

PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

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 1-617

MANUFACTURER'S SPECIFICATIONS

CB SECTION

RECEIVER

Sensitivity	: 0.5 Microvolts for 10db S+N/N
Selectivity	: 5kHz at 6db
Squelch Range	: 0.7 to 100 Microvolts
Audio Output	: 4 Watts RMS
Distortion at 100 μ V	: 6%
Audio Frequency Response	: 500 — 3000 Hz
I.F. Frequency	: 1st — 10.695 MHz, 2nd — 455 kHz

TRANSMITTER

RF Output	: 4 Watts
Modulation Capacity	: More than 80%
Harmonic Suppression	: More than 60db

FM RADIO SECTION

FM Sensitivity	: 10 Microvolts at 30db quieting
FM Selectivity	: 600kHz
Stereo Separation	: 26db
Audio Output	: 3.0 Watts

AM RADIO SECTION

AM Sensitivity	: 32db/ μ V
AM Selectivity	: 6kHz for 6db down

GENERAL

Semiconductors	: 5 integrated circuits, 1 FET, 34 transistors, 19 diodes
Size	: 7" W X 5-1/2" D X 2-3/8" H
Weight	: 4 lbs.

Courtesy of the Manufacturer

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

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ROYCE MODEL 1-617

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-volt DC input. 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:
L301 thru L307, L311, L312, L316, L317, L319..... 5009
L310, L313, L314, L315..... 9440
Check for 9 volts at TP12 (Emitter of Q207).

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP4.	Ch. 1		Check for 4.0 volts.
Input of frequency counter to FS.	Ch. 1		Check for 10.240MHz.
Input of frequency counter to FO.	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to FT.	Ch. 1		Check for 26.965MHz. Check all channels. (See Truth Chart for correct frequencies.)

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. Check for 9 volts at TP12 (Emitter of Q207), Squelch MINIMUM, LOC/DX Switch DX.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP10. 455kHz, 1000Hz @ 30% modulation.	Ch. 19	L307, L306 L305	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L304, L303 L302, L301	Adjust for maximum output. If necessary readjust L305, L306 and L307.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Check for 9 volts at TP12 (Emitter of Q207).
Squelch MINIMUM, LOC/DX Switch DX.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of AC VTVM across voice coil. Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output .5uV.	Ch. 19	VR302	IF GAIN Adjust for best signal to noise ratio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	VR303	SIG METER Adjust for 9 on SIG 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.
See page 4 for channel frequencies. Check for 9 volts at TP12 (Emitter of Q207).

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Tunable field strength meter set at 54MHz.	Ch. 19	L315, L314, L313, L312, L311, L310 L319, L317	Adjust for maximum.
	Ch. 19	L310	Adjust for 3.7 watts.
	Ch. 19	L316	Adjust for MINIMUM signal.

TRANSMITTER ADJUSTMENTS

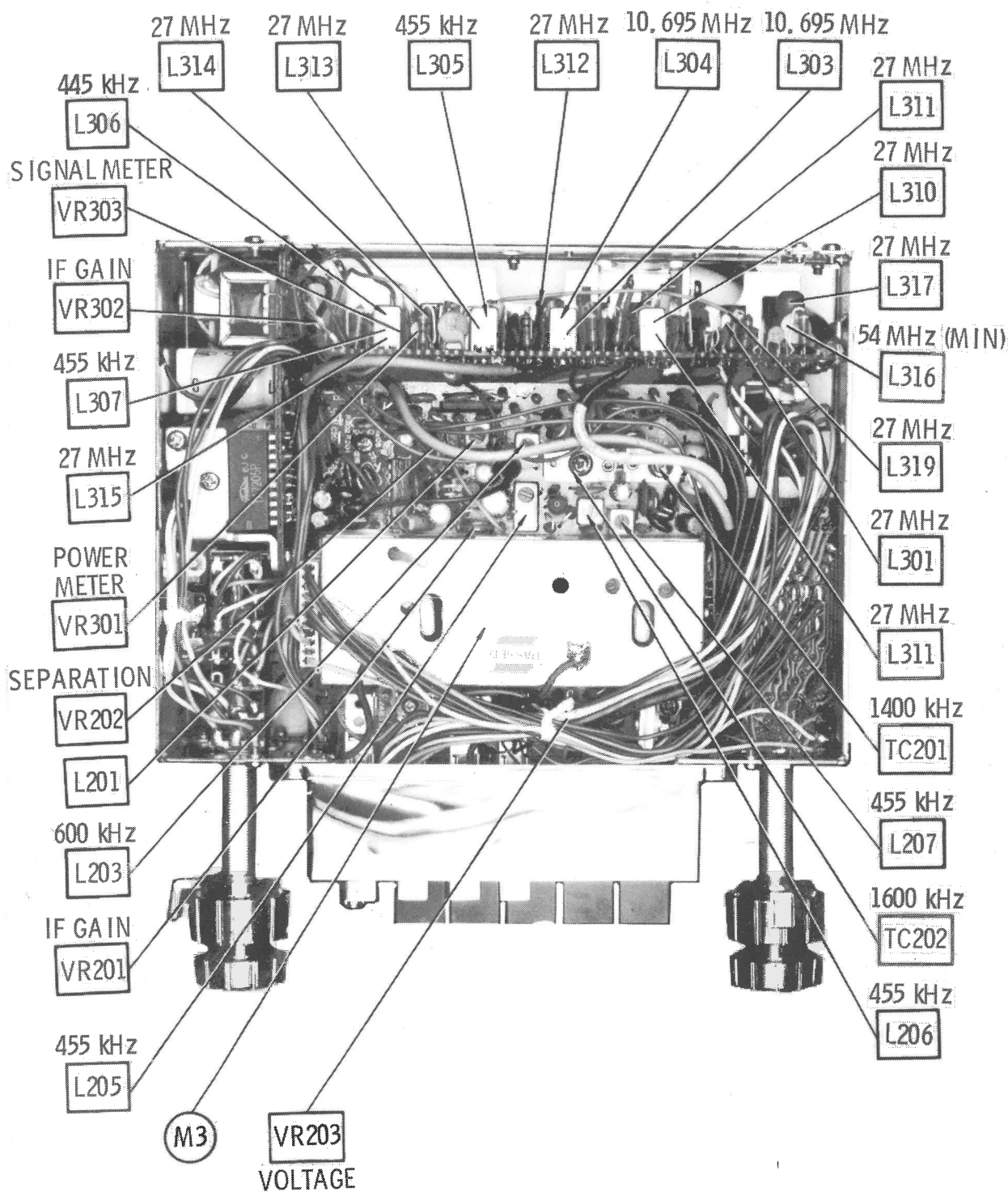
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 1000Hz, 50mV signal at MIC input.	Ch. 19	VR401	AMC Adjust for 95% modulation.
Connect an RF wattmeter and 50-ohm, 25 watt dummy load to antenna connector.	Ch. 19	VR301	PWR METER Adjust for PWR reading in the center of the red.
Input of DC meter to TP12 (Emitter of Q207).	Ch. 19	VR203	VOLT REG Adjust for 9 volts.

ROYCE MODEL 1-617

TRUTH CHART

CHANNEL	1 = 5.81 Volts 0 = 0 Volts								REC VCO OUTPUT IN MHz AT F0	XMT VCO OUTPUT IN MHz AT FT	
	PLL										
	PLL PLUG (J5)										
	Blue	Grn	Yel	Or	Red	Brn	Blk				
1	1	0	0	1	0	1	0		37.660	26.965	
2	1	0	0	1	0	0	1		37.670	26.975	
3	1	0	0	1	0	0	0		37.680	26.985	
4	1	0	0	0	1	1	0		37.700	27.005	
5	1	0	0	0	1	0	1		37.710	27.010	
6	1	0	0	0	1	0	0		37.720	27.020	
7	1	0	0	0	0	1	1		37.730	27.030	
8	1	0	0	0	0	0	1		37.750	27.050	
9	1	0	0	0	0	0	0		37.760	27.060	
10	0	1	1	1	1	1	1		37.770	27.070	
11	0	1	1	1	1	1	0		37.780	27.080	
12	0	1	1	1	1	0	0		37.800	27.105	
13	0	1	1	1	0	1	1		37.810	27.115	
14	0	1	1	1	0	1	0		37.820	27.125	
15	0	1	1	1	0	0	1		37.830	27.135	
16	0	1	1	0	1	1	1		37.850	27.155	
17	0	1	1	0	1	1	0		37.860	27.165	
18	0	1	1	0	1	0	1		37.870	27.175	
19	0	1	1	0	1	0	0		37.880	27.185	
20	0	1	1	0	0	1	0		37.900	27.205	
21	0	1	1	0	0	0	1		37.910	27.215	
22	0	1	1	0	0	0	0		37.920	27.225	
23	0	1	0	1	1	0	1		37.950	27.255	
24	0	1	0	1	1	1	1		37.930	27.235	
25	0	1	0	1	1	1	0		37.940	27.245	
26	0	1	0	1	1	0	0		37.960	27.265	
27	0	1	0	1	0	1	1		37.970	27.275	
28	0	1	0	1	0	1	0		37.980	27.285	
29	0	1	0	1	0	0	1		37.990	27.295	
30	0	1	0	1	0	0	0		38.000	27.305	
31	0	1	0	0	1	1	1		38.010	27.315	
32	0	1	0	0	1	1	0		38.020	27.325	
33	0	1	0	0	1	0	1		38.030	27.335	
34	0	1	0	0	1	0	0		38.040	27.345	
35	0	1	0	0	0	1	1		38.050	27.355	
36	0	1	0	0	0	1	0		38.060	27.365	
37	0	1	0	0	0	0	1		38.070	27.375	
38	0	1	0	0	0	0	0		38.080	27.385	
39	0	0	1	1	1	1	1		38.090	27.395	
40	0	0	1	1	1	1	0		38.100	27.405	



ROYCE MODEL 1-617

CHASSIS-TOP

ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Connect low sides of generator and indicator to ground unless specified otherwise.
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: GC ELECTRONICS:
L201, L203, L205, L206, L207..... 5009
L106..... 9440
TC101, TC102, TC103..... 8282
TC201, TC202..... 5000

PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

Check for 9 volts at TP12 (Emitter of Q207).

AM ALIGNMENT—SELECTOR IN AM POSITION

Connect generator across loop fashioned of several turns of wire. Set volume at maximum.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
455kHz 400-hertz Modulation	High freq. end stop	Output meter across voice coil	L207, L206 L205	Adjust for maximum. Repeat until no further improvement is noted.
600kHz	600kHz	"	L203	Adjust for maximum.
1600kHz	1600kHz	"	TC202	Adjust for maximum.
1400kHz	1400kHz	"	TC201 TC1	Adjust for maximum. Repeat AM alignment until no further improvement is noted.

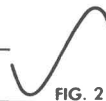
With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust TC1 for maximum output. (1)

- (1) Set a push button at 1600kHz (See Push-Button Adjustment). Hold button in and push tuning shaft in, TC1 can now be adjusted, while pushing button and tuning shaft in.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001uF to TP1.
Use 60-hertz, frequency-modulated signal, 450kHz sweep.
Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to TP2	(1)L106	Adjust for maximum gain and symmetry of response similar to Fig. 2.
"	"	Vert input of scope to TP2	L201	Adjust L201 for maximum amplitude and straightness of line, similar to Fig. 2.



- (1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Modulated	108MHz	AC probe of VTVM to TP2	TC103, TC102 TC101	Adjust for maximum.

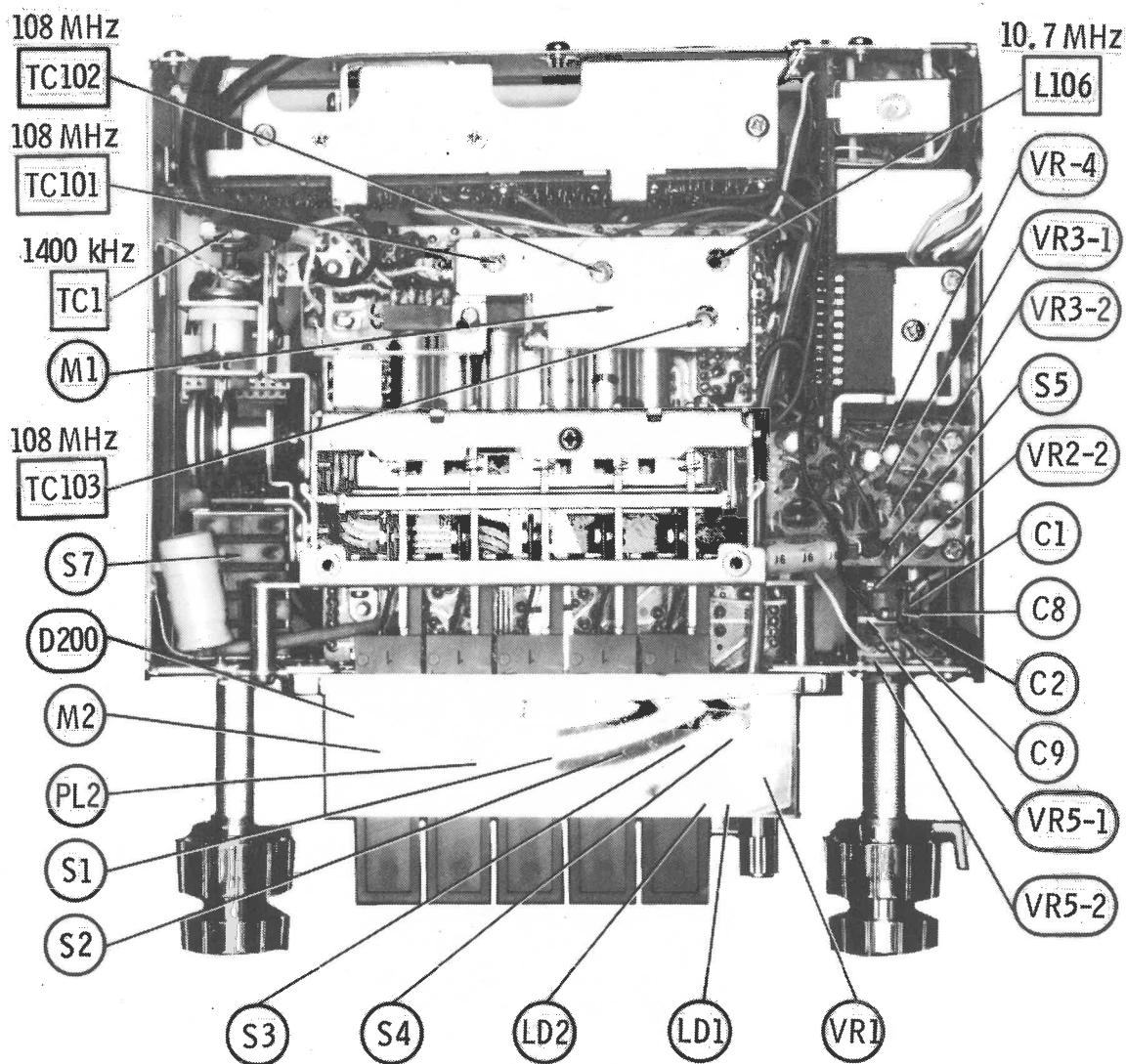
FM STEREO ALIGNMENT

Connect a jumper from TP11 (Base of Q202) to ground.

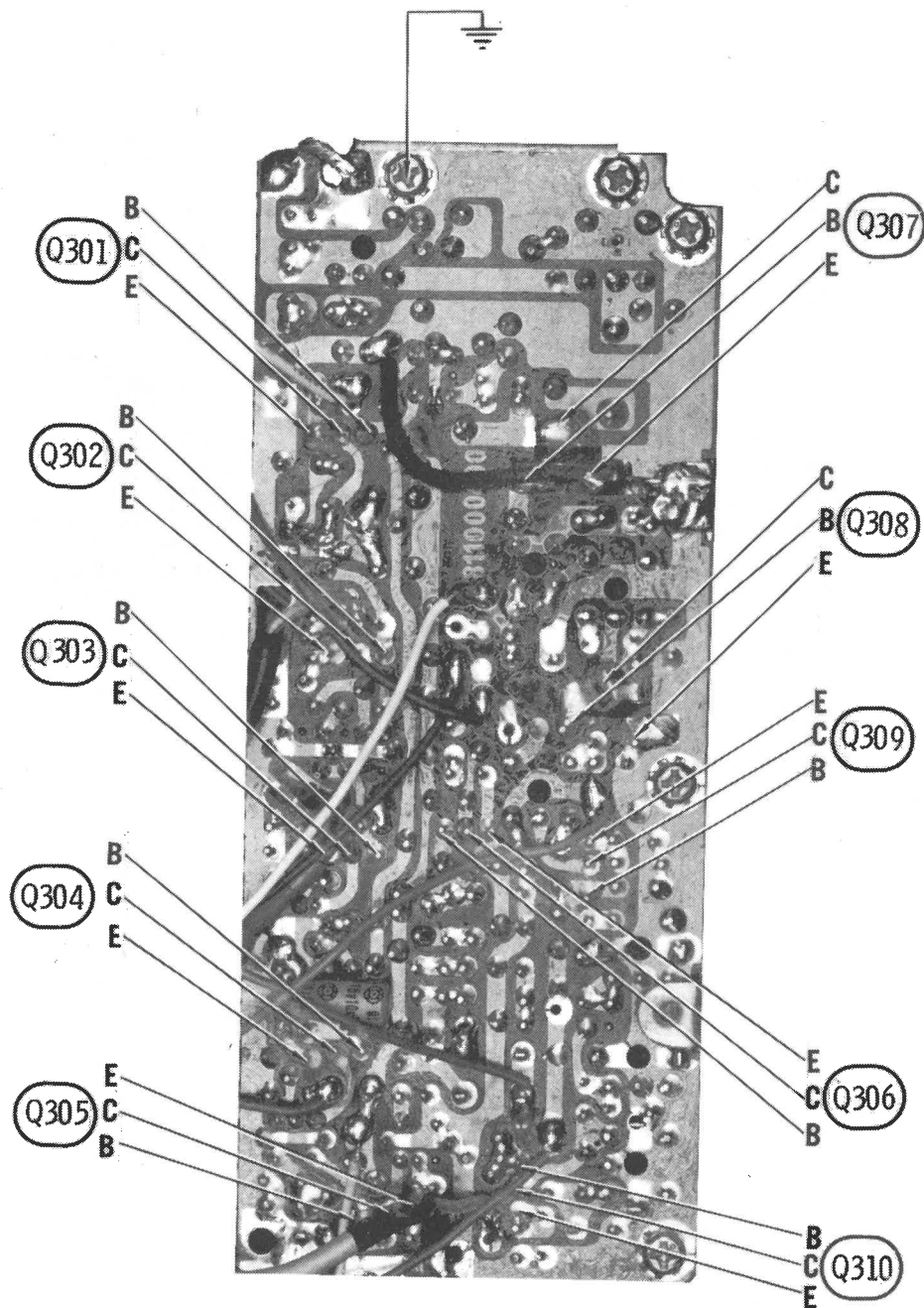
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
	Input of frequency counter to TP3.	VR202	Adjust VR202 for 19kHz $\pm$ 20Hz.

FM Level

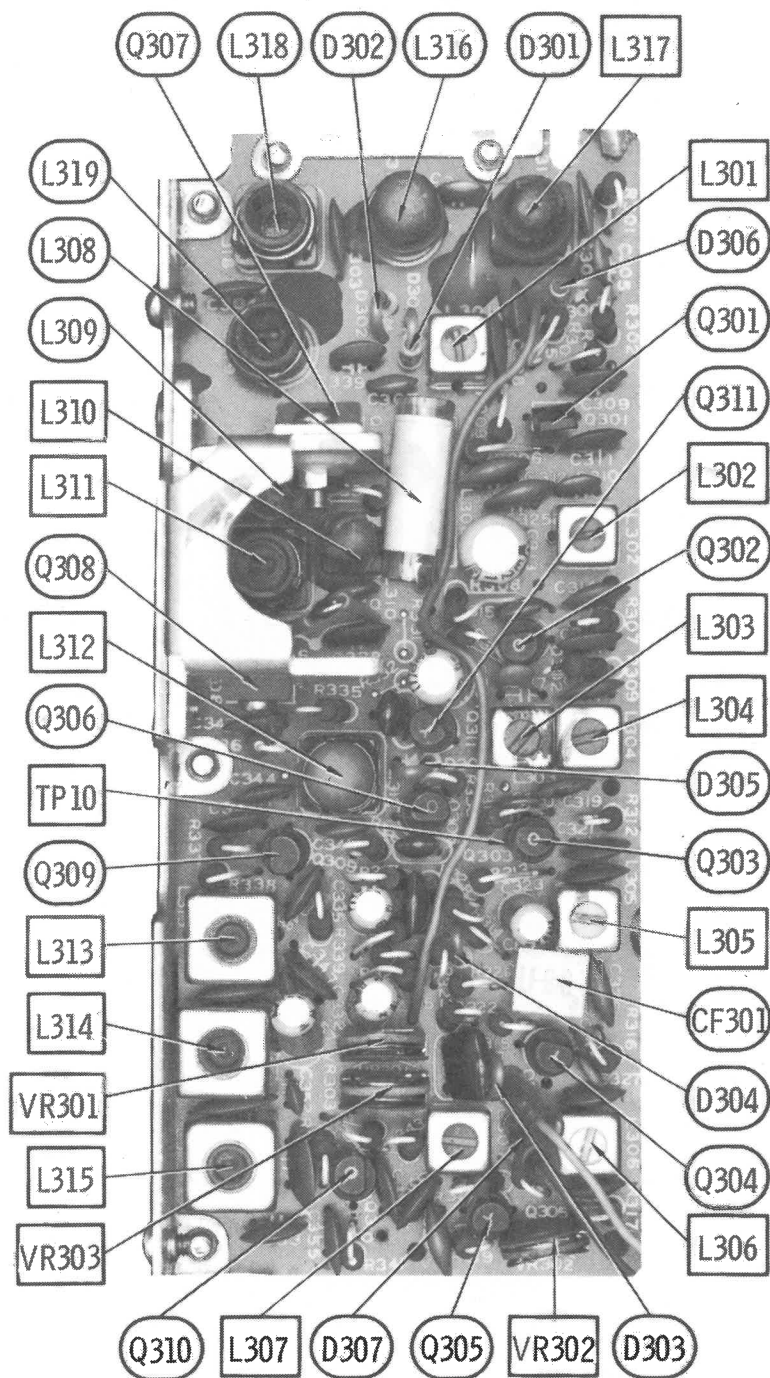
Tune in a strong FM station. Adjust VR201 for equal output of a strong AM station.



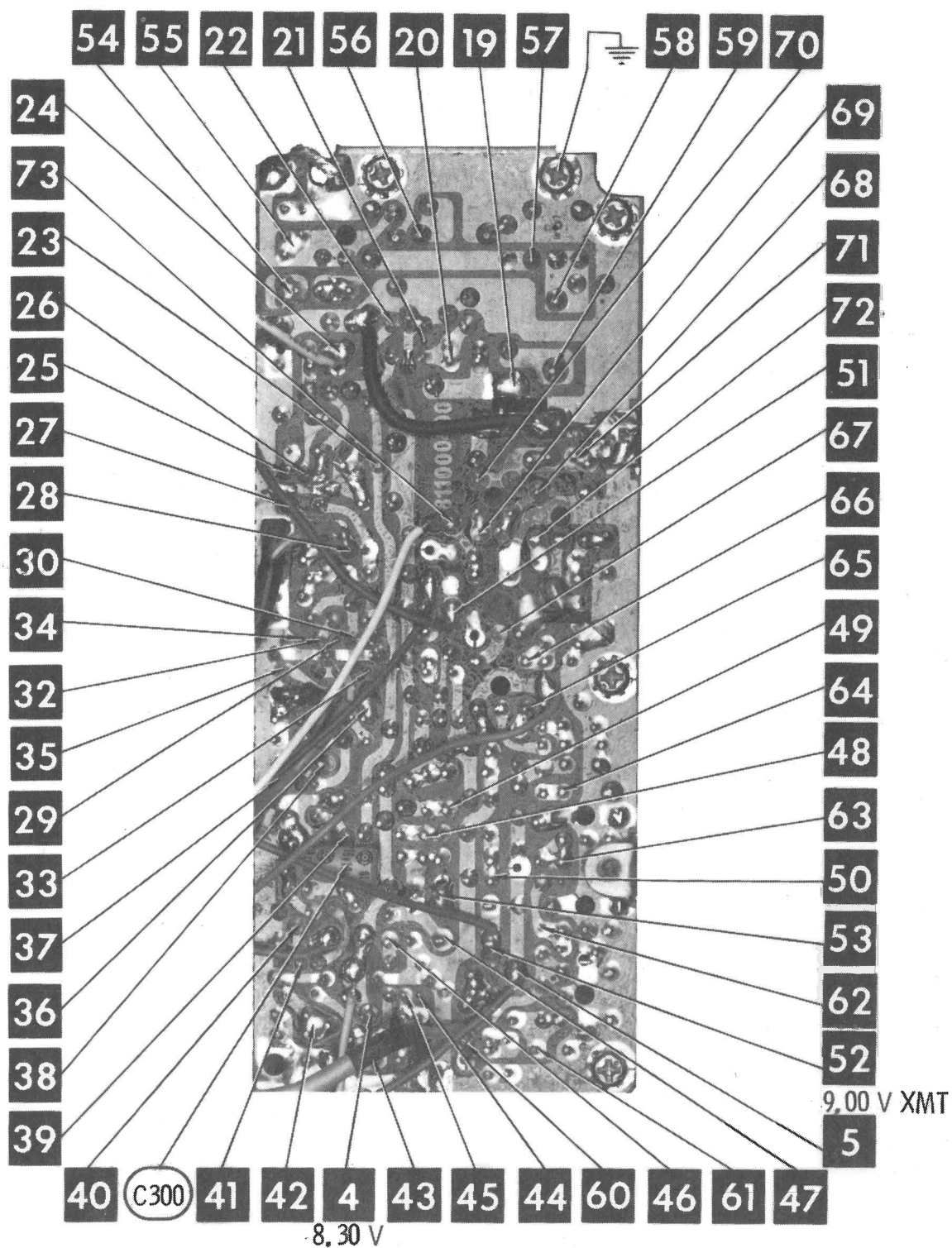
CHASSIS-BOTTOM



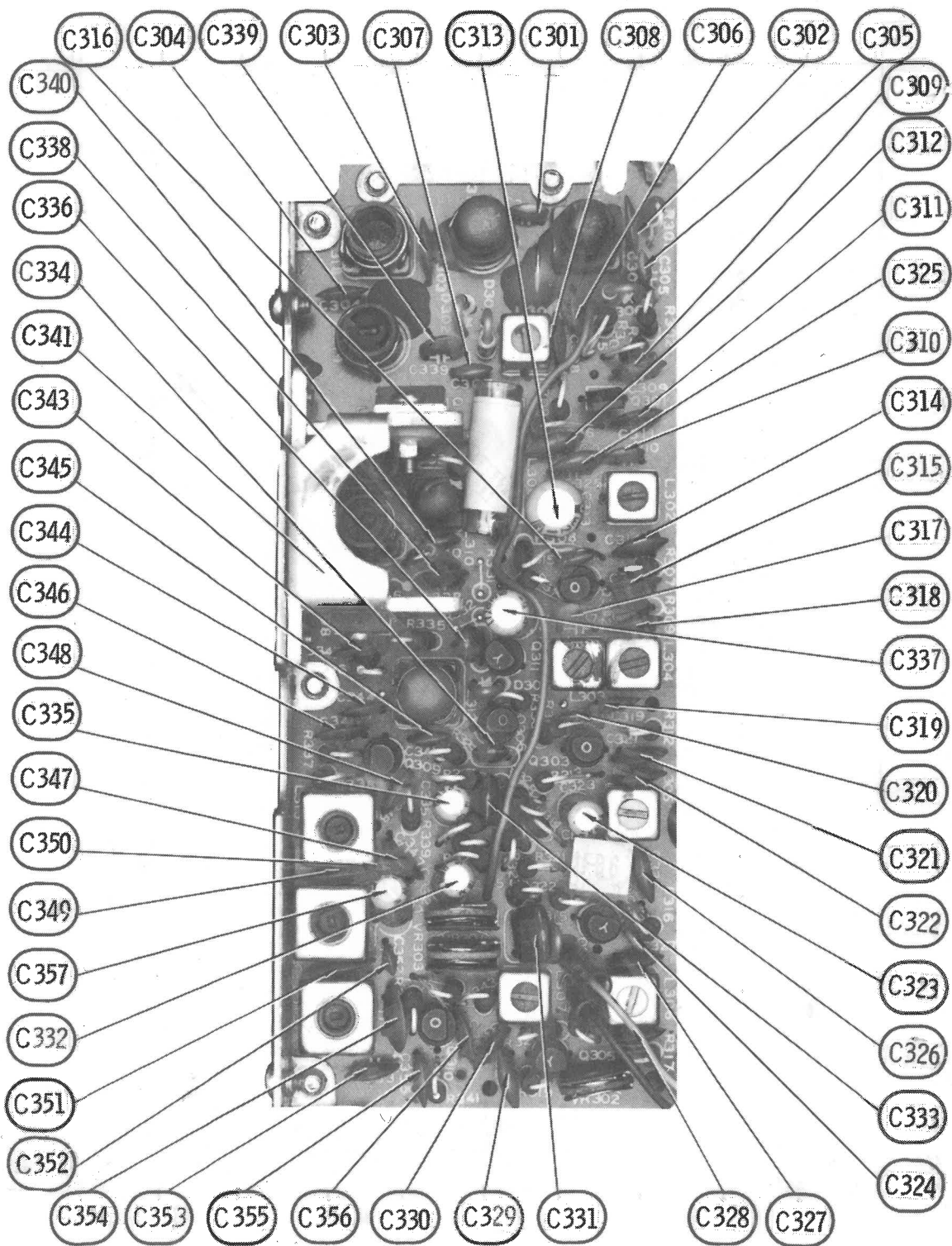
CB BOARD



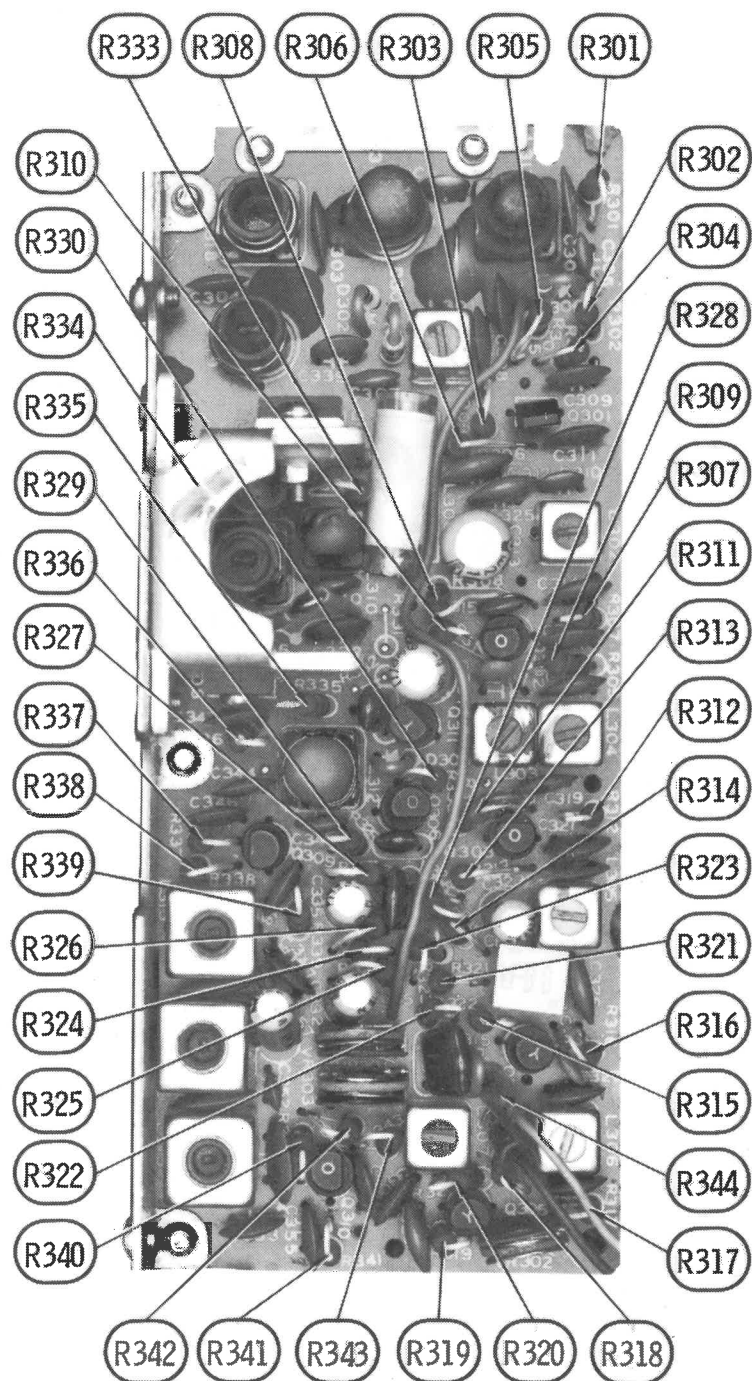
CB BOARD



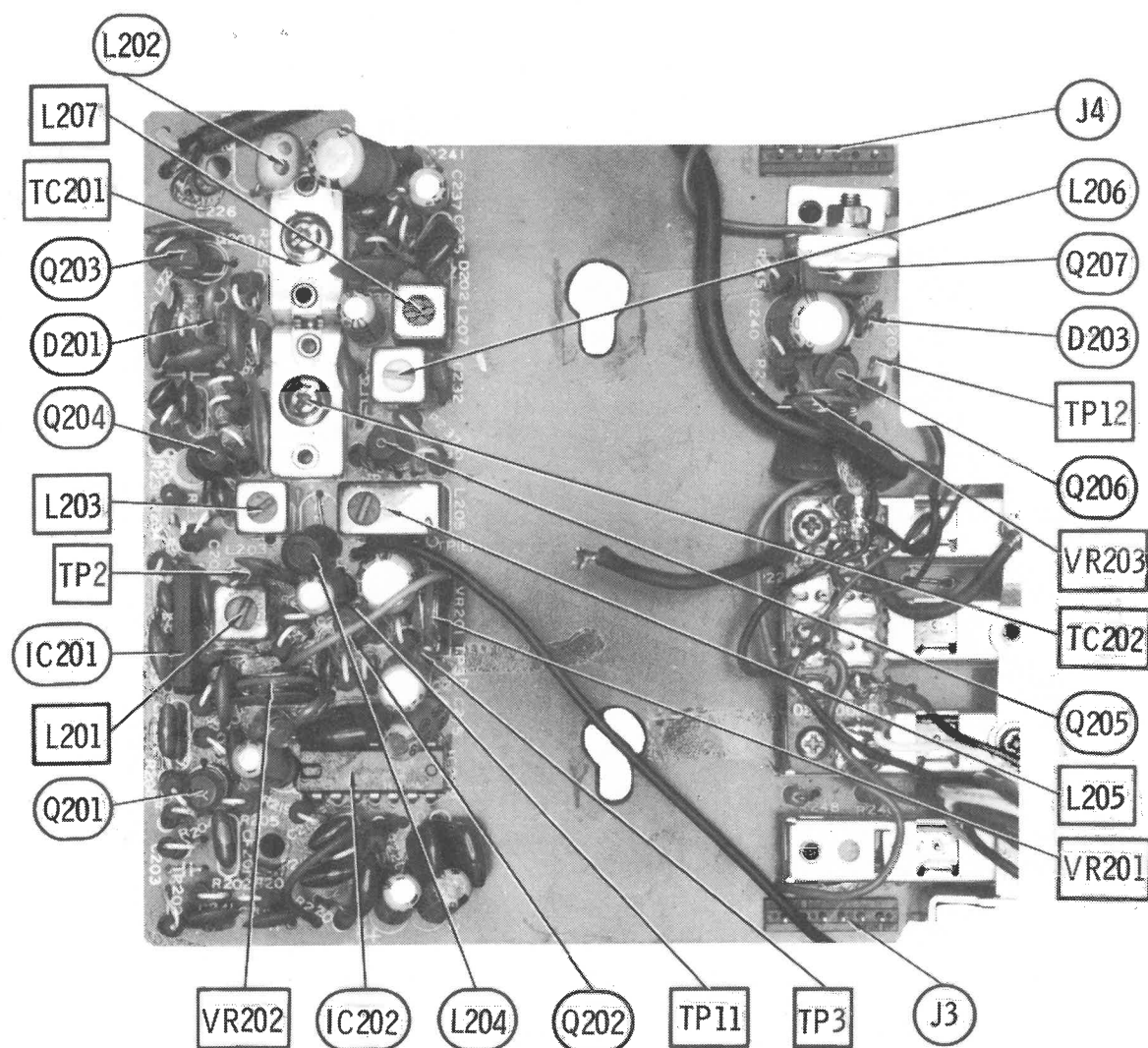
CB BOARD



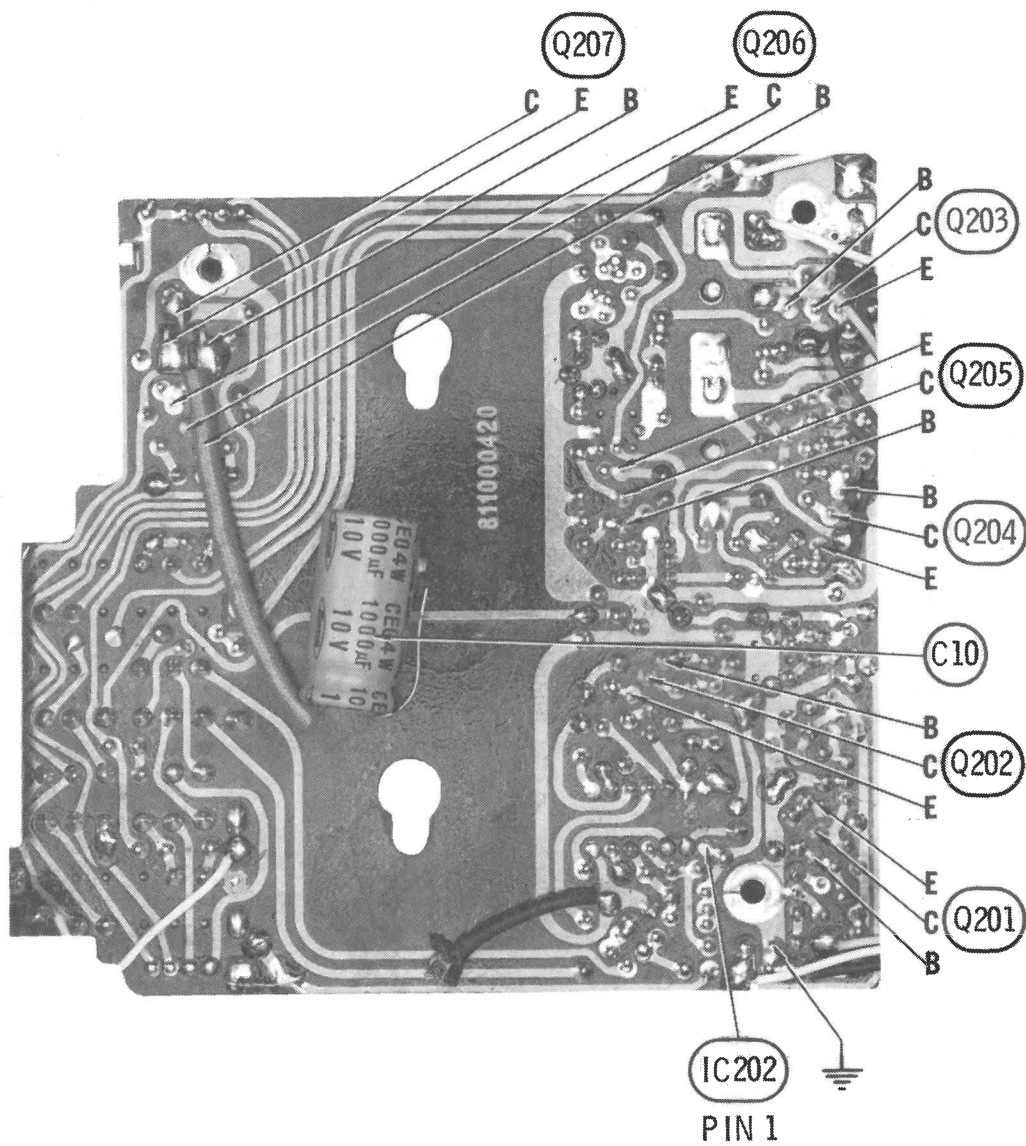
CB BOARD



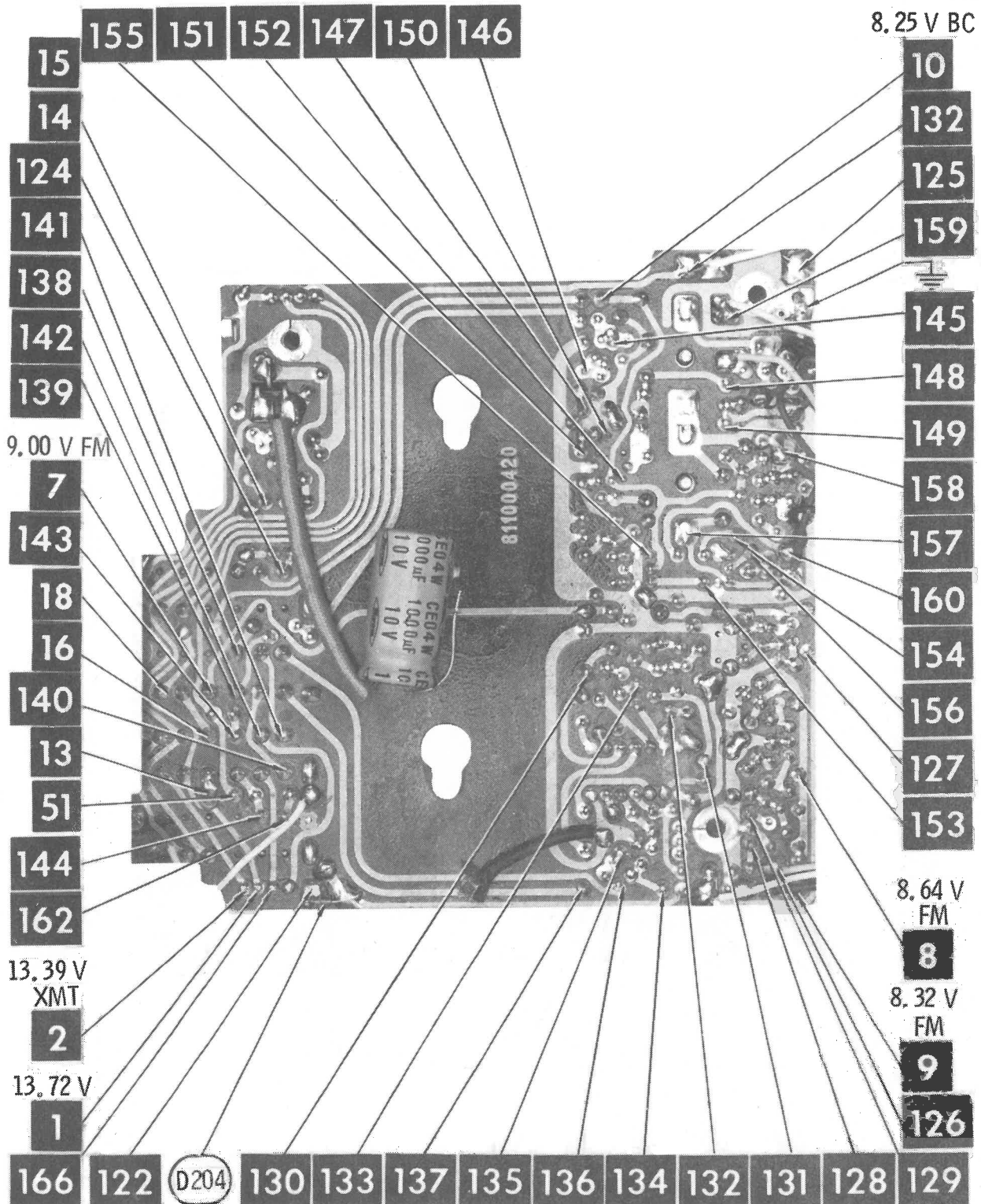
CB BOARD



AM - FM BOARD

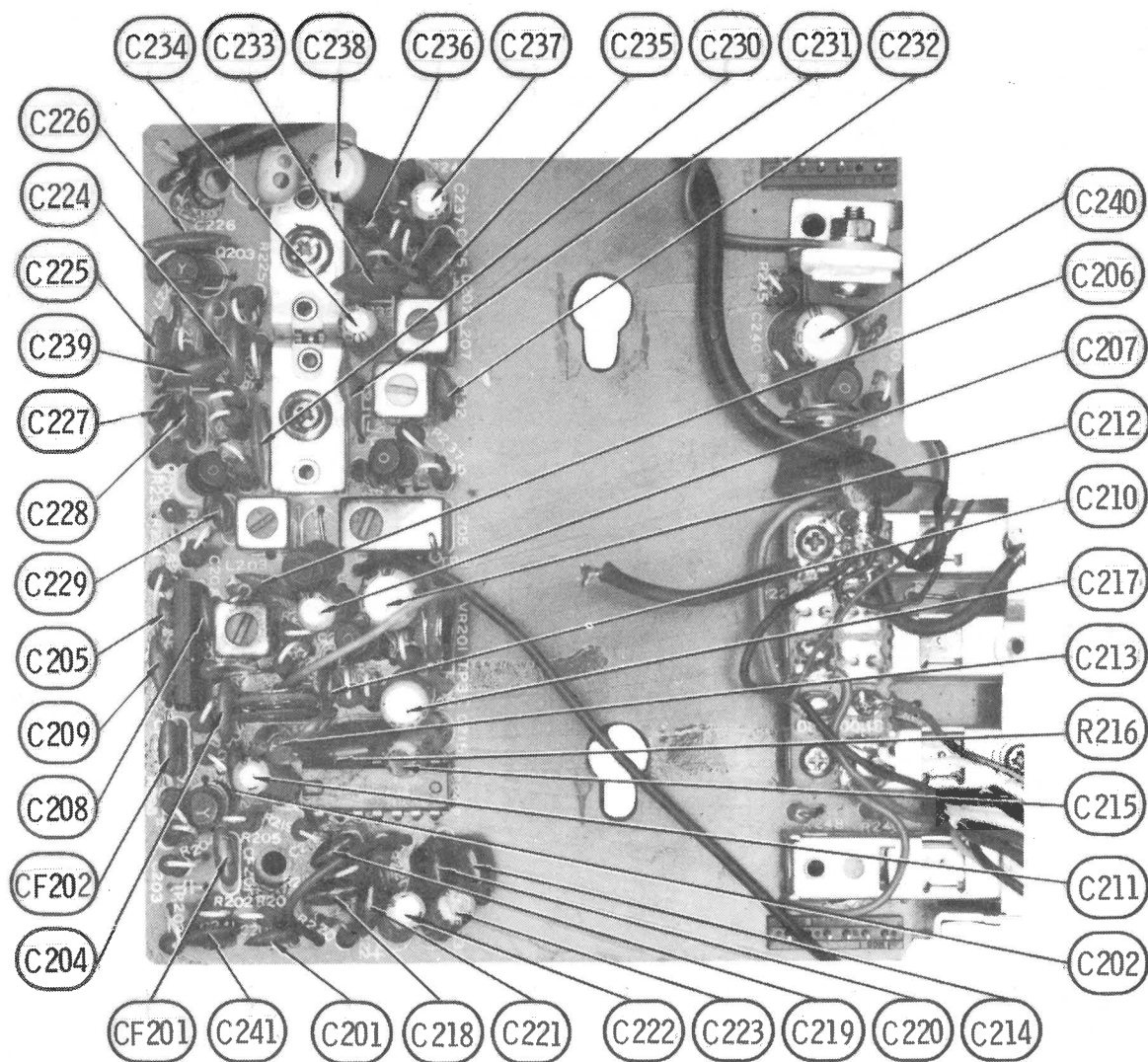


AM - FM BOARD

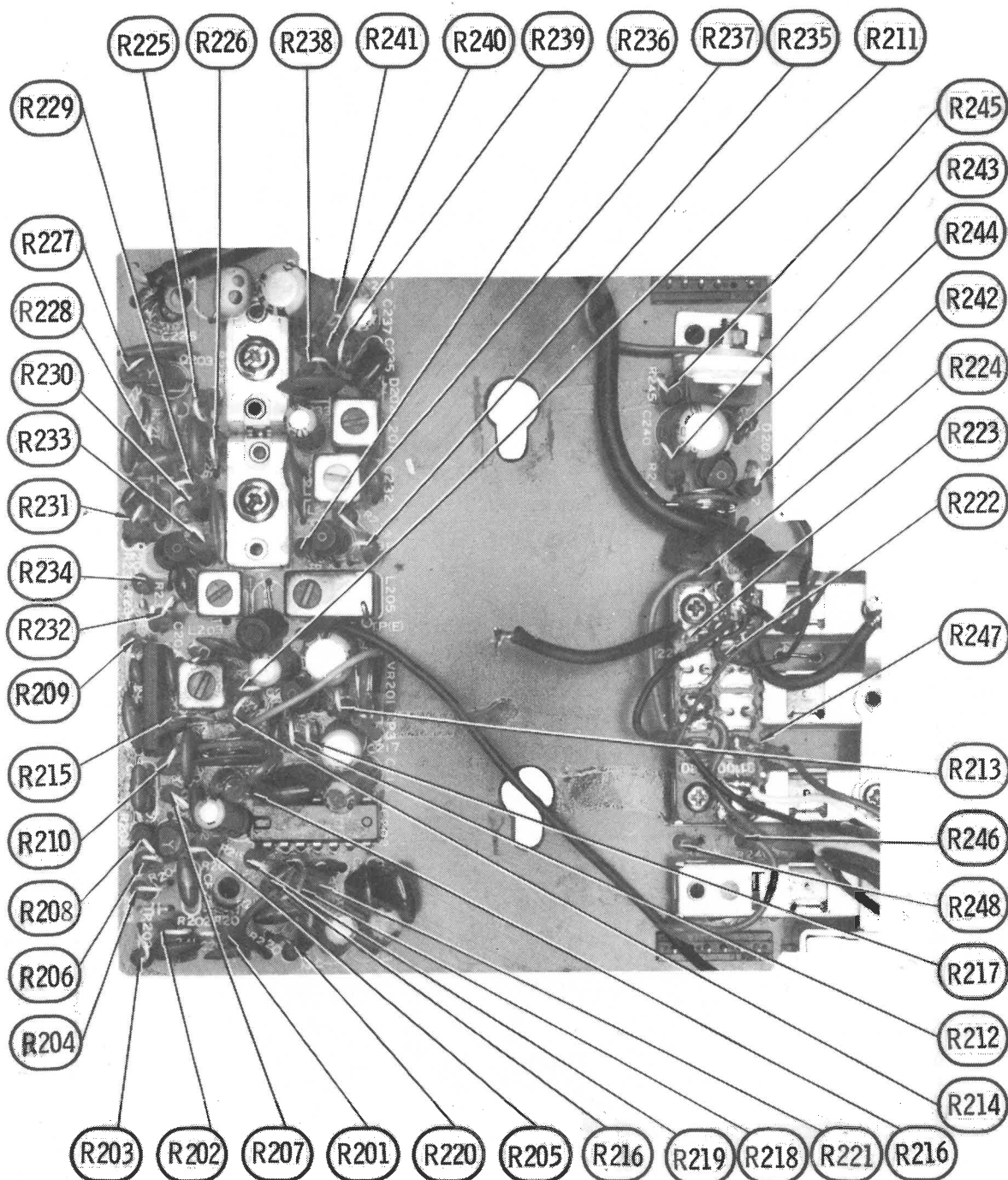


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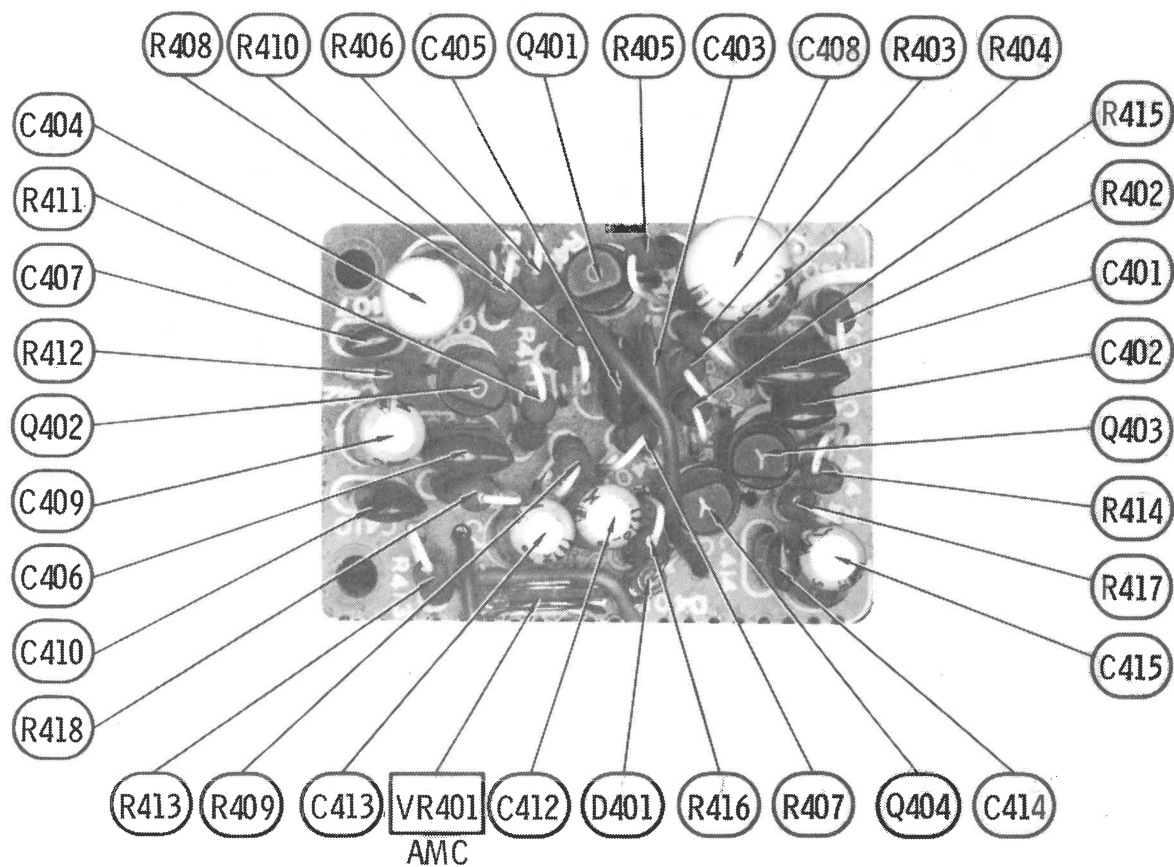
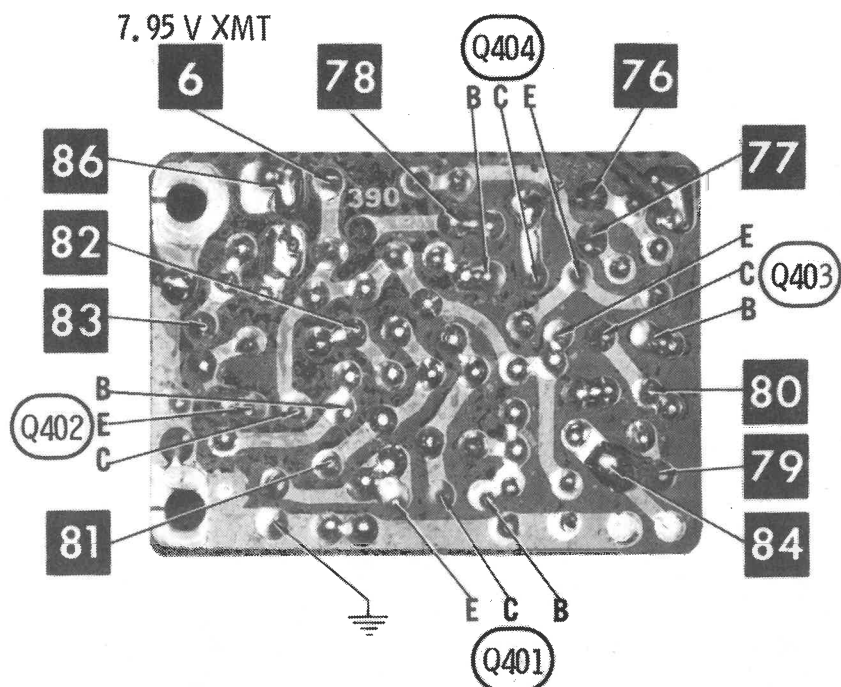
AM - FM BOARD



AM - FM BOARD

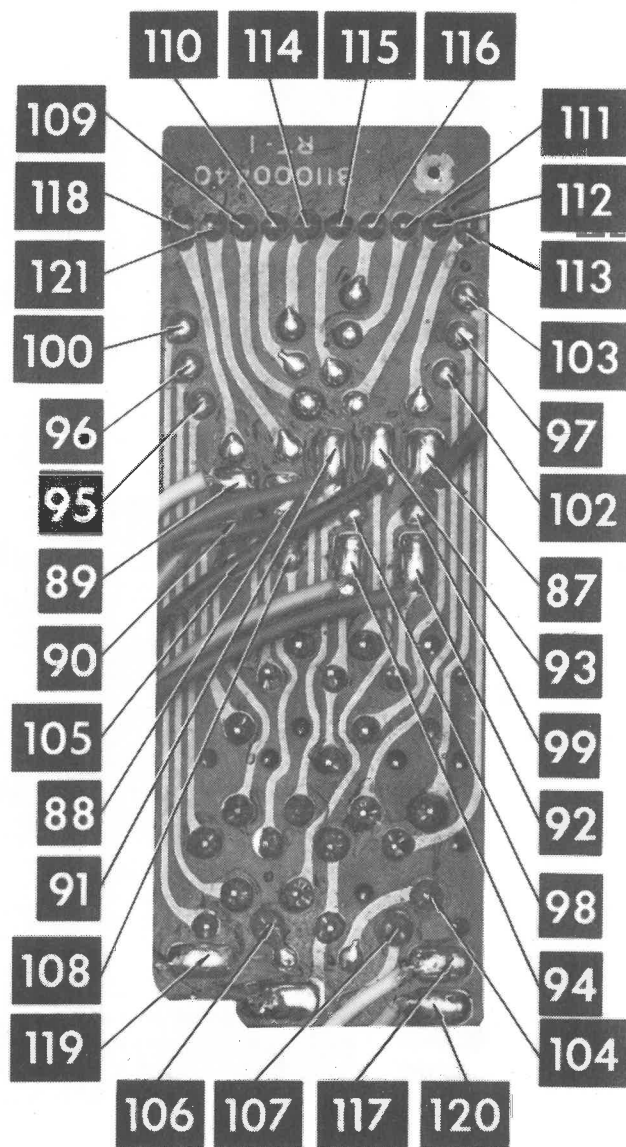
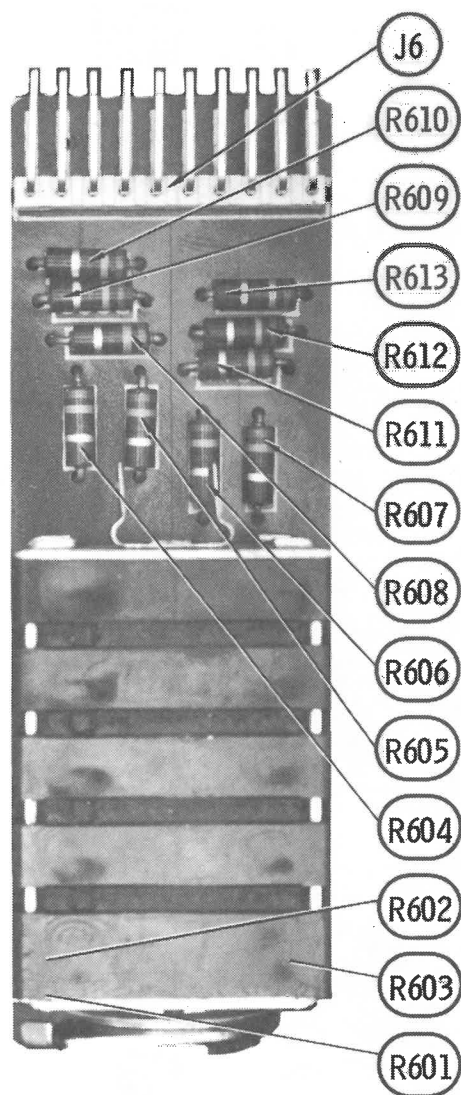


AM - FM BOARD

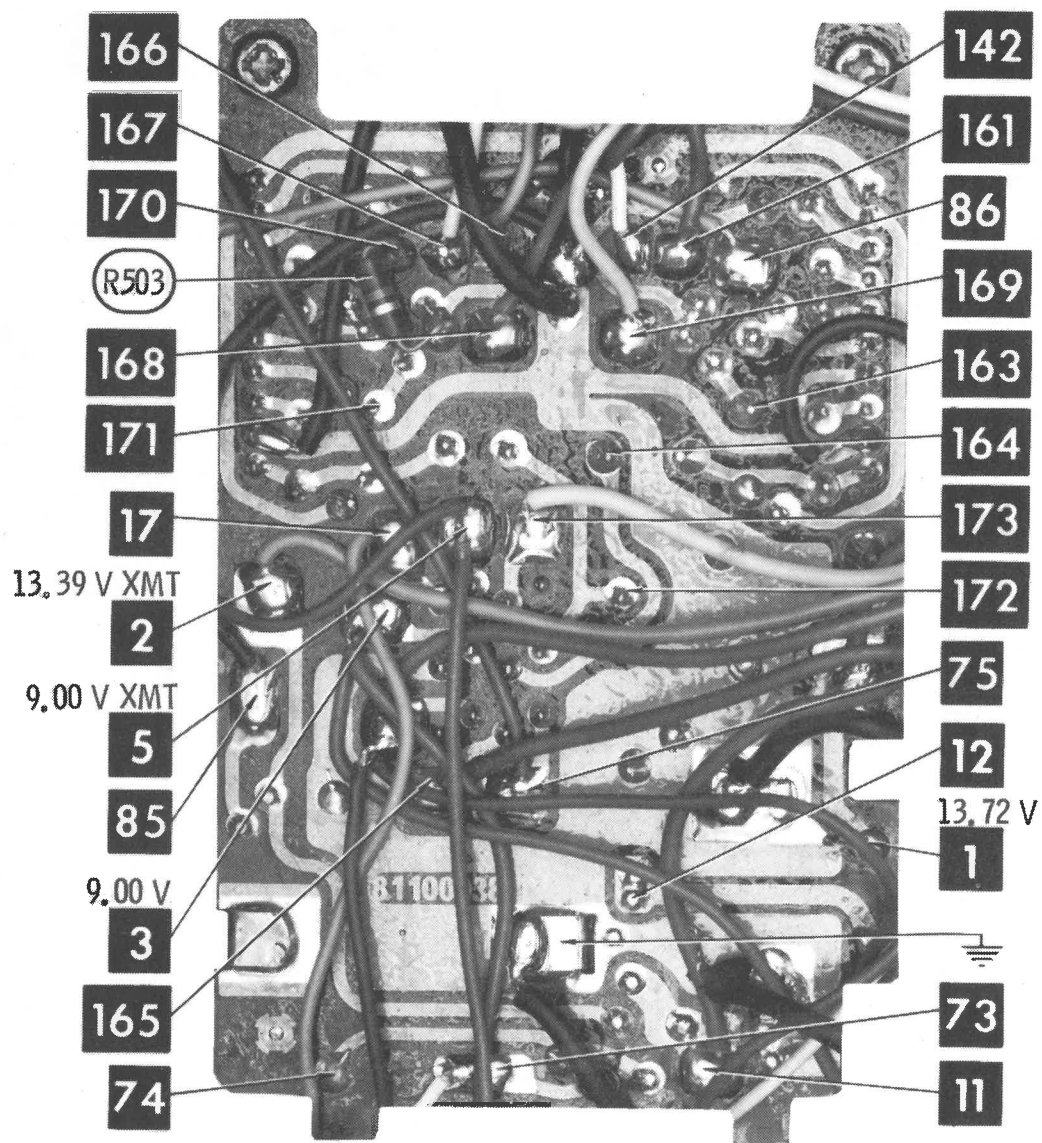


AUDIO BOARD

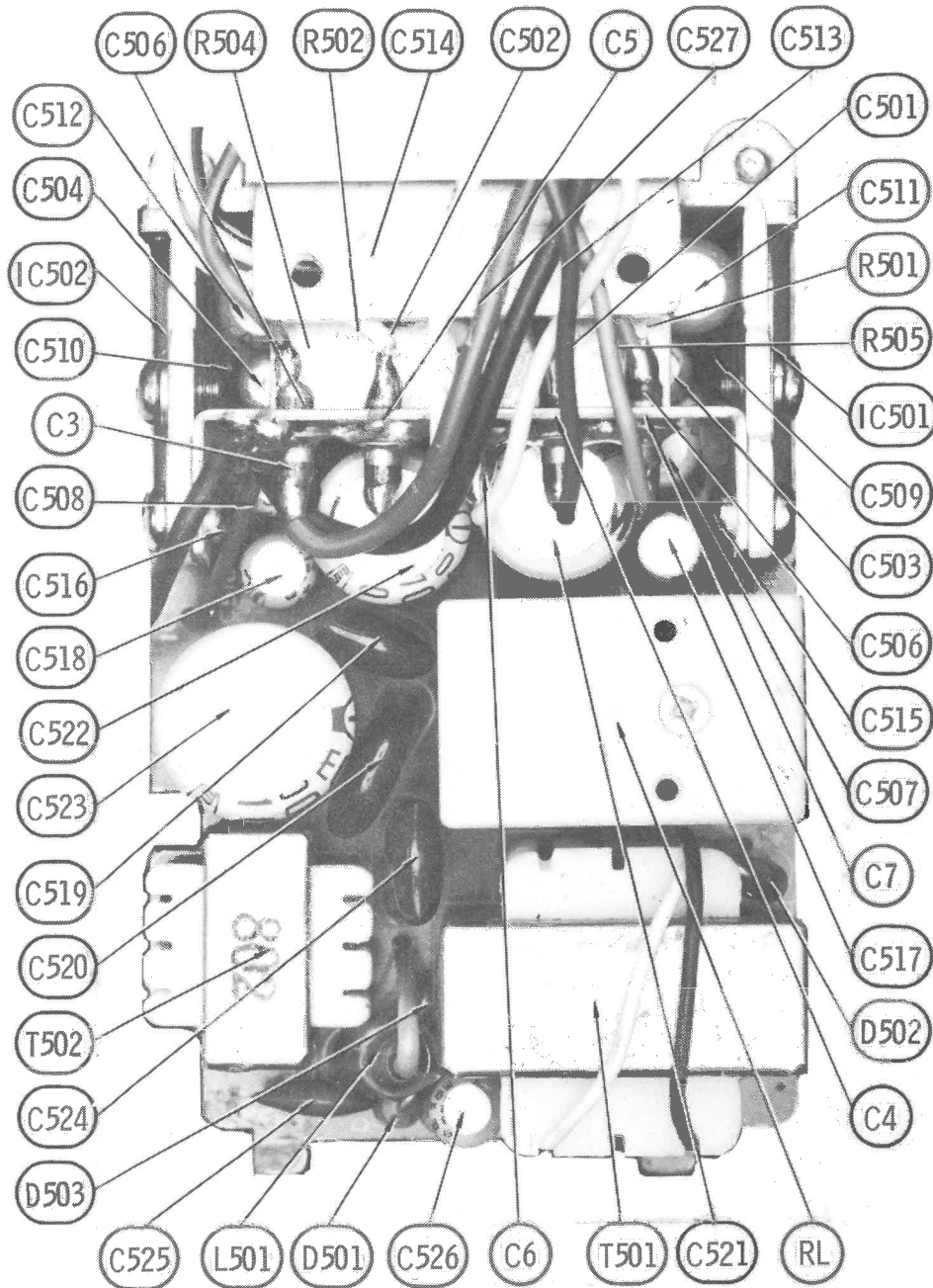
ROYCE MODEL 1-617



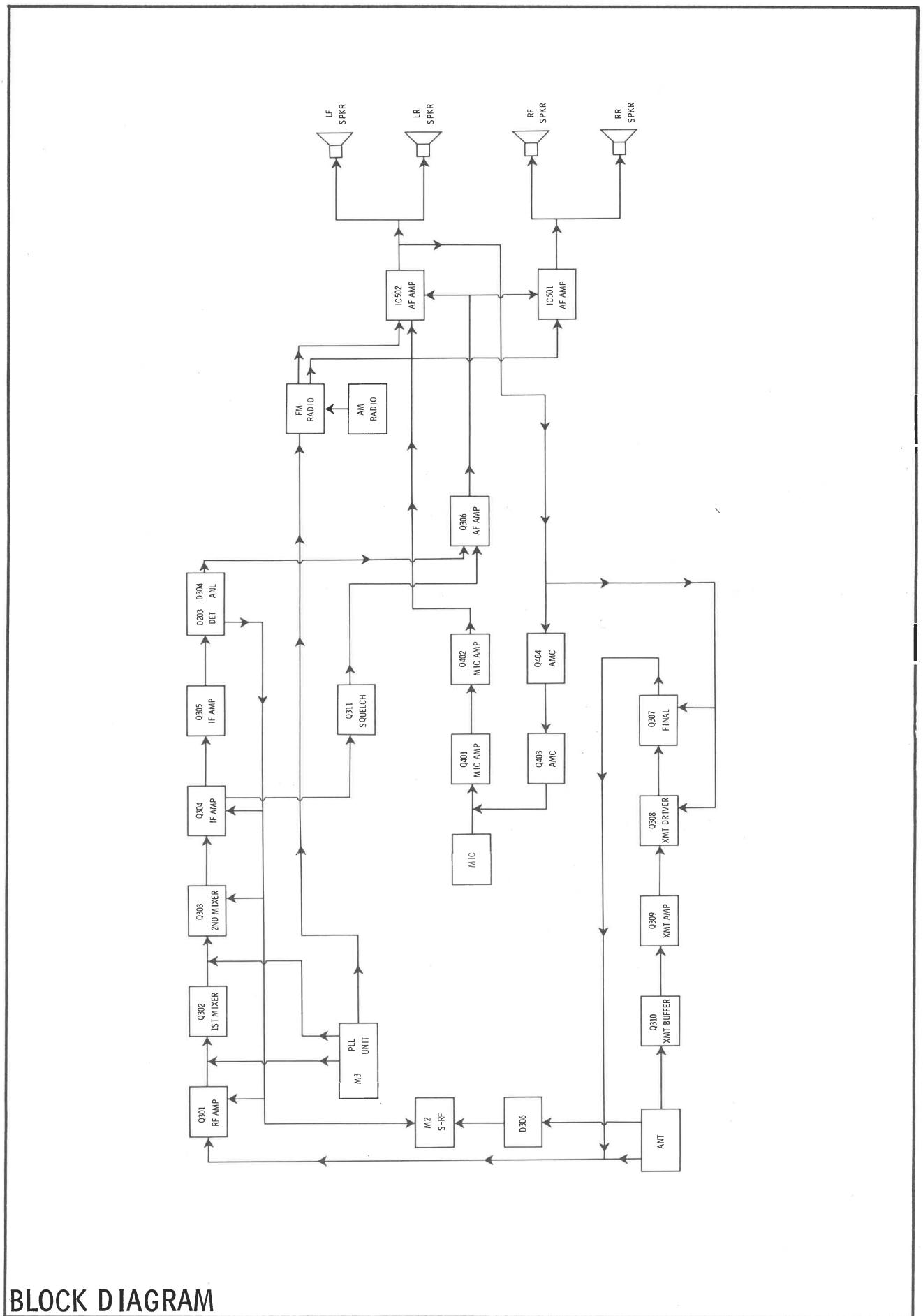
CH. SELECTOR BOARD



POWER SUPPLY BOARD



POWER SUPPLY BOARD



BLOCK DIAGRAM

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded) 23AWG	BELDEN No. 9471 (5')
(braided)	BELDEN No. 8401		BELDEN No. 8497 (6')
Speaker Cable (available in 4 colors)	BELDEN No. 8782		BELDEN No. 9472 (7-1/2')
Bonding Strap	BELDEN No. 8672	28AWG	BELDEN No. 9466 (6')
AC Power Cord	(6') BELDEN No. 17106	31AWG	BELDEN No. 9468 (10')
	(9') BELDEN No. 17109	4-conductor (unshielded) 23AWG	BELDEN No. 8415 (6')
		5-conductor (1 shielded) 28AWG	BELDEN No. 9467 (6')
			BELDEN No. 9465 (7-1/2')

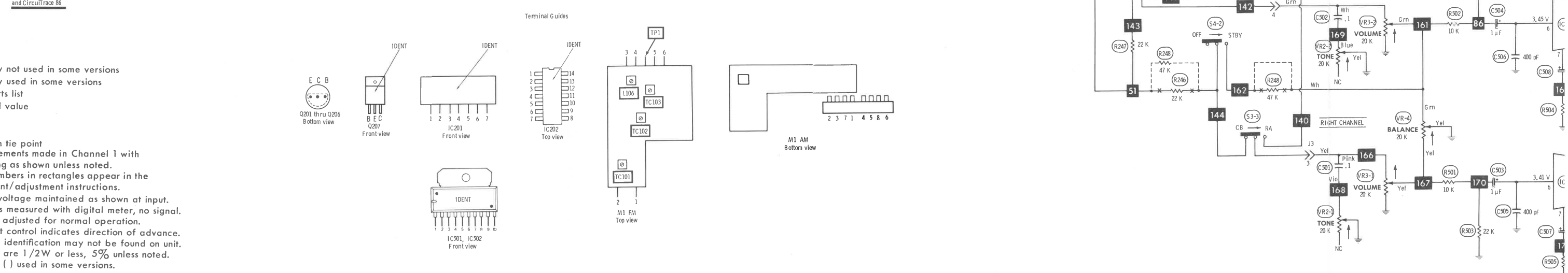
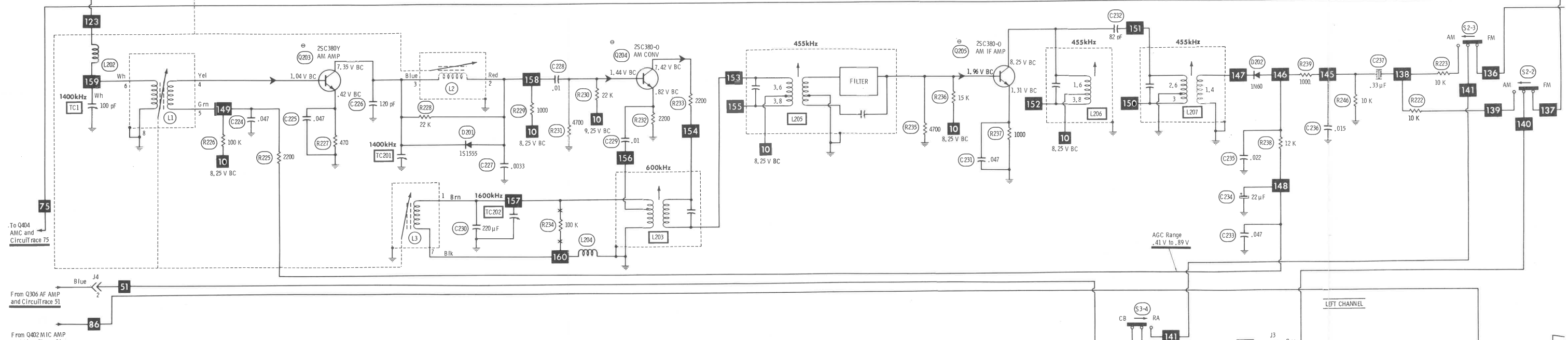
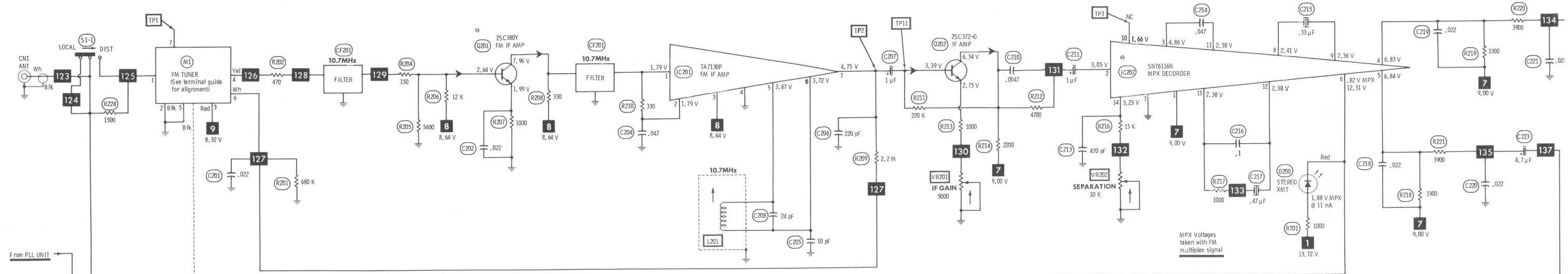
SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. 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.
D201	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D202	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D203	02Z6, 2A											
D204	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D301	1S32		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D302	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D303	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D304	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D305	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D306	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D307	1S1888		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	ZEN-430
D401	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D501	1S1888		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	ZEN-430
D502	1S1888		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	ZEN-430
D503	1S1888		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	ZEN-430
IC201	TA7130P								ECG1234			
IC202	SN76115N		GEIC-35	PTC735	HEPC6096P	RE 334-IC	SK3160	TVCM-73	ECG801	MC1310P	WEP2075	
	TA7157P		GEIC-35	PTC735	HEPC6096P	RE 334-IC	SK3160	TVCM-73	ECG801	MC1310P	WEP2075	
IC501	TA7205P		GEIC-179	PTC780		RE 357-IC	SK3231	TVCM-81	ECG1155	TA7205P	WEP949	
IC502	TA7205P		GEIC-179	PTC780		RE 357-IC	SK3231	TVCM-81	ECG1155	TA7205P	WEP949	
Q201	2SC380Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC394	WEP394	ZEN-114
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q202	2SC372-0		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC372		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q203	2SC380Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC394	WEP394	ZEN-114
Q204	2SC380-0		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC394	WEP394	ZEN-114
	2SC380		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC380	WEP380	ZEN-127
Q205	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC394	WEP394	ZEN-114
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q206	2SC372-0		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC372Y		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q207	2SC372		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC1983		GE-66	PTC167	HEPS5027	RE 21	SK3041	RT-197	ECG152		WEP745	
Q301	2SD235Y		GE-66	PTC154	HEPS3061	RE 21	SK3054	RT-197	ECG152	2SD235	WEP745	
	2SC535C		GE-86	PTC132*	HEPS0016*	RE 9*	SK3018*	RT-134	ECG229*	2SC535	WEP535	121-881
	2SC535		GE-86	PTC132*	HEPS0016*	RE 9*	SK3018*	RT-134	ECG229*	2SC535	WEP535	121-881
	2SC535A		GE-86	PTC132*	HEPS0016*	RE 9*	SK3018*	RT-134	ECG229*	2SC535	WEP535	121-881
Q302	2SC535B		GE-86	PTC132*	HEPS0016*	RE 9*	SK3018*	RT-134	ECG229*	2SC535	WEP535	121-881
	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC394	WEP394	ZEN-114
Q303	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC394	WEP394	ZEN-114
Q304	2SC380Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q305	2SC380Y		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q306	2SC372-0		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC372		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q307	2SC1678(12)		GE-322	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	

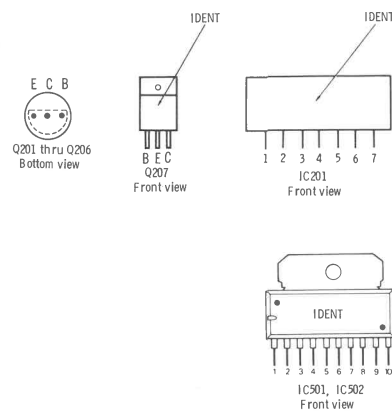
ROYCE MODEL 1-617

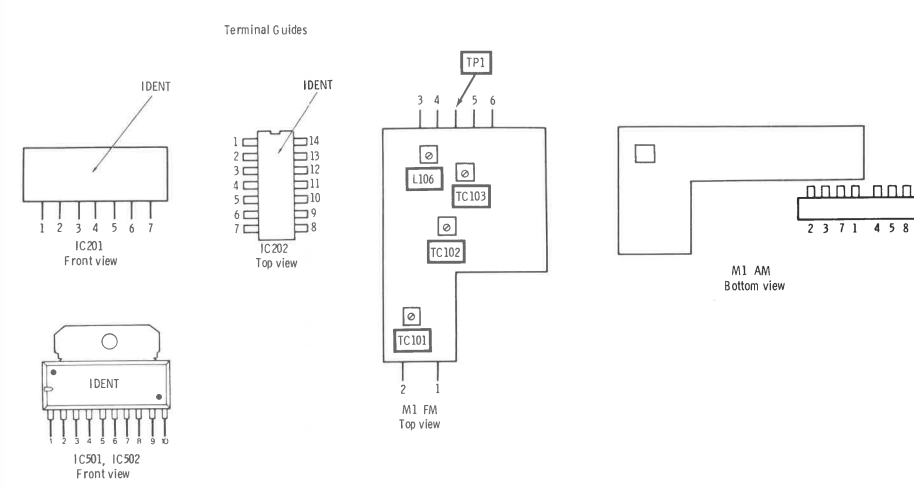
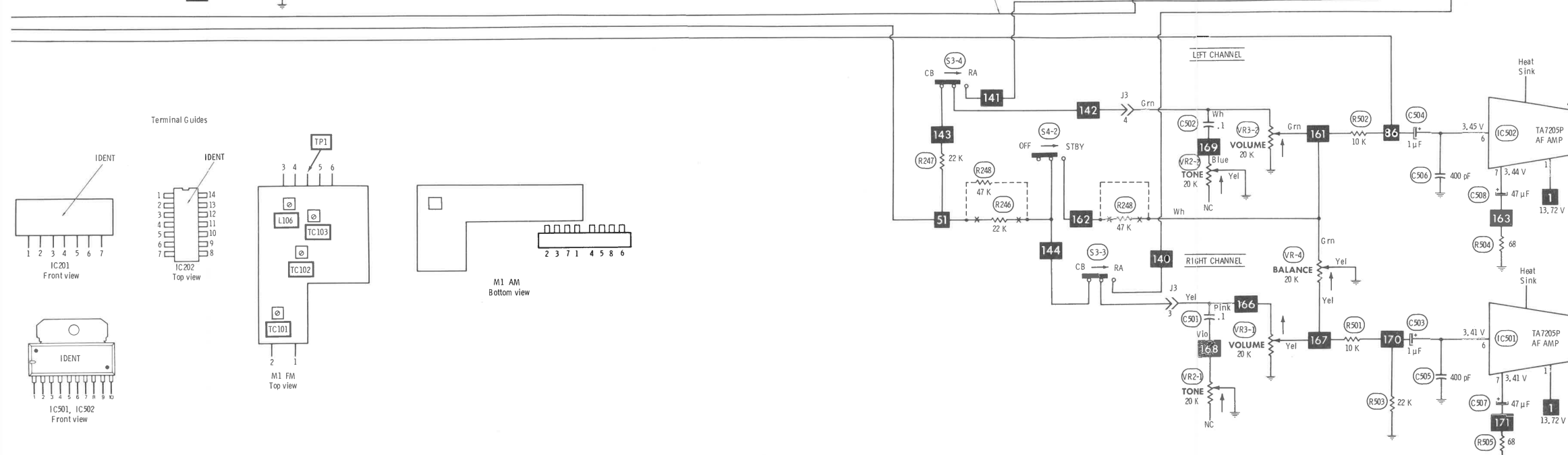
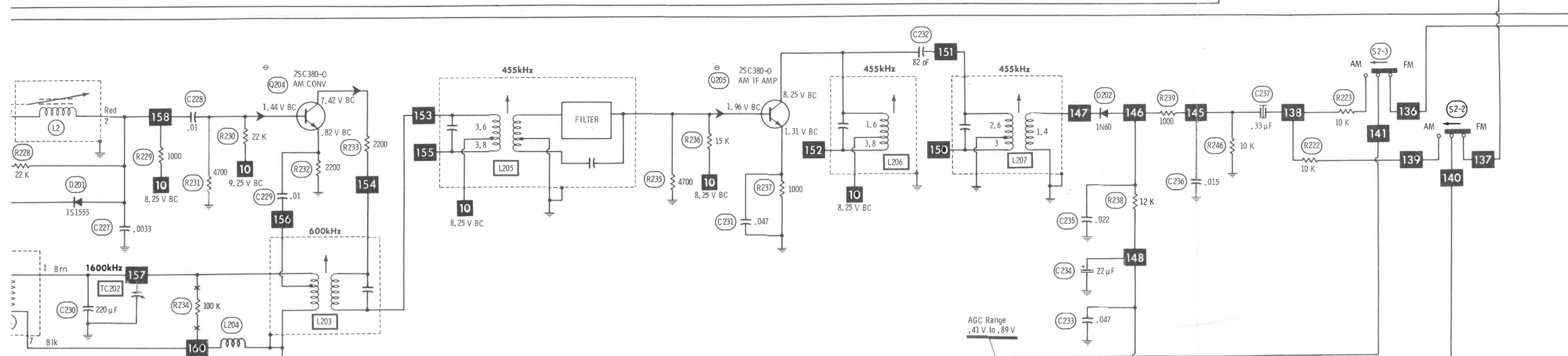
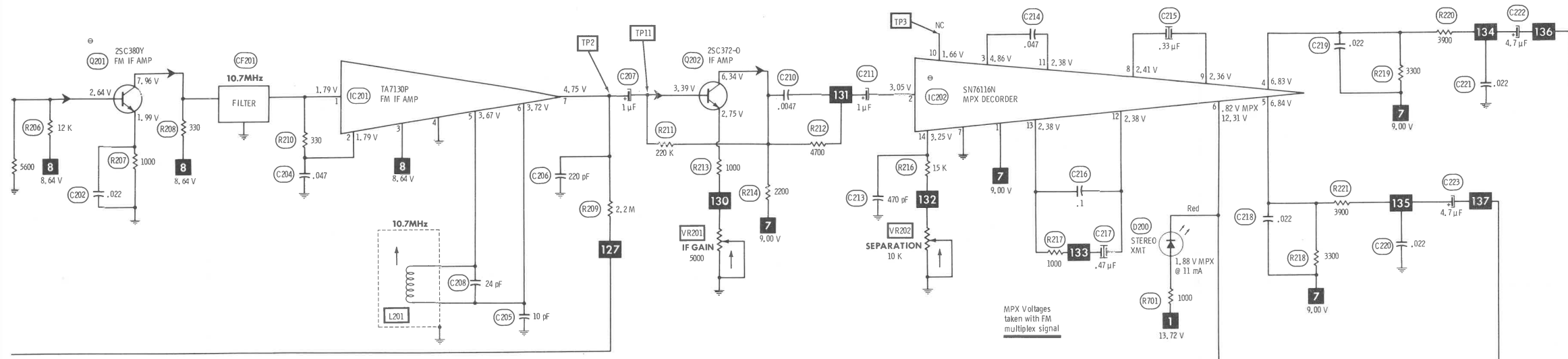






- ✱ Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See parts list
- ✱ Nominal value
- ⊕ Ground
- ⊕ Chassis
- ▽ Common tie point
- Measurements made in Channel 1 with switching as shown unless noted.
- Item numbers in rectangles appear in the alignment/adjustment instructions.
- 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.





PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results) (cont)

ITEM No.	TYPE No.	MFR. 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.
Q308	2SC495T		GE-270	PTC180		RE 209	SK3253	RT-162	ECG295	2SC1226	WEP913	ZEN-209
Q309	2SC388A		GE-61*	PTC101*	HEPS0020*	RE 9	SK3018*	RT-308	ECG107	2SC735	WEP535	ZEN-127
	2SC383		GE-213	PTC121*	HEPS5026*	RE 192	SK3245	RT-107A	ECG199	2SC373	WEP66	ZEN-127
Q310	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC394Y		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*	2SC394	WEP394	ZEN-114
Q311	2SA562Y		GE-269	PTC103*	HEPS0012*	RE 197*	SK3114	RT-106	ECG290	2SA562	WEP911	121-986
	2SA562		GE-269	PTC103*	HEPS0012*	RE 197*	SK3114	RT-106	ECG290	2SA562	WEP911	121-986
Q401	2SC372-0		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q402	2SC372-0		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q403	2SA562Y		GE-269	PTC103*	HEPS0012*	RE 197*	SK3114	RT-106	ECG290	2SA562	WEP911	121-986
	2SA561Y		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-103A*	ECG159*		WEP62*	121-878*
	2SA642R		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-126A*	ECG159*		WEP62*	
	2SA642V		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-126A*	ECG159*		WEP62*	
Q404	2SA562Y		GE-269	PTC103*	HEPS0012*	RE 197*	SK3114	RT-106	ECG290	2SA562	WEP911	121-986
	2SA561Y		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-103A*	ECG159*		WEP62*	121-879*
	2SA642R		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-126A*	ECG159*		WEP62*	
	2SA642V		GE-82*	PTC103*	HEPS0019*	RE 26*	SK3114*	RT-126A*	ECG159*		WEP62*	

* Lead Configuration may vary from original.
(12) 10 watt @ 3.0 Amp.

ROYCE MODEL 1-617

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C10	1000 10V		PC1000-16	VTT1000L10	QV1-179	EV-1160
C207	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C211	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C212	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C215	.33 50V NP					
C217	.47 50V NP					
C222	4.7 50V		PC5-50	VTT4R7B50	QV1-29	EV-1519
C223	4.7 35V		PC5-50	VTT4R7B50	QV1-29	EV-1519
C234	22 10V		PC25-25	VTT22B16	QV1-55	EV-1224
C237	.33 50V NP					
C238	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C240	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C313	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C323	4.7 35V		PC5-50	VTT4R7B50	QV1-29	EV-1519
C332	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C335	4.7 35V		PC5-50	VTT4R7B50	QV1-29	EV-1519
C337	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C357	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C404	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C408	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C409	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C412	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C413	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C415	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C503	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C504	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C507	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C508	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C511	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C512	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C517	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C518	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C521	470 10V		PC500-16	VTT470K16	QV1-149	EV-1150
C522	470 10V		PC500-16	VTT470K16	QV1-149	EV-1150
C523	1000 16V		PC1000-16	VTT1000L16	QV1-183	EV-1260
C526	2.2 50V NP		WNP2-50	TCN502A	QEN1-37	TVAN-1301.1

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	.001		DD-102		GP210		10TS-D10
C2	.001		DD-102		GP210		10TS-D10
C3	.001						
C4	.001						
C5	.001						
C6	.001						
C7	.001						
C8	.001						
C9	.001						
C201	.022		UK25-223				HY-725
C202	.022		UK25-223				HY-725
C203	.022 100V 10%					QFT2-127	1FT-S22
C204	.047		UK25-503		MAG2515		HY-735
C205	10 N470				*		10TCT-Q10
C206	220		DTZ-220		*		10TCC-T22
C208	24 N470 5%				*		10TCT-Q25
C209	.047		UK25-503		MAG2515		HY-735
C210	.0047 100V 10%					QFT2-63	1FT-D47
C213	470 5%			CD15FD471J03	SX347	QW1-42	MMA-471
C214	.047 100V 10%					QFT2-171	1FT-S47
C216	.1 100V 10%					QFT2-215	1FT-P10
C218	.022 100V 10%					QFT2-127	1FT-S22
C219	.022 100V 10%					QFT2-127	1FT-S22
C220	.022 100V 10%					QFT2-127	1FT-S22
C221	.022 100V 10%					QFT2-127	1FT-S22
C224	.047		UK25-503		MAG2515		HY-735
C225	.047		UK25-503		MAG2515		HY-735
C226	120 N150 10%				*		10TCP-T12
C227	.0033 100V 10%					QFT2-43	1FT-D33
C228	.01 100V 10%					QFT2-91	1FT-S10
C229	.01 100V 10%					QFT2-91	1FT-S10
C230	220 10%		DTZ-220				10TCC-T22
C231	.047		UK25-503		MAG2515		HY-735
C232	82 N750 5%				CN7482		10TCU-Q82
C233	.047		UK25-503		MAG2515		HY-735
C235	.022 100V 10%					QFT2-127	1FT-S22
C235	.015 100V 10%					QFT2-105	1FT-S15
C239	.047		UK25-503		MAG2515		HY-735
C241	.022		UK25-223		*		HY-725
C301	33 N220 5%						10TCR-Q33
C302	300		DD-301	GP300	GP330		10TS-T30
C303	330		DD-331	GP330	GP333		10TS-T33
C304	200		DTZ-200				10TCC-T20
C305	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C306	.01		UK50-103		MAG5011		
C307	22 N220 10%				*		10TCR-Q22
C308	.01		UK50-103		MAG5011		
C309	.01		UK50-103		MAG5011		
C310	20 N220 10%				*		10TCR-Q20
C311	.022		UK25-223				HY-725
C312	.047		UK25-503		MAG2515		HY-735
C314	.022		UK25-223		*		HY-725
C315	27 N220 10%				*		10TCR-Q27
C316	.01		UK50-103		MAG5011		
C317	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C318	.022		UK25-223				HY-725
C319	.022		UK25-223		*		HY-725
C320	27 N220 10%						10TCR-Q27
C321	.022		UK25-223				HY-725
C322	.022		UK25-223				HY-725
C324	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C325	.047		UK25-503		MAG2515		HY-735
C326	.047		UK25-503		MAG2515		HY-735
C327	.022		UK25-223				HY-725
C328	.022		UK25-223				HY-725
C329	.047		UK25-503		MAG2515		HY-735
C330	.022		UK25-223				HY-725
C331	.039 100V 10%					QFT2-159	1FT-S39
C333	.022 100V 10%					QFT2-127	1FT-S22
C334	.01 100V 10%					QFT2-91	1FT-S10
C336	.01 100V 10%					QFT2-91	1FT-S10
C338	.022		UK25-223				HY-725
C339	100		DTZ-100	NP0100	CN0310		10TCC-T10
C340	47 N220 5%				*		10TCR-Q47

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C341	.022		UK25-223		*		HY-725
C342	27 N220 10%		UK25-223				10TCR-Q27
C343	.022		UK25-223		*		HY-725
C344	.022						HY-725
C345	22 N220 10%						10TCR-Q22
C346	.022		UK25-223				HY-725
C347	.022		UK25-223				HY-725
C348	220		DTZ-220				10TCC-T22
C349	150		DTZ-150				10TCC-T15
C350	5		DTZ-4R7	NP04P7	CN0315		10TCC-V47
C341	150		DTZ-150	NP04P7	CN0315		10TCC-T15
C352	5		DTZ-4R7		CN0547		10TCC-V47
C353	.022		UK25-223		CN0315		HY-725
C354	150		DTZ-150		MAG5011		10TCC-T15
C355	.01		UK50-103				
C356	220		DTZ-220				10TCC-T22
C401	.022 100V 10%					QFT2-127	1FT-S22
C402	.01 100V 10%					QFT2-91	1FT-S10
C403	330		DD-331	GP330	GP333		10TS-T33
C405	.022 100V 10%					QFT2-127	1FT-S22
C406	.022 100V 10%					QFT2-127	1FT-S22
C407	.0047 100V 10%					QFT2-63	1FT-D47
C410	.01 100V 10%					QFT2-91	1FT-S10
C414	.0047 100V 10%					QFT2-63	1FT-D47
C501	.1 100V 10%					QFT2-215	1FT-P10
C502	.1 100V 10%					QFT2-215	1FT-P10
C505	400 5%			CD15FD391J03	SX339	QW1-41	MMA-391
C506	400 5%			CD15FD391J03	SX339	QW1-41	MMA-391
C509	33 NPO 5%		DTZ-33	NP033	CN0433		10TCC-Q33
C510	33 NPO 5%		DTZ-33	NP033	CN0433		10TCC-Q33
C513	.1 100V 10%					QFT2-215	1FT-P10
C514	.1 100V 10%					QFT2-215	1FT-P10
C515	50		DTZ-50	NP050	CN0450		10TCC-Q50
C516	50		DTZ-50	NP050	CN0450		10TCC-Q50
C519	.1 100V 10%					QFT2-215	1FT-P10
C520	.1 100V 10%					QFT2-215	1FT-P10
C524	.1 100V 10%					QFT2-215	1FT-P10
C525	.047				MAG2515		HY-735
C527	.1 100V 10%		UK25-503			QFT2-215	1FT-P10

*Not normally in distributor's stock. Available thru distributor on order to manufacturer.

ROYCE MODEL 1-617

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR1	Squelch	5000	09-067				
VR2L	Tone-Left	20K	09-021 (18)				
VR2R	Tone-Right	20K					
VR3-1	Volume-Left	20K					
VR3-2	Volume-Right	20K					
VR4	Balance	20K					
VR5-1	Fader-L	50 2W					
VR5-2	Fader-R/	50 2W					
	Switch						
VR201	IF Gain	5000	01-513				X260R502B (2)
VR202	Separation	10K	01-515				X260R103B (2)
VR203	Voltage	100	01-502				
VR301	Power Meter	50K	01-520				X260R503B (2)
VR302	IF Gain	2000	01-511				X260R252B (2)
VR303	Signal Meter	30K	01-519				X260R503B (2)
VR401	AMC	5000	01-513				X260R502B (2)

(2) Cut off one of the end terminals and bend to fit PC board.

(18) Includes VR2L, VR2R, VR3-1, VR3-2, VR4, VR5-1, VR5-2 and S5.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	AM Tuning	(1)			(1) Part of M1
L2	AM Tuning	(1)			
L3	AM Tuning	(1)			
L201	FM IF (10.7MHz)	02-209	10-0107		
L202	Antenna Matching	02-210	E10701-5R6K		
L203	AM Conv. (600kHz)	02-211	R4792		
L204	RF Choke	02-105	LF4-3R3K		
L205	AM IF (455kHz)	02-203	CF22J7		
L206	AM IF (455kHz)	02-178	E-36034		
L207	AM IF (455kHz)	02-165	E-40104	CBS404-4TC	
L301	RF (27MHz)	02-151	2E-16007B		
L302	RF (27MHz)	02-166	3E-45008	CBS824-T	
L303	1st Mixer (10.695MHz)	02-188	1-08006		
L304	1st Mixer (10.695MHz)	02-188	1-08006		
L305	2nd Mixer (455kHz)	02-178	E-36034		
L306	IF (455kHz)	02-172	2E-48012		
L307	IF (455kHz)	02-165	E-40104	8811	
L308	RF Choke	02-154	3E-29020	CBS404-4TC	
L307	RF Choke	02-155	3E-29021		
L310	XMT Final	02-153	3E-29041	9330-32	
L311	XMT Driver	02-212	E-36514		
L312	XMT Amp (27MHz)	02-161	E-36512		
L313	XMT Buffer (27MHz)	02-190	1-08008B		
L314	XMT Buffer (27MHz)	02-191	1-08009		
L315	XMT Buffer (27MHz)	02-191	1-08009		
L316	TVI Trap (54MHz)	02-200	10-0103		
L317	Ant. Matching (27MHz)	02-194	1-08012		
L318	Pi Filter	02-195	1-08013		
L319	Final Loading (27MHz)	02-213	17-7275		
L501	RF Choke	02-196	1-08016		

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T502	1200mA	.232	1.12mH	02-199 802 (1)			(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T501	32	4.5	02-201 0104 (1)	TR845		(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	
F1	3A Quick Acting			AGC	150145	312003	150145	F63-2	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MICROPHONE

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	21-007A	18-032	18-034	18-010	18-105	1	2	3	NC	NC	2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF201	Filter	01-902	10.7MHz
CF202	Filter	01-902	10.7MHz
CF301	Filter	01-901	455kHz
CN1	Connector	10-018	Radio Antenna
CN2	Connector	10-027	CB Antenna
D200	LED		TX-ST
LD1	LED		Channel Readout (Tens) 1.82 Volts @ 8mA per segment
LD2	LED		Channel Readout (Units) 1.82 Volts @ 8mA per segment
M2	Meter	05-018	S/R
M3	Module	12-033D	PLL Unit
PL1	Lamp	07-005	Dial 13.72V @ 80mA
PL2	Lamp	07-009	Meter 9.00V @ 31mA
RL	Relay	15-002	
S1	Switch	09-160	LOC/DX
S2	Switch	09-160	AM/FM
S3	Switch	09-160	CB/Radio
S4	Switch	09-160	Stand By
S5	Switch		Power (Part of Volume Control)
S7	Switch	09-123	Channel Selector

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

ITEM	PART No.	ITEM	PART No.
Case, Bottom	19-149A	Pushbutton Control Plate	19-311F
Case, Top	19-149	Trim Plate, Rubber	10-211B
Knob, Inner	19-613	Trim Plate	19-211A
Knob, Outer	19-613A	Window, Channel-AM/FM	19-713
Knob, Fader	19-613B	Face Plate, Woodgrain	19-311E
Nosepiece	19-211C		

ROYCE MODEL 1-617

