

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 2701 (I)

HY-GAIN MODEL 2701

MANUFACTURER'S SPECIFICATIONS

General

- Channels all 40 channels in the Citizens Band
(26.965 MHz - 27.405 MHz)
- Antenna impedance 50 ohms, nominal
- Power requirements 11.5 VDC - 14.5 VDC negative or positive
ground
- Compliance type accepted under the FCC Rules, Part 95

Receiver Section

- Circuitry dual conversion superheterodyne with rf
amplifier stage and 455 kHz ceramic filter
- Sensitivity 0.7 μ V for 10 dB (S+N)/N ratio
- Intermediate frequency 1st IF - 10.695 MHz
2nd IF - 455 kHz
- Audio output 3 watts, maximum
- Current drain, receive about 300 mA (no signal)

Transmitter Section

- RF power output 4 watts
- Emission AM, type 6A3
- Spurious response rejection all harmonic and spurious suppression better
than FCC requirements
- Modulation AM, 90% typical
- Current drain, transmit less than 1.2 amp @ 13.8 VDC

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-volt DC input. Connect low sides of test equipment to ground unless specified otherwise. Connect 50-ohm dummy load or antenna before keying transmitter.

Connect Microphone.

Suggested Alignment Tools: GC ELECTRONICS:

L112, T106 thru T1095009

L106, L109, L1109304

L103, L104, T101 thru T105, T1119440

CT1015000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter to TP10 (IC1, Pin 3).	Ch. 19		Check for 10.240MHz.
Input of frequency counter to TP11 (Q108, Base).	Ch. 1	CT101	Adjust for 37.660MHz. Check all channels. (Channel frequency +10.695MHz = frequency on counter).
Input of DC meter to TP8.	Ch. 1	T101	Adjust for 1.5V $\pm$ 0.1 volt.
Input of RF VTVM to TP12 (Q115, Base).	Ch. 19	T111	Adjust for maximum.
Input of frequency counter to TP13 (Q109, Emitter).	Ch. 19, XMT		Check for 10.695MHz.

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.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP14 (Q116, Emitter). 455kHz, 1000Hz @ 30% modulation.	Ch. 19 Squelch Min	T109, T108, T107	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19 Squelch Min	T106, L112, T105, T104	Adjust for maximum output. If necessary, readjust T107, T108, and T109.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 13	RV101	SQUELCH RANGE Set squelch control VR2 fully clockwise. Adjust RV101 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.115MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 13	RV103	SIGNAL METER Adjust RV103 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.

See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
	Ch. 19	L103, L104, T102, T103, L106, L109, L110	Adjust for maximum.
	Ch. 19	L110, L109	Adjust for 4 watts maximum.

TRANSMITTER ADJUSTMENTS

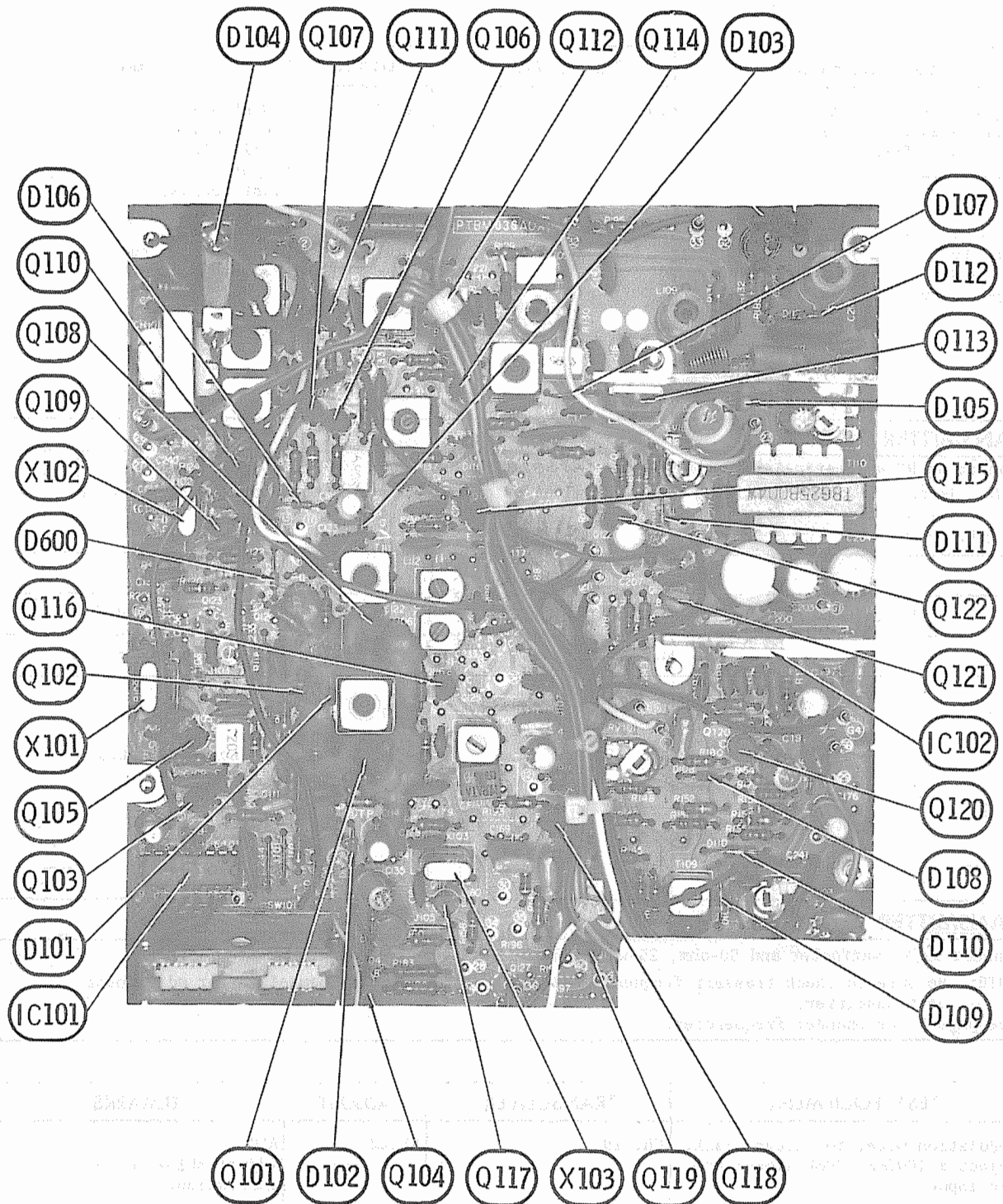
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

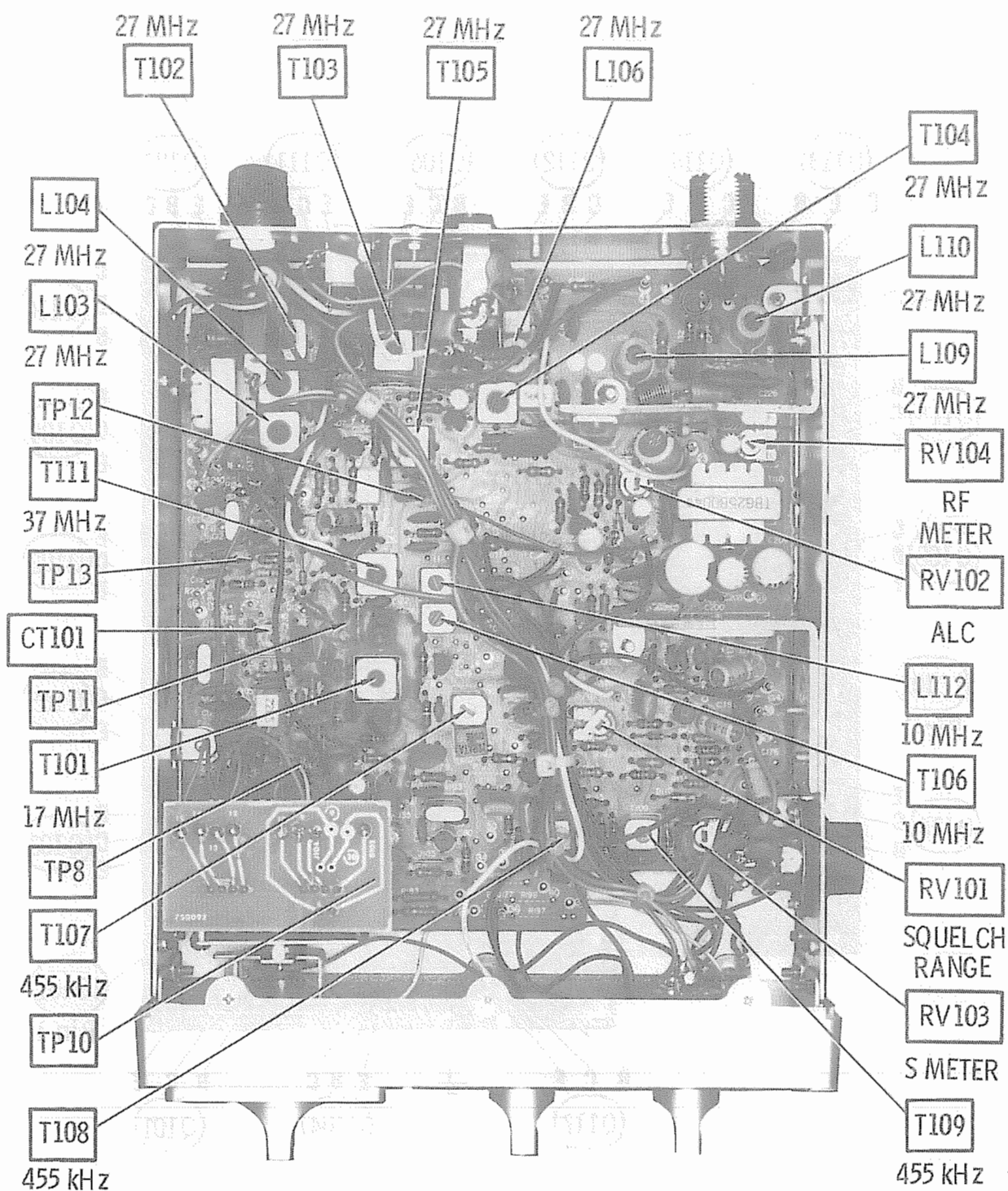
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 1000Hz, 20mV signal at Mic input.	Ch. 19	RV102	ALC Adjust RV102 for 90% modulation.
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.	Ch. 13	RV104	RF PANEL METER Adjust RV104 so that RF panel meter agrees with RF wattmeter.

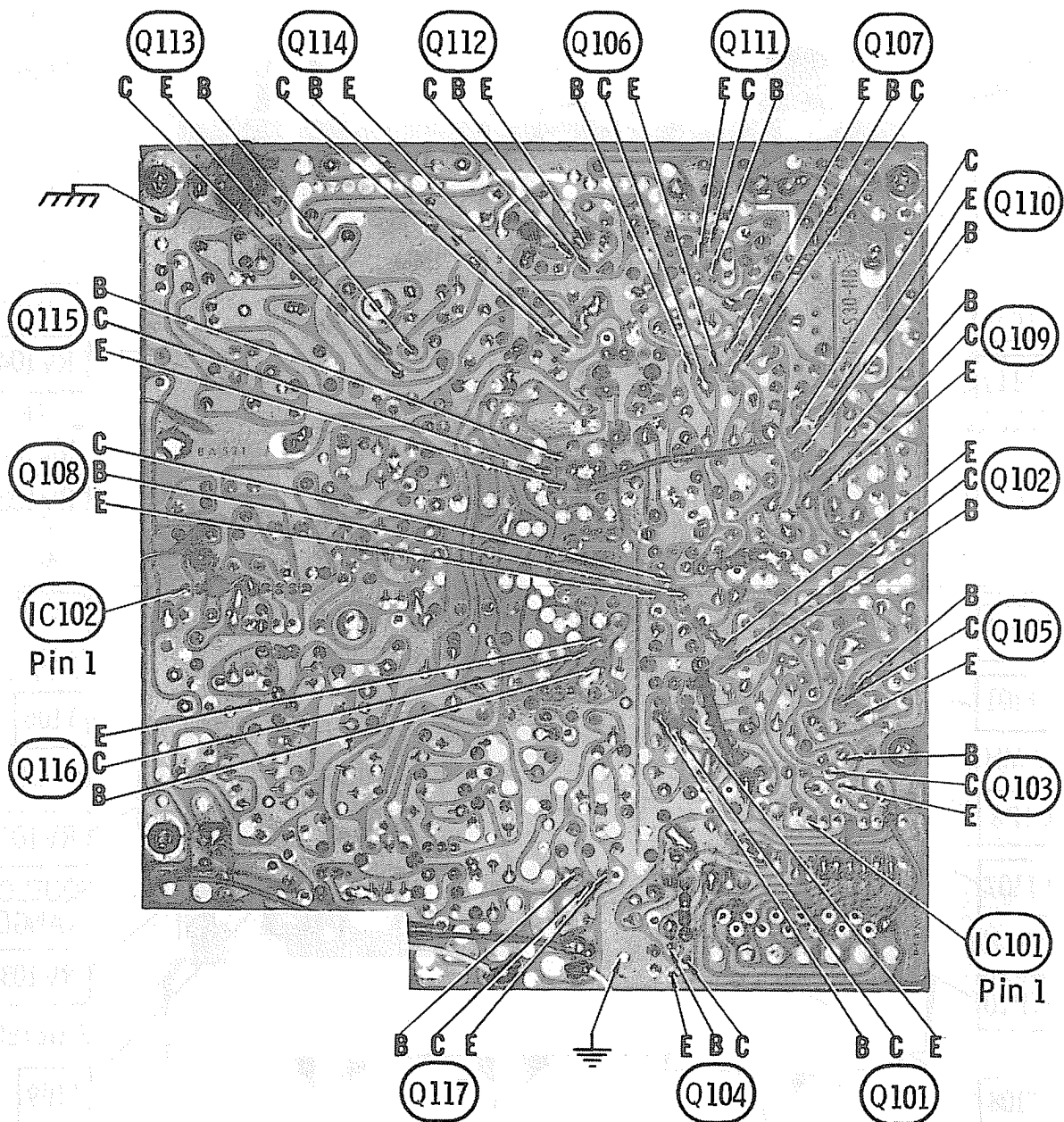
HY-GAIN MODEL 2701



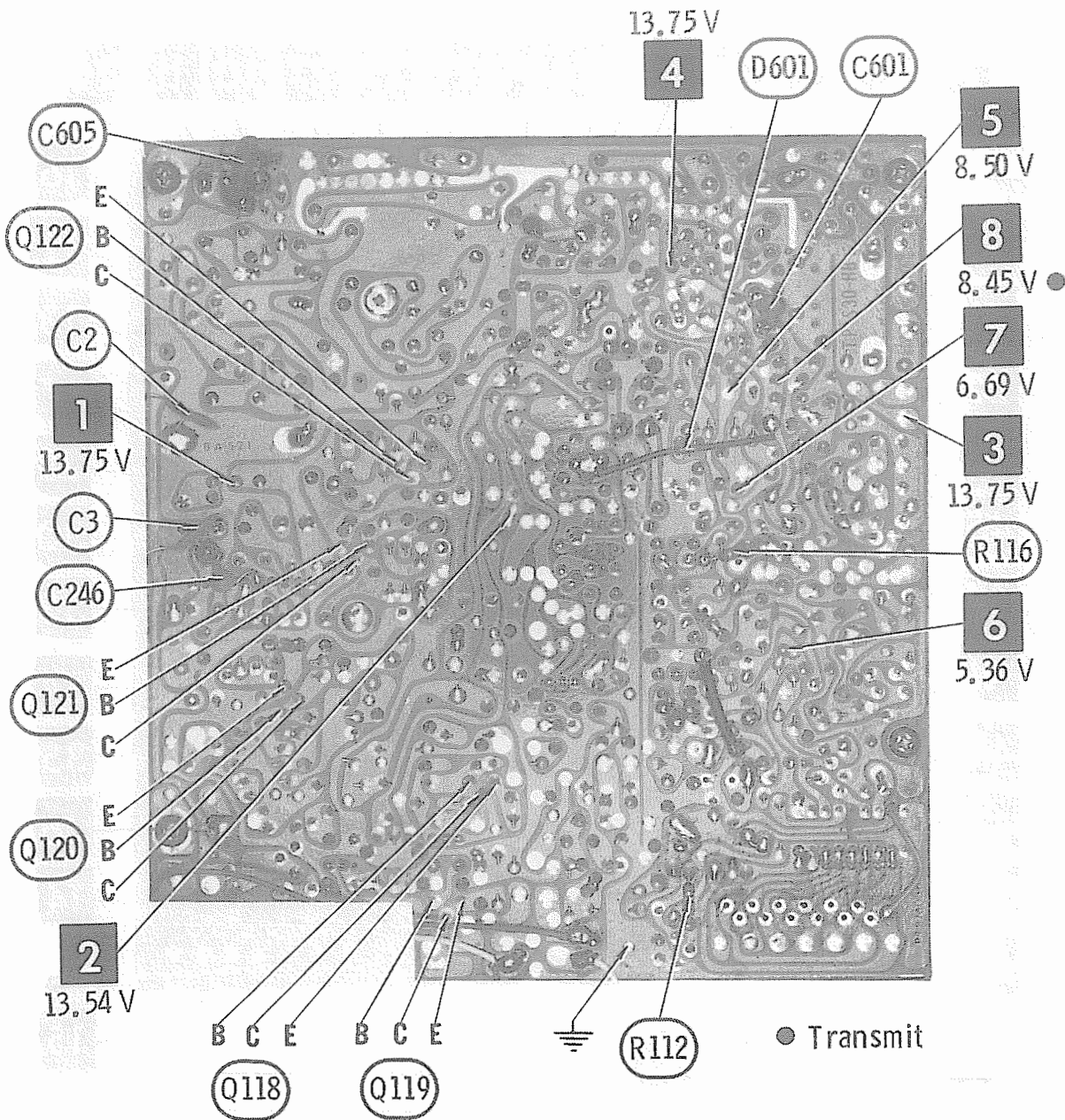
MAIN BOARD



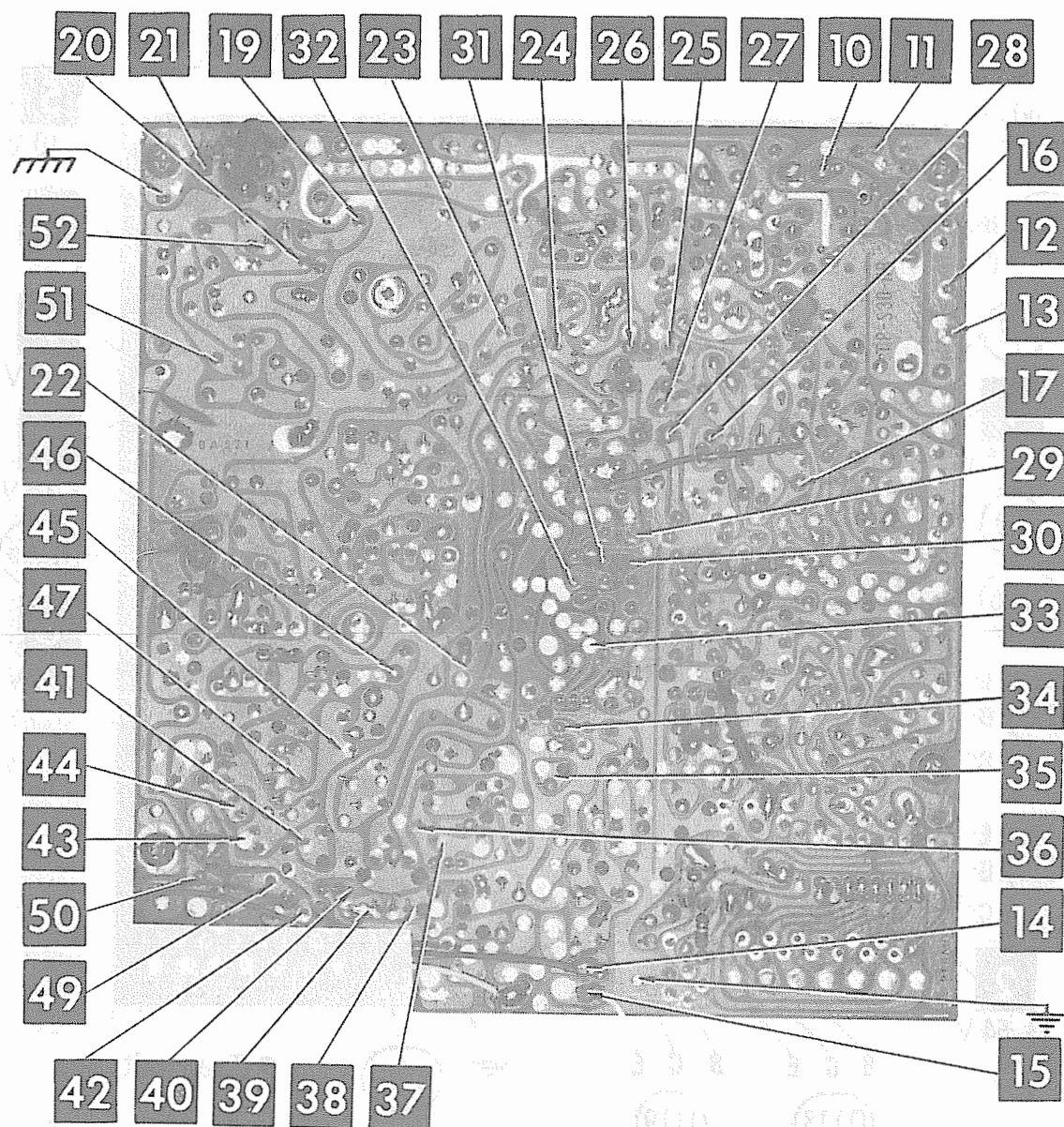
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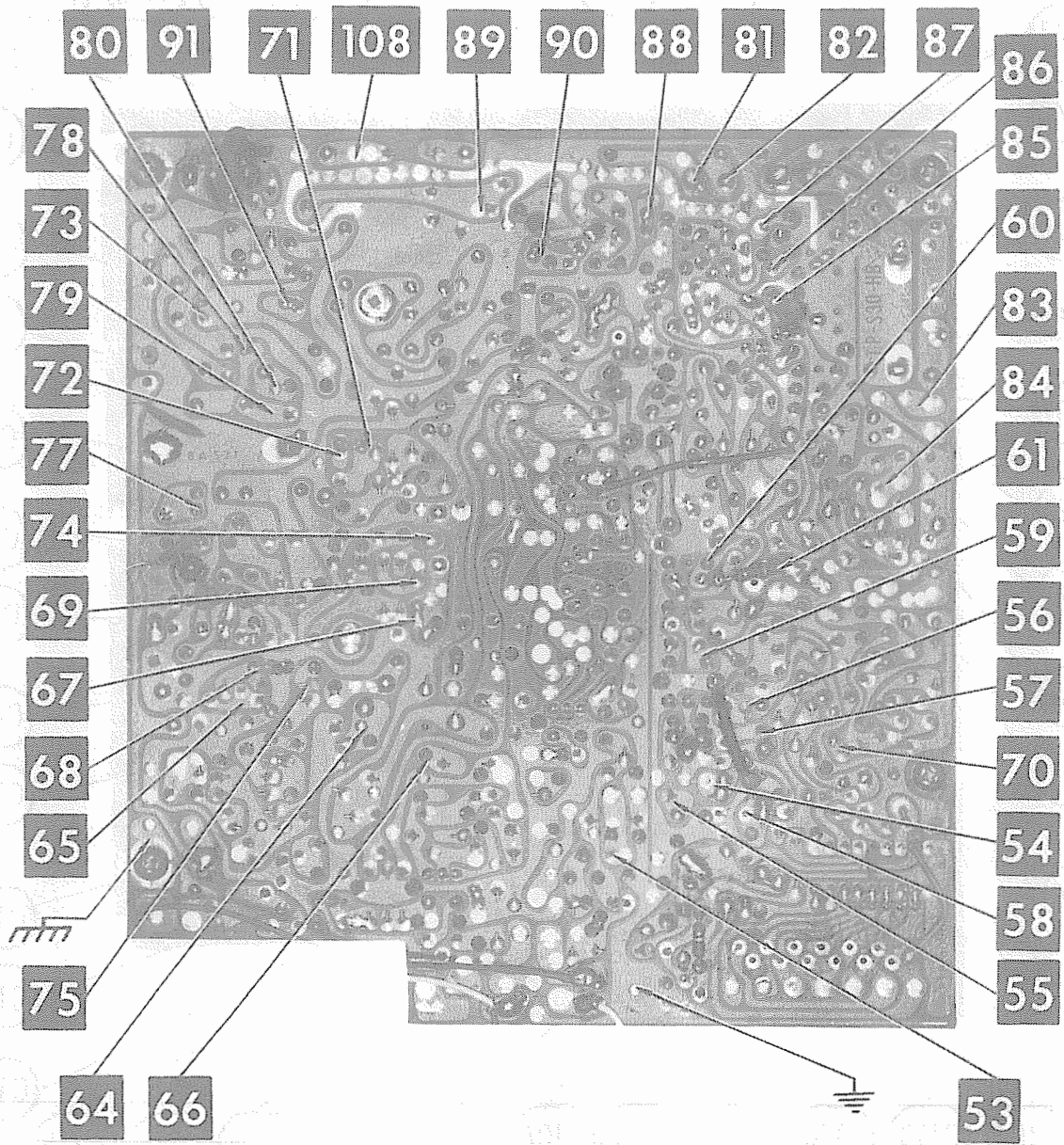
MAIN BOARD



MAIN BOARD

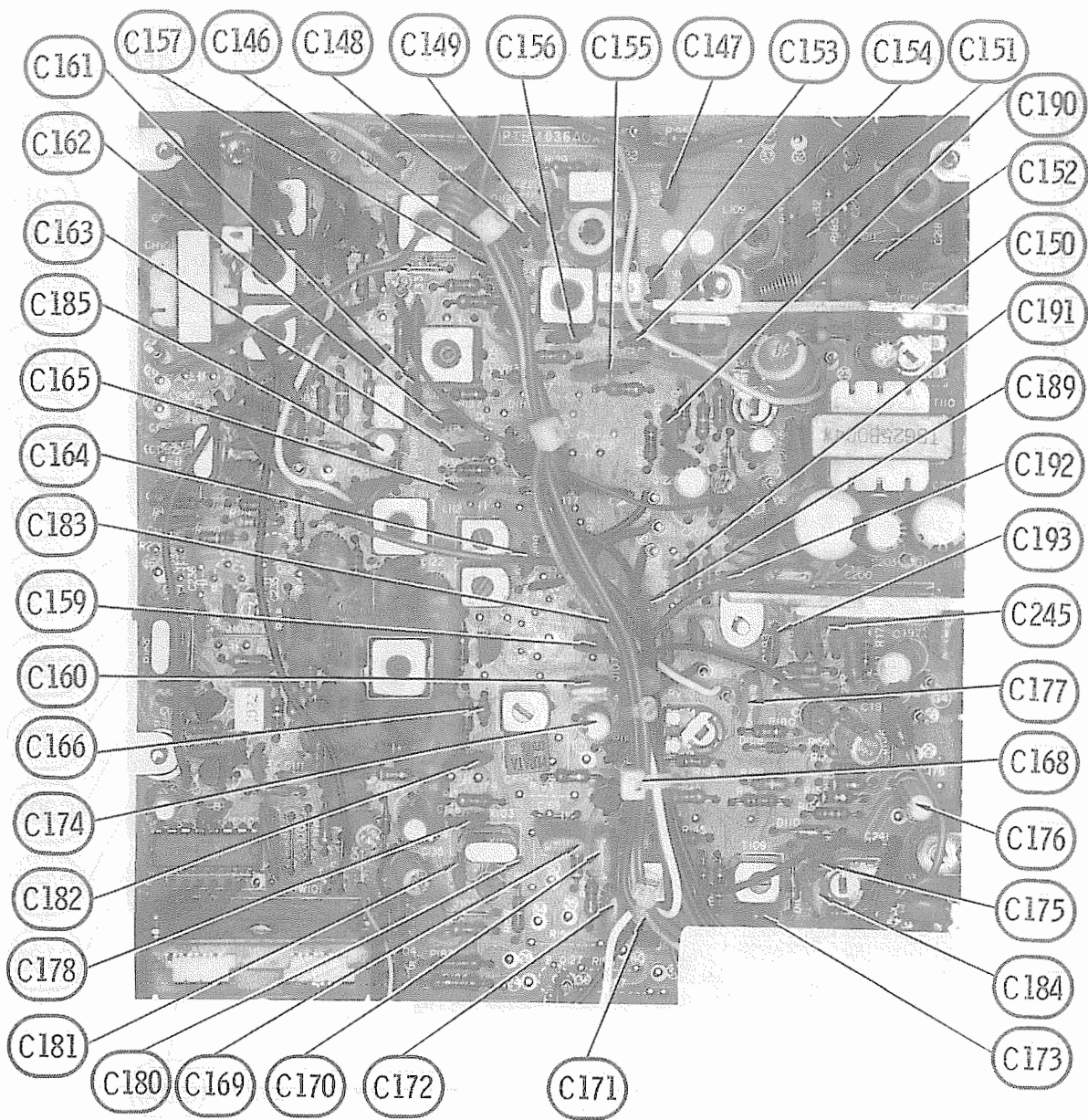


MAIN BOARD

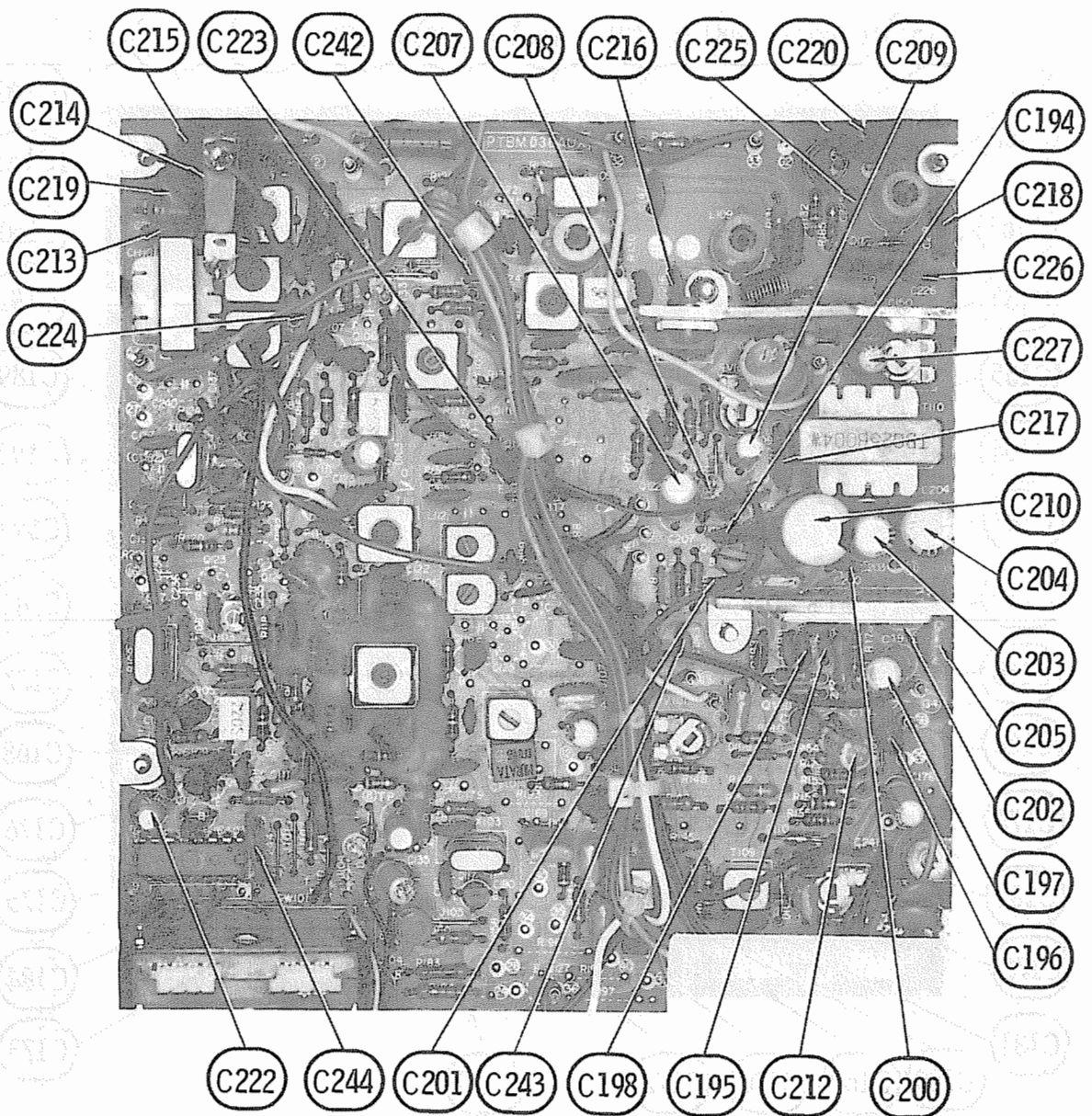


HY-GAIN MODEL 2701

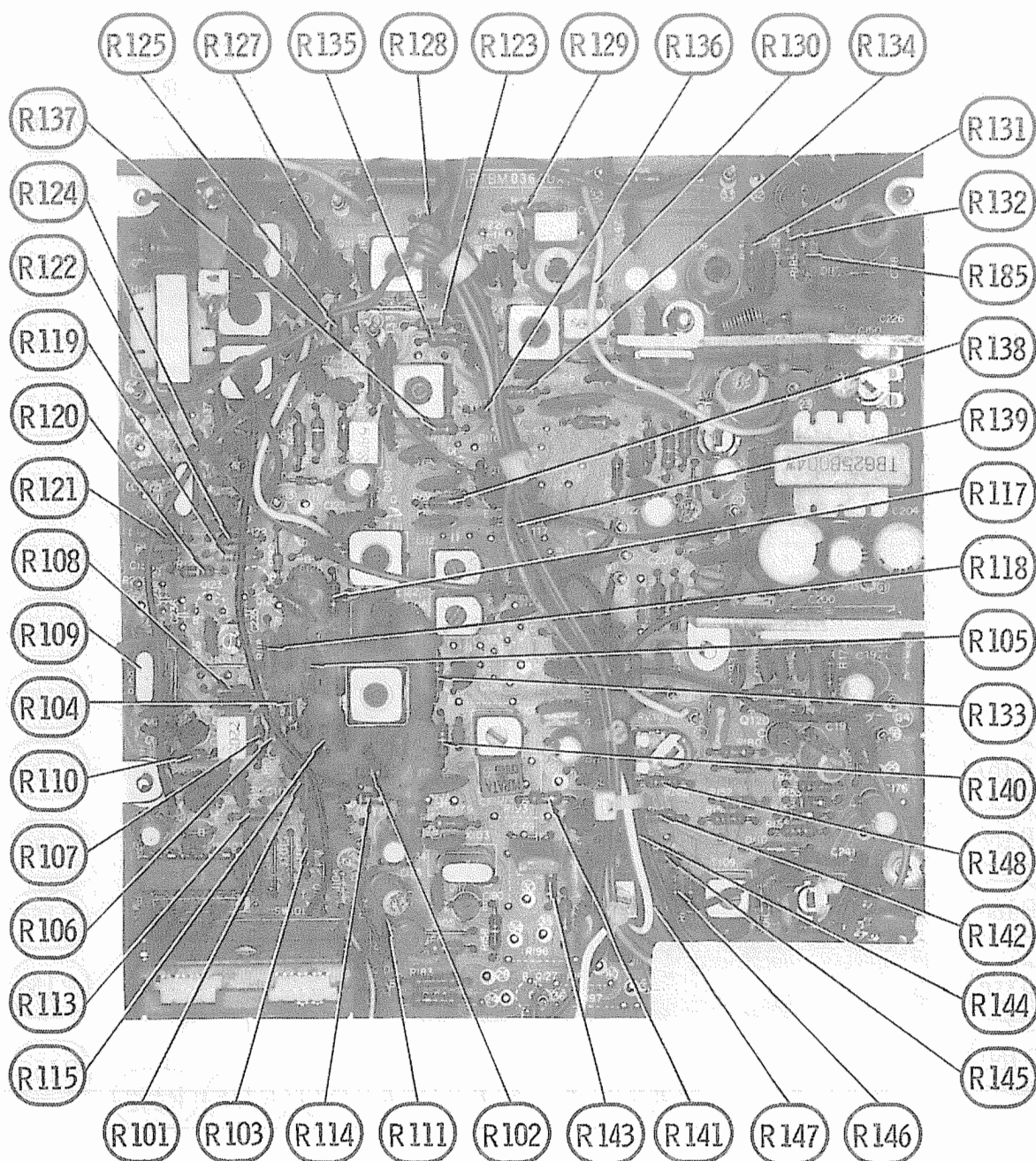
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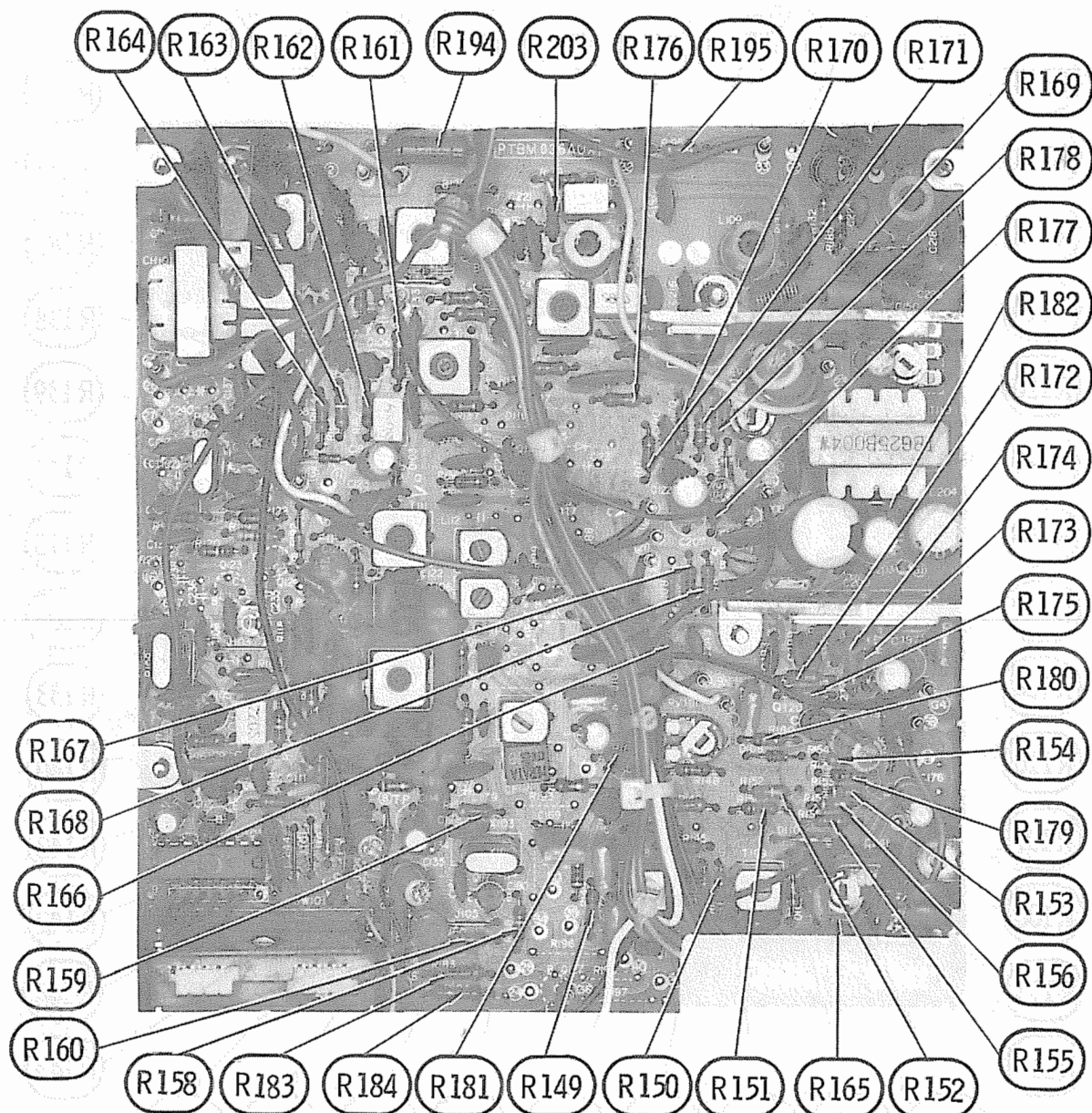
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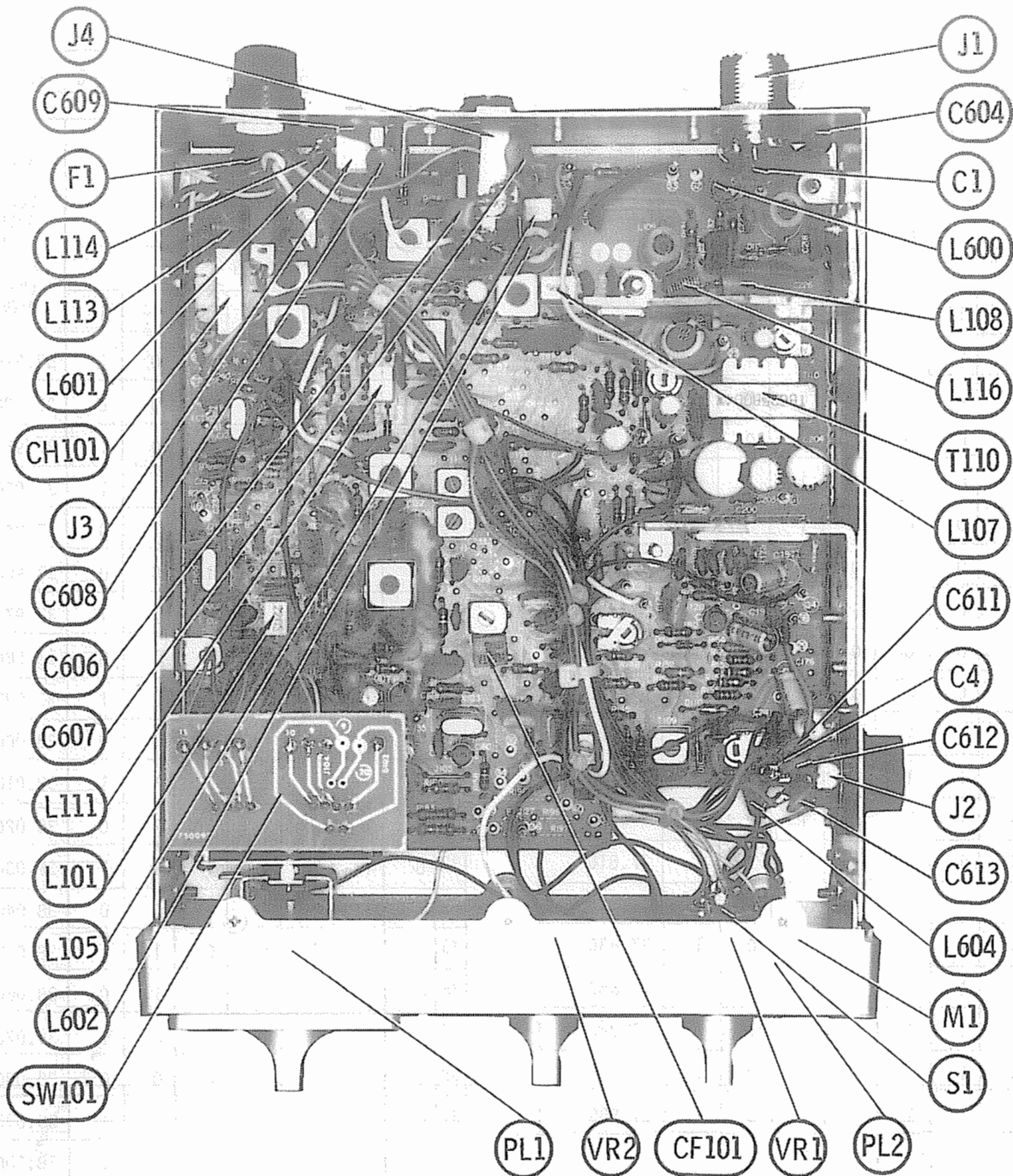
MAIN BOARD



MAIN BOARD



MAIN BOARD

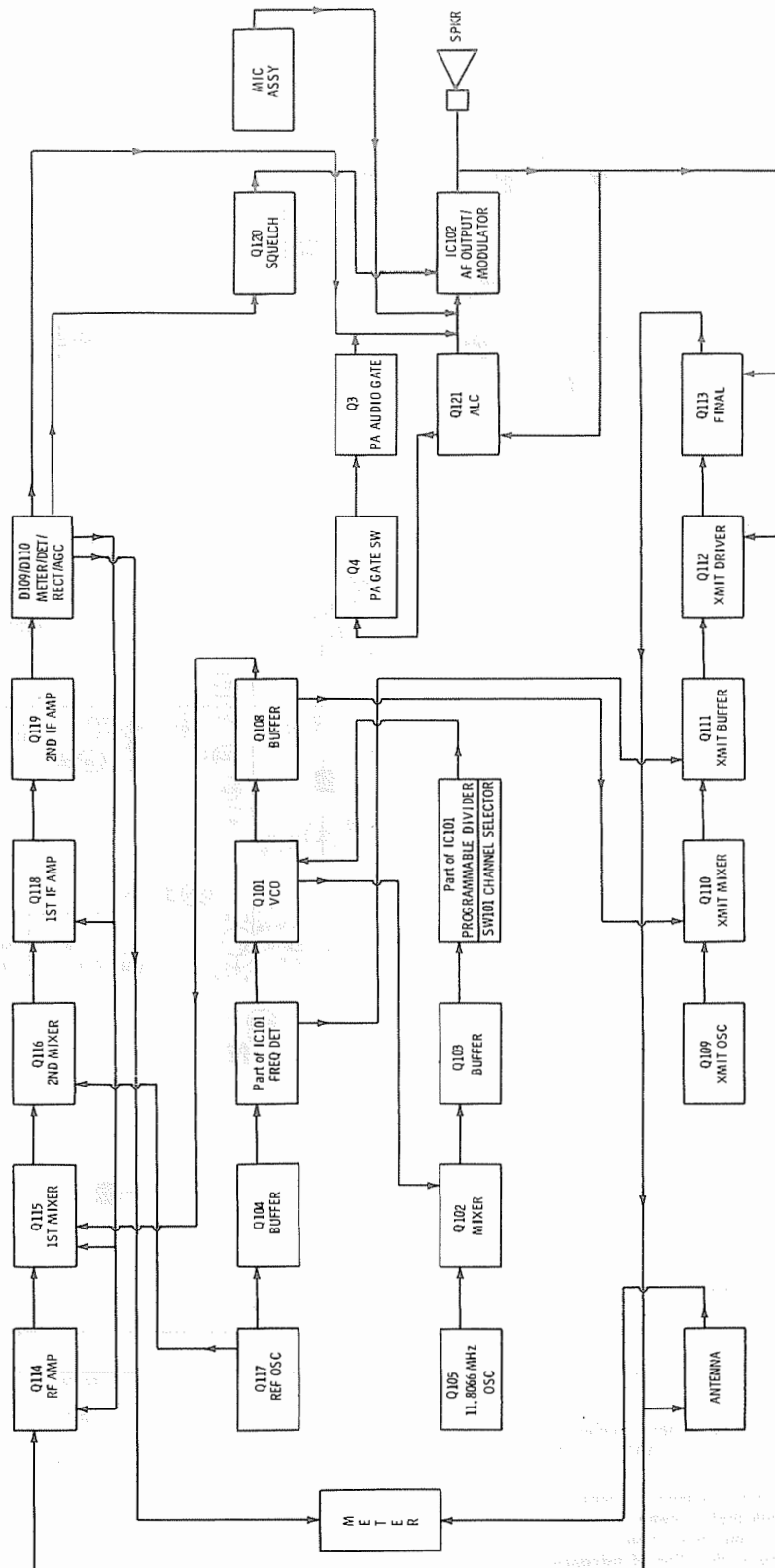


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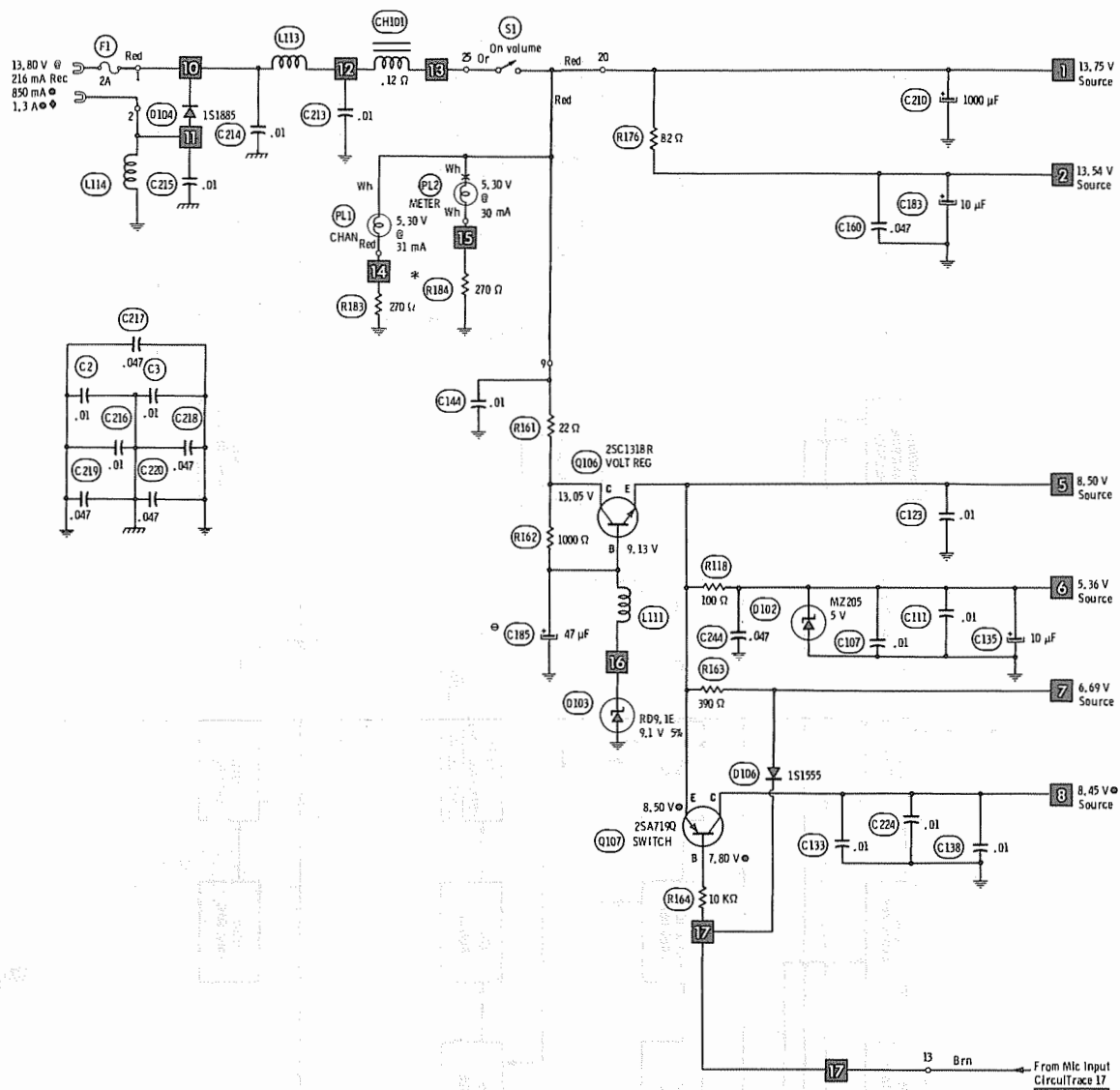
TRUTH CHART

1 = <u>5.27</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC101 PROGRAM DIVIDER							REC & XMT VCO OUTPUT IN MHz AT TP11 (Base of Q108)
	PINS							
	9	10	11	12	13	14	15	
1	1	0	0	1	0	1	0	37.660
2	1	0	0	1	0	0	1	37.670
3	1	0	0	1	0	0	0	37.680
4	1	0	0	0	1	1	0	37.700
5	1	0	0	0	1	0	1	37.710
6	1	0	0	0	1	0	0	37.720
7	1	0	0	0	0	1	1	37.730
8	1	0	0	0	0	0	1	37.750
9	1	0	0	0	0	0	0	37.760
10	0	1	1	1	1	1	1	37.770
11	0	1	1	1	1	1	0	37.780
12	0	1	1	1	1	0	0	37.800
13	0	1	1	1	0	1	1	37.810
14	0	1	1	1	0	1	0	37.820
15	0	1	1	1	0	0	1	37.830
16	0	1	1	0	1	1	1	37.850
17	0	1	1	0	1	1	0	37.860
18	0	1	1	0	1	0	1	37.870
19	0	1	1	0	1	0	0	37.880
20	0	1	1	0	0	1	0	37.900

1 = <u>5.27</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC101 PROGRAM DIVIDER							REC & XMT VCO OUTPUT IN MHz AT TP11 (Base of Q108)
	PINS							
	9	10	11	12	13	14	15	
21	0	1	1	0	0	0	1	37.910
22	0	1	1	0	0	0	0	37.920
23	0	1	0	1	1	0	1	37.950
24	0	1	0	1	1	1	1	37.930
25	0	1	0	1	1	1	0	37.940
26	0	1	0	1	1	0	0	37.960
27	0	1	0	1	0	1	1	37.970
28	0	1	0	1	0	1	0	37.980
29	0	1	0	1	0	0	1	37.990
30	0	1	0	1	0	0	0	38.000
31	0	1	0	0	1	1	1	38.010
32	0	1	0	0	1	1	0	38.020
33	0	1	0	0	1	0	1	38.030
34	0	1	0	0	1	0	0	38.040
35	0	1	0	0	0	1	1	38.050
36	0	1	0	0	0	1	0	38.060
37	0	1	0	0	0	0	1	38.070
38	0	1	0	0	0	0	0	38.080
39	0	0	1	1	1	1	1	38.090
40	0	0	1	1	1	1	0	38.100



BLOCK DIAGRAM



- *— Circuitry not used in some versions
 - Circuitry used in some versions
 - ⊙ See parts list
 - ⊙ Nominal value
 - ⊕ Ground
 - ⊕ Chassis
 - ▽ Common tie point
- Measurements with switching as shown unless noted:
- ⊕ Squelch fully clockwise
 - ⊕ 100% modulation
 - ⊕ Transmit
- 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.

Terminal Guide



Q106, Q107,

A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE

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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		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.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D101	ITT410	QD-CTT410KQ (1)	GE-90			HEPR2503			RT-262	ECG614
D102	BB142		GE-90			HEPR2503			RT-262	ECG614
D103	MZ205	QD-ZMZ205XE		WEP602			RE 105			ECG135
D104	R09.1E	QD-ZR09EXAA	GEZD-9.1		ZB9.1B		RE 114		RT-240	ECG139A
D105	1S1885	QD-SS1885XT	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D106	V06C	QD-SV06CXXB	GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D107	1S1555	QD-SS1555XT	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D108	1S1555	QD-SS1555XT	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D109	1N60	QD-G1N60XXT	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D110	1N60	QD-G1N60XXT	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D111	1N60	QD-G1N60XXT	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D112	1N60	QD-G1N60XXT	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D600	1N4148	760037	GE-514	1R914	PTC214	HEPRD602	RE 52	SK3100	RT-218	ECG519
IC101	PLL02A	QD-OPPL02AO					RE 360-IC			ECG1167
IC102	BA511A									ECG1165
Q101	MPS3704	760142	GE-20	TR-21	PTC123	HEPS0015	RE 10	SK3122	RT-113	ECG108
Q102	2SC710		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q103	2SC829	QT-C0829XAN (1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829B		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q104	2SC710	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q105	2SC710	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q106	2SC1318	QT-C1318XON (1)	GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
	2SC1318Q		GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
Q107	2SA719P	QT-A0719XCN (1)	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA719		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA719Q		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
Q108	2SC1359B	QT-C1359XAN (1)	GE-212	(IR)2SC380A0	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC1359		GE-212	(IR)2SC380A0	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
Q109	2SC710	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q110	2SC710	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q111	2SC1687	QT-C1687XAN (12)	GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
Q112	2SC1760	QT-C1760XAS (1)	GE-276	WEP1014			RE 224		RT-310	ECG306
	2SC1760-3		GE-276	WEP1014			RE 224		RT-310	ECG306
Q113	2SC1306	QT-C1306XZA (11)	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
Q114	2SC1047C	QT-C047XAN (1)	GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC1047B		GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
Q115	2SC1359B	QT-C1359XAN (1)	GE-212	(IR)2SC380A0	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
Q116	2SC829C	QT-C0829XBN	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q117	2SC710	QT-C0710XBE (1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q118	2SC829C	QT-C0829XBN	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q119	2SC829C	QT-C0829XBN	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q120	2SC372Y		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
Q121	2SC945	QT-C0828XDN (1)	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	2SC828PQ		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
Q122	2SC828P	QT-C0828XAN (1)	GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
	2SC8280		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199

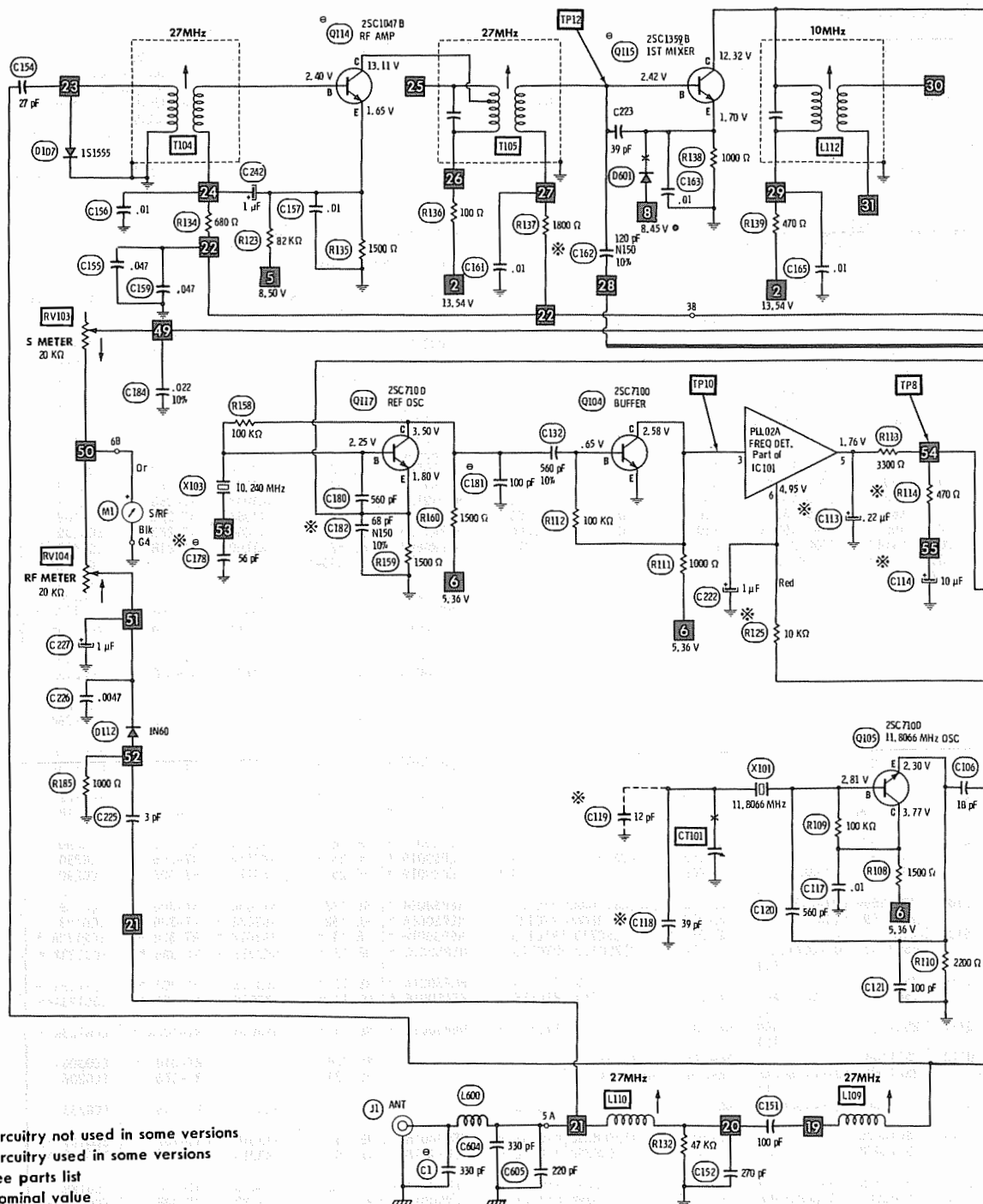
* Lead configuration may vary from original.

(1) Used in some versions.

(11) 12 Watts @ 3 Amps.

(12) 10 Watts @ 3 Amps.

HY-GAIN MODEL 2701

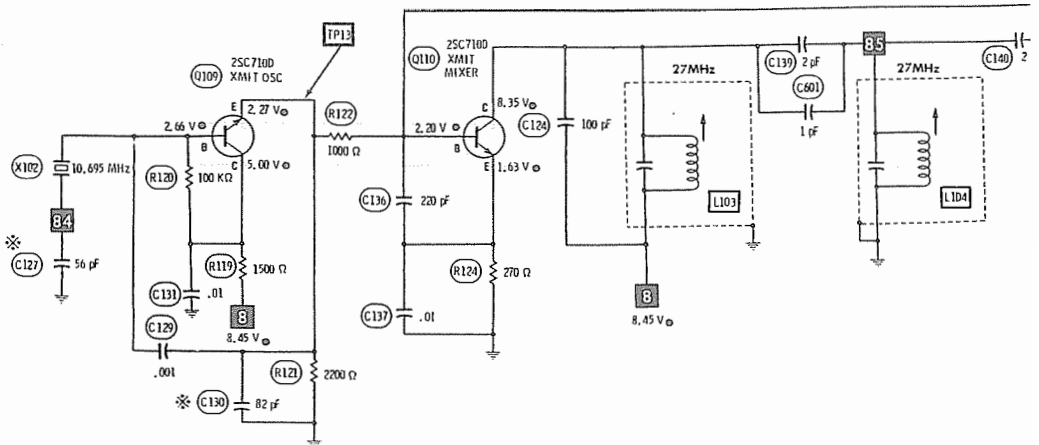
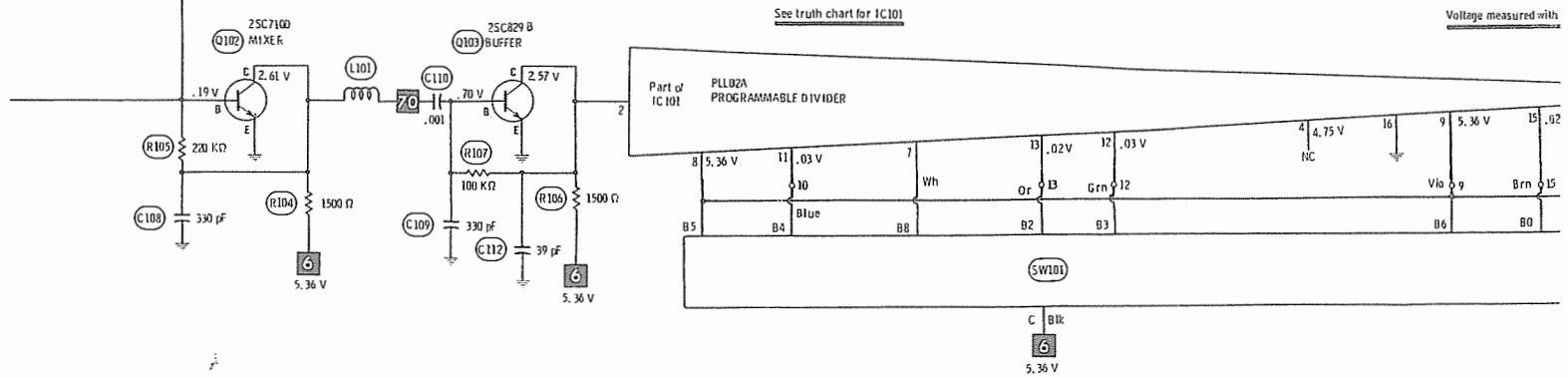
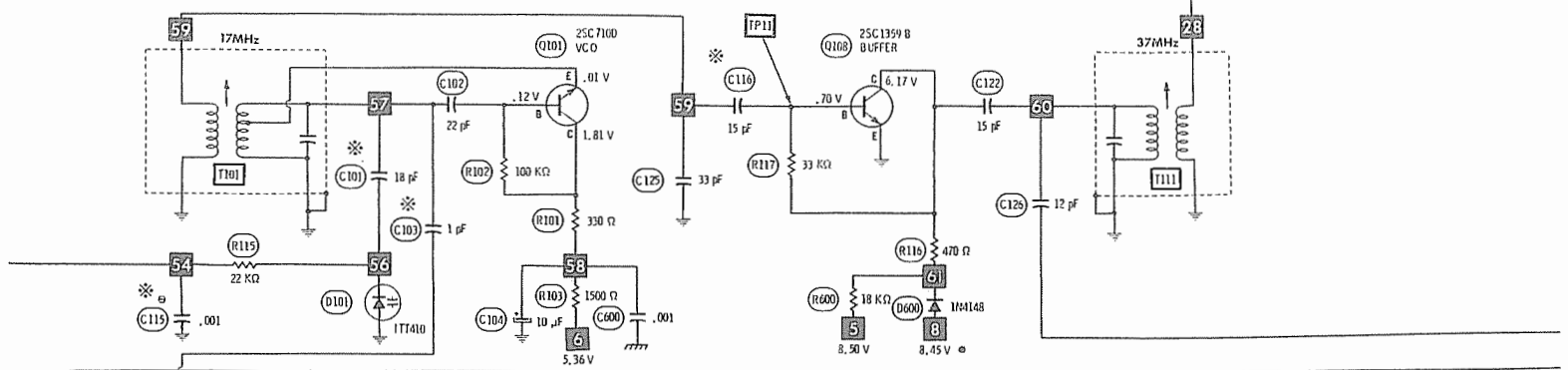
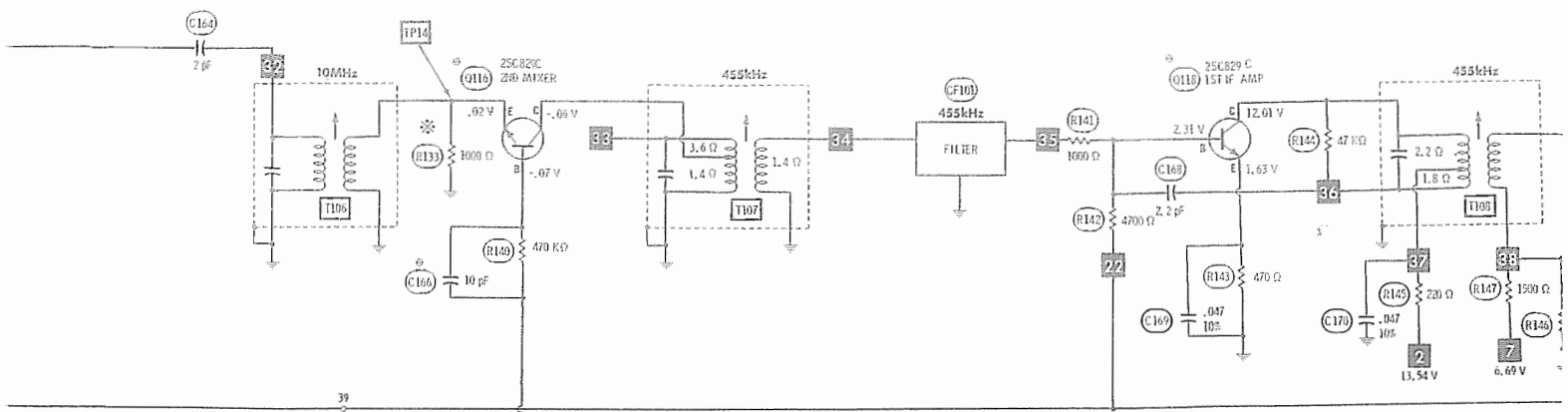


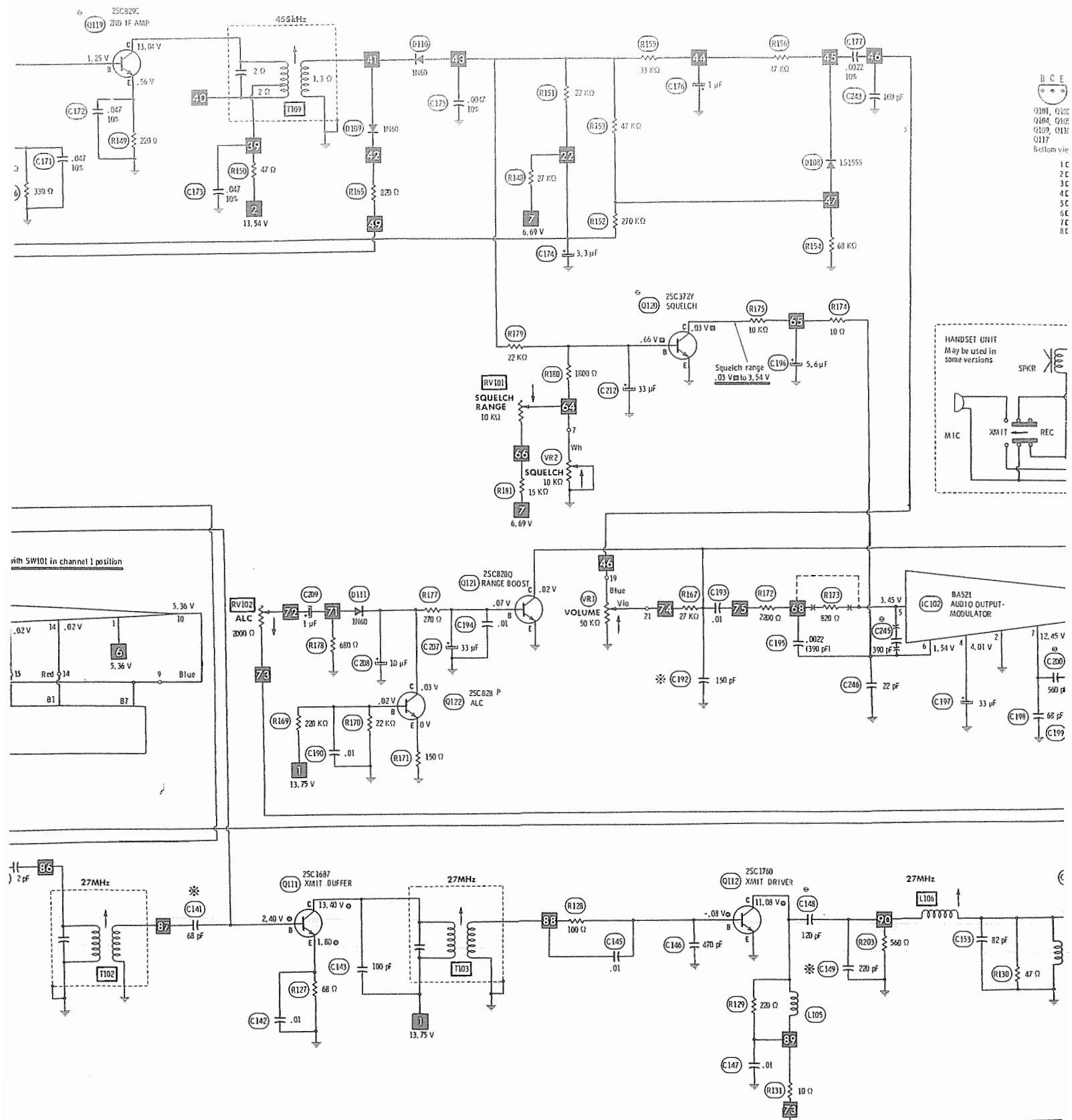
- Circuitry not used in some versions
- - - Circuitry used in some versions
- ⊕ See parts list
- ⊗ Nominal value
- ⊥ Ground
- Chassis
- ▽ Common tie point
- Measurements with switching as shown unless noted:
- Squelch fully clockwise ♦ 100% modulation
- Transmit
- Supply voltage maintained as shown at input.
- Voltages measured with digital meter, no signal.
- Controls adjusted for normal operation.
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- Terminal identification may not be found on unit.
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A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH **CIRCUITACE**

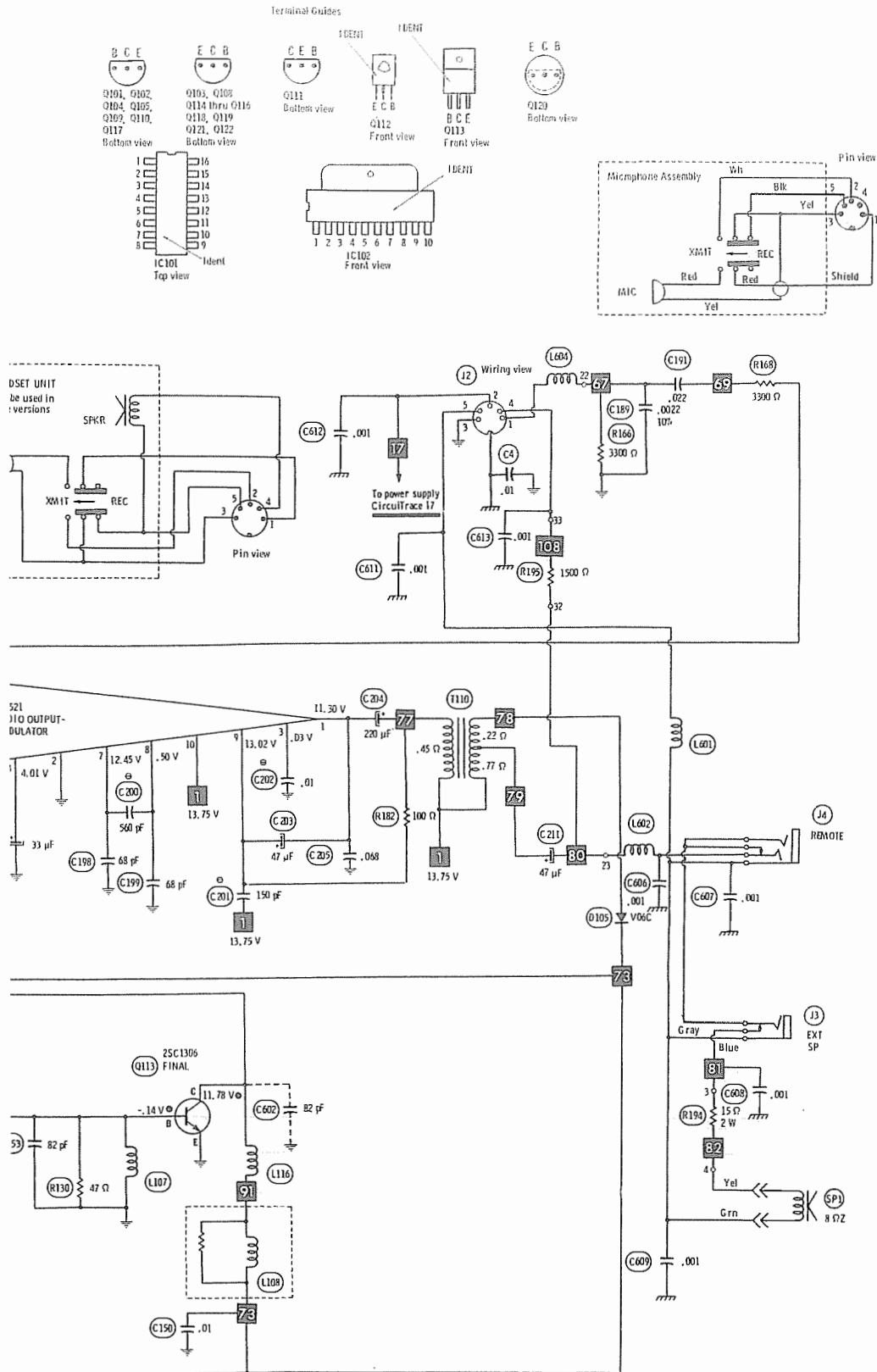
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B C E
Q101, Q102
Q104, Q105
Q109, Q111
Q117
Bottom view

1 C
2 C
3 C
4 C
5 C
6 C
7 C
8 C



PARTS LIST AND DESCRIPTION (CONTINUED)

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

PARTS LIST

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

ELECTROLYTIC CAPACITORS

CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C104	10 16V	CE-ED100ALN	PC10-25	VTT10B25	QV1-41	EV-1222
C113	.22 50V	CE-EGR22ZMN		TDC224M050EL	QDT1-10	SD50-R229
C114	10 16V	CE-ED100ZMN	PC10-25	VTT10B25	QV1-41	EV-1222
C115	.1 50V	CE-EGR10ZMN(1)		TDC104M050EL	QDT1-2	SD50-R109
C135	10 16V	CE-ED100ALN	PC10-25	VTT10B25	QV1-41	EV-1222
C174	3.3 25V	CE-EE3R3ALN	PC5-50	VTT3R3A50	QV1-23	EV-1318
C176	1 50V	CE-EGR10ALN	PC1-50	VTT1A50	QV1-11	EV-1615
C183	10 16V	CE-ED100ALN	PC10-25	VTT10B25	QV1-41	EV-1222
C185	47 10V	CE-EBA70ALN	PC50-16	VTT47D16	QV1-73	EV-1226
	10 16V	CE-ED100ALN	PC10-25	VTT10B25	QV1-41	EV-1222
C196	5.6 25V	CS-SE5R6M0H		TDC686M025FL	QDT1-55	SD25-6R89
C197	33 6.3V	CE-EB330ALN	PC30-25	VTT33B10	QV1-61	EV-1125
C203	47 16V	CE-ED470ALN	PC50-16	VTT47D16	QV1-73	EV-1226
C204	220 16V	CE-AD221ZLS	PC250-25	VTT220H16	QV1-117	EV-1240
C207	33 6.3V	CE-EB330ALN	PC30-25	VTT33B10	QV1-61	EV-1125
C208	10 16V	CE-ED100ALN	PC10-25	VTT10B25	QV1-41	EV-1222
C209	1 50V	CE-EG010ALN	PC1-50	VTT1A50	QV1-11	EV-1615
C210	1000 16V	CE-ED102ZUH	PC1000-16	VTT1000L16	QV1-183	EV-1260
C211	47 25V	CE-AE470ZLS	PC50-25	VTT47E25	QV1-75	EV-1326
C212	33 6.3V	CE-EB330ALN	PC30-25	VTT33B10	QV1-61	EV-1125
C222	4.7 25V	CE-EE4R7ZMN	PC5-50	VTT4R7B50	QV1-27	EV-1319
C227	1 50V	CE-EG010ALN	PC1-50	VTT1A50	QV1-11	EV-1615
C242	1 50V	CE-EG010ALN	PC1-50	VTT1A50	QV1-11	EV-1615

(1) Used in some versions.

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	330 5% 50V	(1)		CD15FD331J03	SX333	QW1-39	MWA-331
C2	220			CD15FD221J03	SX322	QW1-35	MWA-221
C3	.01 50V		UK50-103		MAG5011		
C4	.01 50V		UK50-103		MAG5011		
C101	18 NP0 10% 50V				MAG5011		10TCC-Q18
C102	22 50V		DTZ-22	NP022	CN0418		10TCC-Q22
C103	1 NP0 50V				CN0422		10TCC-V10
C106	10 50V		DTZ-10	NP010	CN0510		10TCC-Q10
C107	.01 50V		UK50-103		CN0410		
C108	330 50V		DD-331	GP330	MAG5011		10TS-T33
C109	330 10% 50V	CC-CB101KPM	DD-331	GP330	GP333		10TS-T33
C110	.001 10% 50V			DPM56D1	GP333	QFT2-1	1FT-D10
C111	.01 10% 50V			WMF1S1	EWFA1210	QFT2-91	1FT-S10
C112	39 50V				EWFA1110		10TCC-Q39
C115	.001		DD-102		CN0439		10TS-D10
C116	15 15V		DTZ-15	NP015	GP210		10TCC-Q15
C117	.01 10% 50V			WMF1S1	CN0415	QFT2-91	1FT-S10
C118	39 10% 50V				EWFA1110		10TCC-Q39
C119	12 50V				CN0439		10TCC-Q12
C120	560 50V		DD-561		CN0412		10TS-T56
C121	100 N150 50V	CC-CB101KPM			GP356		10TCP-T10
C122	15 50V		DTZ-15	NP015	*		10TCC-Q15
C123	.01 50V		UK50-103		CN0415		
C124	100 10% 500V				MAG5011	QW1-27	MWA-101
C125	33 50V		DTZ-33	CD15FD101J03	SX310		10TCC-Q33
C126	12 N150 50V			NP033	CN0433		10TCP-Q10
C127	56 N150 10% 50V				*		10TCP-Q56
C129	.001 50V		DD-102		GP210		10TS-D10
C130	82 N150 10% 50V				*		10TCP-Q82
C131	.01 50V		UK50-103		MAG5011		
C132	560 10% 50V	CC-CB101KPM		CD19FD561J03	SX356		MWC-561
C133	.01 50V		UK50-103		MAG5011		
C136	220 10% 50V		DD-221		GP322		10TS-T22
C137	.01 50V		UK50-103		MAG5011		
C138	.01 50V		UK50-103		MAG5011		
C139	2 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C140	2 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C141	68 50V		DD-680	GP68	GP468		10TS-Q68
C142	.01 50V		UK50-103		MAG5011		
C143	100 N150 10% 50V				*		10TCP-T10
C144	.01 50V	CC-CB101KPM	UK50-103		MAG5011		
C145	.01 50V		UK50-103		MAG5011		
C146	470 50V		DD-471	GP470	GP347		10TS-T47
C147	.01 50V		UK50-103		MAG5011		
C148	120 10% 50V		DTZ-120		CN0312		10TCC-T12
C149	220 10% 50V		DD-221		GP322		10TS-T22
C150	.01 50V		UK50-103		MAG5011		
C151	100 10% 500V			CD15FD101J03	SX310	QW1-27	MWA-101
C152	270 10% 500V			CD15FD271J03	SX327	QW1-37	MWB-271
C153	82 50V	CC-CB101KPM	DD-820		GP482		10TS-Q82
C154	27 50V				CN0427		10TCC-Q27
C155	.047 50V		UK50-503		MAG5015		
C156	.01 50V		UK50-103		MAG5011		
C157	.01 50V		UK50-103		MAG5011		

*Not norma
(1) Used in

CONTI

ITEM No.	
RV101	Sq
RV102	AL
RV103	S
RV104	RF
VR1	Vo
VR2	Sq

(1) EnI

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
C159	.047 50V		UK50-503		MAG5015		
C160	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C161	.01 50V		UK50-103		MAG5011		
C162	120 10% 50V		DTZ-120		CN0312		10TCC-T12
C163	.01 50V		UK50-103		MAG5011		
C164	2 50V		DTZ-2R2	NPO2P2	CN0522		10TCC-V22
C165	.01 50V		UK50-103		MAG5011		
C166	10		DTZ-10	NPO10	CN0410		10TCC-Q10
	47 50V	(1)	DTZ-47	NPO47	CN0447		10TCC-Q47
	2.2 500V		DTZ-2R2	NPO2P2	CN0522		10TCC-V22
C168	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C169	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C170	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C171	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C172	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C173	.047 10% 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C175	.0047 10% 50V			WMF1D47	M192P4729R8	QFT2-63	1FT-D47
C177	.0022 10% 50V			DPMS6D22	M192P2229R8	QFT2-27	1FT-D22
C178	56 N150 10%				*		10TCP-Q56
	39 50V	(1)			CN0439		10TCC-Q39
C180	560 50V		DD-561		GP356		10TS-T56
C181	100		DD-101	GP100	GP310		10TS-T10
	560 50V	(1)	DD-561		GP356		10TS-T56
C182	68 N150 10% 50V	CC-CB680KPM			*		10TCP-Q68
C184	.022 10% 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C189	.0022 10% 50V				GP222		10TS-D22
C190	.01 50V		UK50-103		MAG5011		
C191	.022 10% 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C192	150 50V		DD-151		GP315		10TS-T15
C193	.01 10% 50V			WMF1S1	EWFA1A110	QFT2-91	1FT-S10
C194	.01 50V		UK50-103		MAG5011		
C195	.0022				GP222		10TS-D22
	390 50V	(1)	DD-391	GP390	GP339		10TS-T39
C198	68 50V		DD-680	GP68	GP468		10TS-Q68
C199	68 50V		DD-680	GP68	GP468		10TS-Q68
C200	560		DD-561		GP356		10TS-T56
	390 50V	(1)	DD-391	GP390	GP339		10TS-T39
	.068 50V	(1)		WMF1S68	EWFA1A168	QF1-195	1PB-S68
C202	.01 10%			WMF1S1	EWFA1A110	QFT2-91	1FT-S10
	.022 50V	(1)		OPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C205	.068 50V			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C213	.01 50V		UK50-103		MAG5011		
C214	.01 50V		UK50-103		MAG5011		
C215	.01 50V		UK50-103		MAG5011		
C216	.01 50V		UK50-103		MAG5011		
C217	.047 50V		UK50-503		MAG5015		
C218	.047 50V		UK50-503		MAG5015		
C219	.047 50V		UK50-503		MAG5015		
C220	.047 50V		UK50-503		MAG5015		
C223	39 50V				CN0439		10TCC-Q39
C224	.01 50V		UK50-103		MAG5011		
C225	3 50V		DTZ-3R3	NPO3P3	CN0533		10TCC-V33
C226	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C243	100 10% 50V		DD-101	GP100	GP310		10TS-T10
C244	.047 50V		UK50-503		MAG5015		
C245	390		DD-391	GP390	GP339		10TS-T39
	27 50V	(1)			CN0427		10TCC-Q27
C246	22		DTZ-22	NPO22	CN0422		10TCC-Q22
C600	.001 50V	(1)	DD-102		GP210		10TS-D10
C601	1 NPO 50V				CN0510		10TCC-V10
C602	82 50V	(1)	DD-820		GP482		10TS-Q82
C604	330 5% 50V			CD15FD331J03	SX333	QW1-39	MWA-331
C605	220 10% 50V			CD15FD221J03	SX322	QW1-35	MWA-221
C606	.001 50V		DD-102		GP210		10TS-D10
C607	.001 50V		DD-102		GP210		10TS-D10
C608	.001 50V		DD-102		GP210		10TS-D10
C609	.001 50V		DD-102		GP210		10TS-D10
C611	.001 50V		DD-102		GP210		10TS-D10
C612	.001 50V		DD-102		GP210		10TS-D10
C613	.001 50V		DD-102		GP210		10TS-D10
CT101							

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

(1) Used in some versions.

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.
RV101	Squelch Range	10K	RP-GNB10301				U260R1038
RV102	ALC	2000	RP-GNB20201				U260R1038
RV103	S Meter	20K	RP-GNB20301				U260R2538
RV104	RF Meter	20K	RP-GNB20301				U260R2538
VR1	Volume/Switch	50K	RV-NB503A01				
VR2	Squelch	10K	RV-NA103B03	F1-10K (1), SSK010	A47-10K-S (1), KSS-3	RU14L, SL36, SL1500	BUT (1), CF9, SS1, DC1

(1) Enlarge mounting hole.

HY-GAIN MODEL 2701

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.	
L101	RF Choke	LF-220KD01H		→ 9930-3A	
L103	Xmit Mixer (27MHz)	TR-10CD004S			
L104	Xmit Mixer (27MHz)	TR-10CD005S			
L105	RF Choke	LF-2R2KD01H		→ 9905-226AI	
L106	Xmit Driver (27MHz)	TR-A5CZ001M			
L107	RF Choke	LF-680KD01H			
L108	RF Choke	LD-A0X3825H			
L109	Final (27MHz)	TR-A5CZ002M			
L110	Pi Filter (27MHz)	TR-A5CZ003M			
L111	RF Choke	LF-680KD01H			
L112	IF (10MHz)	TR-07MB008H			
L113	RF Choke	LO-A0B4024B			
L114	RF Choke	LO-A0B4024B			
L116	RF Choke	LA-1KE1011A			
L600	RF Choke (.18uH)	722871			
L601	RF Choke (6.8uH)	722857			
L602	RF Choke (6.8uH)	722857			
L604	RF Choke (6.8uH)	722857			
T101	VCO (17MHz)	TR-100A002T			
T102	Xmit Mixer (27MHz)	TR-10CB001S	10CB-00156524		
T103	Xmit Buffer (27MHz)	TR-10CP005S	10CP-005C-6524		
T104	Rec Antenna (27MHz)	TR-10MP003T	ERT-333-6424		
T105	Rec RF (27MHz)	TR-10CA005S	10CA-005S		
T106	IF (10MHz)	TR-07MB008H			
T107	IF (455kHz)	TR-07LA004H	ET1-0122-65BT		
T108	IF (455kHz)	TR-97LA005H	ET1-0123-65BT		
T109	IF (455kHz)	TR-07LA023N	ET1-0129-65BT		
T111	VCO (37MHz)	TR-10MB003T	10MB-003T-6524		

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.	
CH101	1.2A	.116	.48mH	LF-119H001Y (ELA-16) (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.	
T110	3.56	1 8 2 .89	TBG25B001W (TBG25B004W) (1)		MCB-16	(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3" PM 8 Ohms	0770802 (1)	27A05ZB	(1) Number on unit.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	2A Quick Acting		YH-F13001U	AGC2	HKP	312002	342001AL	FG2-2

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	ZG-AAZ70101	18-032	18-034	18-010	18-105	1	3	2	5	NC	3

HY-GAIN MODEL 2701

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF101	Filter	LF-119H001Y	(455kHz)
J1	Jack	YJ-C0225009Z	Antenna
J2	Jack	YJ-D055001Z	Microphone
J3	Jack	YJ-T035003Z	External Speaker
J4	Jack	YJ-5045002Z	Remote Speaker
M1	Meter	ZM-J2017M03	
PL1	Lamp	ZP-A064102U	Channel (5.30V @ 31mA)
PL2	Lamp	ZP-A064102U	Meter (5.30V @ 30mA)
S1	Switch		Power (On Volume Control)
SW101	Switch	700047	Channel Selector
X101	Crystal	XA-S1B4001N	11.806MHz
X102	Crystal	XA-S1B3002N	10.695MHz
X103	Crystal	XA-S1B3001N	10.240MHz
	Power Cord	AC-DC027GEA	

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

ITEM	PART No.	ITEM	PART No.
Mounting Bracket	MU-276SW001	Front Panel	VE-66JSB004
Case, Lower	MU-773SM023	Knob, Channel Selector	VN-176SB003
Case, Upper	MU-773SM022	Knob, Control	VN-176SM001