



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 KCB-4001

MANUFACTURER'S SPECIFICATIONS

GENERAL

Circuitry:

Frequency Control:

Channels:

Mode of Operation:

Power Source Voltage:

Speaker:

Microphone:

11 Transistors, 4 ICs, 18 Diodes

P.L.L. (Phase Locked Loop)
Frequency Synthesizing System

40 Channels Installed

AM

13.8V DC

3" Dynamic, 8 ohm

Dynamic 500 ohm

RECEIVER SECTION

Receiving System:

Sensitivity:

Selectivity:

Spurious Rejection:

Audio Output Power:

Squelch Range:

RF Gain Control:

IF 1st:

2nd:

Dual Conversion System

1.0 μ V for 10 dB S/N

More than 60 dB down at ± 10 kHz

More than 50 dB down

2.5 Watts at 8 ohm

1.0 μ V to 1,000 μ V

30 dB or more

9.785 MHz

455 kHz

TRANSMITTER SECTION

Modulation System:

RF Output Power (at 13.8V):

Frequency Tolerance:

Spurious Rejection:

High Level Class B, Power IC

4 Watts (F.C.C. Maximum)

$\pm 0.005\%$

Exceeds -60 dB

Courtesy of the Manufacturer

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

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KRACO MODEL KCB-4001

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:
T101, T102 9440
T601 5009, 8728A, 8728
L303, T301, T302 9091, 8728A, 8728

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1 (PLL Pin 1).	Ch. 1		Check for 10.240MHz.
Input of frequency counter to TP2 (PLL Pin 11).	Ch. 1		Check for 17.180MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP3 (PLL Pin 14).	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. RF Gain Maximum, Squelch MINIMUM, ANL Off

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP4 (Q101 Pin 12). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T601	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T102, T101, VR101	Adjust for maximum output. If necessary readjust T601

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, ANL Off

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 1,000uV.	Ch. 19 Squelch Maximum	VR102	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	VR104	SIG METER Adjust for 9 on SIG scale of meter.

TRANSMITTER ALIGNMENT

Connect a 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
Input of RF wattmeter to antenna input.	Ch. 19	T301, T302, L303	Adjust for maximum.
	Ch. 19	L303	Adjust for 4 watts maximum.

TRANSMITTER ADJUSTMENTS

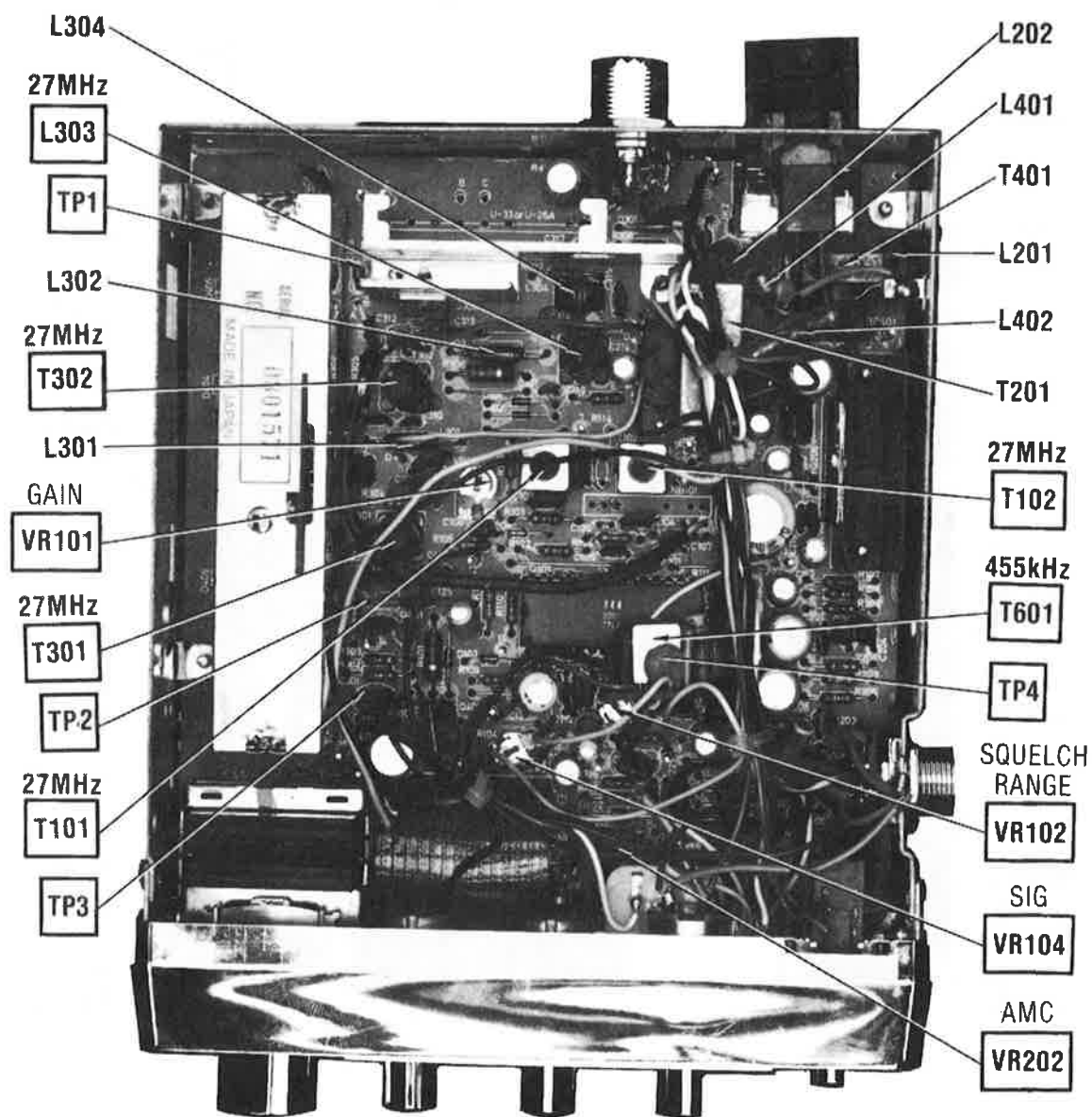
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna jack. Inject a 1000Hz, 100mV signal at Mic input.	Ch. 19	VR202	AMC Adjust VR202 for 100% modulation maximum.

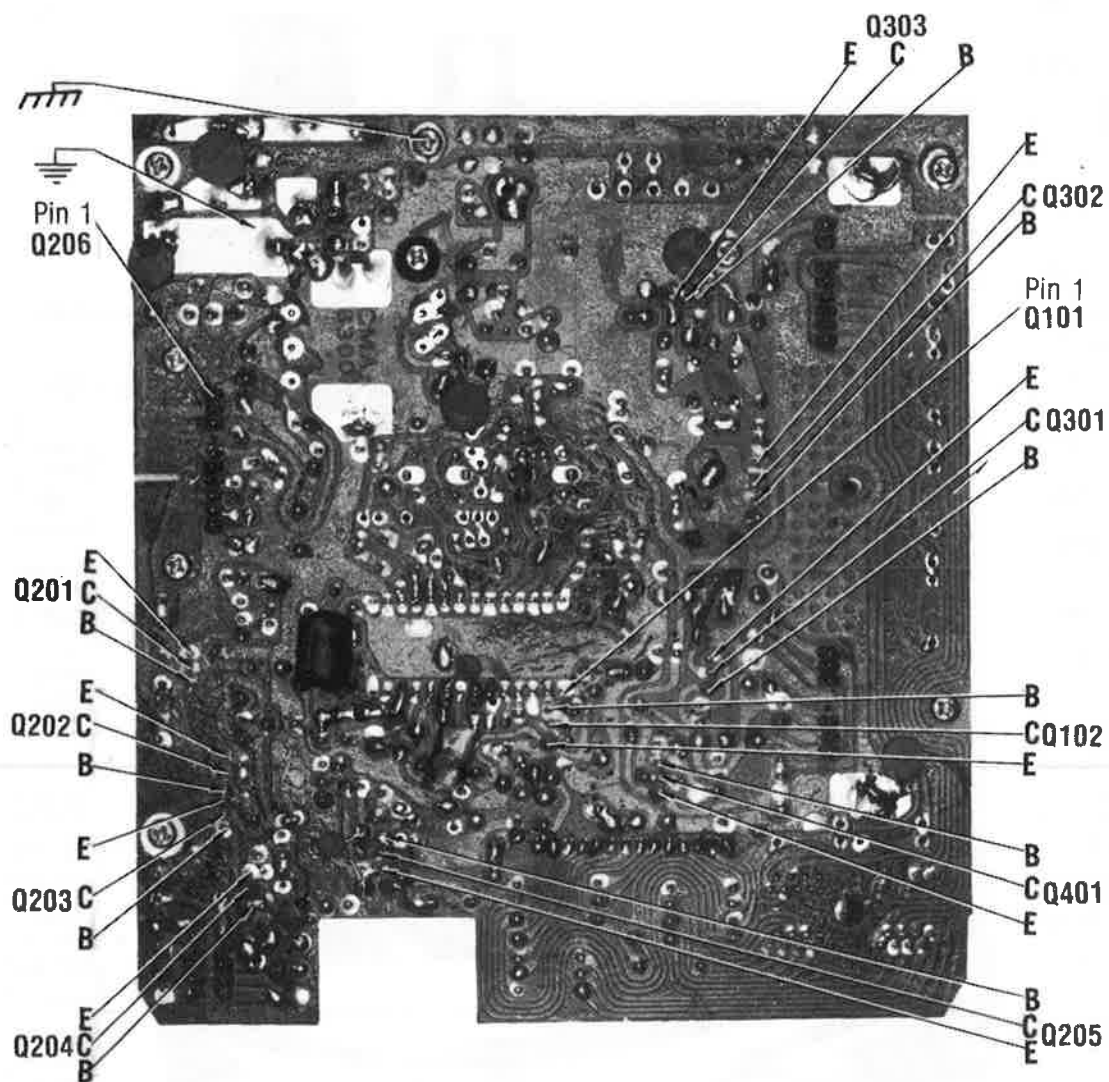
KRACO MODEL KCB-4001

TRUTH CHART

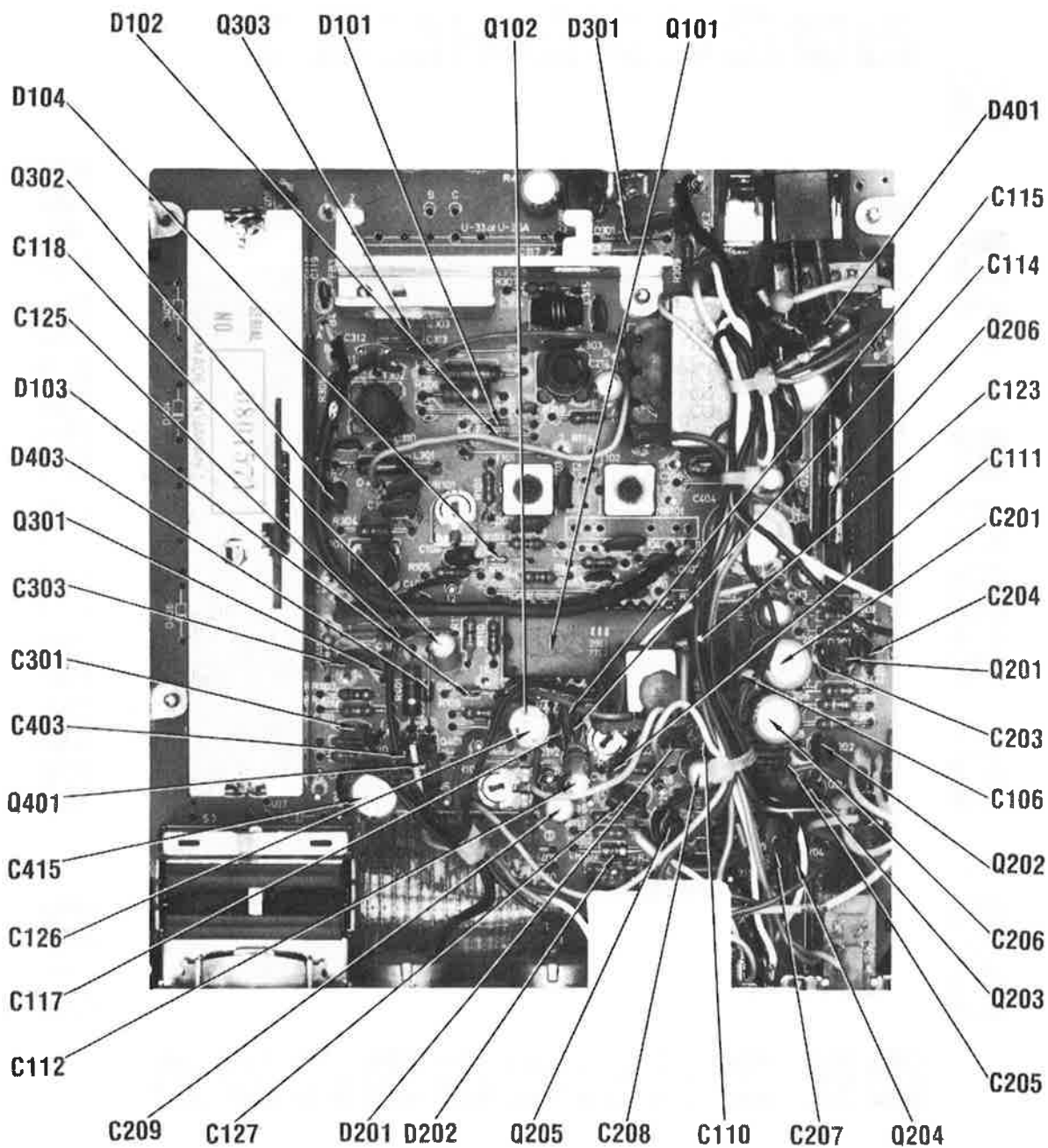
C H A N N E L	1 = 5.80 Volts 0 = 0 Volts								REC SYNTHESIZER OUTPUT IN MHz AT TP2 (PLL, PIN 11)	XMT SYNTHESIZER OUTPUT IN MHz AT TP3 (PLL, PIN 14)	
	PLL PROGRAM DIVIDER										
	PINS										
			3	4	5	6	7	8			
1			0	0	0	0	0	0	17.180	26.965	
2			0	0	0	0	0	1	17.190	26.975	
3			0	0	0	0	1	0	17.200	26.985	
4			0	0	0	1	0	0	17.220	27.005	
5			0	0	0	1	0	1	17.230	27.015	
6			0	0	0	1	1	0	17.240	27.025	
7			0	0	0	1	1	1	17.250	27.035	
8			0	0	1	0	0	1	17.270	27.055	
9			0	0	1	0	1	0	17.280	27.065	
10			0	0	1	0	1	1	17.290	27.075	
11			0	0	1	1	0	0	17.300	27.085	
12			0	0	1	1	1	0	17.320	27.105	
13			0	0	1	1	1	1	17.330	27.115	
14			0	1	0	0	0	0	17.340	27.125	
15			0	1	0	0	0	1	17.350	27.135	
16			0	1	0	0	1	1	17.370	27.155	
17			0	1	0	1	0	0	17.380	27.165	
18			0	1	0	1	0	1	17.390	27.175	
19			0	1	0	1	1	0	17.400	27.185	
20			0	1	1	0	0	0	17.420	27.205	
21			0	1	1	0	0	1	17.430	27.215	
22			0	1	1	0	1	0	17.440	27.225	
23			0	1	1	1	0	1	17.470	27.255	
24			0	1	1	0	1	1	17.450	27.235	
25			0	1	1	1	0	0	17.460	27.245	
26			0	1	1	1	1	0	17.480	27.265	
27			0	1	1	1	1	1	17.490	27.275	
28			1	0	0	0	0	0	17.500	27.285	
29			1	0	0	0	0	1	17.510	27.295	
30			1	0	0	0	1	0	17.520	27.305	
31			1	0	0	0	1	1	17.530	27.315	
32			1	0	0	1	0	0	17.540	27.325	
33			1	0	0	1	0	1	17.550	27.335	
34			1	0	0	1	1	0	17.560	27.345	
35			1	0	0	1	1	1	17.570	27.355	
36			1	0	1	0	0	0	17.580	27.365	
37			1	0	1	0	0	1	17.590	27.375	
38			1	0	1	0	1	0	17.600	27.385	
39			1	0	1	0	1	1	17.610	27.395	
40			1	0	1	1	0	0	17.620	27.405	



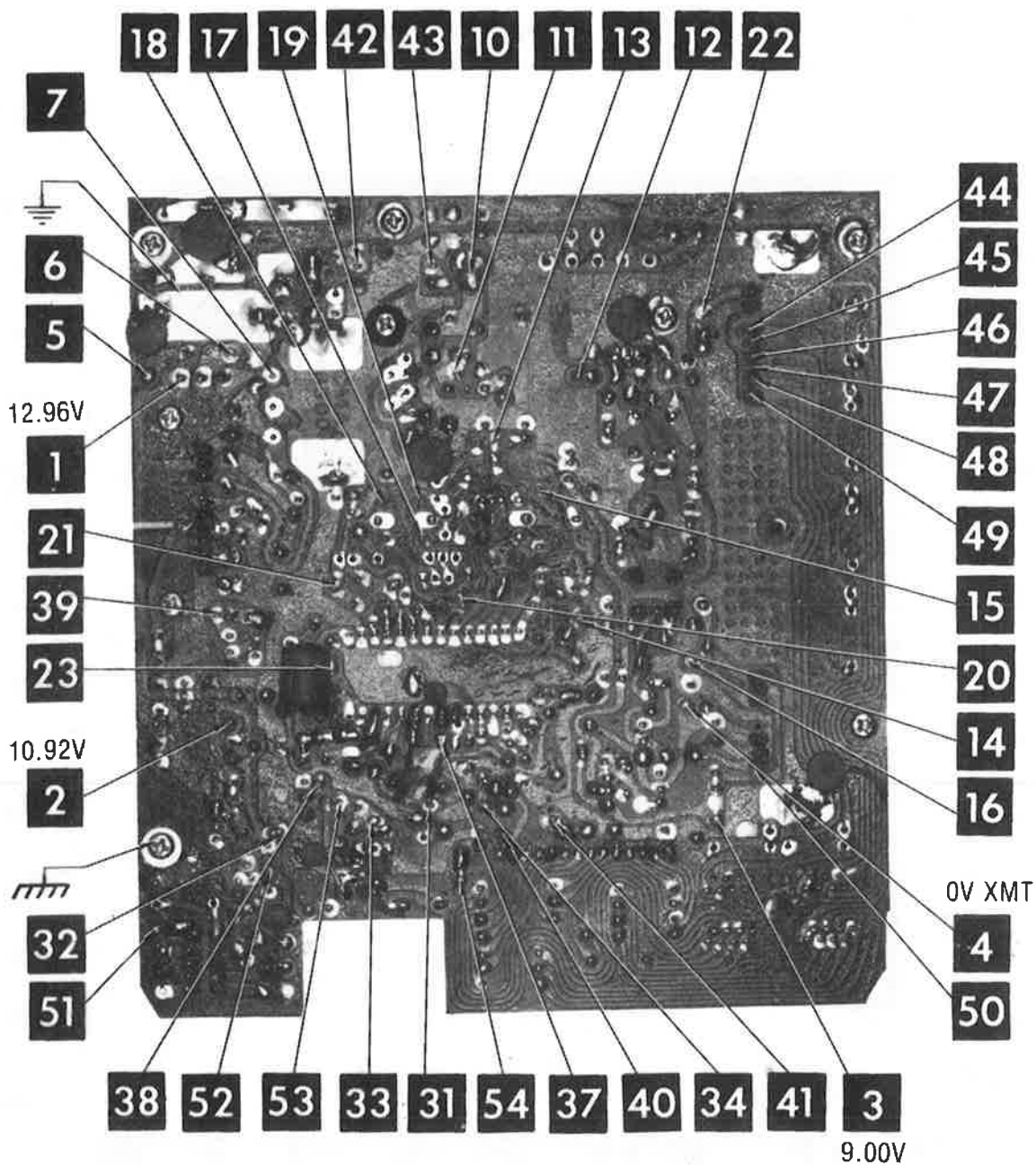
CHASSIS-BOTTOM



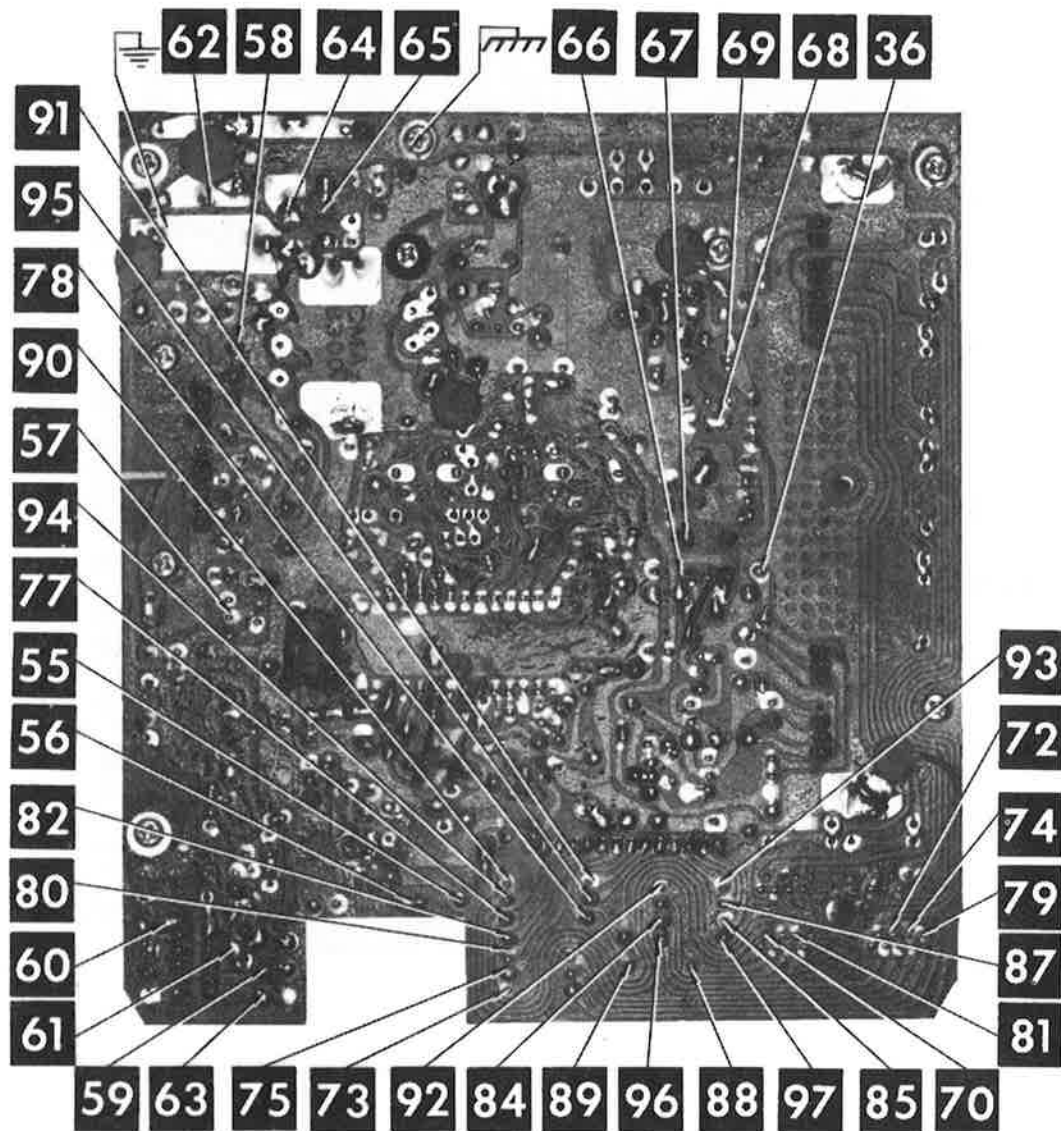
MAIN BOARD



MAIN BOARD

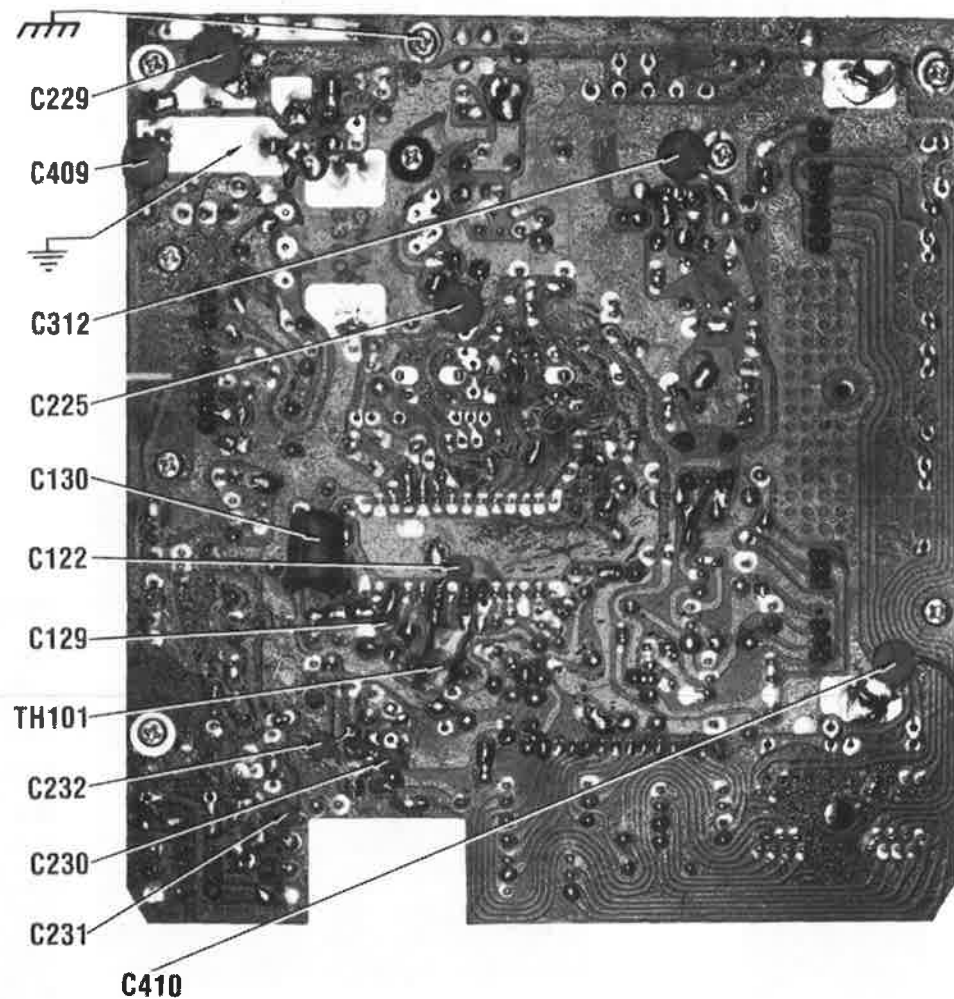


MAIN BOARD

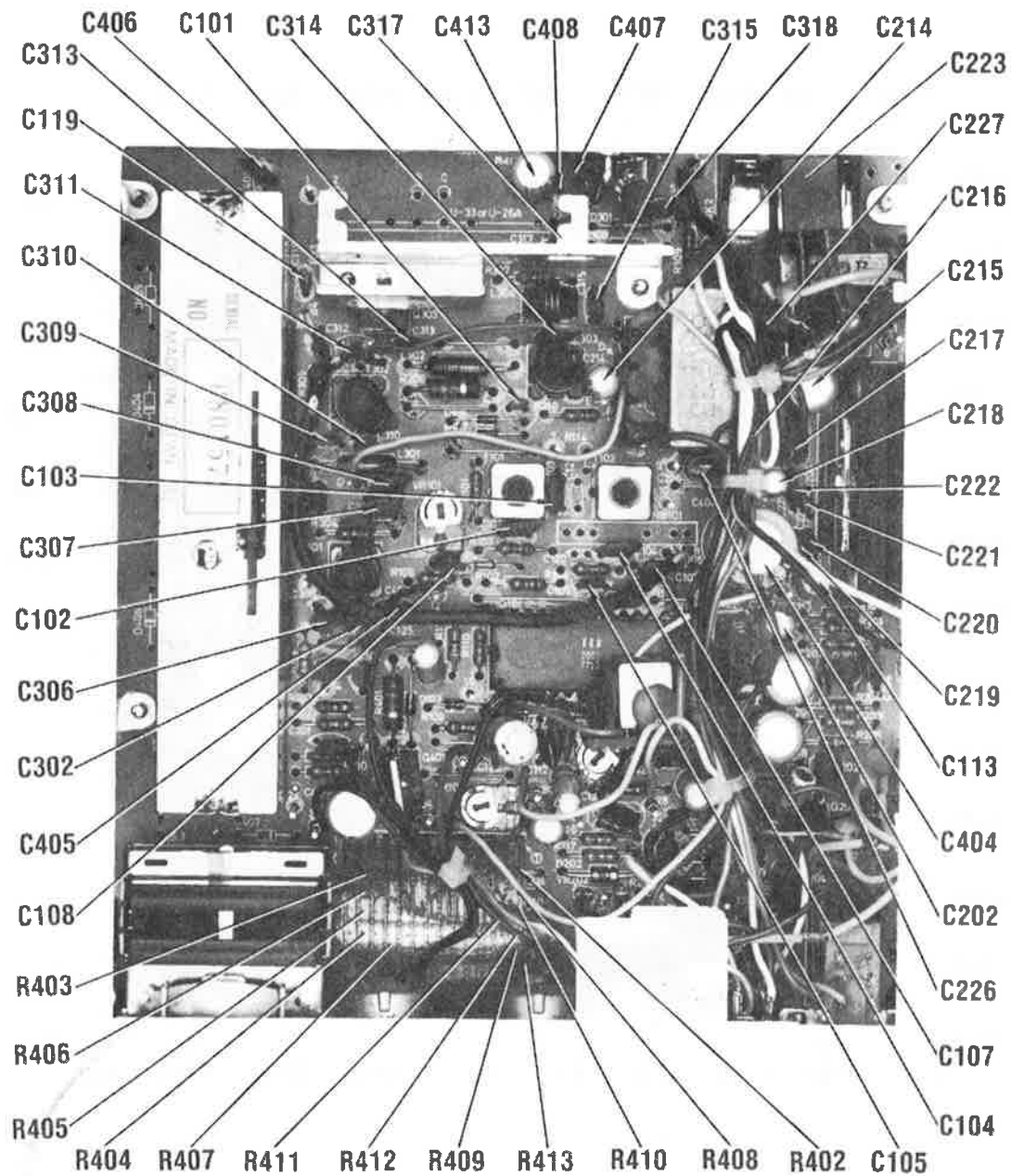


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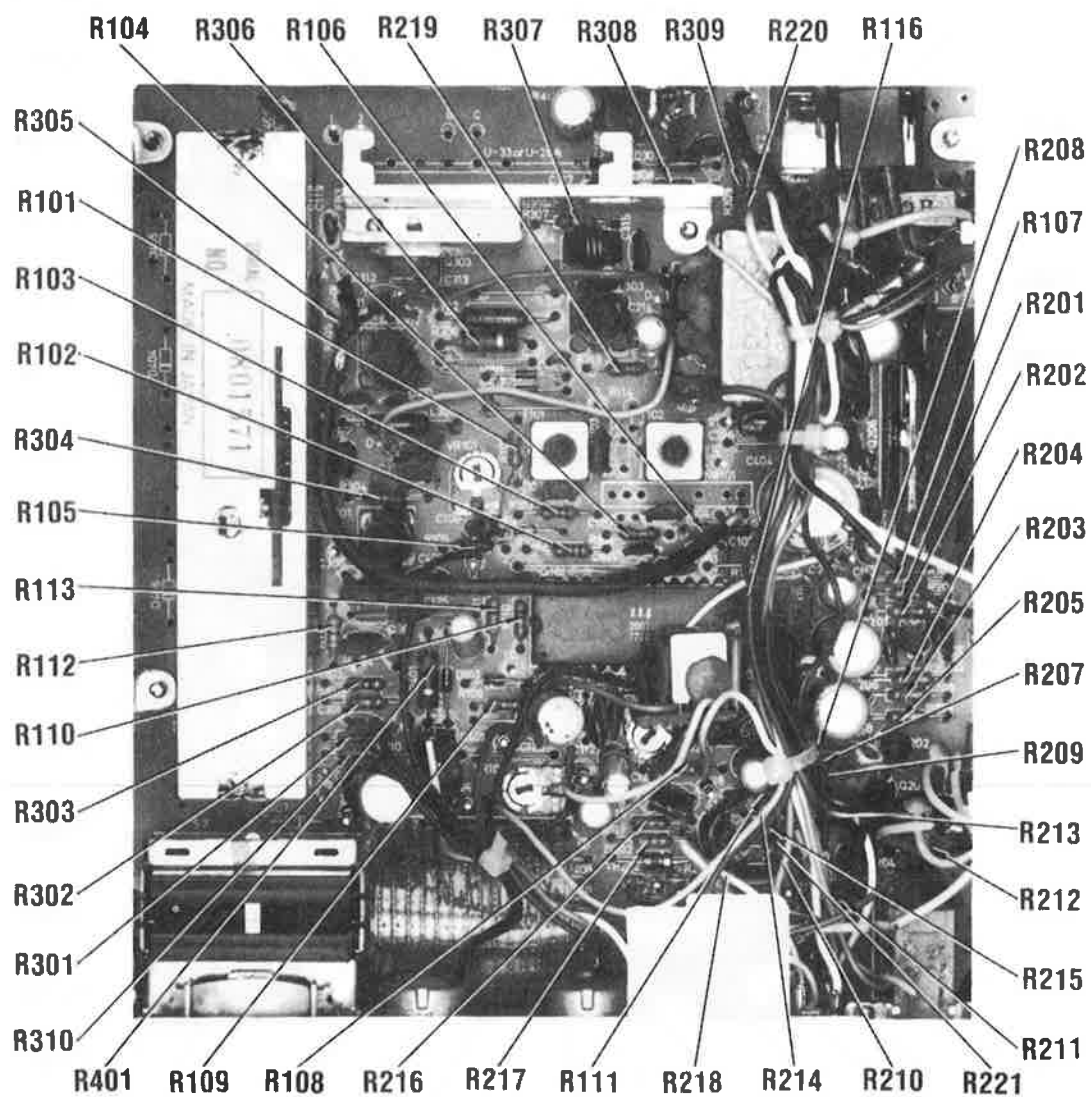
MAIN BOARD



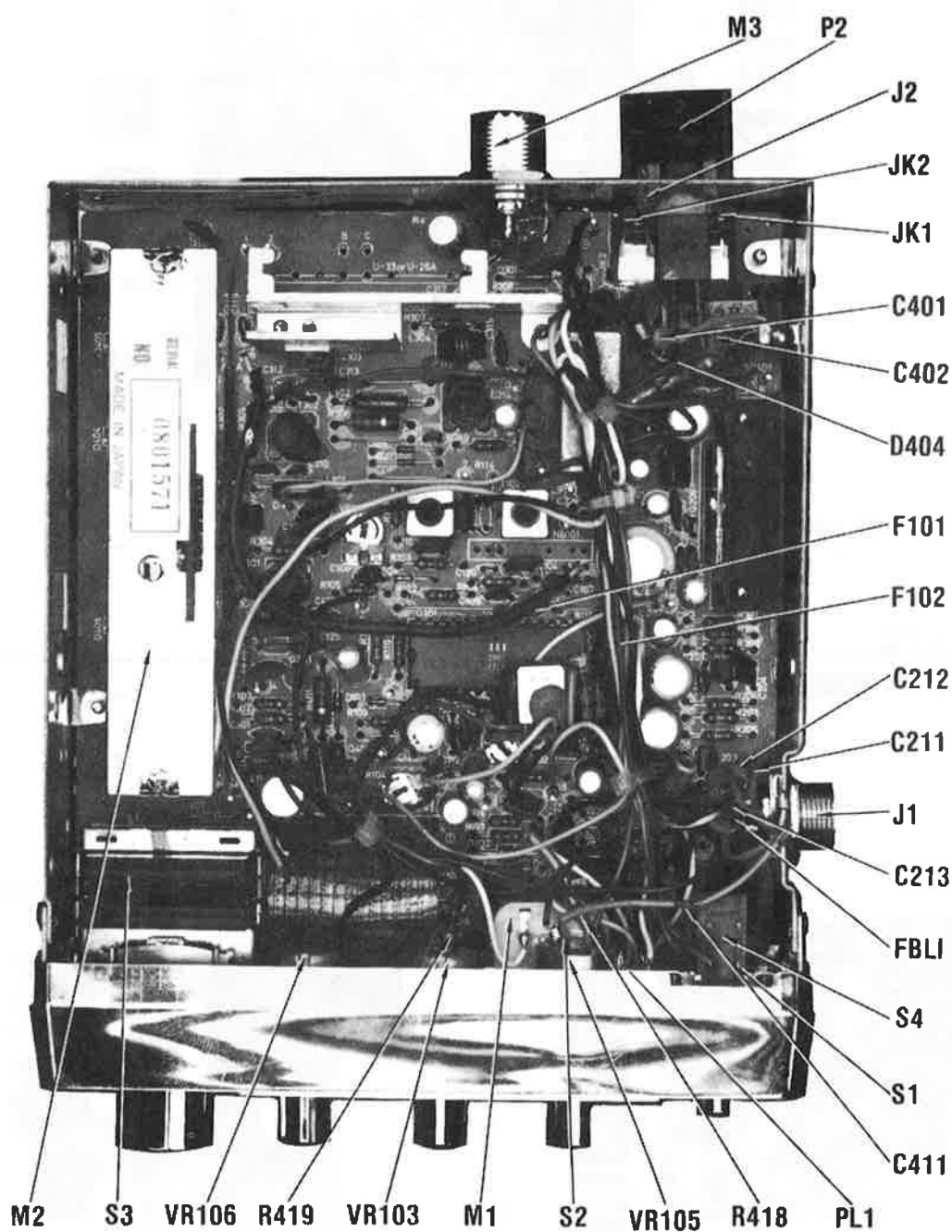
MAIN BOARD



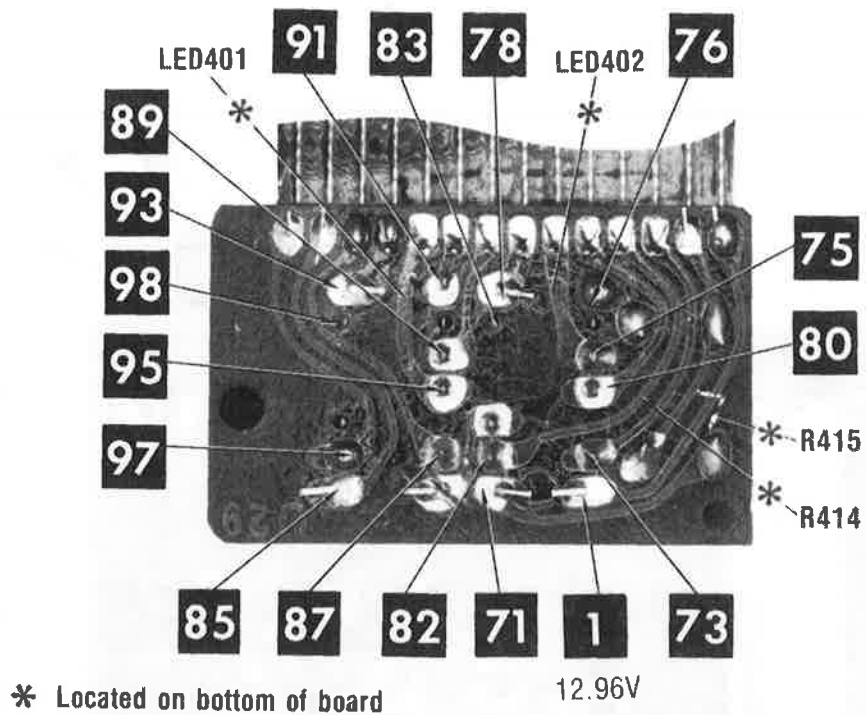
MAIN BOARD



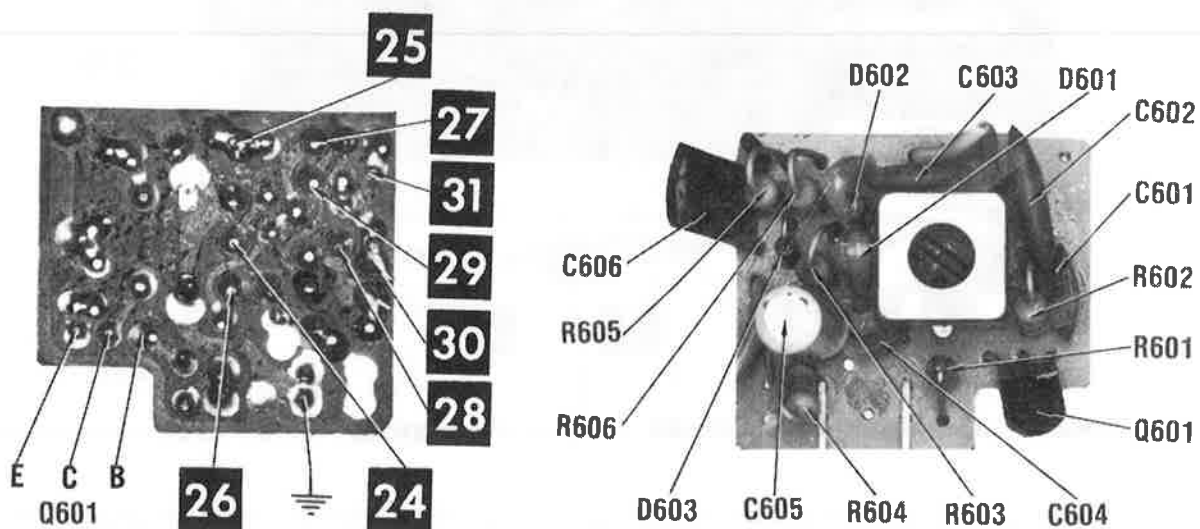
MAIN BOARD



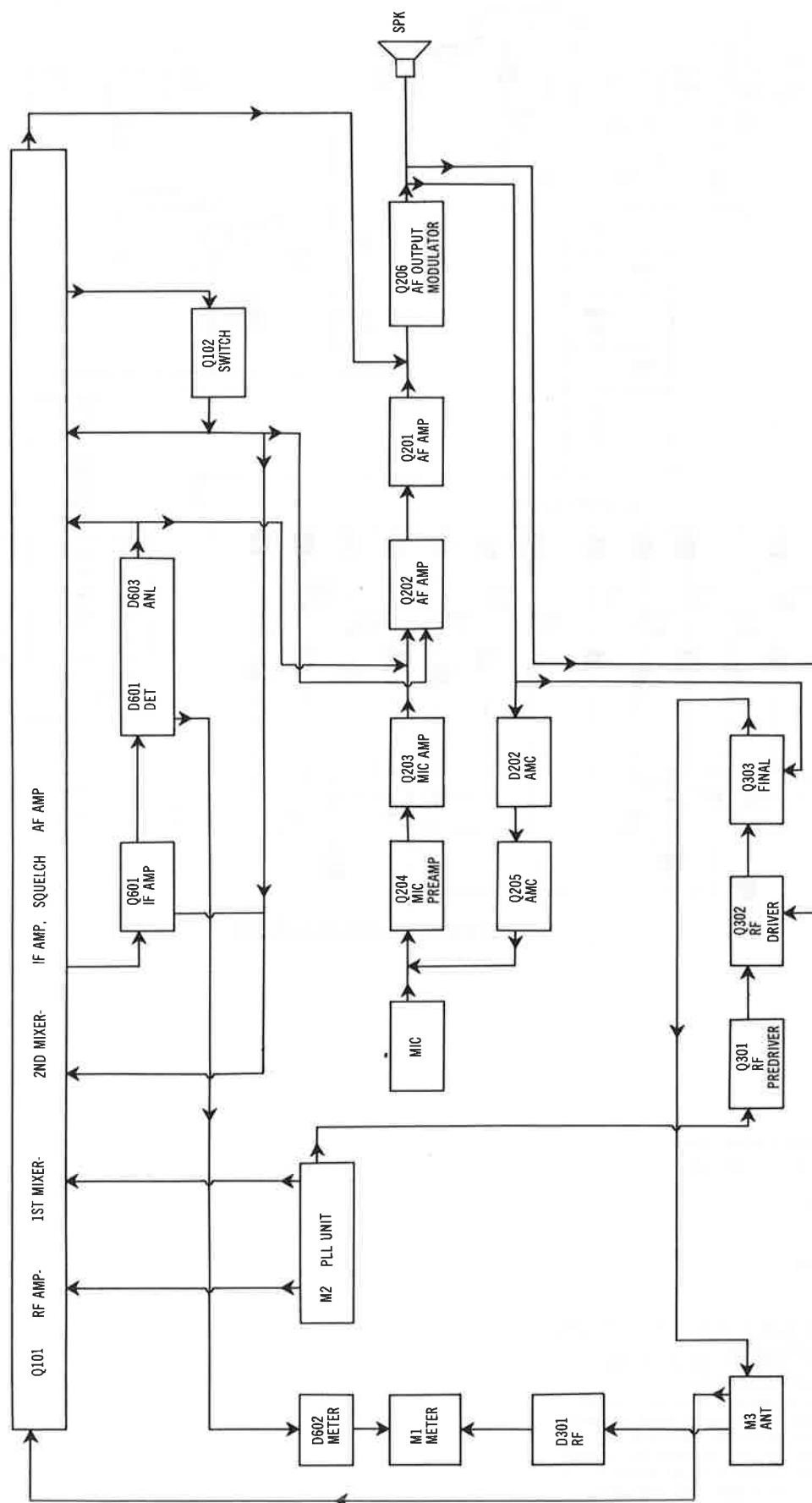
CHASSIS-BOTTOM

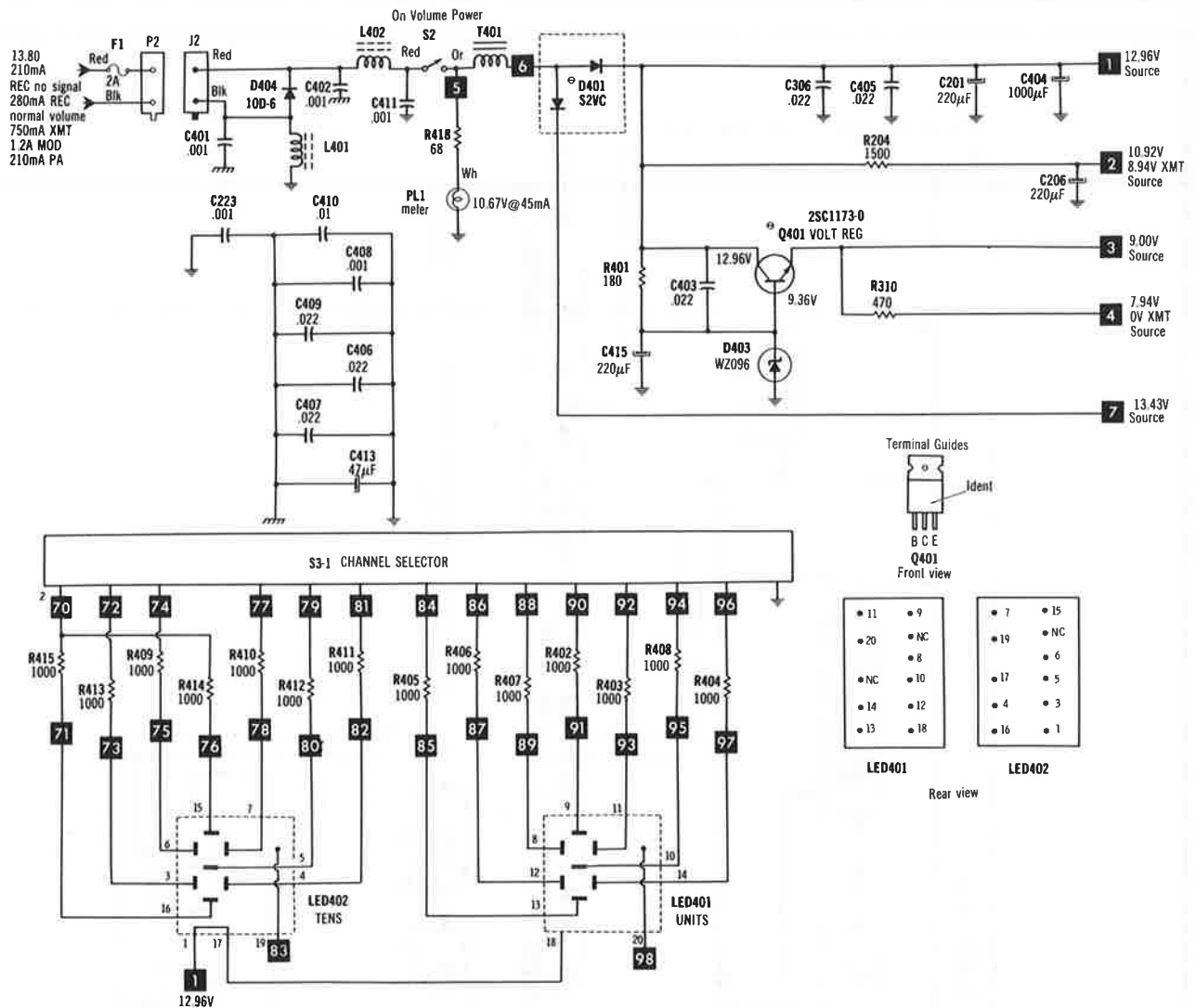


LED BOARD



IF AMP-ANL BOARD





Each segment of LED401, LED402 supplied 1.60V@11mA

- ✕ Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See parts list
- ✱ Nominal value
- ⊥ Ground
- ⏏ Chassis
- ▽ Common tie point
- ➔ Signal path
- ⏏ Voltage path

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 PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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POWER SUPPLY



PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

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.
D101	BA243		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D102	BA244		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
	MC301		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D103	BA243		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
	BA244		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D104	MC301		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D201	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D202	1001		GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116
D301	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109
D401	S2VC		GE-504A(2)	PTC201(2)	HEPRO052(2)	REN 116(2)	SK3311(2)	RT-213(2)	ECG116(2)	TM116(2)
	100C1		GE-504A(2)	PTC201(2)	HEPRO052(2)	REN 116(2)	SK3311(2)	RT-213(2)	ECG116(2)	TM116(2)
D403	S3VC		GE-504A(2)	PTC201(2)	HEPRO052(2)	REN 116(2)	SK3311(2)	RT-213(2)	ECG116(2)	TM116(2)
	WZ096		GE-504A	PTC202	HEPRO054	REN 116	SK3313	RT-215	ECG116	TM116
D404	10D-6		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109
D601	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109
D602	1N60		GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177
D603	1S2075K									
Q101	2001									
Q102	CCT2001		GE-243*	PTC178	HEPS3001*	REN 128	SK3020	RT-114*	ECG128*	TM128*
	2SD467B		GE-243*	PTC178	HEPS3001*	REN 128	SK3020	RT-114*	ECG128*	TM128*
Q201	2SD467C		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
	2SC458C		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
Q202	2SC458D		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
	2SC458C		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
Q203	2SC458D		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
	2SC458D		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**
Q204	2SA844C		GE-244*	PTC103*	HEPS0019*	REN 129*	SK3114	RT-126A*	ECG129*	TM129*
	2SA844D		GE-244*	PTC103*	HEPS0019*	REN 129*	SK3114	RT-126A*	ECG129*	TM129*
Q205	2SB561B		GE-82*	PTC103	HEPS0019*	REN 159	SK3466	RT-103A*	ECG159*	TM159
Q206	ME1513L									
Q301	2SC1908E		GE-20*	PTC136*	HEPS0015*	REN 107	SK3124*	RT-107A*	ECG229*	TM229*
	2SC1908		GE-20*	PTC136*	HEPS0015*	REN 107	SK3124*	RT-107A*	ECG229*	TM229*
Q302	2SC2086		GE-47*	PTC143*	HEPS3001*	REN 293*			ECG293*	TM293*
	2SC2166		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235
Q401	2SC1173Y-0		GE-215	PTC110		REN 236	SK3197	RT-160	ECG236	TM236/**
	2SC458C		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**

* Lead configuration may vary from original.
/** Also available as exact type replacement.
(2) Two required.

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.
C101	15 N220					
C102	.022		DC-253	MGP025	TA125	10TCR-Q15
C103	.022		DC-253	MGP025	TA125	TG-S25
C104	.022		DC-253	MGP025	TA125	TG-S25
C105	22 NPO 10%				*	10TCC-Q22
C107	.001		DD-102		GP210	10TS-D10
C110	.022 50V 10%			DPMS2S22	M192P2239R8	1FT-S22
C114	.0047 10%				JL247	2SS-D47
C115	.0047 10%				JL247	2SS-D47
C117	.01 50V 10%			WMF1S1	EWFTA110	1FT-S10
C119	15 N220				*	10TCR-Q15
C122	.001		DD-102		GP210	10TS-D10
C123	.001		DD-102		GP210	10TS-D10
C125	47 N220 10%				*	10TCR-Q47
C127	.047 50V 10%			DPMS2S47	EWFTA147	1FT-S47
C129	15 N220				*	10TCR-Q15
C130	.1 50V 10%			WMF05P1	EWFO5010	1FT-P10
C203	.0068 50V 10%			WMF1D68	EWFTA268	1FT-D68
C204	.015 50V 10%			WMF1S15	M192P1539R8	1FT-S15
C207	560		DD-561		GP356	10TS-T56
C211	.001		DD-102		GP210	10TS-D10
C212	.001		DD-102		GP210	10TS-D10
C213	.001		DD-102		GP210	10TS-D10
C217	.068 50V 10%			WMF1S68	EWFTA168	1PB-S68
C219	.001		DD-102		GP210	10TS-D10
C220	.0047		DD-472		GP247	5GA-D47
C221	15 N220				*	10TCR-Q15
C222	330		DD-331		GP333	10TS-T33
C223	.001		DD-102		GP210	10TS-D10
C225	.022		DC-253	MGP025	TA125	TG-S25
C226	.1 50V 10%			WMF05P1	EWFO5010	1FT-P10
C227	.022		DC-253	MGP025	TA125	TG-S25
C229	470		DD-471		GP347	10TS-T47
C230	.001		DD-102		GP210	10TS-D10
C231	.001		DD-102		GP210	10TS-D10
C232	.001		DD-102		GP210	10TS-D10
C301	56 N750 5%				*	10TCU-Q56
C302	56 N220 10%					
C303	.022		DC-253	MGP025	TA125	TG-S25
C306	.022		DC-253	MGP025	TA125	TG-S25
C307	220 N750 5%		DTN-220		CN7322	10TCU-T22
C308	.022		DC-253	MGP025	TA125	TG-S25
C309	22 10%			GP22	GP422	5GAQ22
C310	22 N750		DTN-22		CN7422	10TCU-Q22
C311	560		DD-561		GP356	10TS-T56
C312	.022		DC-253	MGP025	TA125	TG-S25
C313	82 N750 10%				CN7482	10TCU-Q82
C314	220 N750 10%		DTN-220		CN7322	10TCU-T22
C315	33 N220 10%				*	10TCR-Q33
C317	2				MAG32P2	
C318	.022		DC-253	MGP025	TA125	TG-S25
C401	.001		DD-102		GP210	10TS-D10
C402	.001		DD-102		GP210	10TS-D10
C403	.022		DC-253	MGP025	TA125	TG-S25
C405	.022		DC-253	MGP025	TA125	TG-S25
C406	.022		DC-253	MGP025	TA125	TG-S25
C407	.022		DC-253	MGP025	TA125	TG-S25
C408	.001		DD-102		GP210	10TS-D10
C409	.022		DC-253	MGP025	TA125	TG-S25
C410	.01		UK50-103		MAG5011	
C411	.001		DD-102		GP210	10TS-D10
C601	.01		UK50-103		MAG5011	
C602	.039				GP140	5GA-S40
C603	.022		DC-253	MGP025	TA125	TG-S25
C604	.001		DD-102		GP210	10TS-D10
C606	.022 50V 10%			DPMS2S22	M192P2239R8	1FT-S22

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
VR101	Gain	20K	FR085-20K			U260R253B
VR102	Squelch Range	20K	FR085-20K			U260R253B
VR103	Squelch	10K	ETV-83059			
VR104	SIG	20K	FR085-20K			U260R253B
VR105	Volume/Switch	10K	ETV-85051			
VR106	RF Gain	10K	ETV-70040			
VR202	AMC	50K	FRA-1024	T-50K(2)	MTC54L1(2)	X260R503B(2)

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

PARTS LIST AND DESCRIPTION

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

RESISTORS (Power and Precision)

ITEM No.	RATING
TH101	2000 Ohms Cold NTC

COILS (RF-IF)

ITEM No.	FUNCTION
L201	RF Choke
L202	RF Choke
L301	RF Driver
L302	Final
L303	Loading Final
L304	Pi Filter
L401	RF Choke
L402	RF Choke
T101	Antenna Tuning (27MHz)
T102	RF Amp (27MHz)
T301	RF Predriver (27MHz)
T302	RF Driver
T601	IF Amp (455kHz)

FILTER CHOKE

ITEM No.	RATINGS	
	CURRENT (Measured)	DC RES.
T401	1.15A	.1

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ANIA No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
7	TM177	WEP1062	103-131
7	TM177	WEP1062	103-131
7	TM177	WEP1062	103-131
7	TM177	WEP1062	103-131
7	TM177	WEP1062	103-131
7	TM177	WEP1062	103-131
9	TM519	WEP925	103-287
9	TM519	WEP925	103-287
9	TM519	WEP925	103-287
9	TM519	WEP925	103-287
9	TM519	WEP925	103-287
6	TM116	WEP156	212-76-02
9	TM109	WEP134	103-29001
6(2)	TM116(2)	WEP157(2)	212-76-02(2)
6(2)	TM116(2)	WEP157(2)	212-76-02(2)
6(2)	TM116(2)	WEP157(2)	212-76-02(2)
10A	1N4740A	WEP1110	103-29010
6	TM116	WEP158	212-76-02
9	TM109	WEP134	103-29001
9	TM109	WEP134	103-29001
7	TM177	WEP1062	103-131
28*	TM128*	WEP59*	121-792
28*	TM128*	WEP59*	121-792
39	TM289/**	WEP458	121-773
39	TM289/**	WEP458	121-773
39	TM289/**	WEP458	121-773
39	TM289/**	WEP458	121-773
39	TM289/**	WEP458	121-773
39	TM289/**	WEP458	121-773
29*	TM129*	WEP60*	121-29005
29*	TM129*	WEP60*	121-29005
59*	TM159	WEP62	121-29003
29*	TM229*	WEP535*	121-29021*
29*	TM229*	WEP535*	121-29021*
33*	TM293*	WEP912*	
35	TM235	WEP785	121-29039
36	TM236/**	WEP840	121-29040
36	TM236/**	WEP840	121-29040
39	TM289/**	WEP458	121-773

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C101	15 N220				*	10TCR-Q15
C102	.022		DC-253	MGP025	TA125	TG-S25
C103	.022		DC-253	MGP025	TA125	TG-S25
C104	.022		DC-253	MGP025	TA125	TG-S25
C105	22 NPO 10%				*	10TCC-Q22
C107	.001		DD-102	DPMS2S22	GP210	10TS-D10
C110	.022 50V 10%				M192P2239R8	1FT-S22
C114	.0047 10%				JL247	2SS-D47
C115	.0047 10%				JL247	2SS-D47
C117	.01 50V 10%			WMF1S1	EWFI1A110	1FT-S10
C119	15 N220				*	10TCR-Q15
C122	.001		DD-102		GP210	10TS-D10
C123	.001		DD-102		GP210	10TS-D10
C125	47 N220 10%				*	10TCR-Q47
C127	.047 50V 10%			DPMS2S47	EWFI1A147	1FT-S47
C129	15 N220				*	10TCR-Q15
C130	.1 50V 10%			WMF05P1	EWFO5010	1FT-P10
C203	.0068 50V 10%			WMF1D68	EWFI1A268	1FT-D68
C204	.015 50V 10%			WMF1S15	M192P1539R8	1FT-S15
C207	560		DD-561		GP356	10TS-T56
C211	.001		DD-102		GP210	10TS-D10
C212	.001		DD-102		GP210	10TS-D10
C213	.001		DD-102		GP210	10TS-D10
C217	.068 50V 10%			WMF1S68	EWFI1A168	1PB-S68
C219	.001		DD-102		GP210	10TS-D10
C220	.0047		DD-472	GP4700	GP247	5GA-D47
C221	15 N220				*	10TCR-Q15
C222	330		DD-331	GP330	GP333	10TS-T33
C223	.001		DD-102		GP210	10TS-D10
C225	.022		DC-253	MGP025	TA125	TG-S25
C226	.1 50V 10%			WMF05P1	EWFO5010	1FT-P10
C227	.022		DC-253	MGP025	TA125	TG-S25
C229	470		DD-471	GP470	GP347	10TS-T47
C230	.001		DD-102		GP210	10TS-D10
C231	.001		DD-102		GP210	10TS-D10
C232	.001		DD-102		GP210	10TS-D10
C301	56 N750 5%				*	10TCU-Q56
C302	56 N220 10%					
C303	.022		DC-253	MGP025	TA125	TG-S25
C306	.022		DC-253	MGP025	TA125	TG-S25
C307	220 N750 5%		DTN-220	N220	CN7322	10TCU-T22
C308	.022		DC-253	MGP025	TA125	TG-S25
C309	22 10%			GP22	GP422	5GAQ22
C310	22 N750		DTN-22	N22	CN7422	10TCU-Q22
C311	560		DD-561		GP356	10TS-T56
C312	.022		DC-253	MGP025	TA125	TG-S25
C313	82 N750 10%				CN7482	10TCU-Q82
C314	220 N750 10%		DTN-220	N220	CN7322	10TCU-T22
C315	33 N220 10%				*	10TCR-Q33
C317	2				MAG32P2	
C318	.022		DC-253	MGP025	TA125	TG-S25
C401	.001		DD-102		GP210	10TS-D10
C402	.001		DD-102		GP210	10TS-D10
C403	.022		DC-253	MGP025	TA125	TG-S25
C405	.022		DC-253	MGP025	TA125	TG-S25
C406	.022		DC-253	MGP025	TA125	TG-S25
C407	.022		DC-253	MGP025	TA125	TG-S25
C408	.001		DD-102		GP210	10TS-D10
C409	.022		DC-253	MGP025	TA125	TG-S25
C410	.01		UK50-103		MAG5011	
C411	.001		DD-102		GP210	10TS-D10
C601	.01		UK50-103		MAG5011	
C602	.039				GP140	5GA-S40
C603	.022		DC-253	MGP025	TA125	TG-S25
C604	.001		DD-102		GP210	10TS-D10
C606	.022 50V 10%			DPMS2S22	M192P2239R8	1FT-S22

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
VR101	Gain	20K	FR085-20K			U260R253B
VR102	Squelch Range	20K	FR085-20K			U260R253B
VR103	Squelch	10K	ETV-83059			
VR104	SIG	20K	FR085-20K			U260R253B
VR105	Volume/Switch	10K	ETV-85051			
VR106	RF Gain	10K	ETV-70040			
VR202	AMC	50K	FRA-1024	T-50K(2)	MTC54L1(2)	X260R503B(2)

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

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
TH101	2000 Ohms Cold NTC		TD5-225				

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L201	RF Choke				
L202	RF Choke				
L301	RF Driver				
L302	Final				
L303	Loading Final				
L304	Pi Filter				
L401	RF Choke				
L402	RF Choke				
T101	Antenna Tuning (27MHz)	ETC-15089	ETC-15089		
T102	RF Amp (27MHz)	ETC-15061	ETC-15061		
T301	RF Predriver (27MHz)				
T302	RF Driver				
T601	IF Amp (455kHz)	ETC-73194	ETC-73194		

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T401	1.15A	.1	1.45mH	ETT-1002B	TR509		

KRACO MODEL KCB-4001

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
			MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T201	5.12	1 28.88 2 8	ETT-83023B			

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			MFR. PART No.	QUAM PART No.	
SP	3" PM	8 Ohms	77-97P	30A05Z8R	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	WORKMAN PART No.
F1	2A Quick Acting			AGC(2)	HDJA	312002	150145

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
M1c	CB-EAM-0034	18-032	18-034	18-010	18-092	1	2	4	3	NC	2

KRACO MODEL KCB-4001

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
FBL1	Ferrite Bead	ETC-83200	
F101	Filter	SFE9.8MJ	9.8MHz
F102	Filter	CFW-455HT	455kHz
J1	Connector	FS214-4SS(C2)	Microphone
J2	Connector	4-83112	DC Power
JK1	Jack		PA Speaker
JK2	Jack		External Speaker
LED401	LED	DI-5082-7730	Channel Indicator, Units (1.60V @ 11mA; Each segment)
LED402	LED	DI-5082-7730	Channel Indicator, Tens (1.60V @ 11mA; Each segment)
M1	Meter	CB-CB-740	S/PWR
M3	Connector	FM-MR-M2	Antenna
PL1	Lamp	CB-4001	Meter (10.67V @ 45mA)
P1	Plug	CB-EAM-0034	Microphone
P2	Plug	1-480359-0	DC Power
S1	Switch		PA/CB
S2	Switch		Power, On/Off (Part of Volume Control)
S3	Switch	ETS-83059	Channel Selector
S4	Switch		ANL, On/Off
	Cord	CB-12-4605	Power Source Assembly

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

ITEM	PART No.	ITEM	PART No.
Case, Bottom	2-83004	Control Plate, Left	4101005
Case, Top	2-83003	Control Plate, Right	4101006
Knob, Channel	3101007	Control Plate, Top	4101003
Plate, Channel Knob	4101010	Front Panel	2101001
Chassis Assembly	2101002	PLL, Cover	3-U34001-0
Knob, Control	3101008	PLL, Frame	3-U27001-0
Plate, Control Knob	4101011	Push Knob	4101009
Control Plate, Bottom	4101004	Push Switch Knob, Plate	4101012

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')