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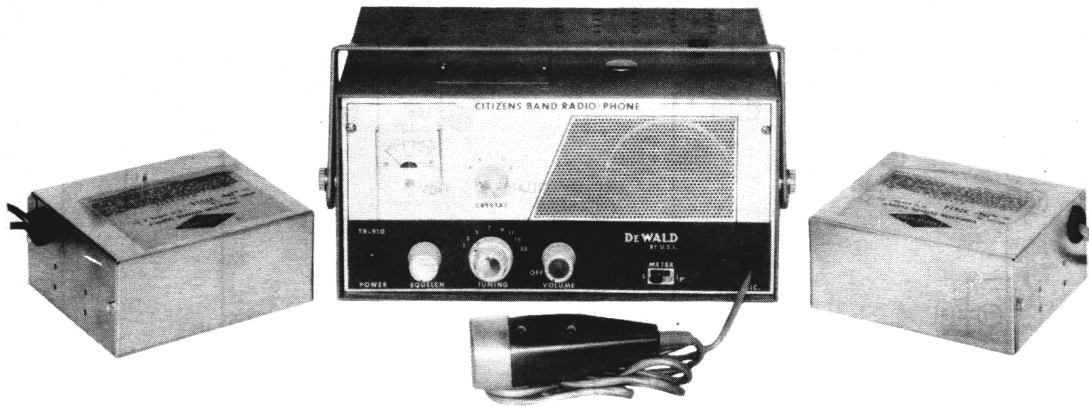
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PHOTOFACT® Folder

with CIRCUITRACE®

DEWALD MODELS
TR-6, TR-12, TR-910



MODEL TR-12

MODEL TR-910

MODEL TR-6

DEWALD MODELS
TR-6, TR-12, TR-910

TRADE NAME	DeWald Models TR-6, TR-12, TR-910
MANUFACTURER	DeWald, A Div. of United Scientific Laboratories Inc., 35-15 Thirty Seventh Ave., Long Island City 1, N. Y.
TYPE SET	AC (or) DC Operated 6 Tube Citizen Band Transmitter-Receiver
POWER SUPPLY	110 - 120 Volts AC, 50-60 Cycles (Optional Power Supply Model TR-6 or TR-12 is Available for 6 or 12VDC Operation)
RATING	45 Watts, .45 Amp. @117 Volts AC 6.6 Amp. @6.3 Volts DC 3.4 Amp. @12.6 Volts DC
TUNING RANGE	TRANSMITTER: Any 5 of Citizens Band Channels 1 thru 22 RECEIVER: Continuous Tuning thru all Citizen Band Channels 1 thru 22

NOTICE

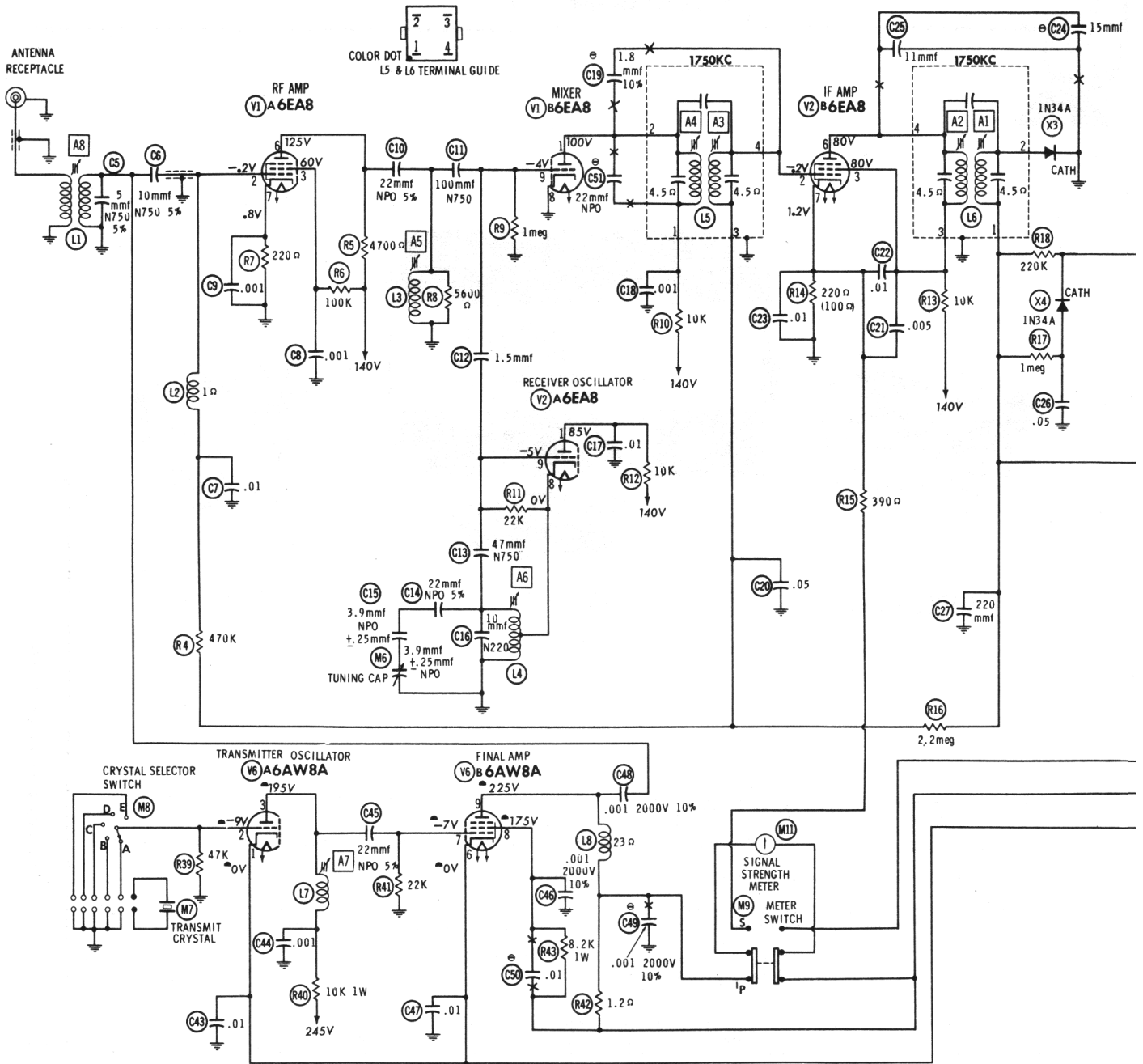
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71).

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



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NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common ground.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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RESISTANCE READINGS

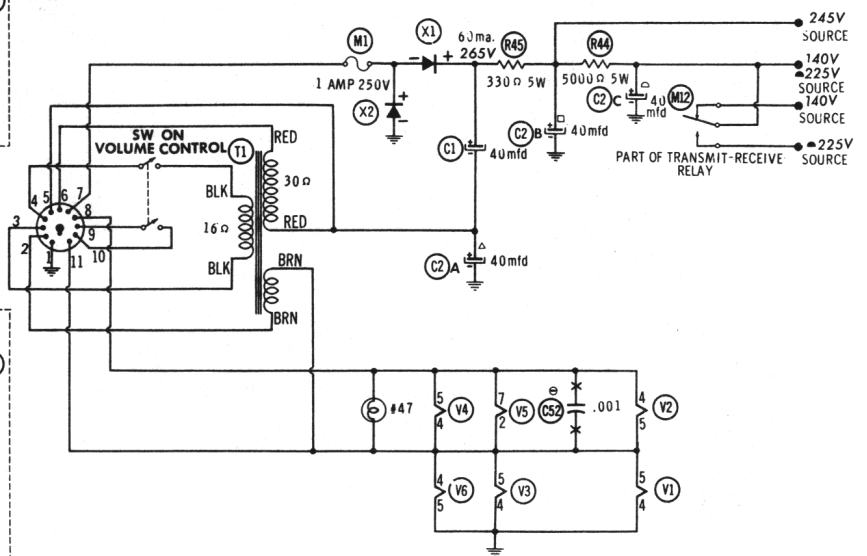
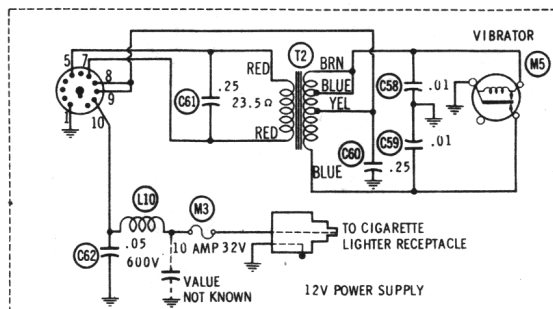
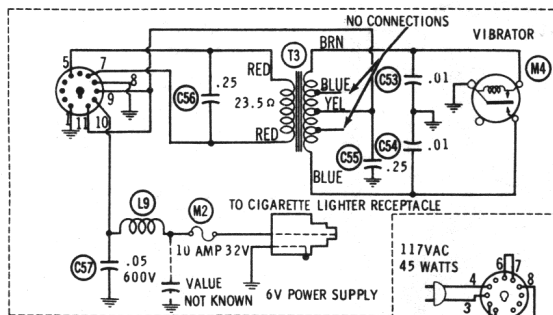
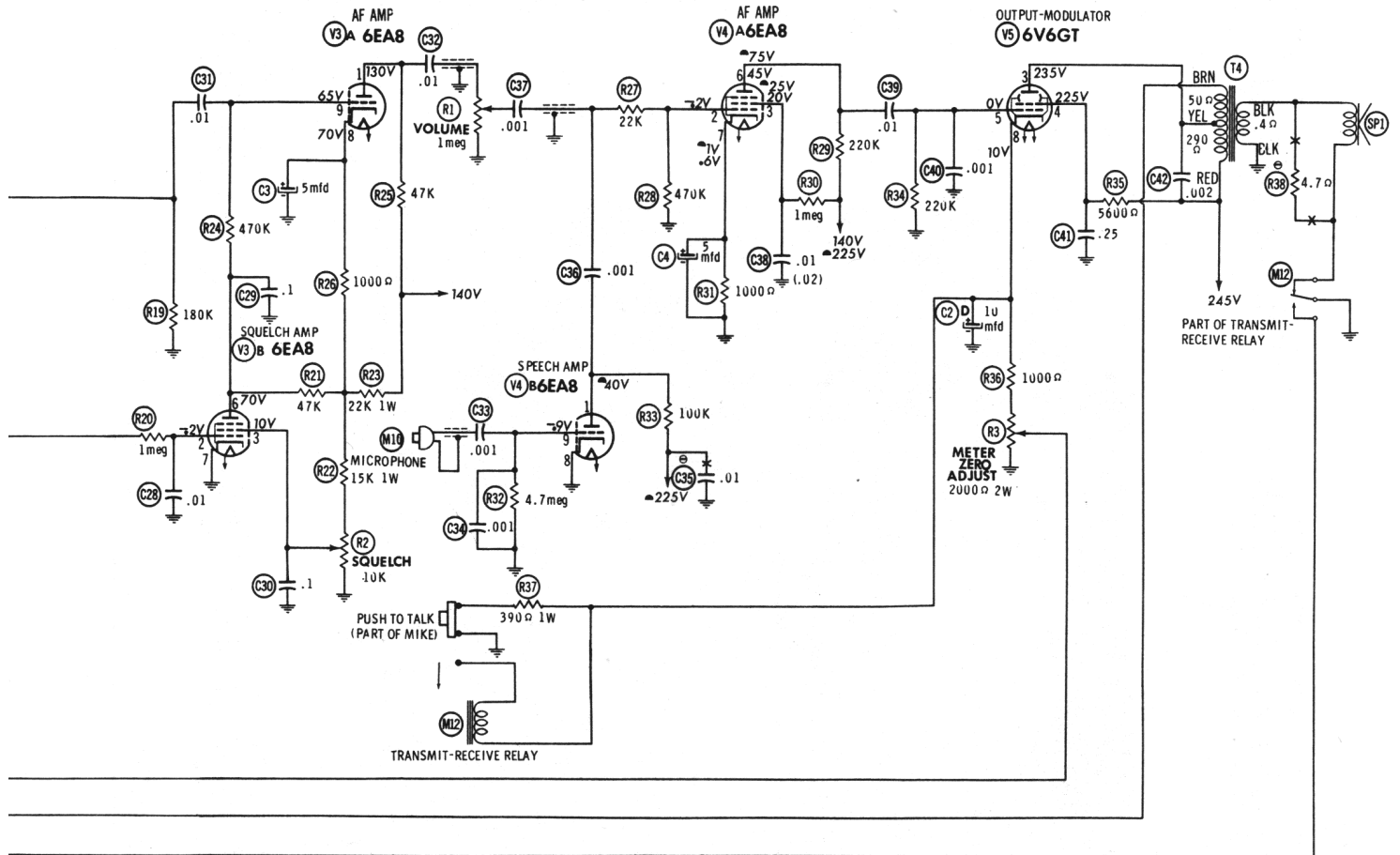
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6EA8	$\pm 15K$	2.9 meg	$\pm 105K$	FIL	FIL	$\pm 10K$	220 Ω	0 Ω	1 meg
V2	6EA8	$\pm 15K$	2.4 meg	$\pm 15K$	FIL	FIL	$\pm 51K$	200 Ω $\pm 160 \Omega$.1 Ω	22K
V3	6EA8	$\pm 52K$	1.2 meg	$\pm 19K$	FIL	FIL	$\pm 48K$	0 Ω	20K	500K
V4	6EA8	$\pm 105K$	470K	± 1.5 meg	FIL	FIL	$\pm 225K$	1000 Ω	0 Ω	4.7 meg
V5	6V6GT	TP	FIL	$\pm 620 \Omega$	$\pm 5900 \Omega$	220K	TP	FIL	280 Ω $\pm 390 \Omega$	
V6	6AW8A	0 Ω	47K	$\pm 10K$	FIL	FIL	0 Ω	22K	19000 Ω	$\pm 350 \Omega$

ALL MEASUREMENTS MADE IN RECEIVE POSITION UNLESS OTHERWISE DESIGNATED.

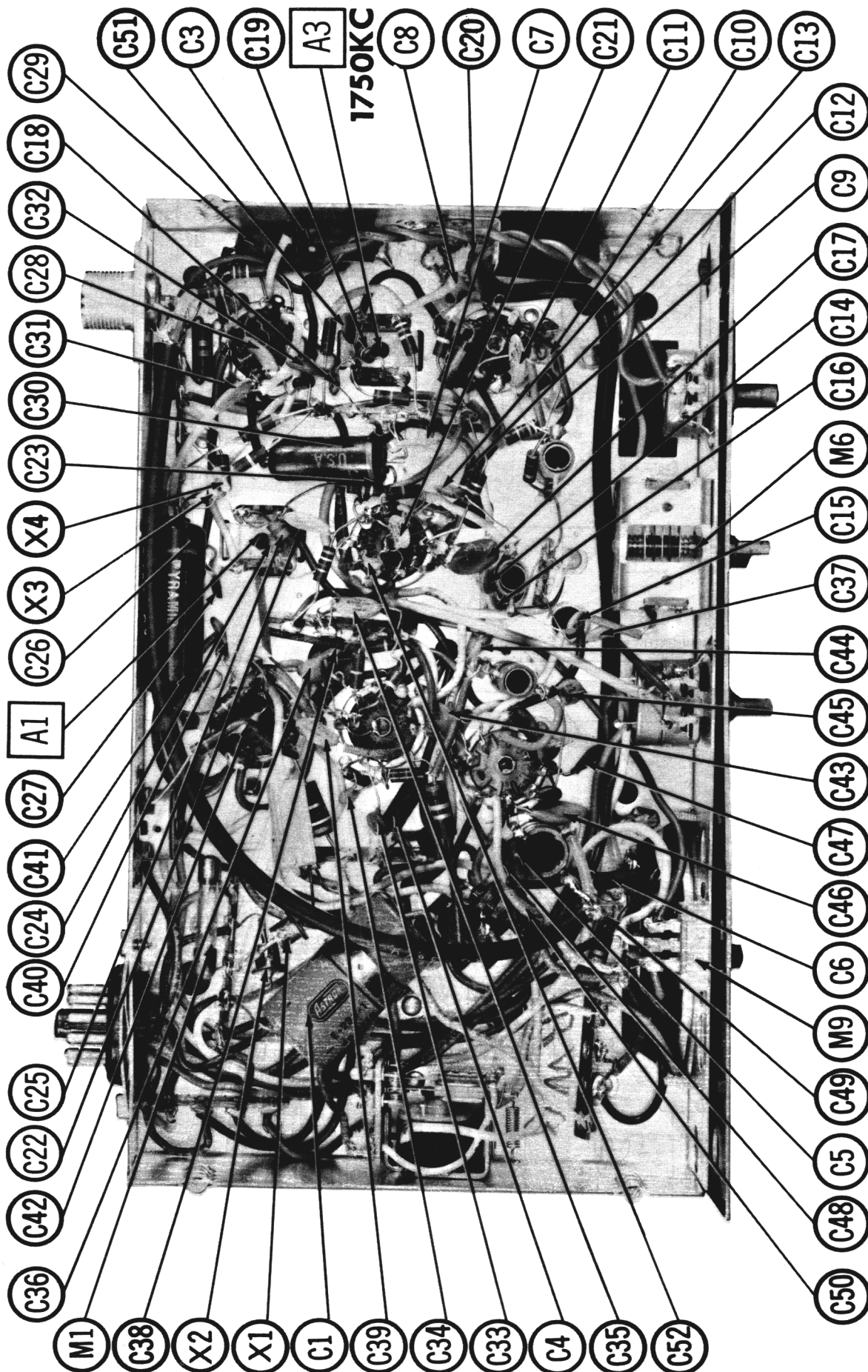
MEASURED IN TRANSMIT POSITION.

MEASURED FROM OUTPUT OF X1.

TP TIE POINT

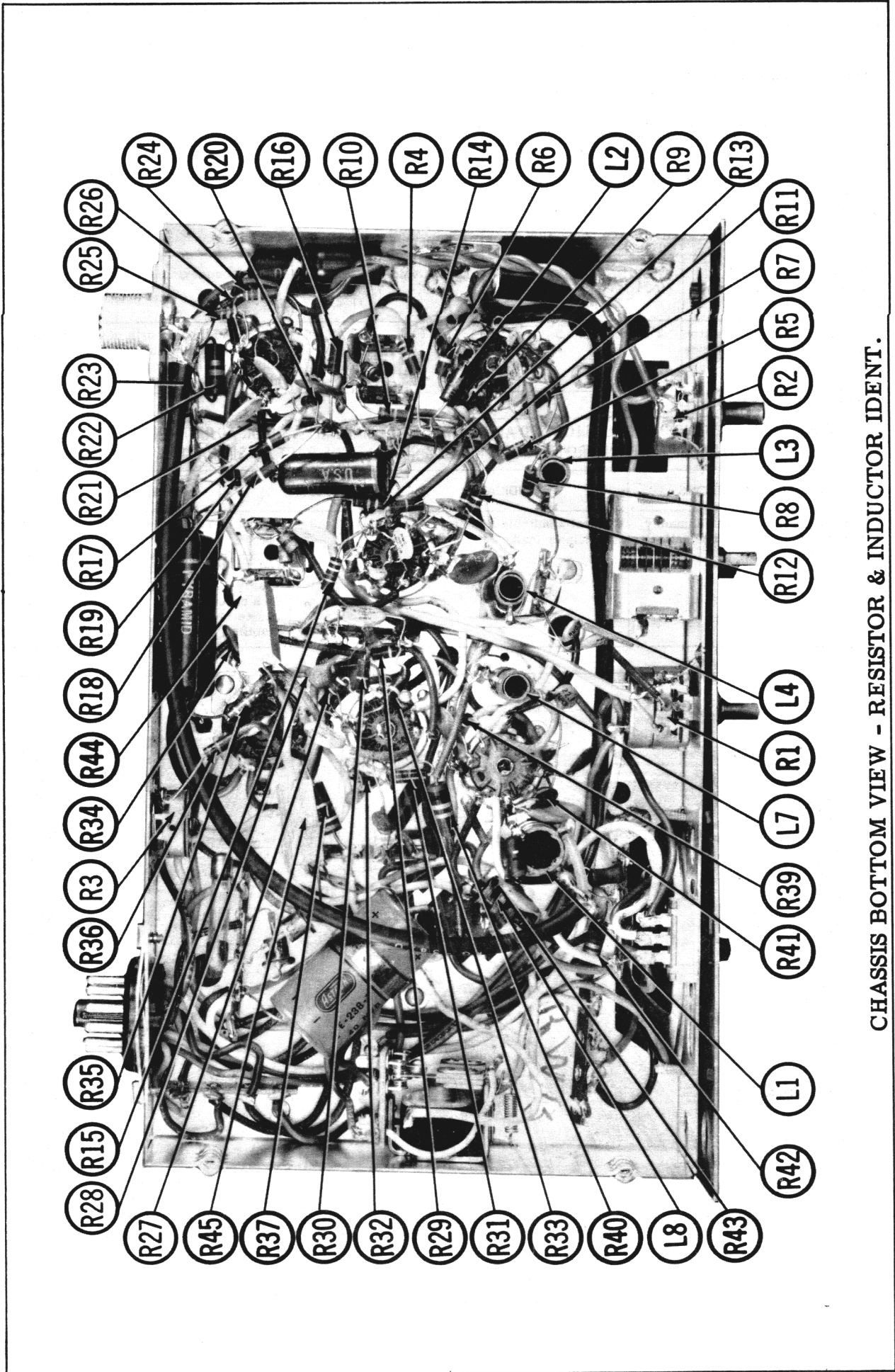


1750KC



1750KC

CHASSIS BOTTOM VIEW - ALIGNMENT, CAPACITOR & MISC. IDENT.



CHASSIS BOTTOM VIEW - RESISTOR & INDUCTOR IDENT.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

- A1 thru A4..... GENERAL CEMENT #5097, 8727
WALSCO #2515
- A5, A6, A7..... GENERAL CEMENT #8721, 8722
WALSCO #2519
- A8..... GENERAL CEMENT #5003, 8271, 8275, 8276, 8609, 8721, 8722, 9150, 9298
WALSCO #2516, 2518, 2519

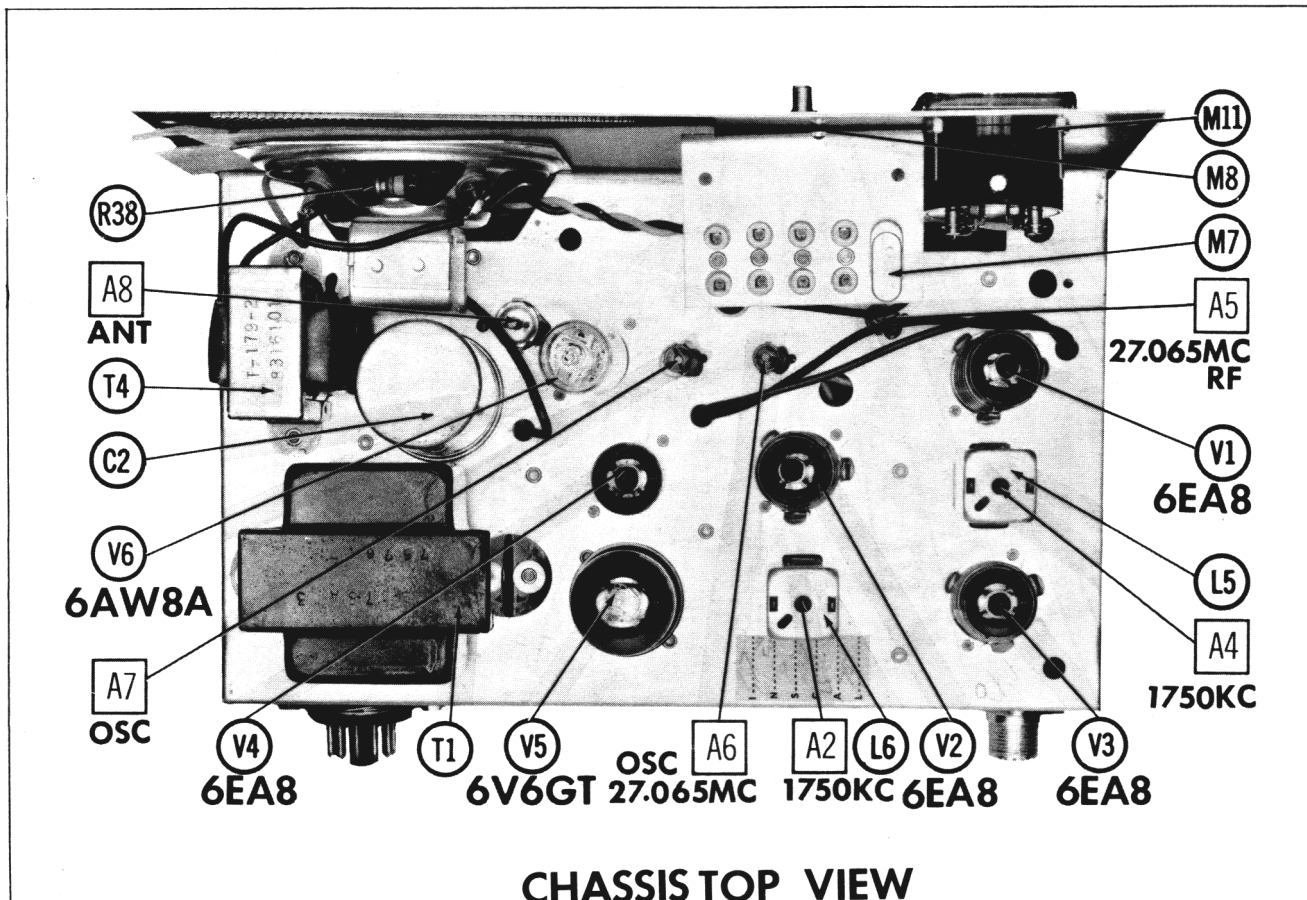
RECEIVER ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 9 (grid) of Mixer. Low side to chassis.	1750KC (400% Mod)		Across voice coll.	A1, A2, A3, A4	Adjust for maximum output.
2.	Connect output of generator having 52Ω output impedance to antenna receptacle.	27.065MC		"	A5, A6	Preset A6 three-fourth of the way out. Adjust A5 and A6 in order for maximum output. A6 has two peaks. Use the higher peak.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71)

	SPECIAL INSTRUCTIONS	INDICATOR	ADJUST	REMARKS
3.	Insert a 52Ω non-inductive dummy load (minimum 3 watt dissipation) into antenna socket.	Connect a suitable RF meter across the dummy load.	A7, A8	Switch to Transmit and adjust for maximum output. Switch from receive to transmit several times while slowly turning A7 counterclockwise ½ turn at a time for maximum output, then carefully turn A7 an additional 1½ turn counterclockwise for maximum oscillator stability. Readjust A8 for maximum output.



PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp. - Mixer	6EA8	V4	A.F. Amp. - Speech Amp. Output-Modulator	6EA8
V2	Rec. Osc. -IF Amp.	6EA8	V5	Trans. Osc. - Final Amp.	6V6GT
V3	Squeich-AF Amp.	6EA8	V6		6AW8A

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES		NOTES
			SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.		
X1	.080A		INI783	MTL-4	TC40	IN34A	Detector AGC
X2	.080A		INI783	MTL-3	TY12X5	IN34A	
X3	IN34A						
X4							

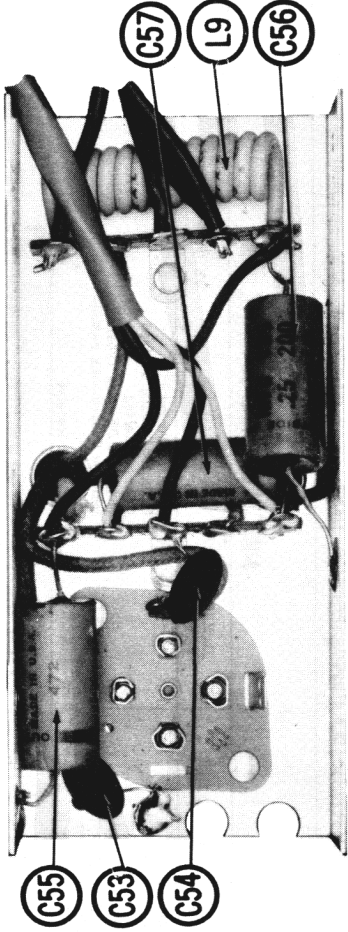
ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP. VOIT.	REPLACEMENT DATA						
		DEWALD PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	40 200		PR8180	BR4025	QTL-14	TC58	TD-40-250	TVA-1511
C2	40 200		AF8143	C0340	XC4-65	FP376.8	TM-3700	TVL-3785
C3	40 350		PR8170	BR4035		TC78	TD-40-350	TVA-1611
C4	10 50							
C5	5 150		SRE180V5	NLW5-150	MTL-4	TC40	MLV5-150	TE-1504
C6	5 12		PTT51	NLW5-15	MTL-3	TY12X5	MLV5-15	TE-1127

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CORNELL DUBILIER PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.
C5	5 N750 5%		N750-SI 5.0	C10QV5	TCN-5	CCTN-050	CNT-550	10TCC-U50
C6	10 N750 5%		N750-SI 10	C10QV10	TCN-10	CCTN-100	CNT-410	10TCC-U10
C7	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C8	.01		BPD-01	BYA10S1	DD-103	CCD-102	B-210	5HK-D10
C9	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C10	22 NPO 5%		BPD-001	C10Q22C	DD-102	CCD-102	CNO-422	10TCC-Q22
C11	100 N750		N750-D1.100	C10T15C	DTN-100	CCTN-101	CNT-310	10TCC-V15
C12	1.5		N750-SI 1.5	C10V15C	TCZ-1R5	CCTN-470	CNT-447	10TCC-Q47
C13	47 N750		N750-D1.47	C10Q47U	DTN-47	CCTN-470	CNT-447	10TCC-Q47
C14	22 NPO 5%			C10Q22C	DTZ-22	CM-19B-220J	CNO-422	10TCC-V39
C15	3.9 NPO ±.25mmf			C10V4C				10TCC-Q10
C16	10. N220							10TCC-Q10
C17	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C18	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C19	1.8 10%	Note 1	N750-SI 2.0	C10V2C				4TM-S50
C20	.05 400V		P468N-05	CUB46S	DD-503	4DP-3-503	GEM-415	5HK-D50
C21	.01		BPD-005	BYA10D5	DD-502	CCD-502	B-250	5HK-S10
C22	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C23	.01		SI 15	L10Q15	DD-103	CCD-150	GP415	10TCS-Q15
C24	15	Note 1	SI 15	L10Q15	DD-100	CCD-100	GP410	10TCS-Q10
C25	.05 400V	Note 1	P468N-05	CUB46S	DD-503	4DP-3-503	GEM-415	5HK-S10
C26	.01		BPD-01	L10T22	DD-220	CCD-221	B-322	10TCS-T22
C27	.01		BPD-01	CUB2P1	DD-103	CCD-103	B-110	5HK-S10
C28	1.1 200V		P288N-1	CUB2P1	DD-103	CCD-103	GEM-201	2TM-P10
C29	1.1 200V		P288N-1	CUB2P1	DD-104	ZDP-3-104	GEM-201	2TM-P10
C30	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C31	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C32	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C33	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C34	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C35	.01		BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C36	.01	Note 1	BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10
C37	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C38	.01		BPD-01	BYA10S1	DD-103	CCD-103	B-110	5HK-S10
C39	.01	(.02) †	BPD-001	BYA10D1	DD-102	CCD-102	B-210	5HK-D10

POWER CHASSIS - BOTTOM VIEW



FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C41	.25 400V		P468N-25	DD-202	CUB4P25	4DP-5-254	GEM-4025	4TM-P25
C42	.002		BPD-01	DD-103	BYA10D2	CCD-202	B-220	5HK-D20
C43	.01		BPD-01	DD-102	BYA10S1	CCD-103	B-110	5HK-S10
C44	.01		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C45	22 NPO 5%		BPD-01	DD-102	C10Q22C	CM-19B-220J	CNO-422	10TCC-Q22
C46	.01 2000V 10%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C47	.01 2000V 10%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C48	.01 2000V 10%	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C49	.01 2000V 10%	Note 1	NPO-D1.22	DTZ-22	C10Q22C	CCD-102	CNO-422	10TCC-Q22
C50	.01	Note 1	BPD-001	DD-103	BYA10D1	CCD-102	B-210	5HK-D10
C51	22 NPO	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C52	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C53	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C54	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C55	.25 200V		P288N-25	DD-503	CUB2P25	2DP-4-254	GEM-2025	2TM-P25
C56	.25 200V		P288N-25	DD-503	CUB2P25	2DP-4-254	GEM-2025	2TM-P25
C57	.05 600V		P288N-05	DD-503	CUB6S5	6DP-3-503	GEM-615	6TM-S50
C58	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C59	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C60	.25 200V		P288N-25	DD-503	CUB2P25	2DP-4-254	GEM-2025	2TM-P25
C61	.25 200V		P288N-25	DD-503	CUB2P25	2DP-4-254	GEM-2025	2TM-P25
C62	.05 600V		P288N-05	DD-503	CUB6S5	6DP-3-503	GEM-615	6TM-S50

Note 1. Not used in some versions.
 † Not normally in distributor's stock. Available thru distributor on order to manufacturer.
 ‡ Alternate Value.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			DEWALD PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume & Switch	Imeg	V-329-3	B-70-S or (AB-70, AK-7, KR-7)	A47-Imeg-Z/FS-3, SWE-20, A47-10K-S/FS-3	Q13-137, 76-2 or (BU1, C26, SS1, W7F)*	U53, US-27	
R2	Squelch	10K	V-330-4	(AB-14, AK-11) WN-201	FS-3	Q11-116 or (BU1, CF9, SS1, DC1)*	U20	
R3	Meter Zero Adjust.	2000 2W			A43-200, FKS-1/4	W1L-100 SK5	R250L	

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.
R4	470K			R25	47K		
R5	47000			R26	10000		
R6	100K			R27	22K		
R7	2200			R28	470K		
R8	56000			R29	220K		
R9	1Meg			R30	1Meg		
R10	10K			R31	10000		
R11	22K			R32	4.7Meg		
R12	10K			R33	100K		
R13	10K			R34	220K		
R14	2200			R35	56000		
R15	3900			R36	10000		
R16	2.2Meg			R37	3900 1W		
R17	1Meg			R38	4.7K		
R18	220K			R39	47K		
R19	180K			R40	10K 1W		
R20	1Meg			R41	22K		
R21	47K			R42	1.2K		
R22	15K 1W			R43	82000 1W		
R23	22K 1W			R44	50000 5W		
R24	470K			R45	3300 5W		

* Alternate Value.
Note 1. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			ITEM No.	NOTES
		DeWALD PART No.	Miller PART No.	Stancor PART No.		
L1	Ant.					
L2	RF Choke(5.6uh)		4609	RTC-8519	T820	
L3	RF		6248	RTC-9248	T216	
L4	Osc.					
L5	1st IF					
L6	2nd IF					
L7	Osc. Plate		6248	RTC-9248	T216	
L8	RF Choke (500uh)		6174	RTC-8592	T324	
L9	Hash Choke					
L10						

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	NOTES
		DeWALD PART No.	Miller PART No.	Stancor PART No.		
T1	AC OPERATION PRL SEC. 1 100V @ 6.3V @ .45A .24A 3A					
T2	12 V DC OPERATION PRL SEC. 1 12.6V @ 100V @ L.9A .24A DC					
T3	6V DC OPERATION PRL SEC. 1 6.3VCT 100V @ @3.6A DC					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		DeWALD PART No.	Merit PART No.	Stancor PART No.	Thornderson PART No.	
T4	3800Ω Tap @ 17%	T-179-2				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DeWALD PART No.	QUAM PART No.	
SP1	3 1/2" PM	3A-40	3A07	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA		
			DeWALD PART No.	LITTE/FUSE PART No.	BUSS PART No.
M1	3AG	1A① 250V P/T			
M2	SFE	32V 10A②	318001 (3AG 1A 250V) P/T		
M3	SFE	32V 10A③	307010 (SFE 10A 32V)	155009	HDE
			307010 (SFE 10A 32V)	155009	HDE

① AC Operation.
② 6V DC Operation.
③ 12V DC Operation.

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS/FREQUENCY	REPLACEMENT DATA			NOTES
			DeWALD PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M4	Interrupter	6.3				
M5	Interrupter	12.6	5301 115%	5301 1801	5301 6301	6.3V DC Operation 12.6V DC Operation

MISCELLANEOUS

ITEM No.	PART NAME	DeWALD PART No.	NOTES
M6	Tuning Cap.		
M7	Crystal		Receiver Tuning Order by Channel Desired
M8	Switch		Crystal Selector
M9	Switch		Meter (DPDT Slide Type)
M10	Microphone		Includes Push-to-talk Switch
M11	Meter		
M12	Relay		Transmit-Receive

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Power Cord Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft.
Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8885 (Plastic)