

TABLE OF CONTENTS

0.0	DISKETTE UNIT TEST SEQUENCE:
1.0	GENERAL INFORMATION:
1.1	MINIMUM CONFIGURATION
1.2	LOADING PROCEDURE
1.3	MESSAGE FORMAT
1.4	COMMENTS
2.0	SPECIAL TOOLS & ADDITIONAL DOCUMENTS:
2.1	SPECIAL TOOLS:
2.2	ADDITIONAL DOCUMENTS:
3.0	PURPOSE:
3.1	'AUTO' MODE MAPS:
3.2	'MANUAL' MODE MAPS:
3.3	'PAPER ONLY' MAPS:
3.4	'FAILURE ONLY' MAPS:
3.5	DIAGNOSTICS, UTILITIES, EXERCISERS, OFF-LINE TESTS:
4.0	PROGRAMMER'S COMMENTS:
4.1	LOADING WITH THE PROGRAMMER CONSOLE.
5.0	SERVICE INFORMATION:
5.1	CONFIGURATION INFORMATION:
5.2	GENERAL SERVICE INFORMATION:
6.0	DEVICE UTILITIES:
7.0	DEVICE EXERCISERS:
8.0	DEVICE DIAGNOSTICS:
9.0	DEVICE OFF-LINE TESTS:

PAGE 2 OF 5

0.0 DISKETTE UNIT TEST SEQUENCE:

FOR A COMPLETE TEST OF THE DEVICE LOAD AND EXECUTE THE FOLLOWING MAP(S) IN THE SEQUENCE GIVEN:

MAP 4800. (MAP 4801 WILL ALSO EXECUTE.)
MAP 4802. (USE DIAGNOSTIC DISKETTE(S) IN ALL UNITS.)

SEE PARAGRAPHS 3.X FOR A LIST OF ALL MAPS FOR THE DISKETTE UNIT.

FOR ANY 'CHECK' CONDITION (MCK, PCK, PWR/THERM) GO TO MAP 3871, ENTRY POINT A.

IF THESE MAPS SAY TO CHANGE THE ATTACHMENT CARD AND THE SYSTEM STILL FAILS AFTER REPLACEMENT OF THE CARD, ANOTHER ATTACHMENT MAY BE CAUSING THE FAILURE. MAP 0070 IS A CHANNEL ISOLATE PROCEDURE FOR THIS TYPE OF PROBLEM.

1.0 GENERAL INFORMATION:

1.1 MINIMUM CONFIGURATION

THE SERIES/1 MAINTENANCE MATERIAL WILL NEED A MINIMUM SYSTEM CONFIGURATION OF: SERIES/1 PROCESSOR, 16K STORAGE, A DISKETTE DRIVE AND A PROGRAMMER CONSOLE.

1.2 LOADING PROCEDURE

ALL MDI MAPS, DIAGNOSTICS, UTILITIES AND EXERCISERS ARE ON ONE OF THE DIAGNOSTIC DISKETTES.
SEE THE DISKETTE LABEL.

USE STANDARD DCP LOADING PROCEDURE:

WHEN THE CONSOLE FUNCTION IS ASSIGNED TO A KEYBOARD CONSOLE DEVICE PRESS 'C' (TO LOAD AND WAIT FOR OPTION SELECTION) OR 'B' (FOR LOAD AND GO) FOLLOWED BY THE FOUR CHARACTER MAP / PROGRAM I.D. (SEE THE DIAGNOSTIC SERVICE GUIDE 07.00.00).
TO LOAD WITH THE PROGRAMMER CONSOLE SEE 4.1 THIS DOCUMENT.

1.3 MESSAGE FORMAT

IF AN ALTERNATE CONSOLE IS ASSIGNED, MAP MESSAGES ARE FORMATTED AS FOLLOWS:

***** I3CXX MAP=YYYY STEP=ZZZZ *****

I3CXX WILL IDENTIFY THE HALT AS A MDI/MAP HALT

YYYY=MAP #
ZZZZ=MAP STEP #

IF MAP=3CXX THE HALT IS THE RESULT OF A MDI SUPERVISOR DECISION INSTEAD OF A MAP DECISION (SEE MDI HALT LIST FOLLOWING).

MDI HALT LIST

MAP= DESCRIPTION/ACTION
3C01 ENTER ADDRESS OF DEVICE TO BE TESTED (2 CHARACTERS, THAT IS, FOR ADDRESS 01 ENTER F01)
3C05 ENTER 'FROM' STEP (4 CHARACTERS, THAT IS, FOR STEP 001 ENTER F0001)
3C06 ENTER 'TO' STEP (4 CHARACTERS, THAT IS, FOR STEP 099 ENTER F0099)
3C08 DEVICE ADDRESS NOT VALID.
3C0E DEVICE OR MAP NOT FOUND

MESSAGES THAT ARE NOT DISPLAYED IN THIS FORMAT ARE DCP MESSAGES.
FOR MORE INFORMATION ABOUT ANY DCP HALT OR MDI SUPERVISOR HALT (MAP=3CXX), SEE THE DIAGNOSTIC SERVICE GUIDE, 06.00.00, COMMON HALT LIST.

WHEN THE PROGRAMMER CONSOLE IS THE ACTIVE CONSOLE, HALTS ARE IDENTIFIED AS FOLLOWS:

'WAIT' LAMP ON.
DATA LAMPS=MAP# OR MDI/DCP HALT CODE.
LEVEL 3 REGISTERS WILL CONTAIN:
R0= MAP STEP #.
R1= DEVICE ADDRESS AND TYPE CODE (AATT).
R3= POINTER TO ADDITIONAL DATA (SEE DIAGNOSTIC SERVICE GUIDE 05.03.00, 05.04.00)

SEE DIAGNOSTIC SERVICE GUIDE 07.01.00.

15SEP77 PN1635061

EC754882 PEC578757

MAP 4800-2

PAGE 3 OF 5

1.4 COMMENTS

THE DISKETTE MUST BE CORRECTLY CONFIGURATED BEFORE THE MAPS / PROGRAMS WILL EXECUTE CORRECTLY. SEE 5.1 THIS DOCUMENT AND DIAGNOSTIC SERVICE GUIDE 08.00.00

A 'SYSTEM LEVEL' FAILURE MAY APPEAR TO BE A DEVICE FAILURE. ALWAYS USE SYSTEM ENTRY MAP (MAP 0020) FOR BEST RESULT.

FOR ANY 'CHECK' CONDITION (MCK, PCK, PWR/THERM) GO TO MAP 3871, ENTRY POINT A.

IF THESE MAPS SAY TO CHANGE THE ATTACHMENT CARD AND THE SYSTEM STILL FAILS AFTER REPLACEMENT OF THE CARD, ANOTHER ATTACHMENT MAY BE CAUSING THE FAILURE. MAP 0070 IS A CHANNEL ISOLATE PROCEDURE FOR THIS TYPE OF PROBLEM.

USE THE IBM GENERAL LOGIC PROBE, P/N453212, AND THE CE METER UNLESS THE MAP HAS SPECIFIED AN OSCILLOSCOPE, OR A DIFFERENT METER.

2.0 SPECIAL TOOLS & ADDITIONAL DOCUMENTS:

2.1 SPECIAL TOOLS;

NONE

2.2 ADDITIONAL DOCUMENTS:

DIAGNOSTIC SERVICE GUIDE.
4964/4962 THEORY OF DIAGRAMS MANUAL.
4964/4962 MAINTENANCE INFORMATION MANUAL.
SERIES 1 LOGIC, MLD VOLUME 01.
SERIES 1 INSTALLATION INSTRUCTIONS.

3.0 PURPOSE:

THE 48XX MAPS WILL VERIFY CORRECT OPERATION OR FIND AND ISOLATE FAILING FRU'S IN AN IBM 4964 OR IN THE DISKETTE UNIT OF 4962.

3.1 'AUTO' MODE MAPS:

THE DEVICE ENTRY MAP (MAP # XX00) IS THE FIRST 'AUTO' MODE MAP (SEE THE DIAGNOSTIC SERVICE GUIDE 05.00.00). IF A COMPLETE AUTO TEST WILL NEED ADDITIONAL MAPS, MDI WILL AUTOMATICALLY LOAD AND EXECUTE THEM IN THE CORRECT SEQUENCE.

A. MAP 4800 (DEVICE ENTRY MAP):
AUTOMATICALLY TESTS THE CHANNEL INTERFACE AND WILL ISSUE DIAGNOSTIC TESTS TO THE DISKETTE UNIT ATTACHMENT CARD.

B. MAP 4801:
AUTOMATICALLY TESTS THE SEEK AND READ CIRCUITS IN THE DISKETTE UNIT ATTACHMENT CARD AND DEVICE

WHEN 'AUTO MODE' IS SELECTED, MAPS 4800 AND 4801 WILL BE LOADED AUTOMATICALLY. FOR A COMPLETE TEST OF THE DISKETTE UNIT MAP 4802 SHOULD BE LOADED IN MANUAL MODE AT THE END OF THE AUTO TEST.

15SEP77 PN1635061

EC754882 PEC578757

MAP 4800-3

PAGE 4 OF 5

3.2 'MANUAL' MODE MAPS:

THE FOLLOWING 'MANUAL' MODE MAPS PERFORM ADDITIONAL TESTS AND/OR ISOLATE FAILURES FOUND BY THE 'AUTO' MAPS:

MAP 4802:

IN 'MANUAL MODE', TEST THE WRITE CIRCUITS.
 TEST TRACKS ARE RESERVED ON THE DIAGNOSTIC DISKETTE(S).
 NON-IPL DISKETTE UNIT DEVICES USE SYSTEM TEST DISKETTE, COMMUNICATIONS
 DISKETTE, OR A CUSTOMER SCRATCH DISKETTE.
 NOTE: THE TEST TRACK(S) (1-3 AND 74-76) WILL BE FORMATTED 15 SECTORS/TRACK,
 256 BYTES/SECTOR AT THE END OF WRITE TEST.

MAP 4810:

IN 'MANUAL MODE', THERE ARE MORE TESTS FOR THE WRITE CIRCUITS. MAP HAS WRITE
 ROUTINE WHERE CE CAN PROBE 'WRITE GATE' AND 'WRITE DATA' OR FREELANCE
 TROUBLESHOOT.

MAP 4813:

IN 'MANUAL MODE', IS USED AS AN AID TO RUN ROUTINES WHICH MAY BE NEEDED TO
 CORRECT PROBLEMS. THIS MAP IS ALSO USED TO TEST THE READY/NOT READY HARDWARE.

MAP 4820:

IN 'MANUAL MODE', TESTS THE READ CIRCUITS.

MAPS 4830:

IN 'MANUAL MODE', IS USED WHEN THERE IS A NOT READY CONDITION.

MAP 4840:

IN 'MANUAL MODE', TESTS THE SEEK CIRCUITS.

MAP 4850:

IN 'MANUAL MODE', IS USED WHEN THERE IS AN ERASE UNSAFE CONDITION.

3.3 'PAPER ONLY' MAPS:

MAP 4880 (PAPER ONLY):

IS USED WHEN THERE IS A POWER SUPPLY PROBLEM.

3.4 'FAILURE ONLY' MAPS:

THE FOLLOWING MAPS ASSUME A FAILURE. USE THEM ONLY WHEN INSTRUCTED TO DO SO BY
 ANOTHER MAP.

NONE

3.5 DIAGNOSTICS, UTILITIES, EXERCISERS, OFF-LINE TESTS:

NONE

4.0 PROGRAMMER'S COMMENTS:

THIS MAP USES 'TU ABORT' AT SOME STEPS. (SEE DIAGNOSTIC SERVICE GUIDE,
 05.04.00).

4.1 LOADING WITH THE PROGRAMMER CONSOLE.

TO EXECUTE THE MAPS WITH THE PROGRAMMER CONSOLE ENTER DATA AS FOLLOWS:

WHERE:

(B) = DATA BUFFER,
 (I) = CONSOLE INTERRUPT.

MAP	CONSOLE ENTRY
4800	(B), B, (I), 4, 8, 0, 0, (I), (I)
4801	(B), B, (I), (B), 4, 8, 0, 1, (I), (I)
4802	(B), B, (I), (B), 4, 8, 0, 2, (I), (I)
4810	(B), B, (I), (B), 4, 8, 1, 0, (I), (I)
4813	(B), B, (I), (B), 4, 8, 1, 3, (I), (I)
4820	(B), B, (I), (B), 4, 8, 2, 0, (I), (I)
4830	(B), B, (I), (B), 4, 8, 3, 0, (I), (I)
4840	(B), B, (I), (B), 4, 8, 4, 0, (I), (I)
4850	(B), B, (I), (B), 4, 8, 5, 0, (I), (I)

15SEP77 PN1635061

EC754882 PEC578757

MAP 4800-4

PAGE 5 OF 5

5.0 SERVICE INFORMATION:

5.1 CONFIGURATION INFORMATION:
SEE DIAGNOSTIC SERVICE GUIDE 08.01.04.

5.2 GENERAL SERVICE INFORMATION:

A QUICK VISUAL CHECK OF THE DISKETTE UNIT SHOULD INCLUDE THE FOLLOWING:
REMOVE POWER FROM THE DISKETTE UNIT AND CHECK FOR THE FOLLOWING:

- FOREIGN MATERIAL IN DISKETTE OR DISKETTE DRIVE
 - BELT OFF OR DAMAGED.
 - RESEAT CARDS (BOTH DRIVE CONTROL AND VFO)
 - RESEAT CABLES.
 - LOOSE OR DAMAGED FEED THROUGH CONNECTOR.
 - DRIVE MOTOR BINDING OR NOT TURNING.
 - BROKEN COVER/PIVOT.
 - LOOSE PULLEY.
 - ACCESSING BAND BROKEN OR DAMAGED.
- CHECK '+5VDC', '-5VDC', AND '+24VDC' INPUT VOLTAGES TO DISKETTE DRIVE CONTROL CARD. SEE MLD VOL.1 SF140 FOR TEST POINTS.

THESE MAPS PERFORM THE FOLLOWING DISKETTE UNIT TESTS.
WILL ISSUE EVERY COMMAND TO THE DISKETTE UNIT CHANNEL LOGIC.
WILL CHECK ALL OIO AND INTERRUPT CONDITION CODES.
WILL CHECK THE DISKETTE UNIT ATTACHMENT ROS TO SEE IF IT CAN SELF-TEST BY CHECKSUM, ECHO CHECK, DISK SPEED AND WRAP TEST.
TESTS THE DISKETTE UNIT READ, WRITE, AND SEEK CIRCUITS.
TESTS THE 4962 DISKETTE UNIT HARDWARE.

THIS MAP WILL CALL OUT THESE FRU'S:
DISKETTE UNIT ATTACHMENT CARD.
DISKETTE UNIT ATTACHMENT CABLE.
DISKETTE UNIT DRIVE CONTROL CARD.
DISKETTE UNIT V.F.O. CARD.
DISKETTE UNIT AND ASSOCIATED PART(S) .

6.0	DEVICE UTILITIES:	NONE
7.0	DEVICE EXERCISERS:	NONE
8.0	DIAGNOSTICS:	NONE
9.0	OFF-LINE TESTS:	NONE