FPS

FLOATING POINT
SYSTEMS, INC.

ARRAY PROCESSOR SCHEMATICS

PROPRIETARY
INFORMATION

CUSTOMER NAME G.E. Med. System W/O # 9754
Assembly Drawings

SERIAL # 8202 34404

NAME OF HOST COMPUTER Nova/E

NOTICE

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Floating Point Systems, Inc., assumes no responsibility for any errors which may appear in this publication.

This document contains schematics, topologies, power supplies, wiring diagrams, etc.

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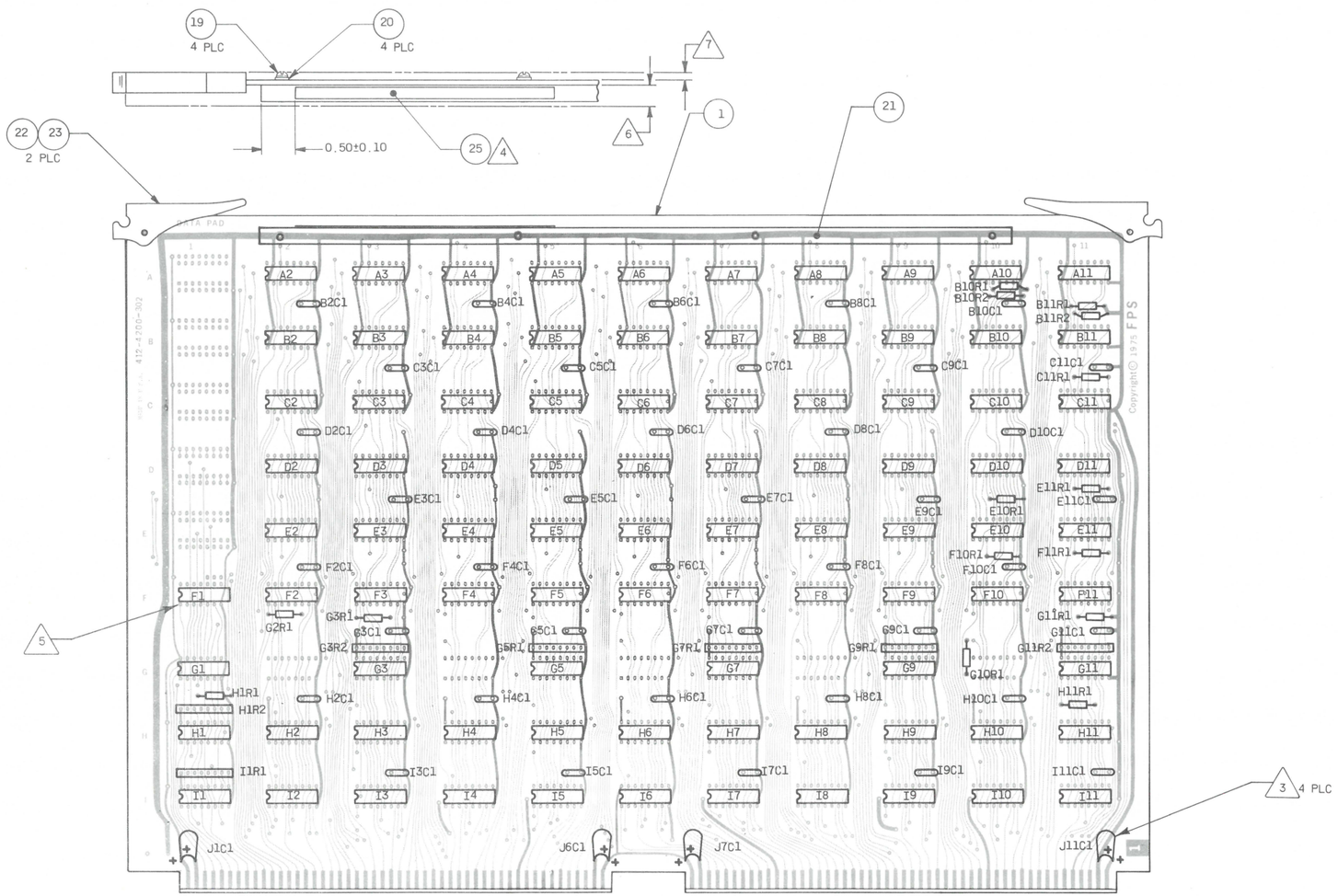
REVISIONS					
REV	AUTH.	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN #049	INITIAL LEVEL 1 RELEASE		JRC 10-10-79	J. Miller 10-10-79
A	ECO 79604	LEVEL 3 RELEASE		JRC 12-6-79	MB 11-30-79



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
18	F2,F3,F4,F5,F6,F7,F8,F9,F10,F11
17	C2,C3,C4,C5,C6,C7,C8,C9,C10,C11
16	H2,H3,H4,H5,H6,H7,H8,H9,H10,H11, I2,I3,I4,I5,I6,I7,I8,I9,I10,I11
15	G3,G5,G7,G9,G11
14	D2,D3,D4,D5,D6,D7,D8,D9,D10,D11, E2,E3,E4,E5,E6,E7,E8,E9,E10,E11
13	A2,A3,A4,A5,A6,A7,A8,A9,A10,A11, B2,B3,B4,B5,B6,B7,B8,B9,B10,B11
12	F1
11	G1
10	H1, I1
9	J1C1,J6C1,J7C1,J11C1
8	B2C1,B4C1,B6C1,B8C1,B10C1, C3C1,C5C1,C7C1,C9C1,C11C1, D2C1,D4C1,D6C1, D8C1,D10C1, E3C1,E5C1,E7C1,E9C1,E11C1, F2C1,F4C1,F6C1,F8C1,F10C1, G3C1 G5C1,G7C1,G9C1,G11C1,H2C1,H4C1,H6C1,H8C1,H10C1,I3C1,I5C1,I7C1,I9C1,I11C1
7	G3R2,G5R1,G7R1,G9R1,G11R2, H1R2, I1R1
6	G10R1
5	E10R1,E11R1, F10R1,F11R1
4	G2R1,G3R1
3	B10R1,B10R2,B11R1,B11R2, H1R1,H11R1
2	C11R1, G11R1

7 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

6 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED. APPLY IN POSITION SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±
MATERIAL:

1

		DATE
ENGR	W. Malthouse	12-6-79
DRN BY	D. MARTIN	2-5-79
CHK BY	Randy Morgan	2-22-79
PROD RELEASE	Don Busch	12-5-79

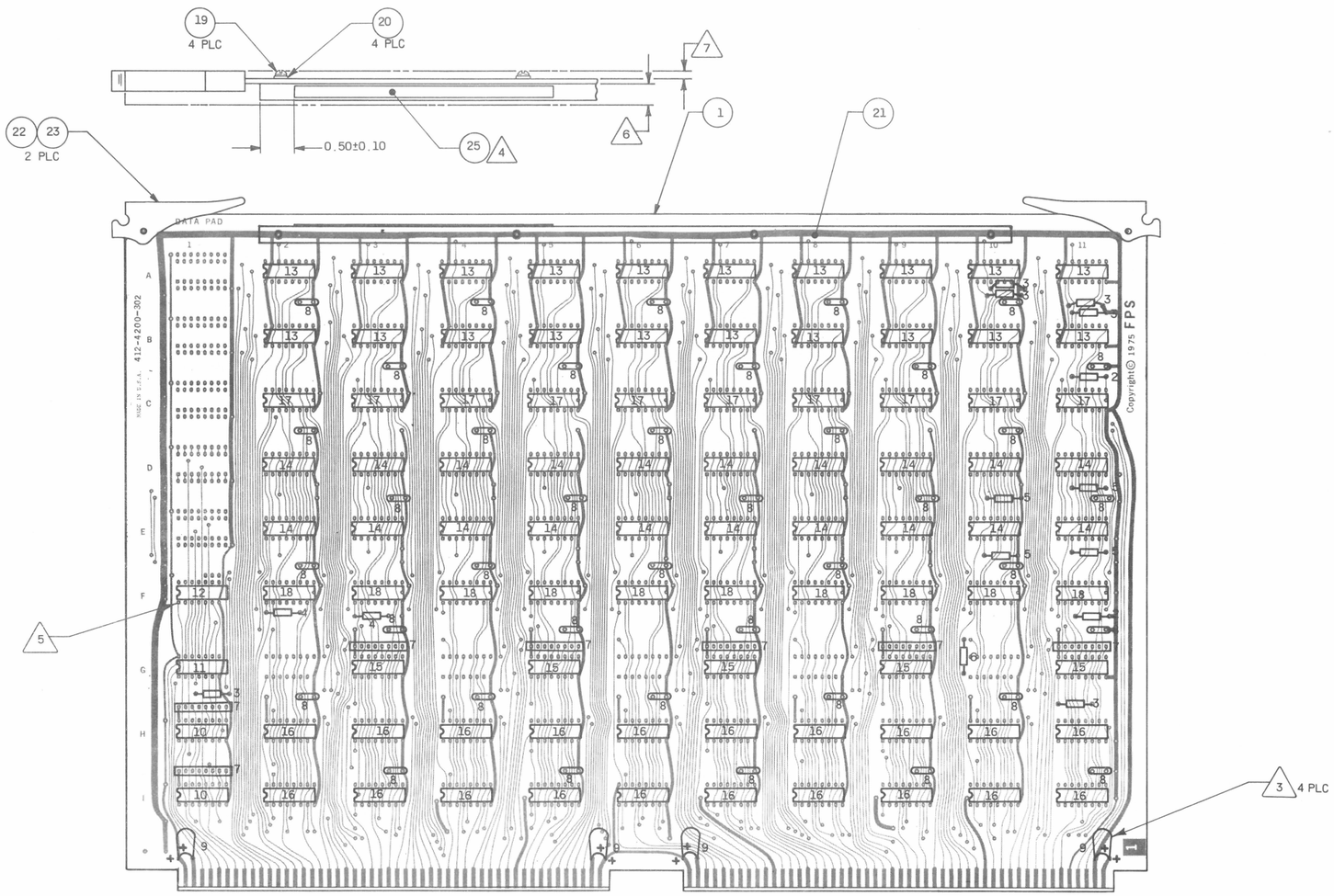
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
200B,
DATA PAD LEFT OR RIGHT

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4200-002	A

SCALE NONE SHEET 1 OF 3

612-4200-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

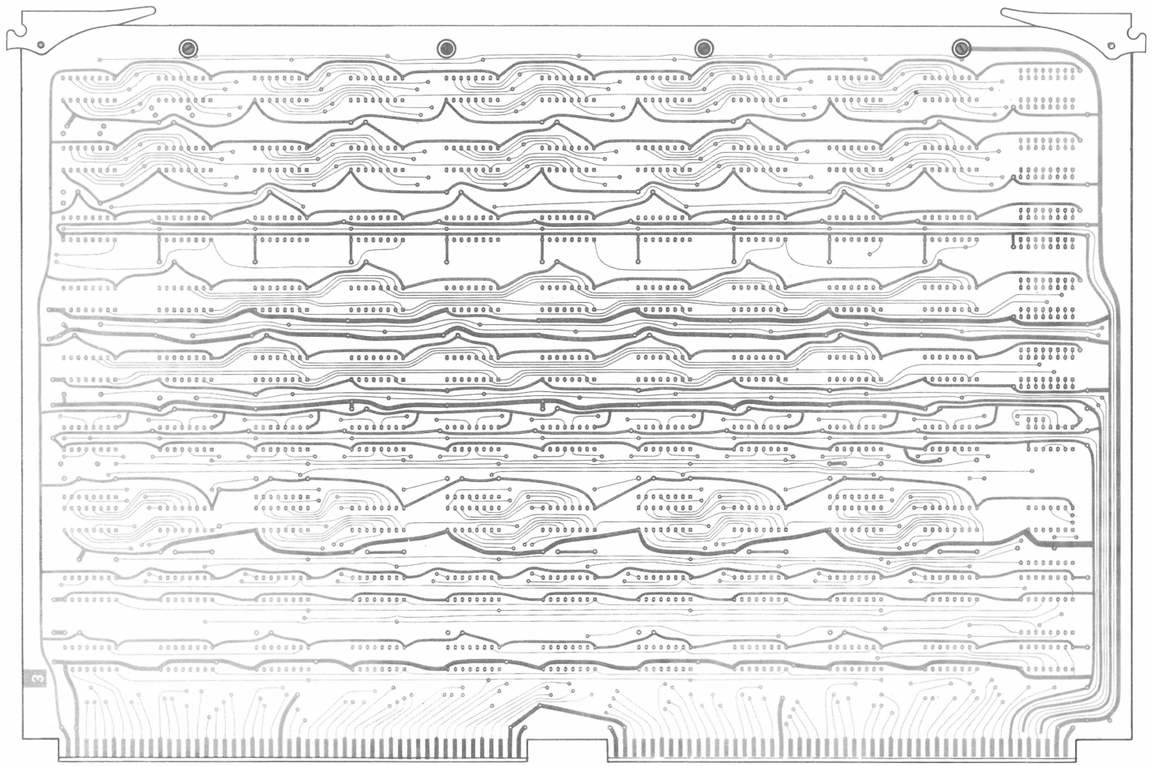
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
200B,
DATA PAD LEFT OR RIGHT

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4200-002	A

SCALE NONE SHEET 2 OF 2

612-4200-002 SH 1



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

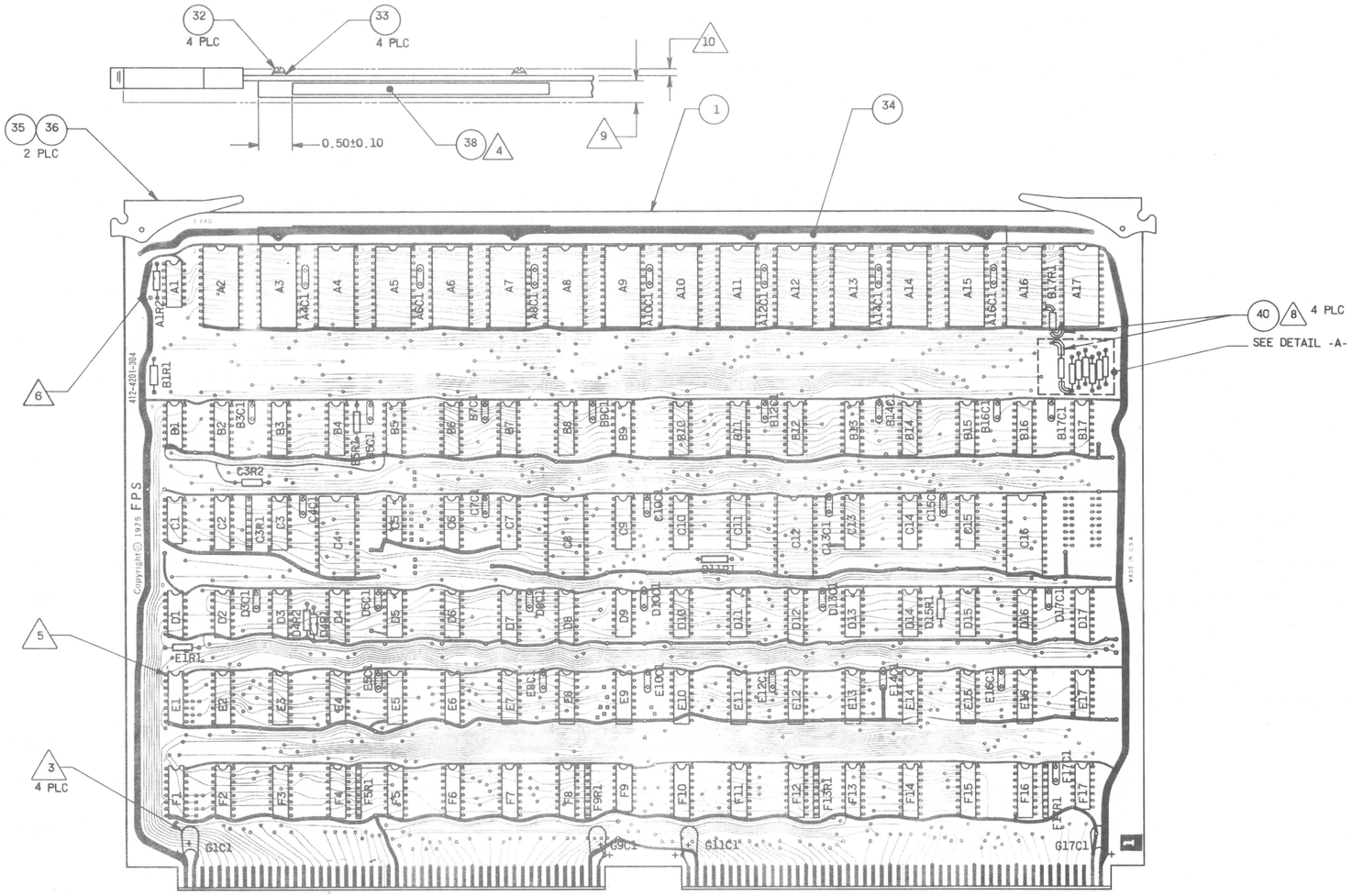
ETCH CIRCUIT BOARD ASSEMBLY,
200B,
DATA PAD LEFT OR RIGHT

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4200-002	A

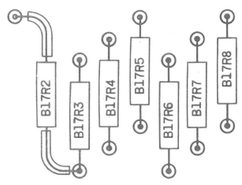
SCALE NONE SHEET 3 OF 3

612-4200-002 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
B	ECO 81231	DRAWING REFORMAT & CHANGE TO 74S172		7/14/81	M. Earle 7-13-81



COMPONENT SIDE



DETAIL -A-

SCALE-NONE

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28	E1,F1
27	E17
26	D1
25	D5,D13
24	F4,F8,F12,F16
23	C9
22	C4,C8,C12,C16
21	E2,E6,E10,E14,F5,F13
20	F2,F3,F6,F7,F10,F11,F14,F15
19	C2,C3,C6,C7,C10,C11,C14,C15
18	B2,B4,B6,B8,B10,B12,B14,B16
17	D3
16	B1,C5,F9
15	F17
14	A1
13	C13,D7
12	A2.A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16,A17
11	D2,D6,D9,D10,D11,D14,D15
10	C1
9	G1C1,G9C1,G11C1,G17C1
8	A4C1,A6C1,A8C1,A10C1,A12C1,A14C1,A16C1,B3C1,B5C1,B7C1,B9C1,B12C1,B14C1, B16C1,B17C1,C4C1,C7C1,C10C1,C13C1,C15C1,D3C1,D5C1,D8C1,D10C1,D13C1, D17C1,E5C1,E8C1,E10C1,E12C1,E14C1,E16C1,F17C1
7	F5R1,F9R1,F13R1,F17R1
6	C3R1
5	B17R1,B17R2,B17R3,B17R4,B17R5,B17R6,B17R7,B17R8
4	C3R2,D4R1,D4R2,D11R1,E1R1,
3	B5R1,D15R1
2	A1R2,B1R1

CONTINUED ON SHEET 2

10. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.
9. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.
8. USE SLEEVING TO COVER EXPOSED LEADS OF COMPONENTS.
7. SOLDER BRIDGING OCCURS AT E2-1 AND E2-2, CUT CLEAN AS REQUIRED.
6. OPTIONAL RESISTOR, VALUE MAY BE SELECTED IN TEST.
5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R PAKS.
4. MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.
3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.
2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.
1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	Wayne J. Mathews	DATE 10-2-79
DRN BY	R. S. THURMAN	DATE 11/3/78
CHK BY	Ray Pui	DATE 11/27/78
PROD RELEASE	Ken Beck	DATE 10-2-79

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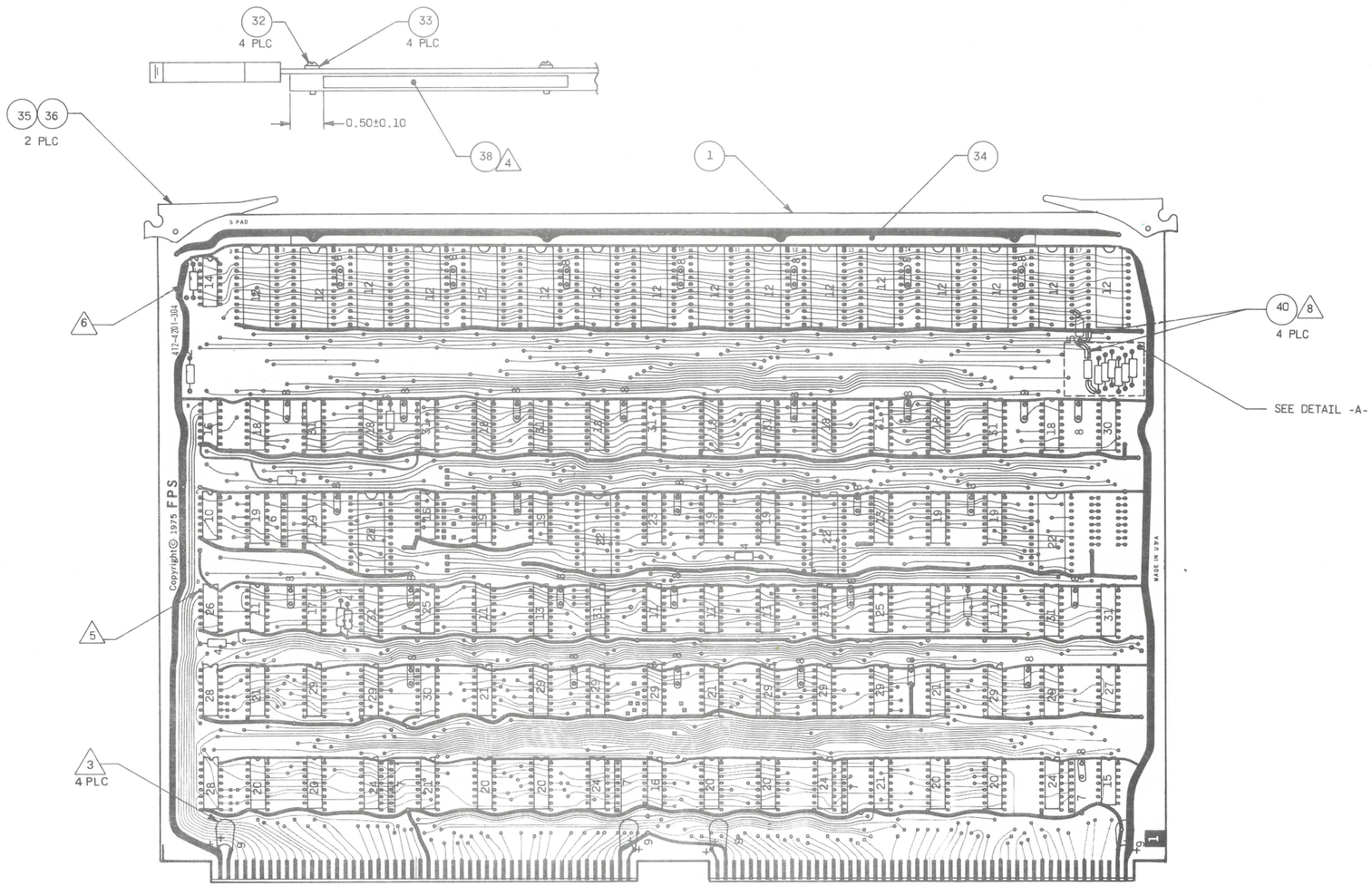
DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY, 201D, SCRATCH PAD, 16K RAM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4201-004	B

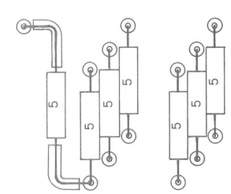
SCALE NONE SHEET 1 OF 4

612-4201-004 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY
COMPONENTS ARE IDENTIFIED
WITH ITEM NUMBERS



DETAIL -A-
SCALE: NONE

13 DESIGNATIONS IN PARENTHESIS "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

12 FT. DENOTES FEED-THRU HOLE.

11 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

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FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

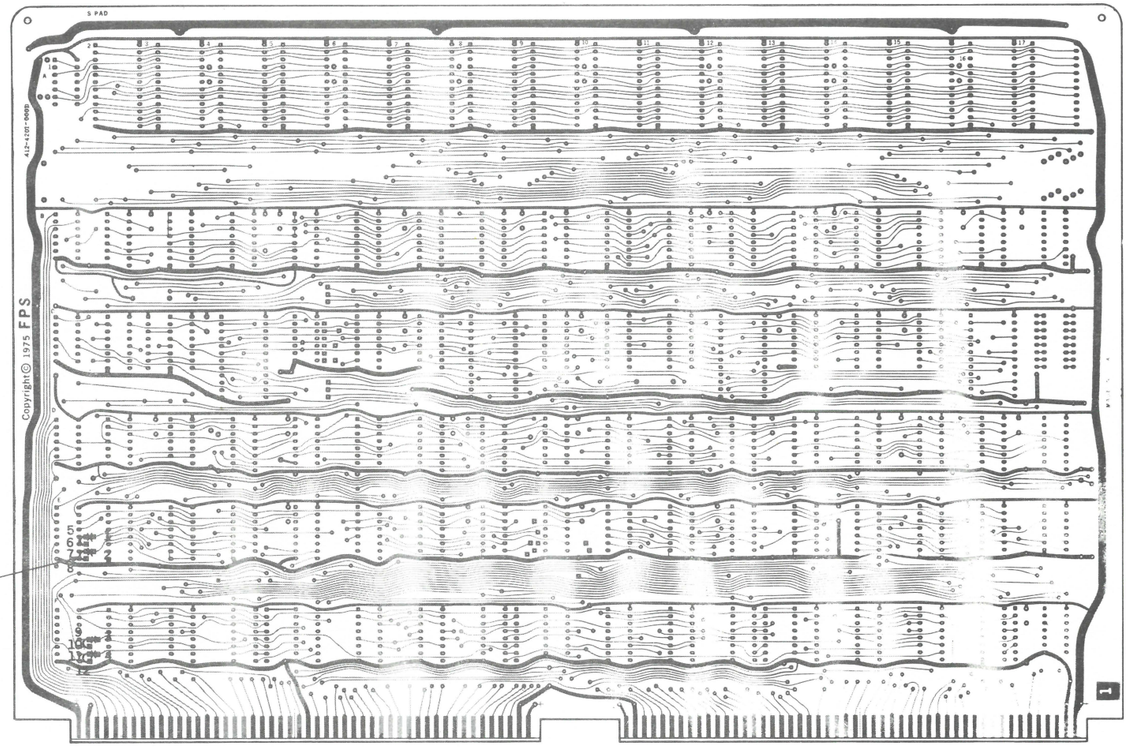
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
201D,
SCRATCH PAD, 16K RAM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4201-004	B

SCALE NONE SHEET 2 OF 4

612-4201-004 SHT 2



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	
			CONTINUITY CHECK POINTS		SIDE
X		11-12	FT (F1-10)	FT (F1-9)	COMPONENT
X		9-10	FT (F1-12)	FT (F1-11)	↑
X		7-8	FT (E1-10)	FT (E1-9)	
X		5-6	FT (E1-12)	FT (E1-11)	
	X	4	FT (F4-6)	FT (F1-10)	
	X	3	FT (F4-10)	FT (F1-12)	
	X	2	FT (E2-12)	FT (E1-10)	↓
	X	1	FT (E2-13)	FT (E1-12)	COMPONENT

△11 △12 △13 REWORK TABLE

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

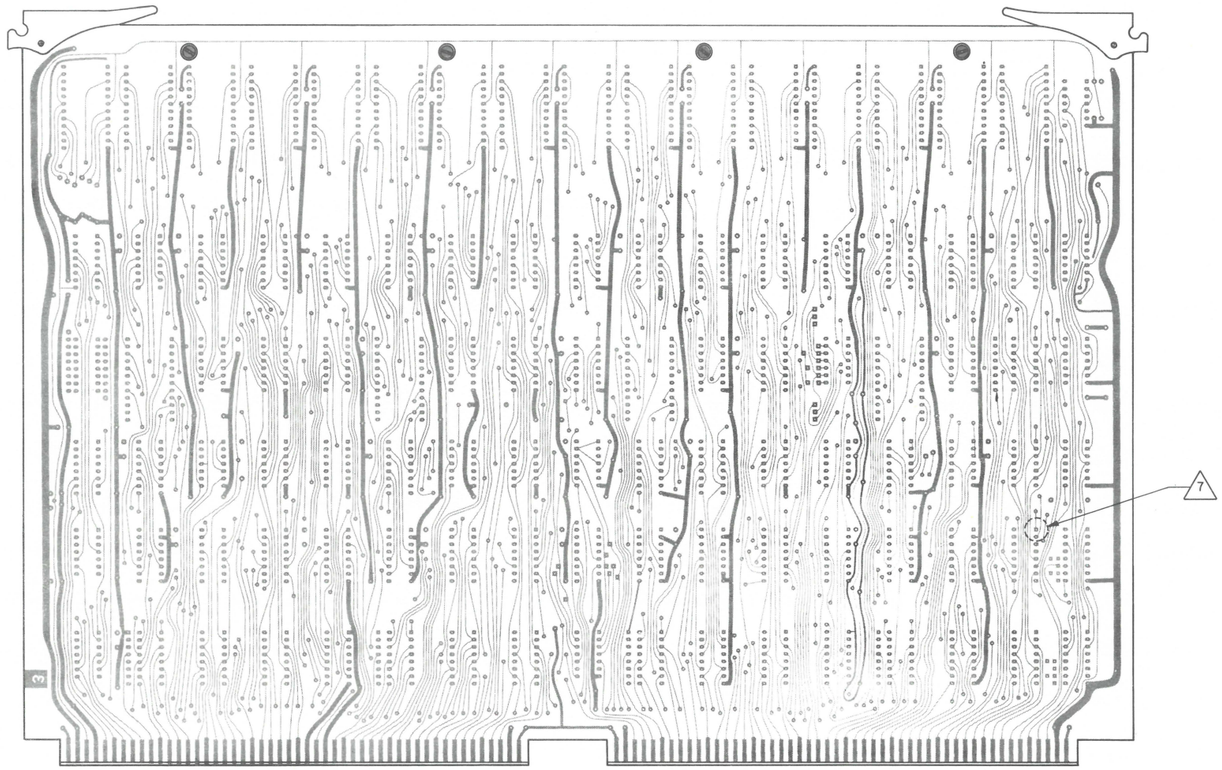
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
201D,
SCRATCH PAD, 16K RAM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4201-004	B

SCALE NONE SHEET 3 OF 4

612-4201-004 SHT 3



SOLDER SIDE

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ANGLES ± ____
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2 PLACE DEC. ± ____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

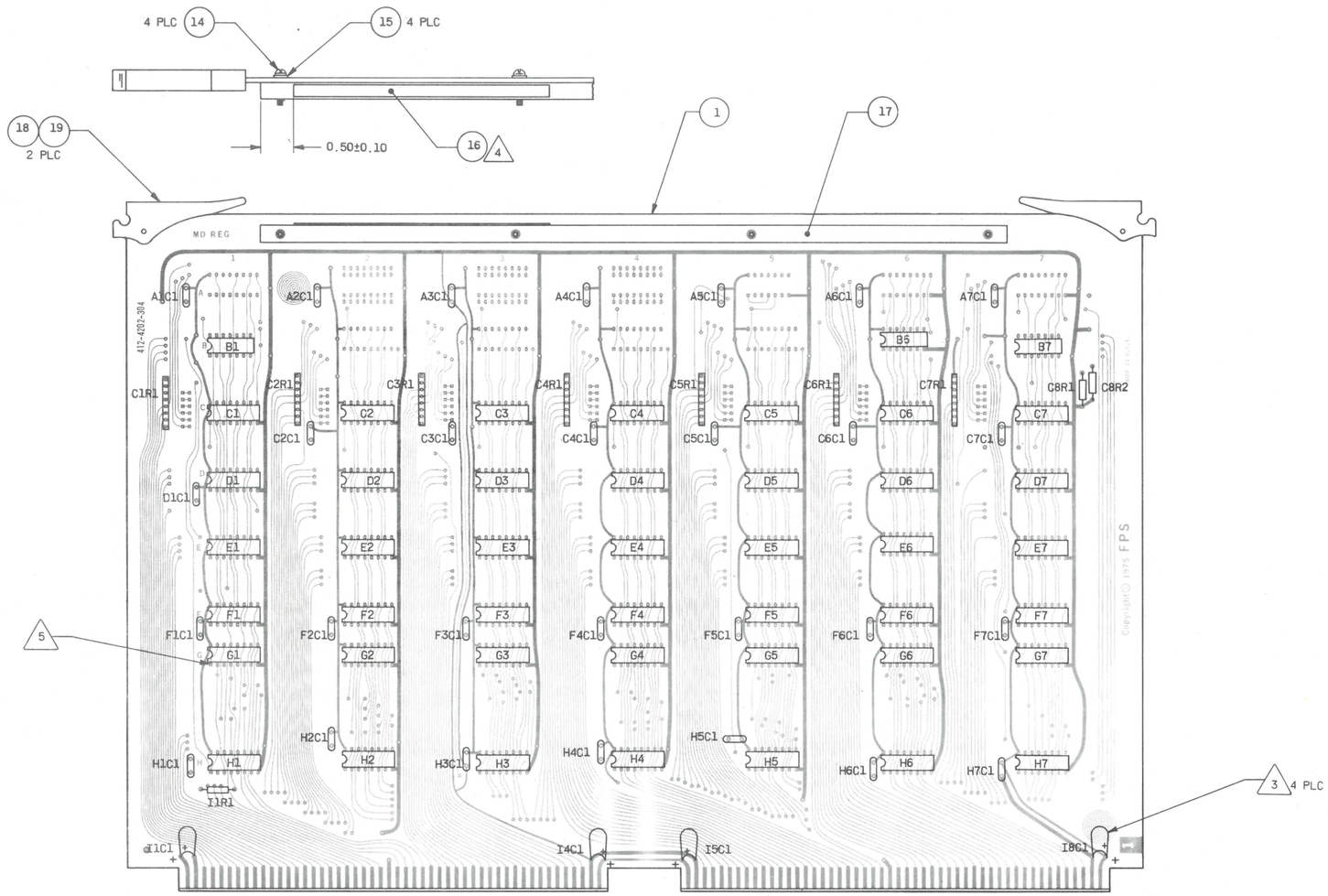
DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
2010,
SCRATCH PAD, 16K RAM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4201-004	B

SCALE NONE SHEET 4 OF 4

612-4201-004 SHT 4

REVISIONS					
REV	ECO NO.	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN #6	LEVEL 1		3/14/79	
02	EN #25	LEVEL 2		3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		6-5-79	
A	ECO 79405	LEVEL 3 RELEASE		10-2-79	9/20



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
13	C1,C2,C3,C4,C5,C6,C7
12	B1
11	B6
10	H5
9	D1,D2,D3,D4,D5,D6,D7,E1,E2,E3,E4,E5,E6,E7,F1,F2,F3,F4,F5,F6,F7, G1,G2, G3,G4,G5,G6,G7, H1,H2,H3,H4,H6,H7
8	B7
7	I1C1,I4C1,I5C1,I8C1
6	A1C1,A2C1,A3C1,A4C1,A5C1,A6C1,A7C1,C2C1,C3C1,C4C1,C5C1,C6C1,C7C1, D1C1, F1C1,F2C1,F3C1,F4C1,F5C1,F6C1,F7C1, H1C1,H2C1,H3C1,H4C1,H5C1, H6C1,H7C1
5	C1R1,C2R1,C3R1,C4R1,C5R1,C6R1,C7R1
4	C8R2
3	I1R1
2	C8R1

5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.
4. INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL, PER THIS DRAWING AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.
3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.
2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.
1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	[illegible]	DATE 10-2-79
DRN BY	E.S. THURMAN	DATE 11/7/78
CHK BY	[illegible]	DATE 11-2-78
PROD RELEASE	[illegible]	DATE 10-2-79

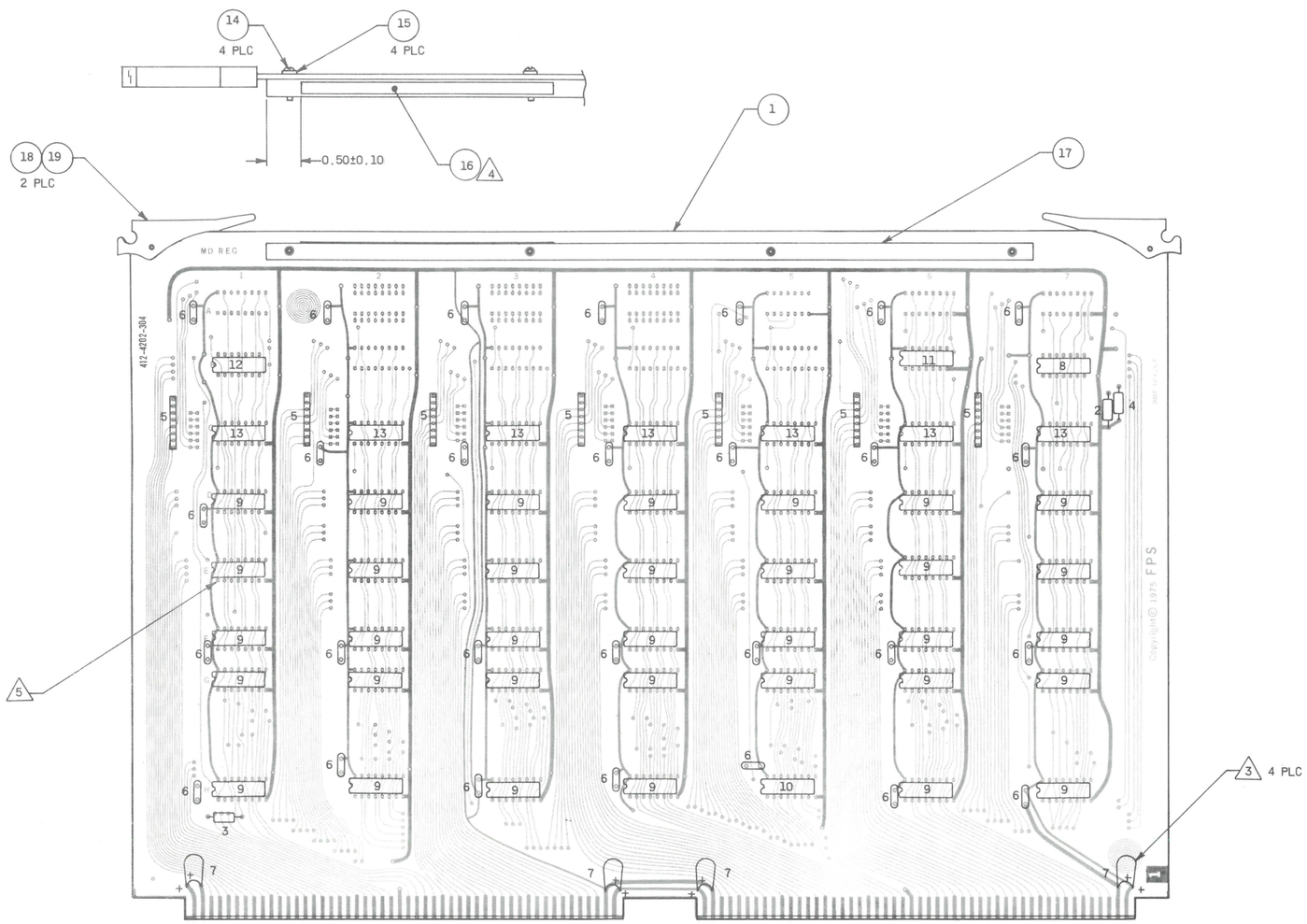
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY
202D
MAIN DATA REGISTER (STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4202-005	A

SCALE NONE SHEET 1 OF 3

612-4202-005 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY
COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ±_____
ANGLES ±_____
3 PLACE DEC. ±_____
2 PLACE DEC. ±_____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

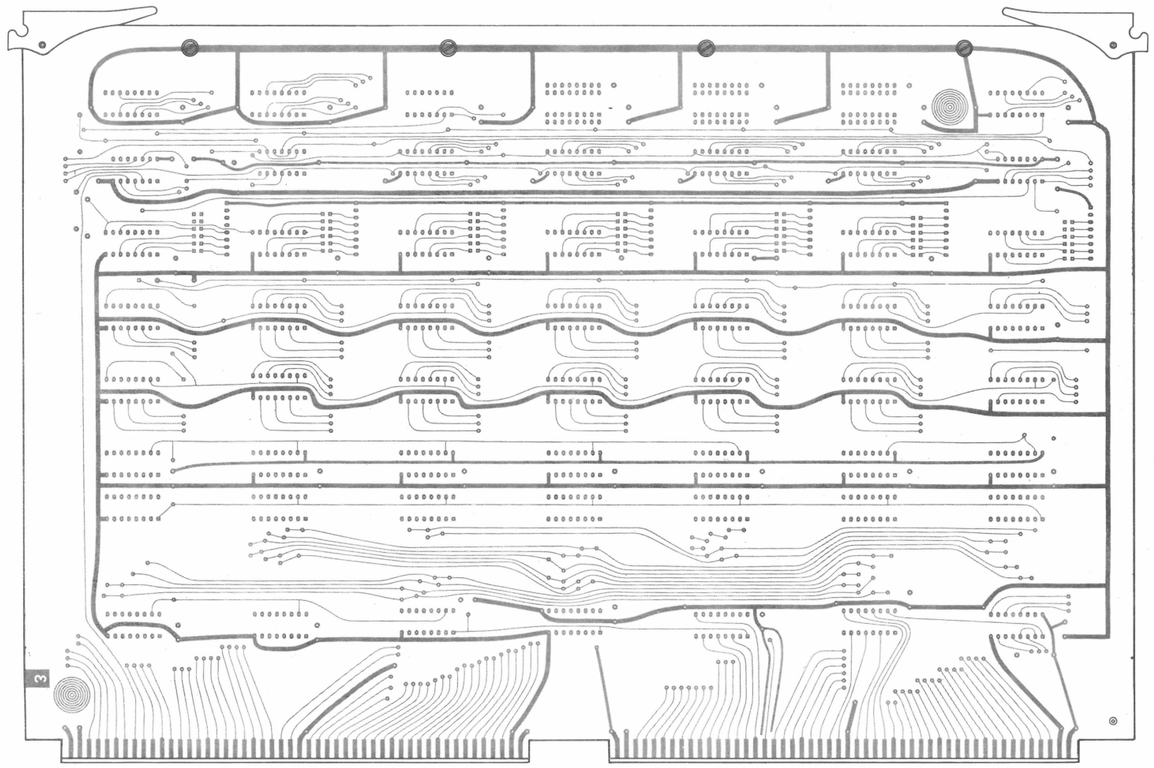
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
202D,
MAIN DATA REGISTER (STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4202-005	A

SCALE NONE SHEET 2 OF 3

612-4202-005 SHT 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

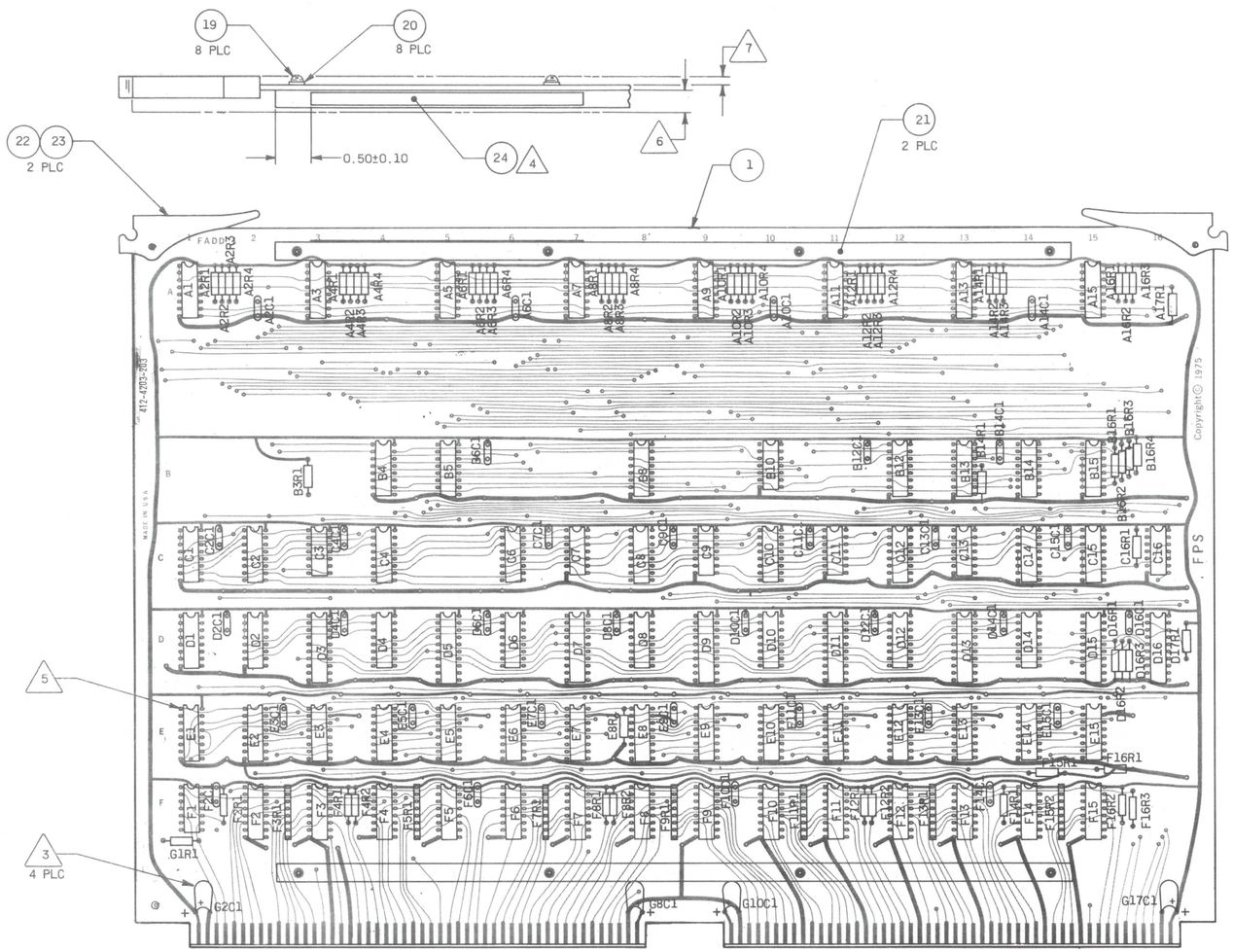
ETCH CIRCUIT BOARD ASSEMBLY,
202D,
MAIN DATA REGISTER (STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4202-005	A

SCALE NONE SHEET 3 OF 3

612-4202-005 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
A	ECO 79383	LEVEL 3 RELEASE		DRG 9-12-79	Deb 9/12/79
B	ECO 80180	SELA2A ENHANCEMENT	B6	RJZ 6-9-80	Jwb 6/3/80



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
18	A1,A3,A5,A7,A9,A11,A13,A15, C1,C2,C4,C6,C8,C10,C12,C14,C15, D1,D2,D4, D6,D8,D10,D12,D14
17	F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15
16	D3,D5,D7,D9,D11,D13,D15,D16
15	C3
14	C7,C11,C13
13	B5,B13,B14
12	E1,E2,E3,E4,E5,E6,E7,E8,E9,E10,E11,E12,E13,E14,E15
11	B4,B8,B12,B15
10	C9
9	B10, C16, F1
8	G2C1,G8C1,G10C1,G17C1
7	A2C1,A6C1,A10C1,A14C1, B6C1,B12C1,B14C1, C2C1,C4C1,C7R1,C9C1,C11C1, C13C1,C15C1, D2C1,D4C1,D6C1,D8C1,D10C1,D12C1,D14C1,D16C1, E3C1,E5C1, E7C1,E9C1,E11C1,E13C1,E15C1, F2C1,F6C1,F10C1,F14C1
6	F3R1,F5R1,F7R1,F9R1,F11R1,F13R1,F15R2
5	D16R1,D16R2,D16R3, F15R1,F16R1
4	B14R1
3	A17R1, E8R1, G1R1, F14R1,F16R3
2	A2R1-R4,A4R1-R4,A6R1-R4,A8R1-R4,A10R1-R4,A12R1-R4,A14R1-R3,A16R1-R3, B3R1,B16R1-R4, C16R1,D17R1,F2R1,F4R1,F4R2,F8R1,F8R2,F12R1,F12R2,F16R2

10. DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.
9. FT DENOTES FEED-THRU HOLE.
8. MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.
7. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.
6. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.
5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.
4. INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.
3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.
2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.
1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

1

ENGR		DATE 9-18-79
DRN BY	R. S. THURMAN	DATE 11/9/78
CHK BY	DONS. 11-14-78	DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

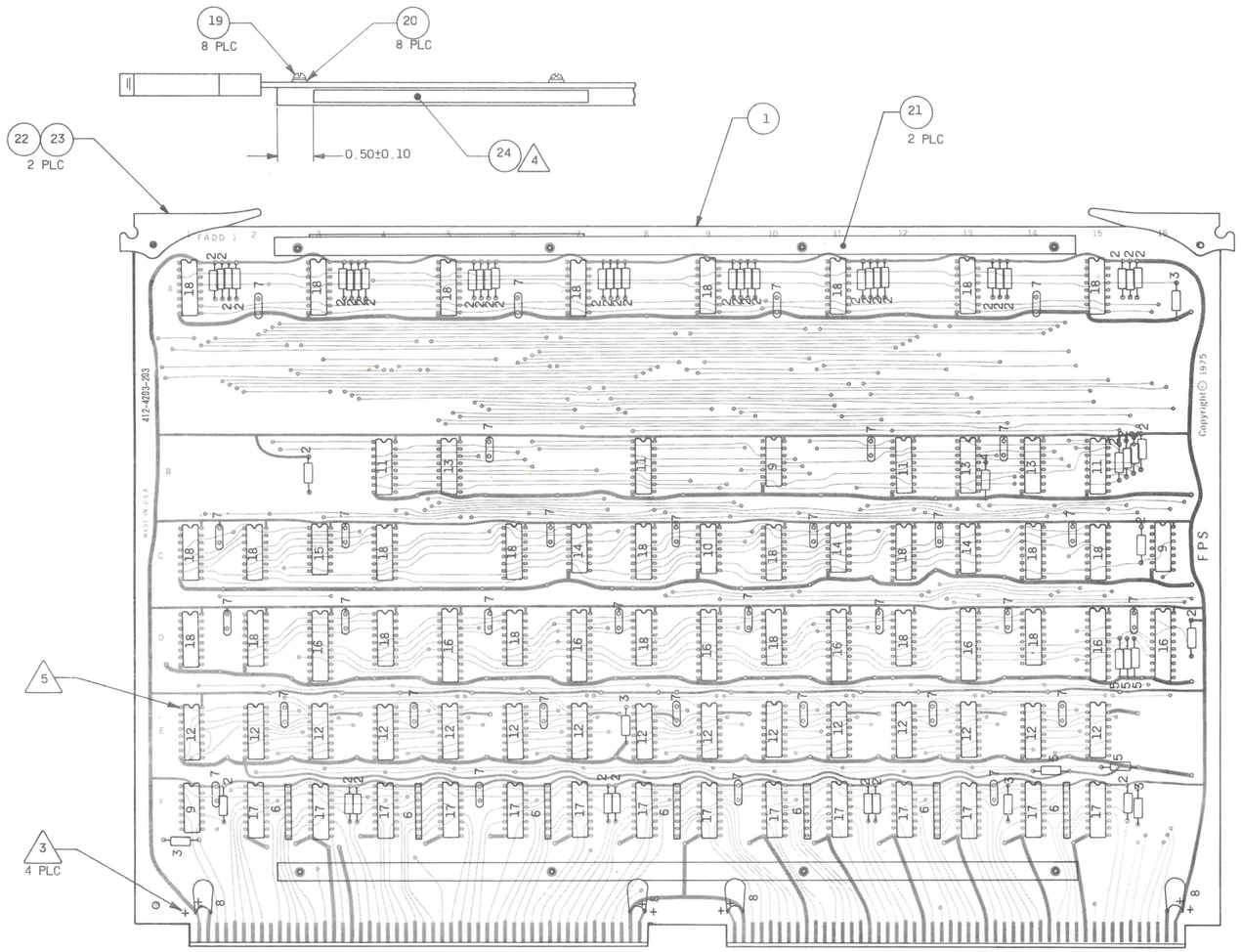
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
203-C,
FLOATING ADDER 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4203-002	B

SCALE NONE SHEET 1 OF 4

612-4203-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± _____
ANGLES ±
3 PLACE DEC. ± _____
2 PLACE DEC. ± _____

MATERIAL: 1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

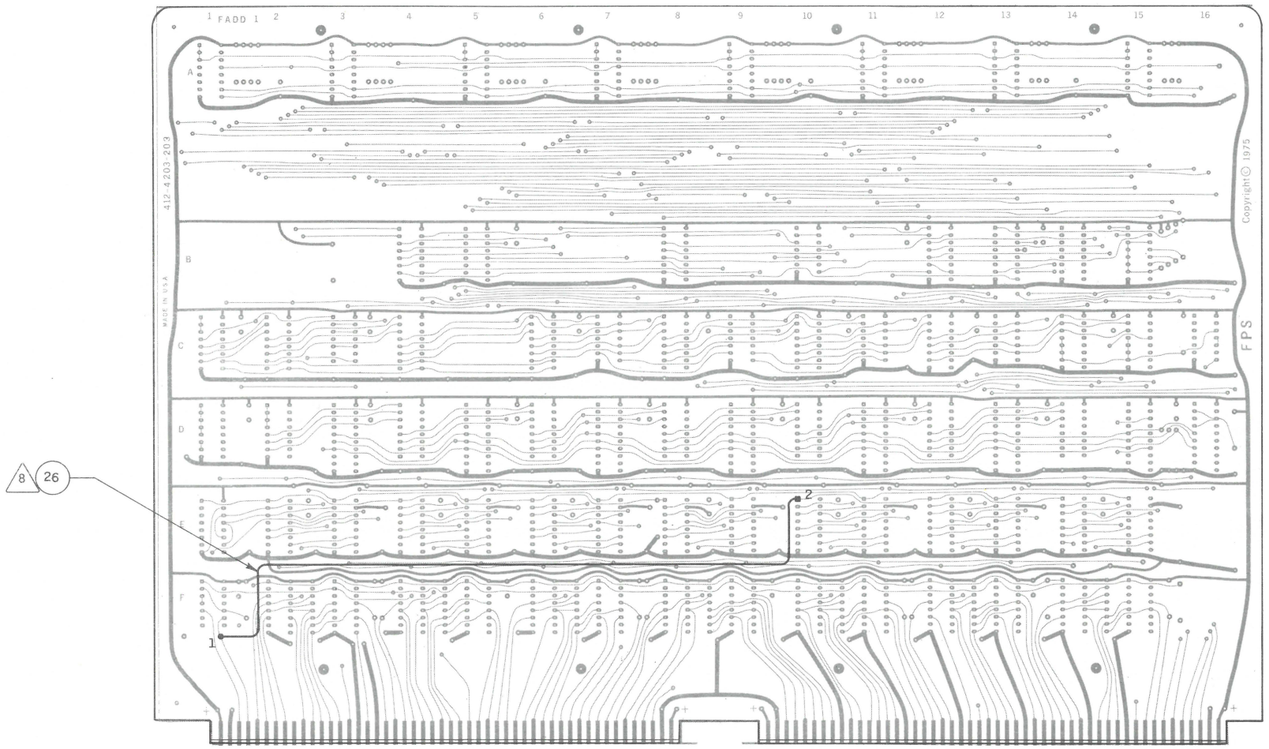
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
203-C,
FLOATING ADDER 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4203-002	B

SCALE NONE SHEET 2 OF 4

612-4203-002 SHT 2



COMPONENT SIDE

X		1-2	G1R1	E10-1	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		
	8	9	10	REWORK TABLE	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
203-C,
FLOATING ADDER 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4203-002	B

SCALE NONE SHEET 3 OF 4

612-4203-002 SHT

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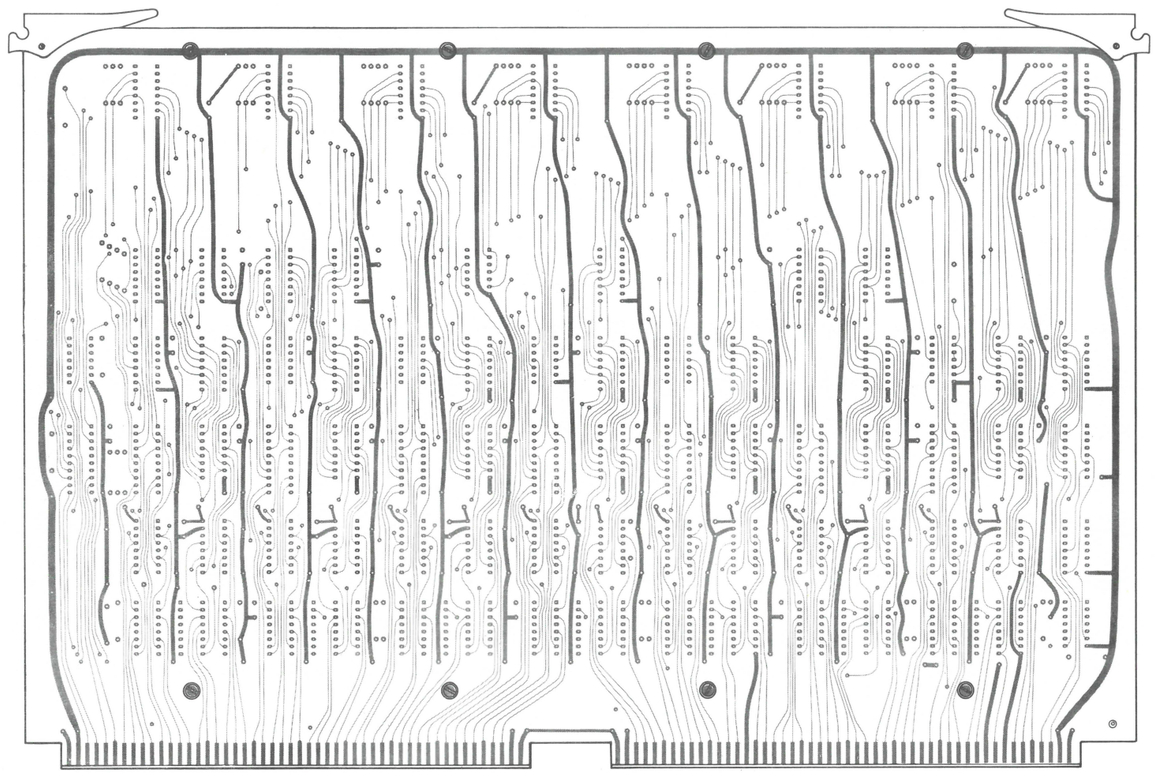

SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC.
PO Box 23489 Portland OR 97223

DRAWING TITLE

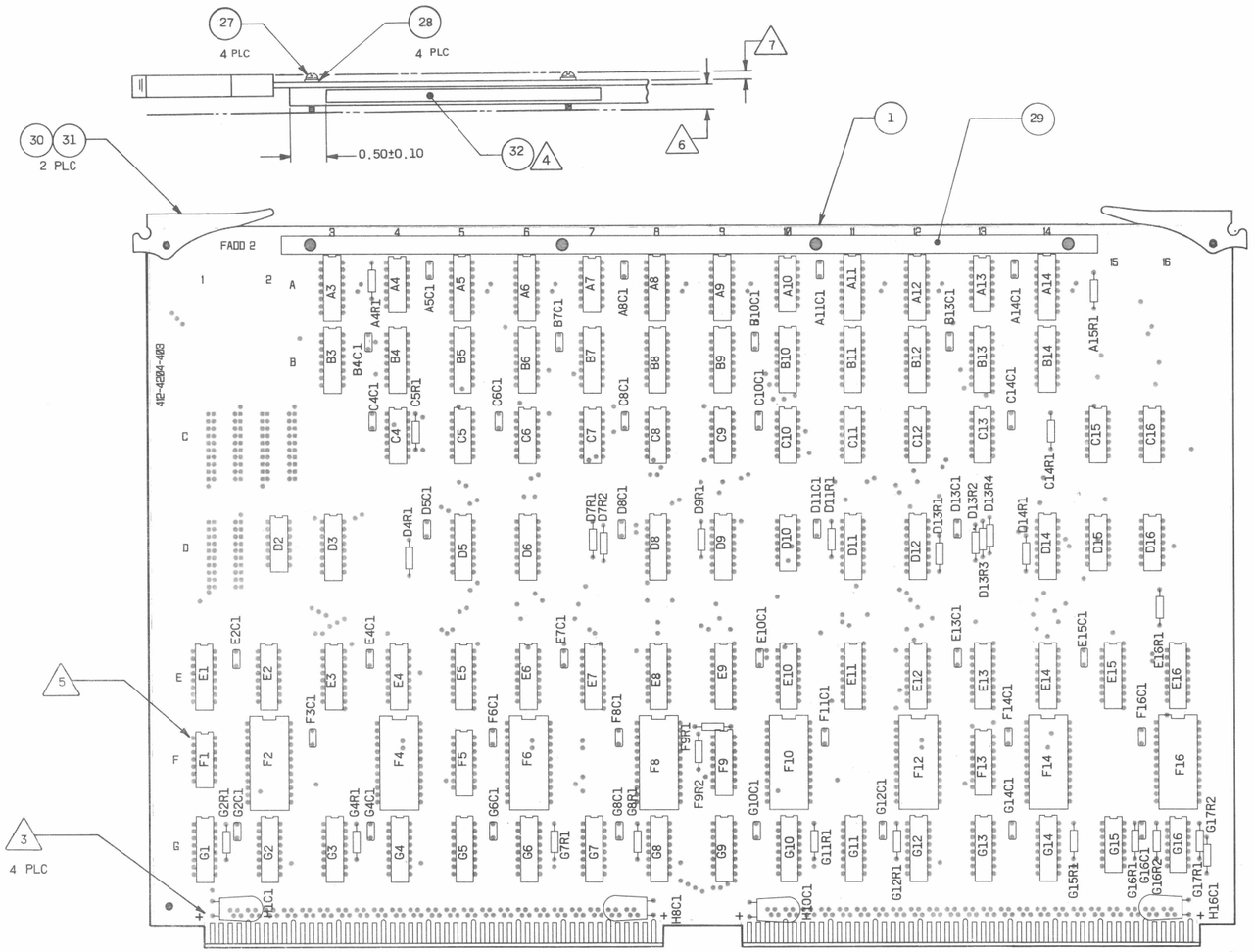
ETCH CIRCUIT BOARD ASSEMBLY,
203-C,
FLOATING ADDER 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4203-002	B

SCALE NONE SHEET 4 OF 4

612-4203-002 SHT 4

REVISIONS					
REV.	AUTH.	DESCRIPTION	ZONE	APVD / DATE	CHK. / DATE
01	EN #008	LEVEL 1 RELEASE		9-5-80	9-5-80
A	ECO 80310	LEVEL 3 RELEASE		9-5-80	



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
26	D3,D5,D6,D8,D9,D11,D12,D14, E1,E2,E3,E4,E5,E6,E7,E8,E9,E10,E11,E12, E13,E14,E15,E16
25	A3,A5,A6,A8,A9,A11,A12,A14
24	C6,C13
23	C9,C10
22	G15
21	A4,A7,A10,A13
20	C11,C12,C16, D16
19	C8
18	F5,F9,F13
17	F2,F4,F6,F8,F10,F12,F14,F16
16	B3,B5,B6,B8,B9,B11,B12,B14
15	C15, F1
14	D2,D10
13	C4
12	C7
11	G16
10	C5
9	D15
8	G1,G2,G3,G4,G5,G6,G7,G8,G9,G10,G11,G12,G13,G14
7	B4,B7,B10,B13
6	H1C1,H8C1,H10C1,H16C1
5	A5C1,A8C1,A11C1,A14C1, B4C1,B7C1,B10C1,B13C1, C4C1,C6C1,C8C1,C10C1, C14C1, D5C1,D8C1,D11C1,D13C1, E2C1,E4C1,E7C1,E10C1,E13C1,E15C1, F3C1, F6C1,F8C1,F11C1,F14C1,F16C1, G2C1,G4C1,G6C1,G8C1,G10C1,G12C1,G14C1, G16C1
4	D7R2,D9R1,D11R1,D13R2,D13R3,D14R1
3	A4R1, C5R1,C14R1, D7R1,D13R4, E16R1, G2R1,G4R1, G7R1,G8R1,G11R1,G12R1, G15R1,G16R1,G16R2,G17R1
2	A15R1, D4R1,D13R1, F9R1,F9R2, G17R2

7 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

6 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R-PAKS

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS AS REQUIRED ON LABEL AND APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:
1

PROJ. ENG.		DATE 9-5-80
DRAWN BY	JOHN C. YOUNG	DATE 3-3-80
CHECK BY		DATE 3/4/80
MFG. ENG.		DATE 9-5-80

DO NOT SCALE DRAWING

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

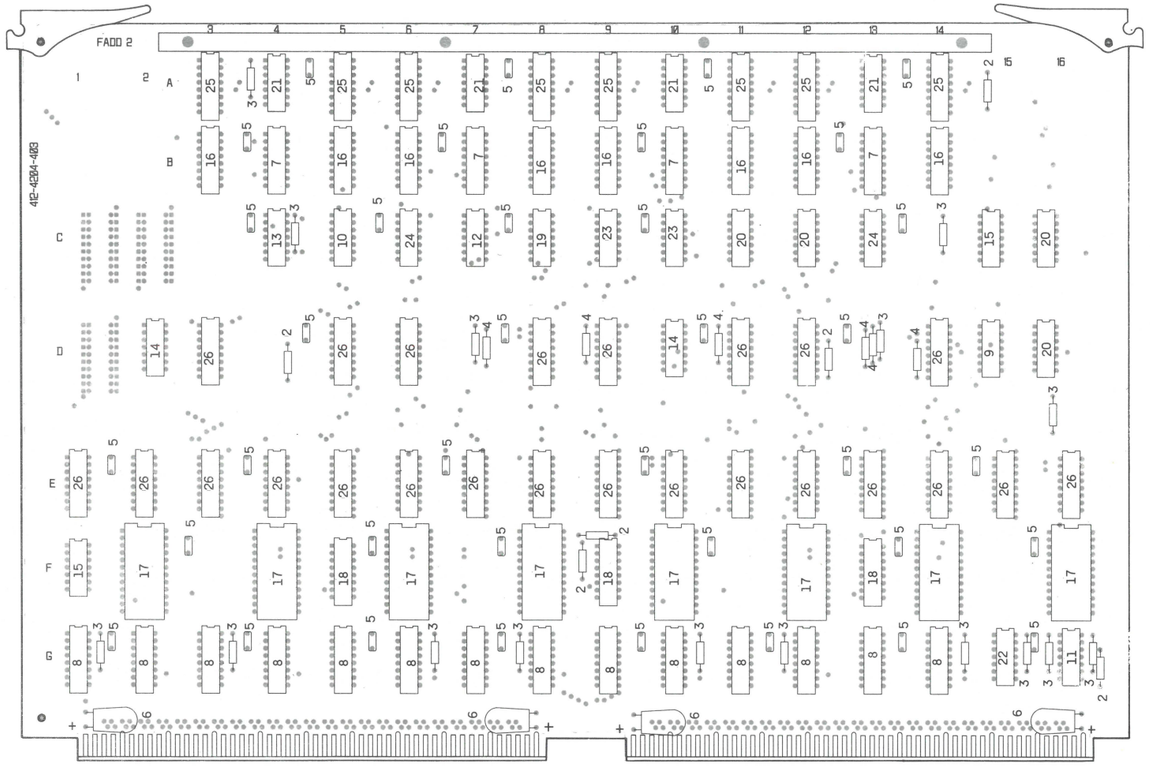
DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
204-C,
FLOATING ADDER 2

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4204-002	A

SCALE NONE SHEET 1 OF 3

SHT 1 DRAWING NO. 612-4204-002

F.P.S FORM NO. 4035



COMPONENT SIDE

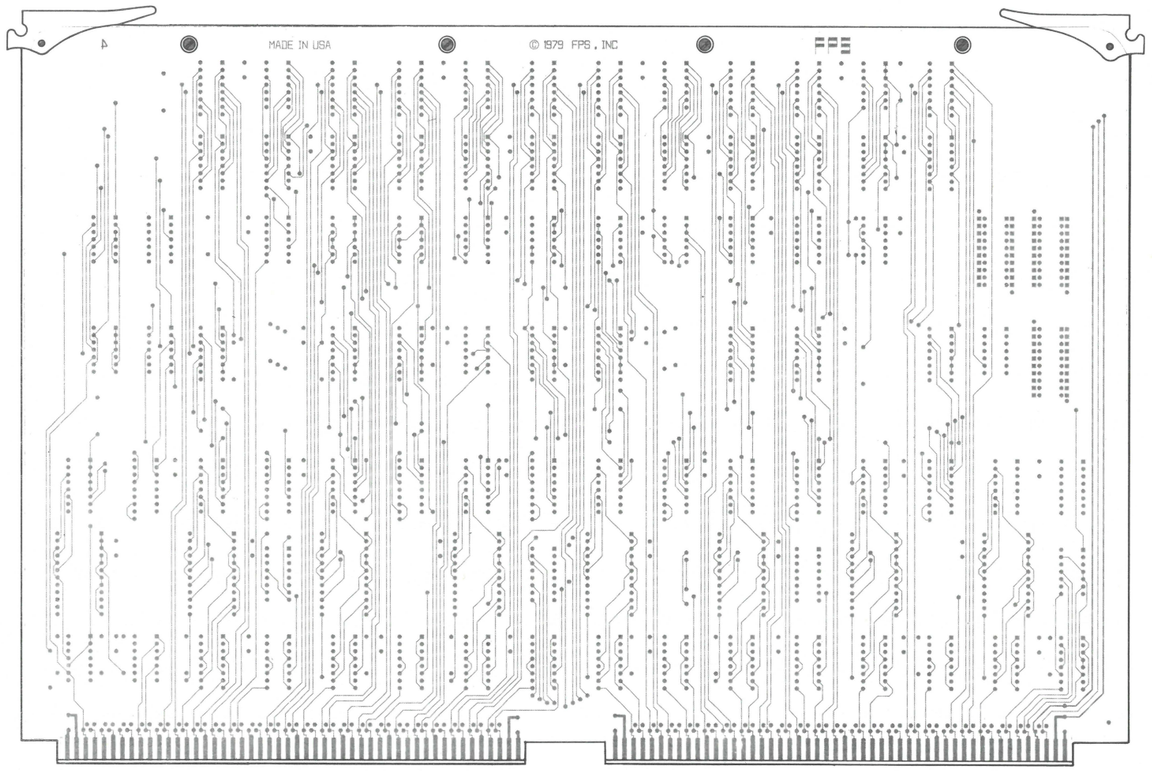
THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4204-002	A
SCALE NONE		SHEET 2 OF 3	

DRAWING NO. 612-4204-002 SHT 2

P-S FORM NO. 4035

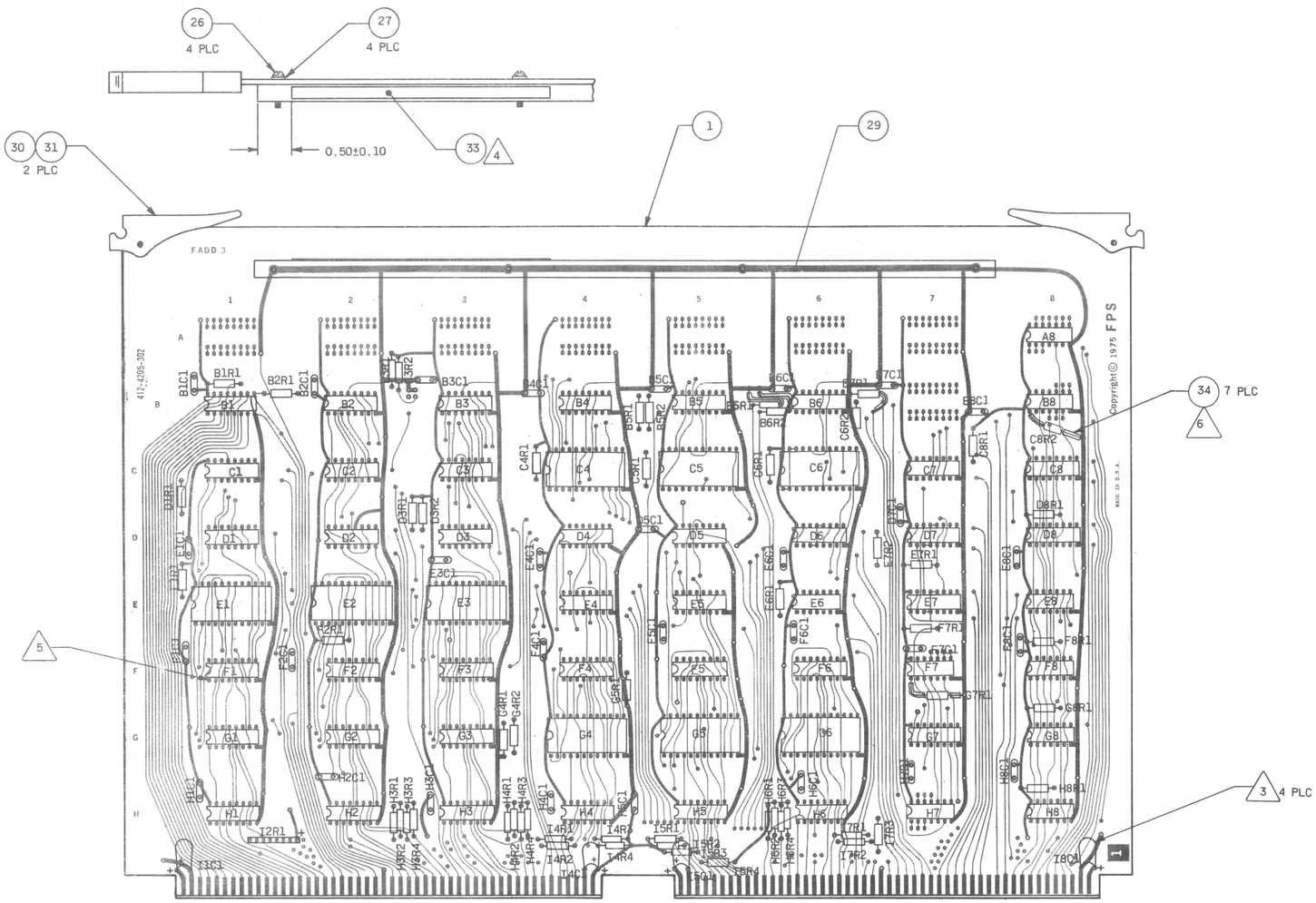


SOLDER SIDE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4204-002	A
SCALE NONE		SHEET 3 OF 3	

DRAWING NO. 612-4204-002 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN #6	LEVEL 1		JH 3/14/79	
02	EN #25	LEVEL 2		JH 3/14/79	
03	ECO 79058	LEVEL 2 RELEASE		JH 3/14/79	
A	ECO 79381	LEVEL 3 RELEASE		SJRG 8/24/79	R.W. 8-24-79
B	ECO 80390	CHANGE ITEM 34		DRW 2/11/81	2-10-81



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
25	B2,B3,B4,B5,B6
24	B1, F4,F5,F6, G1,G2,G3
23	C2,C3
22	F8, G8, H8
21	E6
20	C1,C7, G7
19	C4,C5,C6, E1,E2,E3, G4,G5,G6
18	D4, E4
17	D5, E5, F1,F2,F3, H1,H2,H3,H4,H5,H6
16	C8, D6,D7,D8, E7
15	F7
14	E8
13	H7
12	A8, B8
11	D1,D2,D3
10	I1C1,I4C1,I5C1,I8C1
9	B1C1,B2C1,B3C1,B4C1,B5C1,B6C1,B7C1,B8C1, D5C1,D7C1, E1C1,E3C1,E4C1, E6C1,E8C1, F1C1,F2C1,F4C1,F5C1,F6C1,F7C1,F8C1, H1C1,H2C1,H3C1,H4C1, H5C1,H6C1,H7C1,H8C1
8	I2R1
7	G4R1,G5R1
6	B7R1
5	G7R1
4	B6R1,B6R2, C8R2
3	B1R1,B3R1,B3R2,B5R1,B5R2, C4R1,C5R1,C6R1,C8R1, D1R1,D3R1,D3R2,D8R1, E1R1,E6R1,E7R1,E7R2, F2R1,F7R1,F8R1, G4R2,G8R1, H3R1,H3R2,H3R3,H3R4, H4R1,H4R2,H4R3,H4R4,H6R1,H6R2,H6R3,H6R4,H8R1, I4R1,I4R2,I4R3,I4R4,I5R1, I5R2,I5R3,I5R4,I7R1,I7R2,I7R3
2	B2R1, C6R2

6 USE SLEEVING ITEM 34, TO COVER EXPOSED LEADS OF COMPONENTS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	Wayne Matthews	DATE 8/31/79
DRN BY	R. S. THURMAN	DATE 11/10/78
CHK BY	JOETTE BAKER	DATE 11/16/78
PROD RELEASE	Ken Brick	DATE 8/31/79

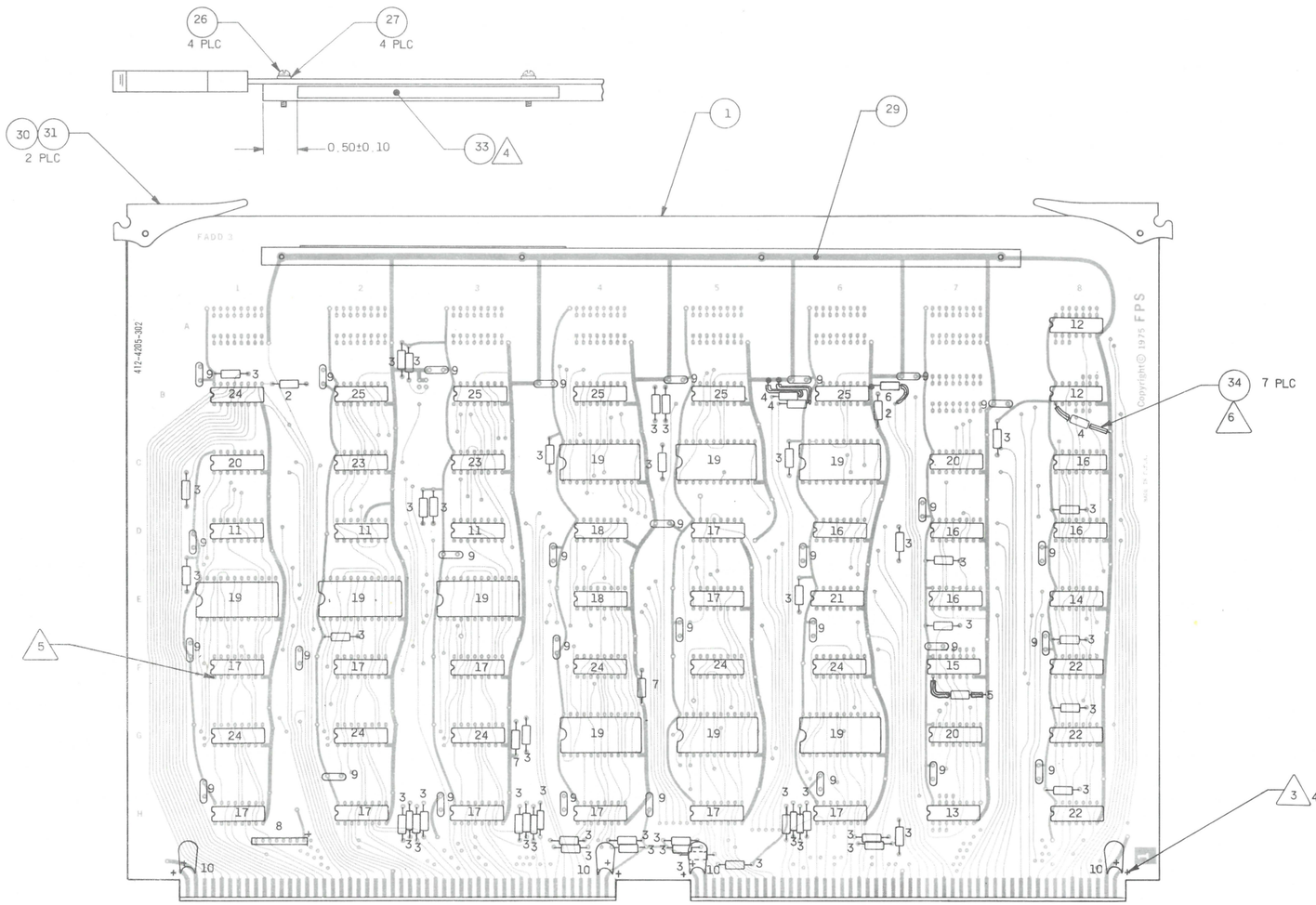
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE: ETCH CIRCUIT BOARD ASSEMBLY, 205-B, FLOATING ADDER 3

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4205-001	B

SCALE NONE SHEET 1 OF 3

612-4205-001 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

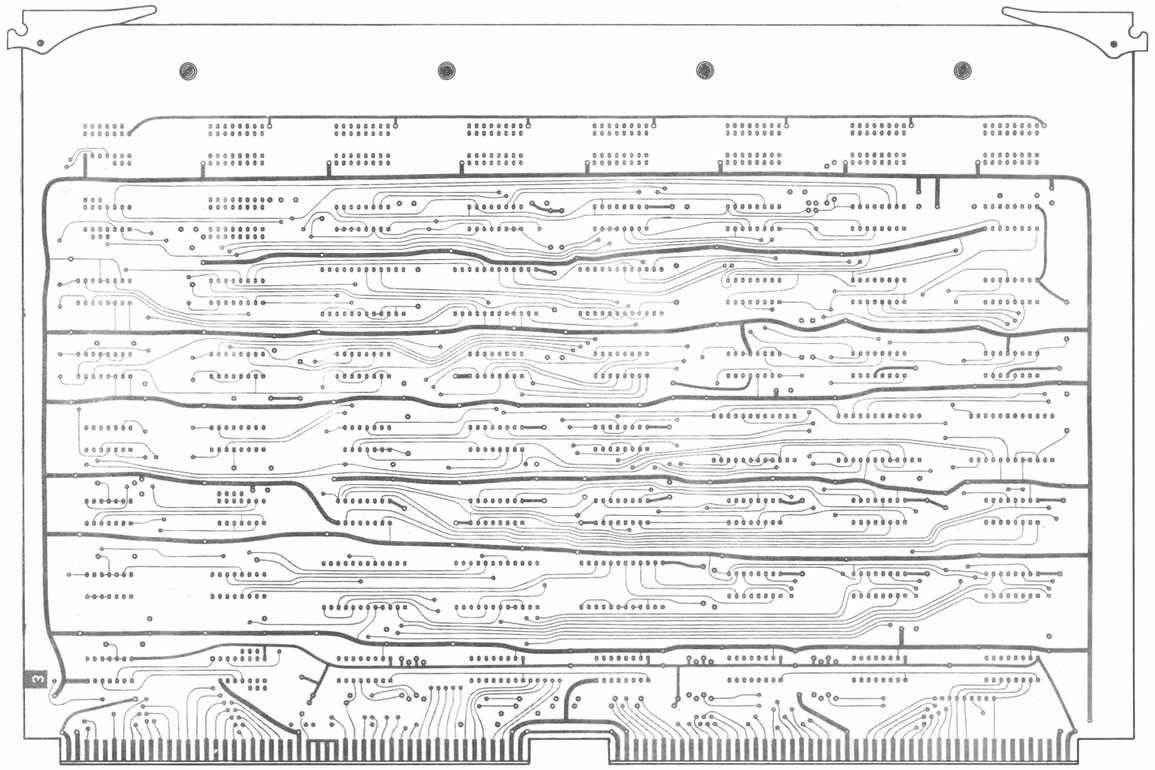
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
205-B,
FLOATING ADDER 3

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4205-001	B

SCALE NONE SHEET 2 OF 3

612-4205-001 SHT 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

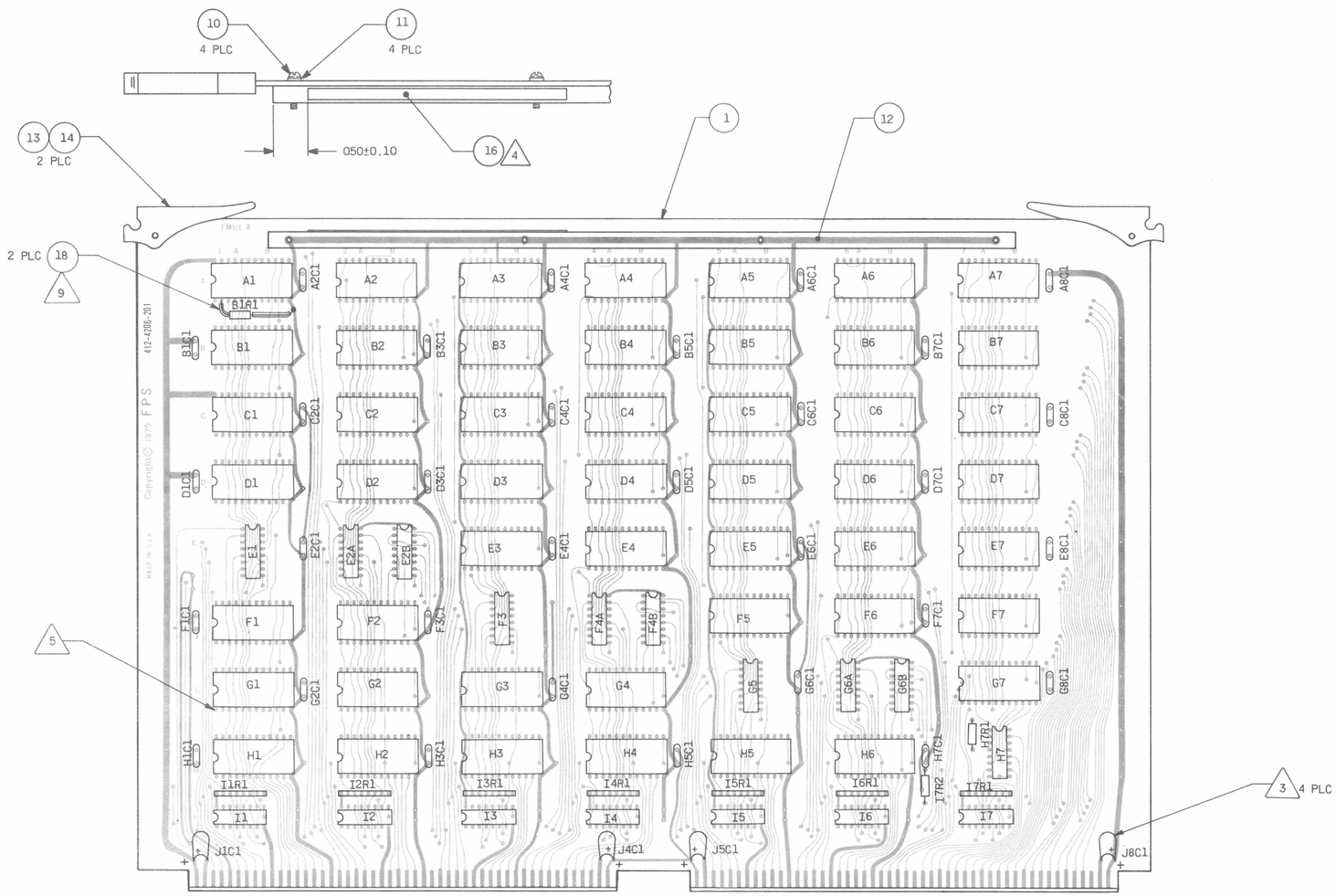
ETCH CIRCUIT BOARD ASSEMBLY,
205-B,
FLOATING ADDER 3

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4205-001	B

SCALE NONE SHEET 3 OF 3

612-4205-001 SHT 3

REVISIONS					
REV	ECO NO.	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		GH 3/14/79	
02	EN#25	LEVEL 2		GH 3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		BAB 6-5	
A	ECO 79380	LEVEL 3 RELEASE		BAB 8-23-79	TW 8/23/79
B	ECO 80390	CHANGE ITEM 18		DRW 2/11/81	R. Rind



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
9	I1,I2,I3,I4,I5,I6,I7
8	E1,E2A,E2B, F3,F4A,F4B,G5,G6A,G6B, H7
7	A1,A2,A3,A4,A5,A6,A7, B1,B2,B3,B4,B5,B6,B7, C1,C2,C3,C4,C5,C6,C7, D1, D2,D3,D4,D5,D6,D7, E3,E4,E5,E5,E6,E7, F1,F2,F5,F6,F7, G1,G2,G3,G4,G7, H1,H2,H3,H4,H5,H6
6	J1C1,J4C1,J5C1,J8C1
5	A2C1,A4C1,A6C1,A8C1, B1C1,B3C1,B5C1,B7C1, C2C1,C4C1,C6C1,C8C1, D1C1, D3C1,D5C1,D7C1, E2C1,E4C1,E6C1,E8C1, F1C1,F3C1,F7C1, G2C1,G4C1,G6C1, G8C1, H1C1,H3C1,H5C1,H7C1
4	I1R1,I2R1,I3R1,I4R1,I5R1,I6R1,I7R1
3	B1R1
2	I7R2, H7R1

9 USE SLEEVING ITEM 18, TO COVER EXPOSED LEADS OF COMPONENTS.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3 AND 4. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL. APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	Wayne Mathews	DATE 8/31/79
DRN BY	R. S. THURMAN	DATE 11/13/78
CHK BY	JOHN C. YOUNG	DATE 11/15/78
PROD RELEASE	Ken Brick	DATE 8/31/79

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

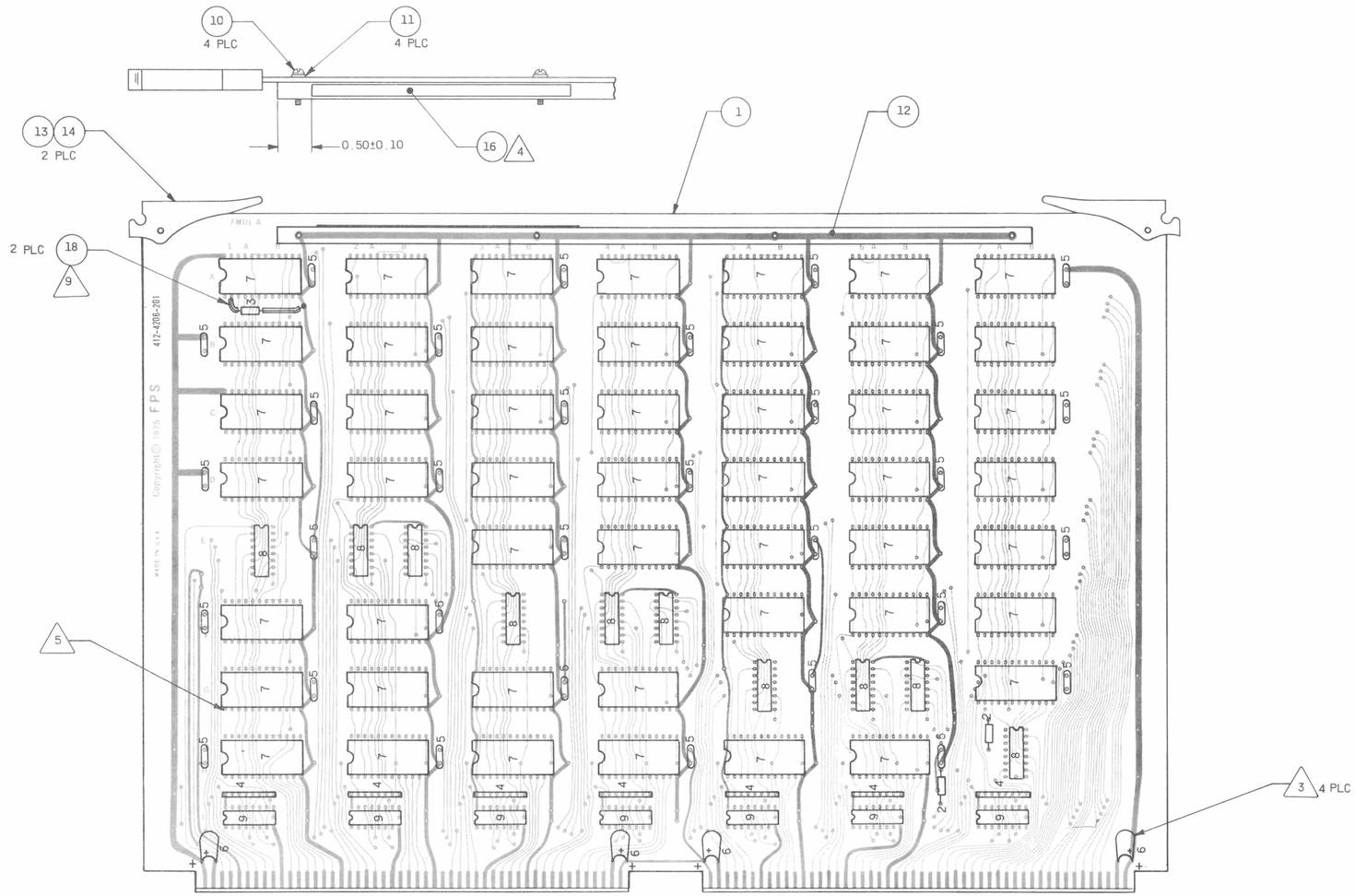
DRAWING TITLE

ETCH CIRCUIT BOARD, ASSEMBLY
206-A,
FLOATING MULTIPLIER A,

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4206-001	B

SCALE NONE SHEET 1 OF 4

612-4206-001 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

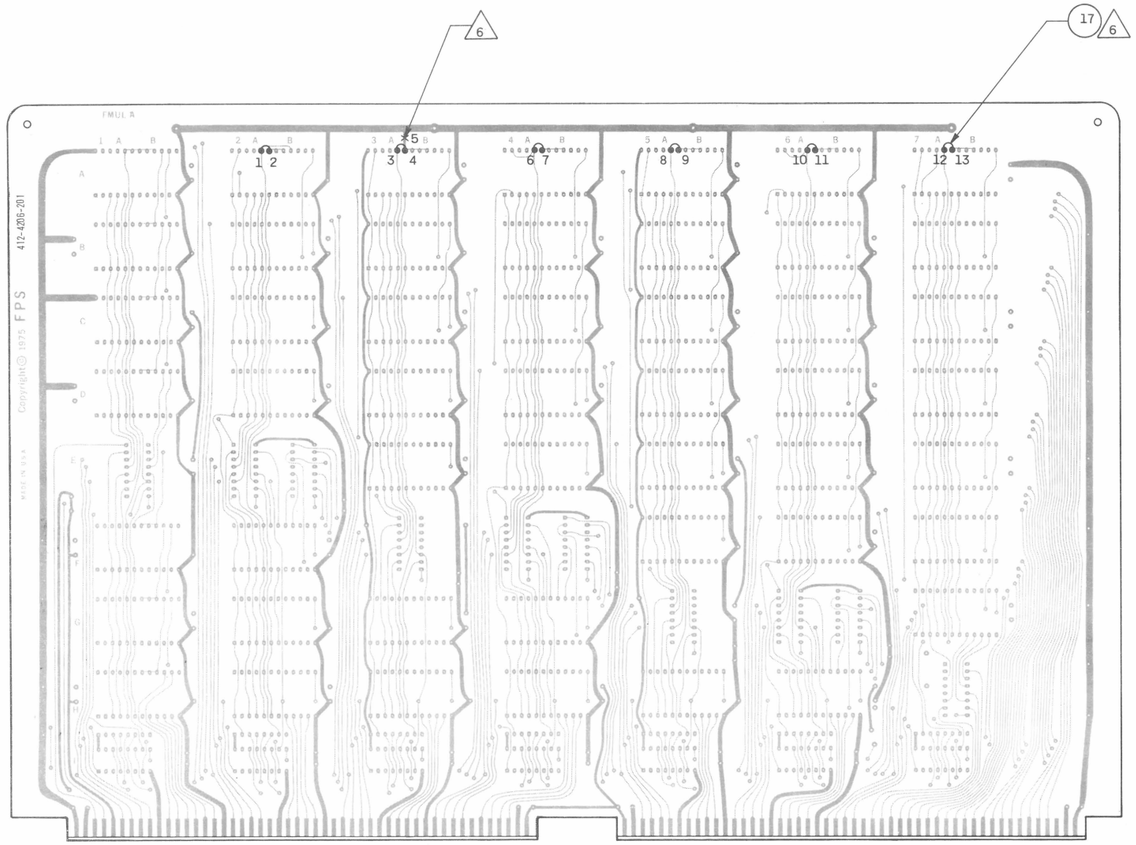
FLOATING POINT SYSTEMS, INC.
POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
206-A,
FLOATING MULTIPLIER A

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4206-001	B

SCALE NONE SHEET 2 OF 4

612-4206-001 SHT 2



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
	X	18	A2-19	A2-12	SOLDER
	X	17	A4-16	A4-12	SOLDER
	X	16	A5-17	A5-12	SOLDER
	X	15	A6-18	A6-12	SOLDER
	X	14	A7-19	A7-12	SOLDER
X		12-13	A7-20	A7-19	COMPONENT
X		10-11	A6-20	A6-19	COMPONENT
X		8-9	A5-20	A5-19	COMPONENT
X		6-7	A4-20	A4-19	COMPONENT
	X	5	A3-19	A3-12	COMPONENT
X		3-4	A3-20	A3-19	COMPONENT
X		1-2	A2-20	A2-19	COMPONENT

6 7 8 REWORK TABLE

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

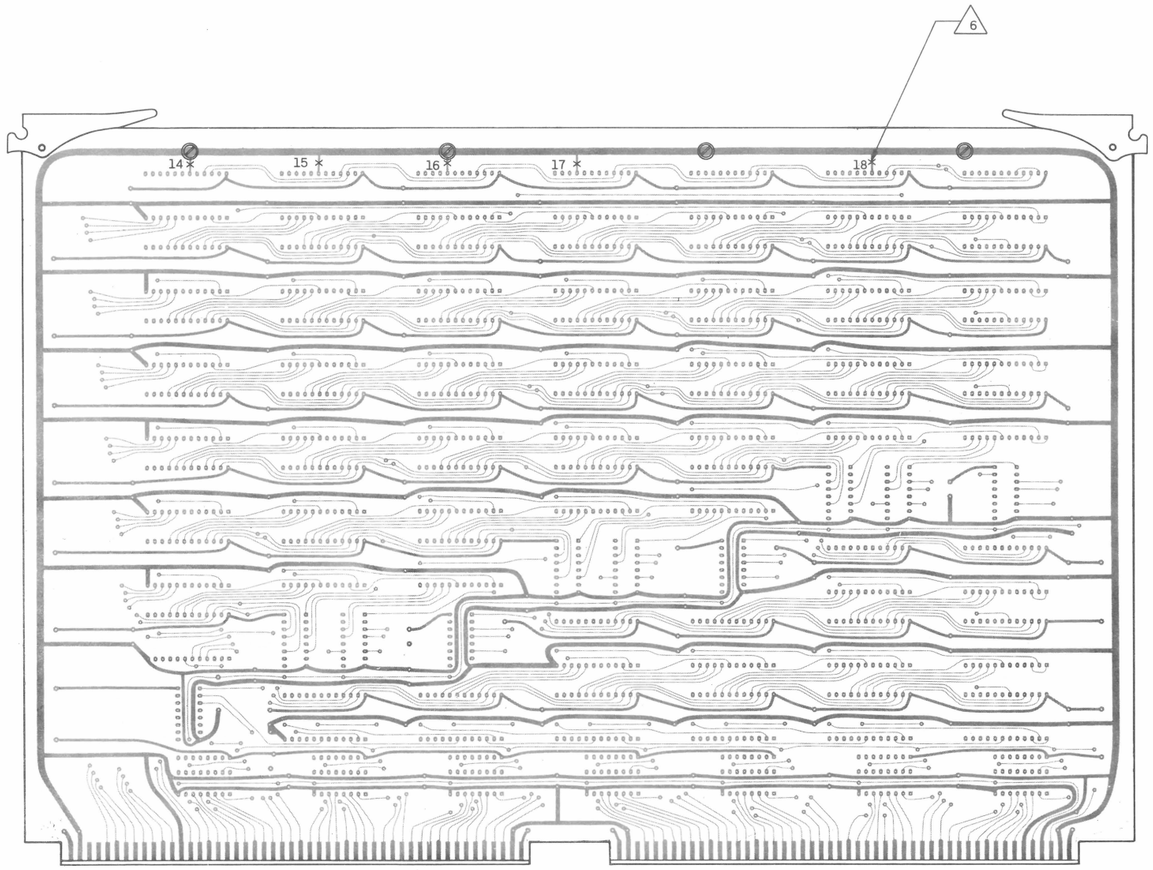
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
206-A,
FLOATING MULTIPLIER A

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4206-001	B

SCALE NONE SHEET 3 OF 4

612-4206-001 SHT 3



SOLDER SIDE

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ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE

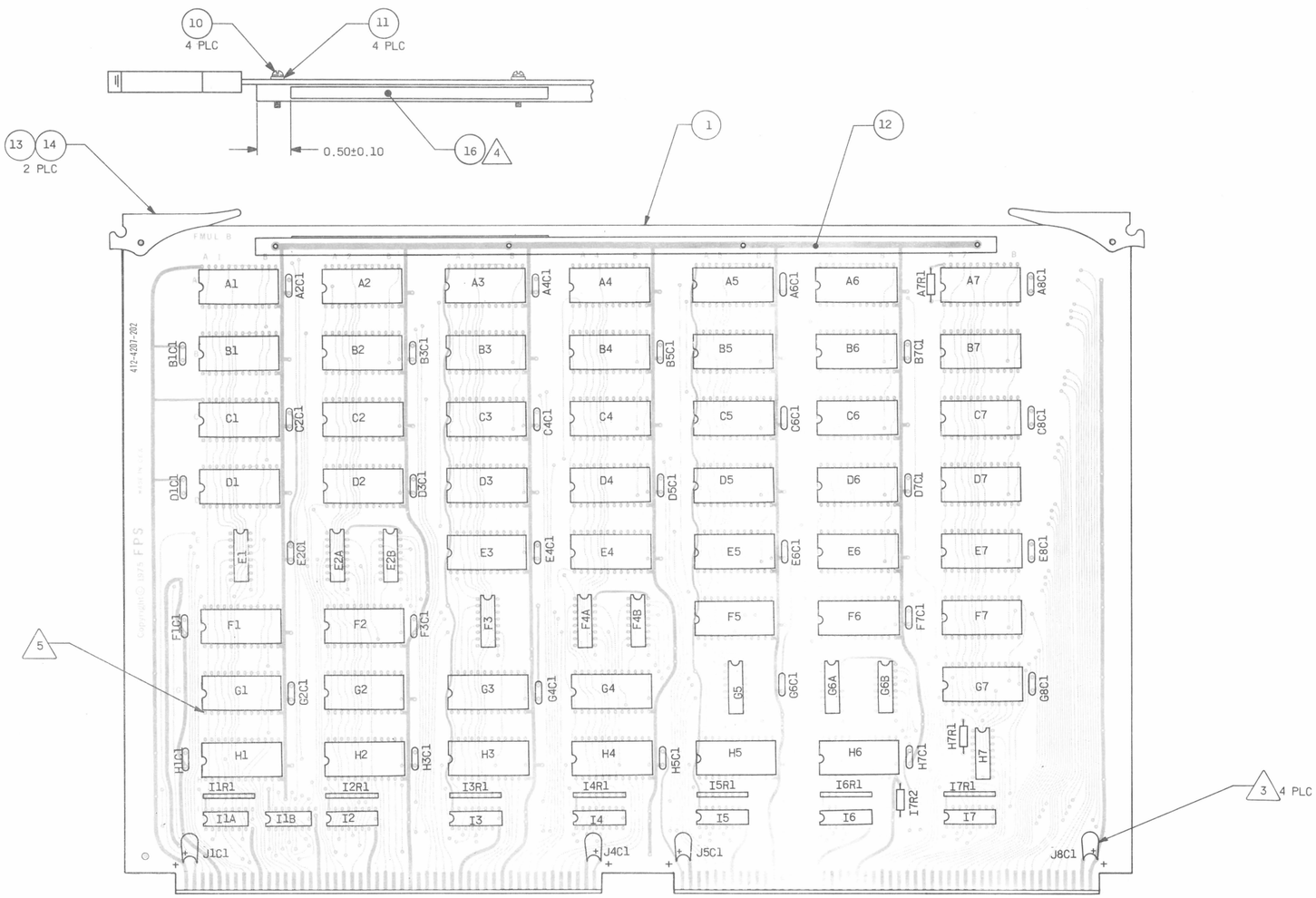
ETCH CIRCUIT BOARD ASSEMBLY,
206-A,
FLOATING MULTIPLIER A

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4206-001	B

SCALE NONE SHEET 4 OF 4

612-4206-001 SHT 4

REVISIONS					
REV	EAUTHO	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		gH 3/14/79	
02	EN#25	LEVEL 2		gH 3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		BJS 6-5	
A	ECO 79379	LEVEL 3 RELEASE		RJ 8-24-79	T.W. 8-24-79



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
9	I1A,I1B,I2,I3,I4,I5,I6,I7
8	E1,E2A,E2B, F3,F4A,F4B, G5,G6A,G6B, H7
7	A1,A2,A3,A4,A5,A6,A7, B1,B2,B3,B4,B5,B6,B7, C1,C2,C3,C4,C5,C6,C7, D1, D2,D3,D4,D5,D6,D7, E3,E4,E5,E6,E7, F1,F2,F5,F6,F7, G1,G2,G3,G4,G7, H1, H2,H3,H4,H5,H6
6	J1C1,J4C1,J5C1,J8C1
5	A2C1,A4C1,A6C1,A8C1, B1C1,B3C1,B5C1,B7C1, C2C1,C4C1,C6C1,C8C1, D1C1, D3C1,D5C1,D7C1, E2C1,E4C1,E6C1,E8C1, F1C1,F3C1,F7C1, G2C1,G4C1,G6C1, G8C1, H1C1,H3C1,H5C1,H7C1
4	I1R1,I2R1,I3R1,I4R1,I5R1,I6R1,I7R1
3	A7R1
2	H7R1, I7R2

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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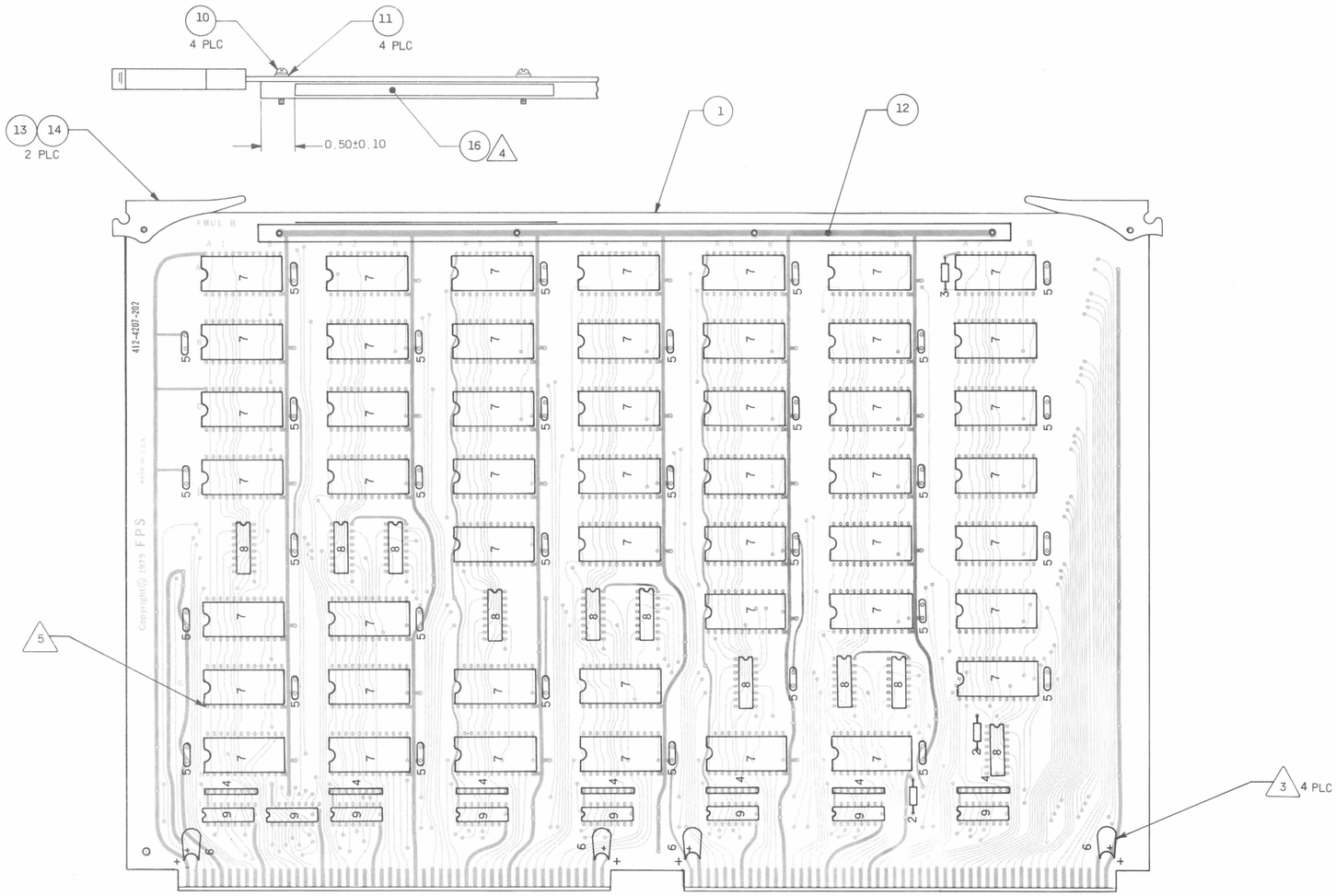
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL: 1

ENGR Wayne Mathison	DATE 8/31/79	FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223
DWN BY R.S. THURMAN	DATE 11/9/78	DRAWING TITLE
CHK BY DATE WILLEFORD	DATE 11/28-78	ETCH CIRCUIT BOARD ASSEMBLY, 207-B, FLOATING MULTIPLIER B
PROD RELEASE Ken Brick	DATE 8/31/79	

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4207-002	A
SCALE NONE		SHEET 1 OF 3	

612-4207-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

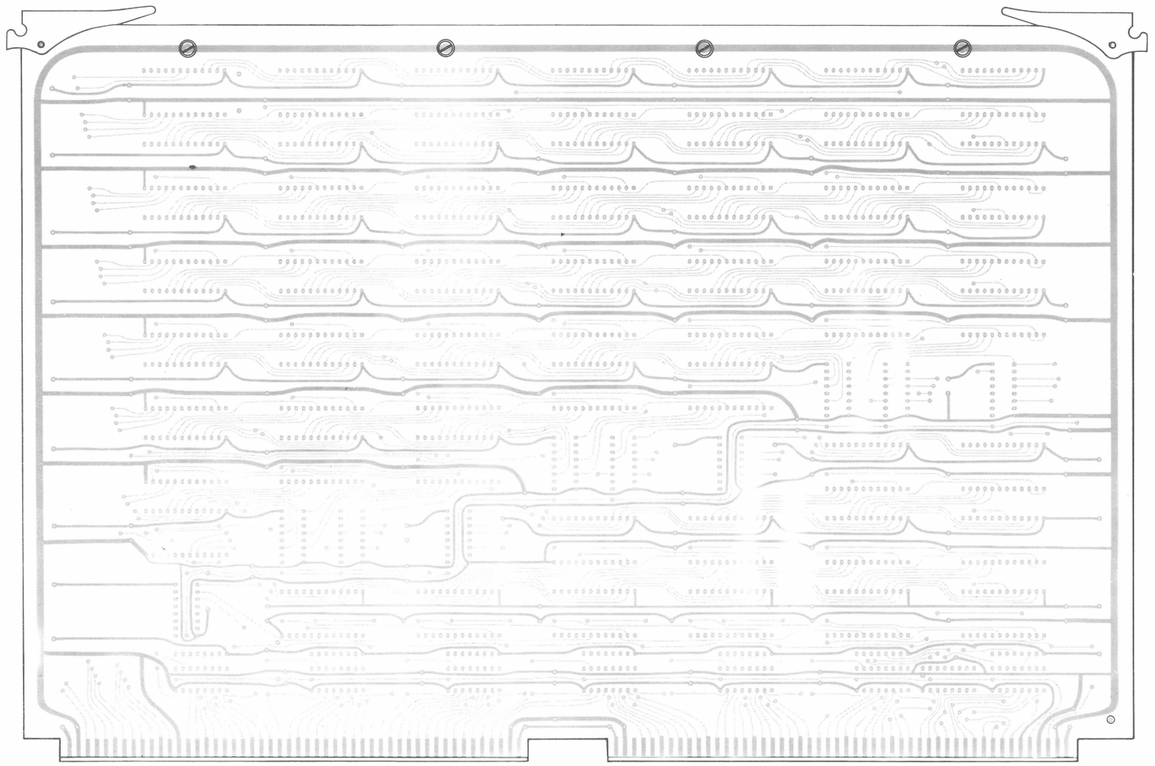
FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
207-B,
FLOATING MULTIPLIER B

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4207-002	A

SCALE NONE SHEET 2 OF 3

612-4207-002 SHT 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC.
POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY
207-B,
FLOATING MULTIPLIER B

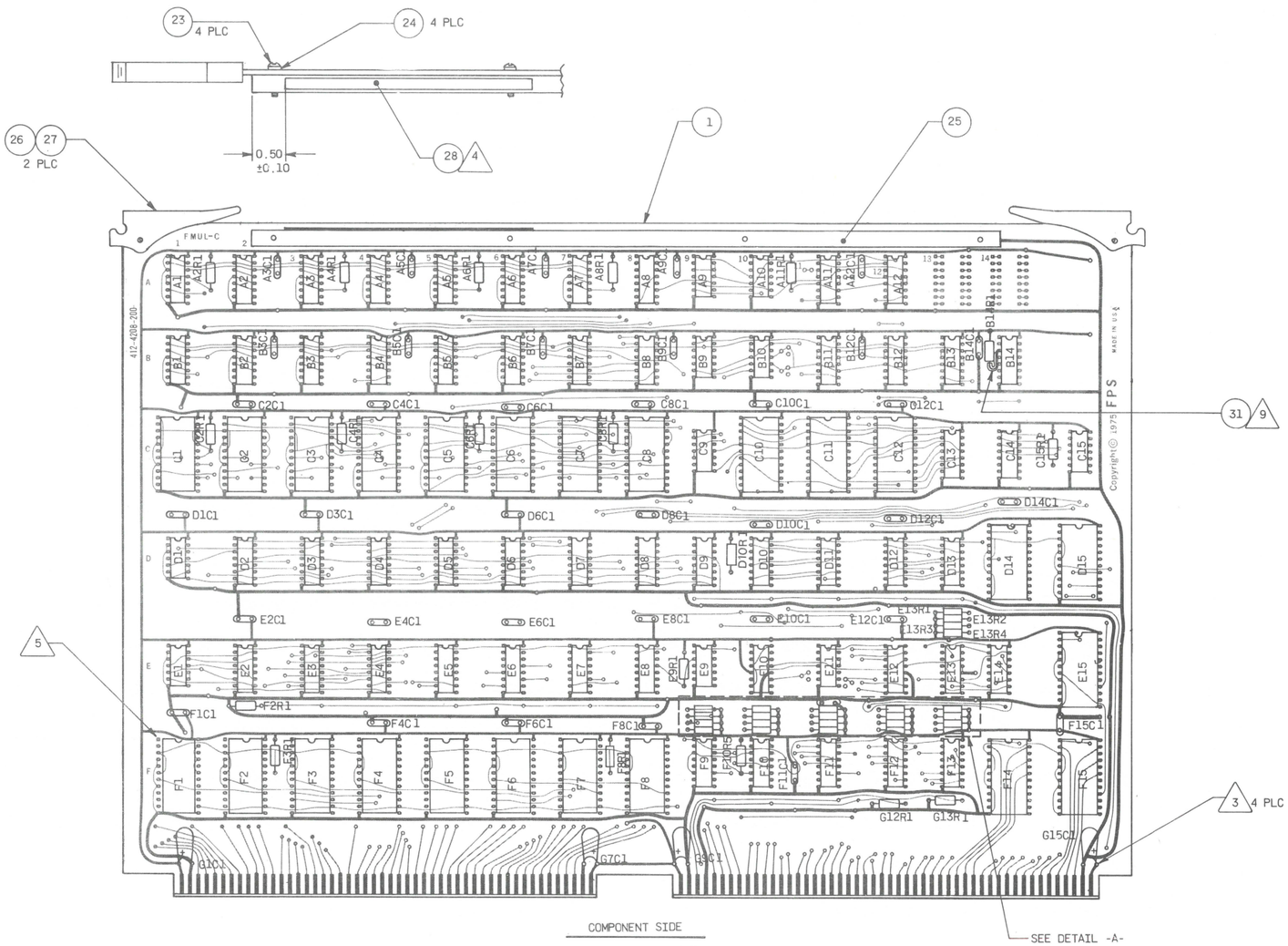
SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4207-002	A

SCALE NONE SHEET 3 OF 3

612-4207-002 SHT 3

ZONE	REV	AUTH	DESCRIPTION	APPROVAL	CHECK
	01	EN #6	LEVEL 1	JH 3/14/79	
	02	EN #25	LEVEL 2	JH 3/14/79	
	03	ECO 79058	CORRECT REVISION LEVEL	3/23 6-5	
	A	ECO 79378	LEVEL 3 RELEASE	8-24-79	7W 8-24-79
	B	ECO 80390	CHANGE ITEM 31	DRW 3/11/81	3-12-81
ACL	C	ECO 81094	ADD GROUNDING STRAPS (29 THRU 66) AND ITEM 32	SDR 31 March 81	3/31/81
	D	ECO 81282	IDENTIFY ITEM 32 ON MOD SHEET	DRW 7/17/81	7/17/81

REVISIONS



COMPONENT SIDE

DETAIL -A-
SCALE=NONE

ITEM	REFERENCE DESIGNATION
22	D2,D3,D4,D5,D6,D7,D8,D9
21	E14, F9,F10,F11,F12,F13
20	E2
19	B14, D10,D11,D12,D13, E3,E5,E6,E7,E8
18	A9, D1, E1
17	C9
16	A8, B8, C13,C14, E4
15	C1,C2,C3,C4,C5,C6,C7,C8,C10,C11,C12, D14,D15, E15, F1,F2,F3,F4,F5,F6,F7, F8,F14,F15
14	A1,A2,A3,A4,A5,A6,A7,A11,A12, B1,B2,B3,B4,B5,B6,B7,B11,B12,B13
13	A10, B10
12	B9, E11
11	E10,E12,E13
10	E9
9	C15
8	G1C1,G7C1,G9C1,G15C1
7	A3C1,A5C1,A7C1,A9C1,A12C1,B3C1,B5C1,B7C1,B9C1,B12C1,B14C1,C2C1,C4C1, C6C1,C8C1,C10C1,C12C1,D1C1,D3C1,D6C1,D8C1,D10C1,D12C1,D14C1,E2C1,E4C1, E6C1,E8C1,E10C1,E12C1,F1C1,F4C1,F6C1,F8C1,F11C1,F11C2,F15C1
6	B14R1
5	E9R1
4	G12R1,G13R1
3	A2R1,A4R1,A6R1,A8R1,A11R1,C2R1,C4R1,C6R1,C8R1,C15R1,D10R1,E13R1,E13R2, E13R3,E13R4,F3R1,F8R1,F9R1,F9R2,F9R3,F9R4,F10R1,F10R2,F10R3,F10R4,F10R5, F11R1,F11R2,F11R3,F11R4,F12R1,F12R2,F12R3,F12R4,F13R1,F13R2,F13R3,F13R4
2	F2R1

10 USE 22 AWG WIRE (ITEM 32)

9 USE SLEEVING (ITEM 31) TO COVER EXPOSED LEADS OF COMPONENTS.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3,4, AND 5. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST. SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL: 1

ENGR	Wayne Matthews	DATE 8/31/79
DRN BY	Tim Martin	DATE 10-6-78
CHK BY	Emily Morgan	DATE 11-29-78
PROD RELEASE	Ken Banick	DATE 8/31/79

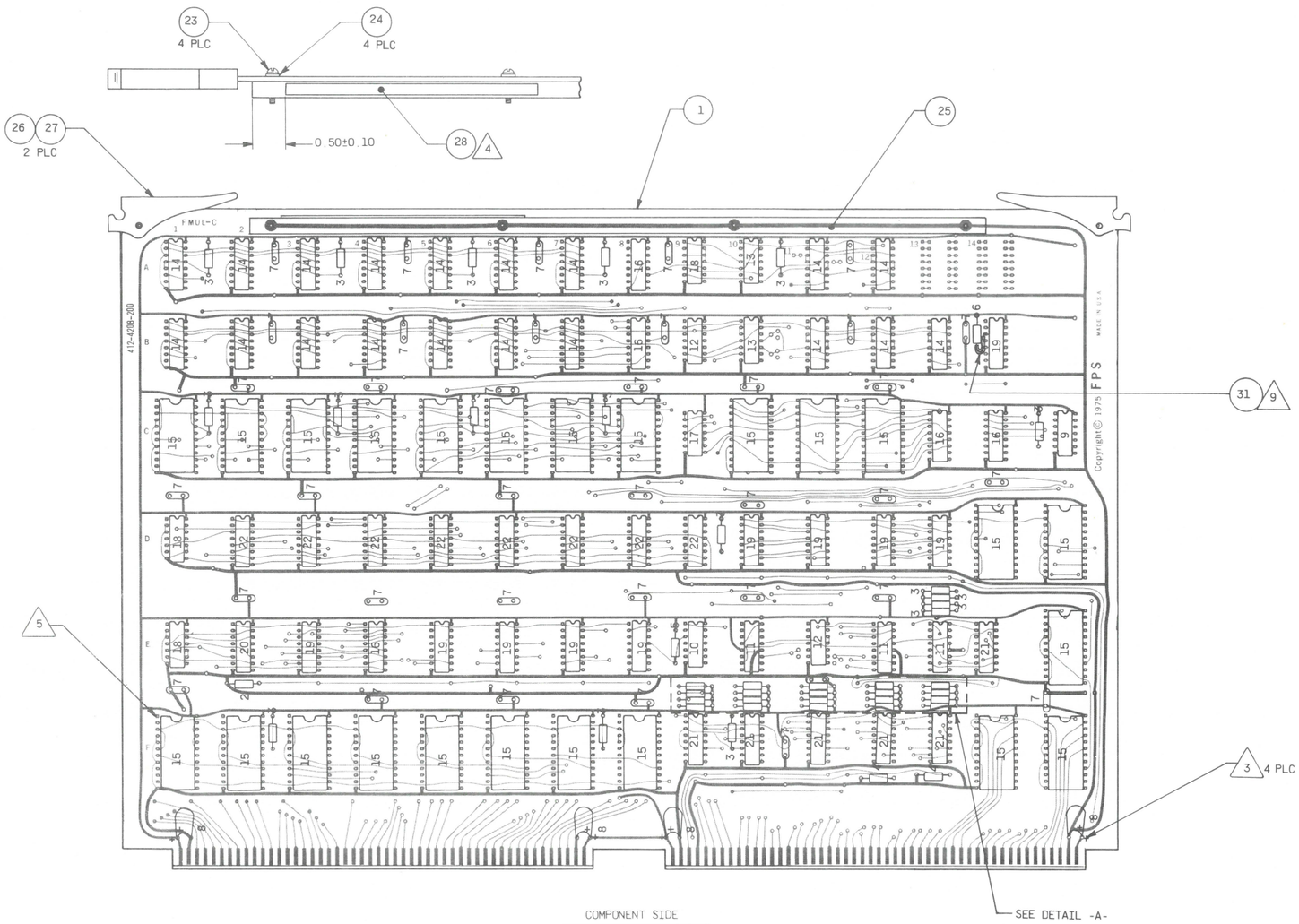
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
208-0,
FLOATING MULTIPLIER "C"

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4208-001	D

SCALE NONE SHEET 1 OF 5

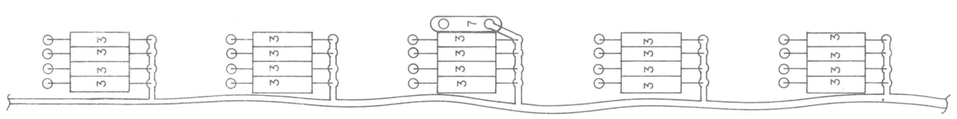
612-4208-001 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.



DETAIL -A-
SCALE: NONE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL: 1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

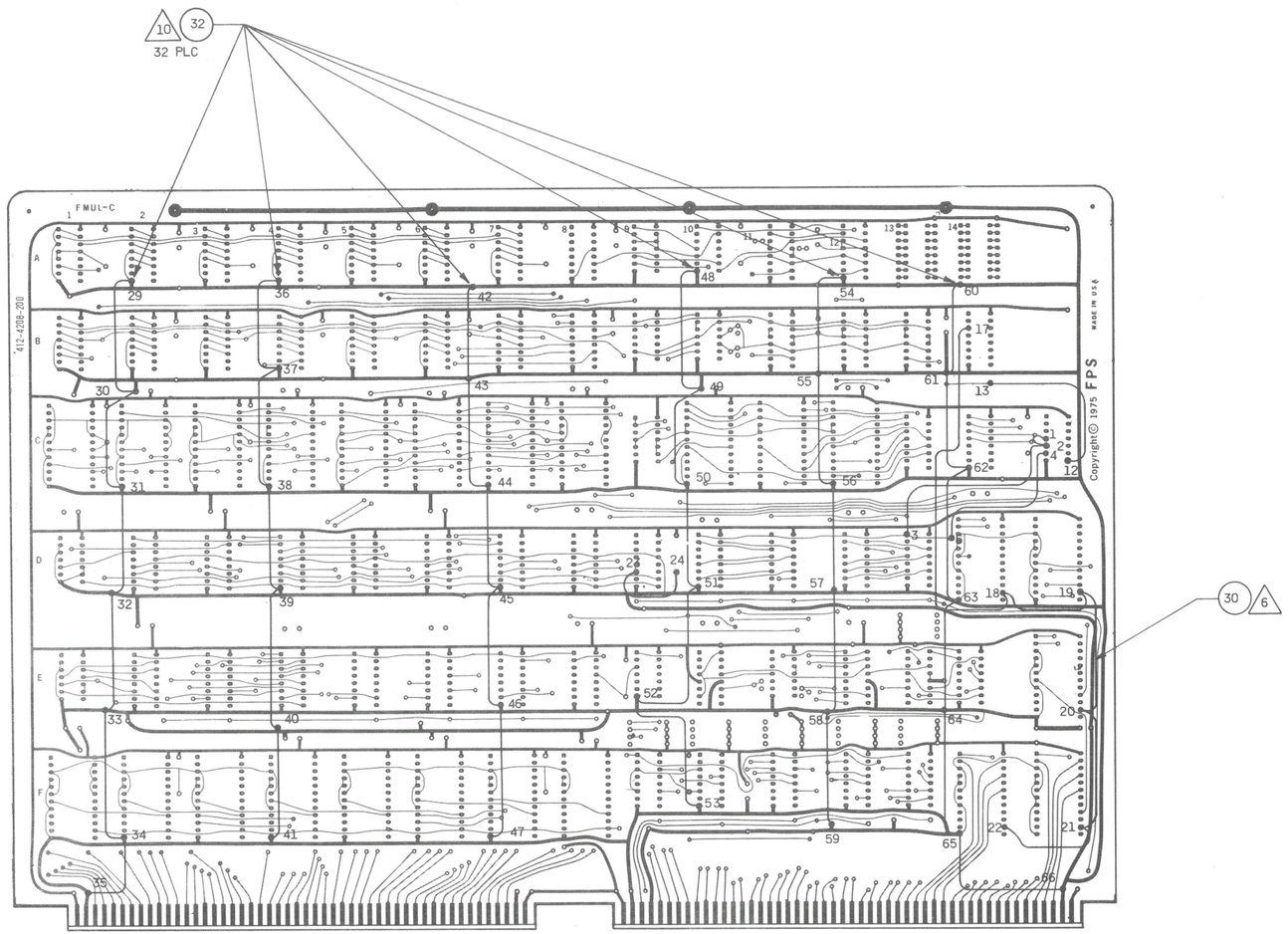
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY, 208-0, FLOATING MULTIPLIER C

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4208-001	D

SCALE NONE SHEET 2 OF 5

612-4208-001 SHT 2



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
X		65-66	GND (F14-12)	GND (PIN B97)	COMPONENT
X		64-65	GND (E14-8)	GND (F14-12)	
X		63-64	GND (D14-12)	GND (E14-8)	
X		62-63	GND (C14-8)	GND (D14-12)	
X		61-62	GND (B14-8)	GND (C14-8)	
X		60-61	GND (A11-8)	GND (B14-8)	
X		58-59	GND (E11-7)	GND (F12-8)	
X		57-58	GND (D12-8)	GND (E11-7)	
X		56-57	GND (C12-12)	GND (D12-8)	
X		55-56	GND (B12-8)	GND (C12-12)	
X		54-55	GND (A12-8)	GND (B12-8)	
X		52-53	GND (E9-8)	GND (F10-8)	
X		51-52	GND (D10-8)	GND (E9-8)	
X		50-51	GND (C10-12)	GND (D10-8)	
X		49-50	GND (B10-7)	GND (C10-12)	
X		48-49	GND (A10-7)	GND (B10-7)	
X		46-47	GND (E7-8)	GND (F7-12)	
X		45-46	GND (D7-8)	GND (E7-8)	
X		44-45	GND (C7-12)	GND (D7-8)	
X		43-44	GND (B7-8)	GND (C7-12)	
X		42-43	GND (A7-8)	GND (B7-8)	
X		40-41	GND (E4-8)	GND (F4-12)	
X		39-40	GND (D4-8)	GND (E4-8)	
X		38-39	GND (C4-12)	GND (D4-8)	
X		37-38	GND (B4-8)	GND (C4-12)	
X		36-37	GND (A4-8)	GND (B4-8)	
X		34-35	GND (F2-12)	GND (PIN A3)	
X		33-34	GND (E2-8)	GND (F2-12)	
X		32-33	GND (D2-8)	GND (E2-8)	
X		31-32	GND (C2-12)	GND (D2-8)	
X		30-31	GND (B2-8)	GND (C2-12)	
X		29-30	GND (A2-8)	GND (B2-8)	COMPONENT
	X	28	C14-13	FT (C14-8)	SOLDER
	X	27	FT (C15-6)	D10-1	COMPONENT
	X	26	FT (B14-9)	FT (B15-13)	COMPONENT
	X	25	B14-3	FT (D14-13)	SOLDER
X		23-24	D9-6	FT (C10-18)	COMPONENT
X		21-22	F15-14	F14-14	COMPONENT
X		20-21	E15-14	F15-14	COMPONENT
X		19-20	D15-14	E15-14	COMPONENT
X		18-19	D14-14	D15-14	COMPONENT
X		17-18	B14-3	D14-14	COMPONENT
X		15-16	C14-13	FT (D15-7)	COMPONENT
X		7-14	C15-13	FT (D13-9)	COMPONENT
X		12-13	C15-8	FT (B14-9)	COMPONENT
X		9-10	C15-10	C15-11	COMPONENT
X		8-9	C15-9	C15-10	COMPONENT
X		6-7	C15-12	C15-13	COMPONENT
X		4-5	C15-6	FT (B14-1)	COMPONENT
X		2-3	C15-5	D13-1	COMPONENT
X		1-2	C15-4	C15-5	COMPONENT

6 7 8 REWORK TABLE

SHT 3 612-4208-001

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

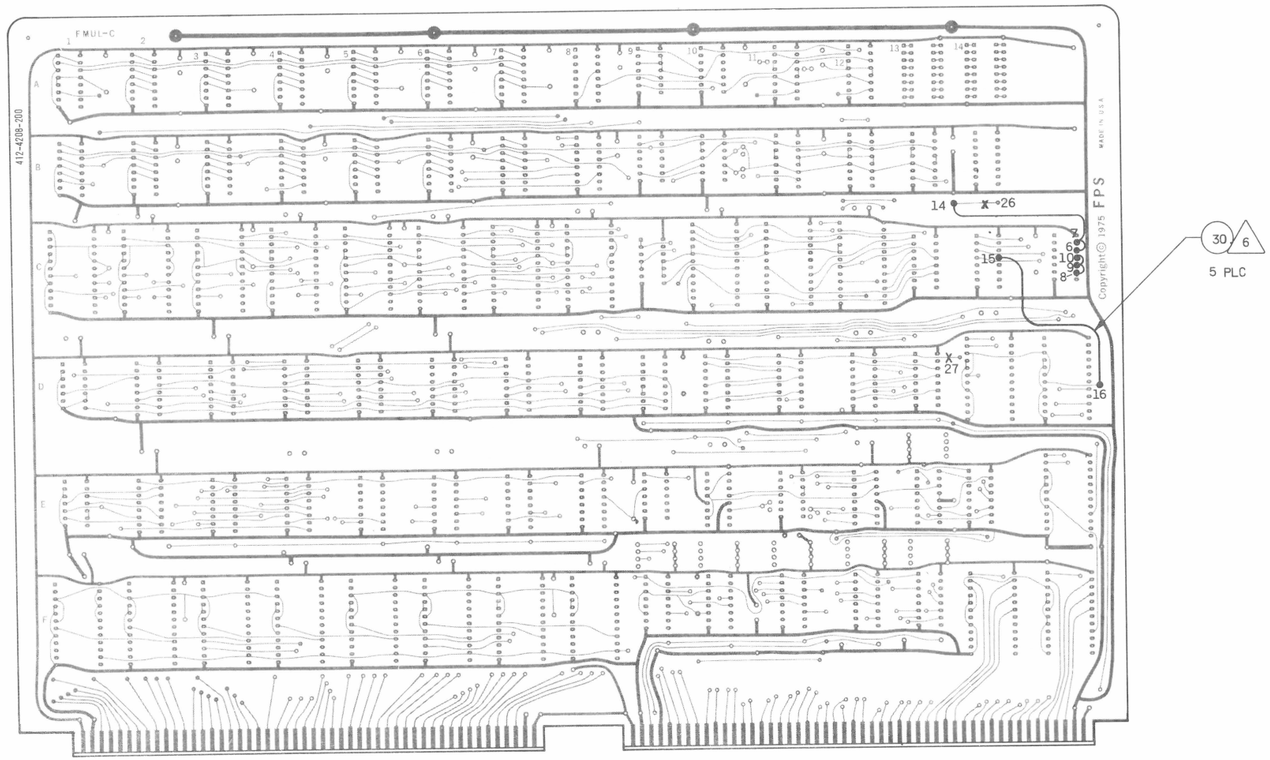
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
208-0,
FLOATING MULTIPLIER "C"

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4208-001	D

SCALE NONE SHEET 3 OF 5



COMPONENT SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

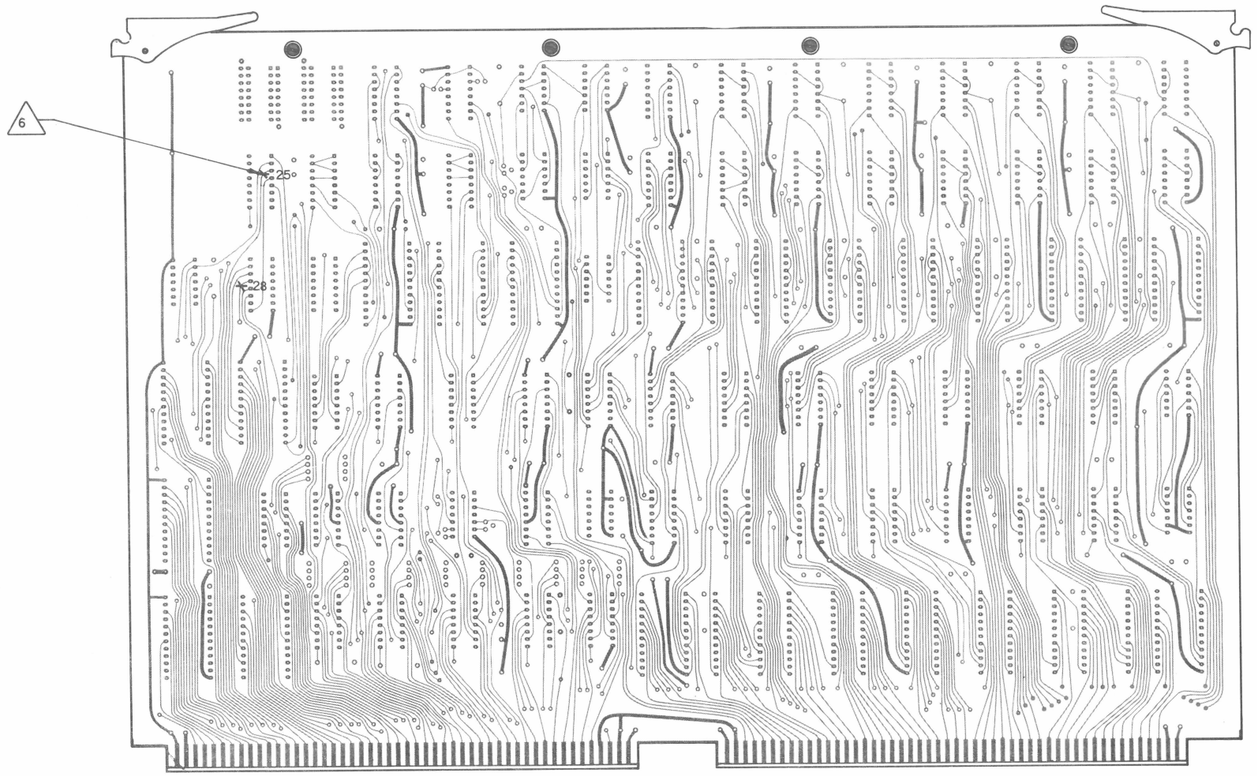
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
208-0,
FLOATING MULTIPLIER "C"

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4208-001	D

SCALE NONE SHEET 4 OF 5

612-4208-001 SHT 4



SOLDER SIDE

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

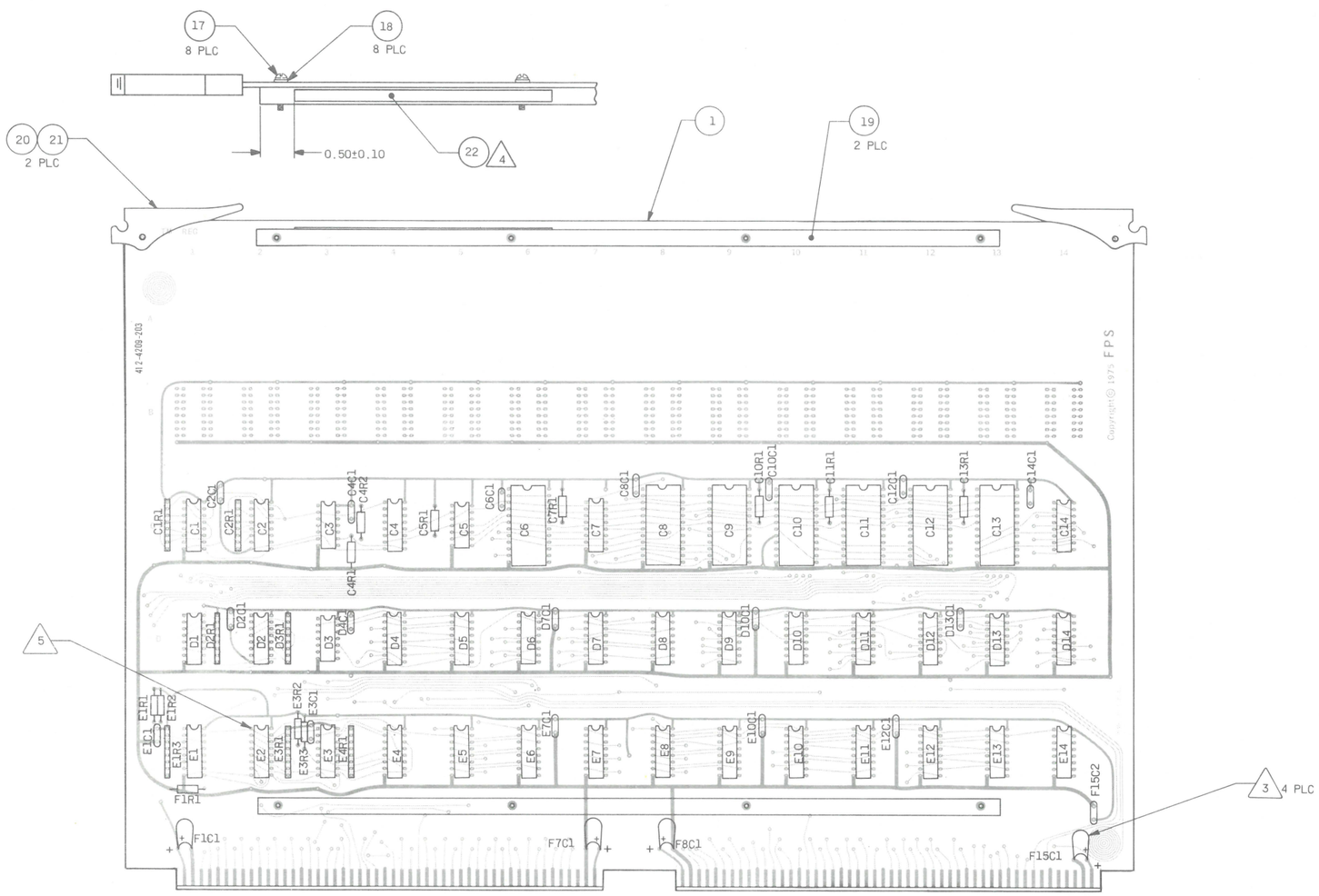
ETCH CIRCUIT BOARD ASSEMBLY,
208-0,
FLOATING MULTIPLIER "C"

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4208-001	D

SCALE NONE SHEET 5 OF 5

612-4208-001 SHT 5

REVISIONS					
REV	ECO NO	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		RH 3/14/79	
02	EN#25	LEVEL 2		RH 3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		JBB 6-5	
A	ECO 79377	LEVEL 3 RELEASE		DRB 8-23-79	JW 8-23-79



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
16	C4
15	C1,C2, D1,D2, E1,E2,E3
14	C5
13	C7, D10,D12
12	C6,C8,C9,C10,C11,C12,C13
11	C3
10	C14, D4,D5,D6,D7,D8,D9,D11,D13,D14, E4,E5,E6,E7,E8,E9,E10,E11,E12, E13,E14
9	D3
8	F1C1,F7C1,F8C1,F15C1
7	C2C1,C4C1,C6C1,C8C1,C10C1,C12C1,C14C1, D2C1,D4C1,D7C1,D10C1,D13C1, E1C1,E3C1,E7C1,E10C1,E12C1, F15C2
6	C1R1,C2R1, D2R1,D3R1, E1R3,E3R1,E4R1
5	C5R1,C7R1,C10R1,C11R1,C13R1
4	C4R2
3	E1R1,E1R2,E3R2,E3R3
2	C4R1, F1R1

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	Wayne Pathers	DATE 8/31/79
DRN BY	R.S. THURMAN	DATE 11/13/78
CHK BY	Randy Morgan	DATE 11-28-78
PROD RELEASE	Ken Brink	DATE 8/31/79

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

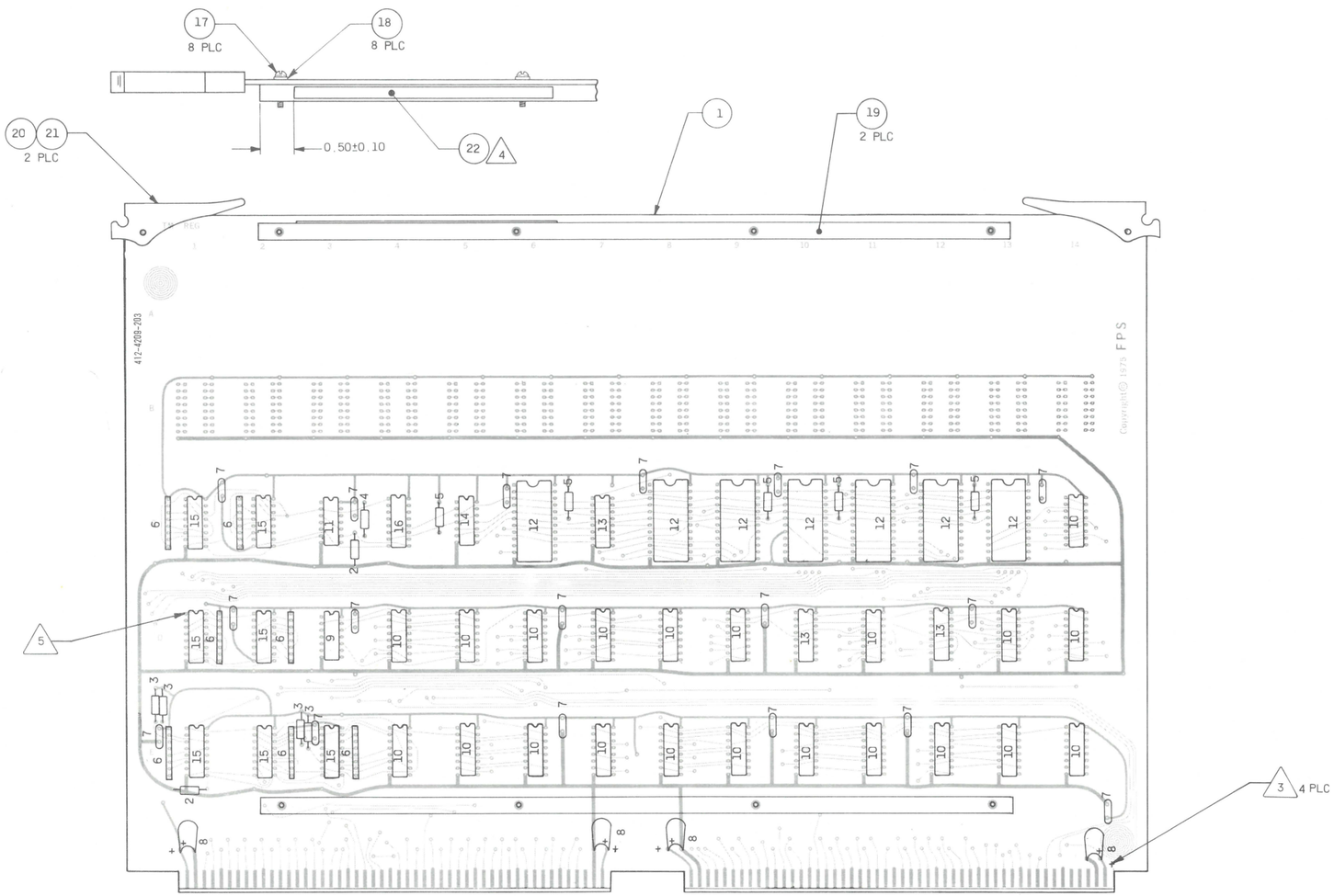
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
209C,
REGISTER, TABLE MEMORY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4209-002	A

SCALE NONE SHEET 1 OF 3

612-4209-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

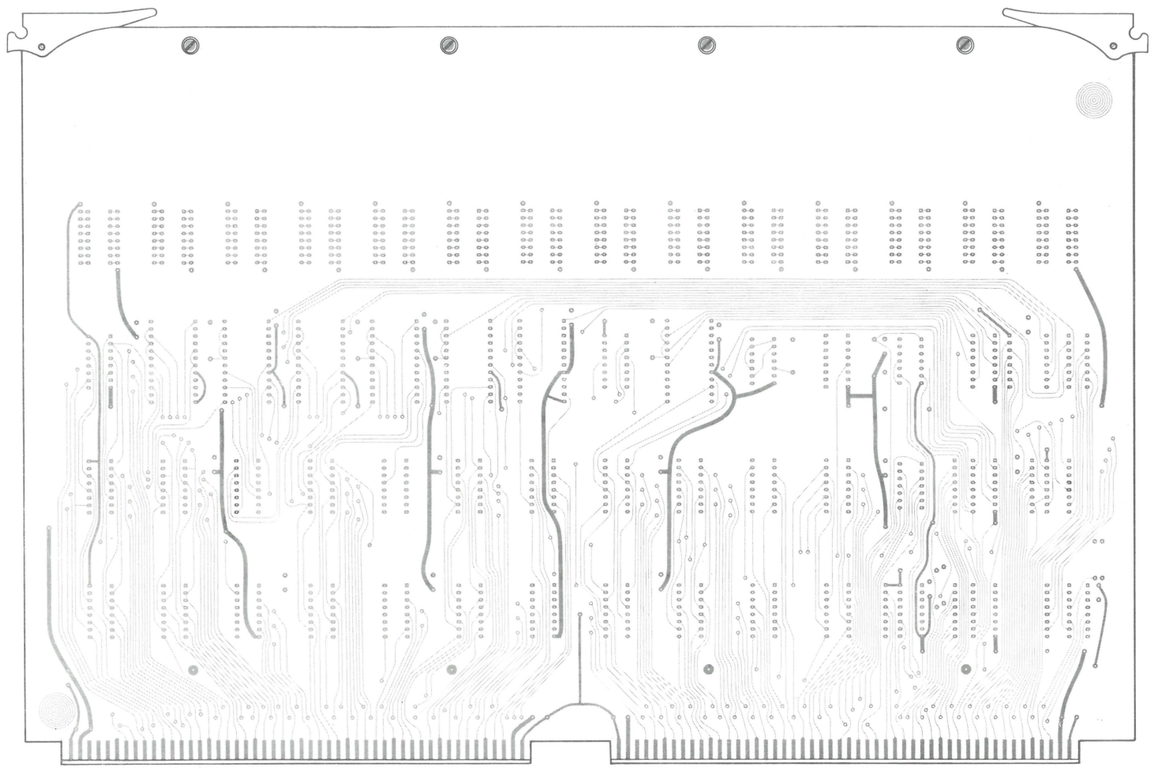
FPS FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY, 209-C, REGISTER, TABLE MEMORY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4209-002	A

SCALE NONE SHEET 2 OF 3

612-4209-002 SHT 2



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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE

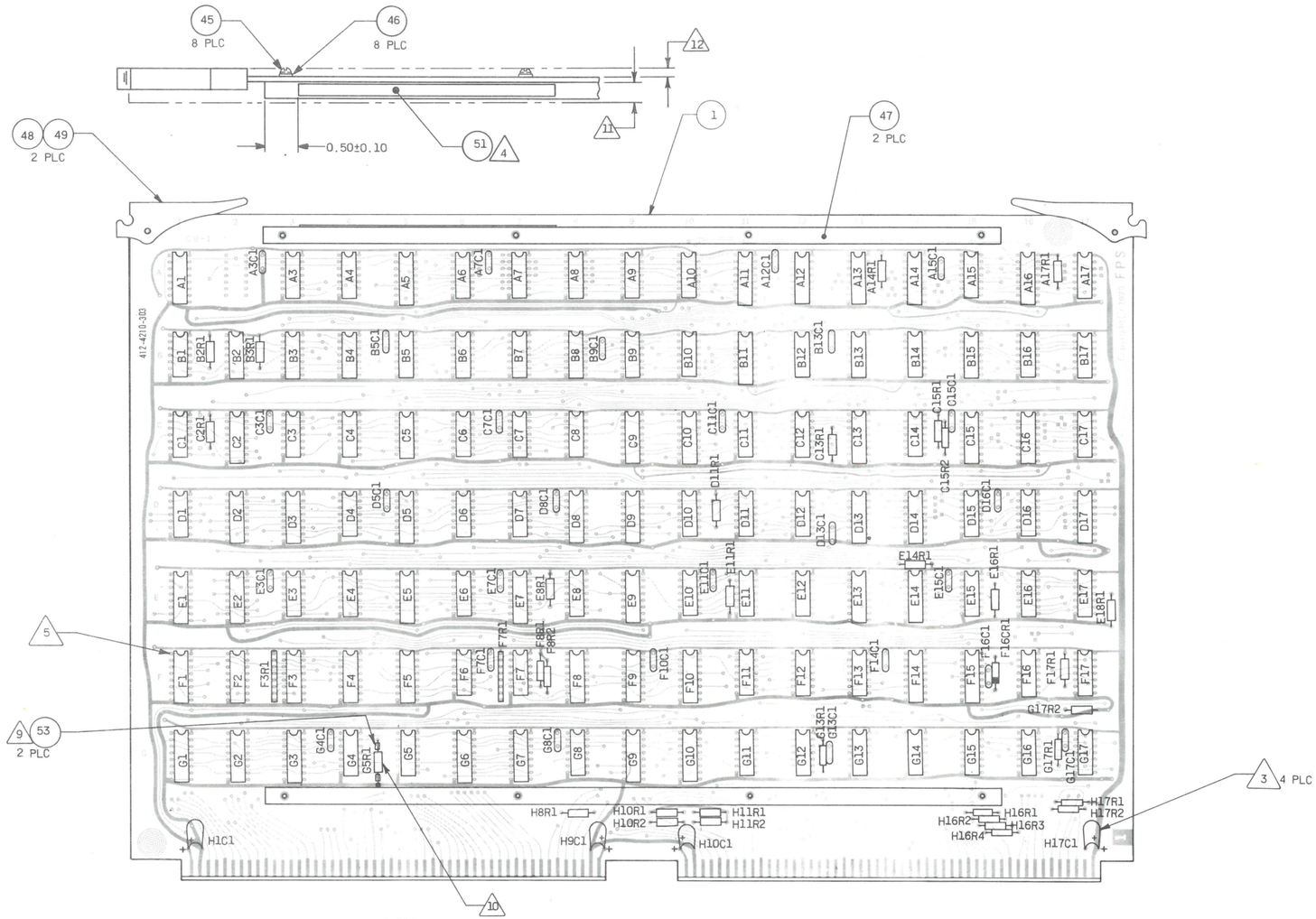
ETCH CIRCUIT BOARD ASSEMBLY,
209-C,
REGISTER, TABLE MEMORY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4209-002	A

SCALE NONE SHEET 3 OF 3

612-4209-002 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	ECO 79118	LEVEL 2 RELEASE		RHB 11/19	
A	ECO 79405	LEVEL 3 RELEASE		DRG 10-2-79	Dd 9/20
B	ECO 80390	CHANGE ITEM 53		DRW 2/11/81	2/10-81
C	ECO 80560	F16-5 TO C17-8		2/24/81	C. NGUYEN 8-25-81



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
44	A13,A14
43	E2, F1
42	A5,A16, C15,C16, F15
41	B11, C9,C13, D17, E5,E9, F3,F5
40	F2, G1
39	C14
38	A7
37	B1, E17, F17
36	A4, B3
35	D10, G5,G16,G17
34	A17, B6,B16,B17, C3,C6, D6, E6,E8, F11,F12, G11,G12
33	B7
32	C7,C17, E3,E4,E12
31	C2, D2,D9, E1, F9
30	A1
29	D8, E7, F8, G9
28	D5, F4
27	A11,A12, D3,D13,D14, E13, F14
26	E14
25	A3, D1,D15
24	B10,B12,B14, C1,C12, D4,D16 , E11
23	C8, F6,F7
22	B5,B8,B13, D7,D12, E15, G4
21	G15
20	A9, C4, E16, G8,G13
19	A10,A15, B2,B4,B9,B15, C5,C11, D11, E10, F13,F16, G14
18	A6
17	C10, F10, G10
16	G2,G3,G6,G7
15	A8
14	F16CR1
13	H1C1,H9C1,H10C1,H17C1
12	F16C1
11	A3C1,A7C1,A12C1,A15C1, B5C1,B9C1,B13C1, C3C1,C7C1,C11C1,C15C1, D5C1, D8C1,D13C1,D16C1, E3C1,E7C1,E11C1,E15C1, F7C1,F10C1,F14C1, G4C1,G8C1, G13C1,G17C1
10	F3R1,F7R1
9	H16R4
8	C15R2
7	E16R1
6	F8R1,F8R2, H10R1,H10R2,H11R1,H11R2
5	C15R1
4	C13R1, E11R1, G5R1, H17R2
3	A14R1,A17R1, B2R1,B3R1, C2R1, D11R1, E8R1,E14R1,F17R1, G13R1,G17R1, H8R1,H16R1,H16R2,H16R3,H17R1
2	E18R1, G17R2

12 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

11 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

10 PLACE COMPONENT AS SHOWN.

9 USE SLEEVING, ITEM 53, TO COVER EXPOSED LEADS OF COMPONENTS.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ——
ANGLES ± —
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± —

MATERIAL: 1

ENGR	Wesley A. Fuller	DATE 10-2-79
DRN BY	R.S. THURMAN	DATE 11/13/78
CHK BY	PATTI LOVELFORD	DATE 12-1-78
PROD RELEASE	Ken Brick	DATE 10-2-79

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

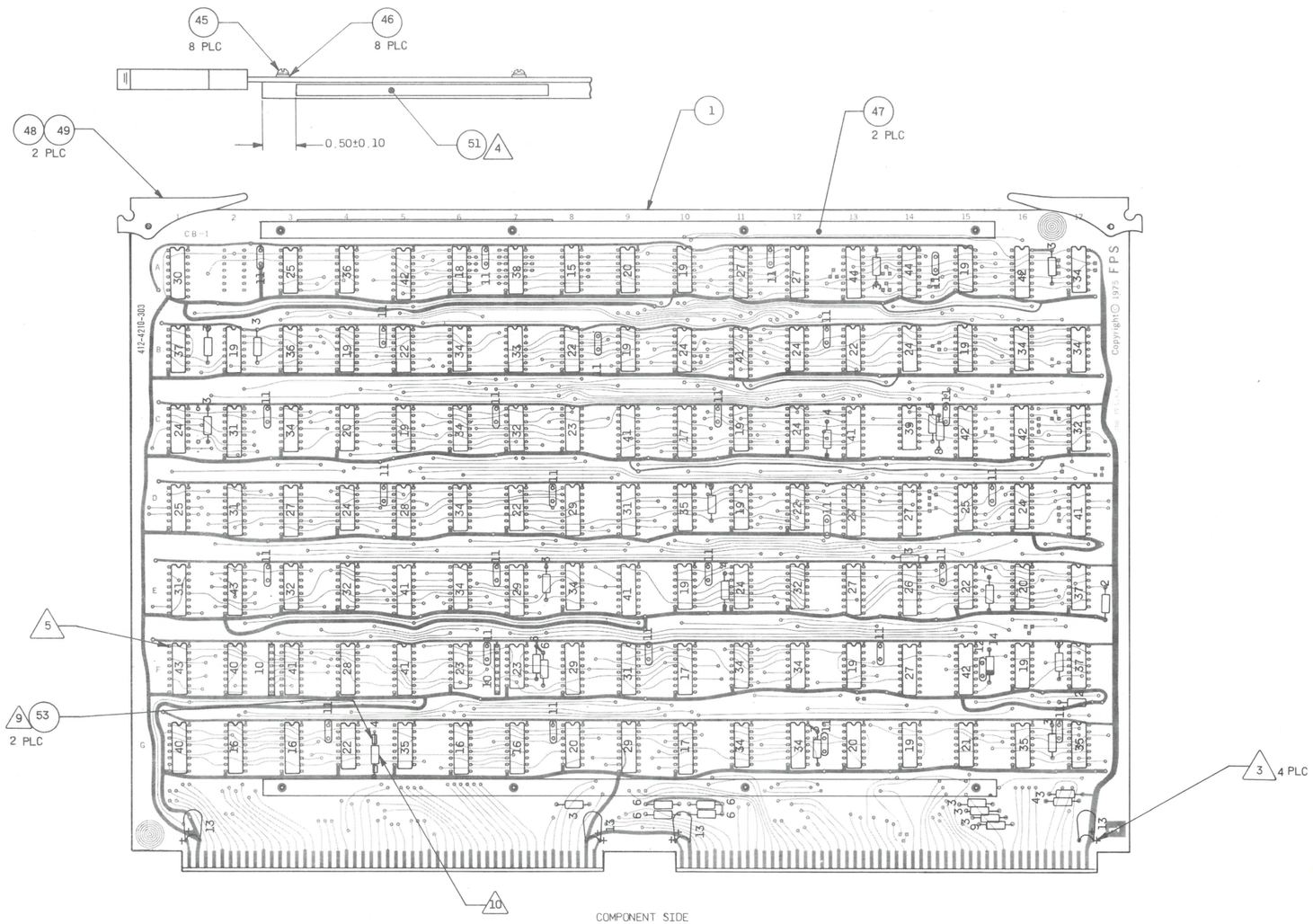
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
210C,
CONTROL BUFFER 1 (16K REFRESH, STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4210-304	C

SCALE NONE SHEET 1 OF 4

612-4210-304 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL: 1

ENGR		DATE
DRN BY	D. Fenton	DATE 12-28-78
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

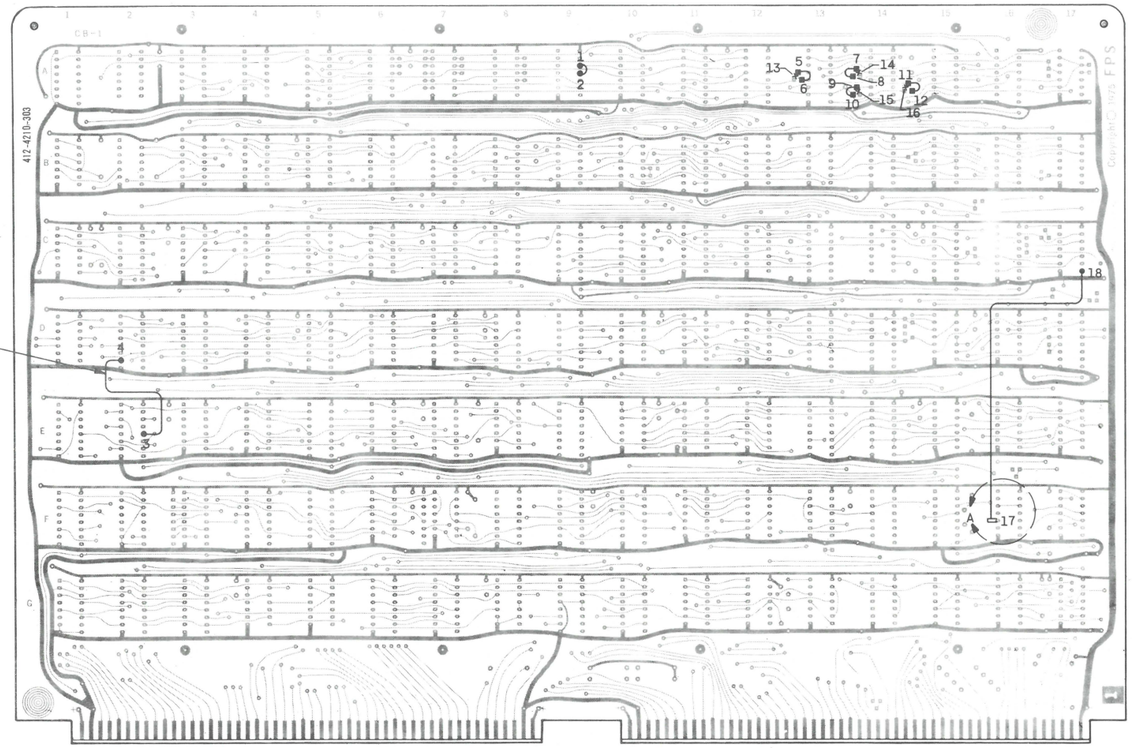
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
210C,
CONTROL BUFFER 1 (16K REFRESH, STD)

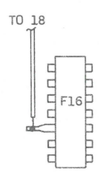
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4210-304	C

SCALE NONE SHEET 2 OF 4

612-4210-304 SHT 2



COMPONENT SIDE



VIEW -A-

SCALE: NONE
LIFT IC LEG F16-5
ATTACH WIRE TO LEG

ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	COMPONENT SIDE
X		17-18	F16-5 (LEG)	C17-8	COMPONENT
LIFT IC LEG		17	F16-5 (LEG)	F16-5 (PAD)	↑
	X	16	FT (A14-7)	GND (A14-8)	
	X	15	FT (A14-6)	GND (A14-8)	
	X	14	FT (A14-4)	GND (A14-8)	
	X	13	FT (A13-4)	GND (A13-8)	
X		11-12	FT (A14-5)	GND (A14-8)	
X		9-10	FT (A14-6)	FT (A14-7)	
X		7-8	FT (A14-4)	FT (A14-7)	
X		5-6	FT (A13-4)	FT (A13-5)	
X		3-4	E2-12	D2-7	↓
X		1-2	A9-11	A9-12	COMPONENT

CONTINUITY CHECK POINTS

6 7 8 REWORK TABLE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL:

ENGR		DATE
DRN BY R. S. THURMAN		DATE 11/13/78
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
210C
CONTROL BUFFER 1 (16K REFRESH, STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4210-304	C

SCALE NONE SHEET 2 OF 4

612-4210-304 SHT 2

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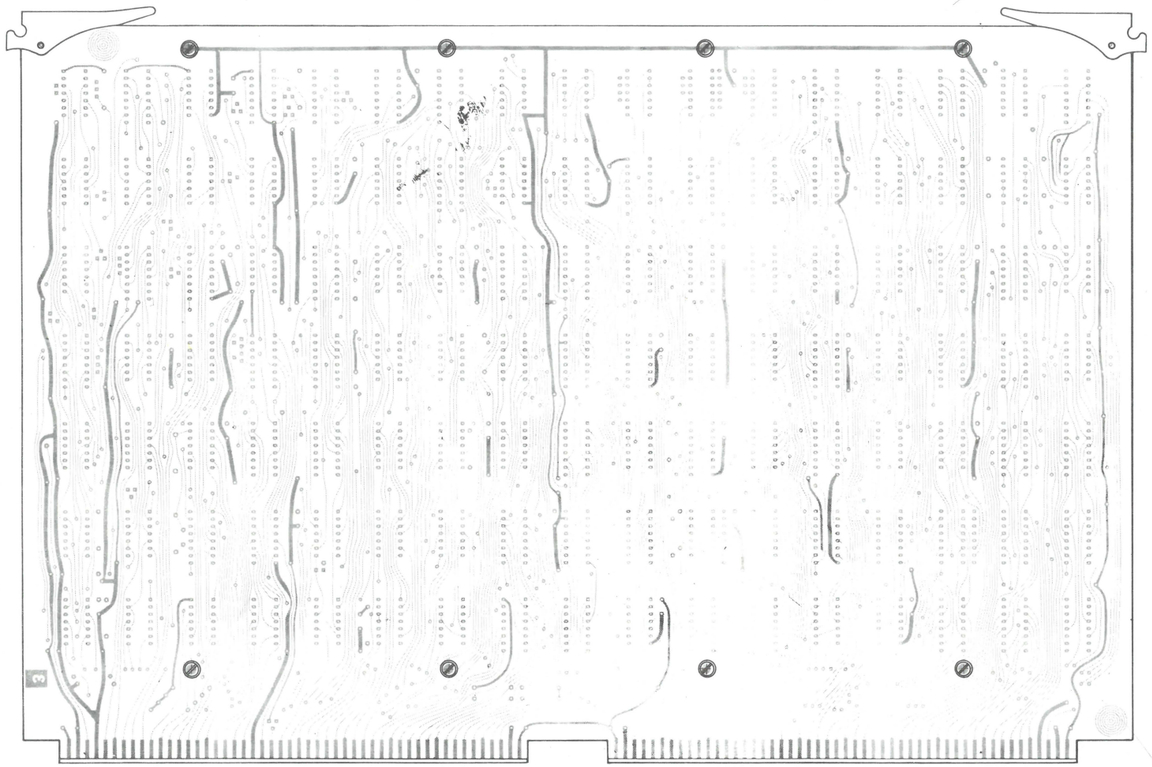

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL:

ENGR		DATE
DRN BY	R. S. THUEMAN	DATE 11/13/78
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

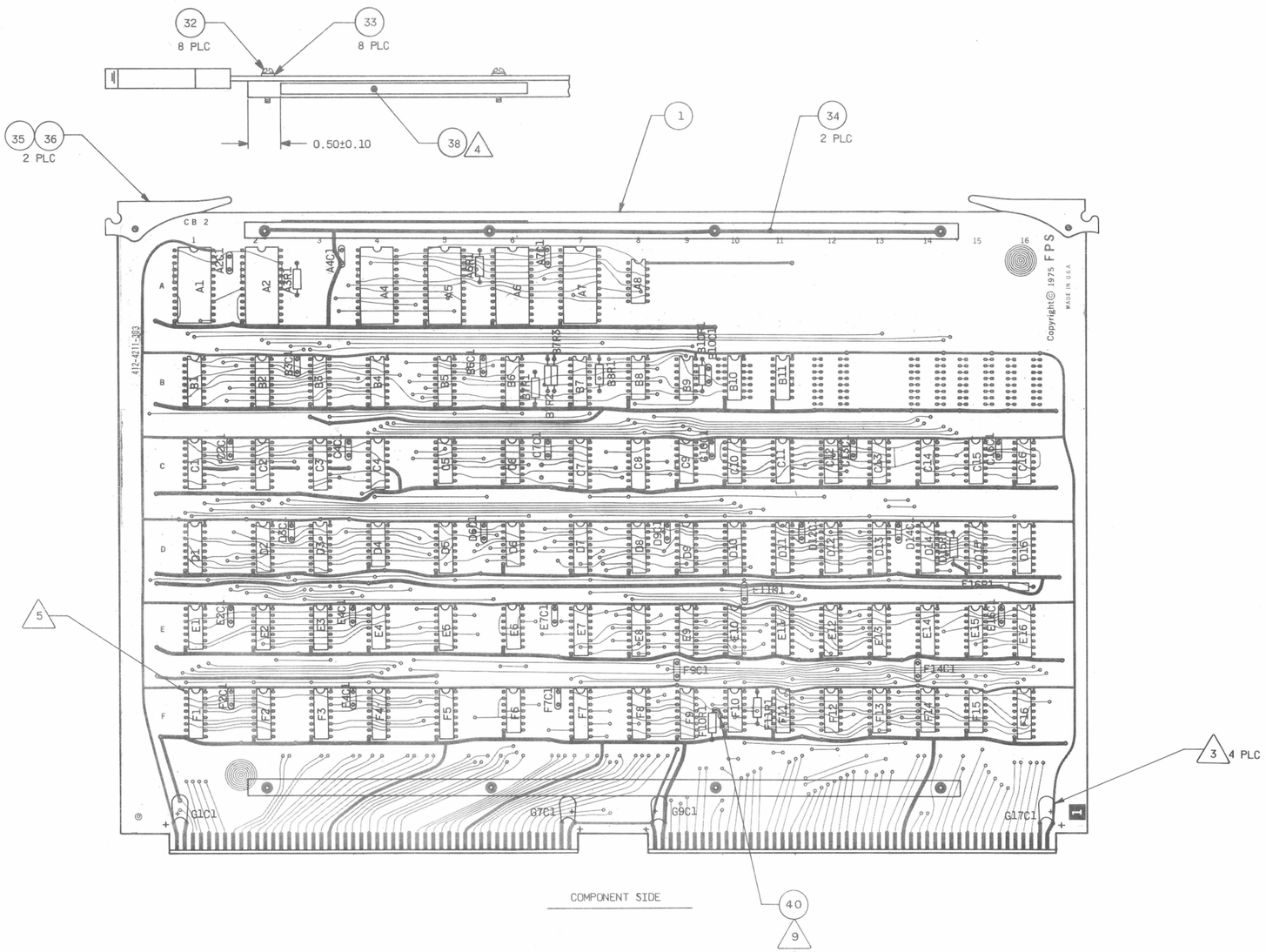
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
210C,
CONTROL BUFFER 1 (16K REFRESH, STD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4210-304	C

SCALE NONE SHEET 1 OF 1

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		JH 3/14/79	
02	EN#25	LEVEL 2		JH 3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		6-5	
A	ECO 79376	LEVEL 3 RELEASE		8-23-79	8-23-79
B	ECO 80390	CHANGE ITEM 40		2/11/81	2-10-81



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
31	B3,B5,B6,B7, D1,D5,D7,D10,D13,D16
30	E1,E3,E5
29	F11
28	B8, D6, F14
27	E4
26	A1,A2,A4,A5,A6,A7
25	F1,F2,F3,F4,F5
24	B1,B2
23	E11,E14, F16
22	C7
21	C12, E6, F6
20	B9, C10, F10
19	B10, C5, D4, F13
18	C6, E2, F12,F15
17	C1,C2,C3,C4
16	C8, D8,D9, E10,E13
15	B4, D11,D12,D14,D15, E7,E8,E9,E12,E15,E16, F7,F8,F9
14	D2,D3
13	C13,C14,C16
12	C9
11	B11
10	G1C1,G7C1,G9C1,G17C1
9	B10C1
8	A2C1,A4C1,A7C1, B3C1,B6C1, C2C1,C4C1,C7C1,C10C1,C13C1,C16C1, D3C1,D6C1 D9C1 ,D12C1,D14C1, E2C1,E4C1,E7C1,E11C1,E16C1, F2C1,F4C1,F7C1,F9C1, F14C1
7	A8, C11, C15
6	B10R1
5	B7R1, F10R1
4	B7R2,B7R3
3	A3R1,A6R1, B8R1, F11R1
2	D15R1, E16R1

9 USE SLEEVING, ITEM 40, TO COVER EXPOSED LEADS OF COMPONENTS.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3
REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL: 1

ENGR		DATE 8/21/79
DRN BY R.S. THURMAN		DATE 11/14/78
CHK BY		DATE 8/1/78
PROD RELEASE		DATE 8/31/79

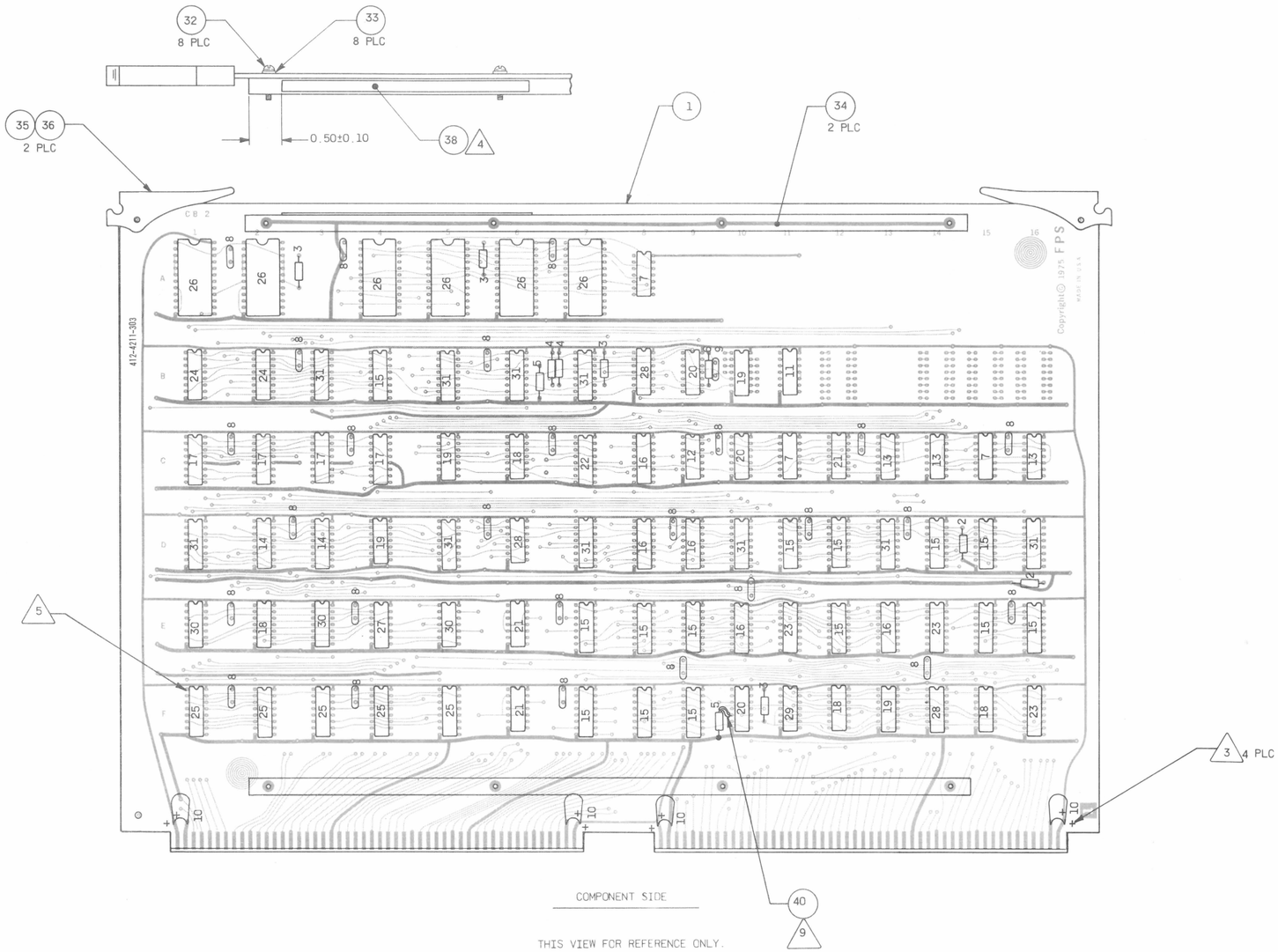
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
211-C,
CONTROL BUFFER 2

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4211-003	B

SCALE NONE SHEET 1 OF 4

612-4211-003 SHT.



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

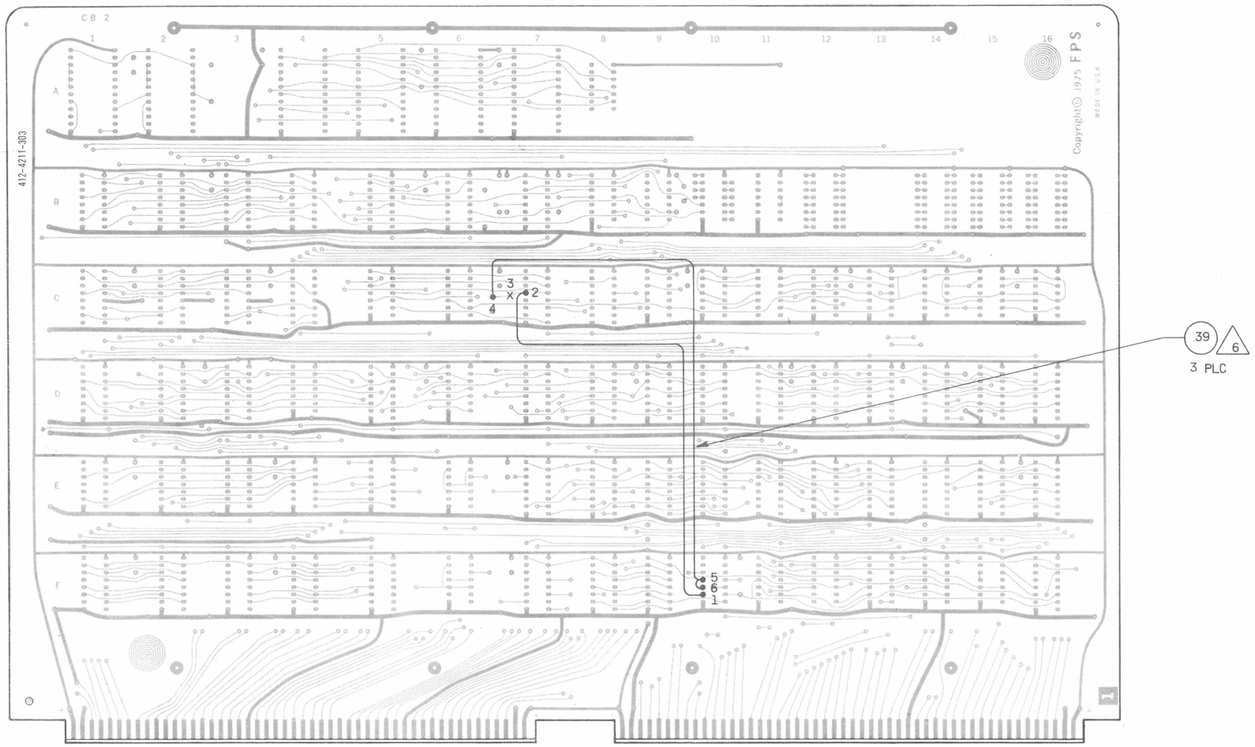
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
211-C,
CONTROL BUFFER 2

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4211-003	B

SCALE NONE SHEET 2 OF 4

612-4211-003 SHT 2



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
X		5-6	F10-4	F10-5	COMPONENT
X		4-5	FT(EDGE CONN A60)	F10-4	COMPONENT
	X	3	C7-4	FT (A60)	COMPONENT
X		1-2	F10-6	C7-4	COMPONENT

6 7 8 REWORK TABLE

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

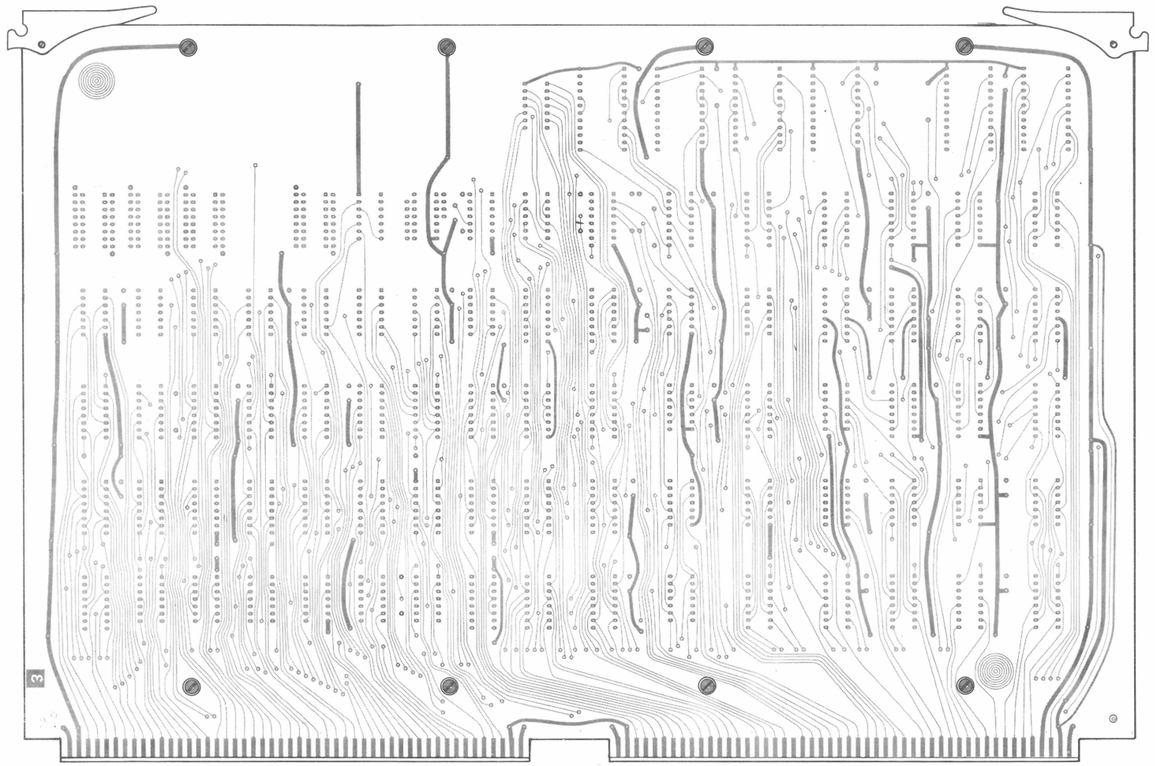
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
211-C,
CONTROL BUFFER 2

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4211-003	B

SCALE NONE SHEET 3 OF 4



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

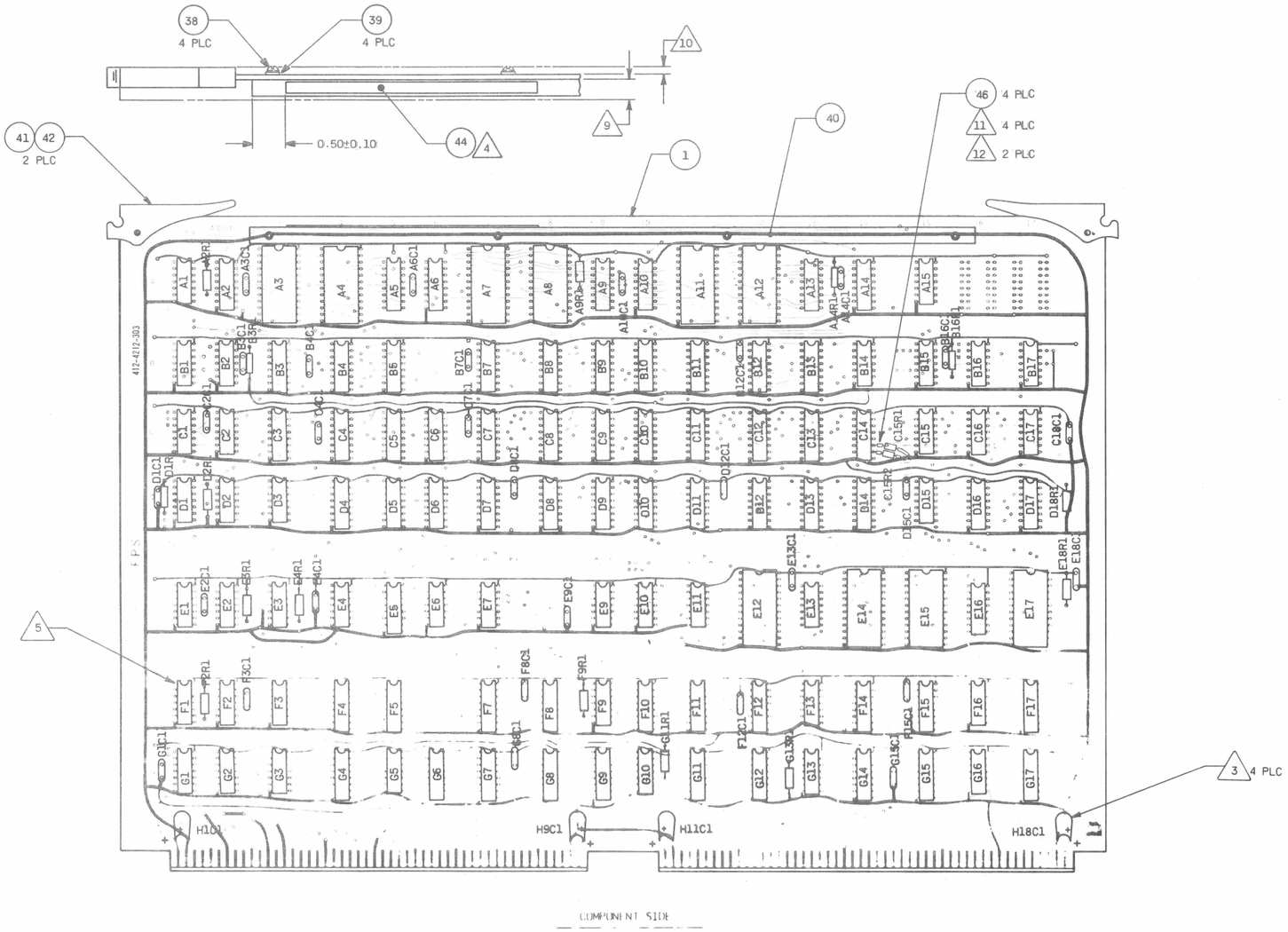
ETCH CIRCUIT BOARD ASSEMBLY, 211-C

CONTROL BUFFER 2

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4211-003	B

SCALE NONE SHEET 4 OF 4

612-4211-003 SHT 4



CONTINUED ON SHEET 2

10. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

9. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

8. DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7. FT DENOTES FEED-THRU HOLE.

6. MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3 AND 4. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4. MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

REVISIONS

REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN # 04	LEVEL 1 RELEASE			
A	ECO 79712	LEVEL 3 RELEASE		6-9-80	Frank Witter 3-27-80
B	ECO 80390	CHANGE ITEM 46		DRW 2/11/81	2-20-81

ITEM	REFERENCE DESIGNATION
37	F5,F8,F11
36	A2,A14, B10
35	B3,B4,B5,B7,B8,B9,B11,B12,B13, D10
34	D5,D8,D12
33	B15
32	D2,D3, E1,E2
31	B14
30	C1, E3, F1,F2,F3,F9, G1,G2,G3
29	B16
28	B17, E10
27	F4,F7,F10
26	A6,A10, E16
25	A3,A4,A7,A8,A11,A12, E12,E14,E15,E17
24	D14,D15,D16,D17, G4
23	D4,D6,D7,D9,D11,D13, F12,F14,F15,F17, G12,G14,G15,G17
22	C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14
21	A15
20	C15,C16,C17, D1, E4,E6,E7,E9,E11,E13, G5,G10
19	B2
18	A5,A9,A13
17	F13,F16, G13,G16
16	G9
15	G6,G7,G8
14	E5, G11
13	A1
12	B1
11	H1C1,H9C1,H11C1,H18C1
10	B3C1
9	A3C1,A6C1,A10C1,A14C1, B4C1,B7C1,B12C1,B16C1, C2C1,C4C1,C7C1,C18C1, D1C1 D8C1,D12C1,D15C1, E2C1,E4C1,E9C1,E13C1,E18C1, F3C1,F8C1,F12C1,F15C1, G1C1,G8C1,G15C1
8	C2
7	D2R1
6	E4R1
5	B3R1
4	C15R1,C15R2, G11R1
3	A2R1,A9R1,A14R1,B16R1, D1R1, E3R1,E18R1, F2R1,F9R1
2	D18R1, G13R1

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FRACTIONS ±———
ANGLES ±———
3 PLACE DEC. ±———
2 PLACE DEC. ±———

MATERIAL: 1

ENGR	Dahnke	DATE 6-9-80
DRN BY	R. S. THURMAN	DATE 11/14/78
CHK BY	Frank Witter	DATE 3-27-80
PROD RELEASE	Ken Bauile	DATE 6-9-80

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
212-C,
ADDRESS REGISTER, LOGIC INSTRUCTION

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4212-010	B

SCALE NONE SHEET 1 OF 4

612-4212-010 SHT 1

COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY

COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

12 PLACE COMPONENT AS SHOWN.

11 USE SLEEVING TO COVER EXPOSED LEADS OF COMPONENTS.

NOTE; UNLESS OTHERWISE SPECIFIED:

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

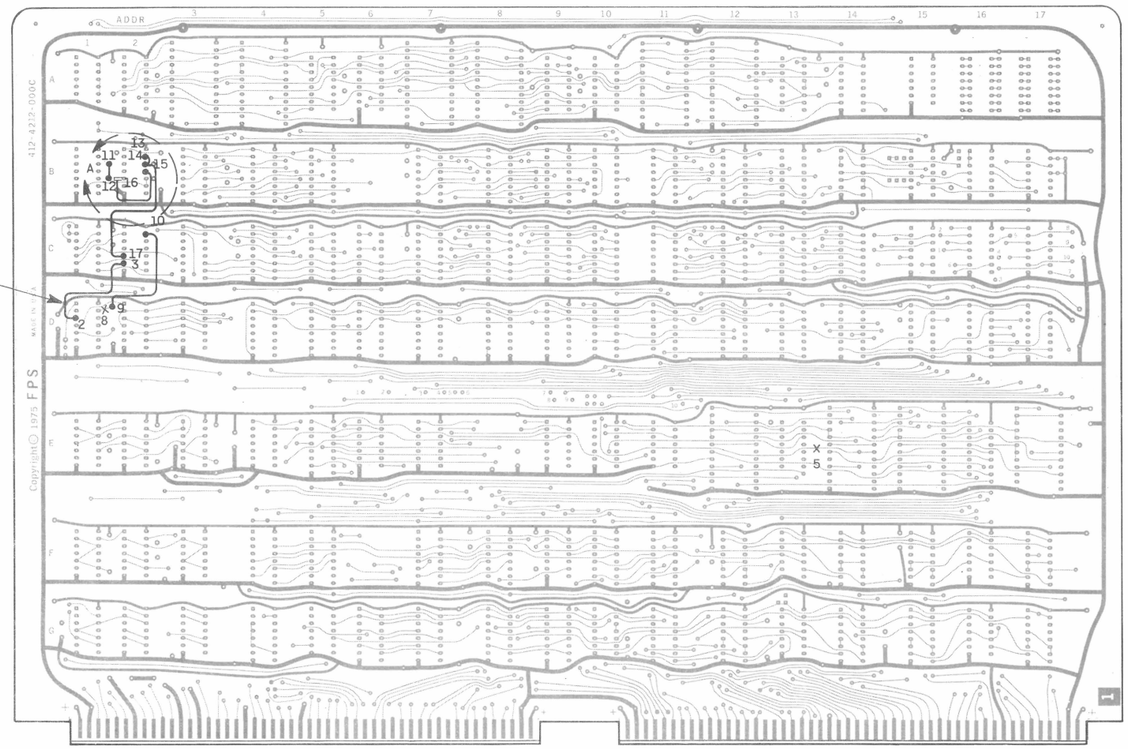
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

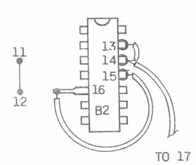
ETCH CIRCUIT BOARD ASSEMBLY,
212-C,
ADDRESS REGISTER, LOGIC INSTRUCTION

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4212-010	B
SCALE NONE		SHEET 2 OF 4	

612-4212-010 REV B



COMPONENT SIDE



VIEW -A-
SCALE: NONE
LIFT IC LEG B2-5
ATTACH WIRE TO LEG

ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
X		17-14	C2-5	B2-12	COMPONENT
LIFT IC LEG		16	B2-5 (LEG)	B2-5 (PAD)	↕
X		15-16	B2-11	B2-5 (LEG)	
X		13-14	B2-12	B2-13	
X		11-12	B2-4	B1-8	COMPONENT
X		9-10	FT (D1-13)	C2-13	COMPONENT
	X	8	D1-13	C2-13	COMPONENT
	X	5	FT ADJ TO E10-1	E14-18	COMPONENT
X		2-3	D1-3	C2-6	COMPONENT
	X	1	C2-5	D1-3	SOLDER

6 7 8 REWORK TABLE

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FRACTIONS ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±
MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

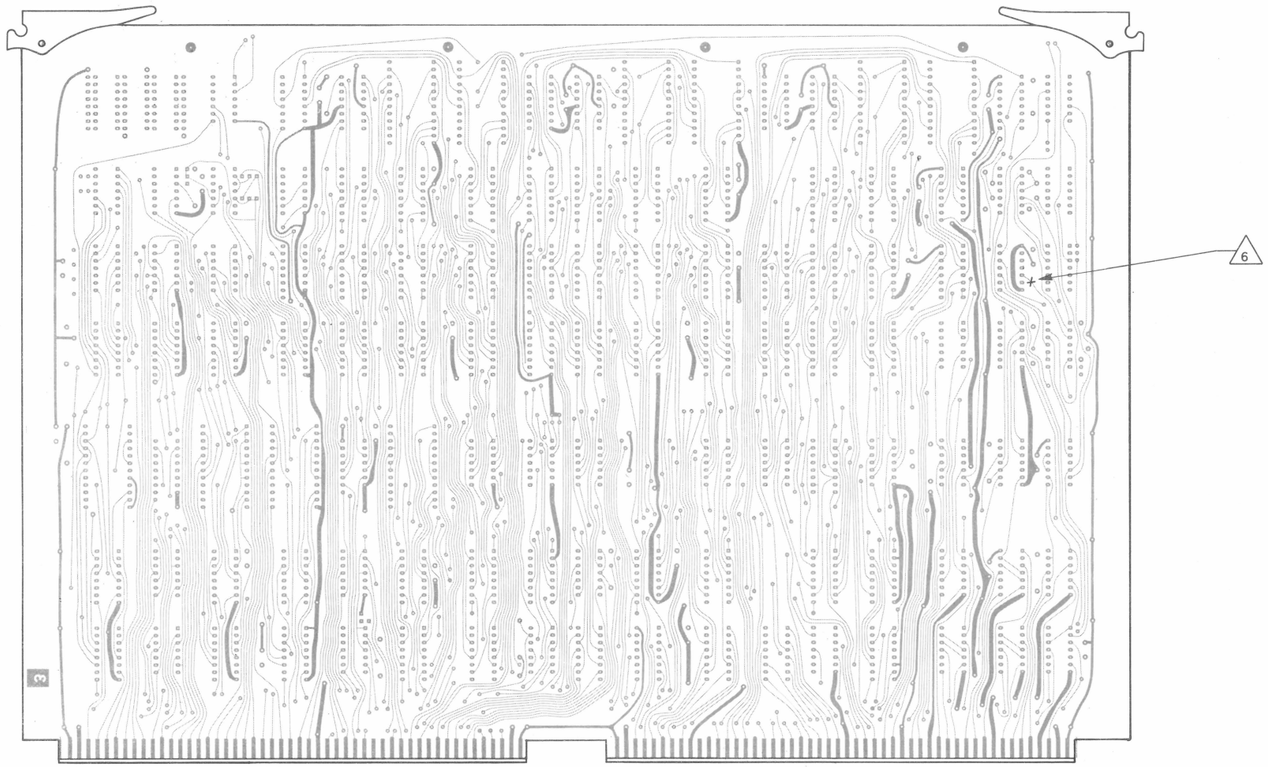
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY
212-C,
ADDRESS REGISTER, LOGIC INSTRUCTION

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4212-010	B

SCALE NONE SHEET 3 OF 4

612-4212-010 SHT 3



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±
ANGLES ±
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± 0.010

MATERIAL:

FINISH:

PROJ. ENG.	DATE	
DRAWN BY	DATE	
CHECK BY	DATE	
MFG. ENG.	DATE	

DO NOT SCALE DRAWING

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

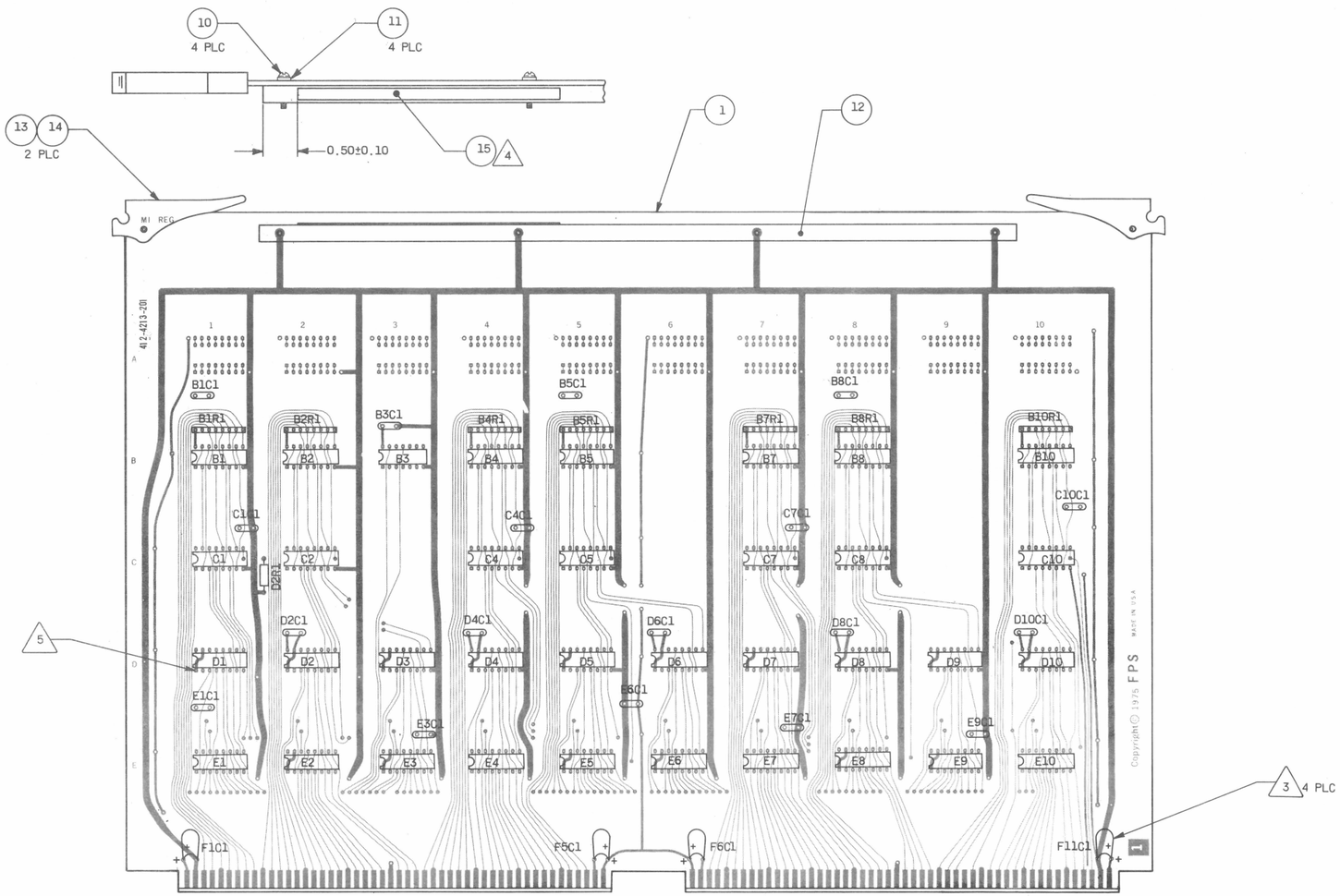
ETCH CIRCUIT BOARD ASSEMBLY,
212-C,
ADDRESS REGISTER, LOGIC INSTRUCTION

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4212-010	B

SCALE NONE SHEET 4 OF 4

DRAWING NO. 612-4212-010 SHT 4

REVISIONS					
REV	ECO NO	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		GH 3/14/79	
02	EN#25	LEVEL 2		GH 3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		BTB 6-5	
A	ECO 79375	LEVEL 3 RELEASE		SJRQ 8-20-79	JW 8-23-79



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
9	C1,C2,C4,C5,C7,C8,C10
8	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10, E1,E2,E3,E4,E5,E6,E7,E8,E9,E10
7	B1,B2,B4,B5,B7,B8,B10
6	B3
5	F1C1,F5C1,F6C1,F11C1
4	B1C1,B3C1,B5C1,B8C1, C1C1,C4C1,C7C1,C10C1,D2C1,D4C1,D6C1,D8C1,D10C1, E1C1,E3C1,E6C1,E7C1,E9C1
3	B1R1,B2R1,B4R1,B5R1,B7R1,B8R1,B10R1
2	D2R1

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R PAKS.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING; AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	Thomas Mathews	DATE 5/31/79
DRN BY	R. S. THURMAN	DATE 11/14/78
CHK BY	My. Pru	DATE 11/28/78
PROD RELEASE	Ken Brick	DATE 8/3/79

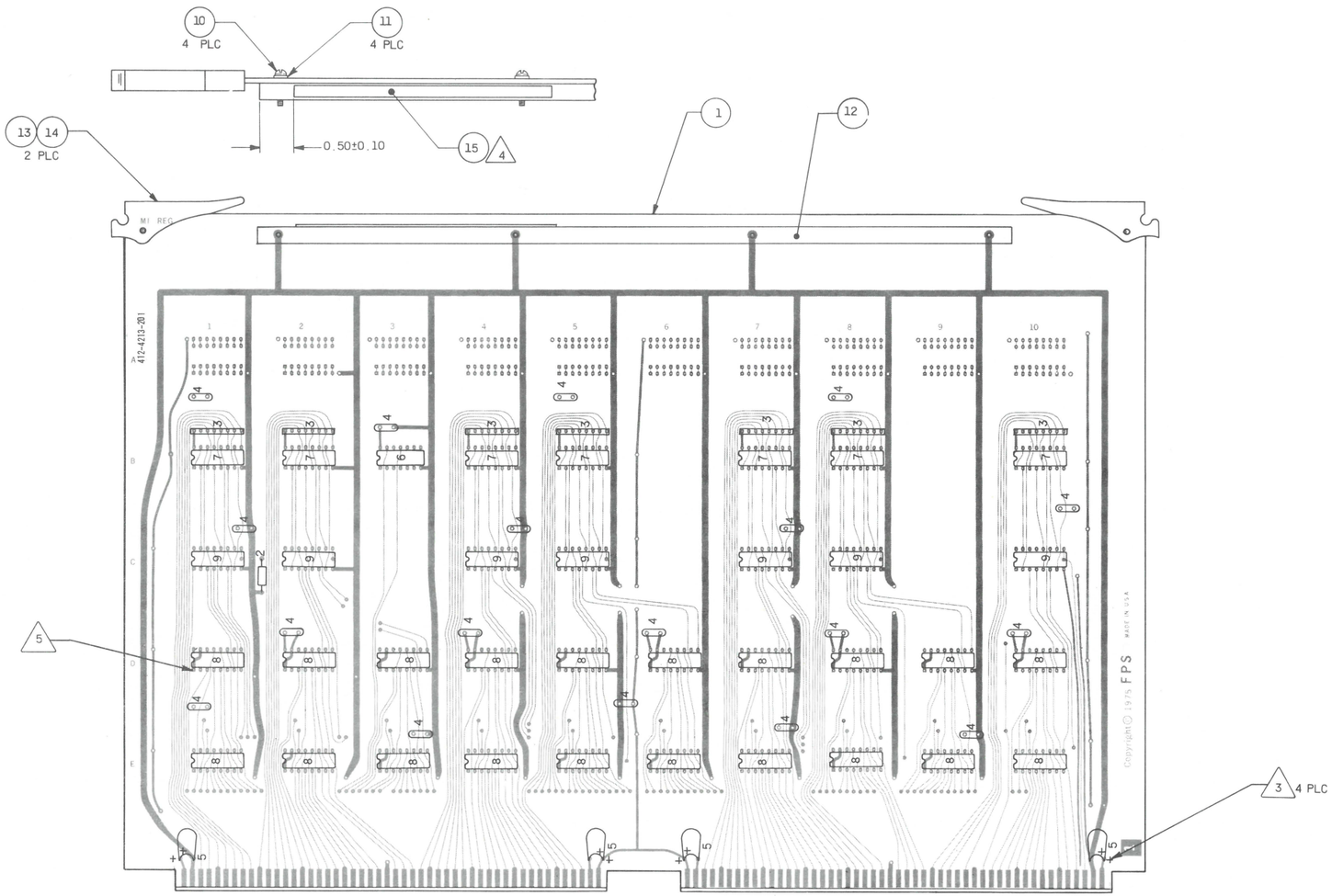
FLOATING POINT SYSTEMS, INC. P.O.Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
213-A,
MAIN DATA INPUT REGISTER

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4213-001	A

SCALE NONE SHEET 1 OF 3

612-4213-001 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

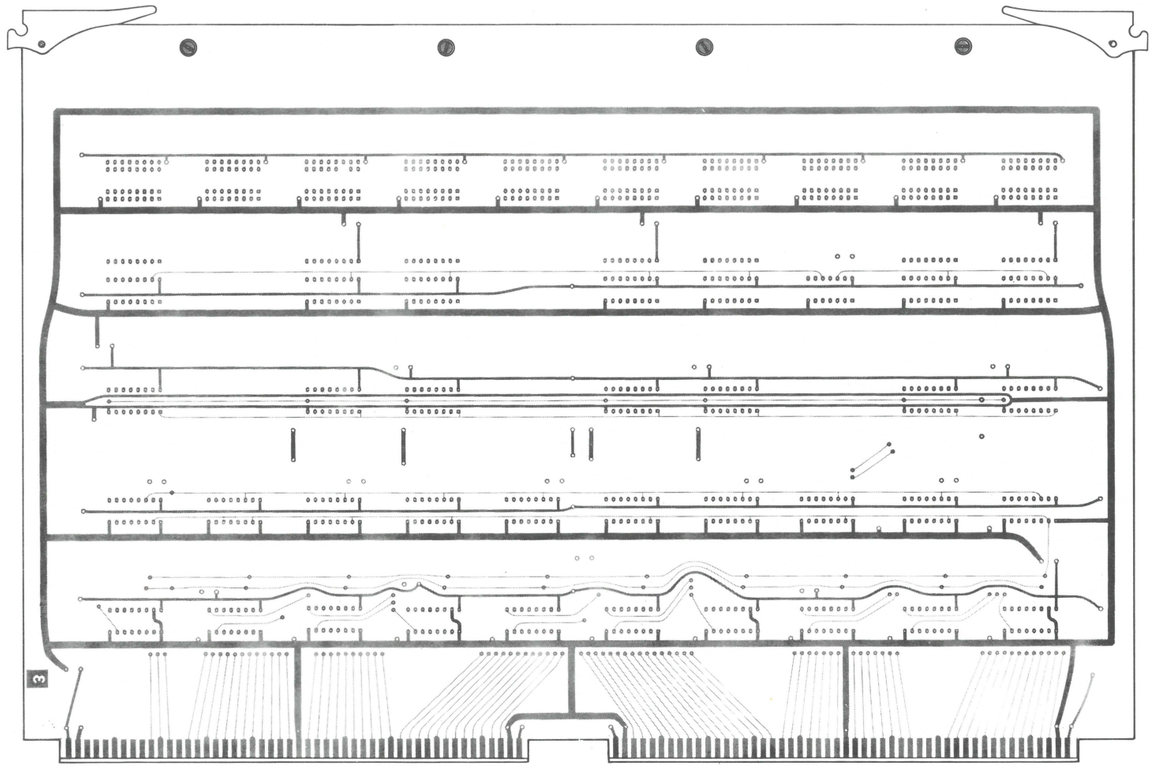
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
213-A,
MAIN DATA INPUT REGISTER

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4213-001	A

SCALE NONE SHEET 2 OF 3

612-4213-001 SHT 2



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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

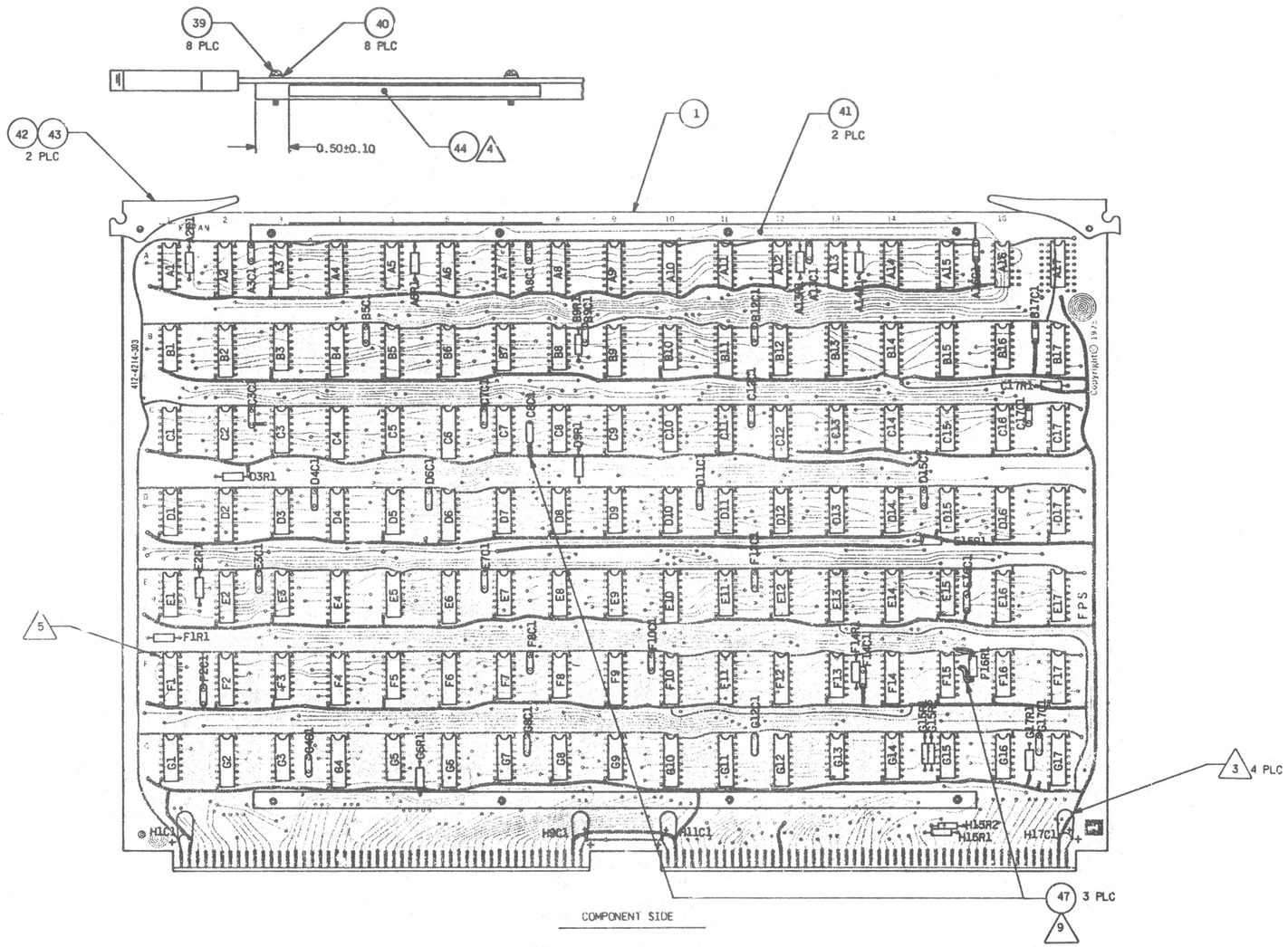
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
213-A,
MAIN DATA INPUT REGISTER

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4213-001	A

SCALE NONE SHEET 3 OF 3

612-4213-001 SHT 3



REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1		3/14/79	
02	EN#25	LEVEL 2		3/14/79	
03	ECO 79058	CORRECT REVISION LEVEL		6-5	
A	ECO 79374	LEVEL 3 RELEASE		8-22-79	Deb 8/22
B	ECO 79616	CORRECT PARTS LIST		12-14-79	11-30-79
C	ECO 80390	CHANGE ITEM 47		2/4/81	2-10-81
D	ECO 81065	CHG. VALUE OF ITEM 9 FROM 1K TO 330 OHM		2/4/81	2-10-81
E	ECO 81227	A4 & A6 GND STRAPS		6/12/81	4/7/81
F	ECO 81492	ADDED MODS 27-41		JDR 17 Nov 81	
G	ECO 81565	REMOVE MODS 27-41		12/1/81	

ITEM	REFERENCE DESIGNATION
38	A2,A4,A6, B5,B17, E13, F1,F14
37	B14, C12, D2,D4,D6, F10, G2,G4,G6
36	E3,E5, F3,F5
35	A1, D1, G15
34	C11, D13
33	B8, F13, G14
32	A5,A14,A15, B7, D3,D5,D15, E11
31	D12
30	C3, E7,E8
29	E14, F9
28	A7,A8,A9,A10, B9,B11,B12,B13,B15, D16, E16,E17, F17, G17
27	C1,C5,C13, F15
26	A12, C16, D8,D11,D17, E15
25	A13,A16, D9, E12
24	B10, C15, D14, F16
23	C8
22	A3,A11, B1,B3,B16, C7,C10,C14,C17, D7, G1,G16
21	E10, F12, G11,G12
20	C2,C4,C6, E2,E4,E6
19	B2,B4,B6, F2,F4,F6,F11, G10
18	C9, F8, G9
17	E1
16	D10, F7
15	A17
14	E9, G7,G8
13	H1C1,H9C1,H11C1,H17C1
12	C8C1
11	A3C1,A8C1,A13C1,A16C1, B5C1,B9C1,B12C1,B17C1, C3C1,C7C1,C12C1,C17C1, D4C1,D6C1,D11C1,D15C1, E3C1,E7C1,E12C1,E16C1, F2C1,F8C1,F10C1,F14C1, G4C1,G8C1,G12C1,G17C1
10	G13
9	G3,G5
8	H15R1,H15R2
7	~~D9R1, E15R1~~, F1R1
6	G6R1
5	G15R1,G15R2,G17R1
4	D3R1
3	A2R1,A6R1,A13R1,A14R1, B9R1, E2R1, F14R1
2	C17R1, F16R1

9 TO COVER EXPOSED LEADS OF COMPONENTS USE SLEEVING.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3 AND 4, REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND ON R-PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS = ±
ANGLES ±
3 PLACE DEC. ±
2 PLACE DEC. ±

MATERIAL: 1

ENGR	Wayne Anderson	DATE 8/31/79
DRN BY	R. S. THURMAN	DATE 11/15/78
CHK BY	Alf Pui	DATE 12/6/78
PROD RELEASE	Ken Brecik	DATE 8/31/79

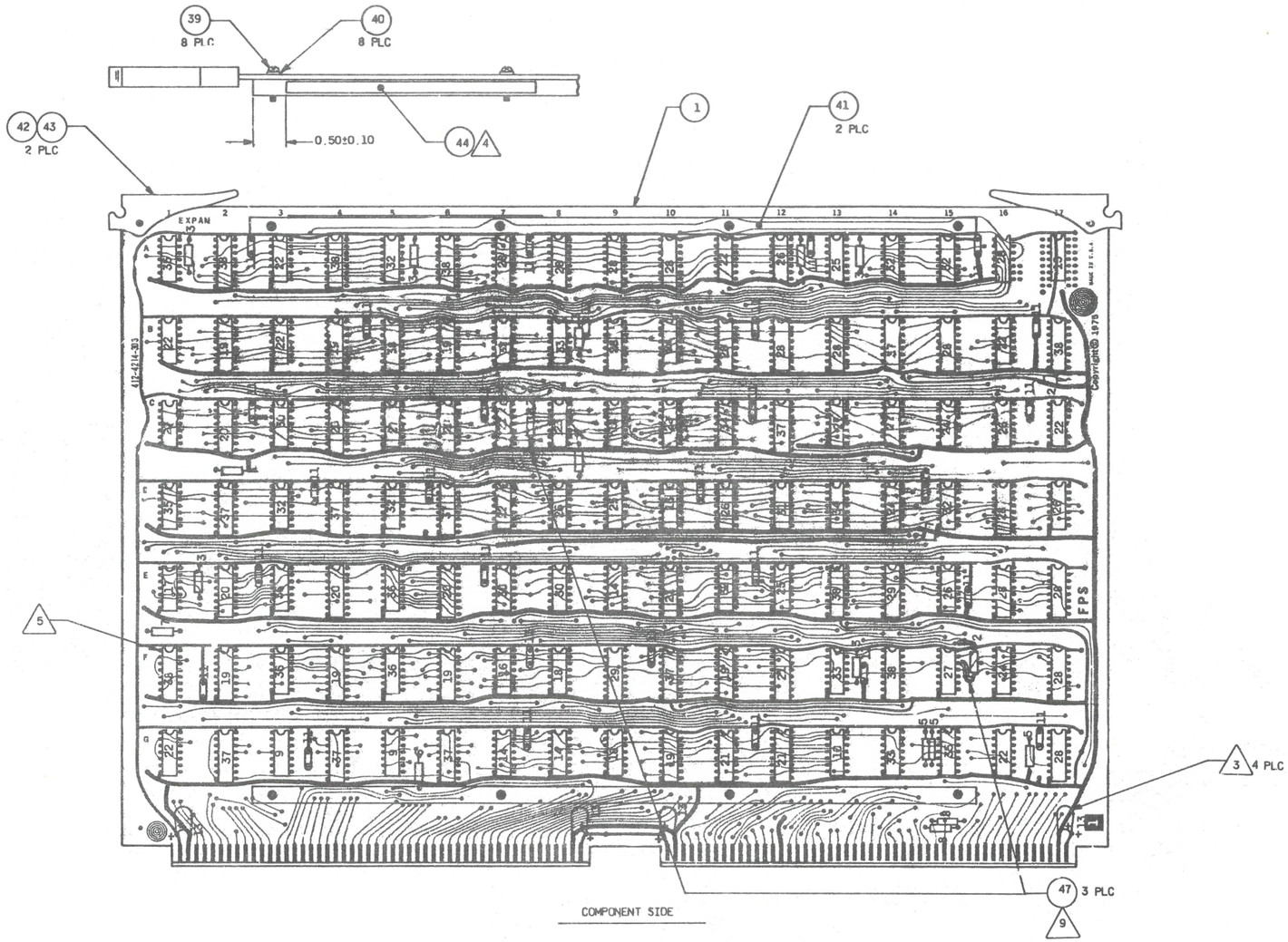
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY, 214-C, EXPANSION BOARD

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4214-005	G

SCALE NONE SHEET 1 OF 4

612-4214-005 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

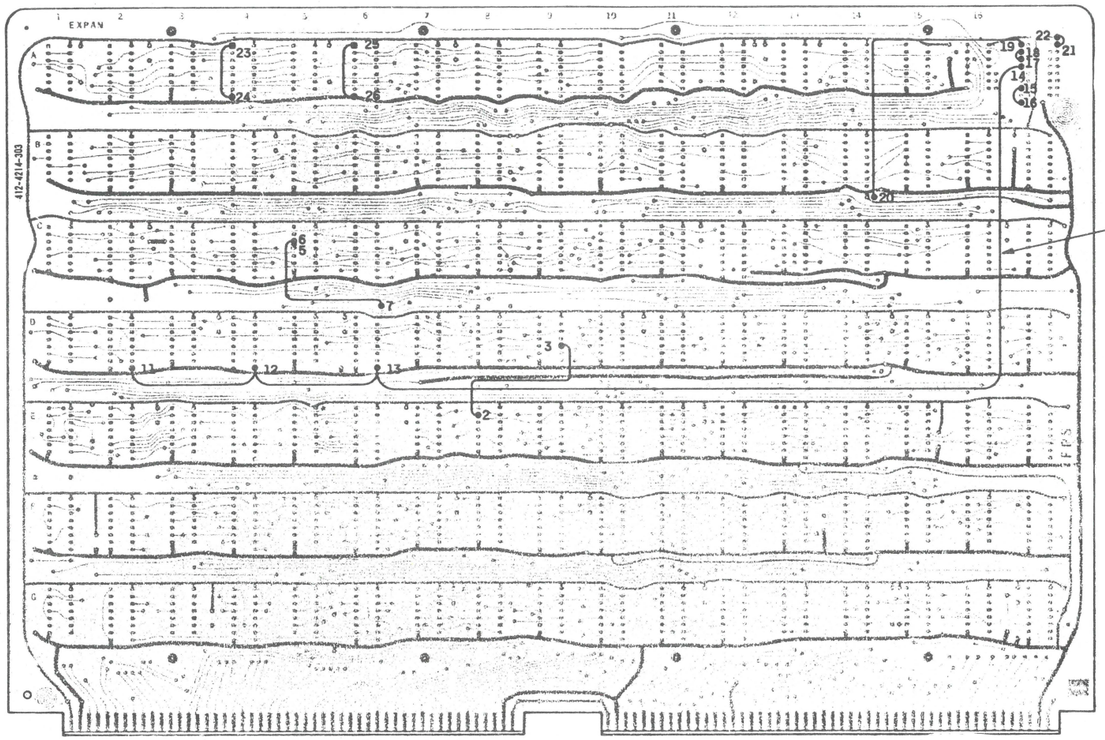
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
214-€,
EXPANSION BOARD

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4214-005	G

SCALE NONE SHEET 2 OF 4

612-4214-005 SHT 2



COMPONENT SIDE

X		25-26	A6-1	GND (A6-8)	COMPONENT
X		23-24	A4-1	GND (A4-8)	
X		21-22	FT (A17-14)	VCC (A16-14)	
X		19-20	FT (A17-1)	FT (B14-9)	
X		17-18	FT (A17-3)	FT (A17-2)	
X		15-16	FT (A17-7)	GND (A16-7)	
X		13-14	D6-9	FT (A17-4)	
X		12-13	D4-9	D6-9	
X		11-12	D2-9	D4-9	COMPONENT
	X	10	D2-9	FT (B1-4)	SOLDER
	X	9	D4-9	FT (B1-4)	SOLDER
	X	8	D6-9	FT (B1-4)	SOLDER
X		6-7	C5-3	FT (C8-1)	COMPONENT
	X	5	C5-3	C5-4	COMPONENT
	X	4	F15-12	FT (C8-3)	SOLDER
X		2-3	E8-2	D9-10	COMPONENT
	X	1	E8-2	FT (D9-1)	SOLDER
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		

6 7 8 REWORK TABLE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

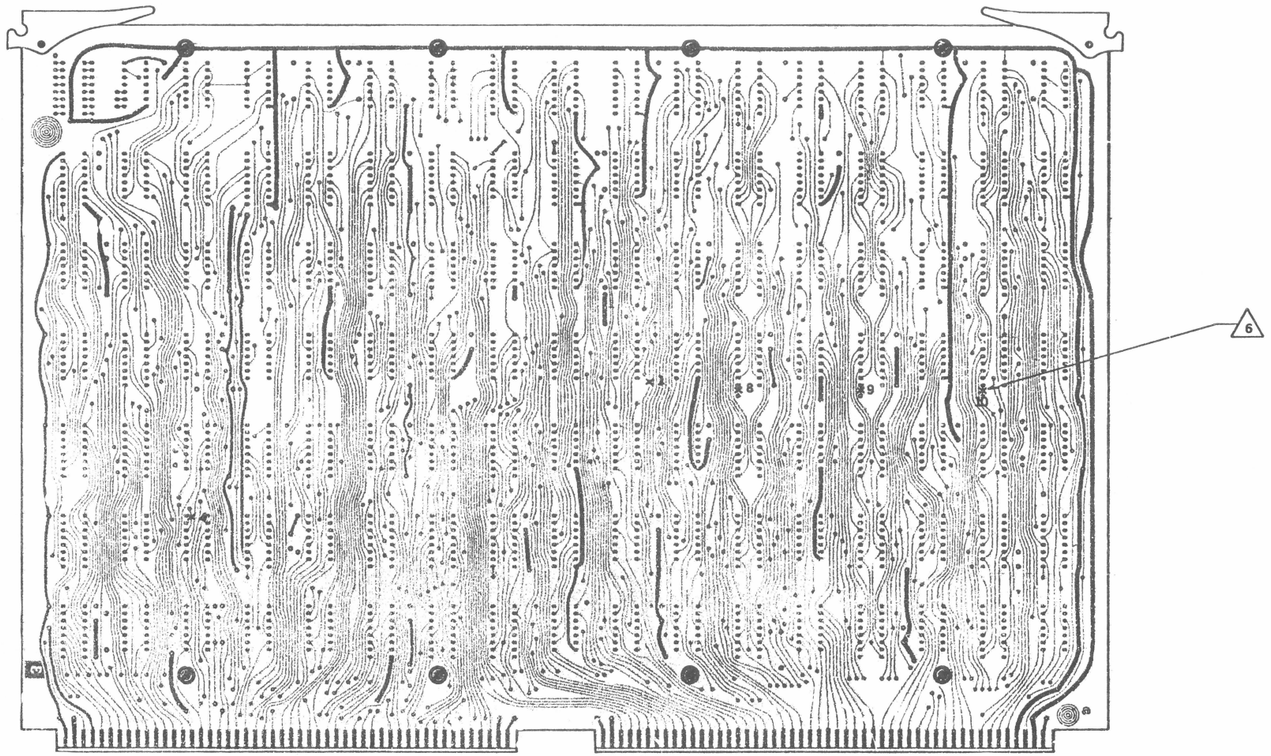
FPS FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY, 214-C, EXPANSION BOARD

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4214-005	G

SCALE NONE SHEET 3 OF 4

612-4214-005 SHT 3



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FRACTIONS ±———
ANGLES ±———
3 PLACE DEC. ±———
* PLACE DEC. ±———

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. P.O.Box 23489 Portland OR 97223

DRAWING TITLE

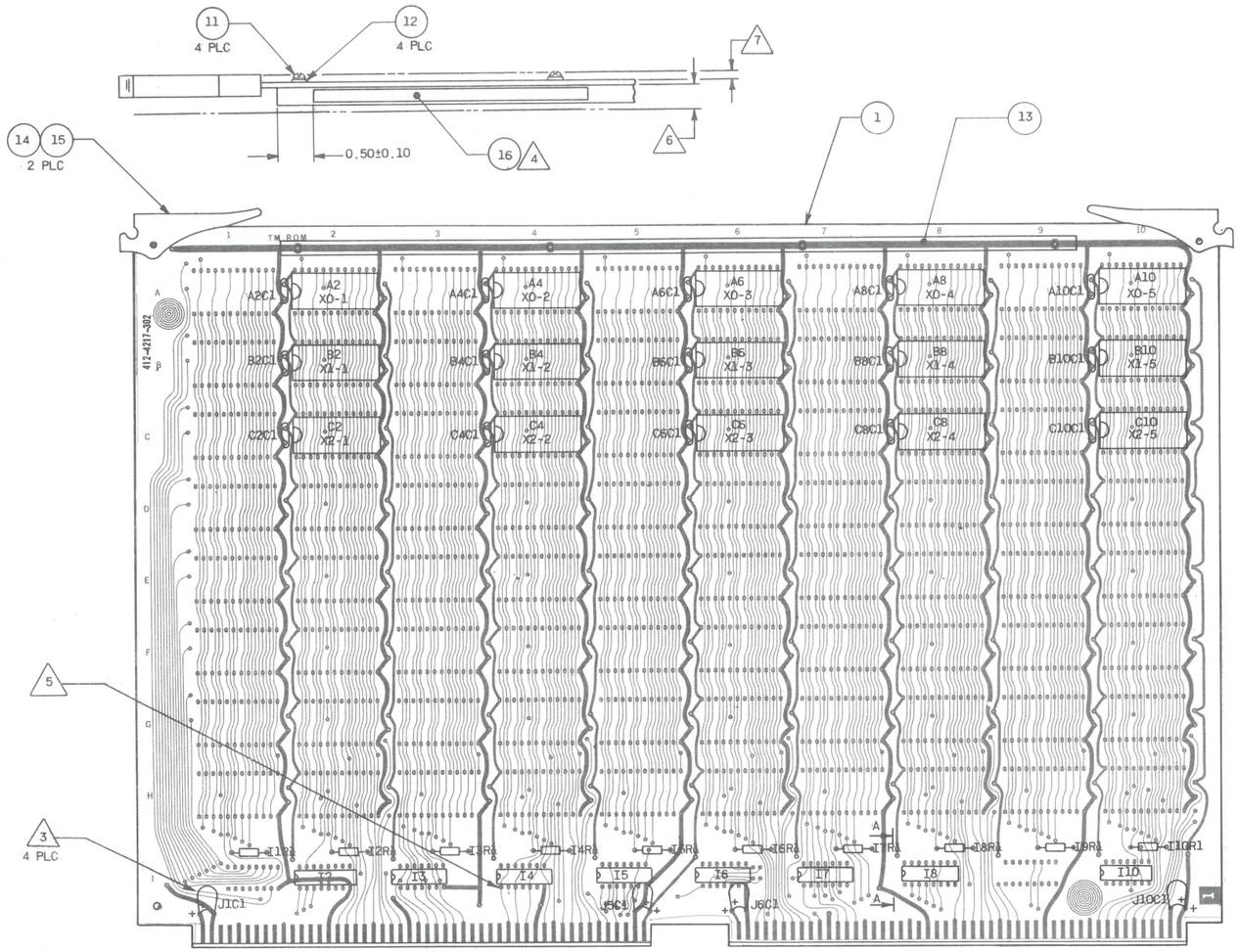
ETCH CIRCUIT BOARD ASSEMBLY,
214-C,
EXPANSION BOARD

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4214-005	G

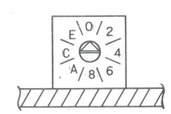
SCALE NONE SHEET 4 OF 4

612-4214-005 SHT 4

REVISIONS					
REV.	AUTH.	DESCRIPTION	ZONE	APVD / DATE	CHK. / DATE
01	EN #006	LEVEL 1 RELEASE 301163			
02	EN #007	MINOR DRAWING CORRECTION			JLB 5/1/80
A	ECO 80173	LEVEL 3 RELEASE		8/28/80	B. Davis 9-22-80
B	ECO 81154	PROM DOC. RESTRUCTURE		DEW 6/9/81	C. Ford 6-8-81



COMPONENT SIDE



VIEW A-A
SCALE: NONE
HEX SWITCH DETAIL

ITEM	REFERENCE DESIGNATION
31	C10
30	C8
29	C6
28	C4
27	C2
26	B10
25	B8
24	B6
23	B4
22	B2
21	A10
20	A8
19	A6
18	A4
17	A2
10	I8
8	I10
7	I2
6	I3,I4,I5,I6
5	I7
4	J1C1,J5C1,J6C1,J10C1
3	A2C1,A4C1,A6C1,A8C1,A10C1, B2C1,B4C1,B6C1,B8C1,B10C1, C2C1,C4C1,C6C1, C8C1,C10C1
2	I1R1,I2R1,I3R1,I4R1,I5R1,I6R1,I7R1,I8R1,I9R1,I10R1

(11) DESIGNATIONS IN PARENTHESES "()" DENOTE CONTINUITY CHECK POINTS FROM FEED-THRU HOLES.

(10) FT DENOTES FEED-THRU HOLE.

(9) MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

8. ITEM 9, PROM SET IS FOR REFERENCE ONLY.

(7) MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

(6) MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

(5) SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R-PAKS

(4) MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD. 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

(3) OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

(1) REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

(1)

PROJ. ENG.	[illegible]	DATE 8/28/80
DRAWN BY	Ray Young	DATE 4-29-80
CHECK BY	J. J. Robinson	DATE 5/14/80
MFG. ENG.	Ken Brick	DATE 8/28/80

DO NOT SCALE DRAWING

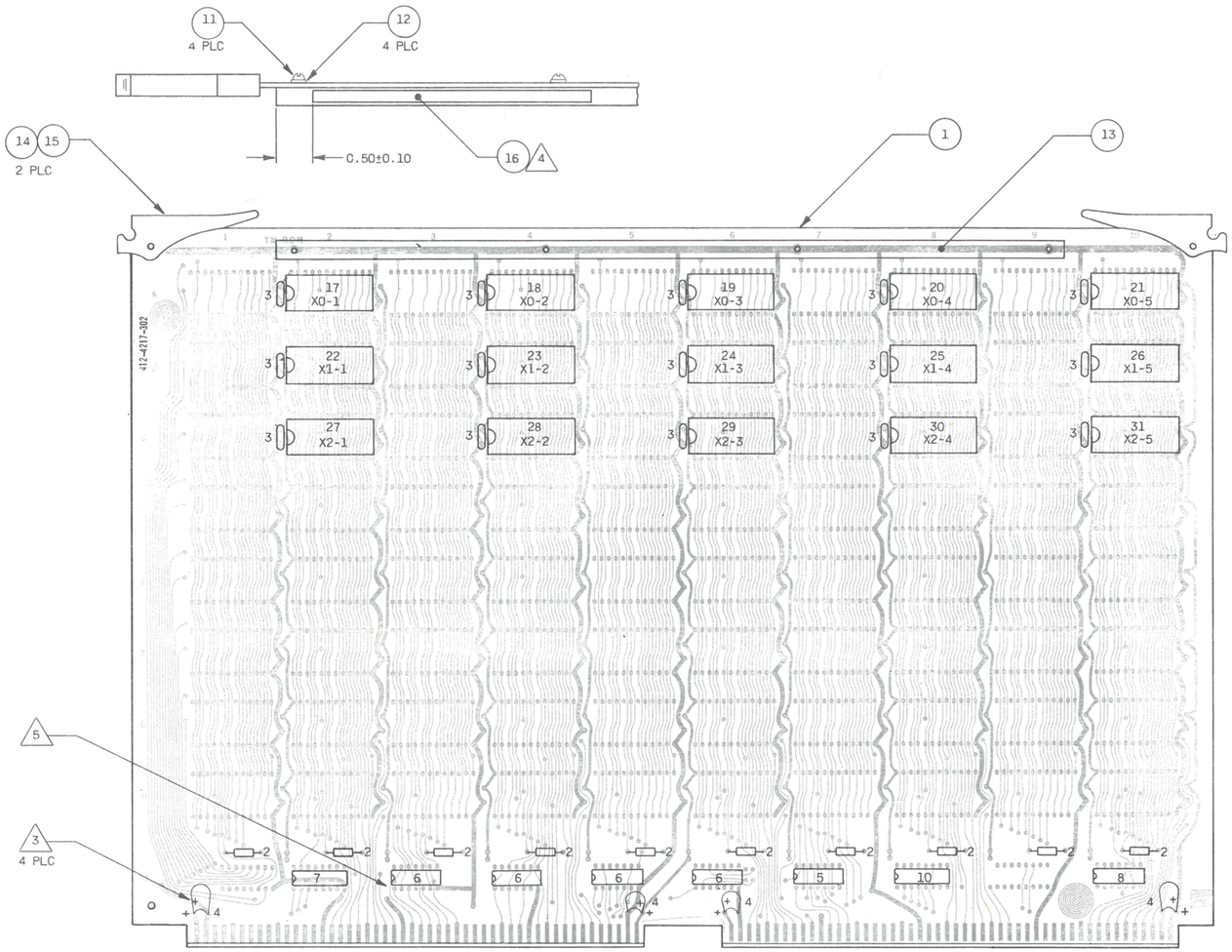
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
217-B,
TABLE MEMORY ROM, 2.5K

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4217-007	B

SCALE NONE SHEET 1 OF 4

SHT 1
DRAWING NO. 612-4217-007



COMPONENT SIDE

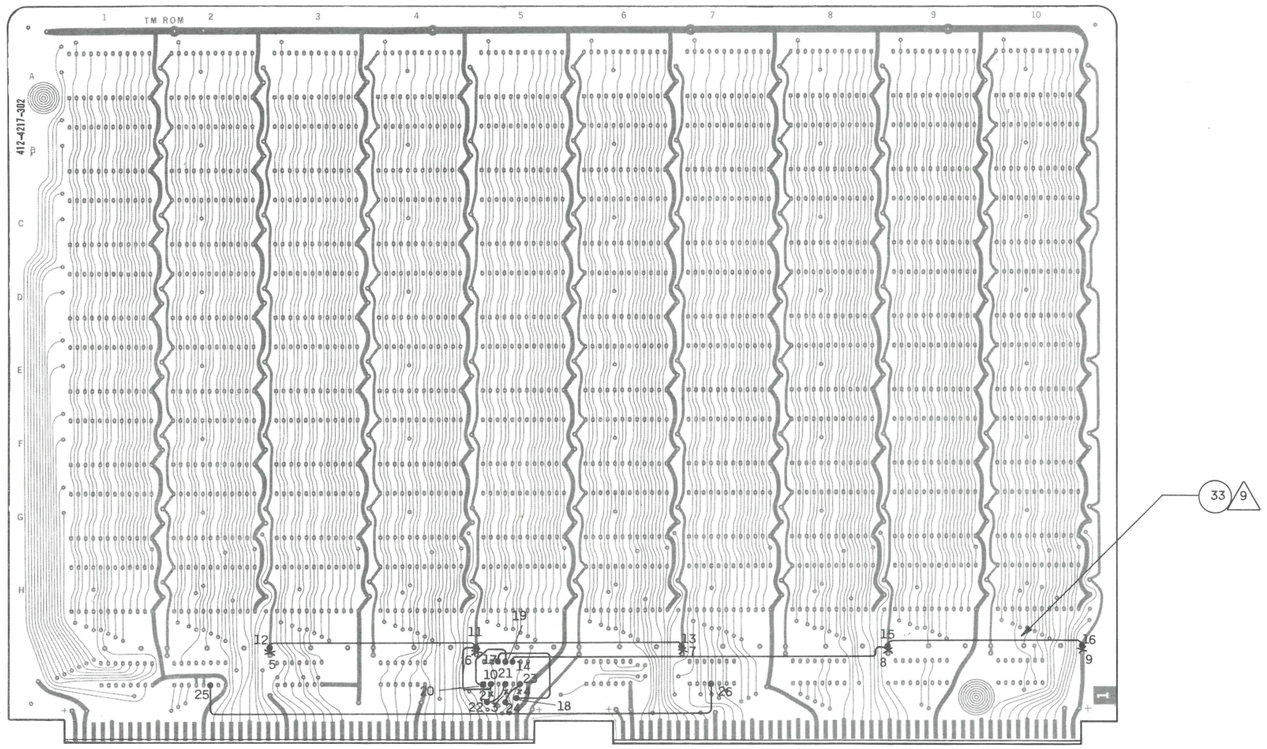
THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4217-007	B
SCALE NONE		SHEET 2 OF 4	

SHT 2

DRAWING NO. 612-4217-007



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		
X		25-26	I2-6	I7-4	COMPONENT
X		23-24	I5-6	FT (I2-2)	↑
X		21-22	I5-4	FT (I2-1)	
X		19-20	I5-11	I5-1	
X		17-18	I5-12	FT (I2-3)	
X		15-16	FT (H8-22)	FT (H10-22)	
X		14-15	I5-10	FT (H8-22)	
X		11-13	FT (H4-22)	FT (H6-22)	
X		11-12	FT (H4-22)	FT (H2-22)	
X		10-11	I5-2	FT (H4-22)	
	X	9	FT (H10-22)	VCC (E.C. A01)	
	X	8	FT (H8-22)	VCC (E.C. A01)	
	X	7	FT (H6-22)	VCC (E.C. A01)	
	X	6	FT (H4-22)	VCC (E.C. A01)	
	X	5	FT (H2-22)	VCC (E.C. A01)	
	X	4	I5-6	FT (I2-3)	
	X	3	I5-4	FT (I2-2)	↓
	X	2	I5-2	FT (I2-1)	COMPONENT
	X	1	I5-12	I2-6	SOLDER

9 10 11 REWORK TABLE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

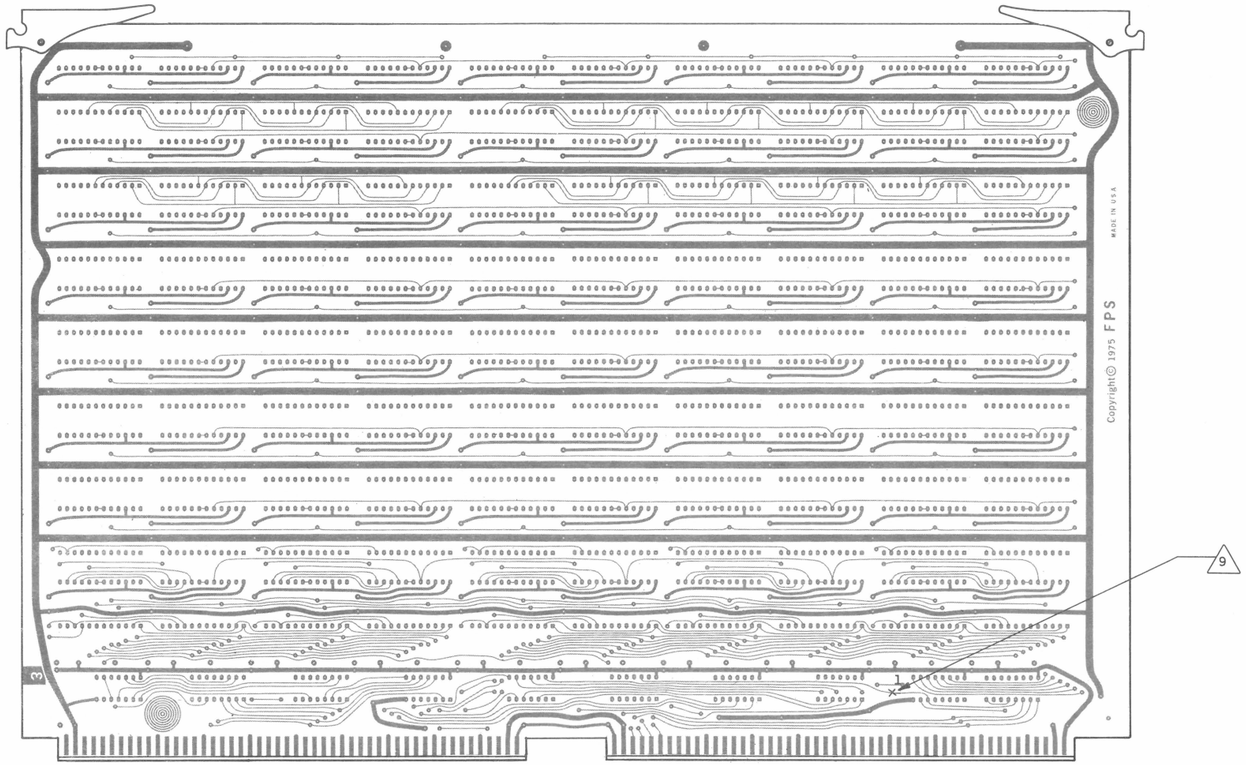
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
217-B,
TABLE MEMORY ROM, 2.5K

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4217-007	B

SCALE NONE SHEET 3 OF 4

612-4217-007 SHT 3



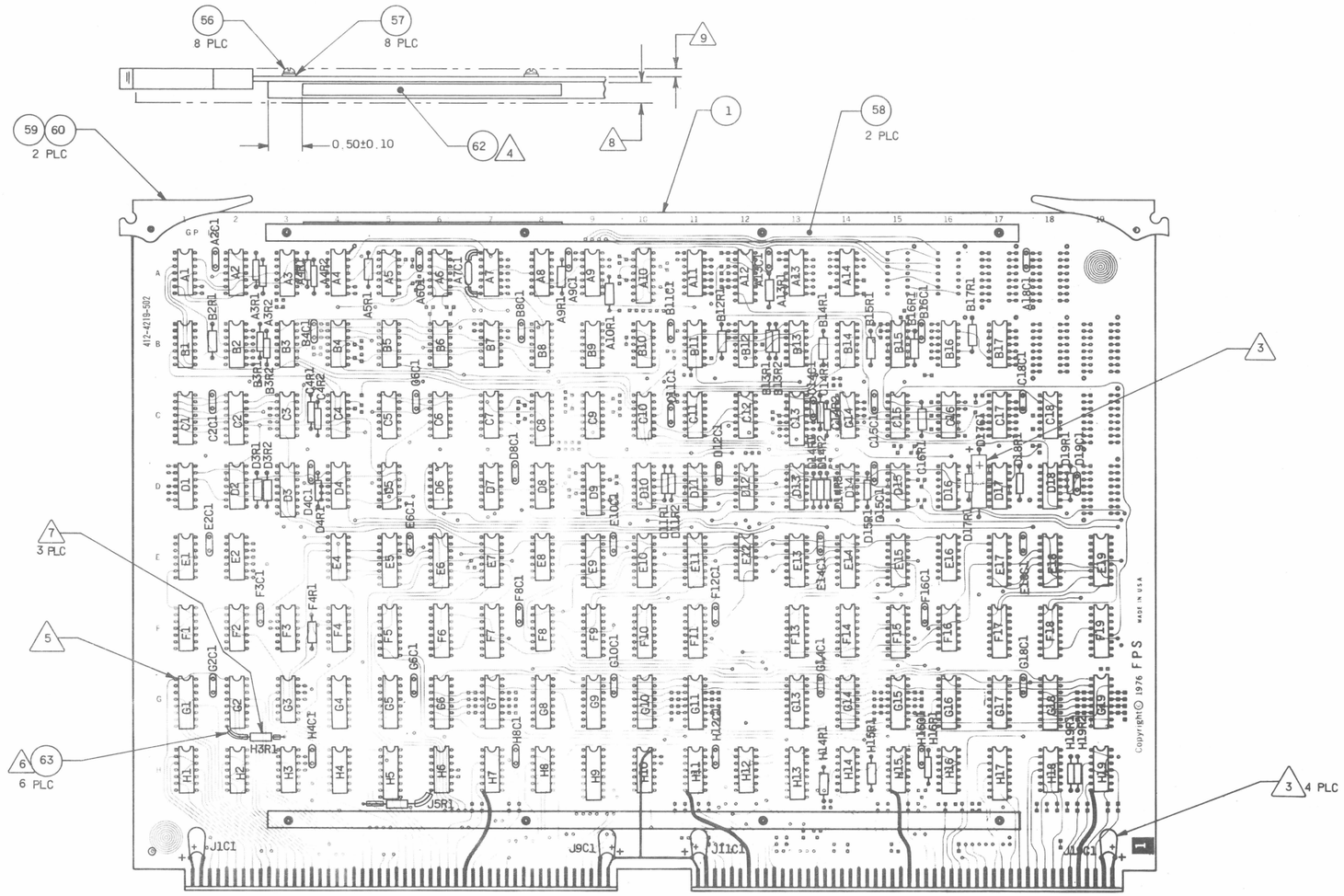
SOLDER SIDE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4217-007	B
SCALE NONE		SHEET 4 OF 4	

SHT 4

DRAWING NO. 612-4217-007

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	ECO 79118	LEVEL 2 RELEASE		4/19	
A	ECO 79528	LEVEL 3 RELEASE		11/19	Oct 11/19
B	ECO 80430	DESCRIPTION CHANGE		1/12/82	1/12/82
C	ECO 80390	CHANGE ITEM 63		2/11/81	2-27-81



COMPONENT SIDE

CONTINUED ON PAGE 3

ITEM	REFERENCE DESIGNATION
41	B4,B8, G3
40	A14, C6,C7,C15,C16, D10, E2, F3,F4,F8,F16, H6,H10,H14,H18
39	H4,H8,H12,H16
38	B14, C17, D4
37	B6,B10, C5,C11, D6,D7,D14,D17
36	B13,B16, C10, D13, E12
35	B12, H1,H2,H3
34	B15
33	G5,G9,G13,G17, H5,H9,H13,H17
32	F5,F9,F13,F17, G4,G8,G16
31	C14
30	D2
29	A10
28	A1,A9, B17
27	D18
26	H7,H11,H15,H19
25	C13
24	A11
23	A13
22	B11, D12
21	A4, C18
20	C12
19	J1C1,J9C1,J11C1,J19C1
18	D17C1
17	A7C1
16	C14C1
15	D19C1
14	A2C1,A6C1,A9C1,A13C1,A18C1, B4C1,B8C1,B11C1,B16C1, C2C1,C6C1,C11C1, C15C1,C18C1, D4C1,D8C1,D12C1,D15C1, E2C1,E6C1,E10C1,E14C1,E18C1, F3C1, F8C1,F12C1,F16C1, G2C1,G6C1,G10C1,G14C1,G18C1, H4C1,H8C1,H12C1,H16C1
13	E4,E8,E16
12	D8,D16
11	D18R1
10	C14R1
9	A3R2,A4R2, B3R2, C4R2
8	H3R1,J5R1
7	B12R1,B13R1
6	A3R1,A4R1, B3R1, C4R1
5	B16R1
4	D17R1
3	A5R1,A10R1,A13R1, B2R1,B13R2,B17R1, D11R1,D11R2,D14R1,D19R1,H14R1,H16R1
2	A9R1, B14R1,B15R1,C16R1,C14R2,D3R1,D3R2,D4R1,D14R2,D14R3,D15R1,F4R1, H15R1,H19R1,H19R2

9 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE 0.090.

8 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

7 PLACE COMPONENTS AS SHOWN.

6 USE SLEEVING, ITEM 63, TO COVER EXPOSED LEADS OF COMPONENTS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

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FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ———

MATERIAL: 1

ENGR	W. Matthews	DATE 11-28-77
DRN BY	R. J. THURMAN	DATE 11/16/78
CHK BY	CHINH NGUYEN	DATE 11-29-78
PROD RELEASE	Ken Barick	DATE 11-28-79

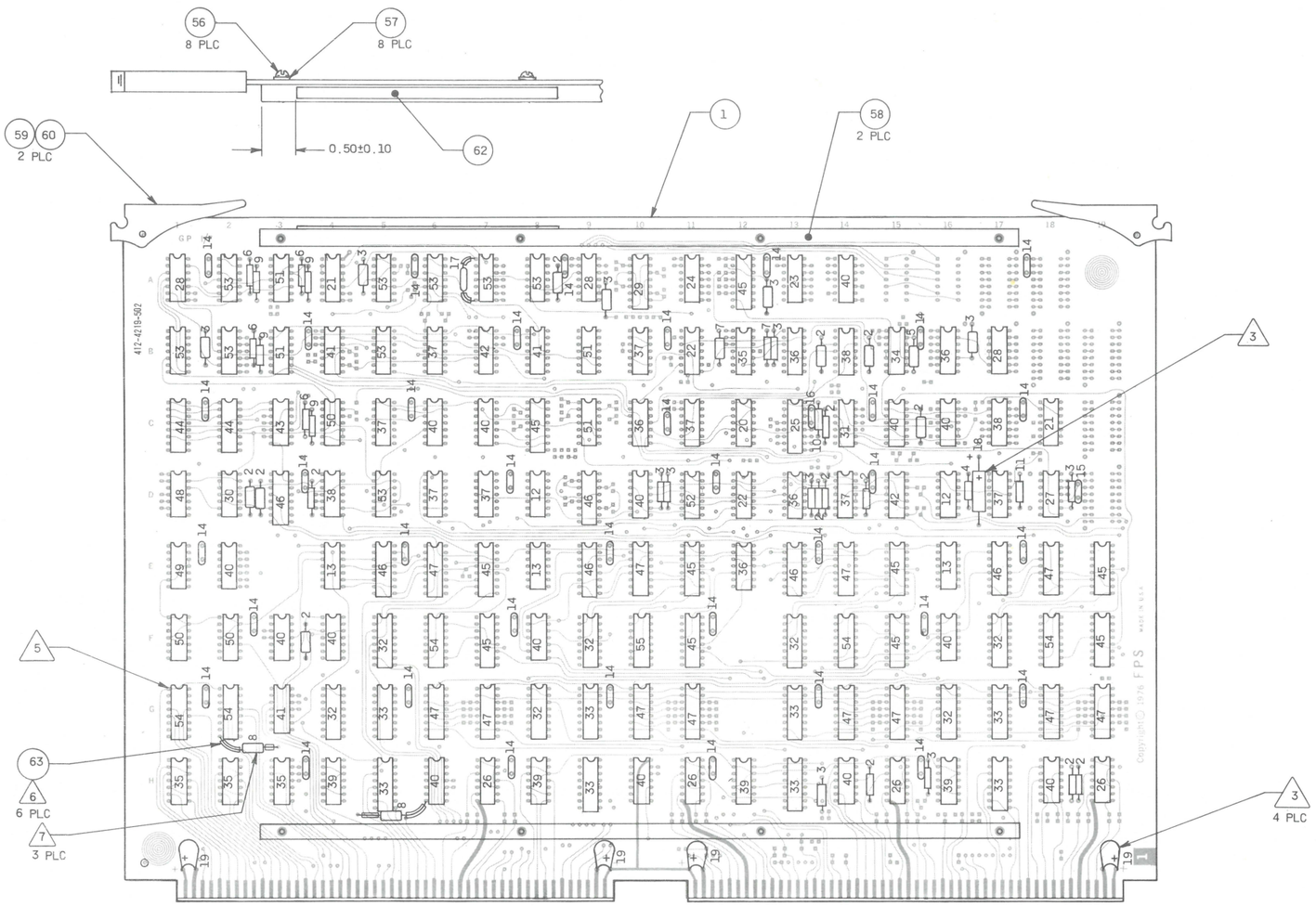
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE: ETCH CIRCUIT BOARD ASSEMBLY, 219B, GPIFJ

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4219-016	C

SCALE NONE SHEET 1 OF 3

612-4219-016 SHT 1



COMPONENT SIDE

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COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

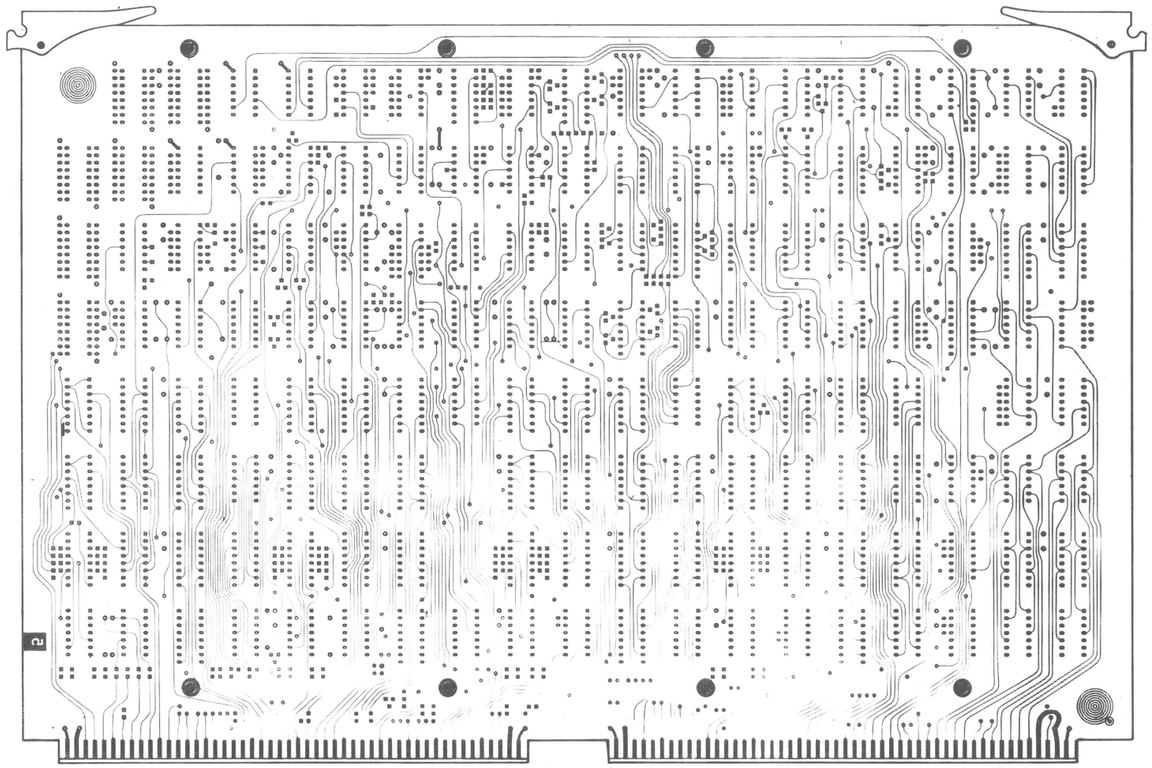
ENGR		DATE
DRN BY		DATE
CHK BY		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE: ETCH CIRCUIT BOARD ASSEMBLY, 219B, GPIFJ

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4219-016	C

SCALE NONE — SHEET 2 OF 3



SOLDER SIDE

ITEM	REFERENCE DESIGNATION
55	F10
54	F6,F14,F18, G1,G2
53	A2,A5,A6,A7,A8, B1,B2,B5, D5
52	D11
51	A3, B3,B9, C9
50	C4, F1,F2
49	E1
48	D1
47	E6,E10,E14,E18, G6,G7,G10,G11,G14,G15,G18,G19
46	D3,D9, E5,E9,E13,E17
45	A12, C8, E7,E11,E15,E19, F7,F11,F15,F19
44	C1,C2
43	C3
42	B7, D15

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± _____
ANGLES ± _____
3 PLACE DEC. ± _____
2 PLACE DEC. ± _____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

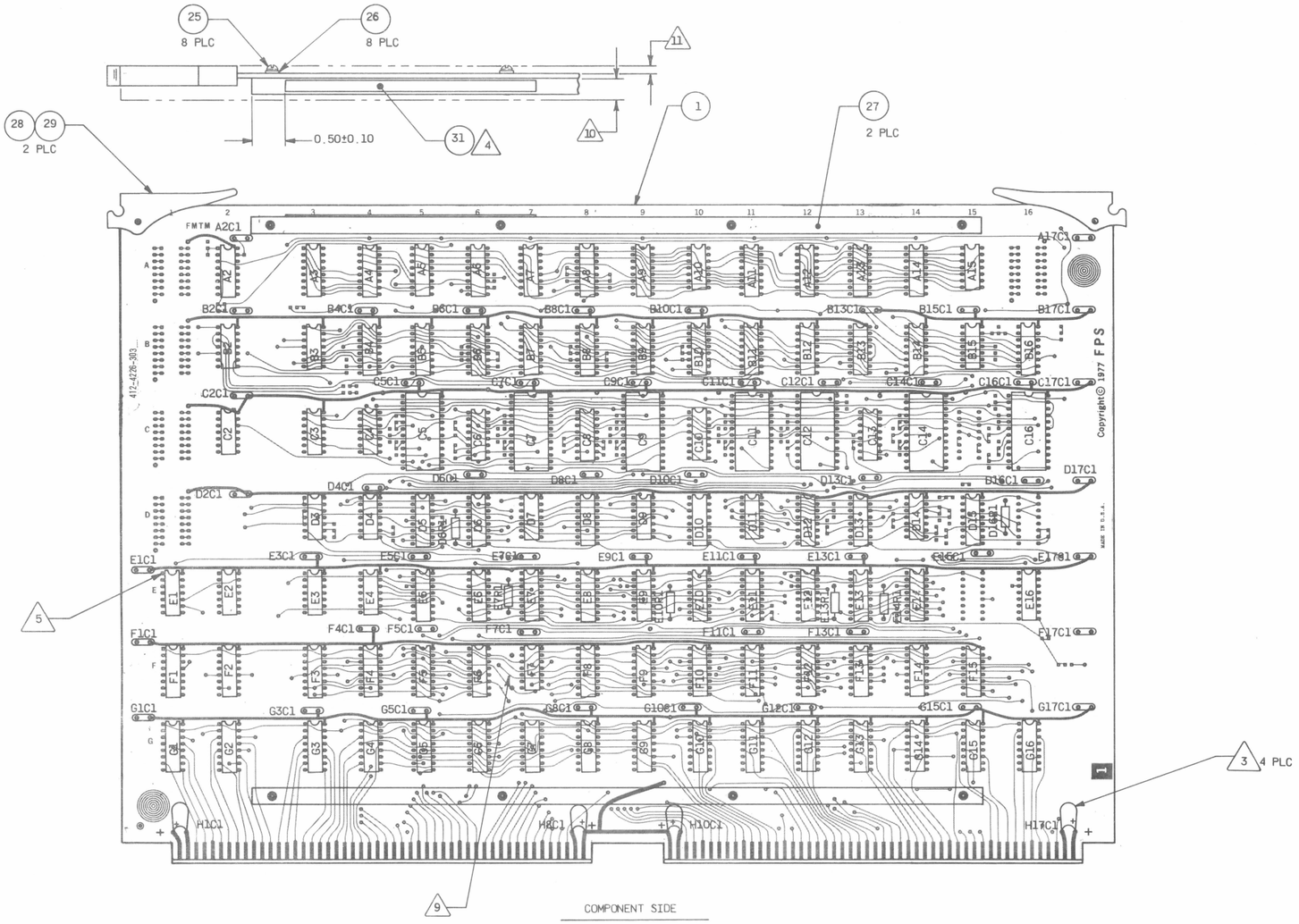
ETCH CIRCUIT BOARD ASSEMBLY, 219B, GPIFJ

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4219-016	C

SCALE NONE SHEET 3 OF 3

612-4219-016 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
03	ECO 79118	LEVEL 2 RELEASE		BSB 4/17	
A	ECO 79529	LEVEL 3 RELEASE		JPC/11-20-79	D.L. 11/14



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
24	A3,A4,A5,A7,A9,A11,A12,A14, B4,B5,B7,B9,B11,B12,B14,B16
23	E5,E7,E9,E11,E12,E14,E16
22	D6,D8,D10,D13,D15
21	B2,B15, C4, F7
20	D7,D11,D14
19	D9
18	G5,G7,G9,G11,G12,G14,G16
17	C3
16	D5,D12
15	C5,C7,C9,C11,C12,C14,C16
14	A2
13	A6,A8,A13, B6,B8,B10,B13, C6,C8,C10,C13
12	D4
11	C2
10	E6,E8,E10,E13, F5,F9,F11,F12,F14, G6,G8,G10,G13,G15
9	F1,F2,F3,F4,F6,F8,F10,F13,F15, G1,G2,G3,G4
8	D3
7	E1
6	H1C1,H8C1,H10C1,H17C1
5	A2C1,A17C1, B2C1,B4C1,B6C1,B8C1,B10C1,B13C1,B15C1,B17C1,C2C1,C5C1,C7C1, C9C1,C11C1,C12C1,C14C1,C16C1,C17C1, D2C1,D4C1,D6C1,D8C1,D10C1,D13C1, D16C1,D17C1, E1C1,E3C1,E5C1,E7C1,E9C1,E11C1,E13C1,E15C1,E17C1, F1C1, F4C1,F5C1,F7C1,F11C1,F13C1,F17C1, G1C1,G3C1,G5C1,G8C1,G10C1,G12C1,G15C1, G17C1
4	A10,A15, B3, E2,E3,E4
3	D16R1, E7R1
2	D6R1, E10R1,E13R1,E14R1

612-4226-011 SHT

11 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

10 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

9 OPTIONAL COMPONENT VALUE MAY BE SELECTED IN TEST.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3
REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R-PAKS.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ____

MATERIAL:

1

ENGR		DATE 11-20-77
DRN BY	R.S. THURMAN	DATE 11/16/78
CHK BY	Don Schicola	DATE 11/22/78
PROD RELEASE	Ken Briele	DATE 11-30-79

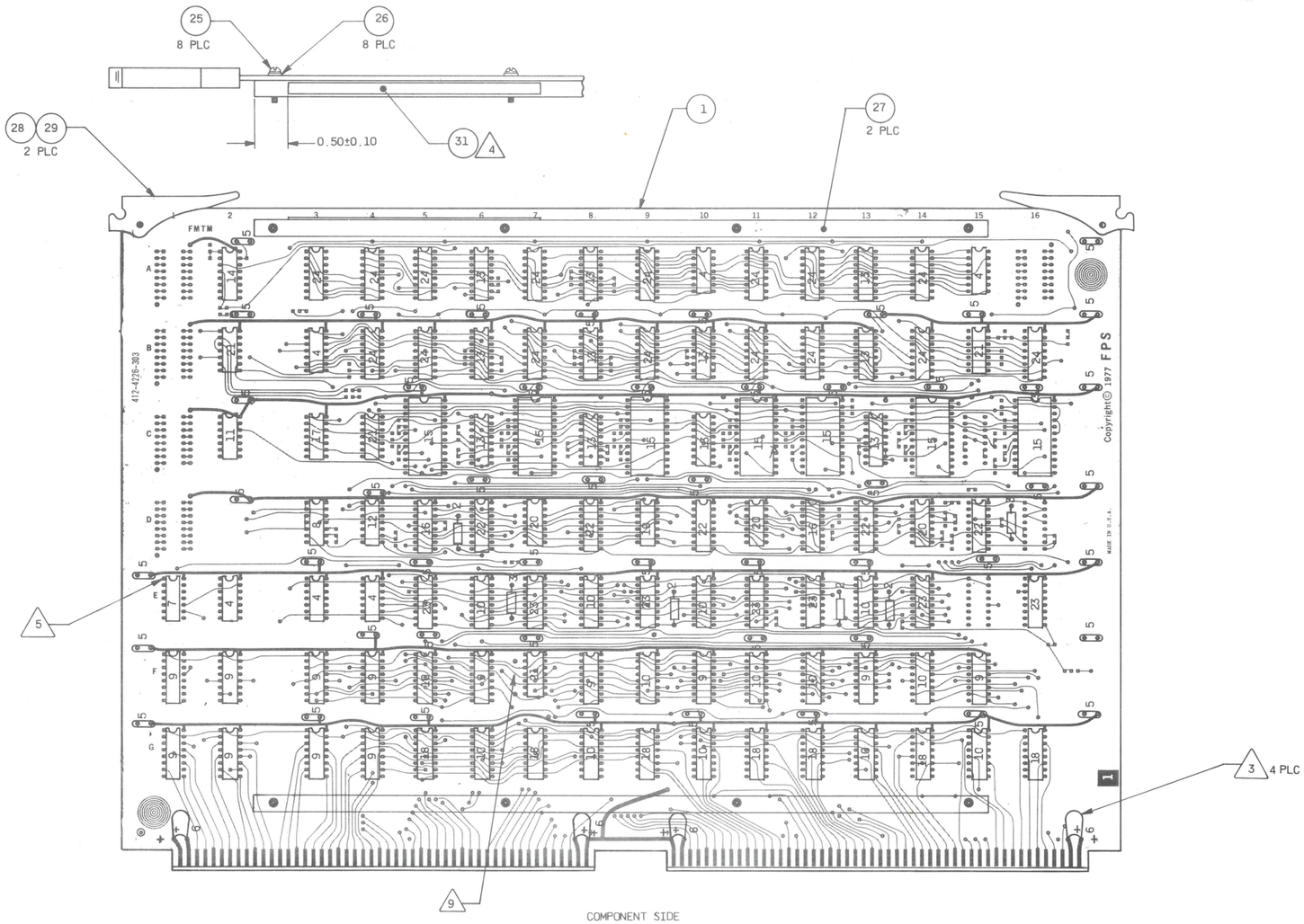
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
226C,
FORMAT MANTISSA

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4226-011	A

SCALE NONE SHEET 1 OF 4



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

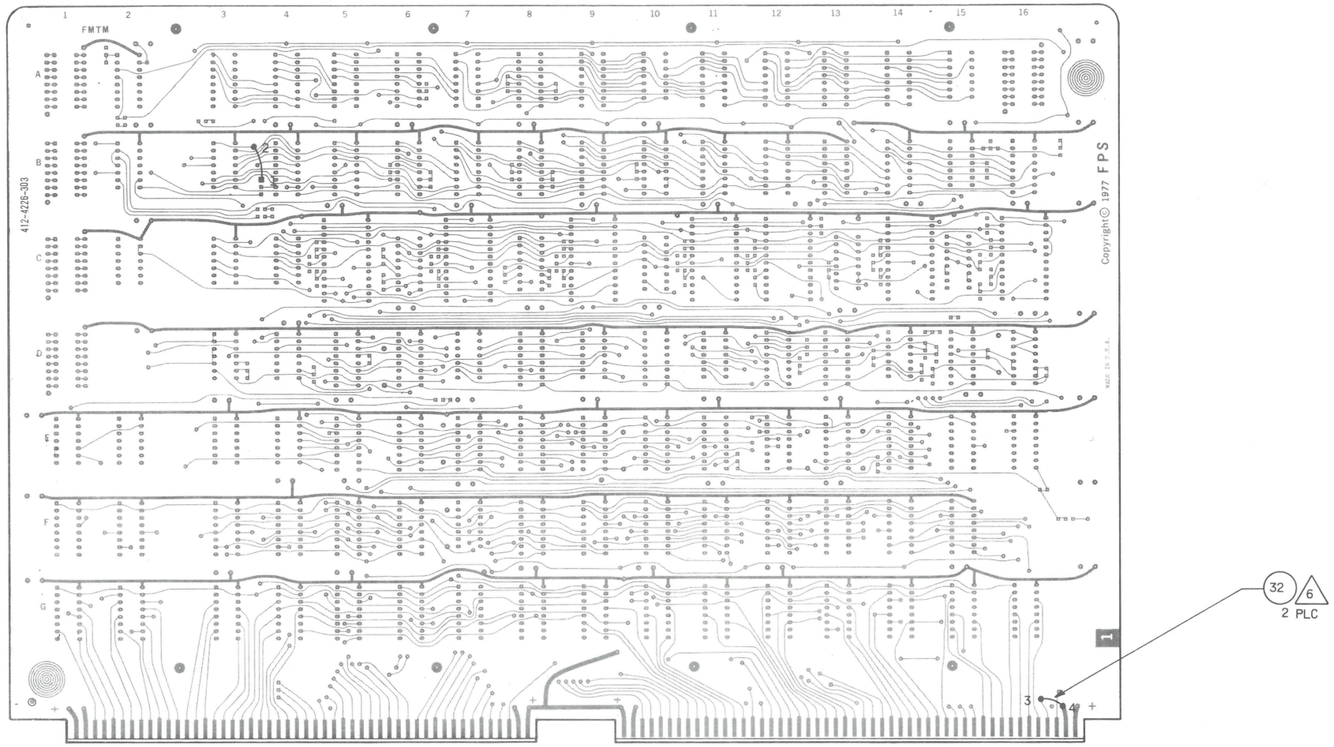
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
226C,
FORMAT MANTISSA

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4226-011	A

SCALE NONE SHEET 2 OF 4

612-4226-011 SHT 2



COMPONENT SIDE

X		3-4	EDGE CONN. B93	EDGE CONN. B97	COMPONENT
X		1-2	FT (B4-7)	FT (B3-1)	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		
6	7	8	REWORK TABLE		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
226C,
FORMAT MANTISSA

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4226-011	A

SCALE NONE SHEET 3 OF 4

612-4226-011 SH 3

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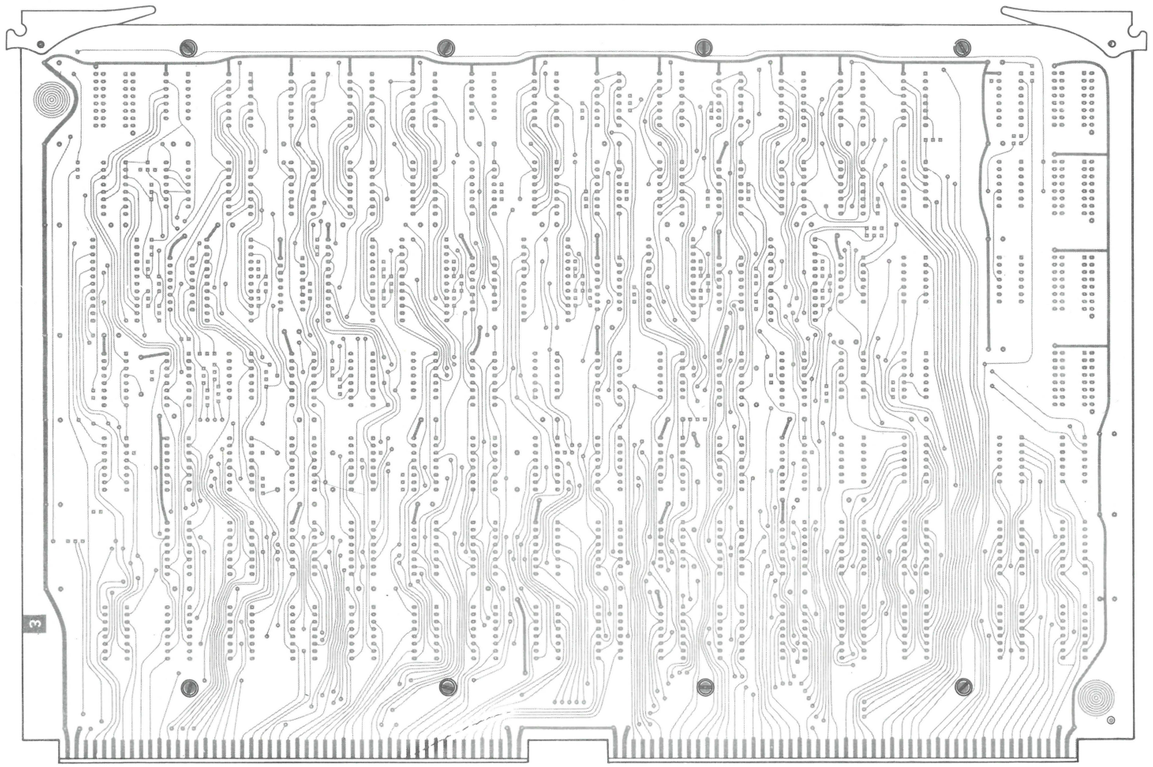

SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FPS FLOATING POINT SYSTEMS, INC.
POBox 23489 Portland OR 97223

DRAWING TITLE

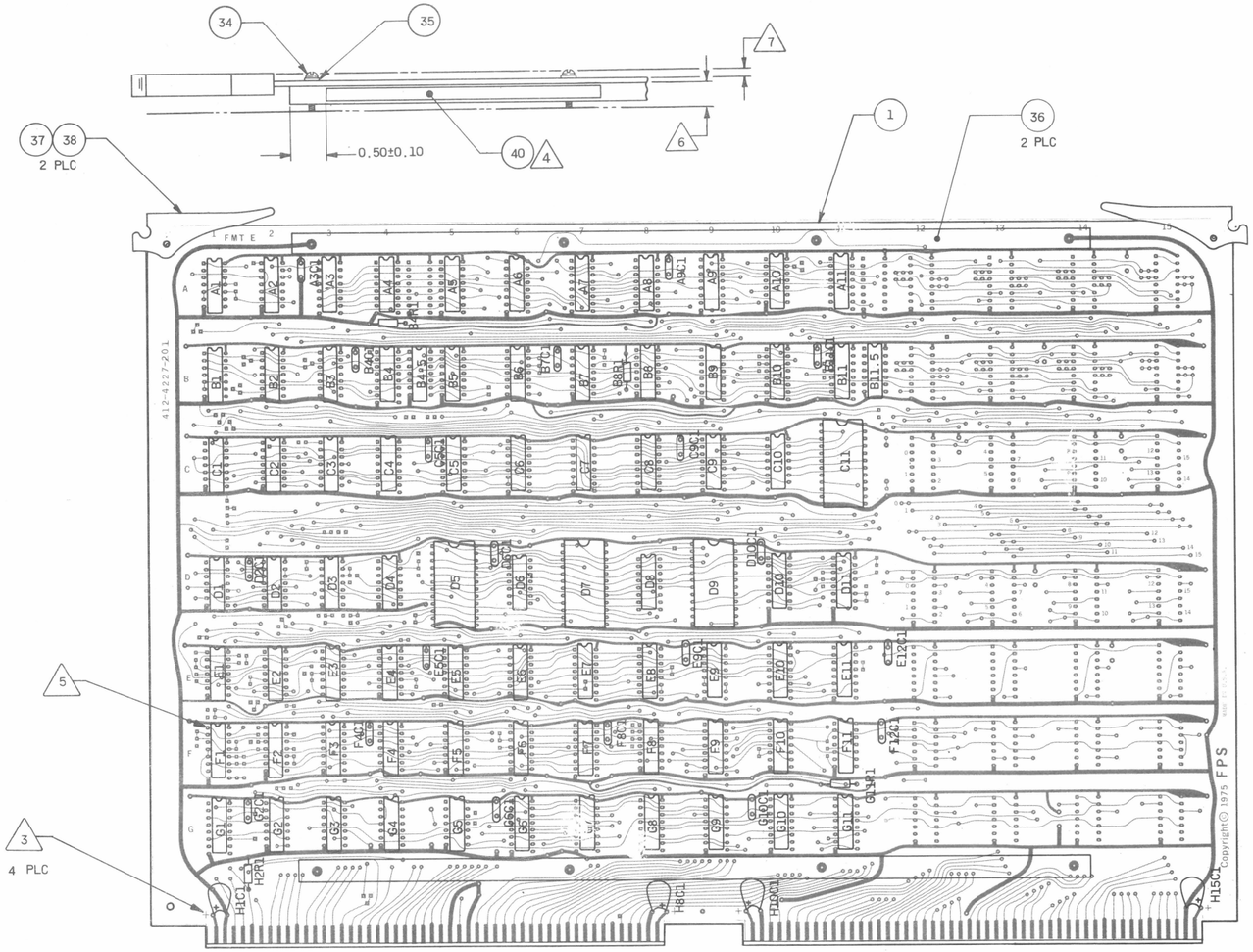
ETCH CIRCUIT BOARD ASSEMBLY,
226C,
FORMAT MANTISSA

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4226-011	A

SCALE NONE SHEET 4 OF 4

612-4226-011 SHT 4

REVISIONS					
REV.	AUTH.	DESCRIPTION	ZONE	APVD / DATE	CHK. / DATE
02	EN #31	LEVEL 2 2/22/79			
03	ECO 79058	CORRECT REVISION AT LEVEL 2			
04	ECO 79099	CORRECT PART LIST			
05	ECO 79194	CORRECT PARTS LIST			
A	ECO 79530	LEVEL 3 RELEASE			



COMPONENT SIDE

10 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

9 FT DENOTES FEED-THRU HOLE.

8 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

7 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

6 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE [illegible] COMPONENT SIDE IS 0.310.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R-PAKS

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS AS REQUIRED ON LABEL AND APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

ITEM	REFERENCE DESIGNATION
33	B10,B11, C5,C6,C7,C8,C9
32	A4,A8, B9, F7, G1
31	E11, F9
30	A10, B6,B7,B11.5, D4, F10,F11
29	G4
28	A1, B1,B2, C1, E4, F4,F5,F8
27	E5
26	B3,B5, C2,G2
25	A3,A7,A11
24	D8
23	C11, D5,D7,D9
22	A6, E7
21	D10,D11, E8,E9,E10
20	F1
19	F2,F6
18	E1,E3
17	B4.5, D6, E2, G5
16	D3
15	D1,D2, E6
14	A5,A9, G6,G8,G10,G11
13	G7,G9
12	B8
11	G3
10	F3
9	A2
8	B4, C4
7	H1C1,H8C1,H10C1,H15C1
6	A3C1,A9C1, B4C1,B7C1,B11C1, C5C1,C9C1, D2C1,D6C1,D10C1, E5C1,E9C1, E12C1, F4C1,F8C1,F12C1, G2C1,G6C1,G10C1
5	C3,C10
4	H2R1
3	B8R1
2	B3R1, G11R1

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ——
ANGLES ± ——
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ——
MATERIAL:

1

		DATE
PROJ. ENG.	[illegible]	8-6-80
DRAWN BY	R. FULFORD	7-14-80
CHECK BY	[illegible]	7/16/80
MFG. ENG.		

DO NOT SCALE DRAWING

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

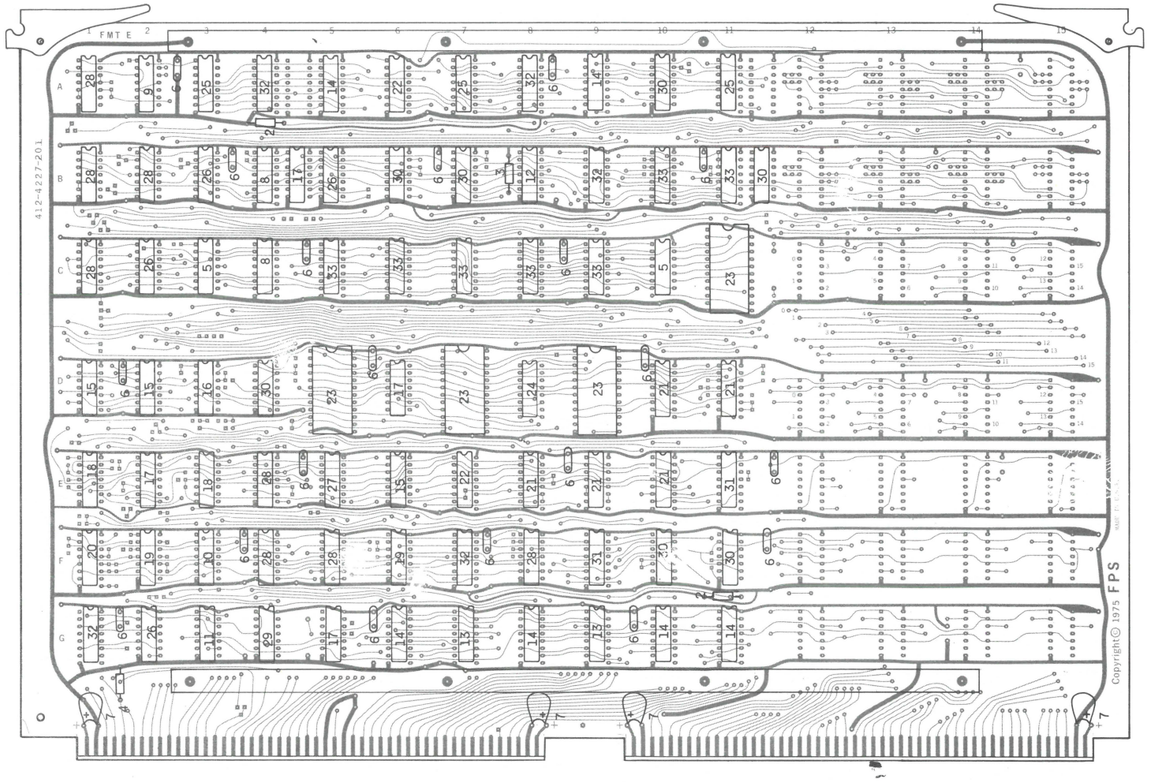
DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
227-A,
FORMAT EXPONENT WITHOUT TRANSCEIVERS

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4227-007	A

SCALE NONE SHEET 1 OF 4

SHT 1 DRAWING NO. 612-4227-007

F.P.S FORM NO. 4035



COMPONENT SIDE

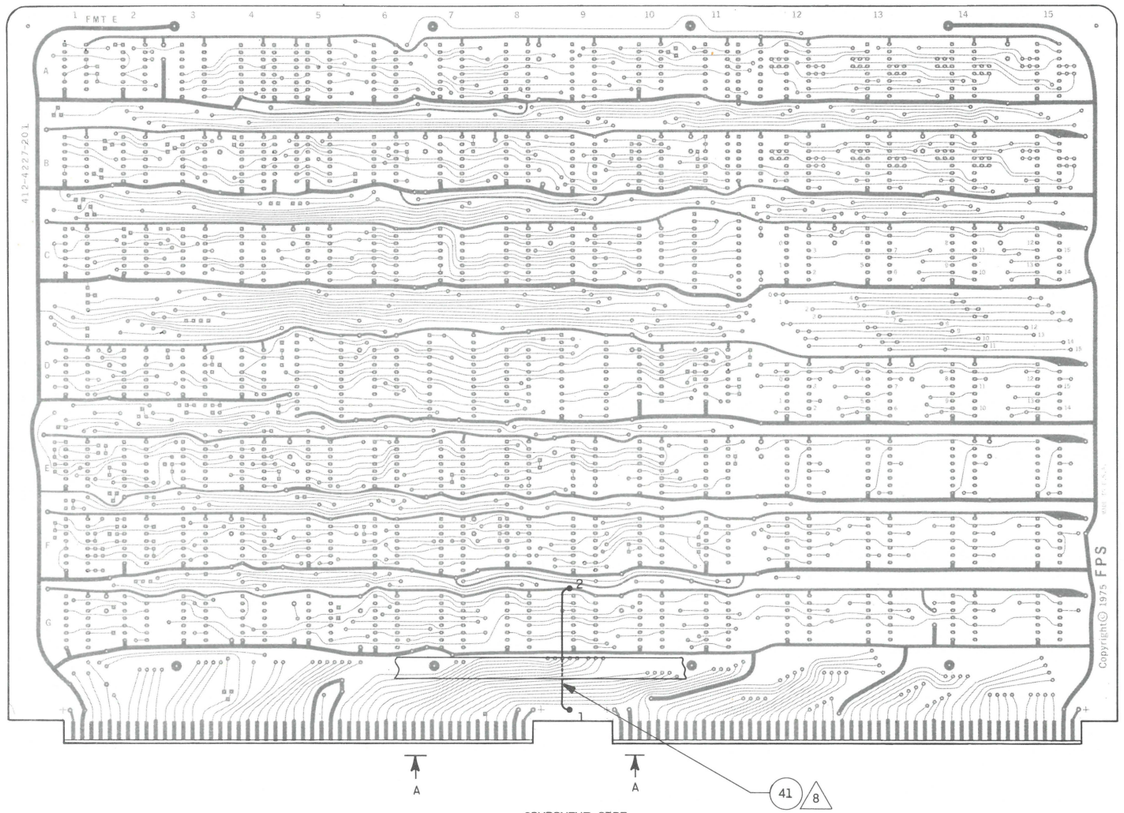
THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

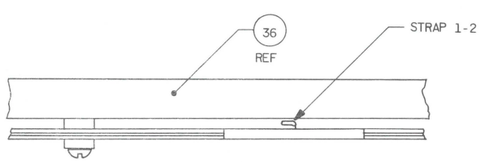
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4227-007	A
SCALE NONE		SHEET 2 OF 4	

DRAWING NO. 612-4227-007 SHT 2

F.P.S FORM NO. 4035



COMPONENT SIDE



VIEW A-A

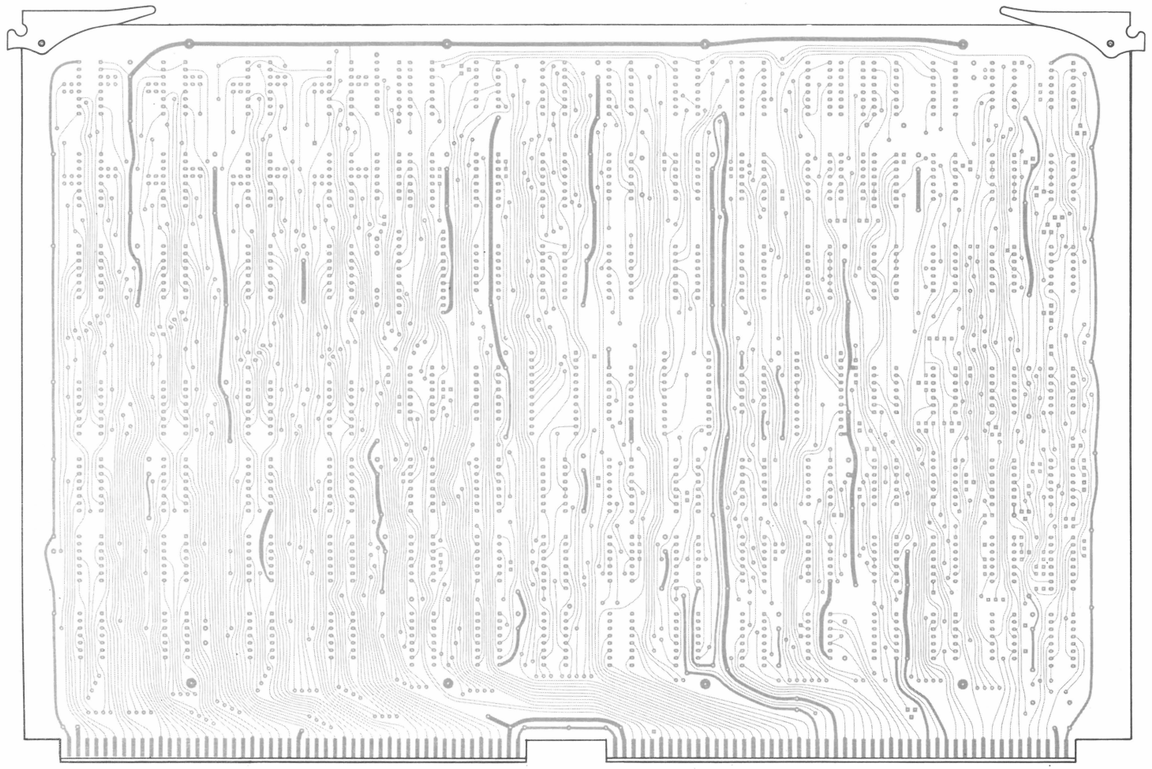
SCALE: NONE

X		1-2	A100	G7-16	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		
	8 9 10	REWORK TABLE			

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4227-007	A
SCALE NONE		SHEET 3 OF 4	

DRAWING NO. 612-4227-007 SHT 3

FORM NO. 4035

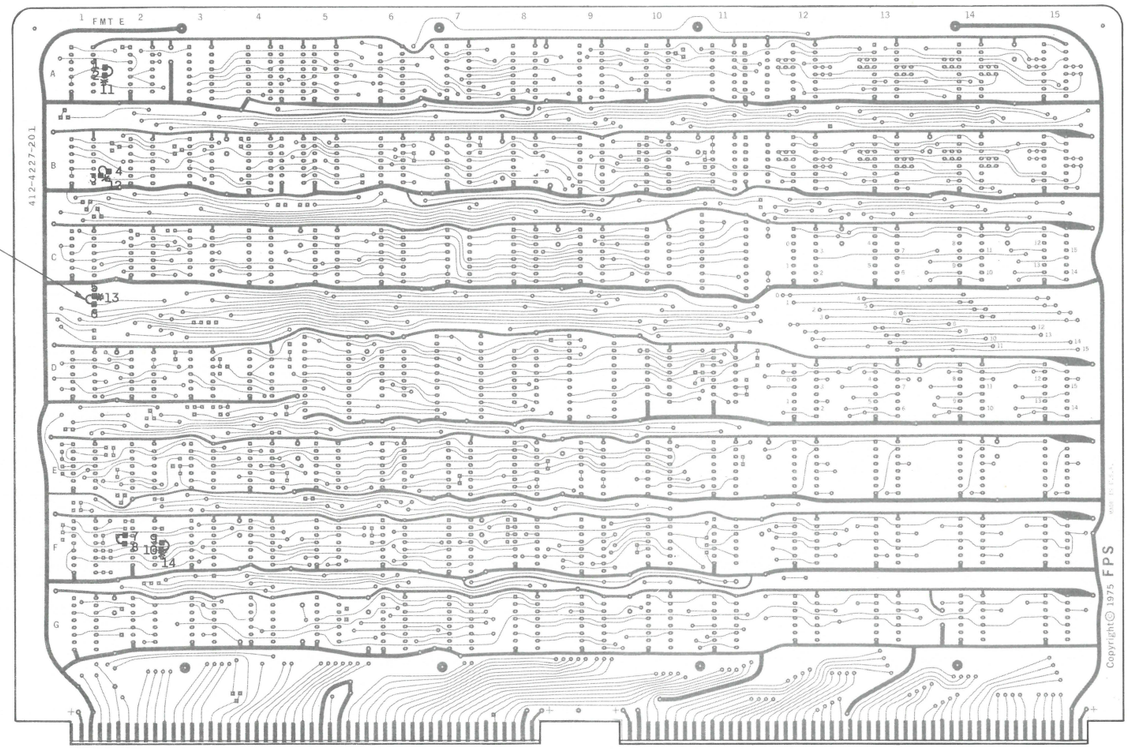


SOLDER SIDE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4227-007	A
SCALE NONE		SHEET 4 OF 4	

DRAWING NO. 612-4227-007 SHT 4

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
A	ECO 79530	LEVEL 3 RELEASE		DZA 9/9/80	WR 10/3



	X	15	FT(F2-3)	FT(F1-1)	SOLDER
	X	14	FT(F2-10)	FT(E4-8)	COMPONENT
	X	13	FT(C1-9)	FT(E2-4)	↑
	X	12	FT(B1-9)	FT(B2-9)	
	X	11	FT(A1-10)	FT(B2-3)	
X		9-10	FT(F2-11)	FT(F2-10)	
X		7-8	FT(F2-3)	FT(F2-4)	
X		5-6	FT(C1-9)	FT(E4-1)	
X		3-4	FT(B1-9)	FT(B6-4)	↓
X		1-2	FT(A1-11)	FT(A1-10)	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		

2 3 4 REWORK TABLE

4 DESIGNATION IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

3 FT DENOTES FEED-THRU HOLE.

2 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 1 AND 2. REWORK TABLE ON SHEET 1 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

1 REFER ALL ITEMS TO PARTS LIST, SAME NUMBER AS THIS DRAWING.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ———
ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———
MATERIAL: 1

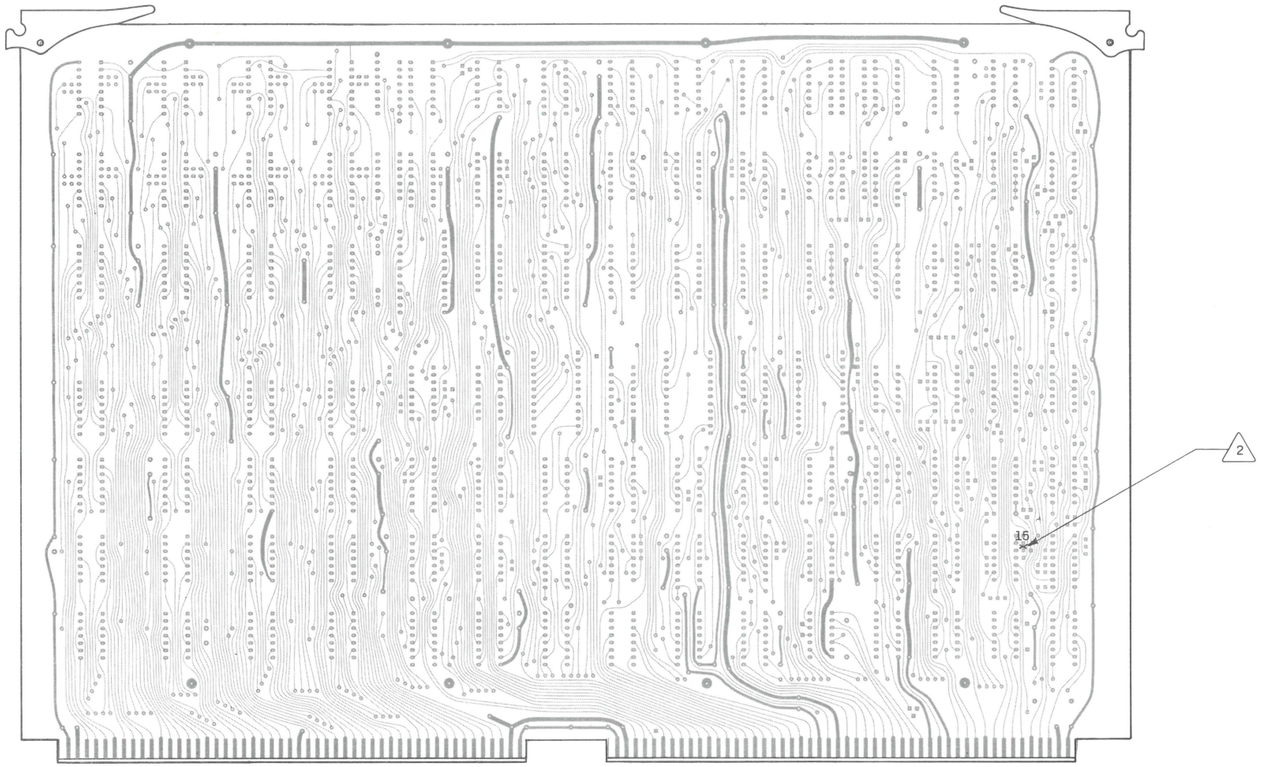
ENGR Patricia R. Shree	DATE 10-8-80
DRN BY MELISSA KIMMEL	DATE 10-3-80
CHK BY W. Dowe	DATE 10/3/80
PROD RELEASE Ken Busick	DATE 10/6/80

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
227-A,
FORMAT EXPONENT WITHOUT TRANSCEIVERS(NOVA)

SIZE	CODE IDENT. NO.	DRAWING NO.	
D	56504	612-4227-027	A
SCALE NONE		SHEET 1 OF 2	

DRAWING NO. 612-4227-027 SHT 1

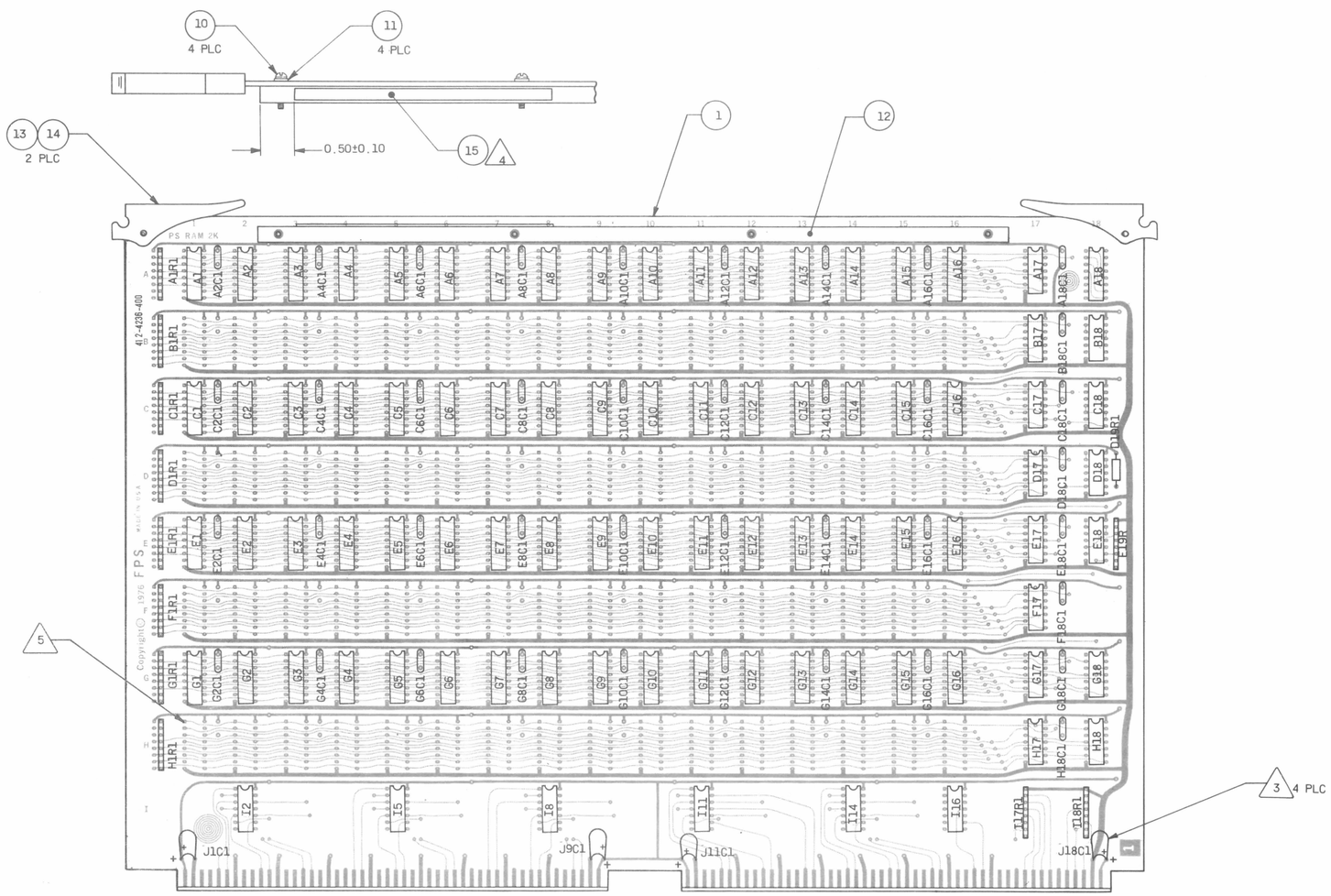


SOLDER SIDE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4227-027	A
SCALE NONE		SHEET 2 OF 2	

DRAWING NO. 612-4227-027 SHT 2

REVISIONS					
REV		DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	ECO 79112	LEVEL 2 RELEASE			
A	ECO 79373	LEVEL 3 RELEASE		DRG 7/20/79	Deb 9/21/79



COMPONENT SIDE

ITEM	* REFERENCE DESIGNATION
9	A18
8	A1,A2,A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16, C1,C2,C3,C4,C5, C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16, E1,E2,E3,E4,E5,E6,E7,E8,E9,E10, E11,E12,E13,E14,E15,E16, G1,G2,G3,G4,G5,G6,G7,G8,G9,G10,G11,G12,G13,G14, G15,G16
7	C18, D18, E18
6	A17, B17,B18, C17. D17, E17, F17, G17, G18, H17,H18, I2,I5,I8,I11,I14, I16
5	J1C1,J9C1,J11C1,J18C1
4	A2C1,A4C1,A6C1,A8C1,A10C1,A12C1,A14C1,A16C1,A18C1, B18C1, C2C1,C4C1, C6C1,C8C1,C10C1,C12C1,C14C1,C16C1,C18C1, D18C1, E2C1,E4C1,E6C1,E8C1, E10C1,E12C1,E14C1,E16C1,E18C1, F18C1, G2C1,G4C1,G6C1,G8C1,G10C1,G12C1, G14C1,G16C1,G18C1, H18C1
3	A1R1,B1R1,C1R1, D1R1, E1R1, F1R1, G1R1, H1R1, E19R1, I17R1,I18R1
2	D19R1

5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R-PAKS.
4. INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.
3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.
2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.
1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____
MATERIAL: 1

ENGR/		DATE 9-25-78
DRN BY R. S. THURMAN		DATE 11/10/78
CHK BY		DATE 12/6/78
PROD RELEASE		DATE 9/25/79

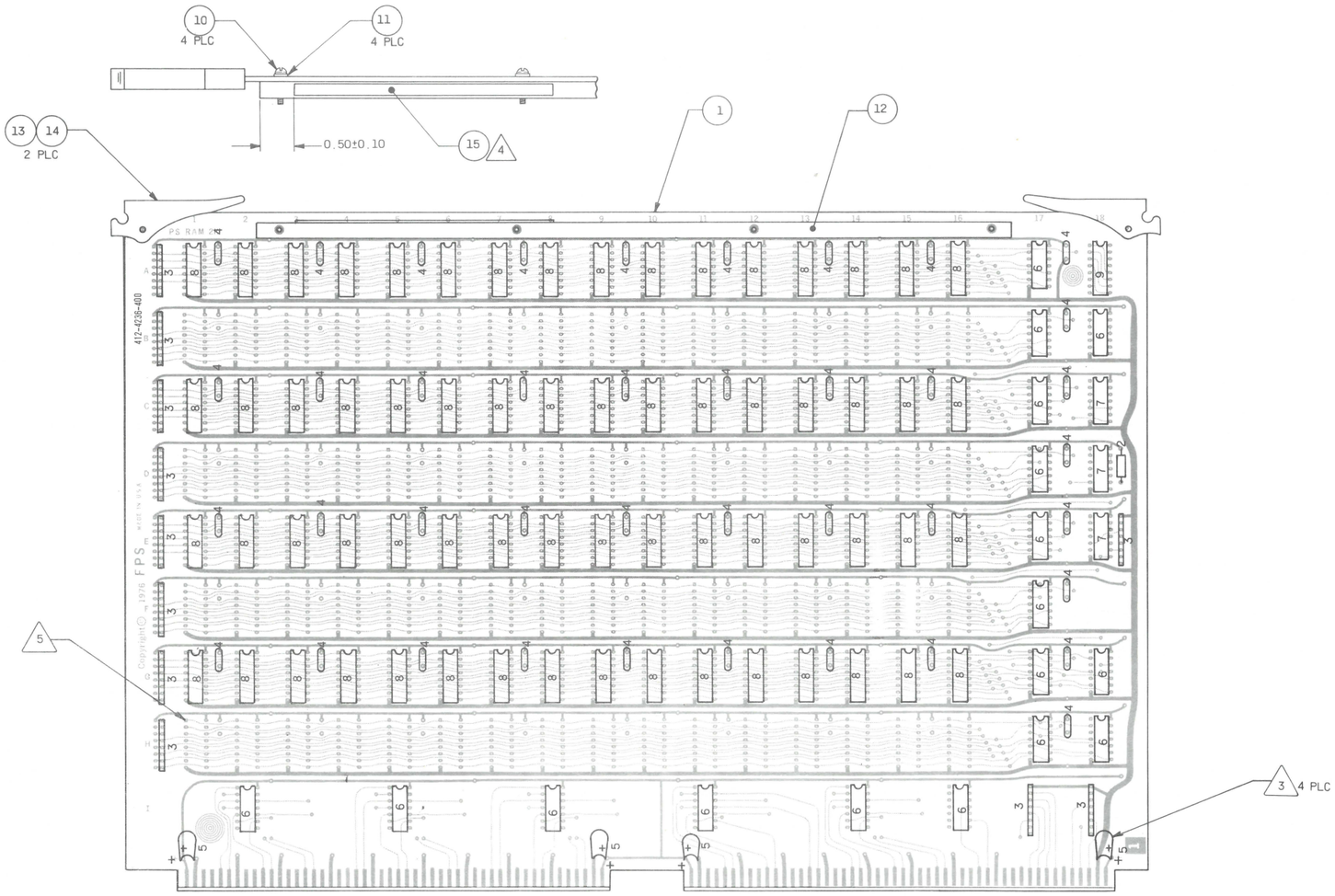
FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
236-0
PROGRAM SOURCE MEMORY, 1K,TERM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4236-003	A

SCALE NONE SHEET 1 OF 3

612-4236-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ——
ANGLES ± ——
3 PLACE DEC. ± ——
2 PLACE DEC. ± ——

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

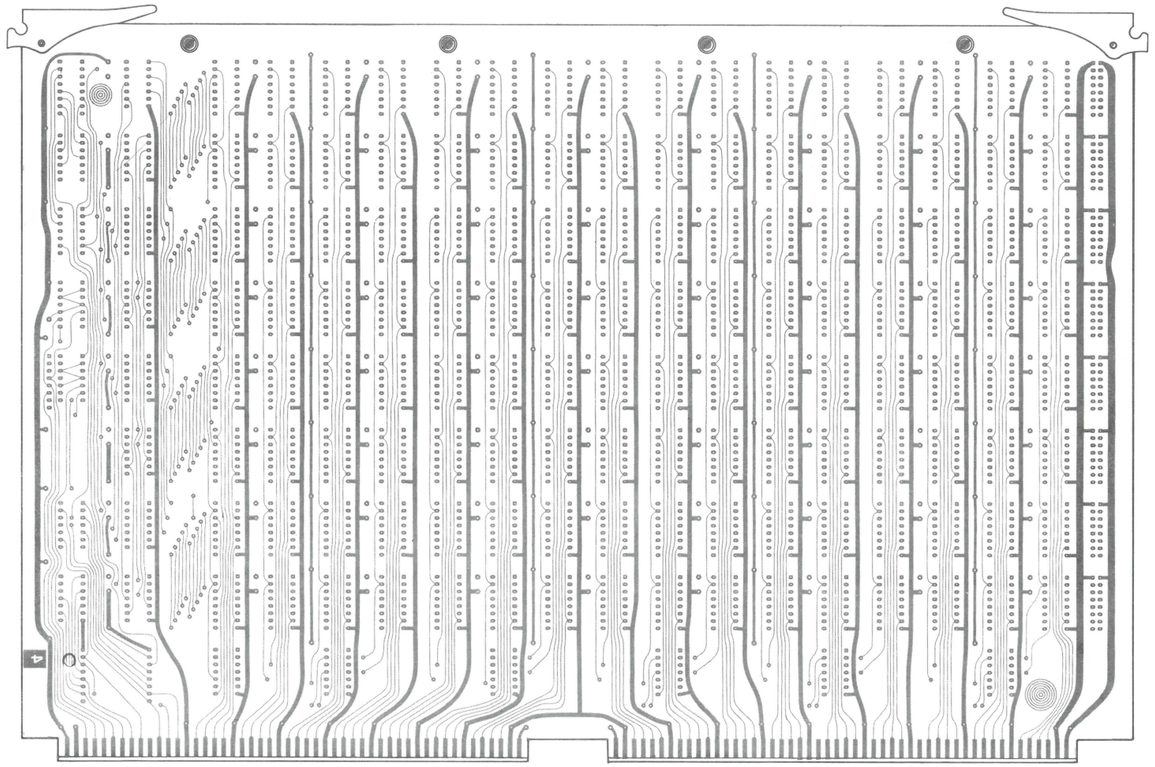
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
236-0,
PROGRAM SOURCE MEMORY, 1K,TERM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4236-003	A

SCALE NONE SHEET 2 OF 3

612-4236-002 SHT 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

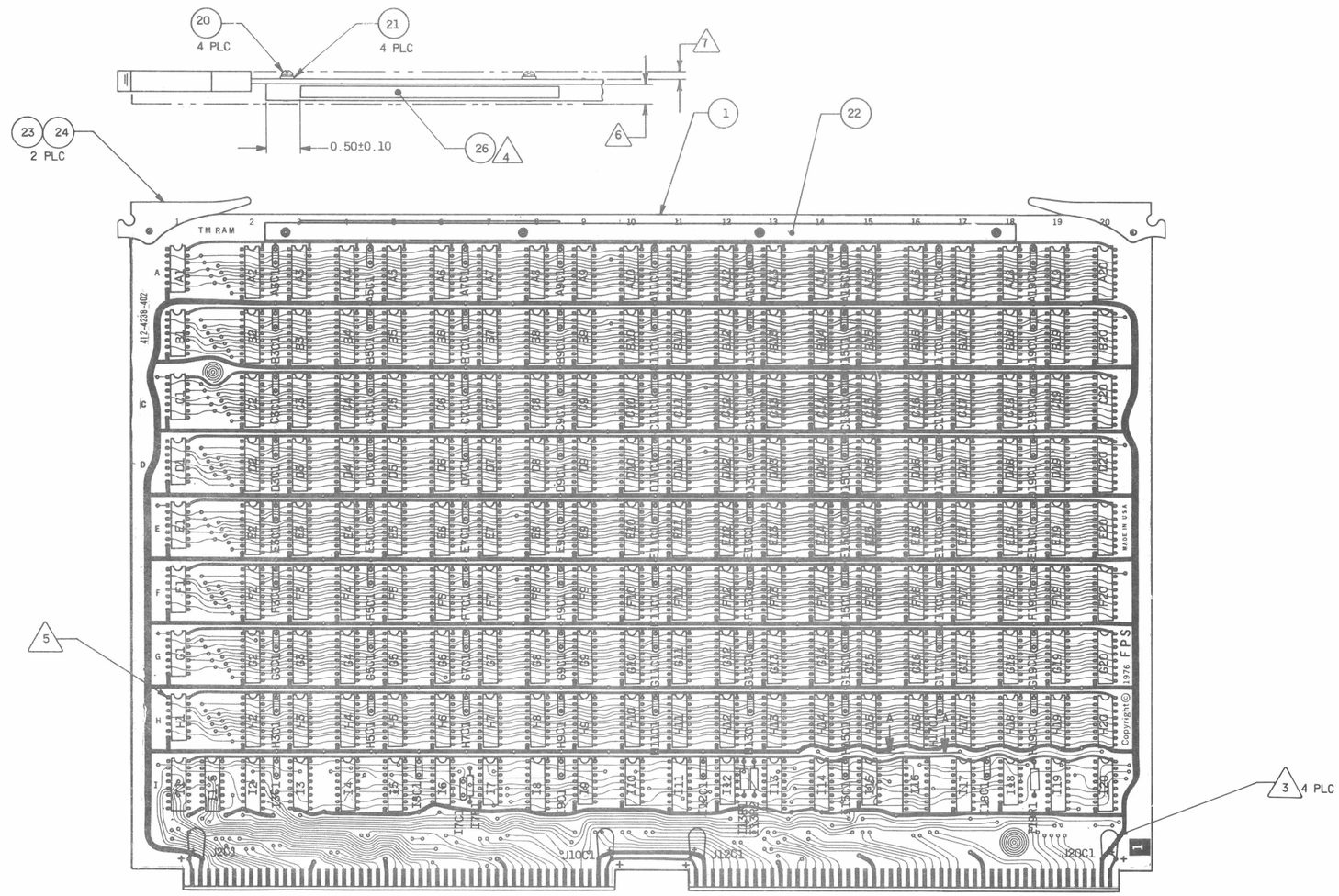
ETCH CIRCUIT BOARD ASSEMBLY
236-0
PROGRAM SOURCE MEMORY, 1K,TERM

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4236- 003	A

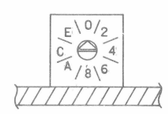
SCALE NONE SHEET 3 OF 3

612-4236-002 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
03	ECO 79118	LEVEL 2 RELEASE		10-11-79	
A	ECO 79408	LEVEL 3 RELEASE		10-11-79	10-4-79



COMPONENT SIDE



VIEW A-A
ROTATED 180° CLOCKWISE
ADJUSTMENT SCREW
SCALE: NONE

ITEM	REFERENCE DESIGNATION
19	I16
18	A2,A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16,A17,A18,A19,A20, B2,B3,B4,B5,B6,B7,B8,B9,B10,B11,B12,B13,B14,B15,B16,B17,B18,B19,B20, C2,C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20, D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12,D13,D14,D15,D16,D17,D18,D19,D20, E2,E3,E4,E5,E6,E7,E8,E9,E10,E11,E12,E13,E14,E15 E16,E17,E18,E19,E20, F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15,F16,F17,F18,F19,F20, G2,G3,G4,G5,G6,G7,G8,G9,G10,G11,G12,G13,G14,G15,G16,G17,G18,G19,G20, H2,H3,H4,H5,H6,H7,H8,H9,H10,H11,H12,H13,H14,H15,H16,H17,H18,H19,H20
17	I3,I4,I8,I11,I14,I17,I20
16	I7
15	I18
14	I1,I1.5,I2
13	I13
12	I19
11	I5
10	I9,I10
9	I12
8	A1, B1, C1, D1, E1, F1, G1, H1, I15
7	I6
6	J2C1,J10C1,J12C1,J20C1
5	I7C1
4	A3C1,A5C1,A7C1,A9C1,A11C1,A13C1,A15C1,A17C1,A19C1, B3C1,B5C1,B7C1,B9C1, B11C1,B13C1,B15C1,B17C1,B19C1, C3C1,C5C1,C7C1,C9C1,C11C1,C13C1,C15C1, C17C1,C19C1, D3C1,D5C1,D7C1,D9C1,D11C1,D13C1,D15C1,D17C1,D19C1, E3C1, E5C1,E7C1,E9C1,E11C1,E13C1,E15C1,E17C1,E19C1, F3C1,F5C1,F7C1,F9C1,F11C1, F13C1,F15C1,F17C1,F19C1, G3C1,G5C1,G7C1,G9C1,G11C1,G13C1,G15C1,G17C1, G19C1, H3C1,H5C1,H7C1,H9C1,H11C1,H13C1,H15C1,H17C1,H19C1, I3C1,I6C1, I9C1,I12C1,I15C1,I18C1
3	I13R1,I13R2,I19R1
2	I7R1

7. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

6. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4. INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ± 0.005
2 PLACE DEC. ±____

MATERIAL:

1

ENGR	W.H. Methven	DATE 10-11-79
DRN BY	R. S. THURMAN	DATE 11/14/78
CHK BY	M.J. Bru	DATE 11/28/78
PROD RELEASE	Ken Barnik	DATE 10-11-79

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

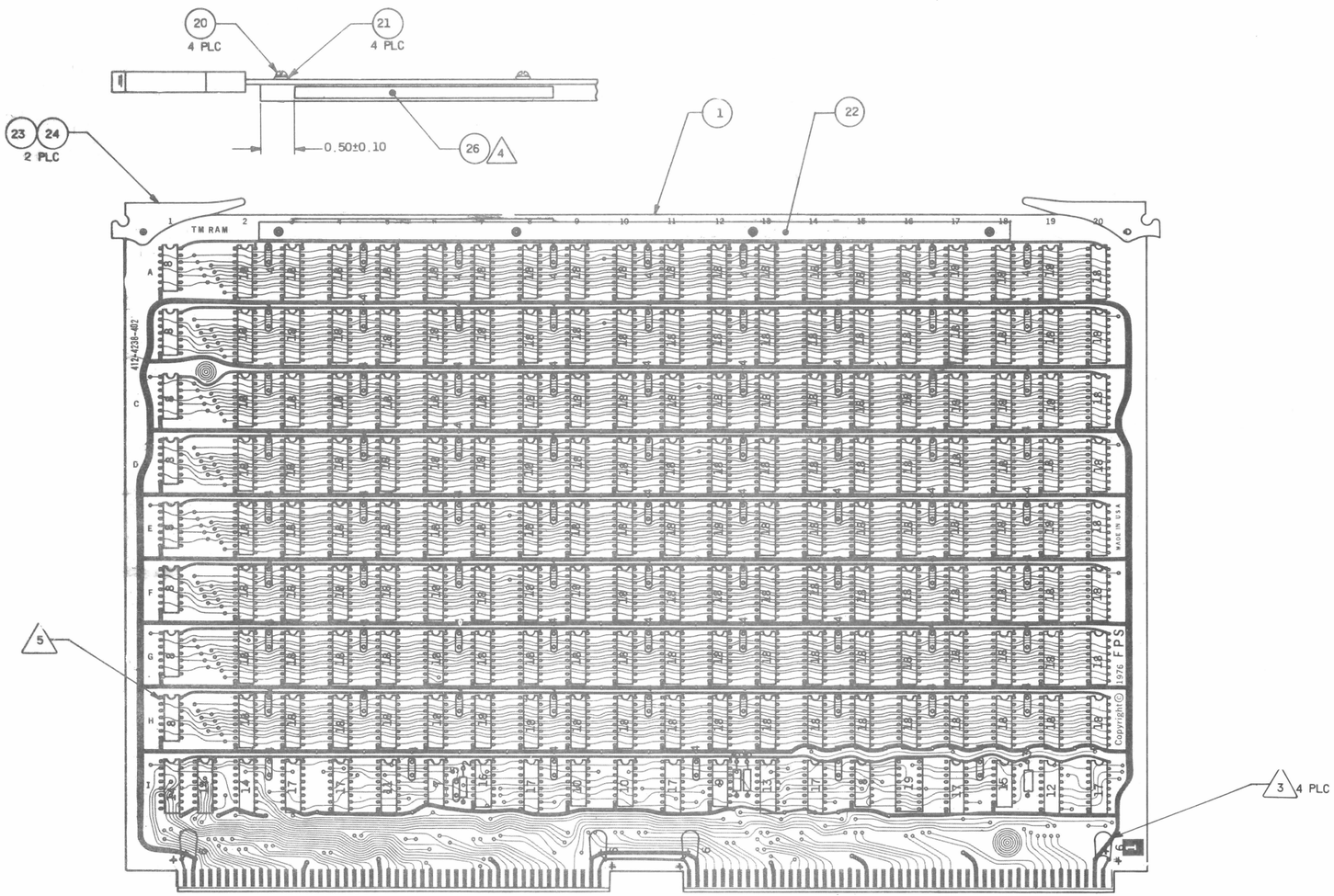
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (FULL, 4K)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4238-005	A

SCALE NONE SHEET 1 OF 3

612-4238-005 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE	
DRN BY	DATE	
CHK BY	DATE	
PROD RELEASE	DATE	

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

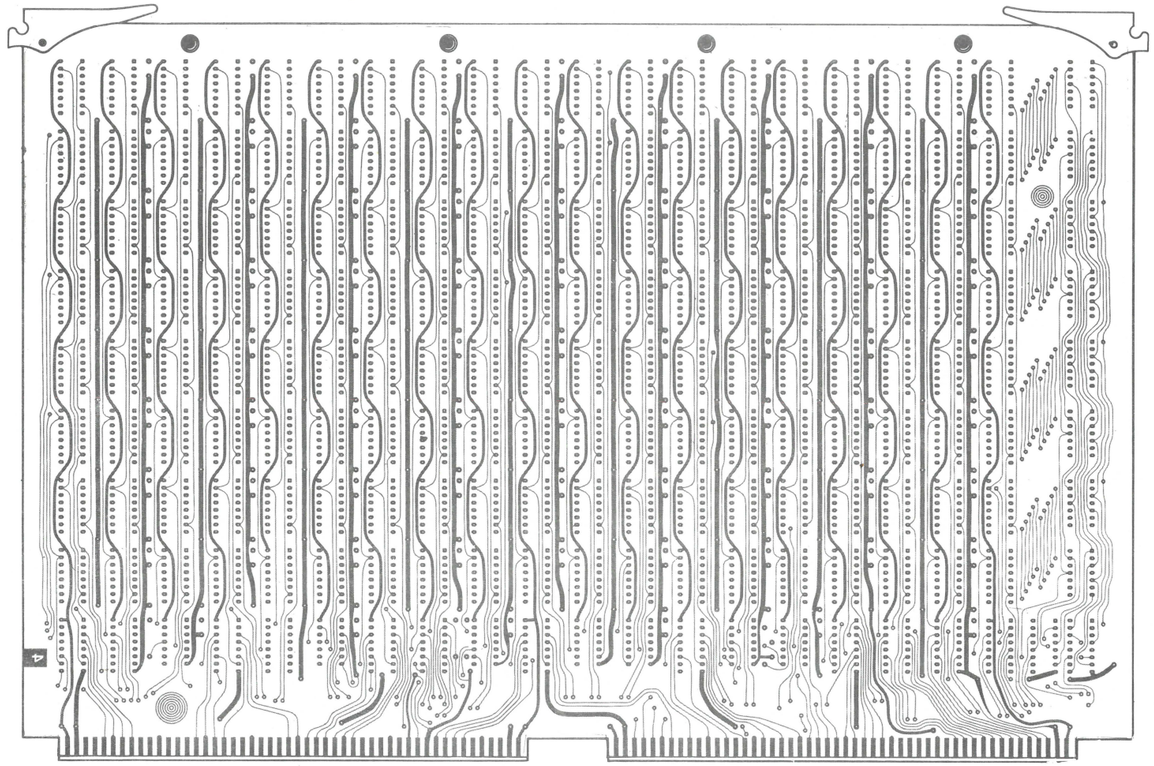
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (FULL,4K)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4238-005	A

SCALE NONE SHEET 2 OF 3

612-4238-005 SH 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ±____
2 PLACE DEC. ±____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

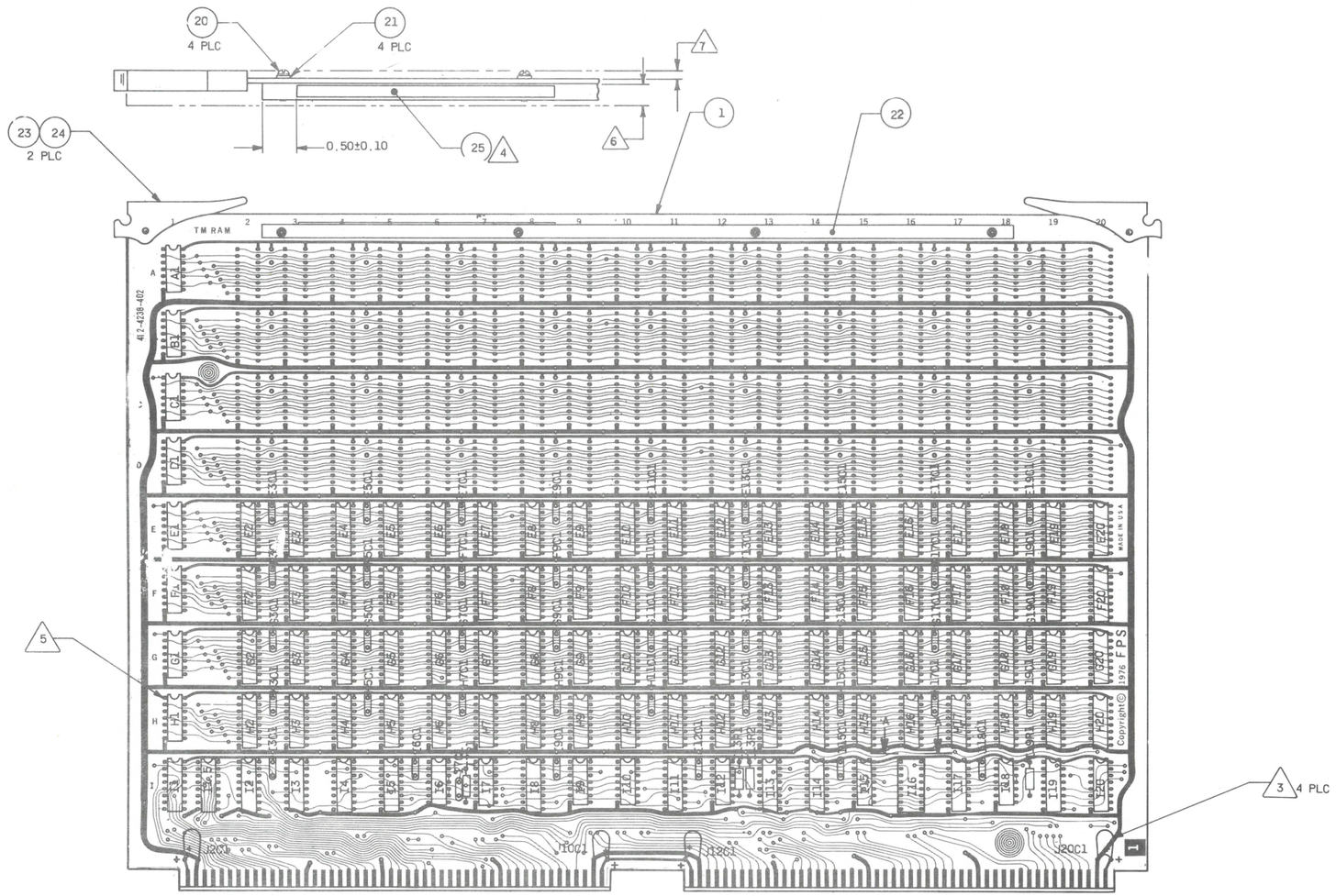
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (FULL, 4K)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4238-005	A

SCALE NONE SHEET 3 OF 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
03	ECO 79118	LEVEL 2 RELEASE		GTB 4/19	
A	ECO 79408	LEVEL 3 RELEASE		PC 10-11-79	CH 10-4-79



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
19	I16
18	E2,E3,E4,E5,E6,E7,E8,E9,E10,E11,E12,E13,E14,E15,E16,E17,E18,E19, E20, F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15,F16,F17,F18, F19,F20, G2,G3,G4,G5,G6,G7,G8,G9,G10,G11,G12,G13,G14,G15,G16,G17, G18,G19,G20, H2,H3,H4,H5,H6,H7,H8,H9,H10,H11,H12,H13,H14,H15,H16, H17,H18,H19,H20,
17	I3,I4,I8,I11,I14,I17,I20
16	I7
15	I18
14	I1,I1.5,I2
13	I13
12	I19
11	I5
10	I9,I10
9	I12,
8	A1, B1, C1, D1, E1, F1, G1, H1, I15
7	I6
6	J2C1,J10C1,J12C1,J20C1
5	I7C1
4	E3C1,E5C1,E7C1,E9C1,E11C1,E13C1,E15C1,E17C1,E19C1, F3C1,F5C1,F7C1,F9C1, F11C1,F13C1,F15C1,F17C1,F19C1, G3C1,G5C1,G7C1,G9C1,G11C1,G13C1,G15C1, G17C1,G19C1, H3C1,H5C1,H7C1,H9C1,H11C1,H13C1,H15C1,H17C1,H19C1, I3C1, I6C1,I9C1,I12C1,I15C1,I18C1
3	I13R1,I13R2,I19R1
2	I7R1

7 COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

6 COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

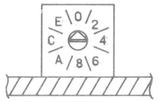
4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING

OTES: UNLESS OTHERWISE SPECIFIED



VIEW A-A
ROTATED 180° CLOCKWISE
ADJUSTMENT SCREW
SCALE: NONE

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ____

MATERIAL:

1

ENGR		DATE 10-4-79
DRN BY	R.S. THURMAN	DATE 11/17/78
CHK BY	My Pui	DATE 12/6/78
PROD RELEASE	Ken Brick	DATE 10-11-79

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

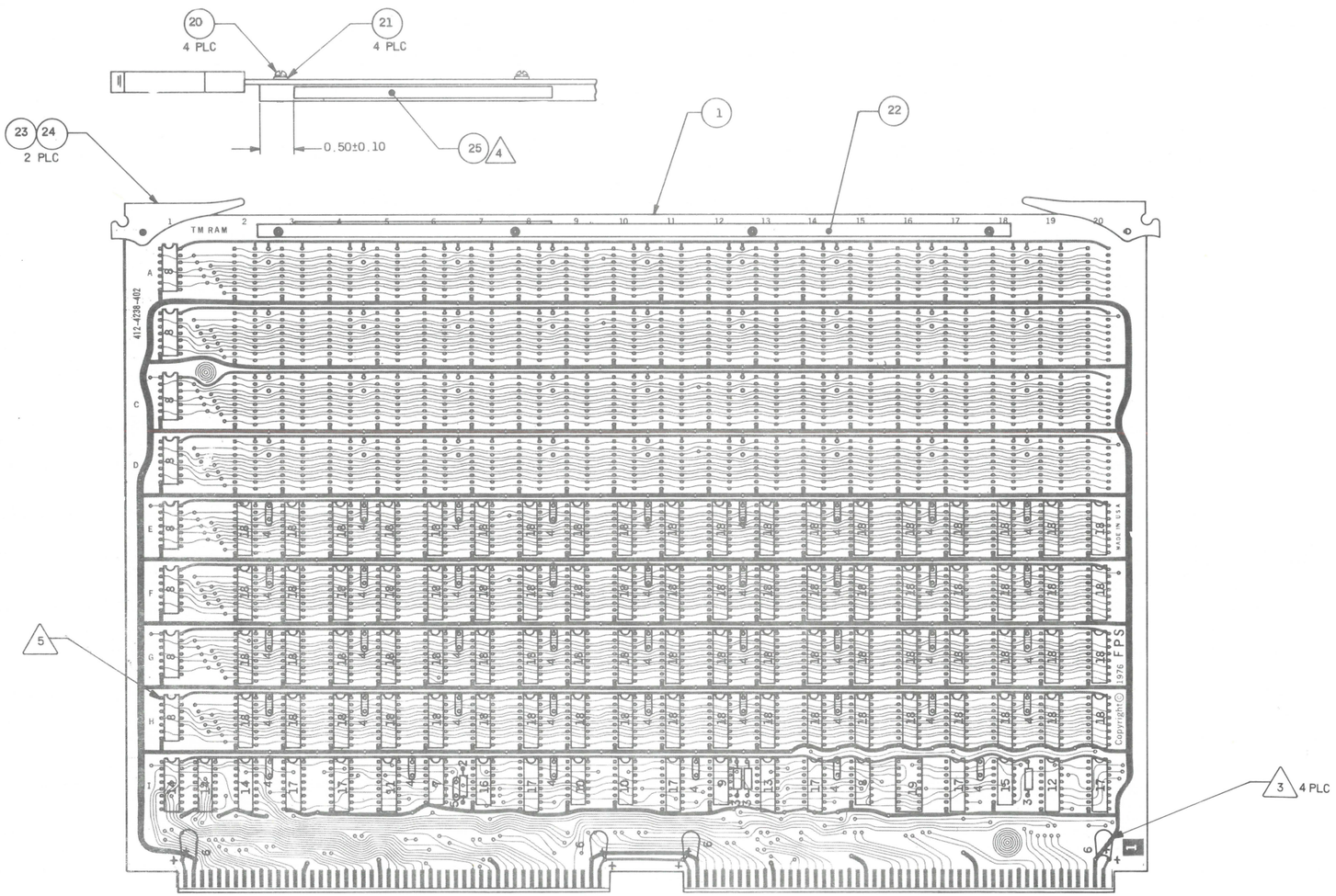
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (1/2,2K)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4238-007	A

SCALE NONE SHEET 1 OF 3

612-4238-007



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

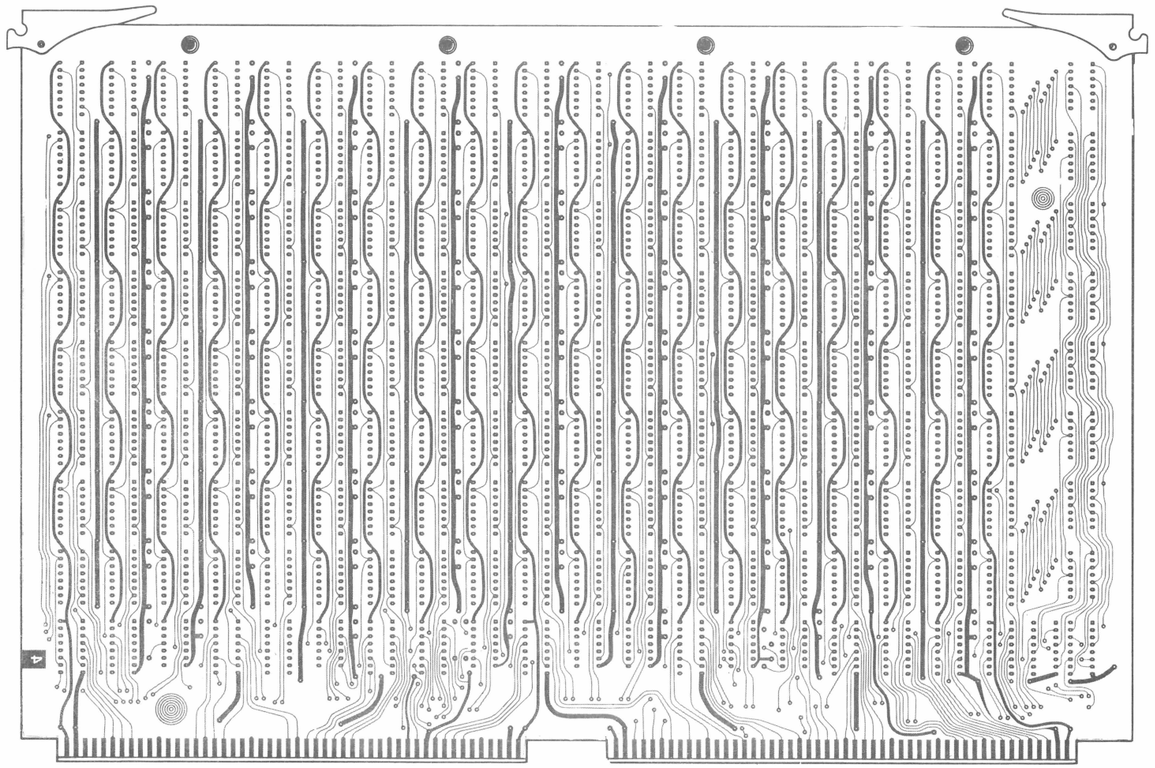
FPS FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (1/2,2K)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4238-007	A

SCALE NONE SHEET 2 OF 3

612-4238-007 SH 2



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FPS FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE

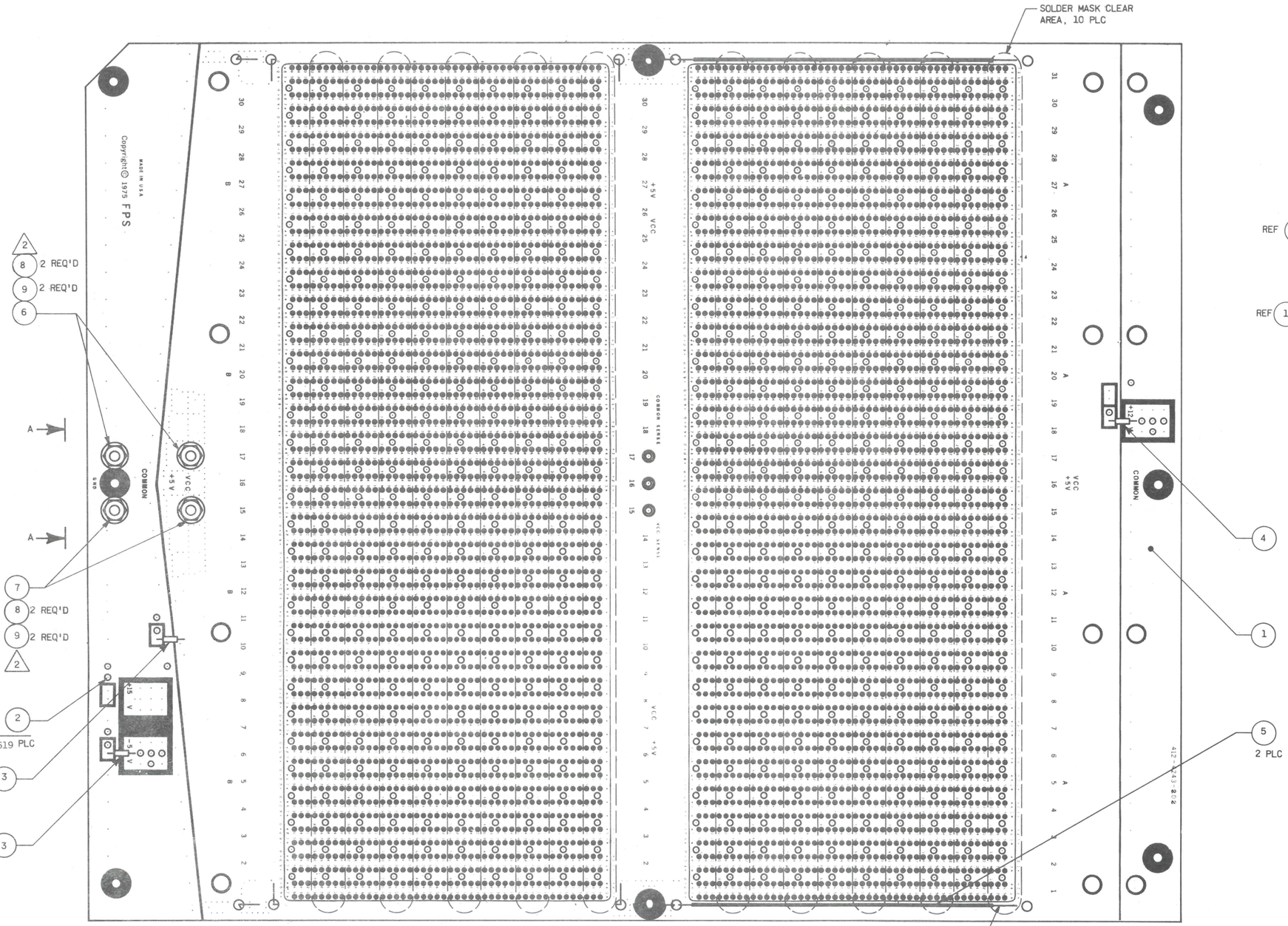
ETCH CIRCUIT BOARD ASSEMBLY,
238B,
TABLE MEMORY RAM (1/2,2K)

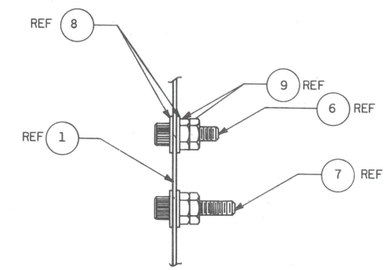
SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4238-007	A

SCALE NONE SHEET 3 OF 3

612-4238-007 SHT 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
A	ECO 81579	ACTIVATE DWG LEVEL 3 RELEASE		8-31-81	





VIEW A-A
SCALE - FULL

NOTE; UNLESS OTHERWISE SPECIFIED:

1. REFER ALL ITEM NUMBERS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.
2. SOLDER BOTH SIDES AFTER ASSEMBLY 4 PLACES, EXCEPT EXPOSED THREADS.
3. ALL TERMINATIONS TO BE LAP SOLDERED.
4. IDENTIFY BY TAGGING PER FPS STD 10.018.

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± 1/16
ANGLES ± —
3 PLACE DEC. ± —
2 PLACE DEC. ± —
MATERIAL:

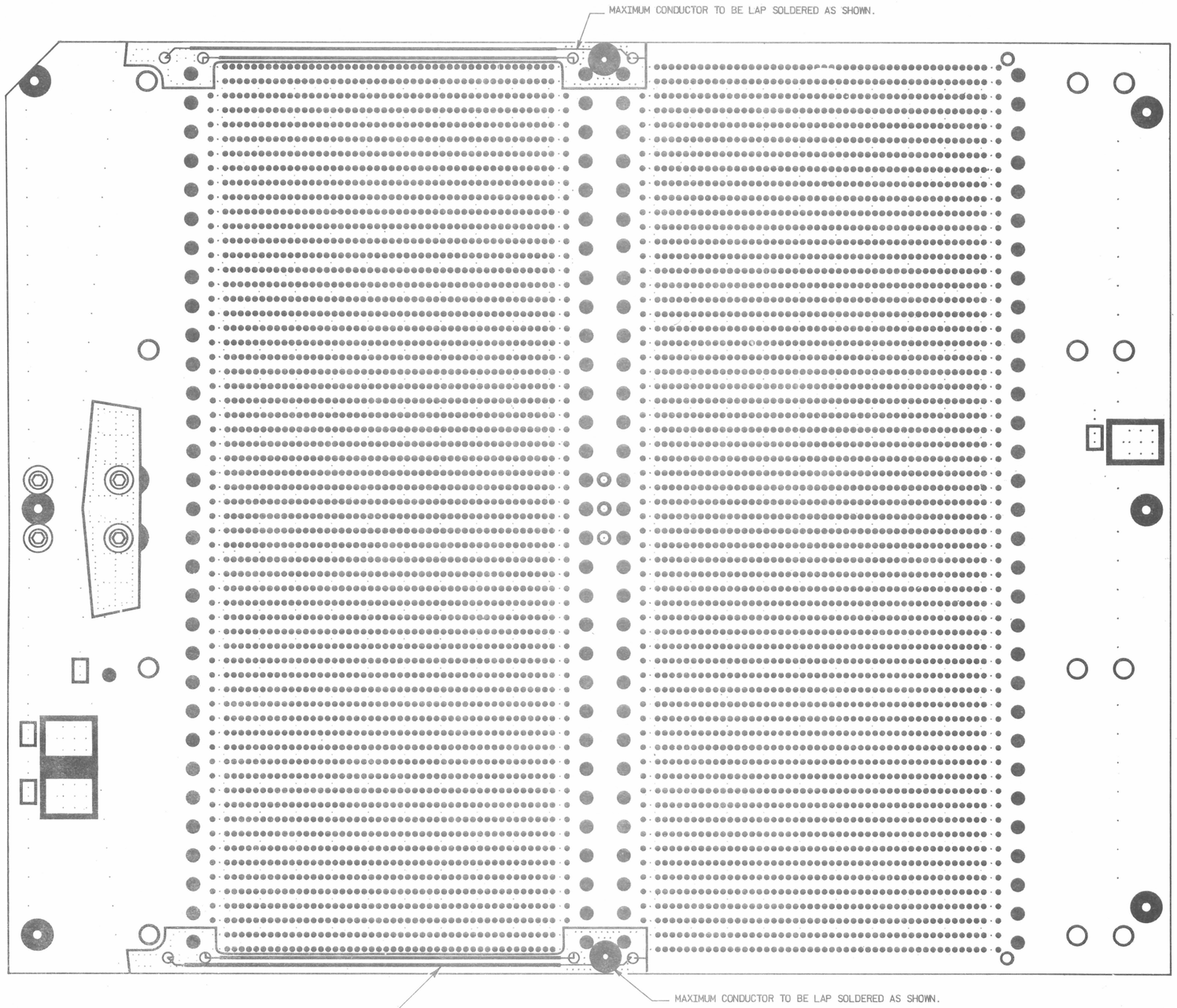
ENGR	[illegible]	DATE 8-31-79
DRN BY	GREG MARTIN	DATE 12-12-78
CHK BY	[illegible]	DATE 12-27-78
PROD RELEASE	Rick Davis	DATE 8-31-79

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
UNIVERSAL BACKPLANE ASSEMBLY, (31 CARD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4243-002	A
SCALE NONE		SHEET 1 OF 2	

612-4243-002 SH 1



BACK SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ——
ANGLES ± ——
3 PLACE DEC. ± ——
2 PLACE DEC. ± ——

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

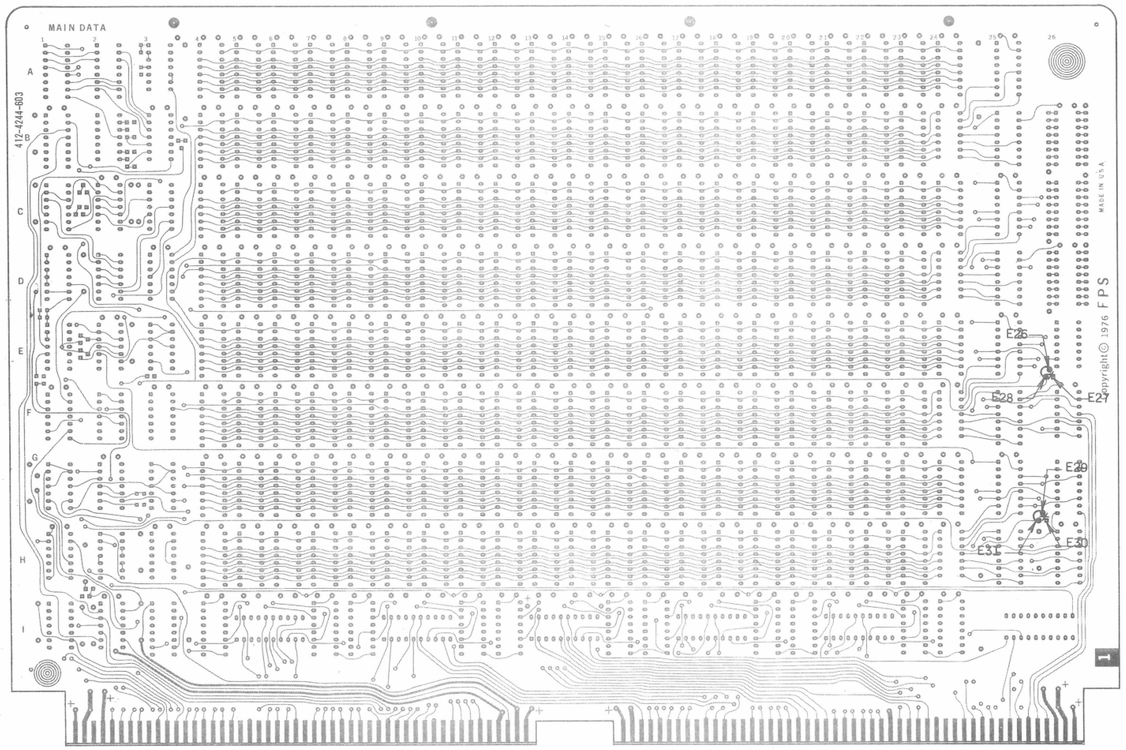
UNIVERSAL BACKPLANE ASSEMBLY, (31 CARD)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4243-002	A

SCALE NONE SHEET 2 OF 2

612-4243-002 SHT 2

REVISIONS					
REV	ECO NO	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN #7	INITIAL RELEASE LEVEL 1		JLH 27Feb79	2-27-79
02	EN#41	LEVEL 2 RELEASE		3/14/79	
A	ECO 79405	LEVEL 3 RELEASE		10-2-79	Deb 9/20
B	ECO 80026	ADD ASSY. REF. TABLE		4-25-80	4/23



COMPONENT SIDE

ASSY DWG NO	REV	TITLE
612-4244-119		ECB ASSY, 244-C, 32K, STD, UNTERMN
612-4244-120		ECB ASSY, 244-C, 32K, STD, TERMN
612-4244-123		ECB ASSY, 244-C, 32K, FST, UNTERMN
612-4244-124		ECB ASSY, 244-C, 32K, FST, TERMN
612-4244-127		ECB ASSY, 244-C, 64K, STD, UNTERMN
612-4244-128		ECB ASSY, 244-C, 64K, STD, TERMN
612-4244-131		ECB ASSY, 244-C, 64K, FST, UNTERMN
612-4244-132		ECB ASSY, 244-C, 64K, FST, TERMN
612-4244-133		ECB ASSY, 244-C, 32K, STD, TERMN
612-4244-139		ECB ASSY, 244-C, 32K, FST, UNTERMN
612-4244-140		ECB ASSY, 244-C, 32K, FST, TERMN
612-4244-141		ECB ASSY, 244-C, 64K, FST, UNTERMN
612-4244-142		ECB ASSY, 244-C, 64K, FST, TERMN

ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		
1	2				
	X		E26	E27	COMPONENT
	X		E29	E30	COMPONENT
X			E29	E31	COMPONENT
X			E26	E28	COMPONENT

REWORK TABLE

2 FT DENOTES FEED THRU HOLE.

1 MODIFY WITH CUTS AND STRAPS AS SHOWN ON REWORK TABLE. CONTINUITY CHECK POINTS MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

NOTE: UNLESS OTHERWISE SPECIFIED

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NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ——
ANGLES ± ——
3 PLACE DEC. ± ——
2 PLACE DEC. ± ——
MATERIAL:

ENGR		DATE 10-2-79
DRN BY	C. Panter	DATE 11-2-78
CHK BY	Rocker	DATE 2-8-79
PROD-RELEASE		DATE 10-2-79

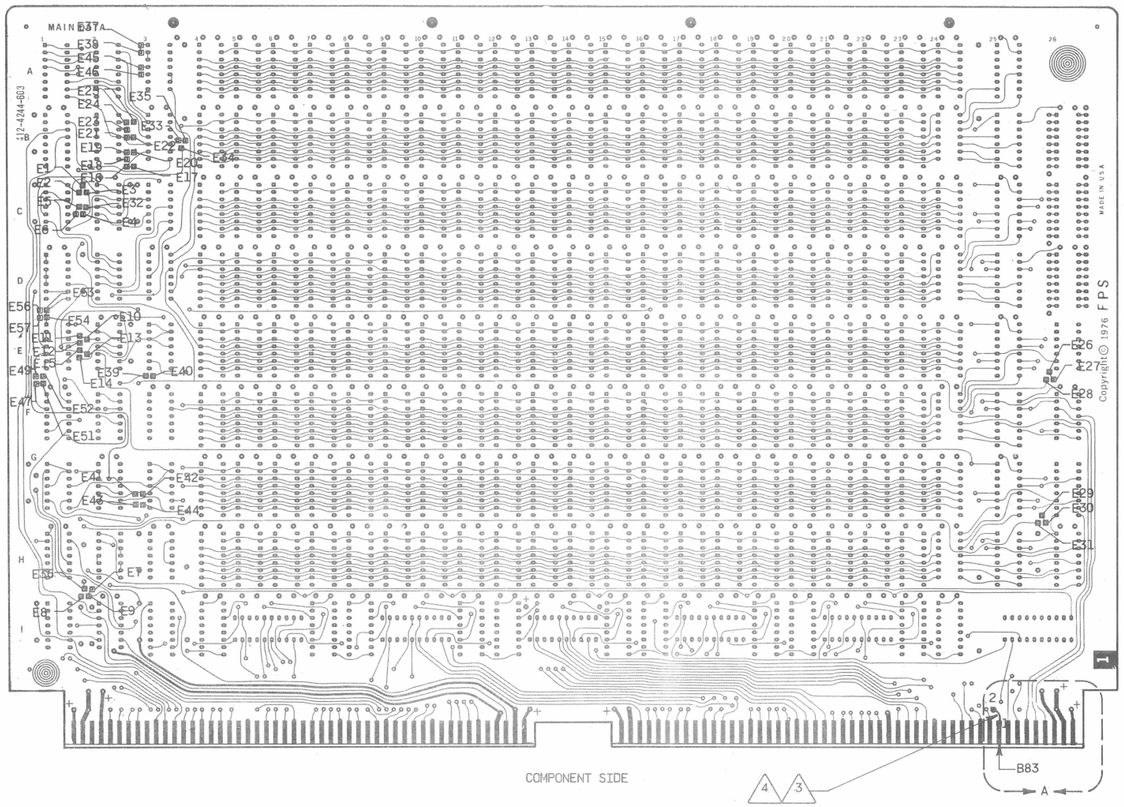
FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
16K RAM MODIFICATION REFERENCE DRAWING
(32K AND 64K BOARDS ONLY)
244C MAIN DATA

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	810-0020-007	B
SCALE		SHEET 1 OF 1	

810-0020-007 SHT 1

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#7	INITIAL RELEASE LEVEL I		JLH 27Feb79	Ari. 2-27-79
02	EN #41	LEVEL 2 RELEASE		JH 3/14/79	[illegible]
A	ECO 79405	LEVEL 3 RELEASE		DRJ 10-2-79	Oct 9/20
B	ECO 80038	ADD NOTE 3; MISSING ETCH STRAP	A8,A6 B4,A1	[illegible] 2-19-80	[illegible] 2-14-80



1. TABLE #1: BASIC CUTS

MEMORY SIZE			
8K	16K	32K	64K
E1-E2		E5-E6	E1-E2
E5-E6		E7-E9	E5-E6
E7-E9			E7-E9
E33-E35			

2. TABLE #2: BASIC STRAPS

MEMORY SIZE			
8K	16K	32K	64K
E1-E6			E1-E3
E5-E32		E4-E5	E4-E5
E7-E36		E7-E36	E7-E8
E33-E34			

3. TABLE #3: LOW ORDER TWO BITS OF MEMORY SWITCHES

BOARD SIZE	BASE ADDRESS							
	0K	8K	16K	24K	32K	40K	48K	56K
8K	00	01	10	11	00 △1	01 △1	10 △1	11 △1
16K	00	X	01	X	10	X	11	X
32K	00	X	X	X	10	X	X	X
64K	00	X	X	X	X	X	X	X

X = ILLEGAL BASE ADDRESS

4. TABLE #4: PAGE SELECT OPTION STRAPPING △2

PAGE (OCTAL)	HIGH ORDER TWO BITS OF SWITCHES	CUTS	STRAPS
0	00		
1	01		
2	10		
3	11		
4	00	E21-E22	E21-E23, E24-E25
5	01		
6	10		
7	11		
10	00	E16-E17	E16-E18, E19-E20
11	01		
12	10		
13	11		
14	00	E16-E17, E21-E22	E16-E18, E19-E20, E21-E23, E24-E25
15	01		
16	10		
17	11		

HOW TO USE THE INFORMATION ON THIS DRAWING:

1. FROM TABLE #1, MAKE THE DESIGNATED CUTS BASED ON THE SIZE OF THE MEMORY BOARD.
2. FROM TABLE #2, MAKE THE DESIGNATED STRAPS BASED ON THE SIZE OF THE MEMORY BOARD.
3. MODIFICATIONS AND SWITCH SELECTIONS FROM TABLES #3 AND #4 ARE TO BE MADE ONLY BY THE TEST DEPARTMENT.
4. MODIFICATIONS DETAILED ON THIS DRAWING DEAL ONLY WITH ADDRESSING. MODIFICATIONS DEALING WITH MEMORY CHIP SPEED AND SIZE ARE DETAILED ON OTHER DRAWINGS CONTAINED IN THE BILL OF MATERIALS FOR THE SPECIFIC BOARD.

△7 DESIGNATIONS IN PARENTHESIS "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

△6 FT DENOTES FEED-THRU HOLES.

△5 MODIFY WITH STRAP AS SHOWN. REWORK TABLE PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATION.

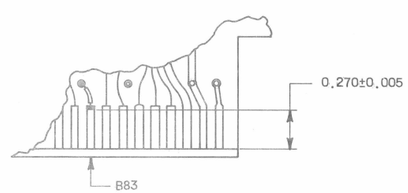
△4 SOLDER WIRE TO END OF EDGE CONNECTOR; FOR TOLERANCE SEE VIEW -A-

△3 BOARDS NOT HAVING ETCH AT INDICATED LOCATION MUST BE STRAPPED WITH 28 AWG SOLID WIRE.

△2 UNITS NOT HAVING THE PAGE SELECT OPTION MUST SELECT MODIFICATIONS AND SWITCH BIT SELECTIONS FROM THE PAGE 0 ROW OF TABLE #4.

△1 FOR 8K BOARDS TO OCCUPY BASE ADDRESS OF 32K,40K,48K, OR 56K, THE FOLLOWING ADDITIONAL MODIFICATIONS ARE NECESSARY:
1. REMOVE THE STRAP E33-E34
2. STRAP E34 TO CHIP E1 PIN 13
3. STRAP E33 TO CHIP E1 PIN 12

NOTES; UNLESS OTHERWISE SPECIFIED:



VIEW -A-
SCALE: NONE

X		1-2	EDGE CONN. B-83	F.T. (I12-4)	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
△3	△5	△6	△7	CONTINUITY CHECK POINTS	

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ——
ANGLES ± ——
3 PLACE DEC. ± ——
2 PLACE DEC. ± ——
MATERIAL:

ENGR	Wayne A. Mathes	DATE 10-2-79
DRN BY	R.L. KING	DATE 10-16-78
CHK BY	Bob Pecker	DATE 2-8-79
PROD-RELEASE	Ken Rudick	DATE 10-2-79

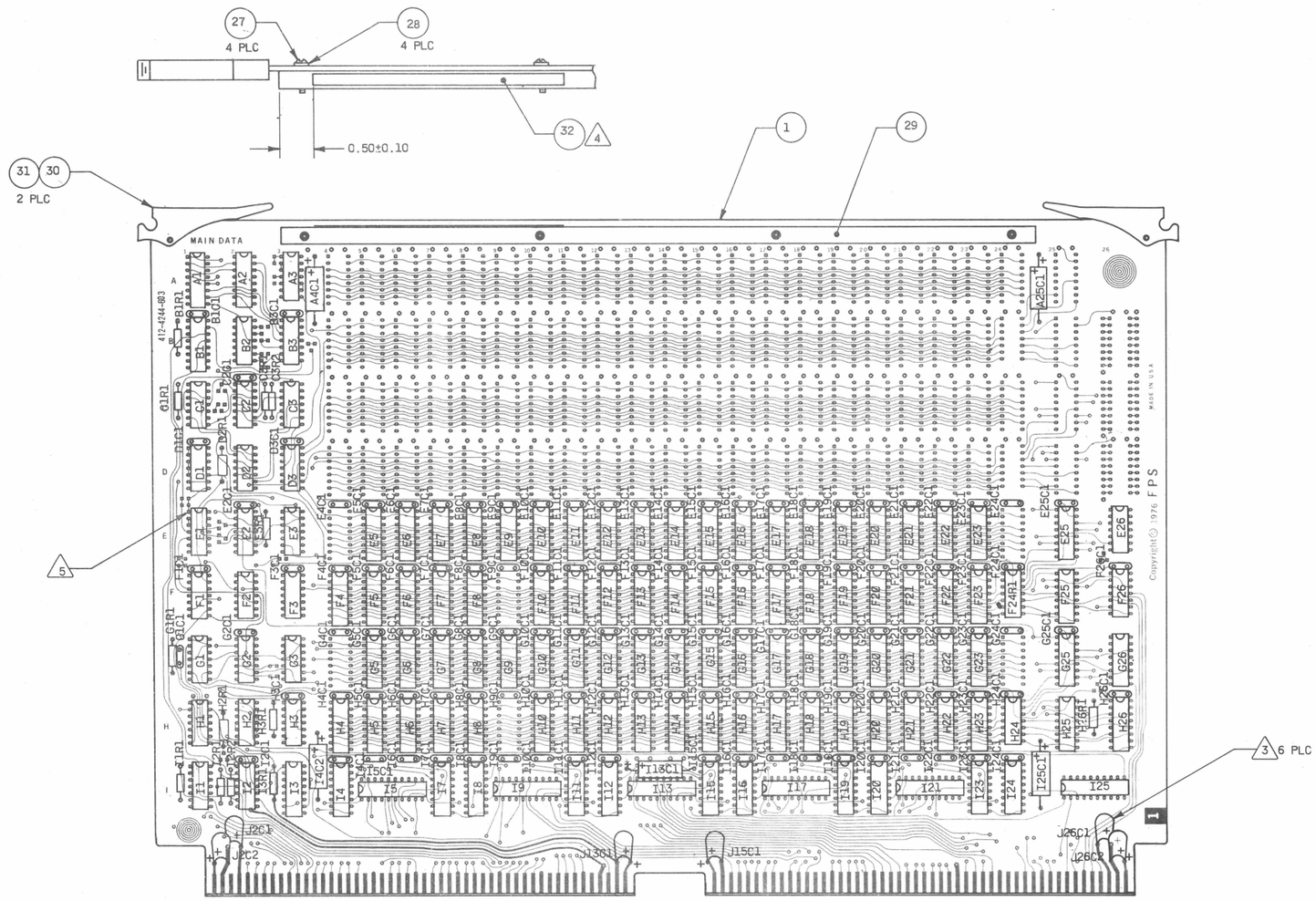
FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
STRAP OPTION, REFERENCE DRAWING
244C

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	810-0020-008	B

SCALE FULL SHEET 1 OF 1

810-0020-008 SH 1



COMPONENT SIDE

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
A	ECO 80026	LEVEL 3 RELEASE		4-25-80	4/25

ITEM	REFERENCE DESIGNATION
44	I1R1
43	I2R1,I2R2
42	B1R1, C1R1,C3R1,C3R2
34	E5,E6,E7,E8,E9,E10,E11,E12,E13,E14,E15,E16,E17,E18,E19,E20,E21,E22,E23, F4,F5,F6,F7,F8,F10,F11,F12,F13,F14,F15,F16,F17,F18,F19,F20,F21,F22,F23, G5,G6,G7,G8,G9,G10,G11,G12,G13,G14,G15,G16,G17,G18,G19,G20,G21,G22,G23, H4,H5,H6,H7,H8,H10,H11,H12,H13,H14,H15,H16,H17,H18,H19,H20,H21,H22,H23
33	H1
26	A1,A2
25	G26, H26, I3,I4,I7,I8,I11,I12,I15,I16,I19,I20,I23,I24
24	C3, E3
23	G3, H3
22	C2, D2, E2, F2, G2
21	I5,I9,I13,I17,I21,I25
20	I1
19	B3
18	E25, F25, G25, H25
17	B1
16	F1, G1
15	B2, E1,E26, F26, I2
14	C1, D1
13	A3, H2
12	J2C1,J2C2,J13C1,J15C1,J26C1,J26C2
11	A4C1,A25C1,I4C2, I13C1,I25C1
10	G1C1
9	B1C1,B3C1, C2C1, D1C1,D3C1, E2C1,E4C1,E6C1,E7C1,E9C1,E10C1,E12C1,E13C1, E15C1,E16C1,E18C1,E19C1,E21C1,E22C1,E24C1,E25C1, F1C1,F3C1,F4C1,F5C1, F7C1,F8C1,F10C1,F11C1,F13C1,F14C1,F16C1,F17C1,F19C1,F20C1,F22C1,F23C1, F26C1, G2C1,G5C1,G6C1,G8C1,G9C1,G11C1,G12C1,G14C1,G15C1,G17C1,G18C1, G20C1,G21C1,G23C1,G24C1,G25C1, H3C1,H4C1,H6C1,H7C1,H9C1,H10C1, H12C1,H13C1,H15C1,H16C1,H18C1,H19C1,H21C1,H22C1,H24C1,H26C1, I2C1,I4C1 I5C1,I7C1,I8C1,I10C1,I11C1,I16C1,I17C1,I19C1,I20C1,I22C1,I23C1
8	E5C1,E8C1,E11C1,E14C1,E17C1,E20C1,E23C1, F6C1,F9C1,F12C1,F15C1,F18C1, F21C1,F24C1, G4C1,G7C1,G10C1,G13C1,G16C1,G19C1,G22C1 H5C1,H8C1,H11C1, H14C1,H17C1,H20C1,H23C1, I6C1,I9C1,I12C1,I15C1,I18C1,I21C1,I24C1
7	F24, H24
6	D3, F3
5	I3R1
4	G1R1
3	H3R1
2	E3R1, H26R1,H2R1, D2R1

1

ASSY DWG NO	REV	TITLE
612-4244-102		ECB ASSY, 244-C, 8K, STD, N/PTY, TERMN
612-4244-133		ECB ASSY, 244-C, 32K, STD, N/PTY, TERMN

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S, AND R-PAKS.

4 INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2 INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS ASSEMBLY DRAWING.

NOTE: UNLESS OTHERWISE SPECIFIED

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NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

1

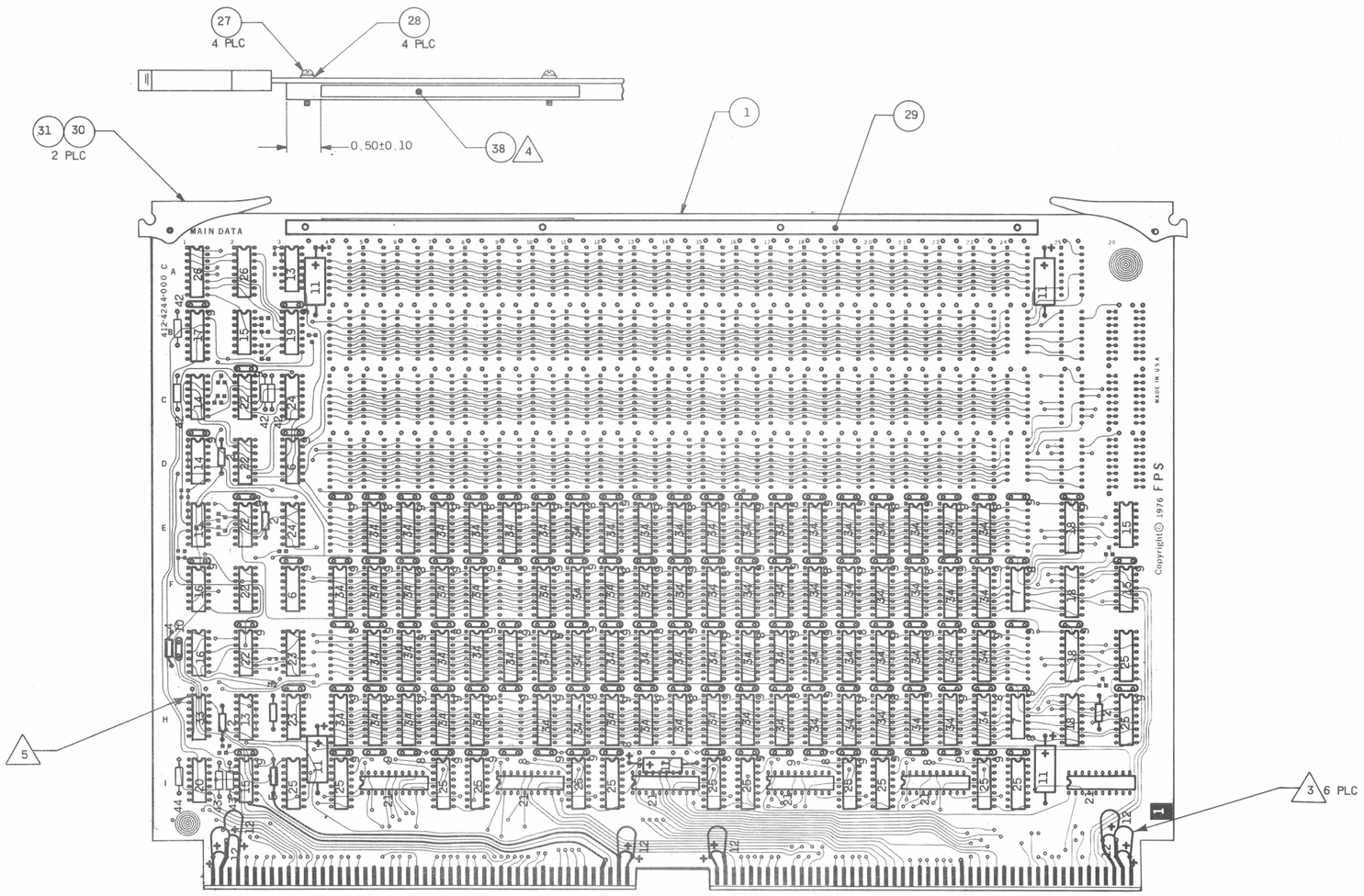
ENGR	Rahall	DATE 4-25-80
DRN BY	Ron Martin	DATE 11-1-78
CHK BY	J.S. Bolman	DATE 4-24-80
PROD RELEASE	Joe Resick	DATE 4-25-80

FLOATING POINT SYSTEMS, INC. P.O.Box 23489 Portland OR 97223

DRAWING TITLE
REFERENCE DRAWING,
ETCH CIRCUIT BOARD ASSEMBLY,
244-C,
MAIN DATA, HALF BOARD,
NO PARITY, TERMINATED

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	810-0020-019	A

SCALE NONE SHEET 1 OF 3



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± —
ANGLES ± —
3 PLACE DEC. ± —
2 PLACE DEC. ± —

MATERIAL:

1

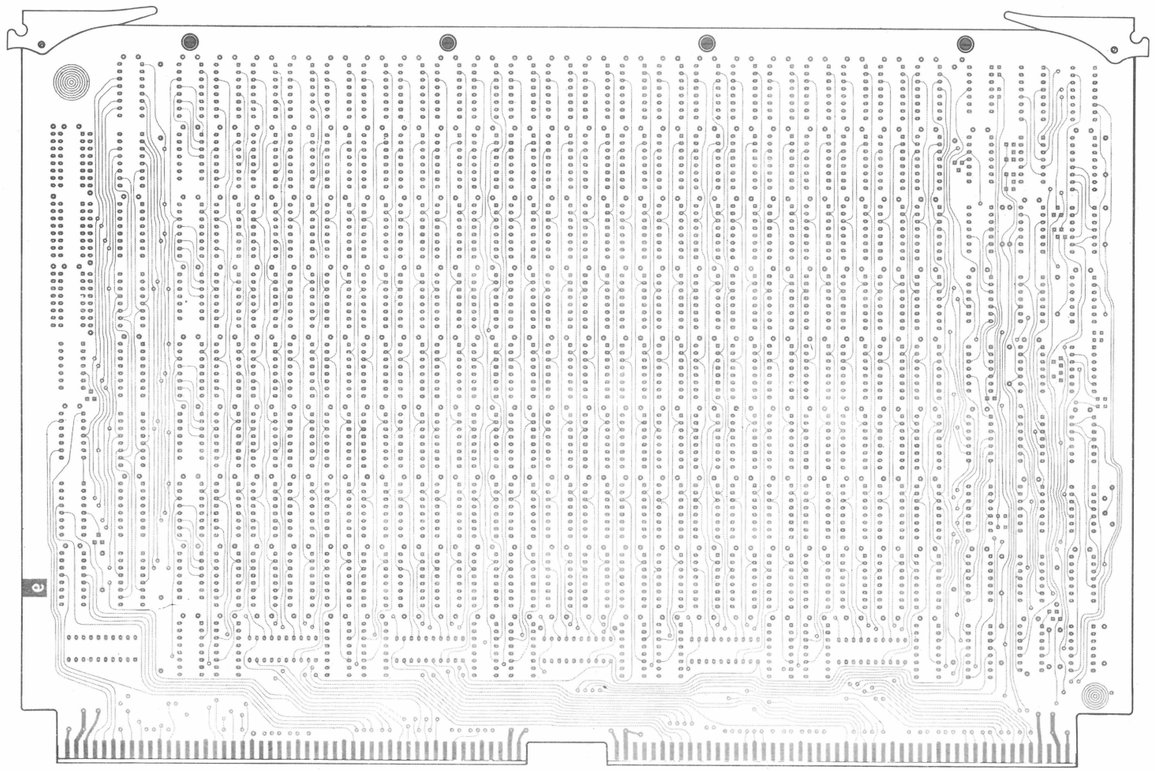
ENGR		DATE
DRN BY		DATE
CHK BY		DATE

FPS FLOATING POINT SYSTEMS, INC.
POBox 23489 Portland OR 97223

DRAWING TITLE
REFERENCE DRAWING,
ETCH CIRCUIT BOARD ASSEMBLY,
244-C,
MAIN DATA, HALF BOARD,
NO PARITY, TERMINATED

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	810-0020-019	A

SCALE NONE SHEET 2 OF 3



SOLDER SIDE

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

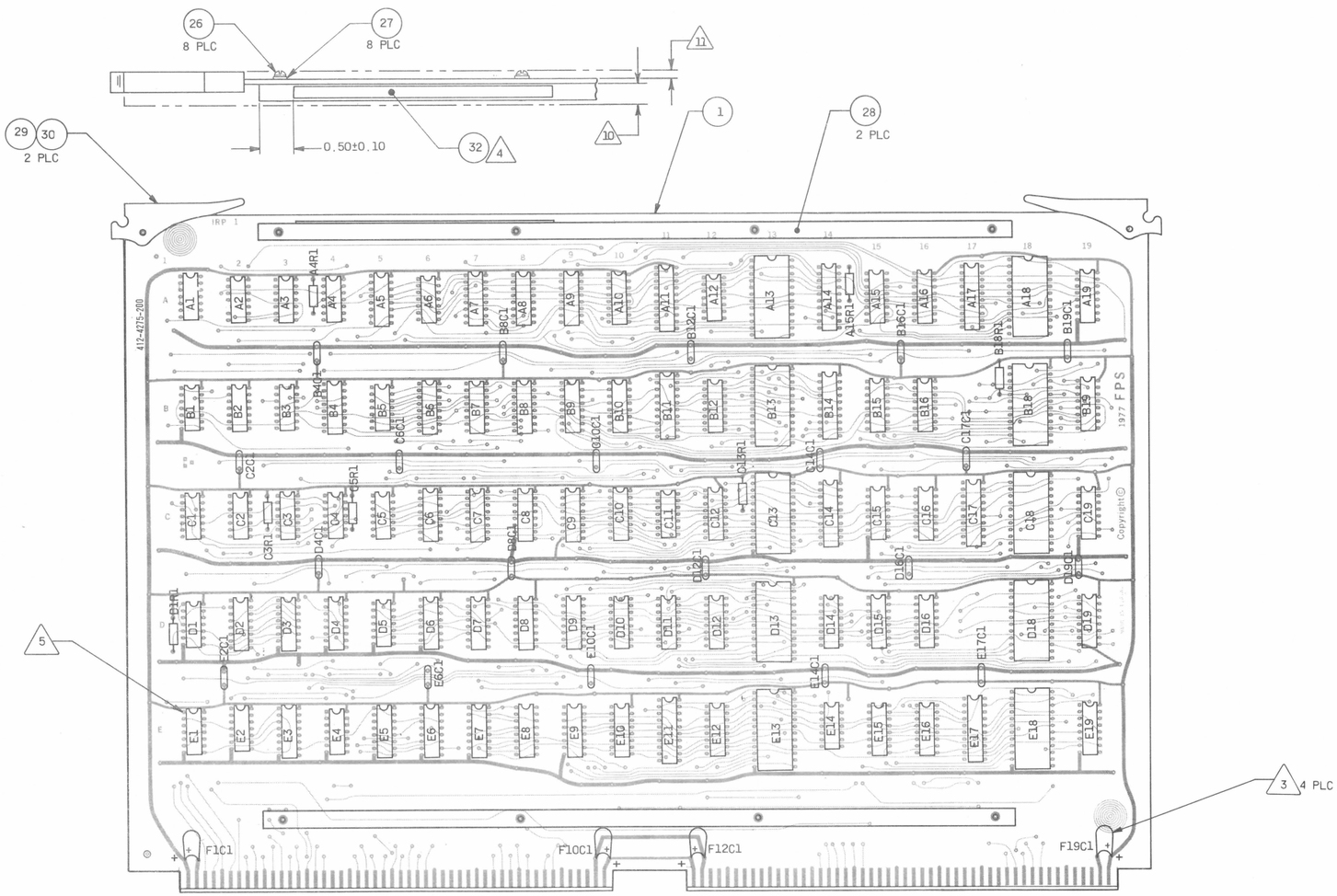
FPS FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

DRAWING TITLE
REFERENCE DRAWING,
ETCH CIRCUIT BOARD ASSEMBLY,
244-C,
MAIN DATA, HALF BOARD,
NO PARITY, TERMINATED

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	810-0020-019	A

SCALE NONE SHEET 3 OF 3

REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	ECO 79118	LEVEL 2 RELEASE		GHB 4/14	
A	ECO 79532	LEVEL 3 RELEASE		JPC/12-12-79	Deb 11/16



COMPONENT SIDE

ITEM	REFERENCE DESIGNATION
25	D4, E6
24	A8, B4,B6,B8, C6,C8, D2,D6,D8, E7,E8
23	E14
22	A4, C3
21	A14, B14, C14
20	A11,A17, B11, C17, E11,E17
19	A12, E4
18	B2
17	E1
16	A3
15	A7,A10,A16,A19, B7,B10,B16,B19, C7,C10,C12,C16,C19, D7,D10,D11,D12,D16, E10,E12,E16,E19
14	B12, D14,D19
13	A13,A18, B13,B18, C13,C18, D13,D18, E13,E18
12	A5
11	A9,A15, B9,B15, C9,C15, D9,D15, E9,E15
10	D3, E3
9	C4, D1
8	A1,A6, B1,B5, C2,C5, D5, E2
7	C1
6	A2, B3, C11
5	E5
4	F1C1,F10C1,F12C1,F19C1
3	B4C1,B8C1,B12C1,B16C1,B19C1, C2C1,C6C1,C10C1,C14C1,C17C1,D4C1,D8C1,D12C1 D16C1,D19C1, E2C1,E6C1,E10C1,E14C1,E17C1
2	A4R1, A15R1, B18R1, C3R1,C5R1,C13R1, D1R1

11. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

10. MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

9. USE 22AWG WIRE; MODIFICATION DESIGNATORS 12-13, 14-15, AND 16-17.

8. DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

7. FT DENOTES FEED-THRU HOLE.

6. MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3 AND 4. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5. SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S.

4. INK STAMP OR TYPE IDENTIFICATION CHARACTERS, ASSEMBLY PART NUMBER, REVISION LEVEL PER THIS DRAWING, AND SERIAL NUMBER AS ASSIGNED ON LABEL. APPLY IN POSITION AS SHOWN.

3. OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1. REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ±____
ANGLES ±____
3 PLACE DEC. ± 0.005
2 PLACE DEC. ±____

MATERIAL: 1

ENGR	W.A. Matthews	DATE 12-12-77
DRN BY	R.S. THURMAN	DATE 11/17/78
CHK BY	CHINH NGUYEN	DATE 12-1-78
PROD RELEASE	Ken Burick	DATE 12-11-79

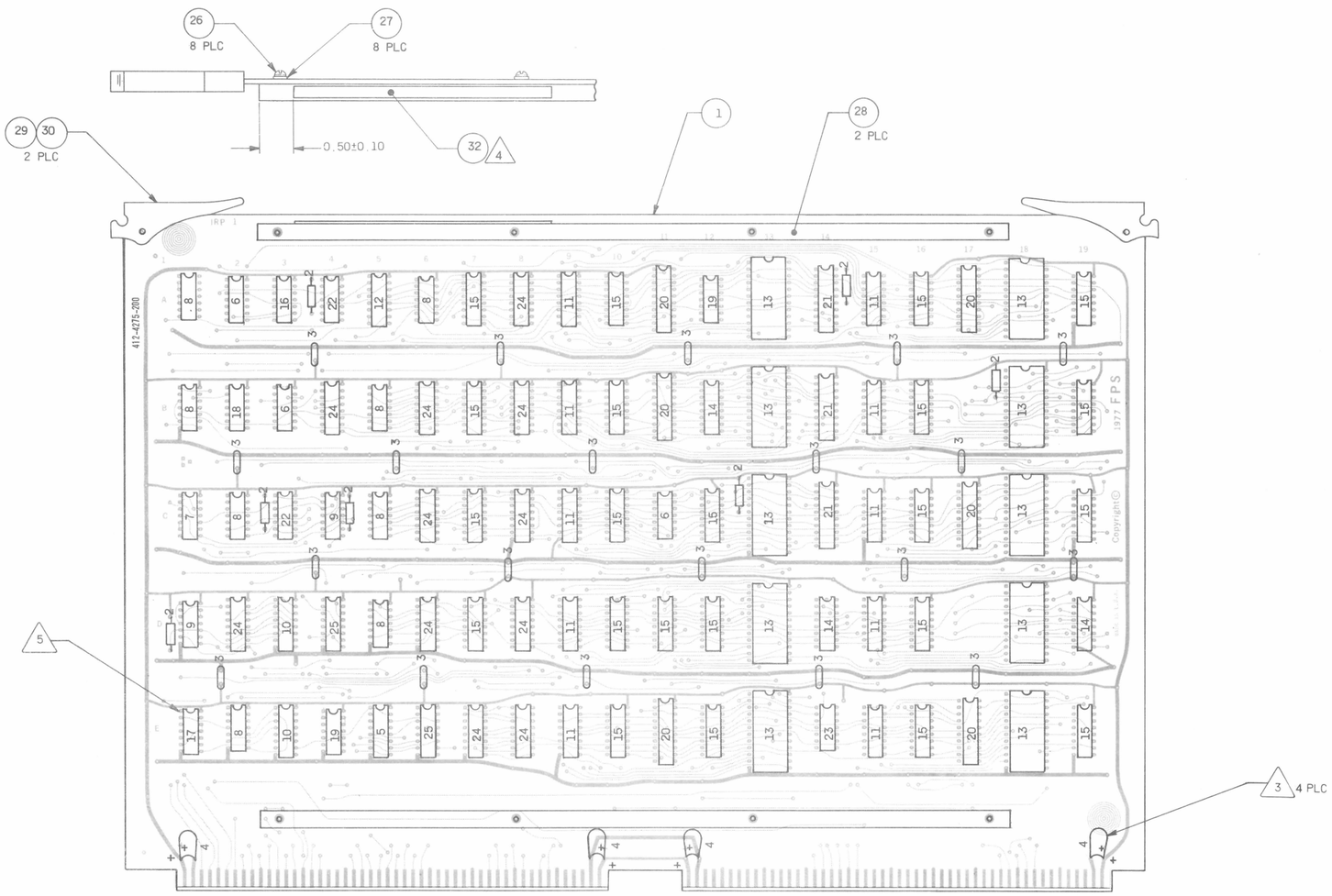
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
275-0,
IMAGE RECONSTRUCTION PROCESSOR 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4275-001	A

SCALE NONE SHEET 1 OF 4

612-4275-001 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.

COMPONENTS ARE IDENTIFIED WITH ITEM NUMBERS.

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

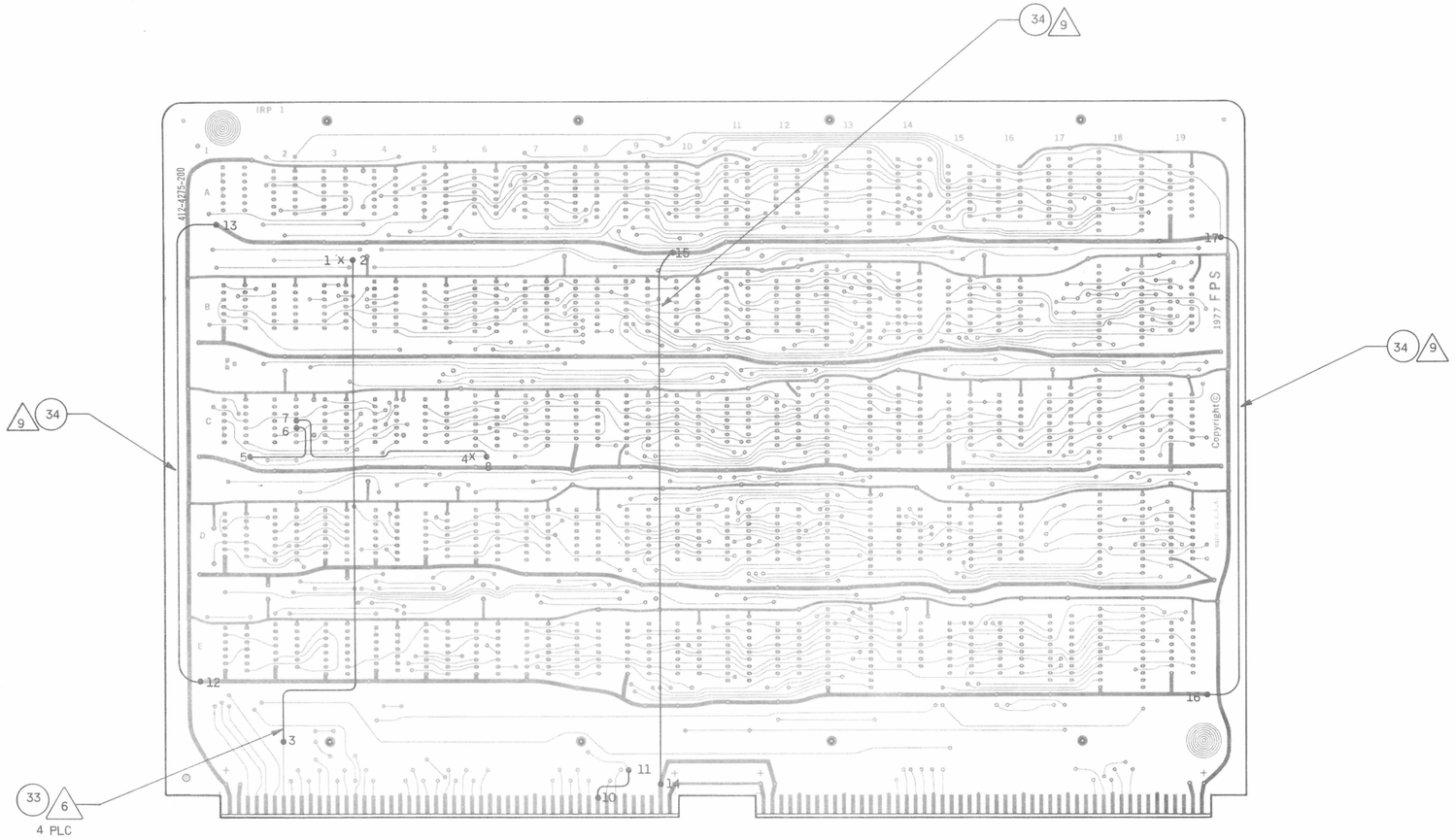
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
275-0,
IMAGE RECONSTRUCTION PROCESSOR 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4275-001	A

SCALE NONE SHEET 2 OF 4

612-4275-001 REV A



COMPONENT SIDE

ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
X		16-17	FT (E19-8)	FT (A19-8)	COMPONENT
X		14-15	EDGE CONN A97	FT (A10-8)	COMPONENT
X		12-13	FT (E1-7)	FT (A1-7)	COMPONENT
X		10-11	EDGE CONN A83	FT (D8-10)	COMPONENT
	X	9	EDGE CONN A88	FT (D8-10)	SOLDER
X		7-8	C2-11	FT (D6-13)	COMPONENT
X		5-6	FT (C1-9)	C2-10	COMPONENT
	X	4	FT (D6-13)	FT (C2-11)	COMPONENT
X		2-3	FT (A4-2)	FT (E.C. A13)	COMPONENT
	X	1	FT (B2-1)	FT (E.C. A13)	COMPONENT

6 7 8 REWORK TABLE

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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROD RELEASE	DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

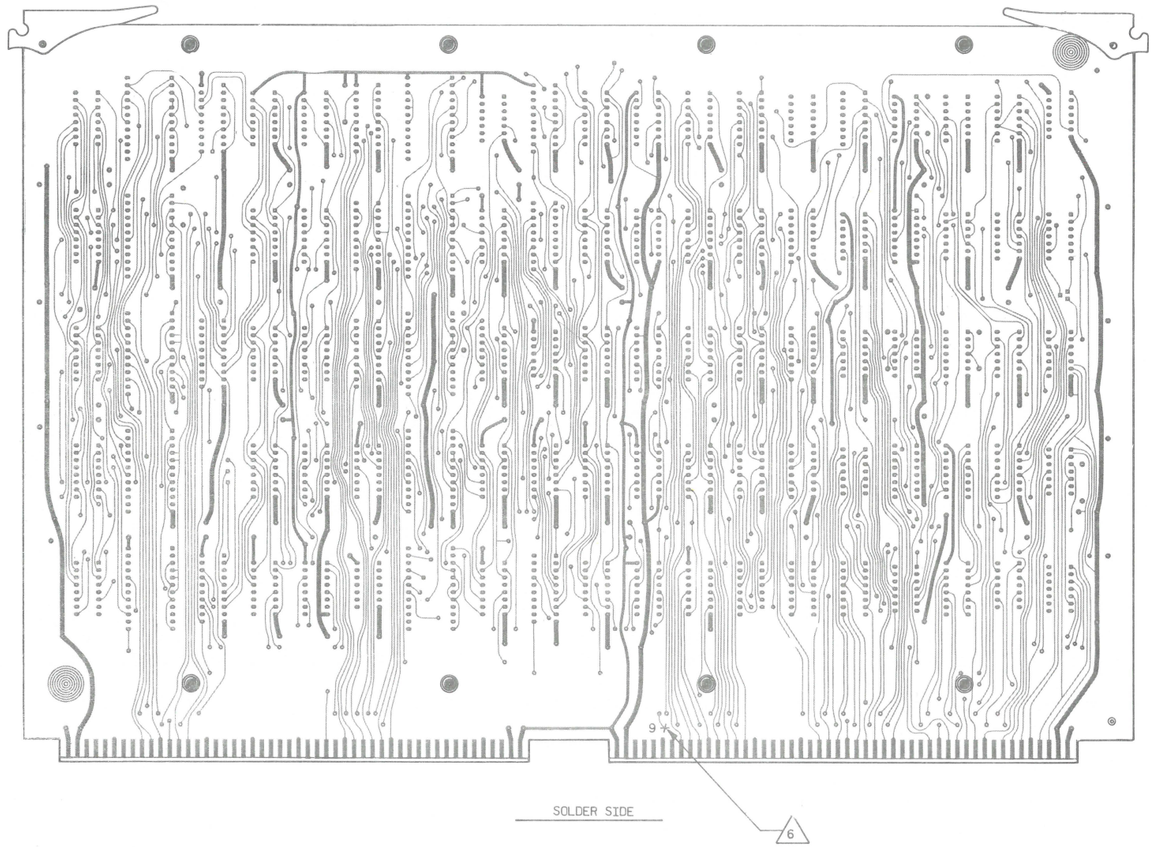
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
275-0
IMAGE RECONSTRUCTION PROCESSOR 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4275-001	A

SCALE NONE SHEET 3 OF 4

612-4275-001 SHT 3



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FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

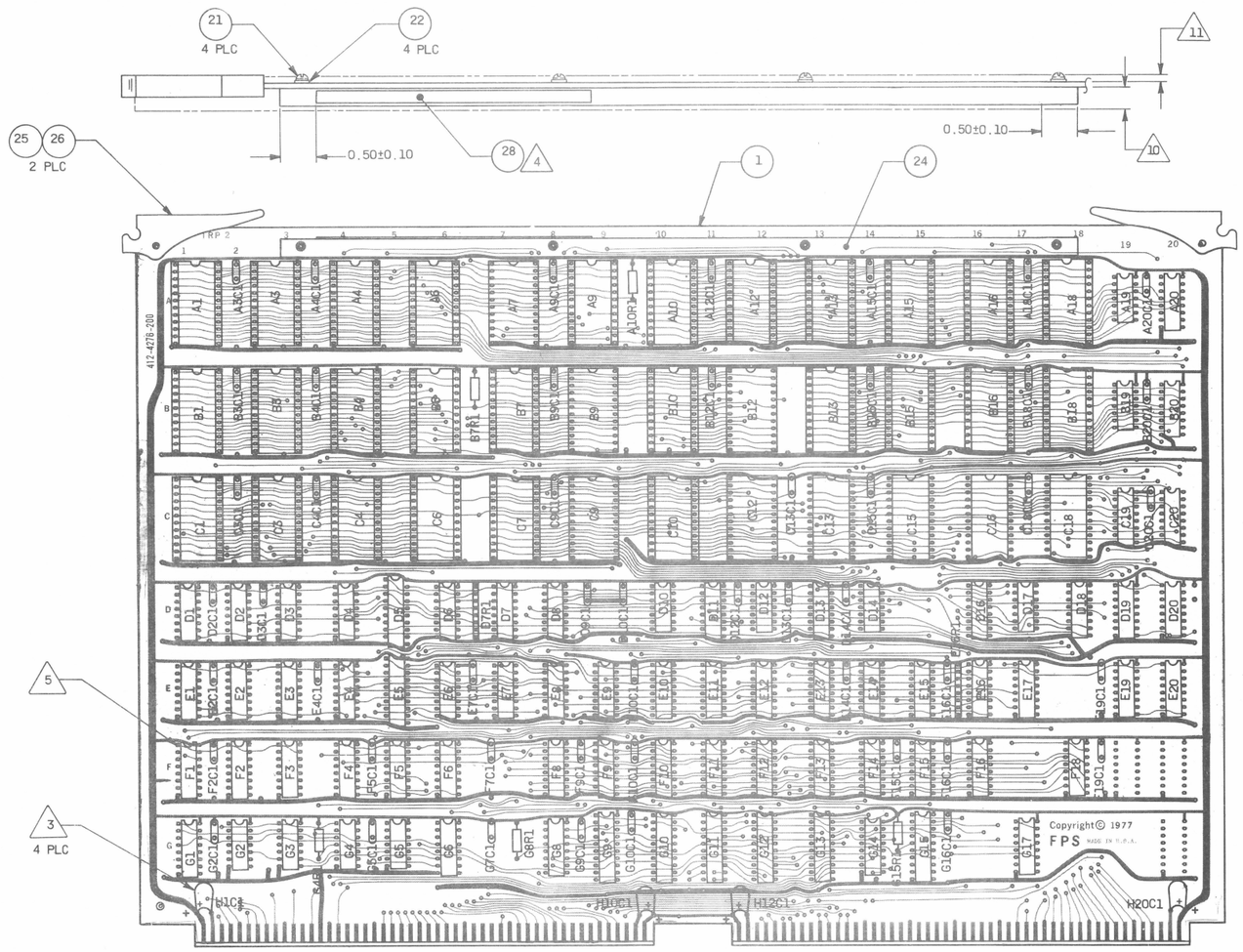
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
275-0
IMAGE RECONSTRUCTION PROCESSOR 1

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4275-001	A

SCALE NONE SHEET 4 OF 4

612-4275-001 SHT 4



COMPONENT SIDE

11 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

10 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

9 USE ITEM 30 ON MODIFICATION 1-2, 3-4, AND 5-6. USE ITEM 29 ON ALL OTHER MODIFICATIONS.

8 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINTS FROM FEED-THRU HOLES.

7 FT DENOTES FEED-THRU HOLE.

6 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3 AND 4. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND RESISTOR PAKS.

4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES; UNLESS OTHERWISE SPECIFIED:

REVISIONS

REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	EN#6	LEVEL 1			
02	EN#45	ADD PROM IC'S			
03	ECO 79118	LEVEL 2 RELEASE		BTB 9/4/79	
04	ECO 79353	CORRECT PART LIST		8-6-79	F.R. 8/06/79
A	ECO 79533	LEVEL 3 RELEASE			C. NGUYEN 11-13-79
B	ECO 80122	NOISE SUPPRESSION GND STRAPS		5-16-80	5/16/80
C	ECO 80482	DELETE ITEM 27		12/19/80	12-19-80
D	ECO 81246	PROM DOC RESTRUCTURE		12/10/81	12-17-81

ITEM	REFERENCE DESIGNATION
52	B18
51	B16
50	B15
49	B13
48	B10
47	B7
46	B6
45	B4
44	B3
43	B1
42	A18
41	A16
40	A15
39	A13
38	A12
37	A10
36	A9
35	A6
34	A4
33	A3
32	A1
23	A1,A3,A4,A6,A7,A9,A10,A12,A13,A15,A16,A18, B1,B3,B4,B6,B7,B9,B10, B12,B13,B15,B16,B18, C1,C3,C4,C6,C7,C9,C10,C12
20	A20, B20, C19,C20, D11,D13,D19,D20, E19,E20, F4,F8
19	D1,D2,D3,D4,D6,D7,D8, E1,E2,E3,E9,E10,E11,E12,E13,E14,E15,E16, F5,F6
17	D5, E5, G9,G10,G11,G12,G13,G15
16	D17, G5
15	D16, G8,G14
14	C13,C15,C16,C18
13	G6
12	D18
11	G4
10	G3
9	G2
8	E17, F18, G17
7	E4,E6,E7,E8, F1,F2,F3,F9,F10,F11,F12,F13,F14,F15,F16, G1
6	H1C1,H10C1,H12C1,H20C1
5	A3C1,A4C1,A9C1,A12C1,A15C1,A18C1,A20C1, B3C1,B4C1,B9C1,B12C1,B15C1,B18C1, B20C1, C3C1,C4C1,C9C1,C13C1,C15C1,C18C1,C20C1, D2C1,D3C1,D9C1,D10C1, D12C1,D13C1,D14C1, E2C1,E4C1,E7C1,E10C1,E14C1,E16C1,E19C1, F2C1,F5C1, F7C1,F9C1,F10C1,F15C1,F16C1,F19C1, G2C1,G5C1,G7C1,G9C1,G10C1,G16C1,G16C1,
4	A19, B19, D10,D12,D14
3	D7R1, E16R1
2	A10R1, B7R1, G4R1,G8R1,G15R1

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL: 1

ENGR		DATE 11-26-79
DRN BY	R. S. THURMAN	DATE 11/29/78
CHK BY	Joette Baker	DATE 11-30-78
PROD RELEASE	Ken Brisk	DATE 11-13-79

FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE
ETCH CIRCUIT BOARD ASSEMBLY,
276-0,
IMAGE RECONSTRUCTION PROCESSOR, 511 SET

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4276-002	D

SCALE NONE SHEET 1 OF 4

COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY

COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

ITEM	REFERENCE DESIGNATION
58	C10
57	C7
56	C6
55	C4
54	C3
53	C1

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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS ± ____
ANGLES ± ____
3 PLACE DEC. ± ____
2 PLACE DEC. ± ____

MATERIAL:

1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

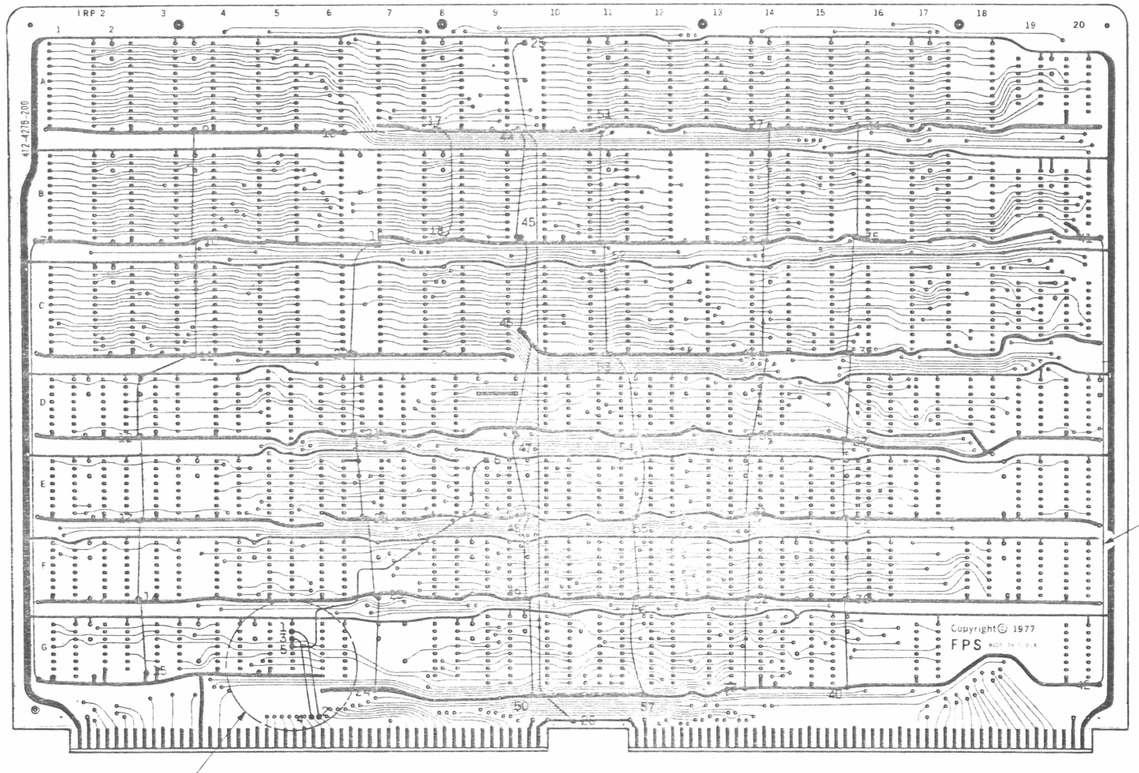
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
276-0,
IMAGE RECONSTRUCTION PROCESSOR, 511 SET

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4276-002	D

SCALE NONE SHEET 2 OF 4

612-4276-002 SHT 2



COMPONENT SIDE

29 6 9

9 6 30

X		56-57	FT (F12-8)	FT (G17-8)	COMPONENT
X		55-56	FT (E12-8)	FT (F12-8)	
X		54-55	FT (D11-8)	FT (E12-8)	
X		53-54	FT (C12-12)	FT (D11-8)	
X		52-53	FT (B12-12)	FT (C12-12)	
X		51-52	FT (A12-12)	FT (B12-12)	
X		49-50	FT (F10-8)	FT (G5-7)	
X		48-49	FT (E8-8)	FT (F10-8)	
X		47-48	FT (D8-8)	FT (E8-8)	
X		46-47	FT (C10-12)	FT (D8-8)	
X		45-46	FT (B9-12)	FT (C10-12)	
X		44-45	FT (A9-12)	FT (B9-12)	COMPONENT
	X	43	E9-1	D8-1	SOLDER
X		41-42	FT (B20-8)	FT (G20-8)	COMPONENT
X		39-40	FT (F16-8)	FT (G15-10)	
X		38-39	FT (E16-8)	FT (F16-8)	
X		37-38	FT (D16-8)	FT (E16-8)	
X		36-37	FT (C16-12)	FT (D16-8)	
X		35-36	FT (B16-12)	FT (C16-12)	
X		34-35	FT (A16-12)	FT (B16-12)	
X		32-33	FT (F13-8)	FT (G14-8)	
X		31-32	FT (E12-8)	FT (F13-8)	
X		30-31	FT (D13-8)	FT (E13-8)	
X		29-30	FT (C13-12)	FT (D13-8)	
X		28-29	FT (B15-12)	FT (C13-12)	
X		27-28	FT (A15-12)	FT (B15-12)	
X		25-26	FT (A9-24)	FT (E.C. A99)	
X		23-24	FT (F6-8)	FT (G5-8)	
X		22-23	FT (E7-8)	FT (F6-8)	
X		21-22	FT (D7-8)	FT (E7-8)	
X		20-21	FT (C6-12)	FT (D7-8)	
X		19-20	FT (B6-12)	FT (C6-12)	
X		18-19	FT (B7-12)	FT (B6-12)	
X		17-18	FT (A7-12)	FT (B7-12)	
X		16-17	FT (A6-12)	FT (A7-12)	
X		14-15	FT (F3-8)	FT (G3-7)	
X		13-14	FT (E3-8)	FT (F3-8)	
X		12-13	FT (D3-8)	FT (E3-8)	
X		11-12	FT (C3-12)	FT (D3-8)	
X		10-11	FT (B4-12)	FT (C3-12)	
X		9-10	FT (A4-12)	FT (B4-12)	
X		7-8	FT (B1-12)	FT (G1-8)	
X		5-6	G5-11	E9-1	
X		3-4	G5-12	FT (E.C. A53)	
X		1-2	G5-13	FT (E.C. A55)	COMPONENT
ADD STRAP	CUT ETCH	DESIGNATOR	FROM	TO	SIDE
			CONTINUITY CHECK POINTS		

6 7 8 9 REWORK TABLE

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ANGLES ± ———
3 PLACE DEC. ± ———
2 PLACE DEC. ± ———

MATERIAL:

ENGR	DATE
DRN BY	DATE
CHK BY	DATE
PROJ RELEASE	DATE

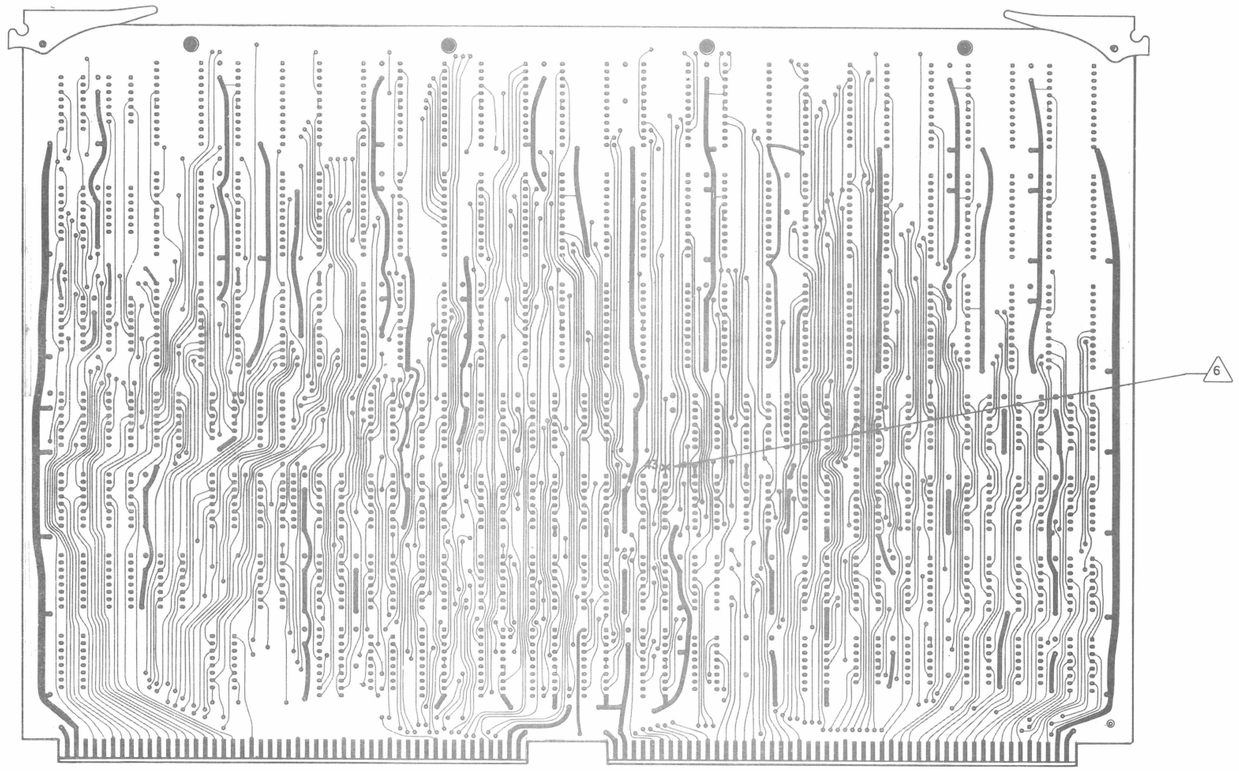
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
276-0,
IMAGE RECONSTRUCTION PROCESSOR, 511 SET

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4276-002	D

SCALE NONE SHEET 3 OF 4



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ANGLES ± _____
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MATERIAL:

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
PROD RELEASE		DATE

FLOATING POINT SYSTEMS, INC. PO Box 23489 Portland OR 97223

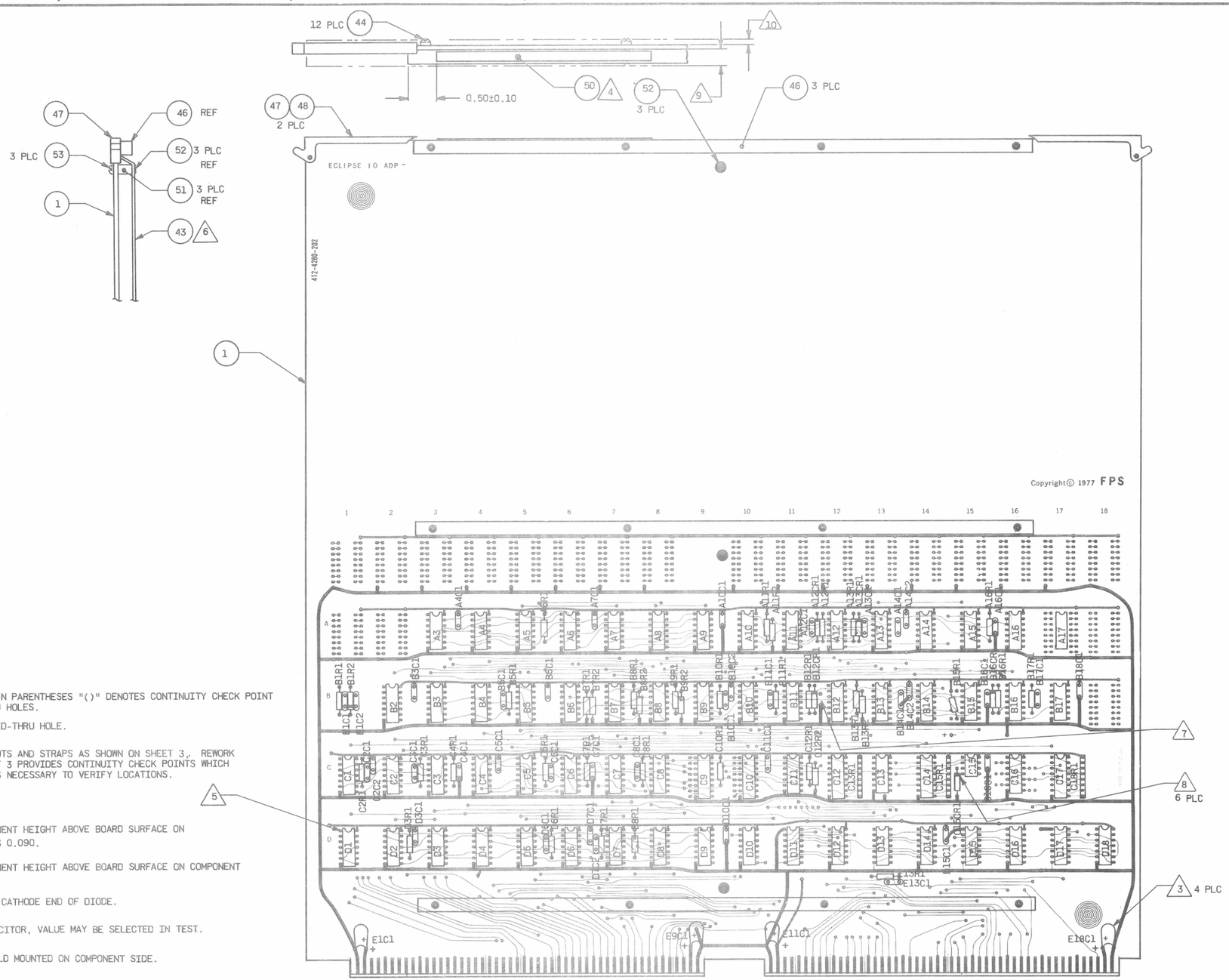
DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
276-0,
IMAGE RECONSTRUCTION PROCESSOR, 511 SET

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4276-002	D

SCALE NONE SHEET 4 OF 4

612-4276-002 SHT 4



COMPONENT SIDE

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REVISIONS					
REV	AUTH	DESCRIPTION	ZONE	APVD/DATE	CHK/DATE
01	ECO 79164	LEVEL 2 RELEASE		BAB 5/10	
A	ECO 79534	LEVEL 3 RELEASE		JR/11-14-79	TMB 11-9-79
B	ECO 80050	CHANGE POWER DOWN DETECTOR		JR/11-19-80	LOREN/11-15-80
C	ECO 80400	DBUS2HD* MOD	B3	JR/5-11-81	5-6-81 Steve Schmidt
D	ECO 81581	NYL SCREW/REROUTE Vcc		DWJ 11/1/81	

ITEM	REFERENCE DESIGNATION
54	A17
42	C15
41	D11,D13,D15,D17
40	A10,A13,A15, B15, C5,C7,C11
39	D12,D14,D16,D18
38	B17
37	B5
36	A11,A12, C3
35	B10
34	B12,B13
33	A16, D1,D6
32	D2,D3,D4,D5,D7,D8
31	A6,A7,A8, B2
30	C9,C10
29	C8
28	B7,B8
27	C12,C14,C17
26	A4
25	C13,C16
24	A14, B6, C4, D10
23	B16
22	B9, C1,C6
21	A3, C2, D9
20	A5, B3,B4
19	A9, B11,B14
18	A12CR1,A13CR1, B12CR1, B16CR1
17	C15CR1
16	A12C1
15	E1C1,E9C1,E11C1,E18C1
14	A14C1,A16C1
13	E13C1
12	A13C1, B1C1,B1C2,B5C1,B10C1,B11C1,B14C1,B16C1,B17C1, C2C1,C3C1,C4C1, C6C1,C7C1,C8C1, D6C1,D7C2
11	A4C1,A7C1,A10C1,A14C2, B3C1,B6C1,B10C2,B14C2,B18C1, C2C2,C5C1,C11C1, C16C1, D3C1,D7C1,D10C1,D15C1
9	C13R1,C15R1,C18R1
8	E13R1
7	B8R2,B9R2,B13R2, C12R2
6	B8R1,B9R1,B13R1, C12R1
5	B7R1,B7R2
4	A6R1,A11R1,A12R1,A13R1,A16R1, B1R1,B1R2,B5R1,B10R1,B11R1,B12R1,B16R1, B17R1, C2R1,C3R1,C4R1,C6R1,C7R1,C8R1,C10R1, D6R1,D7R1,D8R1
3	A11R2, D3R1
2	B15R1

△13 DESIGNATIONS IN PARENTHESES "()" DENOTES CONTINUITY CHECK POINT FROM FEED-THRU HOLES.

△12 FT DENOTES FEED-THRU HOLE.

△11 MODIFY WITH CUTS AND STRAPS AS SHOWN ON SHEET 3. REWORK TABLE ON SHEET 3 PROVIDES CONTINUITY CHECK POINTS WHICH MAY BE USED AS NECESSARY TO VERIFY LOCATIONS.

△10 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON SOLDER SIDE IS 0.090.

△9 MAXIMUM COMPONENT HEIGHT ABOVE BOARD SURFACE ON COMPONENT SIDE IS 0.310.

△8 BAR INDICATES CATHODE END OF DIODE.

△7 OPTIONAL CAPACITOR, VALUE MAY BE SELECTED IN TEST.

△6 PC BOARD SHIELD MOUNTED ON COMPONENT SIDE.

△5 SQUARE PADS INDICATE ORIENTATION OF PIN 1 ON IC'S AND R-PAKS.

△4 MARK LABEL WITH APPROPRIATE INFORMATION PER FPS STD 10.018 AND INSTALL APPROXIMATELY WHERE SHOWN.

△3 OBSERVE POLARITY WHEN INSTALLING COMPONENT.

2. INSTALL ALL COMPONENTS PER REFERENCE DESIGNATORS.

△1 REFER ALL ITEMS TO PARTS LIST, SAME PART NUMBER AS THIS DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

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FRACTIONS ± ——
ANGLES ±
3 PLACE DEC. ± 0.005
2 PLACE DEC. ± ——
MATERIAL:

△1

ENGR		DATE 11-14-79
DRN BY	G. WISE	DATE 11/1/79
CHK BY		DATE 11-9-79
PROD RELEASE		DATE 11-15-79

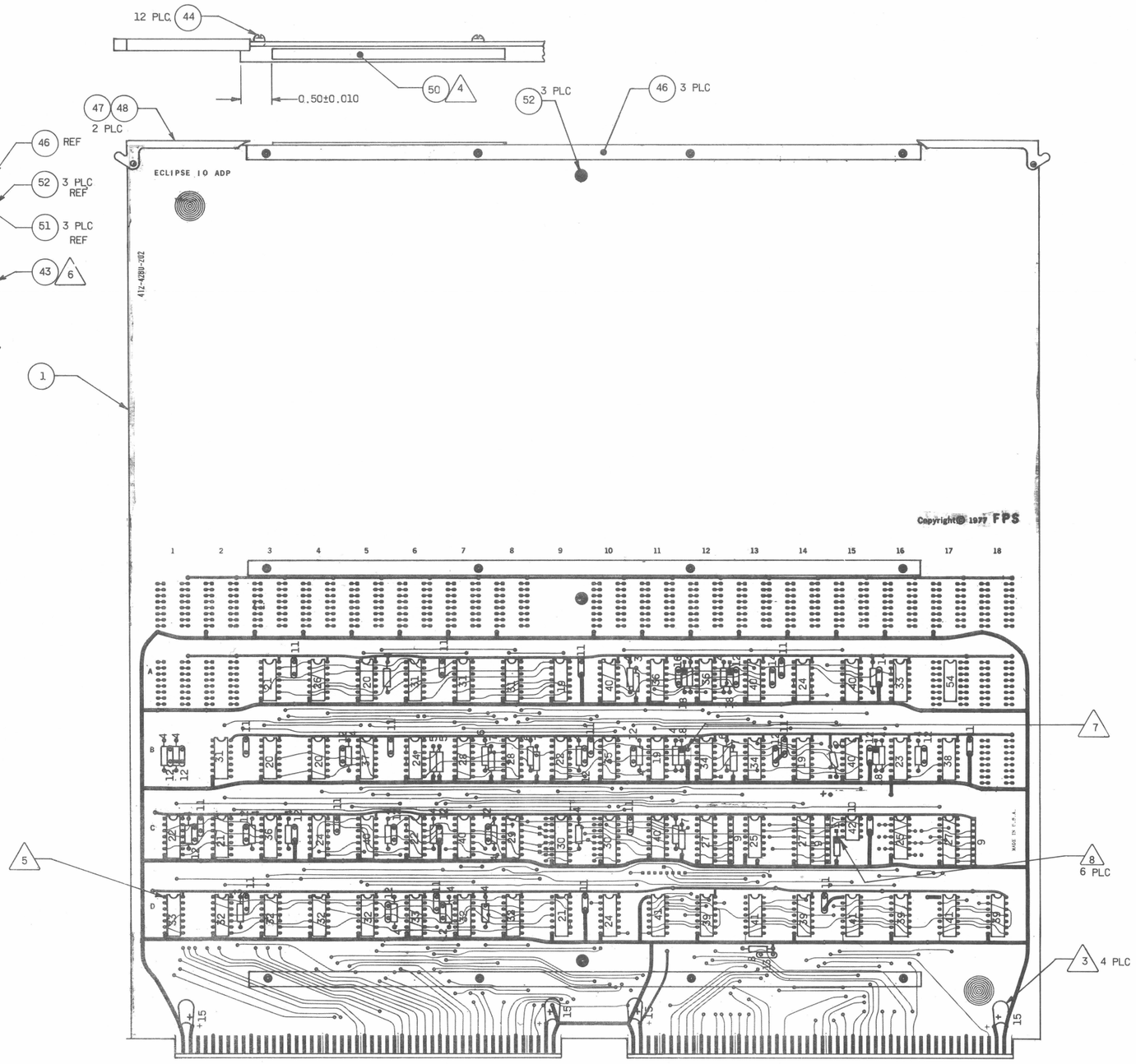
FPS FLOATING POINT SYSTEMS, INC. POBox 23489 Portland OR 97223

DRAWING TITLE

ETCH CIRCUIT BOARD ASSEMBLY,
280-B
NOVA ECLIPSE I/O ADAPTER

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4280-002	-

612-4280-002 SHT 1



COMPONENT SIDE

THIS VIEW FOR REFERENCE ONLY.
COMPONENTS ARE IDENTIFIED WITH
ITEM NUMBERS.

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ANGLES ± ____
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2 PLACE DEC. ± ____

MATERIAL: 1

ENGR		DATE
DRN BY		DATE
CHK BY		DATE
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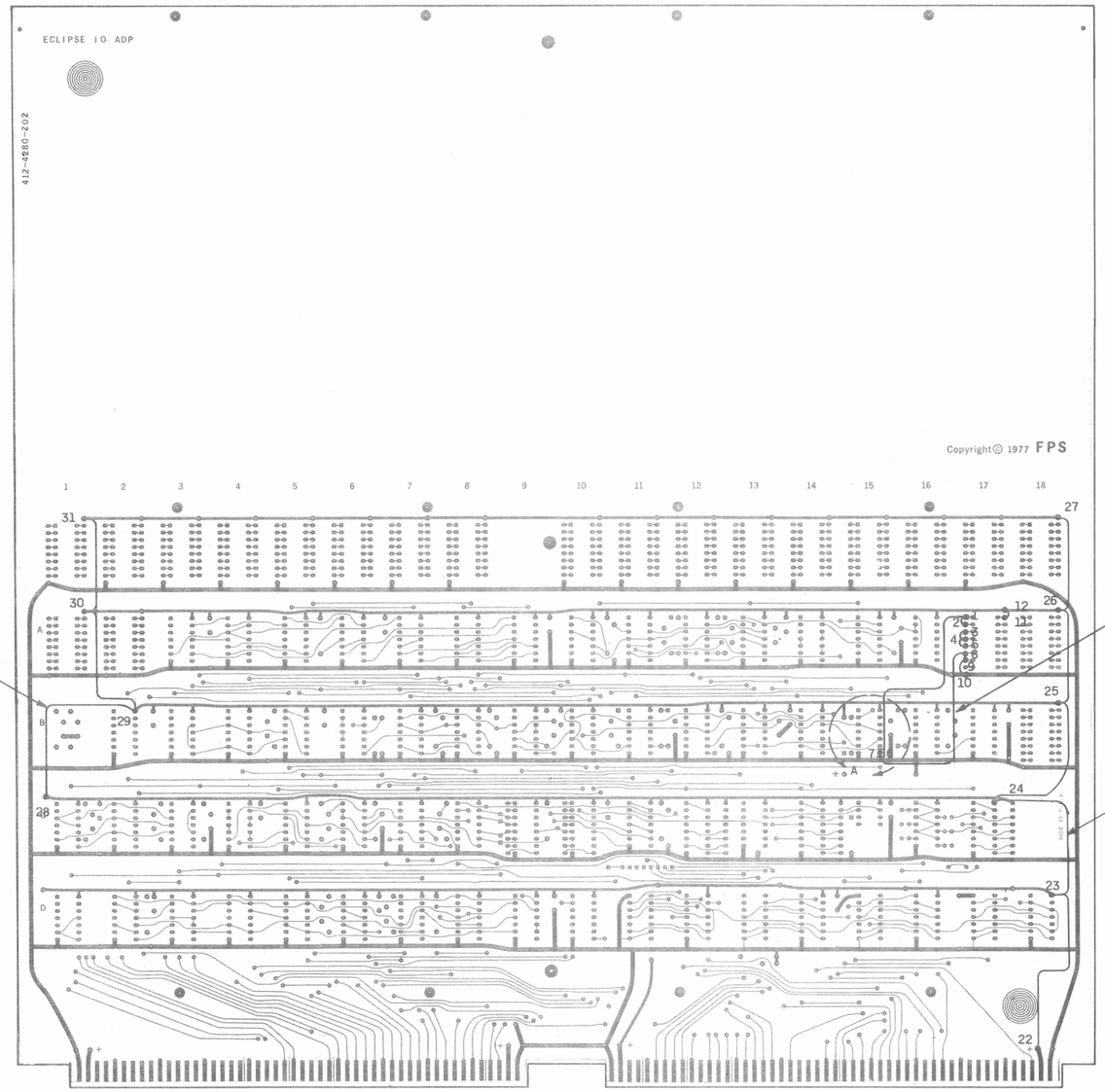
DRAWING TITLE

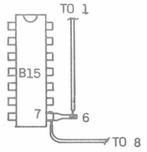
ETCH CIRCUIT BOARD ASSEMBLY,
280-B,
NOVA ECLIPSE I/O ADAPTER

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4280-002	D

SCALE NONE SHEET 2 OF 4

612-4280-002





VIEW -A-

SCALE: NONE
LIFT IC LEG B15-8
ATTACH WIRES TO LEG & PAD

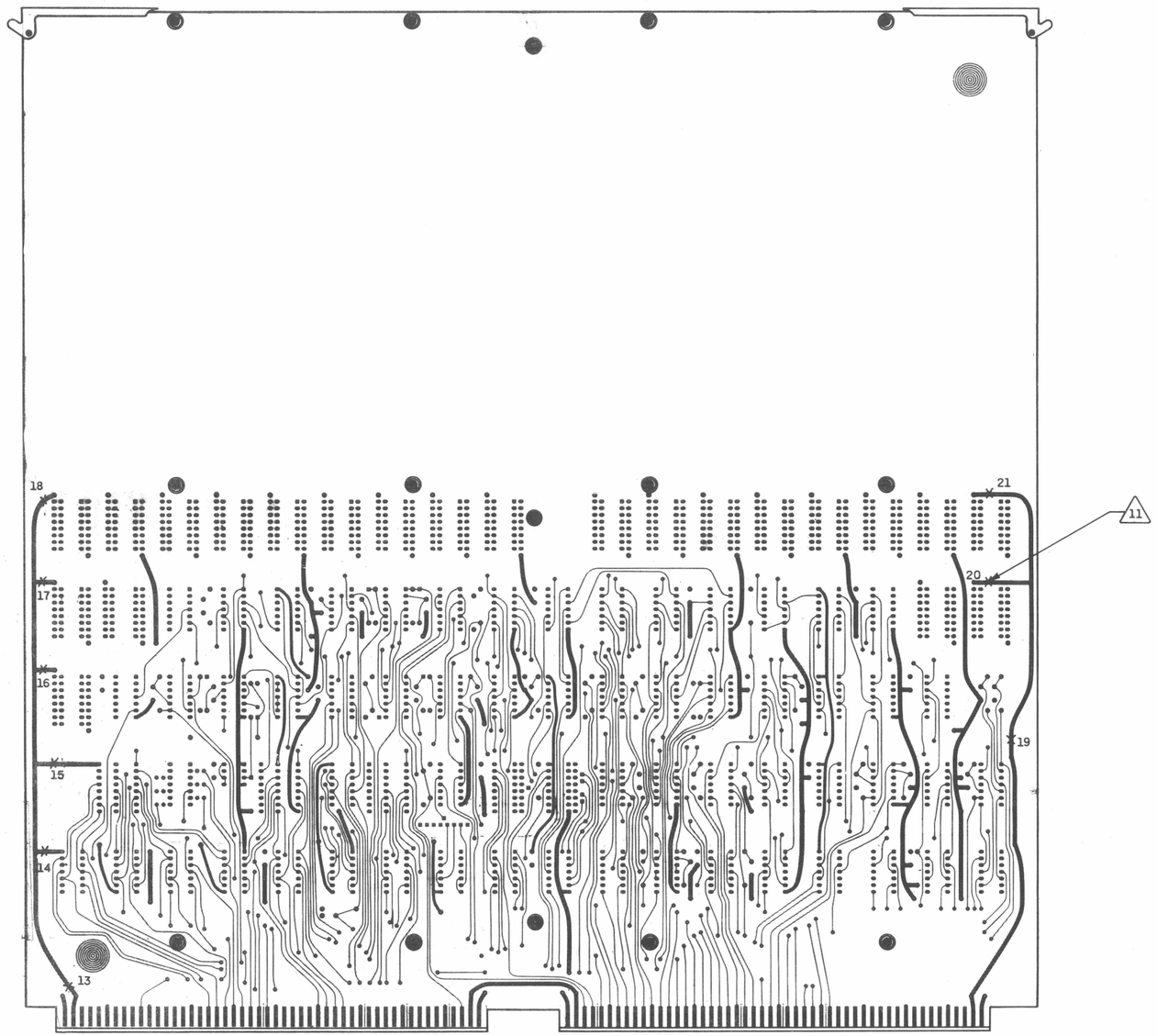
ADD STRAP	CUT ETCH	DESIGNATOR	FROM (CONTINUITY CHECK POINTS)	TO (CONTINUITY CHECK POINTS)	SIDE
X		30-31	FT (A3-14)	TOP Vcc BUS	COMPONENT
X		29-30	B2-14	FT (A3-14)	
X		28-29	FT (C1-14)	B2-14	
X		26-27	FT (A17-14)	TOP Vcc BUS	
X		25-26	FT (B17-14)	FT (A17-14)	
X		24-25	C17-16	FT (B17-14)	
X		23-24	D18-14	C17-16	
X		22-23	Vcc (E.C.B97)	D18-14	COMPONENT
	X	21	Z1-14	TOP Vcc BUS	SOLDER
	X	20	FT (A3-14)	Z1-14	
	X	19	Vcc (E.C.A03)	FT (A3-14)	
	X	18	Z18-16	TOP Vcc BUS	
	X	17	FT (A17-14)	Z18-16	
	X	16	FT (B17-14)	FT (A17-14)	
	X	15	C17-16	FT (B17-14)	
	X	14	D18-14	C17-16	
	X	13	Vcc (E.C.B97)	D18-14	SOLDER
X		11-12	FT (A17-14)	Vcc (E.C. B97)	COMPONENT
X		9-10	FT (A17-7)	GND (E.C. B99)	
X		7-8	B15-8 (PAD)	FT (A17-6)	
X		6-1	B15-8 (LEG)	FT (A17-1)	
LIFT IC LEG		6-7	B15-8 (LEG)	B15-8 (PAD)	
X		4-5	FT (A17-4)	FT (A17-5)	
X		3-4	FT (A17-3)	FT (A17-4)	
X		1-2	FT (A17-1)	FT (A17-2)	COMPONENT

11 12 13 REWORK TABLE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	56504	612-4280-002	D
SCALE NONE		SHEET 3 OF 4	

SHT 2
DRAWING NO. 612-4280-002
E

FORM NO. 4035



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DRAWING TITLE

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SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D	56504	612-4280-002	D

SCALE NONE SHEET 4 OF 4

612-4280-002 SHT 4

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