

Notes on Neg. Bus Installation, or PDP8,

on pages: CI 1
CI 2
CI 3
CAR 8
PBC 1
DBC 2
DBC 3

digital

FPP 12

Engineering Drawings

Digital Equipment Corporation

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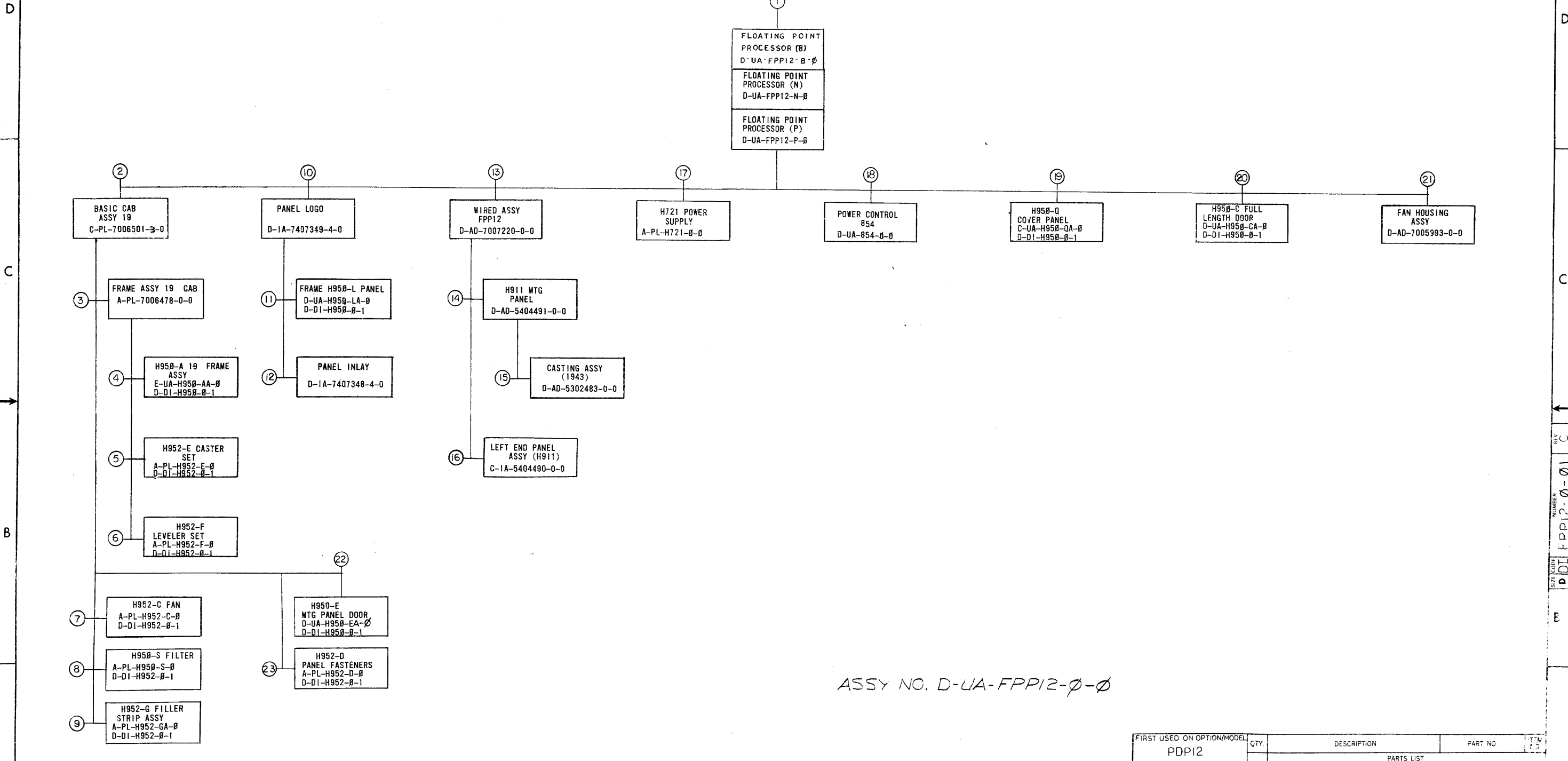
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PRINT SET					DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.	
FPP12-0										
X					D-BS-FPP12-0-FTH1		1	FETCH 1		
X					D-BS-FPP12-0-FTH2		1	FETCH 2		
X					D-BS-FPP12-0-FTH3		1	FETCH 3		
X					D-BS-FPP12-0-ID1		1	INSTRUCTION DECODER 1		
X					D-BS-FPP12-0-ID2		1	INSTRUCTION DECODER 2		
X					D-BS-FPP12-0-MLSW	A	6	MULTIPLEXER-LEAST SIG WORD		
X					D-BS-FPP12-0-MMSW		6	MULTIPLEXER-MOST SIG WORD		
X					D-BS-FPP12-0-MQR1	A	2	MULTIPLEXER QUOTIENT REG 1		
X					D-BS-FPP12-0-RG1	A	1	REGISTER GATING 1		
X					D-BS-FPP12-0-RG2	C	1	REGISTER GATING 2		
X					D-BS-FPP12-0-RG3	B	1	REGISTER GATING 3		
X					D-BS-FPP12-0-RG4	B	1	REGISTER GATING 4		
X					D-BS-FPP12-0-RG5		1	REGISTER GATING 5		
X					D-BS-FPP12-0-RG6	A	1	REG. GATING (ENABLES FOR M190)		
X					D-BS-FPP12-0-RG7	A	1	MULTIPLEXER ENABLES 1		
X					D-BS-FPP12-0-RG8	A	1	MULTIPLEXER ENABLES 2		
X					D-BS-FPP12-0-RG9		1	MULTIPLEXER ENABLES 3		
X					D-BS-FPP12-0-RG10		1	MULTIPLEXER ENABLES 4		
X					D-BS-FPP12-0-SPI1	A	1	SPECIAL INSTRUCTIONS 1		
X					D-BS-FPP12-0-SPI2	B	1	SPECIAL INSTRUCTIONS 2		
X					D-BS-FPP12-0-SPI3		2	SPECIAL INSTRUCTIONS 3		
X					D-BS-FPP12-0-STG	B	2	STATE GEN		
X					D-BS-FPP12-0-STG1		1	STATE GEN JUMPS		
X					D-MU-FPP12-0-02	F	4	MODULE UTILIZATION		
X					A-PL-FPP12-0-02	F	2	MODULE UTILIZATION		
X					D-AD-7007220-0-0	A	2	WIRED ASSY (FPP12)		
X					A-PL-7007220-0-0	A	1	WIRED ASSY (FPP12)		
TITLE					FLOATING POINT PROCESSOR			SIZE CODE	NUMBER	REV.
					SHEET 3 OF 4			A ML	FPP12-0	R

PRINT SET					DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.	
FPP12-0										
X					D-IC-FPP12-0-IOC	A	1	I/O CONNECTORS		
X					K-WL-FPP12-0-04	L	1	WIRE LIST (FPP12)		
X					A-PL-H721-0-0	#	1	H721 POWER SUPPLY		
X					D-CS-H721-0-1	#	1	H721 CIRCUIT SCHEMATIC		
X					A-PL-854-0-0	#	1	POWER CONTROL 854 (PL)		
X					B-CS-854-0-1	#	1	POWER CONTROL 854		
X					D-UA-FPP12-0-0	B	2	FLOATING POINT PROCESSOR		
X					A-PL-FPP12-0-0	B	2	FLOATING POINT PROCESSOR		
					A-SP-FPP12-0-5	REF	33	ENGINEERING SPECIFICATION		
					A-SP-FPP12-0-6	REF	6	PRODUCTION CHECKOUT PROCEDURE		
					A-SP-FPP12-0-7	REF	5	ACCEPTANCE PROCEDURE		
X					A-SL-FPP12-0-8		1	SOFTWARE LIST		
TITLE					FLOATING POINT PROCESSOR			SIZE CODE	NUMBER	REV.
					SHEET 4 OF 4			A ML	FPP12-0	R

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8 7 6 5 4 3 2 1
 10 11 12 13 14 15 16 17 18 19 20 21
 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
 10 11 12 13 14 15 16 17 18 19 20 21
 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21



ASSY NO. D-UA-FPP12-0-0

REV	CHG	NO	DATE	BY	APP
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
PDP12			
UNLESS OTHERWISE SPECIFIED	DRN	DATE	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	
TOLERANCES	ENG	DATE	
FINAL SURFACE QUALITY	PRD	DATE	
MATERIAL	NEXT HIGHER ASSY		
FINISH	SCALE		
	SHEET 1 OF 2		

digital EQUIPMENT CORPORATION

DRAWING INDEX LIST

SIZE CODE: DDI
 NUMBER: FPP12-0-01
 REV: C

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D
C
B
A

STG NAMES

ARS2 LD AMSW L
ARS2 INC ARS ADDR L
ARS2 LD FPC L
ARS2 LD ALSW L
ARS2 ENABLE A TO 0 L
ARS2 INC ARS ADDR L
ARS2 SET OP ADDR L

ARS2 LD P0 ADDR L
ARS2 ENABLE X0 L

ARS2 INC ARS ADDR L
ARS2 INC AGAIN L

ARS2 LD FAC EXP L
ARS2 ENABLE FAC EXP L
ARS2 INC ARS ADDR L
ARS2 LD FAC MSW L
ARS2 ENABLE AMSW L
ARS2 INC ARS ADDR L
ARS2 LD FAC LSW L
ARS2 ENABLE ALSW L
ARS2 ENABLE A TO 0 L
ARS2 ENABLE 0 TO FAC L

THE SIGNAL ARS2 LD FAC LSW L CAUSES ENTRY INTO FETCH STATE B

INITIATE / INITIATE GATES APPEAR ON ARS 2

REQUEST OUTBRK USING ADRS (CAP)	STATE 0
MB → AMSW FIELD BITS	0-1
INC ADRS	0-2
REQUEST OUTBRK USING ADRS	STATE 1
MB → ALSW	1-1
A → 0	1-2
INC ADRS	1-3
0 → OP ADDR	1-3
OP ADDR → FPC	1-4

STATE 2

REQUEST OUTBRK USING ADRS	2-1
MB → X0 ADDR	2-1

INC ADRS	2-2
----------	-----

REQUEST OUTBRK USING ADRS	STATE 3
MB → P0 ADDR	3-1

INC ADRS	3-2
INC ADRS	3-3

REQUEST OUTBRK USING ADRS	STATE 4
MB → FAC EXP	4-1
INC ADRS	4-2
REQUEST OUTBRK USING ADRS	STATE 5
MB → AMSW	5-1
INC ADRS	5-2
REQUEST OUTBRK USING ADRS	STATE 6
MB → ALSW	6-1
A → 0	6-2
0 → FAC FRACTION	6-3

ARS2 INC ARS ADDR L
ARS2 INC AGAIN L
skip operand address loc. p+4
THE ARS 2 ADDR IS INCREMENTED TO SKIP OPERAND ADDRESS.

MB9-11 → FPC F.B ALWAYS
MB6-8 → X0 ADDR F.B
MB3-5 → P0 ADDR F.B

+1-APT Pointer
+1-APT Pointer

CR4 SET BY AC05
P+2

CR5 SET BY AC06
P0 ADDR = BASE REG
P+3

FETCH / FETCH GATES APPEAR ON PRINTS FTH1-FTH3.

FTH ENABLE L
FTH1 MB → FPC L
FTH1 INC FPC L

REQUEST OUTBRK USING FPC & 0 → MQ	STATE 0
MB → FIR 23 → A → FPC EXP → B	0-1
INC FPC, A MINUS B → 0	0-2

RG4 ZERO MQL
123 → A, FAC EXP → B
FOR JAL TEST

FIR3 = 0 & FIR4 = 0	YES
FIR3 = 1 & FIR4 = 0	YES (GO TO STATE 4)
FIR3 = 1	STATE 1

FIR3 = 1 & FIR4 = 0	STATE 1
FIR3 = 1	STATE 1

FIR9-FIR11 → ALSW L	1-1
FIR5-FIR11 → ALSW	1-1
0 → AMSW	1-1

A PLUS A → 0 L	1-2
FTH1 0 → B L	1-3
FTH1 A PLUS B → 0 L	1-4
FTH1 0 → A L	2-1
FTH1 A PLUS B (ST2) → 0 L	2-2
FTH1 0 → OP ADDR L	2-3

FIR3 = 1 OR MUL * DIV OR D.P.	STATE 2
INC OP ADDR	2-1

REQUEST OUTBRK USING OP ADDR	STATE 3
MB9-11 → MQ MSW	3-1
INC OP ADDR	3-2
FIR6-FIR8 → ALSW	3-1
B → AMSW	3-1
X0 ADDR → B	3-1

REQUEST OUTBRK USING OP ADDR	STATE 4
MB → MQ LSW	4-1

A PLUS B → 0 L	4-2
FTH2 0 OP ADDR L	4-3
FTH2 0 → 0 L	4-4

FTHI SPECIAL
PROCESS (JXN Page 8)

DOUBLE WORD INSTRUCTION
FTHI GO TO ST 4 L

FTHI FIR 5-11 ALSW L

OFFSET # 3
PLUS BASE ADDR

O.P = DOUBLE PRECISION

DIRECT OR INDIRECT?

BREAK FOR INDIRECT ADDR

FIR6-8 IS INDEX REG

FIR6-FIR8 → ALSW (INDEX REG)
0 → AMSW
X0 ADDR → B

OP ADD IS INDEX REG ADDR

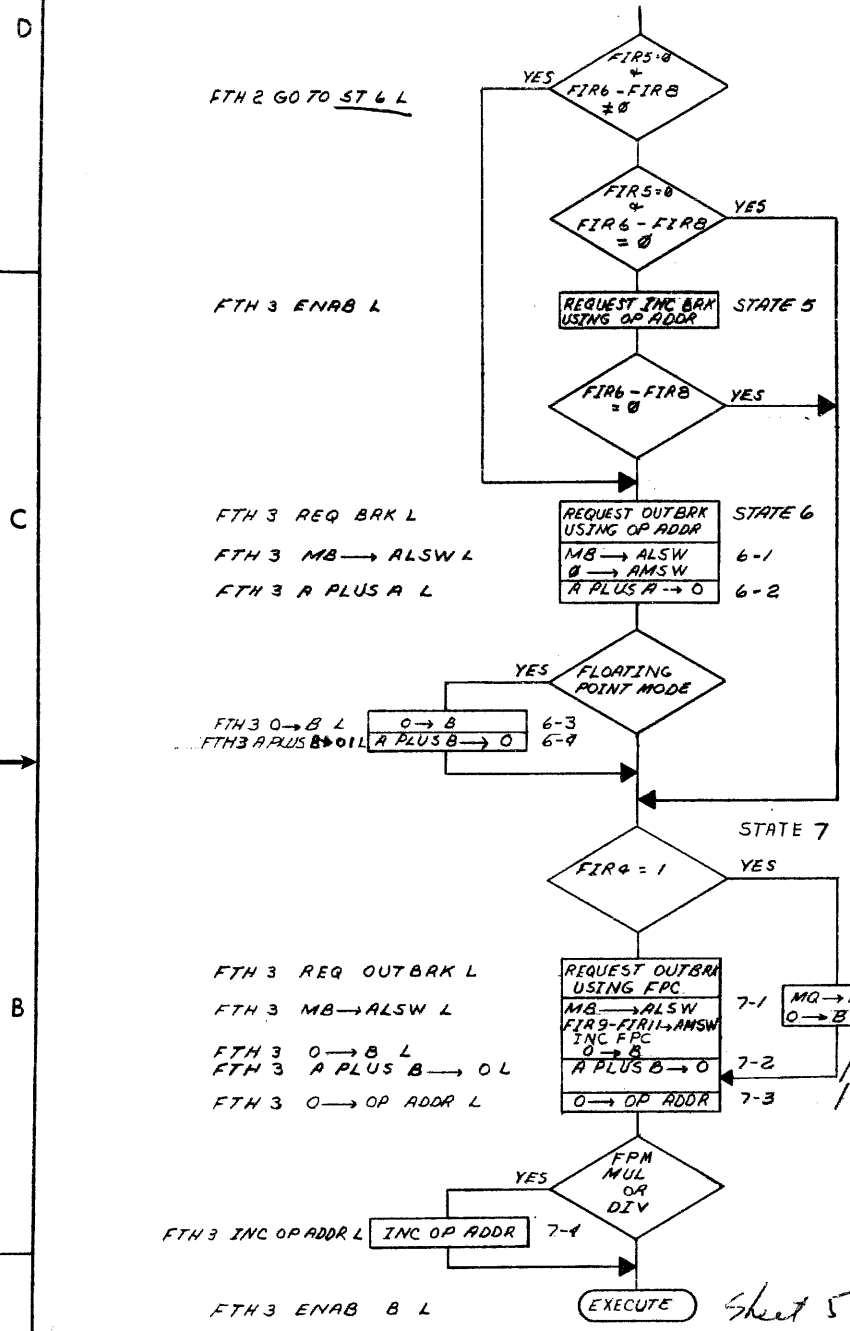
See Page 6-5 in User's Manual for Signal Name Definitions.

REV	DATE	BY	CHKD	DESCRIPTION
1	12-15-72	R. MOORE	R. MOORE	REVISED
2	12-15-72	R. MOORE	R. MOORE	REVISED
3	12-15-72	R. MOORE	R. MOORE	REVISED
4	12-15-72	R. MOORE	R. MOORE	REVISED
5	12-15-72	R. MOORE	R. MOORE	REVISED
6	12-15-72	R. MOORE	R. MOORE	REVISED
7	12-15-72	R. MOORE	R. MOORE	REVISED
8	12-15-72	R. MOORE	R. MOORE	REVISED

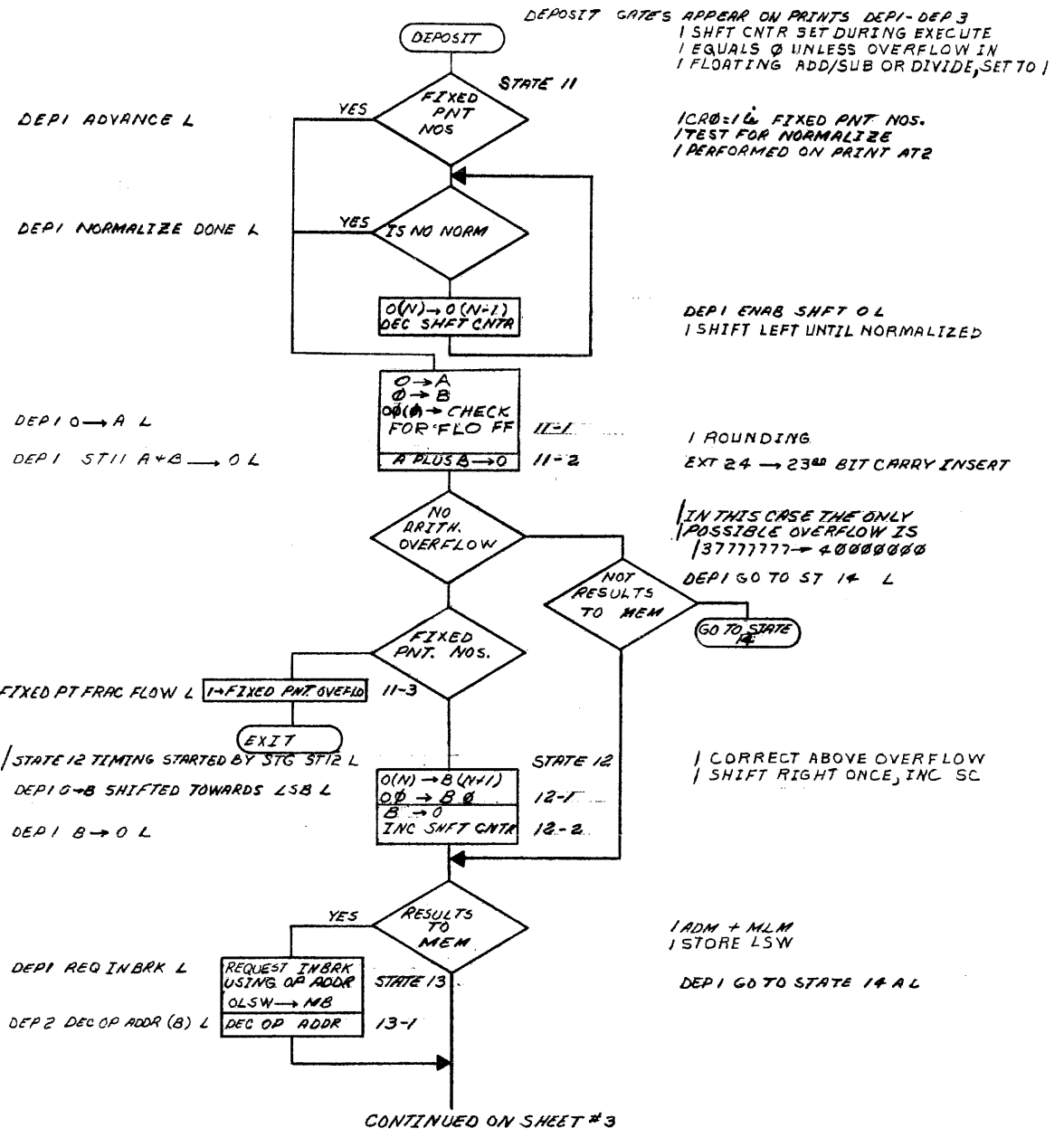
FIRST USED ON OPTION/MOD		QTY.	DESCRIPTION	PART NO.	TEM. A.C.
PDPI2			PARTS LIST		
UNLESS OTHERWISE SPECIFIED		DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
UNLESS OTHERWISE SPECIFIED		DATE	TITLE		
DIMENSION IN INCHES		12-15-72	FPP12		
TOLERANCES		DATE	FLOW DIAGRAM		
DECIMALS FRACTIONS ANGLES		12/14/72	#1		
= .005 = 1/64 = 0°30'		DATE	SCALE		
FINAL SURFACE QUALITY		12/14/72	A-ML- FPP12-0		
REMOVE BURRS AND BREAK SHARP CORNERS		DATE	D.F.D. FPP12-0-03		
MATERIAL		12/18/72	SHEET 1 OF 12		
NEXT HIGHER ASSY			DIST.		
FINISH			NUMBER		
			REV.		
			E		

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CONTINUED FROM SHEET #1



| NO INC, INDEX ≠ 0
 | NO INC, INDEX = 0
 FTH 2 GO TO ST 7 L
 THE CONTENT OF X0 PLUS C (FIR6-B) IS INCREMENTED ON INDEXED INSTRUCTIONS IF BIT 5 IS A 1.
 FTH 3 SKIP TO 7 L
 /BREAK FOR C (INDEX REG)
 MULTIPLY C (INDEX REG) BY 2
 IF FLOATING POINT MODE
 ADD [C (INDEX REG) + 2 * C (INDEX REG)]
 INDEX MODIFIER CALCULATED - UNMODIFIED ADDR STORED;
 DOUBLE WORD - SECOND WORD (C (FPC))
 SWI - C (MA)
 FTH 3 MQ → A L
 FTH 3 O → B L
 AT THE CONCLUSION OF FETCH FOR DATA REFERENCE INSTRUCTIONS THE OPERAND ADDRESS POINTS AT:
 (a) THE EXPONENT FOR FLOATING POINT LOAD, STORE, ADD, SUBTRACT
 (b) THE MOST SIGNIFICANT WORD OF THE FRACTION FOR FIXED POINT OPERATION AND FLOATING-POINT MULTIPLIES AND DIVIDES.

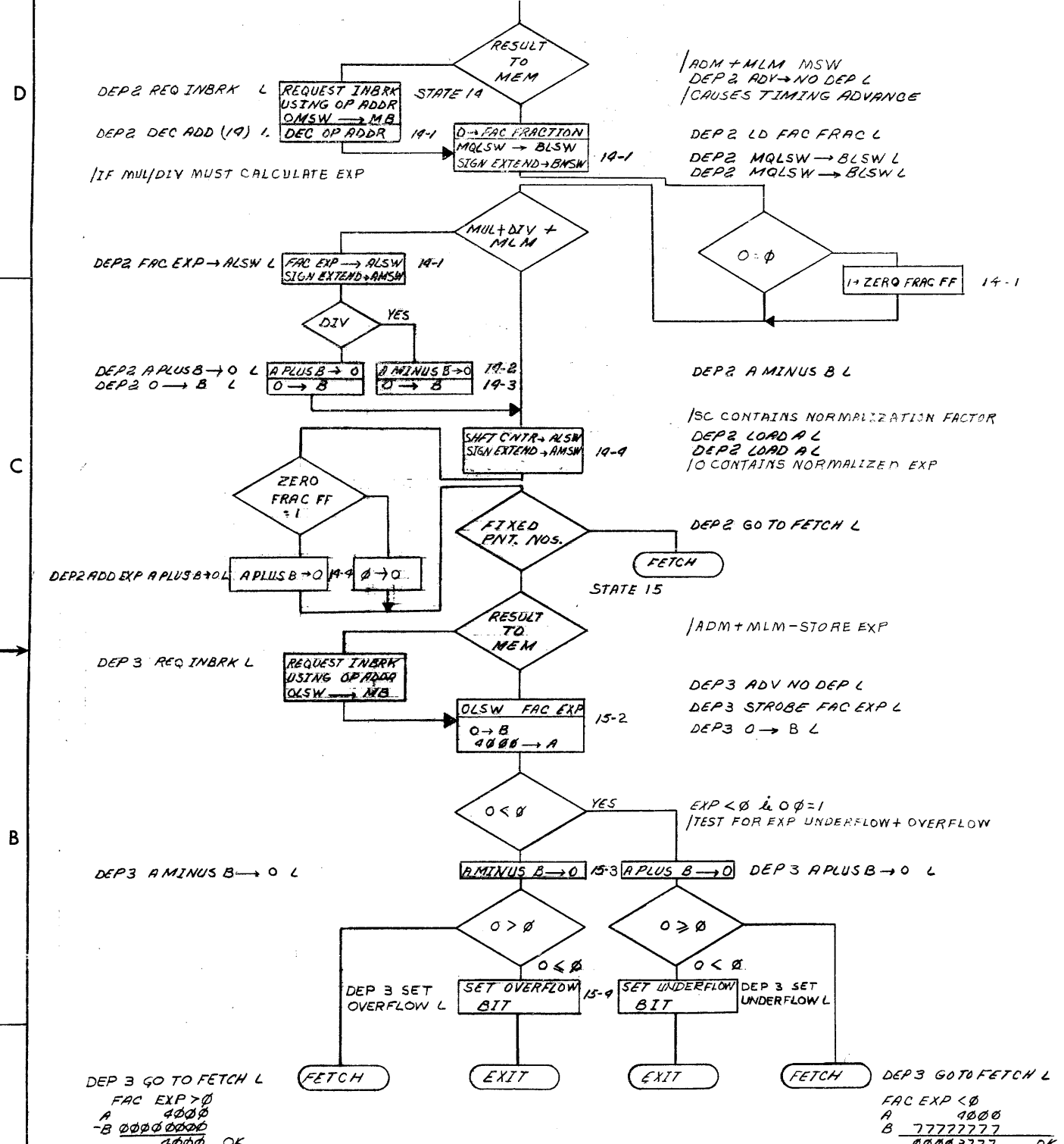


REV	CHANGE NO.

FIRST USED ON OPTION/MOD PDP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED	DRN	DATE	PARTS LIST	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES	ENG	DATE	TITLE	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	FPP12 FLOW DIAGRAM #2	
± .005 ± .164 ± 0°30'	PRG'D	DATE	NEXT HIGHER ASSY	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	MATERIAL	DATE	A-ML-FPP12-0	
FINISH	FINISH	SCALE	SIZE CODE	NUMBER
			DFD	FPP12-0-03
		SHEET 2 OF 12	DIST.	REV E

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CONTINUED FROM SHEET #2

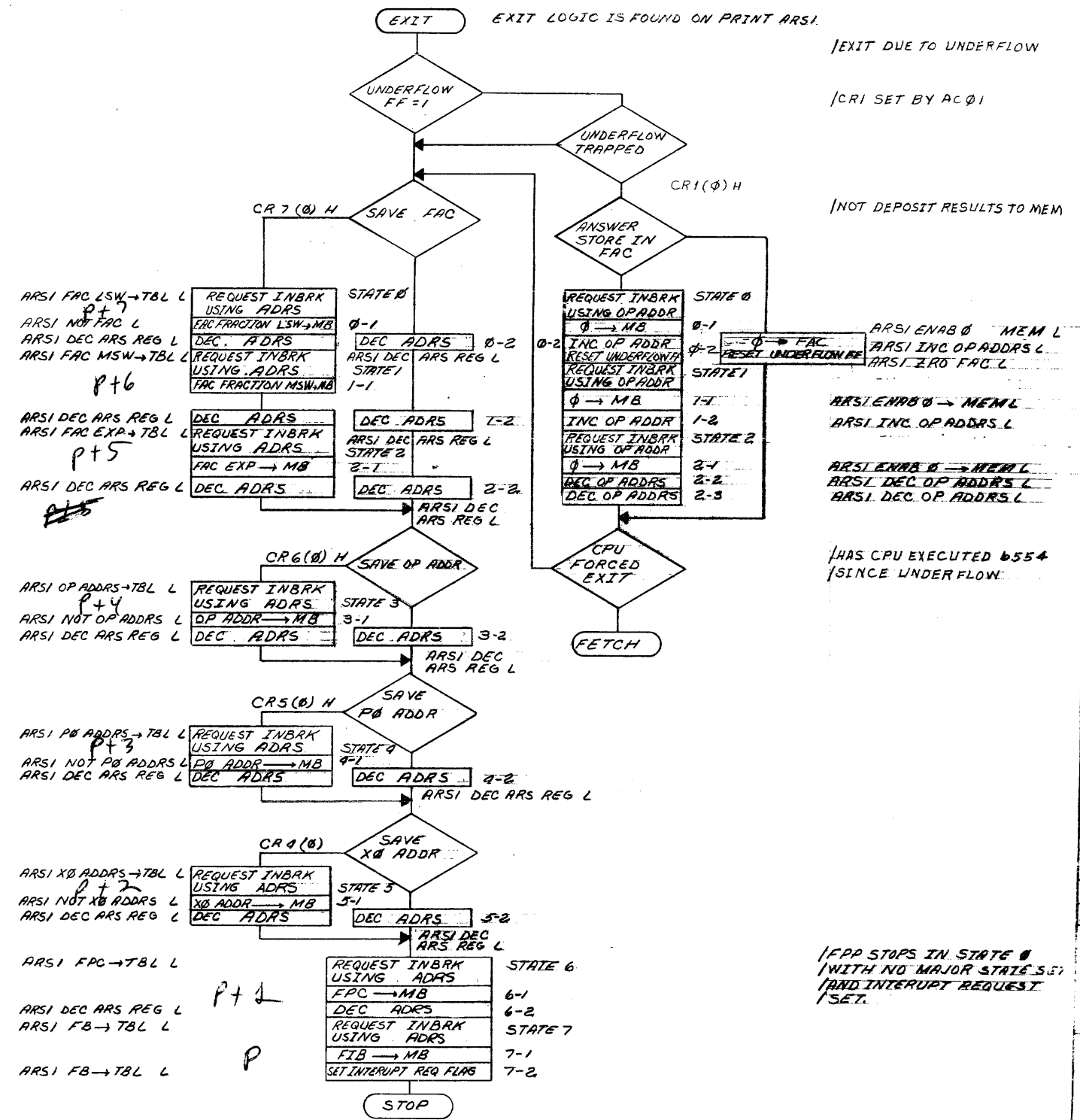


REVISIONS

REV	CHANGE NO.	DESCRIPTION
1		
2		
3		

CHK

A	4000	
B	77774000	OK
A	4000	
B	77773777	UNDERFLOW



REV	DATE	DESCRIPTION
1	11-29-70	
2	12-15-70	
3	12-16-70	
4	2-16-70	
5	12/19/70	

UNLESS OTHERWISE SPECIFIED

DRN: *[Signature]* DATE: 11-29-70

CHKD: *[Signature]* DATE: 12-15-70

ENG: *[Signature]* DATE: 12-16-70

PROJ. ENG: *[Signature]* DATE: 2-16-70

PROD. *[Signature]* DATE: 12/19/70

MATERIAL

FINISH

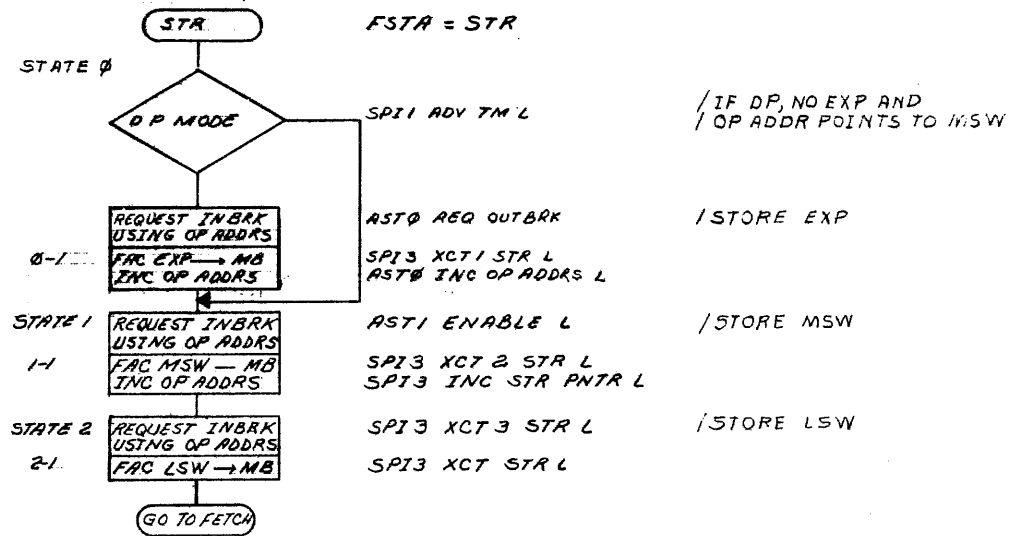
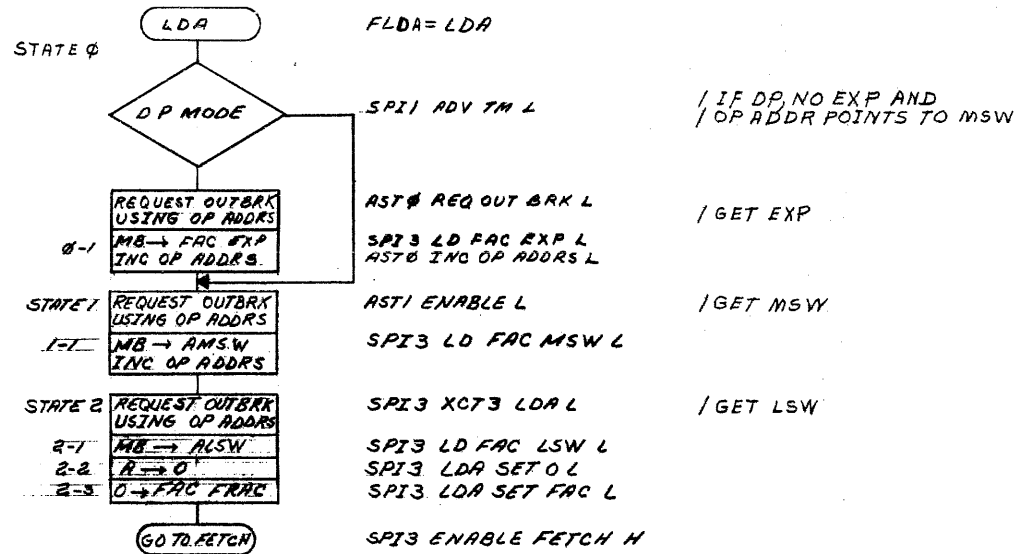
SCALE

SHEET 3 OF 12

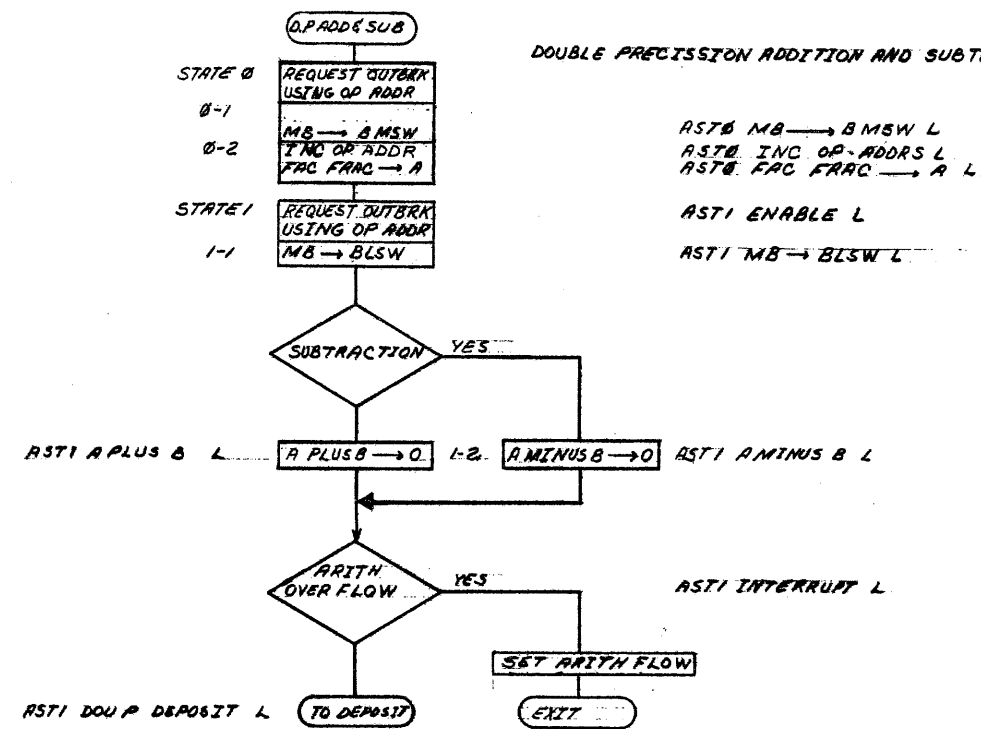
DESCRIPTION: digital EQUIPMENT CORPORATION
TITLE: FPP12 FLOW DIAGRAM # 3
PART NO. A-ML-FPP12-0
SIZE/CODE: DFD FPP12-0-03
NUMBER: E
REV: E

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FLDA GATES FOUND ON PRINT SPI1 - SPI3



DOUBLE PRECISION ADDITION AND SUBTRACTION



Page 4 of 8 on Execute

FIRST USED ON OPTION/MOD PDP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRM/	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD/	DATE	TITLE	
TOLERANCES	ENG/	DATE	FPP 12	
DECIMALS FRACTIONS ANGLES	PROJ. ENG/	DATE	FLOW DIAGRAM	
= .005 = 1/64 = 0°30'	PROD/	DATE	# 4	
REMOVE BURRS AND BREAK SHARP CORNERS	NEXT HIGHER ASSY			
MATERIAL	A-ML-FPP12-0	SIZE CODE	NUMBER	REV.
FINISH	SCALE	DFD/FPP12-0-03		E
	SHEET 4 OF 12	DIST.		

REVISIONS	REV.
CHANGE NO.	
CHK	

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AST0 REQ OUTBRK L
 AST0 EXP → BLSW L
 AST0 REQ OUTBRK L
 AST0 FAC EXP → ALSW L
 AST0 A MINUS B → 0 L

ADD/SUB OF FR NOS
 REQUEST OUTBRK USING OP ADDR
 MB → BLSW + MQLSW
 SIGN EXTEND → BMSW
 INC OP ADDR
 FAC EXP → ALSW
 SIGN EXTEND → AMSW
 A MINUS B → 0

THE FRACTION TO BE SHIFTED MUST GO INTO THE B REGISTER, THE FRACTION TO BE SHIFTED IS THE ONE ASSOCIATED WITH THE SMALLEST EXPONENT.

THE OPERATION PREPARES TO TEST #SHIFTS. IF THE NUMBER OF SHIFTS IS GREATER THAN (2%) NO SHIFTING NEED BE DONE AND OVERSHT FF SET

SHFT FAC FRAC
 AST0 SET SHFT FAC FRAC L
 AST0 × 23 → A L

0 = 0
 SET SHFT FAC FRAC
 0 → SHFT CNTR
 0 → B
 + 27 → ALSW
 0 → A MSW
 A PLUS B → 0
 REQUEST OUTBRK USING OP ADDR

SHFT OPER AND
 0 = 0
 0 → SHFT CNTR
 0 → B
 + 27 → ALSW
 0 → AMSW
 A MINUS B → 0
 INC SHFT CNTR
 REQUEST OUTBRK USING OP ADDR

AST0 SET SHFT OP FRAC L = 1041,111
 AST0 + 23 → A L
 AST0 A MINUS B → 0 / ADD SUB L
 INCREMENTING SHIFT COUNTERS COMPLETES FORMING OF 2'S COMP OF # OF SHIFTS

AST0 A PLUS B → 0 L
 AST1 ENABLE L

SUBTRACTION
 YES
 INC OP ADDR
 00 → OVERSHT FF
 0 → B

MB → BMSW
 INC OP ADDR
 00 → OVERSHT FF
 FAC FRAC → A
 A → 0

FOR SUB, A REG LOADED WITH COMP. OF OPERAND

AST1 MB → AMSW L
 AST1 INC OP ADDR L
 D13 H2 ON AST1

AST1 0 → A(0=0) L

ADD ZERO FF
 0 → A

0 = 0
 YES
 FAC EXP → MQLSW
 OVERSHT FF = 1
 DEPOSIT

AST1 MB → BMSW L
 AST1 INC OP ADDR L
 D13 H2 ON AST1
 AST1 FAC FRAC → A L
 AST1 A → 0 L
 TEST FAC FRAC = 0
 IF SO, NO SHIFTING NEED BE DONE
 AST1 FAC EXP → MQLSW L

AST2 REQ OUTBRK L

SUBTRACTION
 YES
 +1 → CARRY IN
 A PLUS B → 0
 A → 0

REQUEST OUTBRK USING OP ADDR
 MB → BLSW
 ADD ZERO FF = 1
 YES

AST2 REQ OUTBRK L
 AST2 MB → BLSW L

TEST OPERAND = 0
 IF SO, NO SHIFTING NEED BE DONE

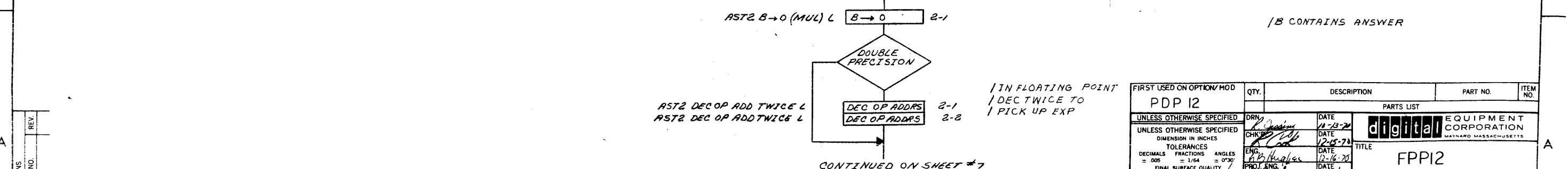
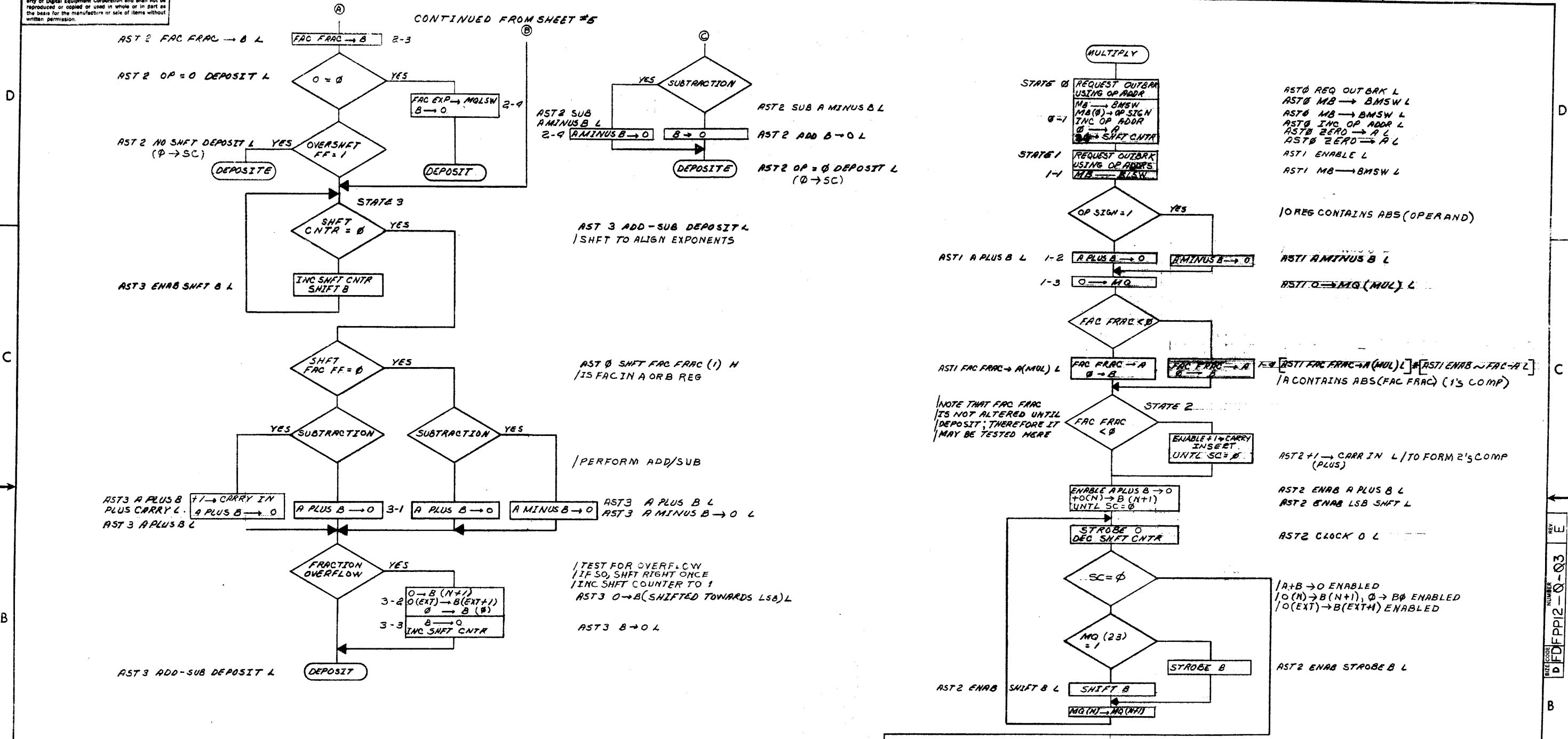
AST2 MB → ALSW L
 AST2 MB → ALSW L
 AST2 A PLUS PLUS CARRY → 0 L

CONTINUED ON SHEET #6

FIRST USED ON OPTION/MOD	QTY.	DESCRIPTION	PART NO	ITEM N.O.
PDP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRM	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	TITLE	
TOLERANCES	ENG.	DATE	FPP12	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	FLOW DIAGRAM	
= .005 = 1/64 = 0°30'	PROD.	DATE	#5	
FINAL SURFACE QUALITY			NEXT HIGHER ASSY	
REMOVE BURRS AND BREAK SHARP CORNERS			A-ML- FPP12-0	
MATERIAL			SIZE CODE	NUMBER
			DFD/FPP12-0-03	REV. E
FINISH			SCALE	
			SHEET 5 OF 12	

REV.	CHANGE NO.

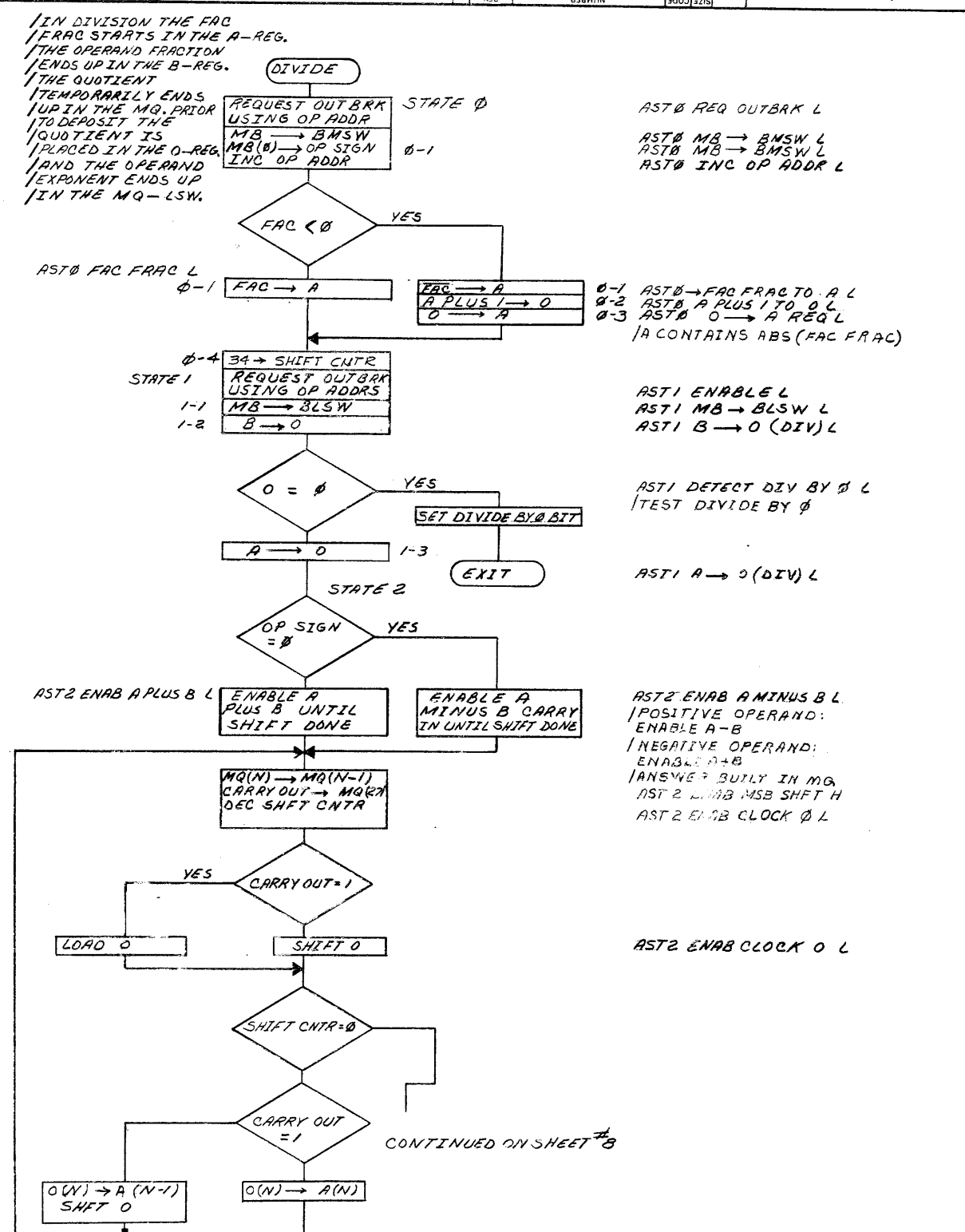
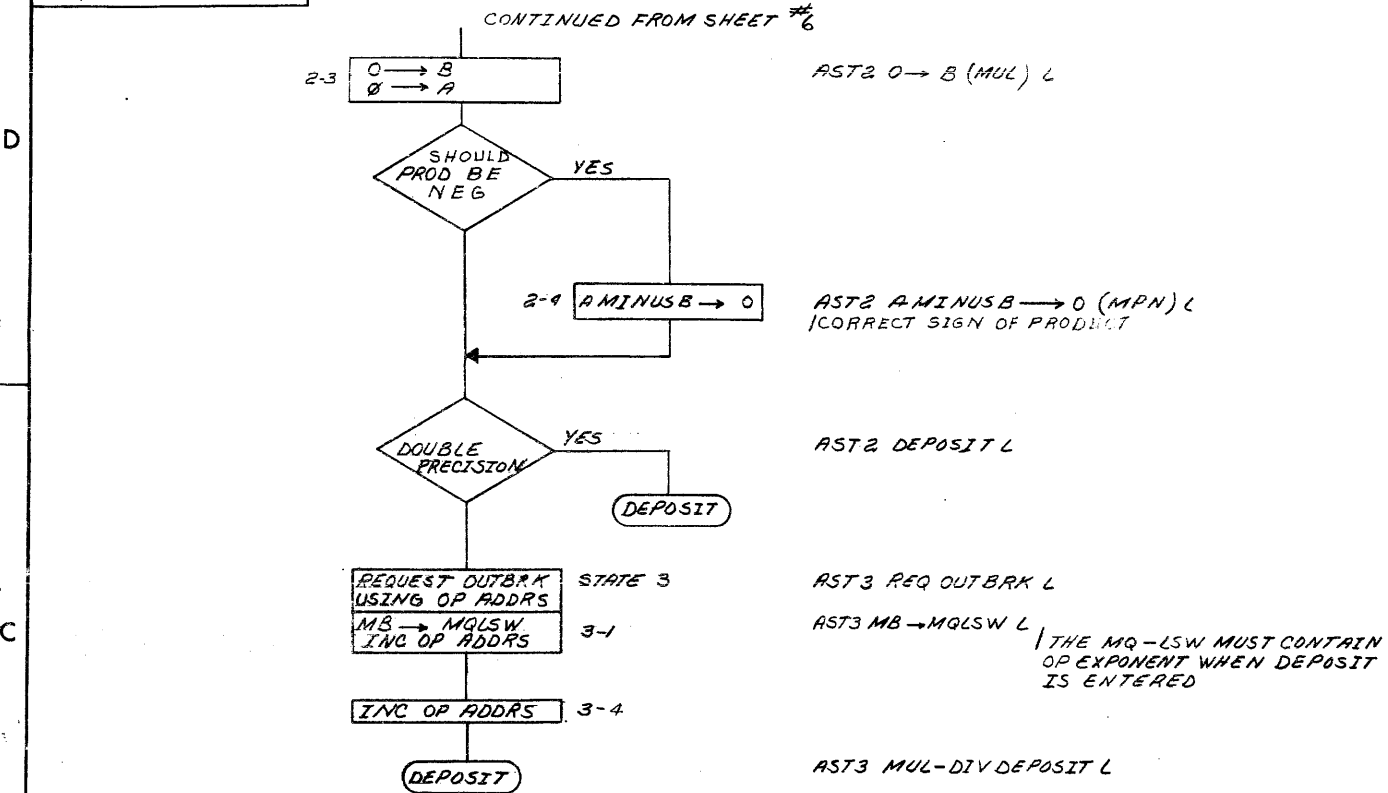
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REV	NO.	DATE
CHK		

FIRST USED ON OPTION/MOD	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP 12				
UNLESS OTHERWISE SPECIFIED				
DRN	DATE	PARTS LIST		
CHKD	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS		
ENG	DATE	TITLE		
PROJ. ENG.	DATE	FPP12 FLOW DIAGRAM #6		
PROD.	DATE	MATERIAL		
		NEXT HIGHER ASSY		
		A-ML-FPP12-0		
		SCALE	SIZE/CODE	NUMBER
		SHEET 6 OF 12	DFDFPP12-0-03	REV E

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REV	NO	DATE	BY	CHK

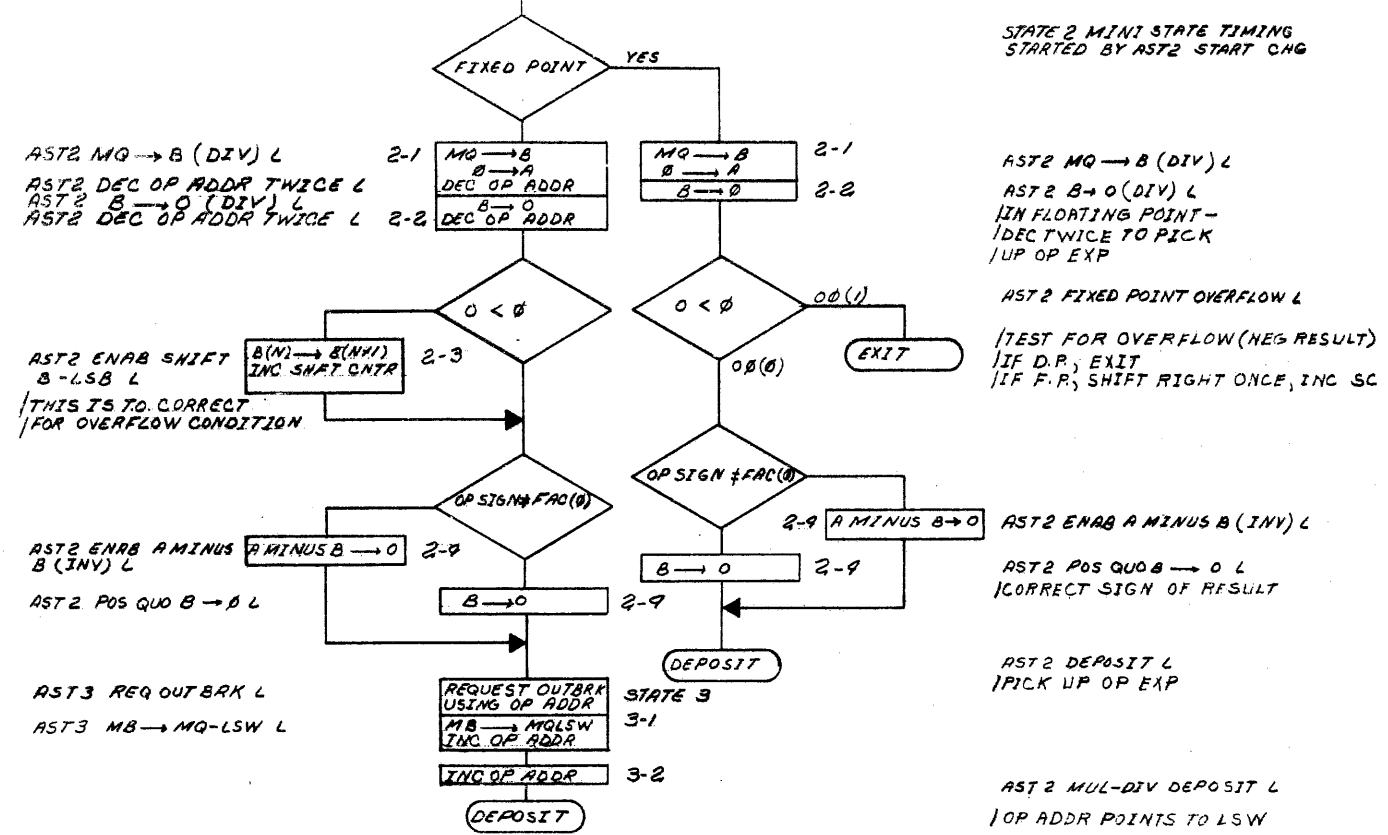
FORM NO 1024

FIRST USED ON OPTION/MOD	QTY.	DESCRIPTION	PART NO.	ITEM
PDP 12				
UNLESS OTHERWISE SPECIFIED	DRW	DATE	PARTS LIST	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	DIGITAL EQUIPMENT CORPORATION	
TOLERANCES	ENG	DATE	CORPORATION NAYARD, MASSACHUSETTS	
DIMENSION IN INCHES	PRD	DATE	TITLE	
DECIMALS FRACTIONS ANGLES	PRD	DATE	FPP12	
$\pm .005 \pm 1/64 \pm 0'30''$	PRD	DATE	FLOW DIAGRAM	
FINAL SURFACE QUALITY	PRD	DATE	# 7	
REMOVE BURRS AND BREAK SHARP CORNERS	PRD	DATE	NEXT HIGHER ASSY	
MATERIAL	SCALE	SHEET	SIZE CODE	NUMBER
	7 OF 12	7 OF 12	DFD FPP12-0-03	REV E

REV E
D F D F P P 1 2 - 0 - 0 3

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CONTINUED FROM SHEET #7



STATE 2 MINI STATE TIMING STARTED BY AST2 START CHG

AST2 MQ -> B (DIV) L
AST2 B -> 0 (DIV) L
IN FLOATING POINT -
DEC TWICE TO PICK
UP OP EXP

AST2 FIXED POINT OVERFLOW L
TEST FOR OVERFLOW (NEG RESULT)
IF D.P.; EXIT
IF F.P.; SHIFT RIGHT ONCE, INC SC

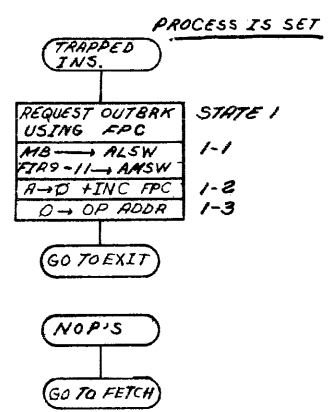
AST2 ENAB A MINUS B (INV) L
AST2 POS QUO B -> 0 L
CORRECT SIGN OF RESULT

AST2 DEPOSIT L
PICK UP OP EXP

AST2 MUL-DIV DEPOSIT L
OP ADDR POINTS TO LSW

Process starts

SPI3 TRP INS L
SPI3 TRP LD A L
SPI3 TRP A TO 0 L
SPI3 TRP 0 TO OP ADDRS L
SPI3 TRP INS L



PICK UP OP ADDR OF TRAP INST

GO TO EXIT

SPI3 ONE STATE INS L
JUST GO TO FETCH

SPI ADVL (ADVANCE TIMING)

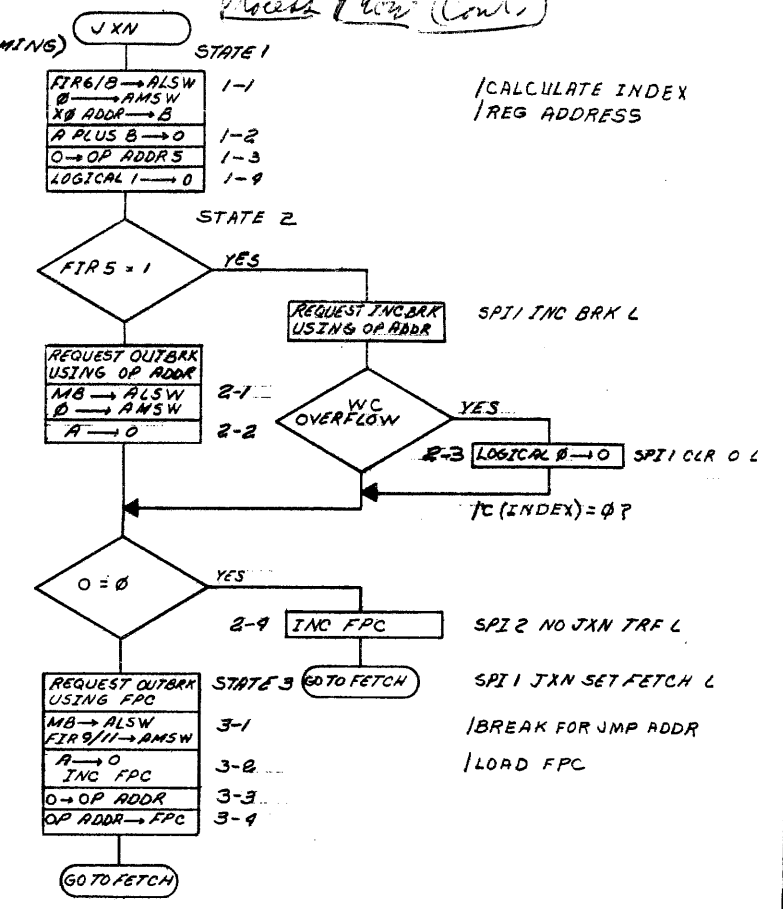
SPI1 CAL X ADDRS L
SPI1 ADD A TO B L
SPI1 X TO OP ADDRS L
SPI1 SET 0 L

SPI1 JXN GET X L
SPI1 C(X) TO A L
SPI1 C(X) TO 0 L

SPI1 JXN TRF L
SPI1 MB -> ALSW
SPI1 A TO 0 L
SPI1 0 TO OP ADDRS L
SPI1 ENABLE FPC L

SPI1 JXN SET FETCH L

Process Flow (Cont.)



CALCULATE INDEX
REG ADDRESS

SPI1 INC BRK L

SPI1 CLR 0 L

SPI2 NO JXN TRF L

SPI1 JXN SET FETCH L

BREAK FOR JUMP ADDR
LOAD FPC

REV	
CHG	
NO.	

FIRST USED ON OPTION/MOD. PDP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRW	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	TITLE	
DIMENSION IN INCHES		12-16-70	FPP12 FLOW DIAGRAM	
TOLERANCES	ENG	DATE	REV	
DECIMALS FRACTIONS ANGLES		12-16-70	E	
= .005 ± 1/64 ± 0°30'	PROJ. ENG.	DATE	SIZE CODE	
FINAL SURFACE QUALITY		12-16-70	DFD FPP12-0-03	
REMOVE BURRS AND BREAK SHARP CORNERS	PROD.	DATE	NUMBER	
		12-16-70	A-M-L FPP12-0	
MATERIAL	NEXT HIGHER ASSY			
FINISH	SCALE	SHEET	DIST	REV
		8 OF 12		E

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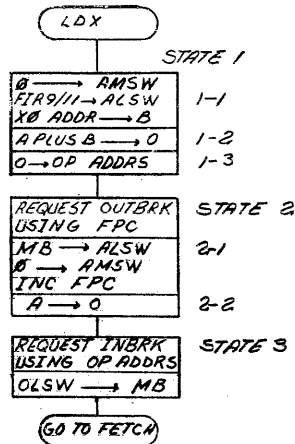
Process (Cont'd)

D

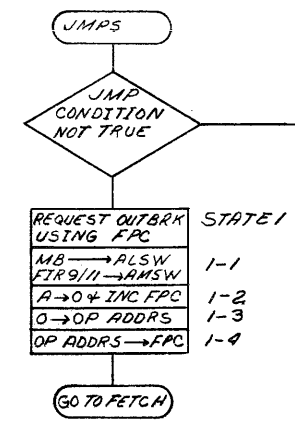
CALCULATE INDEX
REG ADDRESS

BREAK FOR OPERAND

STORE IN INDEX REG



JMP ENABLE = JMP
+ JER' FAC = 0
+ JGE' FAC < 0
+ JLE' FAC < 0
+ JNE' FAC ≠ 0
+ JLT' FAC < 0 (1)
+ JGT' FAC > 0
+ JEG' OUT 00 (0)
ITEST JUMP CONDITION



SPI TRANSFER L
GET JUMP ADDRESS
SPI 1 MB -> ALSW L

SPI 1 A TO 0 L
SPI 1 A TO OP ADDRS L
SPI 1 0 TO OP ADDRS L
LOAD FPC

SPI 1 JXN SET FETCH L

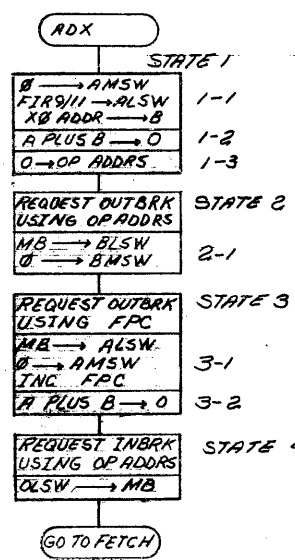
C

CALCULATE INDEX
REG ADDRESS

BREAK FOR C (INDEX REG)
BREAK FOR OPERAND

ADD OPERAND TO INDEX REG

STORE SUM IN INDEX REG

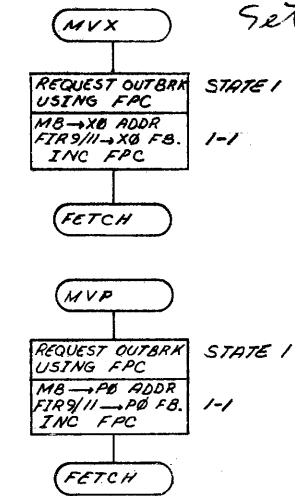


SET X = MVX
GET NEW X0 ADDR

SPI 3 XCT MVX L

SPI 3 SET X0 ADDRS L

SPI 3 XCT MVX L



SET B = MVP
GET NEW P0 ADDRS

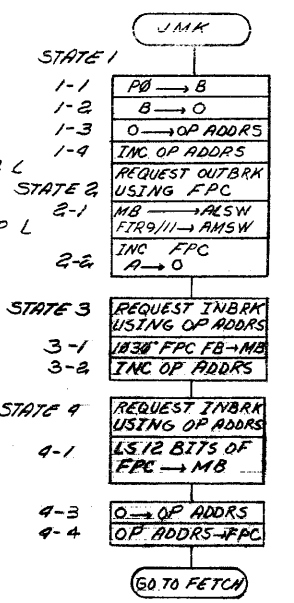
SPI 3 MVP XCT L

SPI 3 ENBL P0 ADDRS L

SPI 3 MVP XCT L

Set X Reg.

Set Base Reg.



USR = JMK

SPI 1 P0 ADDRS TO B L
SPI 1 B TO OUT L
SPI 1 SET TRF ADDRS L
SPI 1 BUMP OP ADDRS L
SPI 1 SUBCALL 2 L
SPI 1 MB ALSW L
SPI 1 A TO 0 L
SPI 1 SUB-CALL 3 L
SPI 1 INC OP ADDRS L
SPI 1 SUB-CALL 4 L
SPI 1 SET SUB ADDRS L
SPI 1 SET FAC L
SPI 1 SUB-CALL 4 L

GET ADDRESS OF BASE
OFFSET 0
GET BREAK ADDR
STORE RETURN JUMP
1/32 IS JA
STORE RETURN JUMP
ADDRESS

JMK inst.

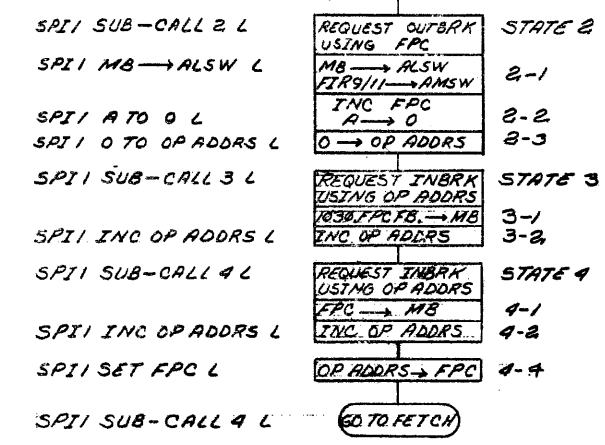
Pages 9-12 are all "PROCESS" pages!

FIRST USED ON OPTION/MOD	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS FRACTIONS ANGLES				
± .005 ± .001 ± .010				
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE				
SHEET 9 OF 12				
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
TITLE FPP 12 FLOW DIAGRAM # 9				
SIZE CODE A-ML-FPP12-0				
NUMBER DFD FPP12-0-03				
REV E				

REV.	CHANGE NO.	CHK.

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USA = USB
 SPI1 SKP NXT ST L (JUMPS TO STATE 2)

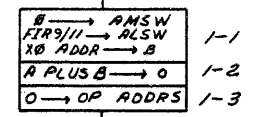


STATE 2
 1 GET JUMP ADDR
 STATE 3
 1 1030 JA INST
 STORE RTN JMP ADDR

SPI2 CLK B L
 (CLOCK'S B REG)
 SPI2 EXP TO B L

SPI2 RST OUTBRK L
 SPI2 LD NEW EXP L

ALN
 STATE 1



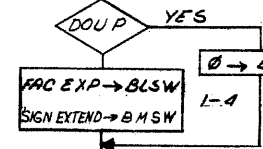
SPI2 TM ADV L (ADVANCES TIMING)

SPI2 CLASS 1 GET X L
 SPI1 ADD A TO B L
 SPI1 X TO OP ADDRS L

IN D.P., NO EXP

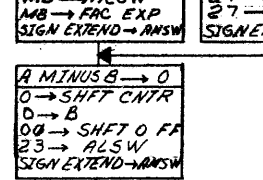
SPI2 FIX ADV H (ADVANCES TIMING)
 ALIGN ON INDEX REG
 /OR 27₈

IF USING INDEX, GET IT
 OTHERWISE USE 27₈
 STORE IN FAC EXP
 CALCULATE # SHFTS TO ALN
 IF NEG, MUST SHFT LEFT
 O REG - SHFT LEFT
 B REG - SHFT RIGHT



STATE 2

STATE 2
 REQUEST OUTBRK USING OP ADDRS



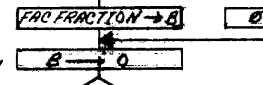
SPI2 FIX FOR X L
 SPI2 FIX AC L

SPI2 DIFF L
 SPI2 LD SHFT CNTR L

SHFT O FF = 1

STATE 3

STATE 3
 00 = 1



TEST IF # SHFTS GREATER THAN 27₈ TO ALN

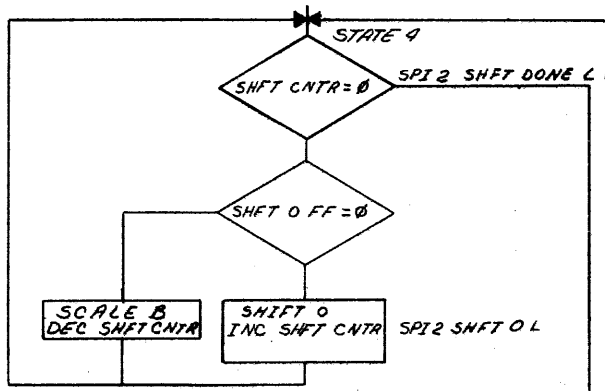
IF SO SET SC = 0

0 = 0

STATE 3
 3-3 0 -> SHFT CNTR
 SPI2 NO SHFT L

SHFT RIGHT OR LEFT AS DECIDED AND COUNT WITH SHFT COUNTER

SPI2 SHFT B L



SPI2 B POS L

SPI2 B NEG L

SHFT O FF = 0

STATE 4
 4-2 0 -> FAC FRACTION
 SPI2 FAC ALN L
 GO TO FETCH
 SPI2 ALN DONE L

IF SHFTING B, LOAD 0
 SPI2 RESULTS TO CLA-1

0 = 0
 FAC FRAC NEG

B -> 0

LOGICAL 1 -> 0
 SPI2 -1 TO 0 L

REV
CHG
NO

FIRST USED ON OPTION/ MOD PDP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
DIMENSION IN INCHES		FPP12 FLOW DIAGRAM #10		
TOLERANCES		DATE		
DECIMALS	FRACTIONS	ANGLES	DATE	
± .005	± 1/64	± 0°30'	DATE	
FINAL SURFACE QUALITY		DATE		
REMOVE BURRS AND BREAK SHARP CORNERS		DATE		
MATERIAL	NEXT HIGHER ASSY			
FINISH	SCALE	SIZE CODE NUMBER REV		
	SHEET 10 OF 12	DFD FPP12-0-03 E		

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D
C
B
A

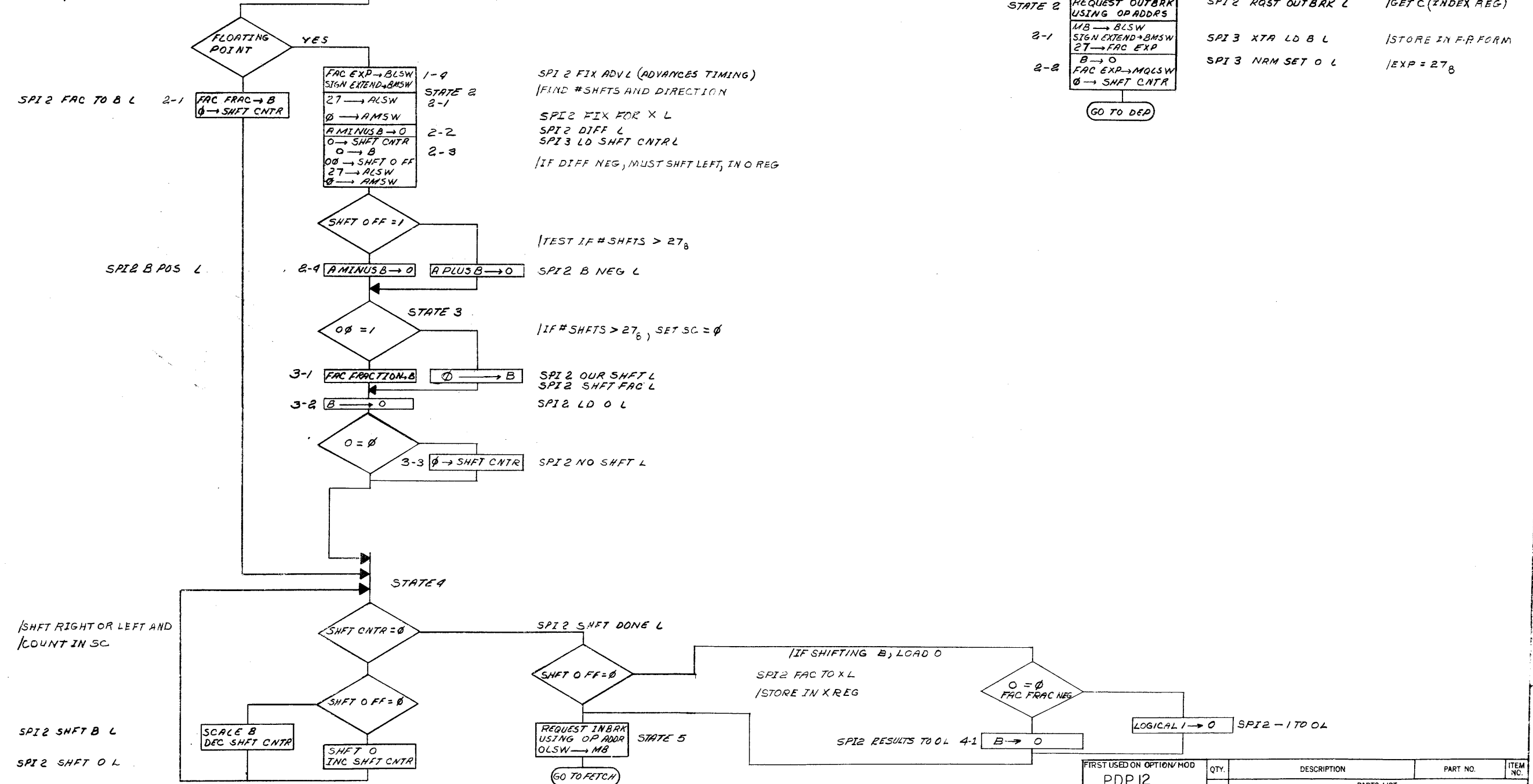
D
C
B
A

ATX
STATE 1
 0 → AMSW 1-1
 FIR9/11 → ALSW
 X0 ADDR → B 1-2
 A PLUS B → 0 1-3
 0 → OP ADDRS 1-3

SPI 2 TM ADV H (ADVANCES TIMING)
 /CALCULATE INDEX REG ADDR
 SPI 2 CLASS 1 GET X L
 SPI 1 ADD A TO B L
 SPI 1 X TO OP ADDRS L

XTA
STATE 1
 0 → AMSW
 FIR9/11 → ALSW
 X0 ADDR → B
 A PLUS B → 0
 0 → OP ADDRS
 STATE 2
 REQUEST OUTBRK USING OP ADDRS
 2-1 MB → BLSW
 SIGN EXTEND → BMSW
 2T → FAC EXP
 B → 0
 FAC EXP → MQLSW
 0 → SHFT CNTR
 GO TO DEP

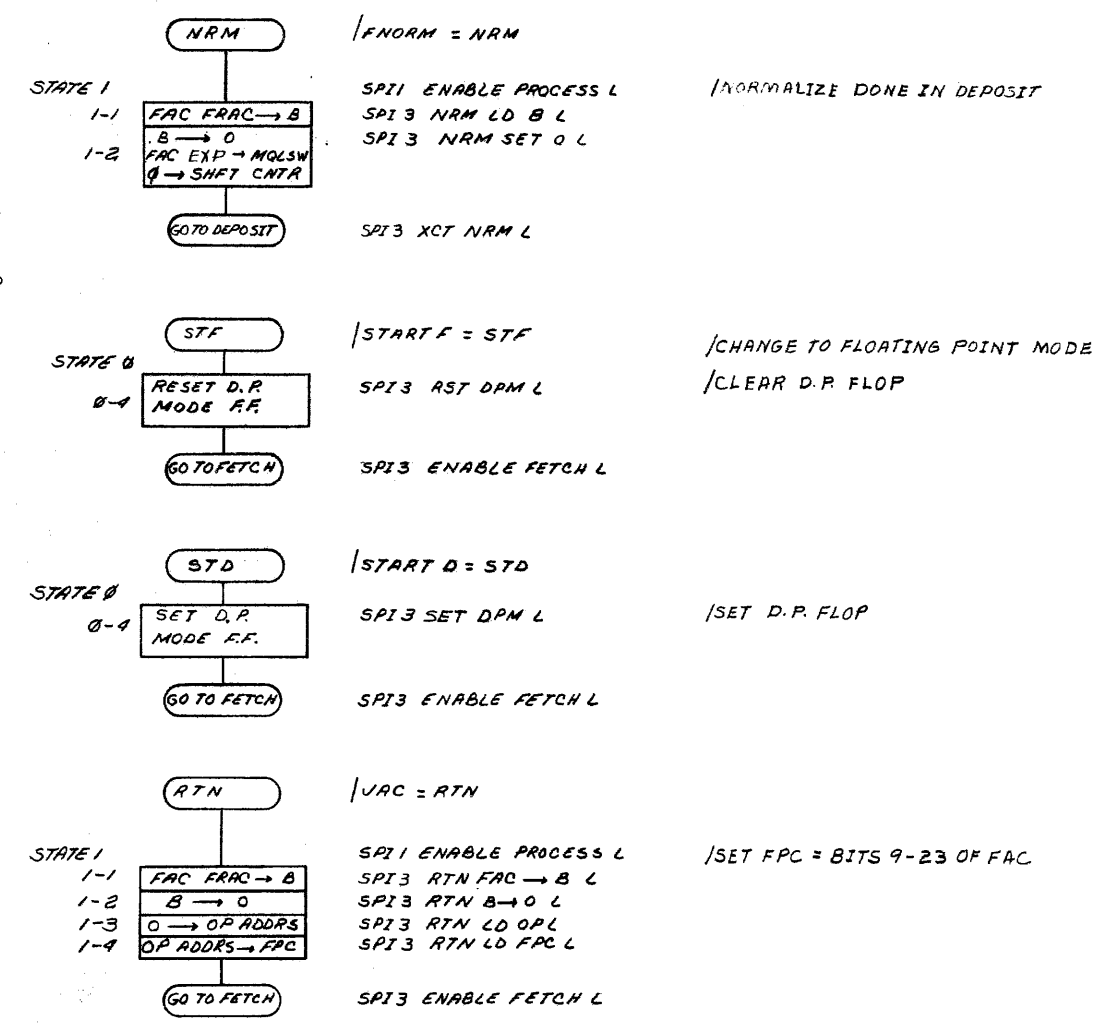
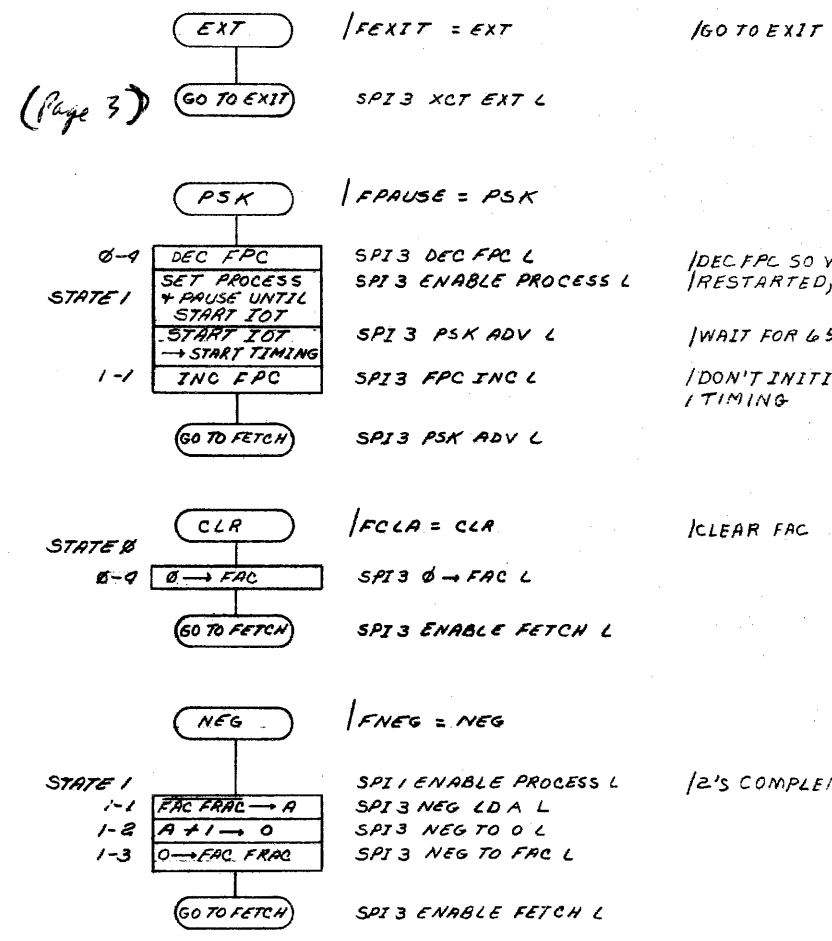
SPI 2 TM ADV H (ADVANCES TIMING)
 SPI 2 CLASS 1 GET X L /CALCULATE X REG ADDR
 SPI 1 ADD A TO B L
 SPI 1 X TO OP ADDRS L
 SPI 2 RQST OUTBRK L /GET C (INDEX REG)
 SPI 3 XTA LD B L /STORE IN F.P.FORM
 SPI 3 NRM SET 0 L /EXP = 27₆



REV.	CHG. NO.	DESCRIPTION

FIRST USED ON OPTION/MOD PDP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	PARTS LIST	
DIMENSION IN INCHES	CHK	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES	ENG.	DATE	TITLE	
DECIMALS = .005	PROJ. ENG.	DATE	FPP12	
FRACTIONS = 1/64	PROJ. ENG.	DATE	FLOW DIAGRAM	
ANGLES = 0°30'	PROJ. ENG.	DATE	# //	
FINAL SURFACE QUALITY	PROJ. ENG.	DATE	SCALE	
REMOVE BURRS AND BREAK SHARP CORNERS	PROJ. ENG.	DATE	A-ML-FPP12-0	
MATERIAL	PROJ. ENG.	DATE	SIZE CODE	
NEXT HIGHER ASSY	PROJ. ENG.	DATE	NUMBER	
FINISH	PROJ. ENG.	DATE	D/FD/FPP12-0-03	
SCALE	PROJ. ENG.	DATE	REV.	
SHEET 11 OF 12	PROJ. ENG.	DATE	E	
	PROJ. ENG.	DATE	DIST	

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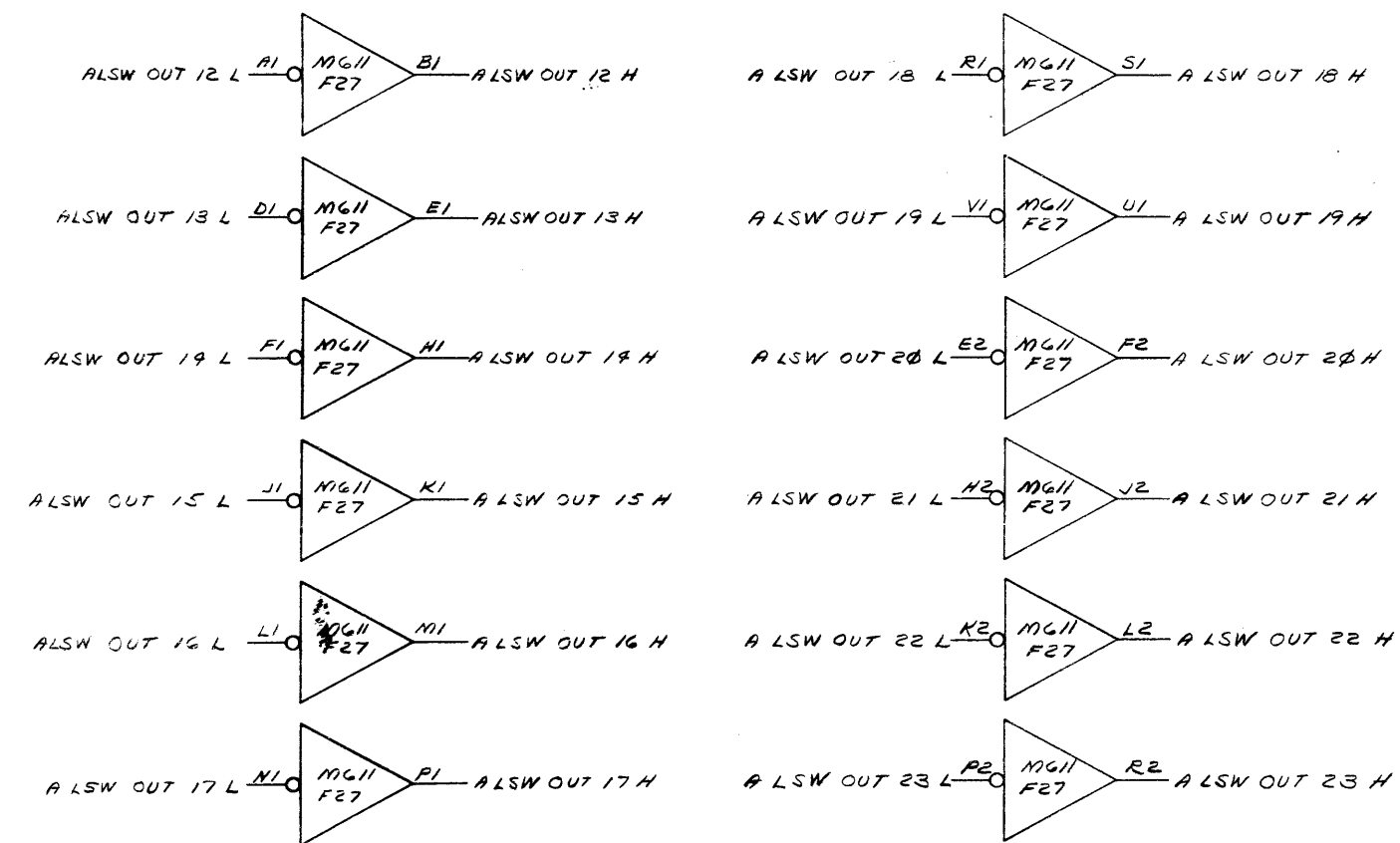
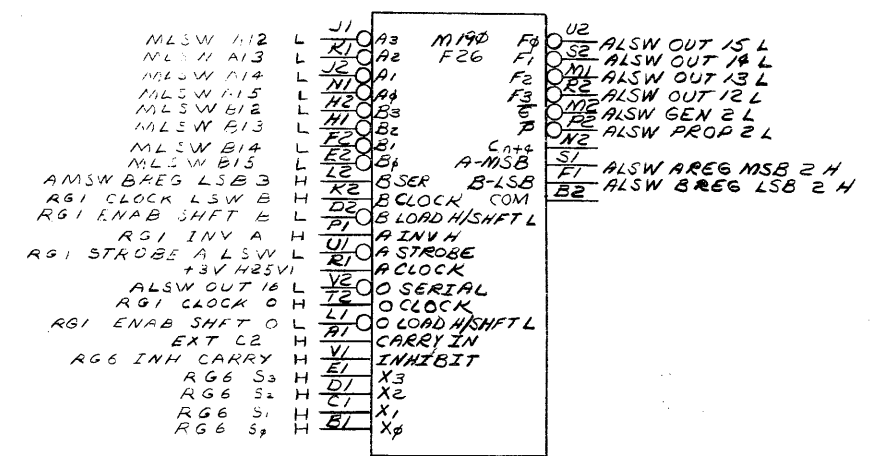
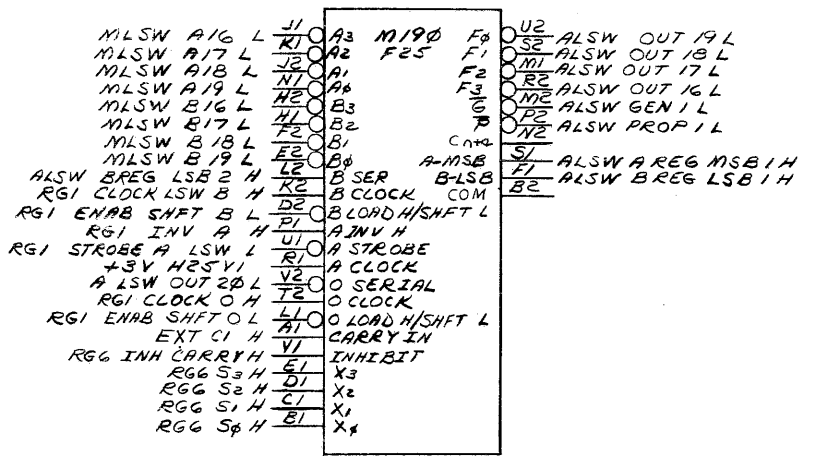
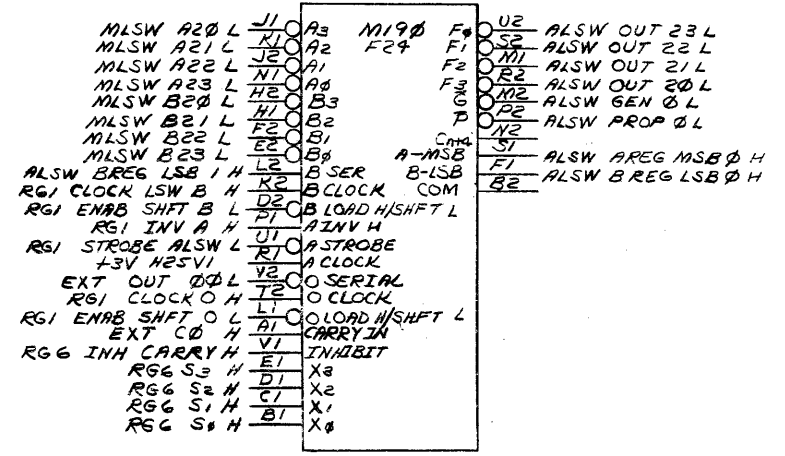


REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MOD. PDP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
TOLERANCES	ENG.	DATE	FPP12 FLOW C AGRAM	
DECIMALS = .005	PROJ. ENG.	DATE	2/7	
FRACTIONS = 1/64	PROD.	DATE	A-ML-FPP12-0	
ANGLES = 0°30'			SCALE	
FINAL SURFACE QUALITY			D F D FPP12-	
REMOVE BURRS AND BREAK SHARP CORNERS			REV. E	
MATERIAL			SHEET 12 OF 12	
FINISH			DIST.	

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Adder-LSW



	S ₃	S ₂	S ₁	S ₀	INH CRY	CRY IN
A - B → 0	L	H	H	L	L	H
A + B → 0	H	L	L	H	L	L
A + A → 0	H	H	L	L	L	L
A → 0	H	H	H	H	L	L
A + 1 → 0	H	H	H	H	L	H
Logical 1 → 0	L	L	H	H	H	-
B → 0	H	L	H	L	H	-
Logical 0 → 0	H	H	L	L	H	-

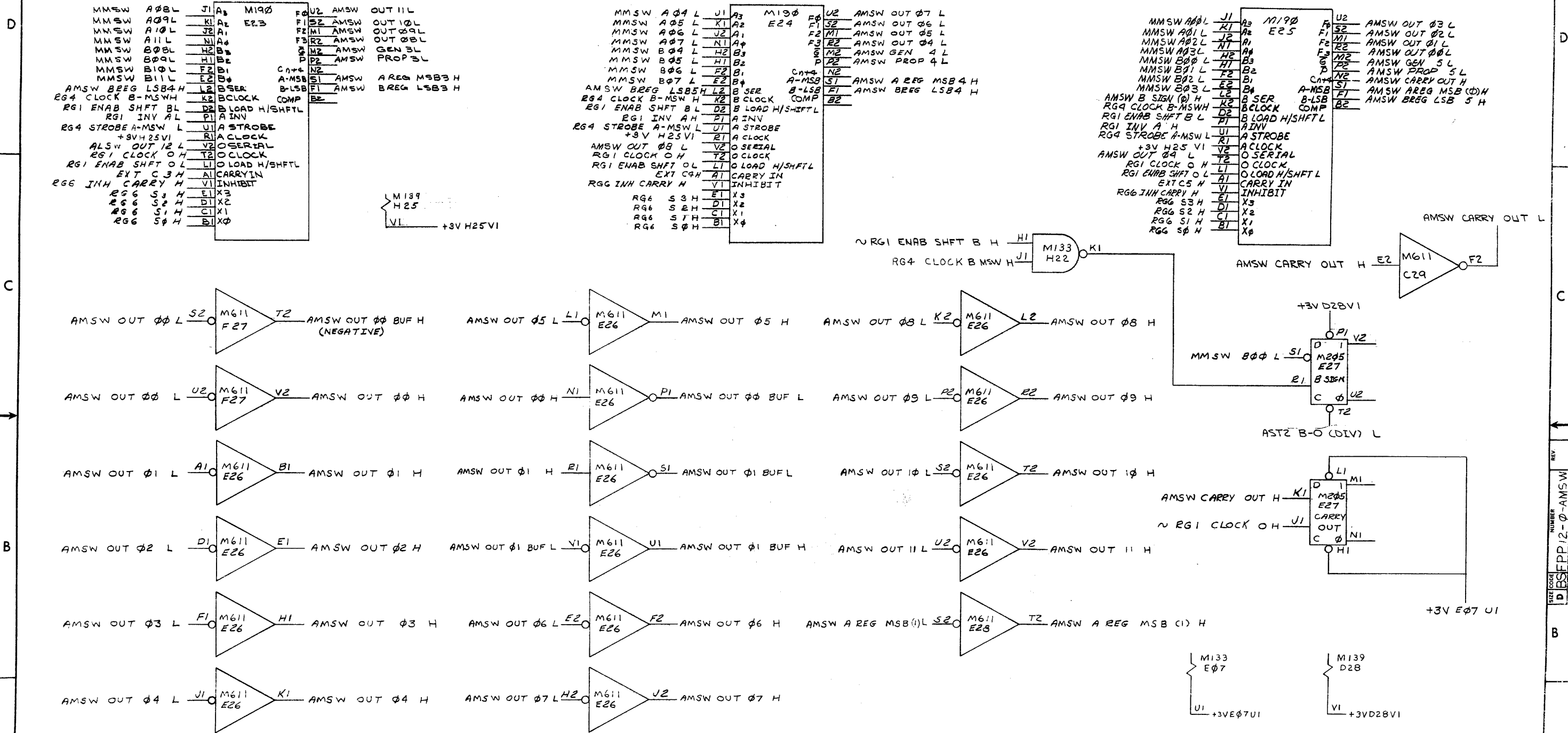
REV.	CHANGE NO.	REVISIONS

FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>W.F. Okamoto</i>	DATE <i>11/19/70</i>	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>W. Major</i>	DATE <i>10/30/70</i>	TITLE	
TOLERANCES	ENG. <i>W. Major</i>	DATE <i>1/13/72</i>	ADDER	
DECIMALS FRACTIONS ANGLES	PROV. ENG. <i>J. S. ...</i>	DATE <i>10/15/70</i>	LSW	
± .005 ± 1/64 ± 0°30'	PROD. <i>W. Peterson</i>	DATE <i>12/1/70</i>	MATERIAL	
FINAL SURFACE QUALITY / REMOVE BURRS AND BREAK SHARP CORNERS			NEXT HIGHER ASSY	
			A-ML-FPP12-0	
FINISH	SCALE	SHEET 1 OF 1	SIZE CODE	NUMBER
			DBSFPP12-0-ALSW	REV

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Adder - MSW

BSFPP12-0-AMSW



REV	CHANGE NO

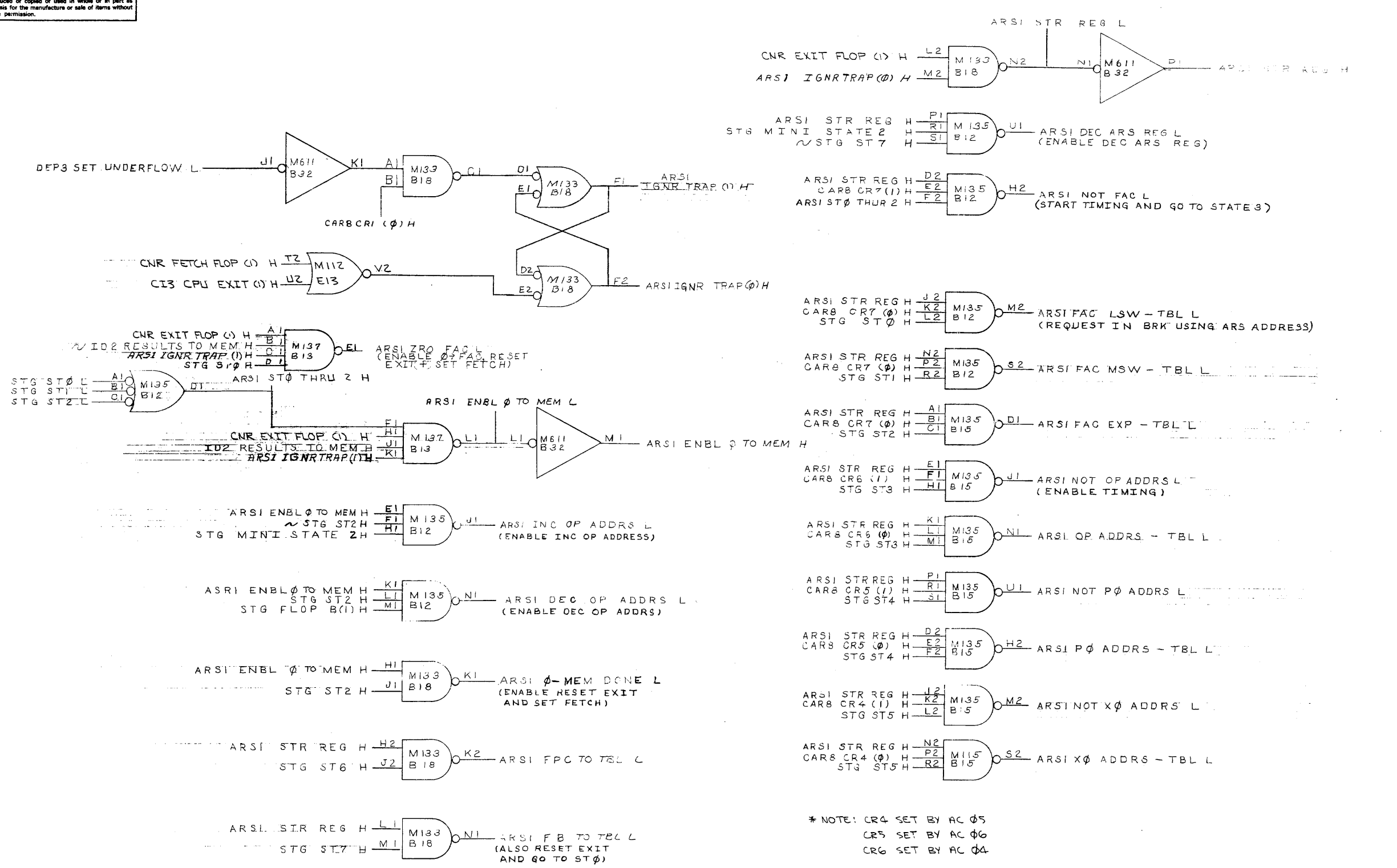
FIRST USED ON OPTION / MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE		
TOLERANCES	ENG	DATE		
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE		
± .005 ± 1/64 ± 0°30'			ADDER - MSW	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	PROD.	DATE		
MATERIAL	NEXT HIGHER ASSY		SIZE CODE	NUMBER
FINISH	SCALE	SHEET	DIST.	REV

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REV. 2
NUMBER 130001276

D
C
B
A

D
C
B
A



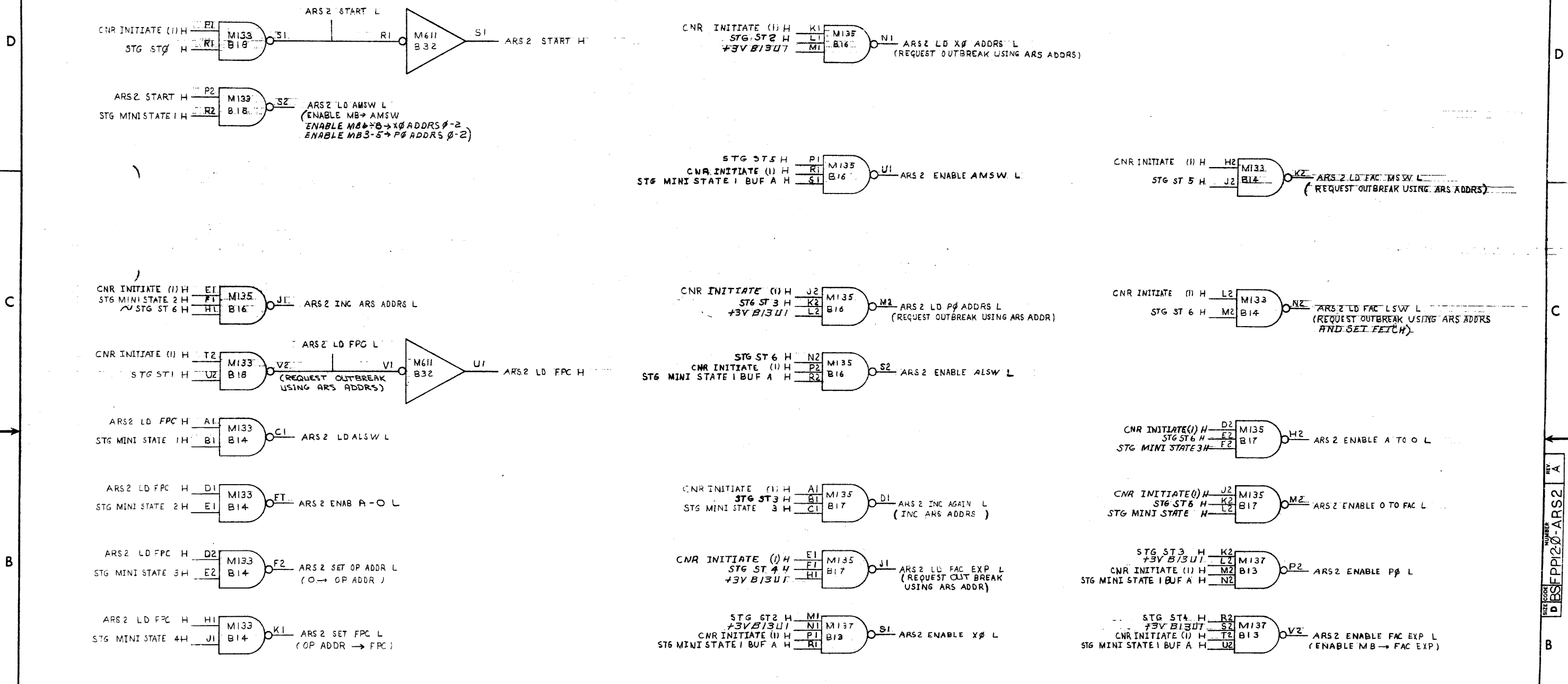
* NOTE: CR4 SET BY AC φ5
CR5 SET BY AC φ6
CR6 SET BY AC φ4

REV.	CHG. NO.	CHK.
A	FPP12-00005	
		TEICHER
		5-20-71

FIRST USED OR OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
TOLERANCES	ENG.	DATE	EXIT	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE		
± .005 ± 1/64 ± 0°30'	PROJ.	DATE		
FINAL SURFACE QUALITY	PROD.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY			
	A-ML-FPP12-0			
FINISH	SCALE	NONE	SIZE CODE	NUMBER
	SHEET	1	OF	1
	DIST.			REV. A

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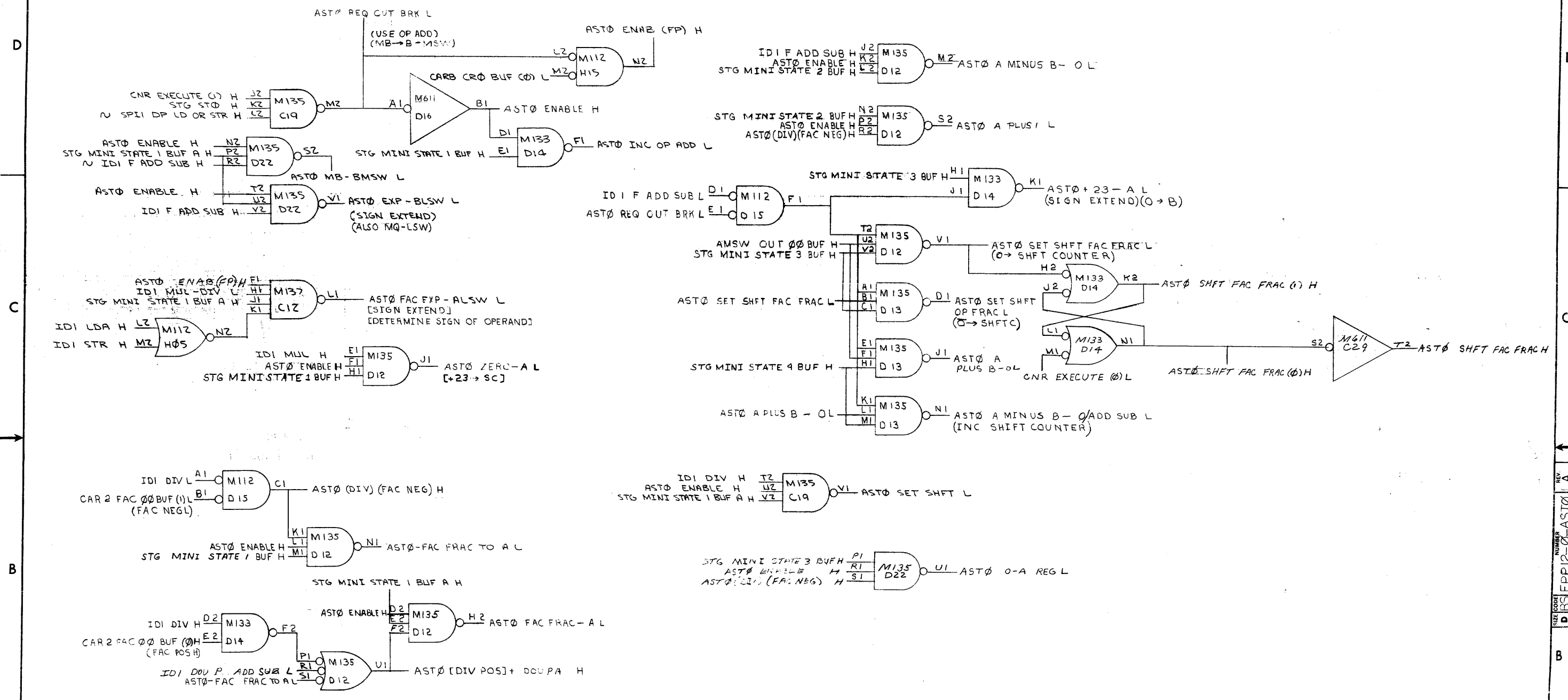
REV. A
 DBSFPPI2-0-ARS2
 NUMBER 2



REV.	CHANGE NO.	DATE
A	FPP12-00005	5-2-71
TEICHER		
J. Searles 5-20-71		

FIRST USED ON OPTION MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN. WFM P. LENNON	DATE 8-27-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'	CHK'D. W. Main	DATE 12/1/70	TITLE INITIATE	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	ENG. J. Seibel	DATE 12/1/70	PROD. R. Peterson	
MATERIAL	NEXT HIGHER A SY	DATE 12/1/70	SCALE	
FINISH	A-ML-FPP12-0	DATE	SIZE CODE DBSFPPI2-0-ARS2	NUMBER A
	SHEET 1 OF 1	DIST.		

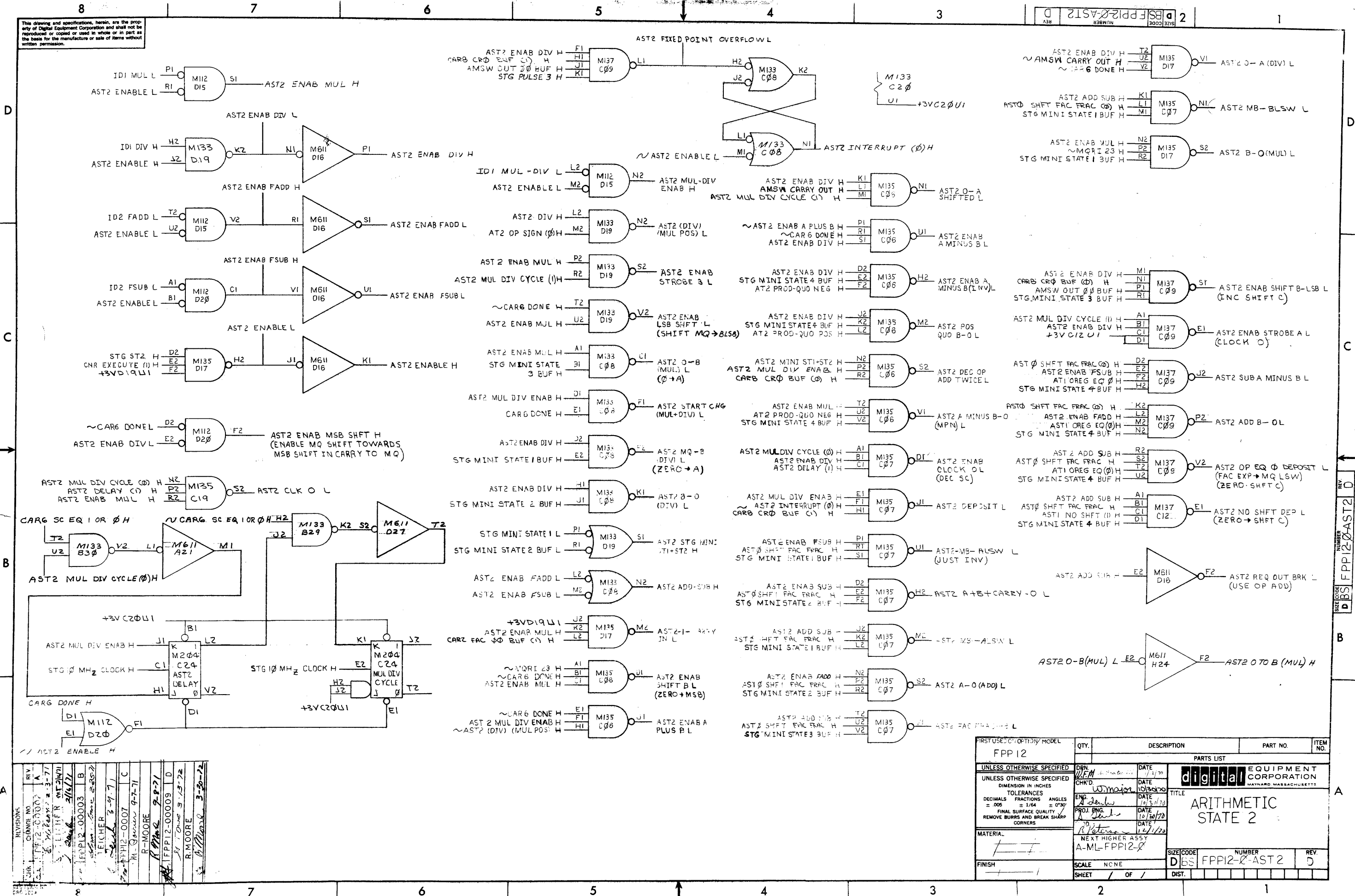
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REV	CHG	NO.	DATE
A		0007	9-3-71
			9-8-71

FIRST USED ON OPTION MODEL - FFP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PART'S LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN. ALC	DATE 8-3-70	 DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES	CHK'D. W. Major	DATE 10/30/70		
DECIMALS FRACTIONS ANGLES	ENG. J. Leach	DATE 10/30/70		
FINAL SURFACE QUALITY	PROJ. ENG. J. Leach	DATE 10/24/70		
REMOVE BURRS AND BREAK SHARP CORNERS	PROD. R. Peterson	DATE 12/1/70	TITLE ARITHMETIC STATE ZERO	
MATERIAL	NEXT HIGHER ASSY		SIZE CODE	NUMBER
FINISH	A-ML-FFP12-C		BS FPP12-0-AST0	REV A
SCALE NONE	SHEET / OF /	DIST.		

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REV	CHG	NO	DATE	BY	CHK'D
1					
2					
3					
4					
5					
6					
7					
8					

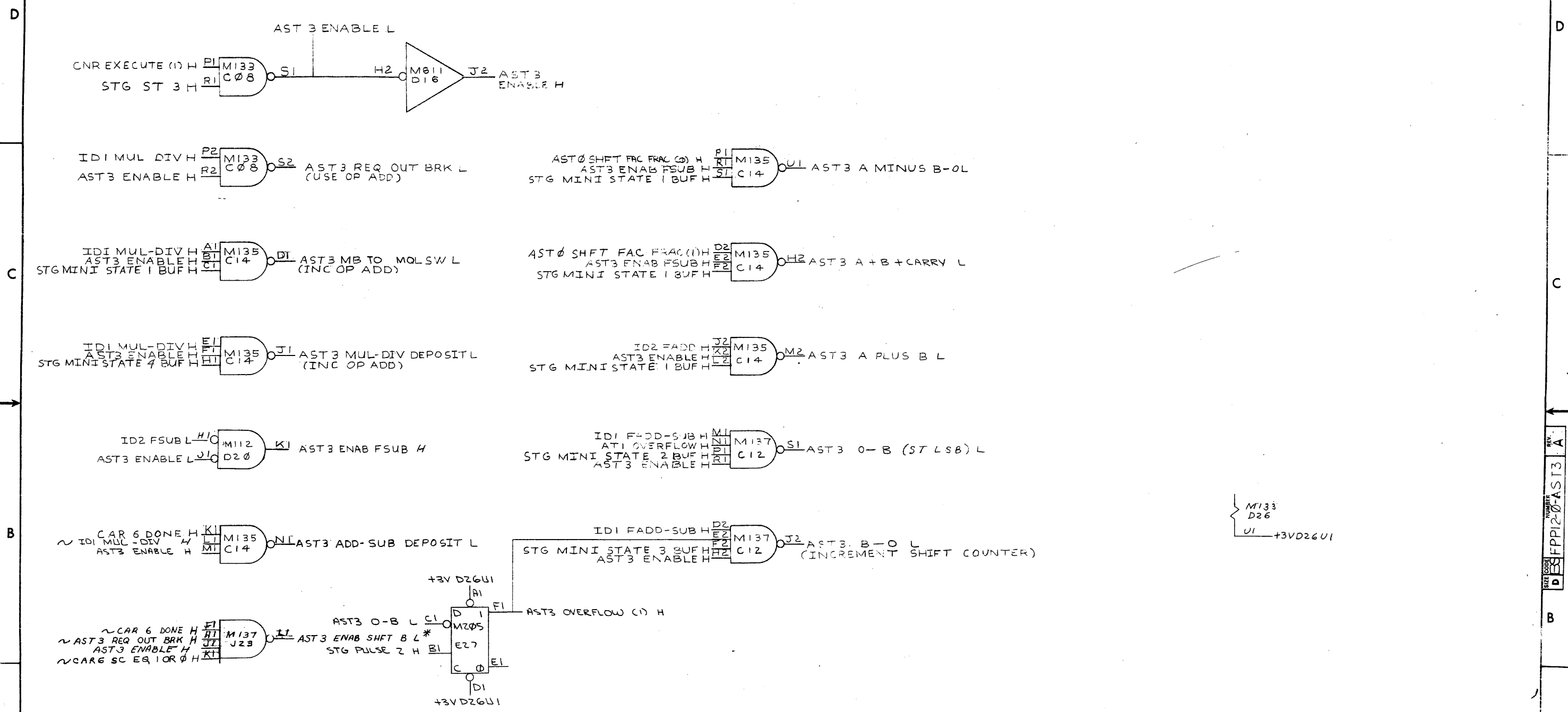
REV	NO	DATE	BY	CHK'D
1				
2				
3				
4				
5				
6				
7				
8				

REV	NO	DATE	BY	CHK'D
1				
2				
3				
4				
5				
6				
7				
8				

REV	NO	DATE	BY	CHK'D
1				
2				
3				
4				
5				
6				
7				
8				

REV	NO	DATE	BY	CHK'D
1				
2				
3				
4				
5				
6				
7				
8				

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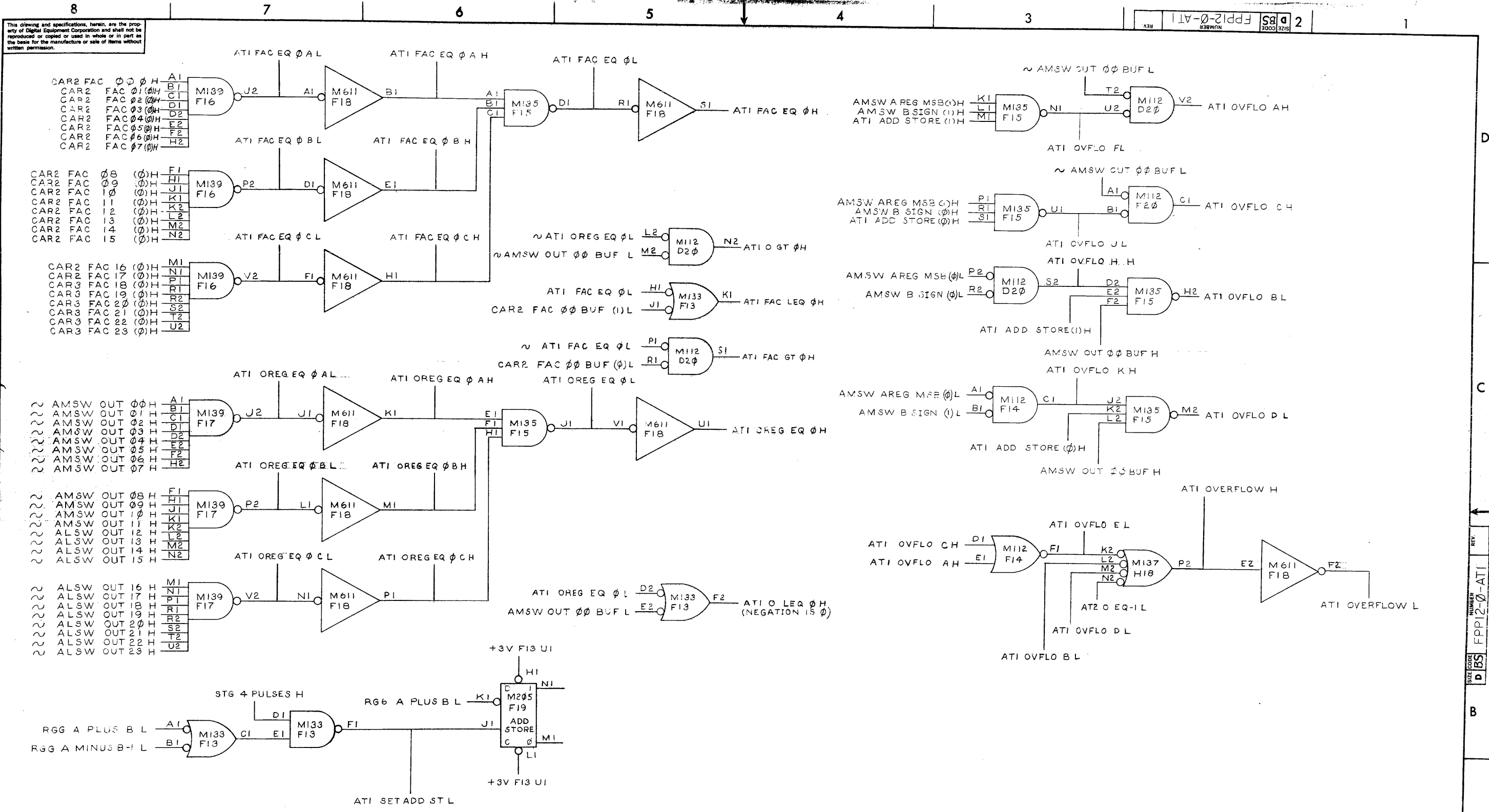
M133
D26
U1 +3VD26U1

*(SIG. AST3 ENAB SHFT B L PERMITS SHIFTING OF B UNTIL SHIFT COUNTER=0 WHEN ALIGNING A NUMBER DURING A FLOATING ADD OR SUBTRACT. THE SHIFT COUNTER STARTS NEGATIVE AD INCREMENTS TO 0. SIG. ~ CAR6 SC EQ 1 OR 0 H HAS FEWER GATE DELAYS THAN ~ CAR6 DONE H.)

REV.	CHG. NO.	DATE
1	1	10/10/70
2	1	10/10/70
3	1	10/10/70

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
DIMENSION IN INCHES	W. Major	10/30/70	ARITHMETIC STATE 3	
TOLERANCES	ENG.	DATE	SIZE CODE NUMBER REV.	
DECIMALS FRACTIONS ANGLES	1/16	10/10/70	DBS FPP12-0-AST3 A	
± .005 ± 1/64 ± 0°30'	PROJ. ENG.	DATE	SCALE NONE	
FINAL SURFACE QUALITY	1/16	10/10/70	SHEET 1 OF 1	
REMOVE BURRS AND BREAK SHARP CORNERS	PROD.	DATE	DIST.	
MATERIAL	Next Higher Assy			
FINISH	A-NL-FPP12-0			

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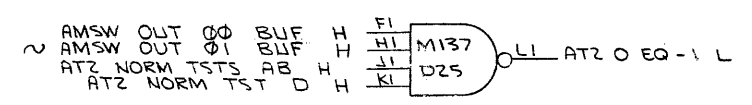
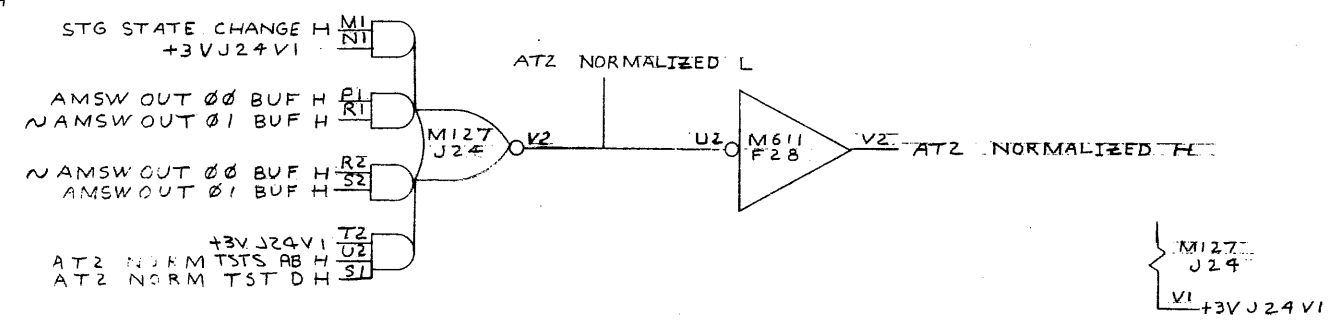
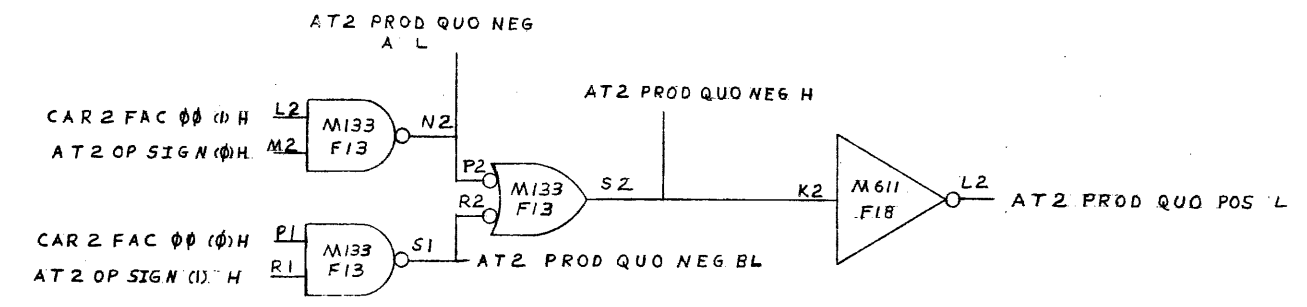
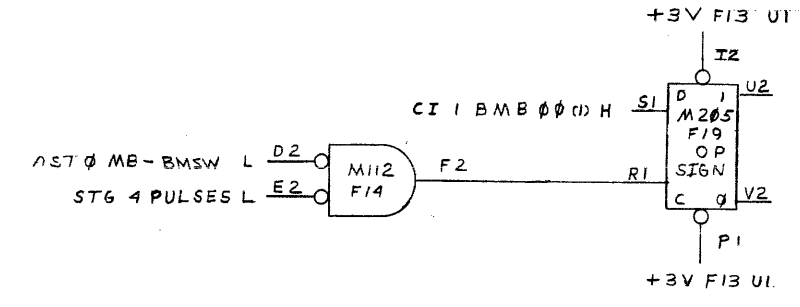
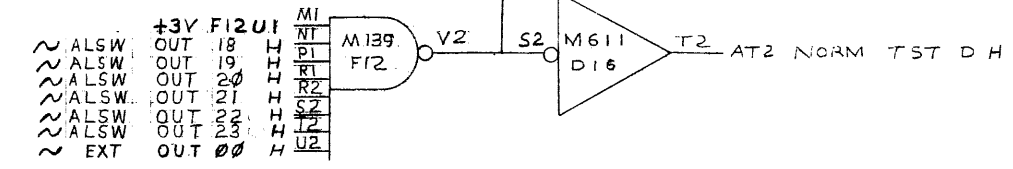
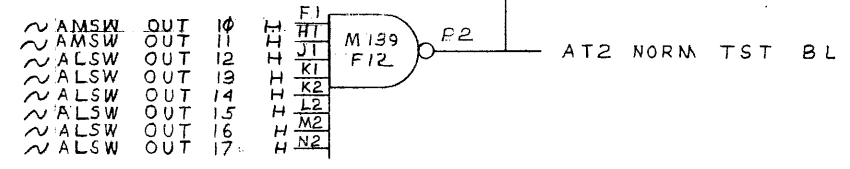
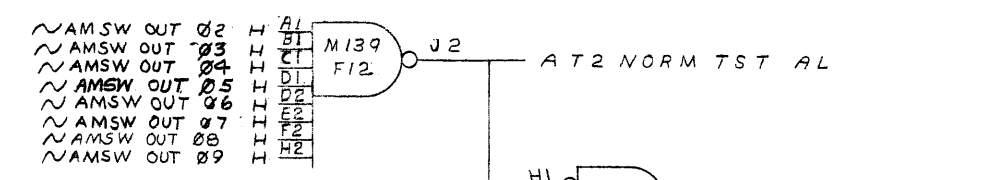
REV	CHANGE NO.

DEC FORM NO. DRD 102A

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FFP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>WPM</i>	DATE <i>8-20-70</i>	digital EQUIPMENT CORPORATION <small>MAYNARD, MASSACHUSETTS</small>	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>w.malon</i>	DATE <i>01/20/70</i>		
DIMENSION IN INCHES	ENG. <i>J. J. J.</i>	DATE <i>10/30/70</i>		
TOLERANCES	PROJ. ENG. <i>A. J. J.</i>	DATE <i>12/1/70</i>		
DECIMALS = .005	PROD. <i>P. J. J.</i>	DATE <i>12/1/70</i>	ARITHMETIC TESTS I	
FRACTIONS = 1/64				
ANGLES = 0°30'				
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS			ARITHMETIC TESTS I	
MATERIAL				
FINISH				
A-ML-FFP12-0		SCALE <i>NONE</i>	SIZE CODE D	NUMBER BS
SHEET <i>1</i> OF <i>1</i>		DIST. <i>1</i>	REV. <i>ATI</i>	

REV. NUMBER FFP12-0-ATI

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M139-
F12
U1 +3V F12 U1

M127-
J24
V1 +3V J24 V1

REV.	DATE	BY	CHKD.
A	9-19-77	R. IKNAIAN	
CHANGE NO. F12-00014			

FIRST USED ON OPTION MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'	DRN. M-POIRIER	DATE 7-31-77	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	ENG. W. MAJOR	DATE 10/30/77	TITLE ARITHMETIC TEST TWO	
MATERIAL //	PROJ. ENG. D. SWAN	DATE 1/11/78	SIZE CODE NUMBER REV DBS FPP12-0-AT2 A	
FINISH //	PROD. CONTROL P. BROWN	DATE 12/1/70	SCALE NONE SHEET 1 OF 1	

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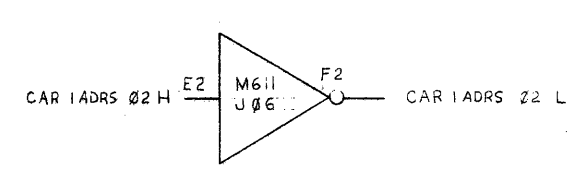
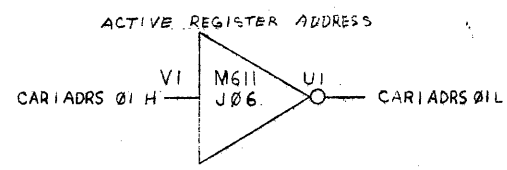
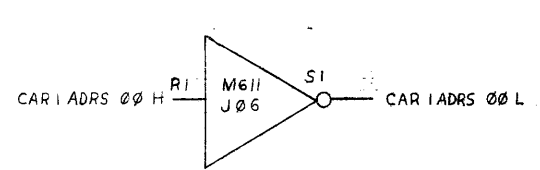
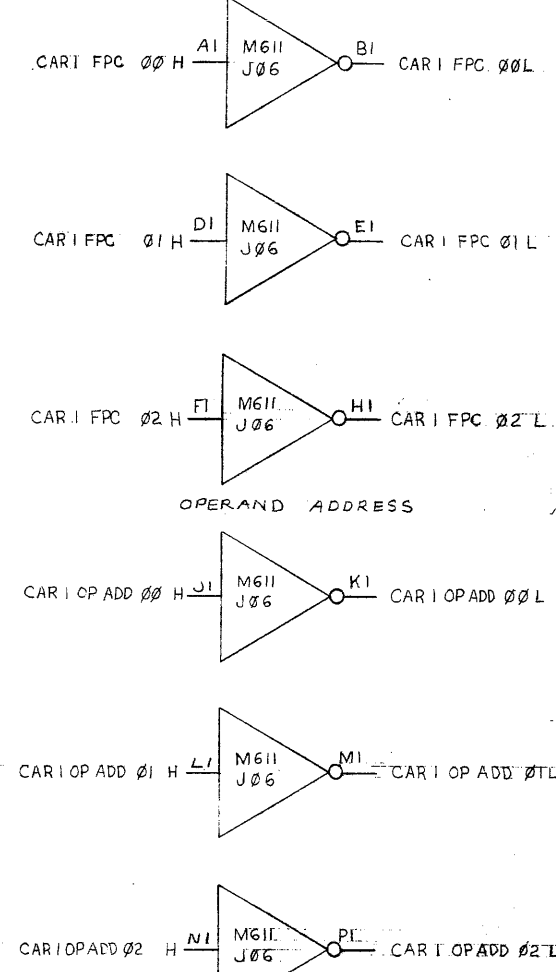
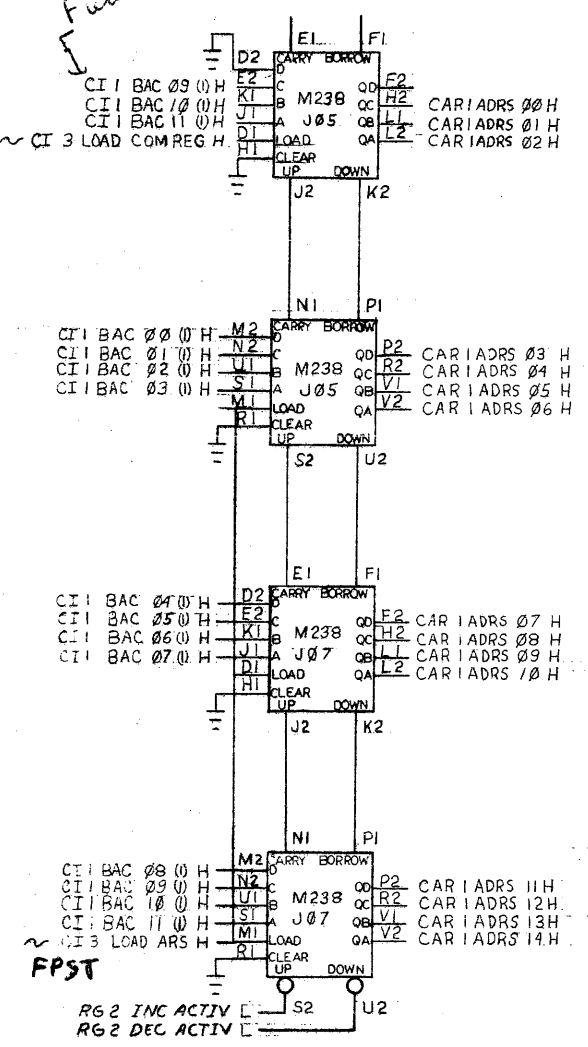
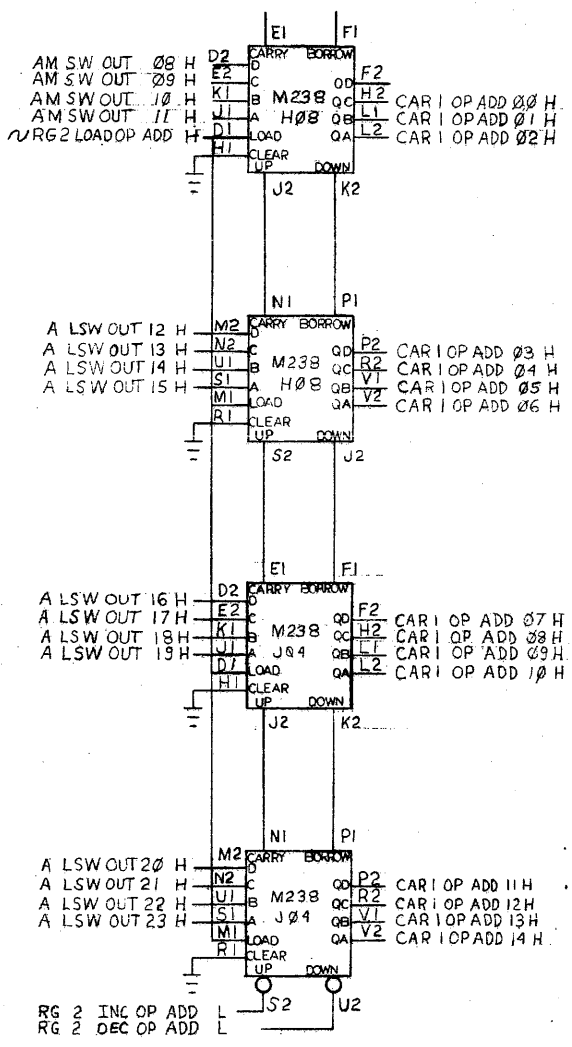
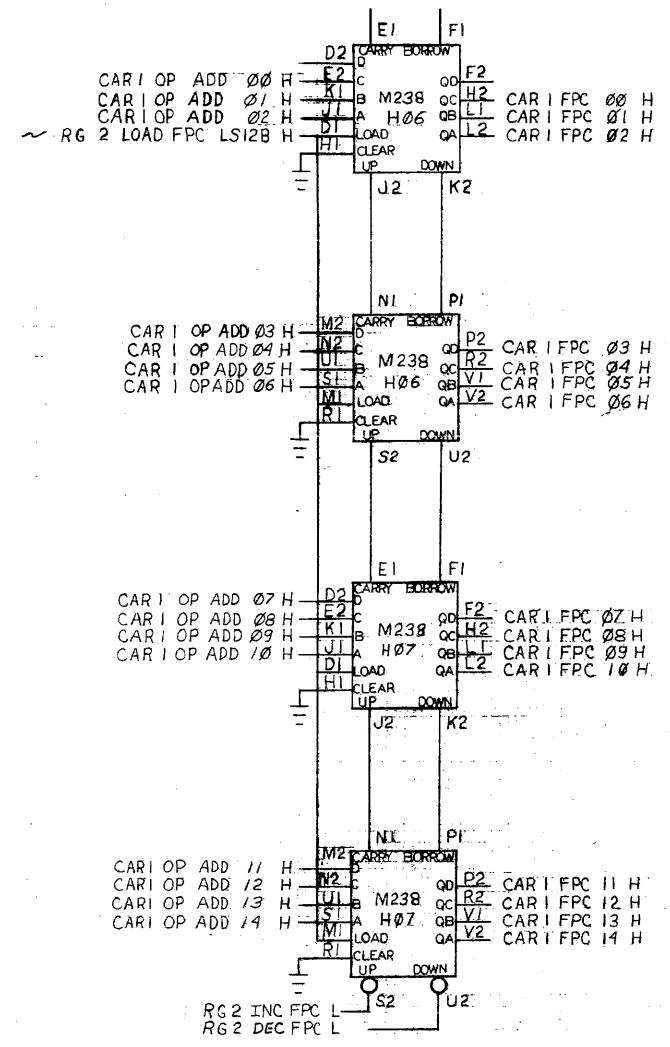
REV 2
 SIZE CODE D BS
 NUMBER FPP12-2-CAR1
 PART NO. 1

FPC counters

Operand address

APT Pointers

PROGRAM COUNTER



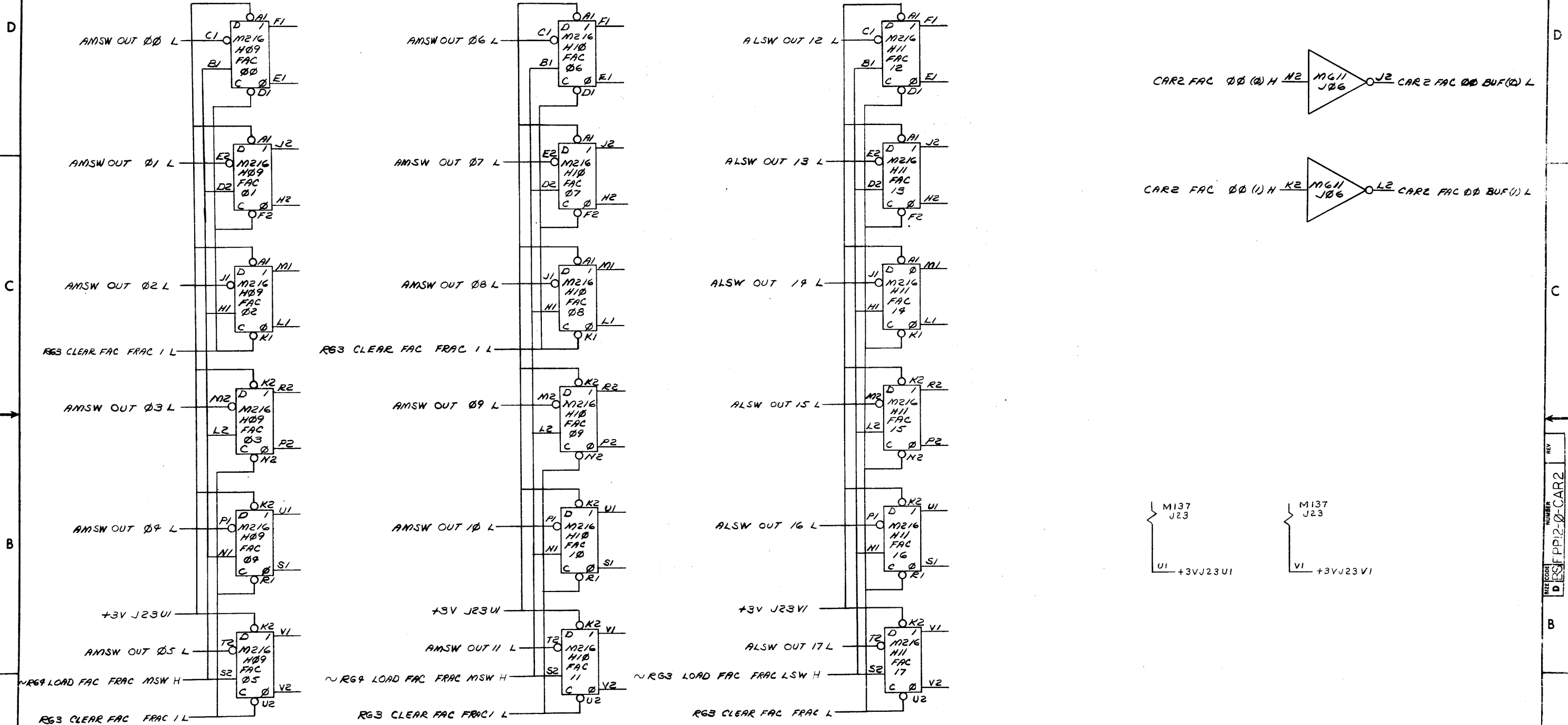
ACTIVE REGISTER ADDRESS

REV	DATE	BY	CHK'D

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP-12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE COUNTERS AND REGISTERS I	
TOLERANCES	ENG.	DATE	A-ML-FPP12-2	
DECIMALS ± .005	PROJ. ENG.	DATE	SCALE NONE	
FRACTIONS ± 1/64	PROD.	DATE	SHEET 1 OF 1	
ANGLES ± 0°30'			DIST.	
FINAL SURFACE QUALITY			REV	
REMOVE BURRS AND BREAK SHARP CORNERS			D BS FPP12-2-CAR1	
MATERIAL			REV	
FINISH			REV	

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Floating Accumulator 14-17

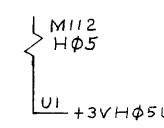
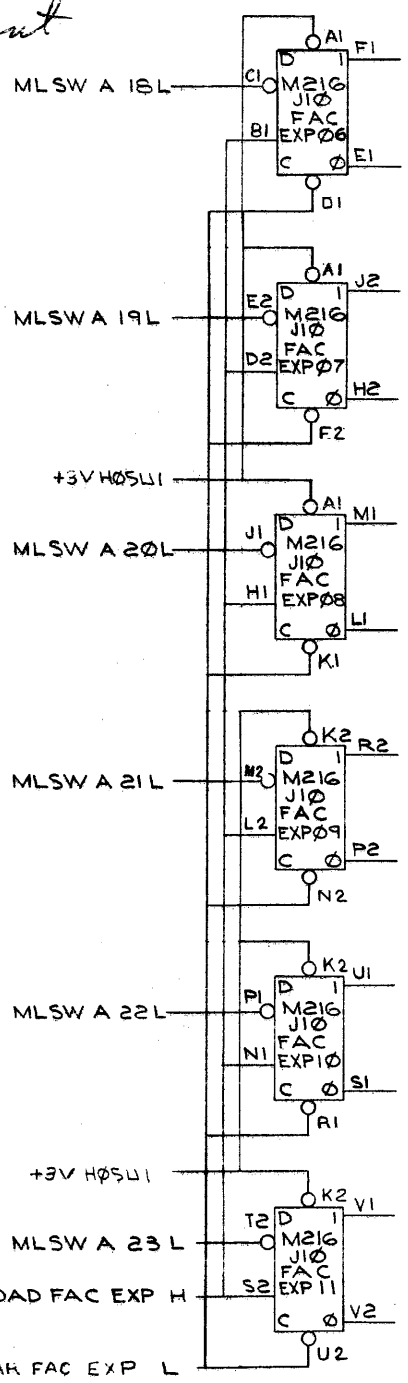
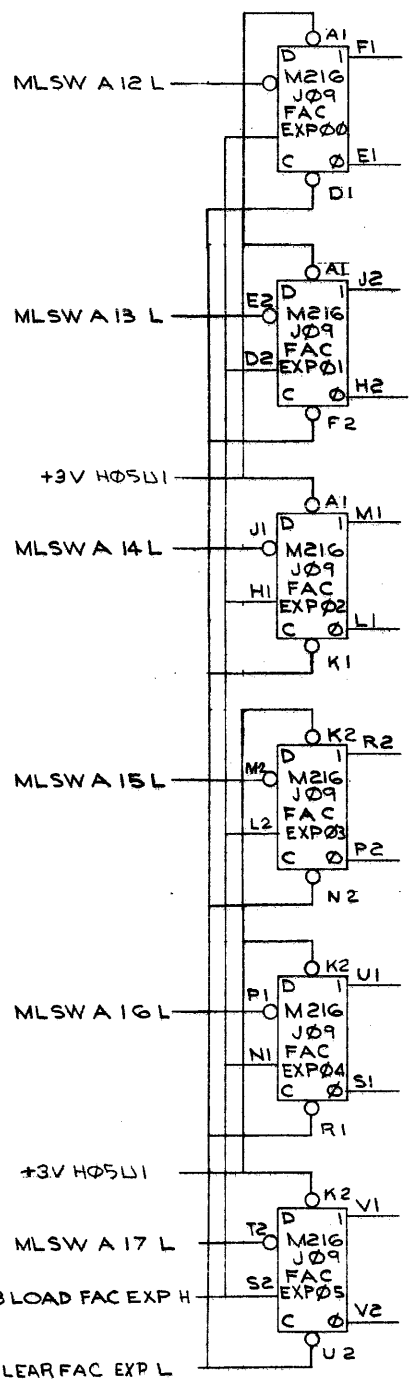
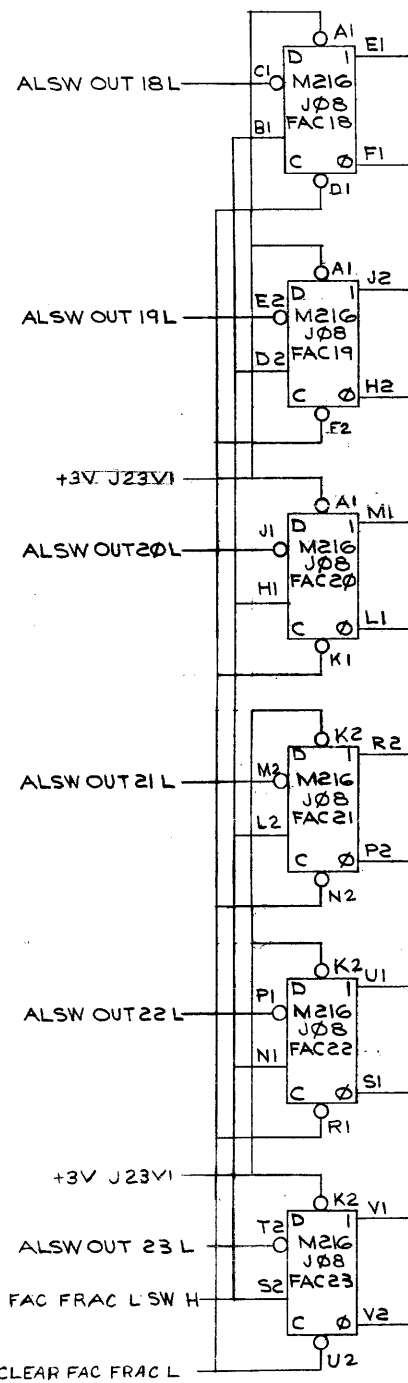


FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. MEM. <i>Alibert</i>	DATE <i>2-18-70</i>	 digital EQUIPMENT CORPORATION <small>MAYNARD, MASSACHUSETTS</small>	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>W. Major</i>	DATE <i>10/30/70</i>		
TOLERANCES	ENG. <i>Seiw</i>	DATE <i>10/30/70</i>		
DECIMALS FRACTIONS ANGLES	PROJ. ENG. <i>W. Major</i>	DATE <i>10/30/70</i>		
± .005 ± 1/64 ± 0°30'	PROD. <i>R. Peterson</i>	DATE <i>12/1/70</i>	COUNTERS AND REGISTERS 2	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	NEXT HIGHER ASSY			
MATERIAL	A-ML-FPP12-0	SIZE CODE	NUMBER	REV
FINISH	SCALE	DBS FPP12-0-CAR2		
	SHEET 1 OF 1	DIST.		

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Floating Accumulator 18-23

Exponent
φ-11



REV	CHANGE NO.

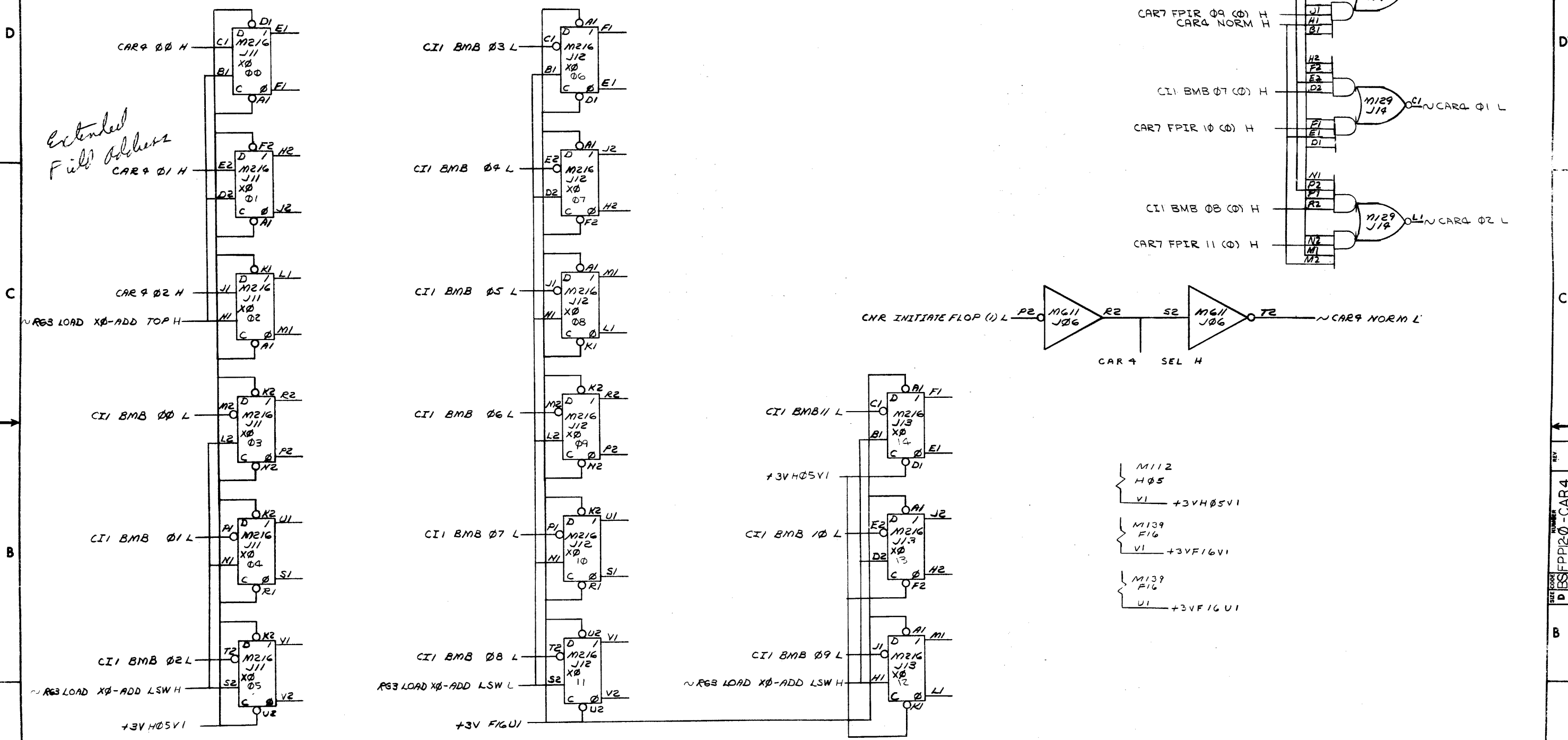
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED		DRN	DATE	
DIMENSION IN INCHES		CHK'D	DATE	
TOLERANCES		ENG.	DATE	
DECIMALS FRACTIONS ANGLES		PROJ. ENG.	DATE	
± .005 ± 1/64 ± 0°30'		PRODR	DATE	
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL		NEXT HIGHER ASSY		
FINISH		A-ML-FPP12-0		
		SCALE	SHEET 1 OF 1	
		SIZE CODE		NUMBER
		DBS FPP12-0-CAR3		REV.
		DIST.		

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
COUNTERS AND REGISTERS 3

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Xφ Register (X-Register Pointer)



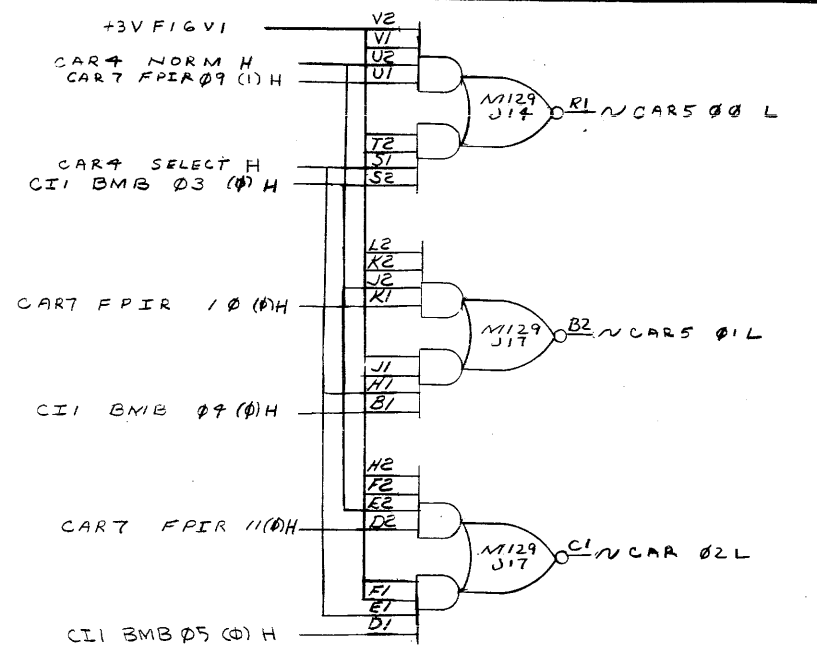
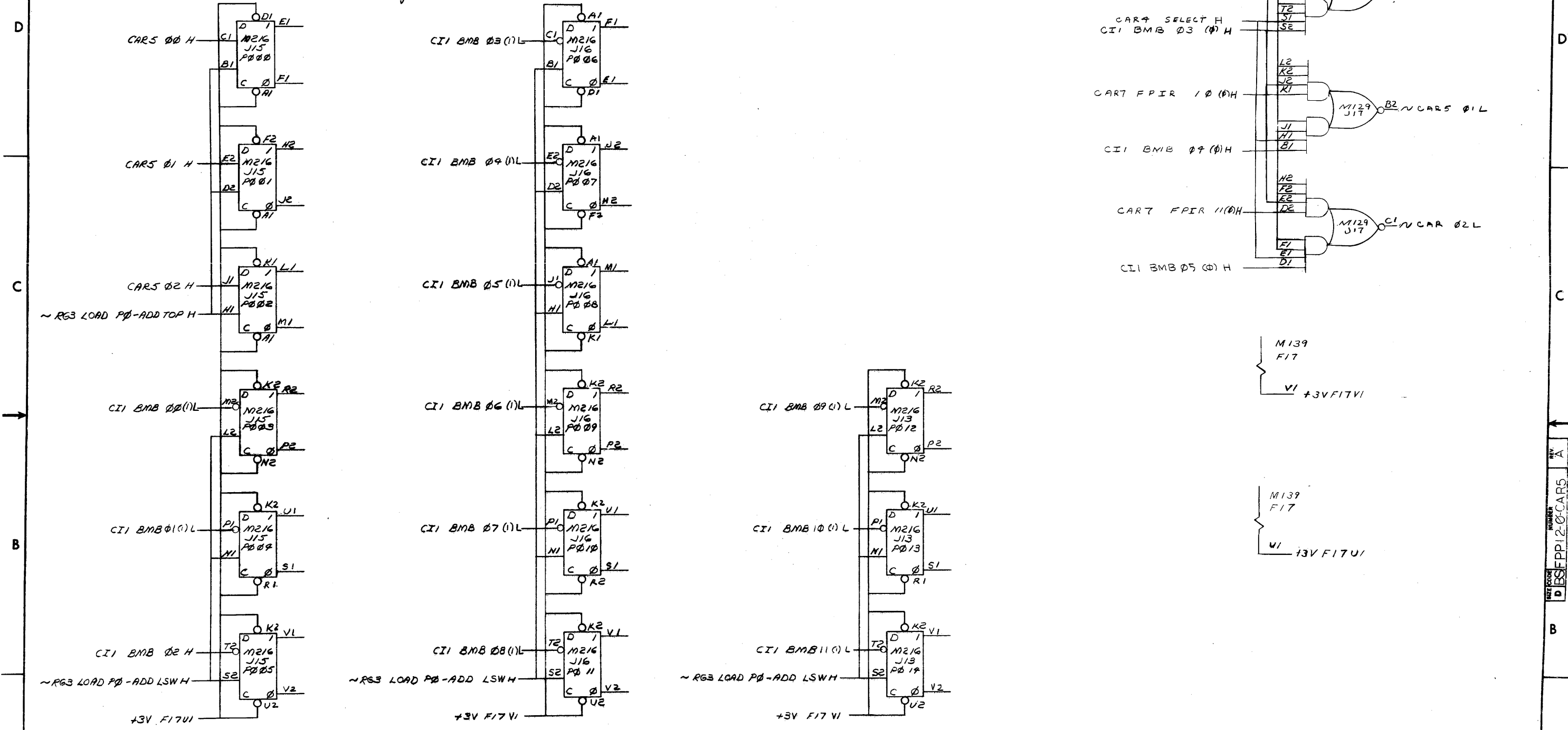
- M112
H05
V1 +3VH05V1
- M139
F16
V1 +3VF16V1
- M139
F16
U1 +3VF16U1

REV	
CHG	
NO.	

FIRST USED ON OPTION/MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'	DRN. WMAJON	DATE 10/30/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS TITLE COUNTERS AND REGISTERS 4 SCALE 1 OF 1 SHEET 1 OF 1 DST.	
FINAL SURFACE QUALITY / REMOVE BURRS AND BREAK SHARP CORNERS	ENG. J. H. ...	DATE 11/5/70		
MATERIAL + / +	PROJ. ENG. J. H. ...	DATE 12/1/70		
FINISH + / +	PROD. R. ...	DATE 12/1/70		
NEXT HIGHER ASSY A-M-L-FPP12-0			SIZE CODE DBS	NUMBER FPP12-0-CAR4

Base Register (PΦ)

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M139
F17
V1 +3V F17 V1

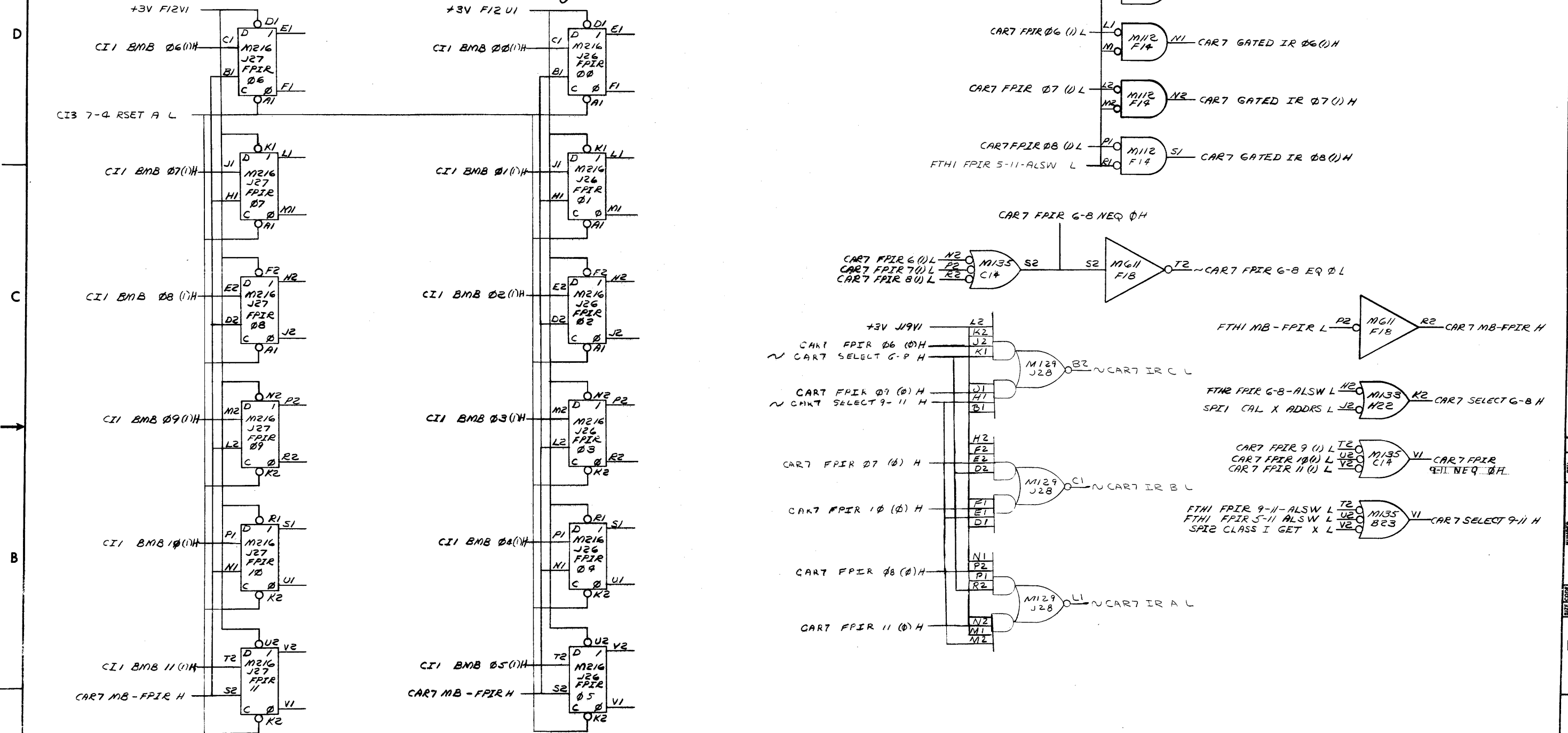
M139
F17
V1 +3V F17 U1

REV. A	CHG. NO. 0005	DATE 5-24-71
TECHER		

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPPI2				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>W. main</i>	DATE 8-12-70	 digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>W. main</i>	DATE 10/20/70		
DIMENSION IN INCHES	ENG. <i>W. main</i>	DATE 10/20/70		
TOLERANCES	PRJ. ENG. <i>W. main</i>	DATE 10/20/70		
DECIMALS ± .005	PROJ. <i>W. main</i>	DATE 12/1/70	TITLE COUNTERS AND REGISTERS 5	
FRACTIONS ± 1/64				
ANGLES ± 0°30'				
FINAL SURFACE QUALITY / REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY		SIZE CODE NUMBER REV. DBSFPPI2-0-CAR5 A	
FINISH	A-ML-FPPI2-0			
	SCALE			
	SHEET 1 OF 1	DIST.		

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FPIR - Init. Reg.



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>WMA</i>	DATE <i>8-18-70</i>	 digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>WMA</i>	DATE <i>10-30-70</i>		
TOLERANCES	ENGR. <i>A. DeWitt</i>	DATE <i>10-31-70</i>		
DECIMALS FRACTIONS ANGLES	PROJ. ENG. <i>A. DeWitt</i>	DATE <i>11-17-70</i>		
± .005 ± 1/64 ± 0°30'	PROD. <i>M. DeWitt</i>	DATE <i>12-11-70</i>	INSTRUCTION REGISTER	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY			
FINISH	SCALE			
		4M-FPIR-0-0	SIZE CODE	NUMBER
		SHEET 1 OF 1	DIST.	REV.

REVISIONS	REV.
CHANGE NO.	
CHK	

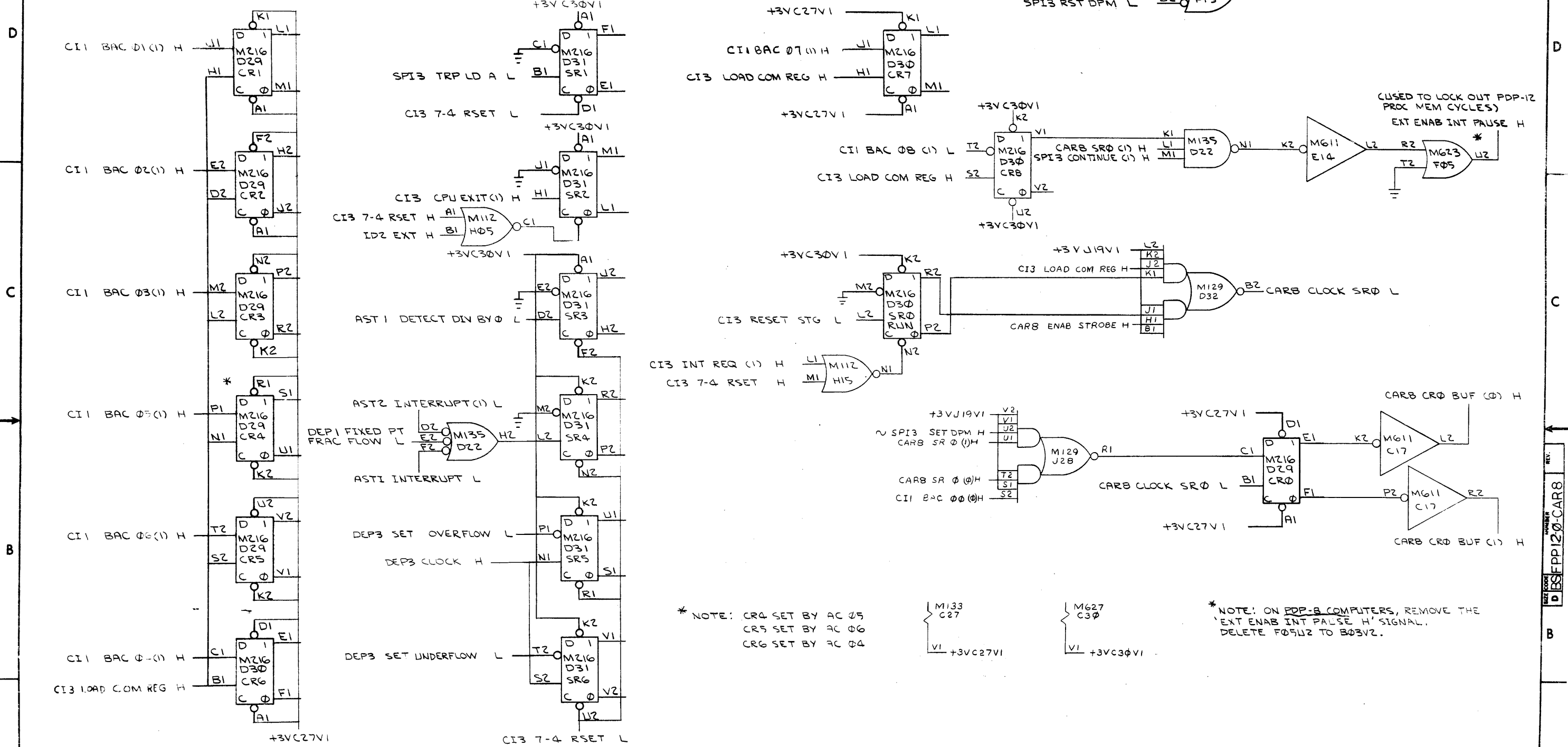
REV. NO. DBSFPPI2-0-CAR7

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REV. 2 DBSFPPI2-0-CAR8

Command

Status



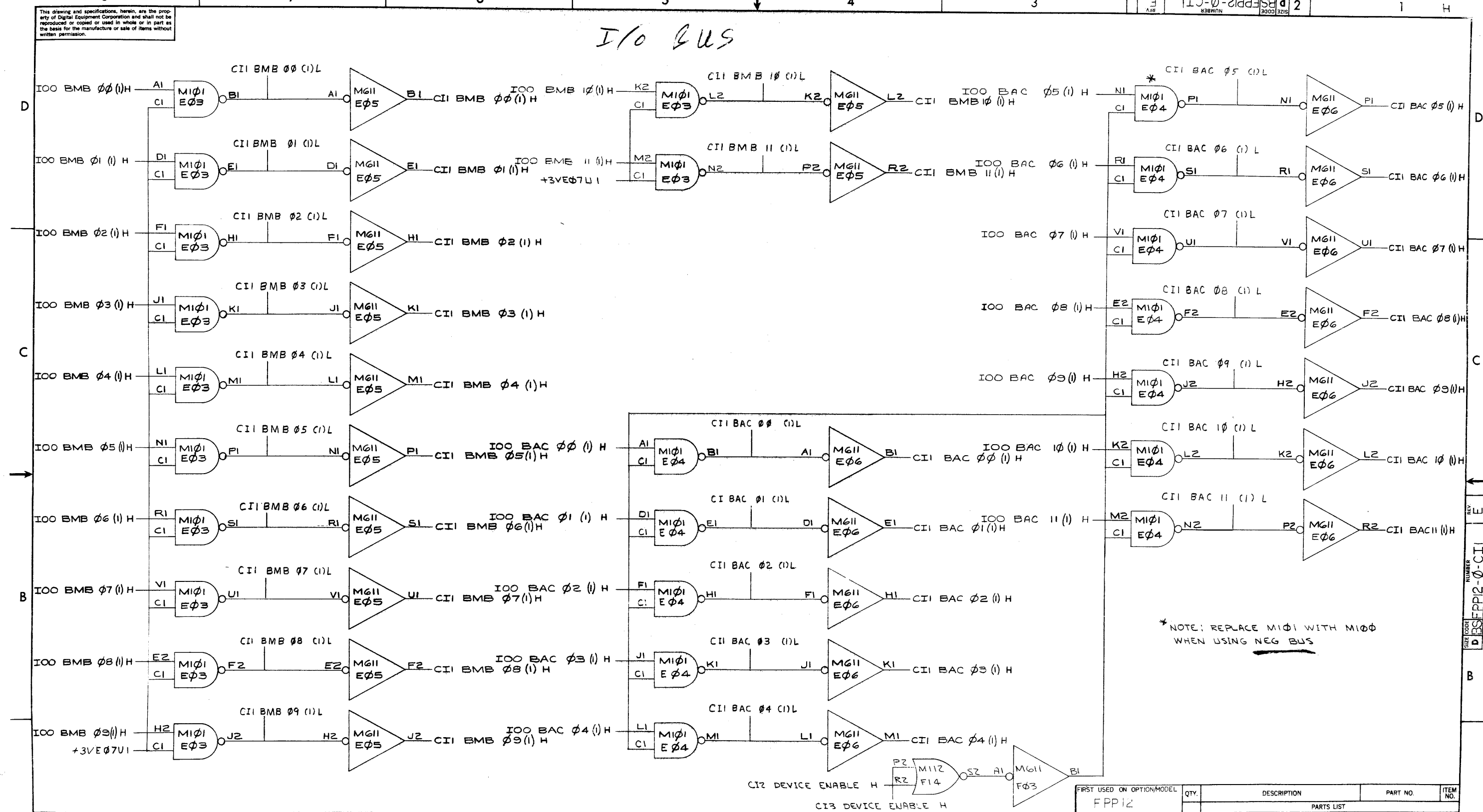
* NOTE: CR4 SET BY AC 05
 CR5 SET BY AC 06
 CR6 SET BY AC 04

* NOTE: ON PDP-8 COMPUTERS, REMOVE THE 'EXT ENAB INT PAUSE H' SIGNAL. DELETE F05U2 TO B03V2.

REV.	
CHANGE NO.	
CHK.	

FIRST USED ON OPTION MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. W. Major	DATE 8/2/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS TITLE COMMAND AND STATUS REGISTERS	
UNLESS OTHERWISE SPECIFIED	CHK'D. W. Major	DATE 12/1/70		
TOLERANCES	ENG. J. Seich	DATE 12/1/70		
DECIMALS FRACTIONS ANGLES	PROJ. ENG. J. Seich	DATE 12/1/70		
± .005 ± 1/64 ± 0°30'	PROD. K. Peterson	DATE 12/1/70		
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY		SIZE CODE	NUMBER
FINISH	SCALE		DBSFPPI2-0-CAR8	REV.
	SHEET 1 OF 1		DIST.	

I/O BUS



* NOTE: REPLACE MIΦ1 WITH MIΦ0 WHEN USING NEG BUS

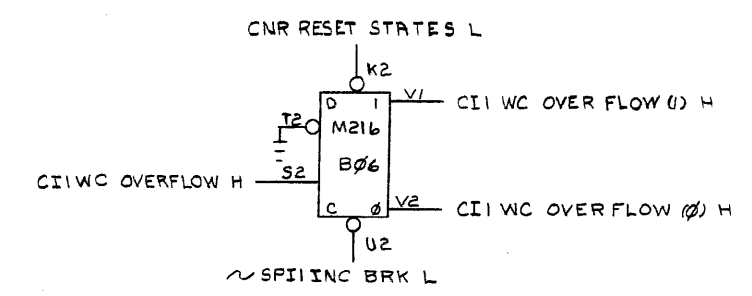
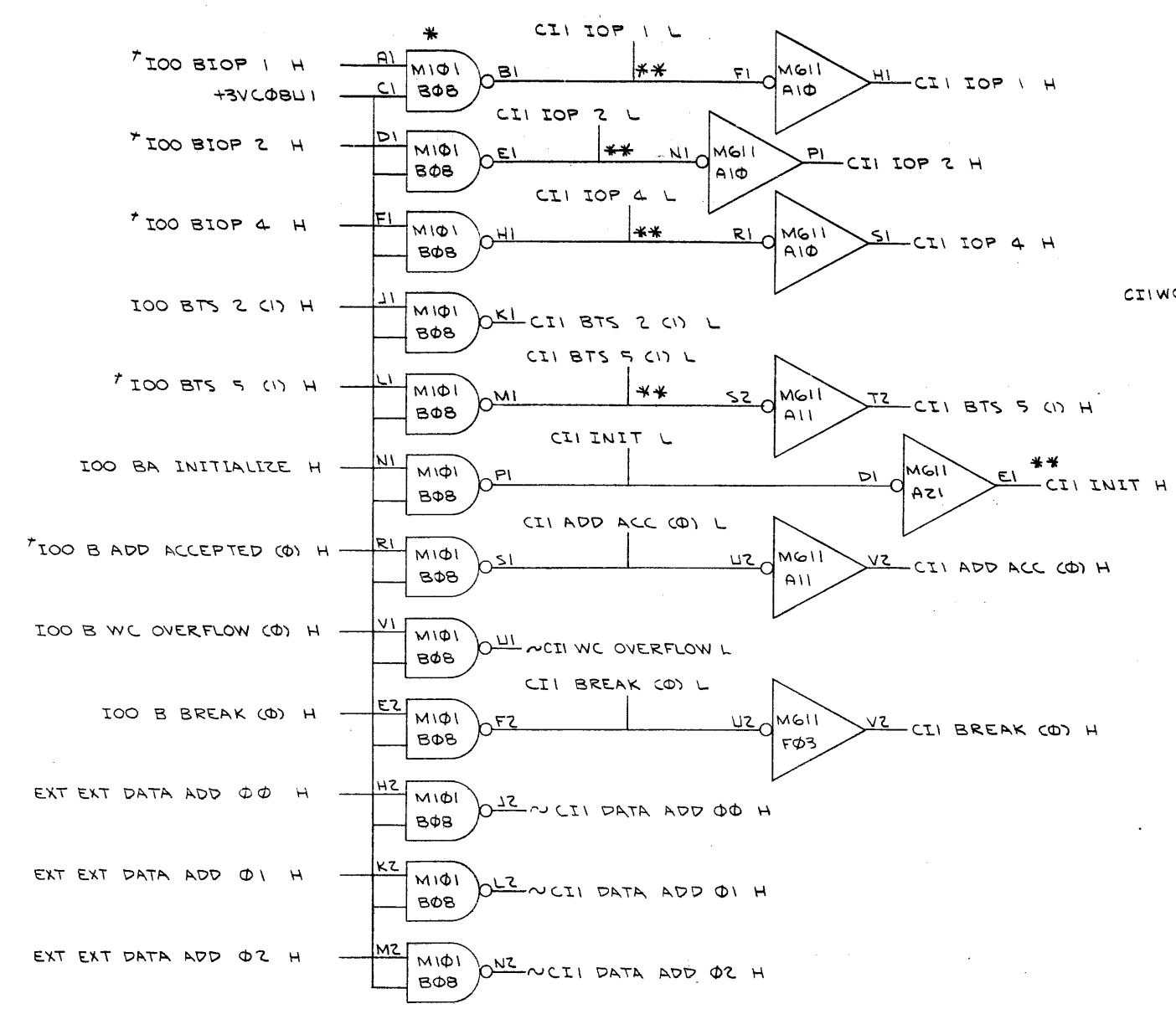
REV	CHANGE NO.	DATE	BY	CHK'D
A	0003			
B	0005			
C	0007			
D	0008			
E	0011			
F	0012			
G	0013			
H	0014			

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS	FRACTIONS	ANGLES		
= .005	= 1/64	= 0°30'		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE				
SHEET 1 OF 2				

PARTS LIST	
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TITLE COMPUTER INTERFACE I	
SIZE CODE DBS FPP12-0-C11	NUMBER 2
REV E	

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I/O BUS



* REPLACE MI01 WITH MI00 WHEN USING NEG BUS.
 ** ON THE NEG BUS, THE COMPLEMENT IS USED. MAKE THESE CHANGES: (FPP12-N)

CII IOP 1 H	C01M2 - E01M2	DEL
CII IOP 1 H	A10H1 - C01M2	DEL
CII IOP 1 H	C01M2 - E01M2	ADD
CII IOP 1 H	C01M2 - A10F1	ADD
CII IOP 2 H	C01N2 - E01N2	DEL
CII IOP 2 H	C01N2 - A10P1	DEL
CII IOP 2 H	C01N2 - E01N2	ADD
CII IOP 2 H	C01N2 - A10N1	ADD
CII IOP 4 H	C01P2 - E01P2	DEL
CII IOP 4 H	C01P2 - A10S1	DEL
CII IOP 4 H	C01P2 - E01P2	ADD
CII IOP 4 H	C01P2 - A10R1	ADD
CII INIT L	B31P2 - A21D1	DEL
CII INIT H	B31P2 - A21E1	ADD
CII ADD ACC (1) L	A11V2 - D04D1	DEL
CII ADD ACC (1) L	D04D1 - D30N1	DEL
CII BTS 05 (1) L	D30N1 - A11S2	ADD
CII BREAK (0) H	D04D1 - F03Y2	ADD

* PLACE RESISTOR/CAPACITOR TYPE TERMINATORS AT THESE POINTS TO GROUND WHEN FPP12 IS ON A PDP8 OR UNC 8 BUS.

REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL
FPP12

DO NOT SCALE DRAWING	UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES	TOLERANCES
DECIMALS	FRACTIONS
ANGLES	ANGLES
FINAL SURFACE QUALITY	REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL	
FINISH	

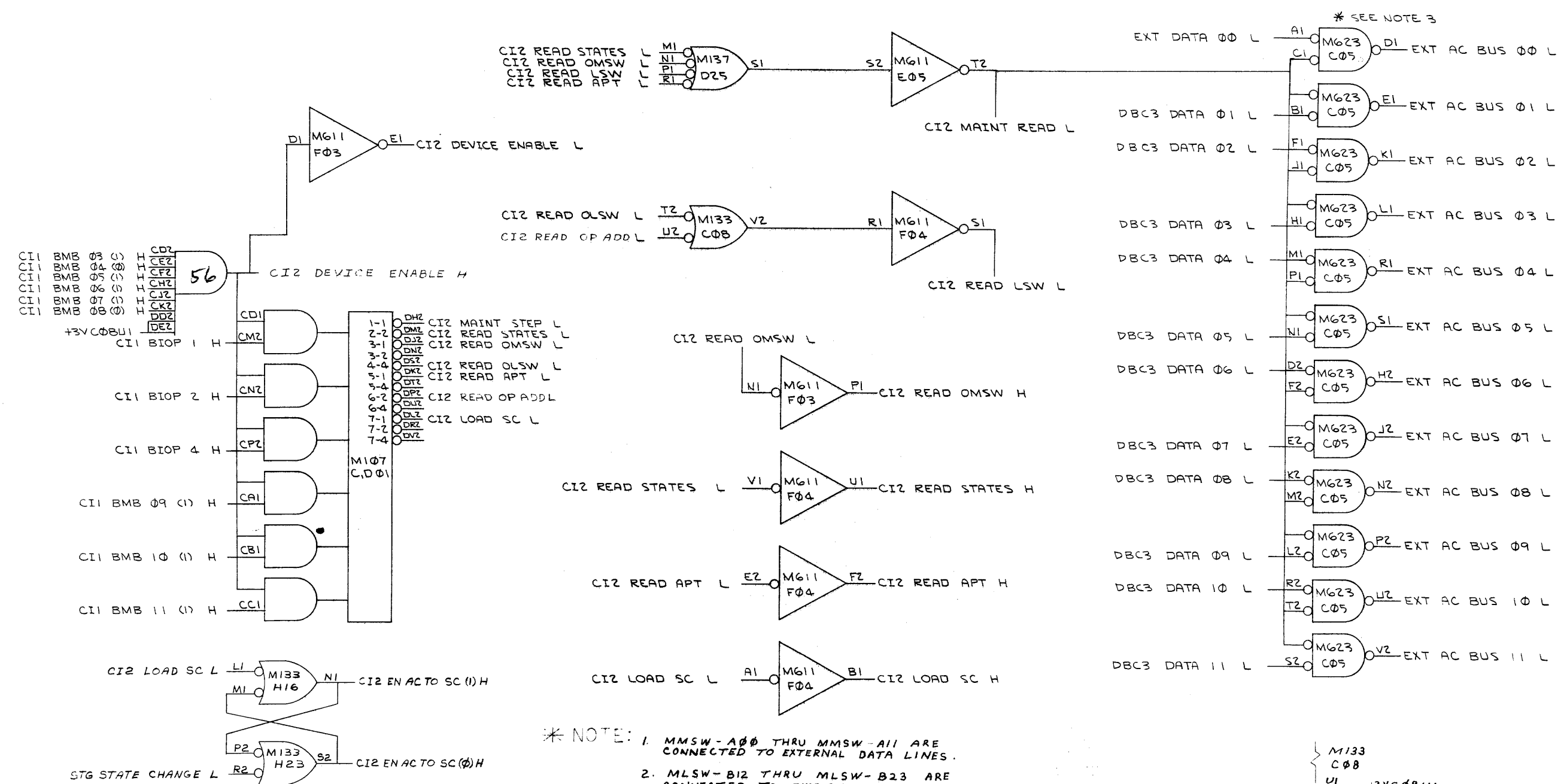
QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
DRN	W. MAJOR	DATE 10/1/70	
CHK'D	W. MAJOR	DATE 2/11/70	
ENG	J. JACOBS	DATE 12/1/70	
PROJ. ENG.	J. JACOBS	DATE 12/1/70	
PROD.		DATE 12/1/70	
NEXT HIGHER ASSY A-M-L-FPP12-0			
SCALE		SIZE CODE	NUMBER
SHEET 2 OF 2		DIST	REV. E

digital EQUIPMENT CORPORATION
 MAYNARD, MASSACHUSETTS

TITLE
COMPUTER INTERFACE I

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MAINT. IOT'S



- * NOTE:
1. MMSW-A00 THRU MMSW-A11 ARE CONNECTED TO EXTERNAL DATA LINES.
 2. MLSW-B12 THRU MLSW-B23 ARE CONNECTED TO EXTERNAL DATA LINES.
 3. REPLACE M623 WITH M633 WHEN USING NEG BUS.

M133
C08
U1 +3VCC8U1

REV.	CHG. NO.	DATE
A	0007	9-7-71
		9-8-71

FIRST USED ON OPTION/MODEL
FPP12

DO NOT SCALE DRAWING	UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES	DECIMALS FRACTIONS ANGLES
±.005	± 1/64 ± 0°30'
REMOVE BURRS AND BREAK SHARP CORNERS	
MATERIAL	FINISH


QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
DRN. W. MAJOR		DATE 9/10/70	
CHK'D. W. MAJOR		DATE 12/1/70	
ENG. J. Seale		DATE 12/1/70	
PROJ. ENG. J. Seale		DATE 12/1/70	
PROD. R. Peterson		DATE 12/1/70	TITLE
NEXT HIGHER ASSY			MAINTENANCE IOT CONTROL
A-ML-FPP12-0		SIZE CODE	NUMBER
SCALE ++		D B S F P P 1 2 - 0 - C I 2	REV A
SHEET 1 OF 2		DIST.	

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MAINT. JOT'S

W130/ W131
A05

BI	+8V	
CI	DBC2 DATA ADD 00 L	(TRAPS)
HI	CNR EXECUTE FLOP (1) H	(BSR3)
NI	STG CT 1 H	(TST1)
SI	CAR7 FPIR 00 (1) H	(ISR0)
VI	STG CT 2 H	(TST2)
DZ	CNR EXIT FLOP (1) H	(BSR14)
EZ	CNR FETCH FLOP (1) H	(BSR1)
HZ	CT3 INT REQ (1) H	(BSR12)
JZ	DBC1 REQ BRK CYCLE (1) H	(BSRB)
KZ	STG CT 0 H	(R/W)
LZ	CNR PROCESS FLOP (1) H	(BSR7)
MZ	CAR7 FPIR 01 (1) H	(ISR1)
NZ	CNR DEPOSIT FLOP (1) H	(BSR15)
PZ	STG CT 3 H	(ISR2)
RZ	CNR INITIATE FLOP (1) H	(BSR0)
TZ	DBC2 DATA ADD 01 H	(MSYN)
UZ	DBC2 DATA ADD 02 H	(SSYN)
FZ	CAR7 FPIR 02 (1) H	(ISR3)
E1	CAR7 FPIR 03 (1) H	(ISR7)
R1	CAR7 FPIR 04 (1) H	(ISR15)
K1	CAR7 FPIR 05 (1) H	(ISR14)
S2	CAR7 FPIR 06 (1) H	(ISR12)
M1	CAR7 FPIR 07 (1) H	(ISR0)
L1	CAR7 FPIR 08 (1) H	(N)
E1	CAR7 FPIR 09 (1) H	(N)
F1	CAR7 FPIR 10 (1) H	(V)
D1	CAR7 FPIR 11 (1) H	(C)
L1	CAR8 SRO (1) H	(T)

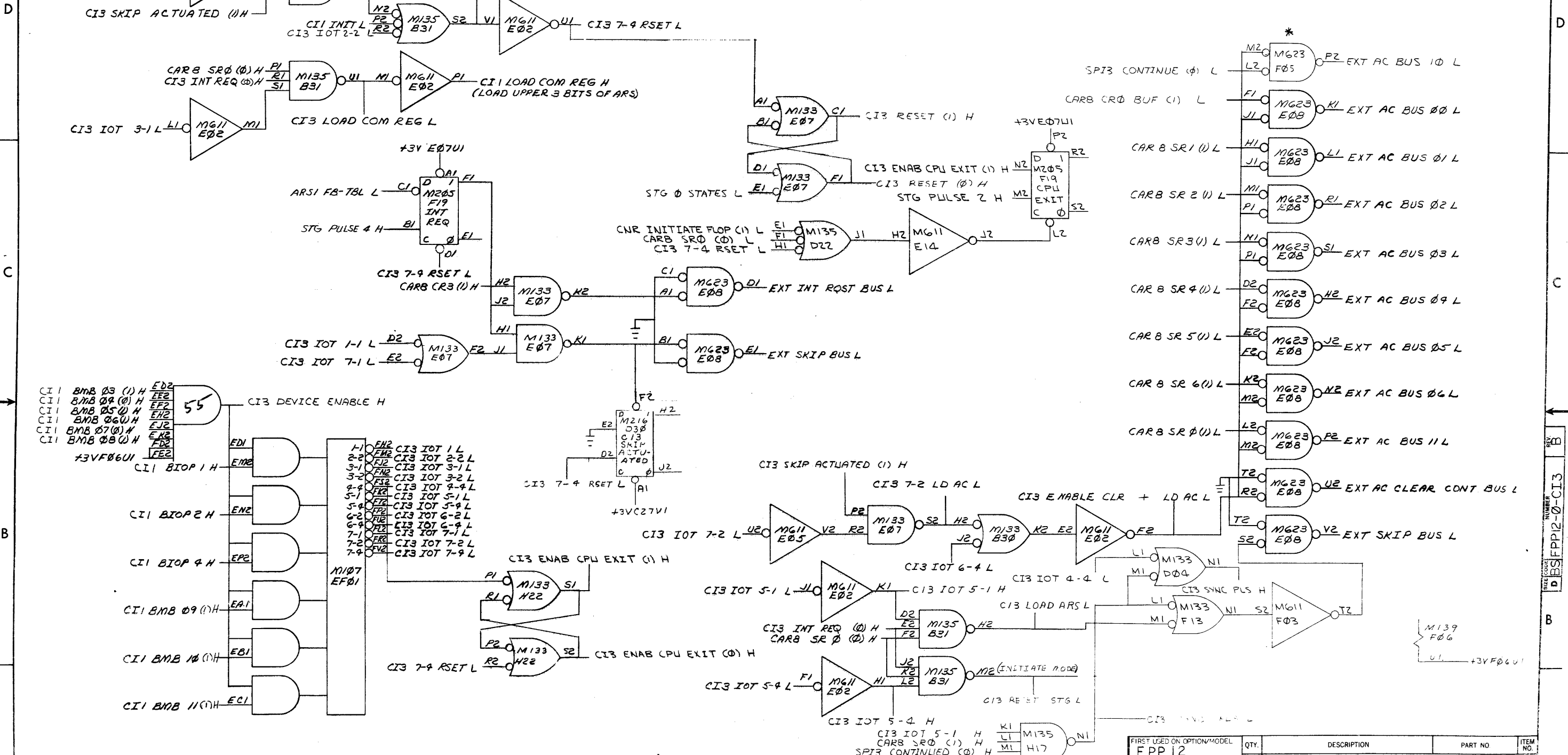
FIRST USED ON OPTION / MODEL FPP12	QTY.	DESCRIPTION	PART NO	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. W.MAJOR	DATE 11/19/70	 digital EQUIPMENT CORPORATION <small>WAYNARD, MASSACHUSETTS</small>	
UNLESS OTHERWISE SPECIFIED	CHK'D. W.Major	DATE 12/1/70		
DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'				
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL: / / NEXT HIGHER ASSY A-ML-FPP12-0				
FINISH: / /	SCALE	SHEET 2 OF 2	SIZE CODE D BS FPP12-0-C12	NUMBER 1
		DIST.	REV A	

REV	
CHANGE NO.	
CHK	

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IOT DECODE

* NOTE: REPLACE M623 WITH M633 WHEN USING NEG. BUS.



REV.	CHANGE NO.	DATE	BY	CHK.
1	00003	A		
2	00004	B		
3	00005	B		

TEACHER
TEACHER
TEACHER

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				

UNLESS OTHERWISE SPECIFIED		DRN	DATE
UNLESS OTHERWISE SPECIFIED	DIMENSION IN INCHES	W. Kibart	5-11-70
TOLERANCES		W. Major	12-11-70
DECIMALS	FRACTIONS	ENG. J. Decker	12-11-70
± .005	± 1/64	PRJ. ENG. J. Decker	12-11-70
	± 0°30'	PROD. J. Peterson	12-11-70
	FINAL SURFACE QUALITY		
	REMOVE BURRS AND BREAK SHARP CORNERS		

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: IOT CONTROL

MATERIAL: A-ML-FPP12-0

FINISH: NONE

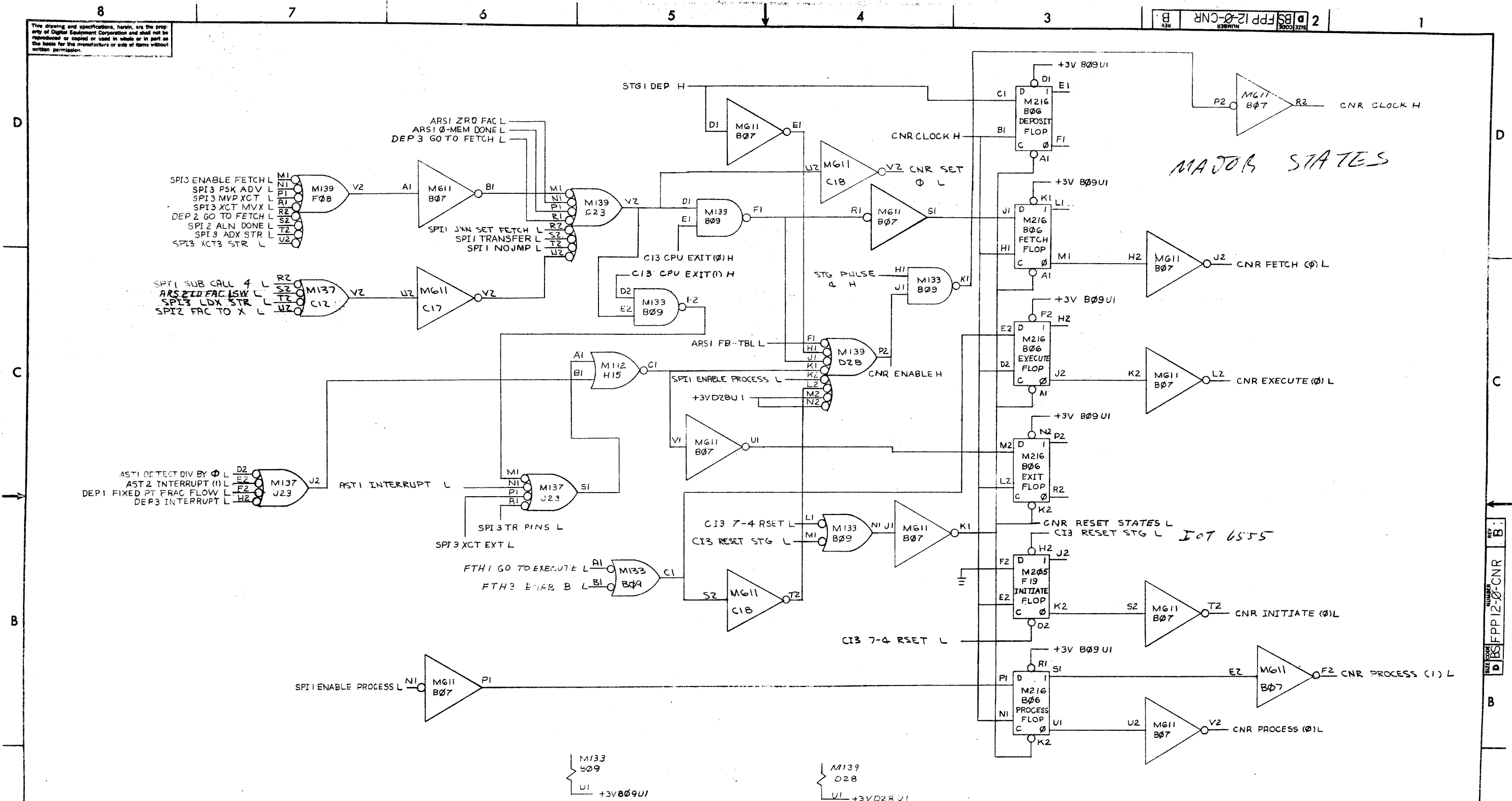
SCALE: NONE

SHEET: 1 OF 1

DIST: DBS FPP12-0-CI3

REV: B

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MAJOR STATES

IOT 6555

M133 509 UI +3VB09UI
M139 028 UI +3VD28UI

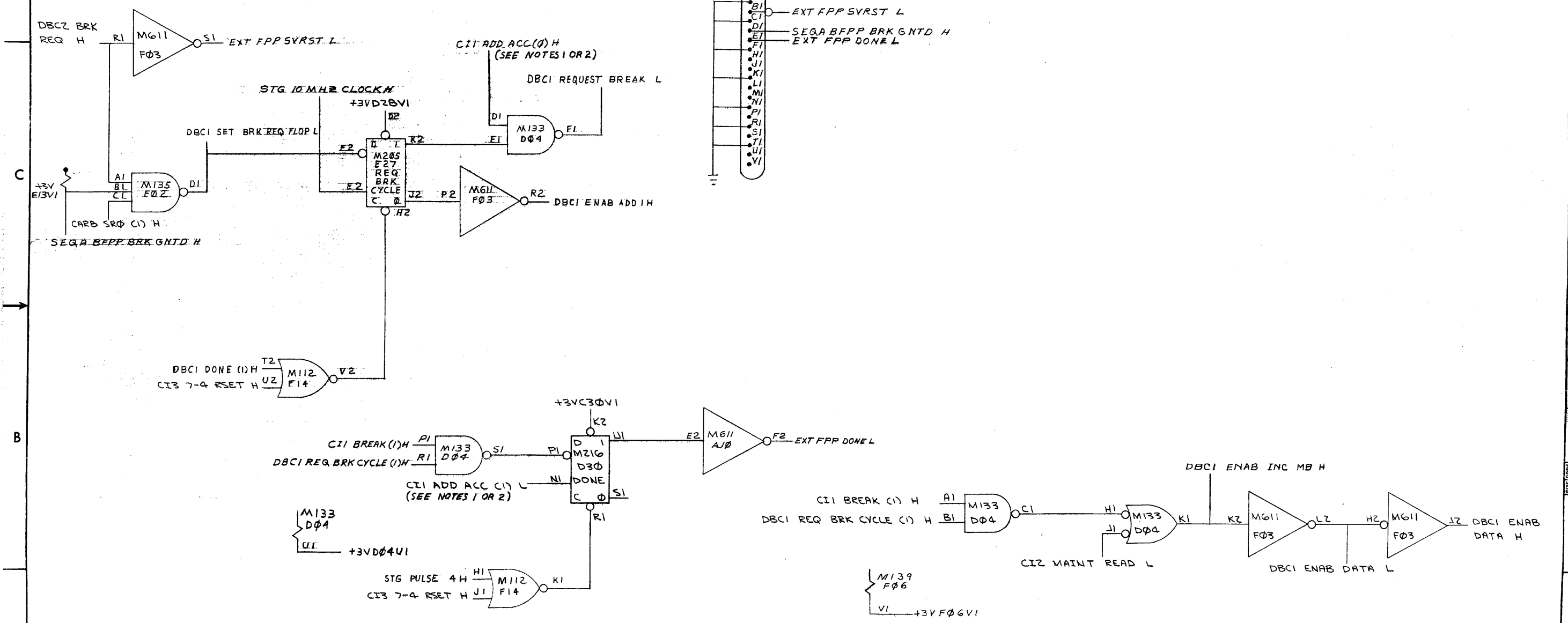
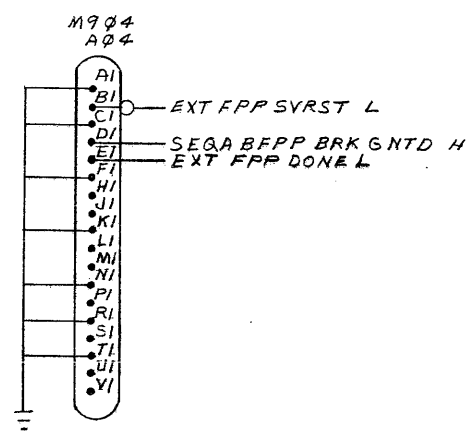
REV	DATE	BY	CHK
A	8-3-70	W. J.
B	10-30-70
C	11-2-70
D	1-21-71

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED: DRN. V. B. ... DATE 8-3-70				
UNLESS OTHERWISE SPECIFIED: DIMENSION IN INCHES: TOLERANCES: DECIMALS FRACTIONS ANGLES ± .008 ± .125 ± .030				
MATERIAL: FINISH: NEXT HIGHER ASSY: L-ML-FPP12-0				
SCALE: NONE SHEET 1 OF 1				
TITLE: MAJOR STATE CONTROL				
SIZE CODE: D BS FPP12-0-CNR NUMBER: REV: B				

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NOTES:
 1. ON PDP-B POS. BUS COMPUTERS MAKE THE FOLLOWING CHANGES (FPP12-B)
 CI1 ADD ACC (1) L - A1V2 - D04D1 DEL D30N1 - D04D1 DEL
 CI1 BTS 05 (1) H - D30N1 - A1I2 ADD
 CI1 BREAK (0) H - D04D1 - F03V2 ADD
 2. ON PDP-B NEG. BUS COMPUTERS REPLACE "CI1 ADD ACC (0) H" WITH "CI1 BREAK (0) H". SEE ADD/DEL ON CI1 PRINT.

THE CABLE BELOW IS USED IN LIEU OF A DATA BREAK MULTIPLEXER (DM04) IN SYSTEMS WITH AN FPP AND AIP. GOES TO SLOT 032 IN AIP.



REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
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REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
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D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
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D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
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C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
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E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
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B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
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B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
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REV.	CHANGE NO.	REV.
A	FPP12-00003	A
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D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
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C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
A	FPP12-00003	A
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D	FPP12-00011	D
E	FPP12-00013	E
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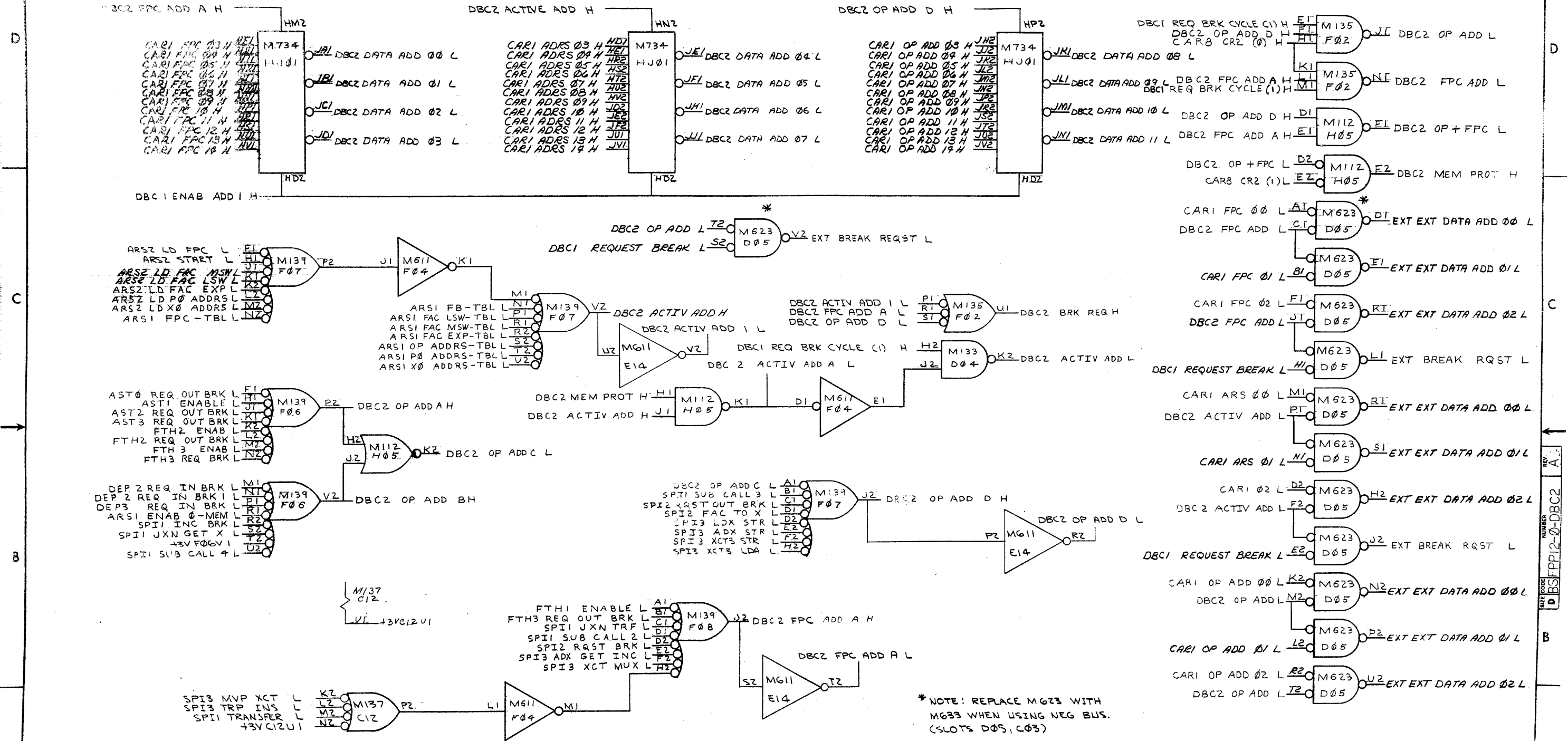
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D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
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B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
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B	FPP12-00005	B
C	FPP12-00006	C
D	FPP12-00011	D
E	FPP12-00013	E
F	FPP12-00014	F

REV.	CHANGE NO.	REV.
------	------------	------

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* NOTE: REPLACE M623 WITH M633 WHEN USING NEG BUS. (SLOTS D05, C03)

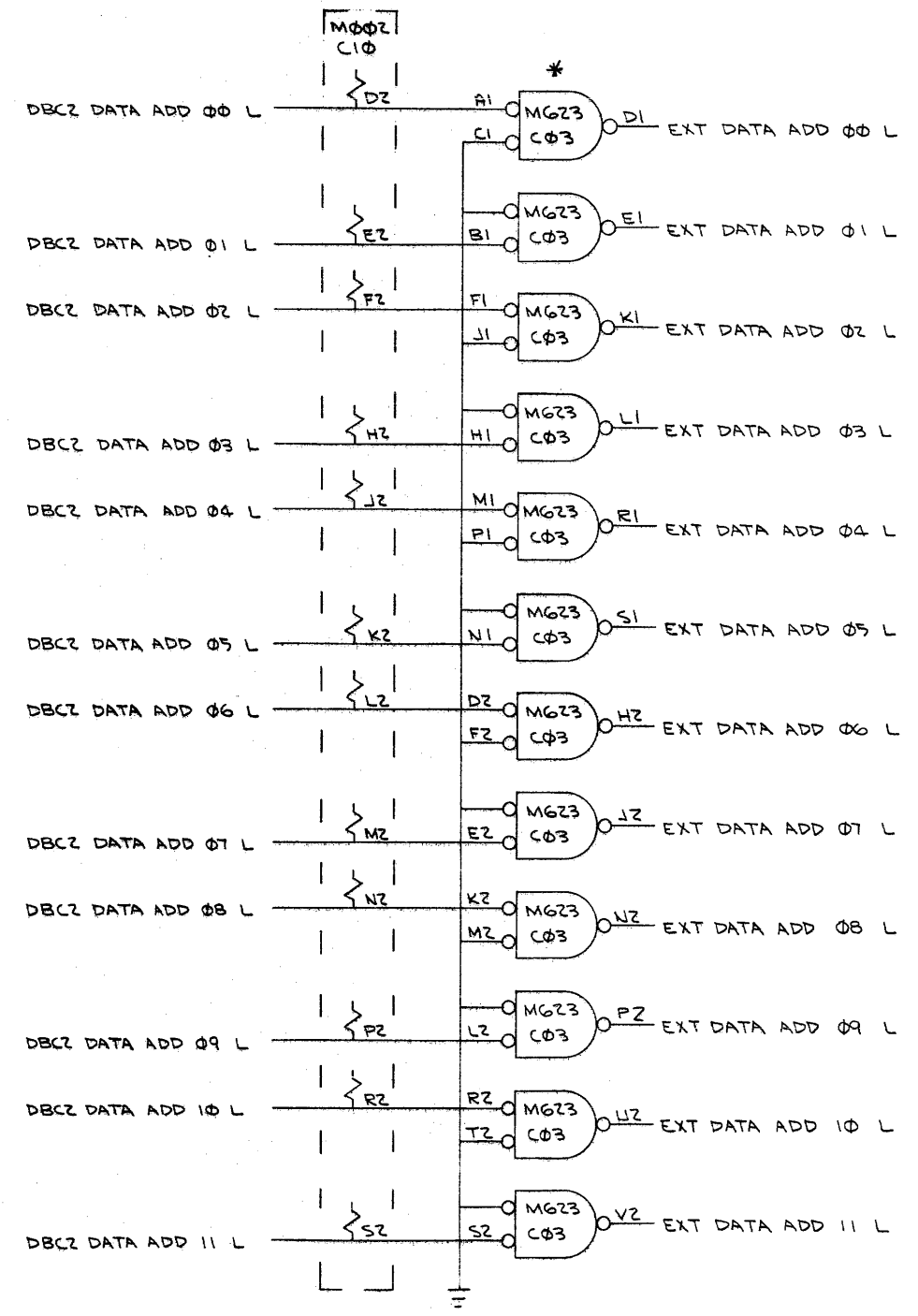
REV.	CHANGE NO.	DATE	BY	CHK
A	FPP12-00014	9-18-73	R. TIKNAN	

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		
	UNLESS OTHERWISE SPECIFIED		
	UNLESS OTHERWISE SPECIFIED		
	DIMENSION IN INCHES		
	TOLERANCES		
	DECIMALS FRACTIONS ANGLES		
	± 0.05 ± 1/64 ± 0°30'		
	FINAL SURFACE QUALITY		
	REMOVE BURRS AND BREAK SHARP CORNERS		
	MATERIAL		
	NEXT HIGHER ASSY		
	A-ML-FPP12-0		
	SCALE NONE		
	SHEET 1 OF 2		
	FINISH		
	SIZE CODE NUMBER REV		
	DBS/FPP12-0-DBC2 A		

REV. A.1

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REV. 2
 NUMBER DBS FPP12-0-DBC2
 SIZE CODE A

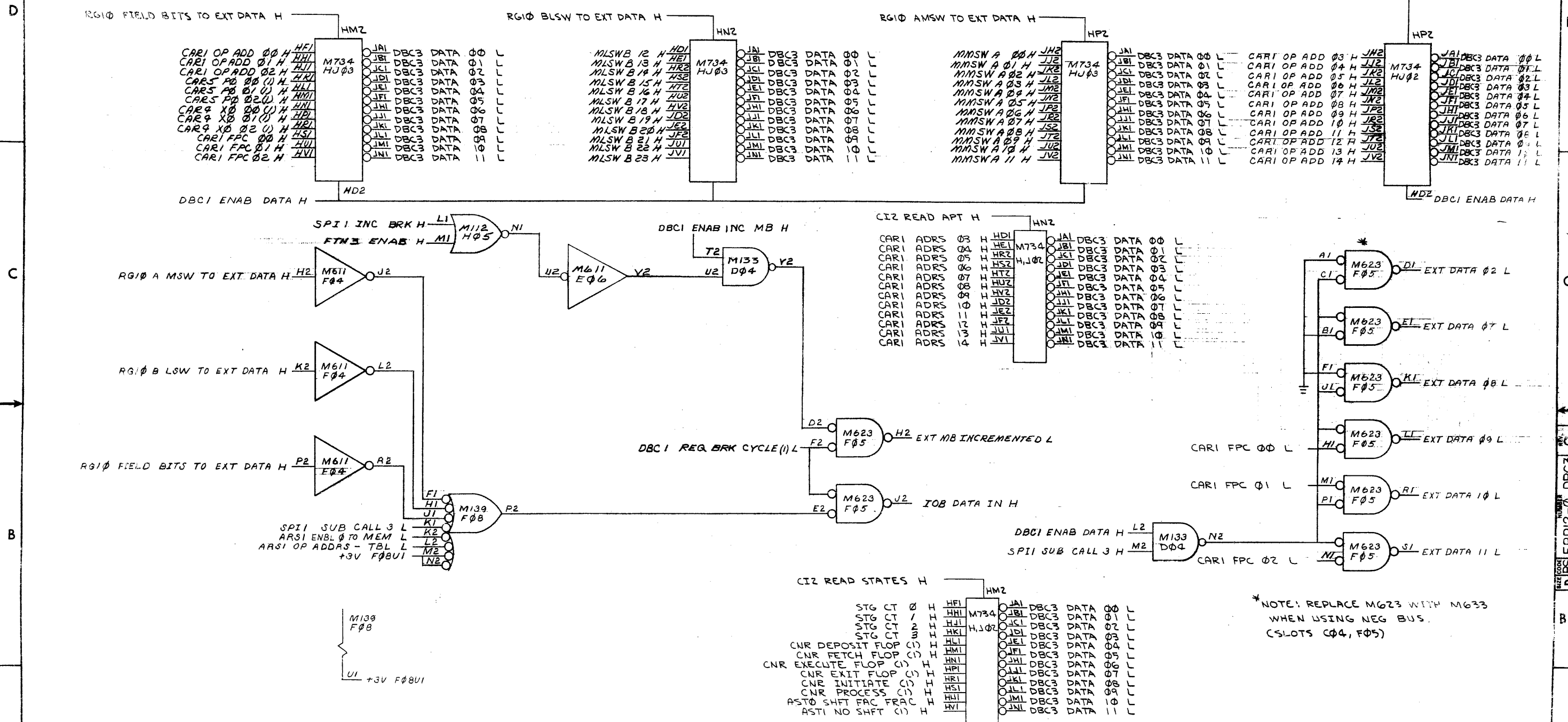


FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. W. MAJOR	DATE 10/29/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. W. MAJOR	DATE 10/30/70		
TOLERANCES		DATE 10/28/70	TITLE DATA BREAK ADD MUX	
DECIMALS ± .005	FRACTIONS ± 1/64	ANGLES = 0°30'		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	PROD. R. Peterson	DATE 11/27/70	NEXT HIGHER ASSY A-ML-FPP12-0	
FINISH	SCALE	SHEET 2 OF 2		
SIZE CODE		NUMBER	REV.	
DBS FPP12-0-DBC2		A		
DIST.				

REV.	
CHANGE NO.	
CHK	

DEC FORM NO. DRD 102A

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REV	CHANGE NO.	DATE	BY
A	00005		

REV	DESCRIPTION
A	5-20-71
B	5-20-71
C	5-24-71
D	5-24-71
E	5-24-71

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
UNLESS OTHERWISE SPECIFIED				
DRN. DATE 6-4-70		DATE 6-4-70		
CHK'D. DATE 10-20-70		DATE 10-20-70		
ENG. DATE 11-5-70		DATE 11-5-70		
PROJ. ENG. DATE 11-20-70		DATE 11-20-70		
PROD. DATE 12-1-70		DATE 12-1-70		
MATERIAL				
NEXT HIGHER ASSY				
SCALE NONE				
SHEET 1 OF 2				

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

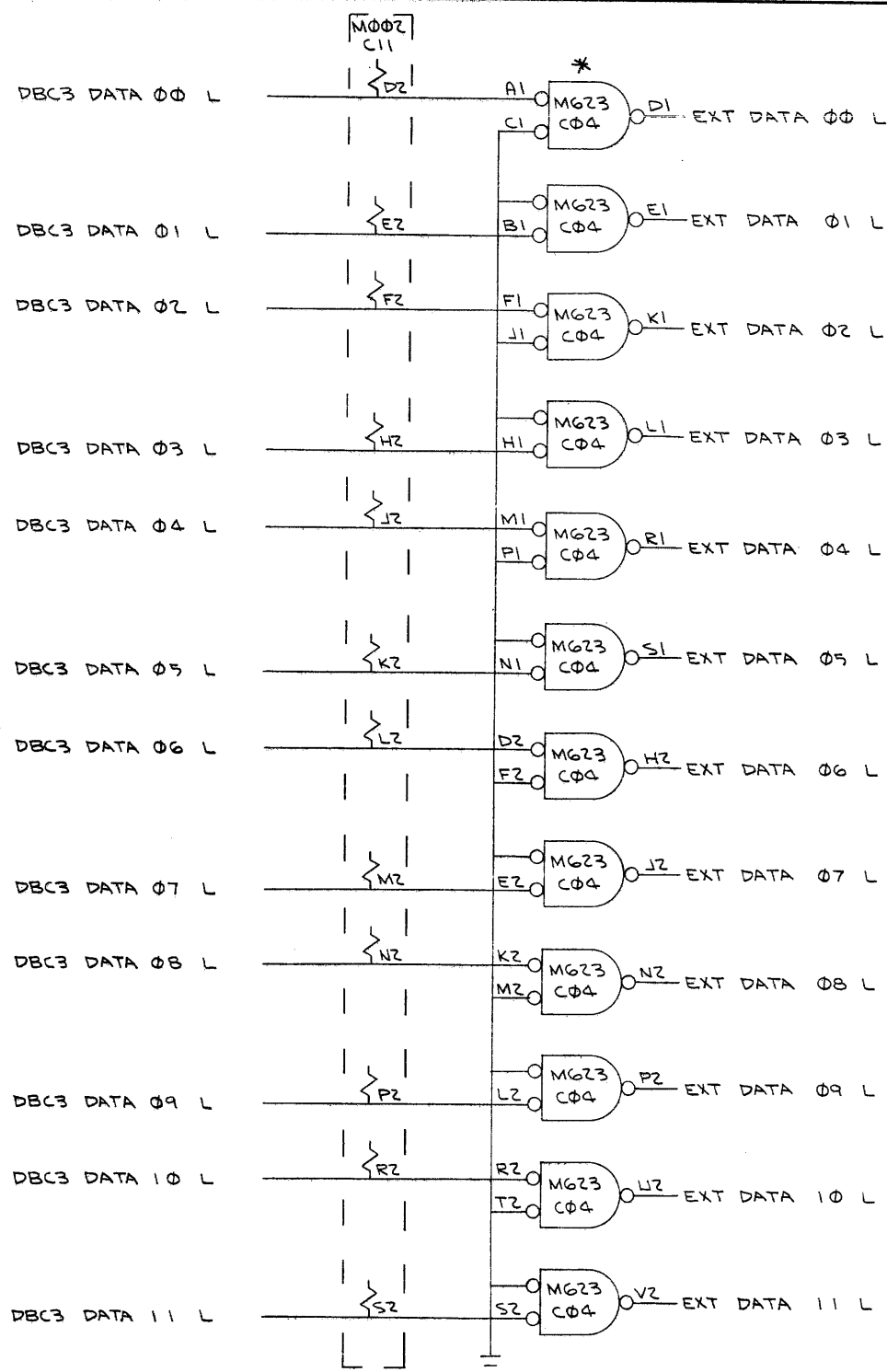
DATA MUX

SIZE CODE DBS FPP12-0-DBC3
NUMBER
REV. C

REV 0000 FPP12-0-DBC3

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REV. C
 NUMBER DBC3
 SIZE CODE
 BS FPP12-0-DBC3
 2
 1



D
 C
 B
 A

D
 C
 B
 A

REV.	
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL
 FPP 12

DO NOT SCALE DRAWING
 UNLESS OTHERWISE SPECIFIED
 DIMENSION IN INCHES
 TOLERANCES
 DECIMALS FRACTIONS ANGLES
 ± .005 ± 1/64 = 0°30'
 FINAL SURFACE QUALITY /
 REMOVE BURRS AND BREAK SHARP
 CORNERS
 MATERIAL
 FINISH

DRN.	W. MAJOR	DATE	10/20/70
CHK'D.	W. MAJOR	DATE	10/30/70
ENG.	J. DEWIS	DATE	10/30/70
PROJ. ENG.	J. DEWIS	DATE	10/30/70
PROD.	R. PETERSON	DATE	12/1/70

PARTS LIST	
QTY.	DESCRIPTION
	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TITLE DATA MUX	
SIZE CODE	NUMBER
D	BS FPP12-0-DBC3
SCALE	REV. C
SHEET 2 OF 2	DIST.

REV. C
 NUMBER DBC3
 SIZE CODE
 BS FPP12-0-DBC3

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DEP1 ARITH OVERFLOW (0)H
 ~ ID2 RESULTS TO MEM H
 STG ST 11 H

M135 B27 UI DEP1 GO TO ST14 L
 (0 → FAC FRAC)

STG ST 11 H AI
 CRIB CR0 C1) H BI

M133 B26 CI DEP1 ADVANCE L
 DEP1 ENAB SHFT 0 L
 (ENAB DEC SC)

STG ST 11 H I2
 CRIB CR0 C1) H U2
 ~ ATZ NORMALIZED H V2

M135 B31 VI

STG ST 11 H AI
 CRIB CR0 C1) H BI
 ATZ NORMALIZED H CI

M135 B27 DI DEP1 NORMALIZE DONE L
 (ADVANCE)
 DEP1 OP SIGN NEG L
 (NO OVFL0 POSSIBLE)

STG ST 11 H EI
 STG MINI STATE 1 BUF H HI
 ANSW OUT 00 H HI

M135 B27 JI

M133 B26 KI DEP1 CHECK FOR FLOW (0)H

M133 B26 K2 DEP1 CHECK FOR FLOW (0)H
 ~ STG STATE 11 L U2

STG ST 12 H PI
 ~ ID2 RESULTS TO MEM H RI

M133 B26 SI DEP1 GO TO ST14 AL
 (QUALIFIES ADVANCE)

STG ST 12 H P2
 STG MINI STATE 1 BUF H R2

M133 B26 S2 DEP1 0-B SHIFT TO LSB L
 (0 → B0)

STG ST 12 H T2
 STG MINI STATE 2 BUF H U2

M133 B26 V2 DEP1 B-0 L

STG ST 11 H DI
 STG MINI STATE 1 BUF H EI

M133 B26 F1 DEP1 0-A L

STG ST 11 H D2
 STG MINI STATE 2 BUF H E2

M133 B26 F2 DEP1 ST 11 A+B TO 0 L
 (0-(25) → CARRY INSERT)

STG ST 11 H KI
 CRIB CR0 C1) H LI
 DEP1 ARITH OVERFLOW (0)H MI

M135 B27 NI DEP1 FIXED PT FRAC FLOW L
 (INTERRUPT)

DEP1 GO TO ST 14 L N2
 ~ STG ST 11 L P2
 DEP1 ARITH OVERFLOW (0) L R2

M135 A32 S2 DEP1 GO 13 H

STG ST 11 H AI
 DEP1 CHECK FOR FLOW (0)H BI
 ANSW OUT 00 H CI
 STG STATE 3 H DI

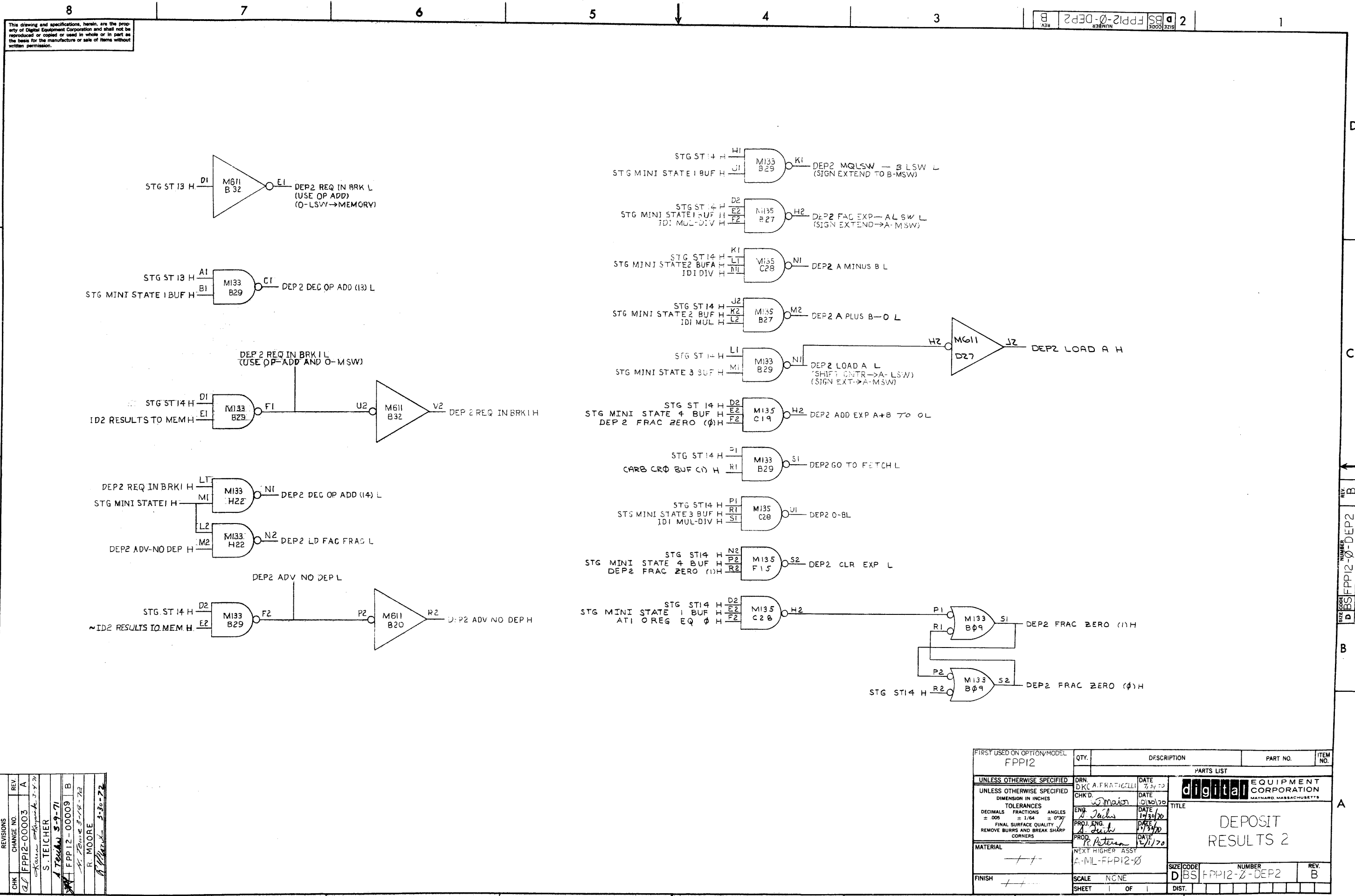
M137 B28 EI

M133 B26 LI DEP1 ARITH OVERFLOW (0)H
 M1
 M133 B26 N2 DEP1 ARITH OVERFLOW (0)H
 ~ STG ST 11 L M2

REV.	
CHANGE NO.	
CHK	

FIRST USED ON OPTION MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD.	DATE	TITLE	
TOLERANCES	ENG.	DATE	DEPOSIT RESULTS I	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	SIZE CODE NUMBER REV.	
± .005 ± .1/64 ± 0°30'	PROD.	DATE	A-ML-FPP12-0	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	NEXT HIGHER ASSY.			
MATERIAL	SCALE NONE			
FINISH	SHEET 1 OF 1			
DIST.		D BS FPP12-0-DEP1		

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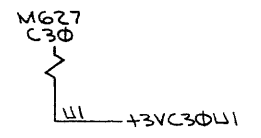
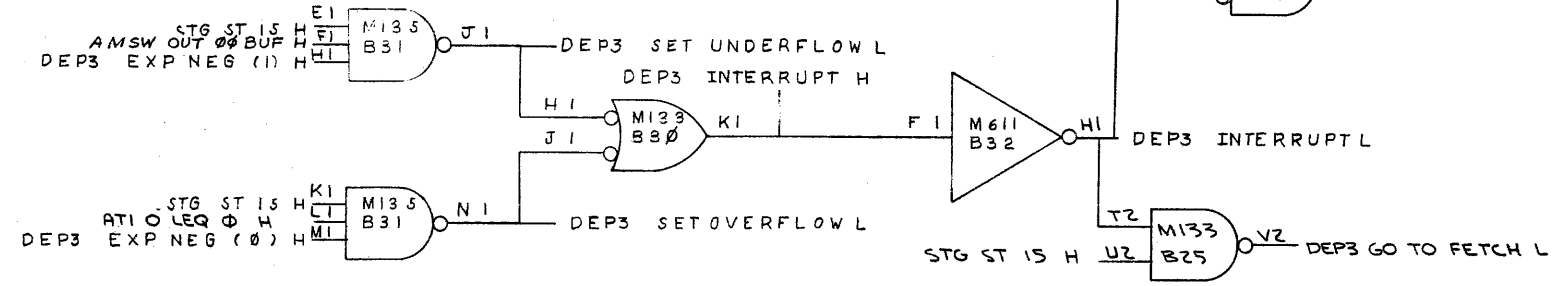
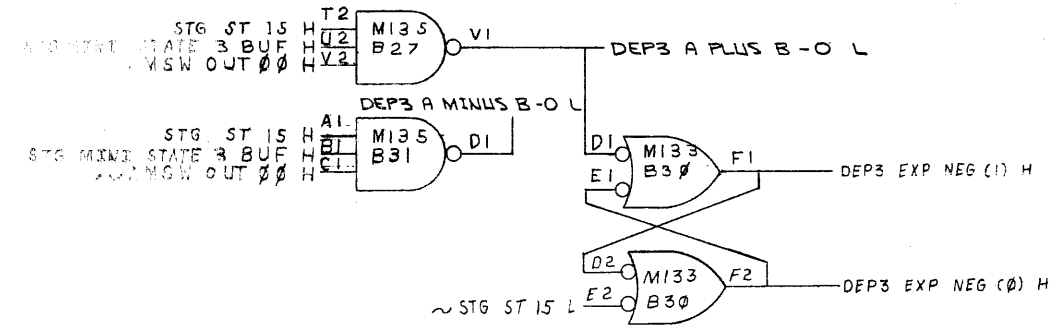
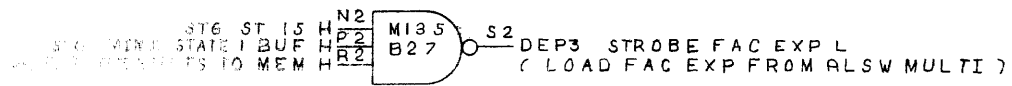
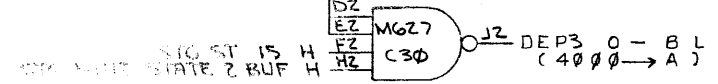
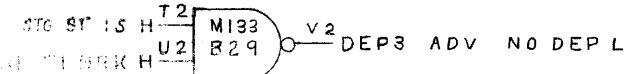
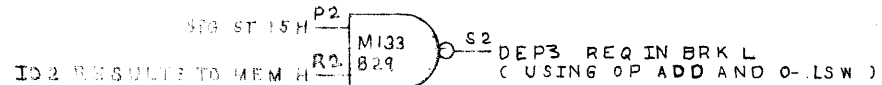


REV	CHG	NO	DATE
A	1	1	7-31-70
B	1	1	10-30-70
C	1	1	11-17-70
D	1	1	12-11-70

S. TEICHER
 F. MOORE
 3-9-71
 3-18-72
 3-30-72

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
UNLESS OTHERWISE SPECIFIED				
DRN	DATE	PARTS LIST		
DKC A-FRATICLLI	7-31-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
CHKD	DATE	TITLE		
W. MAISON	10-30-70	DEPOSIT RESULTS 2		
ENG	DATE	MATERIAL		
S. JACHS	10-30-70	NEXT HIGHER ASSY		
PROJ. ENG.	DATE	SCALE NCNE		
A. DUBI	11-17-70	SHEET OF		
PROP.	DATE	DIST.		
P. PETERSON	12-11-70	SIZE CODE NUMBER REV		
		D BS FPP12-Z-DEP2 B		

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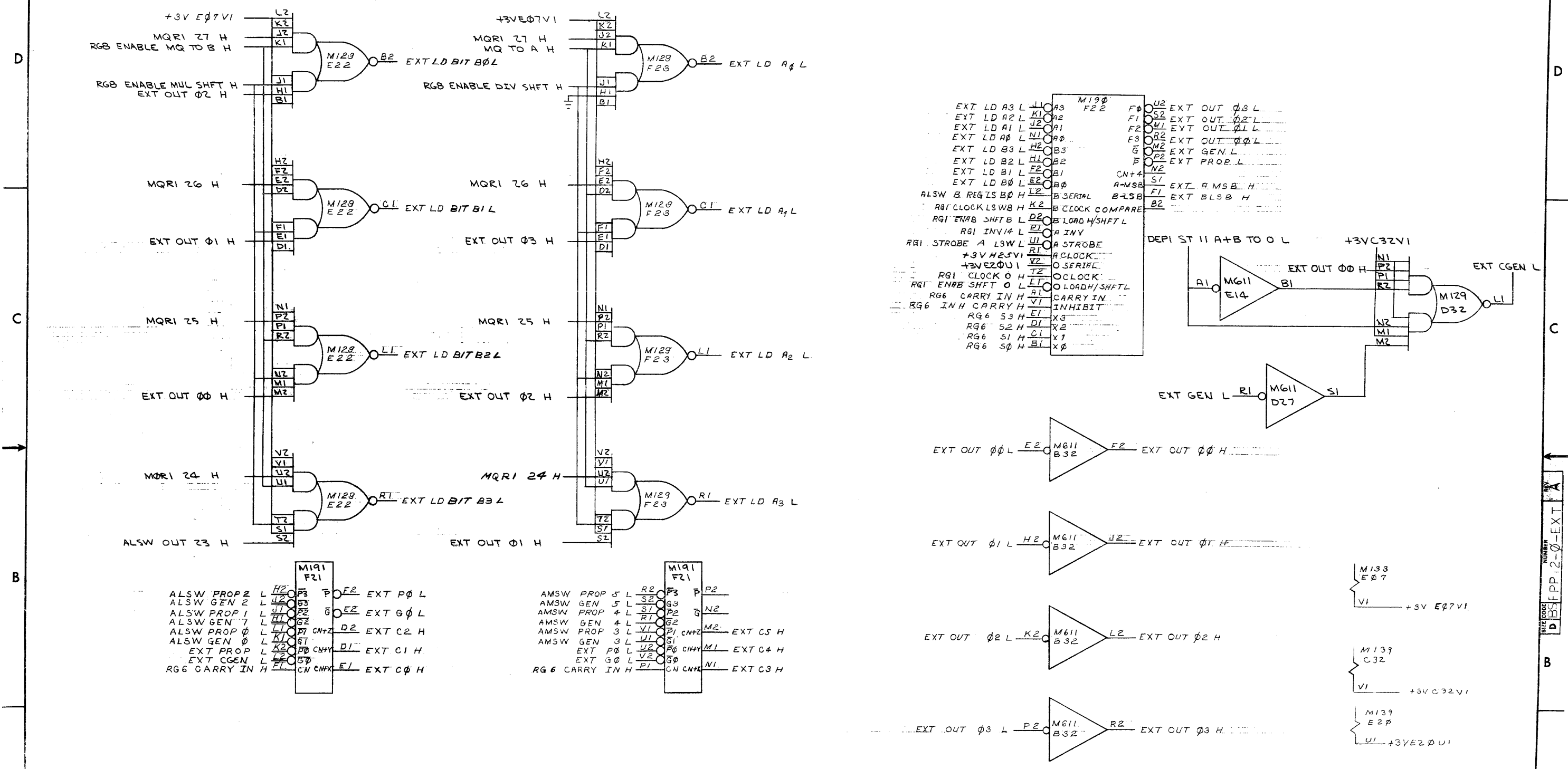


REV.	CHG.	NO.	DATE
1	1	1	1/15/71
2	1	1	2/15/71

FIRST USED ON OPTION / MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED	DRM: GISE	DATE: 1-31-70	PARTS LIST	
UNLESS OTHERWISE SPECIFIED	CHKD: W. Major	DATE: 11/10/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES	ENG: J. Neils	DATE: 10/20/70	TITLE	
DECIMALS = .005	PROJ. ENG: J. Neils	DATE: 10/20/70	DEPOSIT RESULTS 3	
FRACTIONS = 1/64	PROP: R. Peterson	DATE: 12/1/70	SIZE CODE	
ANGLES = 0°30'	MATERIAL	DATE: 12/1/70	NUMBER	
FINAL SURFACE QUALITY	FINISH	DATE: 12/1/70	REV.	
REMOVE BURRS AND BREAK SHARP CORNERS	SCALE	DATE: 12/1/70	D B S F P P 1 2 - 0 - D E P 3 A	
	FINISH	DATE: 12/1/70	DIST.	
	SHEET	OF		

REV. A
NUMBER
D B S F P P 1 2 - 0 - D E P 3

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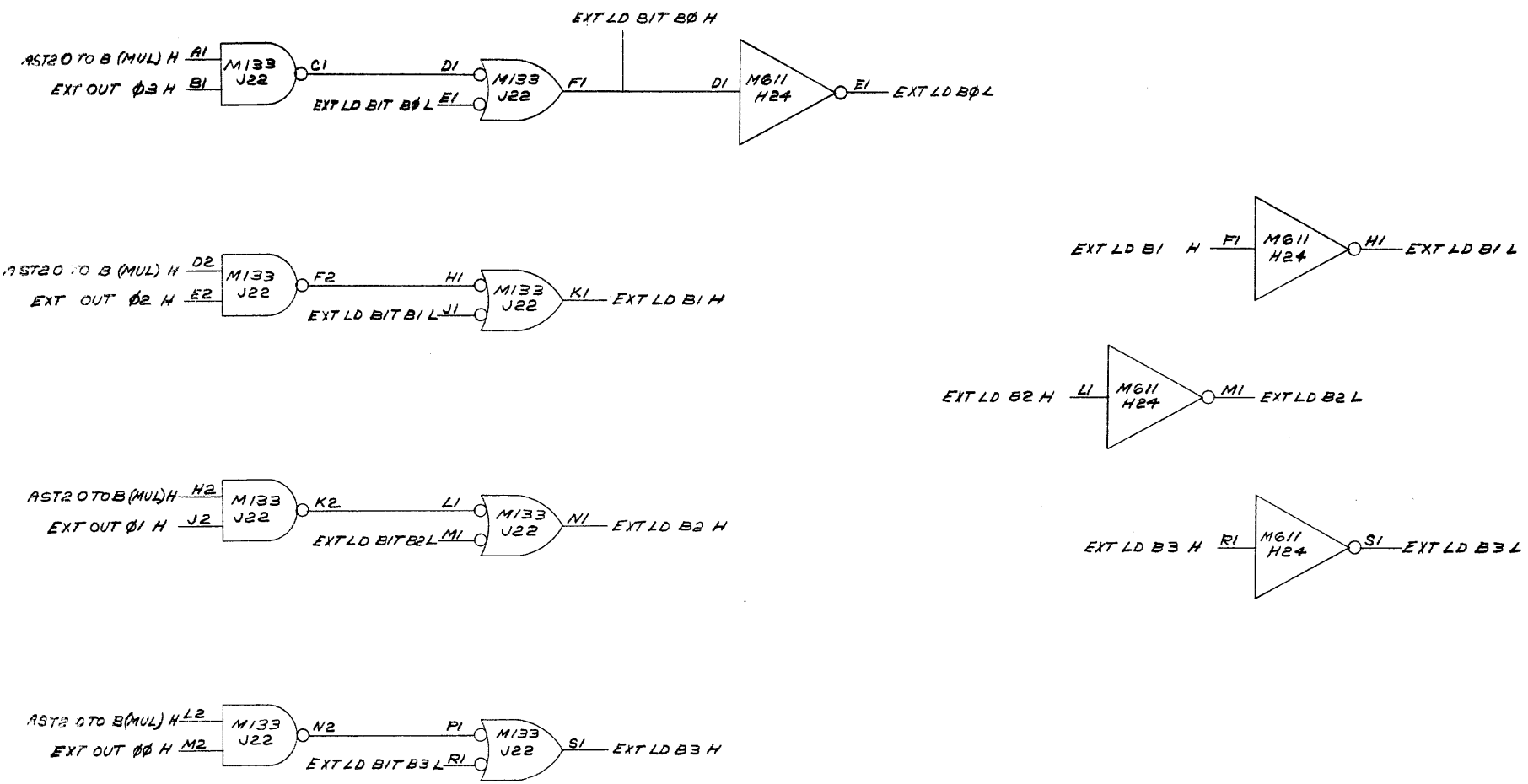


EXT LD A3 L	U1	A3	F0	U2	EXT OUT 03 L
EXT LD A2 L	K1	A2	F1	S2	EXT OUT 02 L
EXT LD A1 L	J2	A1	F2	M1	EXT OUT 01 L
EXT LD A0 L	N1	A0	F3	R2	EXT OUT 00 L
EXT LD B3 L	H2	B3	G	M2	EXT GEN L
EXT LD B2 L	H1	B2	B	P2	EXT PROP L
EXT LD B1 L	F2	B1	CNT+4	N2	
EXT LD B0 L	E2	B0	A-MSB	S1	EXT A MSB H
ALSW B REQ IS B0 H	L2	B SERIAL	B-LSB	F1	EXT BLSB H
RG1 CLOCK LSWB H	K2	B CLOCK COMPARE	B2		
RG1 ENAB SHFT B L	D2	B LOAD H/SHFT L			
RG1 INV I4 L	E1	A INV			
RG1 STROBE A LSW L	U1	A STROBE			
+3V H2SV1	R1	A CLOCK			
+3VE20U1	V2	O SERIAL			
RG1 CLOCK O H	T2	O CLOCK			
RG1 ENAB SHFT O L	E1	O LOADH/SHFT L			
RG6 CARRY IN H	R1	CARRY IN			
RG6 INH CARRY H	V1	INHIBIT			
RG6 S3 H	E1	X3			
RG6 S2 H	D1	X2			
RG6 S1 H	C1	X1			
RG6 S0 H	B1	X0			

REV	NO	DATE
A	1	11/10/70
B	1	10/20/70
C	1	10/20/70
D	1	11/30/70
E	1	12/1/70

FPP12	QTY	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	TITLE	
DIMENSION IN INCHES	W. Moore	11/10/70	ADDER EXT	
TOLERANCES	ENG	DATE	LOOK AHEAD LOGIC	
DECIMALS FRACTIONS ANGLES	J. Andrus	10/20/70	SIZE CODE	
= .005 ± 1/64 ± 0°00'	PROJ. ENG.	DATE	NUMBER	
FINAL SURFACE QUALITY	A. Miller	11/30/70	REV.	
REMOVE BURRS AND BREAK SHARP CORNERS	PROD	DATE	DIBS FPP12-0-EXT A	
MATERIAL	R. Peters	12/1/70	SCALE	
NEXT HIGHER ASSY			NONE	
A-ML-FPP12-0			SHEET 1 OF 2	
FINISH			DIST.	

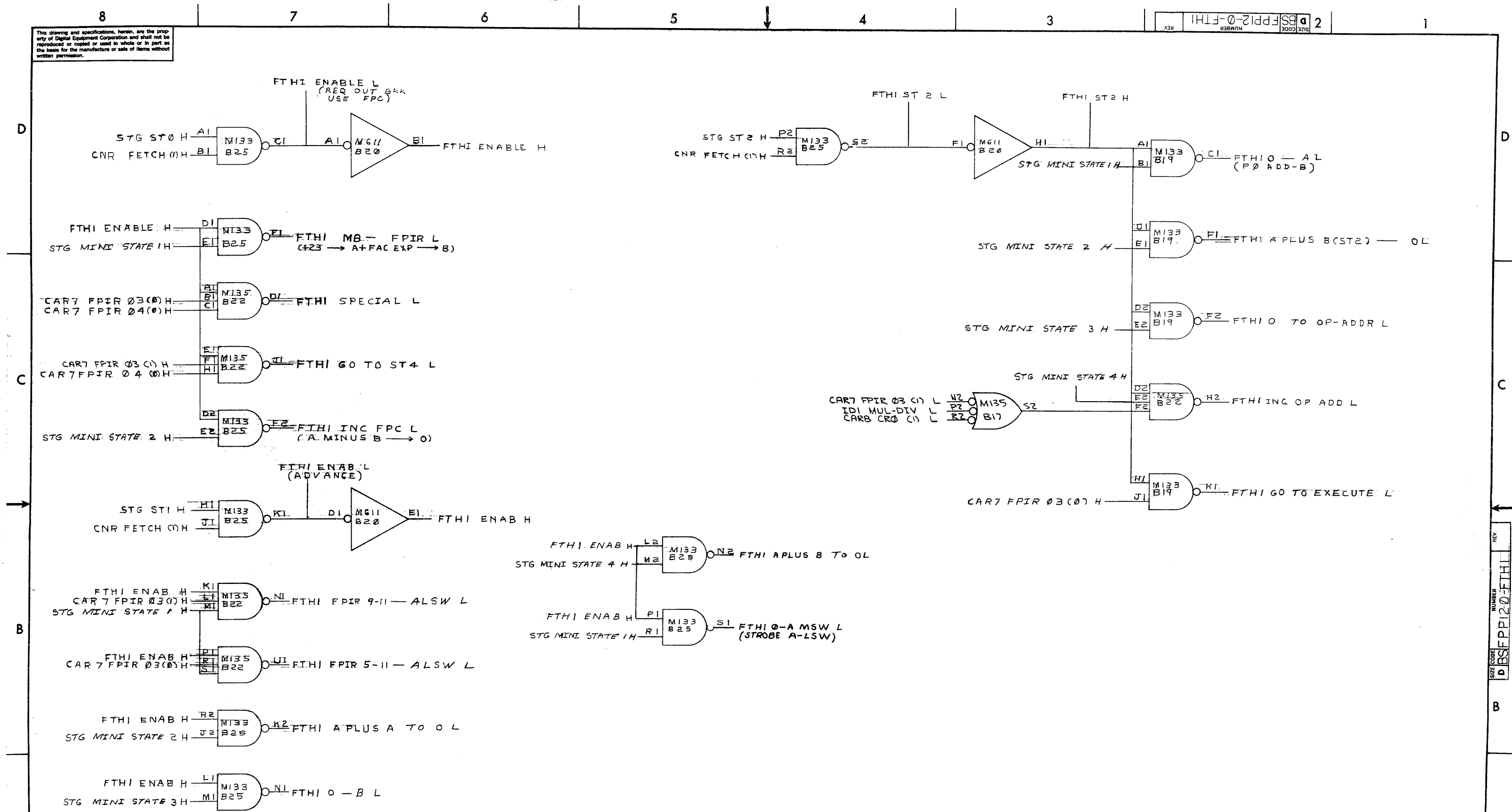
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REVISIONS	NO.	REV.
CHK	CHANGE NO.	

FIRST USED ON OPTAIN MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP2		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN. W. MAJOUR	DATE 8-10-70	 digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .XXX = .005 .XX = .02 .X = .1	CHK'D. W. MAJOUR	DATE 11-10-70		
ANGLES ±0° 30'	ENG. S-TEICHER	DATE 10-20-70		
	PROJ. ENG. S-TEICHER	DATE 10-30-70		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. R-PETERSON	DATE 12-1-70	TITLE ADDER EXT & LOCK AHEAD LOGIC	
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH	A-ML-FPPI2-0		D	BSFPPI2-0-EXT
	SCALE			REV. A
	SHEET 2 OF 2	DIST.		

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REV.	
CHG	
NO.	

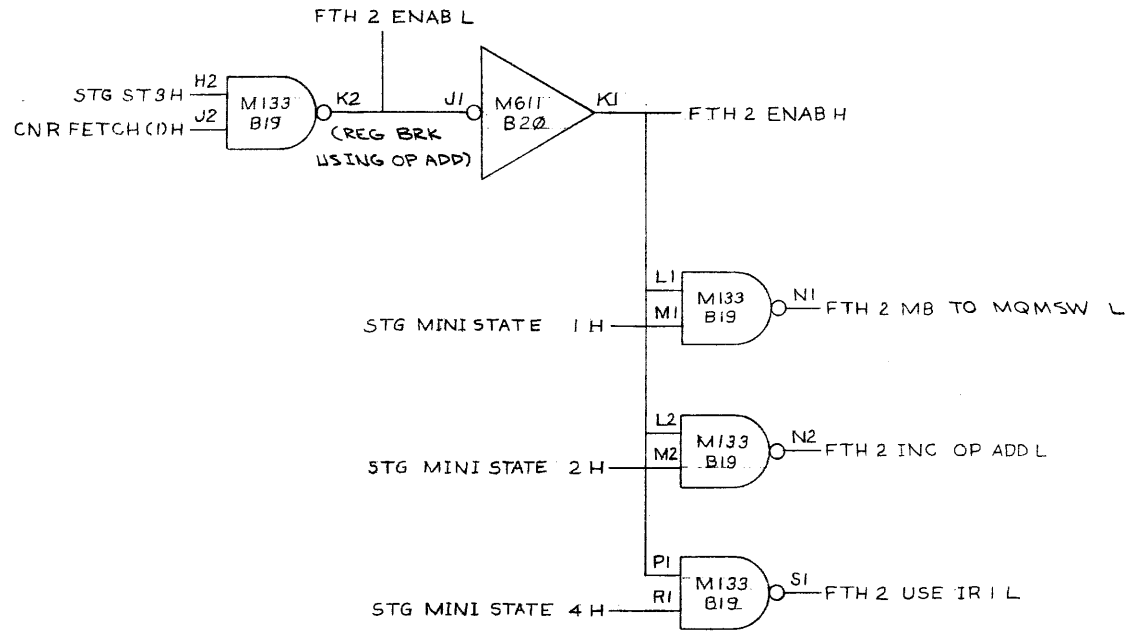
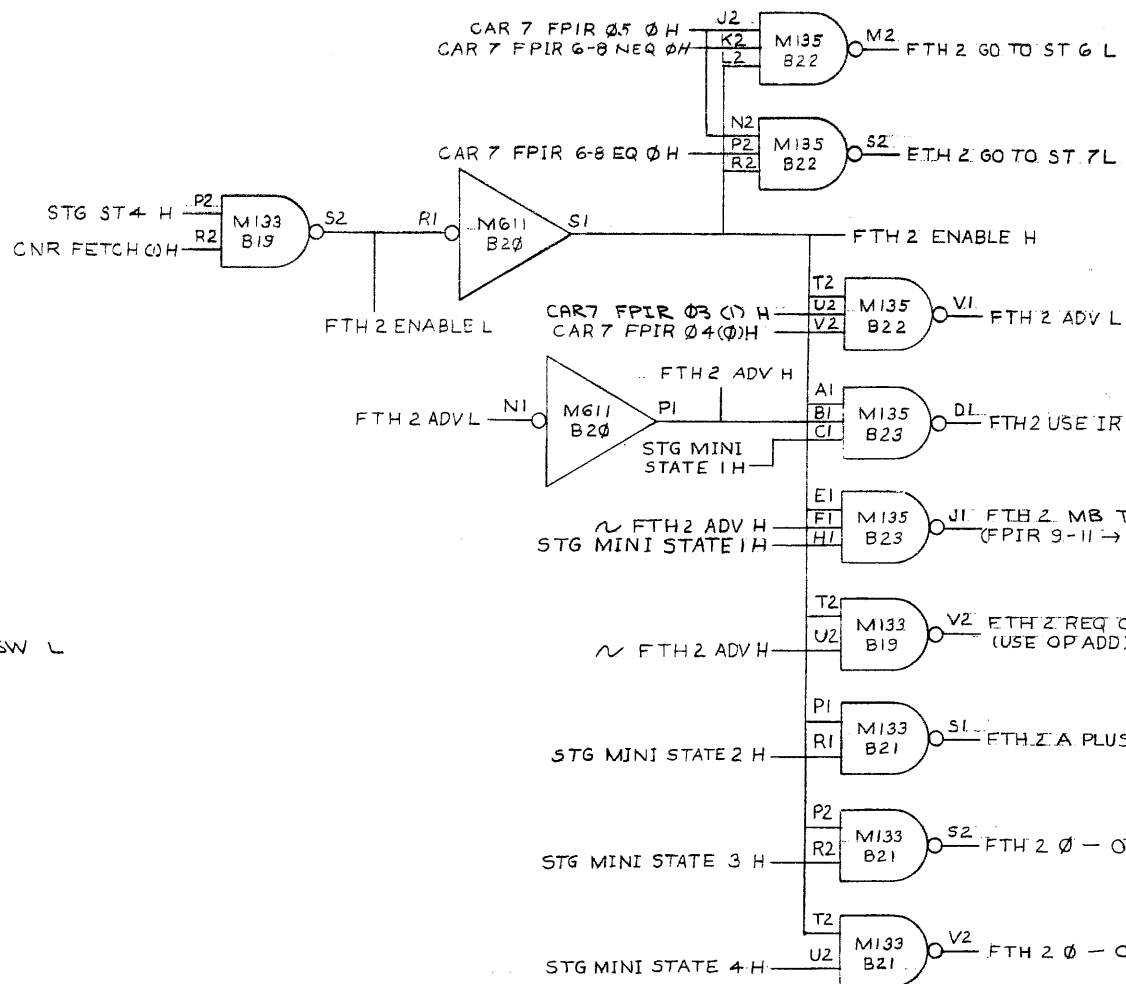
FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. MARGARET	DATE 7/31/74	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D W. Major	DATE 11/10/70	TITLE FETCH 1	
TOLERANCES	ENG. J. J. J.	DATE 10/30/70	NEXT HIGHER ASSY A-ML-FPP12-0	
DECIMALS FRACTIONS ANGLES	PRQJ. ENG. J. J. J.	DATE 10/30/70	SCALE 1 OF 1	
± .005 ± 1/64 ± 0°30'	PROD. R. Peterson	DATE 12/1/70	SHEET 1 OF 1	
FINAL SURFACE QUALITY			SIZE CODE NUMBER REV.	
REMOVE BURRS AND BREAK SHARP CORNERS			DBSFPP12-0-FTHI	
MATERIAL			DIST.	
FINISH				

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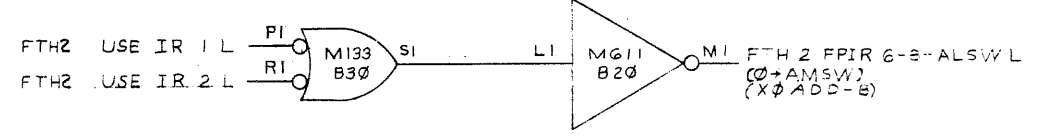
REV. CODE D BS FPP 12-0-FTH 2 P03

D
C
B
A

D
C
B
A



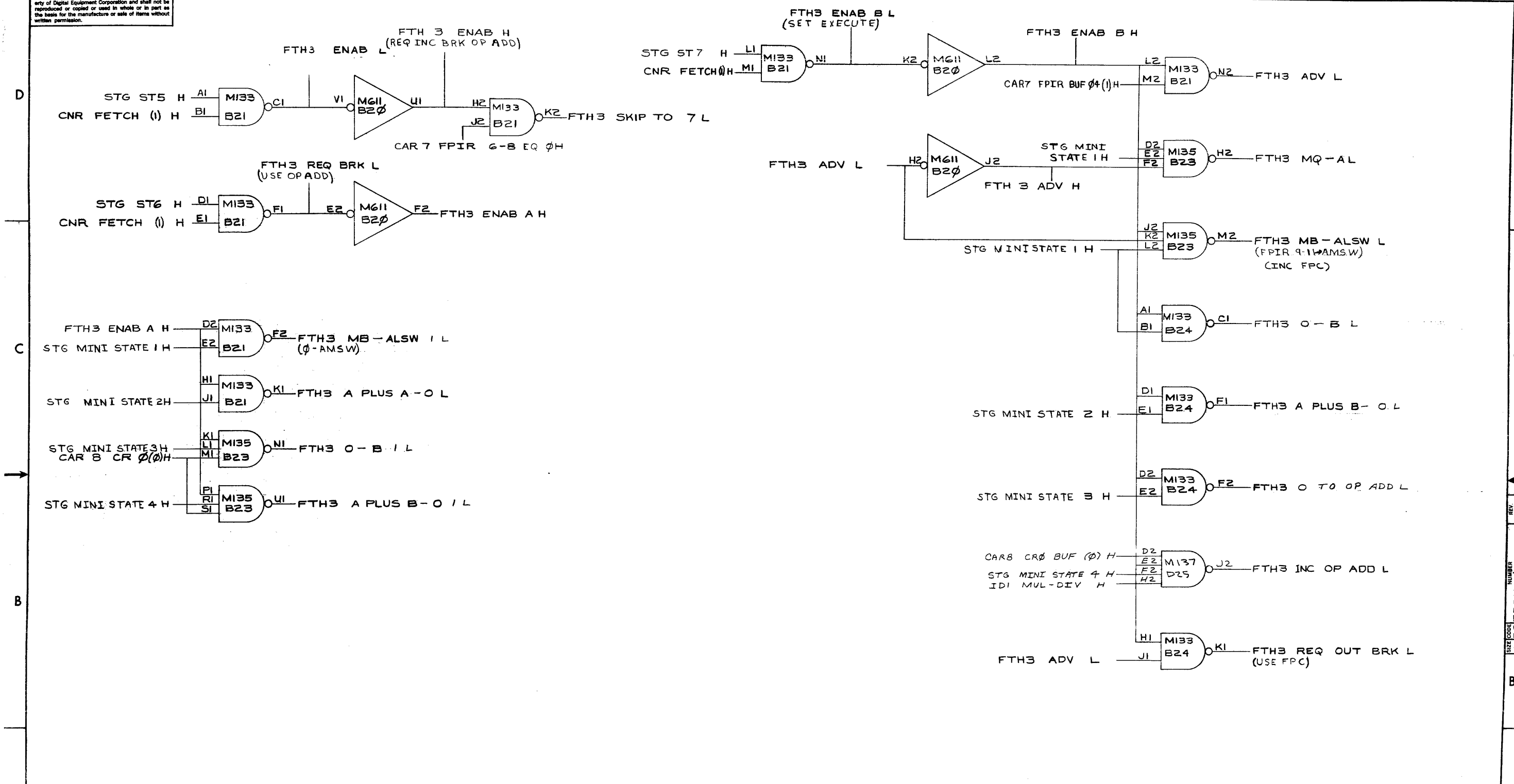
$(FTH 1 ENAB H)(MINI ST 4) + (FTH 2 ADV H)(FTH 2 ENAB)$



REV.	
CHANGE NO.	
CHK.	

FIRST USED ON OPTION / MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. V. BISS JUN 27 70	DATE 7-31-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. W. MAJOR	DATE 11/10/70	TITLE FETCH 2	
DIMENSION IN INCHES	ENG. J. HILL	DATE 11/20/70	MATERIAL	
TOLERANCES	PROJ. ENG. J. HILL	DATE 10/20/70	NEXT HIGHER ASSY	
DECIMALS FRACTIONS ANGLES	PROD. PETERSON	DATE 12/1/70	A-ML-FPP12-0	
≥ .005 ≥ 1/64 ≥ 0°30'	SCALE NONE			
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	SHEET 1 OF 1			
FINISH	DIST.		REV.	

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REV.	
CHANGE NO.	
CHK	

FIRST USED ON OPTION MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN W. McCarty	DATE 7/22/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED TOLERANCES	CHK'D W. Maier	DATE 11/10/70	TITLE FETCH 3	
DECIMALS ± .005	ENG A. DeLuca	DATE 10/30/70		
FRACTIONS ± 1/64	PROJ. ENG. A. DeLuca	DATE 11/24/70		
ANGLES ± 0'30"	PRD. R. Peterson	DATE 12/1/70		
FINAL SURFACE QUALITY	MATERIAL NEXT HIGHER ASSY A-M-L-FPP12-0			
REMOVE BURRS AND BREAK SHARP CORNERS	FINISH SCALE SHEET 1 OF 1			
SIZE CODE DBS			NUMBER FPP12-0-FTH3	REV.

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D

C

B

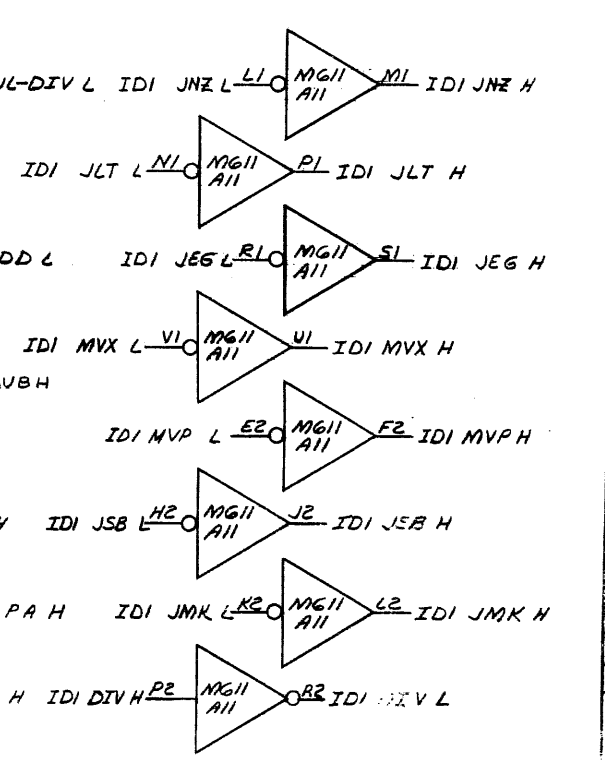
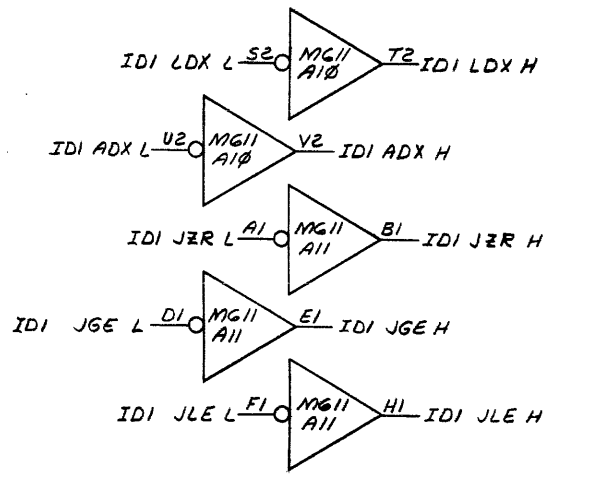
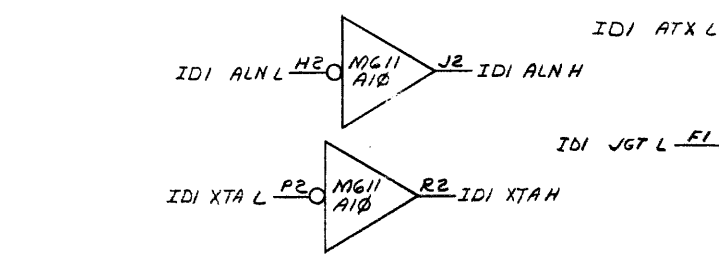
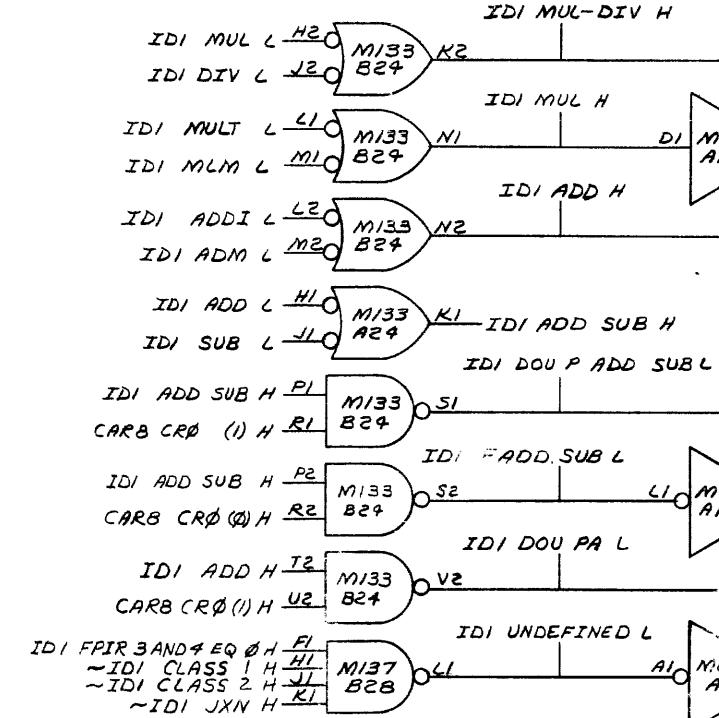
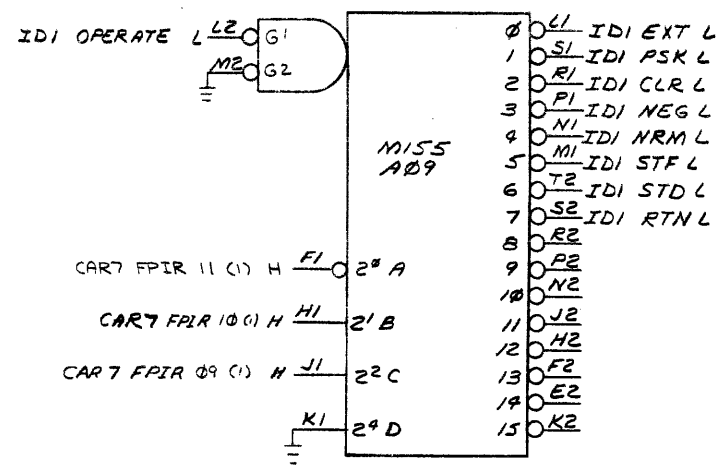
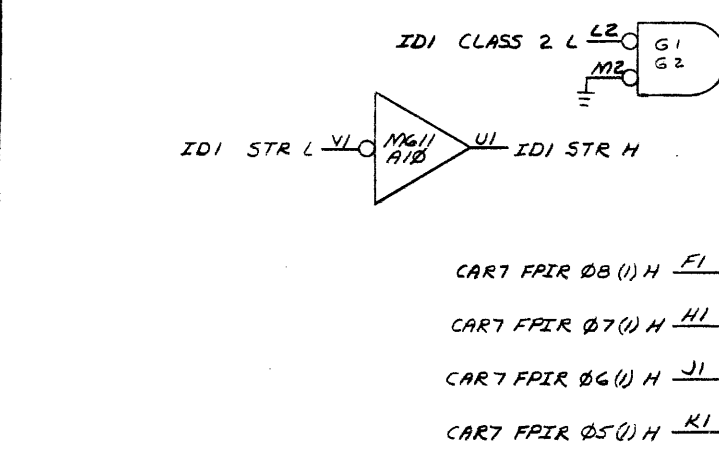
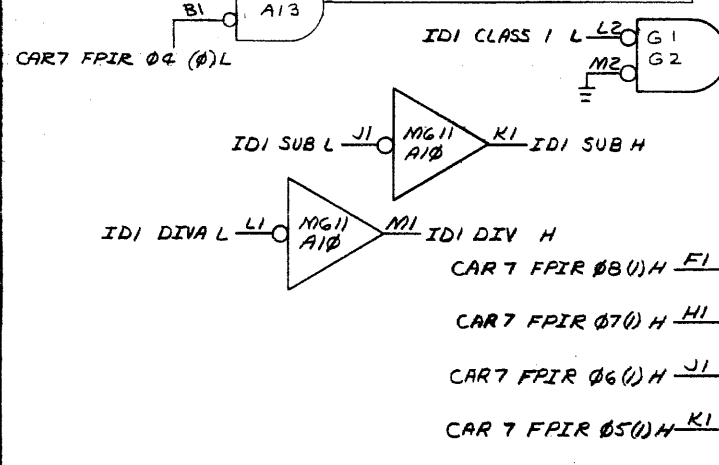
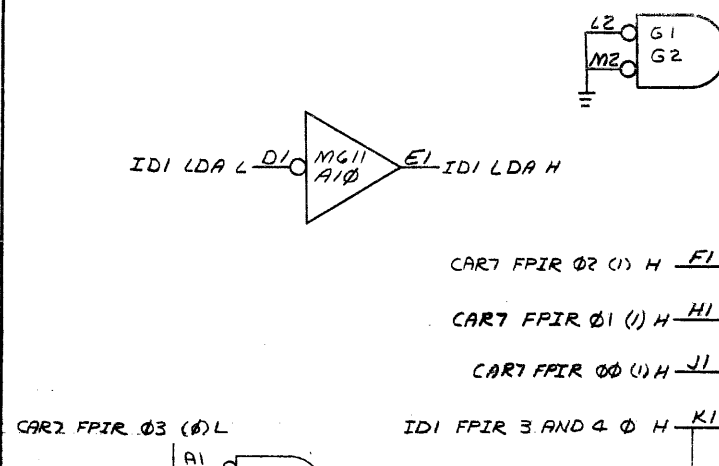
A

D

C

B

A



REV.	CHANGE NO.	DATE

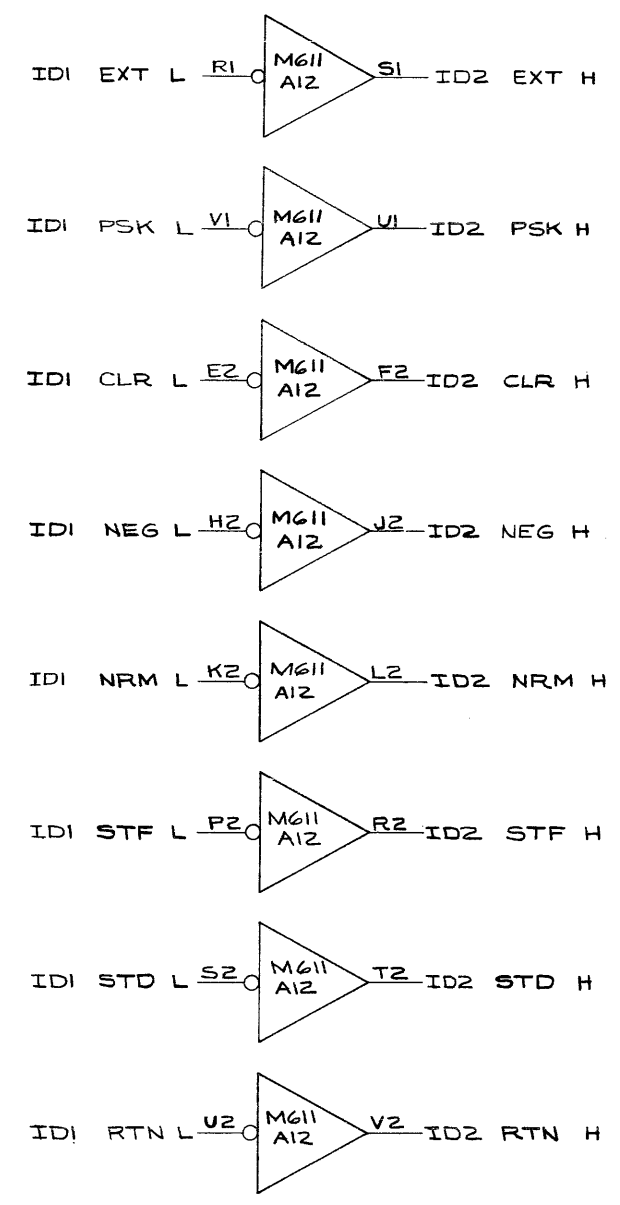
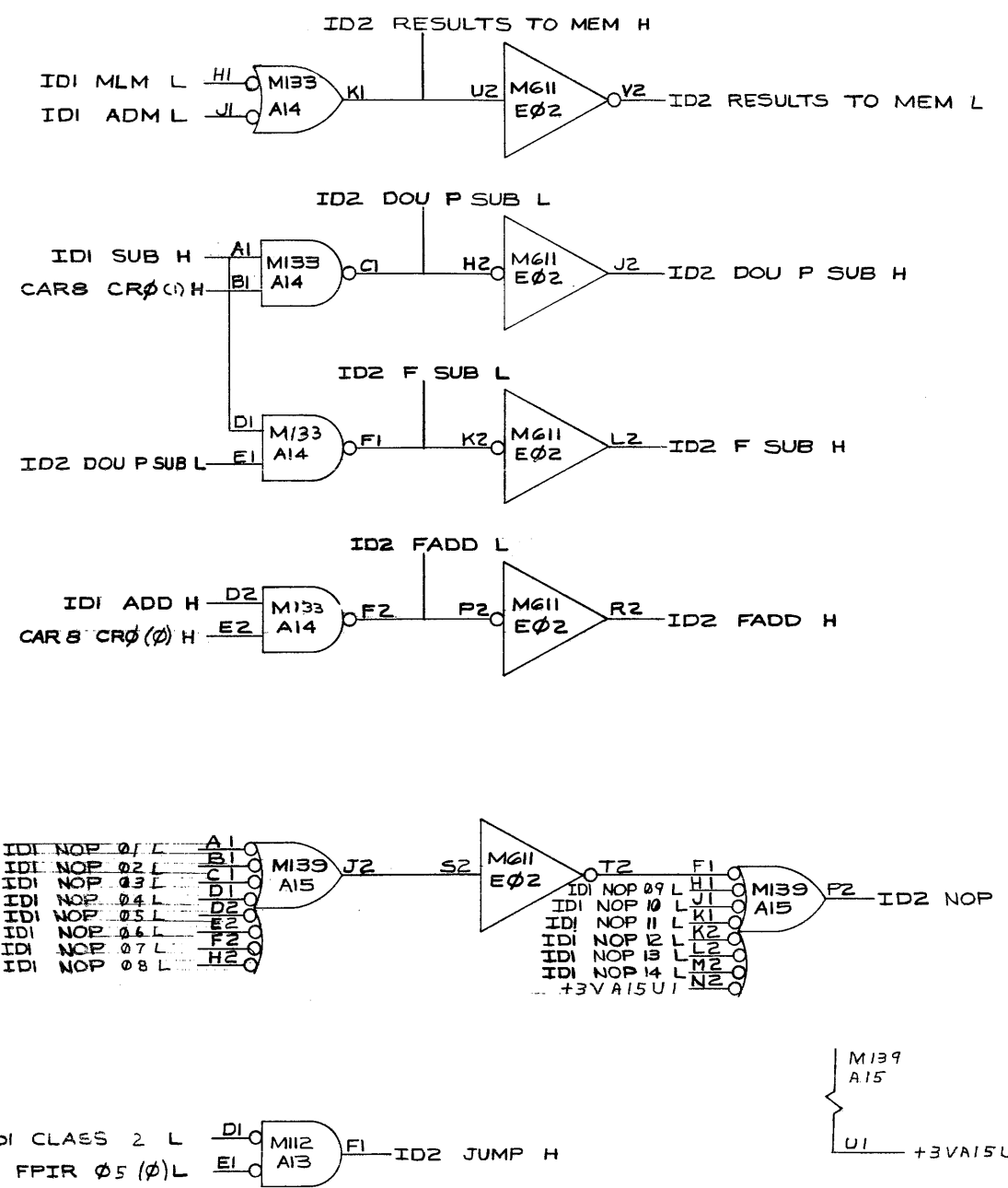
FIRST USED ON OPTION/MODIF. FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES				
TOLERANCES				
DECIMALS FRACTIONS ANGLES				
= .05 ± 1/64 ± 0°30'				
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY			
FINISH	SCALE NONE			
SHEET		OF		DIST.
PARTS LIST		TITLE		
DRN. <i>A. Kitson</i> DATE 7-16-70		digital EQUIPMENT CORPORATION		
CHK'D. <i>W. Major</i> DATE 12/1/70		MAYNARD, MASSACHUSETTS		
ENG. <i>J. S. S. S.</i> DATE 12/1/70		INSTRUCTION DECODER 1		
PROJ. ENG. <i>A. S. S. S.</i> DATE 12/1/70		SIZE CODE NUMBER		
PROD. DATE		D BSFPP12-0-IDI		

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DBS FPP12-0-ID2 2

D
C
B
A

D
C
B
A



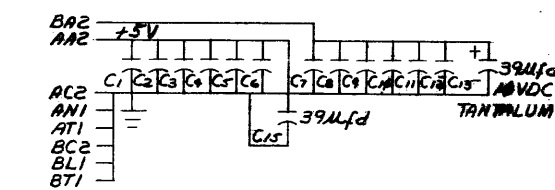
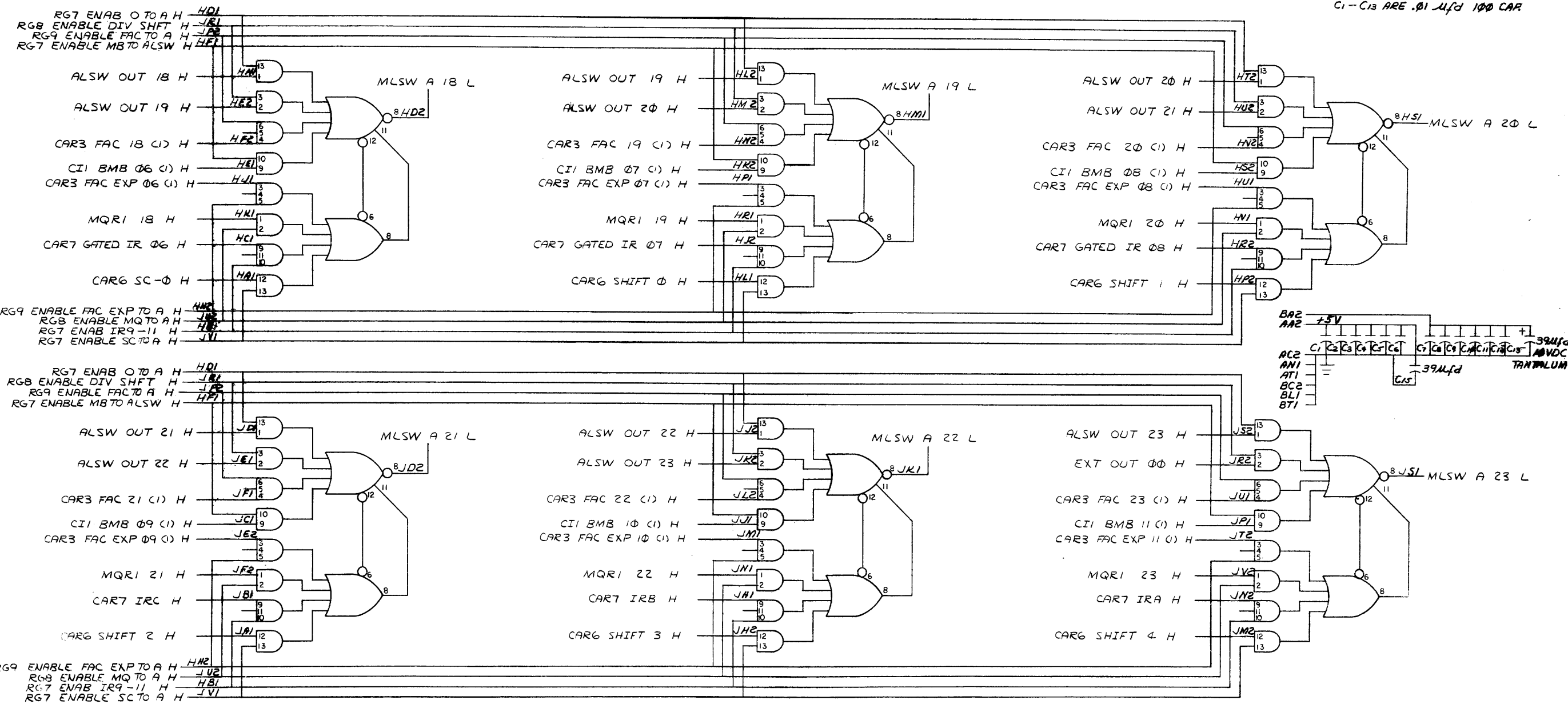
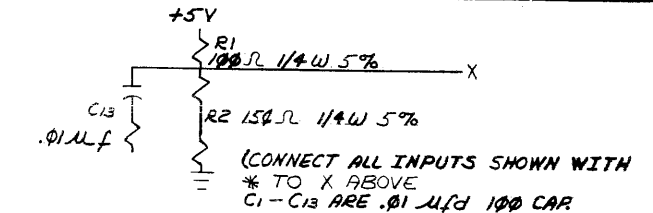
M139
 A15
 U1 +3VA15UI

REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS	FRACTIONS	ANGLES		
± .005	± 1/64	± 0°30'		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY			
FINISH	SCALE			
	SHEET 1 OF 1			
TITLE INSTRUCTION DECODER 2			PARTS LIST	
DRN: W.F. Mc... DATE: 7/27/60 CHK'D: W. Major DATE: 10/30/60 ENG: J. De... DATE: 11/19/60 PROJ. ENG.: A. De... DATE: 11/19/60 PROD.: R. Peterson DATE: 12/1/60			digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DBS FPP12-0-ID2			NUMBER REV	

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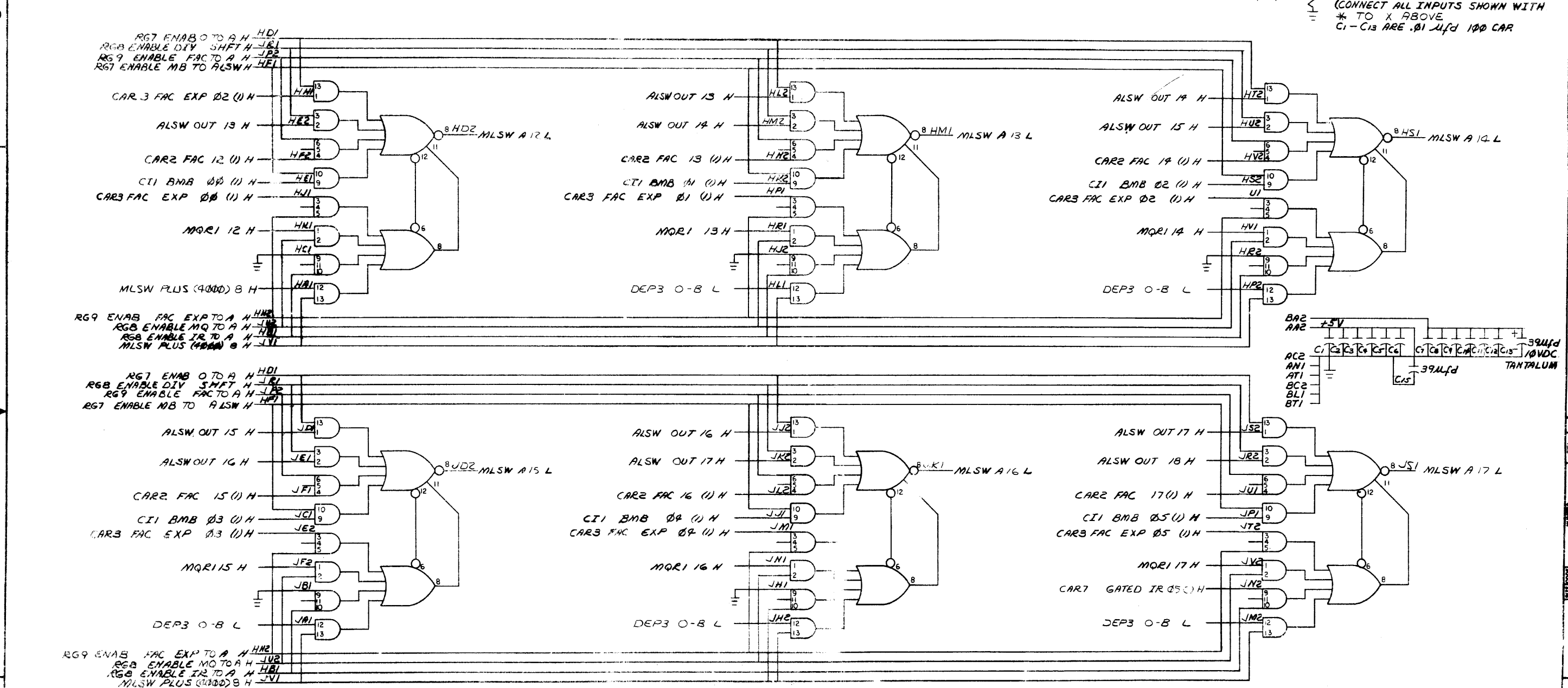
M178
HJ29



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>AK/ant</i>	DATE <i>8/21/70</i>	 EQUIPMENT CORPORATION WATFORD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>W. Major</i>	DATE <i>11/10/70</i>		
DIMENSION IN INCHES	ENG. <i>A. H.</i>	DATE <i>10/30/70</i>	TITLE MULTIPLEXER LEAST SIG WORD	
DECIMALS FRACTIONS ANGLES	PROJ. ENG. <i>A. H.</i>	DATE <i>11/20/70</i>		
TOLERANCES ± .005 ± 1/64 ± 0°30'	PROD. <i>R. Peterson</i>	DATE <i>12/11/70</i>	NUMBER DBSFPPI2-0-MLSW	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY		SIZE CODE	REV
FINISH	A-ML-FPP12-0		NUMBER	A
	SCALE NONE		DIST.	
	SHEET ? OF 6			

REVISIONS	CHANGE NO.	REV.
CHK		

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+5V
 R1 100 Ω 1/4 W 5%
 R2 150 Ω 1/4 W 5%
 C13 .01 μf
 (CONNECT ALL INPUTS SHOWN WITH * TO X ABOVE
 C1-C13 ARE .01 μf 100 CAP)

+5V
 AC2 AN1 AT1 BC2 BL1 BT1
 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47 C48 C49 C50 C51 C52 C53 C54 C55 C56 C57 C58 C59 C60 C61 C62 C63 C64 C65 C66 C67 C68 C69 C70 C71 C72 C73 C74 C75 C76 C77 C78 C79 C80 C81 C82 C83 C84 C85 C86 C87 C88 C89 C90 C91 C92 C93 C94 C95 C96 C97 C98 C99 C100
 39 μfd
 10VDC
 TANTALUM

REV	CHANGE NO.

DEC FORM NO. 080 102A

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	AKibert	DATE	3/21/70
UNLESS OTHERWISE SPECIFIED	CHK'D	W. Maier	DATE	11/10/70
UNLESS OTHERWISE SPECIFIED	ENG	J. J. J.	DATE	10/30/70
UNLESS OTHERWISE SPECIFIED	PROJ. ENG.	J. J. J.	DATE	10/27/70
UNLESS OTHERWISE SPECIFIED	PROD.	R. Peterson	DATE	12/1/70
MATERIAL	NEXT HIGHER A. SY.			
FINISH	SCALE NONE			
SHEET 3 OF 6		DIST.		

digital EQUIPMENT CORPORATION
 MATHEW, MASSACHUSETTS

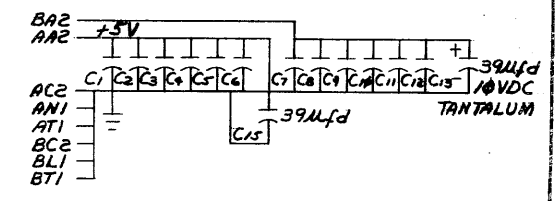
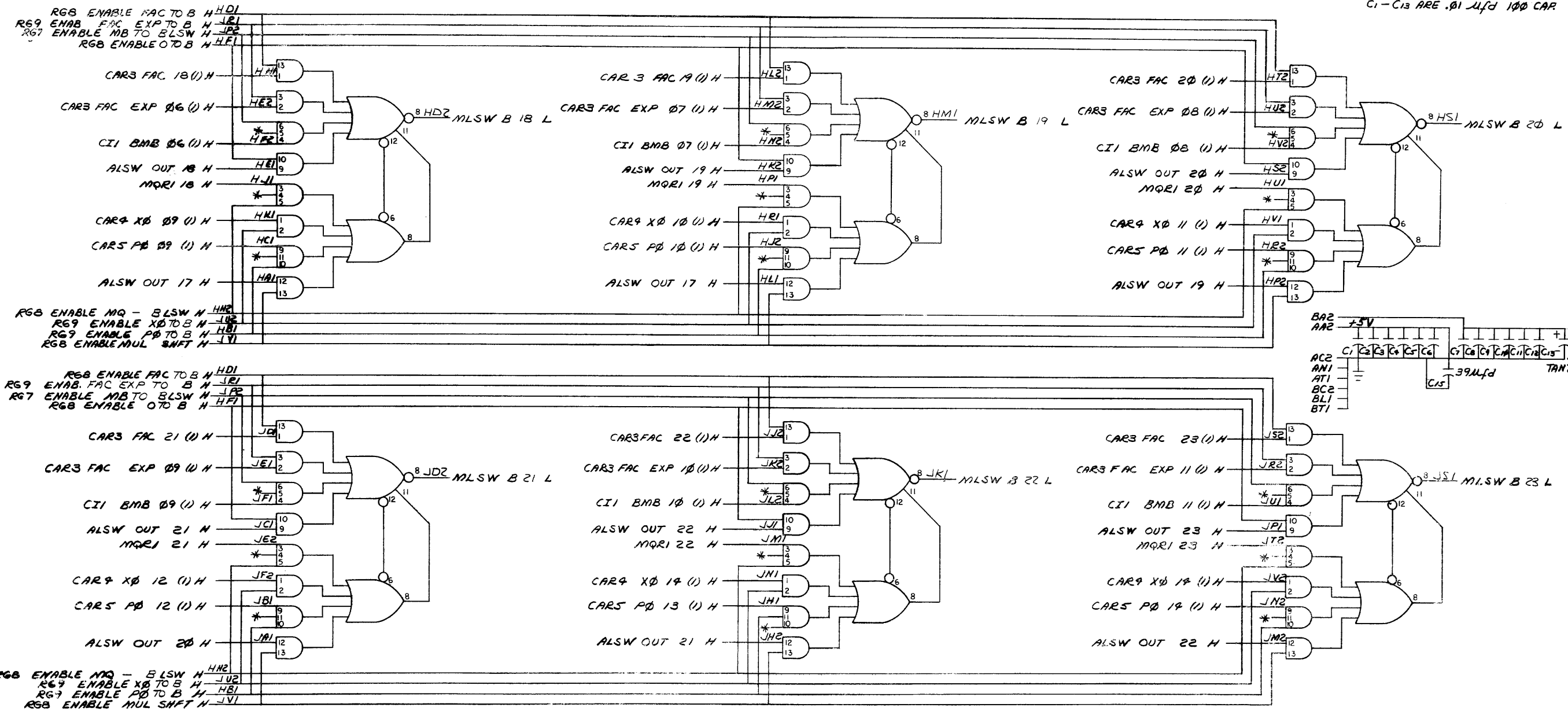
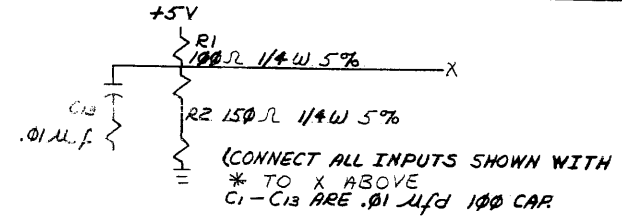
TITLE
**MULTIPLEXER
 LEAST SIG WORD**

SIZE CODE: **D** BS FPP12-0-MLSW
 NUMBER: **3000 3278**
 REV: **A**

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1 2 3 4 5 6 7 8
 DBS FPP12-0-MLSW A

M178
 HJ31



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. <i>albert</i>	DATE <i>12/2/70</i>	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. <i>W. Major</i>	DATE <i>11/10/70</i>	TITLE MULTIPLEXER LEAST SIG WORD	
TOLERANCES	ENG. <i>J. Smith</i>	DATE <i>10/2/70</i>	SCALE NONE	
DECIMALS FRACTIONS ANGLES	PRJ. ENG. <i>J. Smith</i>	DATE <i>12/2/70</i>	SHEET 4 OF 6	
± .005 ± 1/64 ± 0°30'	PROD. <i>R. Peterson</i>	DATE <i>12/1/70</i>	DIST.	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	NEXT HIGHER A SY			
MATERIAL	A-ML-FPP12-0			
FINISH	DBS FPP12-0-MLSW A			

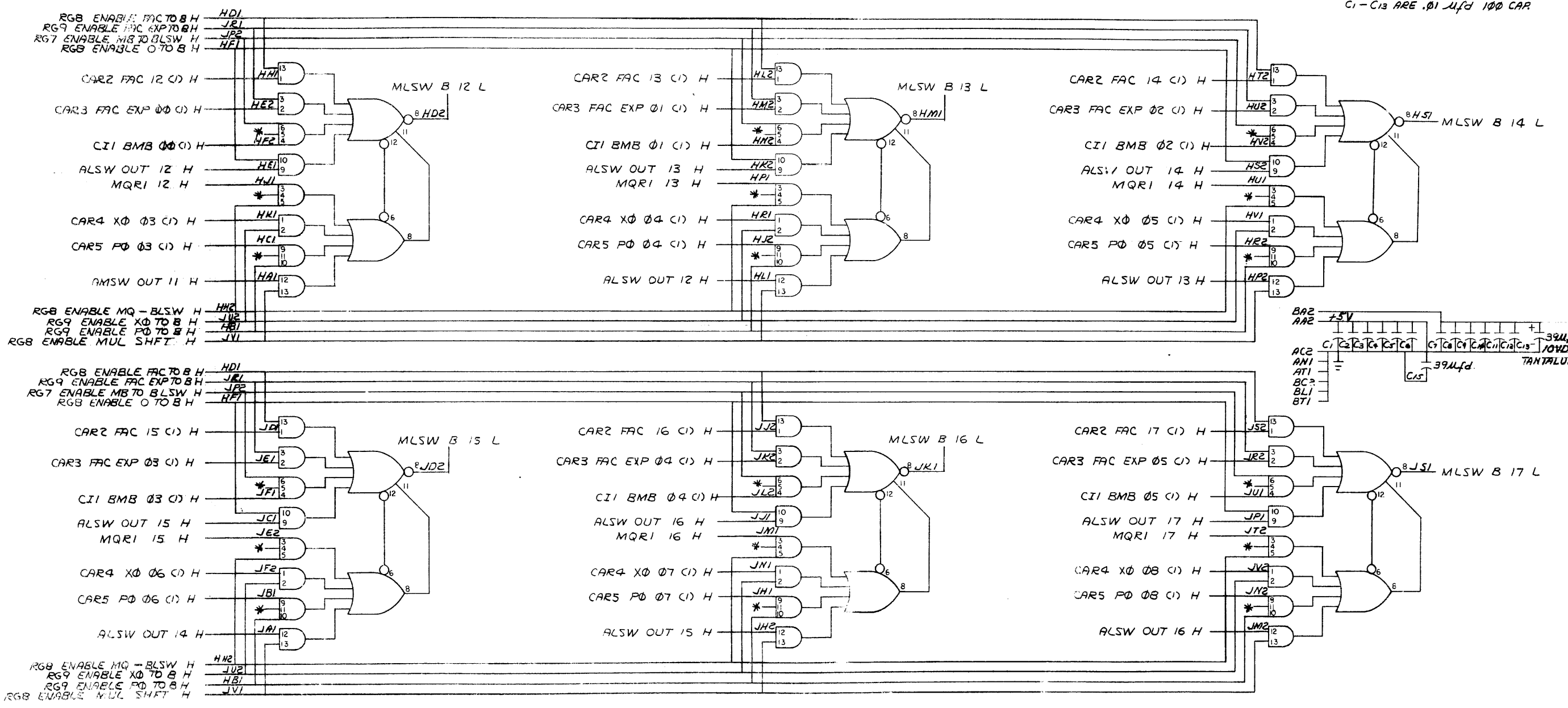
REV.	CHANGE NO.

DEC FORM NO. DRD 102A

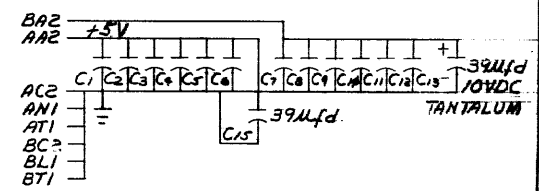
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M178
HL 32

MSLW-0-212-0-MLSW
REV. 2



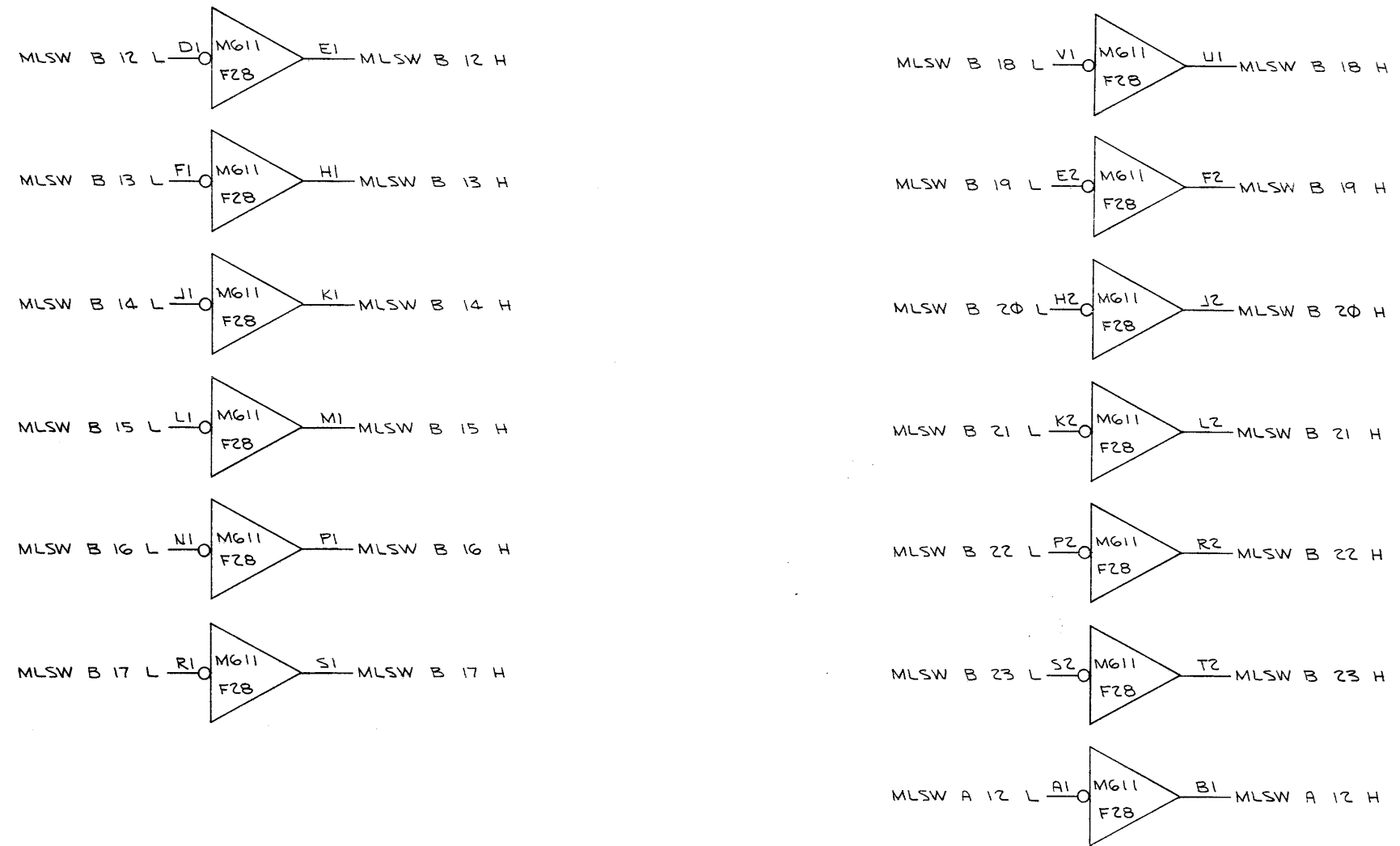
+5V
R1 100Ω 1/4W 5%
R2 150Ω 1/4W 5%
C13 .01μF
(CONNECT ALL INPUTS SHOWN WITH * TO X ABOVE
C1 - C13 ARE .01 μF 100 CAP



REV.	NO.

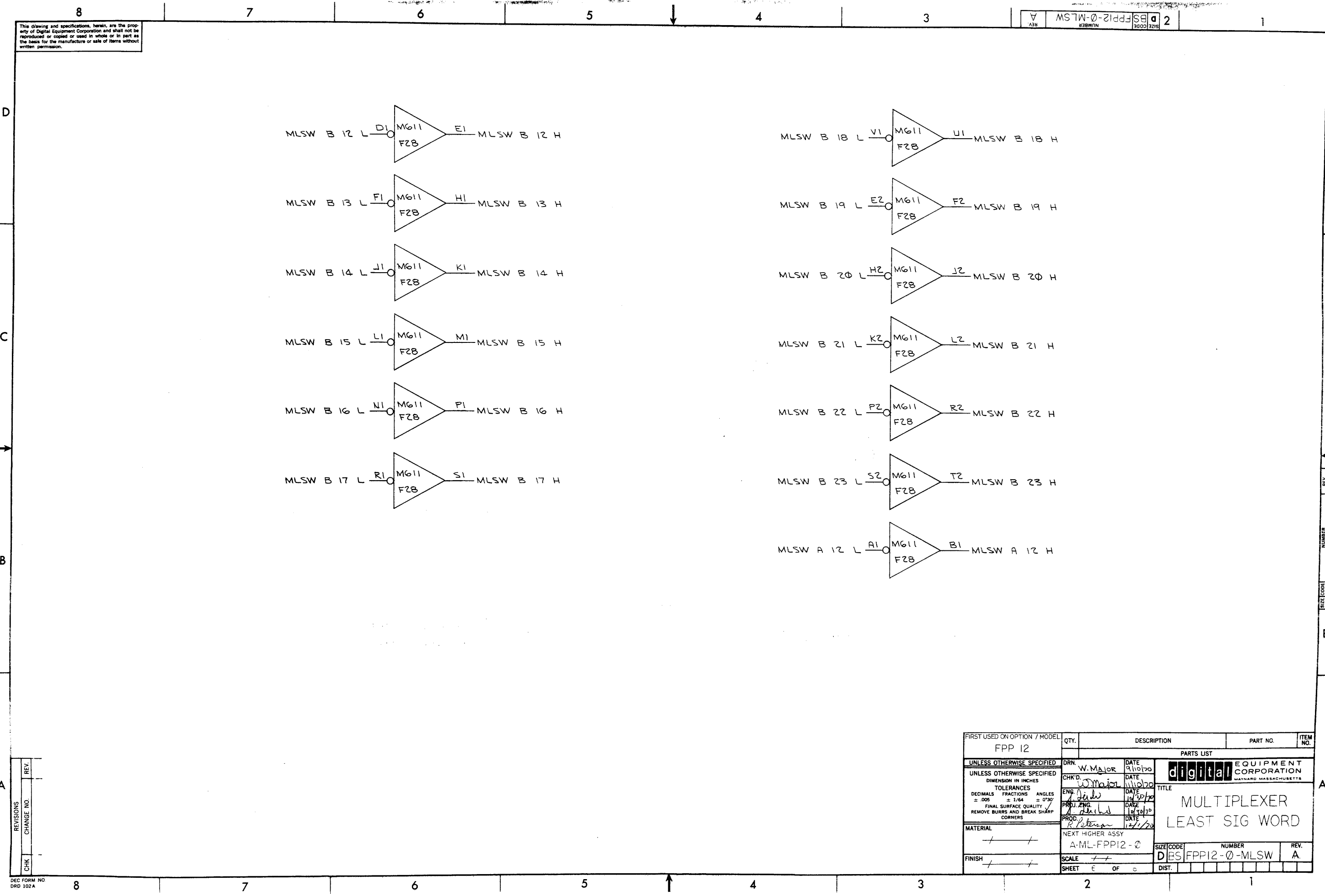
FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN. <i>Arlett</i>	DATE <i>8/21/70</i>	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
TOLERANCES	CHK'D. <i>W. Mair</i>	DATE	TITLE	
DECIMALS = .005	ENG. <i>J. G. G.</i>	DATE <i>10/20/70</i>	MULTIPLEXER	
FRACTIONS = 1/64	PROJ. ENG. <i>J. G. G.</i>	DATE <i>1/24/71</i>	LEAST SIG WORD	
ANGLES = 0°30'	PROD. <i>P. Peterson</i>	DATE <i>12/1/72</i>	NEXT HIGHER ASSY	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	MATERIAL	A-ML-FPP12-0		
FINISH	SCALE NONE	SIZE CODE	NUMBER	REV.
	SHEET 5 OF 6	D	BS/FPP12-0-MLSW	A

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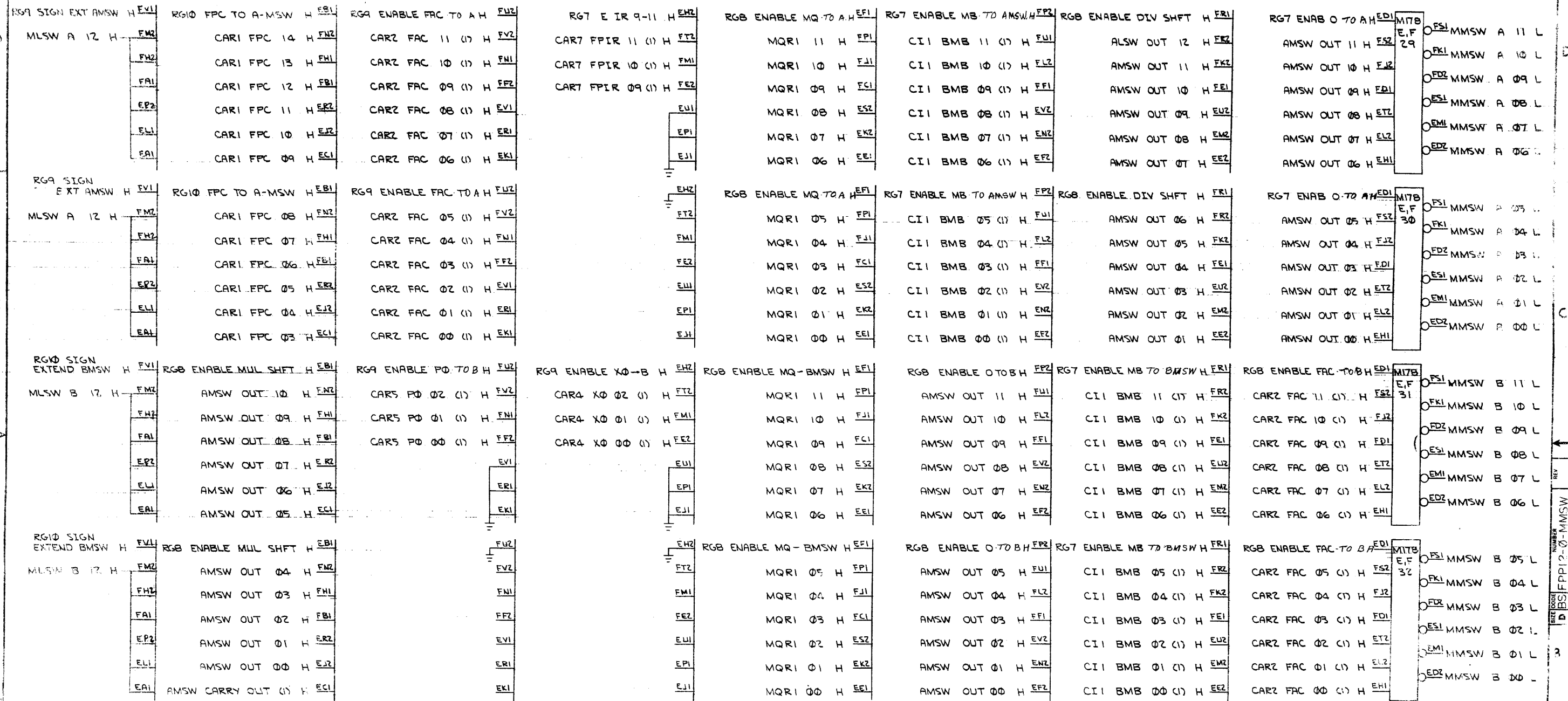


REV.	
CHANGE NO.	
CHK	

FIRST USED ON OPTION / MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. W. Major	DATE 9/10/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D. W. Major	DATE 11/10/70	TITLE MULTIPLEXER LEAST SIG WORD	
TOLERANCES	ENG. J. Sidw	DATE 12/30/70	SIZE CODE D	
DECIMALS ± .005	PROJ. ENG. J. Sidw	DATE 12/30/70	NUMBER BS FPP12-0-MLSW	
FRACTIONS ± 1/64	PROD. R. Peterson	DATE 12/1/70	REV. A	
ANGLES ± 0°30'	NEXT HIGHER ASSY A-ML-FPP12-0		SCALE	
FINAL SURFACE QUALITY	FINISH		SHEET E OF 6	
REMOVE BURRS AND BREAK SHARP CORNERS	MATERIAL		DIST.	



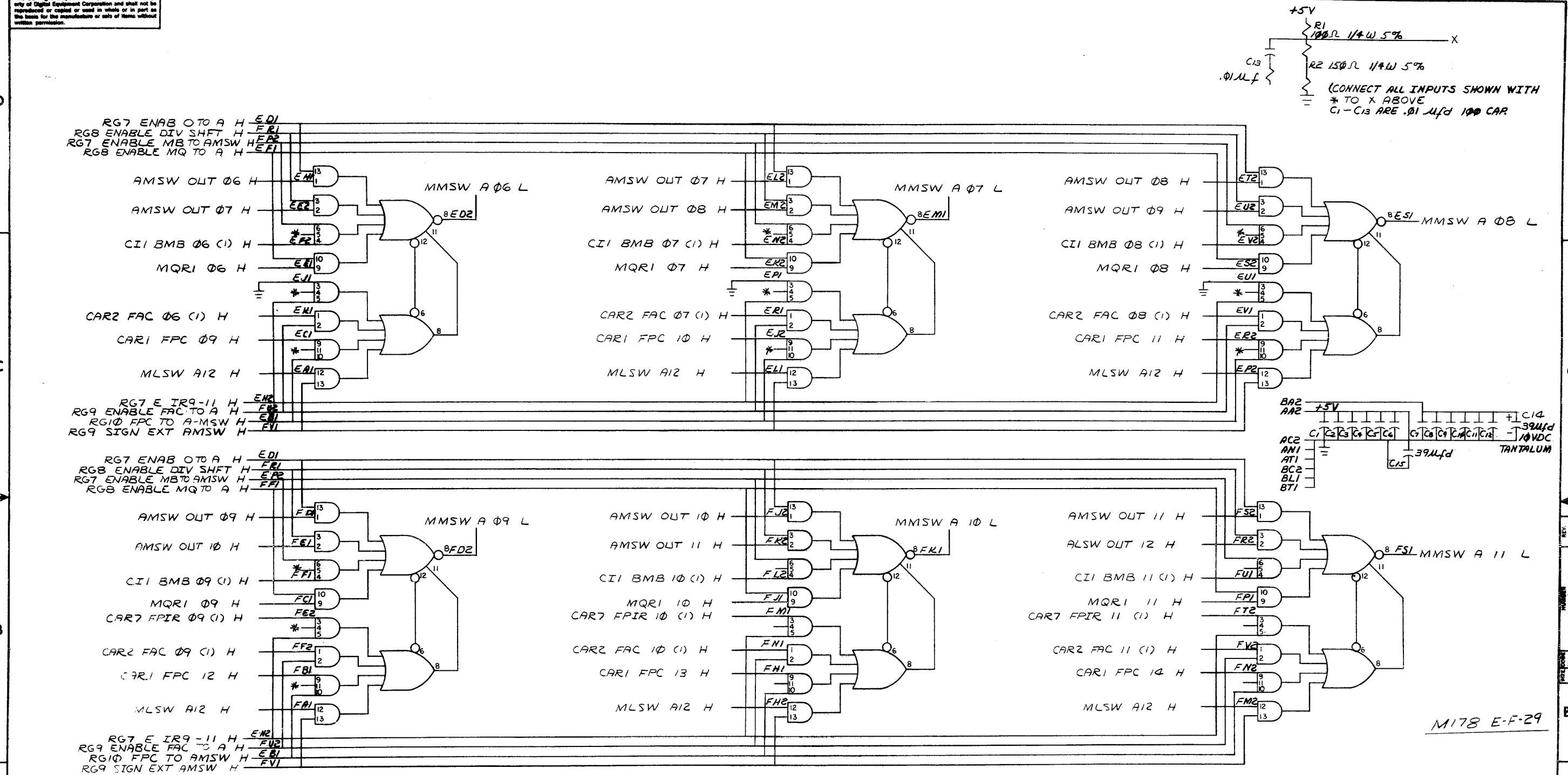
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REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION / MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS FRACTIONS ANGLES				
= .005 = 1/64 = 0°30'				
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	DATE	DATE	DATE	DATE
FINISH	DATE	DATE	DATE	DATE
NEXT HIGHER ASSY		TITLE		
A-ML-FPP12-0		MULTIPLEXER MOST SIG WORD		
SCALE	SHEET	OF	REV	
++	1	6	D	
SIZE CODE		NUMBER		
D		BS FPP12-0-MMSW		
DIST.				

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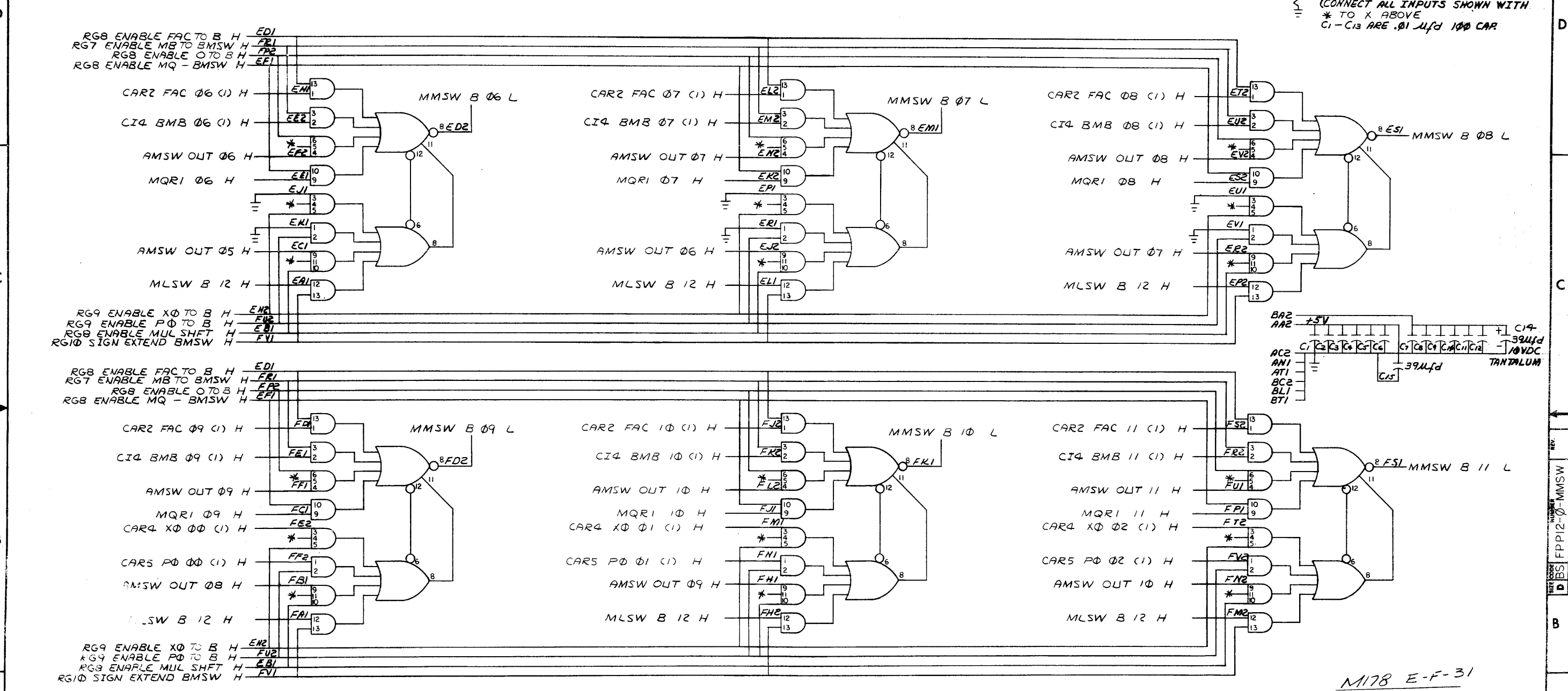


REVISIONS	REV.
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL FPPI2	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
DIMENSION IN INCHES	ENG.	DATE	MULTIPLEXER	
TOLERANCES	PROJ. ENG.	DATE	MOST SIG WORD	
DECIMALS FRACTIONS ANGLES	PROD.	DATE	SIZE CODE NUMBER REV.	
± .005 ± 1/64 ± 0°30'			D BS FPPI2-0-MMSW	
FINAL SURFACE QUALITY			SCALE NONE	
REMOVE BURRS AND BREAK SHARP CORNERS			SHEET 2 OF 6	
MATERIAL			DIST.	
FINISH				

M178 E-F-29

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REV	CHANGE NO.

DEC FORM NO. 980 102A

FIRST USED ON OPTION/MODEL FPPI2	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'	DRN <i>AKibert</i>	DATE <i>8/2/70</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>W. Major</i>	DATE <i>11/10/70</i>	TITLE MULTIPLEXER MOST SIG WORD	
MATERIAL ++	ENG. <i>A. J. ...</i>	DATE <i>12/3/70</i>	SCALE NONE	
FINISH ++	PROJ. ENG. <i>...</i>	DATE <i>1/1/71</i>	SHEET 4 OF 6	
	PROD. <i>...</i>	DATE <i>12/4/70</i>	DIST.	

M178 E-F-31

REV. B
 SIZE CODE D
 BSI FPPI2-0-MMSW

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MSW-Ø-MMSW
 SIZE CODE
 D BS
 NUMBER
 FPP12-Ø-MMSW
 2



D
C
B
A

D
C
B
A

REV	
CHANGE NO.	
CHK	

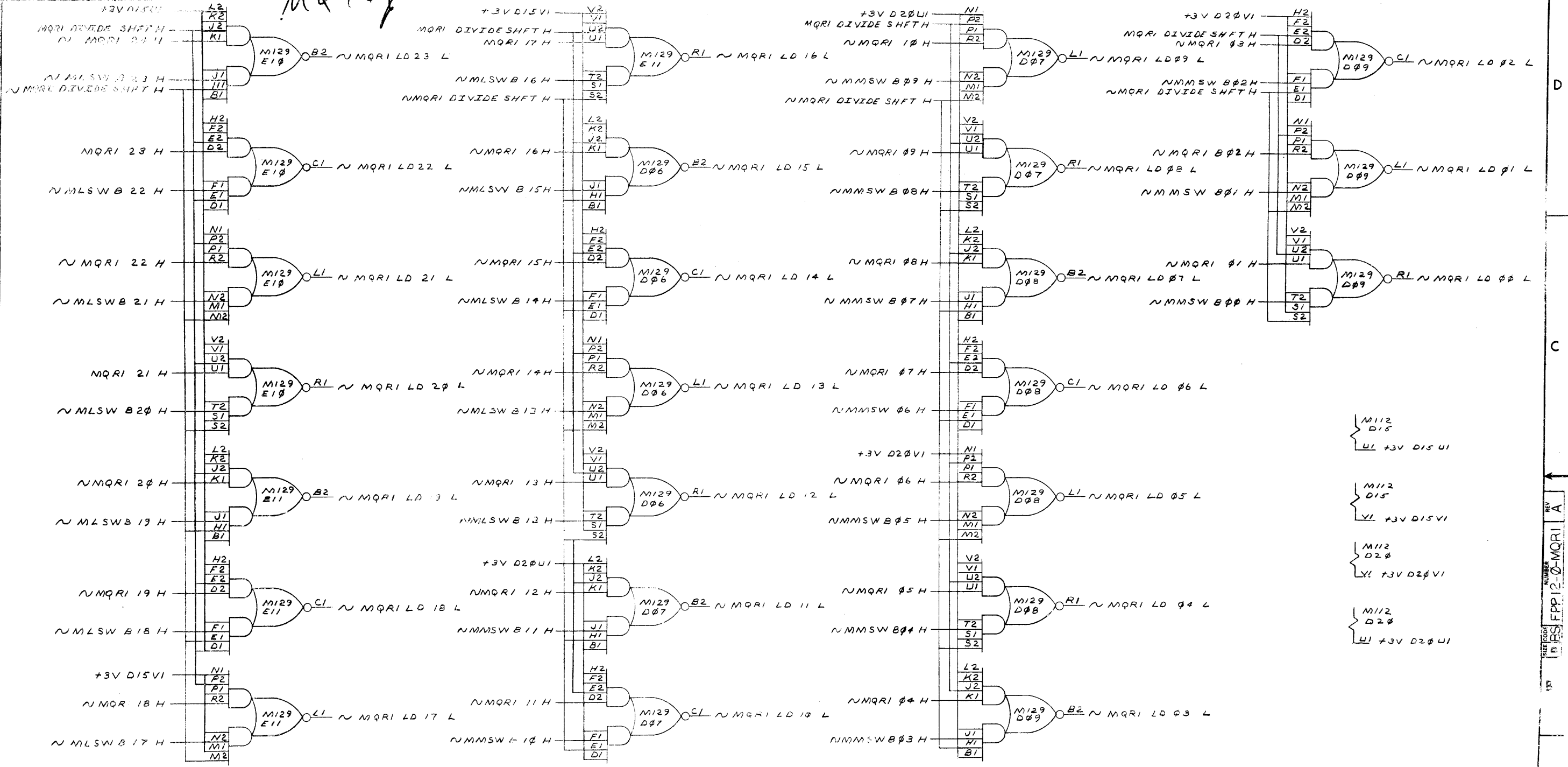
FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
DIMENSION IN INCHES			MULTIPLEXER	
TOLERANCES	ENG.	DATE	MOST SIG WORD	
DECIMALS ± .005			SIZE CODE	
FRACTIONS ± 1/64	PROJ. ENG.	DATE	D BS FPP12-Ø-MMSW	
ANGLES ± 0°30'			NUMBER	
FINAL SURFACE QUALITY	PROD.	DATE	REV	
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY			
	A-ML-FPP12-Ø			
FINISH	SCALE NONE			
	SHEET 6 OF 6			

REV.
 NUMBER
 FPP12-Ø-MMSW
 D BS
 B

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BS FPP12-0-MQRI 2

MQ Reg



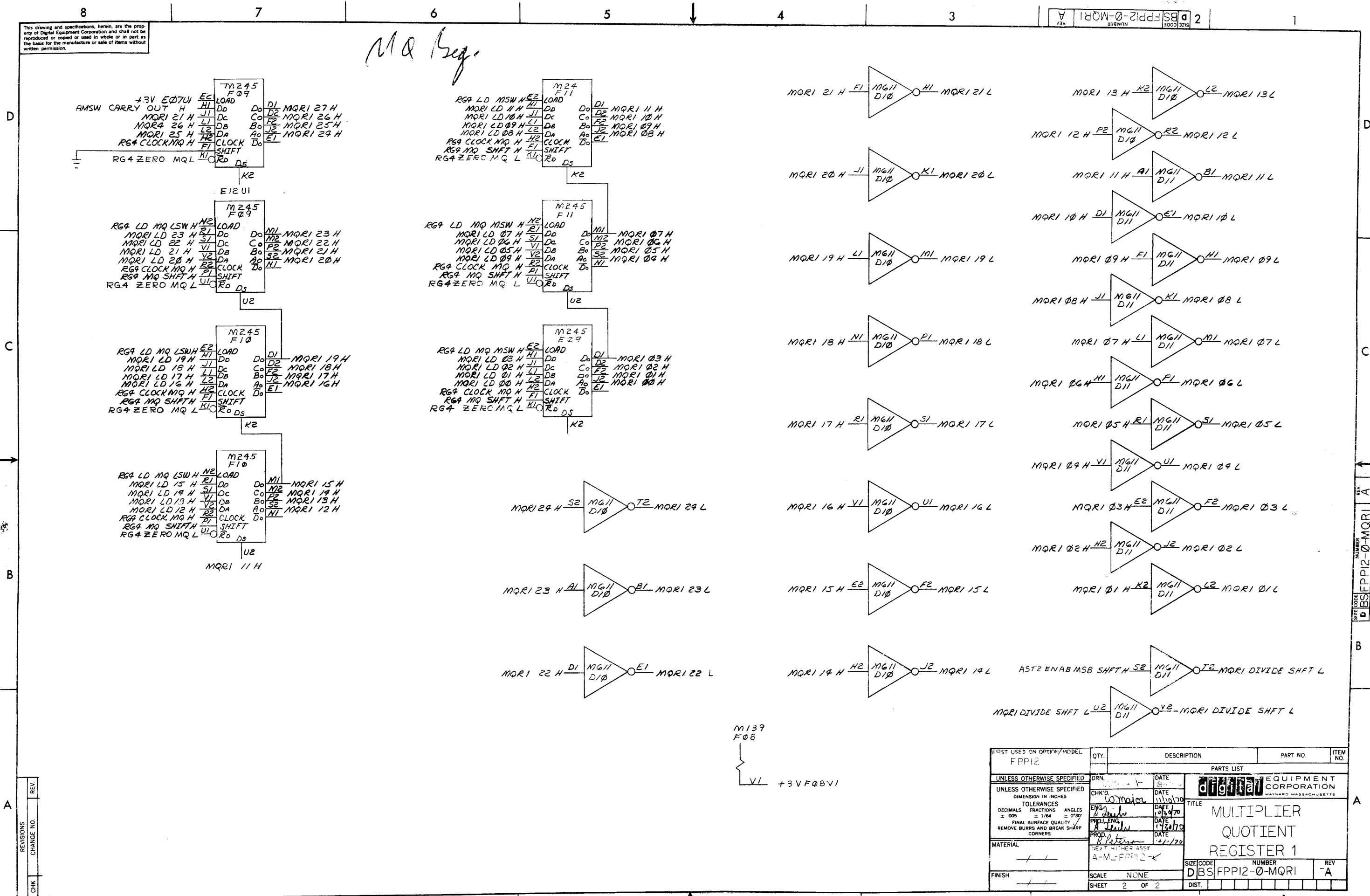
- M112 D15
U1 +3V D15 U1
- M112 D15
V1 +3V D15 V1
- M112 D20
V1 +3V D20 V1
- M112 D20
U1 +3V D20 U1

REV	CHG	NO	DATE
A		1	9-7-71
		2	9-8-71

FIRST USED ON OPTION MOD FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN. / 100	DATE	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
TOLERANCES	W. Major	11/10/70	MULTIPLIER QUOTIENT REGISTER I	
DECIMALS FRACTIONS ANGLES	N. Hub	1/7/70	SIZE CODE NUMBER REV.	
= .005 = 1/64 = 0°30'	PRD. ENG.	10/20/70	D BS FPP12-0-MQRI A	
FINAL SURFACE QUALITY	PRD. MFG.	12/1/70	SCALE	
REMOVE BURRS AND BREAK SHARP CORNERS	PRD. ASST.		SHEET OF 2	
MATERIAL	NEXT HIGHER ASSY		DIST.	
FINISH	A-ML-FPP12-0			

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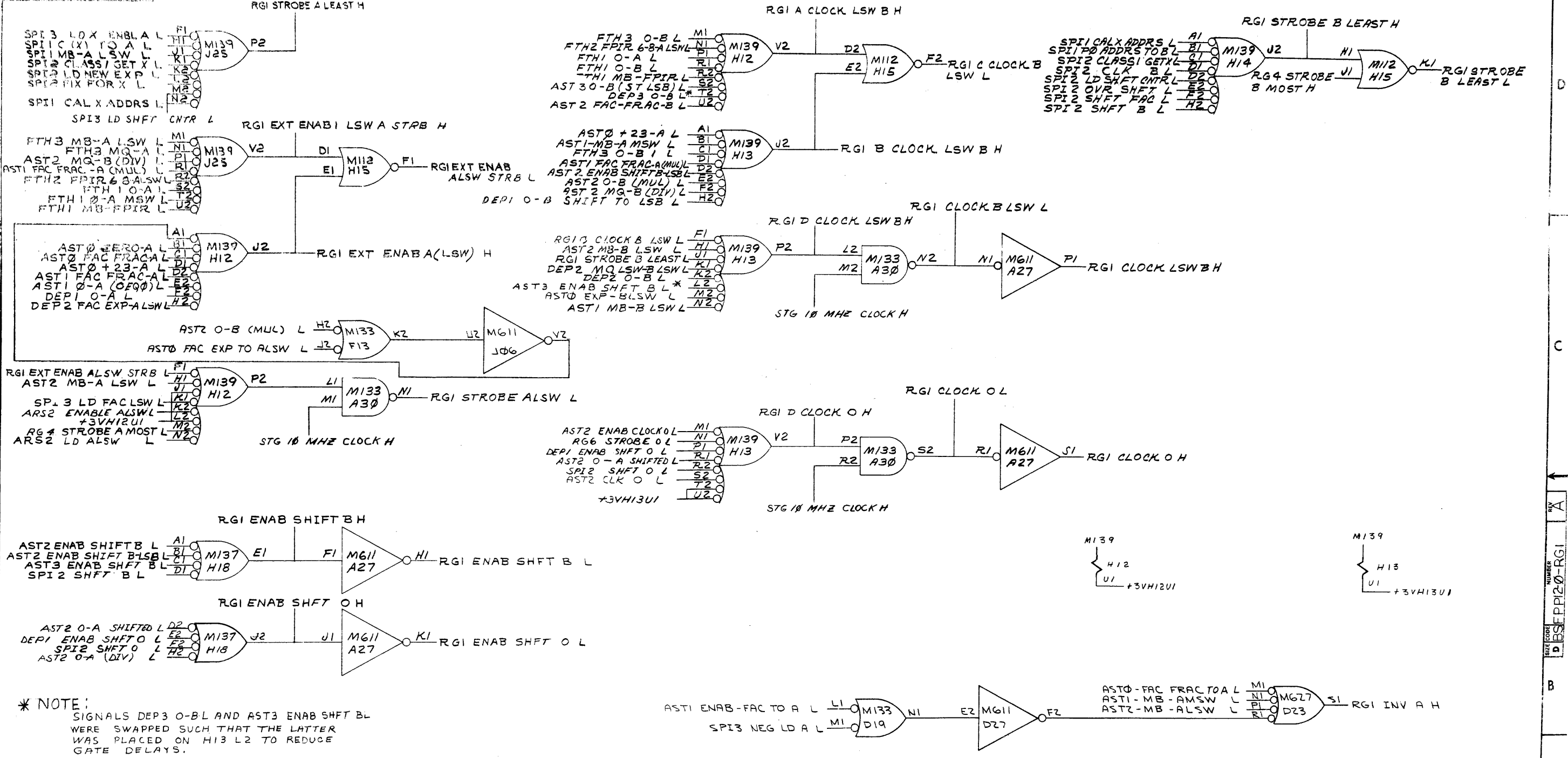
MQ Reg.



REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	ORIN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
DIMENSION IN INCHES	W. Major	11/10/70	MULTIPLIER QUOTIENT REGISTER 1	
DECIMALS ± .005	ENG. J. Smith	10/24/70	SIZE CODE NUMBER REV	
FRACTIONS ± 1/64	PROJ. ENG. A. Smith	11/24/70	DBS FPP12-0-MQRI -A	
ANGLES ± 0°30'	PROD. J. Peterson	11/17/70	SHEET 2 OF 2	
FINAL SURFACE QUALITY			DIST.	
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	NEXT HIGHER ASSY	A-M-FPP12-K		
FINISH	SCALE NONE			

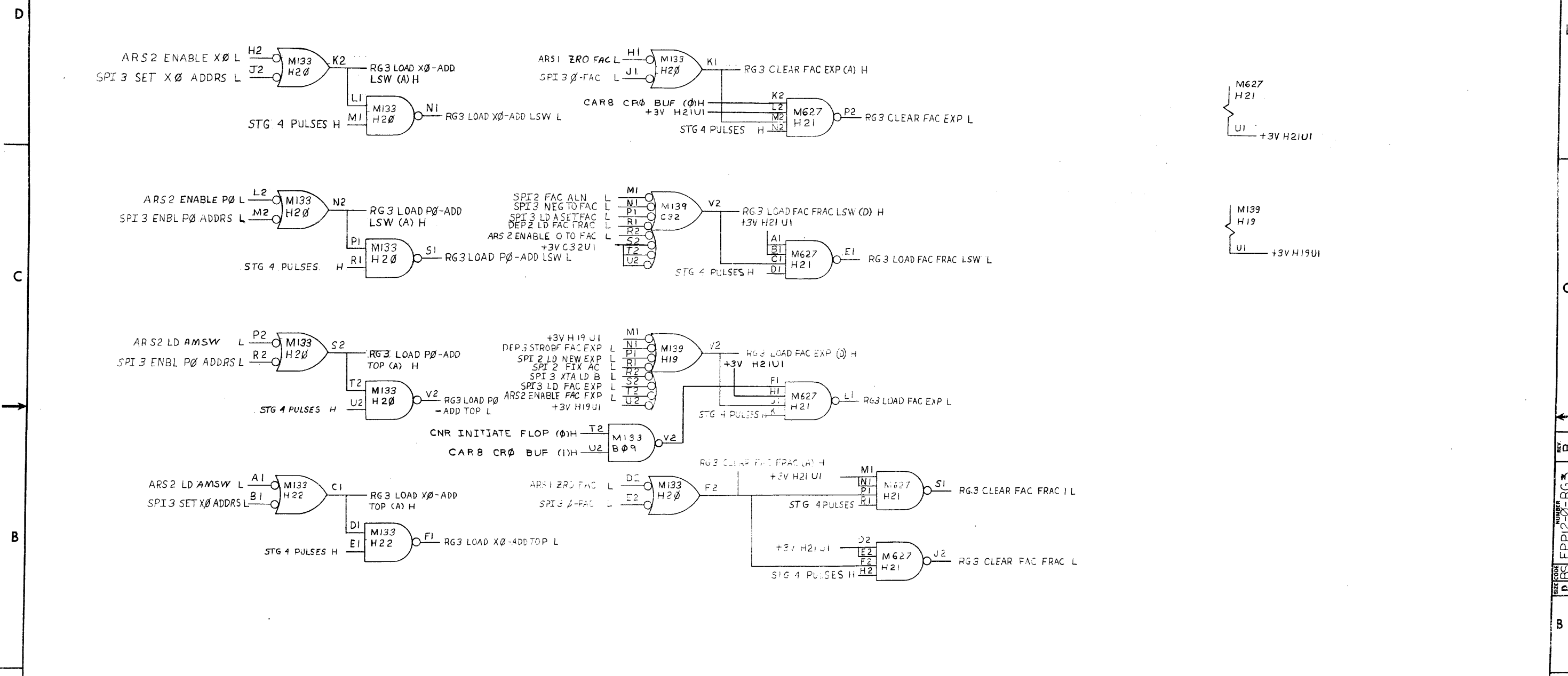
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REV	CHANGE NO.	DATE
1	FPP12-00002	7-31-70
2	5-2-71	
3	5-2-71	
4	5-2-71	
5	5-2-71	

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
TOLERANCES	ENG	DATE	REGISTER GATING I	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	SIZE/CODE NUMBER REV	
± .005 ± 1/64 ± 0°30'	PROJ. ENG.	DATE	A-ML- FPP12-0 DBSIFPP12-0-RG1 A	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	PROD	DATE	SCALE SHEET OF DIST.	
MATERIAL				
FINISH				

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REVISIONS	CHK	CHANGE NO.	REV.
	Q1	FPP12-00003	A
	S	Teicher	3-9-71
	S	FPP12-00005	B
	W	Teicher	5-6-71
	J	Teicher	5-20-71

DEC FORM NO. DRD 102A

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	FPP12		
UNLESS OTHERWISE SPECIFIED			
DRN	DC/A WALLACE	DATE	3-2-73
CHK'D	W. Major	DATE	11/13/73
ENG.		DATE	10/30/70
PROJ. ENG.		DATE	10/30/70
PROD.		DATE	12/1/70
NEXT HIGHER ASSY			
MATERIAL		A-ML-FPP12-2	SIZE CODE
FINISH		SCALE NONE	NUMBER
SHEET		OF	DIST.
			REV. B

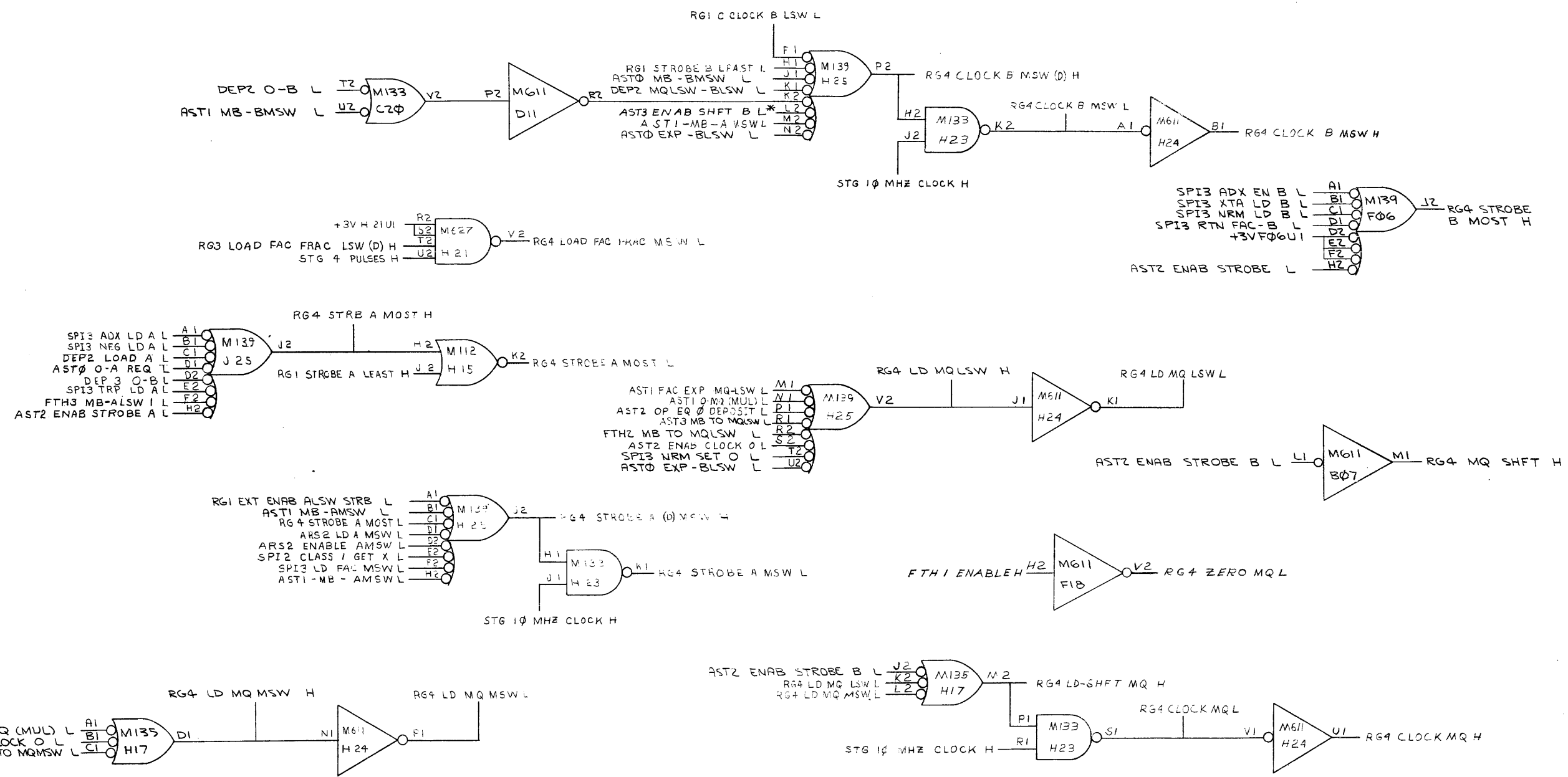
digital EQUIPMENT CORPORATION
 MAYNARD, MASSACHUSETTS

TITLE REGISTER GATING 3

SIZE CODE D
 NUMBER FPP12-0-RG3
 REV. B

REV. B
 NUMBER FPP12-0-RG3

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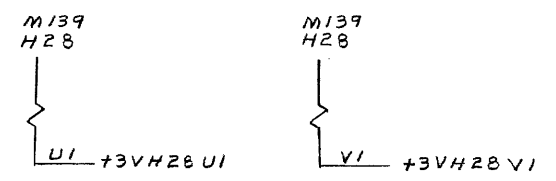
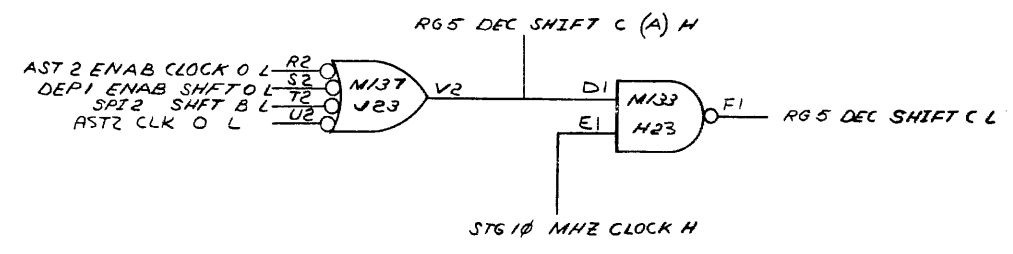
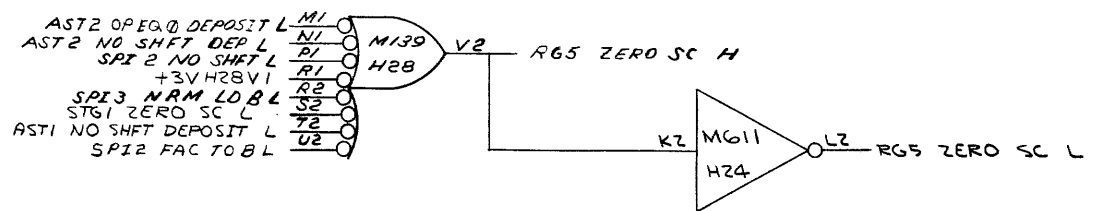
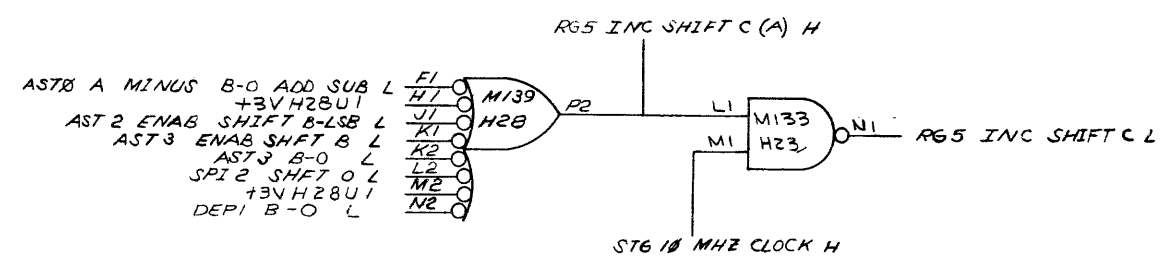
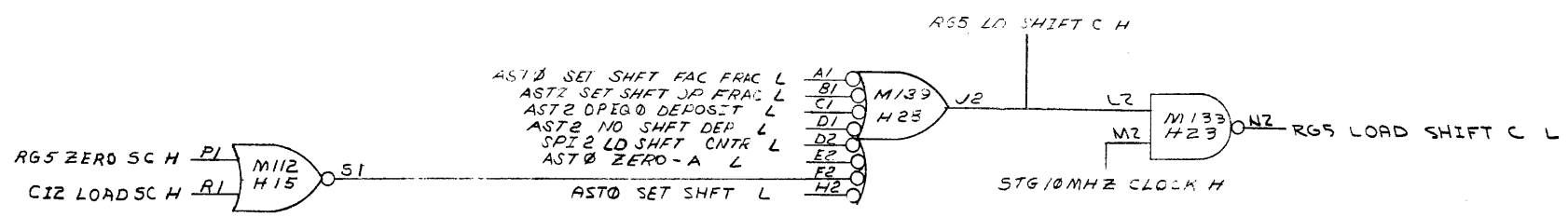
* NOTE: AST3 ENAB SHF2 BL WAS MOVED TO THIS POSITION TO REDUCE GATE DELAYS.

REV	REV
1	A
2	B

S. TEICHER 2-3-71
 A. B. 2/15/71
 R-MOORE 9-7-71
 R. B. 9-8-72

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS				
TITLE: REGISTER GATING 4				
NEXT HIGHER ASSY: A-M1-FPP12-0				
SCALE: NONE				
SHEET: 1 OF 1				
SIZE CODE: DBS FPP12-0-RG 4				
NUMBER: B				

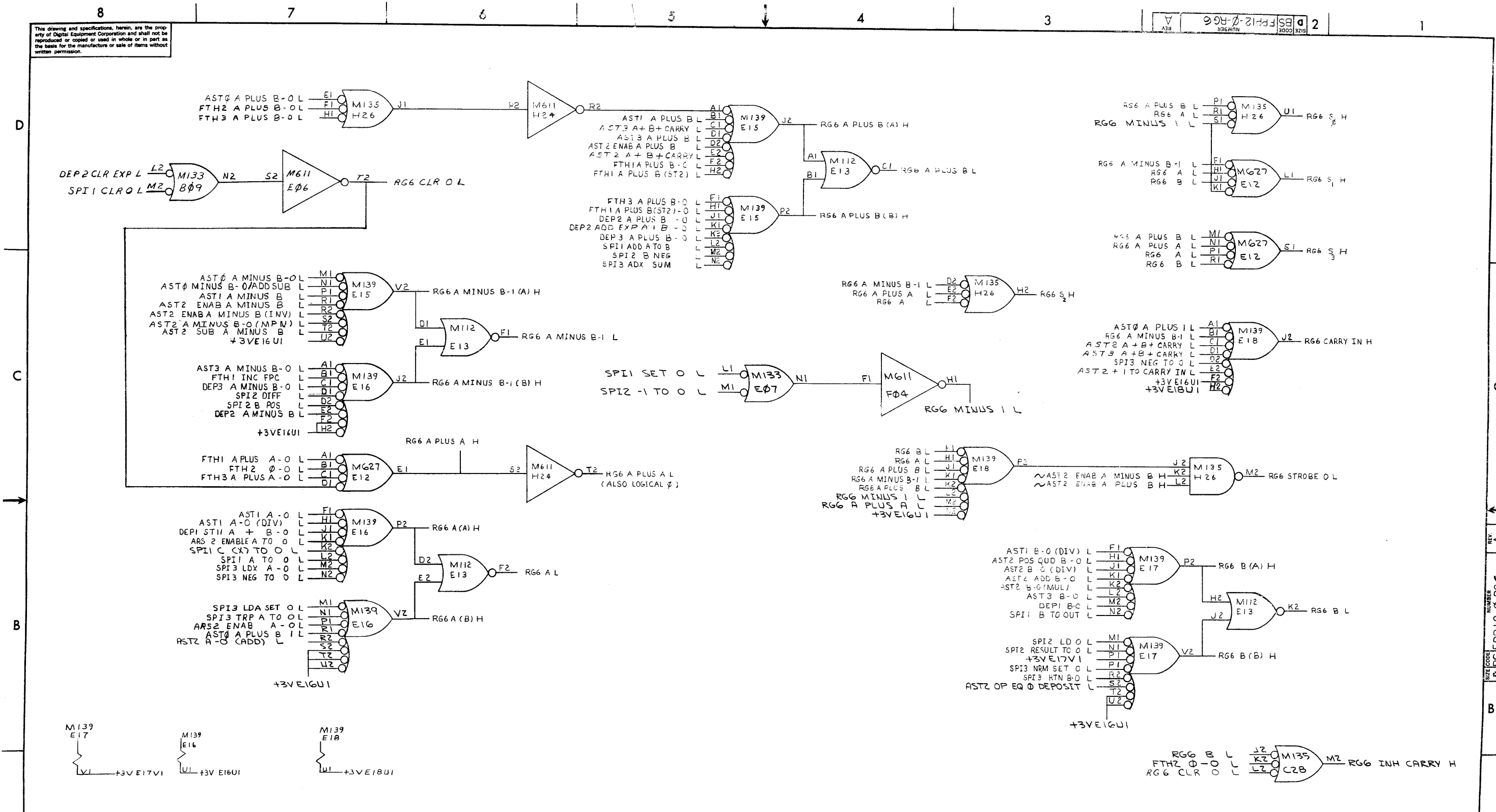
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REV	NO.	DATE
CHK		

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRAWN J. JESSINE	DATE 8-21-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD. W. MAJOR	DATE 11/10/70	TITLE REGISTER GATING 5	
TOLERANCES	ENG. J. JESSINE	DATE 10/31/70	SCALE NONE	
DECIMALS = .005	PROJ. ENG. J. JESSINE	DATE 10/31/70	NEXT HIGHER ASSY A-ML-FPP12-0	
FRACTIONS = 1/64	PROD. M. PETERSON	DATE 12/1/70	FINISH 	
ANGLES = 0°30'	MATERIAL 		SIZE CODE DBS	NUMBER FPP12-0-RG5
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	FINISH 		SCALE NONE	REV.
SHEET 1 OF 1		DIST		

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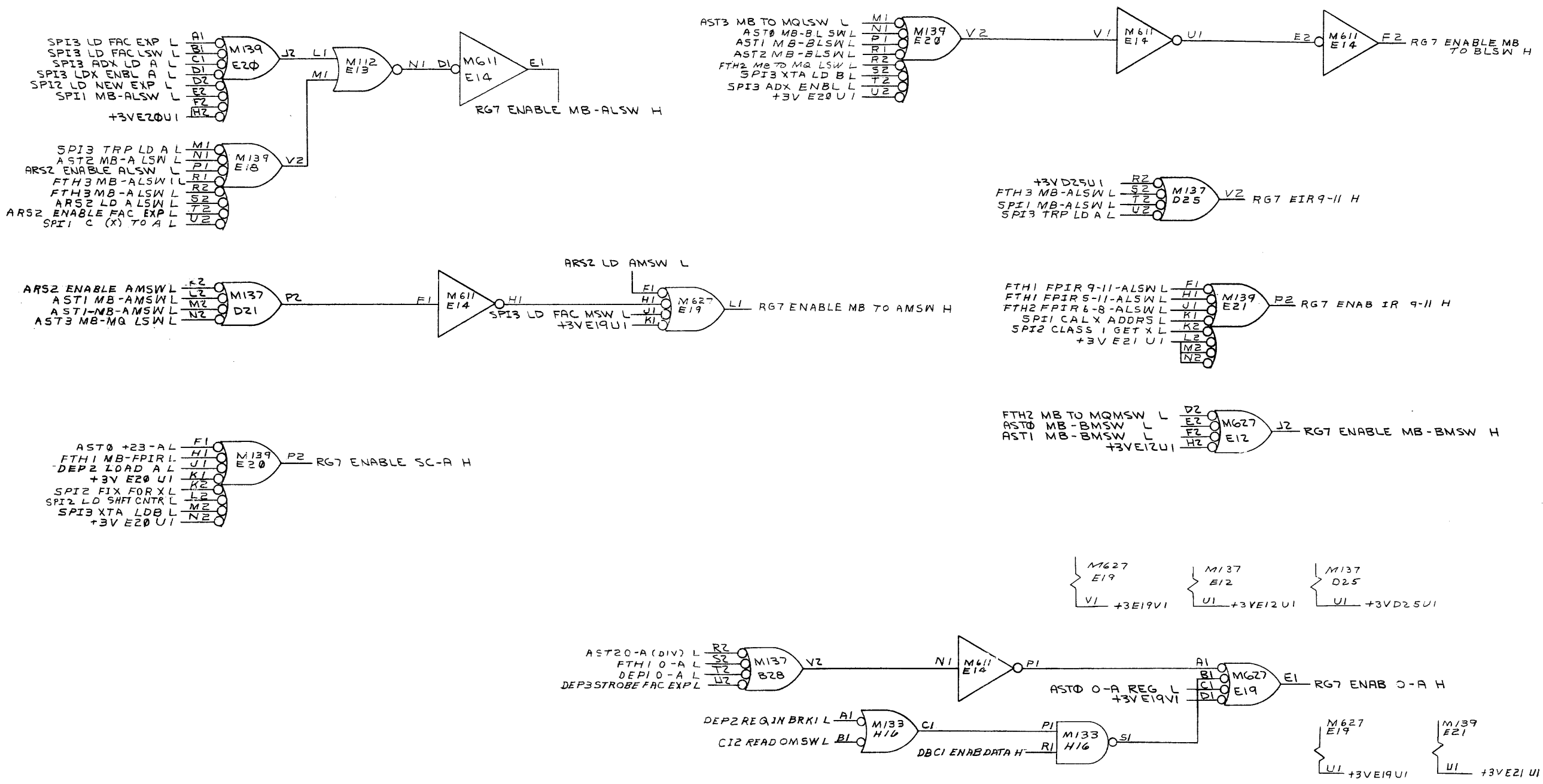


REV.	CHANGE NO.	CHK.
A	0003	FPP12-0003
		TEICHER
		3-9-71

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
UNLESS OTHERWISE SPECIFIED				
DRN	DATE	PARTS LIST		
CHK'D	DATE	digital EQUIPMENT CORPORATION		
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS FRACTIONS ANGLES				
= .005 ± 1/64 ± 0°30'				
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
FINISH				
SCALE NONE				
SHEET OF				
SIZE CODE		NUMBER		REV
D BS FPP12-		RGE		A
TITLE				
REG GATING 6				
(ENABLES FOR M190)				

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DBS FPP12-0-RG7 2

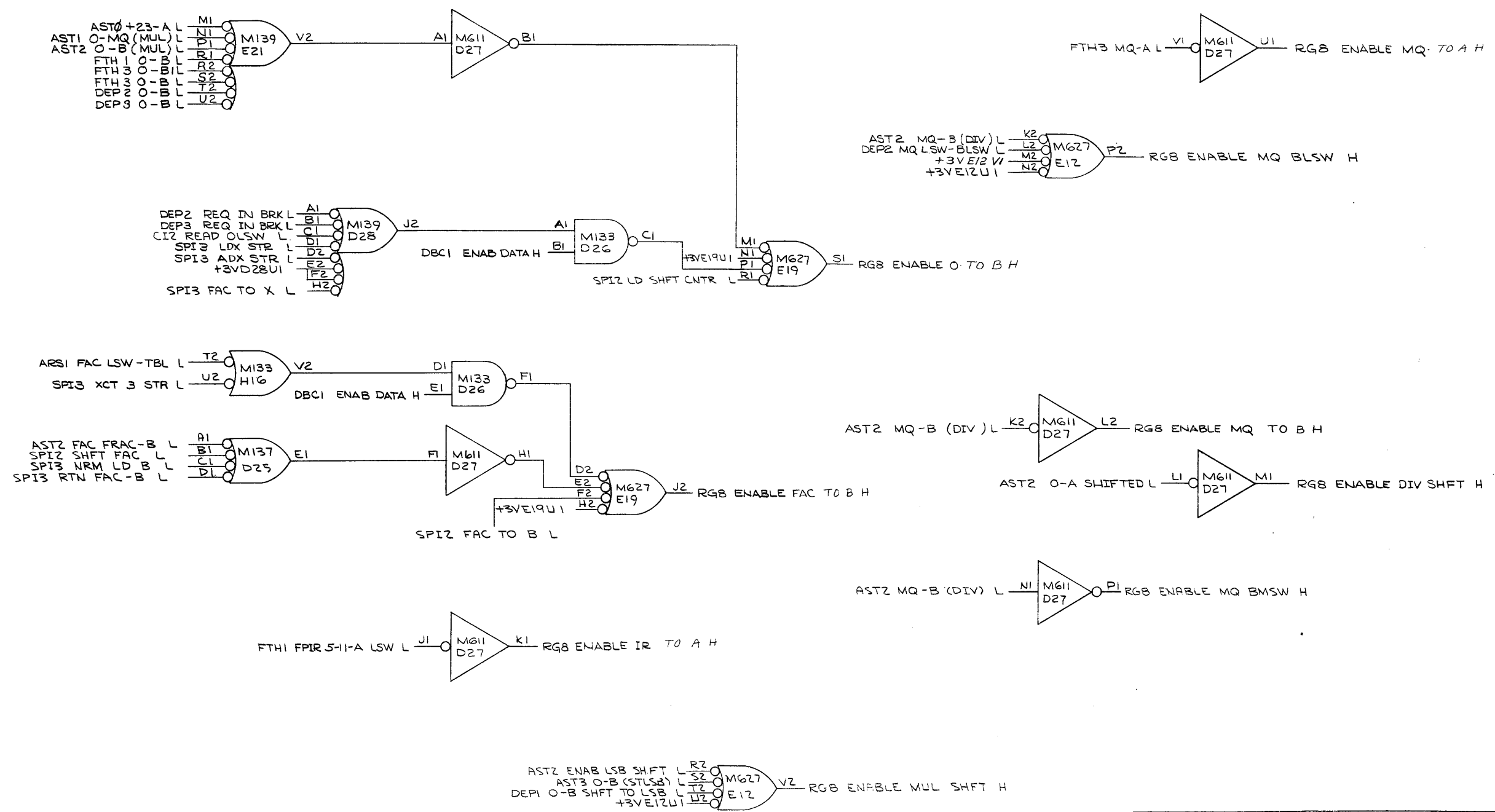


REV.	NO.	DATE	BY	CHKD.
1	A	11/10/70	W. J. Teicher	A. Decker

DEC FORM NO. DRD 102A

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
DRN	DATE	DATE	PARTS LIST	
CHK'D	DATE	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
ENG.	DATE	DATE	TITLE	
PROJ. ENG.	DATE	DATE	MULTIPLEXER ENABLES I	
PROD.	DATE	DATE	MATERIAL	
NEXT HIGHER ASSY				
A-ML-FPP12-0				
FINISH				
SCALE NONE				
SHEET OF				
SIZE CODE		NUMBER		REV.
DBS		FPP12-0-RG7		A
DIST.				

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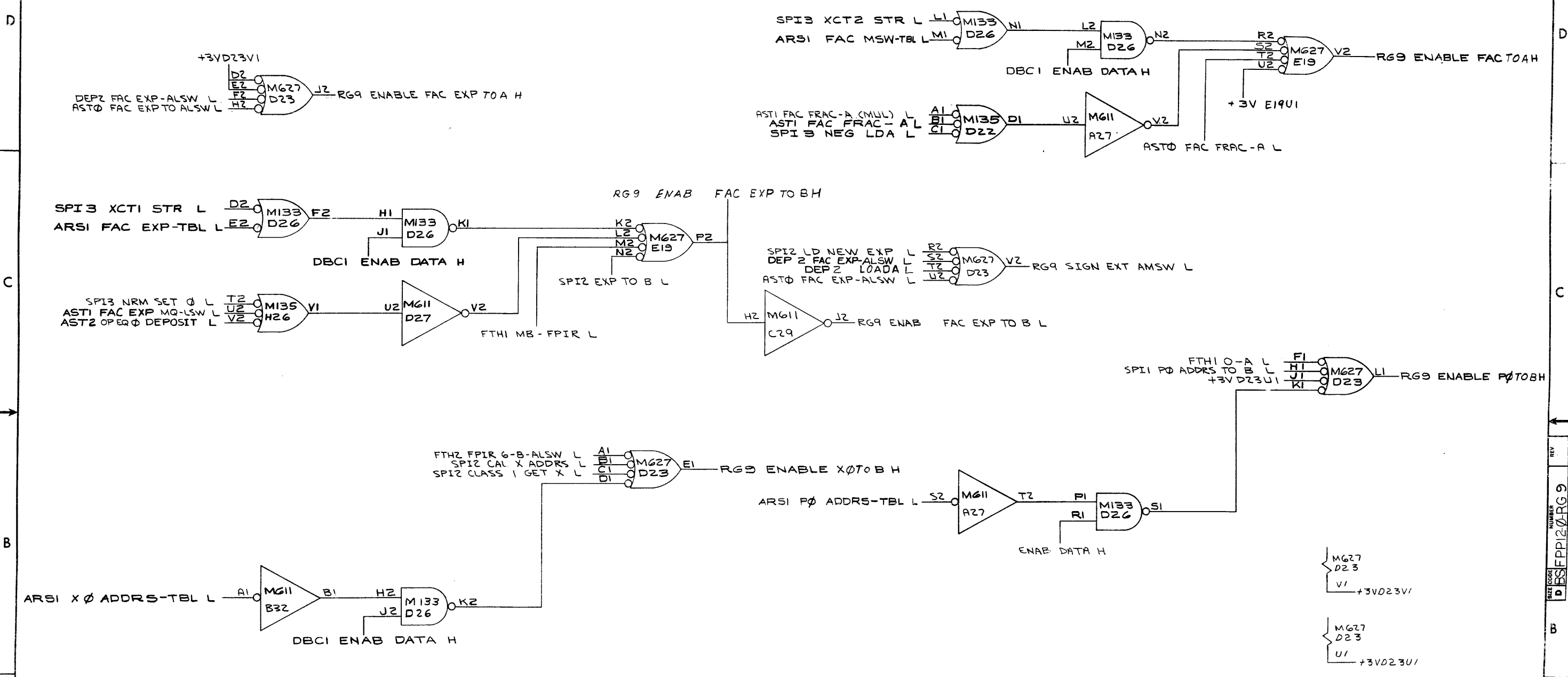


REVISIONS	CHANGE NO.	REV.
1	FPP12-0007	A
M. G. ... 9-7-71		
R. MOORE 9-8-71		

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D.	DATE	TITLE	
TOLERANCES	ENG.	DATE	MULTIPLEXER ENABLES 2	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	SIZE CODE NUMBER REV.	
± .005 ± 1/64 ± 0°30'	PROD.	DATE	D BS FPP12-0-RG8 A	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	NEXT HIGHER ASSY			
MATERIAL	A-ML-FPP12-0			
FINISH	SCALE NONE			
SHEET 1 OF 1		DIST.		

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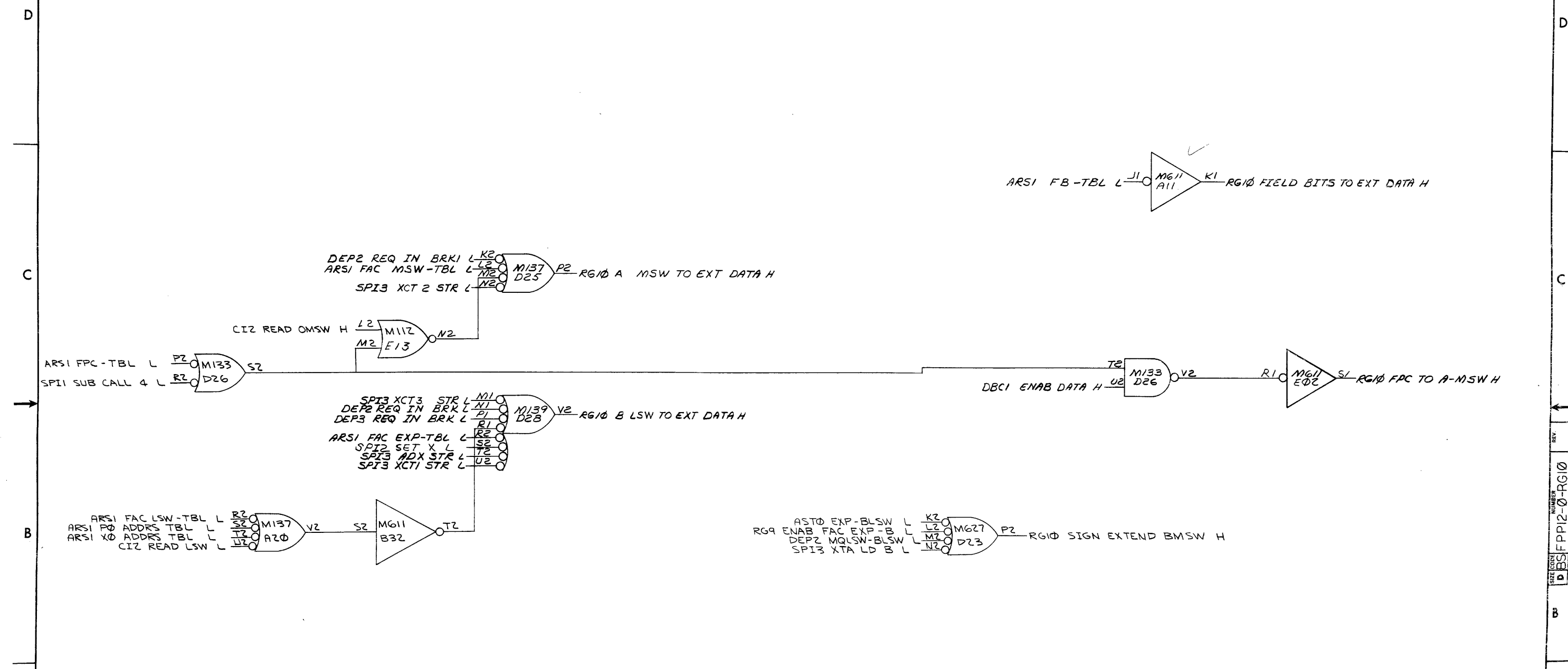
REV. 2
 SIZE CODE DBSFPPI2-0-RG9
 NUMBER 3000 3210



REV.	CHANGE NO.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MATNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE		
TOLERANCES				
DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL			MULTIPLEXER ENABLES 3	
FINISH				
NEXT HIGHER ASSY			SIZE CODE	NUMBER
A-ML-FPP12-Z			DBSFPPI2-0-RG9	REV.
SCALE			DIST.	
SHEET 1 OF 1				

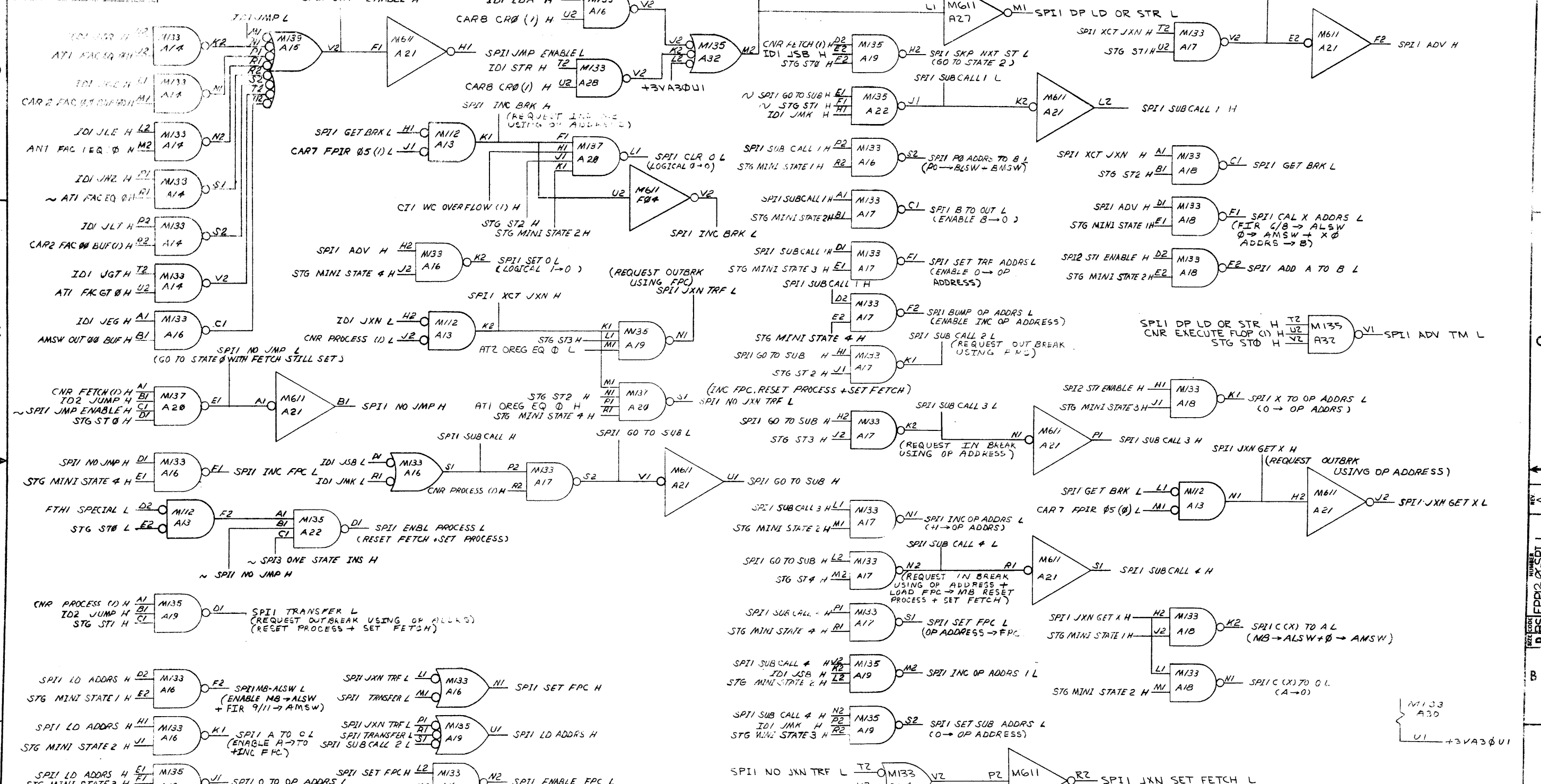
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REV	DATE	DESCRIPTION

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION WAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
DIMENSION IN INCHES	W. Major	11/10/70	MULTIPLEXER	
TOLERANCES	ENG	DATE	ENABLES 4	
DECIMALS = 0.005	PROJ. ENG.	DATE		
FRACTIONS = 1/64	A. S. S.	DATE		
ANGLES = 0°30'	PROD. DATE	DATE		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
FINISH				

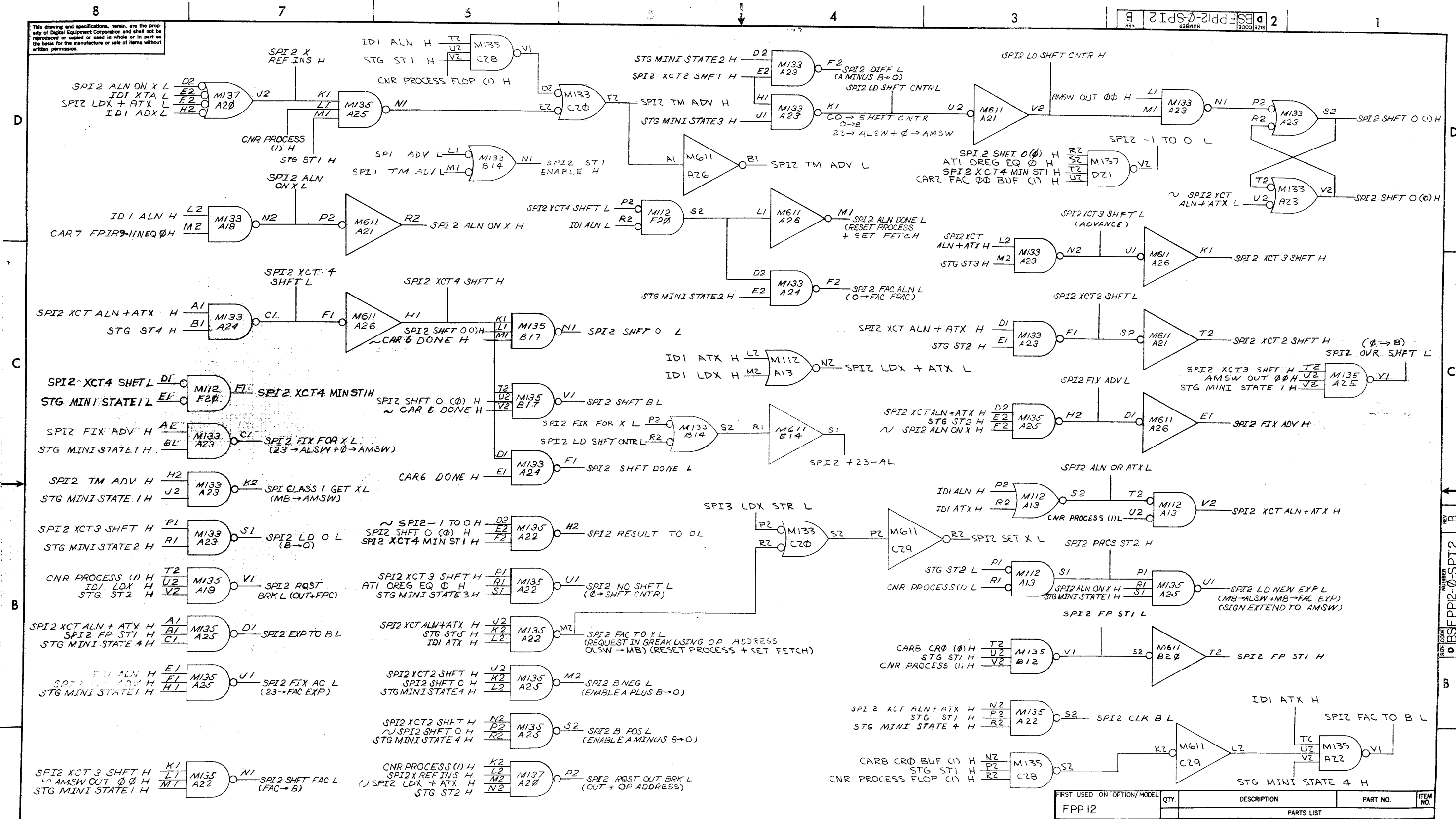
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REV	DATE	BY	CHKD	DESCRIPTION
1	8-11-70	J. Moore		FPP12-00011 A
2	10/30/70	J. Moore		FPP12-00011 B
3	10/30/70	J. Moore		FPP12-00011 C
4	12/1/70	J. Moore		FPP12-00011 D

FIRST USED ON OPTION/MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS FRACTIONS ANGLES				
= .005 ± 1/64 ± 0°30'				
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL	///	NEXT HIGHER ASSY	A-MLFPP12-0	REV A
FINISH	///	SCALE NONE	D E S F P P 1 2 - 0 - S P I 1	
SHEET	OF	DIST.		

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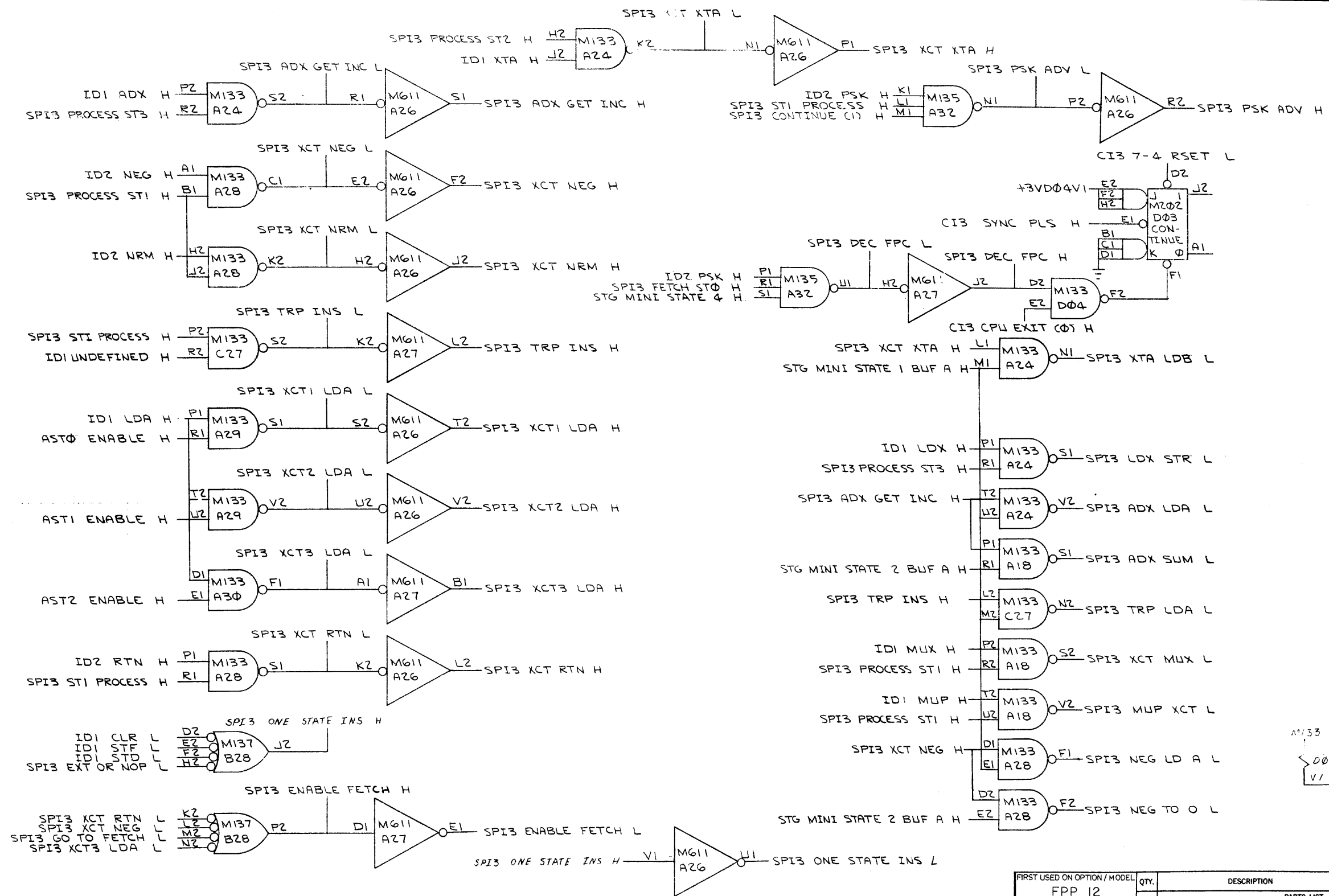
REV.	CHG. NO.	DATE	BY	CHK.
A	00003	3-7-71	TEICHER	
B	00007	3-7-71	TEICHER	
			R-MOORE	
			R-MOORE	

DEC FORM NO. DRG 107A

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				
UNLESS OTHERWISE SPECIFIED				
DRN. DATE	M. LAMBERT	3-3-71		
CHK'D. DATE				
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES				
TOLERANCES				
DECIMALS	FRACTIONS	ANGLES		
± .005	± 1/64	± 0°30'		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE				
SHEET OF				
TITLE		REV.		
SPECIAL INSTRUCTIONS 2		B		
PARTS LIST		NUMBER		
A-ML-FPP12-0		DBSFPP12-0-SPI2		

REV. B
NUMBER
DBSFPP12-0-SPI2

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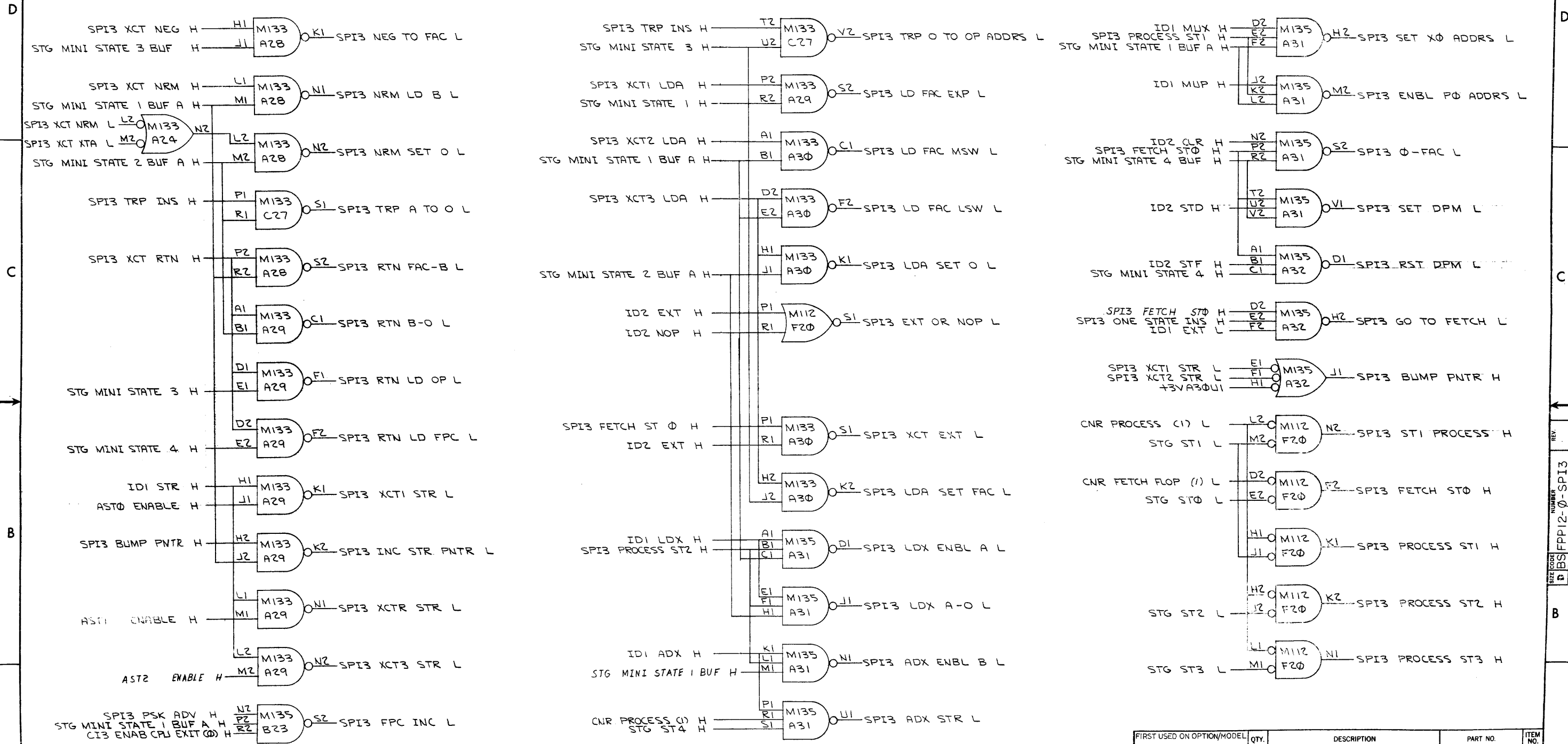
REV	CHANGE NO.

FIRST USED ON OPTION / MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	W. MAJOR	DATE	9/3/70
UNLESS OTHERWISE SPECIFIED	CHK'D	W. MAJOR	DATE	11/10/70
UNLESS OTHERWISE SPECIFIED	ENG.	A. DEW	DATE	10/30/70
UNLESS OTHERWISE SPECIFIED	PROJ. ENG.	A. DEW	DATE	10/24/70
UNLESS OTHERWISE SPECIFIED	PROD.	P. PETERS	DATE	12/1/70
MATERIAL				
NEXT HIGHER ASSY				
A-ML-FPP12-0				
FINISH				
SCALE				
SHEET 1 OF 2				
TITLE				
SPECIAL INSTRUCTIONS 3				
EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
SIZE CODE NUMBER REV				
BS FPP12-0-SPI3				

REV. 2
 SIZE CODE
 BS FPP12-0-SPI3

A

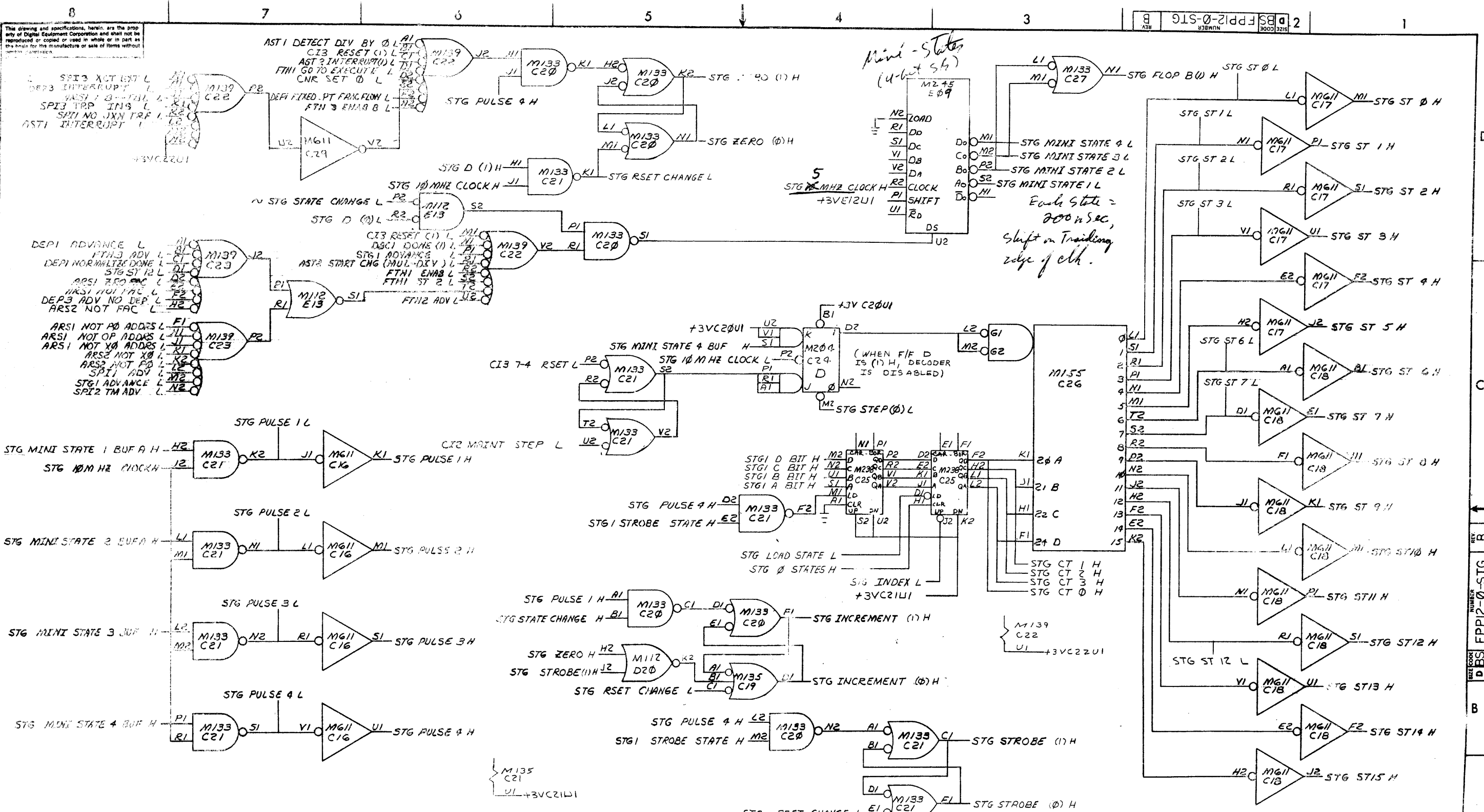
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REV.	CHANGE NO.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN.	W. MAJOR	DATE 9/3/70	 EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
UNLESS OTHERWISE SPECIFIED	CHK'D.	W. MAJOR	DATE 11/10/70	
UNLESS OTHERWISE SPECIFIED	ENG.	W. MAJOR	DATE 11/10/70	
UNLESS OTHERWISE SPECIFIED	PROJ. ENG.	W. MAJOR	DATE 10/21/70	
UNLESS OTHERWISE SPECIFIED	PROD.	R. PATTON	DATE 12/1/70	
MATERIAL	NEXT HIGHER ASSY			
FINISH	A-ML-FPP12-0			
SCALE		SHEET 2 OF 2		
TITLE		SPECIAL INSTRUCTIONS 3		
SIZE CODE		NUMBER		
D BS FPP12-0-SPI3		REV.		
DIST.		1		

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Mini-States
(4-bit state)

Each State = 200 nSec,
Shift on Trailing
edge of clk.

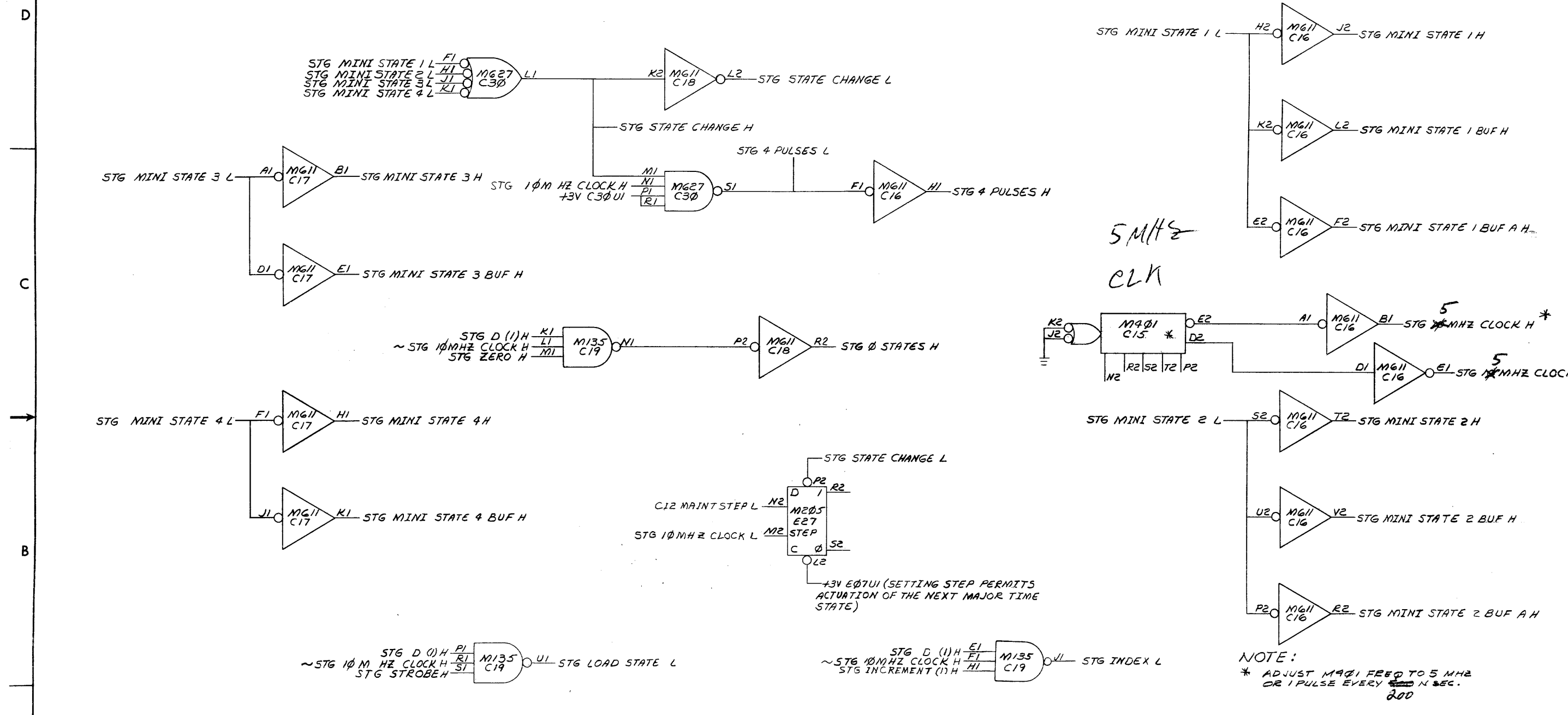
REV.	CHANGE NO.	DATE	BY
A	0005	5-27-71	FEICHER
B	0007	5-28-71	A. Smith
C	0008	9-17-71	D. COBB
D	0009	7-1-71	W. HARRIS

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP12				

UNLESS OTHERWISE SPECIFIED	DRN	DATE	TITLE
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES = .005 = 1/64 = 90° FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	W. Major	11/20/70	STATE GEN
MATERIAL	R. Peterson	12/1/70	
FINISH			

SIZE CODE	NUMBER	REV.
DBS	FPP12-0-STG	B

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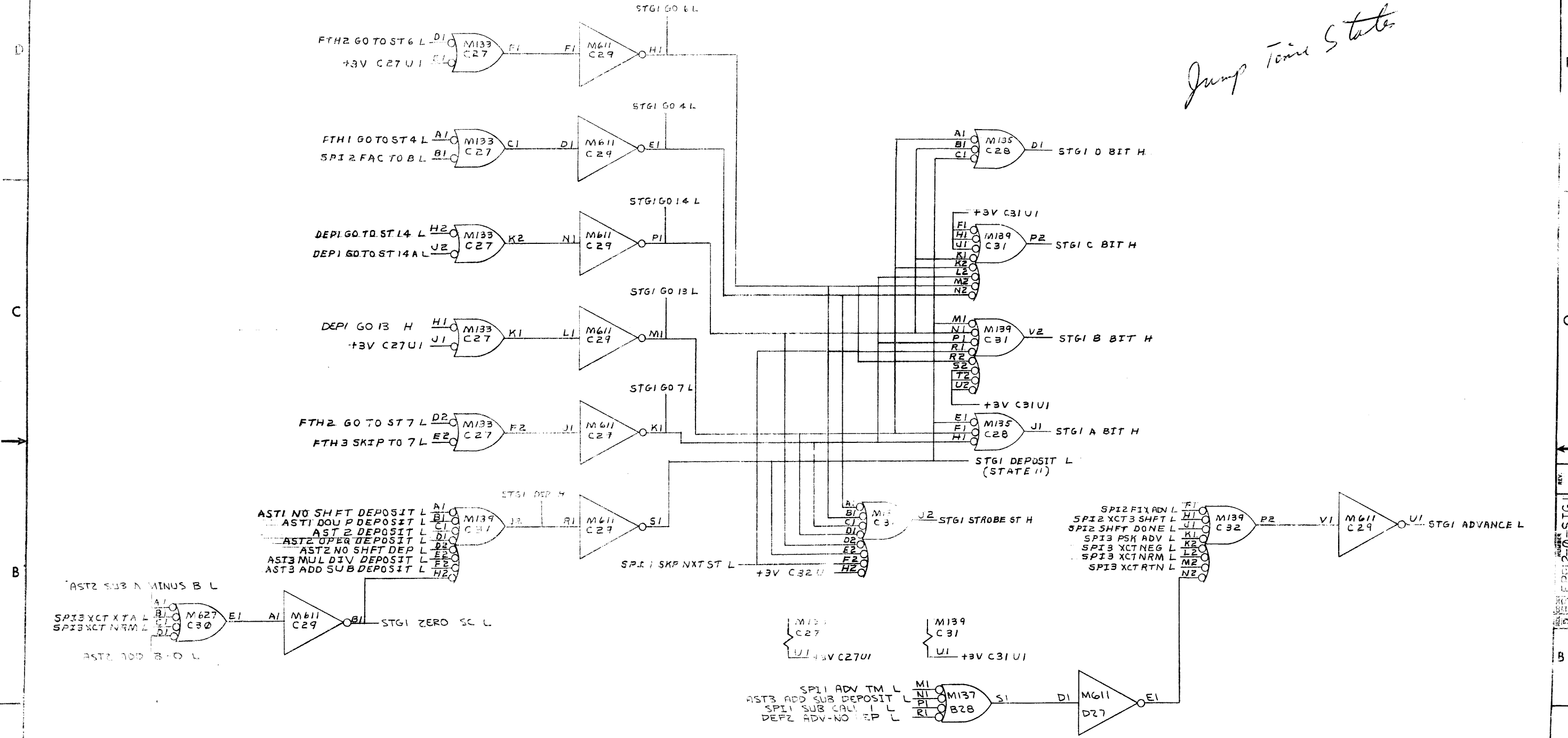


REV	
CHANGE NO.	
CHK	

FIRST USED ON OPTION MODEL FPPI2	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	DRN <i>W. Major</i>	DATE 7-31-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
MATERIAL	ENGR <i>A. J. ...</i>	DATE 12/31/70	TITLE STATE GEN	
FINISH	PRD. <i>R. Peterson</i>	DATE 12/1/70	SCALE NONE	REV. B
			SHEET 2 OF 2	

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Jump Time State



REV.	CHANGE NO.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FFP12				
UNLESS OTHERWISE SPECIFIED				
DRN	DKC/GT	DATE	8/7/70	
CHK'D	W. Major	DATE	11/10/70	
ENG	J. J. J.	DATE	1/17/70	
PROJ. ENG.	J. J. J.	DATE	11/24/70	
PROD.	R. P. P.	DATE	12/1/70	
NEXT HIGHER ASSY				
A-M-FFP12-0				
SCALE NONE				
SHEET OF				
TITLE		PARTS LIST		
STATE GENERATOR JUMPS		digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
SIZE CODE	NUMBER	REV.		
DBS	FFP12-0-STG1			

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
USAGE	M197	M611	M101	M101	M611	M611	M133	M623	M245	M129	M129	M627	M112	M611	M139	M139	M139	M139	M627	M139	M139	M129
D	C13 IOT 1-2-2, 3-1, 3-2, 4-1, 4-2, 5-1, 5-2, 6-1, 6-2, 7-1, 7-2, 7-4	C13 IOT 7-4 LD AC ID2 DOU P SUB ID2 F SUB ID2 FADD THRU ID2 NOP ID2 RESULTS TO MEM	ENABLE CLR LD AC ID2 DOU P SUB ID2 F SUB ID2 FADD THRU ID2 NOP ID2 RESULTS TO MEM	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)
E	C13 IOT 1-2-2, 3-1, 3-2, 4-1, 4-2, 5-1, 5-2, 6-1, 6-2, 7-1, 7-2, 7-4	C13 IOT 7-4 LD AC ID2 DOU P SUB ID2 F SUB ID2 FADD THRU ID2 NOP ID2 RESULTS TO MEM	ENABLE CLR LD AC ID2 DOU P SUB ID2 F SUB ID2 FADD THRU ID2 NOP ID2 RESULTS TO MEM	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)	C11 BMB 00 (1)
C	M135	M611	M611	M611	M623	M139	M139	M139	M245	M245	M245	M139	M133	M112	M135	M139	M139	M611	M205	M112	M139	M139
F	SET BRK REQ FLOP	C11 BAC 11 (1)	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD	DBC1 ENAB DATA	DBC2 OP ADD
B	M129	M190	M190	M190	M611	M205	M611	M178	M178	M178	M178											
E	AMSW B REG LSB 3	AMSW B REG LSB 4	AMSW B REG LSB 5	AMSW B REG LSB 6	AMSW B REG LSB 7	AMSW B REG LSB 8	AMSW B REG LSB 9	AMSW B REG LSB 10	AMSW B REG LSB 11	AMSW B REG LSB 12	AMSW B REG LSB 13	AMSW B REG LSB 14	AMSW B REG LSB 15	AMSW B REG LSB 16	AMSW B REG LSB 17	AMSW B REG LSB 18	AMSW B REG LSB 19	AMSW B REG LSB 20	AMSW B REG LSB 21	AMSW B REG LSB 22	AMSW B REG LSB 23	AMSW B REG LSB 24
F	EXT LD A1	EXT LD A2	EXT LD A3	EXT LD A4	EXT LD A5	EXT LD A6	EXT LD A7	EXT LD A8	EXT LD A9	EXT LD A10	EXT LD A11	EXT LD A12	EXT LD A13	EXT LD A14	EXT LD A15	EXT LD A16	EXT LD A17	EXT LD A18	EXT LD A19	EXT LD A20	EXT LD A21	EXT LD A22

NOTES: * FOR NEG BUS (FPP12-N)
 REPLACE M101 AND M623 WITH
 M100 AND M633 RESPECTIVELY
 IF A FPP12-N MAKE ADD/DELETES
 INDICATED ON PRINTS CAR8 AND C11.
 IF A FPP12-B MAKE ADD/DELETES
 INDICATED ON PRINTS CAR8 AND DBC1.

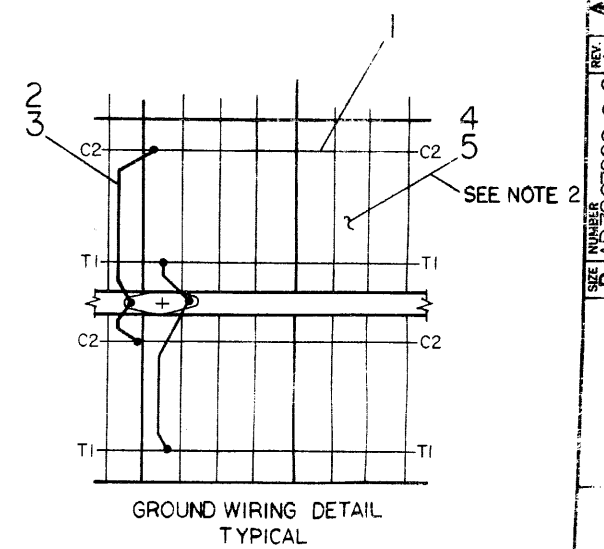
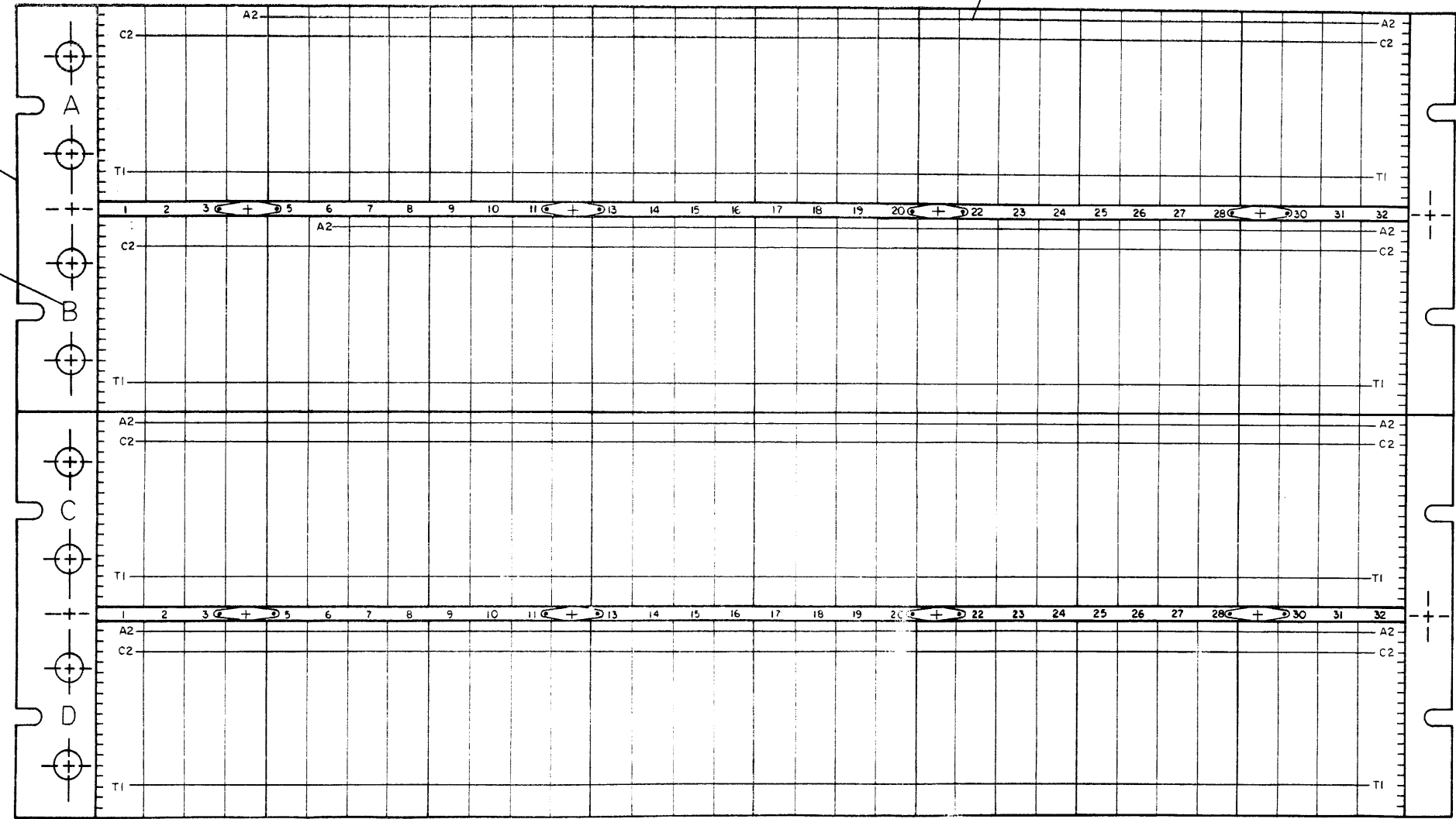
FIRST USED ON OPTION/MODEL FPP 12	DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES = .005 = 1/64 = 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	DRN. W.M.A. 102 CHK'D. W.M.A. 102 DATE 12/1/70 ENR. J. DeLuca DATE 12/1/70 PROJ. ENG. J. DeLuca DATE 12/1/70 PROD. J. DeLuca DATE 12/1/70	DATE 10/21/70 DATE 12/1/70 DATE 12/1/70	TITLE MODULE UTILIZATION
	MATERIAL FINISH	NEXT HIGHER ASSY A-ML-FPP12-0	SCALE SHEET 3 OF 4	SIZE/CODE DIMU FPP12-0-02

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WIRE TABLE

ITEM NO	DESCRIPTION	SIGNAL NAME	FROM PIN	TO PIN	REMARKS
5	30 BLU	DBCI SET BRK REQ FLOP L	E2 F2	F0?D1	SEE NOTE 5

- NOTES:
1. CONNECTIONS ON ITEM NO 1#2 TO BE LOCATED AND SOLDERED AT MINIMUM PRACTICAL HEIGHT ABOVE BLOCKS
 2. ALL CONNECTOR BLOCKS TO BE GROUNDED TO GROUND LUGS AS SHOWN, 4 PLACES
 3. JUMPER GROUND BUSSING AS SHOWN 8 PLACES.
 4. USE YELLOW WIRE (ITEM#4) FOR MACHINE WRAPPED AND BLUE WIRE (ITEM#5) FOR HAND WRAPPED WIRING.
 5. THIS SIGNAL IS NOW HAND-WRAPPED TO ELIMINATE NOISE PICK-UP.



D
C
B
A

REVISIONS

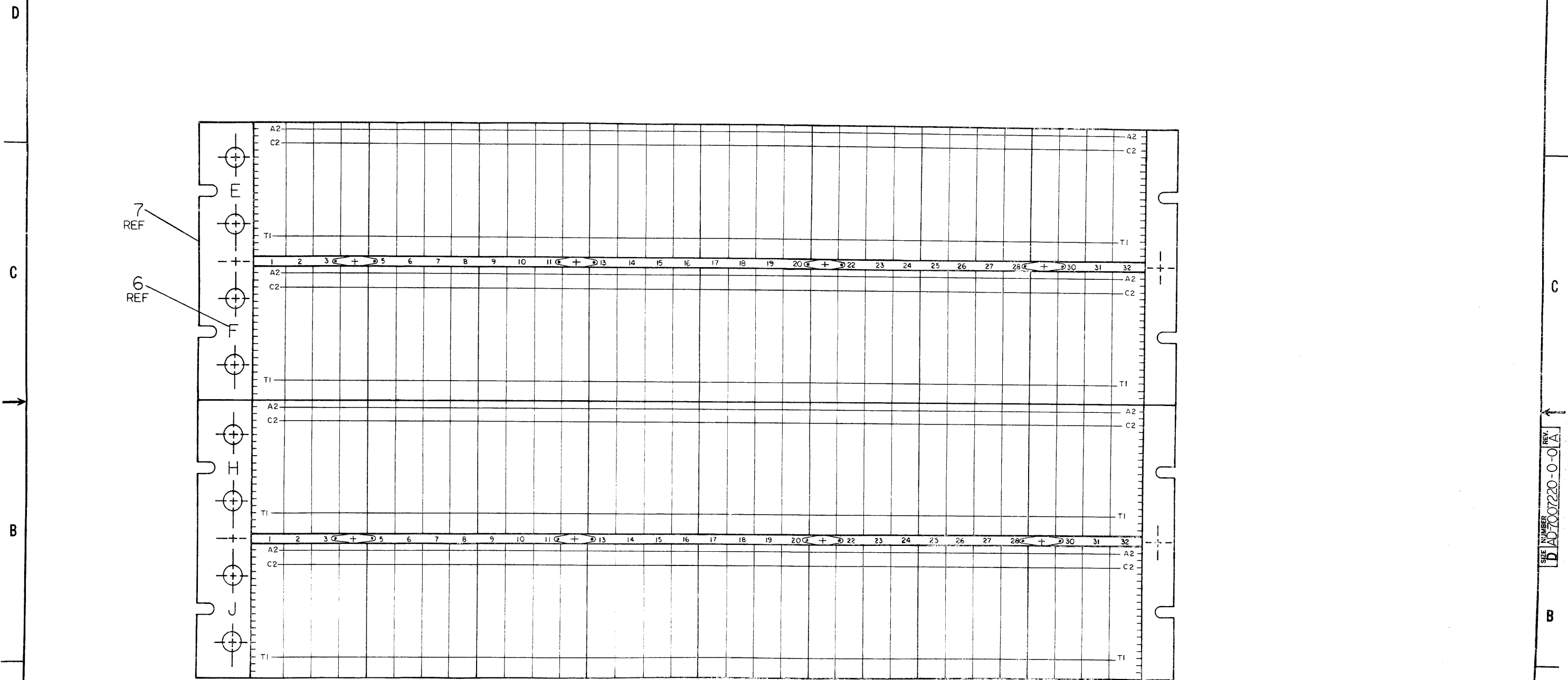
CHK	CHANGE NO.	REV.	DATE
	FPP12-00014	A	

DEC FORM NO. 117

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
FPP 12				
DO NOT SCALE DRAWING	DRN. W. MAJOR	DATE 8/9/70	PARTS LIST	
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	CHK'D. W. MAJOR	DATE 10/20/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
TOLERANCES DECIMALS FRACTIONS ANGLES = .005 = 1/64 = 0°30'	ENG. J. S. [Signature]	DATE 10/23/70	TITLE	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	PRG. ENG. [Signature]	DATE 10/31/70	WIRED ASS'Y (FPP12)	
MATERIAL	PROD. [Signature]	DATE 11/13/70	NEXT HIGHER ASSY	
FINISH			D-UA-FPP12-0-0	
			SCALE NONE	
			SHEET 1 OF 2	
			DIST. [Signature]	

REV. 0-0-022002-0-0

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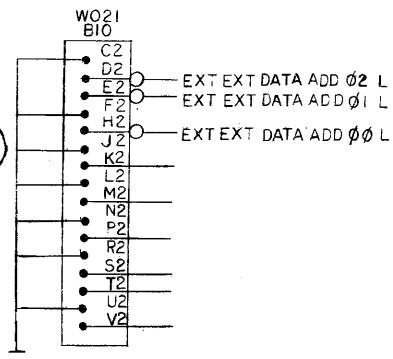
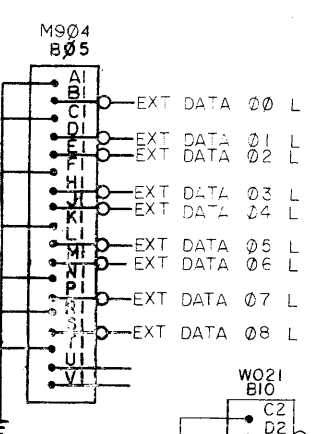
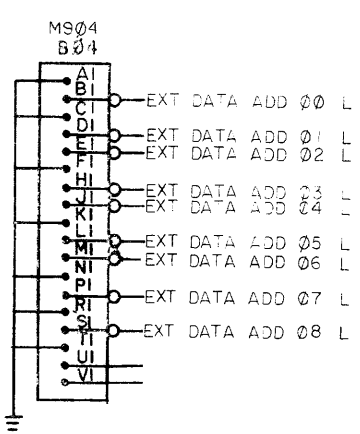
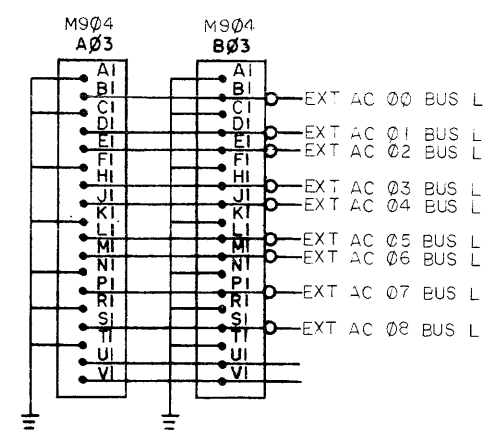
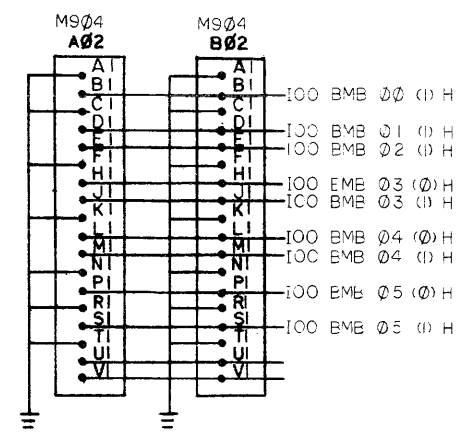
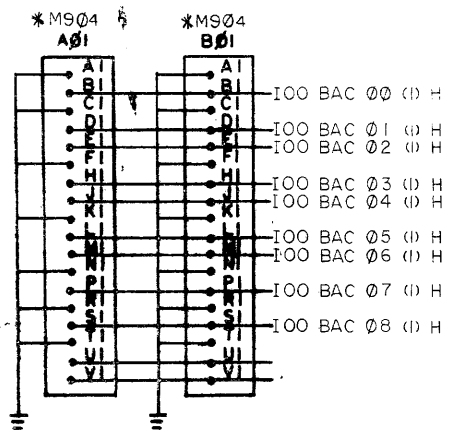


REV.	CHANGE NO.	CHK

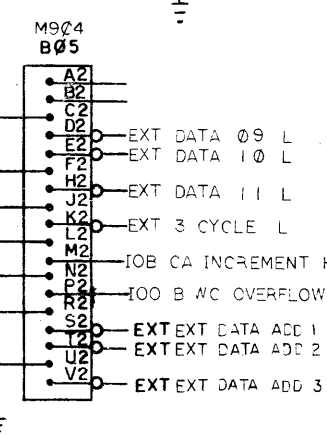
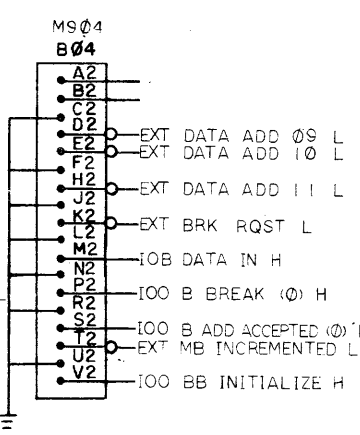
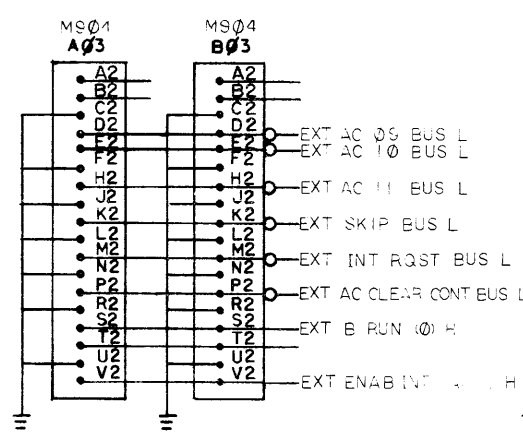
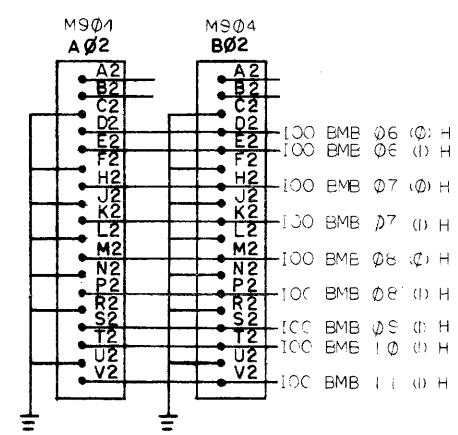
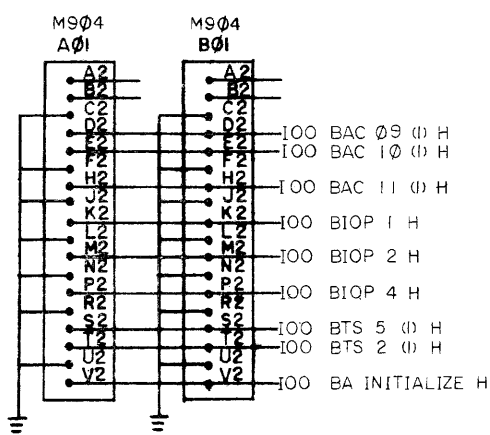
DEC FORM NO. 117

QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES = .005 = 1/64 = 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS FINISH		DRN. W. MAJOR DATE 3/18/70 CHKD. W. MAJOR DATE 10/20/70 ENG. J. Seib DATE 10/30/70 PROJ. ENG. J. Seib DATE 10/30/70 PROD. J. Seib DATE 12/10/70 NEXT HIGHER ASSY D-UR-FPPI2-0-0 SCALE NONE SHEET 2 OF 2	
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		TITLE WIRED ASS'Y (FPPI2) SIZE CODE: D AD 7007220-0-0 NUMBER REV. A	

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(THIS CABLE IS USED WITH PDP8 OR LINC 8 COMPUTERS WITH NO DMOI)



NOTES:
 PLACE G717 (ETCH REV B) MODULE IN LAST DEVICE ON FOS BUS.

REV.	CHANGE NO.	REVISIONS
A	0005	FPP12-0-IOC
	5-7-71	TEICHER
	5-24-71	A. D. B. 5-24-71


DEC FORM NO. DRD 102A

FIRST USED ON OPTION/MODEL FPP 12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30'	DRN. W. Major	DATE 9/14/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D. W. Major	DATE 11/10/70	TITLE I/O CONNECTORS	
MATERIAL + +	ENG. J. Reid	DATE 10/5/70	SIZE CODE NUMBER REV. D I C F P P 1 2 - 0 - I O C A	
FINISH + +	PROD. R. Peter	DATE 12/1/70	SCALE SHEET 1 OF 1	

G. J. H.

DRWG NO	REV LTR
K-WL-FPPI2-0-04	L

REVISIONS			
REV LTR	ECO NO	DATE	ENG
A	FPP10-00001	1-4-71	SJT
B	FPP12-00002	2-3-71	SJT
C	FPP12-00003	3-5-71	SJT
D	FPP12-00005	5-11-71	SJT
E	FPP12-00006	5-17-71	RMM
F	FPP12-00007	9-2-71	RMM
H	FPP12-00008	1-13-72	RMM
J	FPP12-00009	3-9-72	RMM
K	FPP12-00011	5/24/72	RMM
L	FPP12-00014	9-21-73	R&T

DRAWN W. MAJOR	DATE 10/27/70	 <p>digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS</p>	TITLE WIRE LIST		
CHECKED w. major	DATE 10/30/70		FOR TAPE* FILE*		
ENG J. Feidin	DATE 10/30/70		ASSY NO D-AD-7007220-0-0	SIZE K	CODE WL
PROJ ENG J. Feidin	DATE 10/30/70		SCALE ++	DWG. NO. FPPI2-0-04	REV LTR L
PROD P. Peterson	DATE 12/2/70		SHEET 1 OF 1	DIST.	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY / VARIATION													
MADE BY G. MARINI		CHECKED D. HEALY		SECTION													
DATE 1-26-71		DATE 2-24-71		1													
ENG <i>R. Peterson</i>		PROD <i>R.M. Antunovic</i>		ISSUED SECT.													
DATE 3/3/71		DATE 3/3/71		1													
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION															
1	D-IA-5309024-0-0	FRONT PANEL				1											
2	9006073-3	SCR PHL H TRUSS 10-32 X 1/2 SST				6											
3	9006635	WASHER INT TOOTH #10				10											
4	9006022-1	SCR PHL H PAN 6-32 X 3/8 SST				10											
5	9006633	WASHER INT TOOTH #6				22											
6	1211348	FUSE HOLDER HKP LITTLE FUSE				1											
7	900721	FUSE 5 AMP FAST BLOW				1											
8	9007591	FUSE 25 AMP FAST BLOW				1											
9	9007217	FUSE 3 AMP FAST BLOW				1											
10	9008290-0	FUSE 12 AMP SLOW BLOW				1											
11	9007036	GROMMET CAT #122-37-2500 (3 7/8 LG)				A/R											
12	D-IA-5309023-0-0	COVER TOP				1											
13	E-IA-5309038-0-0	CHASSIS ASSY PWR SUP				1											
14	9008401	HEX H BOLT 1/4-20 X 5.00 LG				1											
15	9007242	FUSE HOLDER HKP, BUSSMAN				3											
16	1210263	FINGER GUARD				1											
17	E-IA-5408990-0-0	MODULE BOARD				1											
18	E-IA-7007041-0-0	HARNESS NO 1 H721 P.S.				1											
19	9006024-1	SCR PHL H PAN 6-32 X 1/2				6											
20	9006560	NUT KEPS 6-32				9											
21	C-IA-7007117-0-0	HARNESS NO 2 H721 P.S.				1											
22	9006026-1	SCR PHL H PAN 6-32 X 3/4 LG				10											
TITLE H721 POWER SUPPLY				ASSY NO. D-UA-H721-0-0		SIZE CODE A PL		NUMBER H721-0-0				REV. F		ECO NO. H721 00009			
				SHEET 1 OF 4		DIST.											

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY / VARIATION													
MADE BY G. A. MARINI		CHECKED D. HEALY		SECTION													
DATE 1-26-71		DATE 2-24-71		1													
ENG <i>R. Peterson</i>		PROD <i>R.M. Antunovic</i>		ISSUED SECT.													
DATE 3/3/71		DATE 3/3/71		1													
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION															
23	1009967	CAPACITOR 50,000 MFD 25VDC				1											
24	1302888	RESISTOR 100 OMS 25W 5%				2											
25	9008426	WASHER SHOULDER 9/32ID 5/8OD, 9/32DP				1											
26	9005876	WASHER FLAT 9/32 ID, 5/8 OD, SS				1											
27	9107244	HEAT SHRINK TUBING #2 (WHT)				A/R											
28	9008203	NUT KEP 1/4-20				1											
29	B-MD-5309033-0-0	PLATE BUS				1											
30	1009966	CAPACITOR 19,000 MFD 40 VDC				1											
31	C-IA-5309031-0-0	BRKT, CAPACITOR				1											
32	1300306	RESISTOR 350 25W 5%				1											
33	1205033-01	BOXER FAN #WS2107FL INC				1											
34	D-AD-5409062-0-0	REGULATOR ASSY				1											
35	9008213	SPACER PHENOLIC 6-32 X 3/8 LG				2											
36	C-MD-5309032-0-0	PLATE TERMINAL				1											
37	B-IA-5309034-0-0	PLATE INSULATOR				2											
38	9006043-1	SCR PHL H PAN 8-32 X 1" LG SST				4											
39	9006563	NUT KEP'S 8-32 3/8 AF X 1/8THK				16											
40	1002781	CAPACITOR 100 MFD 25 VDC				2											
41	1001886	CAPACITOR 270 MFD 15 VDC				1											
42	9007516	"O" RING 9/32 OD, 5/32 ID, 1/16 THK				4											
43	9008250	CONNECTOR JONES STRIP #541-9				1											
44	9007112	STUD AMP #60145-1				9											
TITLE H721 POWER SUPPLY				ASSY NO. D-UA-H721-0-0		SIZE CODE A PL		NUMBER H721-0-0				REV. F		ECO NO.			
				SHEET 2 OF 4		DIST.											

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST					QUANTITY/VARIATION										
MADE BY STAN POITRAS		CHECKED J. MADDEN		SECTION											
DATE 11/7/68		DATE 11/7/68		1											
ENG <i>J. Poitras</i>		PROD L. PRENTICE		ISSUED SECT.											
DATE 11-12-68		DATE 11-17-68		1											
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION													
	B-CS-854-0-1	POWER CONTROL 854 (CS)													
1	D-MD-5308148-0-0	CHASSIS (854-854-B)				1									
2	C-MD-5308149-0-0	PLEXI-GLASS SHIELD				1									
3	1202356	SCR SHLD #10-32x9/32 LG				4									
4	9006881	SPACER 3/8 AF 3 #10-32 AL				4									
5	9006073-1	SCR PHIL H PAN #10-32x1/2 SST				4									
6	9107370-4	WIRE #14 AWG STRD TEF ORN				A/R									
7	9107370-10	WIRE #14 AWG STRD TEF WHT				A/R									
8	1201218-00	CIR BREAKER 190-220-104				1									
9	9006022-1	SCR PHIL H PAN #6-32x1/4 LG SST				4									
10	1100106	DIODE G.E. THYRECTOR 6RS20SP4B4 115V				3									
11	1205768	RELAY EBERT EM-4				1									
12	9006904	TERM STRIP #6-541				1									
13	9006026-1	SCR PHIL H PAN #6-32x3/4 LG SST				4									
14	9006560	KEPS HEX NUT #6-32 SST				8									
15	1209011	SWITCH C.H. 7563K6				1									
16	9008110	FASTON TAB 41287 AMP				1									
17	9007596	CONN #3000-M446 ARKLES				4									
18	1000034	CAP BATH TUB 2x.1 MFD 1 KUDC				2									
19	9107370-3	WIRE #14 AWG STRD TEF RED				A/R									
20	9007919	CONN #50906 ARKLES				22									
21	9007112	LUG AMP #60145-1				2									
TITLE		ASSY NO.		SIZE CODE		NUMBER				REV.		ECO NO.			
POWER CONTROL 854		D-UA-854-0-0		A PL		854-0-0				C		394-00065			
		SHEET 1 OF 2		DIST.		G 324 434 435 436 438 359									

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST					QUANTITY/VARIATION										
MADE BY STAN POITRAS		CHECKED J. MADDEN		SECTION											
DATE 11/7/68		DATE 11/7/68		1											
ENG <i>J. Poitras</i>		PROD		ISSUED SECT.											
DATE 11-12-68		DATE		1											
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION													
22	9006563	KEPS HEX NUT #8-32 SST				2									
23	9006039-1	SCR PHIL H PAN #8-32 x 1/2 LG SST				2									
24	9007634	SOLDERLESS CONN #36242 AMP				2									
25	1201280	OMNIGLOW (RED LENS) 1020 C55 120V				1									
26	B-DC-5308425-0-0	DECALS 854 PWR CONT				1									
27	9006635	WASH INT TOOTH LOCK #10				4									
28	9006633	WASH INT TOOTH LOCK #6				4									
29	9007253	LUG, AMP 45 #60465-2				4									
30	9006781	TERM, AMP #34142				6									
31	9107278-3	TUBING #18 RED				A/R									
32	9107370-2	WIRE #14 AWG STRD TEF BRN				A/R									
33	9107370-6	WIRE #14 AWG STRD TEF GRN				A/R									
34	9107370-8	WIRE #14 AWG STRD TEF VIO				A/R									
35	9107370-7	WIRE #14 AWG STRD TEF BLU				A/R									
36	9006022-1	SCR PH HD PAN #6-32x3/8 LG SST				4									
37	A-PI-3700128-0-0	PACKAGING INSTRUCTIONS				1									
TITLE		ASSY NO.		SIZE CODE		NUMBER				REV.		ECO NO.			
POWER CONTROL 854		D-UA-854-0-0		A PL		854-0-0				C		394-00065			
		SHEET 2 OF 2		DIST.		G 324 434 435 436 438 359									

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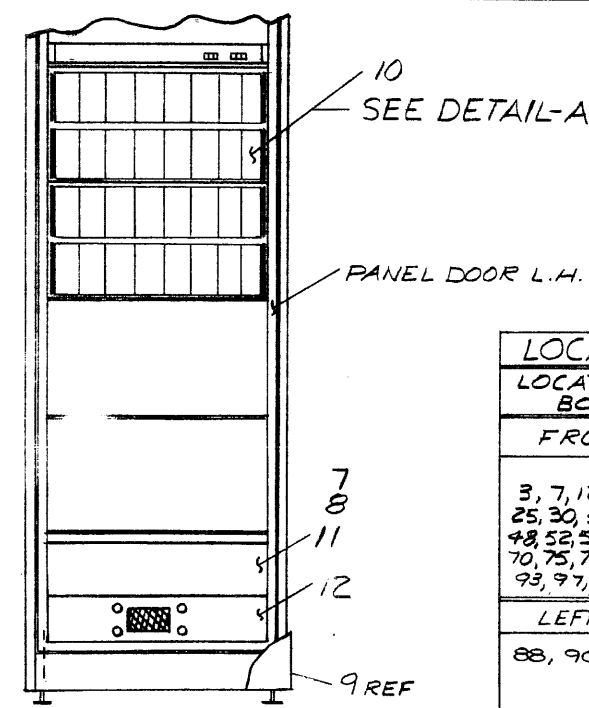
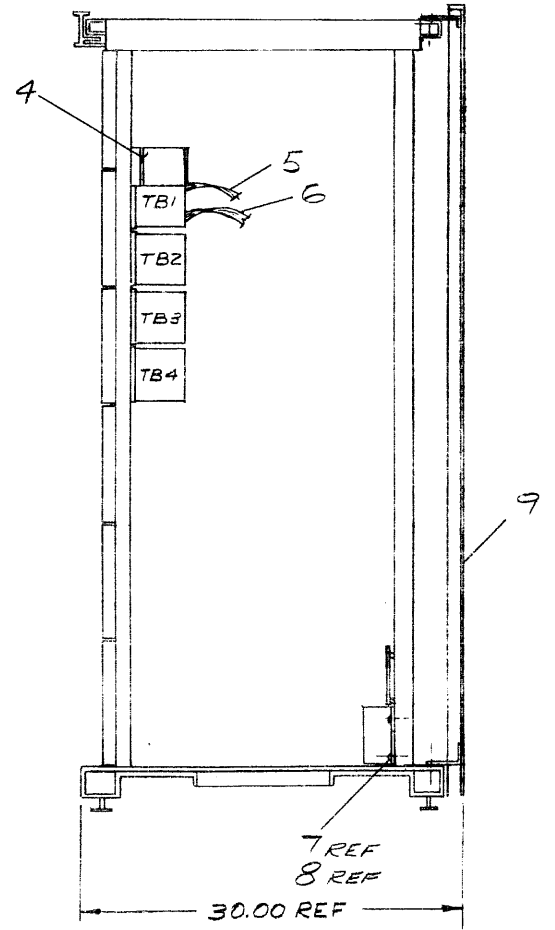
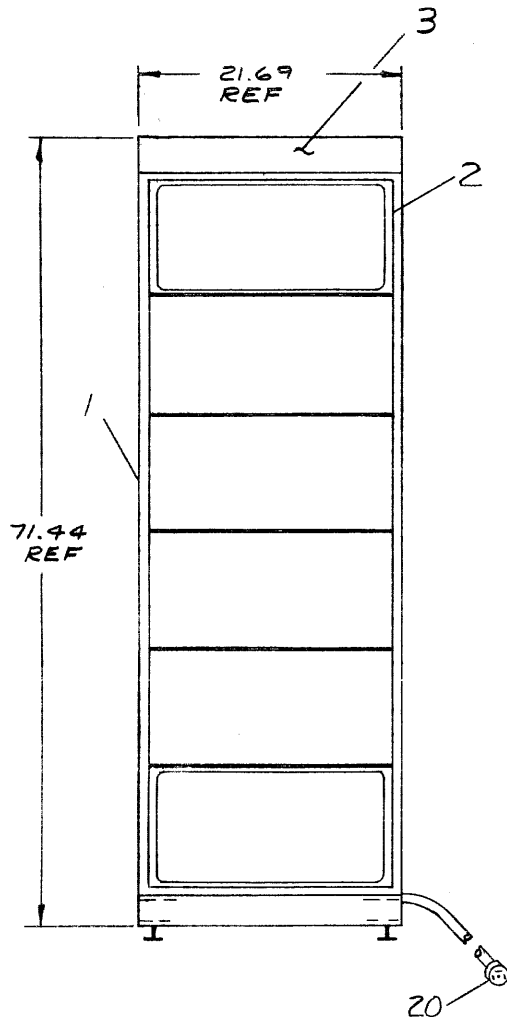
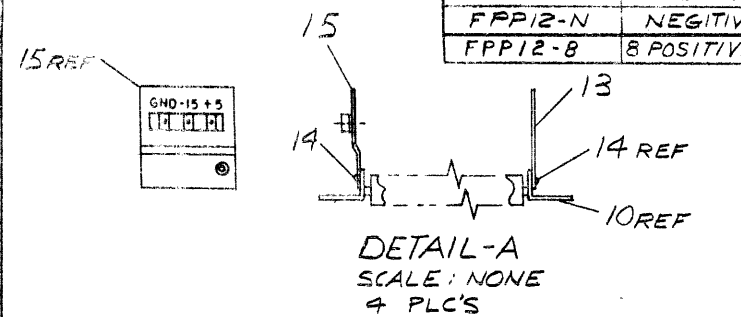
LEGEND	
NUMBER	VARIATION
FPP12-P	12 POSITIVE
FPP12-N	NEGATIVE
FPP12-B	8 POSITIVE

WIRE TABLE						
ITEM NO	DESCRIPTION	FROM		TO		
		CONNECTION	WITH	CONNECTION	WITH	
17	24 RED	+5	SOLD	A11-A2		
17	RED	+5		A21-A2		
16	BLK	GND		A11-C2		
16	BLK	GND		A21-C2		
17	RED	+5		B11-A2		
17	RED	+5		B21-A2		
16	BLK	GND		B11-C2		
16	BLK	GND		B21-C2		
17	RED	+5		C11-A2		
17	RED	+5		C21-A2		
16	BLK	GND		C11-C2		
16	BLK	GND		C21-C2		
17	RED	+5		D11-A2		
17	24 RED	+5	SOLD	D21-A2		

WIRE TABLE						
ITEM NO	DESCRIPTION	FROM		TO		
		CONNECTION	WITH	CONNECTION	WITH	
16	24 BLK	GND	SOLD	D11-C2		
16	BLK	GND		D21-C2		
17	RED	+5		E11-A2		
17	RED	+5		E21-A2		
16	BLK	GND		E11-C2		
16	BLK	GND		E21-C2		
18	BLU	-15		E03-B2		
17	RED	+5		F11-A2		
17	RED	+5		F21-A2		
16	BLK	GND		F11-C2		
16	BLK	GND		F21-C2		
17	RED	+5		H11-A2		
17	RED	+5		H21-A2		
16	BLK	GND		H11-C2		
16	BLK	GND		H21-C2		
17	RED	+5		J11-A2		
17	RED	+5		J21-A2		
16	BLK	GND		J11-C2		
16	24 BLK	GND	SOLD	J21-C2		

NOTES:

- FOR DRAWING INDEX LIST REFER TO D-DI-FPP12-0-01
- FOR ASSEMBLY INSTRUCTIONS REFER TO D-OC-H950-0-0
- INSTALL GROUND STRAP (ITEM #23 NOT SHOWN) AS CLOSE TO BOTTOM OF CAB AS POSSIBLE. BEFORE INSTALLING GROUND STRAP REMOVE PAINT AND CLEAN AREA TO INSURE GOOD GROUND. INSTALL WITH EXISTING HARDWARE.
- ~~FOR NEG BUS ONLY~~



LOCATION OF SPEED NUTS ITEM #7	
LOCATE ALL NUTS BY COUNTING HOLES UP FROM BOTTOM OF CABINET FRAME	
FRONT HOLE NUMBERS	REAR HOLE NUMBERS
3, 7, 12, 16, 21, 25, 30, 34, 39, 43, 48, 52, 57, 61, 66, 70, 75, 79, 84, 88, 93, 97, 102, 106	3, 10
BOTH SIDES	BOTH SIDES
LEFT SIDE HOLE NUMBERS	RIGHT SIDE HOLE NUMBERS
88, 90 FRONT ONLY	88, 90 FRONT ONLY

MOUNTING PANEL DOOR HOLE LOCATIONS	
LEFT SIDE	RIGHT SIDE
15, 22	15, 22

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDPI2				

UNLESS OTHERWISE SPECIFIED	DRN	DATE	PARTS LIST
UNLESS OTHERWISE SPECIFIED	DRN	DATE	
DIMENSION IN INCHES	CHK'D	DATE	
TOLERANCES	ENG	DATE	
ANGLES = 0°/90°	PROJ. ENG	DATE	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	PROD.	DATE	

digital EQUIPMENT CORPORATION	
WATYARD, MASSACHUSETTS	
TITLE: FLOATING POINT PROCESSOR	
MATERIAL: ---	NEXT HIGHER ASSY: A-ML-FPP12-0
FINISH: ---	SCALE: NONE
SHEET: 1 OF 2	SHEET: 1 OF 2

REVISIONS

NO.	DATE	DESCRIPTION
1	5-9-71	REVISED TO 12-1-72
2	1-1-72	REVISED TO 3-3-72

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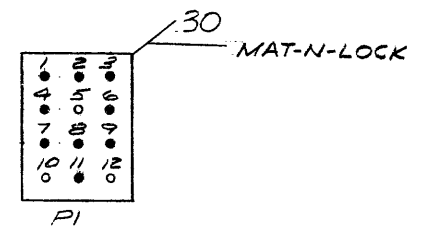
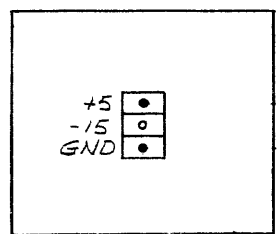
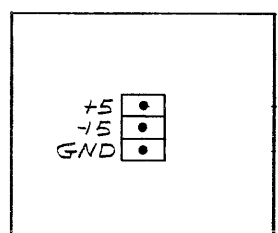
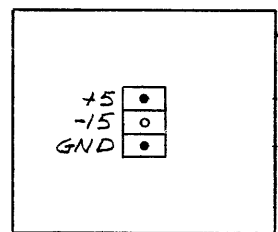
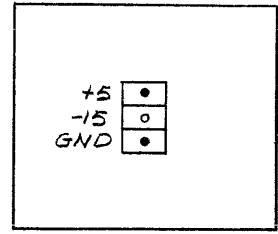
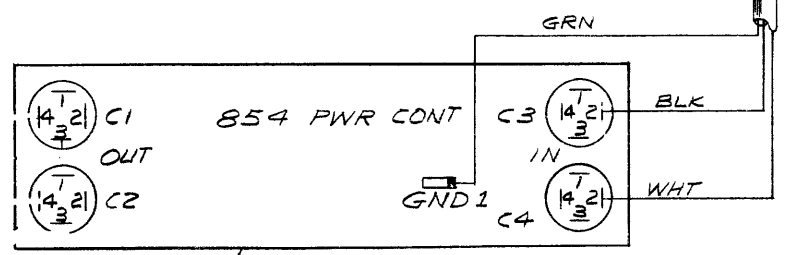
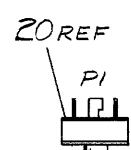
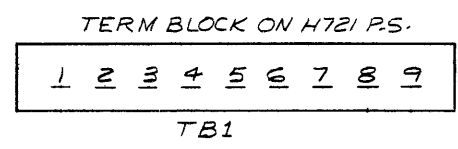
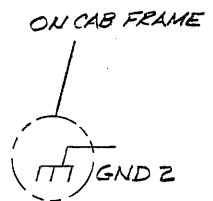
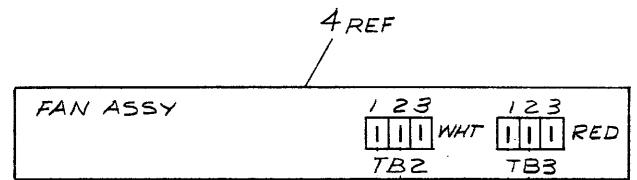
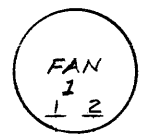
ITEM NO	DESCRIPTION	FROM		TO	
		CONNECTION	WITH	CONNECTION	WITH
24	14 RED	FAN1-1	SPLC	TB3-1	19
	TWP WHT	FAN1-2	SPLC	TB2-1	19
24	14 RED	TB3-2	19	C1-3	19
	TWP WHT	TB2-2	19	C2-3	19
24	14 RED	TB1-8	19	C1-4	19
	TWP WHT	TB1-9	19	C2-4	19
25	14 BLK	TB1-1	19	GND2	32
20	PWR GRN	PI-1		GND1	29
	CORD WHT	PI-2		C4-2	29
	3 COND BLK	PI-3		C3-2	29

ITEM NO	DESCRIPTION	FROM		TO	
		CONNECTION	WITH	CONNECTION	WITH
25	14 BLK	PI-1	31	TB2-GND	28
25	14 BLK	PI-2	31	TB3-GND	28
25	14 BLK	PI-3	31	TB4-GND	28
25	14 BLK	PI-4	31	TB1-GND	28
26	14 RED	PI-6	31	TB4-+5	28
26	14 RED	PI-7	31	TB3-+5	28
26	14 RED	PI-8	31	TB2-+5	28
26	14 RED	PI-9	31	TB1-+5	28
27	14 BLU	PI-11	31	TB3--15	28

ITEM NO	DESCRIPTION	FROM		TO	
		CONNECTION	WITH	CONNECTION	WITH
25	14 BLK	TB1-GND	28	TB2-GND	33
25	14 BLK	TB2-GND	28	TB3-GND	33
25	14 BLK	TB3-GND	28	TB4-GND	28
26	14 RED	TB1-+5	28	TB2-+5	33
26	14 RED	TB2-+5	28	TB3-+5	33
26	14 RED	TB3-+5	28	TB4-+5	28

AC POWER WIRING
SEE TABLE #1.

DC POWER WIRING
SEE TABLE #2



REV	
CHANGE NO	
CHK	

FIRST USED ON OPTION/MODEL FPP12	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED	DRN <i>M. Marin</i>	DATE <i>12/19/70</i>	PARTS LIST	
UNLESS OTHERWISE SPECIFIED	CHK'D <i>R. Cook</i>	DATE <i>12-17-70</i>	digital EQUIPMENT CORPORATION MAYFIELD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	ENG <i>R. Cook</i>	DATE <i>12-18-70</i>	TITLE	
DECIMALS ± .005	PROJ. ENG. <i>R. Cook</i>	DATE <i>12-18-70</i>	FLOATING POINT PROCESSOR	
FRACTIONS = 1/64	PROD. <i>R. Cook</i>	DATE <i>12/18/70</i>	SIZE CODE	
ANGLES = 0°30'			DUA FPP12-0-0	
FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS			NUMBER	
			REV	
MATERIAL	NEXT HIGHER ASSY		B	
—H—	A-ML-FPP12-0		SCALE NONE	
FINISH			SHEET 2 OF 2	
—H—			DIST	

REV B
NUMBER
DUA FPP12-0-0
SIZE CODE

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

QUANTITY/VARIATION

MADE BY G. Marini
DATE 12-8-70
ENG S. Seiler
DATE 12/18/70

CHECKED R. Cook
DATE 12-17-70
PROD R. Peterson
DATE 12/18/70

SECTION
ISSUED SECT.

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	FPP12-P	FPP12-N	FPP12-B
1	C-PI-7006501-2-0	BASIC CABINET ASSY "19"	1	1	1
2	D-UA-H950-CA-0	H950-C COVER PANEL	6	6	6
3	D-IA 7403149-4-0	PANEL LOGO	1	1	1
4	D-AD-7005993-0-0	PANEL HOUSING ASSY	1	1	1
5	D-UA-BC08B-0-0	CABLE FLAT CO-AX M904-M904	5	-	5
6	D-UA-BC08D-0-0	CABLE FLAT CO-AX M904-(2)W011	-	5	-
7	9007786	SPEED NUT TINERMAN 10-32	12	12	12
8	9006074-1	SCR PHL HD PAN #10-32 x 5/8SST	18	12	18
9	D-UA-H950-CA-0	H950-C FULL LENGTH DOOR	1	1	1
10	D-AD-7007220-0-0	WIRED ASSY (FPP12)	1	1	1
11	D-UA-854-0-0	POWER CONTROL 854	1	1	1
12	A-PS-H721-0-0	H721 POWER SUPPLY (1209603)	1	1	1
13	C-MD-5302486-0-0	PANEL, RIGHT END	4	4	4
14	9006509	POP RIVETS #AD43ABS USMC	32	32	32
15	C-TR-5404490-0-0	LEFT END PANEL ASSY H911	4	4	4
16	9107470-00	WIRE #24 AWG SOLID BLK	A/R	A/R	A/R
17	9107470-22	WIRE #24 AWG SOLID RED	A/R	A/R	A/R
18	9107470-66	WIRE #24 AWG SOLID BLU	A/R	A/R	A/R
19	9007919	CONN, CRIMP ARKLES #5906	11	11	11
20	7005128-25	POWER CORD 25 FT.	1	1	1
21	9007867	CABLE TIE MOUNT	A/R	A/R	A/R
22	9007032	TIE WRAP PAN DYE	A/R	A/R	A/R

TITLE: FLOATING POINT PROCESSOR
ASSY NO.: D-UA-FPP12-0-0
SIZE CODE: A PL
NUMBER: FPP12-0-0
SHEET 1 OF 2
DIST. G
REV. B
ECONO. 55008

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

QUANTITY/VARIATION

MADE BY Marini
DATE 12-8-70
ENG S. Seiler
DATE 12/18/70

CHECKED R. Cook
DATE 12-17-70
PROD R. Peterson
DATE 12/18/70

SECTION
ISSUED SECT.

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	FPP12-P	FPP12-N	FPP12-B
23	9008887	GROUND STRAP	1	1	1
24	9107440-29	WIRE #14 AWG TEF INS TWP RED/WHT	A/R	A/R	A/R
25	9107440-00	WIRE #14 AWG TEF INS BLK	A/R	A/R	A/R
26	9107370-22	WIRE #14 AWG TEF INS RED	A/R	A/R	A/R
27	9107370-66	WIRE #14 AWG TEF INS BLU	A/R	A/R	A/R
28	9007917	CONN CRIMP ARKLESS #50902	17	17	17
29	9007920	CONN CRIMP ARKLESS #50900-7	3	3	3
30	1209351-12	MAT-N-LOCK 12 CONDUCTOR	1	1	1
31	1209378	TERM PIN CONTACT MALE	9	9	9
32	9007928	CONN ARKLESS 503634	1	1	1
33	9007925	PIGGY BACK FASTONS #300H21A ARKLESS	4	4	4

TITLE: FLOATING POINT PROCESSOR
ASSY NO.: D-UA-FPP12-0-0
SIZE CODE: A PL
NUMBER: FPP12-0-0
SHEET 2 OF 2
DIST. G
REV. B
ECONO. 55008

