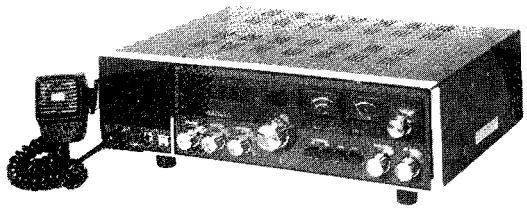
NOTE

Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license.
(Refer to FCC Rules and Regulations Part 95, Subpart C & D.)

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.



MODEL TRC-457

MANUFACTURER'S SPECIFICATIONS

GENERAL:

Channels	: 40 Channels for AM, Upper Side Band and Lower Side Band, utilizing Digital Circuitry
Frequency Range	: 26.965 MHz to 27.405 MHz
Frequency Control	: Digital (Phase Lock Loop) Synthesizer
Frequency Accuracy	: ± 100 Hz
Operating Temperature Range	: -20°C to +50°C
Power Requirements	: 13.8V DC (12-16 volts DC, negative or positive ground) or 120V AC (60 Hz)
Antenna	: 52 ohm (Coaxial connector)
Microphone	: 600 ohm Dynamic Type
Speaker	: 8 ohm, 2.5 Watt
Clock	: Digital Type (solid state)
Size	: 4" x 15" x 11-1/2" (HWD) (10 x 38 x 29.2 cm [HWD])
Weight	: 16 lbs. (approx.) (7.3 kg)
Accessories	: AC Cord, DC Cord with in-line Fuse, Microphone and Microphone Hanger and Mounting Brackets

MEASUREMENT CONDITION:

Power Source	: 13.8V DC, 120V AC (60 Hz)
Antenna Impedance	: 50 ohms
Test Temperature	: 25°C
AM Modulation Frequency	: 1 kHz
SSB Modulation Frequency, Transmit	: Two tone: 500 Hz and 2400 Hz Single tone: 1 kHz
Mean Signal Input Level	: 1000 μV
Reference Audio Output Power	: 0.5 W
Reference AM Modulation Percentage	: 1 kHz 30%
Audio Frequency, SSB Receive	: 1 kHz
Audio Output Load	: 8 ohms resistive
Measuring Channel	: 19

Courtesy of the Manufacturer

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment.
Maintain line voltage at 120V AC. Allow a 15-minute warm-up period.
Adjustments made with 13.8 volts at TP10 (TR401, Emitter).
Connect low sides of test equipment to ground unless specified otherwise.
Connect 50-ohm dummy load or antenna before keying transmitter.

Suggested Alignment Tools: GC ELECTRONICS

CT1 thru CT7. . . . . .8276, 5000
L27, L30, L32 . . . . . .9091, 8728-A, 8728
L1 thru L8, L16, L17, L24, L37, L39 9440

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter thru 47pF to TP11(IC7, pin 10).	Ch. 1, AM		Check for 10.240MHz.
Input of oscilloscope to TP6.	Ch. 1, AM	L24	Adjust for maximum RF.
Input of frequency counter to TP6.	Ch. 1, AM, CLARIFIER, Midrange	CT6	Adjust for 33.855MHz ±20Hz.
	Ch. 1, USB, CLARIFIER, Midrange	CT4	Adjust for 33.8574MHz ±20Hz.
	Ch. 1, LSB, CLARIFIER, Midrange	CT5	Adjust for 33.8526MHz ±20Hz.
Input of DC meter to TP7.	Ch. 1, AM, CLARIFIER, Midrange	L17	Adjust for 2.00 volts.
Input of oscilloscope to TP8.	Ch. 19, AM, CLARIFIER, Midrange	L16	Adjust for maximum RF.
Input of frequency counter to TP8.	Ch. 1, AM, CLARIFIER, Midrange		Check for 34.765MHz. Check all channels. (See Truth Chart for correct frequencies).
	Ch. 1, USB, CLARIFIER, Midrange		Check for 34.7675MHz. Check all channels. (See Truth Chart for correct frequencies).
	Ch. 1, LSB, CLARIFIER, Midrange		Check for 34.7625MHz. Check all frequencies. (See Truth Chart for correct frequencies).
Input of frequency counter to TP12 (TR31 collector).	Ch. 1, AM, CLARIFIER, Midrange		Check for .910MHz. Check all channels. (See Truth Chart for correct frequencies).
Input of frequency counter to TP9.	Ch. 1, USB	CT2	Adjust for 7.8025MHz ±5Hz.
	Ch. 1, LSB	CT3	Adjust for 7.7975MHz ±5Hz.
Input of frequency counter to antenna jack.	Ch. 1, AM, XMT	VR9	Adjust for 26.965MHz.

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Set generator output low enough to prevent AGC limiting.
RF GAIN Maximum, CLARIFIER 0, Squelch MINIMUM, NB Off, ANL Off.

AM

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP13 (FET1, G1) 7.8MHz, 1000Hz @ 30% modulation.	Ch. 19, AM	L8, L7, L6, L5	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19, AM	L4, L3	Adjust for maximum output. If necessary readjust L5, L6, L7, and L8.
Inject a 100pps, 1uSec signal at MIC input. Input of oscillosope to TP5.	Ch. 19, AM NB On	L1, L2	Adjust for maximum.

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF GAIN Maximum, Clarifier 0, Squelch MINIMUM, ANL Off, NB Off, Volume Maximum.

SSB

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.186MHz no modulation. Output .25uV.	Ch. 19, USB	CT1	Adjust for 2 volts audio.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF GAIN Maximum, Clarifier 0, Squelch MINIMUM, NB Off, ANL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output .5uV.	Ch. 19, AM VOLUME Maximum	VR5	AM RX GAIN Adjust for 2 volts audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 50uV.	Ch. 19, AM RF GAIN MINIMUM SQUELCH Maximum	VR2	RF GAIN Adjust for 2 volts audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19, AM Squelch Maximum	VR3	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19, AM	VR1	SIGNAL METER Adjust for 9 on SIGNAL scale of meter.

TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.

AM

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of Spectrum analyzer or harmonic meter to antenna jack.	Ch. 19, AM	L27	Adjust for MINIMUM at 54MHz.

TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.
See page 4 for channel frequencies.

SSB

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Inject a 1000Hz 5mV signal at MIC input.	Ch. 19	L39,L37,L32, L30,CT7	Adjust for maximum.
Inject a 1000Hz 200mV signal at MIC input.	Ch. 19	CT7	Adjust for 12 watts.

TRANSMITTER ADJUSTMENTS

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

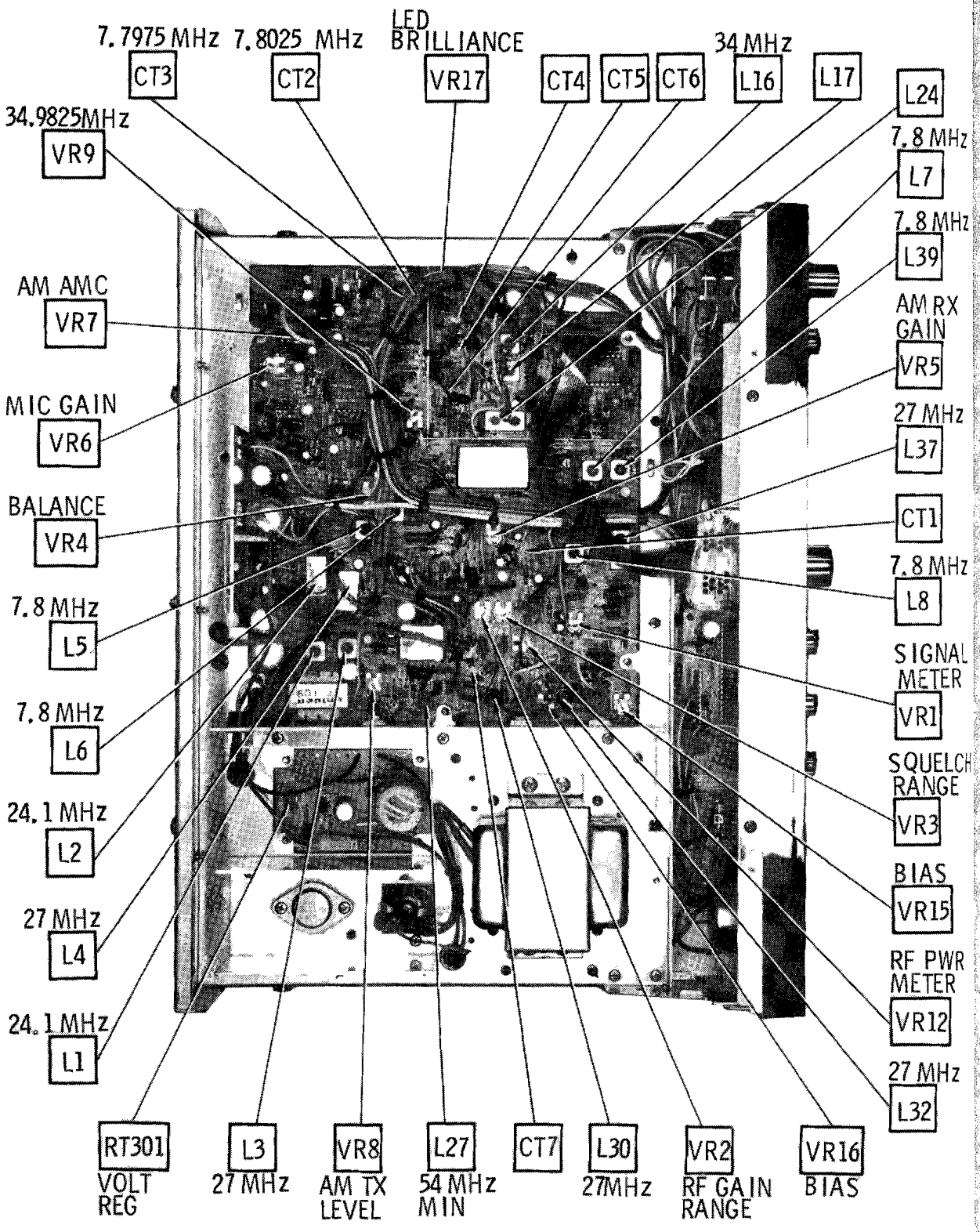
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP10 (TR401, Emitter)	Ch. 19, AM	RT301	VOLT REG Adjust for 13.80 volts.
	Ch. 19, AM	VR17	LED BRILLIANCE Adjust so that channel LED and clock display are the same brightness.
Connect current meter in series with circuit at TP4. No signal input.	Ch. 19, USB	VR15	BIAS Adjust for 40mA.
Connect current meter in series with circuit at TP2. No signal input.	Ch. 19, USB	VR16	BIAS Adjust for 15mA.
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector. No signal input.	Ch. 19, USB	VR4	BALANCE Adjust for MINIMUM RF.
	Ch. 19, AM	VR8	AM POWER Adjust for 4 watts maximum.
Inject a 1000Hz, 5mV signal at MIC input. Input of oscilloscope or modulation meter to antenna jack.	Ch. 19, AM	VR6,VR7	MIC GAIN & AM AMC Turn VR7(From top) fully clockwise. Adjust VR6 for 50% modulation. Increase audio to 200mV. Adjust VR7 for 100% modulation maximum.
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.	Ch. 19, AM	VR12	POWER METER Adjust so that the POWER meter reads just below the red on the power scale of meter.

TRUTH

CHANNEL	1 = 21
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
24	1
25	1
26	1
27	1
28	1
29	1
30	1
31	1
32	1
33	1
34	1
35	1
36	1
37	1
38	1
39	1
40	1

TRUTH CHART

CHANNEL	1 = 4.90 Volts 0 = 0 Volts IC7 PROGRAM DIVIDER PINS 21	20	18	17	16	15	14	13	AM(REC) SYNTHESIZER OUTPUT IN MHz AT TP8	USB (REC & XMT) AM(XMT) SYNTHESIZER OUTPUT IN MHz AT TP8	LSB (REC & XMT) SYNTHESIZER OUTPUT IN MHz AT TP8	AM,USB,LSB (REC & XMT) DIVIDER INPUT IN MHz AT TP12
1	0	1	0	1	0	0	0	1	34.765	34.7675	34.7625	.910
2	0	1	0	1	0	0	1	0	34.775	34.7775	34.7725	.920
3	0	1	0	1	0	0	1	1	34.785	34.7875	34.7825	.930
4	0	1	0	1	0	1	0	1	34.805	34.8075	34.8025	.950
5	0	1	0	1	0	1	1	0	34.815	34.8175	34.8125	.960
6	0	1	0	1	0	1	1	1	34.825	34.8275	34.8225	.970
7	0	1	0	1	1	0	1	1	34.835	34.8375	34.8325	.980
8	1	0	0	0	0	0	0	0	34.855	34.8575	34.8525	1.000
9	1	0	0	0	0	0	0	1	34.865	34.8675	34.8625	1.010
10	1	0	0	0	0	0	1	0	34.875	34.8775	34.8725	1.020
11	1	0	0	0	0	0	1	1	34.885	34.8875	34.8825	1.030
12	1	0	0	0	0	1	0	1	34.905	34.9075	34.9025	1.050
13	1	0	0	0	0	1	1	0	34.915	34.9175	34.9125	1.060
14	1	0	0	0	0	1	1	1	34.925	34.9275	34.9225	1.070
15	1	0	0	0	1	0	0	0	34.935	34.9375	34.9325	1.080
16	1	0	0	1	0	0	0	0	34.955	34.9575	34.9525	1.100
17	1	0	0	1	0	0	0	1	34.965	34.9675	34.9625	1.110
18	1	0	0	1	0	0	1	0	34.975	34.9775	34.9725	1.120
19	1	0	0	1	0	0	1	1	34.985	34.9875	34.9825	1.130
20	1	0	0	1	0	1	0	1	35.005	35.0075	35.0025	1.150
21	1	0	0	1	0	1	1	0	35.015	35.0175	35.0125	1.160
22	1	0	0	1	0	1	1	1	35.025	35.0275	35.0225	1.170
23	1	0	1	0	0	0	0	0	35.055	35.0575	35.0525	1.200
24	1	0	0	1	1	0	0	0	35.035	35.0375	35.0325	1.180
25	1	0	0	1	1	0	0	1	35.045	35.0475	35.0425	1.190
26	1	0	1	0	0	0	0	1	35.065	35.0675	35.0625	1.210
27	1	0	1	0	0	0	1	0	35.075	35.0775	35.0725	1.220
28	1	0	1	0	0	0	1	1	35.085	35.0875	35.0825	1.230
29	1	0	1	0	0	1	0	0	35.095	35.0975	35.0925	1.240
30	1	0	1	0	0	1	0	1	35.105	35.1075	35.1025	1.250
31	1	0	1	0	0	1	1	0	35.115	35.1175	35.1125	1.260
32	1	0	1	0	0	1	1	1	35.125	35.1275	35.1225	1.270
33	1	0	1	0	1	0	0	0	35.135	35.1375	35.1325	1.280
34	1	0	1	0	1	0	0	1	35.145	35.1475	35.1425	1.290
35	1	0	1	1	0	0	0	0	35.155	35.1575	35.1525	1.300
36	1	0	1	1	0	0	0	1	35.165	35.1675	35.1625	1.310
37	1	0	1	1	0	0	1	0	35.175	35.1775	35.1725	1.320
38	1	0	1	1	0	0	1	1	35.185	35.1875	35.1825	1.330
39	1	0	1	1	0	1	0	0	35.195	35.1975	35.1925	1.340
40	1	0	1	1	0	1	0	1	35.205	35.2075	35.2025	1.350



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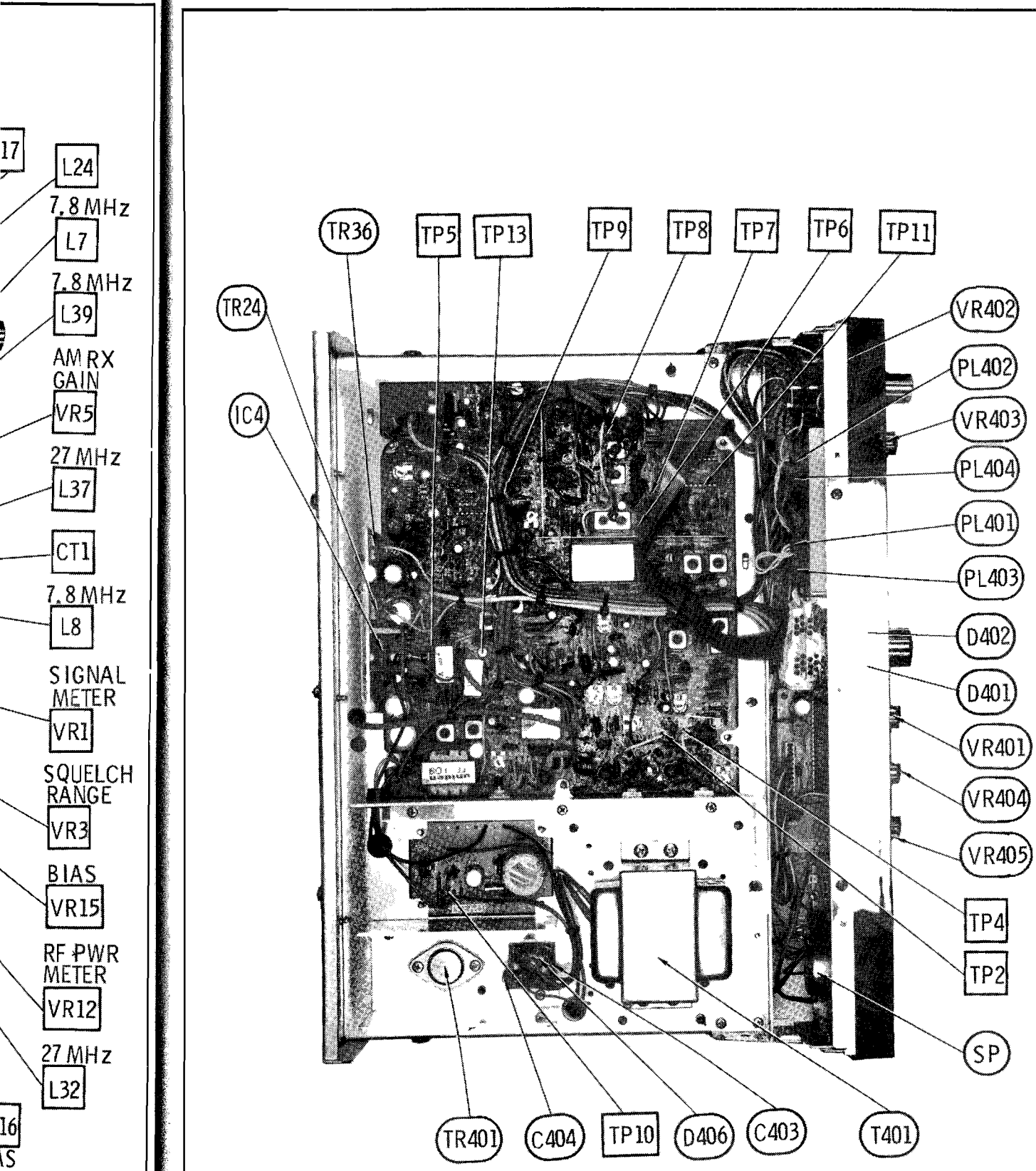

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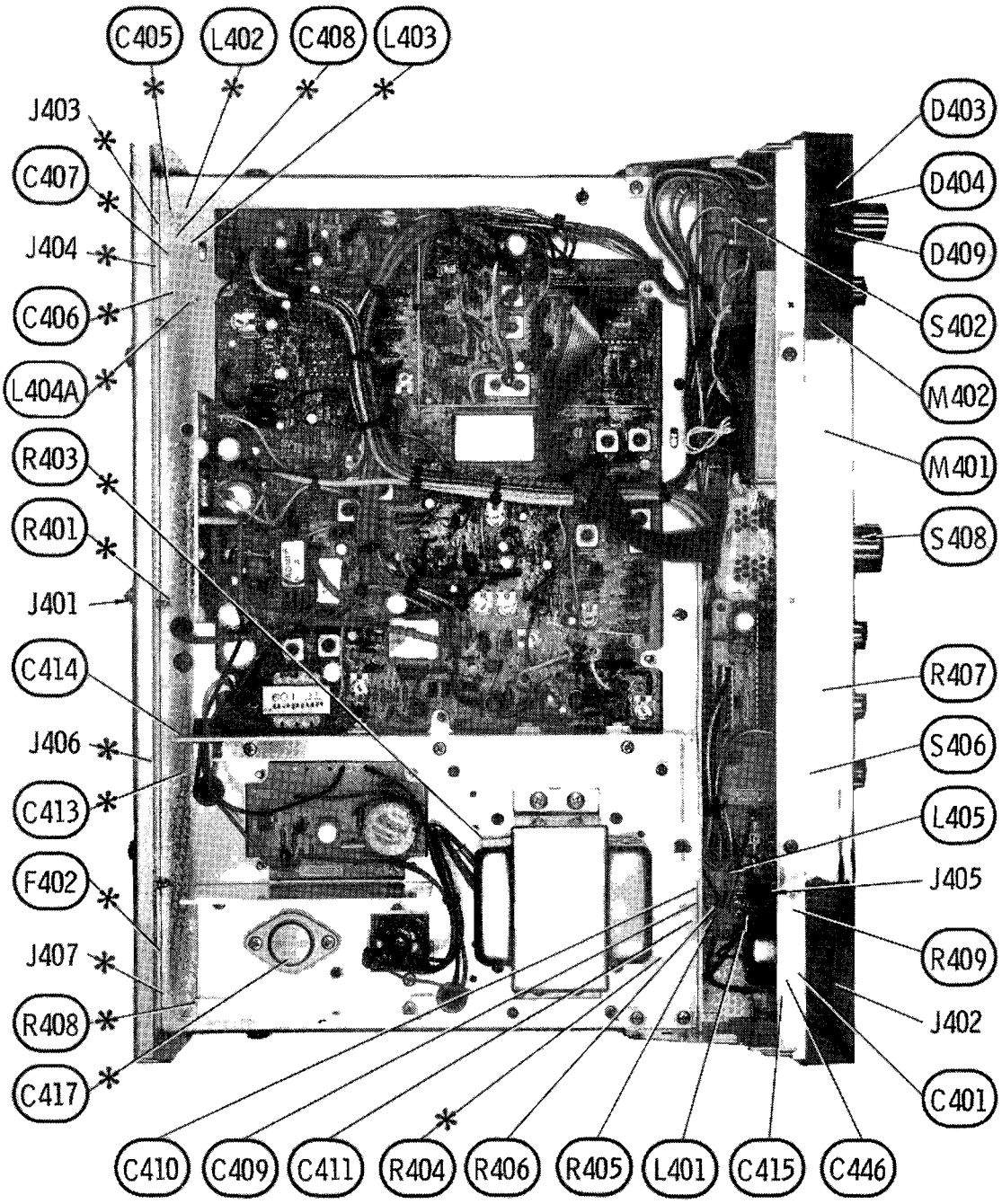
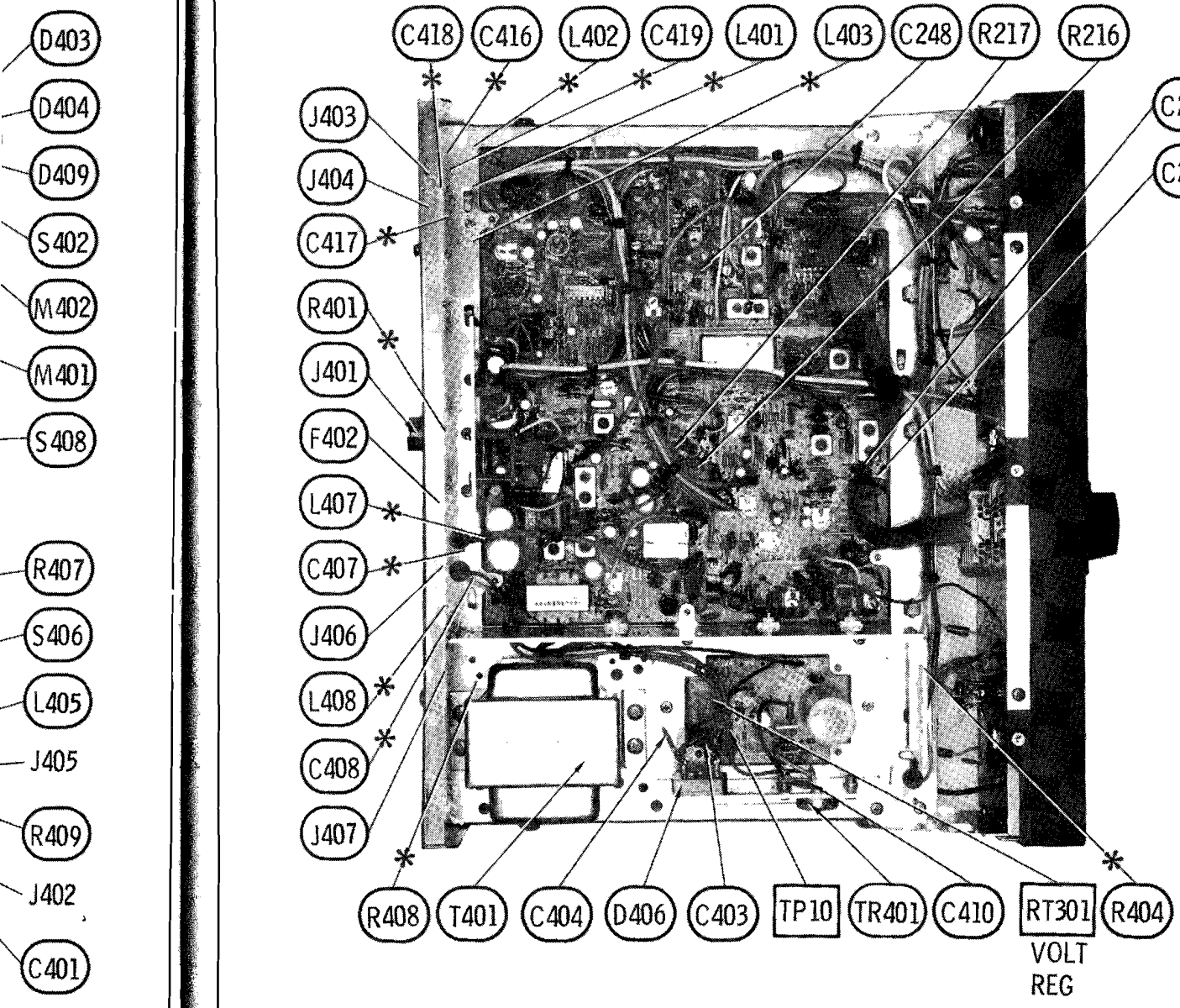


* Located on bottom of chassis

CHASSIS - TOP (TRC-457)



*Located on bottom of chassis

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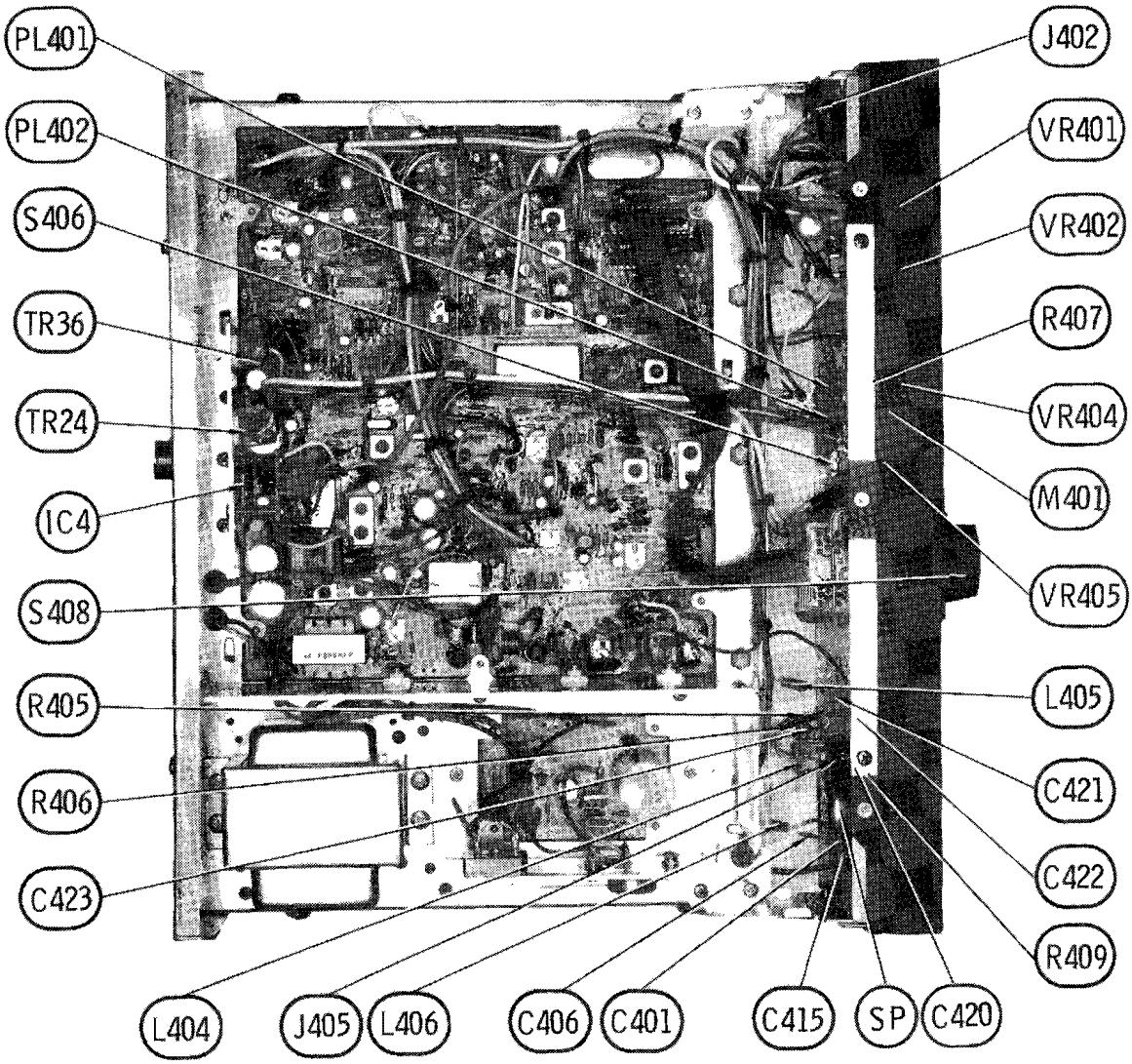

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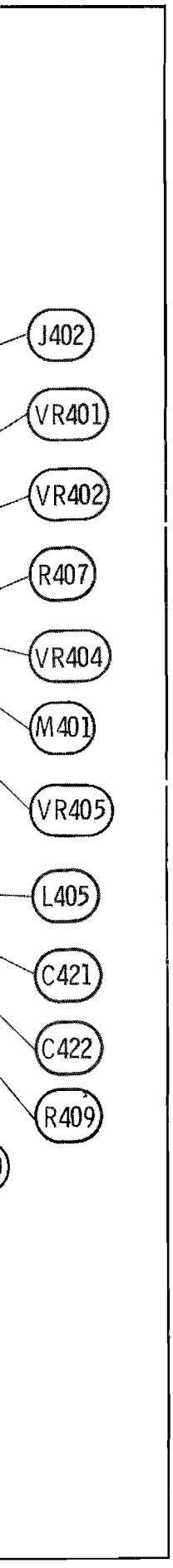
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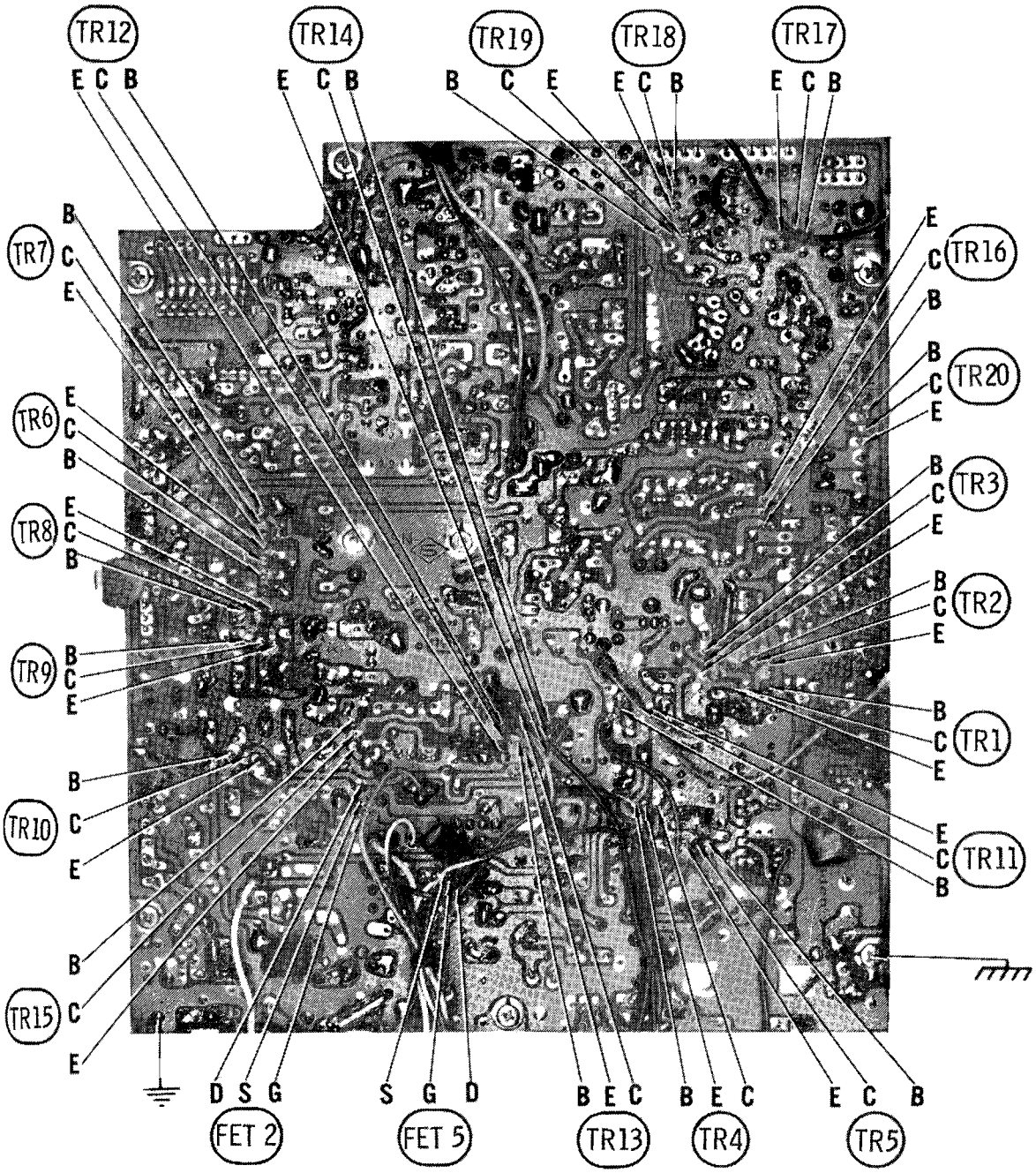
R407
VR404
M401
VR405
L405
C421
C422
R409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E C B
TR14
E C B
TR19
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TR18
E C B
TR17
E C B
TR7
B C E
TR16
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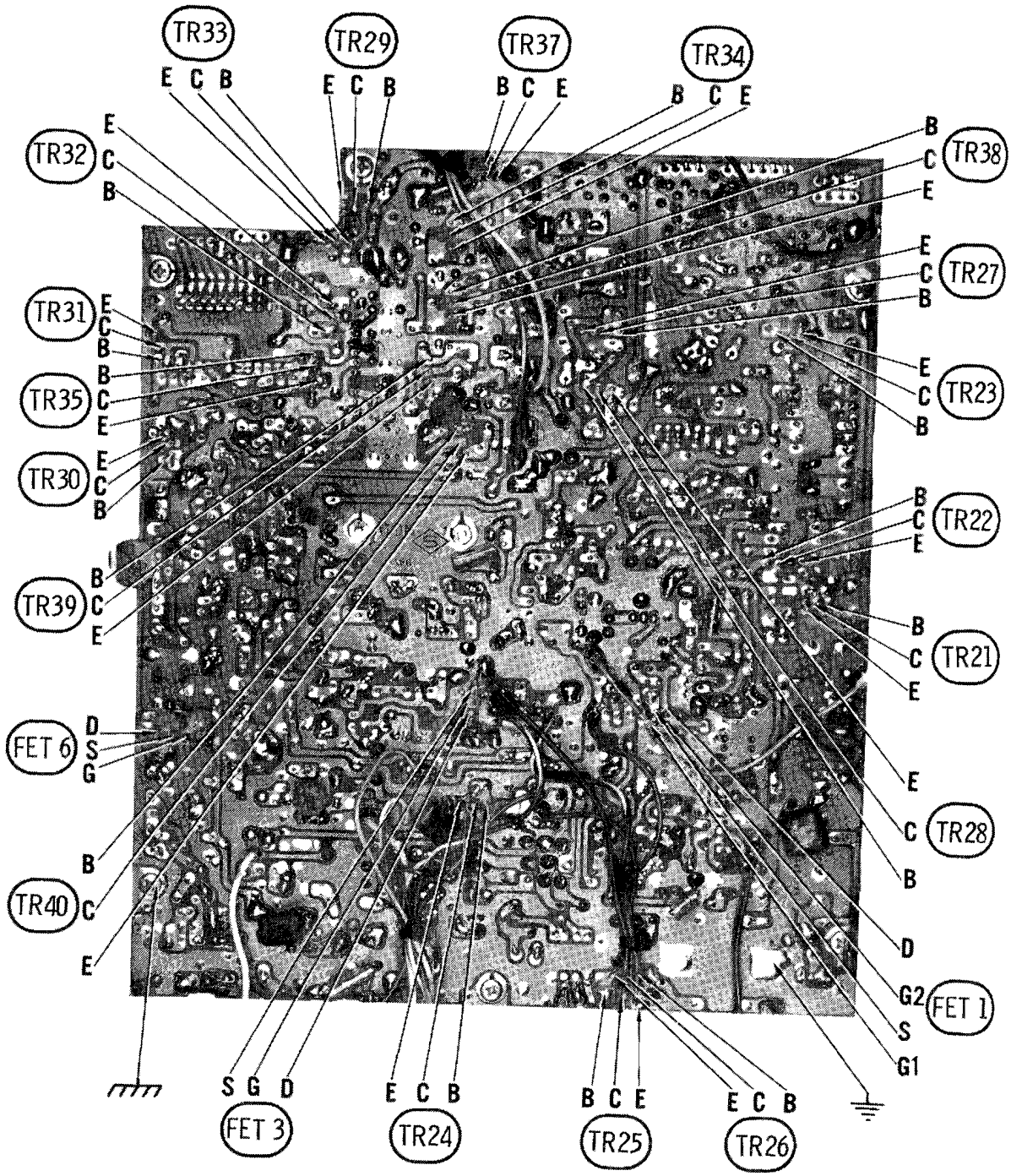
TR6
E C B
TR20
B C E
TR8
E C B
TR3
B C E
TR9
B C E
TR2
B C E
TR1
B C E
TR10
B C E
TR11
E C B
TR15
B C E
FET 2
D S G
FET 5
S G D
TR13
B E C
TR4
B E C
TR5
E C B

MAIN BOARD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TR28
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TR40
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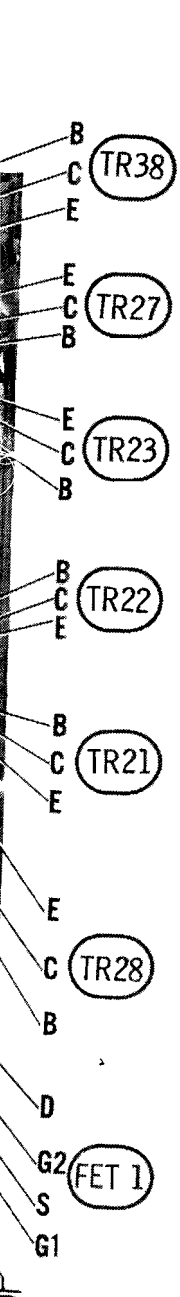
TR26

MAIN BOARD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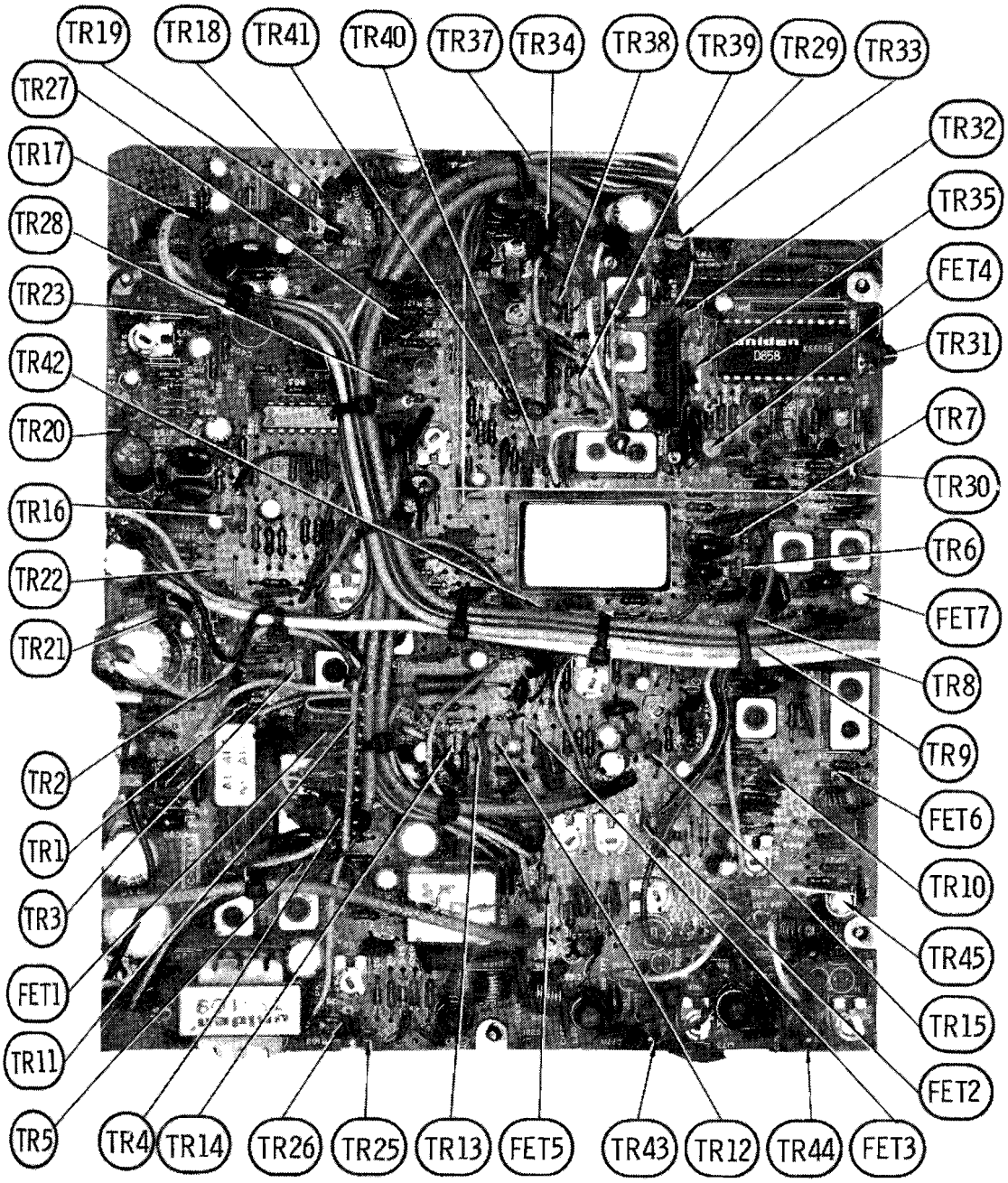
G2
S
G1
FET 1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TR3
FET1
TR11
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TR43
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TR15
FET2

MAIN BOARD

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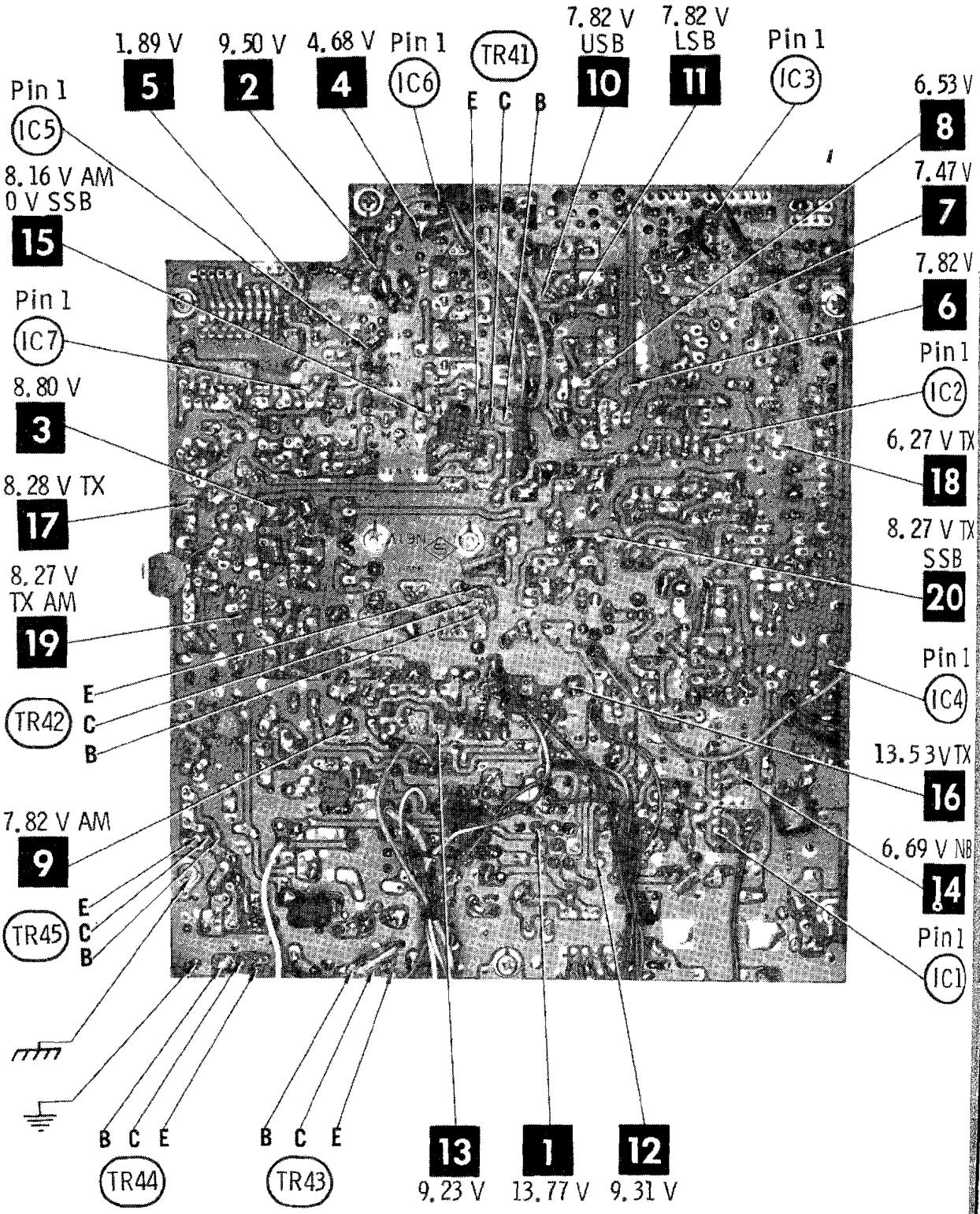

MAIN BOARD

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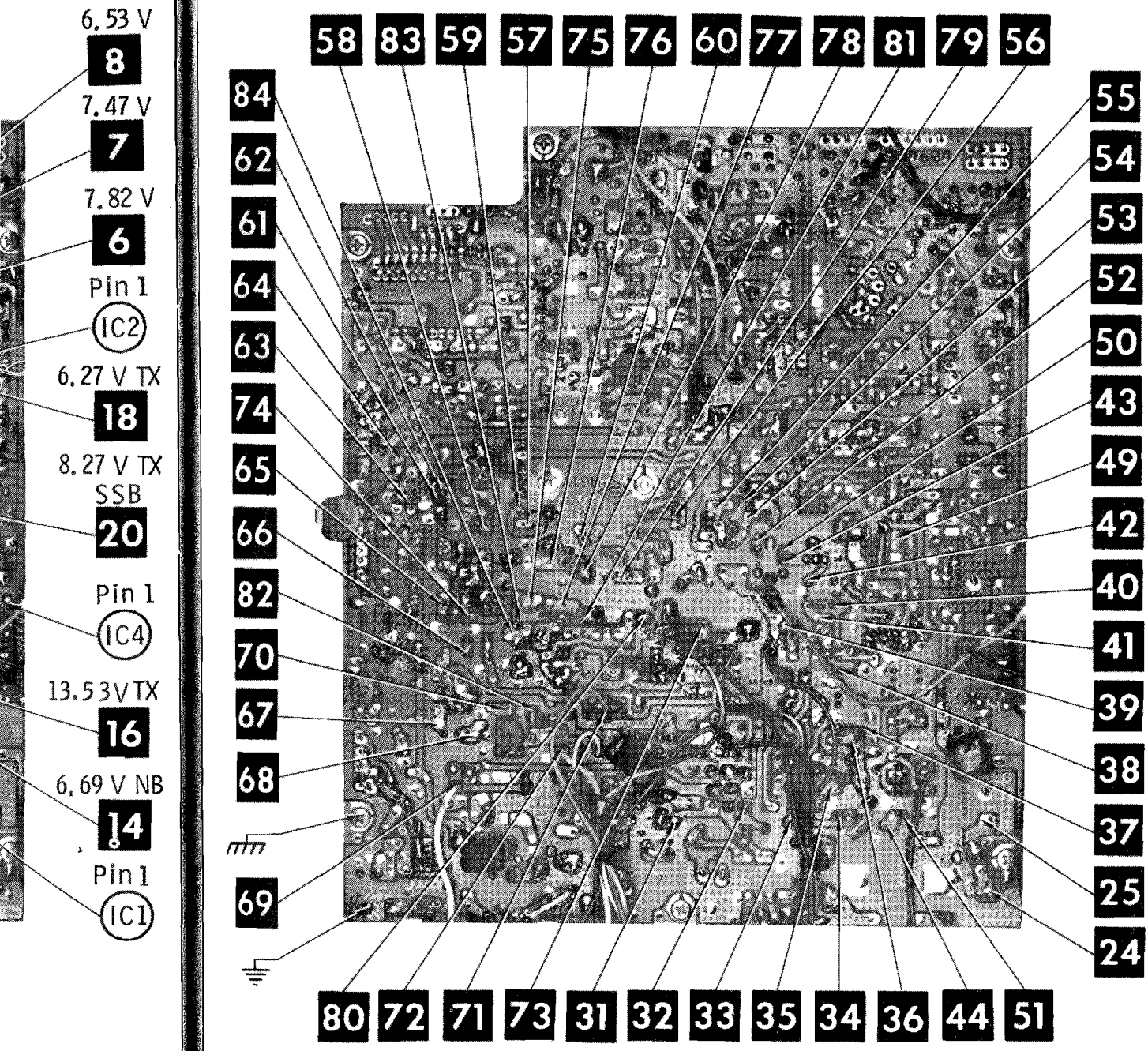

MAIN BOARD

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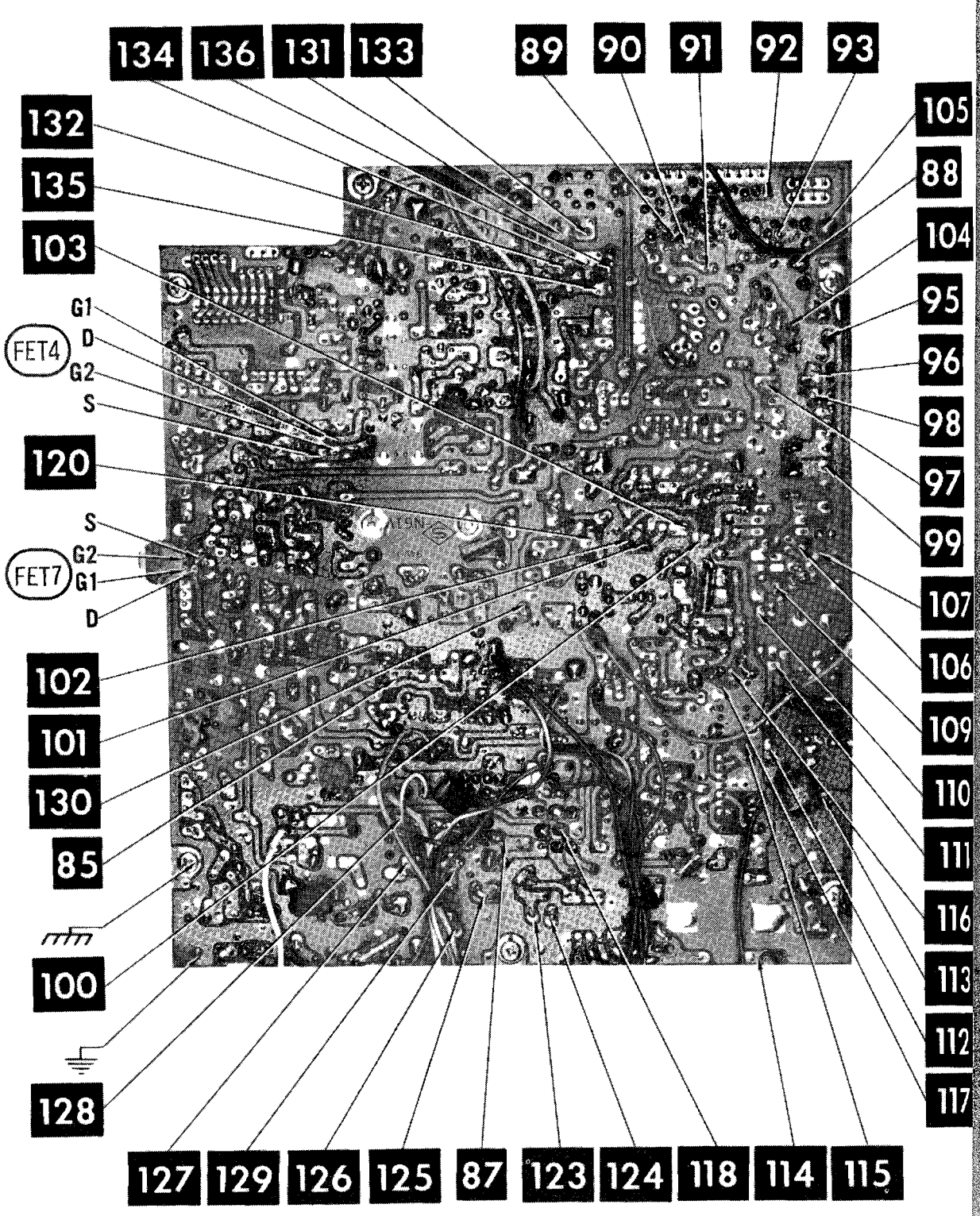

MAIN BOARD

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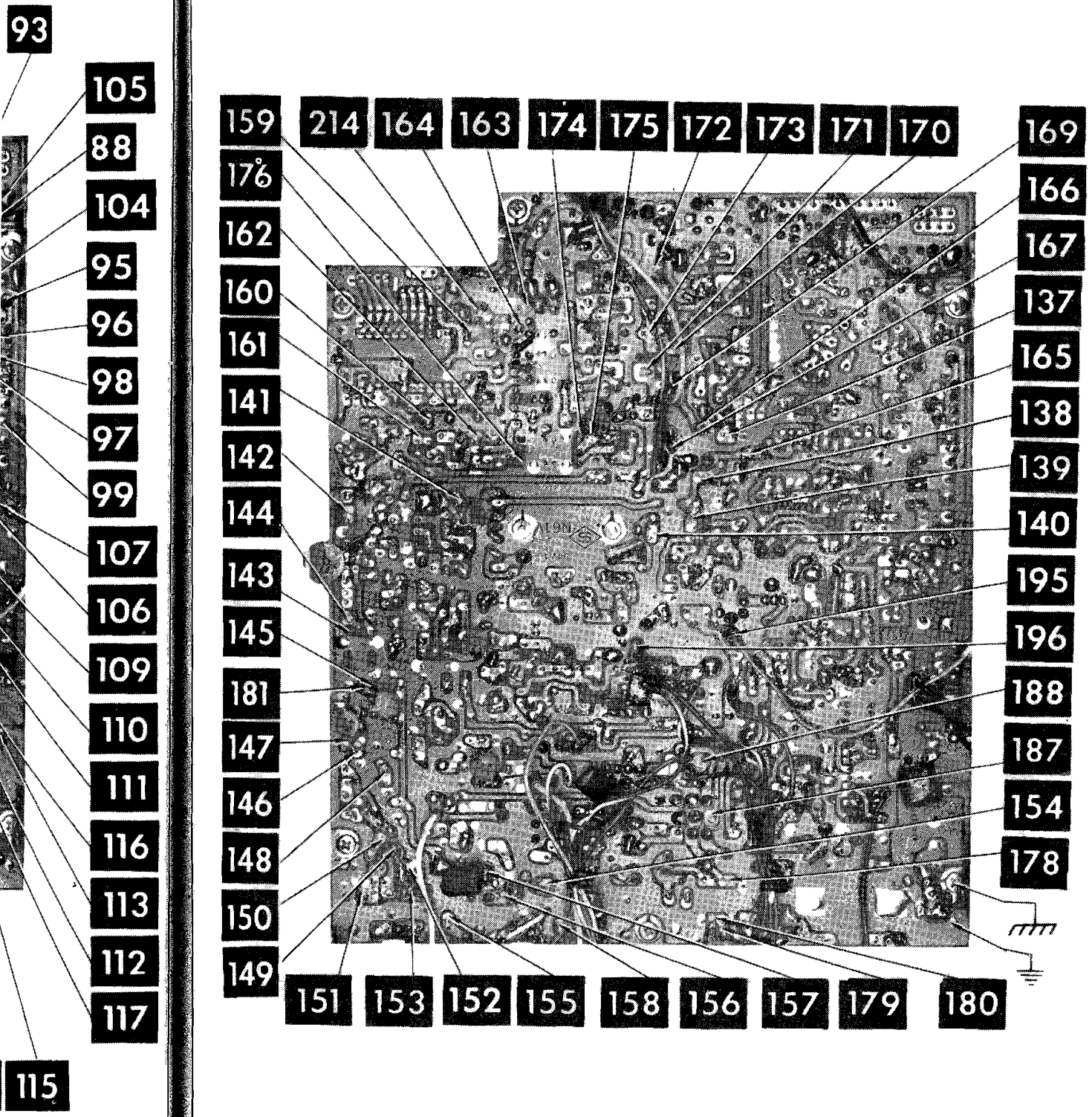
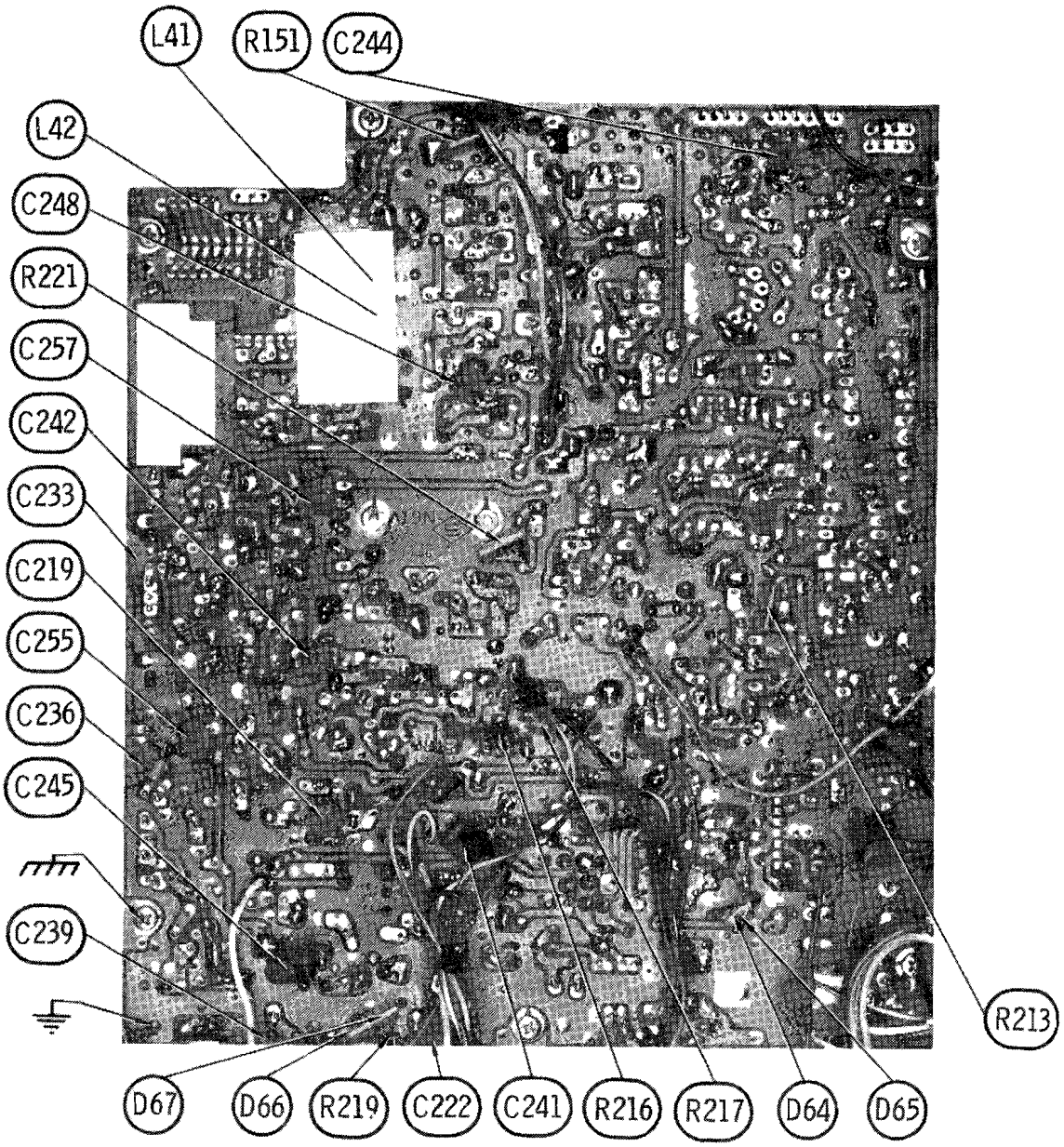
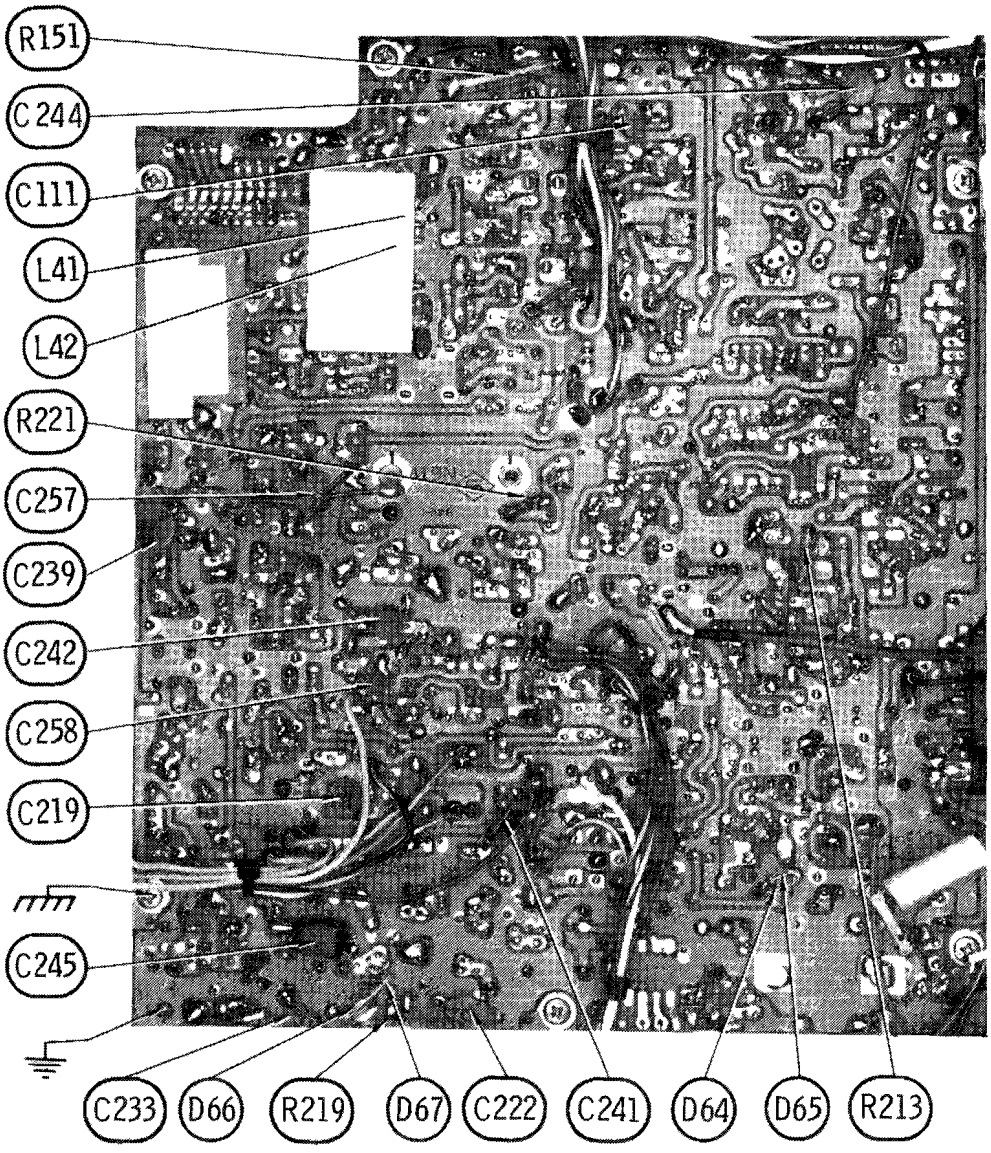


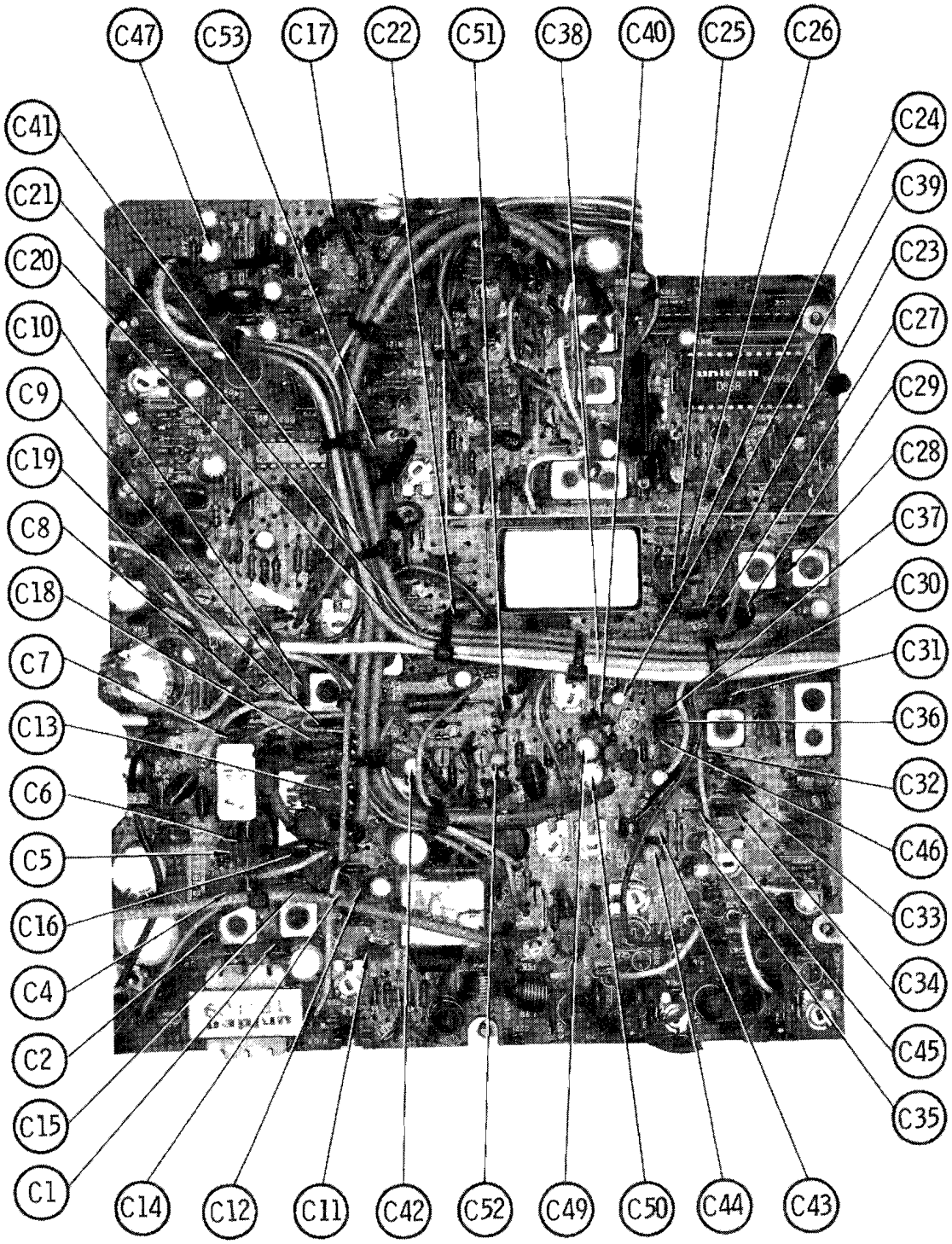
MAIN BOARD



MAIN BOARD (TRC-457)



MAIN BOARD (TRC-458)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C49
C50
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C29
C28
C37
C30
C31
C36
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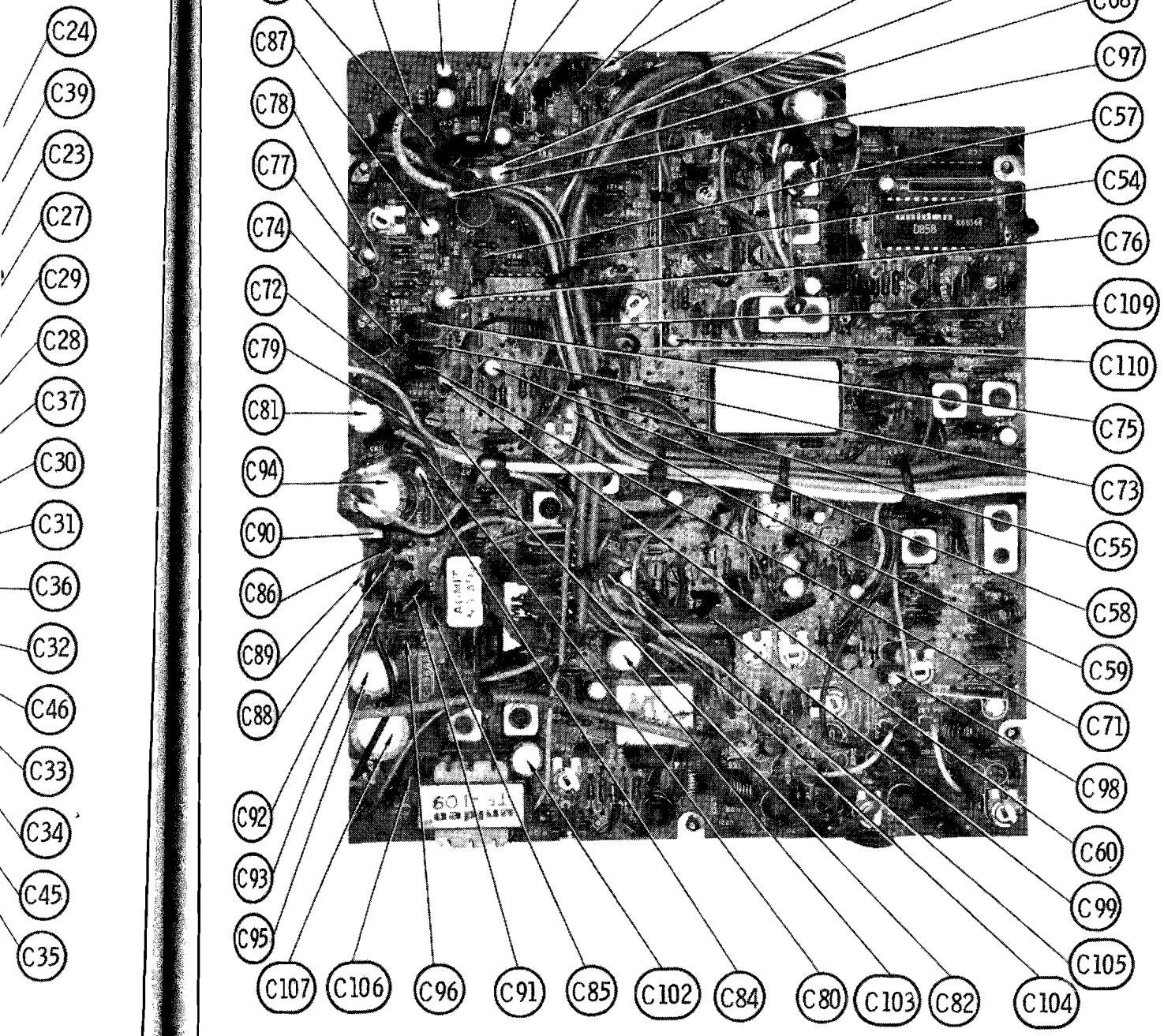
MAIN BOARD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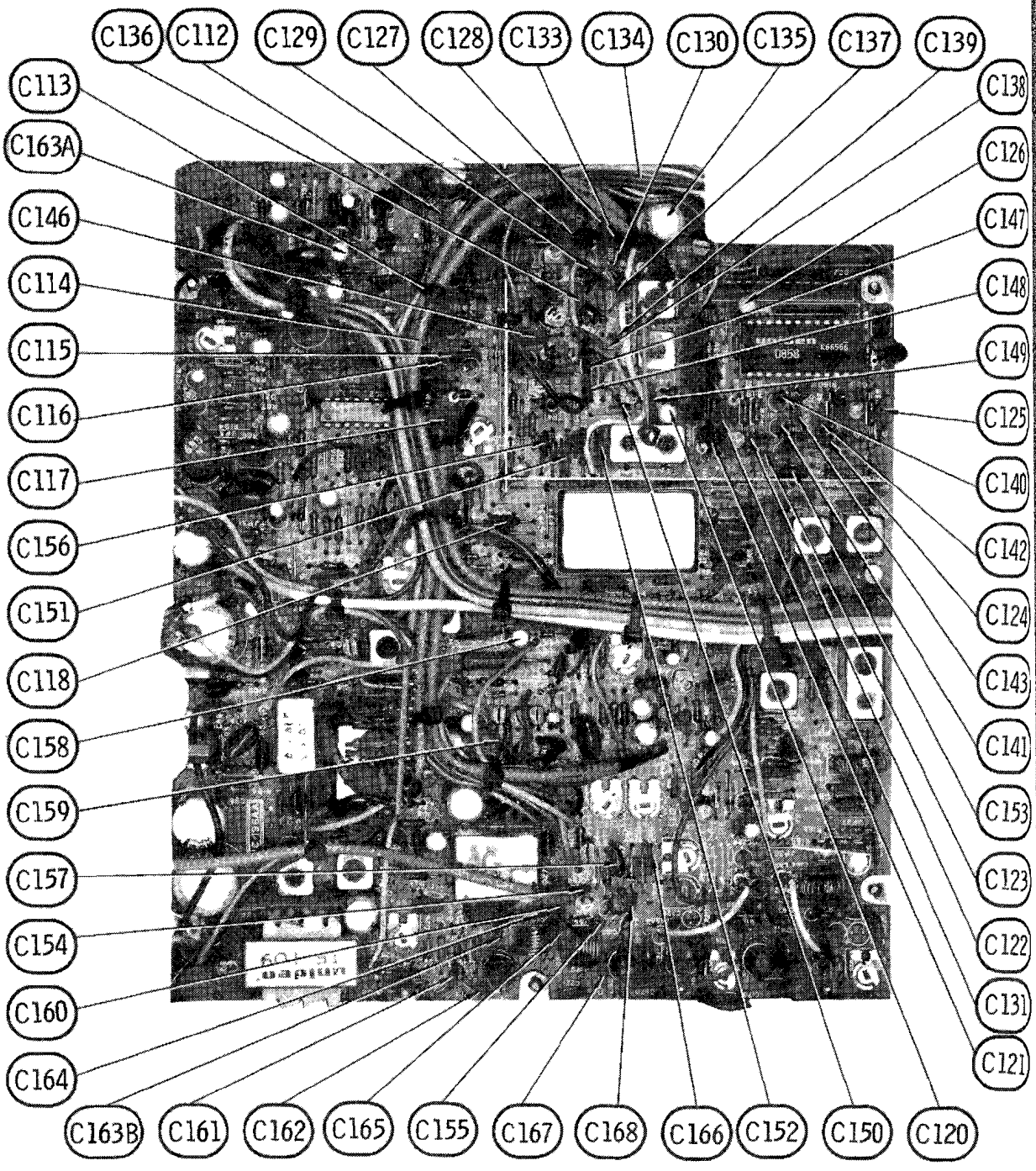
MAIN BOARD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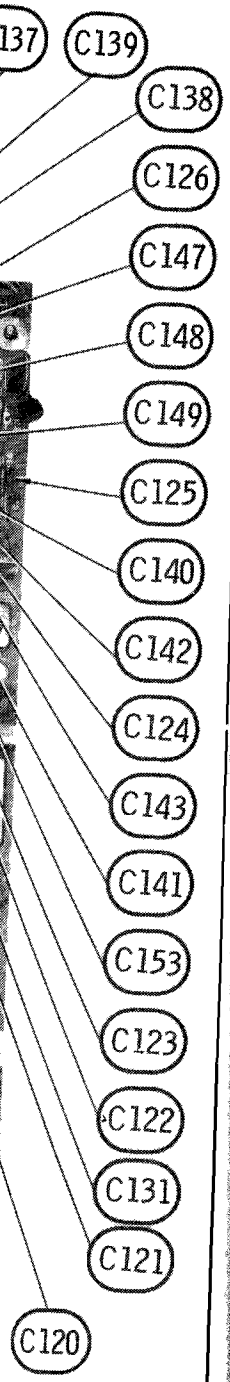
MAIN BOARD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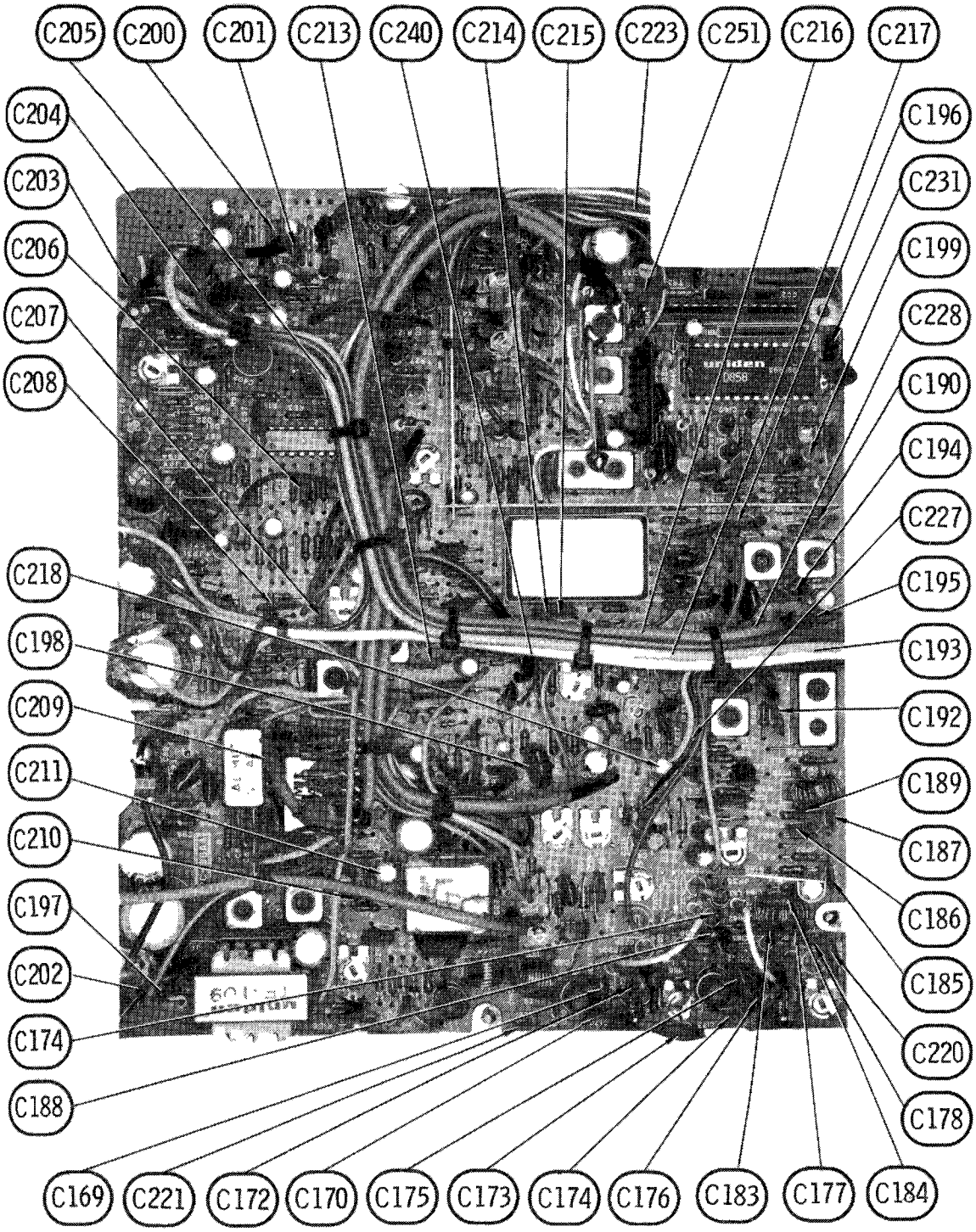
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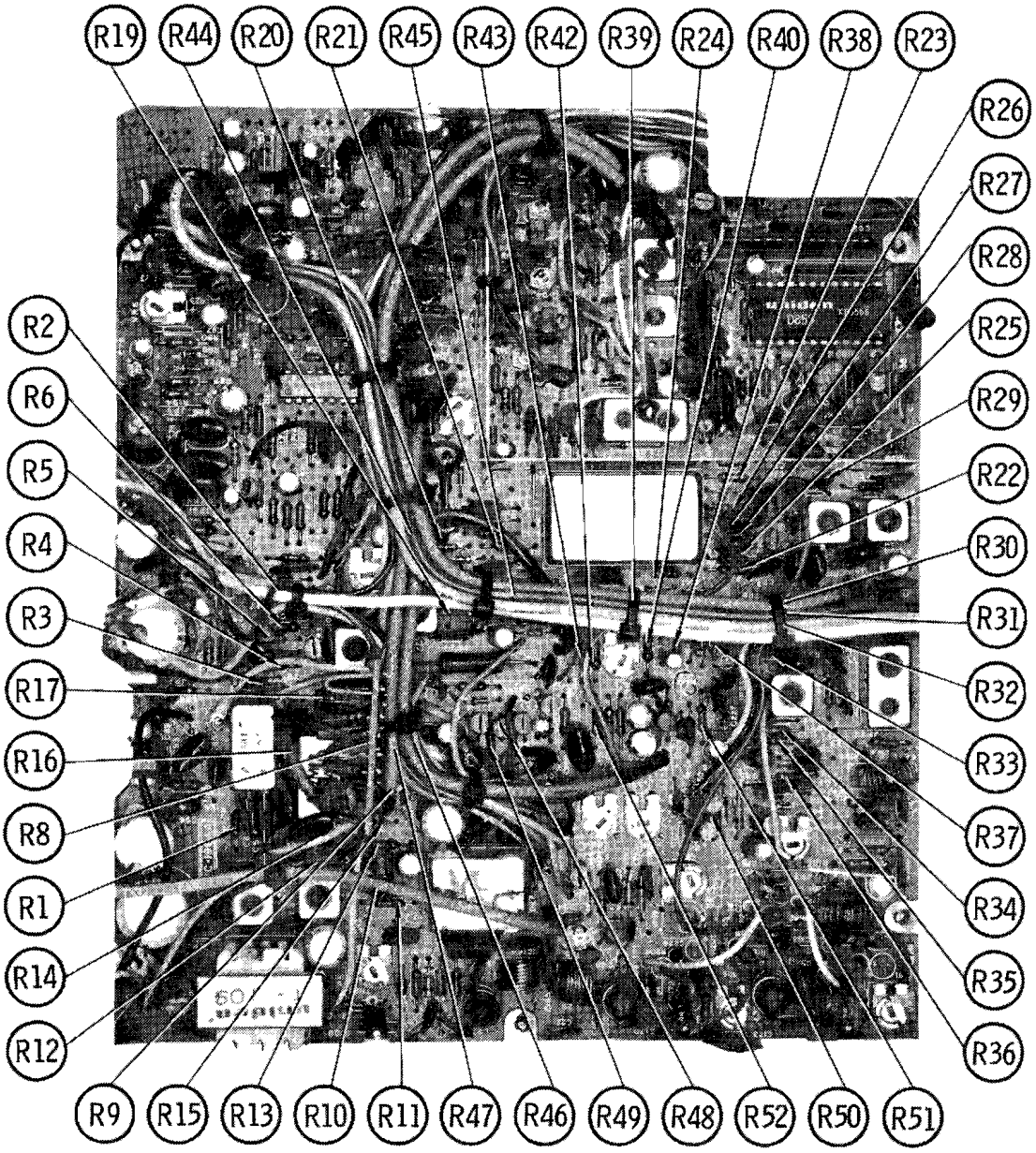
MAIN BOARD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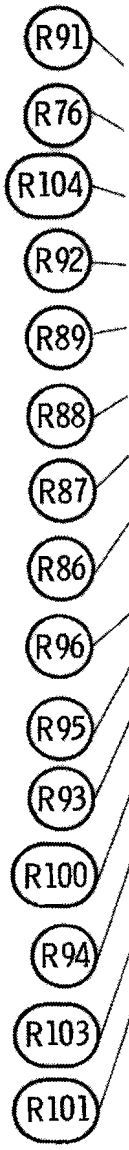
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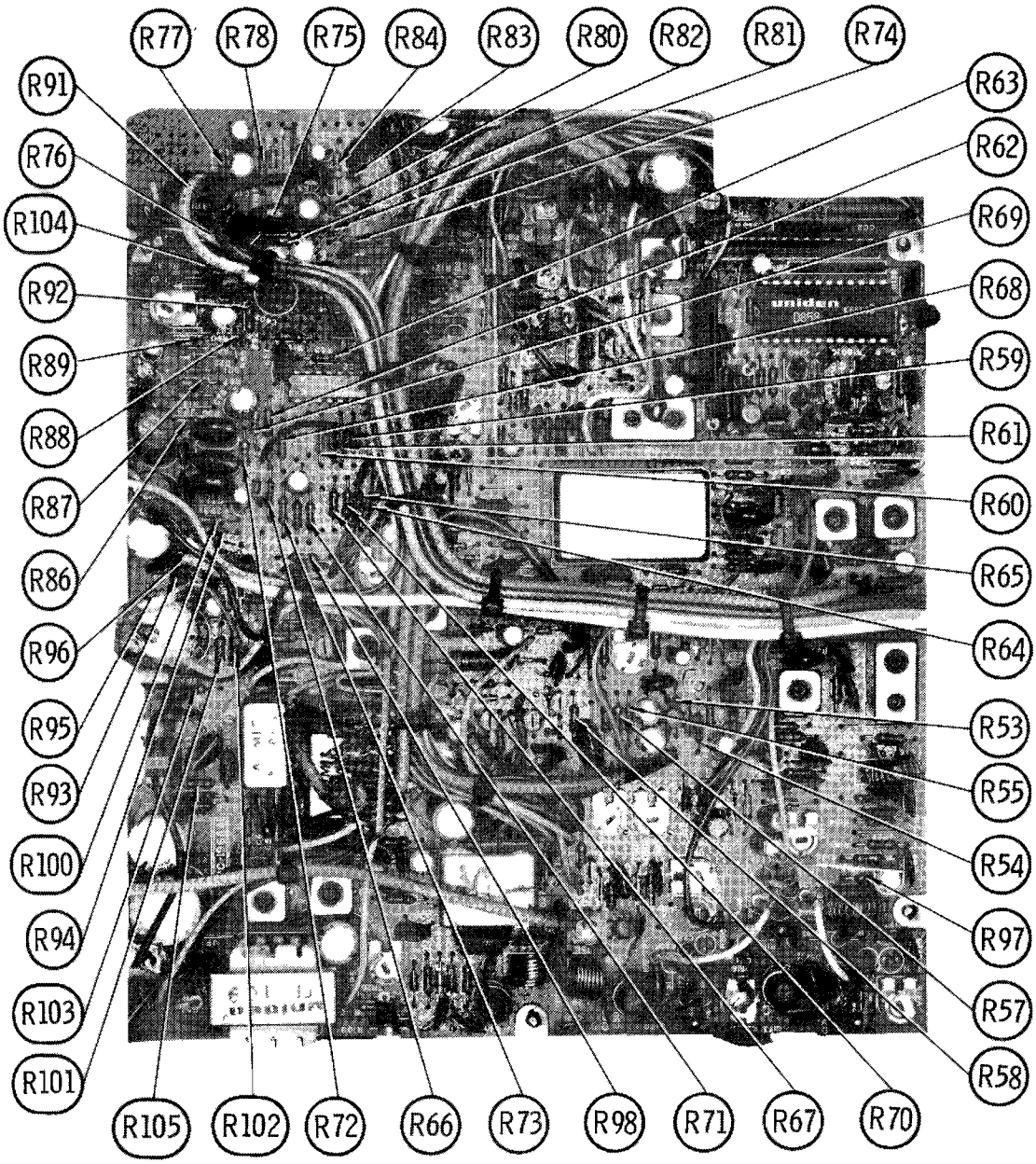
MAIN BOARD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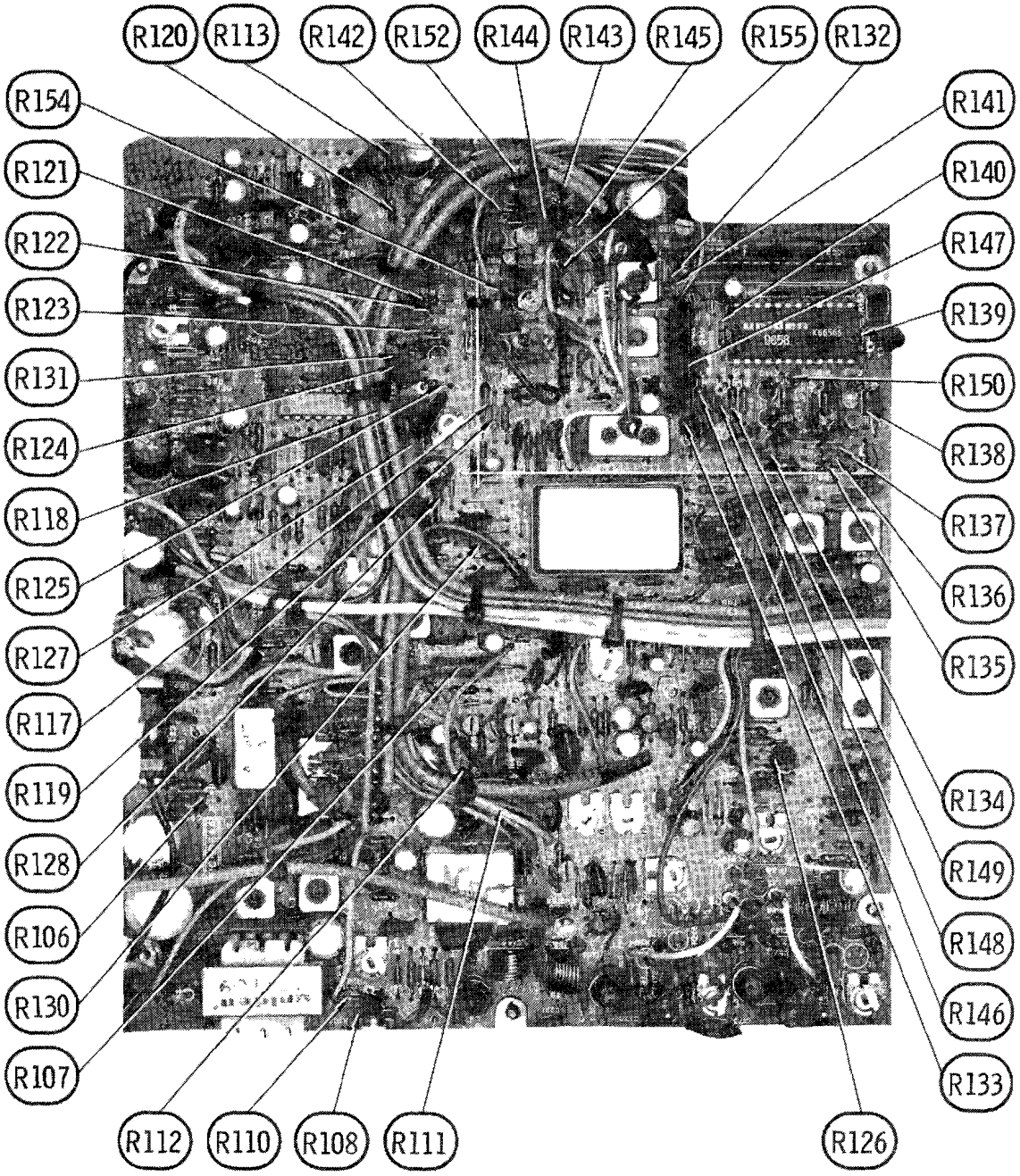
MAIN BOARD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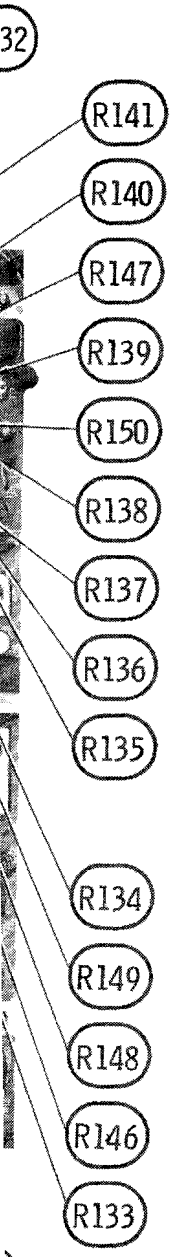
MAIN BOARD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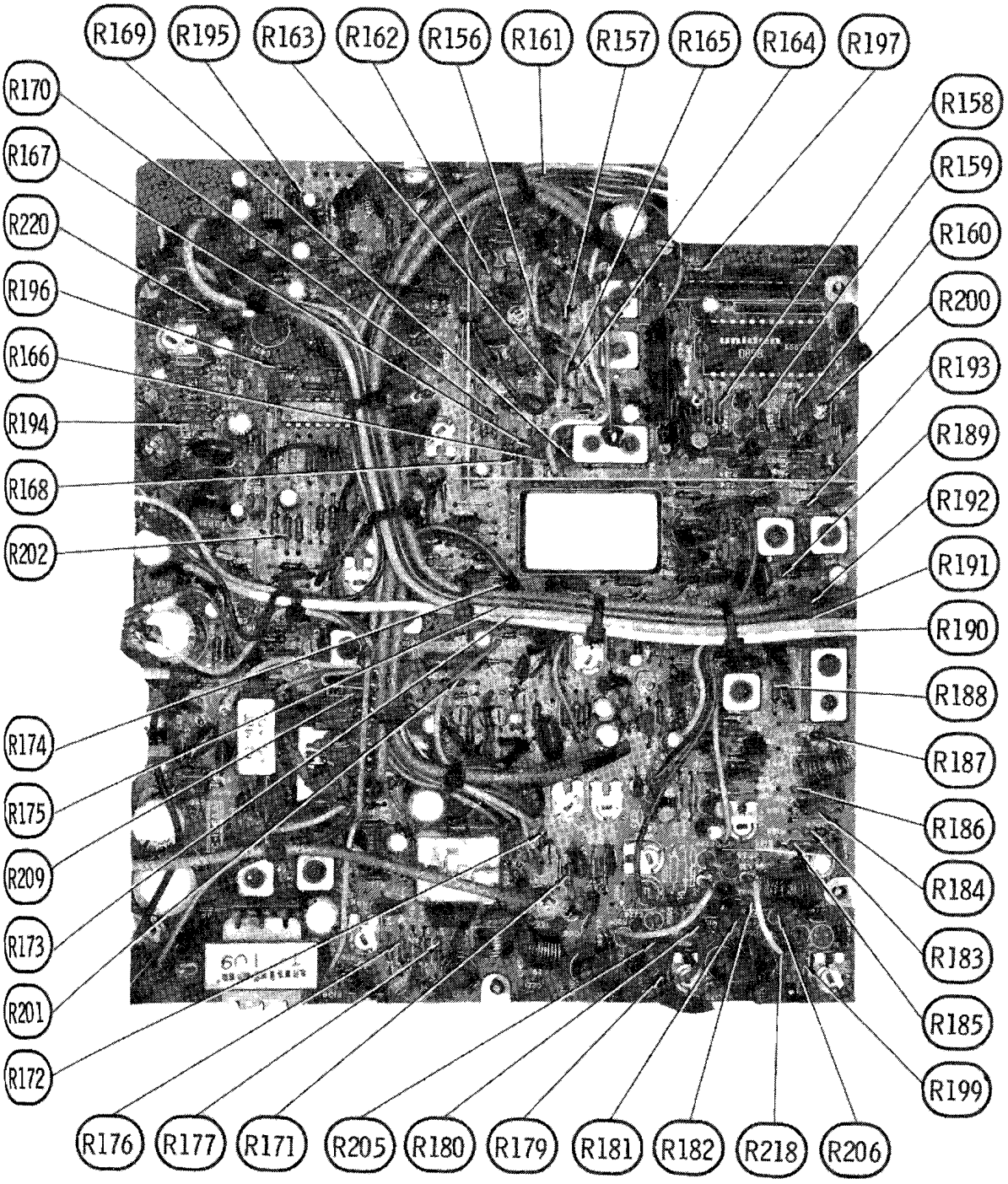
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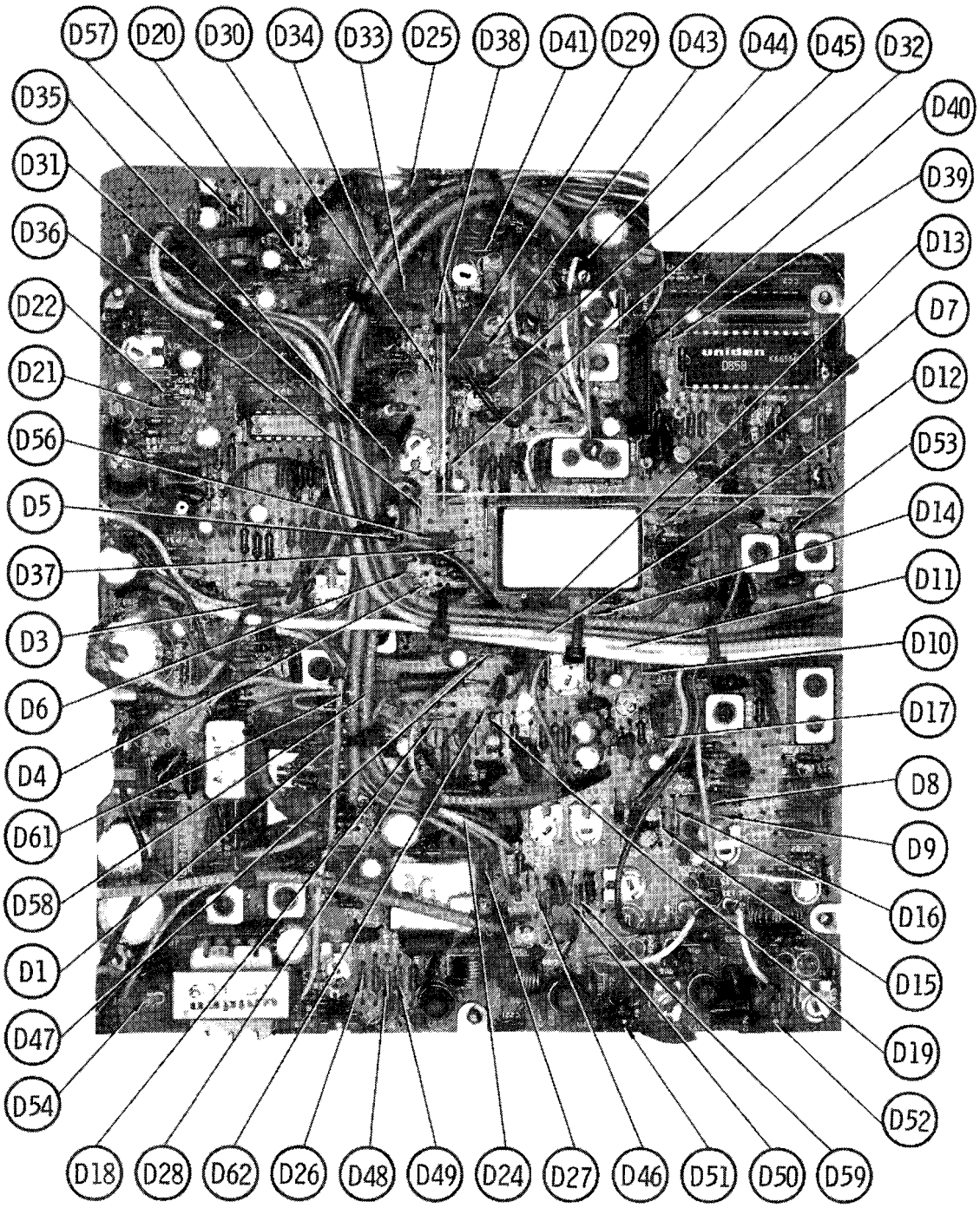
MAIN BOARD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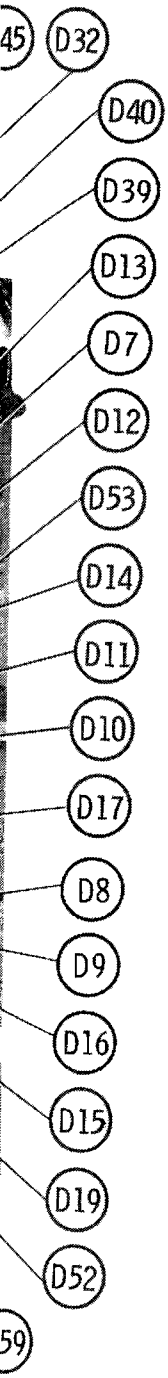
MAIN BOARD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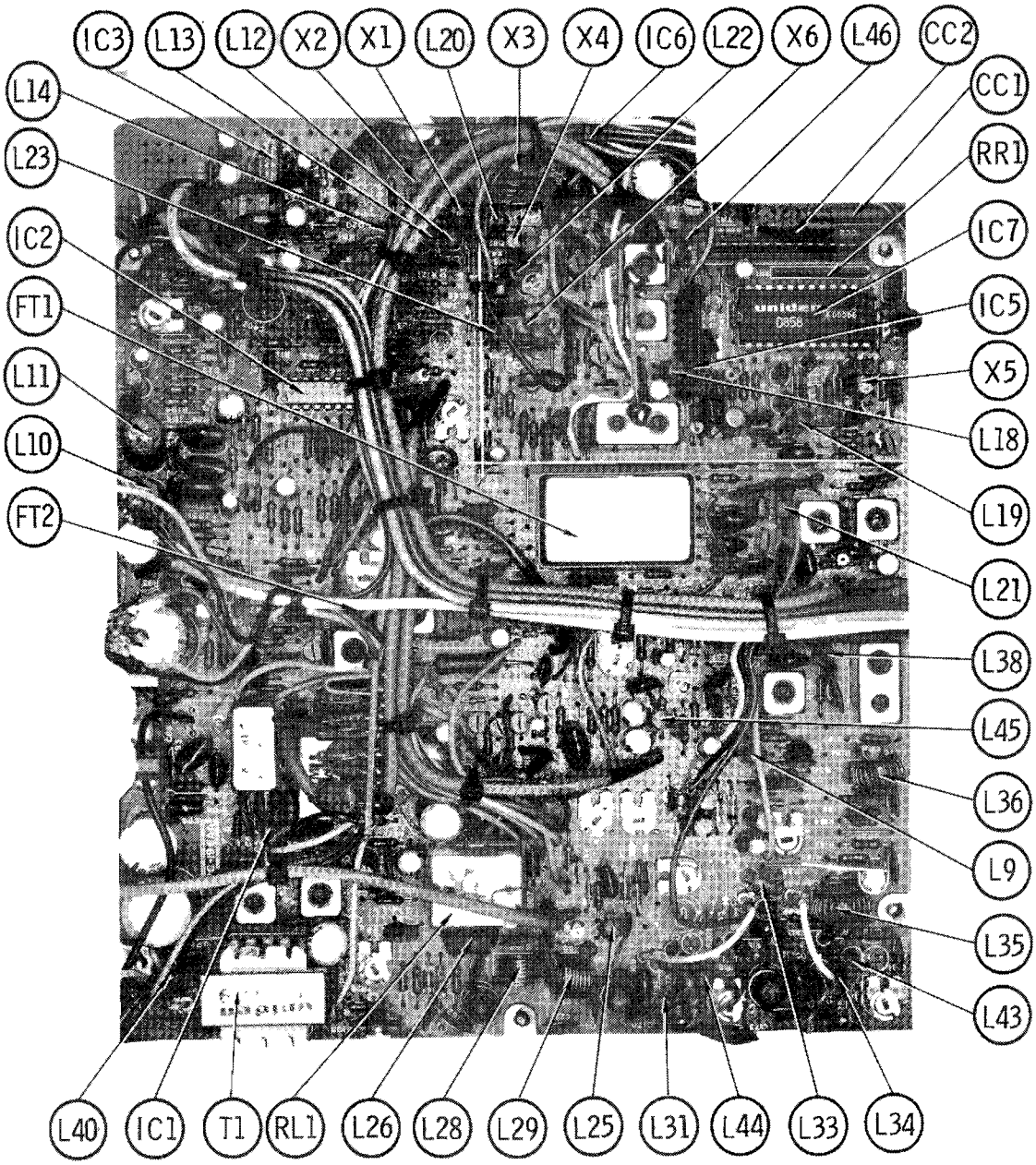
D52
59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X3
X4
IC6
L22
X6
L46
CC2
CC1
RR1
IC7
IC5
X5
L18
L19
L21
L38
L45
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L9
L35
L43
L14
L23
IC2
FT1
L11
L10
FT2
L40
IC1
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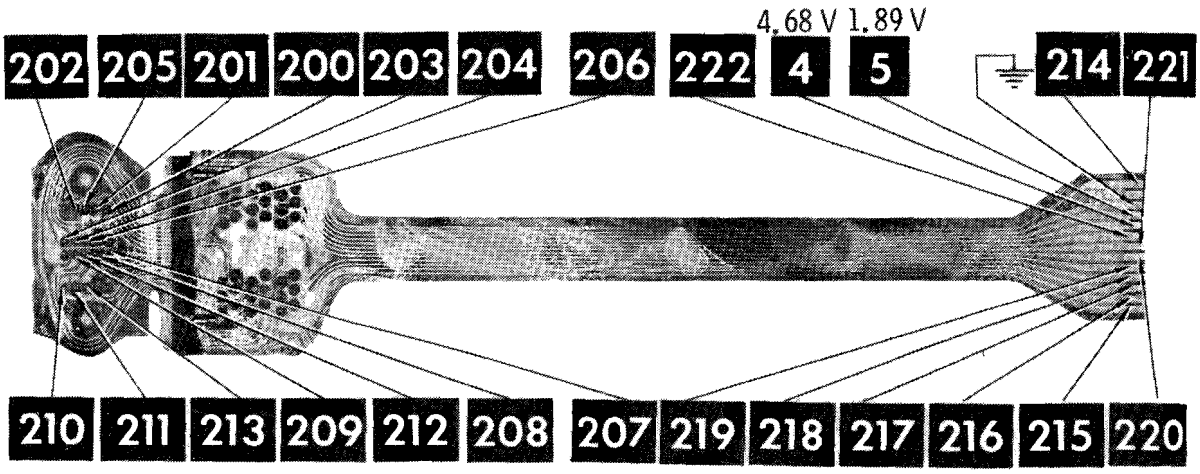
L33
L34

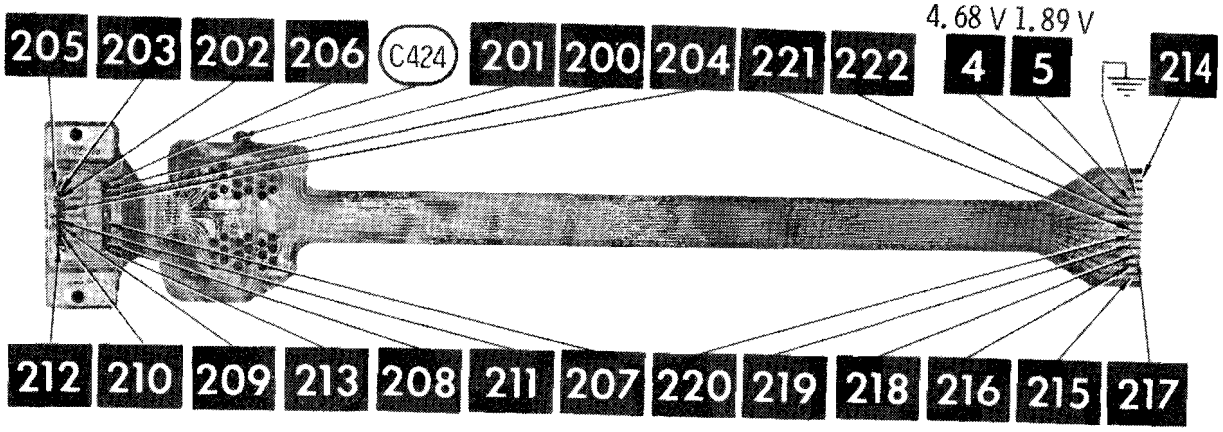
MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo

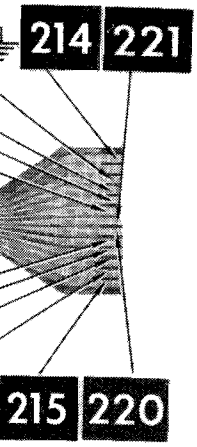


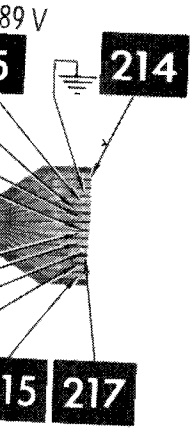
CH. SELECTOR & READOUT BOARD (TRC-457)

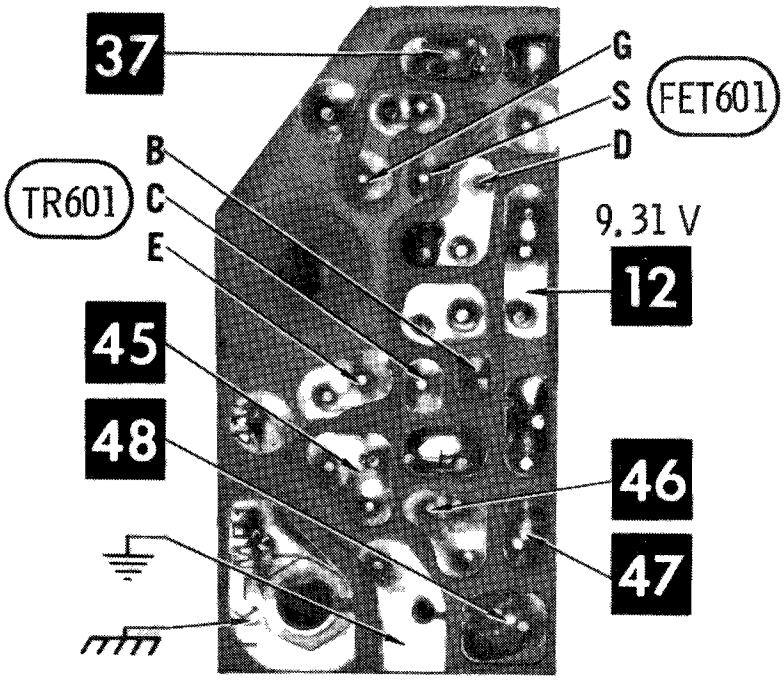
A Howard W. Sams CIRCUITRACE® Photo

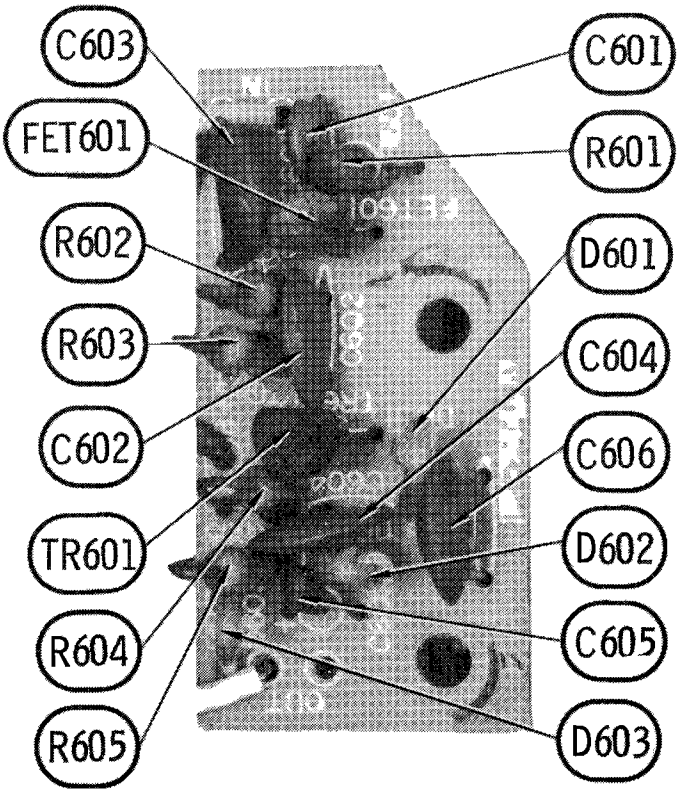


CH. SELECTOR & READOUT BOARD (TRC-458)



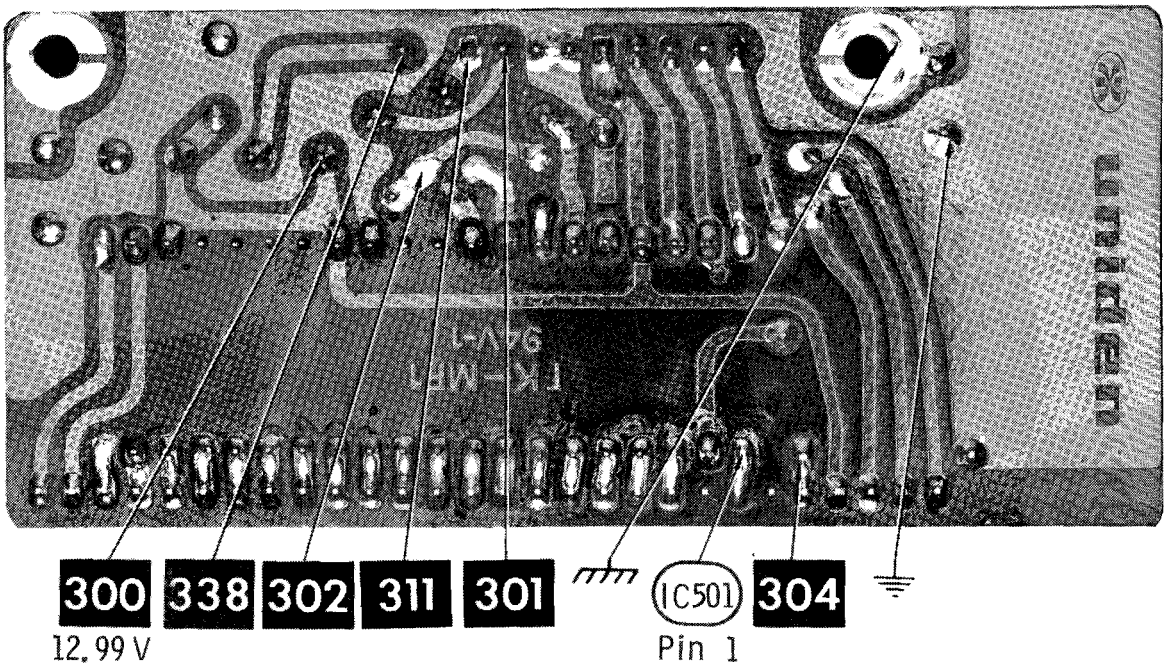


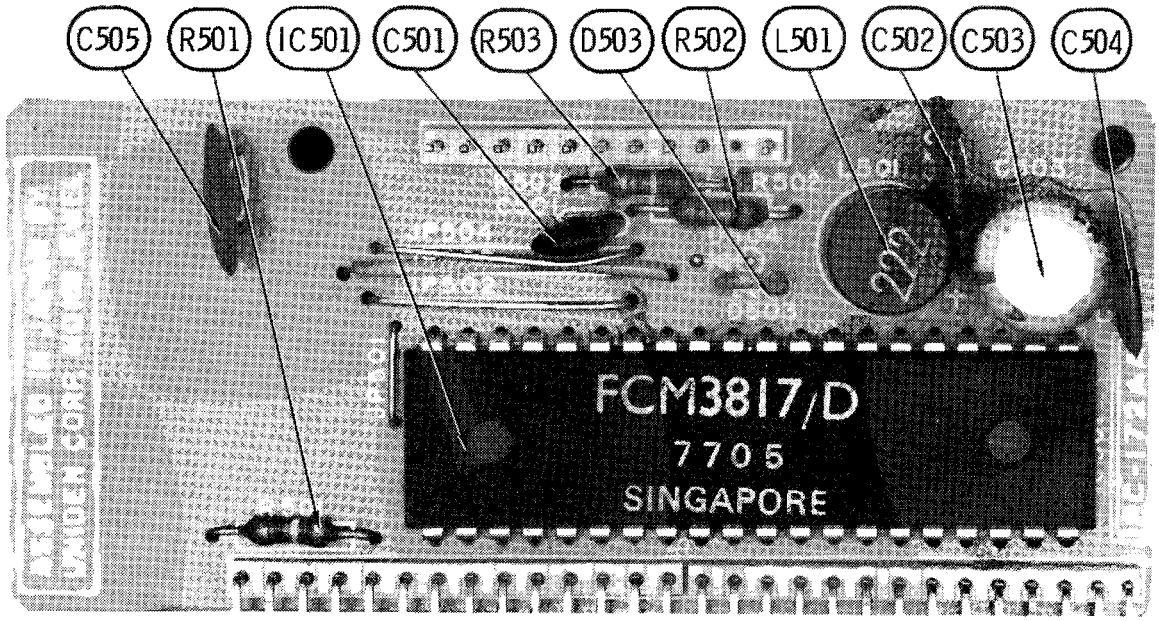




NOISE BLANKER BOARD

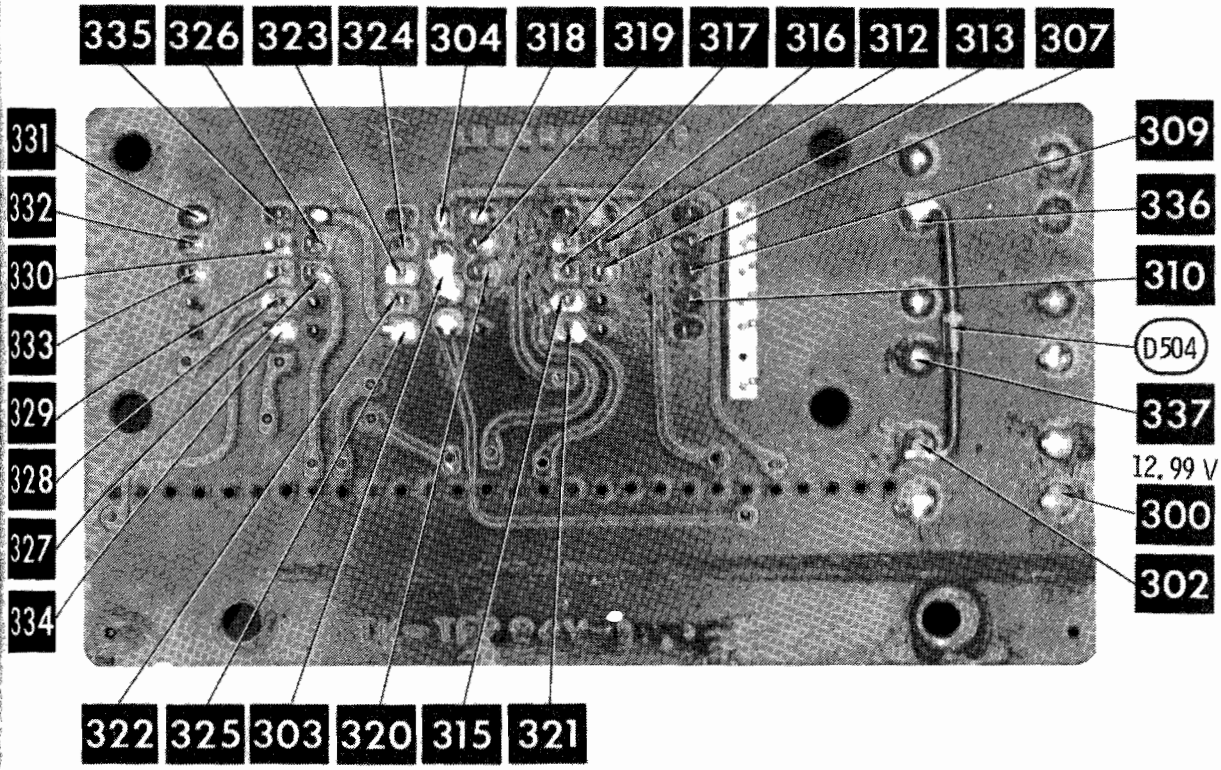
A Howard W. Sams CIRCUITRACE® Photo

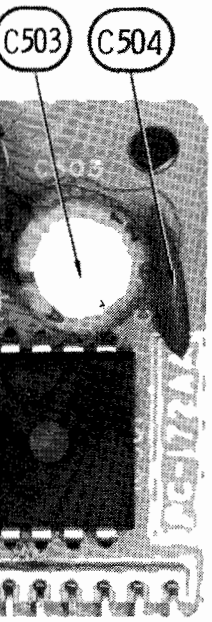


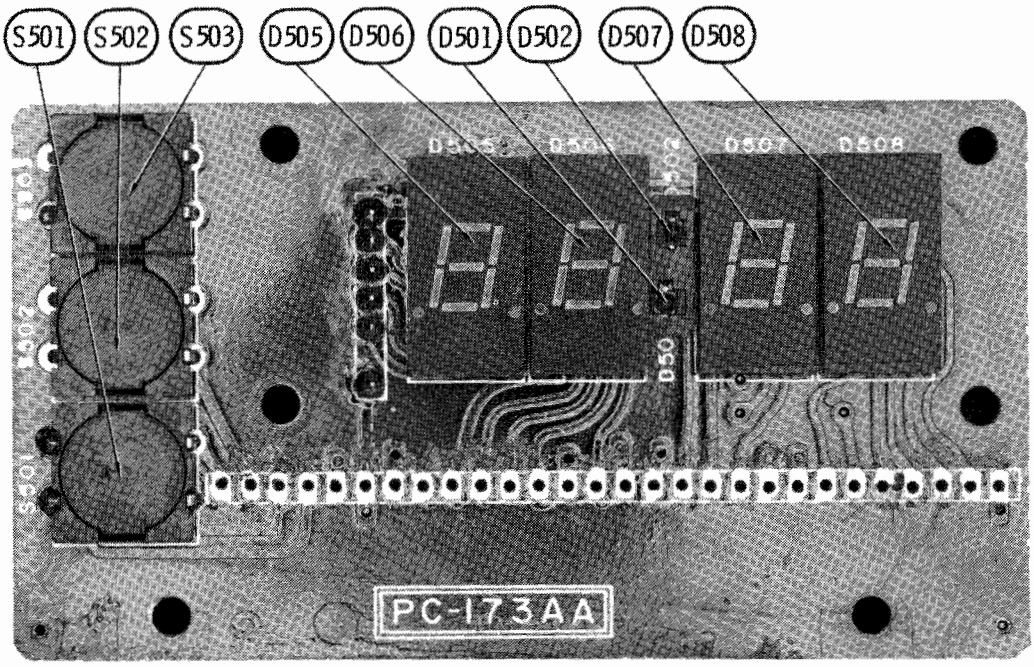


CLOCK LOGIC BOARD (TRC-457)

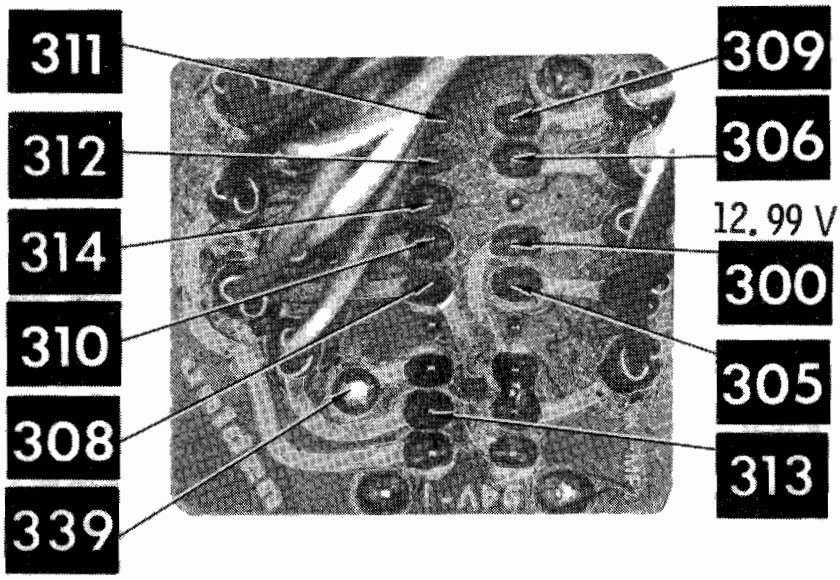
A Howard W. Sams CIRCUITRACE® Photo

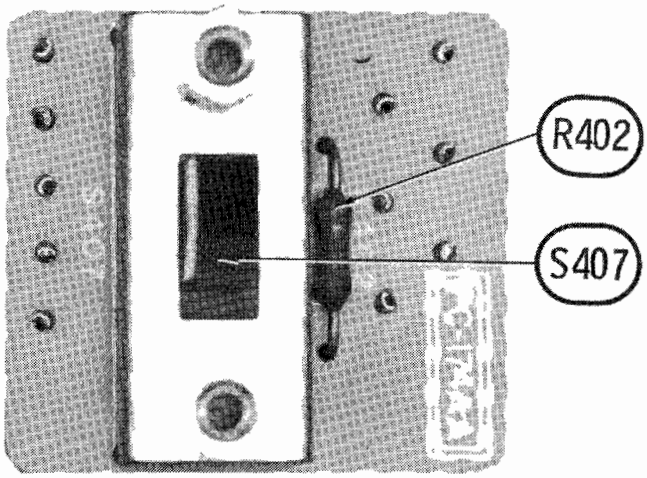




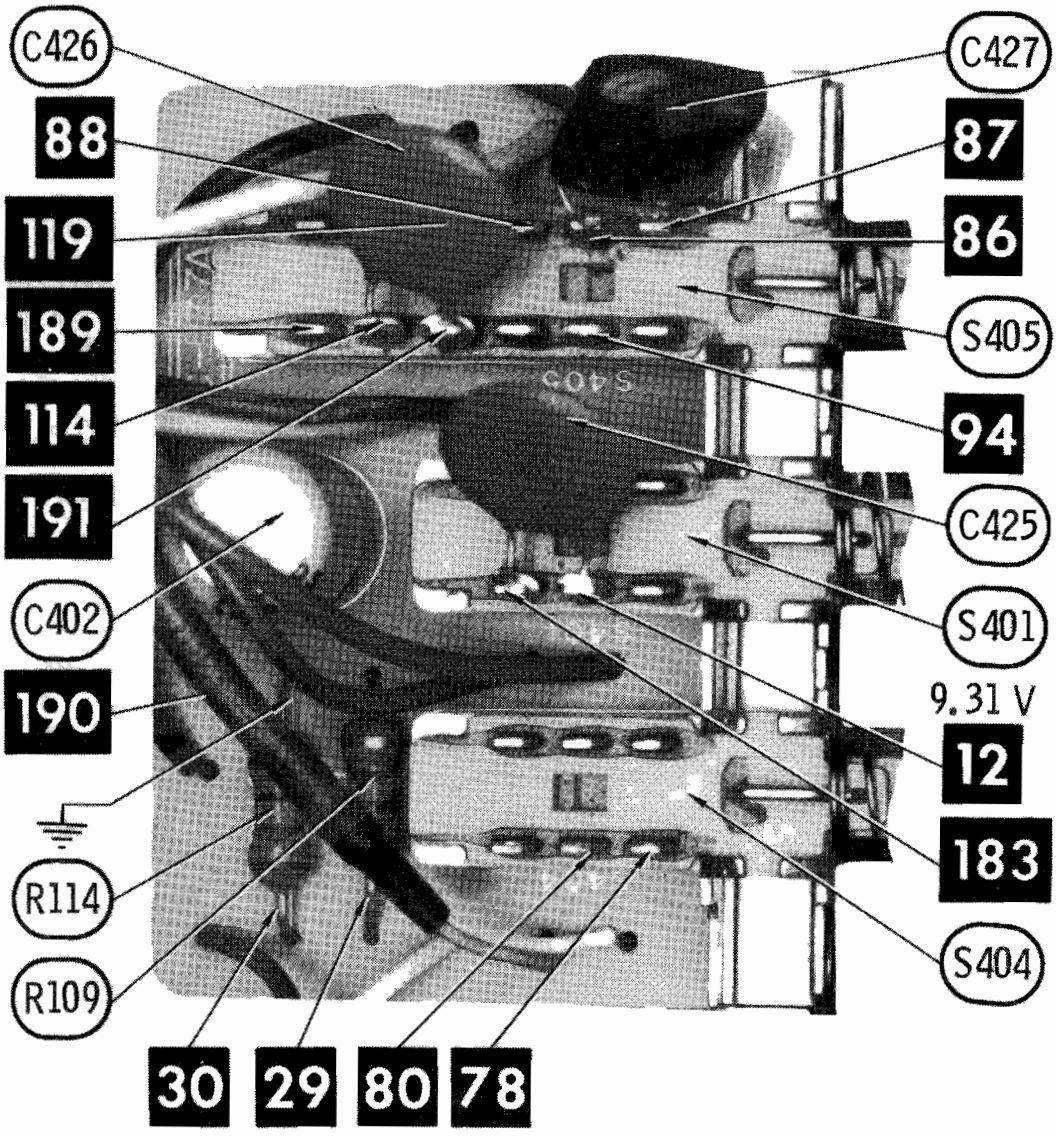


CLOCK READOUT BOARD (TRC-457)



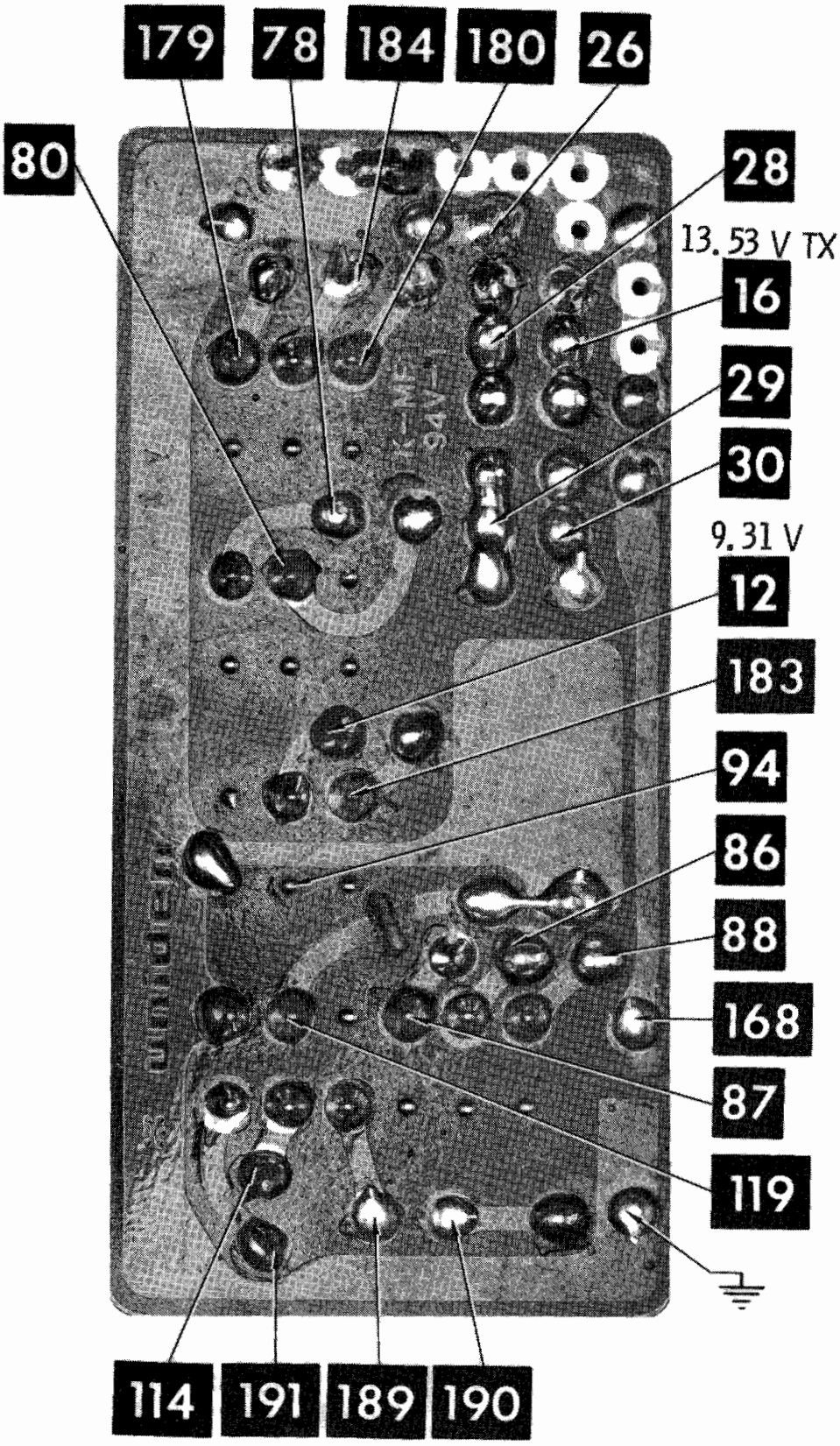


12-24 HOUR BOARD (TRC-457)

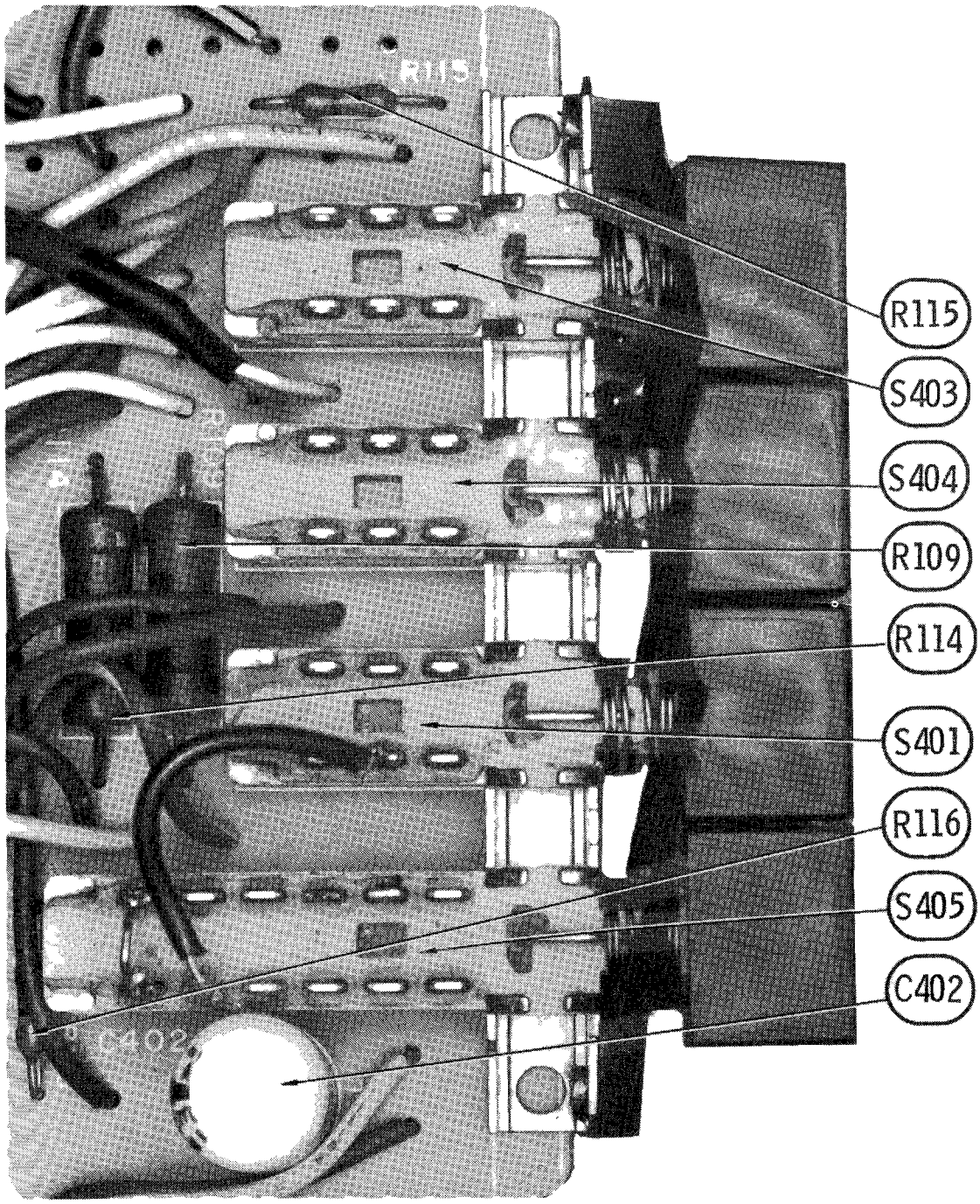


SWITCH BOARD (TRC-458)

A Howard W. Sams CIRCUITRACE® Photo

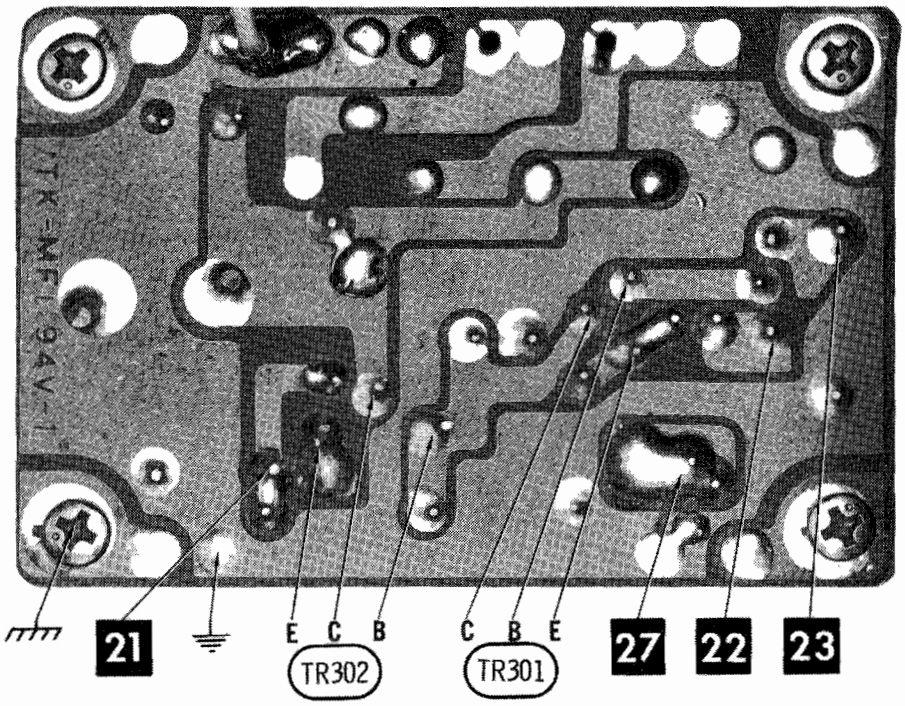


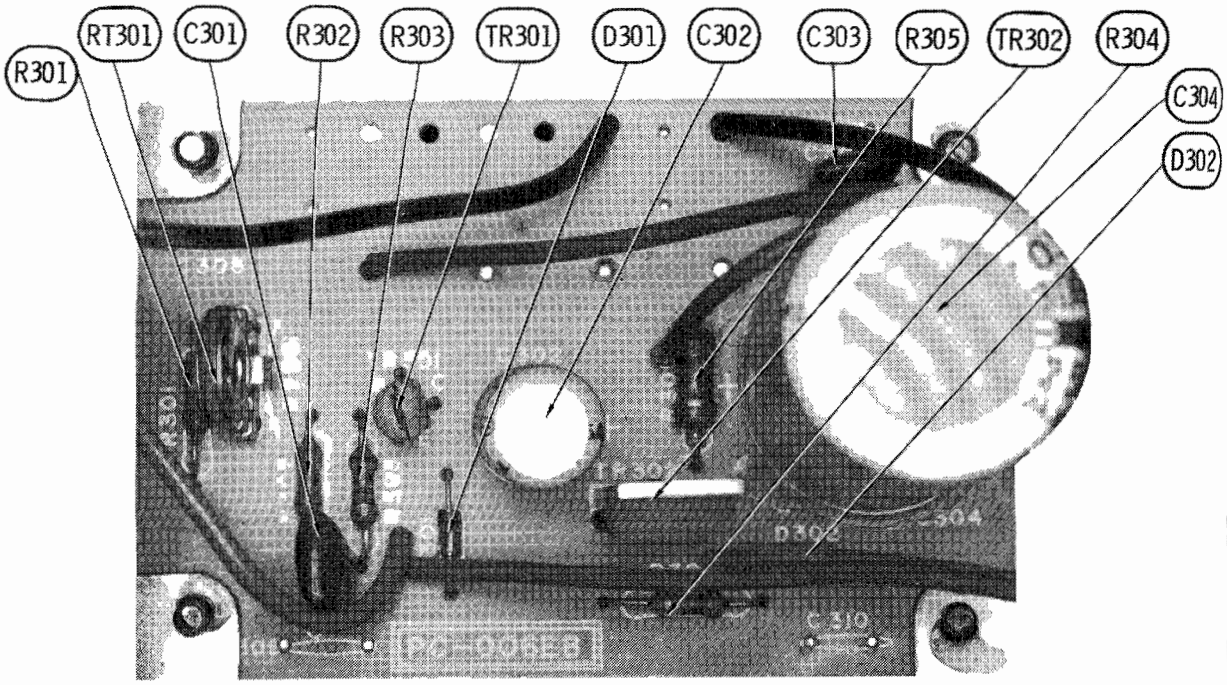
SWITCH BOARD (TRC-457)



SWITCH BOARD (TRC-457)

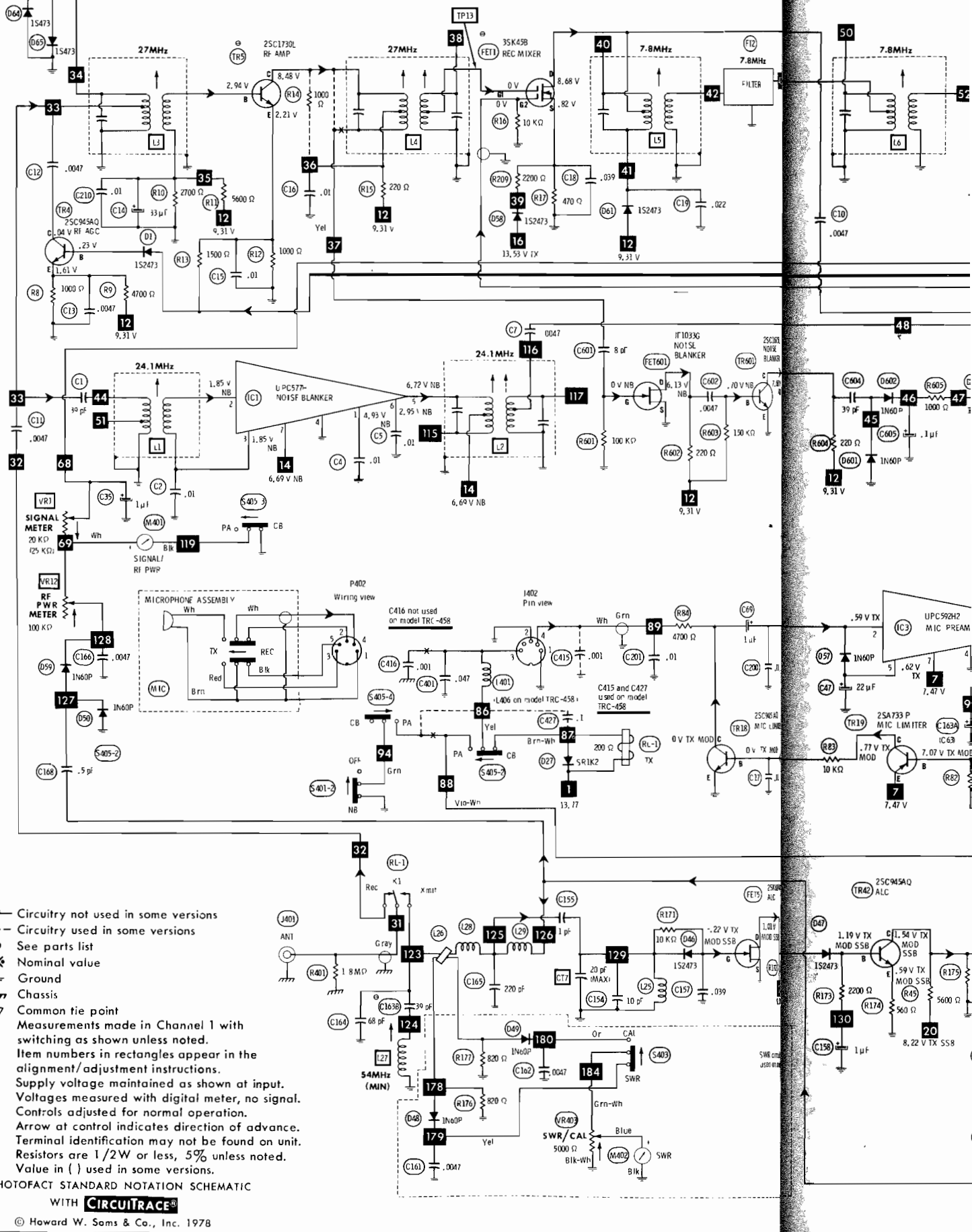
A Howard W. Sams CIRCUITRACE® Photo





POWER SUPPLY BOARD

BLOCK DIAGRAM



- Circuitry not used in some versions
- Circuitry used in some versions
- See parts list
- Nominal value
- Ground
- Chassis
- Common tie point

Measurements made in Channel 1 with switching as shown unless noted.
Item numbers in rectangles appear in the alignment/adjustment instructions.
Supply voltage maintained as shown at input.
Voltages measured with digital meter, no signal.
Controls adjusted for normal operation.
Arrow at control indicates direction of advance.
Terminal identification may not be found on unit.
Resistors are 1/2W or less, 5% unless noted.
Value in ( ) used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

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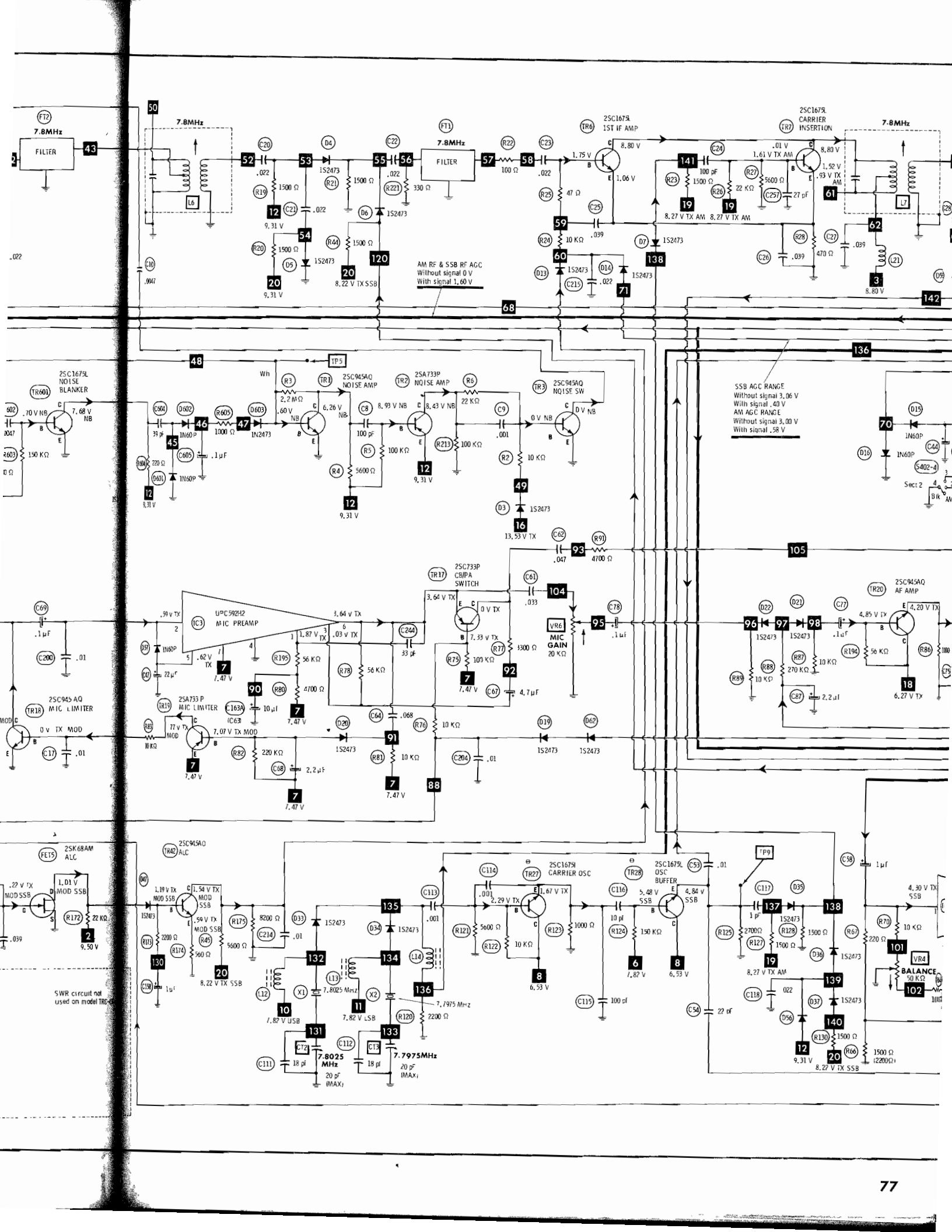
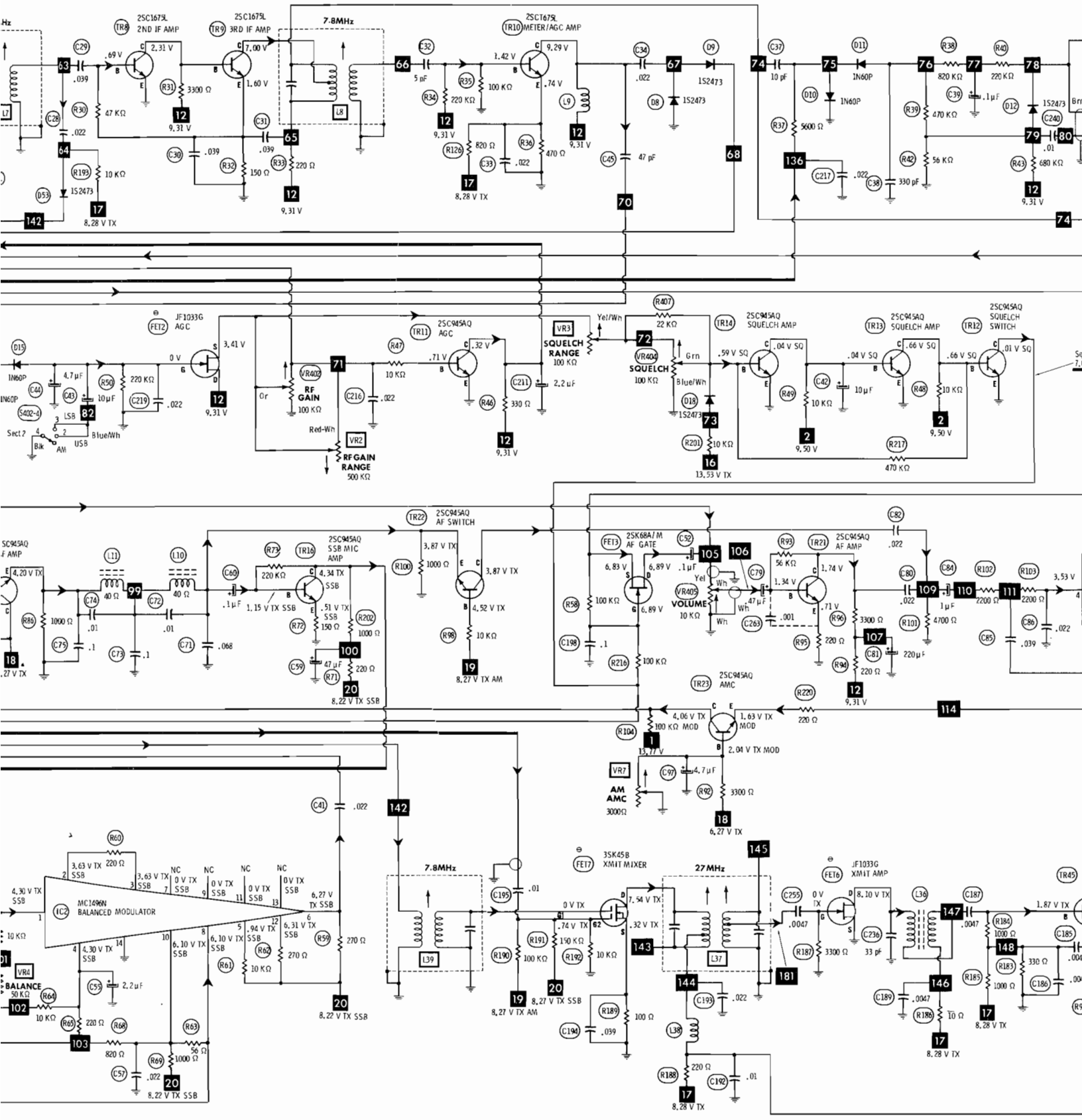

7.8MHz FILTER
7.8MHz
FILTER
7.8MHz
FILTER
2SC1675L 1ST IF AMP
2SC1675L CARRIER INSERTION
AM RF & SSB RF AGC
Without signal 0 V
With signal 1.60 V
2SC1675L NOISE BLANKER
2SC945AQ NOISE AMP
2SA733P NOISE AMP
2SC945AQ NOISE SW
SSB AGC RANGE
Without signal 3.06 V
With signal .40 V
AM AGC RANGE
Without signal 3.00 V
With signal .58 V
UPC592H2 MIC PREAMP
2SC733P CB/PA SWITCH
2SC945AQ AF AMP
2SC945 AQ MIC LIMITER
2SA733 P MIC LIMITER
MIC GAIN 20 KΩ
2SK68AM ALC
2SC945AQ ALC
2SC1675L CARRIER OSC
2SC1675L OSC BUFFER
BALANCE 50 KΩ
7.8025 MHz
7.7975MHz
SWR circuit not used on model TRD-03
77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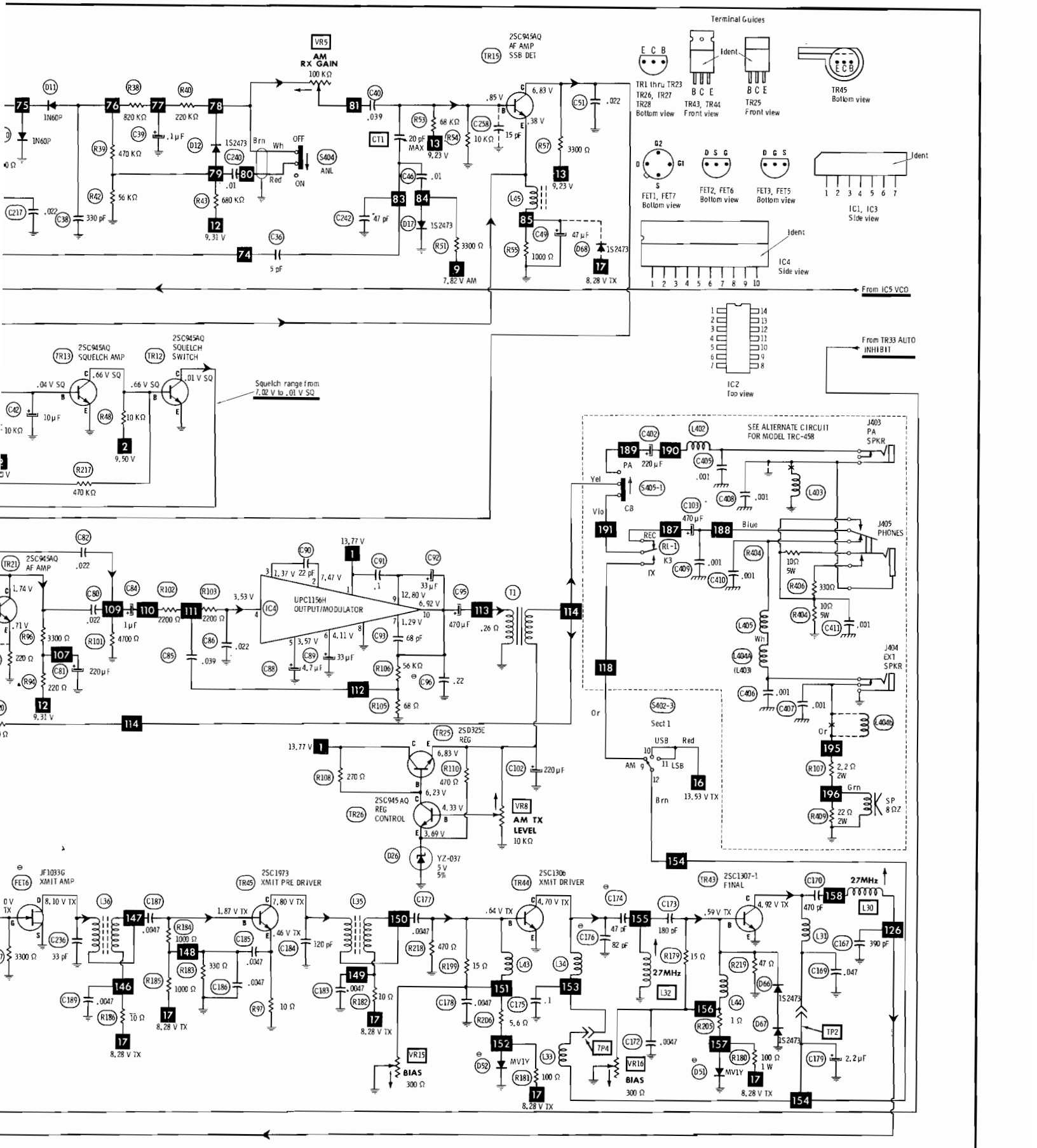
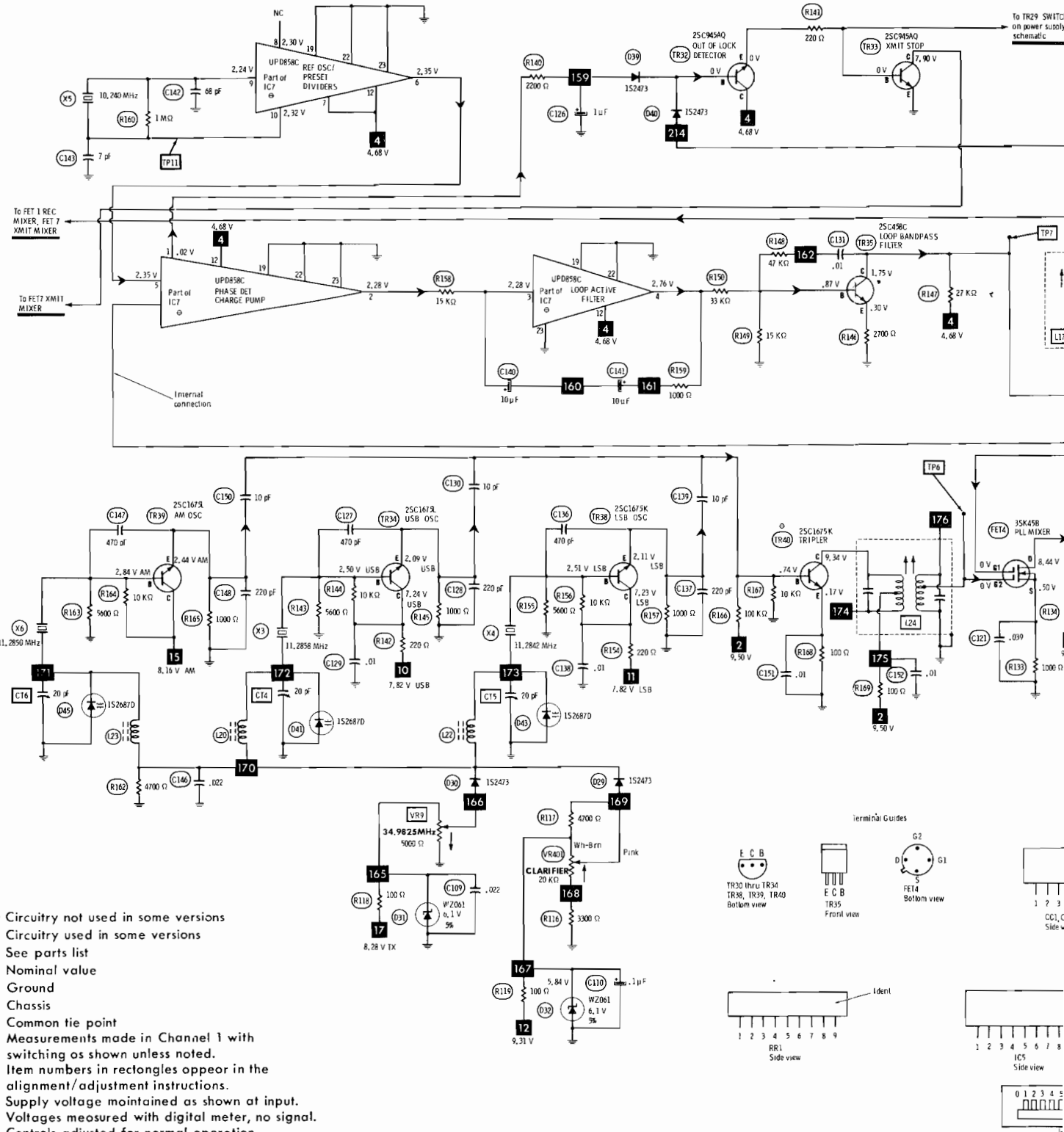
2SC1675L 3RD IF AMP
7.8MHz
2SC1675L METER/AGC AMP
1S2473
1N60P
JF1033G AGC
2SC945AQ AGC
SQUELCH RANGE 100 KΩ
SQUELCH 100 KΩ
2SC945AQ SQUELCH AMP
2SC945AQ SQUELCH SWITCH
RF GAIN 100 KΩ
RF GAIN RANGE 500 KΩ
2SC945AQ AF SWITCH
2SC945AQ SSB MIC AMP
2SK68A/M AF GATE
VOLUME 10 KΩ
2SC945AQ AF AMP
2SC945AQ AMC
AM AMC 3000Ω
MC1496N BALANCED MODULATOR
BALANCE 50 KΩ
100 KΩ MOD
3SK45B XMIT MIXER
27MHz
JF1033G XMIT AMP
LSB
USB
AM
Sect 2
S402-A
Blue/Wh
Red-Wh
Yel/Wh
Grn
Blk
Wh
Yel


Terminal Guides
TR1 thru TR23 TR26, TR27 TR28 Bottom view
TR43, TR44 Front view
TR25 Front view
TR45 Bottom view
FET1, FET7 Bottom view
FET2, FET6 Bottom view
FET3, FET5 Bottom view
IC1, IC3 Side view
IC4 Side view
IC2 Top view
VR5 AM RX GAIN 100 KΩ
TR15 2SC945AQ AF AMP SSB DET
S404 ANL
CT1 20 pF MAX
From IC5 VCO
From TR33 AUTO INHIBIT
TR13 2SC945AQ SQUELCH AMP
TR12 2SC945AQ SQUELCH SWITCH
Squelch range from 7.02 V to .01 V SQ
TR21 2SC945AQ AF AMP
IC4 UPC1156H OUTPUT/MODULATOR
T1
SEE ALTERNATE CIRCUIT FOR MODEL TRC-458
J403 PA SPKR
J405 PHONES
J404 EXT SPKR
S405-1 CB
RL-1 K3
S402-3 Sect 1
TR25 2SD325E REG
TR26 2SC945AQ REG CONTROL
VR8 AM TX LEVEL 10 KΩ
D26 YZ-037 5 V 5%
FET6 JF1033G XMIT AMP
TR45 2SC1973 XMIT PRE DRIVER
TR44 2SC1306 XMIT DRIVER
TR43 2SC1307-1 FINAL
VR15 BIAS 300 Ω
VR16 BIAS 300 Ω
TP2
27MHz
8.28 V TX
13.53 V TX



A PHOTOFACT STANDARD NOTATION SCHEMATIC

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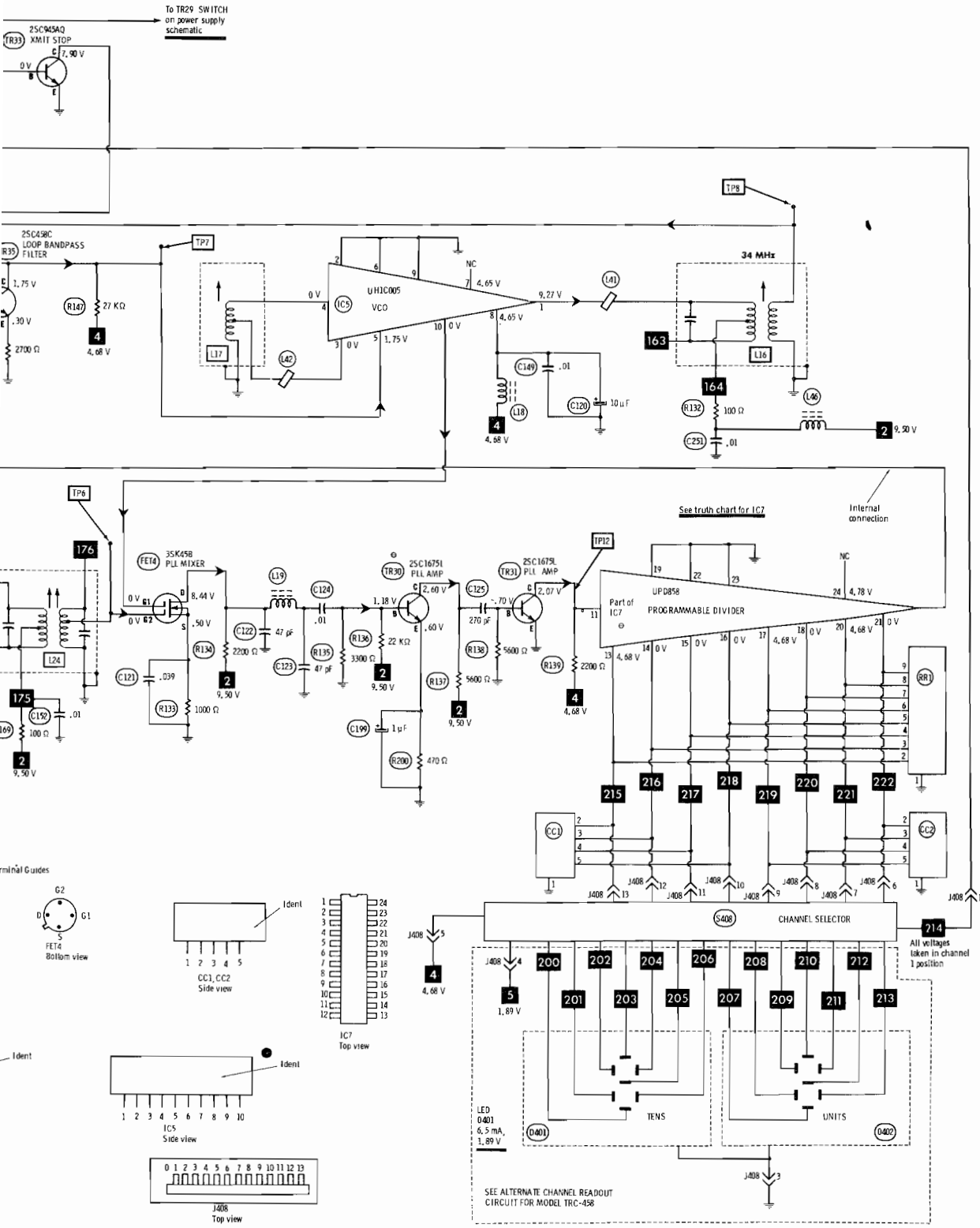
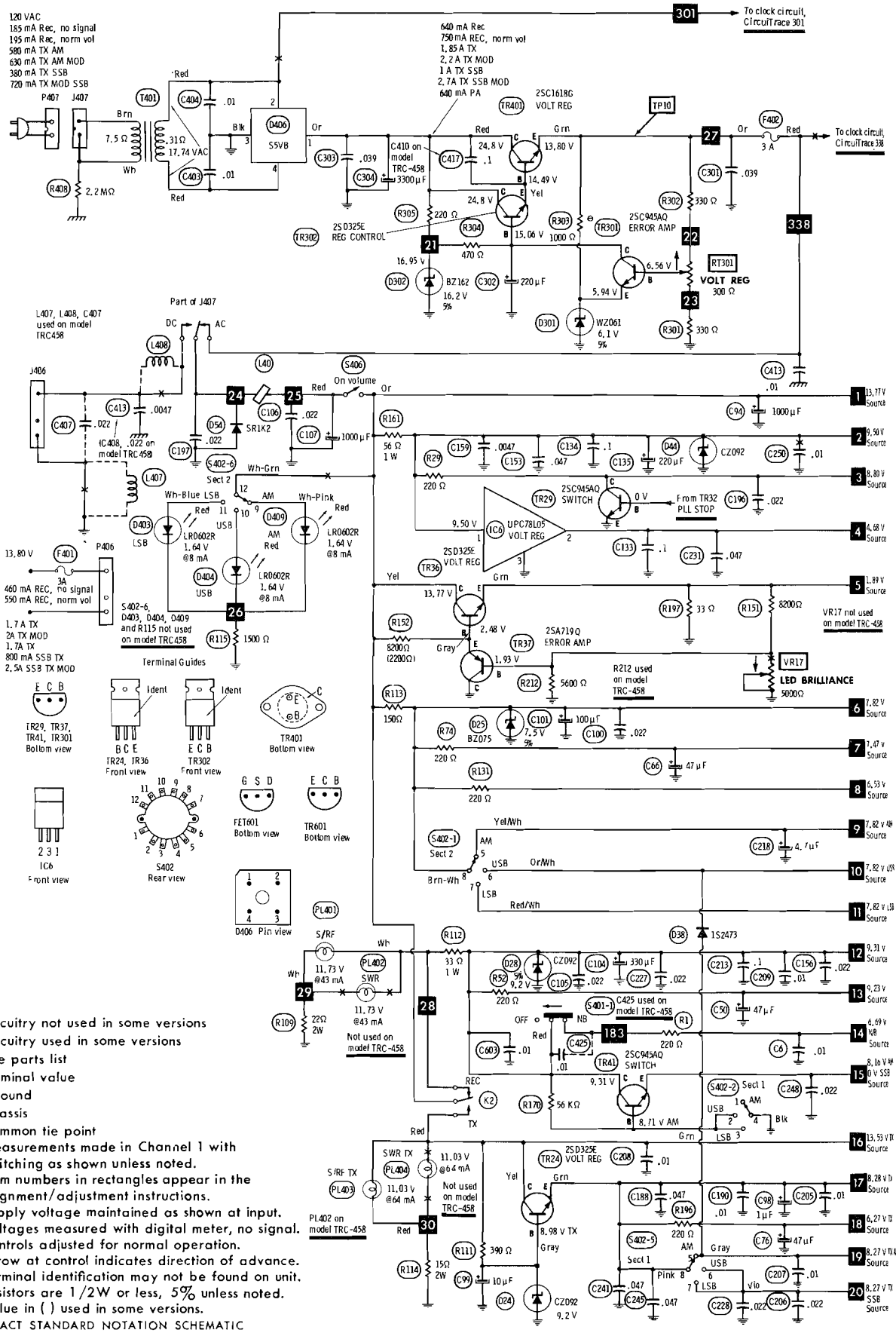

To TR29 SWITCH on power supply schematic
2SC945AQ XMIT STOP
2SC458C LOOP BANDPASS FILTER
UH1C005 VCO
34 MHz
TP8
TP7
TP6
TP12
See truth chart for IC7
Internal connection
3SK45B PLL MIXER
2SC1675I PLL AMP
2SC1675L PLL AMP
UPD858 PROGRAMMABLE DIVIDER
Part of IC7
CHANNEL SELECTOR
All voltages taken in channel 1 position
TENS
UNITS
LED D401 6.5 mA, 1.89 V
SEE ALTERNATE CHANNEL READOUT CIRCUIT FOR MODEL TRC-458
FET4 Bottom view
CC1, CC2 Side view
IC7 Top view
IC5 Side view
J408 Top view



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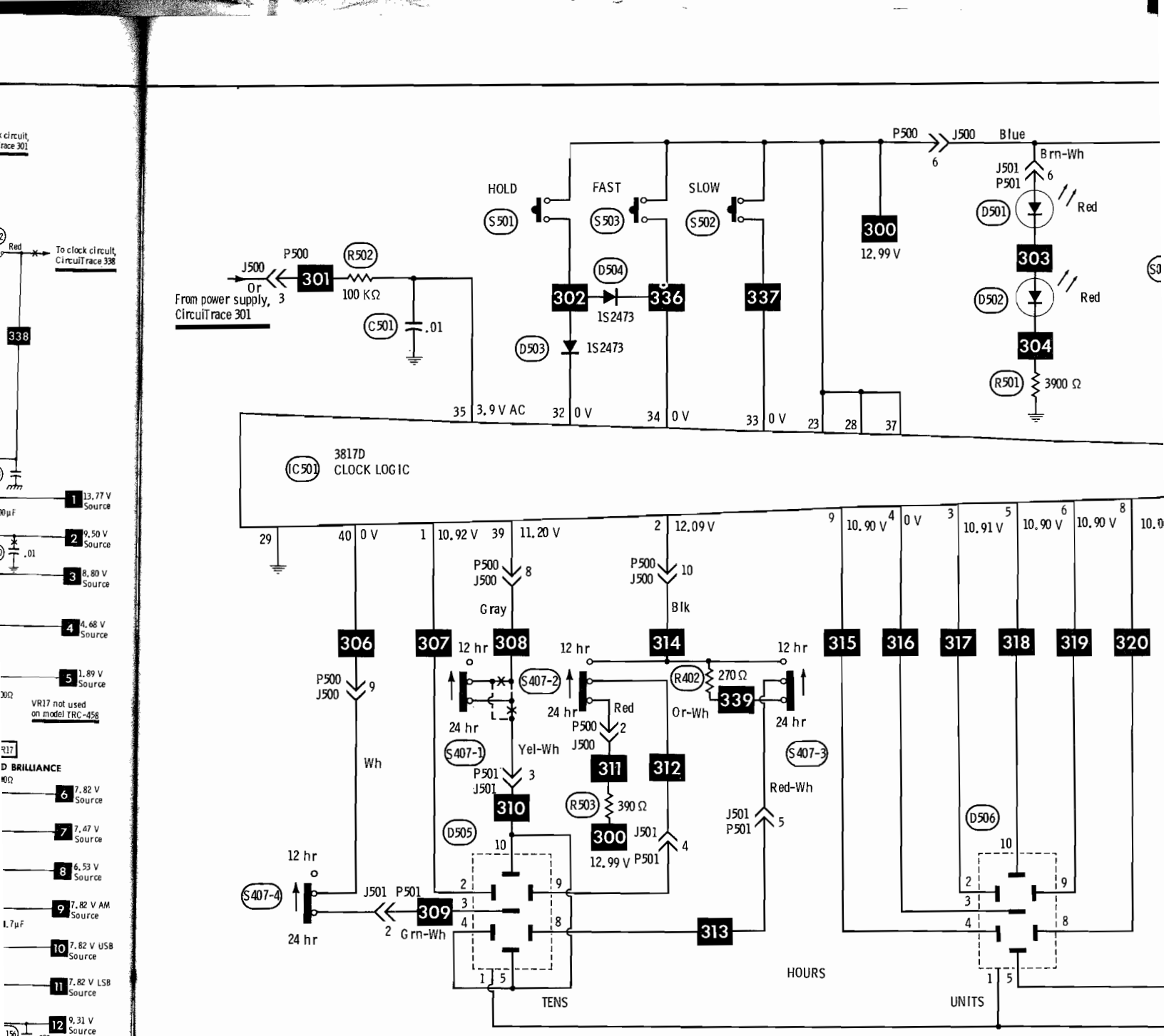
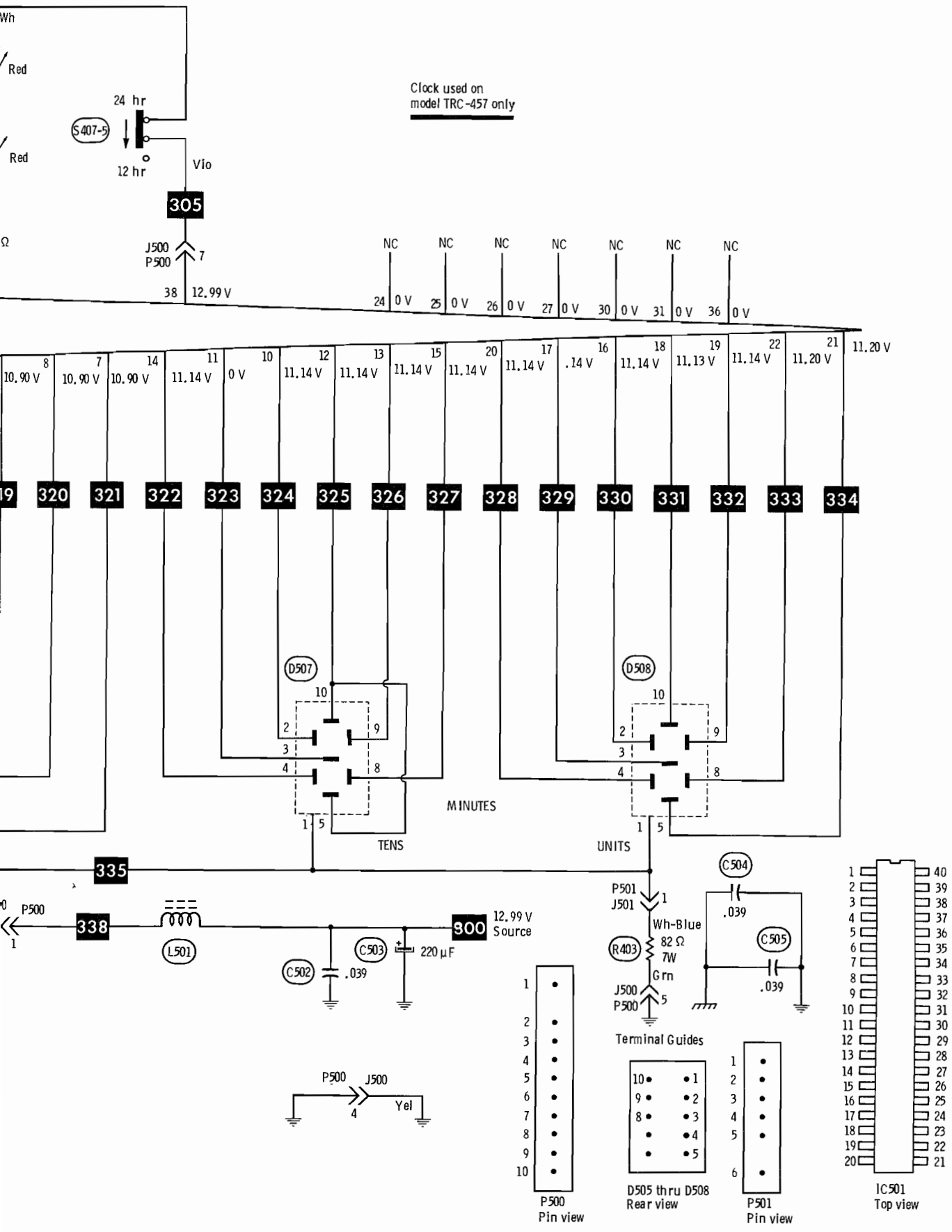
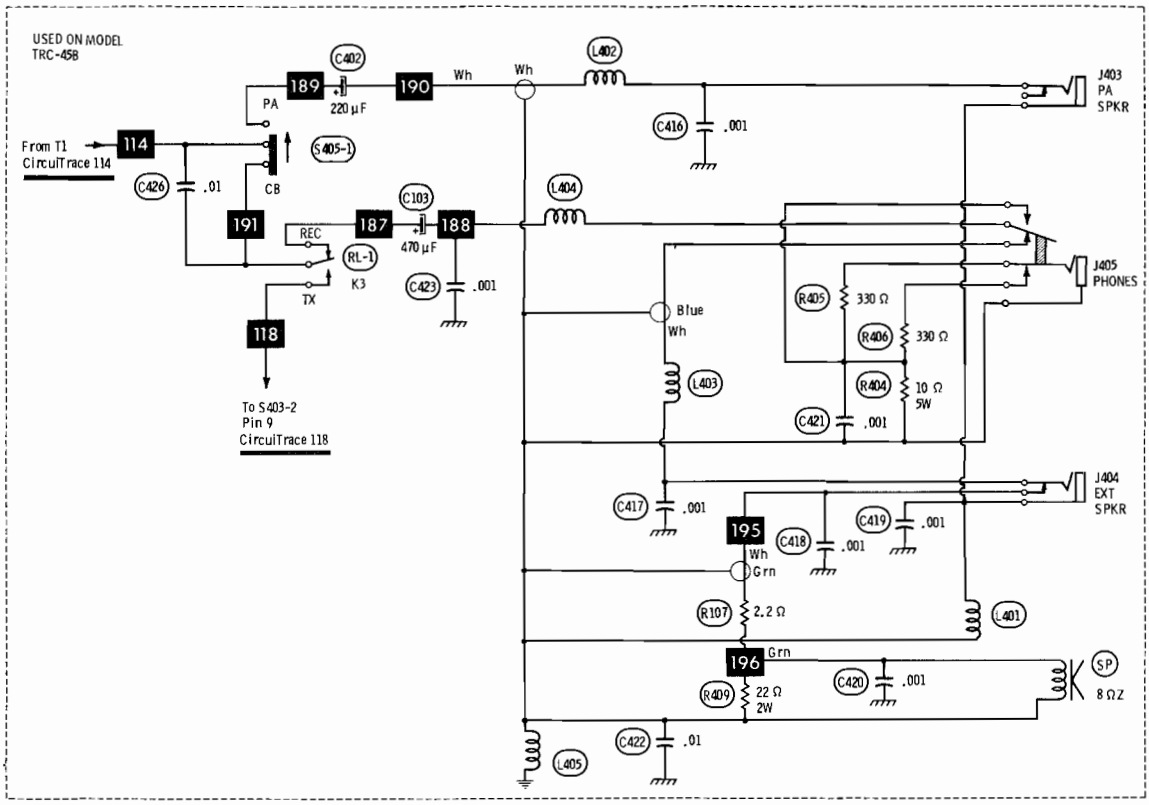
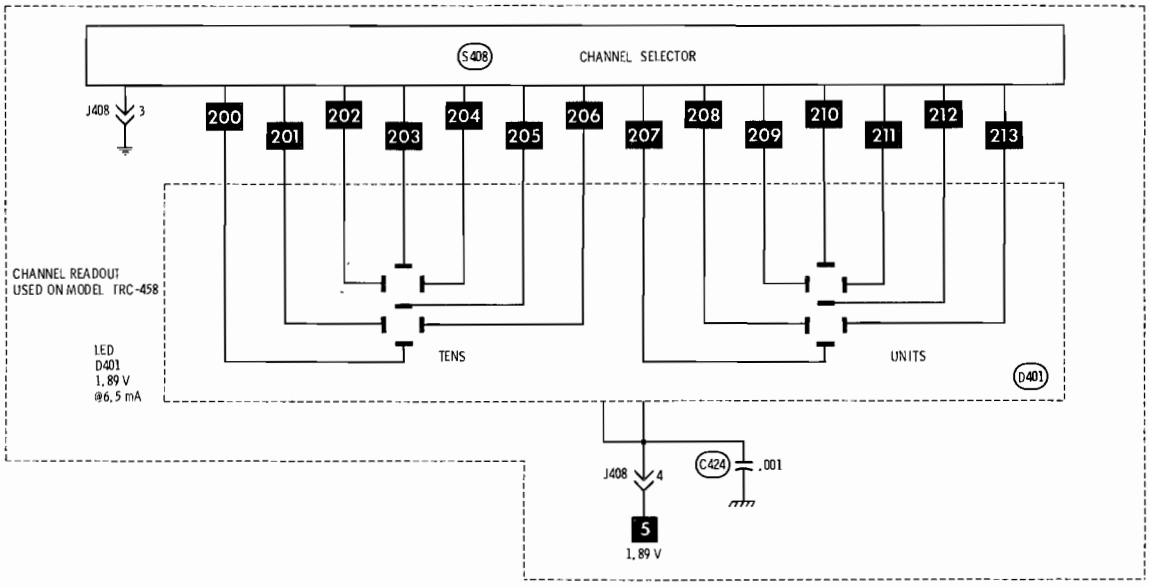
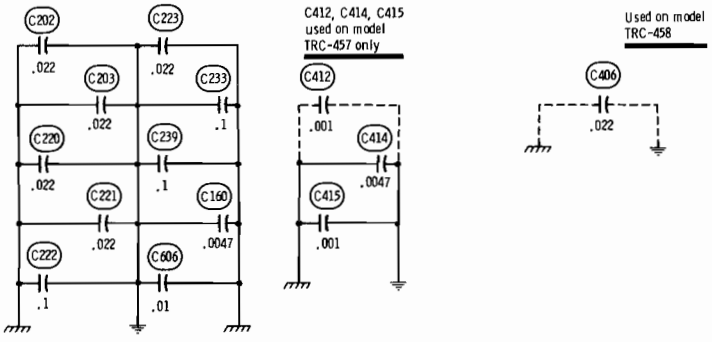

HOLD
FAST
SLOW
S501
S503
S502
P500
J500
Blue
Brn-Wh
J501
P501
6
D501
Red
303
D502
Red
304
R501
3900 Ω
300
12.99 V
D504
302
1S2473
336
337
D503
1S2473
J500
Or
P500
301
R502
100 KΩ
C501
.01
From power supply, 3
CircuiTrace 301
35
3.9 V AC
32
0 V
34
0 V
33
0 V
23
28
37
IC501
3817D
CLOCK LOGIC
29
40
0 V
1
10.92 V
39
11.20 V
2
12.09 V
9
10.90 V
4
0 V
3
10.91 V
5
10.90 V
6
10.90 V
8
P500
J500
8
Gray
P500
J500
10
Blk
306
307
308
314
315
316
317
318
319
320
12 hr
24 hr
S407-1
S407-2
S407-3
S407-4
R402
270 Ω
339
Or-Wh
Red
Yel-Wh
Wh
Red-Wh
311
312
310
R503
390 Ω
300
12.99 V
J501
P501
309
Grn-Wh
313
D505
D506
HOURS
TENS
UNITS
Note: voltages measured with clock in hold, S407 in 24 hr position and digits reading 00:00
From power supply, CircuiTrace 338
Brn


Wh
Red
Red
24 hr
S407-5
12 hr
Vio
305
Clock used on
model TRC-457 only
J500
P500
7
38
12.99 V
NC
24 0 V
25 0 V
26 0 V
27 0 V
30 0 V
31 0 V
36 0 V
8
10.90 V
7
10.90 V
14
10.90 V
11
11.14 V
10
0 V
12
11.14 V
13
11.14 V
15
11.14 V
20
11.14 V
17
11.14 V
16
.14 V
18
11.14 V
19
11.13 V
22
11.14 V
21
11.20 V
11.20 V
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
D507
D508
MINUTES
TENS
UNITS
335
P500
338
L501
C502
.039
C503
220 µF
300
12.99 V
Source
P501
J501
1
Wh-Blue
R403
82 Ω
7W
Grn
J500
P500
5
C504
.039
C505
.039
Terminal Guides
P500
J500
4
Yel
P500
Pin view
D505 thru D508
Rear view
P501
Pin view
IC501
Top view


USED ON MODEL TRC-458
C402
189
220 µF
190
Wh
Wh
L402
J403 PA SPKR
PA
From T1 CircuitTrace 114
114
S405-1
C416 .001
C426 .01
CB
191
REC
187
C103
470 µF
188
L404
J405 PHONES
RL-1
K3
C423 .001
TX
Blue Wh
R405 330 Ω
R406 330 Ω
L403
R404 10 Ω 5W
C421 .001
118
To S403-2 Pin 9 CircuitTrace 118
J404 EXT SPKR
C417 .001
195
Wh
Grn
C418 .001
C419 .001
R107 2.2 Ω
L401
196
Grn
SP
8 ΩZ
R409 22 Ω 2W
C420 .001
C422 .01
L405


S408
CHANNEL SELECTOR
J408
3
200
201
202
203
204
205
206
207
208
209
210
211
212
213
CHANNEL READOUT USED ON MODEL TRC-458
LED D401 1, 89 V @6, 5 mA
TENS
UNITS
D401
J408
4
C424 .001
5
1, 89 V


C202
.022
C223
.022
C203
.022
C233
.1
C220
.022
C239
.1
C221
.022
C160
.0047
C222
.1
C606
.01
C412, C414, C415 used on model TRC-457 only
C412
.001
C414
.0047
C415
.001
Used on model TRC-458
C406
.022

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D3	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D4	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
05	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
06	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D7	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D8	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D9	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D10	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D10	1N60P	DX-0161(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D11	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D11	1N60P	DDAY001023(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D12	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
013	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D14	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D15	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D15	1N60P	DX-0161(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
016	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D16	1N60P	DX-0161(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D17	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D18	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D18	1S2473	DX-0299(14)	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
019	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D19	1S2473	DX-0299(14)	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DX-0299(14)	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
020	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D21	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D22	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D24	DZ-092	DX-0087	GEZD-9.1	ZB9.1A	HEPZ0412	REN 139	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D25	8Z-075	DDAY009005	GEZD-7.5	ZB7.5A	HEPZ0410	REN 138	SK3059	RT-239	ECG138	1N4737A	WEP1107	ZEN-505
D26	YZ-037	DDAY087002	GEZD-7.5	ZB7.5A	HEPZ0410	REN 138	SK3059	RT-239	ECG138	1N4737A	WEP1107	ZEN-505
025	BC-075	DX-0748	GEZD-7.5	ZB7.5A	HEPZ0410	REN 138	SK3059	RT-239	ECG138	1N4737A	WEP1107	ZEN-505
D26	YZ-037	DX-0529	GEZD-3.6	ZB3.6B		REN 134		RT-234	ECG134A		WEP1151	
D27	SR1K2	DX-0475	GE-504A	PTC201	HEPR0052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D28	CZ-092	DX-0087	GEZD-9.1	ZB9.1A	HEPZ0412	REN 139	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D29	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D30	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
031	WZ-061	DX-0530	GEZD-6.2	ZM6.2B		REN 137		RT-237	ECG5013	1N4735A	WEP1414	
032	WZ-061	DX-0530	GEZD-6.2	ZM6.2B		REN 137		RT-237	ECG5013	1N4735A	WEP1414	
D33	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D34	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D35	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D36	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D37	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D38	1S2473	DX-0299	GE-514	PTC214	HEPR06D2	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D39	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D40	1S2473	OX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
041	1S2687D	OX-0749			HEPR2502	REN 612			ECG612			ZEN-452
D43	1S2687D	DX-0749			HEPR2502	REN 612			ECG612			ZEN-452
D44	CZ-092	DX-0087	GEZD-9.1	ZB9.1A	HEPZ0412	REN 139	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D45	1S2687D	DX-0749			HEPR2502	REN 612			ECG612			ZEN-452
D46	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D47	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D48	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D49	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D50	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D50	1N60P	DDAY001023(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D51	MV-1Y	DX-0752		PTC301		REN 601	SK3463		ECG601			
D51	MV-1Y	DX-0750(14)		PTC301		REN 601	SK3463		ECG601			
D52	MV-1Y	DX-0752		PTC301		REN 601	SK3463		ECG601			
D52	MV-1Y	DX-0750(14)		PTC301		REN 601	SK3463		ECG601			
D53	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D54	SR1K1	DX-0475	GE-504A	PTC201	HEPR0052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
056	1S2473	OX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D57	1N60P	DDAY001002	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D57	1N60P	DX-0161(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D58	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D59	1N60P	DX-0162	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D59	1N60P	DDAY001023(14)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D61	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK310D	RT-218	ECG519	1N4148	WEP925	
D62	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D64	1S2475	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2475K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D65	1S2475	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2475K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D66	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D67	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D68	1S2473	DDAY048001	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D301	WZ-061	DX-0530	GEZD-6.2	ZM6.2B		REN 137		RT-237	ECG5013	1N4735A	WEP1414	
D302	BZ-162	ODAY009003	GEZD-16	ZB16B		REN 5075		RT-246	ECG5075A	1N4745A	WEP1160	
D302	BZ-162	DX-0069(14)	GEZD-16	ZB16B		REN 5075		RT-246	ECG5075A	1N4745A	WEP1160	
D406	S5VB-10	DX-0751							ECG5304			
D503	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D504	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D601	1N60P	DDAY001002	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D602	1N60P	DDAY001002	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D603	1S2473	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DX-0299	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
0603	1S2473	DDAY048001(14)	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
	1S2473K	DDAY048001(14)	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
FET1	3SK45B	DDCY104001	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222		WEP905	121-826
FET2	JF1033-RED	DDCY202003	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
	2SK19BL	DDCY202003	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
FET3	2SK68AM	DDCY009002	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
	2SK68M	DDCY009002	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
FET4	3SK45B-09	DDCY104003	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222		WEP905	121-826
FET5	2SK68AM	DDCY009002	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
	2SK68M	DDCY009002	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
FET6	JF1033-RED	DDCY202003	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
	2SK798L	DDCY202003	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
FET7	3SK45B	DDCY104001	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222		WEP905	121-826
FET601	JF1033G		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
	JF1033	DDCY202002	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
IC1	UPC577H	DDEY064001	GEIC-140			REN 1082	SK3461		ECG1082	UPC577H	WEP939	
IC2	MC1496N	DDEY020001			HEPC6050G		SK3233		ECG973			
IC3	UPC592H2	DDEY097001					SK3469		ECG1195			
IC4	UPC1156H	DDEY091001							ECG1194			
IC5	UH1C-005	DDEY082001							ECG1204			
IC6	UPC78L05	DDEY093001				REN 977	SK3462		ECG977			
IC7	UPC858C	DDEY055001							ECG1198			
IC501	FCM3817D											
	3817DPC	DDEY081001										
TR1	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR2	2SA733P	DDBY003001	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	2SA733	WEP916	121-933
TR3	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR4	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR5	2SC173DL	DDBY269001	GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*		WEP535	121-888
	2SC1675K2	DDBY269001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR6	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675K2	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR7	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675K2	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR8	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675K2	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR9	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675K2	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR10	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675K2	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR11	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR12	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR13	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR14	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR15	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR16	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR17	2SA733P	DDBY003001	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	2SA733	WEP916	121-933
TR18	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR19	2SA733P	DDBY003001	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	2SA733	WEP916	121-933
TR20	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR21	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR22	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR23	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR24	2SD325E		GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
	2SF325EZ	DDBY406002	GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
TR25	2SD325E	DDBY406002	GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
	2SD325EZ	DDBY406002	GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
TR26	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR27	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675Z	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR28	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR29	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR30	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR31	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR32	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR33	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR34	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR35	2SC458C	DDBY273D01	GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3124	RT-187	ECG289	2SC458	WEP458	121-Z9000*
TR36	2SD325E		GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
	2SD325EZ	DDBY406002	GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
TR37	2SA719Q	DDBY011003	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
TR38	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR39	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR40	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
TR41	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR42	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR43	2SC1307(1)	DDBY231002(13)	GE-216	PTC186		REN 236	SK3197	RT-158	ECG236		WEP840	
TR44	2SC1306	DDBY230001(12)	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	2SC1306	WEP785	
TR45	2SC1973	DDBY272001	GE-335				SK3250		ECG315	2SC773	WEP922	
TR301	2SC945AQ	DDBY224003	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR302	2SD325E		GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
	2SD325EZ	DDBY406002	GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	2SD325	WEP751	
TR401	2SC1618		GE-14	PTC140	HEPS7004	REN 130	SK3027	RT-131	ECG130		WEP704	
	2SC1618G	DDBY282001	GE-14	PTC140	HEPS7004	REN 130	SK3027	RT-131	ECG130		WEP704	
TR601	2SC1675L	DDBY259001	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127
	2SC1675KZ		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127

* Lead configuration may vary from original.
(12) 12 WATTS @ 3 AMPS.
(13) 25 WATTS @ 8 AMPS.
(14) Used in Model TRC-458 (21-1581)

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C14	33 10V	CELZ113300	PC30-25	VTT33B10	QV1-61	EV-1125
C35	1 50V	CELZ811090	PC1-50	VTT1A50	QV1-11	EV-1615
C39	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C42	10 16V	CELZ311000	PC10-25	VTT10B25	QV1-41	EV-1222
C43	10 16V	CELZ311000	PC10-25	VTT10B25	QV1-41	EV-1222
C44	4.7 25V	CELZ514790	PC5-50	VTT4R7B50	QV1-27	EV-1319
C47	22 16V	CELZ312200	PC25-25	VTT22B16	QV1-55	EV-1224
C49	47 10V	CELZ114700	PC50-16	VTT47D16	QV1-73	EV-1226
C50	47 10V	CELZ114700	PC50-16	VTT47D16	QV1-73	EV-1226
C52	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C55	2.2 25V	CELZ512290	PC2-100	VTT2R2A50	QV1-19	EV-1517
C58	1 50V	CELZ811090	PC1-50	VTT1A50	QV1-11	EV-1615
C59	47 10V	CELZ114700	PC50-16	VTT47D16	QV1-73	EV-1226
C60	.1 16V	CAAZ311086	WBR500-16	TC605B		TVA-1103
C66	47 10V	CELZ114700	PC50-16	VTT47D16	QV1-73	EV-1226
C67	4.7 25V	CELZ514790	PC5-50	VTT4R7B50	QV1-27	EV-1319
C68	2.2 25V	CELZ512290	PC2-100	VTT2R2A50	QV1-19	EV-1517
C69	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C76	47 10V	CELZ114700	PC50-16	VTT47D16	QV1-73	EV-1226
C77	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C78	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C79	.47 50V	CELZ814780	PC1-50	VTTR47A63	QV1-3	EV-1610
C81	220 16V	CELZ312210	PC250-25	VTT220H16	QV1-117	EV-1240
C84	1 50V	CELZ811090	PC1-50	VTT1A50	QV1-11	EV-1615
C87	2.2 25V	CELZ512290	PC2-100	VTT2R2A50	QV1-19	EV-1517
C88	4.7 10V	CSEZ114796		TDC475M01DEL	QDT1-48	SD10-4R79
C89	33 16V	CELZ313300	PC30-25	VTT33D25	QV1-63	EV-1325
C92	33 16V	CELZ313300	PC30-25	VTT33B10	QV1-61	EV-1125
C94	1000 16V	CELZ311020	PC1000-16	VTT1000L16	QV1-183	EV-1260
C95	470 16V	CELZ31471D	PC500-16	VTT470K16	QV1-151	EV-1250
C97	4.7 25V	CELZ514790	PC5-50	VTT4R7B50	QV1-27	EV-1319
C98	1 50V	CELZ811090	PC1-50	VTT1A50	QV1-11	EV-1615
C99	10 16V	CELZ311000	PC10-25	VTT10B25	QV1-41	EV-1222
C101	100 10V	CELZ111010	PC100-10	VTT100E10	QV1-93	EV-1130
C102	220 10V	CELZ112210	PC250-10	VTT220F10	QV1-115	EV-1140
C103	470 10V	CELZ114710	PC500-16	VTT470K16	QV1-149	EV-1150
C104	330 10V	CELZ113300	WBR300-35*	VTT330G10	QV1-131	EV-1145
C107	1000 16V	CELZ311020	PC1000-16	VTT1000L16	QV1-183	EV-1260
C110	.1 16V	CAAZ311086		TDC104M050EL	QDT1-2	SD50-R109
C120	10 16V	CELZ311000	PC10-25	VTT10B25	QV1-41	EV-1222
C126	1 50V	CELZ811090	PC1-50	VTT1A50	QV1-11	EV-1615
C135	220 10V	CELZ122210	PC250-10	VTT220F10	QV1-115	EV-1140
C140	10 6.3V	CSEZ901DD6		TDC106M025FL	QDT1-64	SD25-109
C141	10 6.3V	CSEZ901DD6		TDC106M025FL	QDT1-64	SD25-109
C158	1 25V	CELZ811090		TDC105M035EL		SD35-19
C163A	10 16V	CELZ311000	PC10-25	VTT10B25	QV1-41	EV-1222
C179	2.2 25V	CSEZ512296		TDC225M035FL		SD35-2R29
C199	1 50V	CELZ811090	PC1-50	VTT1A5D	QV1-11	EV-1615
C211	2.2 25V	CELZ512290	PC2-100	VTT2R2A50	QV1-19	EV-1517
C218	4.7 25V	CELZ514790	PC5-50	VTT4R7B50	QV1-27	EV-1319
C302	220 16V	CELZ312210	PC250-25	VTT220H16	QV1-117	EV-1240
C304	3300 25V	CCZYD27001	WBR3000-35*	TC2530*		TVA-1214*
C402	220 10V	CELZ112210	PC250-10	VTT220F10	QV1-115	EV-1140
C5D3	220 16V	CELZ31221D(1)	PC250-25	VTT220H16	QV1-117	EV-1240
C605	.1 16V	CAAZ311D86		TDC104M050E1	QDT1-2	SD50-R109

* Axial replacement for radial device.
(1) Model TRC-457.

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	39 NPO				CN0439		10TCC-Q39
C2	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C4	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C5	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C6	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C7	.0047		DD-472	GP4700	GP247		5GA-D47
C8	100		DD-101	GP100	GP310		10TS-T10
C9	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C10	.0047		DD-472	GP470D	GP247		5GA-D47
C11	.0047		DD-472	GP4700	GP247		5GA-D47
C12	.0047		DD-472	GP4700	GP247		5GA-D47
C13	.0047		DD-472	GP4700	GP247		5GA-D47
C15	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C16	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C17	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C18	.039			DPMS6S39	PVC6139		6PS-S39
C19	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C20	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C21	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C22	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C23	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C24	100 NPO		DTZ-100	NP0100	CN0310		10TCC-T10
C25	.039			DPMS6S39	PVC6139		6PS-S39
C26	.039			DPMS6S39	PVC6139		6PS-S39
C27	.039			DPMS6S39	PVC6139		6PS-S39

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description)

CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C28	.022		DC-203	MGP02	TA12D	QC2-157	TG-S20
C29	.039			DPMS6S39	PVC6139		6PS-S39
C30	.039			DPMS6S39	PVC6139		6PS-S39
C31	.039			DPMS6S39	PVC6139		6PS-S39
C32	5 NP0		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C33	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C34	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C36	5 NP0		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C37	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C38	330 N750		DTN-330	N330	CN7333		10TCU-T33
C40	.039			DPMS6S39	PVC6139		6PS-S39
C41	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C45	47 NP0		DTZ-47	NP047	CN0447		10TCC-Q47
C46	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C51	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C53	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C54	22 NP0		DTZ-22	NP022	CN0422		10TCC-Q22
C57	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C61	.033			OPMS6S33	EWF6133		6PS-S33
C62	.047			OPMS2S47	EWF1A147	QF1-171	1PB-S47
C64	.068			WMF1S68	EWF1A168	QF1-195	1PB-S68
C71	.068			WMF1S68	EWF1A168	QF1-195	1PB-S68
C72	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C73	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C74	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C75	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C80	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C82	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C85	.039			OPMS6S39	PVC6139		6PS-S39
C86	.022			DPMS2S22	EWF1A122	QF1-127	1PB-S22
C90	22 NP0		DTZ-22	NP022	CN0422		10TCC-Q22
C91	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C93	68 NP0		DD-560		GP456		10TS-Q56
C96	.22			DPMS2P22	EWF1AD22	QF1-253	1PB-P22
C100	.022		OC-203	MGP02	TA120	QC2-157	TG-S20
C105	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C106	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C109	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C111	18 NP0				CN0418		10TCC-Q18
C112	18 NP0				CN0418		10TCC-Q18
C113	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C114	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C115	100 NP0		DTZ-100	NP0100	CN0310		10TCC-T10
C116	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C117	1 NP0				CN0510		10TCC-V10
C118	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C121	.039			OPMS6S39	PVC6139		6PS-S39
C122	47 NP0		DTZ-47	NP047	CN0447		10TCC-Q47
C123	47 NP0		DTZ-47	NP047	CN0447		10TCC-Q47
C124	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C125	270		DD-271	GP270	GP327		10TS-T27
C127	470		DD-471	GP470	GP347		10TS-T47
C128	220		DD-221		GP322		10TS-T22
C129	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C130	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C131	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C133	.1			OPMS2P1	EWF1A010	QF1-215	1PB-P10
C134	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C136	470		OD-471	GP470	GP347		10TS-T47
C137	220		DD-221		GP322		10TS-T22
C138	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C139	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C142	68 NP0		DD-680	GP68	GP468		10TS-Q68
C143	7 NP0		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C146	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C147	470		DD-471	GP470	GP347		10TS-T47
C148	220		DD-221		GP322		10TS-T22
C149	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C150	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C151	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C152	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C153	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C154	10 NP0		DTZ-10	NP010	CN0410		10TCC-Q10
C155	1 NP0				CN0510		10TCC-V10
C156	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C157	.039			DPMS6S39	PVC6139		6PS-S39
C159	.0047		DD-472	GP4700	GP247		5GA-D47
C160	.0047		DD-472	GP4700	GP247		5GA-D47
C161	.0047	(1)	DC-103	MGP01	TA110	QC2-141	TG-S10
C162	.0047	(1)	DC-103	MGP01	TA110	QC2-141	TG-S10
C163B	39 NP0	(1)			CN0439		10TCC-Q39
C163B	47 NP0	(2)	DTZ-47	NP047	CN0447		10TCC-Q47
C164	68 NP0		DTZ-68	NP068	CN0468		10TCC-Q68
C165	220 NP0		DTZ-220				10TCC-T22
C166	.0047		DD-472	GP4700	GP247		5GA-D47
C167	390 N750		DTN-390				10TCU-T39
C168	.5 NP0						
C169	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C170	470 N750		DTN-470				10TCU-T47
C172	.0047		DD-472	GP4700	GP247		5GA-D47
C173	180 NP0		DTZ-180				10TCC-T18
C174	47 NP0		DTZ-47	NP047	CN0447		10TCC-Q47
C175	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C176	82 NP0		DTZ-82	NP082	CN0482		10TCC-Q82
C177	.0047		DD-472	GP4700	GP247		5GA-D47
C178	.0047		DD-472	GP4700	GP247		5GA-D47

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C183	.0047		DD-472	GP4700	GP247		5GA-D47
C184	120 NPO		DTZ-120		CN0312		1OTCC-T12
C185	.0047		DD-472	GP4700	GP247		5GA-D47
C186	.0047		DD-472	GP4700	GP247		5GA-D47
C187	.0047		DD-472	GP4700	GP247		5GA-D47
C188	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C189	.0047		DD-472	GP4700	GP247		5GA-D47
C190	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C192	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C193	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C194	.039			DPMS6S39	PVC6139		6PS-S39
C195	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C196	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C197	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C198	.1			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C200	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C202	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C203	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C204	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C205	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C206	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C207	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C208	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C209	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C210	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C213	.1		DC-104	MGP1	TA010	QC2-233	TG-P10
C214	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C215	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C216	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C217	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C219	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C220	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C221	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C222	.1		DC-104	MGP1	TA010	QC2-233	TG-P10
C223	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C227	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C228	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C231	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C233	.1		DC-104	MGP1	TA010	QC2-233	TG-P10
C236	33 NPO		DTZ-33	NP033	CN0433		1OTCC-Q33
C239	.1		DC-104	MGP1	TA010	QC2-233	TG-P10
C240	.01			WMF1S1	EWF1A110	QF1-91	1PB-S10
C241	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C242	47 NPO		DTZ-47	NP047	CN0447		1OTCC-Q47
C244	33 NPO		DTZ-33	NP033	CN0433		1OTCC-Q33
C245	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C248	.022		DC-203	MGP02	TA120	QC2-157	TG-S20
C251	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C255	.0047		DD-472	GP4700	GP247		5GA-D47
C257	27 NPO				CN0427		1OTCC-Q27
C258	15 NPO		DTZ-15	NP015	CN0415		1OTCC-Q15
				DPMS2S22	EWF1A122	QF1-127	1PB-S22
C263	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C301	.039			DPMS6S39	PVC6139		6PS-S39
C303	.039			DPMS6S39	PVC6139		6PS-S39
C401	.047			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C403	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C404	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C405	.01	(1)	DC-103	MGP01	TA110	QC2-141	TG-S10
C406	.001	(1)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C406	.022	(2)	DC-203	MGP02	TA120	QC2-157	TG-S20
C407	.001	(1)	DD-d02G	GP1000	GP210	QC2-81	5GA-D10
C407	.022	(2)	DC-203	MGP02	TA120	QC2-157	TG-S20
C408	.001	(1)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C408	.022	(2)	DC-203	MGP02	TA120	QC2-157	TG-S20
C409	.001	(1)	DD-102G	GP1DD0	GP210	QC2-81	5GA-D10
C410	.001	(1)	DD-102G	GP1DDD	GP210	QC2-81	5GA-D10
C410	.1	(2)	DC-104	MGP1	TA010	QC2-233	TG-P10
C411	.001	(1)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C412	.001	(1)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C413	.0047	(1)	DD-472	GP4700	GP247		5GA-D47
C414	.0047	(1)	DD-472	GP4700	GP247		5GA-D47
C415	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C416	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C417	.1	(1)	DC-104	MGP1	TA010	QC2-233	TG-P10
C417	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C418	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C419	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C420	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C421	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C422	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C423	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C424	.001	(2)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C425	.01	(2)	DC-103	MGP01	TA110	QC2-141	TG-S10
C426	.01	(2)	DC-103	MGP01	TA110	QC2-141	TG-S10
C427	.1	(2)		DPMS2P1	EWF1A010	QF1-215	1PB-P10
C501	.01	(1)		WMF1S1	EWF1A110	QF1-91	1PB-S10
C502	.039	(1)			GP140		5GA-S40
C504	.039	(1)			GP140		5GA-S40

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C505	.039	(1)			GP140		5GA-S40
C601	8 NP0		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C602	.0047		DD-472	GP4700	GP247		5GA-D47
C603	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C604	39 NP0				CN0439		10TCC-Q39
C606	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CC1		C-0793(3)					
CC2		C-0793(3)					
CT1	20	CCVY028004					
CT2	20	CCVY028004					
CT3	20	CCVY028004					
CT4	20	CCVY028004					
CT5	20	CCVY028004					
CT6	20	CCVY028004					
CT7	20	CCVY028004					

(1) Model TRC-457
(2) Model TRC-458
(3) Consists of four .01 capacitors.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
RT301	Volt Reg	300	P-6423	T-300	MTC32L1	X201R351B
VR1	Signal Meter	20K	P-6416			U260R253B
VR2	RF Gain Range	100K	P-6418			U260R104B
VR3	Squelch Range	100K	P-6418			U260R104B
VR4	Balance	50K	P-6417			U260R503B
VR5	AM RX Gain	100K	P-6418			U260R104B
VR6	MIC Gain	20K	P-6416			U260R253B
VR7	AM AMC	3000	RRVY189010			U260R502B
VR8	AM TX Level	10K	P-6415			U260R103B
VR9	34.9825MHz	5000	P-6414			U260R502B
VR12	RF PWR Meter	100K	P-6418			U260R104B
VR15	Bias	300	P-6420			
VR16	Bias	300	P-6420			
VR17	LED Brilliance	500	RRVY145006			U260R502B
VR401	Clarifier	20K	P-1768			
VR402	RF Gain	100K	P-1767			
VR403	SWR/CAL	5000	p-1769(18)			
VR404	Squelch	100K	P-1767			
VR405	Volume/Power Switch	10K	P-1766			

(18) Used in Model TRC-457 only.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R403	82 ohm 7W		NFL-0122(1)
R404	10 ohm 5W	10W-SQ10	NFR-0063

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
RR-1	Resistor Network		C-0792(2)

(1) Model TRC-457
(2) Consists of eight 4700 ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Noise Blanker (23.5MHz)	CA-3272	LA-029	CBS-740-T	
L2	Noise Blanker (23.5MHz)	CA-3747	LA-155		
L3	Rec Ant (27MHz)	CA-3746	LA-152		
L4	Rec RF (27MHz)	CA-3748	LA-156		
L5	IF (7.8MHz)	CA-3762(1) CA-3764(2)	LA-178		(1) Used in Model TRC457 (2) Used in Model TRC458
L6	IF (7.8MHz)	CA-3751			
L7	IF (7.8MHz)	CA-3414	LA-038	CBS512-7TC	
L8	IF (7.8MHz)	CA-3424	LA-096	CBS511-7TC	
L9	RF Choke (470uH)	C-0787	LZ-012		
L10	RF Choke (56mH)	C-0788	LZ-015		
L11	RF Choke (68mH)	C-0789	LZ-015		
L12	RF Choke (470uH)	C-0787	LZ-012		
L13	RF Choke (470uH)	C-0787	LZ-012		
L14	RF Choke (470uH)	C-0787	LZ-012		
L16	VCO (34.195MHz)	CA-3750	LA-195		
L17	VCO (34.195MHz)	CA-3753	LA-191		
L18	RF Choke (470uH)	C-0787	LZ-012		
L19	RF Choke (100uH)	C-0786	LZ-012		

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description)

COILS (RF-IF) (cont)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L20	RF Choke (470uH)	C-0787	LZ-012		
L21	RF Choke (470uH)	C-0787	LZ-012		
L22	RF Choke (470uH)	C-0787	LZ-012		
L23	RF Choke (470uH)	C-0787	LZ-012		
L24	Trippler (33.855MHz)	CA-3752	LA-190		
L25	RF Choke (470uH)	C-0787	LZ-012		
L27	TVI Trap (54MHz)	CA-3409	LC018	CB304	
L28	RF Choke (.4uH)	CA-3763	LE-051		
L29	RF Choke (.4uH)	CA-3763	LE-051		
L30	Final (27MHz)	CA-3639	LC-019	CB305	
L31	RF Choke (.89uH)	CA-3757	LD-018		
L32	XMT Driver (27MHz)	CA-3409	LC-018	CB304	
L33	RF Choke (.89uH)	CA-3757	LD-018		
L34	RF Choke (.89uH)	CA-3757	LD-018		
L35	XMT Amp (27MHz)	CA-3758	LD-057		
L36	XMT Buffer (27MHz)	CA-3758	LA-057		
L37	XMT Mixer (27MHz)	CA-3749	LA-157		
L38	RF Choke (470uH)	C-0787	LZ-012		
L39	XMT Mixer (2.8MHz)	CA-3414	LA-038	CBS572-7TC	
L40	RF Choke (7.3uH)	CA-3756	LD-013		
L43	RF Choke (1uH)	C-0785	LZ-002		
L44	RF Choke (1uH)	C-0785	LZ-002		
L45	RF Choke (100uH)	C-0786	LZ-012		
L46	RF Choke (10uH)	C-0796			
L401	RF Choke (1.2uH)	CA-3644	LD-066		
L402	RF Choke (1.2uH)	CA-3644	LD-066		
L403	RF Choke (1.2uH)	CA-3644	LD-066		
L404	RF Choke (1.2uH)	CA-3644	LD-066		
L405	RF Choke (1.2uH)	CA-3644	LD-066		
L406	RF Choke (1.2uH)	CA-3644(3)	LD-066		(3) Model TRC-458
L407	RF Choke (1.2uH)	CA-3412(3)	LE-003		
L408	RF Choke (1.2uH)	CA-3412(3)	LE-003		
L501	RF Choke (2.2mH)	C-0795(4)	LZ-003		(4) Model TRC-457

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	18	T0-0156 TF-109(1)			(1) Number on unit.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T401	120V AC @ 580mA AC	17.74V AC @ 4.55A AC	TA-0529 TF-085(1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	2 3/4" PM 8 ohms	S-4605 SP-030(1)	27A05Z8	(1) Number on unit.

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F401	3 amp	ZFSY001006	W-1934	AGC3	HDJ	312003	150145	FG3-2
F402	3 amp	ZFSY002003	F-1112	AGC3	HKP	312003	342001AL	FG3-2

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
MIC	M-2222	18-032	18-034	18-010	18-105	4	1	3	NC	NC	1

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
D401	LED	L-0782	Channel Display Tens (DA-076) Model TRC-157
D401	LED	L-0776	Channel Display (TLR321) Model TRC-158
D402	LED	L-0782	Channel Display Units (DA-076) Model TRC-157
D403	LED	L-0781	LSB Indicator (LR-0602R) Model TRC-157
D404	LED	L-0781	USB Indicator (LR-0602R) Model TRC-157
D405	LED	L-0781	AM Indicator (LR-0602R) Model TRC-157
D501	LED	L-0783	Clock Display Colon Model TRC-157
D502	LED	L-0783	Clock Display Colon Model TRC-157
D505	LED	L-0782	Clock Display Tens (DA-076) Model TRC-157
D506	LED	L-0782	Clock Display Units (DA-076) Model TRC-157
D507	LED	L-0782	Clock Display Tens (DA-076) Model TRC-157
D508	LED	L-0782	Clock Display Units (DA-076) Model TRC-157
FT1	Filter	C-0791	7.8MHz
FT2	Filter	C-0794	7.8MHz
J401	Jack	J-0846	Antenna
J402	Jack	J-0723	Microphone
J403	Jack	J-0643	PA
J404	Jack	J-0643	EXT SP
J405	Jack	J-0853	Headphone
J406	Jack	J-0819	DC Power
J407	Jack	JJKY063001	AC Power
L26	Ferrite Bead	CA-3761	
L41	Ferrite Bead	CA-3754	
L42	Ferrite Bead	CA-3754	
M401	Meter	M-0340	S/RF Model TRC-157
M401	Meter	M-0342	S/RF Model TRC-158
M401	Meter	M-0341	SWR Model TRC-157
PL401	Lamp	L-0786	S/RF Meter (11.73V @ 43mA)
PL402	Lamp	L-0786	SWR Meter (11.73V @ 43mA) Model TRC-457
PL403	Lamp	L-0787	S/RF TX (11.03V @ 64mA) Model TRC-458
PL404	Lamp	L-0787	SWR TX (11.03V @ 64mA) Model TRC-457
RL-1	Relay	ZRLY027001	XMT/Rec RL-027
S401	Switch	S-7383	NB Model TRC-457
S401	Switch	S-7315	NB Model TRC-458
S402	Switch	S-1278	AM/LSB/USB Model TRC-457
S402	Switch	S-1279	AM/LSB/USB Model TRC-458
S403	Switch	S-7313	SWR/CAL Model TRC-457
S404	Switch	S-7313	ANL Model TRC-457
S404	Switch	S-7315	ANL Model TRC-458
S405	Switch	S-7313	CB/PA Model TRC-457
S405	Switch	S-7315	CB/PA Model TRC-458
S406	Switch		Power (Part of Volume Control)
S407	Switch	S-2382	Clock Model TRC-457
S408	Switch	S-1276	Channel Selector
S501	Switch	S-7314	Hold Model TRC-457
S502	Switch	S-7314	Slow Model TRC-457
S503	Switch	S-7314	Fast Model TRC-457
X1	Crystal	MX-2171	7.8025MHz
X2	Crystal	MX-2172	7.7975MHz
X3	Crystal	MX-2317	11.2858MHz
X4	Crystal	XX-2315	11.2842MHz
X5	Crystal	MX-2292	10.240MHz
X6	Crystal	MX-2316	11.2850MHz
	PC Board	PPCY196024	Main
	PC Board	X-7429	Power Supply
	PC Board	PPCY175013	Switch Model TRC-457
	PC Board	PPCY177012	Switch Model TRC-458
	PC Board	X-7431	Flexible Model TRC-457
	PC Board	X-7438	Flexible Model TRC-458
	PC Board	X-7422	Noise Blanker Model TRC-458
	PC Board	X-7432	Clock Circuit Model TRC-458
	PC Board	X-7433	Clock Display Model TRC-458
	PC Board	X-7434	12 Hr/24 Hr Model TCR-458
	PC Board	X-7435	LED Model TCR-458

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Escutcheon Model TRC-457	Z-3506
Escutcheon Model TRC-458	Z-3513
Cabinet Top Model TRC-457	Z-35D2
Cabinet Top Model TRC-458	Z-3510
Cabinet Bottom Model TRC-457	Z-3505
Cabinet Bottom Model TRC-458	Z-3512
Knob, Channel Model TRC-457	K-2563

ITEM	PART No.
Knob, Channel Model TRC-458	K-2565
Knob, Control	K-2564
Knob, Clock Model TRC-457	K-2562
Mounting Bracket (Left)	MB-0137
Mounting Bracket (Right)	MB-0136
Microphone Hanger	M-3105

WIRING DATA

General-use Hook-up Wire (available in 5 colors) BELDEN No. 8523
Shielded Hook-up Wire (spiral wrapped) . . . . . BELDEN No. 8421
(braided) . . . . . BELDEN No. 8401
Speaker Cable (available in 4 colors) . . . . . BELDEN No. 8782
Bonding Strap . . . . . BELDEN No. 8672
AC Power Cord . . . . . (6') BELDEN No. 17106
(9') BELDEN No. 17109

Coiled Microphone Cable
3-conductor (1 shielded) 23AWG BELDEN No. 9471 (5')
BELDEN No. 9497 (6')
BELDEN No. 9472 (7-1/2')
28AWG BELDEN No. 9466 (6')
31AWG BELDEN No. 9468 (10')
4-conductor (unshielded) 23AWG BELDEN No. 8415 (6')
5-conductor (1 shielded) 28AWG BELDEN No. 9467 (6')
BELDEN No. 9465 (7-1/2')