



flex-weigh corporation

TECHNICAL MANUAL

DWM IV

Santa Rosa, CA

(707) 545-0623

DWM - IV

ELECTRONIC SCHEMATICS & ASSEMBLY DRAWINGS

MOTHERBOARD

ED 2849-E

MB 2850-E

DISPLAY

EB 2846-C

MA 2847-C

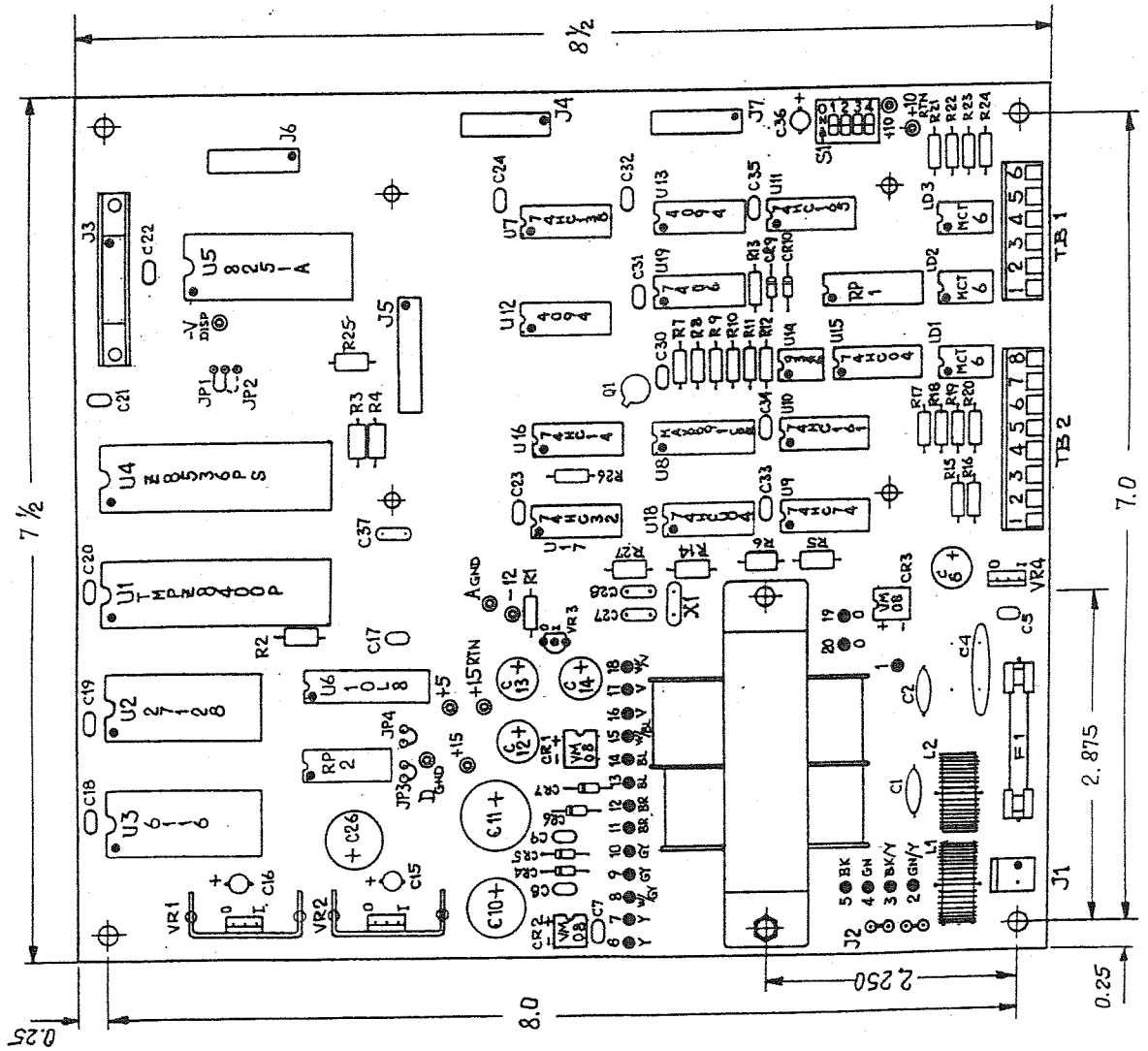
A/D BOARD

EA 2852-D

MA 2853-D

KEYBOARD

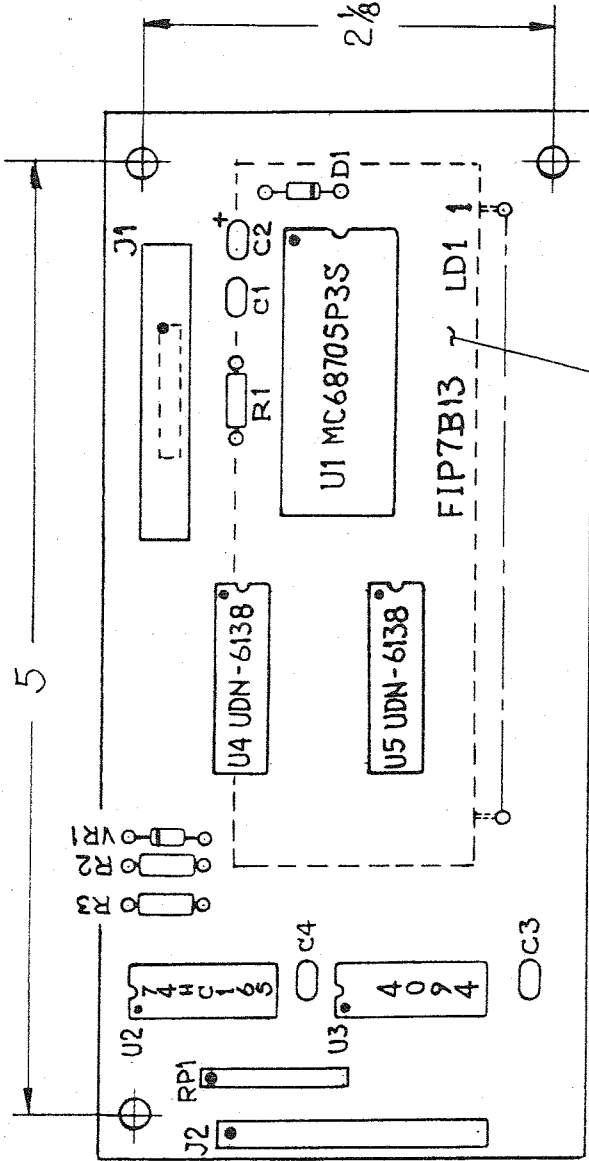
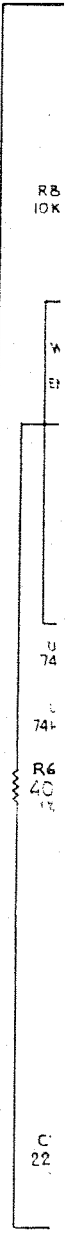
EA 2921



- - TRANSFORMER WIRE SOLDER PT.
- ⊗ - DENOTES TEST PT.
- ⊕ - MOUNTING HOLES

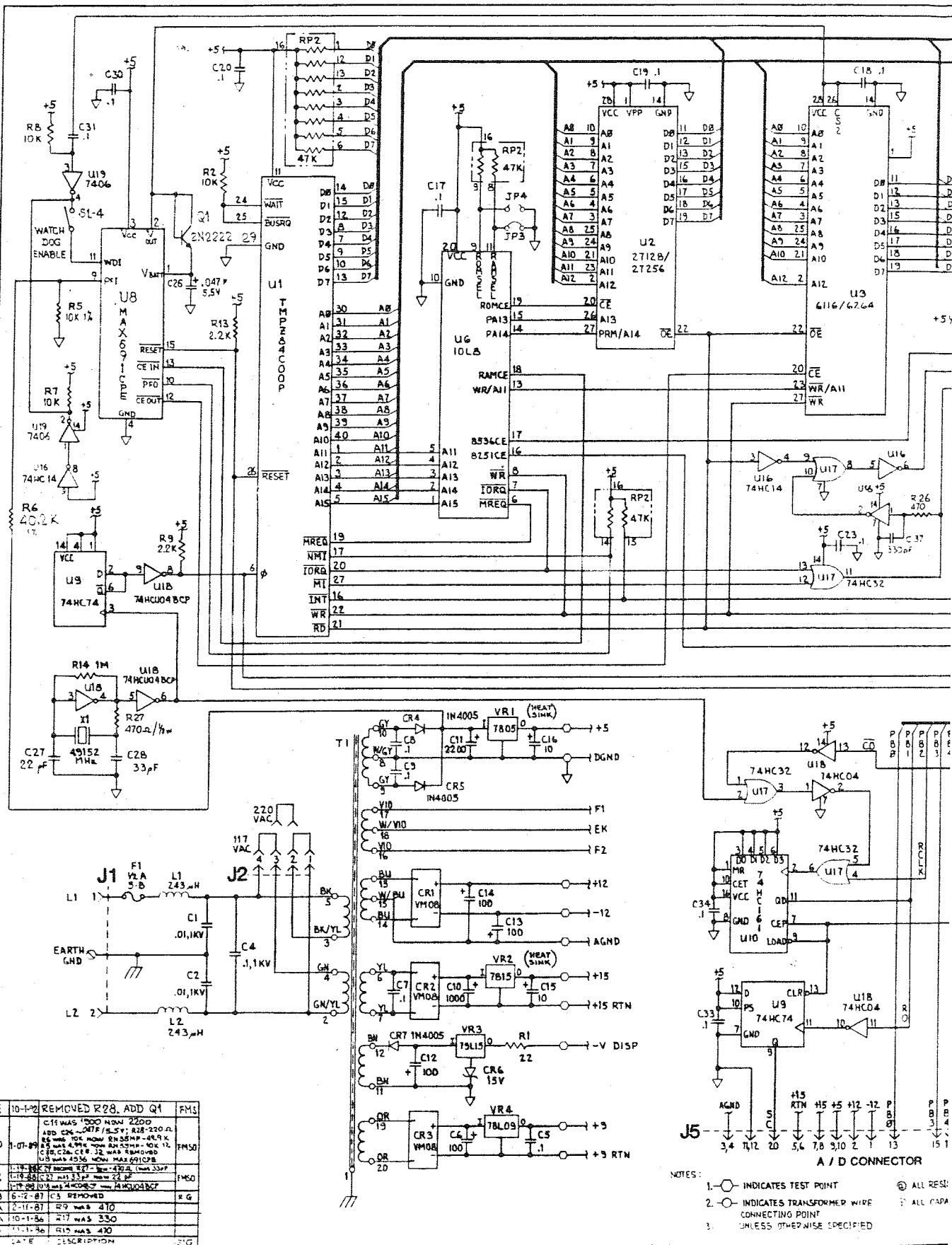
E	10-1-92	R2B WAS REMOVED; ADD Q1	FMS
		ADD. C26 - .047 F / 5.5V ; R28 - 220Ω R6 WAS RN55MF-10K NOW RN 55NF 49.9K R5 WAS RN55MF -4.99K NOW RN 55MF -10K C28 ; C26 ; CR8 ; J2 WAS REMOVED U8 WAS 4536 NOW MAX 691CPE	FMSO
D	1-4-87		
C	1-19-88	C29 BECAME R27 - 1/8 W - 470Ω (WAS 33pF) C27 WAS 33pF, NOW 22pF U8 WAS 74HC04BCP NOW 74HC048CB	FMSO
B	6-12-87	C3 REMOVED	R.G
REV	DATE	DESCRIPTION	SIG
J. LOTU DRAWN BY		2 OCT 92 DATE	flex-weight corporation SANTA ROSA, CALIFORNIA 95401
CAD. FMS ENGR.		DATE	DATE
TITLE DWM IV MTB ASSY. DWG.		SCALE 1:1	DWG. NO. B MB2850-E SITE

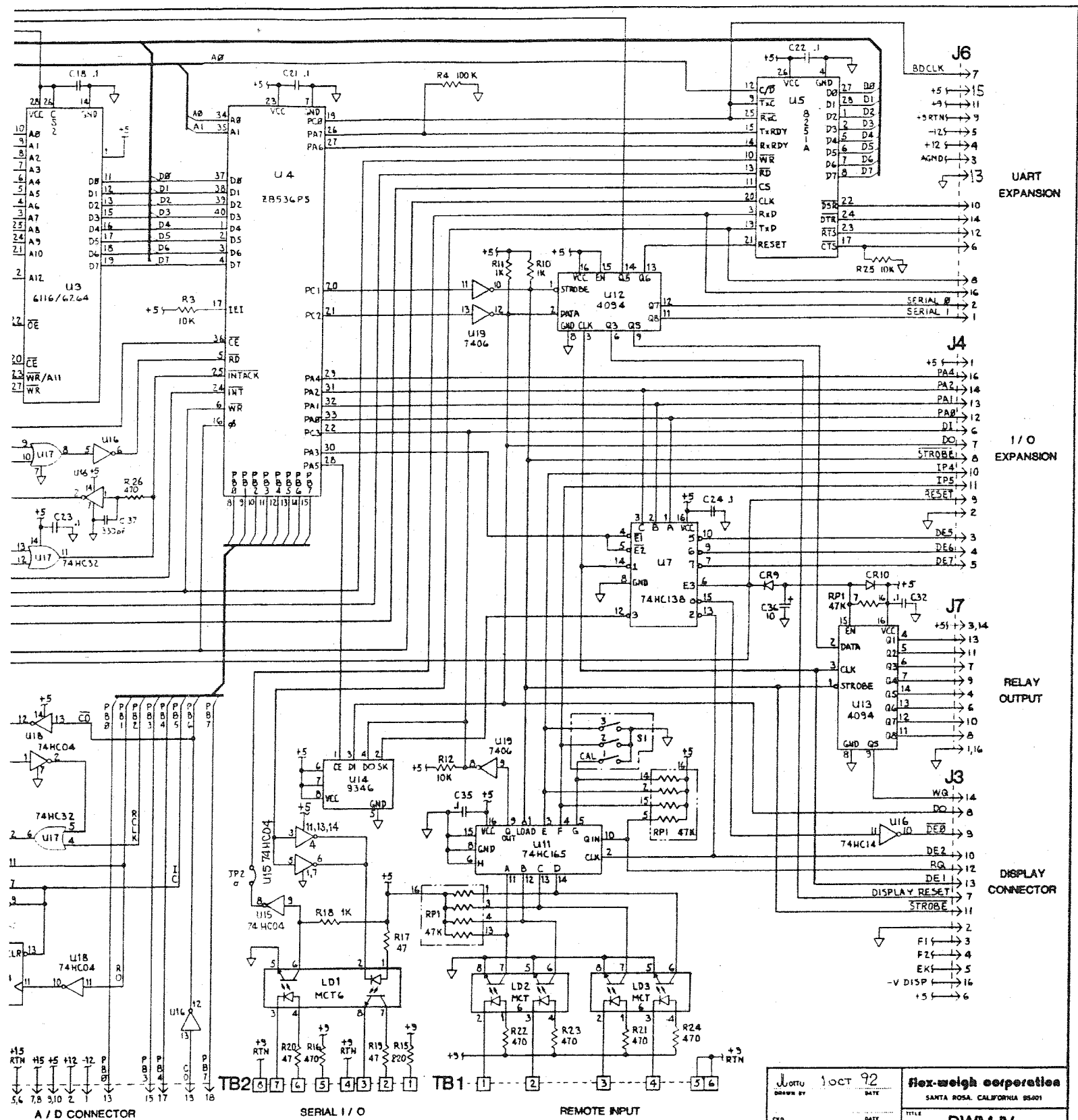
E	10-1
D	1-01
C	1-19
B	6-12
A	2-11
A	10-
A	11-
#	2A



NOTE :
LD1 IS MOUNTED ON SOLDER SIDE

flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
LOTTU 15 DECEMBER 86 DRAWN BY FM Sedillo CKD. FM Sedillo	DATE 15 DEC 86 DATE 15 DEC 86
TITLE DWMMIV DISPI AY ASSY. DWG.	



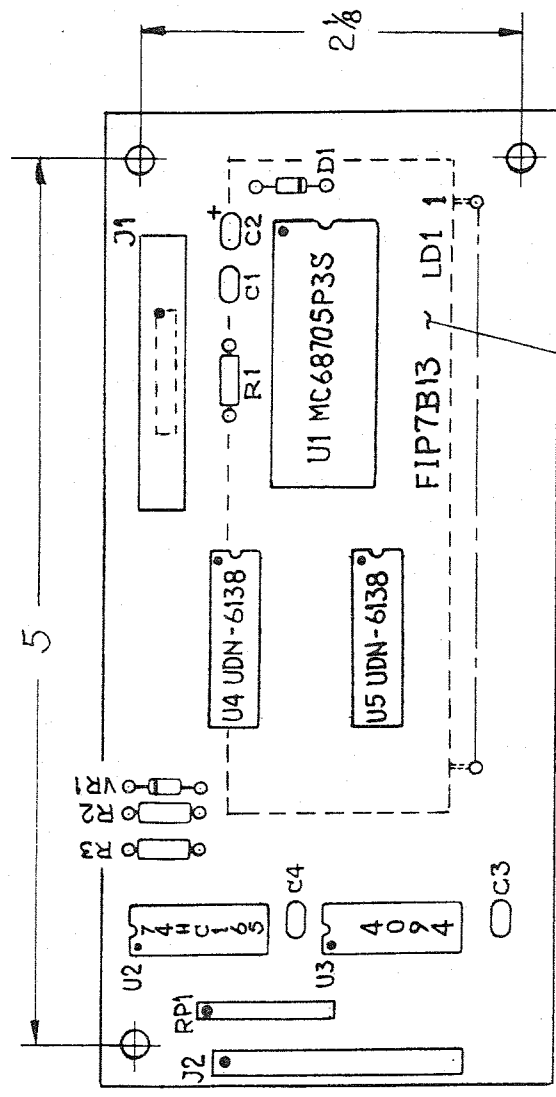
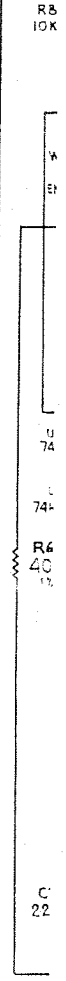


TEST POINT
 TRANSFORMER WIRE
 5 POINT
 OTHERWISE SPECIFIED

Ⓢ ALL RESISTORS ARE CARBON COMP. 1/4 WATT
 Ⓢ ALL CAPACITORS ARE MEASURED IN μ F

J.OTTU 1 OCT 92 DRAWN BY DATE		flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
C.D. FMS DATE		TITLE DWM IV MOTHERBOARD	
ENGR. DATE		SCALE 1	DWG NO. D
REV. DATE		SHEET ED2849-E	

E	10-1
D	1-07
C	1-11
B	1-12
A	1-13
1	1-14
2	1-15
3	1-16
4	1-17
5	1-18
6	1-19
7	1-20
8	1-21
9	1-22



NOTE :
 LD1 IS MOUNTED ON SOLDER SIDE

LOTTO 15 DECEMBER 86
 DRAWN BY DATE
 FM Sedillo 15 Dec 86
 CKD. DATE
 FM Sedillo 15 Dec 86

flex-weigh corporation
 SANTA ROSA, CALIFORNIA 95401
 TITLE **DWMIV**
 DESIGNED BY **ASCV DWM/C**

REF. SCH. EB2846-B

DATE

ENTER

SCALE

1:1

DWG.

A

DWG NO.

MA2847-C

DATE

ENTER

SCALE

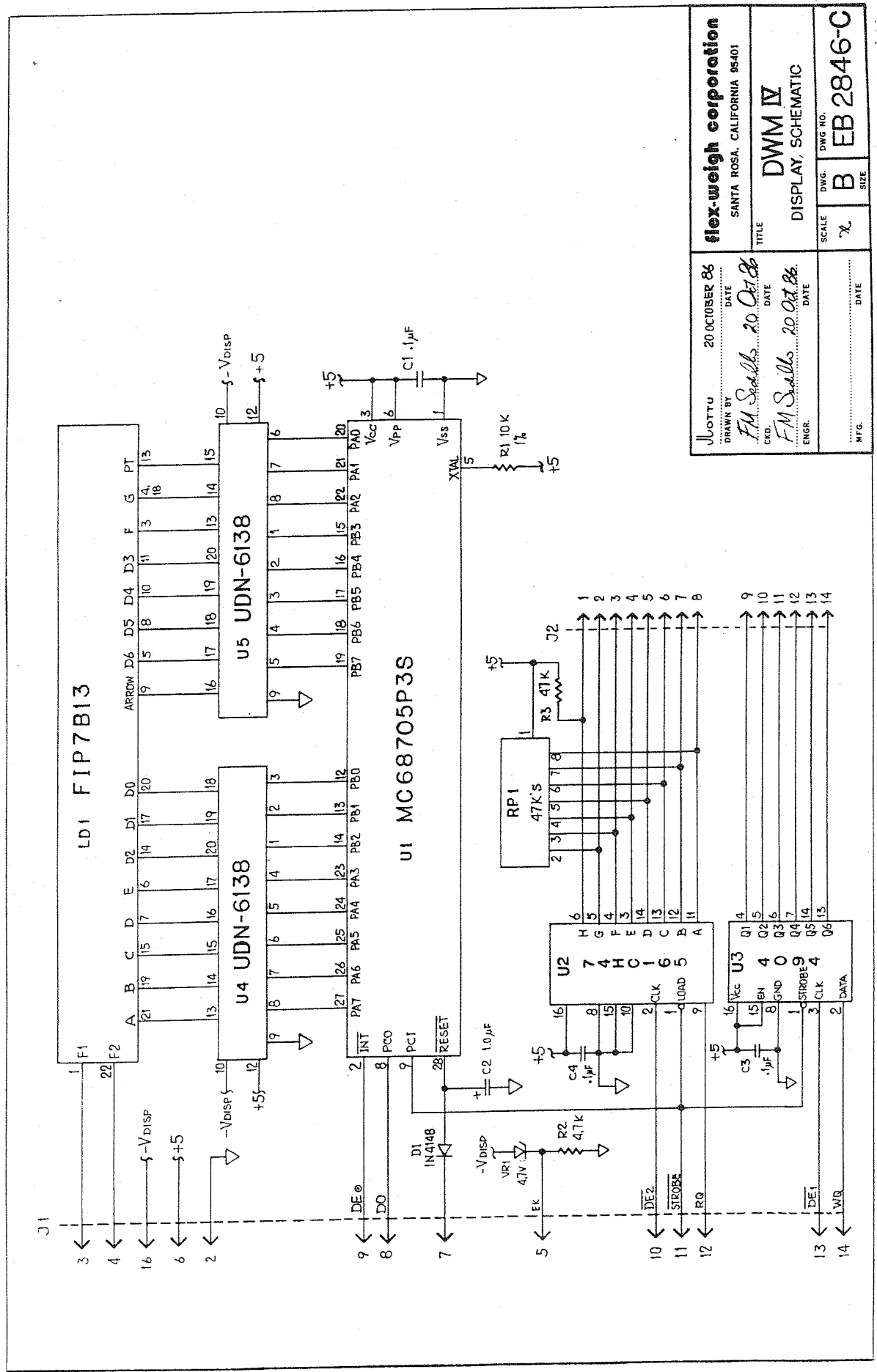
1:1

DWG.

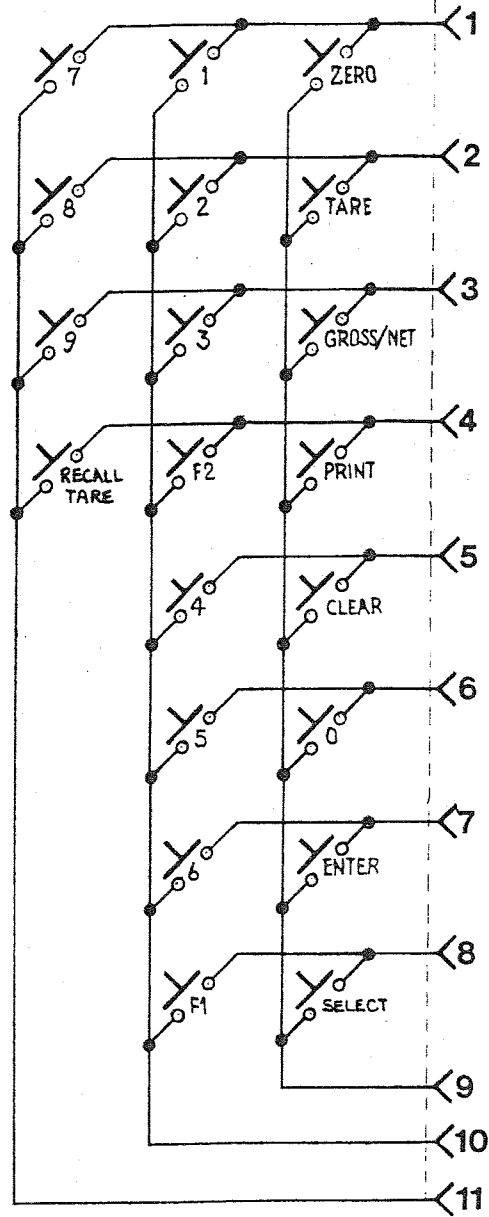
A

DWG NO.

MA2847-C



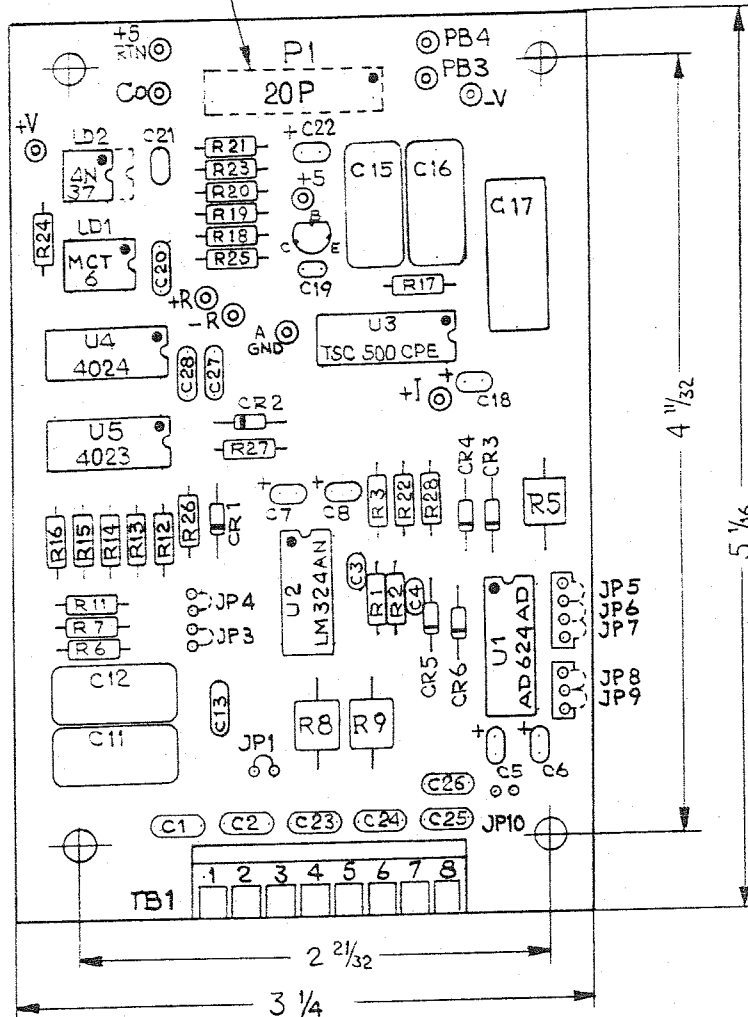
11PIN
FEMALE CONNECTOR
AT END OF 5' LG. FLEX CABLE



REF DWG. MB 2855-D FP DIMENSION DWG.

J. LOTTU		8-28-85		flex-weigh corporation	
DRAWN BY		DATE		SANTA ROSA, CALIFORNIA 94501	
R. L. L.		8-28-85		TITLE	
CHKD.		DATE		DWM IV	
FMS		8-28-85		KEYBOARD INTERFACE	
ENGR.		DATE		SCALE	
				2	
				DWS. NO.	
				A	
				EA 2921	
NFS.		DATE		SIZE	

P1 INSTALLED ON
SOLDER SIDE



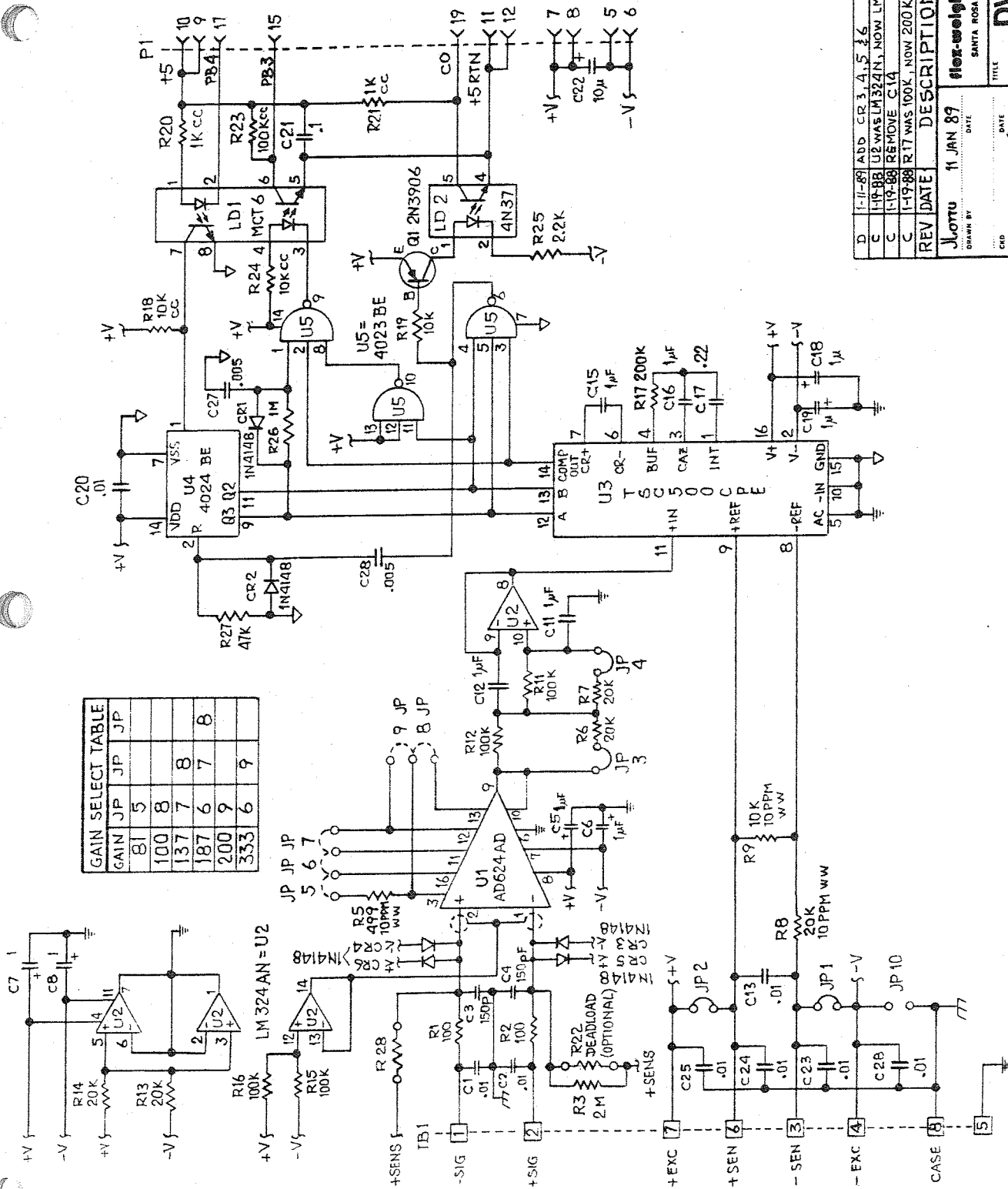
⊙ DENOTES TEST POINT

⊕ MOUNTING HOLES

REV	DATE	DESCRIPTION
D	1-11-89	ADD CR3, CR4, CR5, CR6
C	1-19-88	U2 WAS LM 324 N, NOW LM 324 AN
C	1-19-88	REMOVE C14
C	1-19-88	R17 WAS 100K, NOW 200K

LOTU DRAWN BY		11 JANUARY 89 DATE		flex-weigh corporat SANTA ROSA, CALIFORNIA 9540	
CKD. FMSO		DATE 11 JAN 89		TITLE DWM A/D ASSY DWG	
ENGR.		DATE		SCALE 1:1	
MFG.		DATE		DWG. SIZE A	
				DWG NO. MA2853	

GAIN SELECT TABLE			
GAIN	JP	JP	JP
81	5		
100	8		
137	7	8	
187	6	7	B
200	9		
333	6	9	



D	1-11-89	ADD CR3,4,5,6	FM50
C	1-14-88	U2 WAS LM324IN, NOW LM324AN	FM52
C	1-19-88	REMOVE C14	FM54
C	1-19-88	R17 WAS 100K, NOW 200K	FM50
REV	DATE	DESCRIPTION	SIG
1	11 JAN 89		
DRAWN BY		flex-welch corporation	
DATE		SANTA ROSA, CALIFORNIA 95401	
TITLE		DWM IV	
DATE		A/D	
SCALE	DWG NO	DATE	DATE
7	A	EA	2852-D

DWM — IV

OPTION BOARDS

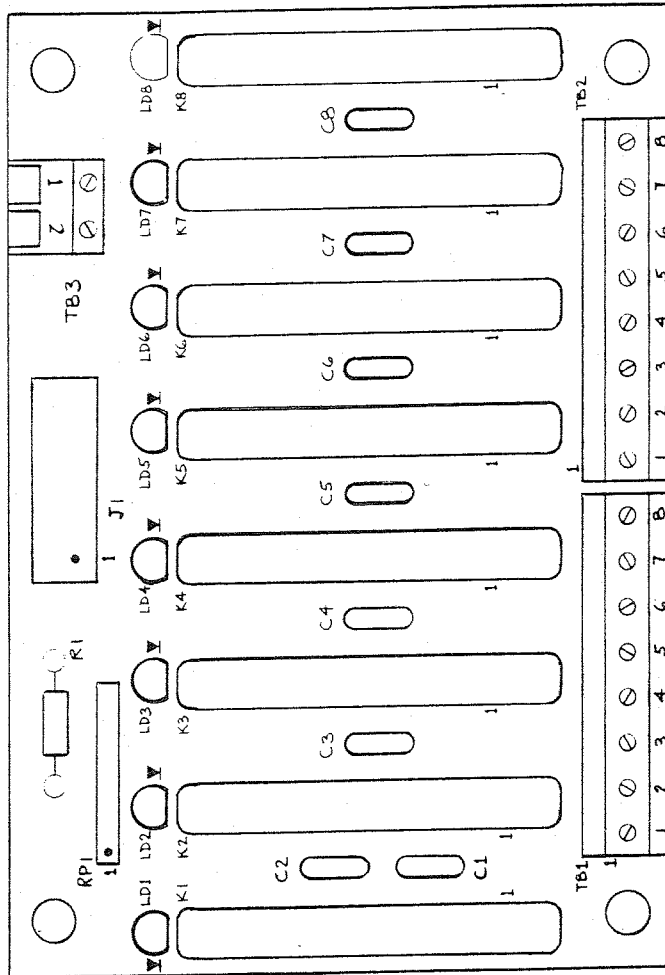
ELECTRONIC SCHEMATICS & ASSEMBLY DRAWINGS

EXPANDED I/O _____ EB 2475-A MB 2476-A

ANALOG OUTPUT _____ EB 3090 MA 3091

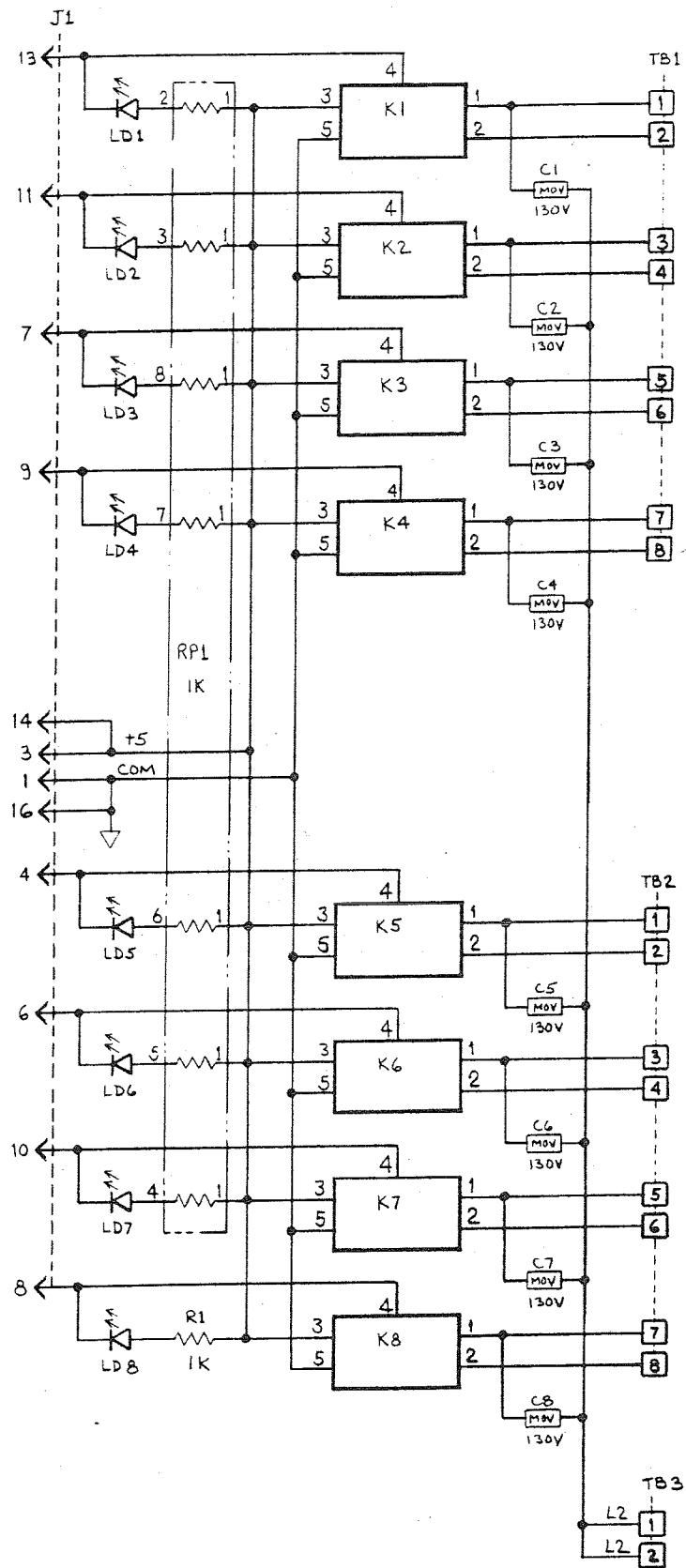
DUAL RS232 _____ EB 3047-B MA 3070-A

PARALLEL BCD _____ EA 3366 MA 3365

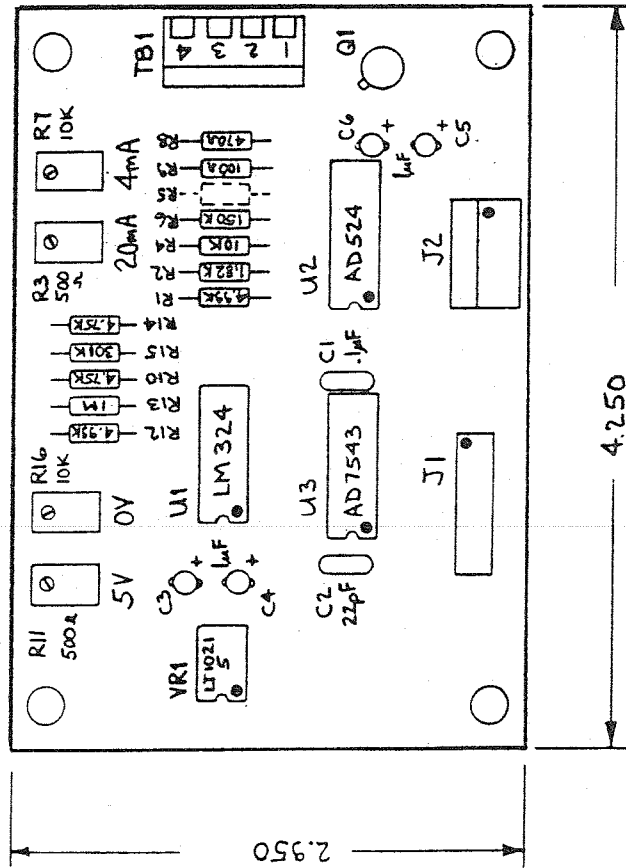


R KLEIN 7/25/84 DRAWN BY DATE		flex-weigh corporation SANTA ROSA, CALIFORNIA 94501	
CAD. FM S. 005 6/25/84 ENGR. DATE		TITLE EXPANDED I/O S.S. SWITCHES ASSY. DWG.	
DATE 6/25/84		SCALE 2:1	
DATE 6/25/84		DWG. NO. MB 2476	
DATE 6/25/84		REV A	

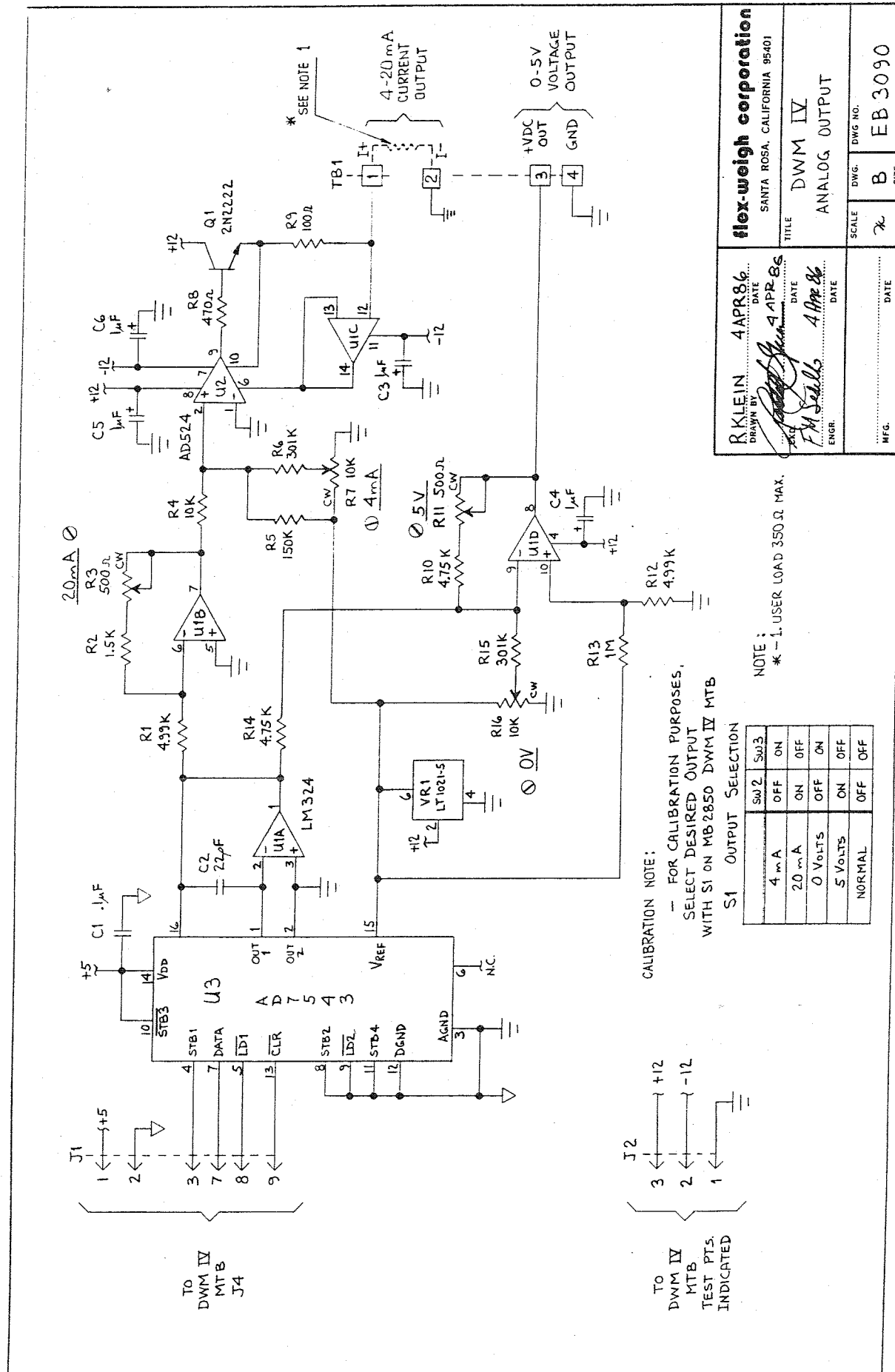
NOTE - K1 TO K8 ARE CRYDION SOLID STATE RELAYS:
 ① DMP 6402 A FOR OUTPUT
 ② DMP 6401 A FOR INPUT



R. KLEIN		7/25/84	
DRAWN BY		DATE	
FM Sells		6/24/84	
ENGR.		DATE	
MFG.		DATE	
SCALE	DWG. NO.	REV.	
1/2"	B	2475	
TITLE		A	
EXPANDED I/O			
S.S. SWITCHES			
flex-weigh corporation			
SANTA ROSA, CALIFORNIA 94501			



A 5-26-88 R2 WAS 1.5K; R6 WAS 301K; REMOVE R5.		D.H.	
REV DATE		INT	
COMMENT			
R. KLEIN DRAWN BY		flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
12 MAR 86 DATE		DWM IV TITLE	
FM Sealto 12 MAR 86 ENGR.		ANALOG OUTPUT (ASSY DWG) 4-20mA WITH OFFSET	
DATE		SCALE	DWG NO.
DATE		A	MA 3091-A



flex weigh corporation

SANTA ROSA, CALIFORNIA 95401

RKLEIN 4 APR 86

DATE 4 APR 86

DRAWN BY

DATE 4 APR 86

ENGR

DATE

TITLE DWM IV

ANALOG OUTPUT

SCALE

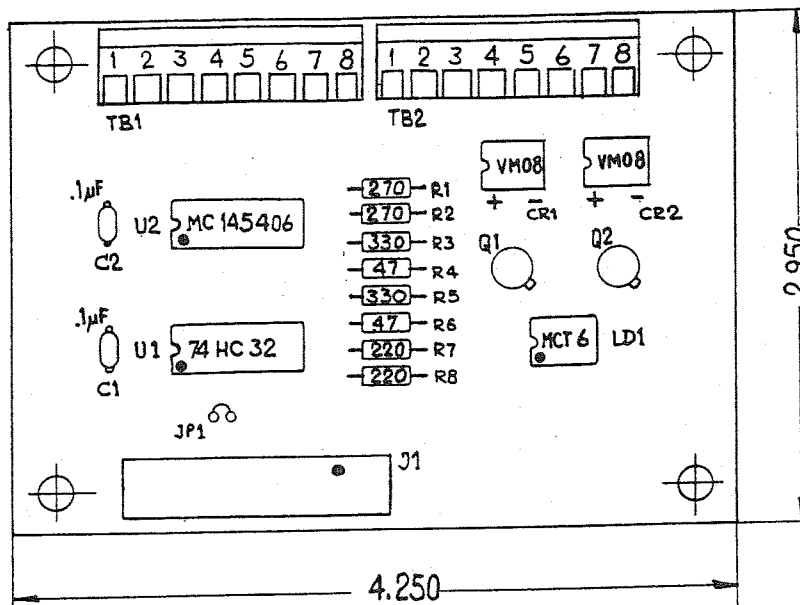
DWG. NO.

SIZE

MFG.

DATE

EB 3090



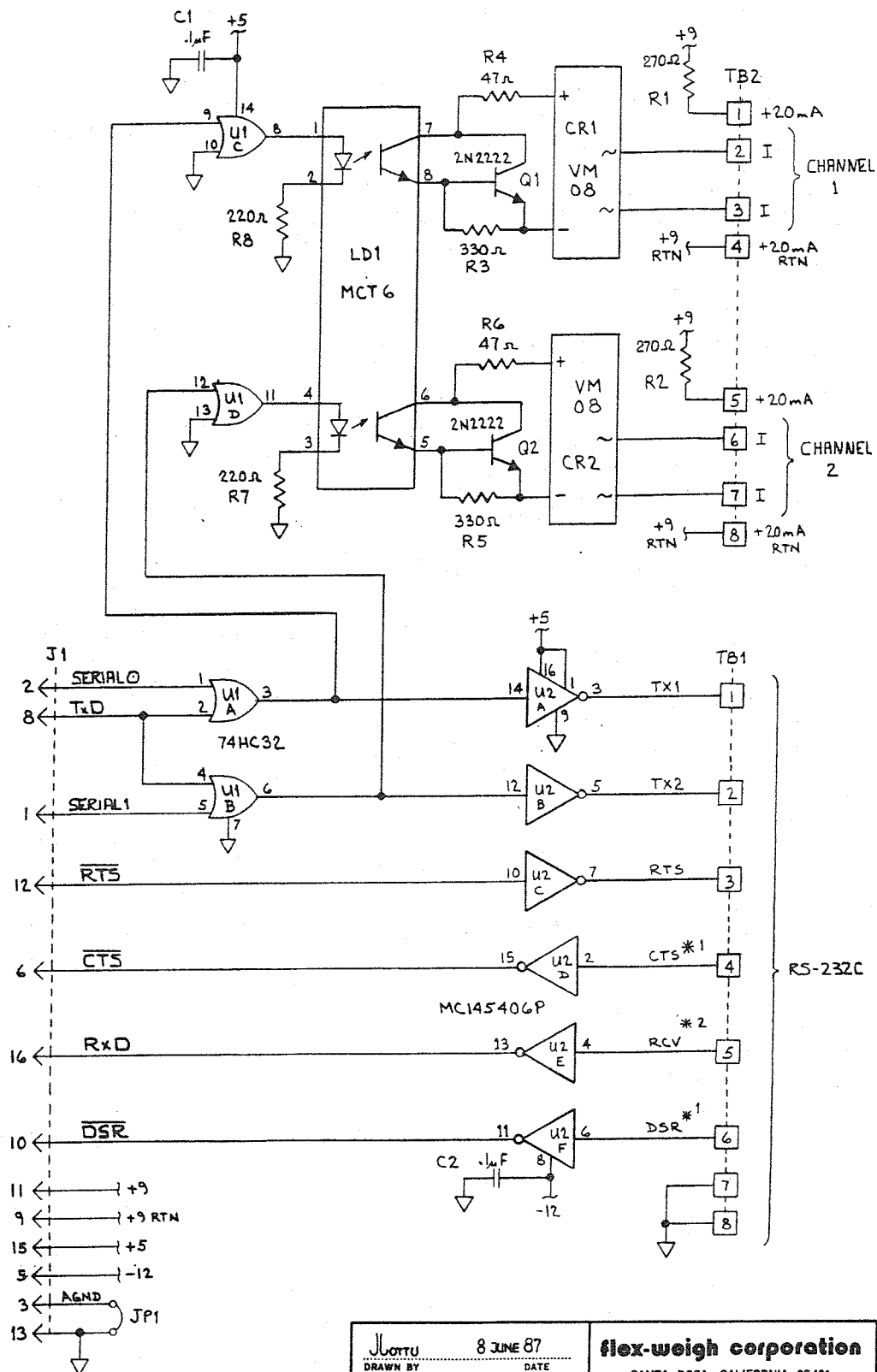
REF EB 3047-A SCHEM

J. OTTU 17 NOVEMBER 86 DRAWN BY DATE <i>FM Sedillo</i> 17 Nov 86 CKD. DATE <i>FM Sedillo</i> 17 Nov 86 ENGR. DATE		flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
		TITLE DWM IV DUAL RS 232 / CURRENT LOOP ASSY DWG.	
		SCALE 1:1	DWG. NO. A MA3070 A SIZE
MFG. DATE			

TO
DWM IV
MTB
J6

- NOTES:
- 1 - IF BUSY INPUT NOT USED, CONNECT RTS TO CTS AND DSR
 - IF BUSY USED, CONNECT RTS AND CTS AND USE DSR FOR BUSY
 - 2 - CUT JP1 ON EQ 2849 MOTHER BRD

REF MA 3070-A ASSY DWG

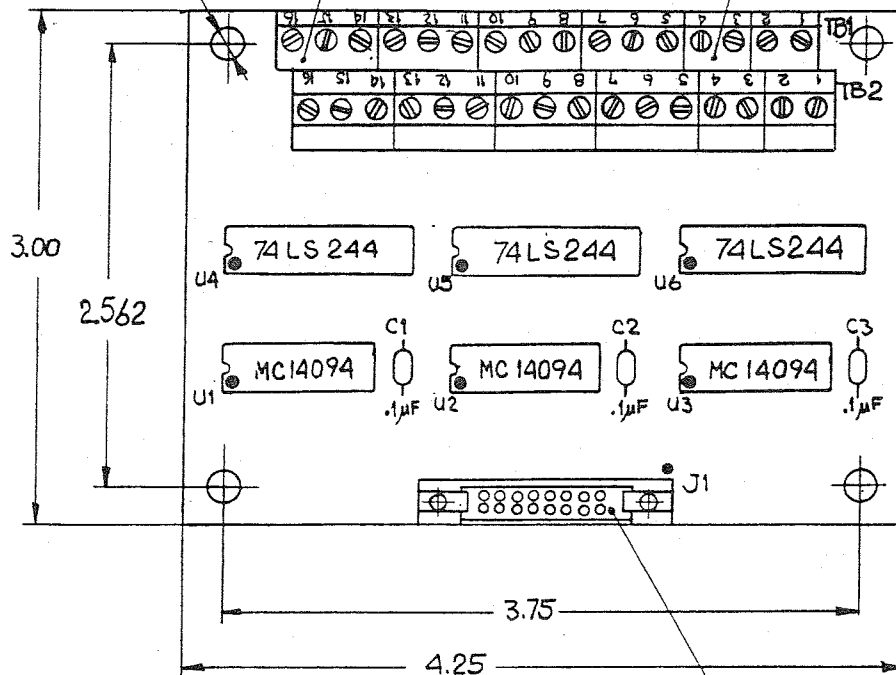


JLottu 8 JUNE 87		flex-weigh corporation	
DRAWN BY DATE		SANTA ROSA, CALIFORNIA 95401	
FM Sadi 8 JUN 87		TITLE	
CKD. DATE		DWM IV	
FM Sadi 8 JUN 87		DUAL RS232/CURRENT LOOP INTERFACE	
ENGR. DATE		SCALE	DWG. NO.
MFG. DATE		2	B
		SIZE	EB3047-B

(4) 3/16 DIA HOLE

MKKDS 1.5/3-5.08

MKKDS 1.5/2-5.08



3M 3408-400-5

REF SCHEM. EA 3366

JLottu 6 MARCH 87
DRAWN BY DATE
FM Sedillo 6 MAR 87
CKD. DATE
FM Sedillo 6 MAR 87
ENGR. DATE

MFG.

DATE

flex-weigh corporation

SANTA ROSA, CALIFORNIA 95401

TITLE

DWM IV BCD
PARALLEL BCD OUTPUT BOARD w/ENABL
(ASSY DWG)

SCALE

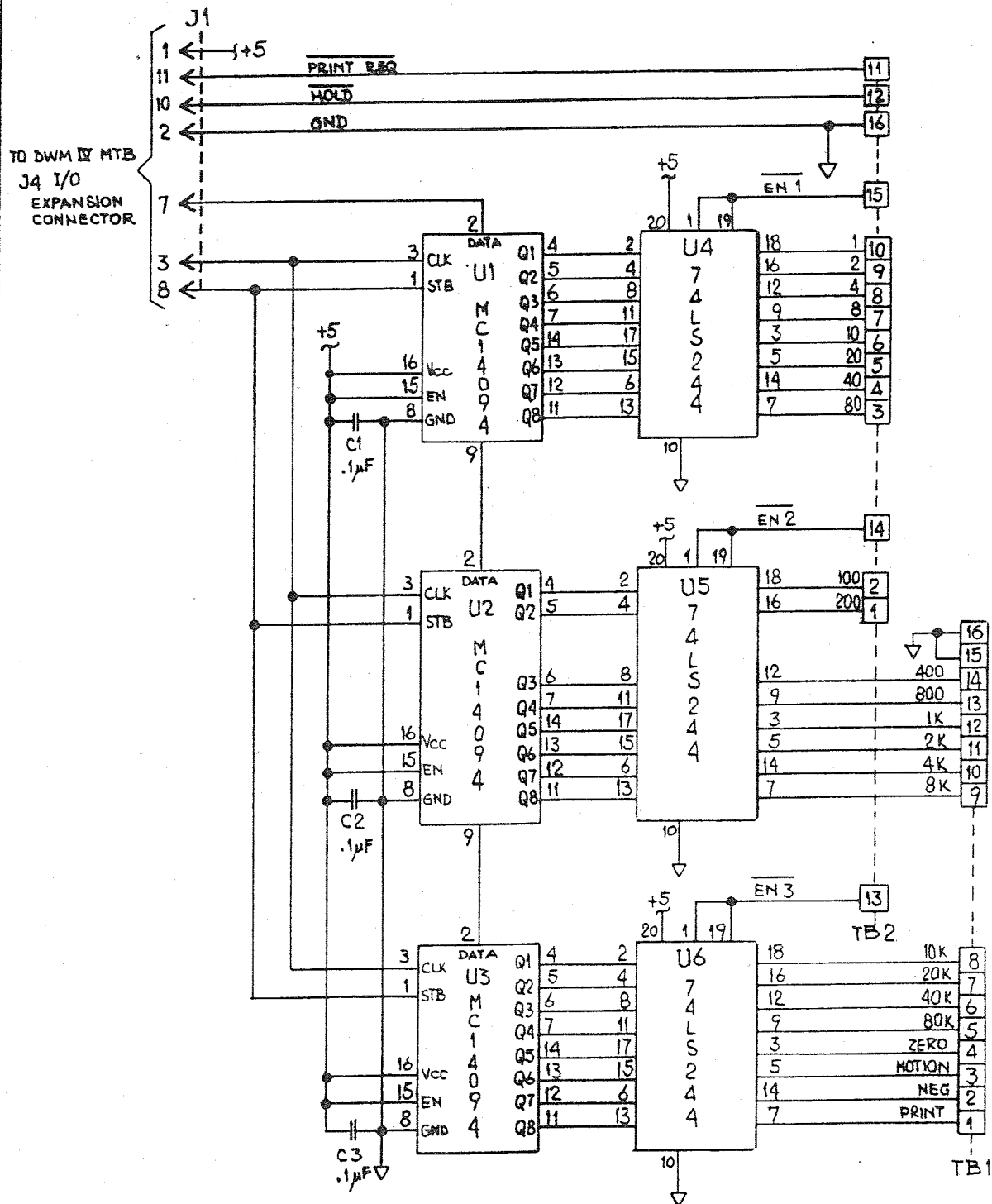
1X

DWG.

A
SIZE

DWG NO.

MA 3365



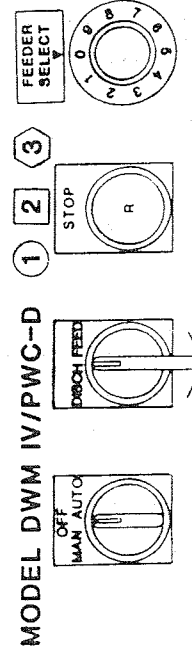
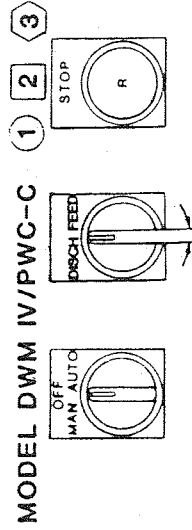
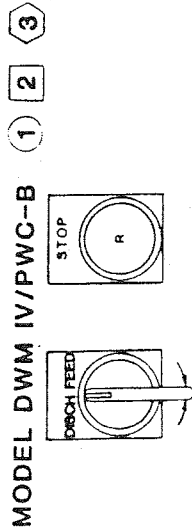
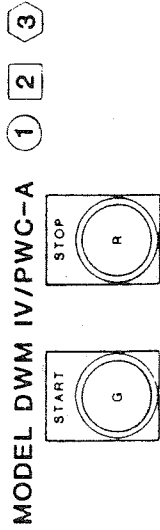
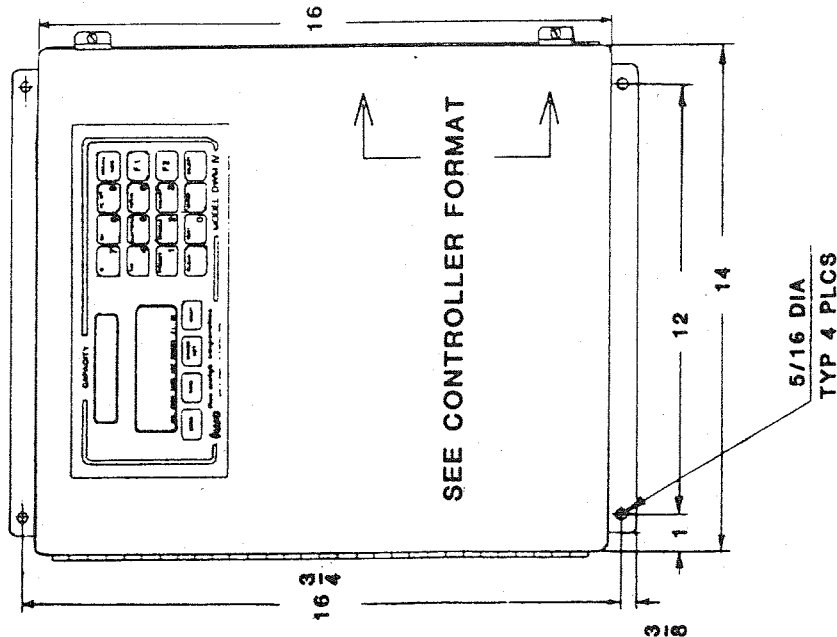
NOTES

1. ZERO, NEG AND MOTION OUTPUTS ARE LOGIC HIGH IF CONDITION IS TRUE
2. IF ENABLES NOT USED, TIE TB2, PIN 13, 14 & 15 (EN3, EN2, EN1) TO TB2, PIN 16 (GND)

REF ASSY DWG MA3365

JLortu DRAWN BY	3-05-87 DATE	flex-weigh corporation SANTA ROSA, CALIFORNIA 95401
<i>[Signature]</i> FMS	6 MAR 87 DATE	TITLE DWM IV PARALLEL BCD OUTPUT WITH ENABLES
ENG	DATE	SCALE X
MFG	DATE	REV A
		DWG NO EA3366

MODEL DWM IV / PWC PRESET WEIGHT CONTROLLER FRONT PANEL CONFIGURATION



- ① No. of setpoints: 1-6 for single speed feed control
1-3 for two speed feed control
- ② 1 single speed feed
2 two speed feed
- ③ type of two speed feed control: P parallel
S sequential
N not applicable

DWM IV / PWC

Description -

The PWC is a standard DWM IV with the addition of a relay board and battery backed up memory. It has the capability of six single-speed or three two-speed presets. When used for batching, it will usually be necessary to add external logic and controls.

Operation -

Presets must be entered sequentially with the lowest value in PRESET 1 and the greatest value in PRESET n, where n is the final preset.

IMPORTANT: Be careful not to mistake P0 for the first preset, which is P1.

PRESET 0 is the ZERO INTERLOCK range; the range that the weight reading must be in to energize the ZERO INTERLOCK relay (K8). ZERO INTERLOCK need not be entered unless the ZERO INTERLOCK or FILL COMPLETE functions are utilized.

FILL COMPLETE (K7) is energized when the weight display is equal to or greater than the largest preset value. It remains energized until two seconds after the weight reading returns to within the ZERO INTERLOCK range. When weight reading returns to ZERO INTERLOCK range, ZERO INTERLOCK relay will energize.

Example:

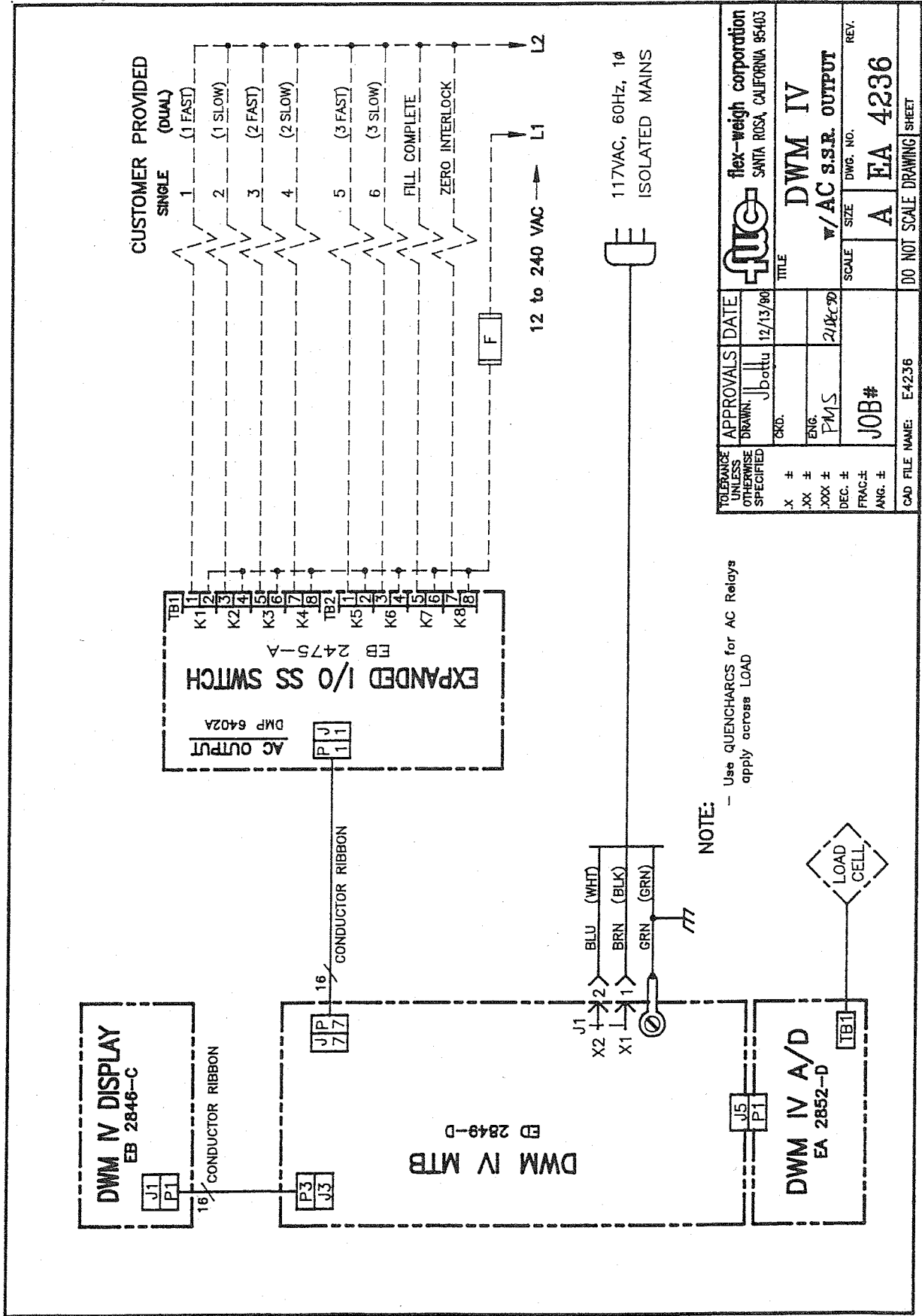
Configuration is for up to six single-speed presets.

PRESET 0 = 10
PRESET 1 = 100
PRESET 2 = 200
PRESET 3 = 300
PRESET 4 = 0
PRESET 5 = 0
PRESET 6 = 0

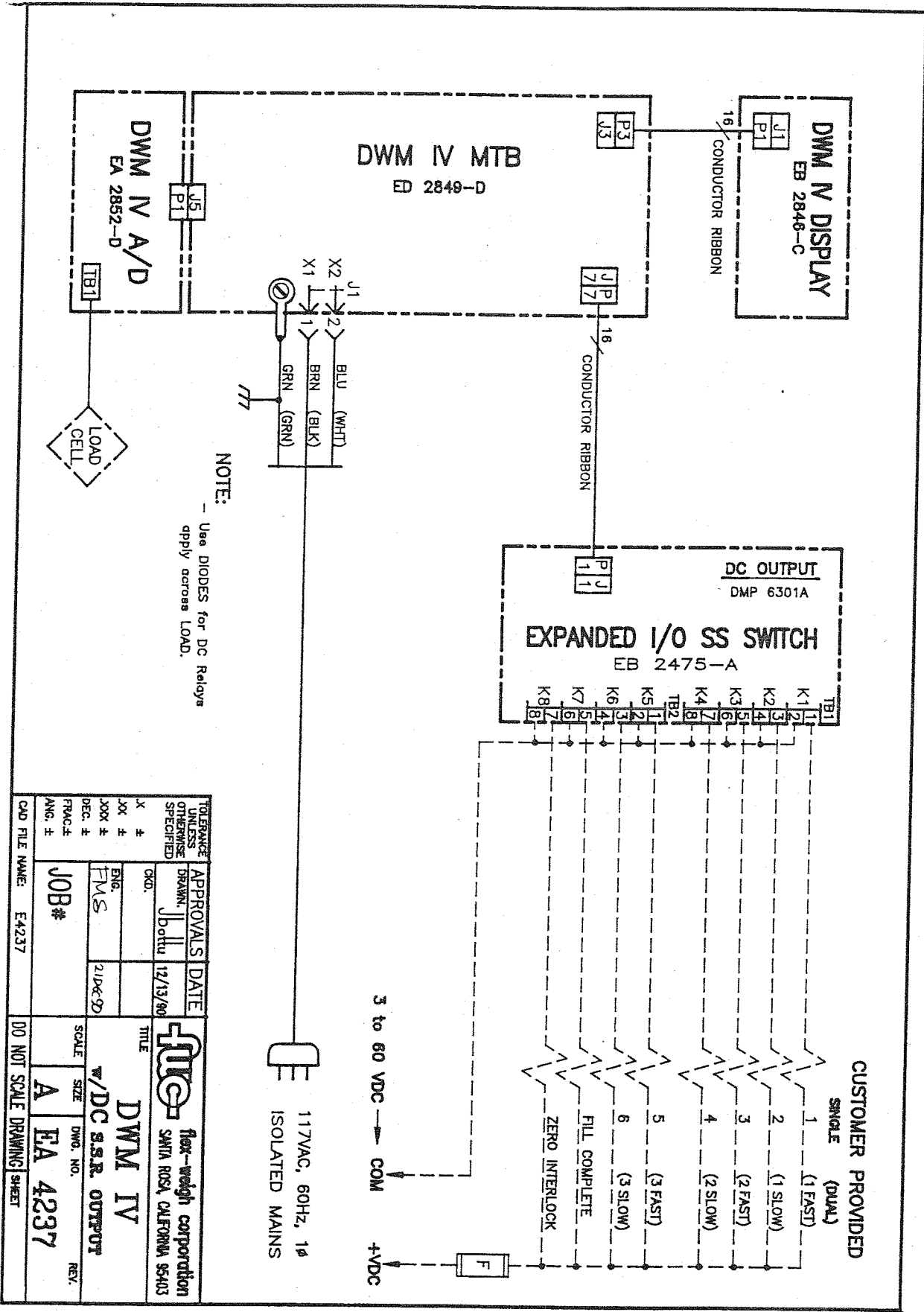
Relay operation is as follows:

Weight reading	Relay on	Description
0 - 9	K1, K8	PRESET 1, ZERO INTERLOCK
10 - 99	K1	PRESET 1
100 - 199	K2	PRESET 2
200 - 299	K3	PRESET 3
300 - CAPACITY	K7	FILL COMPLETE

Relays K1 - K6 will singularly energize whenever the weight reading is below the value entered for its PRESET. Therefore, even after the fill complete relay has been energized, when the weight is removed from the scale the relay output corresponding to that weight will energize. This is the reason that external controls are needed for batching.

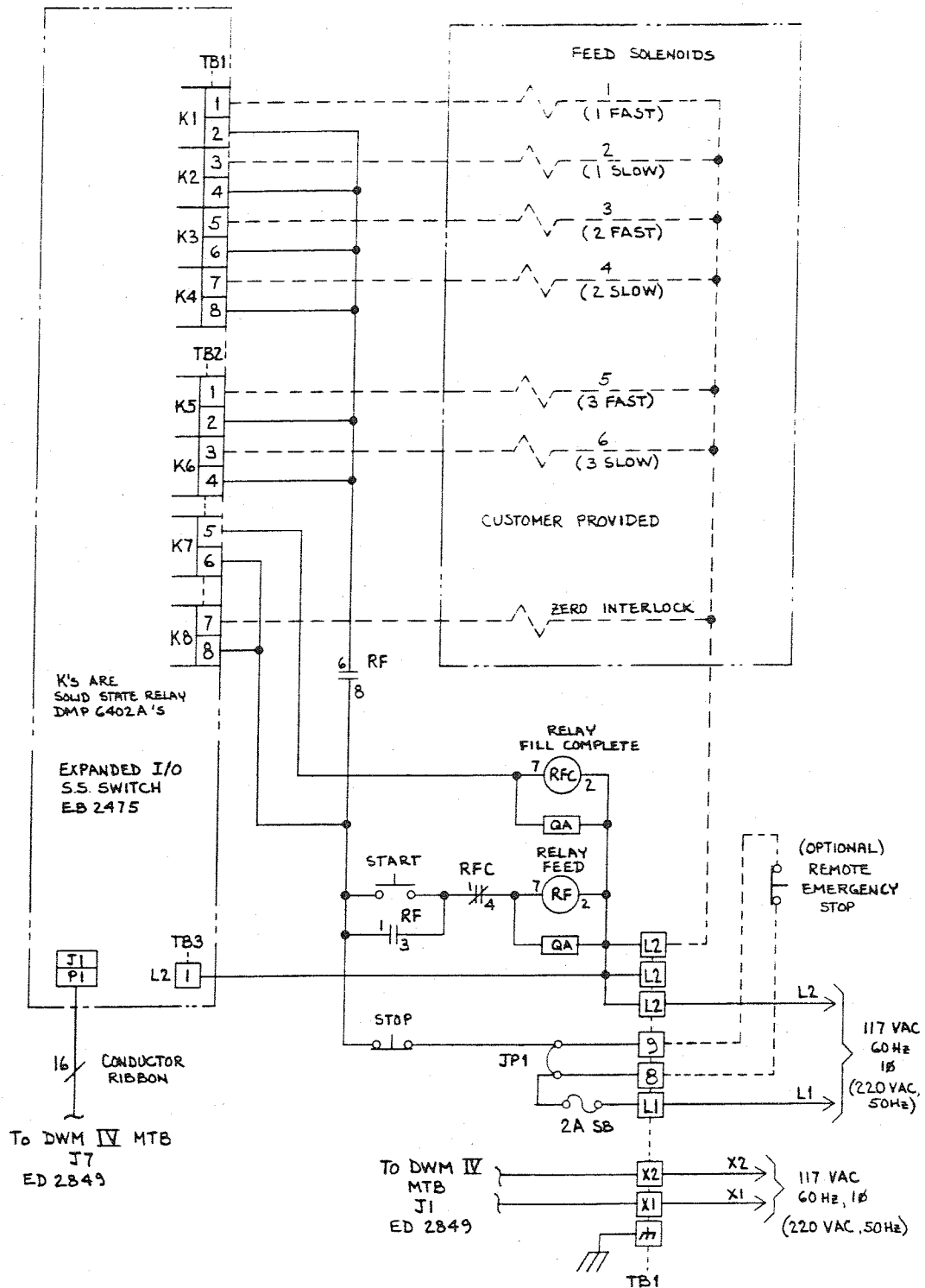


TOLERANCE UNLESS OTHERWISE SPECIFIED	APPROVALS DRAWN. J botlu	DATE 12/13/90	flex-weight corporation SANTA ROSA, CALIFORNIA 95403
X ± XX ± XXX ± DEC. ± FRAC. ± ANG. ±	ENG. PMS	2/18/90	TITLE DWM IV
	JOB#		W/AC S.S.R. OUTPUT
			SCALE SIZE A
			DWG. NO. EA 4236
			REV.
			DO NOT SCALE DRAWING SHEET



TOLERANCE UNLESS OTHERWISE SPECIFIED		APPROVALS		DATE	
±	XX ±	OKD.	Jbotu	12/13/90	
±	XXX ±	ENG.	FMS	2/16/90	
±	DEC. ±				
±	FRACTIONAL				
JOB#		TITLE		DWM IV	
CAD FILE NAME: E4237		SCALE		A	
DO NOT SCALE DRAWING		SIZE		A	
SHEET		DWG. NO.		EA 4237	
		REV.			

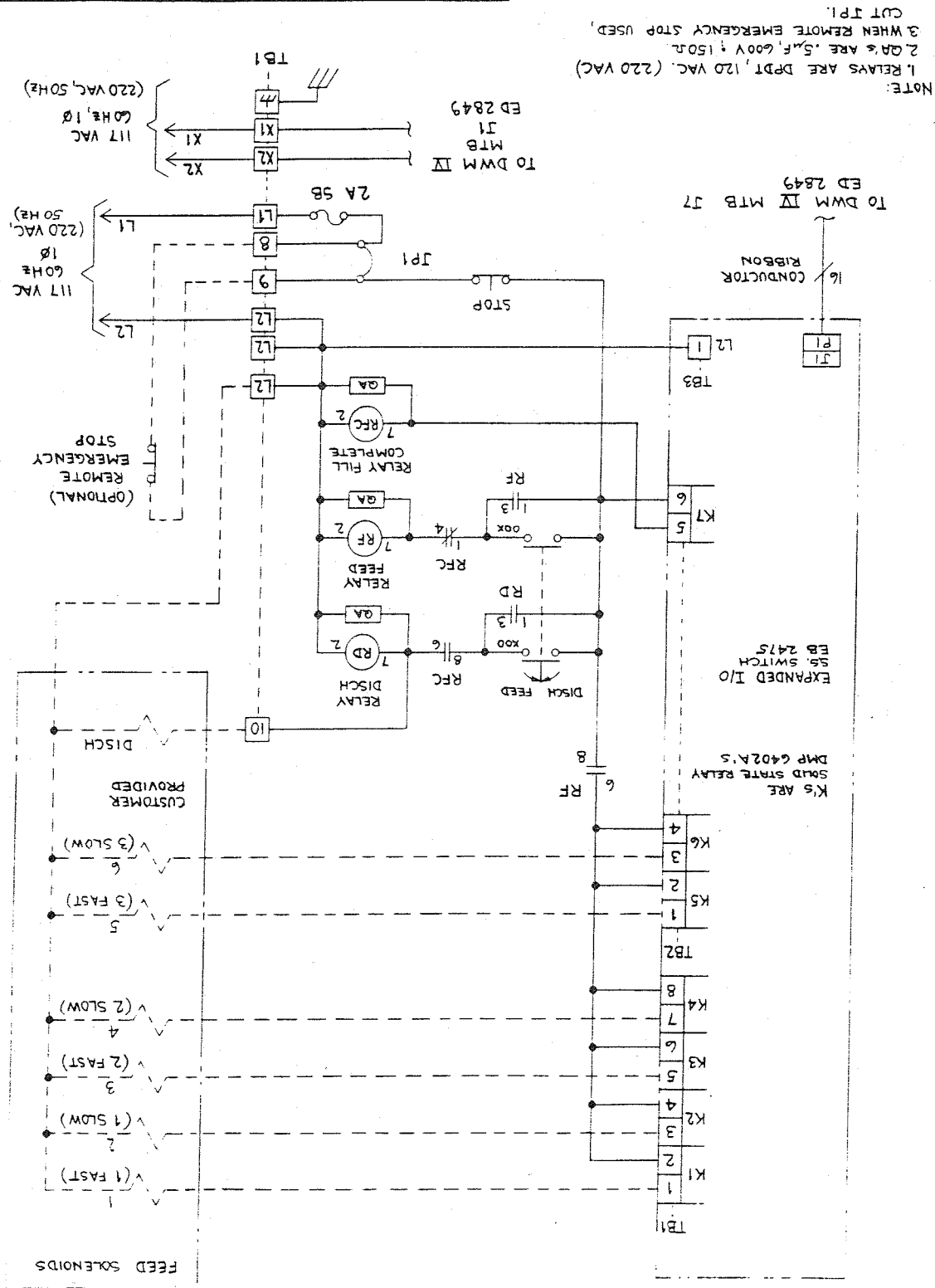
flex-welch corporation
SANTA ROSA, CALIFORNIA 95403

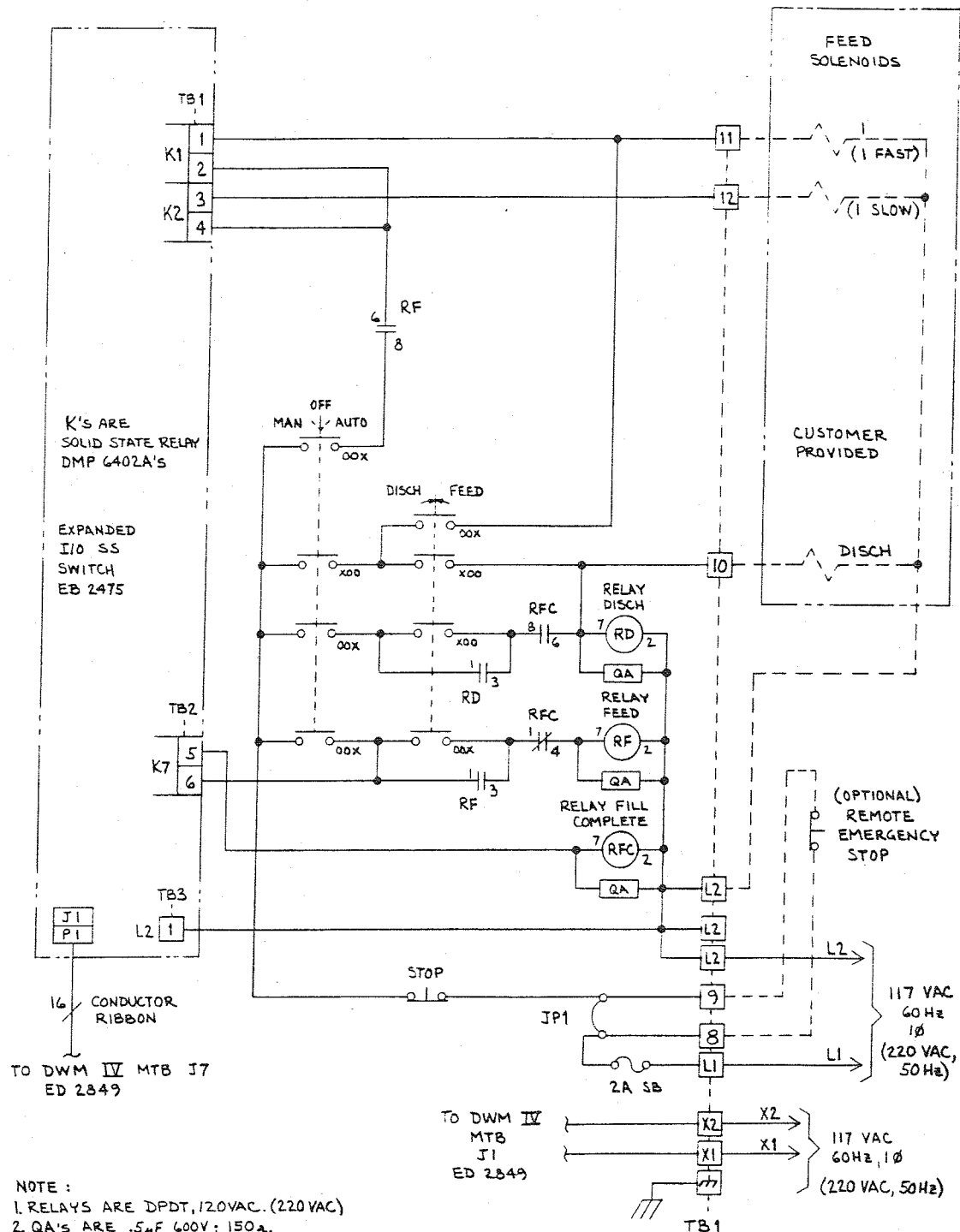


R KLEIN 14 FEB 86 DRAWN BY DATE		flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
CKD. 3/10/86 DATE		TITLE DWM IV/PWC-A WIRING DIAGRAM	
EMGR. 3/22/86 DATE		SCALE DWG. DWG NO. X B EB 3072-A SIZE	
REV. DATE DESCRIP. INT.		MFG. DATE	

A	15 MAR 86	REVERSE SSR COUL.	RK
REV	DATE	DESCRIP.	INT.

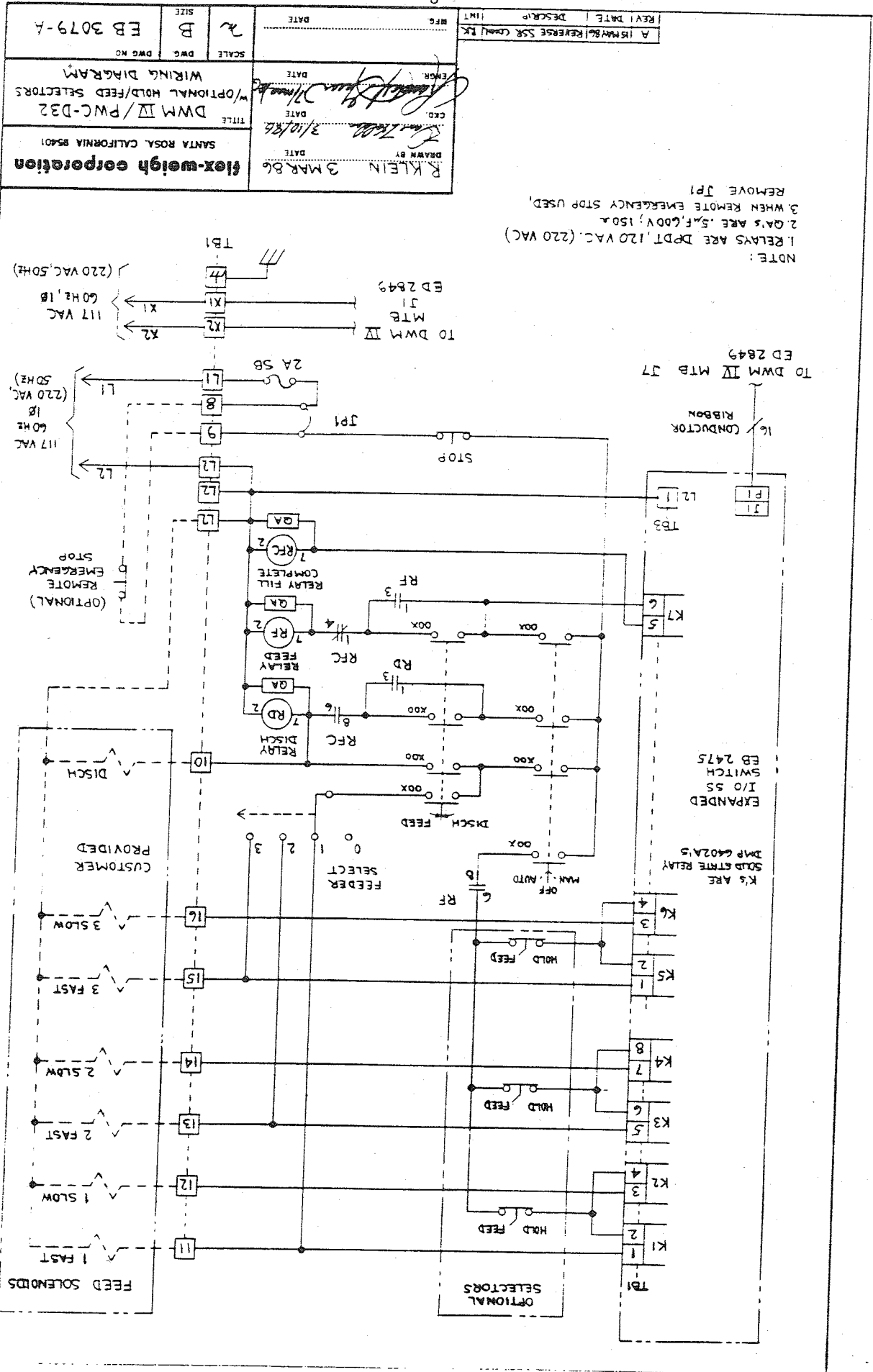
REV. DATE		DESCRIP.		WT.	MFG.
A		ISHWB REVERSE SSR CONN.		AK	
DRAWN BY: R. KLEIN DATE: 4 MAR 86 CHECKED: [Signature] DATE: 7 MAR 86 ENGR: [Signature] DATE: 7 MAR 86					
TITLE: DWM IV / PWC-B WIRING DIAGRAM					
SCALE: X SIZE: B DWG. NO.: EB 3073-A					
flex-weigh corporation SANTA ROSA, CALIFORNIA 95401					

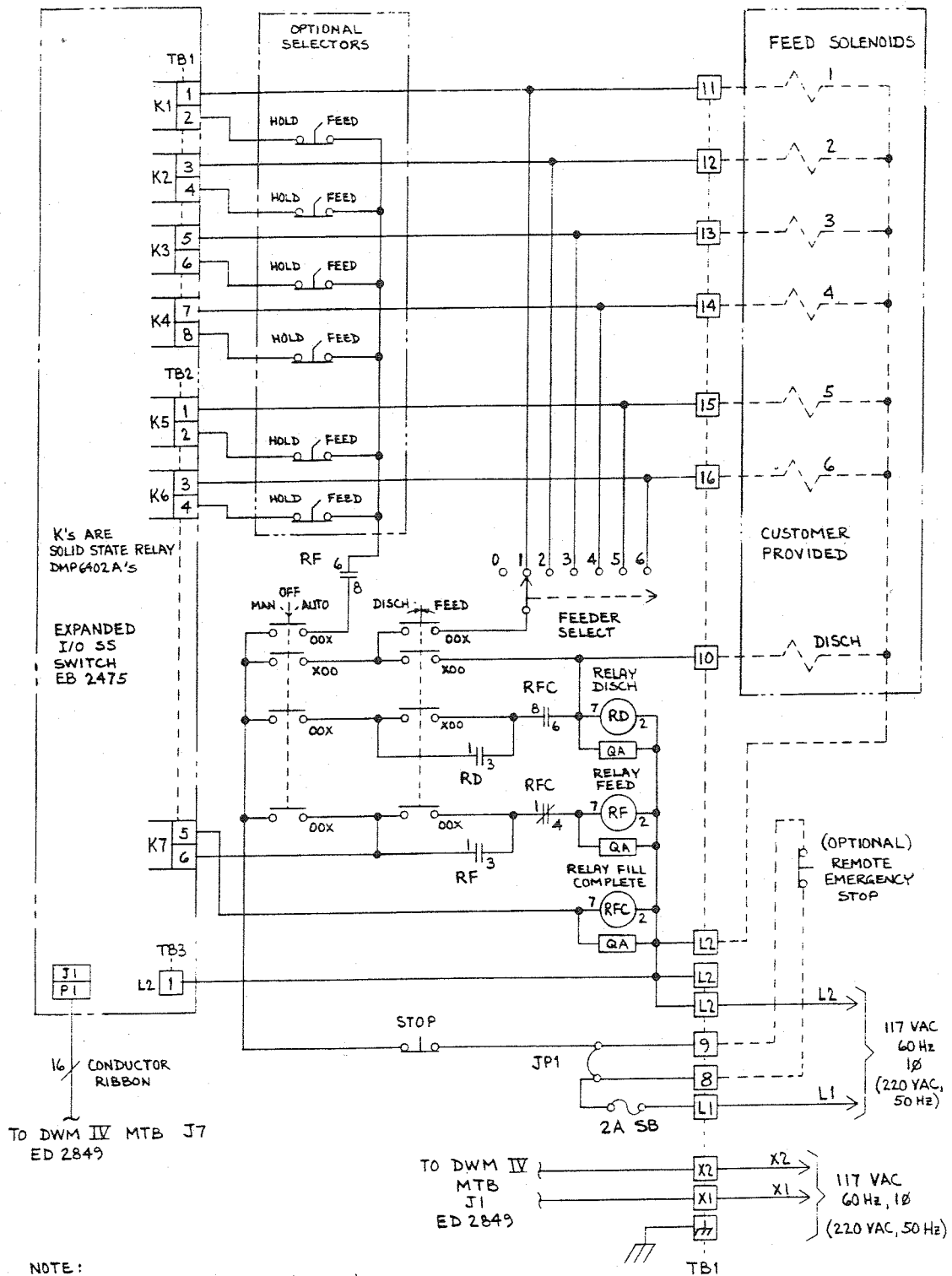




R KLEIN 26 FEB 86		flex-weigh corporation	
DRAWN BY DATE		SANTA ROSA, CALIFORNIA 95401	
CKD DATE		TITLE	
ENGR DATE		DWM IV / PWC-C	
		WIRING DIAGRAM	
SCALE	DWG.	DWG NO.	
2	B	EB 3074-A	

REV	DATE	DESCRIP	INT
A	15 MAR 86	REVERSE SSR CONN.	RK





NOTE:

1. RELAYS ARE DPDT, 120 VAC. (220 VAC)
2. QA'S ARE .5µF, 600V; 150mA.
3. WHEN REMOTE EMERGENCY STOP USED, REMOVE JP1

R KLEIN 25 FEB 86 DRAWN BY DATE		flex-weigh corporation SANTA ROSA, CALIFORNIA 95401	
CKD DATE 3/10/86		TITLE DWM IV/PWC-DG1N	
DATE 3/25/85		W/OPTIONAL HOLD/FEED SELECTORS	
DATE		WIRING DIAGRAM	
SCALE	DWG.	DWG NO.	
7X	B	EB 3080-A	
REV	DATE	DESCRIP	
A	15 MAY 86	REVERSE SSR CONN. RK	
REV	DATE	DESCRIP	
MFG.		DATE	