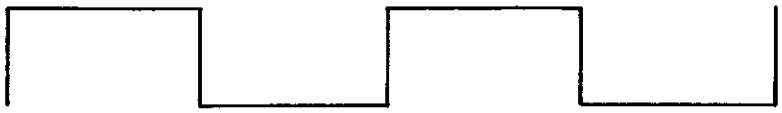
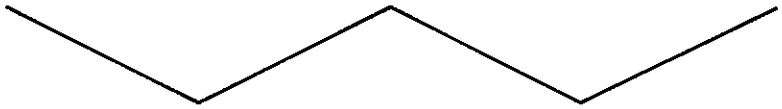
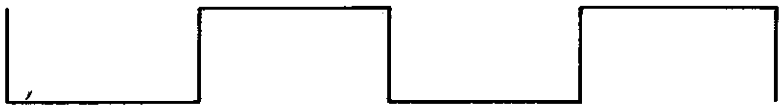
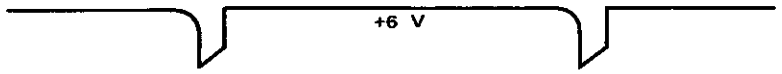
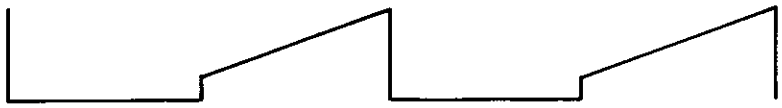
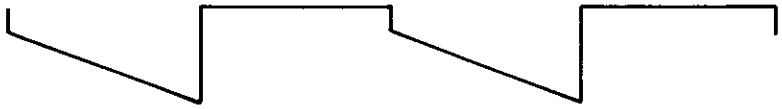
Table 4-3. KEY WAVEFORMS

Test Point	Waveform
SYNC Output, ±2.5 V	
Triangle Ampl Out, ±1.25 V (at WAVEFORM SELECTOR)	
Sine Ampl Out, ±1.25 V (at WAVEFORM SELECTOR)	
Square Ampl Out, ±1.25 V (at WAVEFORM SELECTOR)	
50Ω OUT (Inverse of 3 above)	
Q11 Emitter, ±2.5 V	
Q10 Base	
Q15 Base	
Sine Module pin 2 (±600 mV)	
Sine Module pin 5 (±125 mV)	
CR10 Anode, ±2 V	
CR9, Cathode, ±2 V	

In order to aid the trouble shooting procedure for the sweep board the following tables are provided for the three operational modes. The information indicates only the normal conditions and the proper sequence of operations.

SWEEP GENERATOR

Continuous Mode

Sequence	Device	State	Note
1.	Q12	OFF	Q10 and Q11 are OFF in this mode.
	Q25A (to R65)	OFF	As soon as SWEEP output moves
	A27	OFF	toward positive peak.
2.	Q24A (to R62)	OFF	When sweep output reaches peak voltage.
3.	Q14	OFF	
	Q26	OFF	
4.	Q28	ON	V ref (peak) is changed to GND.
	Q12	ON	Forces timing capacitor to discharge through Q12. Sweep output changes its direction from + peak toward zero.
5.	Q25A	ON	When sweep output reaches zero volt.
6.	Q27	ON	
7.	Q28	OFF	V ref (peak) is restored to +5 volts.
	Q26	OFF	Q26 was OFF at seq. 3.
8.	Q24A	ON	

SECTION 5
PARTS AND SCHEMATICS

5.1 DRAWINGS

The following assembly drawings (with parts lists) and schematics are in the arrangement shown below.

5.2 ORDERING PARTS

When ordering spare parts, please specify part number, circuit reference, board, serial number of unit and, if applicable, the function performed.

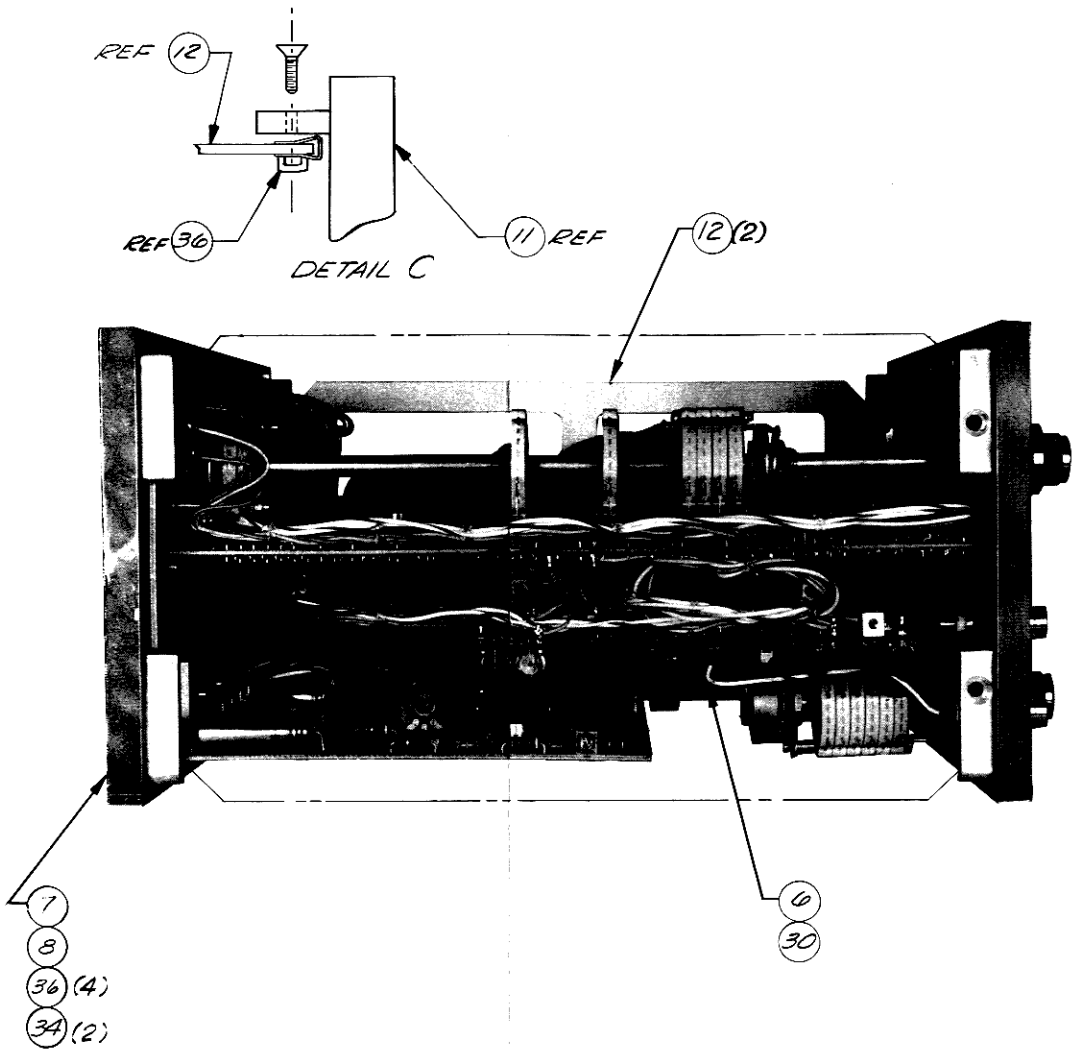
5.3 ADDENDA

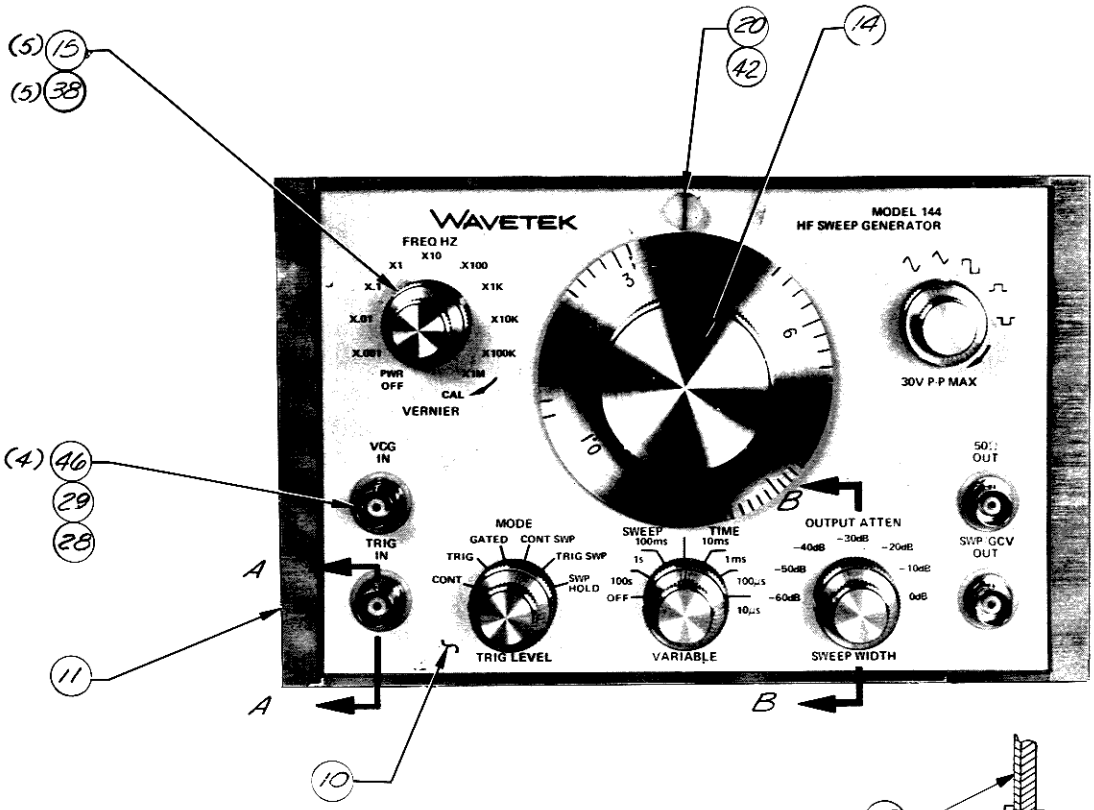
Under Wavetek's product improvement program, the latest electronic designs and circuits are incorporated into each Wavetek instrument as quickly as development and testing permit. Because of the time needed to compose and print instruction manuals, it is not always possible to include the most recent changes in the initial printing. Whenever this occurs, addendum pages are prepared to summarize the changes made and are inserted immediately inside the rear cover. If no such pages exist, the manual is correct as printed.

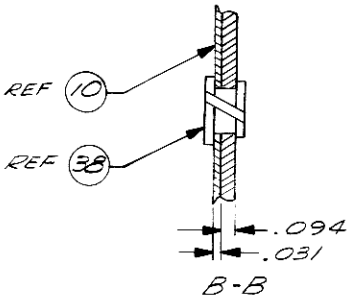
CROSS REFERENCE FOR DRAWING NUMBERS

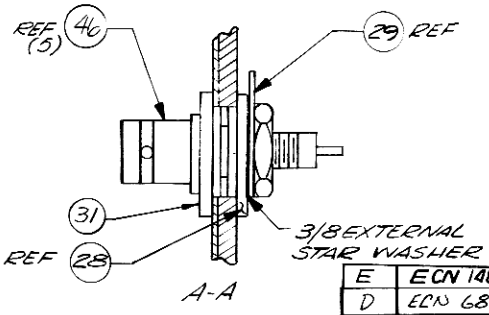
Drawings	Old Number	New Number
Chassis Assy	144-000	0102-00-0294
Chassis Schematic	144-200	0004-00-0035
Chassis Parts Lists	*	1100-00-0035
Main Board Assy	144-010	0103-00-0052
Main Board Schematic	144-210	0103-00-0052
Main Board Parts List	*	1100-00-0053
Sweep Board Assy	144-012	0101-00-0055
Sweep Board Schematic	144-212	0103-00-0055
Sweep Board Parts List	*	1100-00-0055
Power Supply Assy	144-011	0101-00-0054
Power Supply Schematic	144-211	0103-00-0054
Power Supply Parts List	*	1100-00-0054
Rear Plate Assy	144-001	0102-00-0328
Rear Plate Parts List	*	1100-00-0069
Attenuator Assy	142-003	0102-00-0406
Attenuator Schematic	142-203	0104-00-0406
Attenuator Parts List	*	1202-00-0008

*Same as assembly number.


REF 12
REF 36
11 REF
DETAIL C
12 (2)
7
8
36 (4)
34 (2)
6
30







rev	ecn	by	date	app.
E	ECN 1482	RD	10-25-76	
D	ECN 682	PBK	4-25-75	Shah
C	ECN 444	SL	7/18/72	
B	380	BO	1/9/71	
A	321	[illegible]	11/9/70	[illegible]

tolerance unless otherwise specified
.XXX ± .010
.XX ± .030

WAVETEK san diego, calif

scale N/A | by GRAY | date 7-22-70 | app. [illegible]

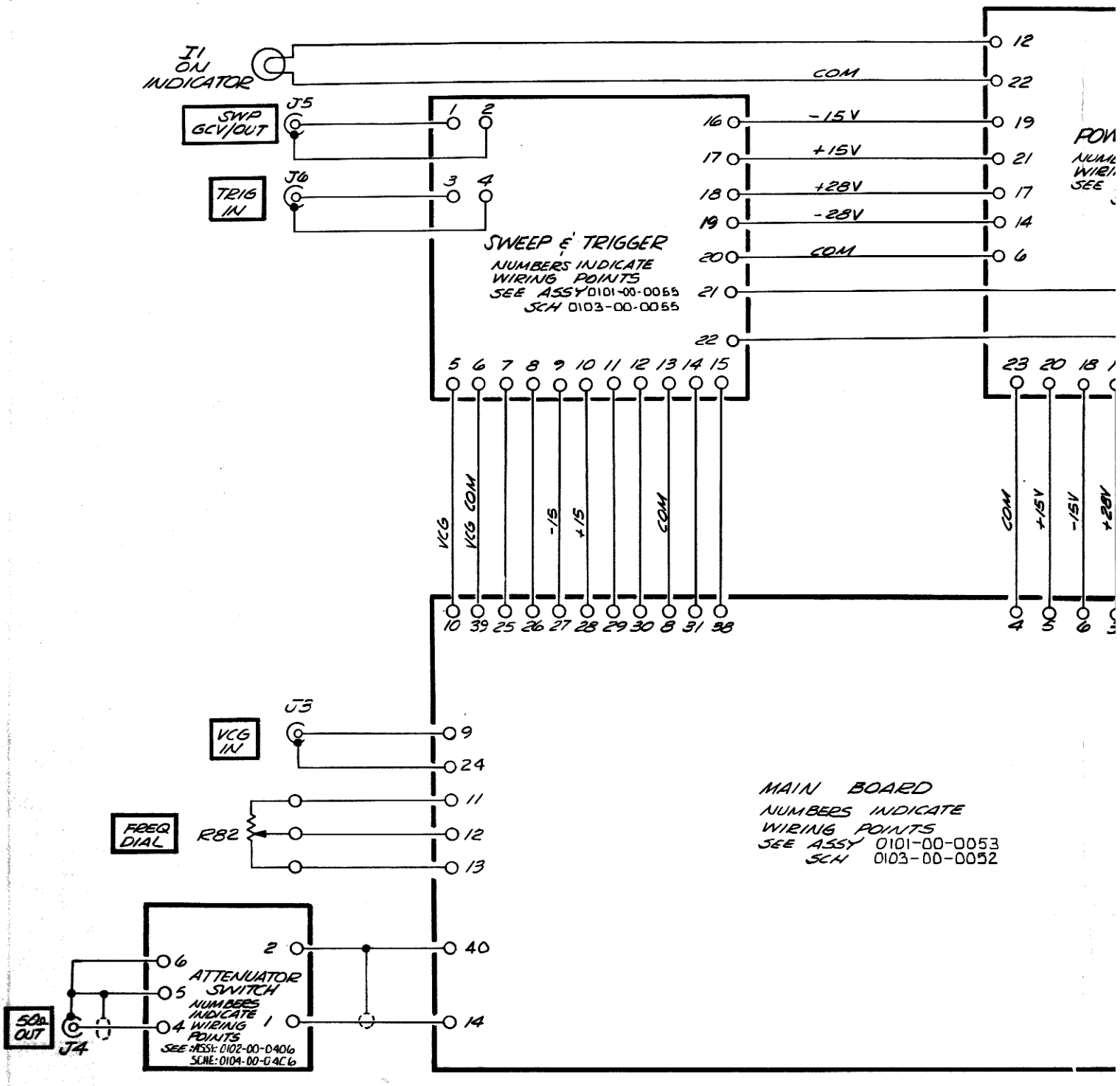
material N/A

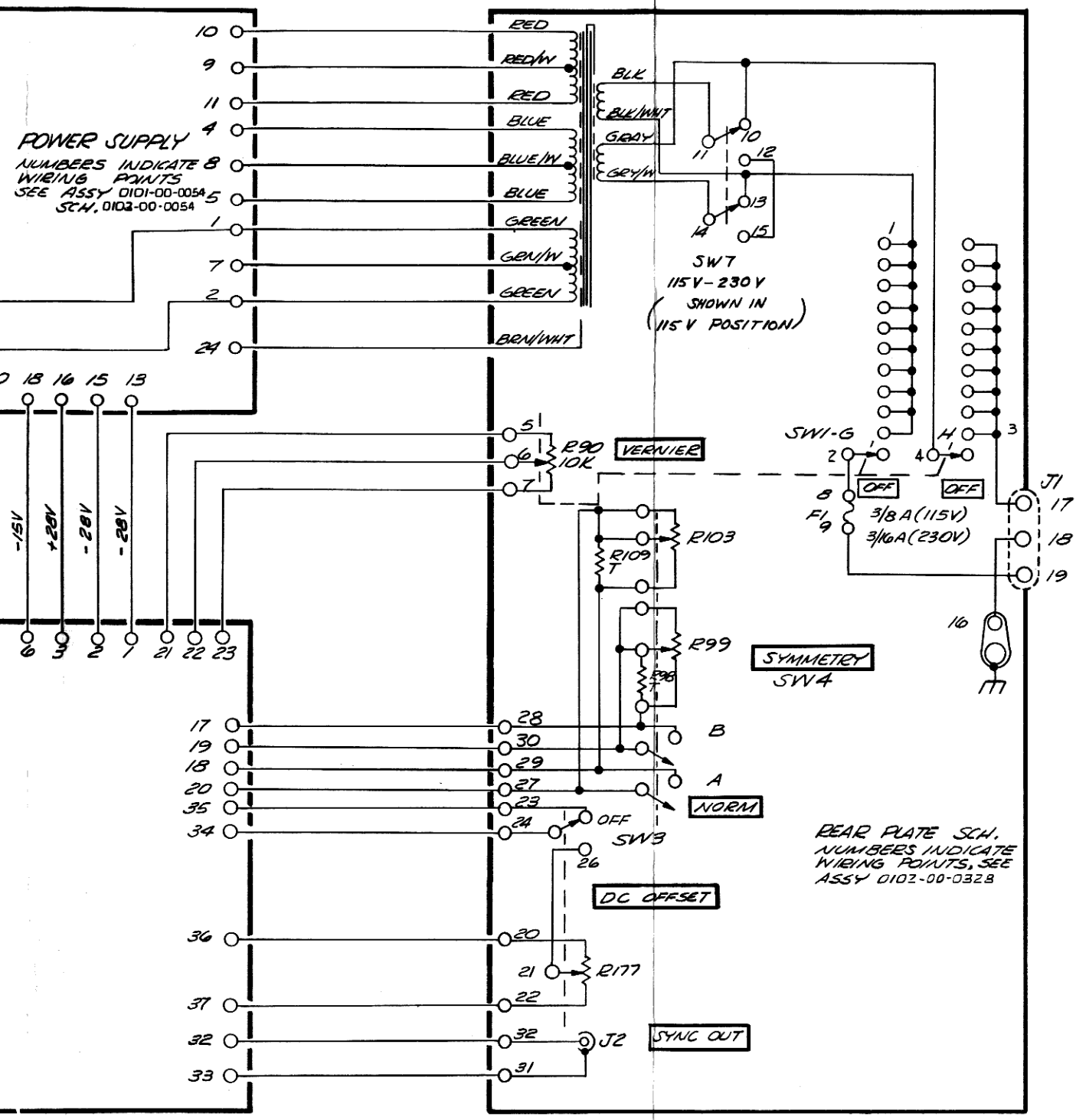
title CHASSIS ASSY.

finish N/A

model no. 144 | dwg no. 0102-00-0294 | rev F

F	ECN1655	RD	12-27-77


J1
ON
INDICATOR
COM
12
22
SWP
GCV/OUT
J5
1
2
TRIG
IN
J6
3
4
16
17
18
19
20
21
22
-15V
+15V
+28V
-28V
COM
19
21
17
14
6
SWEEP & TRIGGER
NUMBERS INDICATE
WIRING POINTS
SEE ASSY 0101-00-0055
SCH 0103-00-0055
5 6 7 8 9 10 11 12 13 14 15
VCG
VCG COM
-15
+15
COM
10 39 25 26 27 28 29 30 8 31 98
23 20 18
COM
+15V
-15V
+28V
4 3 6
J3
VCG
IN
9
24
11
12
13
FREQ
DIAL
R82
2
6
5
4
J4
50Ω
OUT
ATTENUATOR
SWITCH
NUMBERS
INDICATE
WIRING
POINTS
SEE ASSY: 0102-00-0406
SCHE: 0104-00-0406
1
40
14
MAIN BOARD
NUMBERS INDICATE
WIRING POINTS
SEE ASSY 0101-00-0053
SCH 0103-00-0052



	A	ECN 321	NG	7/12/70	KSJ
tolerance unless otherwise specified .XXX ± .010 .XX ± .030	rev	ecn	by	date	app.
	WAVETEK san diego, calif				
scale N/A	by GRAY	date 6-8-70	app. K.S.J.		
material N/A	title SCHEMATIC, CHASSIS				
finish N/A	model no. 144	dwg no. 0004-00-0035	rev A		

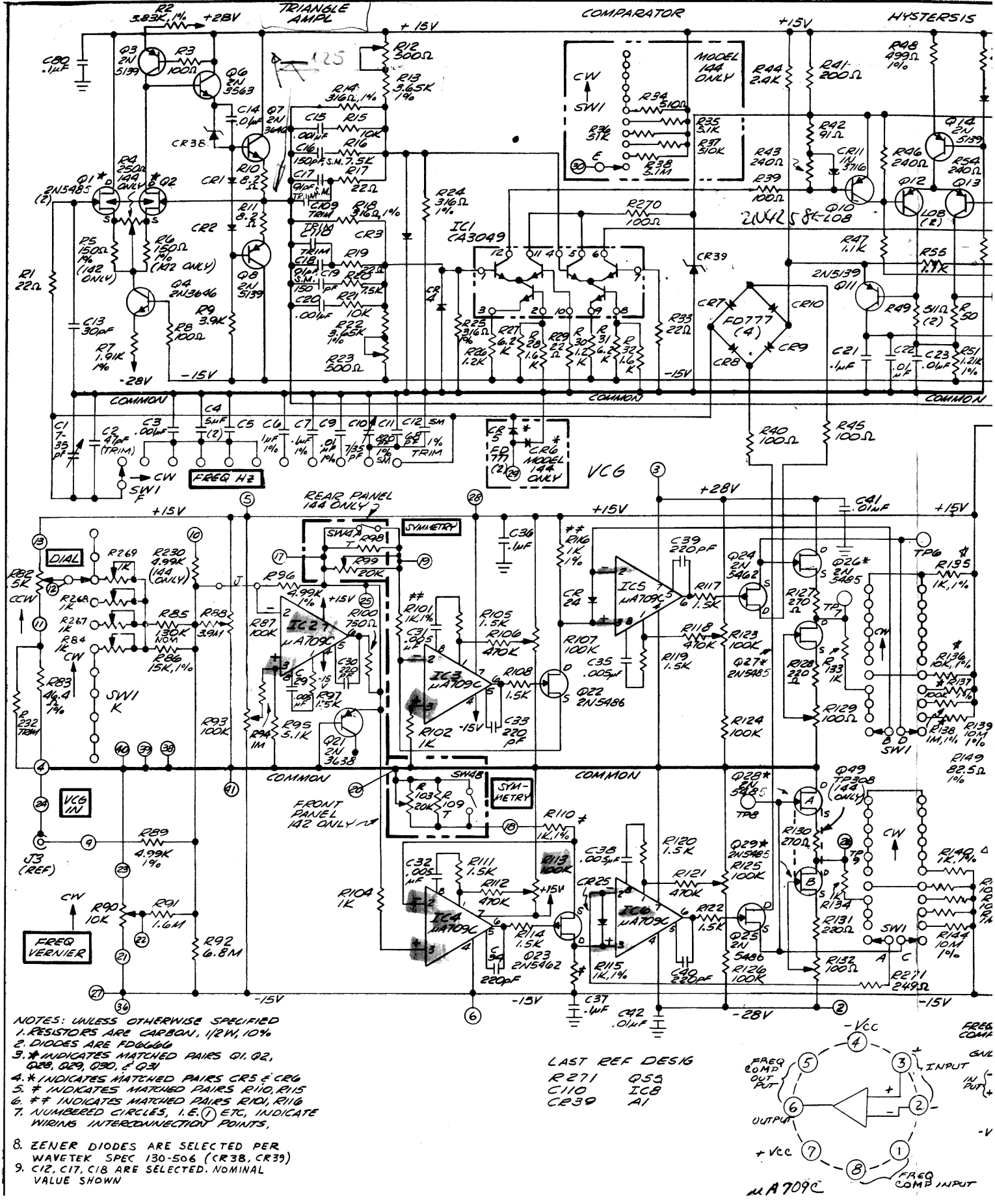
REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASST DRWG,CHASSIS	0102-00-0294	WVTK	0102-00-0294	1
14	DIAL ASSY	130-333-6	WVTK	1201-00-0010	1
17	COVER ASSY	130-353-1	WVTK	1201-00-0017	1
8	PANEL,REAR FROM:1400-00-1022	144-301	WVTK	1400-00-1069	1
12	RAIL,SIDE	130-304	WVTK	1400-00-1073	2
11	CASTING,FRONT FROM:1400-00-1681	130-313-1	WVTK	1400-00-1699	1
7	CASTING,REAR FROM:1400-00-1681	144-302	WVTK	1400-00-1779	1
10	PANEL,FRONT FROM:1400-00-1782	134-302-5	WVTK	1400-00-1839	1
20	INDICATOR,DIAL	141-317	WVTK	1400-00-2020	1
6	EXTENDER,SHAFT	144-300	WVTK	1400-00-2090	1
46	BNC CONN	KC-7946	KING	2100-01-0002	4
29	SOLDER LUG	1497	SMITH	2100-04-0012	5
15	CUAX KNUB SET	KB-67-1-58+0-M-9	RUGAN	2400-01-0009	5
38	BUSHING NYLINER	4L2FF	THOMN	2800-01-0002	5
51	STANDOFF	1530B-1/4-11	USECO	2800-03-0001	2
36	SPEEDNUT,TYPE"U"	C6091-632-4	TINN	2800-09-0004	4

WAVETEK PARTS LIST	TITLE STD CHASSIS	ASSEMBLY NO. 1101-00-0035 PAGE: 1	REV E

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
40	PLUG BUTTON	PC47291	UNCAR	2800-09-0010	2
NONE	FAST,CHASSIS	1591-811	USECO	2800-09-0021	8
NONE	HEATSINK BODY	11038	THERM	2800-11-0006	2
34	CAPTIVE SCREW	CA1376-10-3-9	TRIDR	2800-23-0001	2
28	WASHER,SHOULDER	2668	SMITH	2800-27-0004	4
31	NYLON FLAT WASHER	2264-N-385	AMTOM	2800-28-0005	4
30	COUPLER	180	SMITH	2800-32-0002	1
42	RETAINING RING	5305-31	TRUNC	2800-36-0002	1
44	PWR CORD	17258-6	BELDN	6001-80-0003	1

WAVETEK PARTS LIST	TITLE STD CHASSIS	ASSEMBLY NO. 1101-00-0035 PAGE: 2	REV E

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN	DATE	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL	PROJ ENGR		TITLE STD CHASSIS
	RELEASE APPROV		
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1° .XX ±.030		
	DO NOT SCALE DWG	MODEL NO. 144	DWG NO. 1101-00-0035 REV E
	SCALE	CODE IDENT 23338	SHEET 1 OF 1

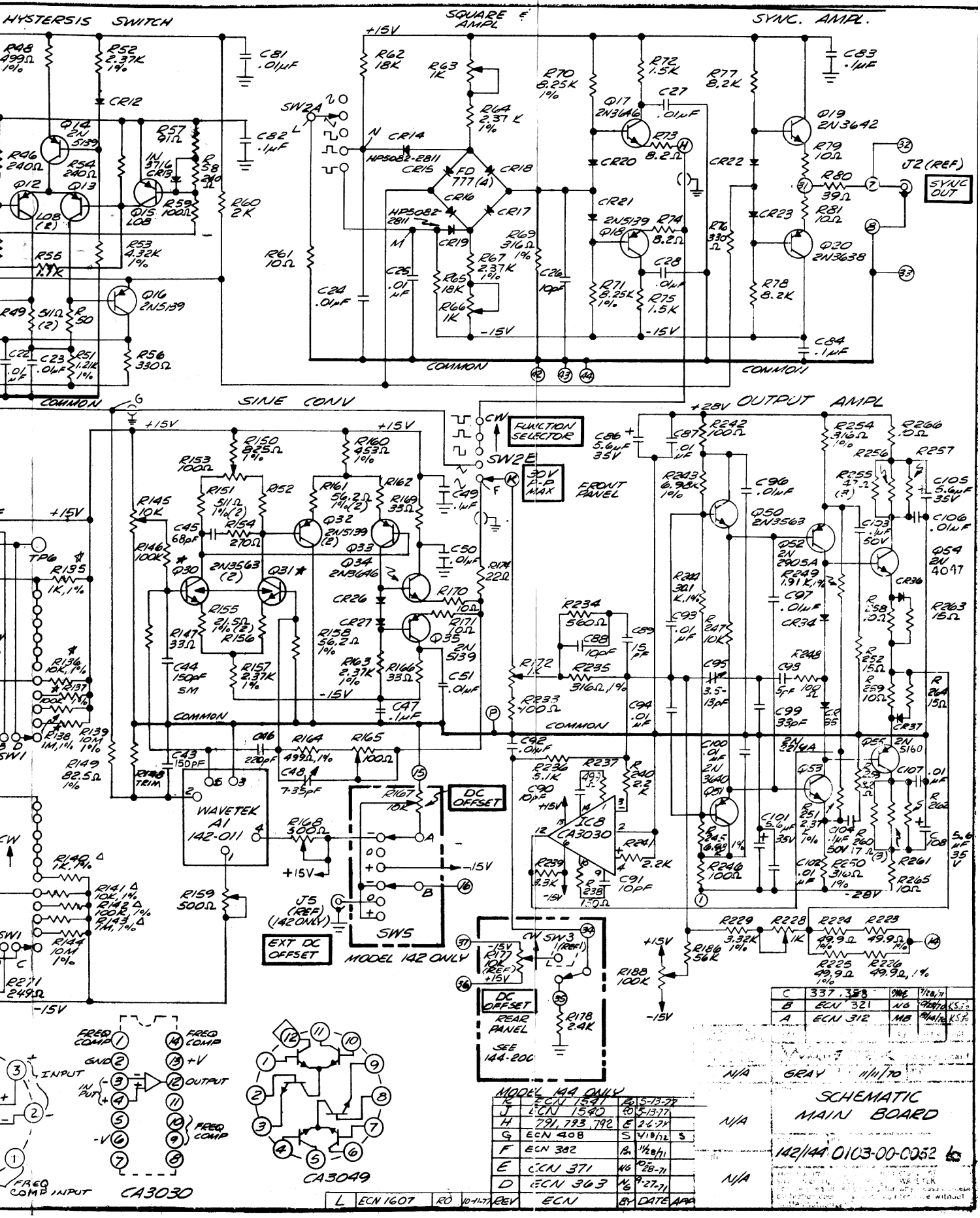


NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTORS ARE CARBON, 1/2W, 10%
2. DIODES ARE FD666666
3. * INDICATES MATCHED PAIRS Q1, Q2, Q28, Q29, Q30, & Q31
4. * INDICATES MATCHED PAIRS CR5 & CR6
5. # INDICATES MATCHED PAIRS R110, R115
6. ## INDICATES MATCHED PAIRS R101, R116
7. NUMBERED CIRCLES, I.E. (1) ETC, INDICATE WIRING INTERCONNECTION POINTS,
8. ZENER DIODES ARE SELECTED PER WAVETEK SPEC 130-506 (CR38, CR39)
9. C12, C17, C18 ARE SELECTED. NOMINAL VALUE SHOWN

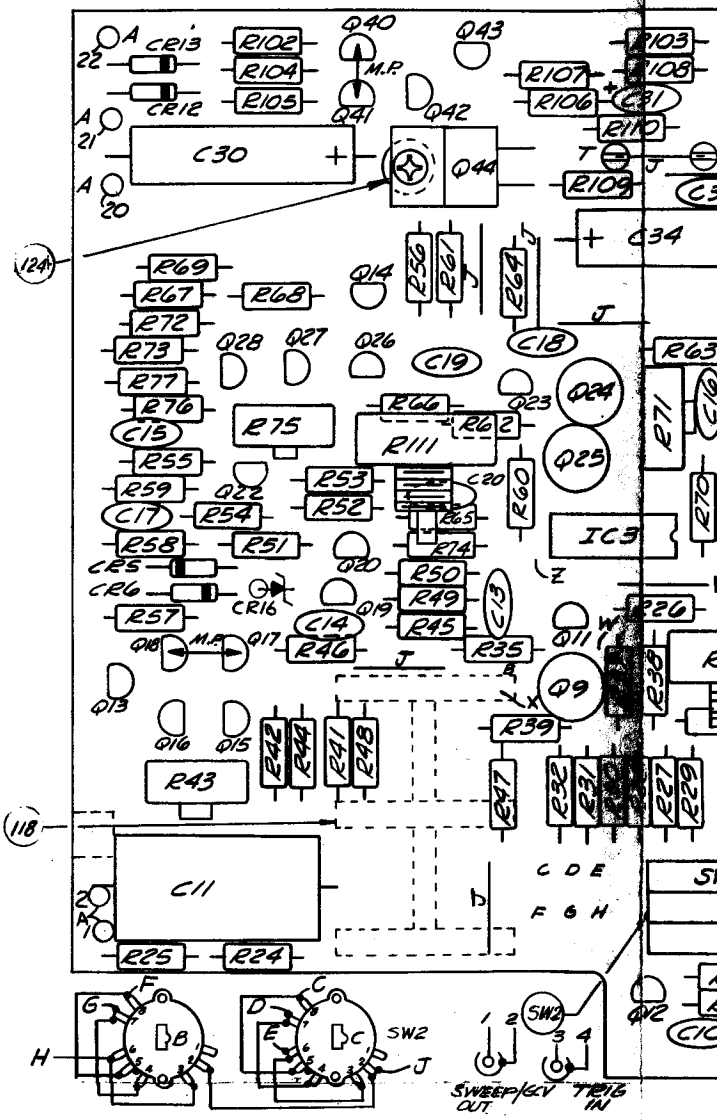
LAST REF DESIG

R271	Q59
C110	IC8
CR39	A1


HYSTERSIS SWITCH
SQUARE & SYNC. AMPL.
SINE CONV
+28V OUTPUT AMPL
FUNCTION SELECTOR
SW2E
30V P-P MAX
FRONT PANEL
DC OFFSET
SW3
EXT DC OFFSET
MODEL 142 ONLY
DC OFFSET REAR PANEL
SEE 144-200
WAVETEK A1 142-011
SYNC OUT
J2 (REF)
J5 (REF) (142 ONLY)
COMMON
+15V
-15V
-28V
CA3030
CA3049
FREQ COMP INPUT
SCHEMATIC MAIN BOARD
142/144 0103-00-0032
GRAY
11/11/70
N/A
L ECN 1607 RO 10-11-71
K ECN 1541 RO 5-13-77
J ECN 1540 RO 5-13-77
H 791, 793, 792 E 2-4-71
G ECN 408 S 1/8/72
F ECN 382 A 1/28/71
E ECN 371 MG 12-28-71
D ECN 363 MG 9-27-71
C 337, 358 MB 1/28/71
B ECN 321 MG 12/17/70
A ECN 312 MB 11/16/70

WIRE LIST (REF:0004-00-0035)					POINT OF ORIGIN
FROM	TO	COLOR	GAUGE	LENGTH	
ST-1	J5	VIO/WH	22	3.5"	ST
ST-2	J5-GND	BLK	22	3.5"	ST
ST-6	J6	YEL/WH	22	3.5"	ST
ST-4	J6-GND	BLK	22	3.5"	ST
ST-5	MB-10	YEL/WH	22	9.5"	ST
ST-6	MB-39	BLK/WH	22	9.5"	ST
ST-7	MB-25	ORG/WH	22	11"	ST
ST-8	MB-26	VIO/WH	22	11"	ST
ST-9	MB-27	ORG	22	12"	ST
ST-10	MB-28	RED	22	12"	ST
ST-11	MB-29	GRN/WH	22	12"	ST
ST-12	MB-30	BLU/WH	22	11"	ST
ST-13	MB-8	BLK/WH	22	11.5"	MB
ST-14	MB-31	RED/WH	22	10.75"	MB
ST-15	MB-38	GRY	22	9.5"	MB
ST-16	PS-19	ORG	22	17"	PS
ST-17	PS-21	RED	22	17"	PS
ST-18	PS-17	BLU	22	17"	PS
ST-19	PS-14	VIO	22	18.75"	PS
ST-20	PS-6	GRN/WH	22	25"	PS
ST-21	PS-1	GRN	22	25"	PS
ST-22	PS-2	GRN	22	25"	PS
ST-B	ST-B	RED	22	5.125"	PS
ST-X	ST-X	BRN	22	7"	ST
ST-Z	ST-Z	ORG	22	4"	ST
ST-Y	SW1-LUG	BLK	22	3.5"	ST
ST-C	SW2-C8	YEL	22	2.5"	ST
ST-D	SW2-C7	GRN	22	2"	ST
ST-E	SW2-C6	BLU	22	2"	ST
ST-F	SW2-B8	VIO	22	2.5"	ST
ST-G	SW2-B7	GRY	22	2"	ST
ST-H	SW2-B6	WHT	22	2"	ST
ST-M	SW1-F1	RED/WH	22	2"	ST
ST-N	SW1-E1	ORG/WH	22	2"	ST
ST-P	SW1-C1	YEL/WH	22	2"	ST
ST-Q	SW1-B1	GRN/WH	22	2"	ST
ST-R	SW1-A1	BLU/WH	22	2"	ST
ST-W	SW2 GND	BLK	22	5.5"	ST
ST-J	SW2-C2	BRN/WH	22	2"	ST

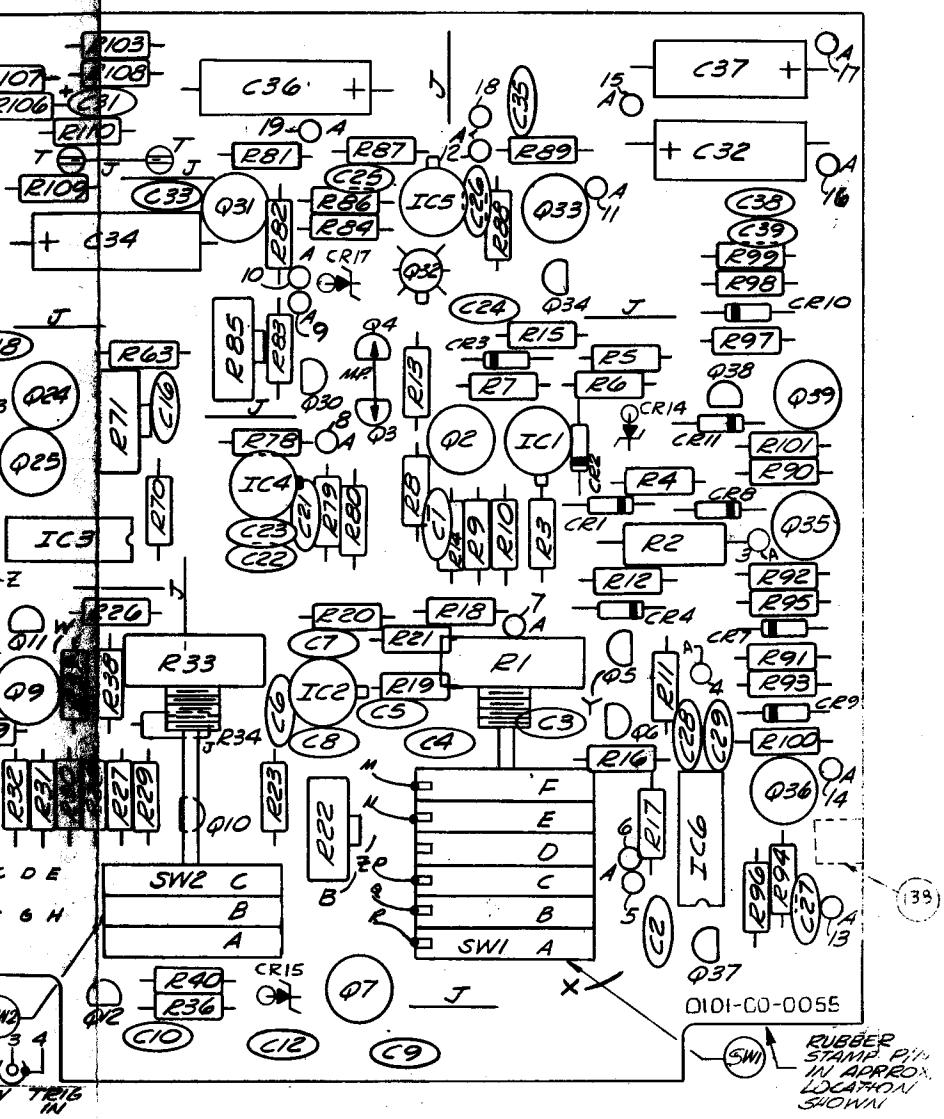
LEGEND: ST = SWEEP / TRIGGER BD
PS = POWER SUPPLY BD
MB = MAIN BOARD

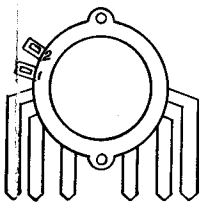


3. SW2 DETENT GROUND, TERMINATION AT "W."
2. SW1 DETENT GROUND, TERMINATION AT "Y."
1. NUMBERS INDICATE WIRING POINTS. SEE SCHEMATIC 0004-00-0035

NOTE: UNLESS OTHERWISE SPECIFIED

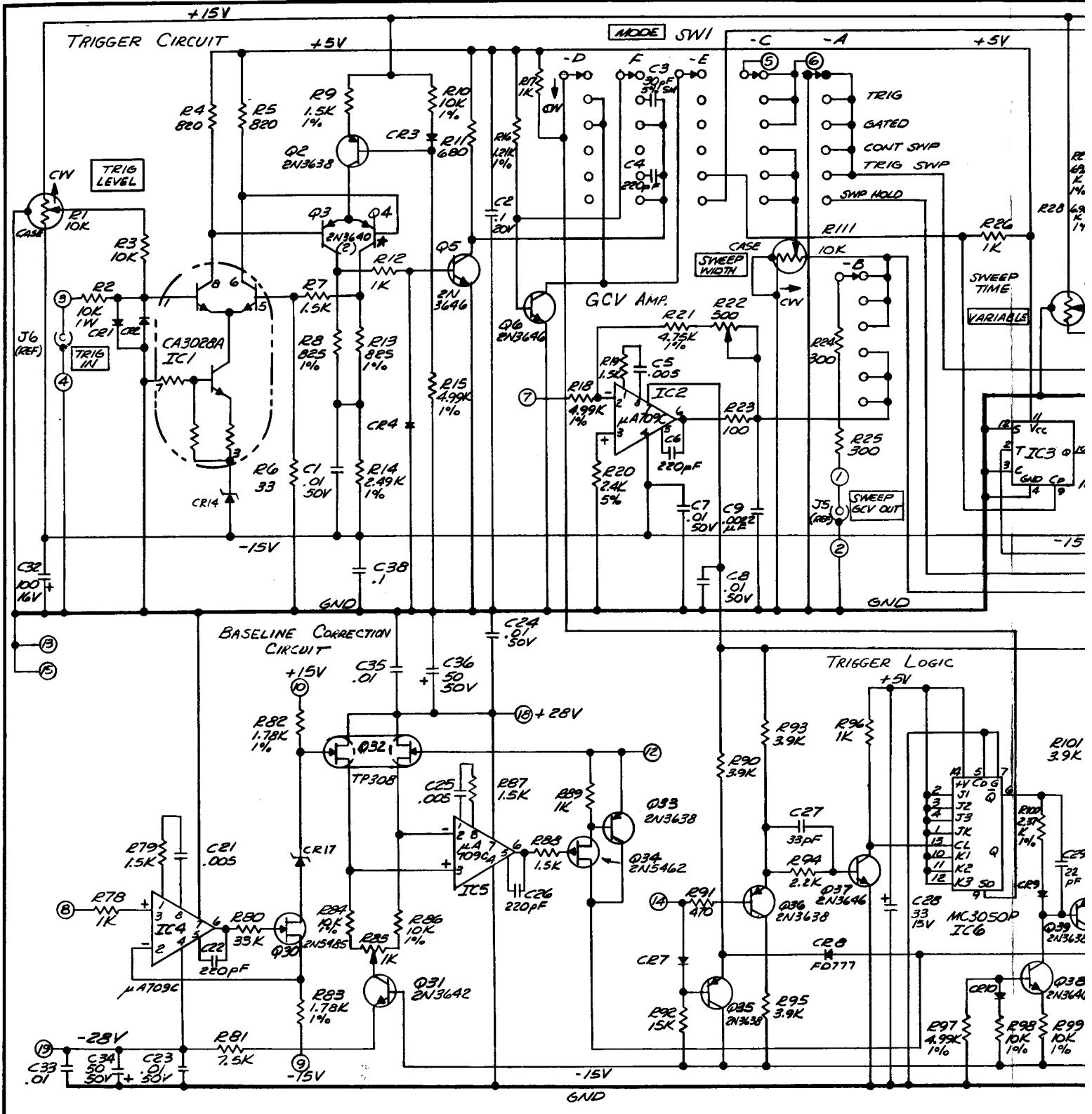
REV	ECN	BY	DATE	APP
E	ECN 321	MSE	11/20/70	KSL
F	ECN 340	TRQ	3/18/71	KSL
G	ECN 343	MSE	5-5-71	KSL
H	ECN 348	MSE	5-7-71	KSL
J	ECN 443	Shank	7-18-72	KSL
K	ECN 504	Shank	10-31-72	KSL
L	ECN 751	BA		KSL
M	ECN 832	CELERITY	74	KSL
N	ECN 1134	RD	11-13-74	KSL
P	ECN 1655	RD	1-28-76	





SW1 - WAFERS (TYP)

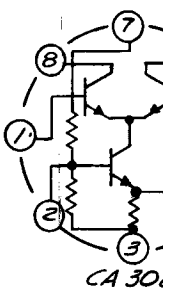
REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN GRAY	DATE 5/13/70	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL N/A	PROJ ENGR KSL	2/16/70	TITLE ASSY, SWEEP & TRIGGER BD
FINISH WAVETEK PROCESS N/A	RELEASE APPROV KSL		
	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1° .XX ±.030		
	DO NOT SCALE DWG		MODEL NO. 144 DWG NO. 0101-00-0055 REV P
	SCALE 2/1		CODE IDENT 23338 SHEET 1 OF 1

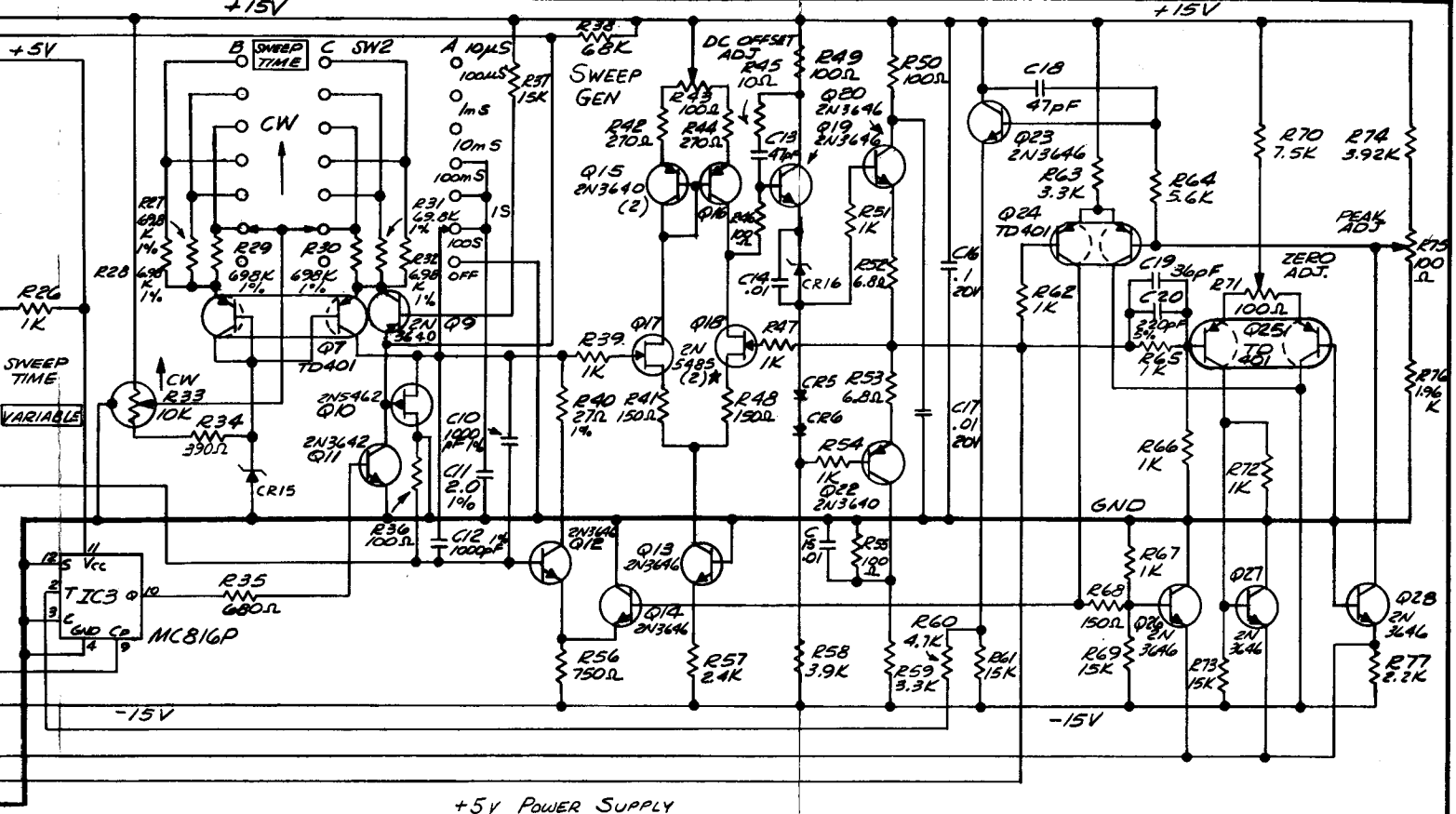


NOTES: UNLESS OTHERWISE SPECIFIED

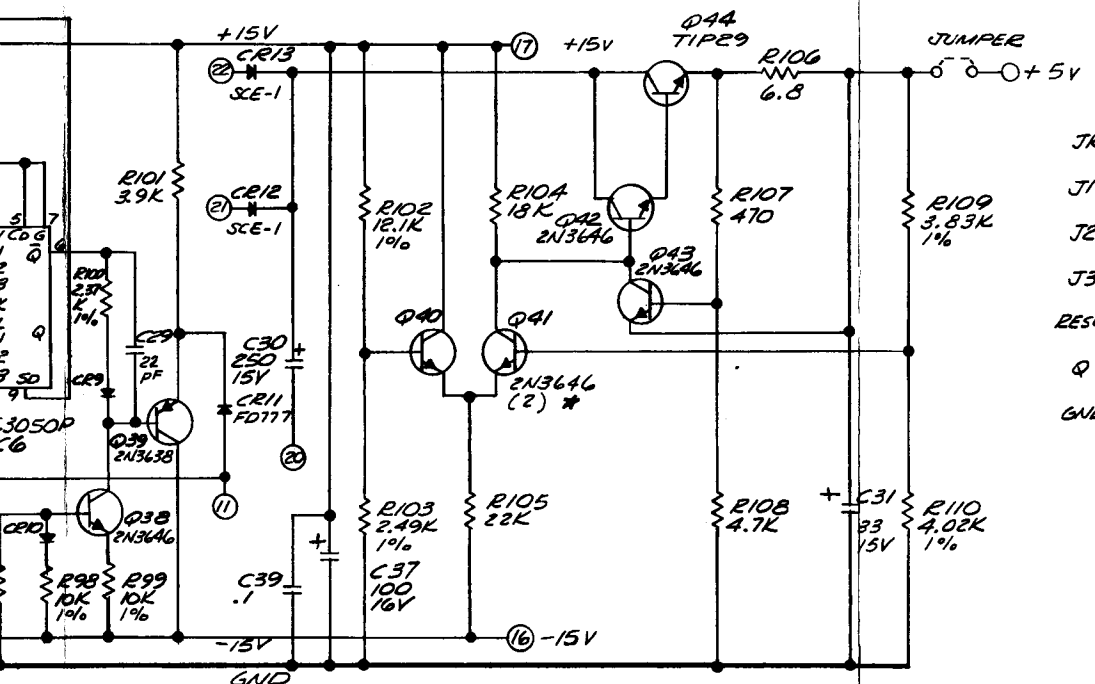
1. RESISTORS ARE CARBON, 1/2W, 10%
2. CAPACITANCE IN MICROFARADS
3. DIODES ARE FD666
4. * INDICATES MATCHED PAIRS
5. NUMBERED CIRCLES I.E. (1) ETC INDICATE WIRING POINTS. SEE SCHEMATIC 144-200
6. ZENER DIODES ARE SELETED PER WAVETEK SPEC. 130-506 (CR14, CR15, CR16, CR17)

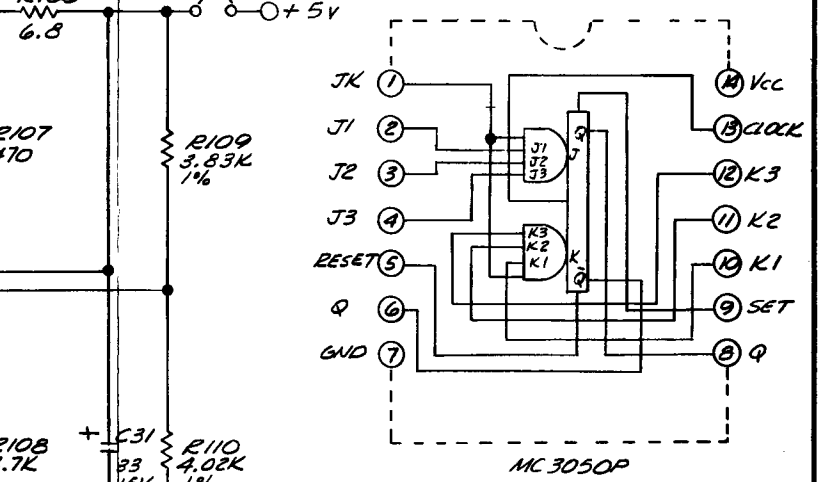
R111 CR17
C39 Q44
IC6

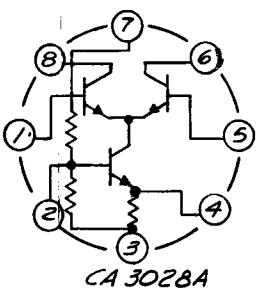


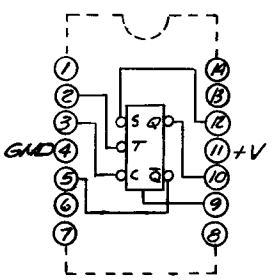


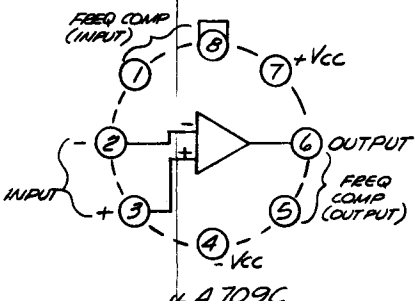
+5V POWER SUPPLY











rev	ecn	by	date	app.
D	ECN 751	EA	10-22-71	
C	343, 348		5/7/71	KS%
B	340		3/10/71	KS%
A	321		11/20/70	KS%

tolerance unless otherwise specified .XXX ± .010 .XX ± .030

scale N/A

material N/A

finish N/A

WAVETEK san diego, calif

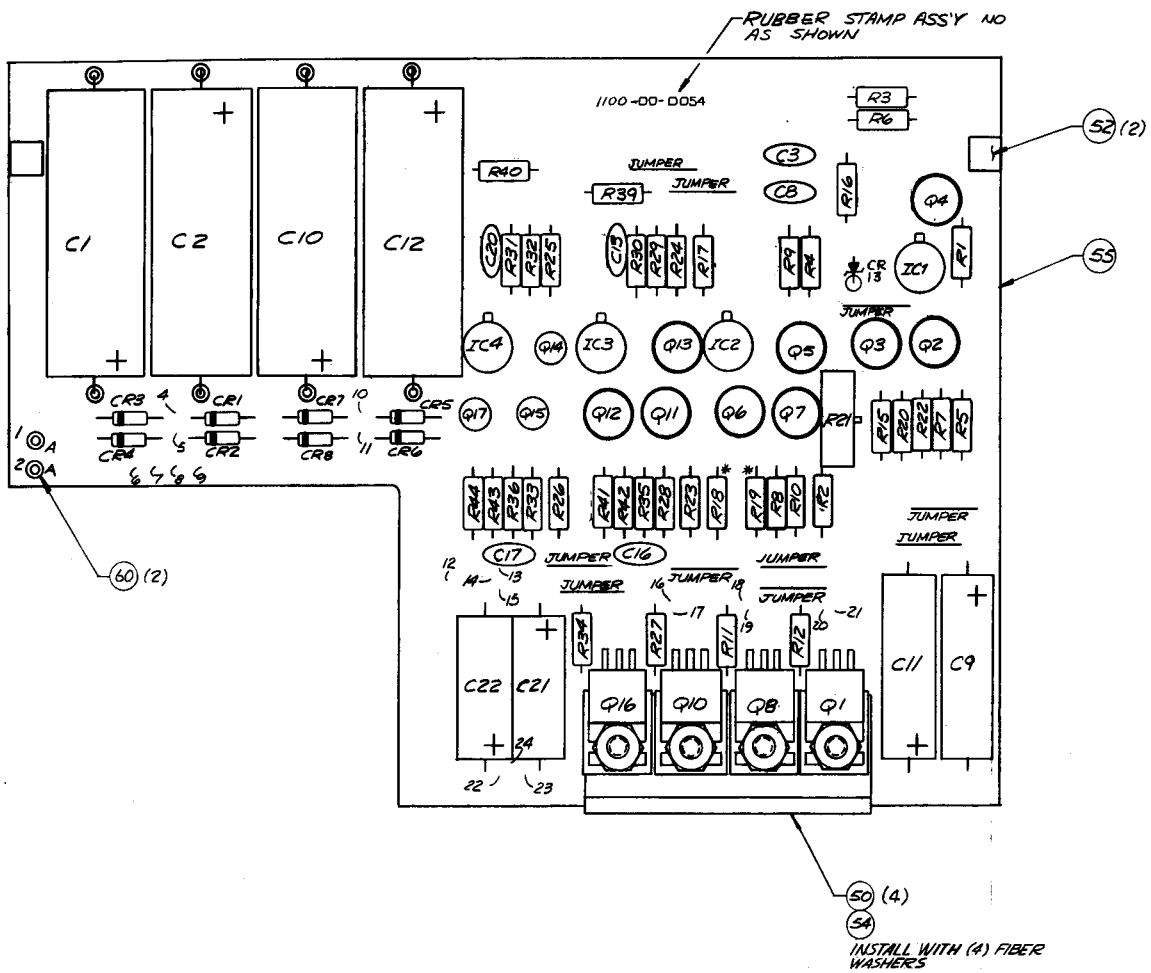
by GRAY date 4-16-70 app. K. S. [illegible]

title SCHEMATIC SWEEP BOARD

model no. 144

dwg no. 0103-00-0055

rev D



FROM	TO	COLOR	GAUGE	LENGTH	ORIGIN
T1	PS-1	GRN	24	10.5"	T
PS-1	ST-21	GRN	22	25"	PS
T1	PS-2	GRN	24	10.5"	T
PS-2	ST-22	GRN	22	25"	PS
T1	PS-4	BLU	24	9"	T
T1	PS-5	BLU	24	9"	T
PS-6	ST-20	GRN/WH	22	25"	PS
T1	PS-7	GRN/WH	24	9"	T
T1	PS-8	BLU/WH	24	8.5"	T
T1	PS-9	RED/WH	24	8.25"	T
T1	PS-10	RED	24	7.25"	T
T1	PS-11	RED	24	7.25"	T
PS-12	FPI-1	WHT	26	26"	PS
PS-13	MB-1	VIO	22	17"	PS
PS-14	ST-19	VIO	22	18.75"	PS
PS-15	MB-2	VIO	22	14.5"	PS
PS-16	MB-3	BLU	22	12"	PS
PS-17	ST-18	BLU	22	17"	PS
PS-18	MB-6	ORG	22	12"	PS
PS-19	ST-16	ORG	22	17"	PS
PS-20	MB-5	RED	22	15.5"	PS
PS-21	ST-17	RED	22	17"	PS
T1	PS-22	BRN/WH	20	7"	T
PS-23	MB-4 (COM)	BLK	22	12"	PS
PS-24	FPI-1 (COM)	WHT	26	26"	PS

LEGEND: PS = POWER SUPPLY
ST = SWEEP & TRIGGER
MB = MAIN BOARD
FP = FRONT PANEL
T1 = TRANSFORMER

NOTE :
1) * INDICATES MATCHED PAIR.

M	ECN 1655	RO	1-28-71
L	ECN 1601	RO	12-3-70
K	ECN 1607	B.F	9-11-70
J	ECN 832	[illegible]	7-31-70
H	ECN 428	[illegible]	7-1-70
G	ECN 409	S	6-16-70
F	379	BG	11-19-69
E	ECN 374	BGB	11-3-69
D	ECN 353	DME	6-24-69
C	ECN 327	MG	4-4-69

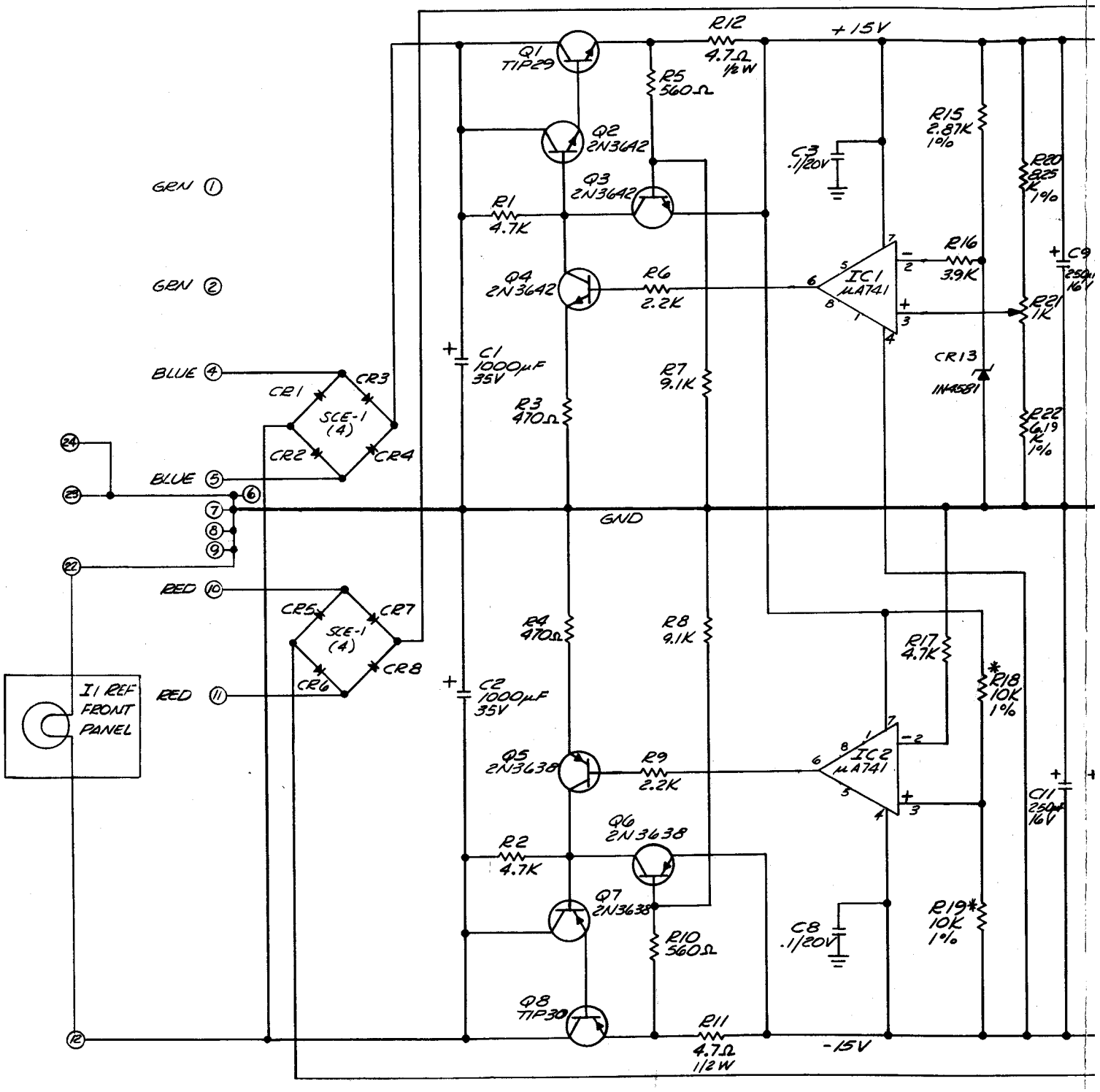
tolerance unless otherwise specified .XXX ± .010 .XX ± .030
scale TWICE
material N/A
finish N/A

rev	ecn	by	date

WAVETEK san diego
by BOCHEHIO date 5-8-70 appr.

title ASSEMBLY POWER SUPPLY

model no. 142/144 dwg no. 0101-00-0054

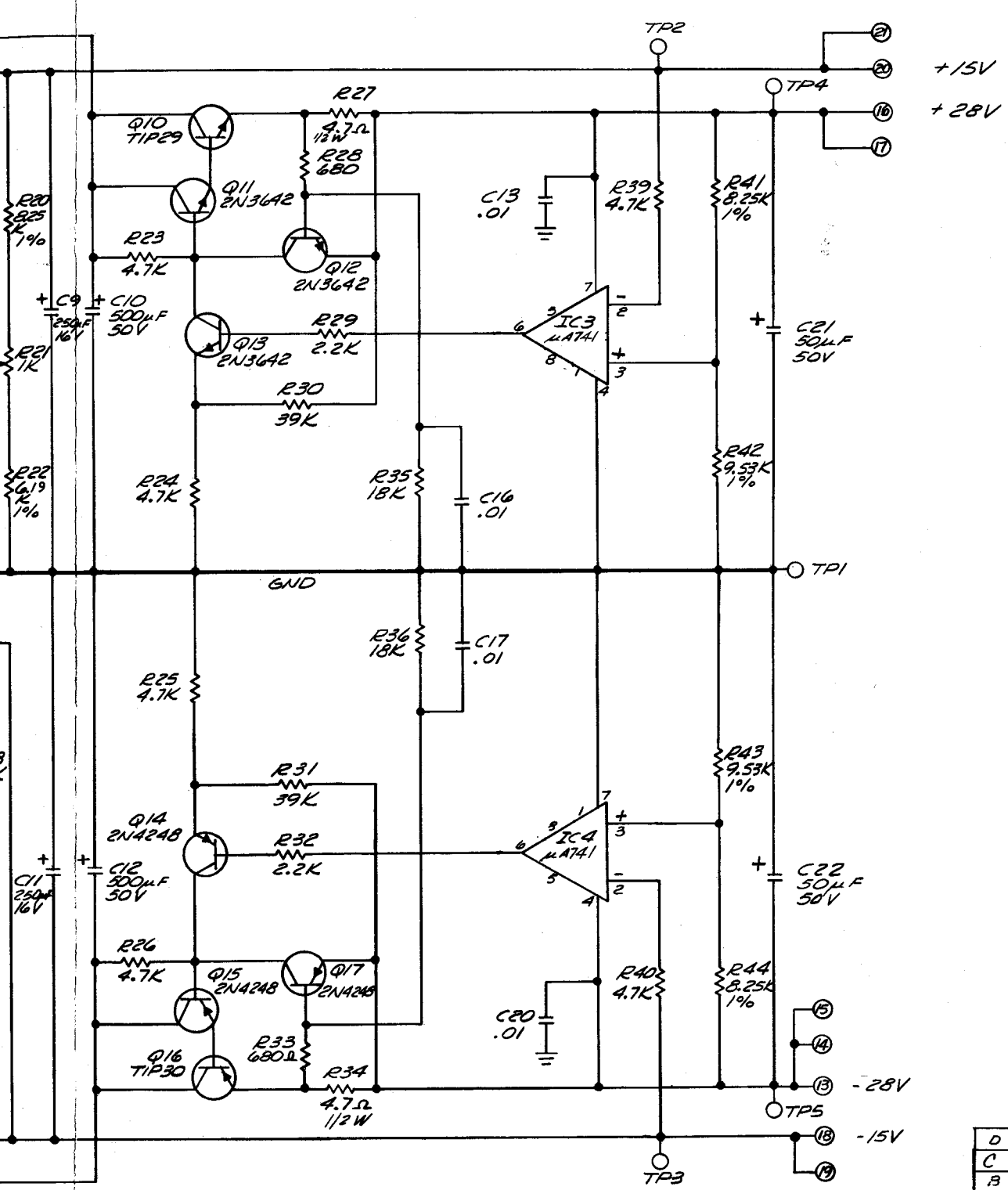


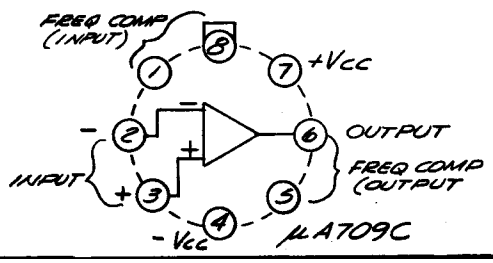
NOTES: UNLESS OTHERWISE SPECIFIED

1. * INDICATES MATCHED PAIR, R18 & R19
2. RESISTORS ARE CARBON, 1/8W, 1%.

4. CIRCLED NUMBERS, I.E. ① ETC, ARE WIRING INTERCONNECTION POINTS.
   FOR MODEL 142 SEE 0004-00-0033
   FOR MODEL 144 SEE 0004-00-0035

LAST REF DESIG	
R44	IC4
C22	F1
CR13	Q17
I1	T1





rev	ecn	by	date	app.
D	ECN 1655	RO	1-23-78	
C	ECN 1601	RO	10-24-77	
B	ECN 1607	B.F	10-7-77	
A	ECN 353	SWE	6/21/77	

tolerance unless otherwise specified .XXX ± .010 .XX ± .030

scale N/A

material N/A

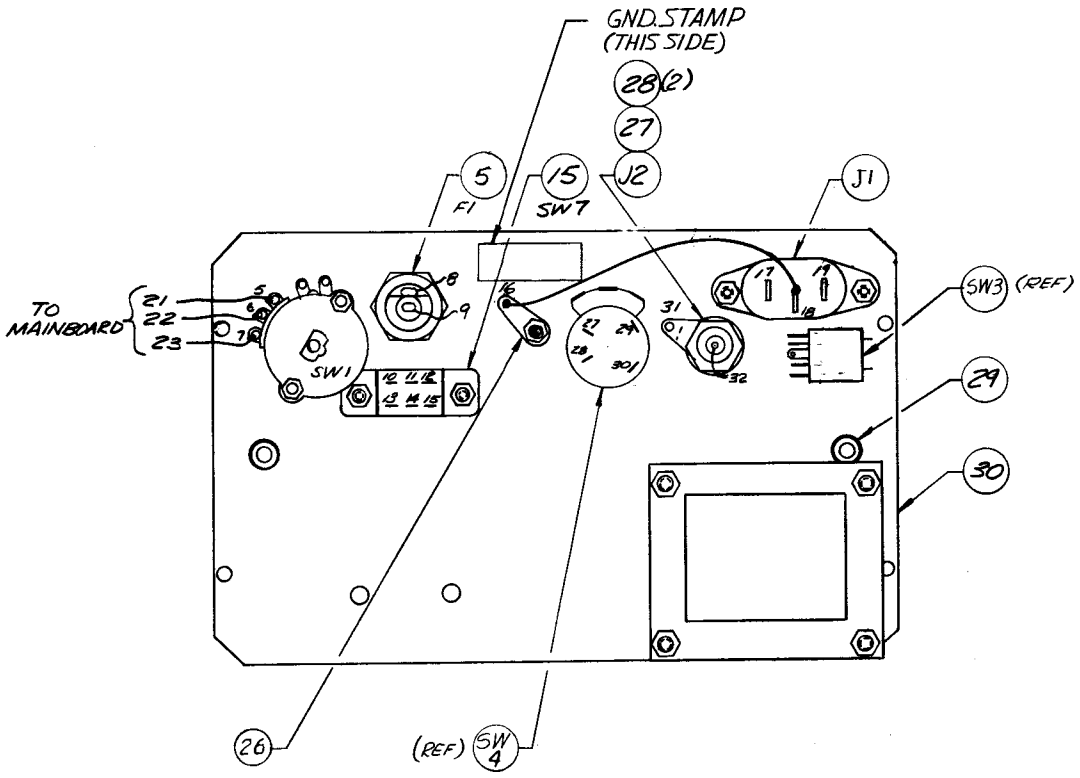
finish N/A

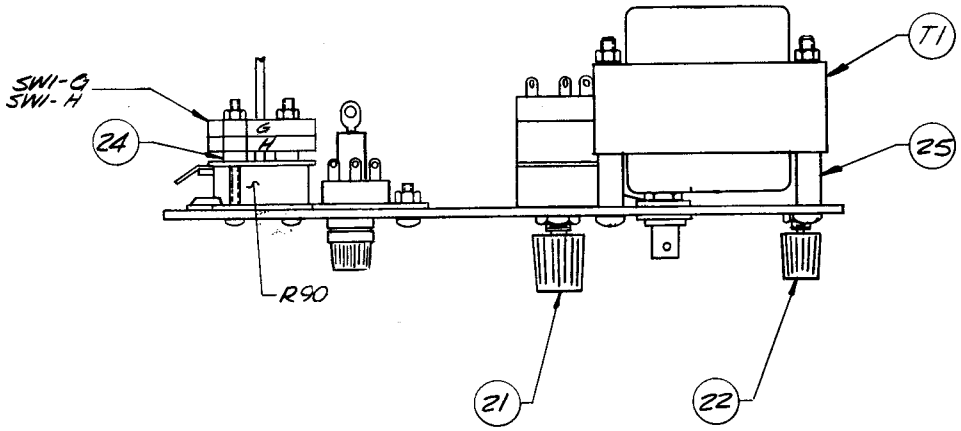
WAVETEK san diego, calif

by GRAY date 3-27-70 app. K. S. Fo

title SCHEMATIC VCG POWER SUPPLY

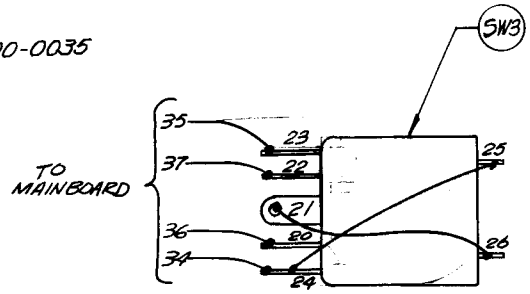
model no. 142/144 dwg no. 0103-00-0054 rev D

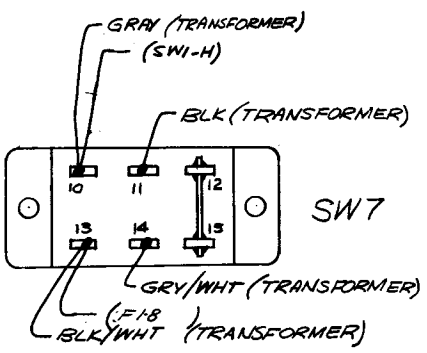




NOTES UNLESS OTHERWISE SPECIFIED

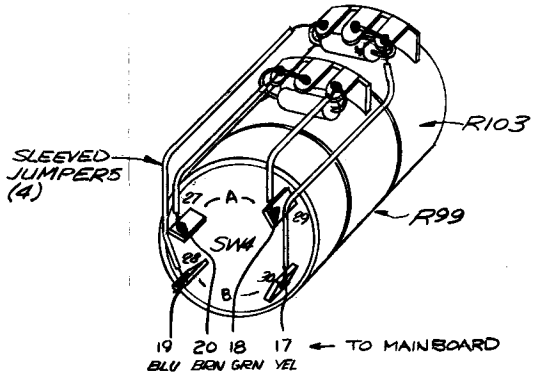
1) FOR INTERCONNECTION OF NUMBERED TERMINATIONS SEE SCHEMATIC-0004-00-0035





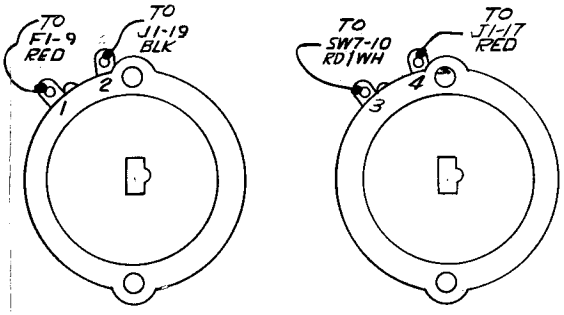
WIRE LIST (REF: 0004-00-0035)

FROM	TO	COLOR	GAUGE	LENGTH	POINT OF ORIGIN
SW1-5	MB-21	RED	22	4½"	RP
SW1-6	MB-22	ORG	22	15"	
SW1-7	MB-23	BLUE	22	15"	
F1-8	SW7-13	BLACK	22	4"	
J1-18	GND LUG	GRN/YEL	18	7"	
SW4-28	MB-19	BLUE	22	18"	
SW4-27	MB-20	BRN	22	22"	
SW4-29	MB-18	GRN	22	22"	
SW4-30	MB-17	YEL	22	22"	
SW1-G1	F1-9	RED	22	5½"	
SW1-G2	J1-19	BLACK	22	9"	
SW1-H3	SW7-10	RED/WH	22	5½"	
SW1-H4	J1-17	RED	22	8½"	
SW3-23	MB-35	GRN	22	8"	
SW3-21	SW3-26	SLVD BUSS	22	1½"	
SW3-22	MB-37	BRN	22	8"	
SW3-20	MB-36	RED	22	6"	
SW3-24	MB-34	YEL/WH	22	11"	
T1	SW7-10	GRY	24	AR	
T1	SW7-11	BLK	24	AR	
T1	SW7-13	BLK/WH	24	AR	
T1	SW7-14	GRY/WH	24	AR	
SW7-12	SW7-15	BUSS	22	1½"	
J2-32	MB-32	ORG	22	7"	
J2-31	MB-33	BLUE	22	7"	RP
T1	(REF POWER SUPPLY WIRE LIST)				

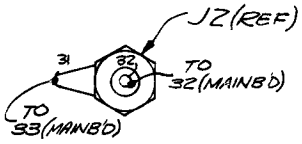


DETAIL 'SW4' ASSEMBLY

LEGEND: T1 = TRANSFORMER
MB = MAIN BOARD
F1 = FUSE
J1 = POWER RECEPTACLE
J2 = BNC CONN.
RP = REAR PANEL



SW1-G SW1-H

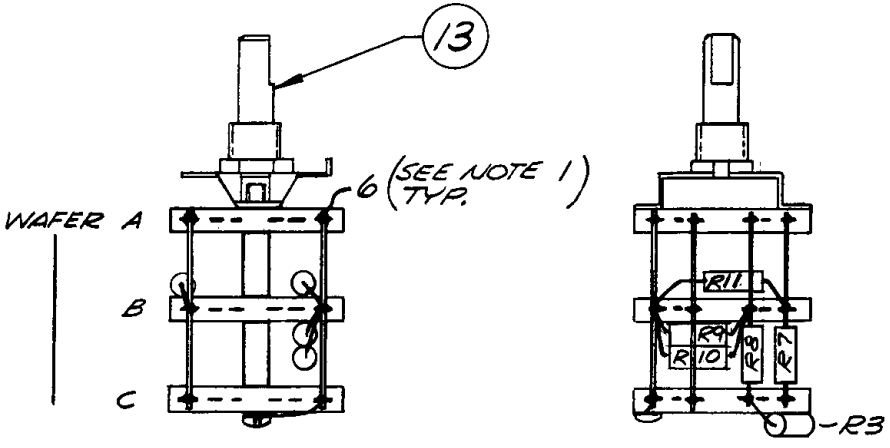


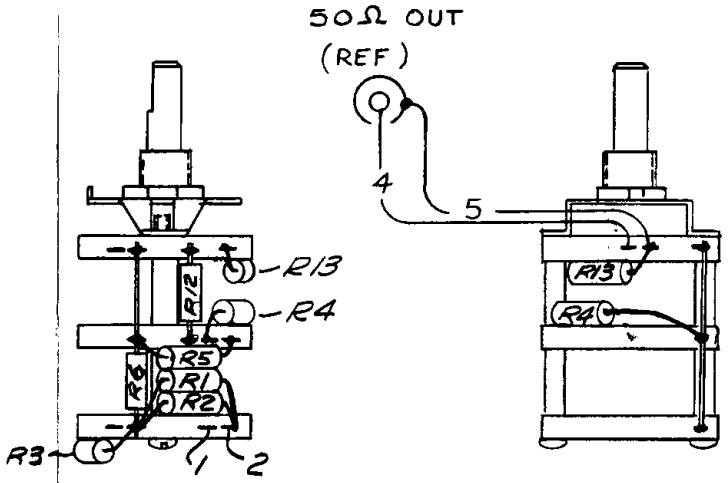
LAST DESIGNATORS USED
32 INTERCONNECTION POINTS (SEE NOTE 1)

J	ECN 1655	RO	1-23-7[illegible]	
H	DDC #1465	DC.	9-17-6	
G	ECN 1198	[illegible]	1/18/7[illegible]	
F	ECN 1142	[illegible]	11-5-69	
E	ECN 501	SLC	10/24/69	
D	ECN #410	S	12/11/68	S
C	COP 29	NG	9/26/68	KS
B	321	[illegible]	9/20/68	KS
A	314	[illegible]	11/19/68	KS
rev	ecn	by	date	app

tolerance unless otherwise specified .XXX ± .010 .XX ± .030
scale FULL
material N/A
finish N/A

WAVETEK san diego, cal
by M. BOUCHARD date 5/18/70 app. K. S
title ASSEMBLY REAR PLATE
model no. 144
dwg no. 0102-00-0328
rev J





NOTES: UNLESS OTHERWISE SPECIFIED

1) NUMBERS INDICATE WIRE TERMINATION POINTS.

REV	ECN	BY	DATE	APP
B	ECN 408	SJ	10/17/	S
A	ECN 321	NG	11/21/	KS

TOLERANCE UNLESS OTHERWISE SPEC
XXX ± .010
XX ± .030
ANGLES ± 0°30'

WAVETEK SAN DIEGO, CALIF.

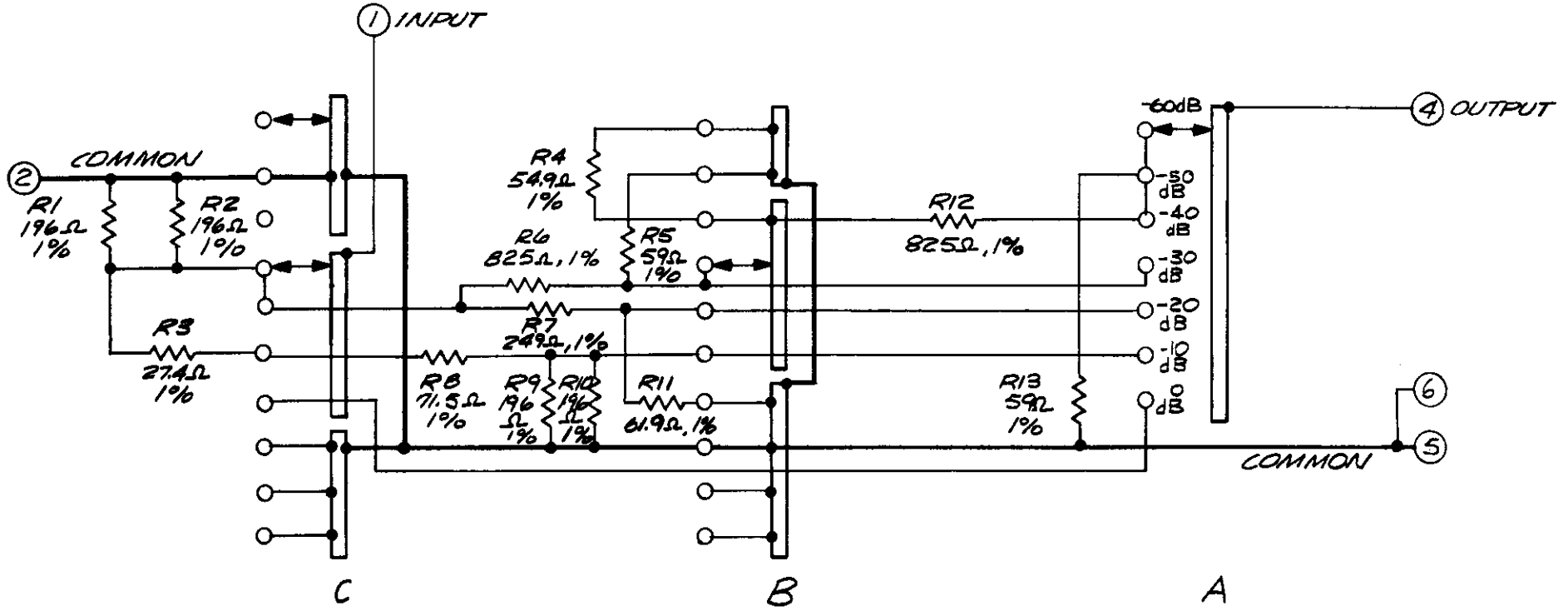
SCALE N/A | BY | DATE 5-20 | APP K.S.

MATERIAL N/A

TITLE ASSEMBLY, ATTENUATOR SH 2 OF 8

MODEL NO 142/144 | DWG NO 1202-00-0008 | REV B

FINISH N/A



NOTES: UNLESS OTHERWISE SPECIFIED

1. CIRCLED NUMBERS, I.E. ① ETC, INDICATE WIRING INTERCONNECTIONS.

REV	ECN	BY	DATE	APP
B	UPDATE TO COMPUTER SYS	BJ	1/3/77	
A	ECN 321	WG	11/12/76	KS

TOLERANCE UNLESS OTHERWISE SPEC
XXX ± .010
XX ± .030
ANGLES ± 0°30'

WAVETEK SAN DIEGO, CALIF.

SCALE | BY LD | DATE 5-20 | APP K.S.

MATERIAL

FINISH

TITLE SCHEMATIC, ATTENUATOR

MODEL NO. 1444 | DWG NO. 202-00-0006 | REV B