0715609500M ^G
40199	*		MUST BE V OR C			
4020	SWORDL	SW	CMPFDA62	6	07143	.09502
4021		B	RESALT	7	07149	J07162
4022	SWORDH	SW	CMPFDB62	6	07156	.09702
40248	*					

SECTIONS 6-7 8-9 10-11 COMPLEMENTING SETUP AREA

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
40649	.					
4065		BBE	ALTER4,SGLCMP&11,8 OK- WM DOWN	12	07408	W07718073818
4066		B	WMDROP ERROR-	7	07420	J07570
4067		B	ALTER4 -CHAR IS BL,V,OR C	7	07427	J07718
4068	WMUP	BBE	WMPICK,SGLCMP&11,8 ERROR- WM UP -CHAR IS GM,EP,OR&	12	07434	W07644073818
4069		B	ALTER4 OK-	7	07446	J07718
40798	.					
40799	.					
4080	UNEQL	SBR	VARRET&5 SET RETURN BR ADDR	7	07453	G04131B
4081		MLCA	BLITZ,BITTER RESET BIT BRKON TO -----	12	07460	D0869808266T
4082		MLCA	BLITZ-4,ISCHAR RESET ISCHAR TO -----	12	07472	D0869408256T
4083		MLNB	SGLCMP&10,COMADD PLACE SGLCMP ADDR IN COMADD	12	07484	D0738009413J
40839	.					
4084		BBE	UNEQL1,SGLCMP&11,8 TEST SGLCMP D MOD FOR 8 BIT	12	07496	W07539073818
40849	.					
4085		BCE	S2BB,SGLCMP&11, TEST FOR BLANK	12	07508	B0378107381
4086		BCE	S3BB,SGLCMP&11,V TEST FOR V	12	07520	B0386107381V
4087		B	S6BB MUST BE C	7	07532	J06008
40879	.					
4088	UNEQL1	BCE	S1BB,SGLCMP&11,M ^G TEST FOR GM	12	07539	B0370107381M ^G
4089		BCE	S4BB,SGLCMP&11, TEST FOR EX PT	12	07551	B0394107381.
4090		B	S7BB MUST BE &	7	07563	J06088
40998	.					
40999	.					
4100	WMDRCP	SBR	VARRET&5 SET RETURN BR ADDR	7	07570	G04131B
4101		MLCA	BLITZ,BITTER RESET BIT BRKON TO -----	12	07577	D0869808266T
4102		MLCS	DROP,BITTER-7 PLACE 0 D-----	12	07589	D08688082593
4103		MLNB	WMCHK&10,COMADD PLACE WMCHK ADDR IN COMADD	12	07601	D0740609413J
41049	.					
4105		BCE	DWM4,SGLCMP&11, TEST SGLCMP D MOD FOR BLANK	12	07613	B0646007381
4106		BCE	DWM3,SGLCMP&11,V TEST FOR V	12	07625	B0644107381V
4107		B	DWM23 MUST BE C	7	07637	J06422
41098	.					
41099	.					
4110	WMPICK	SBR	VARRET&5 SET RETURN BR ADDR	7	07644	G04131B
4111		MLCA	BLITZ,BITTER RESET BIT BRKON TO -----	12	07651	D0869808266T

PGLIN	LABEL	OPCOD	OPERAND	PLACE P	CT	ADDRS	INSTRUCTION
4112		MLCS	PICK,BITTER-7	P-----	12	07663	D08687082593
4113		MLNB	WMCHK&10.COMADD		12	07675	D0740609413J
41149							
4115		BCE	PWM4,SGLCMP&11,M ^G	TEST SGLCMP D MOD FOR GM	12	07687	B0631807381M
4116		BCE	PWM3,SGLCMP&11,.	TEST FOR EX PT	12	07699	B0629907381.
4117		B	PWM23	MUST BE @	7	07711	J06280
42398							
42399							
4240	ALTER4	NOPWM		ALTERNATE SWITCH-4	1	07718	N
4241		B	RECPTH		7	07719	J07745
4242	RECPTL	MLCWS	CMPFDA&2,10000	RECPLMT 1 CHAR L-H	12	07726	D09502100007
4244		B	DBLING		7	07738	J07757
4245	RECPTH	MLCWS	CMPFDA&2,10000	RECPLMT 1 CHAR H-L	12	07745	D09702100007
42499							
4251	DBLING	C	FILTER&5,NINES	TEST FILTER A ADDR FOR -9999	11	07757	C0728908733
4252		BE	CPTCLT		7	07768	J01814S
42529							
4253	AD0002	A	CON1,HBLAST&10	ADD 1 TO ALL ADDRS	11	07775	A0892107263
4254		A	CON1,LBLAST&10		11	07786	A0892107282
4255		A	CON1,FILTER&5		11	07797	A0892107289
4256		A	CON1,RECPTL&10		11	07808	A0892107736
4257		A	CON1,RECPTH&10		11	07819	A0892107755
42999		BNQ	ITR	STRATEGIC INQUIRY-----	7	07830	J01100Q
4300	ALTSET	BCE	ALSO1,FILTER&5,5	TEST FOR -----5	12	07837	B07868072895
4301		BCE	ALSO2,FILTER&5,0	TEST FOR -----0	12	07849	B07899072890
4302		B	ALTER1	NO SHIFT	7	07861	J07245
4303	ALSO1	BCE	SHIFT,FILTER&4,2	SHIFT IF ----2-	12	07868	B07954072882
4304		BCE	SHIFT,FILTER&4,7	SHIFT IF ----7-	12	07880	B07954072887
4305		B	ALTER1	NO SHIFT	7	07892	J07245
4306	ALSO2	BCE	ALSO3,FILTER&4,0	TEST FOR ----0-	12	07899	B07918072880
4307		B	ALTER1	NO SHIFT	7	07911	J07245
4308	ALSO3	C	FILTER&3,C25	TEST FOR -25---	11	07918	C0728708950
4309		BE	ALTER1	NO SHIFT	7	07929	J07245S
4310		C	FILTER&3,C75	TEST FOR -75---	11	07936	C0728708952
4311		BE	ALTER1	NO SHIFT	7	07947	J07245S

S

CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	SHIFT	CT	ADDR	INSTRUCTION
43199	•						
4320	SHIFT	NOPWM		BINARY SHIFT SWITCH	1	07954	N
4321		B	CLALT		7	07955	J07992
43219	•						
4322		SW	SHIFT&1	SET SHIFT SW	6	07962	07955
4323		SW	ALTER1&1,ALTER2&1	SET ALL ALTERNATE SWITCHES	11	07968	0724607297
4324		SW	ALTER4&1		6	07979	07719
4325		B	ALTER1		7	07985	J07245
4326	CLALT	CW	SHIFT&1	RESET SHIFT SW	6	07992	07955
4327		CW	ALTER1&1,ALTER2&1	RESET ALL ALTERNATE SWITCHES	11	07998	0724607297
4328		CW	ALTER4&1		6	08009	07719
4329		B	ALTER1		7	08015	J07245
4775		H			1	08022	•

DATA AND CONSTANT FIELD AREAS

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
89998	•					
89999	•					
9000		ORG	0EX00			08100
9001	TEMPOR	DS	1			08100
9002		DS	139			08239
90029	•					
9003	ERRADD	DC	000000a			08244
9004		DC	a a			08246
9005	SBCHAR	DC	a-----a			08250
90054		DC	a a			08252
9006	ISCHAR	DC	a-----a			08256
90064		DC	a a			08258
9007	BITTER	DC	a-----a			08266
90074		DC	a a			08268
9008		DC	aCH-a			08271
90082	CHARNO	DCW	00a			08272
90083		DC	a a			08274
90084		DC	aSSZ-a			08278
90085	SENSEG	DC	a a			08279
90089		DC	a a			08281
9009	XSG	DC	aXSG-0a			08286
90094		DC	a a			08288
9010	XWO	DC	aXWO-0a			08293

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS
90104		DC	a a	2	08295
9011	YSG	DC	aySG-0a	5	08300
90114		DC	a a	2	08302
9012	YHO	DC	ayHO-0a	5	08307
9015	GM	DCW	aMa	1	08308
9019					
9020	SECIND	DC	aS- a.G	4	08309
9021	SECCIN	DC	aS- ca.G	5	08314
9030	TESTS	DC	aTESTS 10000-19999 AREA OFa	25	08320
9032	MEMSIZ	DC	a 20K MEMORYa.G	11	08345
90323	PARITY	DC	aIF PARITY ERRORS EXIST-a.G	23	08357
9033	RESTAT	DC	aSET CHECK CNTRL SW TO RESTARTa.G	29	08381
9034	INHIB	DC	aSET PRINT CNTRL SW TO INHIBITa.G	29	08411
9035	STATUS	DC	aTAD STATUS-a.G	11	08441
9038	EXMESS	DC	aRESET CHK & PRINT CNTRL SW TO NORMALa.G	36	08453
9040	AUTSEC	DC	aAUTO SECT SELa.G	13	08490
9042	ENTER	DC	aENTER 2 DIGIT SECTION #a.G	23	08504
9050	QCKRUN	DC	aQUICK RUNa.G	9	08528
9060	S5ERTY	DC	aA-00000,C-00000a.G SECTION 5- ERROR 1-0	15	08538
9070	PASS	DC	aPASS a	5	08554
9071	PASSCT	DCW	a000- CS41a.G	9	08559
9084	NOPBFS	DC	aNO CHAN PRINTER AND/OR BUFF SIZE SPEC ON CTL COa.G	47	08569
9101					
9102	S1SB	DCW	a---M WM-Ma	10	08626
9103	S2SB	DCW	aWMBL --BLa	10	08636
9104	S3SB	DCW	aWM-V ---Va	10	08646
9105	S4SB	DCW	a---: WM-a	10	08656
91052	S6SB	DCW	aWM-C ---Ca	10	08666
91054	S7SB	DCW	a---a WM-a	10	08676
9106	S5ADCR	DCW	a00000a	5	08681
9110	CHAN1	DC	aZa PERCENT- CHAN 1 NON-OVERLAP X CTL CHAR	1	08682
91102	CHAN1B	DCW	aRa CHAN 1 I/O BRANCH OP	1	08683
9111	CHAN2	DC	aZa LCZENGE- CHAN 2 NON-OVERLAP X CTL CHAR	1	08684
91112	CHAN2B	DCW	aZa CHAN 2 I/O BRANCH OP	1	08685
9115	NOPERA	DCW	aNa	1	08686
9120	PICK	DC	aPa	1	08687

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS
9461	CON100	DCW	2001002	5	08926
9500	.				
9501	S1	DCW	2012	2	08928
9502	S2	DCW	2022	2	08930
9503	S3	DCW	2032	2	08932
9504	S4	DCW	2042	2	08934
9505	S5	DCW	2052	2	08936
9506	S6	DCW	2062	2	08938
9507	S7	DCW	2072	2	08940
9508	S8	DCW	2082	2	08942
9509	S9	DCW	2092	2	08944
9510	S10	DCW	2102	2	08946
9511	S11	DCW	2112	2	08948
9534	C25	DCW	2252	2	08950
9535	C75	DCW	2752	2	08952
9540	C98	DCW	2982	2	08954

64 CHARACTER-BIT CONFIGURATION LOOKUP TABLE

NO ZONED CHARS

9598	.				
9599	.				
95999	.				
9600		DCW	2-----2	7	08961
9601		DCW	21-----12	7	08968
9602		DCW	22-----1-2	7	08975
9603		DCW	23-----112	7	08982
9604		DCW	24-----1--2	7	08989
9605		DCW	25-----1-12	7	08996
9606		DCW	26-----11-2	7	09003
9607		DCW	27-----1112	7	09010
9608		DCW	28--1----2	7	09017
9609		DCW	29--1----12	7	09024
9610		DCW	20--1-1-2	7	09031
9611		DCW	2#--1-112	7	09038
9612		DCW	22--11--2	7	09045
9613		DCW	23--11-12	7	09052
9614		DCW	27--111-2	7	09059
9615		DCW	2M--11112	7	09066

PGLIN LABEL OPCODE OPERAND CT ADDR INSTRUCTION

A ZONED CHARS

9619	.	DCW	aB-1-----a	7	09073	
9620	.	DCW	a/-1-----1a	7	09080	
9621	.	DCW	aS-1--1-a	7	09087	
9622	.	DCW	aT-1--11a	7	09094	
9623	.	DCW	aU-1-1--a	7	09101	
9624	.	DCW	aV-1-1-1a	7	09108	
9625	.	DCW	aW-1-11-a	7	09115	
9626	.	DCW	aX-1-111a	7	09122	
9627	.	DCW	aY-11----a	7	09129	
9628	.	DCW	aZ-11--1a	7	09136	
9629	.	DCW	a+-11-1-a	7	09143	
9630	.	DCW	a,-11-11a	7	09150	
9631	.	DCW	a%-111--a	7	09157	
9632	.	DCW	aS-111-1a	7	09164	
9633	.	DCW	aB-1111-a	7	09171	
9634	.	DCW	aM-11111a	7	09178	
9635	.	DCW				

B ZONED CHARS

9639	.	DCW	a-1-----a	7	09185	
9640	.	DCW	aJ1-----1a	7	09192	
9641	.	DCW	aK1-----1-a	7	09199	
9642	.	DCW	aL1-----11a	7	09206	
9643	.	DCW	aM1--1--a	7	09213	
9644	.	DCW	aN1--1-1a	7	09220	
9645	.	DCW	aO1--11-a	7	09227	
9646	.	DCW	aP1--111a	7	09234	
9647	.	DCW	aQ1-1----a	7	09241	
9648	.	DCW	aR1-1--1a	7	09248	
9649	.	DCW	a-1-1-1-a	7	09255	
9650	.	DCW	aS1-1-11a	7	09262	
9651	.	DCW	a-1-11--a	7	09269	
9652	.	DCW	aR1-11-1a	7	09276	
9653	.	DCW	a-1-111-a	7	09283	
9654	.	DCW	aD1-1111a	7	09290	
9655	.	DCW				

BA ZONED CHARS

9659	.	DCW	a611-----a	7	09297	
9660	.	DCW				

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
9661		DCW	a111---1a	7	09304	
9662		DCW	a811--1-a	7	09311	
9663		DCW	aC11--11a	7	09318	
9664		DCW	aD11-1--a	7	09325	
9665		DCW	aE11-1-1a	7	09332	
9666		DCW	aF11-11-a	7	09339	
9667		DCW	aG11-111a	7	09346	
9668		DCW	aH111---a	7	09353	
9669		DCW	aI111--1a	7	09360	
9670		DCW	aM111-1-a	7	09367	
9671		DCW	a.111-11a	7	09374	
9672		DCW	aP1111--a	7	09381	
9673		DCW	aB1111-1a	7	09388	
9674		DCW	aT11111-a	7	09395	
9675	TLETAB	DCW	aM111111a	7	09402	
9678	.					
9679	.					
9680	SEARCH	DCW	a-----a	6	09408	
9689	.					
9690	COMACD	DCW	a00000a	5	09413	COMMON USAGE AREA FOR ERROR ADDR
9692	HTUACD	DCW	a000a	3	09416	HTU ORDERS OF CCCMP ADDR
9693	THORO	DCW	a0a	1	09417	ERRADD TH ORDER
9909	.					
9910	PLUS	DC	a-----a	25	09418	
9911		DCW	aMa	1	09443	
9912	MINUS	DC	a-----a	25	09444	
9913		DCW	aMa	1	09469	
99198	.					
99199	.					
9920		ORG	*EX00		09500	CMP FIELD A- 100 CHARS
9921	CMPFCA	DS	1		09500	
9922		DS	98		09598	
9923	CMPLAA	DS	1		09599	
99249	.					
9925	SETUPA	DS	1		09600	SETUP FIELD A- 100 CHARS
9926		DS	99		09699	

CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
99298	•					
99299	•		CMP FIELD B- 100 CHARS			
9931	CMPFDB	DS	1		09700	
9932		DS	98		09798	
9933	CMPLAB	DS	1		09799	
99349	•		SETUP FIELD B- 100 CHARS			
9935	SETUPB	DS	1		09800	
9936		DS	99		09899	
9937		DS	1		09900	
99399	•					
		PST				J02000
		END	2000			
			SETUPA	5	09905	09600
			SETUPB	5	09910	09800
			CMPLAA	5	09915	09599
			CMPLAB	5	09920	09799

S

END OF ASSEMBLY

S

CTL 2

PGLIN	LABEL	OPCOD	OPERAND
102			-1410-
103			MEMORY RELIABILITY TEST
104			-CS42-
105			TESTS 1411 MODEL 2,2A
1055			ALL QUADRANTS
106			MOD 2- CHAR 0, AREA 00-10
1099			
110		SECT 1-	ONES DISCRIMINATION
111		SECT 2-	ZEROES DISCRIMINATION
1115			
112		SECT 3-	ALTERNATE PLANE DISCRIMINATION
113		SECT 4-	ALTERNATE PLANE DISCRIMINATION- REVERSED
1135			
114		SECT 5-	MEMORY ADDRESS PLACEMENT
1145			
116		SECT 6-	2D PLANE CHECKERBOARD DISCRIMINATION
1164		SECT 6C-	2D PLANE COMPLEMENTED CHECKERBOARD
117		SECT 7-	2D PLANE CHECKERBOARD DISCRIMINATION- REVERSED
1174		SECT 7C-	2D PLANE COMPLEMENTED CHECKERBOARD- REVERSED
1175			
118		SECT 8-	IN LINE PLANE CHECKERBOARD DISCRIMINATION
1184		SECT 8C-	IN LINE PLANE COMPLEMENTED CHECKERBOARD
119		SECT 9-	IN LINE PLANE CHECKERBOARD DISCRIMINATION- REVER
1194		SECT 9C-	IN LINE PLANE COMPLEMENTED CHECKERBOARD-REVERSED
1195			
120		SECT 10-	ALT PLANE CHECKERBOARD DISCRIMINATION
1204		SECT 10C-	ALT PLANE COMPLEMENTED CHECKERBOARD
121		SECT 11-	ALT PLANE CHECKERBOARD DISCRIMINATION- REVERSED
1214		SECT 11C-	ALT PLANE COMPLEMENTED CHECKERBOARD- REVERSED
1215			
124			
125			
1255			
126			
127			

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
128	*					
129	*					
S TD 1	*					
TD 2	*STANDARD XTADS.					
TD 3	ORG	11000	UP-ONE		11000	
TD 4	TADO	DC	a-a	1	11000	BYPASS TYPEOUTS
TD 5	TAD1	DC	a-a	1	11001	REPEAT SECTION
TD 6	TAD2	DC	a-a	1	11002	HALT ON ERROR
TD 7	TAD3	DC	a-a	1	11003	REPEAT PROGRAM
TD 79	*					
TD 8	TAD4	DC	a-a	1	11004	AUTO SECTION SELECT
TD 9	TAD5	DC	a-a	1	11005	NOT USED
TD10	TAD6	DC	a-a	1	11006	NOT USED
TD11	TAD7	DC	a-a	1	11007	IMMED ERRS ON PRINTER
TD12	TAD8	DC	a-a	1	11008	BYPASS S6-S11 SECTS
TD13	TAD9	DC	a-a	1	11009	BYPASS S6C-S11C SECTS
TD19	DCW	aMa		1	11010	
S A302	*STANDARD INTERNAL PROGRAM ALTER ROUTINE					
A303	ORG	11100			11100	
A304	ITR	SBR	ITREXT65	7	11100	STORE BAR FOR RETURN
A305	ITR1	RCP	ITR264	10	11107	ENTER LOCATION TO BE ALTERED
A306		BEX1	ITR1,M	7	11117	RETURN ON ANY BUT WLR & NT
A307		BNT1	ITREXT	7	11124	EXIT-IF NO TRANSFER
A308	ITR2	BA1	ITR2	7	11131	RESET I/O INTERLOCK
A309		RCPW	0	10	11138	ENTER DATA
A310		BEX1	ITR2,M	7	11148	RETURN TO REQUEST ON ANY BUT WLR
A311	ITREXT	BA1	*61	7	11155	RETURN TO PROGRAM
A312	H	B	0	1	11169	
TC 1	*TAPE CONTROL TC50 CONSTANTS					
TC 15	*		CONFIGURATION- 1410 OR 1410A 20K			
TC18	ORG	01239			01239	
TC19	BLOCK2	DCW	2X#02	3	01239	TENS A BIT IF NOT 7010
TC21	BLOCK1	DC	21C12	3	01242	
TC23	SEQNO	DC	21212	3	01245	SEQ #-123 . UNITS B BIT IF REL. MODE
TC24	LSADCR	DC	21222	2	01249	LAST ADDR-19K . UNITS A BIT IF SYS CTL ONLY

INSTRUCTION

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS
S PI 1	•PROG IDENT AND SUFFIX				
PI 2	ORG	1250			01250
PI 3	IDENT	DC	2CS42a	4	01250
PI 4	DC	2B2.G	PROGRAM IDENT SUFFIX LEVEL	1	01254
S CC 1	•STANDARD SYSTEM CONTROL CARD				
CC 2	ORG	11256			11256
CC 25	COORG	1256			01256
CC 3	SYS1	DC	202	1	11256
CC 4	MEMSEL	DC	212	1	11257
CC 5	DC	2 2	MACHINE TYPE 0-1410, I-14101, X-7010 MEMORY SIZE 1-20K SPARE	1	11258
CC 6	PRTBUF	DC	222	1	11259
CC 7	DC	2 2	CHANNEL 1 PRINTER, BUF SIZE 1-100,2-132 2	1	11260
CC 8	DC	2 2	3	1	11261
CC 9	DC	2 2	4	1	11262
CC10	DC	2 2	OVERLAP	1	11263
CC11	DC	2 2	PRIORITY ALERT	1	11264
CC12	DC	2 2	SPARES	3	11267
CC13	CHARDY	DC	212	1	11268
CC14	DC	2 2	CHANNEL 1 ON LINE- IF 1 2	1	11269
CC15	DC	2 2	3	1	11270
CC16	DC	2 2	4	1	11271
CC17	DC	2 2	SPARES	3	11274
CC18	DC	2 2	INTERVAL TIMER	1	11275
CC19	DC	2 2	REAL TIME CLOCK	1	11276
CC20	DC	2 2	RELOCATE AND PROTECT	1	11277
CC21	DC	2 2	FLOATING POINT	1	11278
CC22	DC	2 2	SPARES	5	11283
CC23	DC	2 2	SPARES	5	11288
CC25	DCM	2Ma		1	11289
1996	•				
1997	•				
1998		ORG	11300		11300
1999	•				
200	SCMPLT	NOP		1	11300 M
201	BCE		BYPASS S-XX T-0 IF TADO UP	12	11301 B1130110001
202	WCP		TYPE SECTION COMPLETED AS S-XX	10	11313 M8T018309W

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
203		BA1	0-16	7	11323	R11313M ^G
2038						
2039						
204	SW11RE	NOPWM		1	11330	N
205		B	REPS11	7	11331	J11703
206	SW10RE	NOPWM		1	11338	N
207		B	REPS10	7	11339	J11665
208	SW9REP	NOPWM		1	11346	N
209		B	REPS9	7	11347	J11627
210	SW8REP	NOPWM		1	11354	N
211		B	REPS8	7	11355	J11589
212	SW7REP	NOPWM		1	11362	N
213		B	REPS7	7	11363	J11551
214	SW6REP	NOPWM		1	11370	N
215		B	REPS6	7	11371	J11513
216	SW5REP	NOPWM		1	11378	N
217		B	REPS5	7	11379	J11486
218	SW4REP	NOPWM		1	11386	N
219		B	REPS4	7	11387	J11467
220	SW3REP	NOPWM		1	11394	N
221		B	REPS3	7	11395	J11448
222	SW2REP	NOPWM		1	11402	N
223		B	REPS2	7	11403	J11429
2238						
2239						
224		BCE	S1SET, TAD1.1	12	11410	B12529110011
225		B	S2SET	7	11422	J12583
226	REPS2	BCE	S2SET, TAD1.1	12	11429	B12583110011
227		B	S3SET	7	11441	J12632
228	REPS3	BCE	S3SET, TAD1.1	12	11448	B12632110011
229		B	S4SET	7	11460	J12681
230	REPS4	BCE	S4SET, TAD1.1	12	11467	B12681110011
231		B	S5SET	7	11479	J14319
232	REPS5	BCE	S5SET, TAD1.1	12	11486	B14319110011
2324	QUIEX	NOPWM		1	11498	N
2325		B	PASSAD	7	11499	J11734

REPEAT S-1 IF TAD1 UP

REPEAT S-2

REPEAT S-3

REPEAT S-4

REPEAT S-5

QUICK EXIT POST S-05 RUN SW

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
233		B	S6SET	7	11506	J14662
234	REPS6	BCE	REP6R,TAD9,1	12	11513	B11532110091
235		B	CPTSET	7	11525	J17135
236	REP6R	BCE	S6SET,TAD1,1	12	11532	B14662110011
237		B	S7SET	7	11544	J14740
238	REPS7	BCE	REP7R,TAD9,1	12	11551	B11570110091
239		B	CPTSET	7	11563	J17135
240	REP7R	BCE	S7SET,TAD1,1	12	11570	B14740110011
241		B	S8SET	7	11582	J14824
242	REPS8	BCE	REP8R,TAD9,1	12	11589	B11608110091
243		B	CPTSET	7	11601	J17135
244	REP8R	BCE	S8SET,TAD1,1	12	11608	B14824110011
245		B	S9SET	7	11620	J14908
246	REPS9	BCE	REP9R,TAD9,1	12	11627	B11646110091
247		B	CPTSET	7	11639	J17135
248	REP9R	BCE	S9SET,TAD1,1	12	11646	B14908110011
249		B	S10SET	7	11658	J14992
250	REPS10	BCE	REP10R,TAD9,1	12	11665	B11684110091
251		B	CPTSET	7	11677	J17135
252	REP10R	BCE	S10SET,TAD1,1	12	11684	B14992110011
253		B	S11SET	7	11696	J15076
254	REPS11	BCE	REP11R,TAD9,1	12	11703	B11722110091
255		B	CPTSET	7	11715	J17135
256	REP11R	BCE	S11SET,TAD1,1	12	11722	B15076110011
2569						
257	PASSAD	A	CON1,PASSCT62	11	11734	A1891318561
258		WCP	PASS	10	11745	M2T018554M
259		BAI	0-16	7	11755	R11745M
2599						
260	TESREP	BCE	SWRES,TAD3,1	12	11762	B12143110031
261	SWEXIT	NOPHM		1	11774	N
262		B	068	7	11775	J11789
263		B	REPLOD	7	11782	J14282
264		WCP	EXMESS	10	11789	M2T018453M
265		BAI	0-16	7	11799	R11789M

ADD 1 TO PASS COUNT
 PASS 001- CS42
 REPEAT PROGRAM IF TAD3 IS UP
 MANUAL SWITCH RESET SWITCH
 RESET ALL MANUAL SWITCHES

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
266		M		1	11806	
267		B	REPLOD	7	11807	J14282
2678						
2679						
268	CPTCLT	NOP		1	11814	N
269		BCE	SC11RE,TAD0,1	12	11815	B11844110001
270		WCP	SECCIN	10	11827	M3T018314M
271		BA1	*-16	7	11837	R11827M
2718						
2719						
272	SC11RE	NOPWM		1	11844	N
273		B	REP11C	7	11845	J11979
274	SC10RE	NOPWM		1	11852	N
275		B	REP10C	7	11853	J11960
276	SC9RE	NOPWM		1	11860	N
277		B	REP9C	7	11861	J11941
278	SC8RE	NOPWM		1	11868	N
279		B	REP8C	7	11869	J11922
280	SC7RE	NOPWM		1	11876	N
281		B	REP7C	7	11877	J11903
2819						
282		BCE	S6SET,TAD1,1	12	11884	B14662110011
283		B	S7SET	7	11896	J14740
284	REP7C	BCE	S7SET,TAD1,1	12	11903	B14740110011
285		B	S8SET	7	11915	J14824
286	REP8C	BCE	S8SET,TAD1,1	12	11922	B14824110011
287		B	S9SET	7	11934	J14908
288	REP9C	BCE	S9SET,TAD1,1	12	11941	B14908110011
289		B	S10SET	7	11953	J14992
290	REP10C	BCE	S10SET,TAD1,1	12	11960	B14992110011
291		B	S11SET	7	11972	J15076
292	REP11C	BCE	S11SET,TAD1,1	12	11979	B15076110011
293		B	PASSAD	7	11991	J11734
2969		H		1	11998	.
297						

CS42

1410 MEMORY RELIABILITY

12-3-63

PAGE 7

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
298	• INITIAL INSTRUCTION OF TEST PROGRAM					
2982		ORG	2000		02000	
2983		MRCNG	1256,11256	12	02000	D0125611256L ^D
2984		B	SWINT	7	02012	J12000
2986		H		1	02019	.
2989	•					
299		ORG	12000		12000	
300	SWINT	NOPWM		1	12000	N
301		B	SWINT2	7	12001	J12015
3014		B	SWINT1	7	12008	J19600
3018	•					
3019		ORG	19600		19600	
302	SWINT1	SW	SWINT&1	6	19600	,12001
303		CS	10999	6	19606	/10999
3031		CS		1	19612	/
3032		CS		1	19613	/
3033		CS		1	19614	/
3034		CS		1	19615	/
3035		CS		1	19616	/
3036		CS		1	19617	/
304		SW	10334	6	19618	,10334
3042		MLCMB	0999,10999	12	19624	D0099910999P
3049	•					
305		WCP	IDENT	10	19636	M3T001250M ^G
306		BAL	*-16	7	19646	R19636M
3529	•					
353	MEMIND	WCP	TESTS	10	19653	M3T018320M ^G
3534		BAL	*-16	7	19663	R19653M
3551	•					
3553		BW	SETQCK,10997	12	19670	V1223910997I
3555		B	TADSTA	7	19682	J12086
3556		H		1	19689	.
3558	•					
3559		ORG	12015		12015	
356	SWINT2	NOPWM		1	12015	N
3562		B	TADSTA	7	12016	J12086

CLEAR 10900-10999

MOVE LODER TO 10334-10999

CS42

TESTS 00001-09999 AREA OF 20K

TEST FOR QUICK RUN

FIRST RESET SWITCH

PGLIN	LABEL	OPCOD	OPERAND	IF PARITY ERRORS EXIST-	CT	ADDRS	INSTRUCTION
3569					10	12023	MXT018357M
357		WCP	PARITY		7	12033	R12023M
3572		BA1	--16		10	12040	MXT018381M
360		WCP	RESTAT	SET CHECK CONTROL SWITCH	7	12050	R12040M
362		BA1	--16		10	12057	MXT018411M
363		WCP	INHIB	SET PRINT CONTROL SWITCH	7	12067	R12057M
365		BA1	--16		11	12074	,1201611775
3655		SW	SHINT2&1,SWEXIT&1		1	12085	.
366		H					
3699							
375	TADSTA	WCP	STATUS	TAD STATUS--	10	12086	MXT018441M
376		BA1	--16		7	12096	R12086M
377		WCP	TADO	-----	10	12103	MXT011000M
378		BA1	--16		7	12113	R12103M
379		MLNA	CON1-2,PASSCT&2	RESET PASS COUNTER	12	12120	D1891118561/
380		CW	QUIEX&1,DIRS5&1	CLEAR QUICK RUN SW--S	11	12132	D1149912311
501							
502				RESET ALL SWITCHES OFF			
520	SWRES	CW	SW613A&1,SW11RE&1		11	12143	D1562211331
539							
543		CW	SW10RE&1,SW9REP&1		11	12154	D1133911347
544		CW	SW8REP&1,SW7REP&1		11	12165	D1135511363
545		CW	SW6REP&1,SW5REP&1		11	12176	D1137111379
546		CW	SW4REP&1,SW3REP&1		11	12187	D1138711395
547		CW	SW2REP&1		6	12198	D11403
549							
550		CW	SC11RE&1,SC10RE&1		11	12204	D1184511853
551		CW	SC9RE&1,SC8RE&1		11	12215	D1186111869
552		CW	SC7RE&1		6	12226	D11877
565		B	CLRENT		7	12232	J12267
600	SETQCK	SW	QUIEX&1,DIRS5&1	SET QUICK RUN SW-S	11	12239	,1149912311
602		WCP	QCKRUN	QUICK RUN T-O	10	12250	MXT018528M
603		BA1	--16		7	12260	R12250M
9998							
9999				MEMORY OBJECTIVE TEST AREA CLEARANCE			
1036	CLRENT	MLNA	FA10H,CLROTAC5	SET 09999	12	12267	D1872112290/

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
10999	.					
1100		SW	00001	6	12279	,00001
1101	CLROTA	CS	09999	6	12285	/09999
1102		SBR	CLROTA65	7	12291	G12290B
1103		BW	CLROTA,00001	12	12298	V12285000011
11049	.					
1105	DIRSS	NOPWM		1	12310	N
1106		B	SSSET	7	12311	J14319
11099	.					
1149	.					
1150		BCE	SECSEL,TAD4,1	12	12318	B12337110041
1151		B	S1SET	7	12330	J12529
1152	.					
1153	SECSEL	WCP	AUTSEC	10	12337	M3T018490W _G
1154		BAI	*-16	7	12347	R12337M
1155		WCP	ENTER	10	12354	M3T018504W _G
1156		BAI	*-16	7	12364	R12354M
1157	.					
1158		RCP	AUTO-1 _S	10	12371	M3T018756R
1159		BEX1	*-16,M	7	12381	R12371M _S
1160		BAI	*61	7	12388	R12395M _G
11609	.					
1161		BCE	S10GTR,AUTO-1,1	12	12395	B12510187561
11619	.					
1162		BCE	S9SET,AUTO,9	12	12407	B14908187579
1163		BCE	S8SET,AUTO,8	12	12419	B14824187578
1164		BCE	S7SET,AUTO,7	12	12431	B14740187577
1165		BCE	S6SET,AUTO,6	12	12443	B14662187576
1166		BCE	S5SET,AUTO,5	12	12455	B14319187575
1167		BCE	S4SET,AUTO,4	12	12467	B12681187574
1168		BCE	S3SET,AUTO,3	12	12479	B12632187573
1169		BCE	S2SET,AUTO,2	12	12491	B12583187572
1170		B	S1SET	7	12503	J12529
11709	.					
1171	S10GTR	BCE	S1CSET,AUTC,0	12	12510	B14992187570
11714		B	S11SET	7	12522	J15076

TEST FOR AUTOMATIC SECTION SELECTION

TEST TAD4 FOR AUTO SECT SELECT

AWAIT TWO DIGITS ONLY

TEST FOR S-10 OR GREATER

TEST FOR S-1 THRU S-9 SELECTED

TEST FOR S-10 THRU S-13 SELECTED

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1202	.					
1203	.					
1204	S1SET	MLCWA	CONS1, PLUS&24	12	12529	D1878319432X
1205		MLCWA	CONS1, MINUS&24	12	12541	D1878319458X
1206		CW	PLUS, MINUS	11	12553	D1940819434
12064		MLNA	S1, SECIND&3	12	12564	D1892018312/
1207		B	CLBESE	7	12576	J15251
1218	.					
1219	.					
1220	S2SET	MLCWA	CONS2, PLUS&24	12	12583	D1880819432X
1221		MLCWA	CONS2, MINUS&24	12	12595	D1880819458X
1223		MLNA	S2, SECIND&3	12	12607	D1892218312/
1225		SW	SW2REP&1	6	12619	.11403
1226		B	WMALL	7	12625	J15160
1238	.					
1239	.					
1240	S3SET	MLCWA	CONS3, PLUS&24	12	12632	D1883319432X
1241		MLCWA	CONS3, MINUS&24	12	12644	D1883319458X
1243		MLNA	S3, SECIND&3	12	12656	D1892418312/
1247		SW	SW3REP&1	6	12668	.11395
1248		B	WMALL	7	12674	J15160
1258	.					
1259	.					
1260	S4SET	MLCWA	CONS4, PLUS&24	12	12681	D1885819432X
1261		MLCWA	CONS4, MINUS&24	12	12693	D1885819458X
1262		CW	PLUS, MINUS	11	12705	D1940819434
1263		MLNA	S4, SECIND&3	12	12716	D1892618312/
1267		SW	SW4REP&1	6	12728	.11387
1268		B	CLBESE	7	12734	J15251
12999	.		COMMON WORD MARK BIT INTERROGATION			
1300	COMWD	SBR	COMWD&5	7	12741	G127968
1301		MLNA	COMADD, *&11	12	12748	D1940312770/
1302		BW	*&8, 0	12	12760	V12779000001
1303		B	*&13	7	12772	J12791
1304		MLCS	PICK, BITTER-7	12	12779	D18687182593
1305	COMDCX	B	00000	7	12791	J00000

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
13099	•					
1310	COMWP	SBR	COMBPX&5	7	12798	G128468
1311		MLNA	COMADD,•&11	12	12805	D1940312827/
1312		BW	•&13,0	12	12817	V12841000001
1313		MLCS	DROP,BITTER-7	12	12829	D18688182593
1314	COMWPX	B	00000	7	12841	J00000
13498	•					
13499	•		COMMON B BIT INTERROGATION			
1350	COMBC	SBR	COMBDC&5	7	12848	G129038
1351		MLNA	COMADD,•&11	12	12855	D1940312877/
1352		BBE	•&8,0,-	12	12867	W1288600000-
1353		B	•&13	7	12879	J12898
1354		MLCS	PICK,BITTER-5	12	12886	D18687182613
1355	COMBCX	B	00000	7	12898	J00000
13599	•					
1360	COMBP	SBR	COMBPX&5	7	12905	G129538
1361		MLNA	COMADD,•&11	12	12912	D1940312934/
1362		BBE	•&13,0,-	12	12924	W1294800000-
1363		MLCS	DROP,BITTER-5	12	12936	D18688182613
1364	COMBPX	B	00000	7	12948	J00000
13698	•					
13699	•		COMMON A BIT INTERROGATION			
1370	COMAC	SBR	COMADXC&5	7	12955	G130108
1371		MLNA	COMADD,•&11	12	12962	D1940312984/
1372		BBE	•&8,0,8	12	12974	W1299300000B
1373		B	•&13	7	12986	J13005
1374		MLCS	PICK,BITTER-4	12	12993	D18687182623
1375	COMADX	B	00000	7	13005	J00000
13799	•					
1380	COMAP	SBR	COMAPXC&5	7	13012	G130608
1381		MLNA	COMADD,•&11	12	13019	D1940313041/
1382		BBE	•&13,0,8	12	13031	W1305500000B
1383		MLCS	DROP,BITTER-4	12	13043	D18688182623
1384	COMAPX	B	00000	7	13055	J00000
13998	•					
13999	•		COMMON B BIT INTERROGATION			

TEST FO- WM UP

D-----

TEST FOR B BIT DOWN

---P-----

TEST FOR B BIT UP

---D-----

TEST FOR A BIT DOWN

----P-----

TEST FOR A BIT UP

----D-----

COMMON B BIT INTERROGATION

1410 MEMORY RELIABILITY

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1400	COM8C	SBR	COM8DX&5	7	13062	G13117B
1401		MLNA	COMADD,*&11	12	13069	D1940313091/
1402		BBE	*&8,0,8	12	13081	W13100000008
1403		B	*&13	7	13093	J13112
1404		MLCS	PICK,BITTER-3	12	13100	D18687182633
1405	COM8CX	B	00000	7	13112	J00000
14099						
1410	COM8P	SBR	COM8PX&5	7	13119	G13167B
1411		MLNA	COMADD,*&11	12	13126	D1940313148/
1412		BBE	*&13,0,8	12	13138	W13162000008
1413		MLCS	DRUP,BITTER-3	12	13150	D18688182633
1414	COM8PX	B	00000	7	13162	J00000
14198						
14199						
1420	COM4D	SBR	COMMON 4 BIT INTERROGATION COM4DX&5	7	13169	G13224B
1421		MLNA	COMADD,*&11	12	13176	D1940313198/
1422		BBE	*&8,0,4	12	13188	W13207000004
1423		B	*&13	7	13200	J13219
1424		MLCS	PICK,BITTER-2	12	13207	D18687182643
1425	COM4DX	B	00000	7	13219	J00000
14299						
1430	COM4P	SBR	COMMON 2 BIT INTERROGATION COM4PX&5	7	13226	G13274B
1431		MLNA	COMADD,*&11	12	13233	D1940313255/
1432		BBE	*&13,0,4	12	13245	W13269000004
1433		MLCS	DRUP,BITTER-2	12	13257	D18688182643
1434	COM4PX	B	00000	7	13269	J00000
14398						
14399						
1440	COM2C	SBR	COMMON 2 BIT INTERROGATION COM2DX&5	7	13276	G13331B
1441		MLNA	COMADD,*&11	12	13283	D1940313305/
1442		BBE	*&8,0,2	12	13295	W13314000002
1443		B	*&13	7	13307	J13326
1444		MLCS	PICK,BITTER-1	12	13314	D18687182653
1445	COM2CX	B	00000	7	13326	J00000
14499						
1450	COM2P	SBR	COMMON 2 BIT INTERROGATION COM2PX&5	7	13333	G13381B

TEST FOR 8 BIT DOWN
-----P-----
TEST FOR 8 BIT UP
-----D-----
TEST FOR 4 BIT DOWN
-----P-----
TEST FOR 4 BIT UP
-----D-----
TEST FOR 2 BIT DOWN
-----P-----

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1451		MLNA	COMADD,0611	12	13340	01940313362/
1452		BBE	0613,0,2	12	13352	W13376000002
1453		MLCS	DROP,BITTER-1	12	13364	D18688182653
1454	COM2PX	B	00000	7	13376	J00000
14598						
14599			COMMON 1 BIT INTERROGATION			
1460	COMIC	SBR	COMIX65	7	13383	G134388
1461		MLNA	COMADD,0611	12	13390	01940313412/
1462		BBE	068,0,1	12	13402	W13421000001
1463		B	0613	7	13414	J13433
1464		MLCS	PICK,BITTER	12	13421	D18687182663
1465	COM1CX	B	00000	7	13433	J00000
14699						
1470	COM1P	SBR	COM1PX65	7	13440	G134888
1471		MLNA	COMADD,0611	12	13447	01940313469/
1472		BBE	0613,0,1	12	13459	W13483000001
1473		MLCS	DROP,BITTER	12	13471	D18688182663
1474	COM1PX	B	00000	7	13483	J00000
14799						
14999			CH-XSG-YSG-XWO-YWO-SS-Z DETERMINANTS FOR IE T-O			
1500	CMDET	SBR	SSCETX65	7	13490	G13623B
1501		MLNS	ERRADD-4,CHARNO	12	13497	D18240182721
15049						
1505		MLNS	ERRADD-1,XSG	12	13509	D18243182861
1506		MLNS	ERRADD-3,YSG	12	13521	D18241183001
15099						
1510		MLNS	ERRADD,XWO	12	13533	D18244182931
1511		MLNS	ERRADD-2,YWO	12	13545	D18242183071
15149						
1515	ZDET	MLNS	ERRADD-3,THORD	12	13557	D18241194071
1516		C	NUFOUR,THORD	11	13569	C1869019407
1517		B+	SETZ8	7	13580	J13606U
15199						
1520		MLCS	DROP,SENSEG	12	13587	D18688182793
1521		B	SSDET X	7	13599	J13618
1522	SETZ8	MLCS	BSEG,SENSEG	12	13606	D18689182793

TEST FOR 2 BIT UP
-----D-

TEST FOR 1 BIT DOWN
-----P

TEST FOR 1 BIT UP
-----D

SET RETURN BR EXIT
SET CHARNO TO ERRADD TTH

SET XSG TO ERRADD T
SET YSG TO ERRADD TH

SET XWO TO ERRADD U
SET YWO TO ERRADD H

SET THOUSANDS ORDER
CMP TTH TO 4
TEST FOR HIGH

SET SSZ-D
SET SSZ-B

PGLIN	LABEL	OPCOD	OPERAND	EXIT BRANCH RETURN	CT	ADDRS	INSTRUCTION
1523	SSDETX	B	00000		7	13618	J00000
1600	.						
1601	.		SECTIONS 1,8-9,12-13	CHAR GM BIT BREAKDOWN			
1602	S18B	MLCA	S18B-6,SBCHAR	PLACE --- IN T-0	12	13625	D1862018250T
1603	.	MLCWS	CONS1,CORREC	SET GM IN CORRECT CHAR STORAGE	12	13637	D18783187127
16049	.		CHAR ---GM SHOULD BE -CBA8421				
1605	.	B	COMWD	TEST FOR WM DOWN	7	13649	J12741
1607	.	B	COMBP	8 UP	7	13656	J12905
1608	.	B	COMAP	A UP	7	13663	J13012
1609	.	B	COM8P	8 UP	7	13670	J13119
1610	.	B	COM4P	4 UP	7	13677	J13226
1611	.	B	COM2P	2 UP	7	13684	J13333
1612	.	B	COM1P	1 UP	7	13691	J13440
1613	.	B	PLACAD		7	13698	J13945
1639	.						
1650	.		SECTIONS 2,8-9,12-13	CHAR BLANK BIT BREAKDOWN			
1651	S28B	MLCA	S28B-6,SBCHAR	PLACE WMBL IN T-0	12	13705	D1863018250T
1653	.	MLCWS	CONS2-24,CORREC	SET WMBL IN CORRECT CHAR STORAGE	12	13717	D18784187127
16549	.		CHAR WM-8L SHOULD BE W-----				
1655	.	B	COMWP	TEST FOR WM UP	7	13729	J12798
1657	.	B	COMBD	8 DOWN	7	13736	J12848
1658	.	B	COMAD	A DOWN	7	13743	J12955
1659	.	B	COM8D	8 DOWN	7	13750	J13062
1660	.	B	COM4D	4 DOWN	7	13757	J13169
1661	.	B	COM2D	2 DOWN	7	13764	J13276
1662	.	B	COM1D	1 DOWN	7	13771	J13383
1663	.	B	PLACAD		7	13778	J13945
1700	.		SECTIONS 3,10-11	CHAR V BIT BREAKDOWN			
1701	S38B	MLCA	S38B-6,SBCHAR	PLACE WM-V IN T-0	12	13785	D1864018250T
1703	.	MLCWS	CONS3-24,CORREC	SET WM-V IN CORRECT CHAR STORAGE	12	13797	D18809187127
17049	.		CHAR WM-V SHOULD BE WC-A-4-1				
1705	.	B	COMWP	TEST FOR WM UP	7	13809	J12798
1707	.	B	COMBD	8 DOWN	7	13816	J12848
1708	.	B	COMAP	A UP	7	13823	J13012
1709	.	B	COM8D	8 DOWN	7	13830	J13062
1710	.	B	COM4P	4 UP	7	13837	J13226

PGLIN	LABEL	OPCOD	OPERAND	CT	ADRS	INSTRUCTION
1711		B	COM2D	7	13844	J13276
1712		B	COM1P	7	13851	J13440
1713		B	PLACAD	7	13858	J13945
1748						
1750						
1751	S488	MLCA	S4S8-6,SBCHAR	12	13865	D1865018250T
1753		MLCWS	CONS4,CORREC	12	13877	D18858187127
17549			CHAR ---EP SHOULD BE --B-8-2-			
1755		B	COMND	7	13889	J12741
1757		B	COM8P	7	13896	J12905
1758		B	COMAD	7	13903	J12955
1759		B	COM8P	7	13910	J13119
1760		B	COM4D	7	13917	J13169
1761		B	COM2P	7	13924	J13333
1762		B	COM1D	7	13931	J13383
1763		B	PLACAD	7	13938	J13945
1799						
1835	PLACAD	MLNA	COMADD,ERRADD	12	13945	D1940318244/
18354		B	TABSEA	7	13957	J16765
1836		B	CHOET	7	13964	J13490
18399						
1840		MLNA	COMADD,REPCOR&10	12	13971	D1940313993/
1841	REPCOR	MLCWS	CORREC,00000	12	13983	D18712000007
1847						
1848						
1850	ERRIND	BCE	VARRET-7,TADO,1	12	13995	B14043110001
18504		BCE	PRTYP,TAD7,1	12	14007	B14057110071
1851		WCP	ERRADD-4	10	14019	M3T018240W
1852		BCB1	*-16	7	14029	R140192
1853		BA1	*E1	7	14036	R14043M
18549		BNQ	ITR	7	14043	J11100Q
1858	VARRET	B	00000	7	14050	J00000
18699						
1870	PRTYP	CS	TEMPOR&131	6	14057	/18231
1871		CS		1	14063	/

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
18719	.					
1872		MLCS	CHAN1,PRIET&1	12	14064	D18682142523
1873		MLCWS	CHAN18,PRIET&10	12	14076	D18683142617
1874		MLCWS	CHAN18,PRIET&17	12	14088	D18683142687
1875		BCE	BUFC32,PRTBUF,2	12	14100	B14227112592
1876		BCE	BUFC,PRTBUF,1	12	14112	B14208112591
18769	.					
1877		MLCS	CHAN2,PRIET&1	12	14124	D18684142523
1878		MLCWS	CHAN28,PRIET&10	12	14136	D18685142617
1879		MLCWS	CHAN28,PRIET&17	12	14148	D18685142687
1880		BCE	BUFC32,PRTBUF,2	12	14160	B14227112592
1881		BCE	BUFC,PRTBUF,1	12	14172	B14208112591
18819	.					
1882		WCP	NOBFS	10	14184	M3T018569W
1883		BA1	*-16	7	14194	R14184M
1884		B	ERRIND&24	7	14201	J14019
18849	.					
1885	BUFC	MLCWS	GM,TEMPOR&100	12	14208	D18308182007
1886		B	*&13	7	14220	J14239
1887	BUFC32	MLCWS	GM,TEMPOR&132	12	14227	D18308182327
1888		MRCG	ERRADD-4,TEMPOR	12	14239	D1824018100\$
18899	.					
1890	PRIET	W	TEMPOR	10	14251	M32018100H
1891		BEX1	*-16,3	7	14261	R142513
1892		BA1	*&1	7	14268	R14275M
1893		B	VARRET	7	14275	J14050
21419	.					
2142	REPLD	CS	00999	6	14282	/00999
21421		CS	800-899	1	14288	/
21422		CS	700-799	1	14289	/
21423		CS	600-699	1	14290	/
21424		CS	500-599	1	14291	/
21425		CS	400-499	1	14292	/
21426		CS		1	14293	/
2143		SW	0334	6	14294	,00334
2144		MLCWB	10999,0999	12	14300	D1099900999P

NO CHAN PTR A/O BUF SIZ SPEC

TYPE IET INSTEAD

PLACE IET IN WR FLD

PRINT 0000 ---X ---X -----

TRY AGAIN IF BUSY OR NOT RDY

CLEAR 900-999

800-899

700-799

600-699

500-599

400-499

MOVE LODER BACK TO 334-999

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
2145		B	00400	7	14312	J00400
21498			GO TO LOAD NEXT PROG			
21499						
2500						
2501						
2502	SSSET	MLNA	SSINAD,SSADDR	12	14319	D1875018681/
2503		MLNA	SSINAD,PLACER&10	12	14331	D1875014377/
25034		MLNA	S5,SECIND&3	12	14343	D1892818312/
2505		SW	SW5REP&1	6	14355	.11379
25054		SW	SSADDR-3	6	14361	.18678
2506						
2507	PLACER	MLCWA	SSADDR,00004	12	14367	D1868100004X
2508						
25084		CW	SSADDR-3	6	14379	D18678
2509		C	PLACER&10,NINES	11	14385	C1437718725
2510		BE	FILLED	7	14396	J14439S
2511	FLIPF	A	S5,S5ADDR	11	14403	A1892818681
2512		A	S5,PLACER&10	11	14414	A1892814377
		BNQ	ITR	7	14425	J11100Q
2513		B	PLACER	7	14432	J14367
2532						
2540						
2541	FILLED	MLNA	SSINAD,SSADDR	12	14439	D1875018681/
2542		MLNA	SSINAD,CHECK&5	12	14451	D1875014479/
25422		SW	SSADDR-3,SSERTY&11	11	14463	.1867818549
2543						
2545	CHECK	C	00004,SSADDR	11	14474	C0000418681
2546		BE	ORCCHK	7	14485	J14499S
2547		B	SSERR	7	14492	J14564
2548						
25484	ORCCHK	CW	SSADDR-3,SSERTY&11	11	14499	D1867818549
2549		C	CHECK&5,NINES	11	14510	C1447918725
2550		BE	SCMPLT	7	14521	J11300S
2551	FLIPC	A	S5,S5ADDR	11	14528	A1892818681
2552		A	S5,CHECK&5	11	14539	A1892814479
		BNQ	ITR	7	14550	J11100Q

S

S

SECTION 5- MEMORY ADDR PLACEMENT

SECTION 5 CHECKING AREA

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
2553		B	CHECK	7	14557	J14474
2572						
2573						
2575	SSERR	HLNWA	SSADDR, SSERTY&6	12	14564	D1868118544V
2576		MLNA	SSADDR, PLCONT&5	12	14576	D1868114605/
2577						
2578		MLCWA	BLANKS-5, SSERTY&14	12	14588	D1870318552X
2579	PLCONT	MLCWB	0000, SSERTY&14	12	14600	D0000018552P
2580			SS ERROR TYPE-OUT			
S						
		BNQ	ITR	7	14612	J11100Q
2581		BCE	GAC, TADO, 1	12	14619	B14655110001
2582		HCPH	SSERTY	10	14631	L3T018538M
2583		BCB1	*-16	7	14641	R146312
2584		BA1	GAC	7	14648	R14655M
2585	GAC	B	ORDCHK	7	14655	J14499
2599						
3000			SECTION 6 SETUP			
3001			W-8A--21			
3001			-C--84--			
3003	S6SET	MLCWA	CONS6, PLUS&24	12	14662	D1888319432X
3004		MLCWA	CONS7, MINUS&24	12	14674	D1890819458X
30044		CW	PLUS, MINUS	11	14686	D1940819434
30046		MLNA	S6, SECIND&3	12	14697	D1893018312/
30048		MLNA	S6, SECCIN&3	12	14709	D1893018317/
3006		SW	SW6REP&1	6	14721	.11371
3007		SW	SW613A&1	6	14727	.15622
3015		B	WMPLUS	7	14733	J15223
3020			SECTION 7 SETUP			
3021			-C--84--			
3021			W-8A--21			
3023	STSET	MLCWA	CONS7, PLUS&24	12	14740	D1890819432X
3024		MLCWA	CONS6, MINUS&24	12	14752	D1888319458X
30244		CW	PLUS, MINUS	11	14764	D1940819434
30246		MLNA	S7, SECIND&3	12	14775	D1893218312/
30248		MLNA	S7, SECCIN&3	12	14787	D1893218317/
3026		SW	SW7REP&1	6	14799	.11363
3028		SW	SW613A&1	6	14805	.15622
3030		SW	SC7RE&1	6	14811	.11877

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3035		B	WMINS	7	14817	J15188
3040	•		SECTION 8 SETUP			--CBA8421
3041	•		M-----			
3043	S8SET	MLCWA	CONS1,PLUS&24	12	14824	D1878319432X
3044		MLCWA	CONS2,MINUS&24	12	14836	D1880819458X
30444		CH	PLUS,MINUS	11	14848	D1940819434
30446		MLNA	S8,SECIND&3	12	14859	D1893418312/
30448		MLNA	S8,SECCING&3	12	14871	D1893418317/
3046		SW	SW8REP&1	6	14883	,11355
3047		SW	SW613A&1	6	14889	,15622
3049		SW	SC8RE&1	6	14895	,11869
3055		B	WMINS	7	14901	J15188
3060	•		SECTION 9 SETUP			M-----
3061	•		--CBA8421			
3063	S9SET	MLCWA	CONS2,PLUS&24	12	14908	D1880819432X
3064		MLCWA	CONS1,MINUS&24	12	14920	D1878319458X
30644		CH	PLUS,MINUS	11	14932	D1940819434
30646		MLNA	S9,SECIND&3	12	14943	D1893618312/
30648		MLNA	S9,SECCING&3	12	14955	D1893618317/
3066		SW	SW9REP&1	6	14967	,11347
3067		SW	SW613A&1	6	14973	,15622
3069		SW	SC9RE&1	6	14979	,11861
3075		B	WMPLUS	7	14985	J15223
3080	•		SECTION 10 SETUP			MC-A-4-1
3081	•		--B-8-2-			
3083	S10SET	MLCWA	CONS3,PLUS&24	12	14992	D1883319432X
3084		MLCWA	CONS4,MINUS&24	12	15004	D1885819458X
30844		CH	PLUS,MINUS	11	15016	D1940819434
30846		MLNA	S10,SECIND&3	12	15027	D1893818312/
30848		MLNA	S10,SECCING&3	12	15039	D1893818317/
3086		SW	SW10RE&1	6	15051	,11339
3087		SW	SW613A&1	6	15057	,15622
3089		SW	SC10RE&1	6	15063	,11853
3095		B	WMPLUS	7	15069	J15223
3100	•		SECTION 11 SETUP			--B-8-2-
3101	•		MC-A-4-1			

PGLIN	LABEL	OPCOD	OPERAND	PLACE 25 EX PT CHAR	CT	ADDRS	INSTRUCTION
3103	S11SET	MLCHA	CONS4,PLUS&24	PLACE 25 EX PT CHAR	12	15076	D1885819432X
3104		MLCHA	CONS3,MINUS&24	25 V	12	15088	D1883319458X
31044		CH	PLUS,MINUS		11	15100	D1940819434
31046		MLNA	S11,SECIN&3	PLACE 11 IN S-XX T-0	12	15111	D1894018312/
31048		MLNA	S11,SECCIN&3	PLACE 11 IN S-XXC T-0	12	15123	D1894018317/
3106		SW	SW11RE&1		6	15135	.11331
3107		SW	SW613A&1		6	15141	.15622
3109		SW	SC11RE&1		6	15147	.11845
3115		B	WMMINS		7	15153	J15188
31699			SET WM-S IN PLUS AND MINUS FLD				
3170	WMALL	SW	PLUS&24		6	15160	.19432
31702		SW	PLUS&23,PLUS&11		11	15166	.1943119419
3171		SW			1	15177	.
3172		SW			1	15178	.
3173		SW			1	15179	.
3174		SW			1	15180	.
3175		SW			1	15181	.
3176		SW			1	15182	.
3177		SW			1	15183	.
3178		SW			1	15184	.
3179		SW			1	15185	.
31792		SW			1	15186	.
31794		SW			1	15187	.
3180	WMMINS	SW	MINUS&24		6	15188	.19458
31802		SW	MINUS&23,MINUS&11		11	15194	.1945719445
3181		SW			1	15205	.
3182		SW			1	15206	.
3183		SW			1	15207	.
3184		SW			1	15208	.
3185		SW			1	15209	.
3186		SW			1	15210	.
3187		SW			1	15211	.
3188		SW			1	15212	.
3189		SW			1	15213	.
31892		SW			1	15214	.
31894		SW			1	15215	.

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3190		B	CLBESE	7	15216	J15251
31999	.		SET WM-S IN PLUS FIELD			
3200	WMPLUS	SW	PLUS&24	6	15223	.19432
32002		SW	PLUS&23,PLUS&11	11	15229	.1943119419
3201		SW		1	15240	.
3202		SW		1	15241	.
3203		SW		1	15242	.
3204		SW		1	15243	.
3205		SW		1	15244	.
3206		SW		1	15245	.
3207		SW		1	15246	.
3208		SW		1	15247	.
3209		SW		1	15248	.
32092		SW		1	15249	.
32094		SW		1	15250	.
32199	.		CLEAR MEMORY OTA BETWEEN SECTIONS			
3223	CLBESE	MLNA	FA10H,CLOTA&5	12	15251	D1872115274/
32299	.					
3230		SW	00001	6	15263	.00001
3231	CLOTA	CS	09999	6	15269	/09999
3232		SBR	CLOTA&5	7	15275	G152748
3233		BM	CLOTA,00001	12	15282	V15269000011
32338	.					
32339	.		COMMON MEMORY OTA FILL- ALL SECTS,EXCEPT S-5			
3234		CS	SETUPA&99	6	15294	/19699
3235		CS	SETUPB&99	6	15300	/19899
32399	.		FILL SETUP A & B FIELDS			
3240		MRCWG	PLUS,SETUPA	12	15306	D1940819600L
3241		MRCWG	MINUS,SETUPA&25	12	15318	D1943419625L
3242		MRCWG	MINUS,SETUPA&50	12	15330	D1943419650L
3243		MRCWG	PLUS,SETUPA&75	12	15342	D1940819675L
32439	.					
3244		MRCWG	MINUS,SETUPB	12	15354	D1943419800L
3245		MRCWG	PLUS,SETUPB&25	12	15366	D1940819825L
3246		MRCWG	PLUS,SETUPB&50	12	15378	D1940819850L
3247		MRCWG	MINUS,SETUPB&75	12	15390	D1943419875L

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3416	BYPDIS	B	BYPDIS	7	15622	J15636
3417		B	DISCRM	7	15629	J15655
3420	BYPDIS	BCE	CPTSET,TAD8,1	12	15636	B17135110081
3421		B	DISCRM	7	15648	J15655
3429						
3430			DISCRIMINATION CHECKING AREA- ALL SECTIONS,EXCEPT S-5			
3431						
3435	DISCRM	HLNA	INCMPC,CCCMP&5	12	15655	D1875515708/
3436		HLNA	&CMPLAA,CCCMP&10	12	15667	D1991515713/
34362		CW	CCREV&1	6	15679	D16677
3437		SW	CMPFDA&1	6	15685	,19501
3438		CW	INTBYP&1	6	15691	D15821
3439						
3440		CW	SWSC&1	6	15697	D15880
3441	CCCMP	C	0000,CMPLAA	11	15703	C0000019599
3442		BU	SCSET	7	15714	J15727/
3443		SW	SWSC&1	6	15721	,15880
3444						
3445	SCSET	SW	SCCMP&6,CHKWM&6	11	15727	,1589315919
34454		CW	CMPFDA&1	6	15738	D19501
3446		MLNWB	CCCMP&5,SCCMP&10	12	15744	D1570815897N
3447		S	CONRED,SCCMP&10	11	15756	S1874015897
3448		MLNWB	SCCMP&10,CHKWM&10	12	15767	D1589715923N
34484		MLNB	CCCMP&5,HTUADD	12	15779	D1570819406J
3449		SW	CMFSET&1	6	15791	,15868
3450		MLNWB	CCCMP&10,CMFSET&5	12	15797	D1571315872N
3451		S	CONRED,CMFSET&5	11	15809	S1874015872
34519						
3452	INTBYP	NOPWM	INIT 0000 ADDR BYPASS CHK SW	1	15820	N
34524		B	CMFSET	7	15821	J15867
3453		A	CON1,CMFSET&5	11	15828	A1891315872
34532		A	CON1,SCCMP&10	11	15839	A1891315897
34534		A	CON1,CHKWM&10	11	15850	A1891315923
34536		SW	INTBYP&1	6	15861	,15821
34538						
34539						

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3491		B	COM2P	7	16115	J13333
3492		B	COM1P	7	16122	J13440
3493		B	PLACAD	7	16129	J13945
35299						
3530						
3531	S788	MLCA	S7SB-6,SBCHAR	12	16136	D1867018250T
3533		MLCHS	CONST-4,CORREC	12	16148	D18904187127
35349			CHAR ----@ SHOULD BE -C--84--			
3535		B	COMWD	7	16160	J12741
3537		B	COMBO	7	16167	J12848
3538		B	COMAD	7	16174	J12955
3539		B	COM8P	7	16181	J13119
3540		B	COM4P	7	16188	J13226
3541		B	COM2D	7	16195	J13276
3542		B	COM1D	7	16202	J13383
3543		B	PLACAD	7	16209	J13945
3578						
3579						
3581	UPWM	BBE	PICKWM,SCCMP&11,8	12	16216	W16261158988
3582		B	SCINC	7	16228	J16564
3584	DOWM	BBE	SCINC,SCCMP&11,8	12	16235	W16564158988
3585		B	DROPWM	7	16247	J16403
35854		B	SCINC	7	16254	J16564
35859						
3586	PICKWM	SBR	VARRET&5	7	16261	G140558
35862		MLCA	BLITZ,BITTER	12	16268	D1869818266T
35864		MLCS	PICK,BITTER-7	12	16280	D18687182593
35866		MLNB	CHKWM&10,COMADD	12	16292	D1592319403J
35869						
35874		BCE	PWM4,SCCMP&11,8	12	16304	G1636615898M
35884		BCE	PWM3,SCCMP&11,8	12	16316	81634715898.
35889						
3589	PWM23	MLCA	S7SB,ISCHAR	12	16328	D1867618256T
35894		B	PWM5	7	16340	J16378
3590	PWM3	MLCA	S4SB,ISCHAR	12	16347	D1865618256T
35904		B	PWM5	7	16359	J16378

2 UP
1 UP

SECTIONS 6-7 CHAR @ BIT BREAKDOWN

PLACE ----@ IN T-O

SET @ IN CORRECT CHAR STORAGE

CHAR ----@ SHOULD BE -C--84--

TEST FOR WM DOWN

8 DOWN

A DOWN

8 UP

4 UP

2 DOWN

1 DOWN

ERROR- CHAR IS GM,EX PT,OR @

OK-

OK-

ERROR- CHAR IS BLANK,V,OR C

RESET BIT BREAKDOWN TO -----

PLACE P P-----

PLACE CHKWM ADDR IN COMADD

TEST SCCMP 0 MOD FOR GM

TEST FOR EX PT

PLACE ----@ WM-@ IN T-O

PLACE --EP WMEP IN T-O

PGLIN	LABEL	DPCOD	OPERAND	CT	ADDRS	INSTRUCTION
3591	PWM4	MLCA	S1SB, ISCHAR	12	16366	D1862618256T
35912	PWM5	MLNA	COMADD, CLERR&S	12	16378	D1940316395/
35914	CLERR	CM	00000	6	16390	000000
35916		B	ADDRPL	7	16396	J16538
35919						
3592	CROPWM	SBR	VARRET&S	7	16403	G14055B
35922		MLCA	BLITZ, BITTER	12	16410	D1869818266T
35924		MLCS	DROP, BITTER-7	12	16422	D18688182593
35926		MLNB	CHKWM&10, COMADD	12	16434	D1592319403J
35929						
35934		BCE	DWM4, SCCMP&11,	12	16446	B165081589B
35944		BCE	DWM3, SCCMP&11, V	12	16458	B1648915898V
35949						
3595	CWM23	MLCA	S6SB, ISCHAR	12	16470	D1866618256T
35954		B	DWM5	7	16482	J16520
3596	DWM3	MLCA	S3SB, ISCHAR	12	16489	D1864618256T
35964		B	DWM5	7	16501	J16520
3597	DWM4	MLCA	S2SB, ISCHAR	12	16508	D1863618256T
35972	DWM5	MLNA	COMADD, STERR&S	12	16520	D1940316537/
35974	STERR	SW	00000	6	16532	000000
3599						
3600	ACORPL	MLNA	COMADD, ERRADD	12	16538	D1940318244/
3601		B	CHDET	7	16550	J13490
3602		B	ERRIND	7	16557	J13995
3639						
3640	SCINC	C	SCCMP&10, HTUADD	11	16564	C1589719406
3641		BE	CCINC	7	16575	J16629S
3642						
3643		A	CON1, SCCMP&10	11	16582	A1891315897
36434		A	CON1, CMPSET&5	11	16593	A1891315872
3644		A	CON1, CHKWM&10	11	16604	A1891315923
		BNG	ITR	7	16615	J11100Q
3645		B	CMPSET	7	16622	J15867
36459						
3646	CCINC	CM	SMSC&1	6	16629	D15880
3647		C	CCCMP&3, NINES-2	11	16635	C1570618723

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
3648		BE	SCMPLT	7	16646	J113005
36489						
3649	CCINCA	A	CON100,CCCMP&5 ADD 100 TO CCCMP A ADDR	11	16653	A1891815708
3650		BCE	CCNREV,CCCMP&3,5 TEST FOR ---5---	12	16664	B16734157065
36509						
3651	CCREV	NOPMM	BINARY SHIFT SW	1	16676	N
36512		B	CCREV1	7	16677	J16709
3652		SW	CCREV&1 SET CCREV SW	6	16684	,16677
36522		MLNA	&CMPLAB,CCCMP&10 SET CCCMP B ADDR HI	12	16690	D1992015713/
3653		B	CCCMP	7	16702	J15703
3654	CCREV1	CH	CCREV&1 CLEAR CCREV SW	6	16709	B16677
36542		MLNA	&CMPLAA,CCCMP&10 SET CCCMP B ADDR LO	12	16715	D1991915713/
3655		B	CCCMP	7	16727	J15703
36559						
3656	CCNREV	BCE	CCCMP,CCCMP&2,2 NO SHIFT IF -2----	12	16734	B15703157052
3657		BCE	CCCMP,CCCMP&2,7 NO SHIFT IF -7----	12	16746	B15703157057
3658		B	CCREV	7	16758	J16676
3668						
3798						
3799						
3800	TABSEA	SBR	SEARET&5 TABLE SEARCH ROUTINE - FOR ACTUAL ERROR CHAR	7	16765	G17133B
3801		MLCA	BLITZ-4,ISCHAR SET RETURN BR FROM TABLE SEARCH	12	16772	D1869418256T
3802		MLCWA	BLITZ-2,SEARCH SET ISCHAR TO ----	12	16784	D1869619398X
38049						
38099						
3810		MLNA	COMADD,JAC&10 SET BIT INTERROG ADDRESSES	12	16796	D1940316890/
3811		MLNA	COMADD,LAC&10	12	16808	D1940316921/
3812		MLNA	COMADD,NAC&10	12	16820	D1940316952/
3813		MLNA	COMADD,PAC&10	12	16832	D1940316983/
3814		MLNA	COMADD,RAC&10	12	16844	D1940317014/
3815		MLNA	COMADD,TAC&10	12	16856	D1940317045/
3816		MLNA	COMADD,VAC&10	12	16868	D1940317076/
38199						
3820	JAC	BW	KAC,0 TEST FOR WM	12	16880	V16899000001
3821		B	LAC	7	16892	J16911
3822	KAC	MLCA	S2SB-8,ISCHAR-2 PLACE WM IN ISCHAR WM--	12	16899	D1862818254T

PGLIN	LABEL	OPCOD	OPERAND		CT	ADDRS	INSTRUCTION
38229	*						
3823	LAC	BBE	MAC,0,-	TEST FOR 8 BIT	12	16911	W1693000000-
3824		B	NAC		7	16923	J16942
3825	HAC	MLCS	CON1,SEARCH-5	1-----	12	16930	D18913193933
3826	NAC	BBE	OAC,0,B	TEST FOR A BIT	12	16942	W1696100000B
3827		B	PAC		7	16954	J16973
3828	OAC	MLCS	CON1,SEARCH-4	-1-----	12	16961	D18913193943
3829	PAC	BBE	QAC,0,8	TEST FOR 8 BIT	12	16973	W1699200000B
3830		B	RAC		7	16985	J17004
3831	GAC	MLCS	CON1,SEARCH-3	---1---	12	16992	D18913193953
3832	RAC	BBE	SAC,0,4	TEST FOR 4 BIT	12	17004	W17023000004
3833		B	TAC		7	17016	J17035
3834	SAC	MLCS	CON1,SEARCH-2	----1--	12	17023	D18913193963
3835	TAC	BBE	UAC,0,2	TEST FOR 2 BIT	12	17035	W17054000002
3836		B	VAC		7	17047	J17066
3837	UAC	MLCS	CON1,SEARCH-1	-----1-	12	17054	D18913193973
3838	VAC	BBE	WAC,0,1	TEST FOR 1 BIT	12	17066	W17085000001
3839		B	LOOKUP		7	17078	J17097
3840	WAC	MLCS	CON1,SEARCH	-----1	12	17085	D18913193983
38449	*						
3845	LOOKUP	LE	SEARCH,TLETAB	EXECUTE TABLE LOOKUP FOR EQUAL	12	17097	T19398193922
3846		SBR	PLACIS65	SET A ADDR OF PLACIS	7	17109	G171218
3847	PLACIS	MLCS	00000,ISCHAR	PLACE CHAR FOUND IN ISCHAR OF IO	12	17116	D00000182563
3848	SEARET	B	00000	EXIT	7	17128	J00000
3999	*						
4000	*						
4001	*			SECTIONS 6-7 8-9 10-11 COMPLEMENTING SETUP AREA			
4002	CPTSET	NOP			1	17135	N
40149	*						
4015	SLASH	BBE	SABRE,CMPFCA,/	TEST CMPFLD CHAR FOR A AND 1 BIT	12	17136	W17179195007
40159	*			MUST BE SECTION 7,9,OR 11 - CHAR IS BL,EP,OR 2			
4016		BCE	SWCROL,CMPFFDA,	TEST FOR BLANK	12	17148	B1719119500
4017		BCE	SWORDH,CMPFFDA,.	TEST FOR EX PT	12	17160	B1720419500.
4018		B	SWORDH	MUST BE 2	7	17172	J17204
40189	*			MUST BE SECTION 6,8,OR 10 - CHAR IS GH,V,OR C			
4019	SABRE	BCE	SWORDH,CMPFFDA,H	TEST FOR GH	12	17179	B1720419500H ^G

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
40199	.		MUST BE V OR C			
4020	SWORDL	SW	CMPFDA&2	6	17191	.19502
4021	.	B	RESALT	7	17197	J17210
4022	SWORDH	SW	CMPFDB&2	6	17204	.19702
40248	.					
40249	.					
4025	RESALT	CW	ALTER1&1,ALTER2&1	11	17210	D1729417345
4026	.	CW	ALTER4&1	6	17221	D17767
4027	.	MLNA	C0001,HBLAST&10	12	17227	D1873517311/
4028	.	MLNA	C0001,LBLAST&10	12	17239	D1873517330/
4029	.	MLNA	C0001,FILTER&5	12	17251	D1873517337/
4030	.	MLNA	C0001,RECPIL&10	12	17263	D1873517784/
4031	.	MLNA	C0001,RECPTH&10	12	17275	D1873517803/
4032	.	CW	SHIFT&1	6	17287	D18003
40348	.		RESET BINARY SHIFT SWITCH			
40349	.					
4035	ALTER1	NOPWM		1	17293	N
4036	.	B	LBLAST	7	17294	J17320
40369	.					
4037	HBLAST	MLCWS	CMPFDB&2,0C001	12	17301	D19702000017
4039	.	B	FILTER	7	17313	J17332
40399	.					
4040	LBLAST	MLCWS	CMPFDA&2,00001	12	17320	D19502000017
40449	.					
4045	FILTER	MLCWS	00001,CATCH	12	17332	D00001187117
40498	.					
40499	.					
4050	ALTER2	NOPWM		1	17344	N
4051	.	B	SETLOW	7	17345	J17371
4052	.	MLCS	CMPFDB,SGLCMP&11	12	17352	D19700174293
4053	.	B	.&13	7	17364	J17383
4054	SETLOW	MLCS	CMPFDA,SGLCMP&11	12	17371	D19500174293
40549	.					
4056	.	SW	SGLCMP&6,WMCCHK&6	11	17383	.1742417450
4057	.	MLNMB	FILTER&5,SGLCMP&10	12	17394	D1733717428N
4059	.	MLNMB	SGLCMP&10,WMCCHK&10	12	17406	D1742817454N

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
40599	.					
4060	SGLCMP	BCE	WMCHK,00000,M ^G	12	17418	B1744400000M ^G
4061	.	B	UNEQL	7	17430	J17501
4062	.	B	ALTER4	7	17437	J17766
4063	WMCHK	BW	WMUP,00000	12	17444	V17482000001
40649	.					
4065	.	B8E	ALTER4,SGLCMP&11,8	12	17456	W17766174298
4066	.	B	WMCROP	7	17468	J17618
4067	.	B	ALTER4	7	17475	J17766
4068	WMUP	B8E	WMPICK,SGLCMP&11,8	12	17482	W17692174298
4069	.	B	ALTER4	7	17494	J17766
40798	.					
40799	.					
4080	UNEQL	SBR	VARRET&5	7	17501	G140558
4081	.	MLCA	BLITZ,BITTER	12	17508	D1869818266T
4082	.	MLCA	BLITZ-4,ISCHAR	12	17520	D1869418256T
4083	.	MLNB	SGLCMP&10,COMADD	12	17532	D1742819403J
40839	.					
4084	.	B8E	UNEQL1,SGLCMP&11,8	12	17544	W17587174298
40849	.					
4085	.	BCE	S28B,SGLCMP&11,	12	17556	B1370517429
4086	.	BCE	S38B,SGLCMP&11,V	12	17568	B1378517429V
4087	.	B	S68B	7	17580	J16056
40879	.					
4088	UNEQL1	BCE	S18B,SGLCMP&11,M ^G	12	17587	B1362517429M ^G
4089	.	BCE	S48B,SGLCMP&11,.	12	17599	B1386517429.
4090	.	B	S78B	7	17611	J16136
40998	.					
40999	.					
4100	WMORCP	SBR	VARRET&5	7	17618	G140558
4101	.	MLCA	BLITZ,BITTER	12	17625	D1869818266T
4102	.	MLCS	DROP,BITTER-7	12	17637	D18688182593
4103	.	MLNB	WMCHK&10,COMADD	12	17649	D1745419403J
41049	.					
4105	.	BCE	DWM4,SGLCMP&11,	12	17661	B1650817429
4106	.	BCE	DWM3,SGLCMP&11,V	12	17673	B1648917429V

TEST CPT & REG CHAR

ERROR- INEQUALITY THIS CHAR

TEST FOR WM

OK- WM DOWN

ERROR-

-CHAR IS BL,V,OR C

ERROR- WM UP

-CHAR IS GM,EP,OR&

OK-

SET RETURN BR ADDR

RESET BIT BRKDN TO -----

RESET ISCHAR TO -----

PLACE SGLCMP ADDR IN COMADD

TEST SGLCMP D MOD FOR 8 BIT

CHAR IS BLANK,V,OR C - IF NO 8

TEST FOR BLANK

TEST FOR V

MUST BE C

CHAR IS GM,EX PT,OR &- IF 8 BIT

TEST FOR GM

TEST FOR EX PT

MUST BE &

SET RETURN BR ADDR

RESET BIT BRKDN TO -----

PLACE D D-----

PLACE WMCHK ADDR IN COMADD

TEST SGLCMP D MOD FOR BLANK

TEST FOR V

1410 MEMORY RELIABILITY

CS42

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
4107		B	DWM23	7	17685	J16470
41098						MUST BE C
41099						
4110	WMPICK	SBR	VARRET&5	7	17692	G140558
4111		MLCA	BLITZ,BITTER	12	17699	D1869818266T
4112		MLCS	PICK,BITTER-7	12	17711	D18687182593
4113		MLNB	WMCHK&10,COMADD	12	17723	D1745419403J
41149						
4115		BCE	PWM4,SGLCMP&11, ^G	12	17735	B1636617429M
4116		BCE	PWM3,SGLCMP&11,.	12	17747	B1634717429.
4117		B	PWM23	7	17759	J16328
42398						
42399						
4240	ALTER4	NOPWM		1	17766	N
4241		B	RECPTH	7	17767	J17793
4242	RECPTL	MLCWS	CMFDA&2,00001	12	17774	D19502000017
4244		B	DBLINC	7	17786	J17805
4245	RECPTH	MLCWS	CMFDB&2,00001	12	17793	D19702000017
42499						
4251	DBLINC	C	FILTER&5,NINES	11	17805	C1733718725
4252		BE	CPTCLT	7	17816	J118145
42529						
4253	AD0002	A	CON1,HBLAST&10	11	17823	A1891317311
4254		A	CON1,LBLAST&10	11	17834	A1891317330
4255		A	CON1,FILTER&5	11	17845	A1891317337
4256		A	CON1,RECPTL&10	11	17856	A1891317784
4257		A	CON1,RECPTH&10	11	17867	A1891317803
42999		BNQ	ITR	7	17878	J11100Q
4300	ALTSET	BCE	ALSO1,FILTER&5,5	12	17885	B17916173375
4301		BCE	ALSO2,FILTER&5,0	12	17897	B17947173370
4302		B	ALTER1	7	17909	J17293
4303	ALSO1	BCE	SHIFT,FILTER&4,2	12	17916	B18002173362
4304		BCE	SHIFT,FILTER&4,7	12	17928	B18002173367
4305		B	ALTER1	7	17940	J17293
4306	ALSO2	BCE	ALSO3,FILTER&4,0	12	17947	B17966173360

STRATEGIC INQUIRY-----

S

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
4307		B	ALTER1	7	17959	J17293
4308	ALSO3	C	FILTER&3,C25	11	17966	C1733518942
4309		BE	ALTER1	7	17977	J17293S
4310		C	FILTER&3,C75	11	17984	C1733518944
4311		BE	ALTER1	7	17995	J17293S
43199			SHIFT			
4320	SHIFT	NOPWM	BINARY SHIFT SWITCH	1	18002	N
4321		B	CLALT	7	18003	J18040
43219						
4322		SM	SHIFT&1	6	18010	.18003
4323		SW	ALTER1&1,ALTER2&1	11	18016	.1729417345
4324		SW	ALTER4&1	6	18027	.17767
4325		B	ALTER1	7	18033	J17293
4326	CLALT	CM	SHIFT&1	6	18040	18003
4327		CM	ALTER1&1,ALTER2&1	11	18046	1729417345
4328		CM	ALTER4&1	6	18057	17767
4329		B	ALTER1	7	18063	J17293
4775		H		1	18070	.
89998						
89999						
9000		ORG	*EX00		18100	
9001	TEMPOR	DS	1		18100	
9002		DS	139		18239	
90029						
9003	ERRADO	DC	2000002	5	18244	
9004		DC	a a	2	18246	
9005	SBCHAR	DC	a-----a	4	18250	
90054		DC	a a	2	18252	
9006	ISCHAR	DC	a-----a	4	18256	
90064		DC	a a	2	18258	
9007	BITTER	DC	a-----a	8	18266	
90074		DC	a a	2	18268	
9008		DC	ACH-a	3	18271	
90082	CHARNO	DCW	202	1	18272	
90083		DC	a a	2	18274	
90084		DC	2SSZ-a	4	18278	

DATA AND CONSTANT FIELD AREAS

PGLIN LABEL OPCOD OPERAND

90085	SENSEG	DC	a a	1	18279
90089		DC	a a	2	18281
9009	XSG	DC	aXSG-0a	5	18286
90094		DC	a a	2	18288
9010	XMO	DC	aXMO-0a	5	18293
90104		DC	a a	2	18295
9011	YSG	DC	aYSG-0a	5	18300
90114		DC	a a	2	18302
9012	YMO	DC	aYMO-0a	5	18307
9015	GM	DCM	aMa	1	18308
9019	*				
9020	SECIND	DC	aS- a.G	4	18309
9021	SECCIN	DC	aS- Ca.G	5	18314
9030	TESTS	DC	aTESTS 00001-09999 AREA OFa	25	18320
9032	MEMSIZ	DC	a 20K MEMORYa.G	11	18345
90323	PARITY	DC	aIF PARITY ERRORS EXIST-a.G	23	18357
9033	RESTAT	DC	aSET CHECK CNTRL SW TO RESTARTa.G	29	18381
9034	INHIB	DC	aSET PRINT CNTRL SW TO INHIBITa.G	29	18411
9035	STATUS	DC	aTAD STATUS-a.G	11	18441
9038	EXMESS	DC	aRESET CHK & PRINT CNTRL SW TO NORMALa.G	36	18453
9040	AUTSEC	DC	aAUTO SECT SELa.G	13	18490
9042	ENTER	DC	aENTER 2 DIGIT SECTION #a.G	23	18504
9050	QCKRUN	DC	aQUICK RUNa.G	9	18528
9060	S5ERTY	DC	aA-00000,C-00000a.G SECTION 5- ERROR T-0	15	18538
9070	PASS	DC	aPASS a	5	18554
9071	PASSCT	DCM	a000- CS42a.G	9	18559
9084	NOPBFS	DC	aNO CHAN PRINTER AND/OR BUFF SIZE SPEC ON CTL C0a.G	47	18569
9101	*				
9102	S1SB	DCM	a---M WM- ^G Pa	10	18626
9103	S2SB	DCM	aWMBL ---BLa	10	18636
9104	S3SB	DCM	aWM-V ---Va	10	18646
9105	S4SB	DCM	a---: WM- ^G a	10	18656
91052	S6SB	DCM	aWM-C ---Ca	10	18666
91054	S7SB	DCM	a---a WM-a	10	18676
9106	S5ADDR	DCM	a00000a	5	18681
9110	CHAN1	DC	a%a PERCENT- CHAN 1 NON-OVERLAP X CTL CHAR	1	18682

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS
9406	CONS6	DCW	cccccccccccccccccccccccc	25	18883
9407	CONS7	DCW	aaaaaaaaaaaaaaaaaaaaaaaaaa	25	18908
9449	.				
9451	CON1	DCW	0000010	5	18913
9461	CON100	DCW	0001000	5	18918
9500	.				
9501	S1	DCW	0010	2	18920
9502	S2	DCW	0020	2	18922
9503	S3	DCW	0030	2	18924
9504	S4	DCW	0040	2	18926
9505	S5	DCW	0050	2	18928
9506	S6	DCW	0060	2	18930
9507	S7	DCW	0070	2	18932
9508	S8	DCW	0080	2	18934
9509	S9	DCW	0090	2	18936
9510	S10	DCW	0100	2	18938
9511	S11	DCW	0110	2	18940
9534	C25	DCW	0250	2	18942
9535	C75	DCW	0750	2	18944

64 CHARACTER-BIT CONFIGURATION LOOKUP TABLE

NO ZONED CHARS

9598	.				
9599	.				
95999	.				
9600		DCW	0-----0	7	18951
9601		DCW	01-----10	7	18958
9602		DCW	02-----1-0	7	18965
9603		DCW	03-----110	7	18972
9604		DCW	04-----1--0	7	18979
9605		DCW	05-----1-10	7	18986
9606		DCW	06-----11-0	7	18993
9607		DCW	07-----1110	7	19000
9608		DCW	08-----1---0	7	19007
9609		DCW	09-----1---10	7	19014
9610		DCW	10-----1-1-0	7	19021
9611		DCW	11-----1-110	7	19028
9612		DCW	12-----11---0	7	19035
9613		DCW	13-----11-10	7	19042

PGLIN	LABEL	OPCOD	OPERAND	BA ZONED CHARS	CT	ADDRS
9659	.				7	19287
9660		DCW	2611-----2		7	19294
9661		DCW	2A11-----12		7	19301
9662		DCW	2B11-----1-2		7	19308
9663		DCW	2C11-----112		7	19315
9664		DCW	2D11-----1--2		7	19322
9665		DCW	2E11-----1-12		7	19329
9666		DCW	2F11-----11-2		7	19336
9667		DCW	2G11-----1112		7	19343
9668		DCW	2H11-----2		7	19350
9669		DCW	2I11-----12		7	19357
9670		DCW	2M11-----1-2		7	19364
9671		DCW	2.111-----112		7	19371
9672		DCW	2P1111-----2		7	19378
9673		DCW	2B1111-----12		7	19385
9674		DCW	2T111111-----2		7	19392
9675	TLETAB	DCW	2M11111112			
9678	.					
9679	.					
9680	SEARCH	DCW	2-----2	BA8421 SEARCH ARGUMENT	6	19398
9689	.					
9690	COMACD	DCW	2000002	COMMON USAGE AREA FOR ERROR ADDR	5	19403
9692	HTUACD	DCW	20002	HTU ORDERS OF CCCMP ADDR	3	19406
9693	THORC	DCW	202	ERRADD TH ORDER	1	19407
9909	.					
9910	PLUS	DC	2-----2		25	19408
9911		DCW	2G 2A2		1	19433
9912	MINUS	DC	2-----2		25	19434
9913		DCW	2G 2A2		1	19459
99198	.					
99199	.			CMP FIELD A- 100 CHARS		
9920		ORG	2EX00			19500
9921	CMPFCA	DS	1			19500
9922		DS	98			19598
9923	CMPPLAA	DS	1			19599
99249	.			SETUP FIELD A- 100 CHARS		

19600
19699

1
99

SETUPA

9925
9926

DS
DS

OPCOD

OPERAND

CMP FIELD B- 100 CHARS

19700
19798
19799

1
98
1

CMPFCB
CMPLAB

9931
9932
9933

DS
DS
DS

SETUP FIELD B- 100 CHARS

19800
19899
19900

1
99
1

SETUPB

99349
9935
9936
9937
99399

PST

S

END 2000

J02000

SETUPA
SETUPB
CMPLAA
CMPLAB

5 19905 19600
5 19910 19800
5 19915 19599
5 19920 19799

END OF ASSEMBLY

I. LOADING PROCEDURES

Use the new standard 1410/7010 Loading Procedures.

II. OPERATING PROCEDURES

These programs may be executed in either of two Check Control modes: Normal or Restart. The recommended conditions under which each mode should be used are as follows:

Normal - During Scheduled Maintenance time, and/or prior to execution test runs of CPU reliability and error-detection programs.

Restart - When exclusive memory errors are known to exist or suspected.

A. NORMAL CHECK CONTROL MODE

Console Switch Setting:

Check Control Switch - Normal
Print Control Switch - Normal

B. RESTART CHECK CONTROL MODE

Console Switch Settings:

Check Control Switch - Restart
Print Control Switch - Inhibited

Note: If and when Restart Mode is used, it is advisable to refer to the main writeup for more detailed operational information.

III. PROGRAM RESTART PROCEDURES

For CS41 - Depress Computer Reset.
Depress Start.

For CS42 Depress Computer Reset.
Set Mode Switch to Address Set.
Depress Start.
Enter Address 12000
Set Mode Switch to Run.
Depress Start.

IV. TEST ALTERATION DIGIT SWITCHES (TADS)

Each TAD function, when set to a 1, is as follows:

		Memory Locations	
		CS41	CS42
TAD 0	Bypass Normal and Error Typeouts	01000	11000
TAD 1	Repeat Section	01001	11001
TAD 2	Halt on Error (not used in the CS series)	01002	11002
TAD 3	Repeat Program	01003	11003
TAD 4	Automatic Section Selection	01004	11004
TAD 5	Not Used	01005	11005
TAD 6	Not Used	01006	11006
TAD 7	Print Immediate Errors on Printer	01007	11007
TAD 8	Bypass Sections 6-11 Discrimination	01008	11008
TAD 9	Bypass Sections 6C-11C Complements	01009	11009

V. NORMAL INDICATIONS OF SUCCESSFUL ERROR-FREE PROGRAM EXECUTION

- 1) CS41- or CS42 -
- 2) (CS41) TESTS 10000-19999 AREA OF 20K MEMORY
(CS42) TESTS 00001-09999 AREA OF 20K MEMORY
- 3) TAD STATUS -

- 4) QUICK RUN (If Quick Run Mode is called for)
- 5) S-01
S-02
S-03
S-04
S-05
S-06
S-06C
S-07
S-07C
S-08
S-08C
S-09
S-09C
S-10
S-10C
S-11
S-11C
- 6) PASS 001-CS41 or PASS 001-CS42

VI. ERROR INDICATIONS

A. IN NORMAL MODE

- 1) B Channel Check Causing an "E" format printout and/or halt.
- 2) A-[✓]15004, C-[✓]05004 Typical format example of a Section 05 error.

B. IN RESTART MODE

- 1) Typical format example of error in all Sections except Section 05.

08921 ---! ---Q -----D- CH-0 SSZ-B XSG-2 XWO-1 YSG-8 YWO-9

- 2) A-[✓]19584, C-[✓]19 Typical format example of a Section 05 error.

Note: It is strongly recommended that if and when any of the above error indications are encountered, the main program writeup be used and referred to in order that the full facilities and spectrum of the test can be employed.