

BELL TELEPHONE LABORATORIES, INCORPORATED

MAY 1 1981

6-153

COMMON SYSTEMS  
FOR USE WITH NO. 3 ESS  
ARRANGED WITH 2-WIRE FEATURES  
STORE FANOUT BOARDS TEST-PART B  
(CDGSFB)

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ISSUE 5  
02/05/81

AT&TCO  
SPCS

PR-1C926-50  
153 PAGES

PRINTED IN U.S.A.

## SECTION DICTIONARY

NUMBER	NAME	MAXIMUM	ORIGIN	TYP	ADDRESS-MODIFICATION
01	CSTFB5	0000472		C	
02	CSTFB6	0000500		C	
03	CSTFB7	0000571		C	
04	CSTFB8	0000217		C	
05	CPATCH	0001004		C	
06	CPATCH1	0000000		C	
07	CPATCH2	0000000		C	
08	CPATCH3	0000064		C	
09	CPATCH7	0000320		C	
0A	TFAPCH2	0000000		C	
0B	TPATCH	0000000		C	

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0022600  
0022600  
0022600

```

01      DBNAM  NO33E3I3.OFF.DATABASE
02      RELNAM NO3ESS
03      GETLIB LIBRARY, MEMBER=MOPTBL
04      GETLIB LIBRARY, MEMBER=SYSMAC
05      GETLIB LIBRARY, MEMBER=SYSSYM
06      GETLIB LIBRARY, MEMBER=PATCH2
07      FIRSTOPTSS
08      VERSION 3ACC, FIELD, ESS2E
09      PATCHINIT
10     NO33E3I3.OFF.OPMS(0) DECK
11      DSQUAL NO33E3I3
12      LISTING N, CRUNCH=Y, SYSOUT=N
13     #####
14     ##
15     ## UNIX ID = NO3PAG
16     ##
17     #####
18     #####
19     ###
20     ### pid date time rel
21     ###
22     ### cdgsfb 1/24/81 17:26:45 7.1.1.1
23     ###
24     #####

```

31 # THIS DATA SET EDITED FOR UNIX ON 05/25/78

01 GETLIB MEMBER=CTVTAB  
02 NAME CDGSFB

06 ## The following is a list of the valid csects for program CDGSFB

0022600  
0023272  
0023772  
0024563

08 CSTFB5 CSECT  
09 CSTFB6 CSECT  
10 CSTFB7 CSECT  
11 CSTFB8 CSECT

14 ## The following csects are necessary for patching

0111432  
0112562  
0114107  
0115073  
0121236

16 CPATCH CSECT  
17 CPATCH1 CSECT  
18 CPATCH2 CSECT  
19 CPATCH3 CSECT  
20 CPATCH7 CSECT

0116774

22 TFAPCH2 CSECT

0600000

24 TPATCH CSECT

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0600000

```

01      GETLIB  MEMBER=BSAIMAC
02      GETLIB  MEMBER=MEMDGM
03      GETLIB  MEMBER=TTYMAC
04      GETLIB  MEMBER=DGNMAC
05      BEGIN  DIAG DGSFB,3ACC      # SELECT FIELD MACROS
                                        # RUN ON 3ACC
-001- 06 CDGNM  EXTERN  NMICRO
-001- 07 CDGNM  EXTERN  NRETRN
-001- 08 CDGNM  EXTERN  N2RETRN
-001- 09 CDGNM  EXTERN  NSTRT
-001- 10 CDGNM  EXTERN  NSTOP
-001- 11 CDGNM  EXTERN  NDISABA
-001- 12 CDGNM  EXTERN  NDISABB
-001- 13 CDGNM  EXTERN  NSTRTCLK
-001- 14 CDGNM  EXTERN  NSTPCLK
-001- 15 CDGNM  EXTERN  NTGCLK
-001- 16 CDGNM  EXTERN  NRESCLK
-001- 17 CDGNM  EXTERN  NZERO_ER
-001- 18 CDGNM  EXTERN  NPROS
-001- 19 CDGNM  EXTERN  NTESTSEG
-001- 20 CDGNM  EXTERN  NFAILTST
-001- 21 CDGNM  EXTERN  NTTY
-001- 22 CDGNM  EXTERN  NMASK
-001- 23 CDGNM  EXTERN  NPASSTST
-001- 24 CDGNM  EXTERN  NSEND
-001- 25 CDGNM  EXTERN  N2SEND
-001- 26 CDGNM  EXTERN  NADD_OFF
-001- 27 CDGNM  EXTERN  NADMIC
-001- 28 CDGNM  EXTERN  NLDMIR
-001- 29 CDGNM  EXTERN  NEXECUTE
-001- 30 CDGNM  EXTERN  NCOMPARE
-001- 31 CDGNM  EXTERN  NFRZ
-001- 32 CDGNM  EXTERN  NBEGIN
-001- 33 CDGNM  EXTERN  NLP_END
-001- 34 CDGNM  EXTERN  NSKIP
-001- 35 CDGNM  EXTERN  NABT
-001- 36 CDGNM  EXTERN  NRDMICRO
-001- 37 CDGNM  EXTERN  NCLRMS
-001- 38 CDGNM  EXTERN  NNO3CD
-001- 39 CDGNM  EXTERN  NTMTST
-001- 40 CDGNM  EXTERN  NZERPT
-001- 41 CDGNM  EXTERN  NFLBITS
-001- 42 CDGNM  DIRECT INTRPNO3
-001- 43 CDGNM  EXTERN  NBGN
-001- 44 CDGNM  EXTERN  PASSOFF
-001- 45 CDGNM  EXTERN  FAILOFF
-001- 46 CDGNM  EXTERN  SLDMCHBF
-001- 47 CDGNM  EXTERN  SLDMIRLF
-001- 48 CDGNM  EXTERN  SHCHF
-001- 49 CDGNM  EXTERN  NRTNBLM

```

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-001- 01 CDGNM EXTERN NWDTST

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CDGSFB W77D

-001- 01 # THIS DIAGNOSTIC PROGRAM IS ALL OR PARTIALLY WRITTEN IN A MACRO  
-001- 02 # LANGUAGE WHICH PRODUCES TABLES WHICH ARE INTERPRETED BY THE  
-001- 03 # DIAGNOSTIC MONITOR PROGRAM. FOR INFORMATION REGARDING THE  
-001- 04 # STRUCTURE OF THE TABLES, SEE THE SECTION OF PROGRAM CDGNM (PR-1C910-01)  
-001- 05 # ENTITLED "DIAGNOSTIC TABLE INTERPRETER". FOR A GENERAL DESCRIPTION  
-001- 06 # OF THE DIAGNOSTIC PHILOSOPHY AND THE DETAILED REPAIR PROCEEDURE,  
-001- 07 # SEE THE TROUBLE LOCATION MANUAL (TLM-1C900) SECTION B.

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0600000

01 CTVTAB EXTERN W%AIT  
02 SYMLIB

STORE FANOUT BOARDS TEST-PART B

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## -002- 01 # EXTERNS REQUIRED BY STORE DIAGNOSTIC TESTS:

-002- 04 MASACS EXTERN MASCIOSC  
-002- 06 CBLM EXTERN PRTHASER  
-002- 07 CBLM EXTERN WAIT  
  
-002- 09 CDGNM EXTERN LOOPIND  
-002- 10 CDGNM EXTERN NOSTPMES  
-002- 11 CDGNM EXTERN PASSTST  
-002- 12 CTSD EXTERN DGNLIM  
  
-002- 14 CDGSBS EXTERN MEMOP  
-002- 15 CDGSBS EXTERN MEMOPI  
  
-002- 17 CDGSFA EXTERN FOBNDX  
  
-002- 19 CDGSIO DIRECT MASIOM  
-002- 20 CDGSIO EXTERN MSELMSK  
-002- 21 CDGSIO EXTERN MODSIZE  
-002- 22 CDGSIO EXTERN STRSIZE  
-002- 23 CDGSIO EXTERN STSELMSK  
-002- 24 CDGSIO EXTERN FINAL  
-002- 25 CDGSIO EXTERN CONTPREP  
  
-002- 28 CSYSUB EXTERN EXCOFLPG  
-002- 29 CSYSUB EXTERN INIT\_OCC  
-002- 30 CSYSUB EXTERN INITOST  
-002- 31 CSYSUB EXTERN INSYNC  
-002- 32 CSYSUB EXTERN RGCHKADR  
-002- 33 CSYSUB EXTERN UPD\_OTS  
  
-002- 35 CTSD EXTERN MASERCNT  
-002- 36 CTSD EXTERN PAGSCR  
-002- 37 CTSD EXTERN DGREQ  
  
-002- 39 MASACS EXTERN MASONOFF  
  
-002- 41 TDATA EXTERN STRLIM  
-002- 42 TDATA EXTERN WDSTR  
-002- 43 TDATA EXTERN WPTBL

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CDGSFB

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## -002- 01 # STORE DIAGNOSTIC REGISTER DEFINITIONS

```

0000010 -002- 04 CHKNDX EQU 8 # INDEX REGISTER FOR REFRESH SELECT CHECK
0000010 -002- 05 F0BCNT EQU 8 # SCRATCH REG FOR CURRENT FANOUT BOARD
                                COUNT
0000011 -002- 07 RANGE EQU 9 # NUMBER OF OFF-LINE WORDS TO BE TESTED

```

## -002- 11 # REGISTER SYMBOLS USED IN THE MEMORY MODULE TEST:

```

0000000 -002- 12 PATBAK EQU R0 # DATA READ/WRITTEN VIA OTHER-STORE
0000001 -002- 13 HIPATBAK EQU R1 # HIGH DATA READ/WRITTEN VIA OTHER-STORE
                                # DEFINE FOR IGNORANT MIMODE MACRO
0000002 -002- 14 HIPATBAKXT SYN R1XT # MASK TO BLOCK INTERRUPTS & CHECKS
0000003 -002- 15 BLKMSK EQU R2 # SAVE (WIDE) STORE STATUS
0000004 -002- 16 STRSTAT EQU R3 # PATTERN PREVIOUSLY WRITTEN
0000005 -002- 17 LSTPAT EQU R4 # PATTERN CURRENTLY BEING WRITTEN
0000006 -002- 18 NXTPAT EQU R5 # NUMBER OF TEST PATTERN BEING MATCHED
0000007 -002- 19 PATNDX EQU R6 # MINOR LOOP INDEX
0000010 -002- 20 MNRNDX EQU R7 # ERROR REGISTER AFTER OTHER-STORE READ
0000010 -002- 21 ERSAVE EQU R8 # PARITY TEST RESULTS - FIELD ONLY
0000010 -002- 22 PARSLT EQU R8 # UPPER ADDRESS BITS OF MEMORY TEST AREA
0000014 -002- 23 MEMADDR0 EQU R12 # LOWER ADDRESS BITS OF MEMORY TEST AREA
0000015 -002- 24 MEMADDR1 EQU R13 # BASE ADDRESS OF MEMORY TEST AREA
0000014 -002- 25 MEMADDR EQURA RA0 # ADDRESS OF TEST PATTERN TABLE
0000016 -002- 26 PATADDR EQURA RA1

```

STORE FANOUT BOARDS TEST-PART B

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-002- 01 # FUNCTION OF BITS WITHIN I/O MESSAGE SENT TO STORE:  
 -002- 02 CIOBUF LAYOUT

-002- 05 CINIT	ITEM	1	# MAIN STORE CONTROLLER INITIALIZATION
-002- 06 CKSTP	ITEM	1	# CONTROLLER CLOCK STEP
-002- 07 CKHLT	ITEM	1	# CONTROLLER CLOCK HALT
-002- 08 REFST	ITEM	1	# STORE REFRESH STOP
-002- 09 STORDER	ITEM	8	# 4/8 MAINTENANCE STATE CODE
-002- 10 010TM	ITEM	1	# 0-10 BIT TIMING SHIFTER FAKE
-002- 11 LDFG	ITEM	1	# ORDER CHECKER EXCLUSIVE-OR LOAD
-002- 12 FSEL	ITEM	1	# STORE SELECT FORCE ON TIMING BOARD A
-002- 13 FBT09	ITEM	1	# FORCE BIT 15 ACTIVE IN MAIN SHIFTER
-002- 14	LOEND		
-005- 15	#		



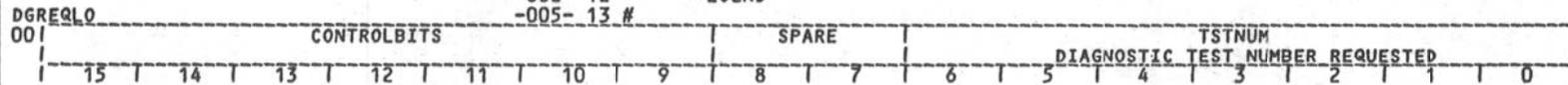
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CDGSFB

W77D

-002- 01 # LAYOUT OF DIAGNOSTIC REQUEST WORD (DGREQ) WITH TEST NUMBER REQUESTED  
 -002- 02 # NOTES: 1. REST OF BITS (CONTROLBITS) ARE DEFINED BY DGREQIP LAYOUT  
 -002- 03 # FOUND IN PROLOGUE OF DIAGNOSTIC MONITOR (CDGNM)  
 -002- 04 # 2. IF TEST NUMBER (TSTNUM) IS ZERO, THE ENTIRE DIAGNOSTIC  
 -002- 05 # TEST SEQUENCE HAS BEEN REQUESTED  
 -002- 06 # 3. STORAGE SPACE FOR DGREQ IS ALLOCATED IN CTSD

-002- 09 TSTNUM ITEM 7 # DIAGNOSTIC TEST NUMBER REQUESTED  
 -002- 10 SPARE ITEM 2  
 -002- 11 CONTROLBITS ITEM 7  
 -002- 12 LOEND  
 -005- 13 #



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-002- 01 # STORAGE FORMAT FOR MAIN STORE (MY & OTHER) SUBCHANNEL ADDRESS:

-002- 04	MSSCO	ITEM	16	#	ADDRESS OF MY STORE SUBCHANNEL 0
-002- 05	OSSCO	ITEM	16	#	ADDRESS OF OTHER STORE SUBCHANNEL 0
-002- 06	MSSC1	ITEM	16	#	ADDRESS OF MY STORE SUBCHANNEL 1
-002- 07	OSSC1	ITEM	16	#	ADDRESS OF OTHER STORE SUBCHANNEL 1
-002- 08	MSSC2	ITEM	16	#	ADDRESS OF MY STORE SUBCHANNEL 2
-002- 09	OSSC2	ITEM	16	#	ADDRESS OF OTHER STORE SUBCHANNEL 2
-002- 10	MSSC3	ITEM	16	#	ADDRESS OF MY STORE SUBCHANNEL 3
-002- 11	OSSC3	ITEM	16	#	ADDRESS OF OTHER STORE SUBCHANNEL 3
-002- 12		LOEND			
-005- 13	#				

MASCIOSC

00	MSSCO	ADDRESS OF MY STORE SUBCHANNEL 0
01	OSSCO	ADDRESS OF OTHER STORE SUBCHANNEL 0
02	MSSC1	ADDRESS OF MY STORE SUBCHANNEL 1
03	OSSC1	ADDRESS OF OTHER STORE SUBCHANNEL 1
04	MSSC2	ADDRESS OF MY STORE SUBCHANNEL 2
05	OSSC2	ADDRESS OF OTHER STORE SUBCHANNEL 2
06	MSSC3	ADDRESS OF MY STORE SUBCHANNEL 3
07	OSSC3	ADDRESS OF OTHER STORE SUBCHANNEL 3

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

-002- 01 # WORDS IN PAGING BUFFER USED BY STORE DIAGNOSTIC TESTS:  
 -002- 02 LOOPSUB ITEM 16 # ADDRESS OF SUBSTITUTE FOR 'LOOP' IN TTY  
 TROUBLE MESSAGE  
 -002- 04 IOADDR ITEM 16 # I/O SUBCHANNEL ADDRESS FOR CURRENT  
 STORE CONTROLLER  
 -002- 06 FOBNUM ITEM 16 # NUMBER OF MEMORY MODULES (OR FANOUT  
 BOARDS) IN STORE CURRENTLY UNDER TEST  
 -002- 08 TIMSAV ITEM 16 # SAVE TIMING CONSTANT FOR TIMEOUT  
 SUBROUTINE  
 -002- 10 UPADDR ITEM ADDR # ADDRESS OF NEXT BLOCK OF MEMORY TO BE  
 UPDATED AFTER MEMORY PATTERN TEST  
 -002- 12 BASADDR ITEM ADDR # BASE ADDRESS OF STORE/MOD UNDER TEST

-002- 15 LOEND  
 -005- 16 #

PAGSCR

24	LOOPSUB	ADDRESS OF SUBSTITUTE FOR 'LOOP' IN TTY TROUBLE MESSAGE														
25	IOADDR	I/O SUBCHANNEL ADDRESS FOR CURRENT STORE CONTROLLER														
26	FOBNUM	NUMBER OF MEMORY MODULES (OR FANOUT BOARDS) IN STORE CURRENTLY UNDER TEST														
27	TIMSAV	SAVE TIMING CONSTANT FOR TIMEOUT SUBROUTINE														
28		UPADDR														
29	*****															
30		BASADDR														
31	*****															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

STORE FANOUT BOARDS TEST-PART B

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CDGSFB W770

-002- 01 # STORE ERROR REGISTER (SER) BIT ASSIGNMENT:  
 -002- 02 # NOTE: THESE INPUTS ARE ENABLED BY BIT09 OF THE MAIN SHIFTER

-002- 05 SER LAYOUT  
 -002- 06 FOBTERB ITEM 1 # STORE TIMING ERROR FROM UNSELECTED FOB  
 -002- 07 MPXER ITEM 1 # MULTIPLEXOR ERROR DETECTED BY CHECK  
 BOARD  
 -002- 09 CHDIF ITEM 1 # ERROR INDICATED BY STORE COMMAND  
 CHECKER  
 -002- 11 SCMER ITEM 1 # PREMATURE STORE COMPLETE(SCH)  
 -002- 12 SHER ITEM 1 # ERROR IN MAIN SHIFTER OPERATION  
 -002- 13 MODER ITEM 1 # ALL-SEEMS-WELL SIGNAL NOT RECEIVED FROM  
 MODULE(FOB) ACCESSED DURING NORMAL CYCL  
 -002- 15 RSELER ITEM 1 # ALL MEMORY MODULES(FOBS) NOT SELECTED  
 DURING REFRESH  
 -002- 17 FOBTERA ITEM 1 # STORE TIMING ERROR FROM SELECTED FOB  
 -002- 18 FOBPARER ITEM 1 # PARITY ERROR DETECTED IN ADDRESS  
 REACHING FANOUT BOARD(S)  
 -004- 20 ##### F0BPARER WILL APPEAR AS F0BPARE IN PICTURES  
 -002- 21 DHPER ITEM 1 # ERROR IN PARITY OVER HIGH DATA BITS  
 -002- 22 PWER ITEM 1 # ERROR IN PARITY FOR WIDE STORE  
 -002- 23 TBER ITEM 1 # ERROR DETECTED ON TIMING BOARD  
 -002- 24 ITEM 1 # SPARE  
 -002- 25 DLPER ITEM 1 # ERROR IN PARITY OVER LOW DATA BITS  
 -002- 26 ITEM 1 # SPARE  
 -002- 27 ITEM 1 # SPARE  
 -002- 28 LOEND  
 -005- 29 #

SER	001	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		SPARE		DLPER	SPARE	TBER	PWER	DHPER	F0BPARER	F0BTERA	RSELER	MODER	SHER	SCMER	CHDIF	MPXER	F0BTERB

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-002- 01 # STORE BUS CHECK BIT ASSIGNMENTS IN RESPONSE MESSAGE:  
 -002- 02 # NOTE: THESE INPUTS ARE ENABLED BY ISOLATE CHECK (ISOCHK) I/O ORDER  
 -002- 03 # W/ LOAD F & G (LDFG) OPTION SET

-002- 06 ISOBTS ITEM 7 # SDO-6,SD8-14 ISOLATE TEST RESULTS  
 -002- 07 RSVDO ITEM 1 # SD7,SD15 ISOLATE TEST RESULT - ONLY  
 # GATED INTO BY LOAD I/O DECODER CHECK  
 (LOADCHK) OPTION  
 -002- 10 WDISOL ITEM 4 # RESULTS OF WIDE DATA (SD16-23) ISOLATE  
 -002- 11 SDPCK ITEM 1 # RESULT OF STORE DATA PARITY ISOLATION  
 -002- 12 ZEPCK ITEM 1 # RESULT OF EXTENDED(3 BIT) PARITY  
 ISOLATE  
 -002- 14 CTRLCK ITEM 1 # RESULT OF STORE CONTROL LEADS ISOLATION  
 -002- 15 FXORG ITEM 1 # I/O ORDER CHECKER EXCLUSIVE-OR RESULT  
 -002- 16 LOEND  
 -005- 17 #

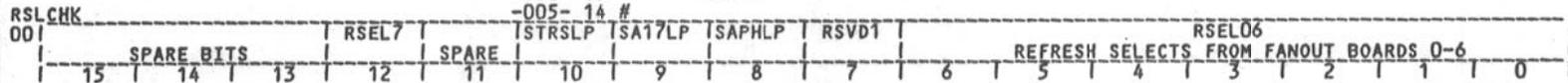
CHKMRD	FXORG	CTRLCK	ZEPCK	SDPCK	WDISOL	RSVDO	ISOBTS	SDO-6,SD8-14 ISOLATE TEST RESULTS								
001	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

STORE FANOUT BOARDS TEST-PART B

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-002- 01 # REFRESH SELECT CHECK BIT ASSIGNMENTS IN STORE ERROR REGISTER  
 -002- 02 # NOTE: THESE INPUTS ARE ENABLED BY EXTERNAL-ERROR-LOAD(EXERLD) ORDER

-002- 05 RSEL06 ITEM 7 # REFRESH SELECTS FROM FANOUT BOARDS 0-6  
 -002- 06 RSVD1 ITEM 1 # RESERVED - FOBTERA IS SET AFTER INIT  
 -002- 07 SAPHLP ITEM 1 # STORE ADDRESS PARITY HIGH LOOP RESULT  
 -002- 08 SA17LP ITEM 1 # STORE ADDRESS BIT 17 LOOP RESULT  
 -002- 09 STRSLP ITEM 1 # STORE SELECT ADDRESS BITS LOOP RESULT  
 -002- 10 ITEM 1 # SPARE  
 -002- 11 RSEL7 ITEM 1 # REFRESH SELECT FROM FANOUT BOARD 7  
 -002- 12 ITEM 3 # SPARE BITS  
 -002- 13 LOEND  
 -005- 14 #

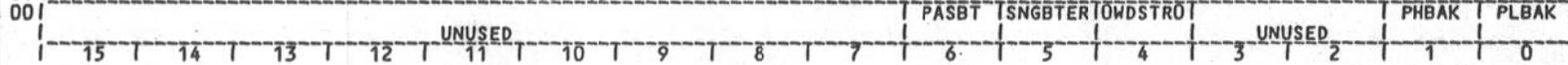


0010177 -002- 22 RSELBTS EQU M(RSEL06)!(M(RSEL7) # MASK FOR REFRESH SELECT BITS  
 0167600 -002- 23 RSELBTSN EQU (~RSELBTS)&B(1111111111111111)

```

-002- 01 # STORE STATUS REGISTER LAYOUT -- INCL BITS USED IN FIELD VERSION(S) OF TESTS
-002- 02 PLBAK ITEM 1 # PARITY LOW VALUE READ BACK
-002- 03 PHBAK ITEM 1 # PARITY HIGH VALUE READ BACK
-002- 04 ITEM 2 # UNUSED
-002- 05 OWDSTRO ITEM 1 # WIDE STORE INDICATOR BIT
-002- 06 SNGBTERR ITEM 1 # SINGLE BIT ERROR FLAG
-002- 07 PASBT ITEM 1 # REPEAT PASS THRU TEST INDICATOR
-002- 08 ITEM 9 # UNUSED
-002- 09 LOEND
-005- 10 #
    
```

STRSTAT



STORE FANOUT BOARDS TEST-PART B

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## -002- 01 # STORE DIAGNOSTIC SYMBOL LIBRARY:

```

0000000 -002- 05 BIT0 EQU 0
0000001 -002- 06 BIT1 EQU 1
0000002 -002- 07 BIT2 EQU 2
0000003 -002- 08 BIT3 EQU 3
0000004 -002- 09 BIT4 EQU 4
0000005 -002- 10 BIT5 EQU 5
0000006 -002- 11 BIT6 EQU 6
0000007 -002- 12 BIT7 EQU 7
0000010 -002- 13 BIT8 EQU 8
0000011 -002- 14 BIT9 EQU 9
0000012 -002- 15 BIT10 EQU 10
0000013 -002- 16 BIT11 EQU 11
0000014 -002- 17 BIT12 EQU 12
0000015 -002- 18 BIT13 EQU 13
0000016 -002- 19 BIT14 EQU 14
0000017 -002- 20 BIT15 EQU 15
0000020 -002- 21 BIT16 EQU 16
0000021 -002- 22 BIT17 EQU 17
0000022 -002- 23 BIT18 EQU 18
0000023 -002- 24 BIT19 EQU 19
0000004 -002- 25 FOUR EQU 4
-002- 26 IOBRK TEXT '&' # DELIMITERS FOR I/O ORDER STRINGS
0000000 -002- 27 MOD0 EQU 0
0000001 -002- 28 MOD1 EQU 1
0000002 -002- 29 MOD2 EQU 2
0000003 -002- 30 MOD3 EQU 3
0000004 -002- 31 MOD4 EQU 4
0000005 -002- 32 MOD5 EQU 5
0000006 -002- 33 MOD6 EQU 6
0000007 -002- 34 MOD7 EQU 7
0000001 -002- 35 ONE EQU 1
0177777 -002- 36 ONES EQU 0(177777) # ALL ONE'S REGISTER
0000200 -002- 37 OFLNCHNK EQU B(1000000) # ON-LINE TESTS 128 WORDS/MINOR LOOP
0007760 -002- 38 OFLNDONE EQU B(111111110000) # SIGNAL THAT OFF-LINE MEMORY TEST IS DONE

-002- 41 # NOTE: THE FOLLOWING CONSTANTS ALLOW GENERATION OF ARBITRARY PARITY. APPLICABLE
-002- 42 # BITS ARE 0 & 1 SUCH THAT BIT 0 = VALUE FOR PARITY LOW
-002- 43 # BIT 1 = VALUE FOR PARITY HIGH
0600000 -002- 44 # DATA BITS (23-16)(15-8) (7-0)
0000020 -002- 45 PRHOLD EQU B(10000) # SET PARITY (WIDE=)HIGH=0 LOW=0
0000005 -002- 46 PRHOL1 EQU B(00101) # SET PARITY (WIDE=)HIGH=0 LOW=1
0000012 -002- 47 PRH1LD EQU B(01010) # SET PARITY (WIDE=)HIGH=1 LOW=0
0000017 -002- 48 PRH1L1 EQU B(01111) # SET PARITY (WIDE=)HIGH=1 LOW=1
0000002 -002- 49 PRWOH1LO EQU B(00010) # SET PARITY WIDE=0 HIGH=1 LOW=0

```

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CDGSFB W77D

```

0000007 -002- 01 PRWH1L1 EQU B(00111) # SET PARITY WIDE=0 HIGH=1 LOW=1
0000010 -002- 02 PRW1HOLD EQU B(01000) # SET PARITY WIDE=1 HIGH=0 LOW=0
0000015 -002- 03 PRW1HOL1 EQU B(01101) # SET PARITY WIDE=1 HIGH=0 LOW=1

0000003 -002- 05 THREE EQU 3
0000002 -002- 06 TWO EQU 2
0010000 -002- 07 WPBLKSIZE EQU 0(10000) # WRITE PROTECT BLOCK SIZE = 4K (4096)
0000000 -002- 08 ZERO EQU 0 # ZERO CONSTANT
0000000 -002- 09 ZEROS EQU 0 # VALUES FOR
0000000 -002- 10 OTEST EQU 0 #
0000001 -002- 11 1TEST EQU 1 # TEST MACRO

-002- 18 # MAIN MEMORY STATUS CONSTANTS ASSUMING FOLLOWING CONDITIONS:
-002- 19 # 1. MY STORE BUS PORT IS ISOLATED FROM INPUT FROM OTHER PROCESSOR
-002- 20 # 2. MAIN MEMORY CONTROLLER IS NOT UPDATING OTHER STORE
-002- 21 # 3. MY STORE BUS PORT IS ACCESSING MY STORE, E. NOT REVERSED

0106263 -002- 24 MTCRD EQU 0(106263) # MAIN MEMORY STATUS FOR MAINTENANCE READ
OPERATION
0106203 -002- 26 MTCWR EQU 0(106203) # MAIN MEMORY STATUS FOR MAINTENANCE
WRITE OPERATION
0106260 -002- 28 NMLRD EQU 0(106260) # MAIN MEMORY STATUS FOR NORMAL READ
OPERATION
0106200 -002- 30 NMLWR EQU 0(106200) # MAIN MEMORY STATUS FOR NORMAL WRITE
OPERATION
0106274 -002- 32 SPRRD EQU 0(106274) # MAIN MEMORY STATUS FOR SPARE READ
OPERATION
0106214 -002- 34 SPRWR EQU 0(106214) # MAIN MEMORY STATUS FOR SPARE WRITE
OPERATION

```

STORE FANOUT BOARDS TEST-PART B

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CDGSFB W77D

## -002- 01 # MAIN STORE I/O ORDERS:

0020016	-002- 04 ALLZERO EQU	0(20016)
	-002- 05 ALLZEROT TEXT	'APPLY ERRONEOUS ORDER(0/8) TO CHECKER'
0063476	-002- 06 BADCODE EQU	0(63476)
	-002- 07 BADCODET TEXT	'APPLY ERRONEOUS ORDER(5/8) TO CHECKER'
0047214	-002- 08 BUSCHK EQU	0(47214)
	-002- 09 BUSCHKT TEXT	'CHECK BUS ISOLATION USING SER'
0040374	-002- 10 KCTINIT EQU	0(40374) # STORE CONTROLLER INITIALIZATION (W/O WRITE PROTECT CLEAR)
	-002- 12 KCTINITT TEXT	'INITIALIZE ALL STORE CONTROLLER CIRCUITS'
0043310	-002- 13 CLRSER EQU	0(43310)
	-002- 14 CLRSERT TEXT	'CLEAR STORE ERROR REGISTER'
0046074	-002- 15 CLKSTOP EQU	0(46074)
	-002- 16 CLKSTOPT TEXT	'DISABLE STORE CONTROLLER CLOCK OUTPUT'
0046070	-002- 17 CLKSTRT EQU	0(46070)
	-002- 18 CLKSTRTT TEXT	'ENABLE STORE CONTROLLER CLOCK OUTPUT'
0146074	-002- 19 ERCOLL EQU	0(146074)
	-002- 20 ERCOLLT TEXT	'COLLECT ERRORS IN STORE ERROR REG'
0145454	-002- 21 EXERLD EQU	0(145454) # FAST REFRESH WITH REFRESH & CLOCK STOPPED
	-002- 23 EXERLDT TEXT	'ENABLE EXTERNAL LOAD OF STORE ERROR REG'
0145454	-002- 24 EXLDB15 EQU	0(145454)
	-002- 25 EXLDB15T TEXT	'ENABLE EXTERNAL LOAD OF STORE ERROR REG W/ ERROR COLLECT OPTION'
0005440	-002- 26 FASTREF EQU	0(5440)
	-002- 27 FASTREFT TEXT	'PERFORM FAST REFRESH ON STORE'
0045454	-002- 28 FSTRNC EQU	0(45454)
	-002- 29 FSTRNCT TEXT	'FORCE FAST REFRESH W/O CLOCK'
0145454	-002- 30 FFRMB15 EQU	0(145454)
	-002- 31 FFRMB15T TEXT	'FORCE FAST REFRESH & BIT 15'
0146074	-002- 32 FBIT09 EQU	0(146074) # FORCE BIT 09 (COMMON ERROR STROBE) ACTIVE
	-002- 34 FBIT09T TEXT	'COLLECT ERRORS IN STORE ERROR REGISTER'
0146064	-002- 35 FBIT09R EQU	0(146064)
	-002- 36 FBIT09RT TEXT	'COLLECT ERRORS IN SER W/ REFRESH ON'
0146076	-002- 37 FBRMB15 EQU	0(146076)
	-002- 38 FBRMB15T TEXT	'FANOUT BOARD REFRESH W/ ERROR COLLECT'
0046314	-002- 39 FCHKBT EQU	0(46314) # FORCE MAIN SHIFTER CHECK BIT ACTIVE
	-002- 40 FCHKBT T TEXT	'ACTIVATE MAIN SHIFTER CHECK BIT'
0046304	-002- 41 FCHKBTR EQU	0(46304)
	-002- 42 FCHKBTRT TEXT	'ACTIVATE SHIFTER CHECK BIT W/ REFRESH ENABLED'
0040574	-002- 43 FCHKOS EQU	0(40574)
	-002- 44 FCHKOST TEXT	'FORCE ZEROS TO MODULE SELECT XOR CHECK & WRITE PROTECT SELECT XOR CHECK CIRCUITS'
0041274	-002- 46 FCHK1S EQU	0(41274)
	-002- 47 FCHK1ST TEXT	'FORCE ONES TO MODULE SELECT XOR CHECK & WRITE PROTECT SELECT XOR CHECK CIRCUITS'
0140574	-002- 49 FCKOS15 EQU	0(140574)

STORE FANOUT BOARDS TEST-PART B

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0141274	-002- 01- FCKOS15T TEXT	'FORCE ZEROS TO CHECK CKTS W/ ERROR COLLECT'
	-002- 02 FCK1S15 EQU	0(141274)
	-002- 03 FCK1S15T TEXT	'FORCE ONES TO CHECK CKTS W/ ERROR COLLECT'
0043074	-002- 04 FDISIDLE EQU	0(43074)
	-002- 05 FDISIDLET TEXT	'FORCE DISABLE OF IDLE FLOP'
0046156	-002- 06 FLSHD EQU	0(46156) # FORCE LOAD THE SHIFTER WITH ZERO (W/CLOCK)
	-002- 08 FLSHOT TEXT	'START ZERO INTO MAIN SHIFTER'
0046154	-002- 09 FLSHONC EQU	0(46154) # PUT ZERO ON INPUT OF SHIFTER (W/O CLOCK)
	-002- 11 FLSHONCT TEXT	'PRESENT ZERO TO INPUT OF MAIN SHIFTER'
0045434	-002- 12 FNOWRT EQU	0(45434)
	-002- 13 FNOWRTT TEXT	'FORCE WRITING OF ALL-ONES DATA'
0045430	-002- 14 FNOWRTC EQU	0(45430)
	-002- 15 FNOWRTCT TEXT	'FORCE WRITING OF ONES W/ CLOCK RUNNING'
0044474	-002- 16 FNOTIM EQU	0(44474) # DISABLE TRANSMISSION OF TIMING SIGNALS TO FANOUT BOARDS
	-002- 18 FNOTIMT TEXT	'INHIBIT TIMING SIGNALS TO FANOUT BOARDS'
0044470	-002- 19 FNOTIMC EQU	0(44470)
	-002- 20 FNOTIMCT TEXT	'BLOCK TIMING TO FANOUT BOARDS(W/CLOCK)'
0041550	-002- 21 FOBMT EQU	0(41550)
	-002- 22 FOBMTT TEXT	'FANOUT BOARD MAINTENANCE TEST'
0041474	-002- 23 FRFSELO EQU	0(41474) # FORCE REFRESH SELECT SIGNAL FROM FOB0
	-002- 24 FRFSELOT TEXT	'CANCEL SELECT FROM FOB0 DURING REFRESH'
0042334	-002- 25 FRFSEL1 EQU	0(42334) # FORCE REFRESH SELECT SIGNAL FROM FOB1
	-002- 26 FRFSEL1T TEXT	'CANCEL SELECT FROM FOB1 DURING REFRESH'
0042534	-002- 27 FRFSEL2 EQU	0(42534) # FORCE REFRESH SELECT SIGNAL FROM FOB2
	-002- 28 FRFSEL2T TEXT	'CANCEL SELECT FROM FOB2 DURING REFRESH'
0043234	-002- 29 FRFSEL3 EQU	0(43234) # FORCE REFRESH SELECT SIGNAL FROM FOB3
	-002- 30 FRFSEL3T TEXT	'CANCEL SELECT FROM FOB3 DURING REFRESH'
0043434	-002- 31 FRFSEL4 EQU	0(43434) # FORCE REFRESH SELECT SIGNAL FROM FOB4
	-002- 32 FRFSEL4T TEXT	'CANCEL SELECT FROM FOB4 DURING REFRESH'
0044354	-002- 33 FRFSEL5 EQU	0(44354) # FORCE REFRESH SELECT SIGNAL FROM FOB5
	-002- 34 FRFSEL5T TEXT	'CANCEL SELECT FROM FOB5 DURING REFRESH'
0044554	-002- 35 FRFSEL6 EQU	0(44554) # FORCE REFRESH SELECT SIGNAL FROM FOB6
	-002- 36 FRFSEL6T TEXT	'CANCEL SELECT FROM FOB6 DURING REFRESH'
0045254	-002- 37 FRFSEL7 EQU	0(45254) # FORCE REFRESH SELECT SIGNAL FROM FOB7
	-002- 38 FRFSEL7T TEXT	'CANCEL SELECT FROM FOB7 DURING REFRESH'
0044334	-002- 39 FRREQA EQU	0(44334) # SET REFRESH REQUEST FLOP (DFFREQ) ON TIMING BOARD (FA1071)
	-002- 41 FRREQAT TEXT	'SET REFRESH REQUEST ON TIMING BOARD (FA1071)'
0040674	-002- 42 FRREQB EQU	0(40674) # SET REFRESH REQUEST FLOP (RREQB) ON CHECK BOARD A (FA1062)
	-002- 44 FRREQBT TEXT	'SET REFRESH REQ COPY ON CHECK BOARD A (FA1062)'
0040664	-002- 45 FRREQBR EQU	0(40664)
	-002- 46 FRREQBRT TEXT	'SET REFRESH REQUEST ON FA1062 W/ REFRESH ENABLED'
0046074	-002- 47 FSELA EQU	0(46074)
	-002- 48 FSELAT TEXT	'FORCE STORE SELECT(ISOLATE) SIGNAL ON FA1071'
0006074	-002- 49 NSELA EQU	0(6074)

STORE FANOUT BOARDS TEST-PART B

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0004714	-002- 01 NSELAT TEXT	'RESET STORE SELECT(ISOLATE) SIGNAL ON FA1071'
	-002- 02 FSELB EQU	0(4714) # FORCE STORE SELECT (TBBSEL) FROM CHECK BOARD A (FA1062)
0004710	-002- 04 FSELBT TEXT	'FORCE DUPLICATED STORE SELECT(SELB) ACTIVE'
	-002- 05 FSELBC EQU	0(4710)
	-002- 06 FSELBCT TEXT	'FORCE DUPLICATED STORE SELECT(SELB) W/ CLOCK'
0046516	-002- 07 FSTFBRM EQU	0(46516)
	-002- 08 FSTFBRMT TEXT	'FORCE CONTROLLER & FANOUT BOARDS TO REFRESH'
0042354	-002- 09 FSTNM EQU	0(42354) # FORCE MODE FLOP TO NORMAL STATE
	-002- 10 FSTNMT TEXT	'FORCE MODE FLOP TO NORMAL STATE'
0052354	-002- 11 FSTNMFR EQU	0(52354)
	-002- 12 FSTNMFRT TEXT	'FORCE NORMAL MODE IN CONTROLLER & REFRESH TO FANOUT BOARDS'
0042344	-002- 13 FSTNMR EQU	0(42344)
	-002- 14 FSTNMRT TEXT	'FORCE MODE TO NORMAL W/ REFRESH ENABLED'
0046514	-002- 15 FSTRM EQU	0(46514) # FORCE MODE FLOP TO REFRESH STATE
	-002- 16 FSTRMT TEXT	'FORCE MODE FLOP TO REFRESH STATE'
0046234	-002- 17 FTINWP EQU	0(46234)
	-002- 18 FTINWPT TEXT	'FORCE IN-WRITE-PROTECT INHIBIT'
0006220	-002- 19 IOGO EQU	0(6220)
	-002- 20 IOGOT TEXT	'ENABLE ON-LINE I/O ACCESS TO OFF-LINE STORE'
0125252	-002- 21 IOTSTA EQU	0(125252)
	-002- 22 IOTSTAT TEXT	'I/O TEST PATTERN #1'
0052525	-002- 23 IOTST5 EQU	0(52525)
	-002- 24 IOTST5T TEXT	'I/O TEST PATTERN #2'
0067214	-002- 25 ISOCHK EQU	0(67214) # CHECK ISOLATION FROM HIGHER STORES - PUT RESULTS OF TEST INTO STORE ERROR REGISTER (SER)
	-002- 28 ISOCHKT TEXT	'ISOLATE FROM FAR STORES & VERIFY VIA SER'
0027214	-002- 29 ISOCHKU EQU	0(27214)
	-002- 30 ISOCHKUT TEXT	'APPLY ONES TO STORE DATA BUS(W/O ISOLATE)'
0043454	-002- 31 KILL12 EQU	0(43454) # WIPE OUT SHIFTER BIT AT POSITION 12
	-002- 32 KILL12T TEXT	'CLEAR SHIFTER BIT IN POSITION 12'
0046071	-002- 33 MASCINT EQU	0(46071)
	-002- 34 MASCINTT TEXT	'INITIALIZE STORE CONTROLLER'
0006071	-002- 35 MSCITNS EQU	0(6071)
	-002- 36 MSCITNST TEXT	'INITIALIZE STORE CONTROLLER W/O FORCE SELECT'
0046076	-002- 37 MASCLK EQU	0(46076) # ACTIVATE STORE CONTROLLER CLOCK (CK) SIGNAL
	-002- 39 MASCLKT TEXT	'FAKE FIRST HALF OF STORE CLOCK CYCLE'
0946074	-002- 40 MASCLKN EQU	0(46074)
	-002- 41 MASCLKNT TEXT	'FAKE SECOND HALF OF STORE CLOCK CYCLE'
0047410	-002- 42 RDAD EQU	0(47410)
	-002- 43 RDADT TEXT	'GATE STORE ADDRESS BUS(SAO-16,PL) TO STORE DATA BUS(SDO-15,PL,PH) W/ CLOCK'
0047414	-002- 45 RDADNC EQU	0(47414)
	-002- 46 RDADNCT TEXT	'GATE STORE ADDRESS BITS TO STORE DATA BUS'
0006070	-002- 47 REFSTOP EQU	0(6070)
	-002- 48 REFSTOPT TEXT	'INHIBIT REFRESHING OF STORE'
0006060	-002- 49 REFSTRT EQU	0(6060)

STORE FANOUT BOARDS TEST-PART B

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0046060 -002- 01 REFSTRTT TEXT 'RESUME REGULAR REFRESHING OF STORE'
-002- 02 RFWISOL EQU 0(46060)
0047214 -002- 03 RFWISOLT TEXT 'RESUME REGULAR REFRESH W/ STORE ISOLATED'
-002- 04 RTNADHI EQU 0(47214) # RETURN UPPER ADDRESS (SA16-19) BITS &
SELECTED CONTROL SIGNALS VIA I/O CHANNE

0044714 -002- 06 RTNADHIT TEXT 'LOAD SA17 & SAPH INTO SER'
-002- 07 SPAREA EQU 0(44714)
0047114 -002- 08 SPAREAT TEXT 'SPARE I/O ORDER'
-002- 09 SERREAD EQU 0(47114) # STORE ERROR REGISTER (SER) READ
-002- 10 SERREADT TEXT 'READ BACK STORE ERROR REGISTER(SER)'
0041634 -002- 11 STSBY EQU 0(41634)
-002- 12 STSBYT TEXT 'SET STORE BUSY(SBY) SIGNAL'
0041630 -002- 13 STSBYCL EQU 0(41630)
-002- 14 STSBYCLT TEXT 'SET STORE BUSY(SBY) W/ CLOCK'
0007114 -002- 15 USERRED EQU 0(7114)
-002- 16 USERREDT TEXT 'READ STORE ERROR REG (W/O ISOLATE)'
0046061 -002- 17 WPCLR EQU 0(46061)
-002- 18 WPCLRT TEXT 'STORE INITIALIZE, INCL. WRITE PROTECT'
0052354 -002- 19 O1ONOR EQU 0(52354) # FORCE 0-10 (O10TIM) SIGNAL & RESET
REFRESH REQUEST FLOP
-002- 21 O1ONORT TEXT '0-10 TIMING(O10TIM)THEN REFRESH REQUEST CLEAR'
0054334 -002- 22 O1OREF EQU 0(54334) # FORCE 0-10 (O10TIM) SIGNAL & SET
REFRESH REQUEST FLOP
-002- 24 O1DREFT TEXT '0-10 TIMING(O10TIM)THEN REFRESH REQUEST SET'
0056074 -002- 25 O10TIM EQU 0(56074)
-002- 26 O10TIMT TEXT 'FORCE 0-10 TIMING SIGNAL ACTIVE'

```

## -002- 33 # STORE MAINTENANCE ORDER OPTIONS:

```

0010000 -002- 36 FAK010 EQU 0(10000) # FAKE 0-10 TIMING SIGNAL
-002- 37 # NOTE: NEXT OPTION BIT IS SHARED
0020000 -002- 38 FBUSRDN EQU 0(20000) # FORCE BUS READ INACTIVE TO BIT-SLICES
0020000 -002- 39 LOADCHK EQU 0(20000) # LOAD I/O ORDER CHECK RESULTS
0040000 -002- 40 ISOLATE EQU 0(40000) # ISOLATE THIS STORE FROM HIGHER STORES
0100000 -002- 41 FSBIT09 EQU 0(100000) # FORCE SHIFTER BIT 09 ACTIVE
0000001 -002- 42 INITBIT EQU 0(1) # INITIALIZE STORE CONTROLLER
-002- 43 # NOTE: NEXT OPTION BIT IS SHARED
0000002 -002- 44 FFOBRM EQU 0(2) # FORCE FANOUT BOARDS TO REFRESH MODE
0000002 -002- 45 STEPCLK EQU 0(2) # HALF-CYCLE OF STORE CLOCK
0000004 -002- 46 HALTCLK EQU 0(4) # DISABLE STORE CONTROLLER CLOCK
0000010 -002- 47 STOPREF EQU 0(10) #DISABLE AUTONOMOUS REFRESH

```

STORE FANOUT BOARDS TEST-PART B

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CDGSFB W77D

0177771 -002- 01 CLOCKON EQU 0(177771)  
0020016 -002- 02 FGLDNCFR EQU 0(20016)

# MASK OUT CLOCK OFF OPTIONS  
# LOAD I/O ORDER CHECK RESULTS WITH CLOCK  
STOPPED AND FANOUT BOARDS IN REFRESH  
MODE

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 45

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *****
-001- 03 # **
-001- 04 # ** CU DIAGNOSTIC TEST NO. 45, MAIN_STORE_FANOUT_BOARD
-001- 05 # **
-001- 06 # *****
-001- 07 # *****

```

0022600

-001- 10 CSTFB5 CSECT

0022600 01 000000 000145 ----- CDGNM

-001- 14 VFD 1,0 2,0 2,0 2,0 3,1 6,NBGM

```

18 # SEGMENT 1
19 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
20 # ON ALL EQUIPPED FANOUT BOARDS. AN ALL-ONES PATTERN, B(1111111111111111), IS
21 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
22 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
23 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
24 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
25 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
26 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
27 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
28 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE NO ADDRESS PARITY ERROR FOR EACH
29 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
30 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
31 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
32 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
33 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
34 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
35 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

```

```

38 # SEGMENT 2
39 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
40 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(0100010001000100) IS
41 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
42 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
43 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
44 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
45 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
46 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
47 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
48 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE AN ADDRESS PARITY ERROR FOR EACH
49 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 45

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

01 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD  
02 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT  
03 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS  
04 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER  
05 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN  
06 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

STORE FANOUT BOARDS TEST-PART B

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TEST 45

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

01 CSTFB5 OW      0(1),0(16)      # 12705
-001- 02      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000001 *****

0022601          05 FB5INIT PREPARE
-002- 06 #      RTN_BLM
0022601 01 000001 000144 ----- CDGNM -002- 07 #      TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
-002- 08      VFD      1,0 2,0 6,0 1,1 6,NRTNBLM

-002- 10 #      SEND
-002- 11 #      SEND 0(0000001) TO OFF-LINE MCHB.
0022602 01 000002 047707 ----- CDGNM -002- 12 #      PARITY IS 0(2).
0022603 01 000003 000040 000001 -002- 13      VFD      1,0 2,2 7,B(0111111) 6,N2SEND
-002- 14      ADDR      0(0000001),0(2)

-002- 16 #      MICRO
-002- 17 #      PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
0022605 01 000005 020005 ----- CDGNM -002- 18 #      TO FIELD = MSXT FROM FIELD = MCHBXF
0022606 01 000006 106631 ----- -002- 19      VFD      1,0 2,1 7,0 6,NMICRO
-002- 20      VFD      8,MSXT 8,MCHBXF

-002- 22 #      NO3_CODE
0022607 01 000007 040043 000000 CDGNM -002- 23 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS **2.
0022610 01 000010 000000 022612 0022612 -002- 24      VFD      1,0 2,2 7,0 6,NN03CD
-002- 25      ADDR      **2

-001- 27 #      SUBSTITUTE 'MAS' FOR 'LOOP' IN TROUBLE PRINTOUT
0022612 01 000012 103501 000151 TTYTBL -002- 28      LI      R4,MXAS
0022614 01 000014 034500 043132 CTSD -001- 29      STL      R4,PAGSCR+24
-001- 30 #      USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
-001- 31 #      SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
-001- 32 #      (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0022616 01 000016 103240 ----- -001- 34      ZR      LOOPIND
0022617 01 000017 004257 ----- -001- 35      SN      LOOPIND,1          #ASSURE THAT LOOPIND IS ZERO BEFORE
                                           PROCEEDING WITH TEST

0022620 01 000020 072652 ----- CDGNM -001- 37      HN      LOOPIND,LOOPIND
0022621 01 000021 037020 012757 CDGSIO -002- 38      BSA     CONTPREP
0022623 01 000023 172652 ----- CDGNM -001- 39      HN      LOOPIND,LOOPIND
0022624 01 000024 137020 012667 CDGSIO -003- 40      BSA     MASIOM
0022626 01 000026 046071 ----- -002- 41      DATA   MASCINT          # INITIALIZE STORE CONTROLLER

0022627 01 000027 171400 ----- -002- 43      GA
0022630 01 000030 031000 022634 0022634 -002- 44      LAL     RO,**4,RAD
0022632 01 000032 037000 011162 CDGNM -002- 45      BL     INTRPN03

```

STORE FANOUT BOARDS TEST-PART B

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TEST 45

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0022634

01  
-001- 02

EOW  
NOTE

# 12705

\*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000033 \*\*\*\*\*

STORE FANOUT BOARDS TEST-PART B

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 45 SEGMENT 1
-001- 04 # *
-001- 05 # *****
    
```

0022634 01 000034 000100 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(1) 6,NTESTSEG

```

11 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
12 # ON ALL EQUIPPED FANOUT BOARDS. AN ALL-ONES PATTERN, B(11111111111111), IS
13 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
14 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
15 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
16 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
17 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
18 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
19 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
20 # PARITY LCH BIT SPECIFIED SHOULD PRODUCE NO ADDRESS PARITY ERROR FOR EACH
21 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
22 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
23 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
24 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
25 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
26 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
27 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.
    
```

```

0022635 01 000035 040043 000000 CDGNM -001- 29 # NO3 CODE
0022636 01 000036 000000 022640 0022640 -001- 30 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCKO.
-001- 31 # VFD 1,0 2,2 7,0 6,NNO3CD
-001- 32 # ADDR FBPARCKO
    
```

34 # TEST PARITY LOW CHECK CKT FIRST - INSURE THAT PARITY HIGH IS ALWAYS OK

```

0022640 36 FBPARCKO
0022640 37 CALL F0BNDX # LOAD NUMBER OF EQUIPPED F0B'S INTO 'F0BCNT'
0022640 01 000040 137020 013166 CDGSFA -001- 39 BSA F0BNDX
0022642 01 000042 103100 ----- 40 ZR R4 # CLEAR ERROR STORAGE REG
0022643 01 000043 030700 043140 CTSD 41 LL R12,BASADDR
0022645 01 000045 003761 000226 42 LI R15,B(10010110)
0022647 43 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH FOR STORES 0 & 3 - MODS 0-7
44 STR12TST FBPATLDO
0022647 01 000047 030460 012756 CDGSIO -001- 45 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0022651 01 000051 006123 ----- -001- 46 LL R3,STSELMASK
0022652 01 000052 014074 ----- -001- 47 LR R5,R3 # SAVE STORE SELECT MASK
0022653 01 000053 054004 ----- 0022657 -001- 48 NR R3,R12 # IS THIS STORE 0?
-001- 49 BC FBPATLDO # IF SO, EXIT FROM THIS TEST
    
```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

TEST 45 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

## MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0022654 01 000054 015123 ----- -001- 01 XR R5,R3 # IS THIS STORE 3?
0022655 01 000055 054002 ----- 0022657 -001- 02 BC FBPATLDO # IF SO, EXIT FROM THIS TEST
0022656 01 000056 015777 ----- -001- 03 COM R15
-001- 04 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

0022657 06 FBPATLDO
0022657 01 000057 103120 ----- 07 ZR R5 # ZERO LOOP COUNT
0022660 01 000060 003145 ----- 08 LN R6,PRHOL1 # INITIALIZE SPECIAL PARITY REG
0022661 01 000061 030720 012753 CDGSIO 09 LL R13,MDSLMSK
10 CSTFB5 OW 0(63) # 12989
-001- 11 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000063 *****

0022663 01 000063 037000 115102 0000007 14 CPATCH3 BGNP 0(07) # 12989
-001- 15 BL XXX324
-001- 16 NOTE CPATCH3 'CSECT'
-001- 17 NOTE ***** PATCH AREA BEGINS AT 000007 *****

0115102 -001- 20 XXX324 PATCHAREA
0115102 10 000007 115735 ----- 21 COM R13
0115103 22
0115103 10 000010 003340 ----- 23 ZR R14 # ALL ONES IN FIRST MEMORY MOD.
0115104 24 # START WITH ZERO INCREMENT
0115104 25 CALL WAIT # TAKE A REAL TIME BREAK
0115104 10 000011 073025 ----- -001- 26 BSAI W$AIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115105 27 # 12989
0115105 10 000012 137000 022665 0000065 -001- 28 BL XXX327
-001- 29 NOTE ***** LAST PATCH ADDRESS USED IS 000013 *****
-001- 30 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0022665 -001- 33 XXX327 OWCONTINUE
0022665 34 EOW # 12989
-001- 35 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000064 *****

0022665 38 FBPCLPO
0022665 39 SIOM MASCINT
0022665 01 000065 137020 012667 CDGSIO -002- 40 BSA MASIOM
-001- 41 DATA MASCINT # INITIALIZE STORE CONTROLLER
0022670 01 000070 122141 ----- 42 ZBN R6,1 # CLEAR SPECIAL PARITY HIGH
0022671 01 000071 024765 ----- 43 TBR R15,R5 # GET PARITY HIGH FOR THIS MOD
0022672 01 000072 055002 ----- 0022674 44 BNC FBSNDADO # SKIP AHEAD IF PARITY HIGH = 0
0022673 01 000073 026141 ----- 45 SBN R6,1 # SET SPECIAL PARITY HIGH
46 # THE PRECEDING ROUTINE GUARANTEES THAT PARITY LOW CHECK CKT FAULTS WILL NOT BE
47 # MASKED BY THE PARITY HIGH CHECK CKT

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 45 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0022674
0022674 01 000074 101736 -----
0022675 01 000075 055002 ----- 0022677
0022676 01 000076 004701 -----
0022677
0022677 01 000077 130740 012754 CDGSIO
0022701
0022701 01 000101 003561 106260 -001- 08
0022703 01 000103 006054 ----- -001- 09
0022704 01 000104 006075 ----- -001- 10
0022705 01 000105 037020 013027 CDGSBS -002- 11
0022707
0022707 01 000107 137020 012667 CDGSIO -002- 13
0022711 01 000111 047114 ----- -001- 14
0022712 01 000112 124270 -----
0022713 01 000113 055002 ----- 0022715
0022714 01 000114 026505 -----
0022715
0022715 01 000115 104521 -----
0022716 01 000116 020130 -----
0022717 01 000117 055746 ----- 0022665
0022720 01 000120 007464 -----
0022721
0022721 01 000121 071400 ----- -001- 24
0022722 01 000122 031000 022726 0022726 -001- 25
0022724 01 000124 037000 011162 CDGNM -001- 26

-001- 28 #
-001- 29 #
0022726 01 000126 000016 ----- CDGNM -001- 30

32 #
-001- 33 #
-001- 34 #
-001- 35 #
0022727 01 000127 050014 ----- CDGNM -001- 36
0022730 01 000130 000000 000000 -001- 37

-001- 39 #
-001- 40 #
-001- 41 #
0022732 01 000132 020120 ----- CDGNM -001- 42
0022733 01 000133 000002 ----- -001- 43

45 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 45 SEGMENT 1

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # NO3_CODE
-001- 02 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK1.
0022734 01 000134 040043 000000 CD6NM -001- 03 VFD 1,0 2,2 7,0 6,NN03CD
0022735 01 000135 000000 022737 0022737 -001- 04 ADDR FBPARCK1

08 # TEST PARITY HIGH CHECK CKT NEXT - INSURE THAT PARITY LOW IS ALWAYS OK

0022737 10 FBPARCK1
0022737 11 CALL FOBNDX
0022737 01 000137 137020 013166 CD6SFA -001- 12 BSA FOBNDX
0022741 01 000141 103120 ----- 13 ZR # ZERO LOOP COUNT
0022742 01 000142 003100 ----- 14 ZR # CLEAR ERROR STORAGE REG
0022743 01 000143 030700 043140 CTSD 15 LL R12,BASADDR
0022745 01 000145 030720 012753 CD6SIO 16 LL R13,MSELMSK
17 CSTFB5 OW 0(147) # 12989
-001- 18 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000147 *****

0022747 01 000147 037000 115107 0000014 -001- 21 CPATCH3 BGNP 0(14) # 12989
-001- 22 BL XXX346
-001- 23 NOTE CPATCH3 'CSECT'
-001- 24 NOTE ***** PATCH AREA BEGINS AT 000014 *****

0115107 -001- 27 XXX346 PATCHAREA
0115107 10 000014 115735 ----- 28 COM R13
0115110 29 # ALL ONES IN FIRST MEMORY MOD.
0115110 10 000015 003340 ----- 30 ZR R14
0115111 31 # START WITH ZERO INCREMENT
0115111 32 CALL WAIT # TAKE A REAL TIME BREAK
0115111 10 000016 073025 ----- -001- 33 BSAI WXAIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115112 34 ENDP # 12989
0115112 10 000017 137000 022751 0000151 -001- 35 BL XXX349
-001- 36 NOTE ***** LAST PATCH ADDRESS USED IS 000020 *****
-001- 37 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0022751 -001- 40 XXX349 OWCONTINUE
0022751 41 EOW # 12989
-001- 42 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000150 *****

0022751 45 FBPCLP1
0022751 01 000151 101736 ----- 46 AR R13,R14 # INCREMENT MODULE INDEX
0022752 01 000152 055002 ----- 0022754 47 BNC NOCARY1
0022753 01 000153 004701 ----- 48 AN R12,1
0022754 49 NOCARY1 # INCREMENT UPPER MODULE INDEX

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 31

TEST 45 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0022754 01 000154 130740 012754 CDGSIO      01      LL      R14,MODSIZE      # MODULE INCREMENT
0022756 01 000156 037020 012667 CDGSIO      02      SIOM     MASCINT
0022756 01 000156 037020 012667 CDGSIO     -002- 03      BSA      MASIOM
0022760 01 000160 046071 -----             -001- 04      DATA   MASCINT      # INITIALIZE STORE CONTROLLER
0022761 01 000161 103561 106260             05      NMLREAD RAD,PRH1L1
0022761 01 000161 103561 106260             -001- 06      LI      R7,B(1000110010110000) # MAIN MEMORY STATUS
0022763 01 000163 006054 -----             -001- 07      LR      R2,R12
0022764 01 000164 006075 -----             -001- 08      LR      R3,R13
0022765 01 000165 003541 000017             -001- 09      LI      R6,PRH1L1      # SETUP SPECIAL PARITY
0022767 01 000167 037020 013027 CDGSBS     -002- 10      BSA     MEMOP
0022771 01 000171 137020 012667 CDGSIO      11      SRIO    SERREAD
0022771 01 000171 137020 012667 CDGSIO     -002- 12      BSA     MASIOM
0022773 01 000173 047114 -----             -001- 13      DATA   SERREAD      # READ BACK STORE ERROR REGISTER(SER)
0022774 01 000174 124270 -----             14      TBN     R11,S(FOBPARER)
0022775 01 000175 055002 ----- 0022777 15      BNC     FBPCJP1
0022776 01 000176 026505 -----             16      SBR     R4,R5      # SET BIT FOR PARITY ERROR
0022777 01 000177 104521 -----             17      FBPCJP1
0022777 01 000177 104521 -----             18      AN     R5,1      # INCREMENT LOOP COUNT
0023000 01 000200 020130 -----             19      CR     R5,FOBCNT      # LAST FANOUT BOARD TO BE TESTED?
0023001 01 000201 055750 ----- 0022751 20      BNC     FBPCLP1      # IF NOT, RETURN

```

23 # COMPARE WITH APPROPRIATE RESULTS FOR STORES 0 &amp; 3 OR STORES 1 &amp; 2

```

0023002 01 000202 003761 000151             25      LI      R15,B(01101001)
0023004 01 000204 030460 012756 CDGSIO     -001- 26 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH CHECK RESULTS FOR STORES 0 & 3
0023006 01 000206 006123 -----             27      STR12TST FBPATST1
0023007 01 000207 014074 -----             -001- 28 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023008 01 000208 006123 -----             -001- 29      LL      R3,STSELMSK
0023009 01 000209 014074 -----             -001- 30      LR      R5,R3      # SAVE STORE SELECT MASK
0023010 01 000210 054004 ----- 0023014 -001- 31      NR      R3,R12      # IS THIS STORE 0?
0023011 01 000211 015123 -----             -001- 32      BC     FBPATST1      # IF SO, EXIT FROM THIS TEST
0023012 01 000212 054002 ----- 0023014 -001- 33      XR      R5,R3      # IS THIS STORE 3?
0023013 01 000213 015777 -----             -001- 34      BC     FBPATST1      # IF SO, EXIT FROM THIS TEST
0023014 01 000214 103060 -----             -001- 35      COM    R15
0023015 01 000215 004217 -----             -001- 36 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2
0023016 01 000216 126470 -----             38      FBPATST1
0023017 01 000217 036200 023016 0023016 39      ZR     R3
0023018 01 000218 004217 -----             40      SN     FOBCNT,1      # SET UP LOOP INDEX
0023019 01 000219 126470 -----             42      FBMSK1
0023020 01 000220 036200 023016 0023016 43      SBR    R3,FOBCNT      # SET BIT FOR EACH FANOUT BOARD
0023021 01 000221 036200 023016 0023016 44      BX     FOBCNT,FBMSK1      # MASK FOR EQUIPPED FANOUT BOARDS

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 32

TEST 45 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023021 01 000221 014363 ----- 01      NR      R15,R3      # CLEAR BITS FOR UNEQUIPPED FANOUT BOARDS
0023022 01 000222 015117 ----- 02      XR      R4,R15     # COMPARE RESULTS TO EXPECTED PATTERN
0023023 01 000223 007464 ----- 03      LSR     MCHB,R4   # PREPARE FOR COMPARE
0023024 01 000224 071400 ----- 04      RTN_TBL **4
0023024 01 000224 071400 ----- -001- 05  GA
0023025 01 000225 031000 023031 0023031 -001- 06  LAL     RO,**4,RAO
0023027 01 000227 037000 011162 CDGNM -001- 07  BL     INTRPN03

-001- 09 #  TTY_DATA
-001- 10 #  STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023031 01 000231 000016 ----- CDGNM -001- 11  VFD     1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

13 # SET BIT INDICATES FANOUT BOARD WITH FAULTY PARITY HIGH CHECK CKT

-001- 15 #  COMPARE
-001- 16 #  COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 17 #  IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023032 01 000232 050014 ----- CDGNM -001- 18  VFD     1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023033 01 000233 000000 000000 -001- 19  ADDR   0(000000C)

-001- 21 #  FAILBIT
-001- 22 #  FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 23 #  WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023035 01 000235 020120 ----- CDGNM -001- 24  VFD     1,0 2,1 5,0 2,1 6,NFLBITS
0023036 01 000236 000002 ----- -001- 25  VFD     16,PARFOB

27 # FAULT IN ADDRESS PARITY HIGH CHECK CKT ON A FANOUT BOARD WITH ADDRESS=X(FFFF)

```

STORE FANOUT BOARDS TEST-PART B

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TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # * *
-001- 03 # * TEST 45 SEGMENT 2
-001- 04 # * *
-001- 05 # *****

```

```

0023037 01 000237 000200 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(2) 6,NTESTSEG

```

```

11 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
12 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(0100010001000100) IS
13 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
14 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
15 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
16 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
17 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
18 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
19 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
20 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE AN ADDRESS PARITY ERROR FOR EACH
21 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
22 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
23 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
24 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
25 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
26 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
27 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

```

```

0023040 01 000240 040043 000000 CDGNM -001- 31 # NO3 CODE
0023041 01 000241 000000 023043 0023043 -001- 32 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK2.
-001- 33 VFD 1,0 2,2 7,0 6,NNO3CD
-001- 34 ADDR FBPARCK2

```

```

36 # TEST PARITY LOW CHECK CKT FIRST - INSURE THAT PARITY HIGH IS ALWAYS OK

```

```

0023043
0023043

```

```

38 FBPARCK2
39 CALL F0BNDX # LOAD NUMBER OF EQUIPPED F0B'S INTO 'F0BCNT'

```

```

0023043 01 000243 137020 013166 CDGSFA -001- 41 BSA F0BNDX
0023045 01 000245 103100 ----- 42 ZR R4
0023046 01 000246 030700 043140 CTSD 43 LL R12,BASADDR
0023050 01 000250 003761 000226 44 LI R15,B(10010110)

```

```

45 # THESE BITS REPRESENT PROPER ADDRESS PARITY HIGH CHECK RESULTS FOR STORES 0 & 3
46 STR12TST FBPATLD2

```

```

0023052

```

```

0023052 01 000252 030460 012756 CDGSIO -001- 47 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023054 01 000254 006123 ----- -001- 48 LL R3,STSELSK
-001- 49 LR R5,R3 # SAVE STORE SELECT MASK

```

STORE FANOUT. BOARDS TEST-PART B

PR-1C926-50

```

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```

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023055 01 000255 014074 ----- -001- 01      NR      R3,R12      # IS THIS STORE 0?
0023056 01 000256 0540D4 ----- 0023062 -001- 02      BC      FBPATLD2  # IF SO, EXIT FROM THIS TEST
0023057 01 000257 015123 ----- -001- 03      XR      R5,R3       # IS THIS STORE 3?
0023060 01 000260 054002 ----- 0023062 -001- 04      BC      FBPATLD2  # IF SO, EXIT FROM THIS TEST
0023061 01 000261 015777 ----- -001- 05      COM     R15
-001- 06 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

0023062 08 FBPATLD2
0023062 01 000262 103120 ----- 09      ZR      R5          # ZERO LOOP COUNT
0023063 01 000263 003541 000020 10      LI      R6,PRHOLD  # INITIALIZE SPECIAL PARITY REG
0023065 01 000265 003721 042104 11      LI      R13,X(4444) # LOAD TEST PATTERN
0023067 01 000267 030400 012753 CDGSIO 12      LL      R0,MDSLMASK
0023071 01 000271 015400 ----- 13      COM     R0          # MASK FOR NON-MOD-SELECT BITS
14      CSTFB5 OW 0(272) # 12989
-001- 15      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000272 *****

0023072 01 000272 037000 115114 0000021 18      CPATCH3 BGNP 0(21) # 12989
-001- 19      BL      XXX371
-001- 20      NOTE  CPATCH3 'CSECT'
-001- 21      NOTE ***** PATCH AREA BEGINS AT 000021 *****

0115114 -001- 24 XXX371 PATCHAREA
0115114 10 000021 114320 ----- 25      NR      R13,R0
0115115 26
0115115 10 000022 003340 ----- 27      ZR      R14 # ADDRESS FIRST MEMORY MOD.
0115116 28 # START WITH ZERO INCREMENT
0115116 29      CALL  WAIT # TAKE A REAL TIME BREAK
0115116 10 000023 073025 ----- -001- 30      BSAI  W$AIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115117 31      ENDP # 12989
0115117 10 000024 137000 023074 0000274 -001- 32      BL      XXX374
-001- 33      NOTE ***** LAST PATCH ADDRESS USED IS 000025 *****
-001- 34      NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0023074 -001- 37 XXX374 ONCONTINUE
0023074 38      EOH # 12989
-001- 39      NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000273 *****

0023074 42 FBPCLP2
0023074 01 000274 101736 ----- 43      AR      R13,R14 # INCREMENT MODULE INDEX
0023075 01 000275 055002 ----- 0023077 44      BNC    NOCARY2
0023076 01 000276 004701 ----- 45      AN     R12,1 # INCREMENT UPPER MOD INDEX
0023077 46 NOCARY2
0023077 01 000277 130740 012754 CDGSIO 47      LL     R14,MODSIZE # MODULE INCREMENT
0023101 48      SIOM  MASCINT
0023101 01 000301 037020 012667 CDGSIO -002- 49      BSA   MASIOM

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 35

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB .W77D

```

0023103 01 000303 046071 ----- -001- 01 DATA MASCINT # INITIALIZE STORE CONTROLLER
0023104 01 000304 122141 ----- 02 ZBN R6,1 # CLEAR SPECIAL PARITY HIGH
0023105 01 000305 024765 ----- 03 TBR R15,R5 # GET PARITY HIGH FOR THIS MOD
0023106 01 000306 055002 ----- 0023110 04 BNC FBSNDAD2 # SKIP AHEAD IF PARITY HIGH = 0
0023107 01 000307 026141 ----- 05 SBN R6,1 # SET SPECIAL PARITY HIGH
06 # THE PRECEDING ROUTINE GUARANTEES THAT PARITY LOW CHECK CKT FAULTS WILL NOT BE
07 # MASKED BY THE PARITY HIGH CHECK CKT

0023110 09 FBSNDAD2
0023110 10 NMLREAD RAO,NOSPAR
0023110 01 000310 103561 106260 -001- 11 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0023112 01 000312 006054 ----- -001- 12 LR R2,R12
0023113 01 000313 006075 ----- -001- 13 LR R3,R13
0023114 01 000314 037020 013027 CDGSBS -002- 14 BSA MEMOP
0023116 15 SRIO SERREAD
0023116 01 000316 137020 012667 CDGSIO -002- 16 BSA MASIOM
0023120 01 000320 047114 ----- -001- 17 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0023121 01 000321 124270 ----- 18 TBN R11,S(FOBPARER)
0023122 01 000322 055002 ----- 0023124 19 BNC FBPCJP2
0023123 01 000323 026505 ----- 20 SBR R4,R5 # SET BIT FOR PARITY ERROR
0023124 21 FBPCJP2
0023124 01 000324 104521 ----- 22 AN R5,1 # INCREMENT LOOP COUNT
0023125 01 000325 020130 ----- 23 CR R5,FOBCNT # LAST FANOUT BOARD TO BE TESTED?
0023126 01 000326 055746 ----- 0023074 24 BNC FBPCLP2 # IF NOT, RETURN
0023127 01 000327 004217 ----- 25 SN FOBCNT,1 # SET UP LOOP INDEX
0023130 01 000330 003060 ----- 26 ZR R3
0023131 27 FBMSK2
0023131 01 000331 126470 ----- 28 SBR R3,FOBCNT # SET BIT FOR EACH EQUIPPED FANOUT BOARD
0023132 01 000332 036200 023131 0023131 29 BX FOBCNT,FBMSK2
0023134 01 000334 015463 ----- 30 COM R3
0023135 01 000335 014503 ----- 31 OR R4,R3 # SET ALL UNUSED BITS IN ERROR WORD
0023136 01 000336 007464 ----- 32 LSR MCHB,R4 # IF SO, PREPARE FOR COMPARE'S
0023137 33 RTN_TBL **4
0023137 01 000337 071400 ----- -001- 34 GA
0023140 01 000340 031000 023144 0023144 -001- 35 LAL R0,**4,RAO
0023142 01 000342 037000 011162 CDGNM -001- 36 BL INTRPN03

-001- 38 # TTY_DATA
-001- 39 # STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023144 01 000344 000016 ----- CDGNM -001- 40 VFD 1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

42 # SET BITS INDICATE PARITY ERRORS FROM EQUIPPED FANOUT BOARDS - ALL-ONES IS GOOD
-001- 43 # COMPARE
-001- 44 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177777).
-001- 45 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023145 01 000345 050014 ----- CDGNM -001- 46 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023146 01 000346 000000 177777 -001- 47 ADDR 0(0177777)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 36

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # FAILBIT
-001- 02 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 03 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023150 01 000350 020120 ----- CDGNM
0023151 01 000351 000002 -----
-001- 04 VFD 1,0 2,1 5,0 2,1 6,NFLBITS
-001- 05 VFD 16,PARFOB

07 # FAULT IN ADDRESS PARITY LOW CHECK CKT ON A FANOUT BOARD WITH ADDRESS = X(4444)

-001- 10 # NO3 CODE
-001- 11 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK3.
0023152 01 000352 040043 000000 CDGNM.
0023153 01 000353 000000 023155 0023155
-001- 12 VFD 1,0 2,2 7,0 6,NN03CD
-001- 13 ADDR FBPARCK3

17 # TEST PARITY HIGH CHECK CKT NEXT - INSURE THAT PARITY LOW IS ALWAYS OK

0023155 19 FBPARCK3
0023155 20 CALL FOBNDX
0023155 01 000355 137020 013166 CDGSFA -001- 21 BSA FOBNDX
0023157 01 000357 103120 ----- 22 ZR R5 # ZERO LOOP COUNT
0023160 01 000360 003100 ----- 23 ZR R4 # CLEAR ERROR STORAGE REG
0023161 01 000361 030700 043140 CTSD 24 LL R12,BASADDR
0023163 01 000363 003721 042104 25 LI R13,X(4444) # LOAD TEST PATTERN
0023165 01 000365 030400 012753 CDGSIO 26 LL R0,MSELMSK
0023167 01 000367 015400 ----- 27 COM R0 # MASK FOR NON-MOD-SELECT BITS
-001- 28 CSTFB5 OW 0(370) # 12989
-001- 29 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000370 *****

0023170 01 000370 037000 115121 0000026 32 CPATCH3 BGNP 0(26) # 12989
-001- 33 BL %XX393
-001- 34 NOTE CPATCH3 'CSECT'
-001- 35 NOTE ***** PATCH AREA BEGINS AT 000026 *****

0115121 -001- 38 %XX393 PATCHAREA
0115121 10 000026 114320 ----- 39 NR R13,R0
0115122 40 # ADDRESS FIRST MEMORY MOD.
0115122 10 000027 003340 ----- 41 ZR R14
0115123 42 # START WITH ZERO INCREMENT
0115123 43 CALL WAIT # TAKE A REAL TIME BREAK
0115123 10 000030 073025 ----- -001- 44 BSAI WXAII # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115124 45 ENDP # 12989
0115124 10 000031 137000 023172 0000372 -001- 46 BL %XX396
-001- 47 NOTE ***** LAST PATCH ADDRESS USED IS 000032 *****
-001- 48 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 37

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0023172 -001- 01 XXX396 OWCONTINUE
0023172 02 EOW # 12989
-001- 03 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000371 *****

0023172 06 FBPCLP3
0023172 01 000372 101736 ----- 07 AR R13,R14 # INCREMENT MODULE INDEX
0023173 01 000373 055002 ----- 08 BNC NOCARY3
0023174 01 000374 004701 ----- 09 AN R12,1 # INCREMENT UPPER MOD INDEX
0023175 10 NOCARY3
0023175 01 000375 130740 012754 CDGSIO 11 LL R14,MODSIZE # MODULE INCREMENT
0023177 12 SIOM MASCINT
0023177 01 000377 037020 012667 CDGSIO -002- 13 BSA MASIOM
0023201 01 000401 046071 ----- -001- 14 DATA MASCINT # INITIALIZE STORE CONTROLLER
0023202 15 NMLREAD RAD,PRHOL1
0023202 01 000402 103561 106260 -001- 16 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0023204 01 000404 006054 ----- -001- 17 LR R2,R12
0023205 01 000405 006075 ----- -001- 18 LR R3,R13
0023206 01 000406 003541 000005 -001- 19 LI R6,PRHOL1 # SETUP SPECIAL PARITY
0023210 01 000410 037020 013027 CDGSBS -002- 20 BSA MEMOP
0023212 21 SRIO SERREAD
0023212 01 000412 137020 012667 CDGSIO -002- 22 BSA MASIOM
0023214 01 000414 047114 ----- -001- 23 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0023215 01 000415 124270 ----- 24 TBN R11,S(FOBPARER)
0023216 01 000416 055002 ----- 0023220 25 BNC FBPCJP3
0023217 01 000417 026505 ----- 26 SBR R4,R5 # SET BIT FOR PARITY ERROR
0023220 27 FBPCJP3
0023220 01 000420 104521 ----- 28 AN R5,1 # INCREMENT LOOP COUNT
0023221 01 000421 020130 ----- 29 CR R5,FOBCNT # LAST FANOUT BOARD TO BE TESTED?
0023222 01 000422 055750 ----- 0023172. 30 BNC FBPCLP3 # IF NOT, RETURN

33 # COMPARE WITH APPROPRIATE RESULTS FOR STORES 0 & 3 OR STORES 1 & 2

0023223 01 000423 003761 000151 35 LI R15,B(01101001)
0023225 36 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH CHECK RESULTS FOR STORES 0 & 3
37 STR12TST FBPATST3
-001- 38 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023225 01 000425 030460 012756 CDGSIO -001- 39 LL R3,STSELSK
0023227 01 000427 006123 ----- -001- 40 LR R5,R3 # SAVE STORE SELECT MASK
0023230 01 000430 014074 ----- -001- 41 NR R3,R12 # IS THIS STORE 0?
0023231 01 000431 054004 ----- 0023235 -001- 42 BC FBPATST3 # IF SO, EXIT FROM THIS TEST
0023232 01 000432 015123 ----- -001- 43 XR R5,R3 # IS THIS STORE 3?
0023233 01 000433 054002 ----- 0023235 -001- 44 BC FBPATST3 # IF SO, EXIT FROM THIS TEST
0023234 01 000434 015777 ----- -001- 45 COM R15
-001- 46 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 38

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023235          01 FBPATST3
0023235 01 000435 103060 ----- 02      ZR      R3
0023236 01 000436 004217 ----- 03      SN      F0BCNT,1          # SET UP LOOP INDEX

0023237          05 FBMSK3
0023237 01 000437 126470 ----- 06      SBR     R3,F0BCNT          # SET BIT FOR EACH FANOUT BOARD
0023240 01 000440 036200 023237 0023237 07      BX      F0BCNT,FBMSK3      # MASK FOR EQUIPPED FANOUT BOARDS

0023242 01 000442 014363 ----- 09      NR      R15,R3          # CLEAR BITS FOR UNEQUIPPED FANOUT BOARDS
0023243 01 000443 015117 ----- 10     XR      R4,R15          # COMPARE RESULTS TO EXPECTED PATTERN
0023244 01 000444 007464 ----- 11     LSR     MCHB,R4          # PREPARE FOR COMPARE
0023245          12     RTN_TBL **4
0023245 01 000445 071400 ----- -001- 13     GA
0023246 01 000446 031000 023252 0023252 -001- 14     LAL     RD,**4,RAD
0023250 01 000450 037000 011162 CDGNM -001- 15     BL      INTRPN03

-001- 17 #      TTY_DATA
-001- 18 #      STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023252 01 000452 000016 ----- CDGNM -001- 19     VFD     1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

21 # SET BIT INDICATES FANOUT BOARD WITH FAULTY PARITY HIGH CHECK CKT

-001- 23 #      COMPARE
-001- 24 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 25 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023253 01 000453 050014 ----- CDGNM -001- 26     VFD     1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023254 01 000454 000000 000000 -001- 27     ADDR   0(0000000)

-001- 29 #      FAILBIT
-001- 30 #      FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARF0BXX
-001- 31 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023256 01 000456 020120 ----- CDGNM -001- 32     VFD     1,0 2,1 5,0 2,1 6,NFLBITS
0023257 01 000457 000002 ----- -001- 33     VFD     16,PARF0B

35 # FAULT IN ADDRESS PARITY HIGH CHECK CKT ON A FANOUT BOARD WITH ADDRESS=X(4444)

-001- 38 #      N03_CODE
-001- 39 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPCXAXT.
0023260 01 000460 040043 000000 CDGNM -001- 40     VFD     1,0 2,2 7,0 6,NNO3CD
0023261 01 000461 000000 023263 0023263 -001- 41     ADDR   FBPCXAXT

0023263          43 FBPCXAXT

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 39

TEST 45 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

	01	CSTFB5	OW	0(463),0(465)	# 12705	
-001-	02	NOTE		***** THE FIRST ADDRESS OVERWRITTEN IS 000463 *****		
0023263			05	FINALE	FB5INIT	
0023263	01	000463	137020	012771	CDGSIO	-002- 06
0023265	01	000465	137000	022623	0022623	-001- 07
0023267	01	000467	171400	-----		-001- 08
0023270	01	000470	037000	011725	CDGMM	-001- 09
0023270						10
	-001-	11		NOTE	***** THE LAST ADDRESS OVERWRITTEN IS 000471 *****	

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 40

TEST 46

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *****
-001- 03 # **
-001- 04 # ** CU DIAGNOSTIC TEST NO. 46, MAIN_STORE_FANOUT_BOARD
-001- 05 # **
-001- 06 # *****
-001- 07 # *****

```

0023272

-001- 10 CSTFB6 CSECT

0023272 02 000000 000145 ----- CDGMH

-001- 14 VFD 1,0 2,0 2,0 2,0 3,1 6,NBGN

```

18 # SEGMENT 1
19 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
20 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(1001000110010001) IS
21 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
22 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
23 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
24 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
25 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
26 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
27 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
28 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE NO ADDRESS PARITY ERROR FOR EACH
29 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
30 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
31 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
32 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
33 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
34 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
35 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

```

```

38 # SEGMENT 2
39 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
40 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(0010101000101010) IS
41 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
42 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
43 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
44 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
45 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
46 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
47 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
48 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE AN ADDRESS PARITY ERROR FOR EACH
49 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 41

TEST 46

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

01 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD  
02 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT  
03 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS  
04 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER  
05 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN  
06 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 42

TEST 46

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

01 CSTFB6 OW 0(1),0(16) # 12705
-001- 02 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000001 *****

0023273 05 FB6INIT PREPARE
-002- 06 # RTN_BLM
-002- 07 # TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
0023273 02 000001 000144 ----- CDGNM -002- 08 VFD 1,0 2,0 6,0 1,1 6,NRTNBLM

-002- 10 # SEND
-002- 11 # SEND 0(0000001) TO OFF-LINE MCHB.
-002- 12 # PARITY IS 0(2).
0023274 02 000002 047707 ----- CDGNM -002- 13 VFD 1,0 2,2 7,B(0111111) 6,N2SEND
0023275 02 000003 000040 000001 -002- 14 ADDR 0(0000001),0(2)

-002- 16 # MICRO
-002- 17 # PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
-002- 18 # TO FIELD = MSXT FROM FIELD = MCHBXF
0023277 02 000005 020005 ----- CDGNM -002- 19 VFD 1,0 2,1 7,0 6,NMICRO
0023300 02 000006 106631 ----- -002- 20 VFD 8,MSXT 8,MCHBXF

-002- 22 # NO3_CODE
-002- 23 # PROCESS JACC CODED ROUTINE AT ADDRESS **2.
0023301 02 000007 040043 000000 CDGNM -002- 24 VFD 1,0 2,2 7,0 6,NN03CD
0023302 02 000010 000000 023304 0023304 -002- 25 ADDR **2

-001- 27 # SUBSTITUTE 'MAS' FOR 'LOOP' IN TROUBLE PRINTOUT
-002- 28 LI R4,MXAS
-001- 29 STL R4,PAGSCR+24
-001- 30 # USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
-001- 31 # SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
-001- 32 # (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0023310 02 000016 103240 ----- -001- 34 ZR LOOPIND
0023311 02 000017 004257 ----- -001- 35 SN LOOPIND,1 #ASSURE THAT LOOPIND IS ZERO BEFORE
#PROCEEDING WITH TEST

0023312 02 000020 072652 ----- CDGNM -001- 37 HN LOOPIND,LOOPIND
0023313 02 000021 037020 012757 CDGSIO -002- 38 BSA CONTPREP
0023315 02 000023 172652 ----- CDGNM -001- 39 HN LOOPIND,LOOPIND
0023316 02 000024 137020 012667 CDGSIO -003- 40 BSA MASIOM
0023320 02 000026 046071 ----- -002- 41 DATA MASCINT # INITIALIZE STORE CONTROLLER

0023321 02 000027 171400 ----- -002- 43 GA
0023322 02 000030 031000 023326 0023326 -002- 44 LAL R0,**4,RA0
0023324 02 000032 037000 011162 CDGNM -002- 45 BL INTRPN03

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 43

TEST 46

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0023326

01  
-001- 02

EOW  
NOTE

# 12705

\*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000033 \*\*\*\*\*

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 44

TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 46 SEGMENT 1
-001- 04 # *
-001- 05 # *****

```

```

0023326 02 000034 000100 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(1) 6,NTESTSEG

```

```

11 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
12 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(1001000110010001) IS
13 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
14 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
15 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
16 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
17 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
18 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
19 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
20 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE NO ADDRESS PARITY ERROR FOR EACH
21 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
22 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
23 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
24 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
25 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
26 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
27 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

```

```

-001- 29 # NO3 CODE
-001- 30 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK4.
0023327 02 000035 040043 000000 CDGNM -001- 31 VFD 1,0 2,2 7,0 6,NN03CD
0023330 02 000036 000000 023332 0023332 -001- 32 ADDR FBPARCK4

```

```

34 # TEST PARITY LOW CHECK CKT FIRST - INSURE THAT PARITY HIGH IS ALWAYS OK

```

```

0023332
0023332

```

```

36 FBPARCK4
37 CALL F0BNDX # LOAD NUMBER OF EQUIPPED FOB'S INTO
# 'F0BCNT'

```

```

0023332 02 000040 137020 013166 CDGSFA -001- 39 BSA F0BNDX
0023334 02 000042 103100 ----- 40 ZR R4 # CLEAR ERROR STORAGE REG
0023335 02 000043 030700 043140 CTSD 41 LL R12,BASADDR
0023337 02 000045 003761 000151 42 LI R15,B(01101001)

```

```

0023341

```

```

43 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH FOR STORES 0 & 3 - MODS 0-7
44 STR12TST FBPATLD4

```

```

0023341 02 000047 030460 012756 CDGSIO -001- 45 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023343 02 000051 006123 ----- -001- 46 LL R3,STSELSMK
0023344 02 000052 014074 ----- -001- 47 LR R5,R3 # SAVE STORE SELECT MASK
0023345 02 000053 054004 ----- 0023351 -001- 48 NR R3,R12 # IS THIS STORE 0?
-001- 49 BC FBPATLD4 # IF SO, EXIT FROM THIS TEST

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

```

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 45

```

TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023346 02 000054 015123 -----
0023347 02 000055 054002 ----- 0023351
0023350 02 000056 015777 -----
-001- 01 XR R5,R3 # IS THIS STORE 3?
-001- 02 BC FBPATLD4 # IF SO, EXIT FROM THIS TEST
-001- 03 COM R15
-001- 04 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

0023351 06 FBPATLD4
0023351 02 000057 103120 ----- 07 ZR R5 # ZERO LOOP COUNT
0023352 02 000060 003140 ----- 08 LN R6,PRHOLO # INITIALIZE SPECIAL PARITY REG
0023353 02 000061 003721 110621 09 LI R13,X(9191) # LOAD TEST PATTERN
0023355 02 000063 030400 012753 CDGSIO 10 LL R0,MDELMSK
0023357 02 000065 015400 ----- 11 COM R0 # MASK FOR NON-MOD-SELECT BITS
12 CSTFB6 OW 0(66) # 12989
-001- 13 NOTE ***** THE FIRST ADDRESS OVERRITTEN IS 000066 *****

0023360 02 000066 037000 115126 0000033 -001- 16 CPATCH3 BGNP 0(33) # 12989
-001- 17 BL XXX442
-001- 18 NOTE CPATCH3 'CSECT'
-001- 19 NOTE ***** PATCH AREA BEGINS AT 000033 *****

0115126 -001- 22 XXX442 PATCHAREA
0115126 10 000033 114320 ----- 23 NR R13,R0
0115127 24 # ADDRESS FIRST MEMORY MOD.
0115127 10 000034 003340 ----- 25 ZR R14
0115130 26 # START WITH ZERO INCREMENT
0115130 27 CALL WAIT # TAKE A REAL TIME BREAK
0115130 10 000035 073025 ----- -001- 28 BSAI WAIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115131 29 # 12989
0115131 10 000036 137000 023362 0000070 -001- 30 BL XXX445
-001- 31 NOTE ***** LAST PATCH ADDRESS USED IS 000037 *****
-001- 32 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0023362 -001- 35 XXX445 OWCONTINUE
0023362 36 EOW # 12989
-001- 37 NOTE ***** THE LAST ADDRESS OVERRITTEN IS 000067 *****

0023362 40 FBPCLP4
0023362 02 000070 101736 ----- 41 AR R13,R14 # INCREMENT MOD
0023363 02 000071 055002 ----- 0023365 42 BNC NOCARY4
0023364 02 000072 004701 ----- 43 AN R12,1 # ADJUST UPPER MOD BITS
0023365 44 NOCARY4
0023365 02 000073 130740 012754 CDGSIO 45 LL R14,MODSIZE # MODULE INCREMENT
0023367 46 SIOM MASCINT
0023367 02 000075 037020 012667 CDGSIO -002- 47 BSA MASIOM
0023371 02 000077 046071 ----- -001- 48 DATA MASCINT # INITIALIZE STORE CONTROLLER
0023372 02 000100 122141 ----- 49 ZBN R6,1 # CLEAR SPECIAL PARITY HIGH

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 46

TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0023373 02 000101 024765 ----- 01 TBR R15,R5 # GET PARITY HIGH FOR THIS MOD
0023374 02 000102 055002 ----- 0023376 02 BNC FBSNDAD4 # SKIP AHEAD IF PARITY HIGH = 0
0023375 02 000103 026141 ----- 03 SBN R6,1 # SET SPECIAL PARITY HIGH
04 # THE PRECEDING ROUTINE GUARANTEES THAT PARITY LOW CHECK CKT FAULTS WILL NOT BE
05 # MASKED BY THE PARITY HIGH CHECK CKT

0023376 07 FBSNDAD4
0023376 08 NMLREAD RAO,NOSPAR
0023376 02 000104 103561 106260 -001- 09 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0023400 02 000106 006054 ----- -001- 10 LR R2,R12
0023401 02 000107 006075 ----- -001- 11 LR R3,R13
0023402 02 000110 037020 013027 CDGSBS -002- 12 BSA MEMOP
0023404 02 000112 137020 012667 CDGSIO -002- 13 SRIO SERREAD
0023406 02 000114 047114 ----- -001- 14 BSA MASIO
0023407 02 000115 124270 ----- 15 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0023410 02 000116 055002 ----- 0023412 16 TBN R11,S(FOBPARER)
0023411 02 000117 026505 ----- 17 BNC FBPCJP4
0023412 18 SBR R4,R5 # SET BIT FOR PARITY ERROR
0023412 19 FBPCJP4
0023412 02 000120 104521 ----- 20 AN R5,1 # INCREMENT LOOP COUNT
0023413 02 000121 020130 ----- 21 CR R5,FOBCNT # LAST FANOUT BOARD TO BE TESTED?
0023414 02 000122 055746 ----- 0023362 22 BNC FBPCLP4 # IF NOT, RETURN
0023415 02 000123 007464 ----- 23 LSR MCHB,R4 # IF SO, PREPARE FOR COMPARE'S
0023416 24 RTN_TBL **4
0023416 02 000124 071400 ----- -001- 25 GA
0023417 02 000125 031000 023423 0023423 -001- 26 LAL RD,**4,RAO
0023421 02 000127 037000 011162 CDGNM -001- 27 BL INTRPN03

-001- 29 # TTY_DATA
-001- 30 # STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023423 02 000131 000016 ----- CDGNM -001- 31 VFD 1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

33 # SET BIT INDICATES FANOUT BOARD WITH FAULTY PARITY CHECK CKT
-001- 34 # COMPARE
-001- 35 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 36 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023424 02 000132 050014 ----- CDGNM -001- 37 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023425 02 000133 000000 000000 -001- 38 ADDR 0(0000000)

-001- 40 # FAILBIT
-001- 41 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 42 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023427 02 000135 020120 ----- CDGNM -001- 43 VFD 1,0 2,1 5,0 2,1 6,NFLBITS
0023430 02 000136 000002 ----- -001- 44 VFD 16,PARFOB

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

01 # FAULT IN ADDRESS PARITY LOW CHECK CKT ON A FANOUT BOARD WITH ADDRESS = X(9191)

```

-001- 04 # NO3_CODE
-001- 05 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK5.
0023431 02 000137 040043 000000 CDGMM -001- 06 VFD 1,0 2,2 7,0 6,NN03CD
0023432 02 000140 000000 023434 0023434 -001- 07 ADDR FBPARCK5

```

11 # TEST PARITY HIGH CHECK CKT NEXT - INSURE THAT PARITY LOW IS ALWAYS OK

```

0023434 13 FBPARCK5
0023434 14 CALL FOBNDX
0023434 02 000142 137020 013166 CDGSFA -001- 15 BSA FOBNDX
0023436 02 000144 103120 ----- 16 ZR R5 # ZERO LOOP COUNT
0023437 02 000145 003100 ----- 17 ZR R4 # CLEAR ERROR STORAGE REG
0023440 02 000146 030700 043140 CTSD 18 LL R12,BASADDR
0023442 02 000150 003721 110621 19 LI R13,X(9191) # LOAD TEST PATTERN
0023444 02 000152 030400 012753 CDGSIO 20 LL R0,MSELMSK
0023446 02 000154 015400 ----- 21 COM R0 # MASK FOR NON-MOD-SELECT BITS
-001- 22 CSTFB6 OW 0(155) # 12989
-001- 23 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000155 *****

```

```

0023447 02 000155 037000 115133 0000040 -001- 26 CPATCH3 BGNP 0(40) # 12989
-001- 27 BL XXX464
-001- 28 NOTE CPATCH3 'CSECT'
-001- 29 NOTE ***** PATCH AREA BEGINS AT 000040 *****

```

```

0115133 -001- 32 XXX464 PATCHAREA
0115133 10 000040 114320 ----- 33 NR R13,R0
0115134 34 # ADDRESS FIRST MEMORY MOD.
0115134 10 000041 003340 ----- 35 ZR R14
0115135 36 # START WITH ZERO INCREMENT
0115135 37 CALL WAIT # TAKE A REAL TIME BREAK
0115135 10 000042 073025 ----- -001- 38 BSAI W$AIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115136 39 # 12989
0115136 10 000043 137000 023451 0000157 -001- 40 BL XXX467
-001- 41 NOTE ***** LAST PATCH ADDRESS USED IS 000044 *****
-001- 42 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

```

```

0023451 -001- 45 XXX467 OWCONTINUE
0023451 46 EOW # 12989
-001- 47 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000156 *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023451          01 FBPCLP5
0023451 02 000157 101736 ----- 02 AR R13,R14 # INCREMENT MOD
0023452 02 000160 055002 ----- 03 BNC NOCARY5
0023453 02 000161 004701 ----- 04 AN R12,1 # ADJUST UPPER MOD BITS
0023454          05 NOCARY5
0023454 02 000162 130740 C12754 CDGSIO 06 LL R14,MODSIZE # MEMORY MODULE INCREMENT
0023456          07 SIOM MASCINT
0023456 02 000164 037020 012667 CDGSIO -002- 08 BSA MASIOM
0023460 02 000166 046071 ----- -001- 09 DATA MASCINT # INITIALIZE STORE CONTROLLER
0023461          10 NHLREAD RAO,PRHOLD
0023461 02 000167 103561 106260 -001- 11 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0023463 02 000171 006054 ----- -001- 12 LR R2,R12
0023464 02 000172 006075 ----- -001- 13 LR R3,R13
0023465 02 000173 003541 000020 -001- 14 LI R6,PRHOLD # SETUP SPECIAL PARITY
0023467 02 000175 037020 013027 CDGSBS -002- 15 BSA MEMOP
0023471          16 SRIO SERREAD
0023471 02 000177 137020 012667 CDGSIO -002- 17 BSA MASIOM
0023473 02 000201 047114 ----- -001- 18 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0023474 02 000202 124270 ----- 19 TBN R11,S(FOBPARER)
0023475 02 000203 055002 ----- 20 BNC FBPCJP5
0023476 02 000204 026505 ----- 21 SBR R4,R5 # SET BIT FOR PARITY ERROR
0023477          22 FBPCJP5
0023477 02 000205 104521 ----- 23 AN R5,1 # INCREMENT LOOP COUNT
0023500 02 000206 020130 ----- 24 CR R5,FOBCNT # LAST FANOUT BOARD TO BE TESTED?
0023501 02 000207 055750 ----- 25 BNC FBPCLP5 # IF NOT, RETURN

28 # COMPARE WITH APPROPRIATE RESULTS FOR STORES 0 & 3 OR STORES 1 & 2

0023502 02 000210 003761 000151 30 LI R15,B(01101001)
0023504          31 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH CHECK RESULTS FOR STORES 0 & 3
0023504          32 STR12TST FBPATST5
-001- 33 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023504 02 000212 030460 012756 CDGSIO -001- 34 LL R3,STSELSK
0023506 02 000214 006123 ----- -001- 35 LR R5,R3 # SAVE STORE SELECT MASK
0023507 02 000215 014074 ----- -001- 36 NR R3,R12 # IS THIS STORE 0?
0023510 02 000216 054004 ----- 0023514 -001- 37 BC FBPATST5 # IF SO, EXIT FROM THIS TEST
0023511 02 000217 015123 ----- -001- 38 XR R5,R3 # IS THIS STORE 3?
0023512 02 000220 054002 ----- 0023514 -001- 39 BC FBPATST5 # IF SO, EXIT FROM THIS TEST
0023513 02 000221 015777 ----- -001- 40 COM R15
-001- 41 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

0023514          43 FBPATST5
0023514 02 000222 103060 ----- 44 ZR R3
0023515 02 000223 004217 ----- 45 SN FOBCNT,1 # SET UP LOOP INDEX

```

STORE FANOUT BOARDS TEST-PART B

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TEST 46 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023516          01 FBMSK5
0023516 02 000224 126470 ----- 02          SBR      R3,FOBCNT          # SET BIT FOR EACH FANOUT BOARD
0023517 02 000225 036200 023516 0023516 03          BX      FOBCNT,FBMSK5      # MASK FOR EQUIPPED FANOUT BOARDS

0023521 02 000227 014363 ----- 05          NR      R15,R3          # CLEAR BITS FOR UNEQUIPPED FANOUT BOARDS
0023522 02 000230 015117 ----- 06          XR      R4,R15          # COMPARE RESULTS TO EXPECTED PATTERN
0023523 02 000231 007464 ----- 07          LSR     MCHB,R4          # PREPARE FOR COMPARE
0023524          08          RTN_TBL **4
0023524 02 000232 071400 ----- -001- 09          GA
0023525 02 000233 031000 023531 0023531 -001- 10          LAL     RD,**4,RAO
0023527 02 000235 037000 011162 CDGNM -001- 11          BL     INTRPN03

-001- 13 #          TTY_DATA
-001- 14 #          STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023531 02 000237 000016 ----- CDGNM -001- 15          VFD     1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

          17 # SET BIT INDICATES FANOUT BOARD WITH FAULTY PARITY HIGH CHECK CKT

-001- 19 #          COMPARE
-001- 20 #          COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 21 #          IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023532 02 000240 050014 ----- CDGNM -001- 22          VFD     1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023533 02 000241 000000 000000 -001- 23          ADDR   0(0000000)

-001- 25 #          FAILBIT
-001- 26 #          FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 27 #          WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023535 02 000243 020120 ----- CDGNM -001- 28          VFD     1,0 2,1 5,0 2,1 6,NFLBITS
0023536 02 000244 000002 ----- -001- 29          VFD     16,PARFOB

          31 # FAULT IN ADDRESS PARITY HIGH CHECK CKT ON A FANOUT BOARD WITH ADDRESS=X(9191)

```

STORE FANOUT BOARDS TEST-PART B

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TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 46 SEGMENT 2
-001- 04 # *
-001- 05 # *****

```

```

0023537 02 000245 000200' ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(2) 6,NTESTSEG

```

```

11 # THIS SEGMENT PARTIALLY EXERCISES THE STORE ADDRESS PARITY CHECK CIRCUITS
12 # ON ALL EQUIPPED FANOUT BOARDS. THE TEST PATTERN B(0010101000101010) IS
13 # APPLIED THRU SPECIFIC STORE ADDRESS BITS (SA0-14). STORE-SELECT AND MODULE-
14 # SELECT BITS ARE CHECKED ON EACH FANOUT BOARD ONLY IN THE STATES THEY WOULD
15 # NORMALLY ASSUME. THE FANOUT-BOARD-PARITY-ERROR BIT IN THE STORE ERROR REGISTER
16 # COMBINES ERROR INDICATIONS FROM THE ADDRESS PARITY LOW CHECK (SA0-7,PL) AND
17 # THE ADDRESS PARITY HIGH CHECK (SA8-19,PH) CIRCUITS. FIRST, THE PARITY LOW
18 # CHECK CIRCUIT IN EACH EQUIPPED FANOUT BOARD IS EXERCISED WHILE THE PARITY OVER
19 # THE HIGH BITS IS HELD GOOD FOR THE PARTICULAR STORE UNDER TEST. THE ADDRESS
20 # PARITY LOW BIT SPECIFIED SHOULD PRODUCE AN ADDRESS PARITY ERROR FOR EACH
21 # EQUIPPED FANOUT BOARD. THIS IS FOLLOWED BY A SIMILAR TESTING OF THE PARITY
22 # HIGH CHECK CIRCUIT DURING WHICH THE PARITY OVER THE LOW ADDRESS BITS IS HELD
23 # GOOD. HOWEVER, IN THIS EXERCISE THE PARITY HIGH BIT IS HELD CONSTANT SO THAT
24 # THE RESULTING PATTERN OF ADDRESS PARITY (HIGH) ERRORS FROM THE FANOUT BOARDS
25 # MUST BE COMPARED WITH THE RESULTS EXPECTED FOR THE PARTICULAR STORE UNDER
26 # TEST. IF THERE ARE ANY MISMATCHES BETWEEN THE TWO PATTERNS, THEN A FAULT IN
27 # THE ADDRESS PARITY HIGH CHECK CIRCUIT IS INDICATED.

```

```

-001- 29 # NO3 CODE
-001- 30 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK6.
0023540 02 000246 040043 000000 CDGNM -001- 31 VFD 1,0 2,2 7,0 6,NNO3CD
0023541 02 000247 000000 023543 0023543 -001- 32 ADDR FBPARCK6

```

```

34 # TEST PARITY LOW CHECK CKT FIRST - INSURE THAT PARITY HIGH IS ALWAYS OK

```

```

0023543
0023543

```

```

36 FBPARCK6
37 CALL F0BNDX # LOAD NUMBER OF EQUIPPED F0B'S INTO 'F0BCNT'

```

```

0023543 02 000251 137020 013166 CDGSFA -001- 39 BSA F0BNDX
0023545 02 000253 103100 ----- 40 ZR R4 # CLEAR ERROR STORAGE REG
0023546 02 000254 030700 043140 CTSD 41 LL R12,BASADDR
0023550 02 000256 003761 000151 42 LI R15,B(01101001)

```

```

43 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH FOR STORES 0 & 3 - MODS 0-7
44 STR12TST FBPATLD6

```

```

0023552

```

```

0023552 02 000260 030460 012756 CDGSIO -001- 45 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023554 02 000262 006123 ----- -001- 46 LL R3,STSELSK
0023555 02 000263 014074 ----- -001- 47 LR R5,R3 # SAVE STORE SELECT MASK
0023556 02 000264 054004 ----- 0023562 -001- 48 NR R3,R12 # IS THIS STORE 0?
-001- 49 BC FBPATLD6 # IF SO, EXIT FROM THIS TEST

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

```

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```

TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023557 02 000265 015123 ----- -001- 01 XR R5,R3 # IS THIS STORE 3?
0023560 02 000266 054002 ----- 0023562 -001- 02 BC FBPATLD6 # IF SO, EXIT FROM THIS TEST
0023561 02 000267 015777 ----- -001- 03 COM R15
-001- 04 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

0023562 06 FBPATLD6
0023562 02 000270 103120 ----- 07 ZR R5 # ZERO LOOP COUNT
0023563 02 000271 003541 000005 - 08 LI R6,PRHOL1 # INITIALIZE SPECIAL PARITY REG
0023565 02 000273 003721 025052 09 LI R13,X(2A2A) # LOAD TEST PATTERN
0023567 02 000275 030400 012753 CDGSIO 10 LL RD,MDSLSMKS
0023571 02 000277 015400 ----- 11 COM R0 # MASK FOR NON-MOD-SELECT BITS
12 CSTFB6 OW 0(300) # 12989
-001- 13 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000300 *****

0023572 02 000300 037000 115140 0000045 -001- 16 CPATCH3 BGNP 0(45) # 12989
-001- 17 BL XXX489
-001- 18 NOTE CPATCH3 'CSECT'
-001- 19 NOTE ***** PATCH AREA BEGINS AT 000045 *****

0115140 -001- 22 XXX489 PATCHAREA
0115140 23 # ADDRESS FIRST MEMORY MOD.
0115140 10 000045 114320 ----- 24 NR R13,RD
0115141 25 # START WITH ZERO INCREMENT
0115141 10 000046 003340 ----- 26 ZR R14
0115142 27 CALL WAIT # TAKE A REAL TIME BREAK
0115142 10 000047 073025 ----- -001- 28 BSAI WAIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115143 29 ENDP # 12989
0115143 10 000050 137000 023574 0000302 -001- 30 BL XXX492
-001- 31 NOTE ***** LAST PATCH ADDRESS USED IS 000051 *****
-001- 32 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0023574 -001- 35 XXX492 OWCONTINUE
0023574 36 EOW # 12989
-001- 37 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000301 *****

0023574 40 FBPLCP6
0023574 02 000302 101736 ----- 41 AR R13,R14 # INCREMENT MOD
0023575 02 000303 055002 ----- 0023577 42 BNC NOCARY6
0023576 02 000304 004701 ----- 43 AN R12,1 # ADJUST UPPER MOD BITS
0023577 44 NOCARY6
0023577 02 000305 130740 012754 CDGSIO 45 LL R14,MODSIZE # MODULE INCREMENT
0023601 46 SIOM MASCINT
0023601 02 000307 037020 012667 CDGSIO -002- 47 BSA MASIOM
0023603 02 000311 046071 ----- -001- 48 DATA MASCINT # INITIALIZE STORE CONTROLLER
0023604 02 000312 122141 ----- 49 ZBN R6,1 # CLEAR SPECIAL PARITY HIGH

```

STORE FANOUT BOARDS TEST-PART B

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TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

## MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0023605 02 000313 024765 -----
0023606 02 000314 055002 ----- 0023610
0023607 02 000315 026141 -----
01 TBR R15,R5 # GET PARITY HIGH FOR THIS MOD
02 BNC FBSNDAD6 # SKIP AHEAD IF PARITY HIGH = 0
03 SBN R6,1 # SET SPECIAL PARITY HIGH
04 # THE PRECEDING ROUTINE GUARANTEES THAT PARITY LOW CHECK CKT FAULTS WILL NOT BE
05 # MASKED BY THE PARITY HIGH CHECK CKT

0023610 07 FBSNDAD6
0023610 08 NMLREAD RAO,NOSPAR
0023610 02 000316 103561 106260 -001- 09 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0023612 02 000320 006054 ----- -001- 10 LR R2,R12
0023613 02 000321 006075 ----- -001- 11 LR R3,R13
0023614 02 000322 037020 013027 CDGSBS -002- 12 BSA MEMOP
0023616 13 SRIO SERREAD
0023616 02 000324 137020 012667 CDGSIO -002- 14 BSA MAS10M
0023620 02 000326 047114 ----- -001- 15 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0023621 02 000327 124270 ----- 16 TBN R11,S(FOBPARER)
0023622 02 000330 055002 ----- 0023624 17 BNC FBPCJP6
0023623 02 000331 026505 ----- 18 SBR R4,R5 # SET BIT FOR PARITY ERROR
0023624 19 FBPCJP6
0023624 02 000332 104521 ----- 20 AN R5,1 # INCREMENT LOOP COUNT
0023625 02 000333 020130 ----- 21 CR R5,FOBCNT # LAST FANOUT BOARD TO BE TESTED?
0023626 02 000334 055746 ----- 0023574 22 BNC FBPCLP6 # IF NOT, RETURN
0023627 02 000335 004217 ----- 23 SN FOBCNT,1 # SET UP LOOP INDEX
0023630 02 000336 003060 ----- 24 ZR R3
0023631 25 FBMSK6
0023631 02 000337 126470 ----- 26 SBR R3,FOBCNT # SET BIT FOR EACH EQUIPPED FANOUT BOARD
0023632 02 000340 036200 023631 0023631 27 BX FOBCNT,FBMSK6
0023634 02 000342 015463 ----- 28 COM R3
0023635 02 000343 014503 ----- 29 OR R4,R3 # SET ALL UNUSED BITS IN ERROR WORD
0023636 02 000344 007464 ----- 30 LSR MCHB,R4 # IF SO, PREPARE FOR COMPARE'S
0023637 31 RTN_TBL **4
0023637 02 000345 071400 ----- -001- 32 GA
0023640 02 000346 031000 023644 0023644 -001- 33 LAL R0,**4,RAO
0023642 02 000350 037000 011162 CDGNM -001- 34 BL INTRPN03

-001- 36 # TTY_DATA
-001- 37 # STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
0023644 02 000352 000016 ----- CDGNM -001- 38 VFD 1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

40 # SET BITS INDICATE PARITY ERRORS FROM EQUIPPED FANOUT BOARDS - ALL-ONES IS GOOD
-001- 41 # COMPARE
-001- 42 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177777).
-001- 43 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0023645 02 000353 050014 ----- CDGNM -001- 44 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0023646 02 000354 000000 177777 -001- 45 ADDR 0(0177777)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 46 SEGMENT 2

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MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

-001- 01 # FAILBIT
-001- 02 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 03 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0023650 02 000356 020120 ----- CDGNM -001- 04 # VFD 1,0 2,1 5,0 2,1 6,NFLBITS
0023651 02 000357 000002 ----- -001- 05 # VFD 16,PARFOB

07 # FAULT IN ADDRESS PARITY LOW CHECK CKT ON A FANOUT BOARD WITH ADDRESS = X(2A2A)

-001- 10 # NO3_CODE
-001- 11 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBPARCK7.
0023652 02 000360 040043 000000 CDGNM -001- 12 # VFD 1,0 2,2 7,0 6,NNO3CD
0023653 02 000361 000000 023655 0023655 -001- 13 # ADDR FBPARCK7

17 # TEST PARITY HIGH CHECK CKT NEXT - INSURE THAT PARITY LOW IS ALWAYS OK

0023655 19 FBPARCK7
0023655 20 CALL F0BNDX
0023655 02 000363 137020 013166 CDGSFA -001- 21 # BSA F0BNDX
0023657 02 000365 103120 ----- 22 # ZR R5 # ZERO LOOP COUNT
0023660 02 000366 003100 ----- 23 # ZR R4 # CLEAR ERROR STORAGE REG
0023661 02 000367 030700 043140 CTSD 24 # LL R12,BASADDR
0023663 02 000371 003721 025052 25 # LI R13,X(2A2A) # LOAD TEST PATTERN
0023665 02 000373 030400 012753 CDGS10 26 # LL R0,M0SELMSK
0023667 02 000375 015400 ----- 27 # COM R0 # MASK FOR NON-MOD-SELECT BITS
-001- 28 CSTFB6 OH 0(376) # 12989
-001- 29 NOTE ***** THE FIRST ADDRESS OVERRITTEN IS 000376 *****

0023670 02 000376 037000 115145 0000052 -001- 32 CPATCH3 BGNP 0(52) # 12989
-001- 33 BL XXX511
-001- 34 NOTE CPATCH3 'CSECT'
-001- 35 NOTE ***** PATCH AREA BEGINS AT 000052 *****

0115145 -001- 38 XXX511 PATCHAREA
0115145 39 # ADDRESS FIRST MEMORY MOD.
0115145 10 000052 114320 ----- 40 NR R13,R0
0115146 41 # START WITH ZERO INCREMENT
0115146 10 000053 003340 ----- 42 ZR R14
0115147 43 # CALL WAIT # TAKE A REAL TIME BREAK
0115147 10 000054 073025 ----- -001- 44 BSAI WXAIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115150 45 # ENDP # 12989
0115150 10 000055 137000 023672 0000400 -001- 46 BL XXX514
-001- 47 NOTE ***** LAST PATCH ADDRESS USED IS 000056 *****
-001- 48 NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0023672          -001- 01 XXX514 OWCONTINUE
0023672          02          EOW          # 12989
-001- 03          NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000377 *****

0023672          06 FBPCLP7
0023672 02 000400 101736 ----- 07          AR          R13,R14          # INCREMENT MOD
0023673 02 000401 055002 ----- 08          BNC          NOCARY7
0023674 02 000402 004701 ----- 09          AN          R12,1          # INCREMENT UPPER BITS
0023675          10 NOCARY7
0023675 02 000403 130740 012754 CDGS10 11          LL          R14,MODSIZE          # MODULE INCREMENT
0023677          12          SIOM          MASCINT
0023677 02 000405 037020 012667 CDGS10 -002- 13          BSA          MASIOM
0023701 02 000407 046071 ----- -001- 14          DATA          MASCINT          # INITIALIZE STORE CONTROLLER
0023702          15          NMLREAD RAO,PRH1LO
0023702 02 000410 103561 106260 -001- 16          LI          R7,B(1000110010110000) # MAIN MEMORY STATUS
0023704 02 000412 006054 ----- -001- 17          LR          R2,R12
0023705 02 000413 006075 ----- -001- 18          LR          R3,R13
0023706 02 000414 003541 000012 -001- 19          LI          R6,PRH1LO          # SETUP SPECIAL PARITY
0023710 02 000416 037020 013027 CDGSBS -002- 20          BSA          MEMOP
0023712          21          SRIO          SERREAD
0023712 02 000420 137020 012667 CDGS10 -002- 22          BSA          MASIOM
0023714 02 000422 047114 ----- -001- 23          DATA          SERREAD          # READ BACK STORE ERROR REGISTER(SER)
0023715 02 000423 124270 ----- 24          TBN          R11,S(FOBPARER)
0023716 02 000424 055002 ----- 0023720 25          BNC          FBPCJP7
0023717 02 000425 026505 ----- 26          SBR          R4,R5          # SET BIT FOR PARITY ERROR
0023720          27 FBPCJP7
0023720 02 000426 104521 ----- 28          AN          R5,1          # INCREMENT LOOP COUNT
0023721 02 000427 020130 ----- 29          CR          R5,FOBCNT          # LAST FANOUT BOARD TO BE TESTED?
0023722 02 000430 055750 ----- 0023672. 30          BNC          FBPCLP7          # IF NOT, RETURN

33 # COMPARE WITH APPROPRIATE RESULTS FOR STORES 0 & 3 OR STORES 1 & 2

0023723 02 000431 003761 000151          35          LI          R15,B(01101001)
0023725          36 # THIS REPRESENTS PROPER ADDRESS PARITY HIGH CHECK RESULTS FOR STORES 0 & 3
0023725          37          STR12TST FBPATST7
-001- 38 # COMPLEMENT THIS PATTERN IF EITHER STORE 1 OR 2 IS CURRENTLY UNDER TEST
0023725 02 000433 030460 012756 CDGS10 -001- 39          LL          R3,STGELMSK
0023727 02 000435 006123 ----- -001- 40          LR          R5,R3          # SAVE STORE SELECT MASK
0023730 02 000436 014074 ----- -001- 41          NR          R3,R12          # IS THIS STORE 0?
0023731 02 000437 054004 ----- 0023735 -001- 42          BC          FBPATST7          # IF SO, EXIT FROM THIS TEST
0023732 02 000440 015123 ----- -001- 43          XR          R5,R3          # IS THIS STORE 3?
0023733 02 000441 054002 ----- 0023735 -001- 44          BC          FBPATST7          # IF SO, EXIT FROM THIS TEST
0023734 02 000442 015777 ----- -001- 45          COM          R15
-001- 46 # COMPLEMENT IS PROPER ADDRESS PARITY HIGH CHECK RESULT FOR STORES 1 & 2

```

STORE FANOUT BOARDS TEST-PART B

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TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

## MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

0023735
0023735 02 000443 103060 -----
0023736 02 000444 004217 -----
0023737
0023737 02 000445 126470 -----
0023740 02 000446 036200 023737 0023737
0023742 02 000450 014363 -----
0023743 02 000451 015117 -----
0023744 02 000452 007464 -----
0023745
0023745 02 000453 071400 -----
0023746 02 000454 031000 023752 0023752
0023750 02 000456 037000 011162 CDGNM
0023752 02 000460 000016 ----- CDGNM
0023753 02 000461 050014 ----- CDGNM
0023754 02 000462 000000 000000
0023756 02 000464 020120 ----- CDGNM
0023757 02 000465 000002 -----
0023760 02 000466 040043 000000 CDGNM
0023761 02 000467 000000 023763 0023763

01 FBPATST7
02          ZR          R3
03          SN          FOBCNT,1      # SET UP LOOP INDEX

05 FBMSK7
06          SBR          R3,FOBCNT    # SET BIT FOR EACH FANOUT BOARD
07          BX          FOBCNT,FBMSK7 # MASK FOR EQUIPPED FANOUT BOARDS

09          NR          R15,R3        # CLEAR BITS FOR UNEQUIPPED FANOUT BOARDS
10          XR          R4,R15        # COMPARE RESULTS TO EXPECTED PATTERN
11          LSR          MCHB,R4      # PREPARE FOR COMPARE
12          RTN_TBL     **+4
-001- 13          GA
-001- 14          LAL          RD,**+4,RAD
-001- 15          BL          INTRPNO3

-001- 17 #          TTY_DATA
-001- 18 #          STORE CONTENTS OF ON-LINE MCHB AS A DATA WORD FOR TTY FAILURE MESSAGE.
-001- 19          VFD          1,0 2,0 4,0 1,0 1,1-1 1,0 6,NTTY

21 # SET BIT INDICATES FANOUT BOARD WITH FAULTY PARITY HIGH CHECK CKT

-001- 23 #          COMPARE
-001- 24 #          COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 25 #          IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
-001- 26          VFD          1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
-001- 27          ADDR          0(0000000)

-001- 29 #          FAILBIT
-001- 30 #          FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS PARFOBXX
-001- 31 #          WHERE XX IS THE LOWEST FAILING BIT NUMBER.
-001- 32          VFD          1,0 2,1 5,0 2,1 6,NFLBITS
-001- 33          VFD          16,PARFOB

35 # FAULT IN ADDRESS PARITY HIGH CHECK CKT ON A FANOUT BOARD WITH ADDRESS=X(2A2A)

-001- 38 #          NO3_CODE
-001- 39 #          PROCESS 3ACC CODED ROUTINE AT ADDRESS **+2.
-001- 40          VFD          1,0 2,2 7,0 6,NNO3CD
-001- 41          ADDR          **+2

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 46 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

		01 CSTFB6 OW	0(471),0(473)	# 12705	
	-001-	02 NOTE	***** THE FIRST ADDRESS OVERWRITTEN IS 000471 *****		
0023763		05	FINALE	FB6INIT	
0023763	02 000471 137020 012771 CDGSIO	-002-	06	BSA	FINAL
0023765	02 000473 137000 023315 0023315	-001-	07	BL	BKCSTFB6
0023767	02 000475 171400 -----	-001-	08	GA	
0023770	02 000476 037000 011725 CDGMM	-001-	09	BL	PASSTST
0023770		-001-	10	EOW	# TEST COMPLETED
		-001-	11	NOTE	# 12705
					***** THE LAST ADDRESS OVERWRITTEN IS 000477 *****

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *****
-001- 03 # **
-001- 04 # ** CU DIAGNOSTIC TEST NO. 47, MAIN_STORE_FANOUT_BOARD
-001- 05 # **
-001- 06 # *****
-001- 07 # *****

```

0023772

-001- 10 CSTFB7 CSECT

0023772 03 000000 000145 ----- CDGMM

-001- 14 VFD 1,0 2,0 2,0 2,0 3,1 6,NBGN

## 18 # SEGMENT 1

```

19 # THIS SEGMENT EXERCISES THE STORE CONTROLLER TIMING GENERATION CIRCUITRY AS
20 # WELL AS ITS ASSOCIATED CHECK CIRCUITS INCLUDING THE TRANSMISSION OF MEMORY
21 # TIMING SIGNALS TO AND FROM EACH EQUIPPED FANOUT BOARD. IN ORDER THAT A MAXIMUM
22 # AMOUNT OF CIRCUITRY GETS EXERCISED BY THIS TEST, A REFRESH OPERATION IS FORCED
23 # WITH EACH ONE OF THE SIX POSSIBLE STORE COMMANDS PENDING. AFTER THE REFRESH
24 # AND NORMAL REQUESTS HAVE BEEN HONORED, THE SAME NORMAL STORE OPERATION IS
25 # REPEATED. THE STORE ERROR REGISTER IS CHECKED BOTH FOR ERRORS FROM THE
26 # SELECTED FANOUT BOARDS AND THE UNSELECTED FANOUT BOARDS. THIS SEQUENCE IS
27 # EXECUTED FOR EACH OF THE EQUIPPED FANOUT BOARDS, AND THE ERRORS (SELECT &
28 # UNSELECT) ARE RECORDED ON THIS BASIS TO FACILITATE THE RESOLUTION OF FAULTS
29 # TO A SPECIFIC FANOUT BOARD WHEREVER POSSIBLE.

```

## 31 # SEGMENT 2

```

32 # THIS SEGMENT VERIFIES THE OPERATION OF TWO ENABLES ON THE TIMING SIGNAL
33 # CHECK CIRCUITRY THAT WERE NOT CHECKED PREVIOUSLY. SPECIFICALLY, THE ENABLE ON
34 # THE GATED INPUT OF THE READ/WRITE DETECT FF (RW) WHICH COMES FROM BIT 4 OF THE
35 # TIMING SHIFT REGISTER IS CHECKED BY STEPPING THRU A NORMAL WRITE CYCLE IN THE
36 # STORE UNDER TEST UP UNTIL THE ACTIVATION OF BIT 3 IN THE TIMING SHIFT
37 # REGISTER. THIS WILL SET THE CHIP SELECT FF (CS) AND, IN TURN, CAUSE THE
38 # DETECT-CHIP-SELECT FF (DETCS) TO BE SET. IF THE ERROR STROBE (ERSTB) FROM
39 # BIT 4 IS STUCK ACTIVE, THEN THE READ/WRITE DETECT FF (RW) WILL ALSO BE SET
40 # AND THE FANOUT BOARD TIMING ERROR 'A' WILL NOT BE ACTIVE AT THIS POINT.
41 # OTHERWISE, IF THE ERROR STROBE IS NOT STUCK, THEN AN ERROR WILL BE INDICATED
42 # DUE TO THE ABSENCE OF THE READ/WRITE DETECT AT THIS POINT. THE ENABLE ON
43 # THE GATED OUTPUT OF THE READ/WRITE DETECT FF (RW) WHICH COMES FROM THE DETECT-
44 # CHIP-SELECT FF (DETCS) IS CHECKED BY ACTIVATING THE ERROR STROBE (ERSTB) VIA
45 # BIT 4 DURING A NORMAL WRITE WHICH SHOULD SET THE READ/WRITE DETECT FF. THIS
46 # IS FOLLOWED BY THE ACTIVATION OF SHIFTER BIT 0 WHICH SHOULD RECLEAR THE
47 # DETECT-CHIP-SELECT FF (DETCS). IF THE ENABLE ON THE OUTPUT OF THE RW FF IS
48 # STUCK ACTIVE, NO FANOUT BOARD TIMING ERROR WILL OCCUR; OTHERWISE DISABLING
49 # THE OUTPUT OF THE READ/WRITE DETECT FF AT THIS POINT SHOULD CAUSE A FANOUT

```

STORE FANOUT BOARDS TEST-PART B

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TEST 47

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

01 # BOARD TIMING ERROR 'A'.

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47

23:35:52 2/05/81 \*\*\*\*

## MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

01 CSTFB7 OW      0(1),0(16)      # 12705
-001- 02      NOTE      ***** THE FIRST ADDRESS OVERWRITTEN IS 000001 *****

0023773
-002- 05 FB7INIT PREPARE
-002- 06 #      RTN_BLM
-002- 07 #      TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
0023773 03 000001 000144 ----- CDGNM -002- 08      VFD      1,0 2,0 6,0 1,1 6,NRTNBLM
-002- 10 #      SEND
-002- 11 #      SEND 0(0000001) TO OFF-LINE MCHB.
-002- 12 #      PARITY IS 0(2).
0023774 03 000002 047707 ----- CDGNM -002- 13      VFD      1,0 2,2 7,B(0111111) 6,N2SEND
0023775 03 000003 000040 000001 -002- 14      ADDR      0(0000001),0(2)
-002- 16 #      MICRO
-002- 17 #      PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
-002- 18 #      TO FIELD = MSXT FROM FIELD = MCHB%F
0023777 03 000005 020005 ----- CDGNM -002- 19      VFD      1,0 2,1 7,0 6,NMICRO
0024000 03 000006 106631 ----- -002- 20      VFD      8,MSXT 8,MCHB%F
-002- 22 #      NO3 CODE
-002- 23 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS **2.
0024001 03 000007 040043 000000 CDGNM -002- 24      VFD      1,0 2,2 7,0 6,NNO3CD
0024002 03 000010 000000 024004 0024004 -002- 25      ADDR      **2
-001- 27 #      SUBSTITUTE 'MAS' FOR 'LOOP' IN TROUBLE PRINTOUT
0024004 03 000012 103501 000151 TTYTBL -002- 28      LI      R4,MXAS
0024006 03 000014 034500 043132 CTSD -001- 29      STL      R4,PAGSCR+24
-001- 30 #      USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
-001- 31 #      SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
-001- 32 #      (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

0024010 03 000016 103240 ----- -001- 34      ZR      LOOPIND
0024011 03 000017 004257 ----- -001- 35      SN      LOOPIND,1      #ASSURE THAT LOOPIND IS ZERO BEFORE
                                           PROCEEDING WITH TEST

0024012 03 000020 072652 ----- CDGNM -001- 37      HN      LOOPIND,LOOPIND
0024013 03 000021 037020 012757 CDGSIO -002- 38      BSA     CONTPREP
0024015 03 000023 172652 ----- CDGNM -001- 39      HN      LOOPIND,LOOPIND
0024016 03 000024 137020 012667 CDGSIO -003- 40      BSA     MASIOM
0024020 03 000026 046071 ----- -002- 41      DATA   MASCINT      # INITIALIZE STORE CONTROLLER

0024021 03 000027 171400 ----- -002- 43      GA
0024022 03 000030 031000 024026 0024026 -002- 44      LAL     RD,**4,RAO
0024024 03 000032 037000 011162 CDGNM -002- 45      BL     INTRPN03

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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A01

TEST 47

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0024026.

01  
-001- 02

EOW  
NOTE

# 12705

\*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000033 \*\*\*\*\*

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 47 SEGMENT 1
-001- 04 # *
-001- 05 # *****

```

```

0024026 03 000034 000100 ----- CDGNM -001- D8 VFD 1,0 2,0 2,0 5,D(1) 6,NTESTSEG

```

```

11 # THIS SEGMENT EXERCISES THE STORE CONTROLLER TIMING GENERATION CIRCUITRY AS
12 # WELL AS ITS ASSOCIATED CHECK CIRCUITS INCLUDING THE TRANSMISSION OF MEMORY
13 # TIMING SIGNALS TO AND FROM EACH EQUIPPED FANOUT BOARD. IN ORDER THAT A MAXIMUM
14 # AMOUNT OF CIRCUITRY GETS EXERCISED BY THIS TEST, A REFRESH OPERATION IS FORCED
15 # WITH EACH ONE OF THE SIX POSSIBLE STORE COMMANDS PENDING. AFTER THE REFRESH
16 # AND NORMAL REQUESTS HAVE BEEN HONORED, THE SAME NORMAL STORE OPERATION IS
17 # REPEATED. THE STORE ERROR REGISTER IS CHECKED BOTH FOR ERRORS FROM THE
18 # SELECTED FANOUT BOARDS AND THE UNSELECTED FANOUT BOARDS. THIS SEQUENCE IS
19 # EXECUTED FOR EACH OF THE EQUIPPED FANOUT BOARDS, AND THE ERRORS (SELECT &
20 # UNSELECT) ARE RECORDED ON THIS BASIS TO FACILITATE THE RESOLUTION OF FAULTS
21 # TO A SPECIFIC FANOUT BOARD WHEREVER POSSIBLE.

```

```

-001- 23 # NO3_CODE
-001- 24 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FOBTMCKO.
0024027 03 000035 040043 000000 CDGNM -001- 25 VFD 1,0 2,2 7,0 6,NN03CD
0024030 03 000036 000000 024040 0024040 -001- 26 ADDR FOBTMCKO

```

29 # TABLE OF MAIN MEMORY STATUS REGISTER CONSTANTS FOR THE FOLLOWING TEST:

```

0024032 31 STCOMTBL
0024032 03 000040 106260 ----- 32 DATA NMLRD # MMSR = NORMAL READ
0024033 03 000041 106274 ----- 33 DATA SPRRD # MMSR = SPARE READ
0024034 03 000042 106263 ----- 34 DATA MTCRD # MMSR = MAINTENANCE READ
0024035 03 000043 106200 ----- 35 DATA NMLWR # MMSR = NORMAL WRITE
0024036 03 000044 106214 ----- 36 DATA SPRWR # MMSR = SPARE WRITE
0024037 03 000045 106203 137020 37 DATA MTCWR # MMSR = MAINTENANCE WRITE

0024040 40 FOBTMCKO
0024040 41 CALL FOBNDX # HOW MANY EQUIPPED FANOUT BOARDS?
0024040 03 000046 137020 013166 CDGSFA -001- 42 BSA FOBNDX
0024042 03 000050 130700 012754 CDGSIO 43 LL R12,MODSIZE # MEMORY MODULE (FANOUT BOARD) INCREMENT
0024044 03 000052 003320 ----- 44 ZR R13 # FANOUT BOARD COUNT (MAJOR LOOP INDEX)
0024045 03 000053 030440 043140 CTSD 45 LL R2,BASADDR
0024047 03 000055 003060 ----- 46 ZR R3 # FIRST MEMORY MODULE IN STORE UNDER TEST
0024050 03 000056 031400 024032 0024032 47 LAL R0,STCOMTBL,RA1 # ADDRESS OF STORE COMMAND TABLE
0024052 03 000060 003120 ----- 48 ZR R5 # CLEAR ERROR STORAGE REG
0024053 03 000061 003105 ----- 49 LN R4,5 # SIX STORE COMMANDS/FANOUT BOARD

```

STORE FANOUT BOARDS TEST-PART B

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

01 # IF SO PREPARE TO TEST NEXT FANOUT BOARD, IF IT IS EQUIPPED

```

-001- 03 CSTFB7 OW      0(121)          # 12989
      04      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000121 *****

0024113 03 000121 037000 115152 0000057 -001- 07 CPATCH3 BGNP      0(57)          # 12989
      08      BL      XXX574
-001- 09      NOTE      CPATCH3 'CSECT'
-001- 10      NOTE ***** PATCH AREA BEGINS AT 000057 *****

0115152 -001- 13 XXX574 PATCHAREA
0115152      14                                     # RELOAD STORE COMMAND INDEX
0115152 10 000057 103105 -----      15 LN R4,5
0115153      16                                     # POINT TO NEXT FAN OUT BOARD.
      17 CPATCH3 OW      0(60)          # 790513
-001- 18      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000060 *****

0115153 -001- 21 CALL WAIT #TAKE A REAL TIME BREAK
0115153 10 000060 073025 -----      22 BSAI W%AIT # SUBROUTINE WAIT IS IN PROGRAM CBLM
0115154 10 000061 101474 -----      23 AR R3,R12 #INCREMENT TO NXT FOB
0115155      24 EOW # 790513
-001- 25      NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000061 *****

0115155 -001- 28 ENDP # 12989
0115155 10 000062 137000 024115 0000123      29 BL XXX581
-001- 30      NOTE ***** LAST PATCH ADDRESS USED IS 000063 *****
-001- 31      NOTE ***** NUMBER OF PATCH WORDS USED IS 5 (DECIMAL) *****

0024115 -001- 34 XXX581 OMCONTINUE
0024115 03 000123 155002 ----- 0024117      35 BNC FBTMSKPD
0024116      36 EOW # 12989
-001- 37      NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000123 *****

0024116 03 000124 004441 -----      40 AN R2,1 # IF SO, INCREMENT UPPER ADDRESS BITS
0024117      41 FBTMSKPD
0024117 03 000125 104721 -----      42 AN R13,1 # INCREMENT FANOUT BOARD COUNT
0024120 03 000126 020330 -----      43 CR R13,FOBCNT # LAST FANOUT BOARD?
0024121 03 000127 055733 ----- 0024054      44 BNC FBTMLPO # IF NOT, REPEAT MAJOR LOOP FOR NEXT FOB

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0024122          01  FBTMENDO
0024122 03 000130 134520 043134 CTSD      02      STL      R5,PAGSCR+26      # SAVE RESULTS FOR LATER COMPARES
0024124          03  FBTHPRPO
0024124 03 000132 104337 -----          04      SN      R13,1      # LOOP INDEX FOR MASK PRODUCTION
                                          05  CSTFB7 OW  0(133)      # 800135
-001- 06      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000133 *****

0024125 03 000133 037000 121545 0000307  09      BL      P_0607
0024127          10  FBTMSKO
0024127          11  FBTMSKO
0024127          12  EOW      # 800135
-001- 13      NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000134 *****

0024127 03 000135 101400 -----          16      AR      RO,RO      # SHIFT LEFT ONCE PER PASS
0024130 03 000136 036320 024127 0024127  17      BX      R13,FBTMSKO

0024132 03 000140 014520 -----          19      OR      R5,RO      # SET BITS UNUSED BY PREVIOUS TEST
0024133 03 000141 007465 -----          20      LSR     MCHB,R5      # PREPARE FOR COMPARE(S)
0024134          21      RTN_TBL **4
0024134 03 000142 071400 -----          -001- 22      GA
0024135 03 000143 031000 024141 0024141  -001- 23      LAL     RO,**4,RAD
0024137 03 000145 037000 011162 CDGMM    -001- 24      BL     INTRPN03

-001- 26 #      COMPARE NOT
-001- 27 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177776).
-001- 28 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024141 03 000147 054014 ----- CDGMM    -001- 29      VFD     1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024142 03 000150 000000 177776          -001- 30      ADDR    0(0177776)

-001- 32 #      FAILTST
-001- 33 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB00.
-001- 34 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024144 03 000152 020017 ----- CDGMM    -001- 35      VFD     1,0 2,1 5,0 2,0 6,NFAILTST
0024145 03 000153 000001 -----          -001- 36      VFD     16,TMERFB00

38 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 0

-001- 41 #      COMPARE NOT
-001- 42 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177775).
-001- 43 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024146 03 000154 054014 ----- CDGMM    -001- 44      VFD     1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024147 03 000155 000000 177775          -001- 45      ADDR    0(0177775)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 65

TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

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-001- 01 #      FAILTST
-001- 02 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB01.
-001- 03 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024151 03 000157 020017 ----- CDGNM
0024152 03 000160 000002 -----
-001- 04 #      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
-001- 05 #      VFD      16,TMERFB01

07 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 1

-001- 10 #      COMPARE NOT
-001- 11 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177773).
-001- 12 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024153 03 000161 054014 ----- CDGNM
0024154 03 000162 000000 177773
-001- 13 #      VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
-001- 14 #      ADDR      0(0177773)

-001- 16 #      FAILTST
-001- 17 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB02.
-001- 18 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024156 03 000164 020017 ----- CDGNM
0024157 03 000165 000003 -----
-001- 19 #      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
-001- 20 #      VFD      16,TMERFB02

22 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 2

-001- 25 #      COMPARE NOT
-001- 26 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177767).
-001- 27 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024160 03 000166 054014 ----- CDGNM
0024161 03 000167 000000 177767
-001- 28 #      VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
-001- 29 #      ADDR      0(0177767)

-001- 31 #      FAILTST
-001- 32 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB03.
-001- 33 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024163 03 000171 020017 ----- CDGNM
0024164 03 000172 000004 -----
-001- 34 #      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
-001- 35 #      VFD      16,TMERFB03

37 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 3

-001- 40 #      COMPARE NOT
-001- 41 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177757).
-001- 42 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024165 03 000173 054014 ----- CDGNM
0024166 03 000174 000000 177757
-001- 43 #      VFD      1,LPINDX 2,2 1,1 1,SUCCES      5,0 6,NCOMPARE
-001- 44 #      ADDR      0(0177757)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-5D

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 66

TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 #      FAILTST
-001- 02 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB04.
-001- 03 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024170 03 000176 020017 ----- CDGNM -001- 04      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0024171 03 000177 000005 ----- -001- 05      VFD      16,TMERFB04

      07 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 4

-001- 10 #      COMPARE NOT
-001- 11 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177737).
-001- 12 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024172 03 000200 054014 ----- CDGNM -001- 13      VFD      1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024173 03 000201 000000 177737 -001- 14      ADDR      0(0177737)

-001- 16 #      FAILTST
-001- 17 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB05.
-001- 18 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024175 03 000203 020017 ----- CDGNM -001- 19      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0024176 03 000204 000006 ----- -001- 20      VFD      16,TMERFB05

      22 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 5

-001- 25 #      COMPARE NOT
-001- 26 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177677).
-001- 27 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024177 03 000205 054014 ----- CDGNM -001- 28      VFD      1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024200 03 000206 000000 177677 -001- 29      ADDR      0(0177677)

-001- 31 #      FAILTST
-001- 32 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB06.
-001- 33 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024202 03 000210 020017 ----- CDGNM -001- 34      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0024203 03 000211 000007 ----- -001- 35      VFD      16,TMERFB06

      37 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 6

-001- 40 #      COMPARE NOT
-001- 41 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177577).
-001- 42 #      IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024204 03 000212 054014 ----- CDGNM -001- 43      VFD      1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024205 03 000213 000000 177577 -001- 44      ADDR      0(0177577)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 67

TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

-001- 01 #      FAILTST
-001- 02 #      FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERFB07.
-001- 03 #      DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024207 03 000215 020017 ----- CDGNM -001- 04      VFD      1,0 2,1 5,0 2,0 6,NFAILTST
0024210 03 000216 000010 ----- -001- 05      VFD      16,TMERFB07

      07 # A SELECT TIMING SIGNAL (SELCS OR SELRW) IS STUCK ACTIVE FROM FANOUT BOARD 7

-001- 10 #      NO3 CODE
-001- 11 #      PROCESS 3ACC CODED ROUTINE AT ADDRESS FBTMSTKO.
0024211 03 000217 040043 000000 CDGNM -001- 12      VFD      1,0 2,2 7,0 6,NN03CD
0024212 03 000220 000000 024214 0024214 -001- 13      ADDR      FBTMSTKO

0024214      15 FBTMSTKO
      16 CSTFB7 OW      0(222) # 800135
-001- 17      NOTE      ***** THE FIRST ADDRESS OVERWRITTEN IS 000222 *****

0024214      20 FBTMSTKO
0024214      21      EOW # 800135
-001- 22      NOTE      ***** NO PATCH AT THIS ADDRESS *****

0024214 03 000222 103401 000377      25      LI      RO,B(11111111) # MASK FOR SELECT RESULTS
0024216 03 000224 014010 -----      26      NR      RO,R8 # ZERO UNSELECT RESULTS
0024217 03 000225 007460 -----      27      LSR      MCHB,RO # PREPARE FOR COMPARE
0024220      28      RTN_TBL **4
0024220 03 000226 071400 ----- -001- 29      GA
0024221 03 000227 031000 024225 0024225. -001- 30      LAL      RO,**4,RAO
0024223 03 000231 037000 011162 CDGNM -001- 31      BL      INTRPN03

-001- 33 #      COMPARE
-001- 34 #      COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 35 #      IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0024225 03 000233 050014 ----- CDGNM -001- 36      VFD      1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024226 03 000234 000000 000000 -001- 37      ADDR      0(0000000)

-001- 39 #      FAILBIT
-001- 40 #      FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS TMERFBXX
-001- 41 #      WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0024230 03 000236 020020 ----- CDGNM -001- 42      VFD      1,0 2,1 5,0 2, 6,NFLBITS
0024231 03 000237 000001 ----- -001- 43      VFD      16,TMERFB

      45 # AN ERROR INDICATES A FAULT IN THE GENERATION OR VERIFICATION OF STORE TIMING

```

STORE FANOUT BOARDS TEST-PART B

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # NO3_CODE
-001- 02 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBTMUSLO.
0024232 03 000240 040043 000000 CDGNM
0024233 03 000241 000000 024235 0024235 -001- 03 VFD 1,0 2,2 7,0 6,NN03CD
-001- 04 ADDR FBTMUSLO

06 CSTFB7 OW 0(243) # 790286
-001- 07 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000243 *****

10 CSTFB7 OW 0(243) # 790437
-001- 11 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000243 *****

0024235 14 FBTMUSLO
0024235 03 000243 106030 ----- 15 LR R1,R8
0024236 16 CALL FOBNDX
0024236 03 000244 037020 013166 CDGSFA -001- 17 BSA FOBNDX
0024240 03 000246 104217 ----- 18 SN FOBCNT,1
0024241 03 000247 003401 177777 19 LI R0,0(177777)
0024243 20 FBTMUSLO
0024243 03 000251 101400 ----- 21 AR RD,0
0024244 22 EOW # 790437
-001- 23 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000251 *****

0024244 03 000252 036200 024243 0024243 26 BX FOBCNT,FBTMUSLO+6
0024246 27 EOW # 790286
-001- 28 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000253 *****

0024246 03 000254 010430 ----- 32 RRN R1,8 # UNSELECT ERROR RESULTS IN BITS 0-7
0024247 03 000255 034420 043134 CTSD 33 STL R1,FOBNUM # SAVE RESULTS FOR LATER COMPARE
0024251 03 000257 014420 ----- 34 OR R1,R0 # SET BITS NOT AFFECTED BY UNSELECT TESTS
0024252 03 000260 007461 ----- 35 LSR MCHB,R1 # PREPARE FOR COMPARES
0024253 36 RTN_TBL **4
0024253 03 000261 071400 ----- -001- 37 GA
0024254 03 000262 031000 024260 0024260 -001- 38 LAL R0,**4,RAD
0024256 03 000264 037000 011162 CDGNM -001- 39 BL INTRPN03

-001- 41 # COMPARE NOT
-001- 42 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177777).
-001- 43 # IF COMPARISON DOES NOT EXIST, SKIP NEXT TABLE ENTRY.
0024260 03 000266 054014 ----- CDGNM -001- 44 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024261 03 000267 000000 177777 -001- 45 ADDR 0(0177777)

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # FAILTST
-001- 02 # FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TMERUSFB.
-001- 03 # DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024263 03 000271 020017 ----- CDGNM
0024264 03 000272 000011 -----
-001- 04 VFD 1,0 2,1 5,0 2,0 6,NFAILTST
-001- 05 VFD 16,TMERUSFB

07 # CONSTANT UNSELECTED-FANOUT-BOARD-TIMING ERROR INDICATES FAULT WHICH CANNOT
08 # BE RESOLVED FURTHER THAN ANY EQUIPPED FANOUT BOARD OR THE TIMING CHECK CIRCUIT

-001- 11 # NO3 CODE
-001- 12 # PROCESS 3ACC CODED ROUTINE AT ADDRESS FBTMUSL1.
0024265 03 000273 040043 000000 CDGNM
0024266 03 000274 000000 024270 0024270 -001- 13 VFD 1,0 2,2 7,0 6,NN03CD
-001- 14 ADDR FBTMUSL1

0024270 16 FBTMUSL1
0024270 03 000276 107470 ----- 17 LSR MCHB,R8 # PREPARE FOR COMPARE
0024271 18 RTN_TBL **4
0024271 03 000277 071400 ----- -001- 19 GA
0024272 03 000300 031000 024276 0024276 -001- 20 LAL RO,**4,RAD
0024274 03 000302 037000 011162 CDGNM -001- 21 BL INTRPNO3

-001- 23 # COMPARE
-001- 24 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).
-001- 25 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0024276 03 000304 050014 ----- CDGNM
0024277 03 000305 000000 000000 -001- 26 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
-001- 27 ADDR 0(0000000)

-001- 29 # FAILBIT
-001- 30 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS TMUSFBXX
-001- 31 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0024301 03 000307 020020 ----- CDGNM
0024302 03 000310 000012 ----- -001- 32 VFD 1,0 2,1 5,0 2, 6,NFLBITS
-001- 33 VFD 16,TMUSFB

35 # A MODULE ENABLE (EN1) IS STUCK ACTIVE ON ONE OF THE EQUIPPED FANOUT BOARDS
36 CSTFB7 ON 0(311) # 790437
-001- 37 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000311 *****

0024303 03 000311 040043 000000 40 DATA 0(40043) #GO TO NO.3 CODE
0024304 03 000312 000000 024306 0024306 41 ADDR STFOBTST
0024306 42 STFOBTST
0024306 43 CALL FOBNDX
0024306 03 000314 137020 013166 CDGSFA -001- 44 BSA FOBNDX
0024310 03 000316 130700 012754 CDGSIO 45 LL R12,MODSIZE #MEMORY MOD (FOB) INCREMENT
0024312 03 000320 003320 ----- 46 ZR R13 #SET ADDRRESS TO TEST TIMING OUTPUTS
0024313 03 000321 030440 043140 CTSD 47 LL R2,BASADDR
0024315 03 000323 003060 ----- 48 ZR R3
0024316 03 000324 003120 ----- 49 ZR R5

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

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0024317          01 F0BUSLP
0024317 03 000325 103561 106200      02 LI R7,0(106200)
0024321 03 000327 003401 177777      03 LI R0,0(177777)
0024323          04 TAKEOUT 3
0024323 03 000331 006000 -----      -001- 05 LR 0,0
0024324 03 000332 006000 -----      -001- 06 LR 0,0
0024325 03 000333 006000 -----      -001- 07 LR 0,0
0024326 03 000334 003140 -----      08 ZR R6
0024327          09 CALL MEMOP # NO SPECIAL PARITY
0024327 03 000335 037020 013027 CDGSBS -001- 10 BSA MEMOP # INITIATE NORMAL WRITE(OFF-LINE)
0024331          11 EOW # 790437
0024331          -001- 12 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000336 *****

0024331          15 SIOM MASCINT # INITIALIZE STORE CONTROLLER
0024331 03 000337 137020 012667 CDGSIO -002- 16 BSA MASIOM
0024333 03 000341 046071 137020      -001- 17 DATA MASCINT # INITIALIZE STORE CONTROLLER
0024334          18 SIOM CLKSTOP # STOP STORE CONTROLLER CLOCK OUTPUT
0024334 03 000342 137020 012667 CDGSIO -002- 19 BSA MASIOM
0024336 03 000344 046074 -----      -001- 20 DATA CLKSTOP # DISABLE STORE CONTROLLER CLOCK OUTPUT
0024337 03 000345 103140 -----      21 ZR R6 # NO SPECIAL PARITY
0024340          22 CALL MEMOP
0024340 03 000346 037020 013027 CDGSBS -001- 23 BSA MEMOP
0024342 03 000350 106000 -----      24 NOP
0024343 03 000351 006000 -----      25 NOP
0024344          26 SIOM F0BMT # ENABLE F0B MAINT TEST
0024344 03 000352 037020 012667 CDGSIO -002- 27 BSA MASIOM
0024346 03 000354 041550 -----      -001- 28 DATA F0BMT # FANOUT BOARD MAINTENANCE TEST
0024347 03 000355 106000 -----      29 NOP
0024350          30 SIOM CLKSTRT # ENABLE STORE CONTROLLER CLOCK OUTPUT
0024350 03 000356 037020 012667 CDGSIO -002- 31 BSA MASIOM
0024352 03 000360 046070 137020      -001- 32 DATA CLKSTRT # ENABLE STORE CONTROLLER CLOCK OUTPUT
0024353          33 CALL MEMOP # PERFORM MAINT WRITE
0024353 03 000361 137020 013027 CDGSBS -001- 34 BSA MEMOP
0024355 03 000363 106000 -----      35 NOP
0024356          36 SRIO SERREAD
0024356 03 000364 037020 012667 CDGSIO -002- 37 BSA MASIOM
0024360 03 000366 047114 -----      -001- 38 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0024361 03 000367 124260 -----      39 TBN R11,S(F0BTERB) # TIMING ERROR B (UNSELECT)?
0024361          40 CSTFB7 OW 0(370) # 790437
0024361          -001- 41 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000370 *****

0024362 03 000370 054002 ----- 0024364 44 BC NOERR B #SHOULD GET UNSEL ERROR
0024363 03 000371 026535 -----      45 SBR R5,R13
0024364          46 EOW # 790437
0024364          -001- 47 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000371 *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

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0024364
0024364 03 000372 124267 -----          01 NOERR_B
                                                02 TBN          R11,S(FOBTERA)      # ALSO GETTING AN ERROR A INCICATES A
                                                # VALID CYCLE
                                                # 790437
-001- 04 CSTFB7 OW          0(373)
                                                ***** THE FIRST ADDRESS OVERWRITTEN IS 000373 *****
                                                05 NOTE

0024365 03 000373 055002 ----- 0024367    08 BNC          NOERR_A          #NO SEL ERROR
0024366 03 000374 026535 -----          09 SBR          R5,R13
0024367          10 EOW          # 790437
-001- 11 NOTE          ***** THE LAST ADDRESS OVERWRITTEN IS 000374 *****

-001- 14 CSTFB7 OW          0(375)          # 790437
-001- 15 NOTE          ***** THE FIRST ADDRESS OVERWRITTEN IS 000375 *****

0024367          18 NOERR_A
0024367 03 000375 104721 -----          19 AN          R13,1          #INCR FOB NUMBER
0024370 03 000376 037000 112426 0000774 -001- 20 CPATCH BGNP    0(774)          # 790437
-001- 21 BL          XXX660
-001- 22 NOTE      CPATCH 'CSECT'
-001- 23 NOTE      ***** PATCH AREA BEGINS AT 000774 *****

-001- 26 XXX660 PATCHAREA
0112426          27 CR          R13,FOBCNT          #LAST FOB?
0112426 05 000774 120330 -----          28 BCL          UNSELTST          #IF YES GET RESULTS
0112427 05 000775 050000 024372 0000400          29 AR          R3,R12          #INCR ADDRESS
0112431 05 000777 001474 -----          30 BNC          ADDCY          #TST CARRY
0112432 05 001000 055002 ----- 0112434.          31 AN          R2,1          #INCR ADDRESS
0112433 05 001001 004441 -----          32 ADDCY
0112434          33 BL          FOBUSLP          #DO NXT FOB
0112434 05 001002 137000 024317 0000325          34 ENDP          NR          # 790437
0112434          -001- 35 NOTE      ***** LAST PATCH ADDRESS USED IS 001003 *****
          -001- 36 NOTE      ***** NUMBER OF PATCH WORDS USED IS 8 (DECIMAL) *****

0024372          39 UNSELTST
0024372 03 000400 104337 -----          40 SN          R13,1          #SETUP CONSTANT FOR MASK
0024373          41 UNSELMASK
0024373 03 000401 101400 -----          42 AR          RO,RO          #CALCULATE MASK FOR NUM OF FOB'S
0024374 03 000402 036320 024373 0024373          43 BX          R13,UNSELMASK
0024376 03 000404 006000 -----          44 NOP
0024377 03 000405 015400 -----          45 COM          RO
0024400 03 000406 014120 -----          46 NR          R5,RO          #MASK RESULTS
0024401 03 000407 007465 -----          47 LSR          MCHB,R5          #PREPARE FOR COMPARE
0024402 03 000410 071400 -----          48 GA
0024403 03 000411 031000 024407 0024407          49 LAL          RO,*,+4,RAO          #RETURN TO TABLES

```

STORE FANOUT BOARDS TEST-PART B

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TEST 47 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0024405 03 000413 037000 011162 CDGNM  
002440701 BL INTRPN03  
02 EOM # 790437  
-001- 03 NOTE \*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000414 \*\*\*\*\*0024407 03 000415 050014 ----- CDGNM  
0024410 03 000416 000000 000000-001- 06 # COMPARE  
-001- 07 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0000000).  
-001- 08 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.  
-001- 09 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE  
-001- 10 ADDR 0(0000000)0024412 03 000420 020020 ----- CDGNM  
0024413 03 000421 000022 ------001- 12 # FAILBIT  
-001- 13 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS TIMRFBXX  
-001- 14 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.  
-001- 15 VFD 1,0 2,1 5,0 2, 6,NFLBITS  
-001- 16 VFD 16,TIMRFB

0024414

18 # TIMMING OUTPUTS (GRASO OR GCASO) ARE IN ERROR. INTERNAL TO THE  
19 # PACK THEY CAN BE EITHER OPEN OR SHORTED TO CREATE THIS ERROR.  
20 BYPASS

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 73

TEST 47 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

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-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 47 SEGMENT 2
-001- 04 # *
-001- 05 # *****

```

```

0024414 03 000422 000200 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(2) 6,NTESTSEG

```

```

11 # THIS SEGMENT VERIFIES THE OPERATION OF TWO ENABLES ON THE TIMING SIGNAL
12 # CHECK CIRCUITRY THAT WERE NOT CHECKED PREVIOUSLY. SPECIFICALLY, THE ENABLE ON
13 # THE GATED INPUT OF THE READ/WRITE DETECT FF (RW) WHICH COMES FROM BIT 4 OF THE
14 # TIMING SHIFT REGISTER IS CHECKED BY STEPPING THRU A NORMAL WRITE CYCLE IN THE
15 # STORE UNDER TEST UP UNTIL THE ACTIVATION OF BIT 3 IN THE TIMING SHIFT
16 # REGISTER. THIS WILL SET THE CHIP SELECT FF (CS) AND, IN TURN, CAUSE THE
17 # DETECT-CHIP-SELECT FF (DETCS) TO BE SET. IF THE ERROR STROBE (ERSTB) FROM
18 # BIT 4 IS STUCK ACTIVE, THEN THE READ/WRITE DETECT FF (RW) WILL ALSO BE SET
19 # AND THE FANOUT BOARD TIMING ERROR 'A' WILL NOT BE ACTIVE AT THIS POINT.
20 # OTHERWISE, IF THE ERROR STROBE IS NOT STUCK, THEN AN ERROR WILL BE INDICATED
21 # DUE TO THE ABSENCE OF THE READ/WRITE DETECT AT THIS POINT. THE ENABLE ON
22 # THE GATED OUTPUT OF THE READ/WRITE DETECT FF (RW) WHICH COMES FROM THE DETECT-
23 # CHIP-SELECT FF (DETCS) IS CHECKED BY ACTIVATING THE ERROR STROBE (ERSTB) VIA
24 # BIT 4 DURING A NORMAL WRITE WHICH SHOULD SET THE READ/WRITE DETECT FF. THIS
25 # IS FOLLOWED BY THE ACTIVATION OF SHIFTER BIT 0 WHICH SHOULD RECLEAR THE
26 # DETECT-CHIP-SELECT FF (DETCS). IF THE ENABLE ON THE OUTPUT OF THE RW FF IS
27 # STUCK ACTIVE, NO FANOUT BOARD TIMING ERROR WILL OCCUR; OTHERWISE DISABLING
28 # THE OUTPUT OF THE READ/WRITE DETECT FF AT THIS POINT SHOULD CAUSE A FANOUT
29 # BOARD TIMING ERROR 'A'.

```

```

-001- 32 # N03 CODE
-001- 33 # PROCESS 3ACC CODED ROUTINE AT ADDRESS ERSTBCK.
0024415 03 000423 040043 000000 CDGNM -001- 34 VFD 1,0 2,2 7,0 6,NNO3CD
0024416 03 000424 000000 024420 0024420 -001- 35 ADDR ERSTBCK

```

```

0024420 37 ERSTBCK
0024420 38 SIOM MASCINT
0024420 03 000426 137020 012667 CDGSIO -002- 39 BSA MASIOM
0024422 03 000430 046071 137020 -001- 40 DATA MASCINT # INITIALIZE STORE CONTROLLER
0024423 41 SIOM CLKSTOP # DISABLE STORE CONTROLLER CLOCK OUTPUT
0024423 03 000431 137020 012667 CDGSIO -002- 42 BSA MASIOM
0024425 03 000433 046074 ----- -001- 43 DATA CLKSTOP # DISABLE STORE CONTROLLER CLOCK OUTPUT
0024426 03 000434 130700 043140 CTSD 44 LL R12,BASADDR
0024430 03 000436 003320 ----- 45 ZR R13 # FIRST MEMORY MOD IN STORE UNDER TEST
0024431 46 NMLWRIT RAD
0024431 03 000437 003561 106200 -001- 47 LI R7,B(1000110010000000) # MAIN MEMORY STATUS
0024433 03 000441 003741 000000 -001- 48 LI R14,0 # TO BE WRITTEN - SD0-15
0024435 03 000443 003761 000000 -001-;49 LI R15,0 # TO BE WRITTEN - SD16-23

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 74

TEST 47 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0024437 03 000445 006054 ----- -001- 01 # IF ADDRESS(RAD) IS ADDRESS REG PAIR(RAD), LOAD R2 & R3 DIRECTLY FROM RAD
0024440 03 000446 006075 ----- -001- 02 LR R2,R12
0024441 03 000447 003140 ----- -001- 03 LR R3,R13
0024442 -001- 04 ZR R6 # NO SPECIAL PARITY
0024442 03 000450 037020 013027 CDGSBS -001- 05 CALL MEMOP # INITIATE NORMAL WRITE(OFF-LINE)
0024444 03 000452 103701 000003 -002- 06 BSA MEMOP
0024444 03 000452 103701 000003 07 LI R12,3 # FORCE EXACTLY 4 CLOCK CYCLES IN MAIN STORE CONTROLLER

0024446 09 CLK532
0024446 -002- 10 SIOM MASCLKN/FAK010 # FAKE FIRST HALF OF STORE CLOCK CYCLE
0024446 03 000454 137020 012667 CDGSIO -002- 11 BSA MASIOM
0024450 03 000456 056074 137020 -001- 12 DATA MASCLKN/FAK010 # FAKE SECOND HALF OF STORE CLOCK CYCLE
0024451 03 000457 137020 012667 CDGSIO -001- 13 SIOM MASCLK/FAK010 # FAKE SECOND HALF OF STORE CLOCK CYCLE
0024453 03 000461 056076 136300 -002- 14 BSA MASIOM
0024454 03 000462 136300 024446 0024446 -001- 15 DATA MASCLK/FAK010 # FAKE FIRST HALF OF STORE CLOCK CYCLE
0024456 03 000464 037020 012667 CDGSIO -002- 16 BX R12,CLK532
0024460 03 000466 146074 137020 -001- 17 SIOM FBIT09
0024461 03 000467 137020 012667 CDGSIO -002- 18 BSA MASIOM
0024463 03 000471 047114 ----- -001- 19 DATA FBIT09 # COLLECT ERRORS IN STORE ERROR REGISTER
0024464 03 000472 124267 ----- -002- 20 SRIO SERREAD
0024465 03 000473 054011 ----- 0024476 -002- 21 BSA MASIOM
0024466 03 000474 007473 ----- -001- 22 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0024467 03 000475 071400 ----- -001- 23 TEST S(FOBTERA),1TEST,TIMCKER
0024470 03 000476 031000 024474 0024474 -001- 24 TBN R11,S(FOBTERA)
0024472 03 000500 037000 011162 CDGNM -001- 25 BC P685
-001- 26 LSR MCHB,R11
-002- 27 GA
-002- 28 LAL RO,*+4,RAD
-002- 29 BL INTRPN03

-002- 31 # FAILTST
-002- 32 # FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TIMCKER.
-002- 33 # DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024474 03 000502 020017 ----- CDGNM -002- 34 VFD 1,0 2,1 5,0 2,0 6,NFAILTST
0024475 03 000503 000032 137020 -002- 35 VFD 16,TIMCKER

-001- 37 # TROUBLE PRINTOUT DATA = CONTENTS OF R11 IN ON-LINE PROCESSOR
0024476 -001- 38 P685
-001- 39 # ERROR STROBE(ERSTB) ON GATED INPUT OF READ/WRITE DETECT FF(RW) IS STUCK ACTIVE

42 # NEXT, CHECK ENABLE ON GATED OUTPUT OF READ/WRITE DETECT FF (RW)

0024476 44 RWGA1CK
0024476 45 SIOM CKTINIT
0024476 03 000504 137020 012667 CDGSIO -002- 46 BSA MASIOM
0024500 03 000506 040374 ----- -001- 47 DATA CKTINIT # INITIALIZE ALL STORE CONTROLLER CIRCUITS

0024501 03 000507 130700 043140 CTSD 49 LL R12,BASADDR

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 75

TEST 47 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

## MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0024503 03 000511 003320 ----- 01 ZR R13 # FIRST MEMORY MOD IN STORE UNDER TEST
0024504 02 NMLWRIT RAO
0024504 03 000512 003561 106200 -001- 03 LI R7,B(1000110010000000) # MAIN MEMORY STATUS
0024506 03 000514 003741 000000 -001- 04 LI R14,0 # TO BE WRITTEN - SD0-15
0024510 03 000516 003761 000000 -001- 05 LI R15,0 # TO BE WRITTEN - SD16-23
-001- 06 # IF ADDRESS(RAO) IS ADDRESS REG PAIR(RAO), LOAD R2 & R3 DIRECTLY FROM RAO
0024512 03 000520 006054 ----- -001- 07 LR R2,R12
0024513 03 000521 006075 ----- -001- 08 LR R3,R13
0024514 03 000522 003140 ----- -001- 09 ZR R6 # NO SPECIAL PARITY
0024515 03 000523 037020 013027 CDGSBS -001- 10 CALL MEMOP # INITIATE NORMAL WRITE(OFF-LINE)
0024517 12 BSA MEMOP
12 CLOCK 4 # SET READ/WRITE FF VIA ERROR STROBE(ERST
B)
-001- 14 # FORCE EXACTLY 4 CLOCK CYCLES IN MAIN STORE CONTROLLER
0024517 03 000525 103701 000003 -001- 15 LI R12,3
0024521 -001- 16 CLP692
0024521 03 000527 137020 012667 CDGSIO -003- 17 BSA MASIOM
0024523 03 000531 056076 137020 -002- 18 DATA MASCLK(FAKD10 # FAKE FIRST HALF OF STORE CLOCK CYCLE
0024524 03 000532 137020 012667 CDGSIO -003- 19 BSA MASIOM
0024526 03 000534 056074 136300 -002- 20 DATA MASCLKN(FAKD10 # FAKE SECOND HALF OF STORE CLOCK CYCLE
0024527 03 000535 136300 024521 0024521 -001- 21 BX R12,CLP692
0024531 22 SIOM FLSHO # CLEAR DETECT-CHIP-SELECT FF (DETCS)
0024531 03 000537 037020 012667 CDGSIO -002- 23 BSA MASIOM
0024533 03 000541 046156 137020 -001- 24 DATA FLSHO # START ZERO INTO MAIN SHIFTER
0024534 25 SIOM FBIT09
0024534 03 000542 137020 012667 CDGSIO -002- 26 BSA MASIOM
0024536 03 000544 146074 137020 -001- 27 DATA FBIT09 # COLLECT ERRORS IN STORE ERROR REGISTER
0024537 28 SRIO SERREAD
0024537 03 000545 137020 012667 CDGSIO -002- 29 BSA MASIOM
0024541 03 000547 047114 ----- -001- 30 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
31 CSTFB7 OW # 790437
-001- 32 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000550 *****

0024542 03 000550 124267 ----- 35 TBN R11,S(FOBTERA)
0024543 03 000551 071400 ----- 36 GA #RESTORE REGISTERS
0024544 03 000552 054010 ----- 37 BC P657
0024545 03 000553 007473 ----- 38 LSR MCHB,R11
0024546 03 000554 031000 024552 0024552 39 LAL RO,++4,RAO
0024550 03 000556 037000 011162 CDGNM 40 BL INTRPN03
-001- 41 # FAILTST
-001- 42 # FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS TIMCKER.
-001- 43 # DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024552 03 000560 020017 ----- CDGNM -001- 44 VFD 1,0 2,1 5,0 2,0 6,NFAILTST
0024553 03 000561 000032 137020 -001- 45 VFD 16,TIMCKER

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 76

TEST 47 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0024554  
0024554

01 P657  
02 EOW # 790437  
-001- 03 NOTE \*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000561 \*\*\*\*\*

06 # DETECT-CHIP-SELECT ENABLE ON GATED OUTPUT OF READ/WRITE FF IS STUCK ACTIVE

09 # NOTE: THIS TEST ALSO CHECKS THE CLEAR LEAD (CTH10,CTL0,D21) ON THE DETECT-  
10 # CHIP-SELECT FF (DETC5) FOR STUCK-INACTIVE (HIGH) FAULT.

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 77

TEST 47 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

01 CSTFB7 OW 0(562),0(564) # 12705  
-001- 02 NOTE \*\*\*\*\* THE FIRST ADDRESS OVERWRITTEN IS 000562 \*\*\*\*\*

0024554 05  
0024554 03 000562 137020 012771 CDGSIO -002- 06  
0024556 03 000564 137000 024015 0024015 -001- 07  
0024560 03 000566 171400 ----- -001- 08  
0024561 03 000567 037000 011725 CDGNM -001- 09  
0024561 -001- 10  
-001- 11

FINALE FB7INIT  
BSA FINAL  
BL BKCSTFB7  
GA  
BL PASSTST # TEST COMPLETED  
EOW # 12705  
NOTE \*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000570 \*\*\*\*\*

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 78

TEST 48

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

-001- 01 # *****
-001- 02 # *****
-001- 03 # **
-001- 04 # ** CU DIAGNOSTIC TEST NO. 48, MAIN_STORE_FANOUT_BOARD
-001- 05 # **
-001- 06 # *****
-001- 07 # *****

```

0024563

-001- 10 CSTFB8 CSECT

0024563 04 000000 000145 ----- CDGNM

-001- 14 VFD 1,0 2,0 2,0 2,0 3,1 6,NBGN

```

18 # SEGMENT 1
19 # THIS SEGMENT CHECKS THOSE ENABLES ON THE CHIP SELECT(CS) FF THAT
20 # WERE NOT TESTED PREVIOUSLY. THIS INCLUDES THE COMMON CLEAR (CO) WHICH IS
21 # ACTIVATED BY INITIALIZE (INITOA) AND THE SPECIAL CLEAR (BCO) WHICH SHOULD BE
22 # ENABLED BY BIT 9 DURING REFRESH OPERATIONS OR BIT10 DURING A NORMAL STORE
23 # ACCESS. BY CONTROLLING THE STORE CLOCK DURING A NORMAL WRITE CYCLE AND
24 # CLEARING CHIP SELECT WITH INITIALIZE AFTER BIT 3, IT IS POSSIBLE TO DETERMINE
25 # WHETHER THE COMMON CLEAR (CO) IS STUCK INACTIVE (HIGH) ON THE CHIP SELECT FF.
26 # THE OTHER STATE OF THE INITIALIZE IS CHECKED FUNCTIONALLY IN A LATER TEST IN
27 # CONJUNCTION WITH THE TESTING OF THE INPUTS AND OUTPUTS OF THE DATA REGISTER
28 # IN THE STORE CONTROLLER. AT THE SAME TIME THE BIT 9 AND BIT 10 ENABLES ON THE
29 # CLEAR SIDE OF THE CHIP SELECT FF ARE CHECKED FOR STUCK-HIGH FAULTS, AND THE
30 # SPECIAL CLEAR (BCO) INPUT TO CHIP SELECT IS CHECKED FOR STUCK-ACTIVE (LOW).
31 # THE TWO FAULTS WHICH REMAIN UNDIAGNOSED ARE THE REFRESH (RM1) AND NORMAL (RMO)
32 # ENABLES TO SPECIAL CLEAR IN A STUCK-ACTIVE (HIGH) STATE. THESE WILL REMAIN
33 # UNDIAGNOSABLE UNTIL AN LDI IS INCORPORATED IN THE TIMING CIRCUIT TO ALLOW THE
34 # DEACTIVATION OF SHIFTER BIT 9 (TO TEST RM1) AND THE ACTIVATION OF BIT 10
35 # (TO TEST RMO).

```

```

38 # SEGMENT 2
39 # THIS SEGMENT VERIFIES THE OPERATION OF THE CIRCUIT WHICH CHECKS THAT CHIP
40 # SELECT TIMING SIGNALS ARE NOT GETTING THRU UNSELECTED FANOUT BOARDS TO THEIR
41 # ASSOCIATED MEMORY PLANES. THE VERIFICATION IS VASTLY SIMPLIFIED BY A SPECIAL
42 # FANOUT-BOARD-MAINTENANCE-TEST STATE (FOBMT) WHICH FORCES ALL OF THE FANOUT
43 # BOARDS TO APPEAR UNSELECTED FOR THE BENEFIT OF THE CHECK CIRCUIT. AS EACH
44 # EQUIPPED FANOUT BOARD IS ACCESSED (WITH FOBMT ACTIVE) IT SHOULD INDICATE AN
45 # UNSELECT ERROR TO THE UNSELECT CHECK CIRCUIT IN THE CONTROLLER.

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 79

TEST 48

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W770

```

-001- 01 CSTFB8 OW      0(1),0(16)      # 12705
-001- 02      NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000001 *****

0024564 04 000001 000144 ----- CDGNM
0024564 04 000001 000144 ----- CDGNM
0024565 04 000002 047707 ----- CDGNM
0024566 04 000003 000040 000001

0024570 04 000005 020005 ----- CDGNM
0024571 04 000006 106631 -----

0024572 04 000007 040043 000000 CDGNM
0024573 04 000010 000000 024575 0024575

0024575 04 000012 103501 000151 TTYTBL
0024577 04 000014 034500 043132 CTSD

0024601 04 000016 103240 -----
0024602 04 000017 004257 -----

0024603 04 000020 072652 ----- CDGNM
0024604 04 000021 037020 012757 CDGSIO
0024606 04 000023 172652 ----- CDGNM
0024607 04 000024 137020 012667 CDGSIO
0024611 04 000026 046071 -----

0024612 04 000027 171400 -----
0024613 04 000030 031000 024617 0024617
0024615 04 000032 037000 011162 CDGNM

-002- 05 FB8INIT PREPARE
-002- 06 # RTN_BLM
-002- 07 # TURN OFF AUTOMATIC RETURNS TO BLM EVERY 20 TABLE ENTRIES.
-002- 08 VFD 1,0 2,0 6,0 1,1 6,NRTNBLM

-002- 10 # SEND
-002- 11 # SEND 0(0000001) TO OFF-LINE MCHB.
-002- 12 # PARITY IS 0(2).
-002- 13 VFD 1,0 2,2 7,B(0111111) 6,N2SEND
-002- 14 ADDR 0(0000001),0(2)

-002- 16 # MICRO
-002- 17 # PERFORM MICRO INSTRUCTION IN OFF-LINE CU.
-002- 18 # TO FIELD = MSXT FROM FIELD = MCHBXF
-002- 19 VFD 1,0 2,1 7,0 6,NMICRO
-002- 20 VFD 8,MSXT 8,MCHBXF

-002- 22 # NO3_CODE
-002- 23 # PROCESS 3ACC CODED ROUTINE AT ADDRESS **2.
-002- 24 VFL 1,0 2,2 7,0 6,NNO3CD
-002- 25 ADDR **2

-001- 27 # SUBSTITUTE 'MAS' FOR 'LOOP' IN TROUBLE PRINTOUT
-002- 28 LI R4,MXAS
-001- 29 STL R4,PAGSCR+24
-001- 30 # USE THE DIAGNOSTIC LOOP INDEX(LOOPIND) TO ACCESS THE PROPER I/Q
-001- 31 # SUBCHANNEL ADDRESS IN THE MAIN STORE CONTROLLER I/Q SUBCHANNEL TABLE
-001- 32 # (MASCIOSC) AND STORE IT IN THE ASSIGNED SLOT(IOADDR) IN PAGING BUFFER(PAGSCR)

-001- 34 ZR LOOPIND
-001- 35 SN LOOPIND,1 #ASSURE THAT LOOPIND IS ZERO BEFORE
#PROCEEDING WITH TEST

-001- 37 HN LOOPIND,LOOPIND
-002- 38 BSA CONTPREP
-001- 39 HN LOOPIND,LOOPIND
-003- 40 BSA MASIOM
-002- 41 DATA MASCINT # INITIALIZE STORE CONTROLLER

-002- 43 GA
-002- 44 LAL RO,**4,RAD
-002- 45 BL INTRPNO3

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 80

TEST 48

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

0024617

01  
-001- 02

EOW  
NOTE

# 12705

\*\*\*\*\* THE LAST ADDRESS OVERWRITTEN IS 000033 \*\*\*\*\*

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 81

TEST 48 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 48 SEGMENT 1
-001- 04 # *
-001- 05 # *****

```

```

0024617 04 000034 000100 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(1) 6,NTESTSEG

```

```

11 # THIS SEGMENT CHECKS THOSE ENABLES ON THE CHIP SELECT(CS) FF THAT
12 # WERE NOT TESTED PREVIOUSLY. THIS INCLUDES THE COMMON CLEAR (CO) WHICH IS
13 # ACTIVATED BY INITIALIZE (INITOA) AND THE SPECIAL CLEAR (BCO) WHICH SHOULD BE
14 # ENABLED BY BIT 9 DURING REFRESH OPERATIONS OR BIT10 DURING A NORMAL STORE
15 # ACCESS. BY CONTROLLING THE STORE CLOCK DURING A NORMAL WRITE CYCLE AND
16 # CLEARING CHIP SELECT WITH INITIALIZE AFTER BIT 3, IT IS POSSIBLE TO DETERMINE
17 # WHETHER THE COMMON CLEAR (CO) IS STUCK INACTIVE (HIGH) ON THE CHIP SELECT FF.
18 # THE OTHER STATE OF THE INITIALIZE IS CHECKED FUNCTIONALLY IN A LATER TEST IN
19 # CONJUNCTION WITH THE TESTING OF THE INPUTS AND OUTPUTS OF THE DATA REGISTER
20 # IN THE STORE CONTROLLER. AT THE SAME TIME THE BIT 9 AND BIT 10 ENABLES ON THE
21 # CLEAR SIDE OF THE CHIP SELECT FF ARE CHECKED FOR STUCK-HIGH FAULTS, AND THE
22 # SPECIAL CLEAR (BCO) INPUT TO CHIP SELECT IS CHECKED FOR STUCK-ACTIVE (LOW).
23 # THE TWO FAULTS WHICH REMAIN UNDIAGNOSED ARE THE REFRESH (RM1) AND NORMAL (RMO)
24 # ENABLES TO SPECIAL CLEAR IN A STUCK-ACTIVE (HIGH) STATE. THESE WILL REMAIN
25 # UNDIAGNOSABLE UNTIL AN LDI IS INCORPORATED IN THE TIMING CIRCUIT TO ALLOW THE
26 # DEACTIVATION OF SHIFTER BIT 9 (TO TEST RM1) AND THE ACTIVATION OF BIT 10
27 # (TO TEST RMO).

```

```

-001- 30 # NO3 CODE
-001- 31 # PROCESS 3ACC CODED ROUTINE AT ADDRESS CSINITCK.
0024620 04 000035 040043 000000 CDGNM -001- 32 VFD 1,0 2,2 7,0 6,NN03CD
0024621 04 000036 000000 024623 0024623 -001- 33 ADDR CSINITCK

```

```

37 # CHECK THAT THE INITIALIZE ENABLE TO CHIP SELECT IS NOT STUCK INACTIVE

```

```

0024623 39 CSINITCK
0024623 04 000040 130700 043140 CTSD 40 LL R12,BASADDR
0024625 04 000042 003320 ----- 41 ZR R13 # FIRST MEMORY MODULE IN STORE UNDER TEST
0024626 42 SIOM CKTINIT
0024626 04 000043 037020 012667 CDGSIO -002- 43 BSA MASIOM
0024630 04 000045 040374 ----- -001- 44 DATA CKTINIT # INITIALIZE ALL STORE CONTROLLER
# CIRCUITS
0024631 46 NMLWRIT RAO
0024631 04 000046 103561 106200 -001- 47 LI R7,B(1000110010000000) # MAIN MEMORY STATUS
0024633 04 000050 003741 000000 -001- 48 LI R14,0 # TO BE WRITTEN - SD0-15
0024635 04 000052 003761 000000 -001-;49 LI R15,0 # TO BE WRITTEN - SD16-23

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

```

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 82

```

TEST 48 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0024637 04 000054 006054 ----- -001- 01 # IF ADDRESS(RAD) IS ADDRESS REG PAIR(RAD), LOAD R2 & R3 DIRECTLY FROM RAD
0024640 04 000055 006075 ----- -001- 02 LR R2,R12
0024641 04 000056 003140 ----- -001- 03 LR R3,R13
0024642 -001- 04 IR R6 # NO SPECIAL PARITY
0024642 04 000057 037020 013027 CDGSBS -001- 05 CALL MEMOP # INITIATE NORMAL WRITE(OFF-LINE)
0024644 -002- 06 BSA MEMOP
0024644 -001- 07 CLOCK 3 # ACTIVATE BIT 3 & SET CHIP SELECT FF
-001- 08 # FORCE EXACTLY 3 CLOCK CYCLES IN MAIN STORE CONTROLLER
0024644 04 000061 103701 000002 -001- 09 LI R12,2
0024646 -001- 10 CLP738
0024646 04 000063 137020 012667 CDGSIO -003- 11 BSA MASIOM
0024650 04 000065 056076 137020 -002- 12 DATA MASCLK/FAK010 # FAKE FIRST HALF OF STORE CLOCK CYCLE
0024651 04 000066 137020 012667 CDGSIO -003- 13 BSA MASIOM
0024653 04 000070 056074 136300 -002- 14 DATA MASCLKN/FAK010 # FAKE SECOND HALF OF STORE CLOCK CYCLE
0024654 04 000071 136300 024646 0024646 -001- 15 BX R12,CLP738
0024656 -001- 16 SIOM CKTINIT # CLEAR CHIP SELECT
0024656 04 000073 037020 012667 CDGSIO -002- 17 BSA MASIOM
0024660 04 000075 040374 137020 -001- 18 DATA CKTINIT # INITIALIZE ALL STORE CONTROLLER CIRCUITS

0024661 -001- 20 SIOM CLKSTRT
0024661 04 000076 137020 012667 CDGSIO -002- 21 BSA MASIOM
0024663 04 000100 046070 137020 -001- 22 DATA CLKSTRT # ENABLE STORE CONTROLLER CLOCK OUTPUT
0024664 -001- 23 SRIO SERREAD
0024664 04 000101 137020 012667 CDGSIO -002- 24 BSA MASIOM
0024666 04 000103 047114 ----- -001- 25 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)

27 # NOTE: IF INITIALIZE CLEAR TO CHIP SELECT FF IS STUCK INACTIVE (HIGH), THEN THE
28 # FF WILL NOT BE RESET BY THE SECOND INITIALIZE AND THE DETECT CHIP SELECT
29 # (DETCs) FF WILL NOT BE SET WHEN THE STORE CYCLE IS COMPLETED AFTER THE CLOCK
30 # IS REENABLED. THIS WILL CAUSE THE FANOUT BOARD TIMING ERROR A (FOBTERA) TO
31 # BE SET IF THIS INITIALIZE CLEAR IS STUCK INACTIVE.

0024667 33 TEST S(FOBTERA),OTEST,CSFFER
0024667 04 000104 124267 ----- -001- 34 TBN R11,S(FOBTERA)
0024670 04 000105 055011 ----- 0024701 -001- 35 BNC P749
0024671 04 000106 007473 ----- -001- 36 LSR MCHB,R11
0024672 04 000107 071400 ----- -002- 37 GA
0024673 04 000110 031000 024677 0024677 -002- 38 LAL RO,**4,RAO
0024675 04 000112 037000 011162 CDGNM -002- 39 BL INTRPN03

-002- 41 # FAILTST
-002- 42 # FAILURE EXIT - SYMBOLIC TROUBLE NUMBER IS CSFFER.
-002- 43 # DATA WORD IN FAILURE MESSAGE IS ON-LINE MCHB.
0024677 04 000114 020017 ----- CDGNM -002- 44 VFD 1,0 2,1 5,0 2,0 6,NFAILTST
0024700 04 000115 000001 ----- -002- 45 VFD 16,CSFFER

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 83

TEST 48 SEGMENT 1

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

0024701                   -001- 01 # TROUBLE PRINTOUT DATA = CONTENTS OF R11 IN ON-LINE PROCESSOR  
                          -001- 02 P749  
                          03 # INITIALIZE CLEAR ON CHIP SELECT FF IS STUCK INACTIVE (HIGH)

0024701				06	RTN_TBL **4
0024701	04	000116	171400	-----	-001- 07
0024702	04	000117	031000	024706 0024706	-001- 08
0024704	04	000121	037000	011162 CDGNM	-001- 09
					GA
					LAL RO,**4,RAO
					BL INTRPN03

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 84

TEST 48 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # *****
-001- 02 # *
-001- 03 # * TEST 48 SEGMENT 2
-001- 04 # *
-001- 05 # *****

```

```

0024706 04 000123 000200 ----- CDGNM -001- 08 VFD 1,0 2,0 2,0 5,D(2) 6,NTESTSEG

```

```

11 # THIS SEGMENT VERIFIES THE OPERATION OF THE CIRCUIT WHICH CHECKS THAT CHIP
12 # SELECT TIMING SIGNALS ARE NOT GETTING THRU UNSELECTED FANOUT BOARDS TO THEIR
13 # ASSOCIATED MEMORY PLANES. THE VERIFICATION IS VASTLY SIMPLIFIED BY A SPECIAL
14 # FANOUT-BOARD-MAINTENANCE-TEST STATE (FOBMT) WHICH FORCES ALL OF THE FANOUT
15 # BOARDS TO APPEAR UNSELECTED FOR THE BENEFIT OF THE CHECK CIRCUIT. AS EACH
16 # EQUIPPED FANOUT BOARD IS ACCESSED (WITH FOBMT ACTIVE) IT SHOULD INDICATE AN
17 # UNSELECT ERROR TO THE UNSELECT CHECK CIRCUIT IN THE CONTROLLER.

```

```

-001- 20 # NO3_CODE
-001- 21 # PROCESS 3ACC CODED ROUTINE AT ADDRESS USELTST.
0024707 04 000124 040043 000000 CDGNM -001- 22 VFD 1,0 2,2 7,0 6,NN03CD
0024710 04 000125 000000 024712 0024712 -001- 23 ADDR USELTST

0024712 25 USELTST
0024712 04 000127 131700 043140 CTSD 26 LAL R12,BASADDR,RA1
0024714 04 000131 040721 ----- 27 L R13,1(RA1) # FIRST MEMORY IN STORE UNDER TEST
0024715 28 CALL FOBNDX # HOW MANY EQUIPPED FANOUT BOARDS?
0024715 04 000132 037020 013166 CDGSFA -001- 29 BSA FOBNDX
0024717 04 000134 103100 ----- 30 ZR R4 # ZERO LOOP INDEX
0024720 04 000135 003521 177777 31 LI R5,ONES # INITIALIZE RESULT REG TO ALL ERRORS
0024722 32 USELOOP
0024722 33 SIOM MASCINT
0024722 04 000137 137020 012667 CDGSIO -002- 34 BSA MASIOM
0024724 04 000141 046071 137020 -001- 35 DATA MASCINT # INITIALIZE STORE CONTROLLER
0024725 36 SIOM FOBMT
0024725 04 000142 137020 012667 CDGSIO -002- 37 BSA MASIOM
0024727 04 000144 041550 ----- -001- 38 DATA FOBMT # FANOUT BOARD MAINTENANCE TEST
0024730 39 NMLREAD RAD
0024730 04 000145 103561 106260 -001- 40 LI R7,B(1000110010110000) # MAIN MEMORY STATUS
0024732 04 000147 006054 ----- -001- 41 LR R2,R12
0024733 04 000150 006075 ----- -001- 42 LR R3,R13
0024734 04 000151 003140 ----- -001- 43 ZR R6 # NO SPECIAL PARITY
0024735 04 000152 037020 013027 CDGSBS -002- 44 BSA MEMOP
0024737 45 SRIO SERREAD
0024737 04 000154 137020 012667 CDGSIO -002- 46 BSA MASIOM
0024741 04 000156 047114 ----- -001- 47 DATA SERREAD # READ BACK STORE ERROR REGISTER(SER)
0024742 04 000157 124260 ----- 48 TBN R11,S(FOBTERB) # TIMING ERROR B ?
0024743 04 000160 054002 ----- 0024745 49 BC USELSKP

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 48 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB W77D

```

0024744 04 000161 022524 ----- 01 ZBR R5,R4 # IF NOT, CLEAR ERROR INDICATOR BIT
0024745 02 USELSKP
0024745 04 000162 130400 012754 CDGSIO 03 LL RD,MODSIZE
0024747 04 000164 001720 ----- 04 AR R13,RO # POINT TO NEXT MEMORY MOD (FANOUT BOARD)
0024750 04 000165 055002 ----- 0024752 05 BNC USELJMP # CARRY?
0024751 04 000166 004701 ----- 06 AN R12,1 # IF SO, INCREMENT HIGH ADDRESS BITS
0024752 07 USELJMP
0024752 04 000167 104501 ----- 08 AN R4,1 # INCREMENT LOOP INDEX
0024753 04 000170 020110 ----- 09 CR R4,F0BCNT # WAS THIS THE LAST EQUIPPED FANOUT BOARD?
0024754 04 000171 055746 ----- 0024722 11 BNC USELOOP # IF NOT, REPEAT FOR NEXT FANOUT BOARD
0024755 04 000172 007465 ----- 13 LSR MCHB,R5 # PREPARE FOR COMPARE
0024756 14 RTN_TBL **4
0024756 04 000173 071400 ----- -001- 15 GA
0024757 04 000174 031000 024763 0024763 -001- 16 LAL RD,**4,RA0
0024761 04 000176 037000 011162 CDGNM -001- 17 BL INTRPN03
-001- 19 # COMPARE
-001- 20 # COMPARE ON-LINE MAINTENANCE CHANNEL BUFFER TO 0(0177777).
-001- 21 # IF COMPARISON EXISTS, SKIP NEXT TABLE ENTRY.
0024763 04 000200 050014 ----- CDGNM -001- 22 VFD 1,LPINDX 2,2 1,1 1,SUCCESS 5,0 6,NCOMPARE
0024764 04 000201 000000 177777 -001- 23 ADDR 0(0177777)
-001- 25 # FAILBIT
-001- 26 # FAILURE EXIT. SYMBOLIC TROUBLE NUMBER IS USELFBXX
-001- 27 # WHERE XX IS THE LOWEST FAILING BIT NUMBER.
0024766 04 000203 020020 ----- CDGNM -001- 28 VFD 1,0 2,1 5,0 2, 6,NFLBITS
0024767 04 000204 000002 ----- -001- 29 VFD 16,USELFB
31 # ONE OF THE EQUIPPED FANOUT BOARDS IS NOT REGISTERING AN UNSELECT ERROR AT THE
32 # CHECK CIRCUITRY AS IT IS SUPPOSED TO WHILE IN THE MAINTENANCE TEST STATE

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TEST 48 SEGMENT 2

23:35:52 2/05/81 \*\*\*\*

MAIN\_STORE\_FANOUT\_BOARD DIAGNOSTIC TEST

CDGSFB

W77D

```

-001- 01 # NO3 CODE
-001- 02 # PROCESS 3ACC CODED ROUTINE AT ADDRESS **2.
0024770 04 000205 040043 000000 CDGNM -001- 03 VFD 1,0 2,2 7,0 6,NN03CD
0024771 04 000206 000000 024773 0024773 -001- 04 ADDR **2

-001- 08 CSTFB8 OW 0(210),0(212) # 12705
-001- 09 NOTE ***** THE FIRST ADDRESS OVERWRITTEN IS 000210 *****

0024773 12 FINALE FB8INIT
0024773 04 000210 137020 012771 CD6SIO -002- 13 BSA FINAL
0024775 04 000212 137000 024606 0024606 -001- 14 BL BKCSTFB8
0024777 04 000214 171400 ----- -001- 15 GA
0025000 04 000215 037000 011725 CDGNM -001- 16 BL PASSTST # TEST COMPLETED
0025000 -001- 17 EOW # 12705
-001- 18 NOTE ***** THE LAST ADDRESS OVERWRITTEN IS 000216 *****

-001- 21 CPATCH7 BGNP 0(307) # 800135
-001- 22 NOTE CPATCH7 'CSECT'
-001- 23 NOTE ***** PATCH AREA BEGINS AT 000307 *****

0121545 26 P_0607
0121545 11 000307 114335 ----- 27 TZ R13
0121546 11 000310 055004 ----- 0121552 28 BNC INITMSK
0121547 11 000311 006205 ----- 29 LR R8,R5
0121550 11 000312 037000 024214 0000222. 30 BL FBTMSTKO
0121552 31 INITMSK
0121552 11 000314 103401 177777 32 LI R0,0(177777)
0121554 11 000316 037000 024127 0000135 33 BL FBTMSTKO
0121554 -001- 34 ENDP # 800135
-001- 35 NOTE ***** LAST PATCH ADDRESS USED IS 000317 *****
-001- 36 NOTE ***** NUMBER OF PATCH WORDS USED IS 9 (DECIMAL) *****

39 CSTFB5 MAXSIZE 0,472
40 CSTFB6 MAXSIZE 0,500
41 CSTFB7 MAXSIZE 0,571
42 CSTFB8 MAXSIZE 0,217

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## PATCH HISTORY

23:35:52 2/05/81 \*\*\*\*

## LISTING OF INDIVIDUAL PATCHES

CDGSFB W77D

```

**/**/**/012705/**/**/**
-002- 01          PBEGIN  PROG=CDGSFB          TRNO=12705  SERNOB=47314
02 # THIS PATCH CORRECTS THE FOLLOWING PROBLEMS:
03 # 1. INCORRECT STORE NUMBER IN FAIL MESSAGE
04 #    WHEN MORE THAN STORE 0 DEFINED
05 # 2. TESTS WOULD NOT DIAGNOSE ANY STORE
06 #    HIGHER THAN STORE 1
07          TCEND
0121554 -001- 08          NOTE *****

```

```

**/**/**/012989/**/**/**
-002- 15          PBEGIN  PROG=CDGSFB          TRNO=12989  SERNOB=50260
16 # BREAK TEST 45 46 AND 47 INTO SHORTER BLOCKS.
17          TCEND
0121554 -001- 18          NOTE *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

## LISTING OF INDIVIDUAL PATCHES

CDGSFB W77D

```

-001- 03 #& TBL 4501
-001- 04 #& TEST 45
-001- 05 #& SEGMENT 0, 1 OR 2
-001- 06 #& PR CDGSFB
-001- 07 #
08 # TWO SUCCESSIVE I/O TRANSMISSIONS TO THE STORE CONTROLLER UNDER TEST FAILED
09 # TO COMPLETE PROPERLY.
10 # DATA = I/O ORDER WHICH WAS UNSUCCESSFULLY TRANSMITTED
11 # ADDRESS = FAILURE EXIT(FAILTST) IN 'MASIOM' SUBROUTINE
0121554 12 #
13 # MASCM 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER
14 # MASCM 08-22 FA1063 MAIN STORE CONTROLLER - I/O ORDER RECEIVER
15 # MASCM 08-23 FC203 MAIN STORE CONTROLLER CLOCK & I/O INTERFACE

-001- 18 #& TBL 4502
-001- 19 #& TEST 45
-001- 20 #& SEGMENT 1 OR 2
-001- 21 #& PR CDGSFB
-001- 22 #
0121554 23 # FANOUT BOARD 0 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
24 #
25 # MASCM 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 0
26 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
27 # MASCM 08-02 FA1060 MAIN STORE CONTROLLER - BITS 0 & 8
28 # MASCM 08-03 FA1060 MAIN STORE CONTROLLER - BITS 1 & 9
29 # MASCM 08-05 FA1060 MAIN STORE CONTROLLER - BITS 3 & 11
30 # MASCM 08-06 FA1060 MAIN STORE CONTROLLER - BITS 4 & 12
31 # MASCM 08-07 FA1060 MAIN STORE CONTROLLER - BITS 5 & 13
32 # MASCM 08-17 FA1062 MAIN STORE CONTROLLER - CHECK CIRCUIT A
33 # NOTE--3 DMA 02-17 FC392 DMA MY STORE CONTROL
34 # NOTE--3 DMA 02-04 FB6 FUSE BOARD-STORE CONTROL
35 # MASCM 08-04 FA1060 MAIN STORE CONTROLLER - BITS 2 & 10
36 # MASCM 08-08 FA1060 MAIN STORE CONTROLLER - BITS 6 & 14
37 # MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH
38 # MASCM 08-09 FA1060 MAIN STORE CONTROLLER - BITS 7 & 15
0121554 39 #
0121554 40 #
0121554 41 # OPTION A
42 #
43 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
44 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
45 # MASCM 03-04 JL16 MAIN STORE PLANE - MOD 0 BITS 0 & 8
46 # MASCM 03-05 JL16 MAIN STORE PLANE - MOD 0 BITS 1 & 9
47 # MASCM 03-06 JL16 MAIN STORE PLANE - MOD 0 BITS 2 & 10
48 # MASCM 03-07 JL16 MAIN STORE PLANE - MOD 0 BITS 3 & 11
49 # MASCM 03-08 JL16 MAIN STORE PLANE - MOD 0 BITS 4 & 12

```

STORE FANOUT BOARDS TEST-PART B

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TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4502 PARFOB00

CDGSFB

W77D

01 # MASCM 03-09 JL16 MAIN STORE PLANE - MOD 0 BITS 5 & 13  
 02 # MASCM 03-10 JL16 MAIN STORE PLANE - MOD 0 BITS 6 & 14  
 03 # MASCM 03-11 JL16 MAIN STORE PLANE - MOD 0 BITS 7 & 15  
 04 # MASCM 03-17 JL16 MAIN STORE PLANE - MOD 0 BITS PL & PH  
 05 # MASCM 03-31 JL16 MAIN STORE PLANE - MOD 1 BITS 0 & 8  
 06 # MASCM 08-02 FA1060 MAIN STORE CONTROLLER - BITS 0 & 8  
 07 # MASCM 08-03 FA1060 MAIN STORE CONTROLLER - BITS 1 & 9  
 08 # MASCM 08-05 FA1060 MAIN STORE CONTROLLER - BITS 3 & 11  
 09 # MASCM 08-06 FA1060 MAIN STORE CONTROLLER - BITS 4 & 12  
 10 # MASCM 08-07 FA1060 MAIN STORE CONTROLLER - BITS 5 & 13  
 11 # MASCM 08-17 FA1062 MAIN STORE CONTROLLER - CHECK CIRCUIT A  
 12 # NOTE--3 DMA 02-17 FC392 DMA MY STORE CONTROL  
 13 # NOTE--3 DMA 02-04 FB6 FUSE BOARD-STORE CONTROL  
 14 # MASCM 08-04 FA1060 MAIN STORE CONTROLLER - BITS 2 & 10  
 15 # MASCM 08-08 FA1060 MAIN STORE CONTROLLER - BITS 6 & 14  
 16 # MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH  
 17 # MASCM 08-09 FA1060 MAIN STORE CONTROLLER - BITS 7 & 15  
 18  
 19

0121554  
0121554

-001- 22 #& TBL 4503  
 -001- 23 #& TEST 45  
 -001- 24 #& SEGMENT 1 OR 2  
 -001- 25 #& PR CDGSFB  
 -001- 26 #

0121554

27 # FANOUT BOARD 1 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT

28  
 29 # MASCM 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1  
 30 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 31 # MASCM 08-02 FA1060 MAIN STORE CONTROLLER - BITS 0 & 8  
 32 # MASCM 08-09 FA1060 MAIN STORE CONTROLLER - BITS 7 & 15  
 33 # MASCM 08-03 FA1060 MAIN STORE CONTROLLER - BITS 1 & 9  
 34 # MASCM 08-05 FA1060 MAIN STORE CONTROLLER - BITS 3 & 11  
 35 # MASCM 08-06 FA1060 MAIN STORE CONTROLLER - BITS 4 & 12  
 36 # MASCM 08-07 FA1060 MAIN STORE CONTROLLER - BITS 5 & 13  
 37 # MASCM 08-17 FA1062 MAIN STORE CONTROLLER - CHECK CIRCUIT A  
 38 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 39 # MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR

0121554  
012155440  
41

42 # OPTION A

43  
 44 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 45 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 46 # MASCM 03-04 JL16 MAIN STORE PLANE - MOD 0 BITS 0 & 8  
 47 # MASCM 03-05 JL16 MAIN STORE PLANE - MOD 0 BITS 1 & 9  
 48 # MASCM 03-06 JL16 MAIN STORE PLANE - MOD 0 BITS 2 & 10  
 49 # MASCM 03-07 JL16 MAIN STORE PLANE - MOD 0 BITS 3 & 11

0121554

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

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4503 PARF0B01

CDGSFB W77D

01 #	MASCM 03-08	JL16	MAIN STORE PLANE - MOD 0 BITS 4 & 12
02 #	MASCM 03-09	JL16	MAIN STORE PLANE - MOD 0 BITS 5 & 13
03 #	MASCM 03-10	JL16	MAIN STORE PLANE - MOD 0 BITS 6 & 14
04 #	MASCM 03-11	JL16	MAIN STORE PLANE - MOD 0 BITS 7 & 15
05 #	MASCM 03-17	JL16	MAIN STORE PLANE - MOD 0 BITS PL & PH
06 #	MASCM 08-19	FA1066	MAIN STORE CONTROLLER - CHECK CIRCUIT B
07 #	MASCM 08-02	FA1060	MAIN STORE CONTROLLER - BITS 0 & 8
08 #	MASCM 08-09	FA1060	MAIN STORE CONTROLLER - BITS 7 & 15
09 #	MASCM 08-03	FA1060	MAIN STORE CONTROLLER - BITS 1 & 9
10 #	MASCM 08-05	FA1060	MAIN STORE CONTROLLER - BITS 3 & 11
11 #	MASCM 08-06	FA1060	MAIN STORE CONTROLLER - BITS 4 & 12
12 #	MASCM 08-07	FA1060	MAIN STORE CONTROLLER - BITS 5 & 13
13 #	MASCM 08-17	FA1062	MAIN STORE CONTROLLER - CHECK CIRCUIT A
14 #	MASCM 08-21	FA1065	MAIN STORE CONTROLLER - COMMAND DECODER
15 #	MASCM 08-18	FA1071	MAIN STORE CONTROLLER - TIMING GENERATOR
16			
17			

0121554  
0121554

-001- 20 #& TBL 4504  
 -001- 21 #& TEST 45  
 -001- 22 #& SEGMENT 1 OR 2  
 -001- 23 #& PR CDGSFB  
 -001- 24 #

0121554

25 # FANOUT BOARD 2 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT

0121554  
0121554

26  
 27 # MASHA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2  
 28 # MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH

0121554

31 # OPTION A

0121554  
0121554

32  
 33 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 34 # MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH

35  
36

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4505 PARF0B03

CDGSFB

W77D

```

-001- 01 #& TBL 4505
-001- 02 #& TEST 45
-001- 03 #& SEGMENT 1 OR 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 3 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07 #
08 #          MASMA 03-33 JK3    MAIN STORE FANOUT BOARD FOR MODULE 3
09 #          MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
10 #
11 #
12 # OPTION A
13 #
14 #          MASCM 03-02 JK25    MAIN MEMORY FANOUT BOARD FOR MODULE 0
15 #          MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
16 #
17 #

-001- 20 #& TBL 4506
-001- 21 #& TEST 45
-001- 22 #& SEGMENT 1 OR 2
-001- 23 #& PR CDGSFB
-001- 24 #
25 # FANOUT BOARD 4 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
26 #
27 #          MASMB 03-02 JK3    MAIN STORE FANOUT BOARD FOR MODULE 4
28 #          MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH
29 #          MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
30 #          MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
31 #
32 #
33 # OPTION A
34 #
35 #          MASCM 03-33 JK25    MAIN MEMORY FANOUT BOARD FOR MODULE 1
36 #          MASCM 03-29 JL16    MAIN STORE PLANE - MOD 1 BITS 1 & 9
37 #          MASCM 03-28 JL16    MAIN STORE PLANE - MOD 1 BITS 2 & 10
38 #          MASCM 03-27 JL16    MAIN STORE PLANE - MOD 1 BITS 3 & 11
39 #          MASCM 03-26 JL16    MAIN STORE PLANE - MOD 1 BITS 4 & 12
40 #          MASCM 03-25 JL16    MAIN STORE PLANE - MOD 1 BITS 5 & 13
41 #          MASCM 03-24 JL16    MAIN STORE PLANE - MOD 1 BITS 6 & 14
42 #          MASCM 03-23 JL16    MAIN STORE PLANE - MOD 1 BITS 7 & 15
43 # NOTE--1 MASCM 03-18 JL16    MAIN STORE PLANE - MOD 1 BITS PL & PH
44 #          MASCM 03-31 JL16    MAIN STORE PLANE - MOD 1 BITS 0 & 8
45 #          MASCM 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH
46 #          MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
47 #          MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
48 #
49 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4506 PARF0B04

CDGSFB W77D

```

-001- 03 #& TBL 4507
-001- 04 #& TEST 45
-001- 05 #& SEGMENT 1 OR 2
-001- 06 #& PR CDGSFB
-001- 07 #
08 # FANOUT BOARD 5 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
0121554 09 #
10 # MASHB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5
11 # MASCN 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
0121554 12 #
0121554 13 #
14 # OPTION A
0121554 15 #
16 # MASCN 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
17 # MASCN 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
0121554 18 #
0121554 19 #

-001- 22 #& TBL 4508
-001- 23 #& TEST 45
-001- 24 #& SEGMENT 1 OR 2
-001- 25 #& PR CDGSFB
-001- 26 #
27 # FANOUT BOARD 6 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
0121554 28 #
29 # MASMC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6
30 # MASCN 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH
0121554 31 #
0121554 32 #
33 # OPTION A
0121554 34 #
35 # MASCN 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
36 # MASCN 08-16 FA1060 MAIN STORE CONTROLLER - BITS PL&PH
0121554 37 #
0121554 38 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 93

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4509 PARF0B07

CDGSFB W77D

```

-001- 01 #& TBL 4509
-001- 02 #& TEST 45
-001- 03 #& SEGMENT 1 OR 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 7 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07
08 #          MASC 03-33 JK3    MAIN STORE FANOUT BOARD FOR MODULE 7
09
10
11 # OPTION A
12
13 #          MASC 03-33 JK25   MAIN MEMORY FANOUT BOARD FOR MODULE 1
14
15

-001- 18 #& TBL 4601
-001- 19 #& TEST 46
-001- 20 #& SEGMENT 0, 1 OR 2
-001- 21 #& PR CDGSFB
-001- 22 #
23 #          TWO SUCCESSIVE I/O TRANSMISSIONS TO THE STORE CONTROLLER UNDER TEST FAILED
24 # TO COMPLETE PROPERLY.
25 #          DATA = I/O ORDER WHICH WAS UNSUCCESSFULLY TRANSMITTED
26 #          ADDRESS = FAILURE EXIT(FAILTST) IN 'MASIOM' SUBROUTINE
27
28 #          MASC 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER
29 #          MASC 08-22 FA1063 MAIN STORE CONTROLLER - I/O ORDER RECEIVER
30 #          MASC 08-23 FC203  MAIN STORE CONTROLLER CLOCK & I/O INTERFACE

```

0121554

0121554

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 94

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4602 PARFOB00

CDGSFB W77D

```

-001- 01 #& TBL 4602
-001- 02 #& TEST 46
-001- 03 #& SEGMENT 1 OR 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 0 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07
08 #          MASCM 03-02 JK3   MAIN STORE FANOUT BOARD FOR MODULE 0
09 #          MASCM 08-04 FA106D MAIN STORE CONTROLLER - BITS 2 & 10
10 #          MASCM 08-08 FA106D MAIN STORE CONTROLLER - BITS 6 & 14
11 #          MASCM 08-16 FA106D MAIN STORE CONTROLLER - BITS PL&PH
12
13
14 # OPTION A
15
16 #          MASCM 03-02 JK25   MAIN MEMORY FANOUT BOARD FOR MODULE 0
17 #          MASCM 03-04 JL16   MAIN STORE PLANE - MOD 0 BITS 0 & 8
18 #          MASCM 03-05 JL16   MAIN STORE PLANE - MOD 0 BITS 1 & 9
19 #          MASCM 03-06 JL16   MAIN STORE PLANE - MOD 0 BITS 2 & 10
20 #          MASCM 03-07 JL16   MAIN STORE PLANE - MOD 0 BITS 3 & 11
21 #          MASCM 03-08 JL16   MAIN STORE PLANE - MOD 0 BITS 4 & 12
22 #          MASCM 03-09 JL16   MAIN STORE PLANE - MOD 0 BITS 5 & 13
23 #          MASCM 03-10 JL16   MAIN STORE PLANE - MOD 0 BITS 6 & 14
24 #          MASCM 03-11 JL16   MAIN STORE PLANE - MOD 0 BITS 7 & 15
25 #          MASCM 03-17 JL16   MAIN STORE PLANE - MOD 0 BITS PL & PH
26 #          MASCM 08-04 FA106D MAIN STORE CONTROLLER - BITS 2 & 10
27 #          MASCM 08-08 FA106D MAIN STORE CONTROLLER - BITS 6 & 14
28 #          MASCM 08-16 FA106D MAIN STORE CONTROLLER - BITS PL&PH
29
30
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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 95

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4603 PARF0B01

CDGSFB

W77D

```

-001- 01 #8 TBL 4603
-001- 02 #8 TEST 46
-001- 03 #8 SEGMENT 1 OR 2
-001- 04 #8 PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 1 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07
08 # MASC 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1
09
10
11 # OPTION A
12
13 # MASC 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
14
15

-001- 18 #8 TBL 4604
-001- 19 #8 TEST 46
-001- 20 #8 SEGMENT 1 OR 2
-001- 21 #8 PR CDGSFB
-001- 22 #
23 # FANOUT BOARD 2 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
24
25 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2
26
27
28 # OPTION A
29
30 # MASC 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
31
32

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 96

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4605 PARF0B03

CDGSFB

W77D

```

-001- 01 #& TBL 4605
-001- 02 #& TEST 46
-001- 03 #& SEGMENT 1 OR 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 3 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07
08 #          MASMA 03-33 JK3      MAIN STORE FANOUT BOARD FOR MODULE 3
09
10
11 # OPTION A
12
13 #          MASCH 03-02 JK25     MAIN MEMORY FANOUT BOARD FOR MODULE 0
14
15

-001- 18 #& TBL 4606
-001- 19 #& TEST 46
-001- 20 #& SEGMENT 1 OR 2
-001- 21 #& PR CDGSFB
-001- 22 #
23 # FANOUT BOARD 4 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
24
25 #          MASMB 03-02 JK3      MAIN STORE FANOUT BOARD FOR MODULE 4
26 #          MASCH 08-16 FA1060  MAIN STORE CONTROLLER - BITS PL&PH
27
28
29 # OPTION A
30
31 #          MASCH 03-33 JK25     MAIN MEMORY FANOUT BOARD FOR MODULE 1
32 #          MASCH 03-31 JL16     MAIN STORE PLANE - MOD 1 BITS 0 & 8
33 #          MASCH 03-29 JL16     MAIN STORE PLANE - MOD 1 BITS 1 & 9
34 #          MASCH 03-28 JL16     MAIN STORE PLANE - MOD 1 BITS 2 & 10
35 #          MASCH 03-27 JL16     MAIN STORE PLANE - MOD 1 BITS 3 & 11
36 #          MASCH 03-26 JL16     MAIN STORE PLANE - MOD 1 BITS 4 & 12
37 #          MASCH 03-25 JL16     MAIN STORE PLANE - MOD 1 BITS 5 & 13
38 #          MASCH 03-24 JL16     MAIN STORE PLANE - MOD 1 BITS 6 & 14
39 #          MASCH 03-23 JL16     MAIN STORE PLANE - MOD 1 BITS 7 & 15
40 # NOTE--1 MASCH 03-18 JL16     MAIN STORE PLANE - MOD 1 BITS PL & PH
41 #          MASCH 08-16 FA1060  MAIN STORE CONTROLLER - BITS PL&PH
42
43

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 97

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4607 PARF0B05

CDGSFB W77D

```

-001- 01 #& TBL 4607
-001- 02 #& TEST 46
-001- 03 #& SEGMENT 1 OR 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # FANOUT BOARD 5 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
07
08 #          MASMB 03-33 JK3      MAIN STORE FANOUT BOARD FOR MODULE 5
09
10
11 # OPTION A
12
13 #          MASCM 03-33 JK25     MAIN MEMORY FANOUT BOARD FOR MODULE 1
14
15

-001- 18 #& TBL 4608
-001- 19 #& TEST 46
-001- 20 #& SEGMENT 1 OR 2
-001- 21 #& PR CDGSFB
-001- 22 #
23 # FANOUT BOARD 6 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT
24
25 #          MASM 03-02 JK3      MAIN STORE FANOUT BOARD FOR MODULE 6
26
27
28 # OPTION A
29
30 #          MASCM 03-33 JK25     MAIN MEMORY FANOUT BOARD FOR MODULE 1
31
32

```

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 98

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4609 PARF0B07

CDGSFB W77D

-001- 01 #& TBL 4609  
 -001- 02 #& TEST 46  
 -001- 03 #& SEGMENT 1 OR 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # FANOUT BOARD 7 HAS A FAULTY ADDRESS PARITY CHECK CIRCUIT  
 07  
 08 # MASC 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7  
 09  
 10  
 11 # OPTION A  
 12  
 13 # MASC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 14  
 15  
  
 -001- 18 #& TBL 4701  
 -001- 19 #& TEST 47  
 -001- 20 #& SEGMENT 1  
 -001- 21 #& PR CDGSFB  
 -001- 22 #  
 23 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT  
 24 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 0 AND RETURNED TO THE  
 25 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE  
 26 # IN THIS COMMUNICATION CHAIN.  
 27  
 28 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 29 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR  
 30 # MASC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 0  
 31 # MASC 08-09 FA1060 MAIN STORE CONTROLLER - BITS 7 & 15  
 32 # MASC 08-17 FA1062 MAIN STORE CONTROLLER - CHECK CIRCUIT A  
 33 # PROC 02-21 FA1029 MAIN STORE CONTROL 0  
 34 # MASC 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER  
 35 # MASC 08-22 FA1063 MAIN STORE CONTROLLER - I/O ORDER RECEIVER  
 36 # MASC 08-23 FC203 MAIN STORE CONTROLLER CLOCK & I/O INTERFACE  
 37  
 38  
 39 # OPTION A  
 40  
 41 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 42 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR  
 43 # MASC 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 44 # MASC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 45 # MASC 03-04 JL16 MAIN STORE PLANE - MOD 0 BITS 0 & 8  
 46 # MASC 03-05 JL16 MAIN STORE PLANE - MOD 0 BITS 1 & 9  
 47 # MASC 03-06 JL16 MAIN STORE PLANE - MOD 0 BITS 2 & 10  
 48 # MASC 03-07 JL16 MAIN STORE PLANE - MOD 0 BITS 3 & 11  
 49 # MASC 03-08 JL16 MAIN STORE PLANE - MOD 0 BITS 4 & 12

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4701 THERFB00

CDGSFB

W77D

01 #	MASCM 03-09	JL16	MAIN STORE PLANE - MOD 0 BITS 5 & 13
02 #	MASCM 03-10	JL16	MAIN STORE PLANE - MOD 0 BITS 6 & 14
03 #	MASCM 03-11	JL16	MAIN STORE PLANE - MOD 0 BITS 7 & 15
04 #	MASCM 03-17	JL16	MAIN STORE PLANE - MOD 0 BITS PL & PH
05 #	MASCM 03-31	JL16	MAIN STORE PLANE - MOD 1 BITS 0 & 8
06 #	MASCM 03-29	JL16	MAIN STORE PLANE - MOD 1 BITS 1 & 9
07 #	MASCM 03-28	JL16	MAIN STORE PLANE - MOD 1 BITS 2 & 10
08 #	MASCM 03-27	JL16	MAIN STORE PLANE - MOD 1 BITS 3 & 11
09 #	MASCM 03-26	JL16	MAIN STORE PLANE - MOD 1 BITS 4 & 12
10 #	MASCM 03-25	JL16	MAIN STORE PLANE - MOD 1 BITS 5 & 13
11 #	MASCM 03-24	JL16	MAIN STORE PLANE - MOD 1 BITS 6 & 14
12 #	MASCM 03-23	JL16	MAIN STORE PLANE - MOD 1 BITS 7 & 15
13 #	NOTE--1 MASCM 03-18	JL16	MAIN STORE PLANE - MOD 1 BITS PL & PH
14 #	MASCM 08-09	FA1060	MAIN STORE CONTROLLER - BITS 7 & 15
15 #	MASCM 08-17	FA1062	MAIN STORE CONTROLLER - CHECK CIRCUIT A
16 #	PROC 02-21	FA1029	MAIN STORE CONTROL 0
17 #	MASCM 08-20	FA1064	MAIN STORE CONTROLLER - I/O ORDER DECODER
18 #	MASCM 08-22	FA1063	MAIN STORE CONTROLLER - I/O ORDER RECEIVER
19 #	MASCM 08-23	FC203	MAIN STORE CONTROLLER CLOCK & I/O INTERFACE
20			
21			

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-001- 24 #& TBL 4702  
 -001- 25 #& TEST 47  
 -001- 26 #& SEGMENT 1  
 -001- 27 #& PR CDGSFB  
 -001- 28 #

29 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED  
 30 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 1 AND RETURNED TO THE  
 31 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE  
 32 # IN THIS COMMUNICATION CHAIN.

0121554

33			
34 #	MASCM 08-21	FA1065	MAIN STORE CONTROLLER - COMMAND DECODER
35 #	MASCM 08-18	FA1071	MAIN STORE CONTROLLER - TIMING GENERATOR
36 #	MASCM 03-33	JK3	MAIN STORE FANOUT BOARD FOR MODULE 1

0121554  
0121554

37  
 38  
 39 # OPTION A

0121554

40			
41 #	MASCM 08-21	FA1065	MAIN STORE CONTROLLER - COMMAND DECODER
42 #	MASCM 08-18	FA1071	MAIN STORE CONTROLLER - TIMING GENERATOR
43 #	MASCM 03-02	JK25	MAIN MEMORY FANOUT BOARD FOR MODULE 0

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0121554

44  
 45

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 100

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4703 TMRFB02

CDGSFB W77D

```

-001- 01 #& TBL 4703
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
07 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 2 AND RETURNED TO THE
08 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
09 # IN THIS COMMUNICATION CHAIN.
10 #
0121554 11 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
12 # MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
13 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2
0121554 14 #
0121554 15 #
16 # OPTION A
0121554 17 #
18 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
19 # MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
20 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 21 #
0121554 22 #

-001- 25 #& TBL 4704
-001- 26 #& TEST 47
-001- 27 #& SEGMENT 1
-001- 28 #& PR CDGSFB
-001- 29 #
30 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
31 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 3 AND RETURNED TO THE
32 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
33 # IN THIS COMMUNICATION CHAIN.
34 #
0121554 35 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
36 # MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
37 # MASMA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3
38 # MASMA 03-27 JL2 MAIN STORE PLANE - MOD 3 - BITS 3 & 11
0121554 39 #
0121554 40 #
41 # OPTION A
0121554 42 #
43 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
44 # MASCM 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
45 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 46 #
0121554 47 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 101

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4705 TMRFB04

CDGSFB W770

```

-001- 01 #& TBL 4705
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
07 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 4 AND RETURNED TO THE
08 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
09 # IN THIS COMMUNICATION CHAIN.
10 #
0121554 11 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
12 # MASCN 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
13 # MASMB 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 4
14 #
0121554 15 #
0121554 16 # OPTION A
17 #
0121554 18 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
19 # MASCN 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
20 # MASCN 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
21 #
0121554 22 #
0121554

-001- 25 #& TBL 4706
-001- 26 #& TEST 47
-001- 27 #& SEGMENT 1
-001- 28 #& PR CDGSFB
-001- 29 #
30 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
31 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 5 AND RETURNED TO THE
32 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
33 # IN THIS COMMUNICATION CHAIN.
34 #
0121554 35 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
36 # MASCN 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
37 # MASB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5
38 #
0121554 39 #
0121554 40 # OPTION A
41 #
0121554 42 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
43 # MASCN 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
44 # MASCN 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
45 #
0121554 46 #
0121554

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 102

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4707 TMERFB06

CDGSFB W77D

```

-001- 01 #& TBL 4707
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
07 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 6 AND RETURNED TO THE
08 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
09 # IN THIS COMMUNICATION CHAIN.
0121554 10
11 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
12 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
13 # MASC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6
0121554 14
0121554 15
16 # OPTION A
0121554 17
18 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
19 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
20 # MASC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
0121554 21
0121554 22

-001- 25 #& TBL 4708
-001- 26 #& TEST 47
-001- 27 #& SEGMENT 1
-001- 28 #& PR CDGSFB
-001- 29 #
30 # ONE OF THE SELECT TIMING SIGNALS (SELCS OR SELRW) THAT IS GENERATED AT
31 # THE STORE CONTROLLER, TRANSMITTED TO FANOUT BOARD 7 AND RETURNED TO THE
32 # CONTROLLER FOR VERIFICATION HAS PRODUCED AN ERROR INDICATING A FAULT SOMEWHERE
33 # IN THIS COMMUNICATION CHAIN.
0121554 34
35 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
36 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
37 # MASC 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7
0121554 38
0121554 39
40 # OPTION A
0121554 41
42 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER
43 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR
44 # MASC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
0121554 45
0121554 46

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 103

TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4709 THERUSFB

CDGSFB W77D

-001- 01 #& TBL 4709  
 -001- 02 #& TEST 47  
 -001- 03 #& SEGMENT 1  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # FANOUT BOARD TIMING ERROR 'B' (UNSELECT ERROR) IS CONSTANTLY HIGH  
 07 # INDICATING A FAULT WITH ANY EQUIPPED FANOUT BOARD OR THE TIMING CHECK CIRCUIT.  
 08  
 0121554 09 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 10 # MASCM 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 0  
 11 # MASCM 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1  
 12 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2  
 13 # MASMA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3  
 14 # MASMB 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 4  
 15 # MASMB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5  
 16 # MASM C 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6  
 17 # MASM C 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7  
 18 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 19  
 0121554 20  
 0121554 21 # OPTION A  
 0121554 22  
 23 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 24 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 25 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 26 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 0121554 27  
 0121554 28  
  
 -001- 31 #& TBL 4710  
 -001- 32 #& TEST 47  
 -001- 33 #& SEGMENT 1  
 -001- 34 #& PR CDGSFB  
 -001- 35 #  
 36 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON  
 37 # FANOUT BOARD 0 IS STUCK ACTIVE (HIGH).  
 38  
 0121554 39 # MASCM 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 0  
 0121554 40  
 0121554 41  
 42 # OPTION A  
 0121554 43  
 44 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 0121554 45  
 0121554 46

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 104

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4711 TMUSFB01

CDGSFB W77D

```

-001- 01 #& TBL 4711
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
07 # FANOUT BOARD 1 IS STUCK ACTIVE (HIGH).
08
0121554 09 # MASCM 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1
0121554 10
0121554 11
12 # OPTION A
0121554 13
14 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 15
0121554 16

-001- 19 #& TBL 4712
-001- 20 #& TEST 47
-001- 21 #& SEGMENT 1
-001- 22 #& PR CDGSFB
-001- 23 #
24 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
25 # FANOUT BOARD 2 IS STUCK ACTIVE (HIGH).
26
0121554 27 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2
0121554 28
0121554 29
30 # OPTION A
0121554 31
32 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 33
0121554 34

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 105

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4713 TMUSFB03

CDGSFB

W77D

```

-001- 01 #& TBL 4713
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
07 # FANOUT BOARD 3 IS STUCK ACTIVE (HIGH).
08
09 # MASHA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3
10
11
12 # OPTION A
13
14 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
15
16

-001- 19 #& TBL 4714
-001- 20 #& TEST 47
-001- 21 #& SEGMENT 1
-001- 22 #& PR CDGSFB
-001- 23 #
24 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
25 # FANOUT BOARD 4 IS STUCK ACTIVE (HIGH).
26
27 # MASMB 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 4
28
29
30 # OPTION A
31
32 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
33
34

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0121554

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4715 TMUSFB05

CDGSFB W77D

```

-001- 01 #& TBL 4715
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
07 # FANOUT BOARD 5 IS STUCK ACTIVE (HIGH).
08 #
0121554 09 # MASHB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5
0121554 10 #
0121554 11 #
12 # OPTION A
0121554 13 #
14 # MASC M 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
0121554 15 #
0121554 16 #

-001- 19 #& TBL 4716
-001- 20 #& TEST 47
-001- 21 #& SEGMENT 1
-001- 22 #& PR CDGSFB
-001- 23 #
24 # THE MODULE ENABLE (EN1) WHICH GATES THE CHIP SELECT TIMING SIGNAL ON
25 # FANOUT BOARD 6 IS STUCK ACTIVE (HIGH).
26 #
0121554 27 # MASHC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6
0121554 28 # MASHC 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
0121554 29 #
0121554 30 #
31 # OPTION A
0121554 32 #
33 # MASC M 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
0121554 34 # MASHC 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B
0121554 35 #
0121554 36 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4719 TIMRB01

CDGSFB

W77D

```

-001- 01 #& TBL 4719
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # AN UNSELECT ERROR OCCURED WITHIN THE GRASO AND GCASO TIMING CHAIN
07 # MASCH 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1
08 # OPTION A
09 #
0121554 10 #
0121554 11 # MASCH 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 12 #

-001- 15 #& TBL 4720
-001- 16 #& TEST 47
-001- 17 #& SEGMENT 1
-001- 18 #& PR CDGSFB
-001- 19 #
20 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMI G CHAIN
0121554 21 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2
0121554 22 #
23 #
24 # OPTION A
0121554 25 #
0121554 26 #
0121554 27 # MASCH 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 28 #

-001- 31 #& TBL 4721
-001- 32 #& TEST 47
-001- 33 #& SEGMENT 1
-001- 34 #& PR CDGSFB
-001- 35 #
36 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMING CHAIN
0121554 37 # MASMA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3
0121554 38 #
39 #
40 # OPTION A
0121554 41 #
0121554 42 #
0121554 43 # MASCH 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0
0121554 44 #

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 109

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4722 TIMR04

CDGSFB

W77D

```

-001- 01 #& TBL 4722
-001- 02 #& TEST 47
-001- 03 #& SEGMENT 1
-001- 04 #& PR CDGSFB
-001- 05 #
06 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMING CHAIN
07 #           MASMB 03-02 JK3   MAIN STORE FANOUT BOARD FOR MODULE 4
08
09
10 # OPTION A
11
12 #           MASCM 03--33 JK25   MAIN MEMORY FANOUT BOARD FOR MODULE 1
13

```

0121554  
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```

-001- 16 #& TBL 4723
-001- 17 #& TEST 47
-001- 18 #& SEGMENT 1
-001- 19 #& PR CDGSFB
-001- 20 #
21 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMING CHAIN
22 #           MASMB 03-33 JK3   MAIN STORE FANOUT BOARD FOR MODULE 5
23
24 # OPTION A
25
26
27 #           MASCM 03-33 JK25   MAIN MEMORY FANOUT BOARD FOR MODULE 1
28

```

0121554  
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0121554

```

-001- 31 #& TBL 4724
-001- 32 #& TEST 47
-001- 33 #& SEGMENT 1
-001- 34 #& PR CDGSFB
-001- 35 #
36 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMING CHAIN
37 #           MASMC 03-02 JK3   MAIN STORE FANOUT BOARD FOR MODULE 6
38
39
40 # OPTION A
41
42
43 #           MASCM 03-33 JK25   MAIN MEMORY FANOUT BOARD FOR MODULE 1
44
45

```

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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 110

TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4725 TIMR07

CDGSFB W770

-001- 01 #& TBL 4725  
 -001- 02 #& TEST 47  
 -001- 03 #& SEGMENT 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # AN UNSELECT ERROR HAS OCCURED WITHIN THE GRASO/GCASO TIMING CHAIN  
 07 # MASC 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7  
 08 # OPTION A  
 09 # MASC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1

-001- 12 #& TBL 4726  
 -001- 13 #& TEST 47  
 -001- 14 #& SEGMENT 2  
 -001- 15 #& PR CDGSFB  
 -001- 16 #  
 17 # AN ENABLE ON THE TIMING SIGNAL CHECK CIRCUITRY IS FAULTY. THIS INCLUDES  
 18 # THE ERROR STROBE (ERSTB) ON THE READ/WRITE DETECT FF (RW), THE DETECT-CHIP-  
 19 # SELECT SIGNAL WHICH ENABLES THE OUTPUT OF THE SAME FF, OR THE COMMON CLEAR  
 20 # ON THE DETECT-CHIP-SELECT FF (DETC).  
 21 #  
 22 # MASC 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 23 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR

0121554

-001- 26 #& TBL 4801  
 -001- 27 #& TEST 48  
 -001- 28 #& SEGMENT 1  
 -001- 29 #& PR CDGSFB  
 -001- 30 #  
 31 # INITIALIZE CLEAR ON CHIP SELECT FF IS STUCK INACTIVE (HIGH).  
 32 #  
 33 # MASC 08-18 FA1071 MAIN STORE CONTROLLER - TIMING GENERATOR  
 34 # MASC 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER  
 35 # MASC 08-22 FA1063 MAIN STORE CONTROLLER - I/O ORDER RECEIVER  
 36 # MASC 08-23 FC203 MAIN STORE CONTROLLER CLOCK & I/O INTERFACE

0121554

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 111

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4802 USELFB00

CDGSFB W77D

-001- 01 #& TBL 4802  
 -001- 02 #& TEST 48  
 -001- 03 #& SEGMENT 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 0 DID NOT REGISTER  
 07 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 08 # THE 'A' BUS TAKES THE MAINTENANCE STATE TO THE EVEN FANOUT BOARDS.  
 09 #  
 0121554 10 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 11 # MASCN 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 0  
 12 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2  
 13 # MASMB 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 4  
 14 # MASMC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6  
 15 # MASCN 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 16 # MASCN 08-02 FA1060 MAIN STORE CONTROLLER - BITS 0 & 8  
 17 # MASCN 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER  
 18 # PROC 02-21 FA1029 MAIN STORE CONTROL 0  
 19 #  
 0121554 20 #  
 0121554 21 # OPTION A  
 0121554 22 #  
 23 # MASCN 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 24 # MASCN 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 25 # MASCN 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR HODULE 1  
 26 # MASCN 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 27 # MASCN 08-02 FA1060 MAIN STORE CONTROLLER - BITS 0 & 8  
 28 # MASCN 08-20 FA1064 MAIN STORE CONTROLLER - I/O ORDER DECODER  
 29 # PROC 02-21 FA1029 MAIN STORE CONTROL 0  
 0121554 30 #  
 0121554 31 #

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 112

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4803 USELFB01

CDGSFB W77D

-001- 01 #& TBL 4803  
 -001- 02 #& TEST 48  
 -001- 03 #& SEGMENT 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 1 DID NOT REGISTER  
 07 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 08 # THE 'B' BUS TAKES THE MAINTENANCE STATE TO THE ODD FANOUT BOARDS.  
 09 #  
 0121554 10 # MASCH 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 11 # MASCH 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 1  
 12 # MASMA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3  
 13 # MASMB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5  
 14 # MASM 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7  
 15 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 16 #  
 0121554 17 #  
 0121554 18 # OPTION A  
 19 #  
 0121554 20 # MASCH 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 21 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 22 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 23 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 24 #  
 0121554 25 #  
 0121554

-001- 28 #& TBL 4804  
 -001- 29 #& TEST 48  
 -001- 30 #& SEGMENT 2  
 -001- 31 #& PR CDGSFB  
 -001- 32 #  
 33 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 2 DID NOT REGISTER  
 34 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 35 #  
 0121554 36 # MASMA 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 2  
 37 #  
 0121554 38 #  
 0121554 39 # OPTION A  
 40 #  
 0121554 41 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 42 #  
 0121554 43 #  
 0121554

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4805 USELFB03

CDGSFB W77D

-001- 01 #& TBL 4805  
 -001- 02 #& TEST 48  
 -001- 03 #& SEGMENT 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 3 DID NOT REGISTER  
 07 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 08  
 09 # MASMA 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 3  
 10  
 11  
 12 # OPTION A  
 13  
 14 # MASCM 03-02 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 0  
 15  
 16

0121554  
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-001- 19 #& TBL 4806  
 -001- 20 #& TEST 48  
 -001- 21 #& SEGMENT 2  
 -001- 22 #& PR CDGSFB  
 -001- 23 #  
 24 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 4 DID NOT REGISTER  
 25 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 26  
 27 # MASMB 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 4  
 28 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 29 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 30  
 31  
 32 # OPTION A  
 33  
 34 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 35 # MASCM 08-19 FA1066 MAIN STORE CONTROLLER - CHECK CIRCUIT B  
 36 # MASCM 08-21 FA1065 MAIN STORE CONTROLLER - COMMAND DECODER  
 37  
 38

0121554  
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STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4807 USELFB05

CDGSFB W77D

-001- 01 #& TBL 4807  
 -001- 02 #& TEST 48  
 -001- 03 #& SEGMENT 2  
 -001- 04 #& PR CDGSFB  
 -001- 05 #  
 06 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 5 DID NOT REGISTER  
 07 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 08  
 09 # MASHB 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 5  
 10  
 11  
 12 # OPTION A  
 13  
 14 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 15  
 16  
  
 -001- 19 #& TBL 4808  
 -001- 20 #& TEST 48  
 -001- 21 #& SEGMENT 2  
 -001- 22 #& PR CDGSFB  
 -001- 23 #  
 24 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 6 DID NOT REGISTER  
 25 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.  
 26  
 27 # MASMC 03-02 JK3 MAIN STORE FANOUT BOARD FOR MODULE 6  
 28  
 29  
 30 # OPTION A  
 31  
 32 # MASCM 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1  
 33  
 34

0121554  
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STORE FANOUT BOARDS TEST-PART B

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TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4809 USELFB07

CDGSFB W77D

```

-001- 01 #& TBL 4809
-001- 02 #& TEST 48
-001- 03 #& SEGMENT 2
-001- 04 #& PR CDGSFB
-001- 05 #
06 # WHEN PUT IN THE MAINTENANCE TEST STATE, FANOUT BOARD 7 DID NOT REGISTER
07 # THE EXPECTED UNSELECT ERROR WITH THE CHECK CIRCUITRY IN THE STORE CONTROLLER.
08
0121554 09 # MASHC 03-33 JK3 MAIN STORE FANOUT BOARD FOR MODULE 7
10
0121554 11
0121554 12 # OPTION A
13
0121554 14 # MASHC 03-33 JK25 MAIN MEMORY FANOUT BOARD FOR MODULE 1
15
0121554 16
0121554 17 # PBEGIN PROG=CDGSFB TRNO=790286 SERNOB=59029
*/***/790286/**/**
-002- 18 # FIX UP MISSING NO3_CODE STATEMENT IN TEST 47
19
0121554 20 TCEND
0121554 -001- 21 NOTE *****

*/***/790437/**/**
-002- 28 PBEGIN PROG=CDGSFB TRNO=790437 SERNOB=67367
0121554 29 # THIS PATCH CORRECTS TEST 47 FAILURES BY CORRECTING THE FOB COUNT
30 TCEND
-001- 31 NOTE *****

```

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

4809 USELFB07

CDGSFB W77D

\*\*/\*\*/\*\*/790513/\*\*/\*\*/\*\*

-002- 01 PBEGIN PROG=CDGSFB TRNO=790513 SERNOB=88142  
02 # A CALL TO BASE LEVEL (WAIT INSTRUCTION) IS MADE DURING  
03 # AN ARITHMETIC OPERATION AND DESTROYS THE STATE OF THE  
04 # CF F/F. THIS CHANGE CORRECTS THE TEST BY MOVING THE WAIT  
05 # INSTRUCTION  
06 TCEND  
-001- 07 NOTE \*\*\*\*\*

0121554

0121554

14 END

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0112434	L	ADDCY	72-32	72-30		
0020016	A	ALLZERO	19-04			
'APPLY ERRON EOUS ORDER(O /8) TO CHECK ER'						
0063476	A	BADCODE	19-06			
'APPLY ERRON EOUS ORDER(5 /8) TO CHECK ER'						
'PAGSCR+30'	T	BASADDR		W=4 S=0 N=36 CL=2 28-41, 31-15, 34-43, 37-24, 45-41, 48-18, 51-41, 54-24, 62-45, 70-47, 74-44, 75-49, 82-40, 85-26 1-08		
0 U BBX						
0000000	A	BIT0	17-05			
0000001	A	BIT1	17-06			
0000012	A	BIT10	17-15			
0000013	A	BIT11	17-16			
0000014	A	BIT12	17-17			
0000015	A	BIT13	17-18			
0000016	A	BIT14	17-19			
0000017	A	BIT15	17-20			
0000020	A	BIT16	17-21			
0000021	A	BIT17	17-22			
0000022	A	BIT18	17-23			
0000023	A	BIT19	17-24			
0000002	A	BIT2	17-07			
0000003	A	BIT3	17-08			
0000004	A	BIT4	17-09			
0000005	A	BIT5	17-10			
0000006	A	BIT6	17-11			
0000007	A	BIT7	17-12			
0000010	A	BIT8	17-13			
0000011	A	BIT9	17-14			
06 0022623	L	BKCSTFB5	26-39	40-07		
06 0023315	L	BKCSTFB6	43-39	57-07		
06 0024015	L	BKCSTFB7	60-39	78-07		
06 0024606	L	BKCSTFB8	80-39	87-14		
2	R	BLKMSK	8-15			
0047214	A	BUSCHK	19-08			
'CHECK BUS I SOLUTION USI NG SER'						
06 0024414	L	BYPASS	73-20			
'SER+0'	T	CHDIF		W=1 S=2 N=0 CL=2		
10	R	CHKNDX	8-04			
'CIOBUF+0'	T	CINIT		W=1 S=0 N=0 CL=2		
'CIOBUF+0'	T	CKHLT		W=1 S=2 N=0 CL=2		
'CIOBUF+0'	T	CKSTP		W=1 S=1 N=0 CL=2		

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0040374	A	CKTINIT	19-10	63-04, 75-47, 82-44, 83-18		
'INITIALIZE ALL STORE CO NTROLLER CIR CUITS'						
0046074	A	CLKSTOP	19-15	71-20, 74-43		
'DISABLE STO RE CONTROLLE R CLOCK OUTP UT'						
0046070	A	CLKSTRT	19-17	63-28, 71-32, 83-22		
'ENABLE STOR E CONTROLLER CLOCK OUTPU T'						
06 0024446	L	CLK532	75-09	75-16		
0177771	A	CLOCKON	23-01			
06 0024521	L	CLP692	76-16	76-21		
06 0024646	L	CLP738	83-10	83-15		
0043310	A	CLRSER	19-13			
'CLEAR STORE ERROR REGIS TER'						
'SERREAD'	T	CLRSERT				
	T	COMENT				

```

t.<(+|&
!$*)
- /
%_>?
: # @ ' = " ab
c d e f g h i n < ( +
+ j k l m n o p q r
) z = - ~ s t u v w
x y z + , [ ] ^ _ ` 0 1 2
3 4 5 6 7 8 9 + , ] #
- C a b c d e f g h i
) j k l m n o
p q r \ s
t u v w x y z
0123456789

```

T CONLC

LIBNUM=5

'n

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 120

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
z						
te<hplix						
v\$fgs						
-al						
ix>k						
jo#b'd" ab						
cdefghi n<(+						
+ jklmnopqr						
n)z=-stuvw						
xyz+Lr[3e012						
3456789+1,7]z						
-CABCEFGHI						
JKLMNO						
PQR						
TUVWXYZ						
0123456789						
CDGSIO	T	CONSC	7-25	LIBNUM=5 26-38, 43-38, 60-38, 80-38		
'DGREQL0+0'	V	CONTPREP	W=7 S=11 N=0 CL=2			
0000011	T	CONTROLBITS	24-11	LIBNUM=15 41-11, 58-11, 79-11, 89-01, 89-03, 89-18, 90-22, 91-20, 92-01, 92-20, 93-03, 93-22, 94-01, 94-16, 94-18, 95-01, 96-01, 96-18, 97-01, 97-18, 98-01, 98-18, 99-01, 99-16, 99-18, 100-24, 101-01, 101-25, 102-01, 102-25, 103-01, 103-25, 104-01, 104-31, 105-01, 105-19, 106-01, 106-19, 107-01, 107-19, 108-01, 108-19, 109-01, 109-15, 109-31, 110-01, 110-16, 110-31, 111-01, 111-12, 111-24, 111-26, 112-01, 113-01, 113-28, 114-01, 114-19, 115-01, 115-19, 116-01		
	A	COUNT	2-16	72-21		
0111432	L	CPATCH	2-17			
0112562	L	CPATCH1	2-18			
0114107	L	CPATCH2	2-19	29-15, 31-22, 35-19, 37-33, 46-17, 48-27, 52-17, 54-33, 64-08		
0115073	L	CPATCH3	2-20	87-22		
0121236	L	CPATCH7	111-26	83-45, 111-26		
0000001	A	CSFFER	82-39	82-33		
06 0024623	L	CSINITCK	2-08	24-11		
06 0022600	L	CSTFB5	2-09	41-11		
06 0023272	L	CSTFB6	2-10	58-11		
06 0023772	L	CSTFB7	2-11	79-11		
06 0024563	L	CSTFB8				
'CHKWRD+0'	T	CTRLCK	W=1 S=16 N=0 CL=2			
0000000	A	DATAWD	24-11	41-11, 58-11, 79-11		

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STORE FANOUT BOARDS TEST-PART B

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## TROUBLE LOCATION MANUAL

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
:#0'='						
n<(+						
+						
n)±m--						
+Lr[≥e012						
3456789↑J_]#						
-CABCDEFHGI						
JJKLMNO						
PQR \ S						
TUVWXYZ						
0123456789						
	T	DELLC		LIBNUM=5		
CTSD	V	DGNLIM	7-12			
CTSD	V	DGREQ	7-37			
'SER+0'	T	DHPER		W=1 S=11 N=0 CL=2		
'SER+0'	T	DLPER		W=1 S=15 N=0 CL=2		
'# NOTE--3 D						
MA 02-17						
FC392 DMA						
MY STORE CwN						
TROL'	T	DMAC		LIBNUM=12		
'# NOTE--3 D						
MA 02-04						
FB6 FUSE						
BOARD-STORE						
CONTROL'	T	DMAFUS4		LIBNUM=12		
0146074	A	ERCOLL	19-19			
'COLLECT ERR						
ORS IN STORE						
ERROR REG'	T	ERCOLLT				
10 R	R	ERSAVE	8-21			
06 0024420	L	ERSTBCK	74-37 74-35			
0 J	J	ESS2	1-10			
1 J	J	ESS2E	1-09			
CSYSUB	V	EXCOFLPG	7-28			
0145454	A	EXERLD	19-21			
'ENABLE EXTE						
RNAL LOAD OF						
STORE ERROR						
REG'	T	EXERLDT				
0145454	A	EXLDB15	19-24			
'ENABLE EXTE						
RNAL LOAD OF						
STORE ERROR						
REG W/ ERRO						
R COLLECT OP						
TION'	T	EXLDB15T				
CDGNOF	V	FAILOFF	3-45			
0010000	A	FAK010	22-36 75-12, 75-15, 76-18, 76-20, 83-12, 83-14			

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0005440	A	FASTREF	19-26			
'PERFORM FAS						
T REFRESH ON						
STORE'						
	T	FASTRFT				
0045454	A	FASTRNC	19-28			
'FORCE FAST						
REFRESH W/O						
CLOCK'						
	T	FASTRNCT				
0146074	A	FBIT09	19-32	75-19, 76-27		
0146064	A	FBIT09R	19-35			
'COLLECT ERR						
ORS IN SER W						
/ REFRESH ON'T						
FBIT09RT						
'COLLECT ERR						
ORS IN STORE						
ERROR REGIS						
TER'						
	T	FBIT09T				
06	0023016	L	FBMSK1	32-42 32-44		
06	0023131	L	FBMSK2	36-27 36-29		
06	0023237	L	FBMSK3	39-05 39-07		
06	0023516	L	FBMSK5	50-01 50-03		
06	0023631	L	FBMSK6	53-25 53-27		
06	0023737	L	FBMSK7	56-05 56-07		
06	0022640	L	FBPARCK0	28-36 28-32		
06	0022737	L	FBPARCK1	31-10 31-04		
06	0023043	L	FBPARCK2	34-38 34-34		
06	0023155	L	FBPARCK3	37-19 37-13		
06	0023332	L	FBPARCK4	45-36 45-32		
06	0023434	L	FBPARCK5	48-13 48-07		
06	0023543	L	FBPARCK6	51-36 51-32		
06	0023655	L	FBPARCK7	54-19 54-13		
06	0022657	L	FBPATLD0	29-06 28-49, 29-02		
06	0023062	L	FBPATLD2	35-08 35-02, 35-04		
06	0023351	L	FBPATLD4	46-06 45-49, 46-02		
06	0023562	L	FBPATLD6	52-06 51-49, 52-02		
06	0023014	L	FBPATST1	32-38 32-32, 32-34		
06	0023235	L	FBPATST3	39-01 38-42, 38-44		
06	0023514	L	FBPATST5	49-43 49-37, 49-39		
06	0023735	L	FBPATST7	56-01 55-42, 55-44		
06	0022715	L	FBPCJP0	30-18 30-16		
06	0022777	L	FBPCJP1	32-17 32-15		
06	0023124	L	FBPCJP2	36-21 36-19		
06	0023220	L	FBPCJP3	38-27 38-25		
06	0023412	L	FBPCJP4	47-19 47-17		
06	0023477	L	FBPCJP5	49-22 49-20		
06	0023624	L	FBPCJP6	53-19 53-17		
06	0023720	L	FBPCJP7	55-27 55-25		
06	0023263	L	FBPCKAXT	39-43 39-41		
06	0022665	L	FBPCLPO	29-38 30-21		

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
06	0022751	L	FBPCLP1	31-45 32-20		
06	0023074	L	FBPCLP2	35-42 36-24		
06	0023172	L	FBPCLP3	38-06 38-30		
06	0023362	L	FBPCLP4	46-40 47-22		
06	0023451	L	FBPCLP5	49-01 49-25		
06	0023574	L	FBPCLP6	52-40 53-22		
06	0023672	L	FBPCLP7	55-06 55-30		
	0146076	A	FBRMB15	19-37		
'FANOUT BOAR						
D REFRESH W/						
ERROR COLLE						
CT'						
	06	0022674	L	FBSNDAD0	30-01 29-44	
	06	0023110	L	FBSNDAD2	36-09 36-04	
	06	0023376	L	FBSNDAD4	47-07 47-02	
	06	0023610	L	FBSNDAD6	53-07 53-02	
	06	0024110	L	FBTMBX0	63-42 63-40	
	06	0024122	L	FBTMEND0	65-01	
	06	0024104	L	FBTMJPD	63-37 63-35	
	06	0024054	L	FBTMLP0	63-01 63-44, 64-44	
	06	0024124	L	FBTMRP0	65-03	
	06	0024127	L	FBTMSK0	65-10 87-33	
	06	0024117	L	FBTMSKPD	64-41 64-35	
	06	0024127	L	FBTMSK0	65-11 65-17	
	06	0024214	L	FBTMSTK0	68-20 87-30	
	06	0024214	L	FBTMSTK0	68-15 68-13	
	06	0024243	L	FBTMUSK0	69-20	
	06	0024235	L	FBTMUSLO	69-14 69-04, 69-26	
	06	0024270	L	FBTMUSL1	70-16 70-14	
	'CIOBUF+0'		T	FBT09	W=1 S=17 N=0 CL=2	
		0020000	A	FBUSRDN	22-38	
	06	0022601	L	FB5INIT	26-05	
	06	0023273	L	FB6INIT	43-05	
	06	0023773	L	FB7INIT	60-05	
	06	0024564	L	FB8INIT	80-05	
		0046314	A	FCHKBT	19-39	
		0046304	A	FCHKBTR	19-41	
'ACTIVATE SH						
IFTER CHECK						
BIT W/ REFRE						
SH ENABLED' T FCHKBTRT						
'ACTIVATE MA						
IN SHIFTER C						
HECK BIT' T FCHKBTT						
		0040574	A	FCHKOS	19-43	
'FORCE ZEROS						
TO MODULE S						
ELECT XOR CH						
ECK & WRITE						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
PROTECT SELE CT XOR CHECK CIRCUITS'	T	FCHKOST				
0041274	A	FCHK1S	19-46			
'FORCE ONES TO MODULE S ELECT XOR CH ECK & WRITE PROTECT SELE CT XOR CHECK CIRCUITS'	T	FCHK1ST				
0140574	A	FCKOS15	19-49			
'FORCE ZEROS TO CHECK CK TS W/ ERROR COLLECT'	T	FCKOS15T				
0141274	A	FCK1S15	20-02			
'FORCE ONES TO CHECK CK TS W/ ERROR COLLECT'	T	FCK1S15T				
0043074	A	FDISIDLE	20-04			
'FORCE DISAB LE OF IDLE F LOP'	T	FDISIDLET				
	O	U FFBF				
	O	U FFDF				
	O	U FFEF				
	O	U FFFB				
	O	U FFFD				
	O	U FFFE				
	O	U FFF7				
0000002	A	FFOBRM	22-44			
0145454	A	FFRMB15	19-30			
'FORCE FAST REFRESH & BI T 15'	T	FFRMB15T				
	O	U FF7F				
0020016	A	FGLDNCFR	23-02			
	1	J FIELD	1-09			
CDGSIO	V	FINAL	7-24	40-06, 57-06, 78-06, 87-13		
0046156	A	FLSHD	20-06	76-24		
0046154	A	FLSHDNC	20-09			
'PRESENT ZER O TO INPUT O F MAIN SHIFT ER'	T	FLSHDNC				
'START ZERO INTO MAIN SH						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
IFTER'	T	FLSHOT				
0044474	A	FNOTIM	20-16			
0044470	A	FNOTIMC	20-19			
'BLOCK TIMIN G TO FANOUT BOARDS(W/CLO CK)'	T	FNOTIMCT				
'INHIBIT TIM ING SIGNALS TO FANOUT BO ARDS'	T	FNOTIMT				
0045434	A	FNOWRT	20-12			
0045430	A	FNOWRTC	20-14			
'FORCE WRITI NG OF ONES W / CLOCK RUNN ING'	T	FNOWRTCT				
'FORCE WRITI NG OF ALL-ON ES DATA'	T	FNOWRTT				
10	R	FOBCNT	8-05	30-20, 32-19, 32-40, 32-43, 32-44, 36-23, 36-25, 36-28, 36-29, 38-29, 39-03, 39-06, 39-07, 47-21, 49-24, 49-45, 50-02, 50-03, 53-21, 53-23, 53-26, 53-27, 55-29, 56-03, 56-06, 56-07, 64-43, 69-18, 69-26, 72-27, 86-09		
0041550	A	FOBMT	20-21	71-28, 85-38		
'FANOUT BOAR D MAINTENANC E TEST'	T	FOBMTT				
CDGSFA	V	FOBNDX	7-17	28-39, 31-12, 34-41, 37-21, 45-39, 48-15, 51-39, 54-21, 62-42, 69-17, 70-44, 85-29		
'PAGSCR+26'	T	FOBNUM		W=20 S=0 N=32 CL=2 69-33		
'SER+0'	T	FOBPARER		W=1 S=10 N=0 CL=2 30-15, 32-14, 36-18, 38-24, 47-16, 49-19, 53-16, 55-24		
'SER+0'	T	FOBTERA		W=1 S=7 N=0 CL=2 63-34, 72-02, 75-24, 76-35, 83-34		
'SER+0'	T	FOBTERB		W=1 S=0 N=0 CL=2 63-39, 71-39, 85-48		
06 0024040	L	FOBTMCKO	62-40	62-26		
06 0024317	L	FOBUSLP	71-01	72-33		
0000004	A	FOUR	17-25			
0041474	A	FRFSELO	20-23			
'CANCEL SELE CT FROM FOB0 DURING REFR ESH'	T	FRFSELOT				
0042334	A	FRFSEL1	20-25			
'CANCEL SELE CT FROM FOB1 DURING REFR ESH'	T	FRFSEL1T				
0042534	A	FRFSEL2	20-27			
'CANCEL SELE CT FROM FOB2 DURING REFR						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
ESH'		T FRFSEL2T				
0043234	A	FRFSEL3	20-29			
'CANCEL SELE						
CT FROM FOB3						
DURING REFR						
ESH'		T FRFSEL3T				
0043434	A	FRFSEL4	20-31			
'CANCEL SELE						
CT FROM FOB4						
DURING REFR						
ESH'		T FRFSEL4T				
0044354	A	FRFSEL5	20-33			
'CANCEL SELE						
CT FROM FOB5						
DURING REFR						
ESH'		T FRFSEL5T				
0044554	A	FRFSEL6	20-35			
'CANCEL SELE						
CT FROM FOB6						
DURING REFR						
ESH'		T FRFSEL6T				
0045254	A	FRFSEL7	20-37			
'CANCEL SELE						
CT FROM FOB7						
DURING REFR						
ESH'		T FRFSEL7T				
0044334	A	FRREQA	20-39 63-12			
'SET REFRESH						
REQUEST ON						
TIMING BOARD						
(FA1071)'		T FRREQAT				
0040674	A	FRREQB	20-42			
0040664	A	FRREQBR	20-45			
'SET REFRESH						
REQUEST ON						
FA1062 W/ RE						
FRESH ENABLE						
D'		T FRREQBRT				
'SET REFRESH						
REQ COPY ON						
CHECK BOARD						
A (FA1062)'		T FRREQBT				
0100000	A	FSBITO9	22-41			
'CIOBUF+0'		T FSEL		W=1 S=16 N=0 CL=2		
0046074	A	FSELA	20-47			
'FORCE STORE						
SELECT(ISOL						
ATE) SIGNAL						
ON FA1071'		T FSELAT				

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0004714	A	FSELB	21-02			
0004710	A	FSELBC	21-05			
'FORCE DUPLICATED STORE SELECT(SELB) W/ CLOCK' T FSELBCT						
'FORCE DUPLICATED STORE SELECT(SELB) ACTIVE' T FSELBT						
0046516	A	FSTFBRM	21-07			
'FORCE CONTROLLER & FANOUT BOARDS TO REFRESH' T FSTFBRMT						
0042354	A	FSTNM	21-09			
0052354	A	FSTNMFR	21-11			
'FORCE NORMAL MODE IN CONTROLLER & REFRESH TO FANOUT BOARDS' T FSTNMFRT						
0042344	A	FSTNMR	21-13			
'FORCE MODE TO NORMAL W/ REFRESH ENABLED' T FSTNMRT						
'FORCE MODE FLOP TO NORMAL STATE' T FSTNMT						
0046514	A	FSTRM	21-15			
'FORCE MODE FLOP TO REFRESH STATE' T FSTRMT						
0046234	A	FTINWP	21-17			
'FORCE IN-WRITE-PROTECT INHIBIT' T FTINWPT						
'CHKWRD+0' T FXORG W=1 S=17 N=0 CL=2						
0000004	A	HALTCLK	22-46			
1	R	HIPATBAK	8-13			
		HIPATBAKXT	8-14	IS A SYNONYM OF R1XT		
'ILLEGAL CONDITIONAL IN THE IF MACRO' T IFERROR1						
'DATA > 0 OR DATA < 0 IS MEANINGLESS USE DATA -						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
= 0'	T	IFERROR2				
'TWO CONSTAN TS ARE BEING COMPARED IN IF MACRO'	T	IFERROR3				
'AN ITEM WAS COMPARED TO SOMETHING O THER THAN A CONSTANT'	T	IFERROR4				
'DESTINATION OF AN = STA TEMENT IS A CONSTANT'	T	IFERROR5				
'ATTEMPTING TO SET ITEM = TO SOMETHI NG OTHER THA N A CONSTANT'	T	IFERROR6				
'ITEM MAY ON LY USE THE = AND == COND ITIONALS'	T	IFERROR7				
CSYSUB	V	INIT_OCC	7-29			
0000001	A	INITBIT	22-42			
0121552	L	INITMSK	87-31	87-28		
CSYSUB	V	INITOST	7-30			
CSYSUB	V	INSYNC	7-31			
CDGNM	X	INTRPNO3	3-42	25-45, 30-26, 33-07, 36-36, 39-15, 43-45, 47-27, 50-11, 53-34, 56-15, 60-45, 63-24, 68-31, 69-39, 70-21, 73-01, 75-29, 76-40, 80-45, 83-39, 84-09, 86-17		
'PAGSCR+25'	T	IOADDR				
'18'	T	IOBRK				
0006220	A	IOGO	21-19			
'ENABLE ON-L INE I/O ACCE SS TO OFF-LI NE STORE'	T	IOTGT				
0000001	A	IOPRTYER	89-03	94-18		
0125252	A	IOTSTA	21-21			
'I/O TEST PA TTERN #1'	T	IOTSTAT				
0052525	A	IOTST5	21-23			
'I/O TEST PA TTERN #2'	T	IOTST5T				
'CHKWRD+0'	T	ISOBTS				
0067214	A	ISOCHK	21-25	W=7 S=0 N=0 CL=2		
'ISOLATE FRO M FAR STORES & VERIFY VI'						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
A SER'	T	ISOCHKT				
0027214	A	ISOCHKU	21-29			
'APPLY ONES TO STORE DAT A BUS(W/O IS OLATE)'	T	ISOCHKUT				
0040000	A	ISOLATE	22-40			
0043454	A	KILL12	21-31			
'CLEAR SHIFT ER BIT IN PO SITION 12'	T	KILL12T				
'CIOBUF+0'	T	LDFG		W=1 S=15 N=0 CL=2		
0020000	A	LOADCHK	22-39			
'PAGSCR'	T	LONAM_BASADD R				
'SER'	T	LONAM_CHDIF				
'CIOBUF'	T	LONAM_CINIT				
'CIOBUF'	T	LONAM_CKHLT				
'CIOBUF'	T	LONAM_CKSTP				
'DGREQLO'	T	LONAM_CONTRO LBITS				
'CHKWRD'	T	LONAM_CTRLCK				
'SER'	T	LONAM_DHPER				
'SER'	T	LONAM_DLPER				
'CIOBUF'	T	LONAM_FBT0?				
'PAGSCR'	T	LONAM_FOBNUM				
'SER'	T	LONAM_FOBPAR ER				
'SER'	T	LONAM_FOBTER A				
'SER'	T	LONAM_FOBTER B				
'CIOBUF'	T	LONAM_FSEL				
'CHKWRD'	T	LONAM_FXORG				
'PAGSCR'	T	LONAM_IOADDR				
'CHKWRD'	T	LONAM_ISOBTS				
'CIOBUF'	T	LONAM_LDFG				
'PAGSCR'	T	LONAM_LOOPSU B				
'SER'	T	LONAM_MODER				
'SER'	T	LONAM_MPXER				
'MASCIOSC'	T	LONAM_MSSCO				
'MASCIOSC'	T	LONAM_MSSC1				
'MASCIOSC'	T	LONAM_MSSC2				
'MASCIOSC'	T	LONAM_MSSC3				
'STRSTAT'	T	LONAM_PASBT				
'STRSTAT'	T	LONAM_PHBAK				
'STRSTAT'	T	LONAM_PLBAK				
'SER'	T	LONAM_PWER				

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
'CIOBUF'	T	LONAM_REFST				
'SER'	T	LONAM_RSELER				
'RSLCHK'	T	LONAM_RSELO6				
'RSLCHK'	T	LONAM_RSEL7				
'CHKWRD'	T	LONAM_RSVD0				
'RSLCHK'	T	LONAM_RSVD1				
'RSLCHK'	T	LONAM_SAPHLP				
'RSLCHK'	T	LONAM_SA17LP				
'SER'	T	LONAM_SCMER				
'CHKWRD'	T	LONAM_SDPCK				
'SER'	T	LONAM_SHER				
'STRSTAT'	T	LONAM_SNGBTE				
		R				
'DGREQLO'	T	LONAM_SPARE				
'CIOBUF'	T	LONAM_STORDE				
		R				
'RSLCHK'	T	LONAM_STRSLP				
'SER'	T	LONAM_TBER				
'PAGSCR'	T	LONAM_TIMSAV				
'DGREQLO'	T	LONAM_TSTNUM				
'PAGSCR'	T	LONAM_UPADDR				
'CHKWRD'	T	LONAM_WDISOL				
'MASCIOSC'	T	LONAM_OSSCO				
'MASCIOSC'	T	LONAM_OSSC1				
'MASCIOSC'	T	LONAM_OSSC2				
'MASCIOSC'	T	LONAM_OSSC3				
'STRSTAT'	T	LONAM_OWDSTR				
		O				
'CIOBUF'	T	LONAM_O10TM				
'CHKWRD'	T	LONAM_2EPCK				
CDGNM	V	LOOPIND	7-09	26-34, 26-35, 26-37, 26-37, 26-39, 26-39, 43-34, 43-35, 43-37, 43-37, 43-39, 43-39, 60-34, 60-35, 60-37, 60-37, 60-39, 60-39, 80-34, 80-35, 80-37, 80-37, 80-39, 80-39		
'PAGSCR+24'	T	LOOPSUB		W=20 S=0 N=30 CL=2		
000000	A	LPINDX	30-33	30-36, 33-15, 33-18, 36-43, 36-46, 39-23, 39-26, 47-34, 47-37, 50-19, 50-22, 53-41, 53-44, 56-23, 56-26, 65-26, 65-29, 65-41, 65-44, 66-10, 66-13, 66-25, 66-28, 66-40, 66-43, 67-10, 67-13, 67-25, 67-28, 67-40, 67-43, 68-33, 68-36, 69-41, 69-44, 70-23, 70-26, 73-06, 73-09, 86-19, 86-22		
	4	R LSTPAT	8-17			
TTYTBL	X	MXAS	26-28	26-28, 43-28, 60-28, 80-28		
'#	M					
ASCM 08-02						
FA1060		MAIN				
STORE CONTR						
OLLER - BITS						
0 & 8'	T	MASCBSO		LIBNUM=12		
'#	M					
ASCM 08-03						
FA1060		MAIN				
STORE CONTR						

STORE FANOUT BOARDS TEST-PART B

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
OLLER - BITS 1 & 9'	T	MASCBS1		LIBNUM=12		
'#	M					
ASCM 08-04 FA1060 MAIN STORE CONTR						
OLLER - BITS 2 & 10'	T	MASCBS2		LIBNUM=12		
'#	M					
ASCM 08-05 FA1060 MAIN STORE CONTR						
OLLER - BITS 3 & 11'	T	MASCBS3		LIBNUM=12		
'#	M					
ASCM 08-06 FA1060 MAIN STORE CONTR						
OLLER - BITS 4 & 12'	T	MASCBS4		LIBNUM=12		
'#	M					
ASCM 08-07 FA1060 MAIN STORE CONTR						
OLLER - BITS 5 & 13'	T	MASCBS5		LIBNUM=12		
'#	M					
ASCM 08-08 FA1060 MAIN STORE CONTR						
OLLER - BITS 6 & 14'	T	MASCBS6		LIBNUM=12		
'#	M					
ASCM 08-09 FA1060 MAIN STORE CONTR						
OLLER - BITS 7 & 15'	T	MASCBS7		LIBNUM=12		
'#	M					
ASCM 08-16 FA1060 MAIN STORE CONTR						
OLLER - BITS PL&PH'	T	MASCBS8		LIBNUM=12		
'#	M					
ASCM 08-17 FA1062 MAIN STORE CONTR						
OLLER - CHEC						

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
K CIRCUIT A'	T	MASCCHKA		LIBNUM=12		
'#	M					
ASCM 08-19						
FA1066		MAIN				
STORE CONTR						
OLLER - CHEC						
K CIRCUIT B'	T	MASCCHKB		LIBNUM=12		
'#	M					
ASCM 08-23						
FC203		MAIN				
STORE CONTR						
OLLER CLOCK						
& I/O INTERF						
ACE'	T	MASCCLK		LIBNUM=12		
'#	M					
ASCM 08-21						
FA1065		MAIN				
STORE CONTR						
OLLER - COMM						
AND DECODER'	T	MASCCOMD		LIBNUM=12		
0046071	A	MASCINT	21-33	26-41, 29-41, 32-04, 36-01, 38-14, 43-41, 46-48, 49-09, 52-48, 55-14, 60-41, 71-17, 74-40, 80-41, 85-35		
'INITIALIZE						
STORE CONTR						
OLLER'	T	MASCINTT				
MASACS	V	MASCIOSC	7-04			
0046076	A	MASCLK	21-37	75-15, 76-18, 83-12		
0046074	A	MASCLKN	21-40	75-12, 76-20, 83-14		
'FAKE SECOND						
HALF OF STO						
RE CLOCK CYC						
LE'	T	MASCLKNT				
'FAKE FIRST						
HALF OF STOR						
E CLOCK CYCL						
E'	T	MASCLKT				
'#	M					
ASCM 08-22						
FA1063		MAIN				
STORE CONTR						
OLLER - I/O						
ORDER RECEIV						
ER'	T	MASCMTCA		LIBNUM=12		
'#	M					
ASCM 08-20						
FA1064		MAIN				
STORE CONTR						
OLLER - I/O						
ORDER DECODE						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
R'		T MASCMTCB		LIBNUM=12		
'#	M					
ASCM 08-18						
FA1071		MAIN				
STORE CONTR						
OLLER - TIM						
ING GENERATO						
R'		T MASCTIM		LIBNUM=12		
'#	M					
CTSD		V MASERCNT	7-35			
ASCM 03-02						
JK25		MAIN				
MEMORY FANO						
UT BOARD FOR						
MODULE 0'		T MASFOBA0		LIBNUM=12		
'#	M					
ASCM 03-33						
JK25		MAIN				
MEMORY FANO						
UT BOARD FOR						
MODULE 1'		T MASFOBA1		LIBNUM=12		
'#	M					
ASCM 03-02						
JK3		MAIN				
STORE FANOU						
T BOARD FOR						
MODULE 0'		T MASFOB0		LIBNUM=12		
'#	M					
ASCM 03-33						
JK3		MAIN				
STORE FANOU						
T BOARD FOR						
MODULE 1'		T MASFOB1		LIBNUM=12		
'#	M					
ASMA 03-02						
JK3		MAIN				
STORE FANOU						
T BOARD FOR						
MODULE 2'		T MASFOB2		LIBNUM=12		
'#	M					
ASMA 03-33						
JK3		MAIN				
STORE FANOU						
T BOARD FOR						
MODULE 3'		T MASFOB3		LIBNUM=12		
'#	M					
ASMB 03-02						
JK3		MAIN				
STORE FANOU						

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
T BOARD FOR MODULE 4'	T	MASFOB4		LIBNUM=12		
'#	M					
ASMB 03-33						
JK3		MAIN				
STORE FANOU						
T BOARD FOR MODULE 5'	T	MASFOB5		LIBNUM=12		
'#	M					
ASMC 03-02						
JK3		MAIN				
STORE FANOU						
T BOARD FOR MODULE 6'	T	MASFOB6		LIBNUM=12		
'#	M					
ASMC 03-33						
JK3		MAIN				
STORE FANOU						
T BOARD FOR MODULE 7'	T	MASFOB7		LIBNUM=12		
CDGSIO	X	MASIOH	7-19	26-40, 29-40, 30-13, 32-03, 32-12, 35-49, 36-16, 38-13, 38-22, 43-40, 46-47, 47-14, 49-08, 49-17, 52-47, 53-14, 55-13, 55-22, 60-40, 63-03, 63-11, 63-27, 63-32, 71-16, 71-19, 71-27, 71-31, 71-37, 74-39, 74-42, 75-11, 75-14, 75-18, 75-21, 75-46, 76-17, 76-19, 76-23, 76-26, 76-29, 80-40, 82-43, 83-11, 83-13, 83-17, 83-21, 83-24, 85-34, 85-37, 85-46		
MASACS	V	MASONOFF	7-39			
'#	M					
ASCM 03-04						
JL16		MAIN				
STORE PLANE						
- MOD 0 BIT						
S 0 & 8'	T	MASPLA000		LIBNUM=12		
'#	M					
ASCM 03-05						
JL16		MAIN				
STORE PLANE						
- MOD 0 BIT						
S 1 & 9'	T	MASPLA001		LIBNUM=12		
'#	M					
ASCM 03-06						
JL16		MAIN				
STORE PLANE						
- MOD 0 BIT						
S 2 & 10'	T	MASPLA002		LIBNUM=12		
'#	M					
ASCM 03-07						
JL16		MAIN				
STORE PLANE						
- MOD 0 BIT						
S 3 & 11'	T	MASPLA003		LIBNUM=12		

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
'#	M					
ASCM 03-08						
JL16	MAIN					
STORE PLANE						
- MOD 0 BIT						
S 4 & 12'	T	MASPLA004		LIBNUM=12		
'#	M					
ASCM 03-09						
JL16	MAIN					
STORE PLANE						
- MOD 0 BIT						
S 5 & 13'	T	MASPLA005		LIBNUM=12		
'#	M					
ASCM 03-10						
JL16	MAIN					
STORE PLANE						
- MOD 0 BIT						
S 6 & 14'	T	MASPLA006		LIBNUM=12		
'#	M					
ASCM 03-11						
JL16	MAIN					
STORE PLANE						
- MOD 0 BIT						
S 7 & 15'	T	MASPLA007		LIBNUM=12		
'#	M					
ASCM 03-17						
JL16	MAIN					
STORE PLANE						
- MOD 0 BIT						
S PL & PH'	T	MASPLA012		LIBNUM=12		
'#	M					
ASCM 03-31						
JL16	MAIN					
STORE PLANE						
- MOD 1 BIT						
S 0 & 8'	T	MASPLA100		LIBNUM=12		
'#	M					
ASCM 03-29						
JL16	MAIN					
STORE PLANE						
- MOD 1 BIT						
S 1 & 9'	T	MASPLA101		LIBNUM=12		
'#	M					
ASCM 03-28						
JL16	MAIN					
STORE PLANE						
- MOD 1 BIT						
S 2 & 10'	T	MASPLA102		LIBNUM=12		
'#	M					

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
ASCM 03-27						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S 3 & 11'	T	MASPLA103		LIBNUM=12		
'#	M					
ASCM 03-26						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S 4 & 12'	T	MASPLA104		LIBNUM=12		
'#	M					
ASCM 03-25						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S 5 & 13'	T	MASPLA105		LIBNUM=12		
'#	M					
ASCM 03-24						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S 6 & 14'	T	MASPLA106		LIBNUM=12		
'#	M					
ASCM 03-23						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S 7 & 15'	T	MASPLA107		LIBNUM=12		
'# NOTE--1	M					
ASCM 03-18						
JL16		MAIN				
STORE PLANE						
- MOD 1 BIT						
S PL & PH'	T	MASPLA112		LIBNUM=12		
'#	M					
ASMA 03-27						
JL2		MAIN				
STORE PLANE						
- MOD 3 - B						
ITS 3 & 11'	T	MASPL303		LIBNUM=12		
3	R	MCHB		LIBNUM=14		
				30-22, 33-03, 36-32, 39-11, 47-23, 50-07, 53-30, 56-11, 65-20, 68-27, 69-35,		
				70-17, 72-47, 75-26, 76-38, 83-36, 86-13		
0000231	A	MCHBXF		LIBNUM=14		
CDGSIO	V	MDSELMSK	7-20	26-20, 43-20, 60-20, 80-20		
	14	P MEMADDR	8-25	29-09, 31-16, 35-12, 37-26, 46-10, 48-20, 52-10, 54-26		
	14	R MEMADDR0	8-23			
	15	R MEMADDR1	8-24			
CDGSBS	V	MEMOP	7-14	30-11, 32-10, 36-14, 38-20, 47-12, 49-15, 53-12, 55-20, 63-09, 63-30, 71-10, 71-23, 71-34,		

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TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
				75-06, 76-11, 83-06, 85-44		
CDGSBS	V	MEMOPI	7-15			
	R	MNRNDX	8-20			
'SER+0'	T	MODER		W=1 S=5 N=0 CL=2		
CDGSIO	V	MODSIZE	7-21	30-06, 32-01, 35-47, 38-11, 46-45, 49-06, 52-45, 55-11, 62-43, 70-45, 86-03		
000000	A	MOD0	17-27			
000001	A	MOD1	17-28			
000002	A	MOD2	17-29			
000003	A	MOD3	17-30			
000004	A	MOD4	17-31			
000005	A	MOD5	17-32			
000006	A	MOD6	17-33			
000007	A	MOD7	17-34			
'SER+0'	T	MPXR		W=1 S=1 N=0 CL=2		
0000215	A	MSXT		LIBNUM=14 26-20, 43-20, 60-20, 80-20		
0006071	A	MSCITNS	21-35			
'INITIALIZE						
STORE CONTRO						
LLER W/O FOR						
CE SELECT'	T	MSCITNST				
'MASCIOSC+0'	T	MSSCO		W=20 S=0 N=0 CL=2		
'MASCIOSC+2'	T	MSSC1		W=20 S=0 N=2 CL=2		
'MASCIOSC+4'	T	MSSC2		W=20 S=0 N=4 CL=2		
'MASCIOSC+6'	T	MSSC3		W=20 S=0 N=6 CL=2		
'#	P					
ROC		02-21				
FA1029		MAIN				
STORE CONTR						
OL O'	T	MSTCONTO		LIBNUM=12		
0106263	A	MTCRD	18-24	62-34		
0106203	A	MTCWR	18-26	62-37		
CDGNM	V	NABT	3-35			
CDGNM	V	NADD OFF	3-26			
CDGNM	V	NADMIC	3-27			
CDGNM	V	NBEGIN	3-32			
CDGNM	V	NBGN	3-43	24-14, 41-14, 58-14, 79-14		
CDGNM	V	NCLRMS	3-37			
CDGNM	V	NCOMPARE	3-30	30-36, 33-18, 36-46, 39-26, 47-37, 50-22, 53-44, 56-26, 65-29, 65-44, 66-13, 66-28, 66-43, 67-13, 67-28, 67-43, 68-36, 69-44, 70-26, 73-09, 86-22		
CDGNM	V	NDISABA	3-11			
CDGNM	V	NDISABB	3-12			
CDGNM	V	NEXECUTE	3-29			
CDGNM	V	NFAILTST	3-20	65-35, 66-04, 66-19, 66-34, 67-04, 67-19, 67-34, 68-04, 70-04, 75-34, 76-44, 83-44		
CDGNM	V	NFLBITS	3-41	30-42, 33-24, 37-04, 39-32, 47-43, 50-28, 54-04, 56-32, 68-42, 70-32, 73-15, 86-28		
CDGNM	V	NFRZ	3-31			
CDGNM	V	NLDMIR	3-28			
CDGNM	V	NLP END	3-33			
CDGNM	V	NMASK	3-22			
CDGNM	V	NMICRO	3-06	26-19, 43-19, 60-19, 80-19		

STORE FANOUT BOARDS TEST-PART B

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0106260	A	NMLRD	18-28	62-32		
0106200	A	NMLWR	18-30	62-35		
CDGNM	V	NNO3CD	3-38	26-24, 28-31, 31-03, 34-33, 37-12, 39-40, 43-24, 45-31, 48-06, 51-31, 54-12, 56-40, 60-24, 62-25, 68-12, 69-03, 70-13, 74-34, 80-24, 82-32, 85-22, 87-03		
06	0022677	L	NOCARRY	30-05	30-03	
06	0022754	L	NOCARY1	31-49	31-47	
06	0023077	L	NOCARY2	35-46	35-44	
06	0023175	L	NOCARY3	38-10	38-08	
06	0023365	L	NOCARY4	46-44	46-42	
06	0023454	L	NOCARY5	49-05	49-03	
06	0023577	L	NOCARY6	52-44	52-42	
06	0023675	L	NOCARY7	55-10	55-08	
06	0024367	L	NOERR_A	72-18	72-08	
06	0024364	L	NOERR_B	72-01	71-44	
CDGNM	V	NOSTPMES		7-10		
CDGNM	V	NPASSTST		3-23		
CDGNM	V	NPROS		3-18		
CDGNM	V	NRDMICRO		3-36		
CDGNM	V	NRESCLK		3-16		
CDGNM	V	NRETRN		3-07		
CDGNM	V	NRTNBLM		3-49	26-08, 43-08, 60-08, 80-08	
0006074	A	NSELA		20-49		
'RESET STORE						
SELECT(ISOL						
ATE) SIGNAL						
ON FA1071'	T	NSELAT				
CDGNM	V	NSEND		3-24		
CDGNM	V	NSKIP		3-34		
CDGNM	V	NSTOP		3-10		
CDGNM	V	NSTPCLK		3-14		
CDGNM	V	NSTRT		3-09		
CDGNM	V	NSTRTCLK		3-13		
CDGNM	V	NTESTSEG		3-19	28-08, 34-08, 45-08, 51-08, 62-08, 74-08, 82-08, 85-08	
CDGNM	V	NTGCLK		3-15		
CDGNM	V	NTMTEST		3-39		
CDGNM	V	NTTY		3-21	30-30, 33-11, 36-40, 39-19, 47-31, 50-15, 53-38, 56-19	
0000000	A	NUM		23-05	40-14, 57-14, 78-14	
CDGNM	V	NWDTST		4-01		
	5	R	NXTPAT		8-18	
CDGNM	V	NZERO_ER		3-17		
CDGNM	V	NZERPT		3-40		
CDGNM	V	N2RETRN		3-08		
CDGNM	V	N2SEND		3-25	26-13, 43-13, 60-13, 80-13	
0000200	A	OFLNCHNK		17-37		
0007760	A	OFLNDONE		17-38		
0000001	A	ONE		17-35		
0177777	A	ONES		17-36	85-31	

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## TROUBLE LOCATION MANUAL

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VALUE T NAME DEF/REF ATTRIBUTES AND REFERENCES

CDGSFB

W77D

```

{.<(AON
  XS*);
-S/
,X_>?
:#@'L" ab
cdefghi n<(+
+ jklmnopqr-
n)±=-stuvw
xyz+Lr[>e012
3456789+j_]#
-CIBCLEFGHI
)JKLMNO
PQR \ S
LLLWLYZ
0123456789

```

```

T OPTR
0001313 A ORG_000001 26-02 43-02, 60-02, 80-02
0000504 A ORG_000007 29-21
0000532 A ORG_000014 31-28
0000563 A ORG_000021 35-25
0000611 A ORG_000026 37-39
0000672 A ORG_000033 46-23
0000720 A ORG_000040 48-33
0000751 A ORG_000045 52-23
0000777 A ORG_000052 54-39
0001076 A ORG_000057 64-14
0001100 A ORG_000060 64-18
0000502 A ORG_000063 29-11
0000670 A ORG_000066 46-13
0001062 A ORG_000074 63-15
0001074 A ORG_000121 64-04
0001111 A ORG_000133 65-06
0000530 A ORG_000147 31-18
0000716 A ORG_000155 48-23
0001401 A ORG_000210 87-09
0001137 A ORG_000222 68-17
0001151 A ORG_000243 69-07 69-11
0000561 A ORG_000272 35-15
0000747 A ORG_000300 52-13
0001407 A ORG_000307 87-26
0001167 A ORG_000311 70-37
0001212 A ORG_000370 37-29 71-41
0001216 A ORG_000373 72-05
0001222 A ORG_000375 72-15
0000775 A ORG_000376 54-29

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0000634	A	ORG_000463	40-02			
0001022	A	ORG_000471	57-02			
0001277	A	ORG_000550	76-32			
0001304	A	ORG_000562	78-02			
0001224	A	ORG_000774	72-27			
16	R	OVL0F		W=1 S=0 N=0 CL=1 LIBNUM=14		
0121545	L	P_0607	87-26	65-09		
CTSD	V	PAGSCR	7-36	26-29, 28-41, 31-15, 34-43, 37-24, 43-29, 45-41, 48-18, 51-41, 54-24, 60-29, 62-45, 65-02, 69-33, 70-47, 74-44, 75-49, 80-29, 82-40, 85-26		
0000002	A	PARFOB	95-01	30-43, 33-25, 37-05, 39-33, 47-44, 50-29, 54-05, 56-33		
0000002	A	PARFOB00	89-18	95-01		
0000003	A	PARFOB01	90-22	96-01		
0000004	A	PARFOB02	91-20	96-18		
0000005	A	PARFOB03	92-01	97-01		
0000006	A	PARFOB04	92-20	97-18		
0000007	A	PARFOB05	93-03	98-01		
0000010	A	PARFOB06	93-22	98-18		
0000011	A	PARFOB07	94-01	99-01		
0000002	A	PARITY	26-10	43-10, 60-10, 80-10		
10	R	PASLT	8-22			
3	R	PASBT	16-08	W=1 S=6 N=0 CL=1		
CDGN0F	V	PASSOFF	3-44			
CDGNM	V	PASSTST	7-11	40-09, 57-09, 78-09, 87-16		
16	P	PATADDR	8-26			
0	R	PATBAK	8-12			
6	R	PATNDX	8-19			
3	R	PHBAK	16-04	W=1 S=1 N=0 CL=1		
3	R	PLBAK	16-03	W=1 S=0 N=0 CL=1		
'CDGSFB'	T	PNAME				
0000020	A	PRHOLO	17-45	35-10, 46-08, 49-14		
0000005	A	PRHOL1	17-46	29-08, 38-19, 52-08		
0000012	A	PRH1LO	17-47	55-19		
0000017	A	PRH1L1	17-48	32-09		
CBLM	V	PRTMASER	7-06			
0000002	A	PRWH1LO	17-49			
0000007	A	PRWH1L1	18-01			
0000010	A	PRW1HOL0	18-02			
0000015	A	PRW1HOL1	18-03			
'SER+0'	T	PWER		W=1 S=12 N=0 CL=2		
06	0024554	L P657	77-01	76-37		
06	0024476	L P685	75-38	75-25		
06	0024701	L P749	84-02	83-35		
11	R	RANGE	8-07			
14	P	RAO		LIBNUM=3 8-25, 26-44, 30-25, 33-06, 36-35, 39-14, 43-44, 47-26, 50-10, 53-33, 56-14, 60-44, 65-23, 68-30, 69-38, 70-20, 72-49, 75-28, 76-39, 80-44, 83-38, 84-08, 86-16		
16	P	RA1		LIBNUM=3 8-26, 62-47, 63-07, 85-26, 85-27		
0047410	A	RDAD	21-42			
0047414	A	RDADNC	21-45			
'GATE STORE						

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 141

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
ADDRESS BITS TO STORE DATA BUS'						
'GATE STORE ADDRESS BUS(SAO-16,PL)	T	RDADNCT				
'GATE STORE ADDRESS BUS(SAO-16,PL)	T	RDADT				
'GATE STORE ADDRESS BUS(SAO-16,PL)	T	REFST		W=1 S=3 N=0 CL=2		
'GATE STORE ADDRESS BUS(SAO-16,PL)	A	REFSTOP	21-47			
'INHIBIT REFRESHING OF STORE'	T	REFSTOPT				
'INHIBIT REFRESHING OF STORE'	A	REFSTRT	21-49			
'RESUME REGULAR REFRESHING OF STORE'	T	REFSTRTT				
'RESUME REGULAR REFRESHING OF STORE'	A	RFWISOL	22-02			
'RESUME REGULAR REFRESHING OF STORE'	T	RFWISOLT				
'RESUME REGULAR REFRESHING OF STORE'	V	RGCHKADR	7-32			
'BASE ADDRESS OF STORE/MOD UNDER TEST'	T	RMK_BASADDR				
'ERROR INDICATED BY STORE COMMAND CHECKER'	T	RMK_CHDIF				
'MAIN STORE CONTROLLER INITIALIZATION'	T	RMK_CINIT				
'CONTROLLER CLOCK HALT'	T	RMK_CKHLT				
'CONTROLLER CLOCK STEP'	T	RMK_CKSTP				
'CONTROLLER CLOCK STEP'	T	RMK_CONTROLBITS				
'RESULT OF STORE CONTROL LEADS ISOLATION'	T	RMK_CTRLCK				
'ERROR IN PARITY OVER HEAD'						

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 142

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
IGH DATA BIT						
S'	T	RMK_DHPER				
' ERROR IN P						
ARITY OVER L						
OW DATA BITS	T	RMK_DLPER				
' FORCE BIT						
15 ACTIVE IN						
MAIN SHIFTE						
R'	T	RMK_FBT09				
' NUMBER OF						
MEMORY MODUL						
ES (OR FANOU						
T BOARDS) IN						
STORE CURRE						
NTLY UNDER T						
EST'	T	RMK_FOBNUM				
' PARITY ERR						
OR DETECTED						
IN ADDRESS R						
EACHING FANO						
UT BOARD(S)'	T	RMK_FOBPARER				
' STORE TIMI						
NG ERROR FRO						
M SELECTED F						
OB'	T	RMK_FOBTERA				
' STORE TIMI						
NG ERROR FRO						
M UNSELECTED						
FOB'	T	RMK_FOBTERB				
' STORE SELE						
CT FORCE ON						
TIMING BOARD						
A'	T	RMK_FSEL				
' I/O ORDER						
CHECKER EXCL						
USIVE-OR RES						
ULT'	T	RMK_FXORG				
' I/O SUBCHA						
NNEL ADDRESS						
FOR CURRENT						
STORE CONTR						
OLLER'	T	RMK_IOADDR				
' SDD-6, SDB-						
14 ISOLATE T						
EST RESULTS'	T	RMK_ISOBTS				
' ORDER CHEC						
KER EXCLUSIV						
E-OR LOAD'	T	RMK_LDFG				
' ADDRESS OF						

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

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## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0-6'	T	RMK_RSELO6				
' REFRESH SE LECT FROM FA NOUT BOARD 7'	T	RMK_RSEL7				
' SD7,SD15 I SOLATE TEST RESULT - ONL Y GATED INTO BY LOAD I/O DECODER CHE CK (LOADCHK) OPTION'	T	RMK_RSVD0				
' RESERVED - FOBTERA IS SET AFTER IN IT'	T	RMK_RSVD1				
' STORE ADDR ESS PARITY H IGH LOOP RES ULT'	T	RMK_SAPHLP				
' STORE ADDR ESS BIT 17 L OOP RESULT'	T	RMK_SA17LP				
' PREMATURE STORE COMPLE TE(SCM)'	T	RMK_SCMER				
' RESULT OF STORE DATA P ARITY ISOLAT ION'	T	RMK_SDPCK				
' ERROR IN M AIN SHIFTER OPERATION'	T	RMK_SHER				
' SINGLE BIT ERROR FLAG'	T	RMK_SNGBTER				
' '	T	RMK_SPARE				
' 4/8 MAINT NANCE STATE CODE'	T	RMK_STORDER				
' STORE SELE CT ADDRESS B ITS LOOP RES ULT'	T	RMK_STRSLP				
' ERROR DETE CTED ON TIMI NG BOARD'	T	RMK_TBER				
' SAVE TIMIN G CONSTANT F OR TIMOUT SU						

STORE FANOUT BOARDS TEST-PART B

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23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 145

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
BROUTINE'	T	RMK_TMSAV				
' DIAGNOSTIC TEST NUMBER REQUESTED'	T	RMK_TSTNUM				
' ADDRESS OF NEXT BLOCK OF MEMORY TO BE UPDATED AFTER MEMORY PATTERN TES T'	T	RMK_UPADDR				
' RESULTS OF WIDE DATA(S D16-23) ISOL ATE'	T	RMK_WDISOL				
' ADDRESS OF OTHER STORE SUBCHANNEL 0'	T	RMK_OSSCO				
' ADDRESS OF OTHER STORE SUBCHANNEL 1'	T	RMK_OSSC1				
' ADDRESS OF OTHER STORE SUBCHANNEL 2'	T	RMK_OSSC2				
' ADDRESS OF OTHER STORE SUBCHANNEL 3'	T	RMK_OSSC3				
' WIDE STORE INDICATOR B IT'	T	RMK_OWDSTRO				
' 0-10 BIT T IMING SHIFTE R FAKE'	T	RMK_O10TM				
' RESULT OF EXTENDED(3 B IT) PARITY I SOLATE'	T	RMK_2EPCK				
0010177	A	RSELBTS	15-22	15-23		
0167600	A	RSELBTSN	15-23			
'SER+0'	T	RSELER		W=1 S=6 N=0 CL=2		
'RSLCHK+0'	T	RSELO6		W=7 S=0 N=0 CL=2	15-22	
'RSLCHK+0'	T	RSEL7		W=1 S=14 N=0 CL=2	15-22	
'CHKWRD+0'	T	RSVDO		W=1 S=7 N=0 CL=2		
'RSLCHK+0'	T	RSVD1		W=1 S=7 N=0 CL=2		
0047214	A	RTNADHI	22-04			

STORE FANOUT BOARDS TEST-PART B

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23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 146

TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
'LOAD SA17 & SAPH INTO S ER'		T RTNADHIT				
'DGSFB'		T RTNAME				
06 0024476		L RWGA1CK	75-44			
		O R RD				
				LIBNUM=3 8-12, 26-44, 30-25, 33-06, 35-12, 35-13, 35-25, 36-35, 37-26, 37-27, 37-39, 39-14, 43-44, 46-10, 46-11, 46-23, 47-26, 48-20, 48-21, 48-33, 50-10, 52-10, 52-11, 52-24, 53-33, 54-26, 54-27, 54-40, 56-14, 60-44, 62-47, 65-16, 65-19, 65-23, 68-25, 68-26, 68-27, 68-30, 69-19, 69-21, 69-34, 69-38, 70-20, 71-03, 72-42, 72-45, 72-46, 72-49, 75-28, 76-39, 80-44, 83-38, 84-08, 86-03, 86-04, 86-16, 87-32		
				LIBNUM=3 8-13, 69-15, 69-32, 69-33, 69-34, 69-35		
				LIBNUM=14 8-14		
1 R R1				LIBNUM=3 30-15, 32-14, 36-18, 38-24, 47-16, 49-19, 53-16, 55-24, 63-34, 63-39, 71-39, 72-02, 75-24, 75-26, 76-35, 76-38, 83-34, 83-36, 85-48		
0000125 A R1XT				LIBNUM=3 8-23, 28-41, 28-48, 30-04, 30-09, 31-15, 31-48, 32-07, 32-31, 34-43, 35-01, 35-45, 36-12, 37-24, 38-09, 38-17, 38-41, 45-41, 45-48, 46-43, 47-10, 48-18, 49-04, 49-12, 49-36, 51-41, 51-48, 52-43, 53-10, 54-24, 55-09, 55-17, 55-41, 62-43, 64-23, 70-45, 72-29, 74-44, 75-02, 75-07, 75-16, 75-49, 76-07, 76-15, 76-21, 82-40, 83-02, 83-09, 83-15, 85-26, 85-41, 86-06		
13 R R11						
14 R R12						
				LIBNUM=3 8-24, 29-09, 29-21, 30-02, 30-10, 31-16, 31-28, 31-46, 32-08, 35-11, 35-25, 35-43, 36-13, 37-25, 37-39, 38-07, 38-18, 46-23, 46-41, 47-11, 48-19, 48-33, 49-02, 49-13, 52-09, 52-24, 52-41, 53-11, 54-25, 54-40, 55-07, 55-18, 62-44, 63-36, 63-38, 63-41, 63-43, 64-42, 64-43, 65-04, 65-17, 70-46, 71-45, 72-09, 72-19, 72-27, 72-40, 72-43, 74-45, 75-03, 76-01, 76-08, 82-41, 83-03, 85-27, 85-42, 86-04, 87-27		
				LIBNUM=3 29-23, 30-02, 30-06, 31-30, 31-46, 32-01, 35-27, 35-43, 35-47, 37-41, 38-07, 38-11, 46-25, 46-41, 46-45, 48-35, 49-02, 49-06, 52-26, 52-41, 52-45, 54-42, 55-07, 55-11, 74-48, 76-04, 82-48		
15 R R13						
				LIBNUM=3 28-42, 29-03, 29-43, 32-25, 32-35, 33-01, 33-02, 34-44, 35-05, 36-03, 38-35, 38-45, 39-09, 39-10, 45-42, 46-03, 47-01, 49-30, 49-40, 50-05, 50-06, 51-42, 52-03, 53-01, 55-35, 55-45, 56-09, 56-10, 74-49, 76-05, 82-49		
16 R R14						
				LIBNUM=3 8-15, 30-09, 32-07, 36-12, 38-17, 47-10, 49-12, 53-10, 55-17, 62-45, 64-40, 70-47, 72-31, 75-02, 76-07, 83-02, 85-41		
				LIBNUM=3 8-16, 28-46, 28-47, 28-48, 29-01, 30-10, 32-08, 32-29, 32-30, 32-31, 32-33, 32-39, 32-43, 33-01, 34-48, 34-49, 35-01, 35-03, 36-13, 36-26, 36-28, 36-30, 36-31, 38-18, 38-39, 38-40, 38-41, 38-43, 39-02, 39-06, 39-09, 45-46, 45-47, 45-48, 46-01, 47-11, 49-13, 49-34, 49-35, 49-36, 49-38, 49-44, 50-02, 50-05, 51-46, 51-47, 51-48, 52-01, 53-11, 53-24, 53-26, 53-28, 53-29, 55-18, 55-39, 55-40, 55-41, 55-43, 56-02, 56-06, 56-09, 62-46, 64-23, 70-48, 72-29, 75-03, 76-08, 83-03, 85-42		
17 R R15						
				LIBNUM=3 8-17, 26-28, 26-29, 28-40, 30-17, 30-22, 31-14, 32-16, 33-02, 33-03, 34-42, 36-20, 36-31, 36-32, 37-23, 38-26, 39-10, 39-11, 43-28, 43-29, 45-40, 47-18, 47-23, 48-17, 49-21, 50-06, 50-07, 51-40, 53-18, 53-29, 53-30, 54-23, 55-26, 56-10, 56-11, 60-28, 60-29, 62-49, 63-07, 63-44, 64-15, 80-28, 80-29, 85-30, 86-01, 86-08, 86-09		
2 R R2						
				LIBNUM=3 8-18, 28-47, 29-01, 29-07, 29-43, 30-17, 30-19, 30-20, 31-13, 32-16, 32-18, 32-19, 32-30, 32-33, 34-49, 35-03, 35-09, 36-03, 36-20, 36-22, 36-23, 37-22, 38-26, 38-28, 38-29, 38-40, 38-43, 45-47, 46-01, 46-07, 47-01, 47-18, 47-20, 47-21, 48-16, 49-21, 49-23, 49-24, 49-35, 49-38, 51-47, 52-01, 52-07, 53-01, 53-18, 53-20, 53-21, 54-22, 55-26, 55-28, 55-29, 55-40, 55-43, 62-48, 63-36, 63-41, 65-02, 65-19, 65-20, 70-49, 71-45, 72-09, 72-46, 72-47, 85-31, 86-01, 86-13, 87-29		
3 R R3						
				LIBNUM=3 8-19, 29-08, 29-42, 29-45, 32-09, 35-10, 36-02, 36-05, 38-19, 46-08, 46-49,		
4 R R4						
5 R R5						
6 R R6						

STORE FANOUT BOARDS TEST-PART B

PR-1C926-5D

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
				47-03, 49-14, 52-08, 52-49, 53-03, 55-19, 63-06, 71-08, 71-21, 75-04, 76-09, 83-04, 85-43		
	7	R R7		LIBNUM=3 8-20, 30-08, 32-06, 36-11, 38-16, 47-09, 49-11, 53-09, 55-16, 63-07, 71-02,		
				74-47, 76-03, 82-47, 85-40		
	10	R R8		LIBNUM=3 8-21, 8-22, 68-26, 69-15, 70-17, 87-29		
'RSLCHK+0'	T	SAPHLP		W=1 S=10 N=0 CL=2		
'RSLCHK+0'	T	SA17LP		W=1 S=11 N=0 CL=2		
'SER+0'	T	SCMER		W=1 S=3 N=0 CL=2		
'CHKWRD+0'	T	SDPCK		W=1 S=14 N=0 CL=2		
0001417	A	SERNO_047314	88-02			
0001423	A	SERNO_050260	88-16			
0001520	A	SERNO_059029	116-18			
0001524	A	SERNO_067367	116-29			
0001530	A	SERNO_088142	117-02			
0047114	A	SERREAD	22-09	30-14, 32-13, 36-17, 38-23, 47-15, 49-18, 53-15, 55-23, 63-33, 71-38, 75-22, 76-30, 83-25, 85-47		
'READ BACK STORE ERROR REGISTER(SER)'	T	SERREADT				
'SER+0'	T	SHER		W=1 S=4 N=0 CL=2		
CDGNN	V	S LDMCHBF	3-46			
CDGNN	V	S LDMIRLF	3-47			
CDGNN	V	S SMCHF	3-48			
	3	R SNGBTTER	16-07	W=1 S=5 N=0 CL=1		
'DGREQLO+0'	T	SPARE		W=2 S=7 N=0 CL=2		
0044714	A	SPAREA	22-07			
'SPARE I/O ORDER'	T	SPAREAT				
0106274	A	SPRRD	18-32	62-33		
0106214	A	SPRWR	18-34	62-36		
'MXAS'	T	SPWORD				
06	0024032	L STCOMTBL	62-31	62-47		
0000002	A	STEPCLK	22-45			
0000055	A	STFB5		LIBNUM=15 23-05		
0000056	A	STFB6		LIBNUM=15 40-14		
0000057	A	STFB7		LIBNUM=15 57-14		
0000060	A	STFB8		LIBNUM=15 78-14		
06	0024306	L STFOTST	70-42	70-41		
0000010	A	STOPREF	22-47			
'CIOBUF+0'	T	STORDER		W=10 S=4 N=0 CL=2		
TDATA	V	STRLIM	7-41			
CDGSIO	V	STRSIZE	7-22			
'RSLCHK+0'	T	STRSLP		W=1 S=12 N=0 CL=2		
	3	R STRSTAT	8-16	16-03, 16-04, 16-06, 16-07, 16-08		
0041634	A	STSBY	22-11			
0041630	A	STSBYCL	22-13			
'SET STORE BUSY(SBY) W/CLOCK'	T	STSBYCLT				
'SET STORE B						

STORE FANOUT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 148

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
USY(SBY) SIG						
NAL'	T	STSBYT				
CDGSIO	V	STSELMSK	7-23	28-46, 32-29, 34-48, 38-39, 45-46, 49-34, 51-46, 55-39		
0000000	A	SUCCESS	30-33	30-36, 33-15, 33-18, 36-43, 36-46, 39-23, 39-26, 47-34, 47-37, 50-19, 50-22, 53-41, 53-44, 56-23, 56-26, 65-26, 65-29, 65-41, 65-44, 66-10, 66-13, 66-25, 66-28, 66-40, 66-43, 67-10, 67-13, 67-25, 67-28, 67-40, 67-43, 68-33, 68-36, 69-41, 69-44, 70-23, 70-26, 73-06, 73-09, 86-19, 86-22		
0000000	A	SV_REG				
'SER+0'	T	TBER		W=1 S=13 N=0 CL=2		
0000060	A	TESTNO	23-05	40-14, 57-14, 78-14, 89-01, 94-16, 99-16, 111-24		
0116774	L	TFAPCH2	2-22			
0000003	A	THREE	18-05			
0000032	A	TIMCKER	111-12	75-35, 76-45, 111-12		
0000025	A	TIMRBO3	109-31			
0000023	A	TIMRBO1	109-01			
0000024	A	TIMRBO2	109-15			
0000022	A	TIMRFB	108-19	73-16		
0000022	A	TIMRFB00	108-19			
0000026	A	TIMRO4	110-01			
0000027	A	TIMRO5	110-16			
0000030	A	TIMRO6	110-31			
0000031	A	TIMRO7	111-01			
'PAGSCR+27'	T	TIMSAV		W=20 S=0 N=33 CL=2		
0000055	A	TLFRST	6-01	23-05, 89-01		
0000001	A	TMERFB	99-18	68-43		
0000001	A	TMERFB00	99-18	65-36, 99-18		
0000002	A	TMERFB01	100-24	66-05, 100-24		
0000003	A	TMERFB02	101-01	66-20, 101-01		
0000004	A	TMERFB03	101-25	66-35, 101-25		
0000005	A	TMERFB04	102-01	67-05, 102-01		
0000006	A	TMERFB05	102-25	67-20, 102-25		
0000007	A	TMERFB06	103-01	67-35, 103-01		
0000010	A	TMERFB07	103-25	68-05, 103-25		
0000011	A	TMERUSFB	104-01	70-05, 104-01		
0000012	A	TMUSFB	104-31	70-33		
0000012	A	TMUSFB00	104-31			
0000013	A	TMUSFB01	105-01			
0000014	A	TMUSFB02	105-19			
0000015	A	TMUSFB03	106-01			
0000016	A	TMUSFB04	106-19			
0000017	A	TMUSFB05	107-01			
0000020	A	TMUSFB06	107-19			
0000021	A	TMUSFB07	108-01			
0600000	L	TPATCH	2-24			
0001417	A	TR_012705	88-02			
0001423	A	TR_012989	88-16			
0001401	A	TR_12705	26-02	40-02, 43-02, 57-02, 60-02, 78-02, 80-02, 87-09		
0001076	A	TR_12989	29-11	29-21, 31-18, 31-28, 35-15, 35-25, 37-29, 37-39, 46-13, 46-23, 48-23, 48-33, 52-13, 52-23, 54-29, 54-39, 64-04, 64-14		

STORE FANO'IT BOARDS TEST-PART B

PR-1C926-50

23:35:52 2/05/81 TRADE SECRET - SEE TRADE SECRET RESTRICTIVE NOTICE ON COVER SHEET CDGSFB ISSUE 05 PAGE 149

## TROUBLE LOCATION MANUAL

23:35:52 2/05/81 \*\*\*\*

VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
0001520	A	TR_790286	69-07	116-18		
0001524	A	TR_790437	63-15	69-11, 70-37, 71-41, 72-05, 72-15, 72-27, 76-32, 116-29		
0001530	A	TR_790513	64-18	117-02		
0001407	A	TR_800135	65-06	68-17, 87-26		
06 0024773	L	TRORG	26-02	29-11, 31-18, 35-15, 37-29, 40-02, 43-02, 46-13, 48-23, 52-13, 54-29, 57-02, 60-02, 63-15, 64-04, 64-18, 65-06, 68-17, 69-07, 69-11, 70-37, 71-41, 72-05, 72-15, 76-32, 78-02, 80-02, 87-09		
'DGREQLO+0'	T	TSTNUM		W=7 S=0 N=0 CL=2		
	U	TTYTBL				
0000002	A	TWO	18-06			
'2'	T	TXTSEG				
06 0024373	L	UNSELMASK	72-41	72-43		
06 0024372	L	UNSELTST	72-39	72-28		
'PAGSCR+28'	T	UPADDR		W=4 S=0 N=34 CL=2		
	V	UPD_OTS	7-33			
0000002	A	USELFB	112-01	86-29		
0000002	A	USELFB00	112-01			
0000003	A	USELFB01	113-01			
0000004	A	USELFB02	113-28			
0000005	A	USELFB03	114-01			
0000006	A	USELFB04	114-19			
0000007	A	USELFB05	115-01			
0000010	A	USELFB06	115-19			
0000011	A	USELFB07	116-01			
06 0024752	L	USELJMP	86-07	86-05		
06 0024722	L	USELOOP	85-32	86-11		
06 0024745	L	USELSKP	86-02	85-49		
06 0024712	L	USELTST	85-25	85-23		
0007114	A	USERRED	22-15			
'READ STORE						
ERROR REG (W						
/O ISOLATE)'	T	USERREDT				
CTVTAB	V	WXAIT	6-01	LIBNUM=5 29-26, 31-33, 35-30, 37-44, 46-28, 48-38, 52-28, 54-44, 64-22		
14	P	WXAITX_XCBLM		LIBNUM=5		
CBLM	V	WAIT	7-07			
'CHKWRD+0'	T	WDISOL		W=4 S=10 N=0 CL=2		
TDATA	V	WDSTR	7-42			
0010000	A	WPBLKSZE	18-07			
0046061	A	WPCLR	22-17			
'STORE INITI						
ALIZE, INCL.						
WRITE PROTE						
CT'	T	WPCLRT				
TDATA	V	WPTBL	7-43			
0000000	A	ZERO	18-C8			
0000000	A	ZERCS	18-09			
'MASCIOSC+1'	T	OSSCJ		W=20 S=0 N=1 CL=2		
'MASCIOSC+3'	T	OSSC1		W=20 S=0 N=3 CL=2		
'MASCIOSC+5'	T	OSSC2		W=20 S=0 N=5 CL=2		

STORE FANOUT BOARDS TEST-PART B

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## TROUBLE LOCATION MANUAL

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VALUE	T	NAME	DEF/REF	ATTRIBUTES AND REFERENCES	CDGSFB	W77D
'MASCIO5C+7'	T	DSSC3		W=20 S=0 N=7 CL=2		
0000000	A	OTEST	18-10			
	3	R OWDSTRO	16-06	W=1 S=4 N=0 CL=1		
0052354	A	O1ONOR	22-19			
'O-10 TIMING (O10TIM) THEN REFRESH REQ						
UEST CLEAR'	T	O1ONORT				
0054334	A	O1OREF	22-22			
'O-10 TIMING (O10TIM) THEN REFRESH REQ						
UEST SET'	T	O1OREFT				
0056074	A	O1OTIM	22-25			
'FORCE O-10 TIMING SIGNA						
L ACTIVE'	T	O1OTIMT				
'CIOBUF+O'	T	O1OTM		W=1 S=14 N=0 CL=2		
0000001	A	1TEST	18-11			
'CHKWRD+O'	T	2EPCK		W=1 S=15 N=0 CL=2		
1	J	3ACC	1-09			

NO FLAG(S) FOUND IN THIS ASSEMBLY

STORE FANOUT BOARDS TEST-PART B

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