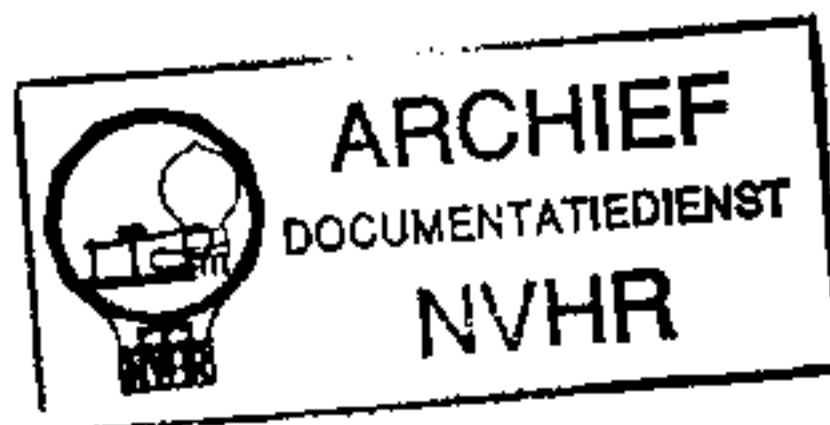


Met dank aan Jef Bos

Ned. Ver. v. Historie v/d Radio



TRADE NAME	Norelco Model L3X86T		
SUPPLIER	North American Phillips Co., Inc., 230 Duffy Ave., Hicksville, N. Y.		
TYPE SET	Battery Operated Transistorized Portable BC-SW Receiver		
POWER SUPPLY	9 Volts DC	RATING	14MA @ 9 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	512—1635KC		30MA @ 9 Volts DC (Signal, Normal Volume)
		SHORT WAVE	1.7 — 4.1MC

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 A7, A9..... GENERAL CEMENT #8721, 8722
WALSCO #2519

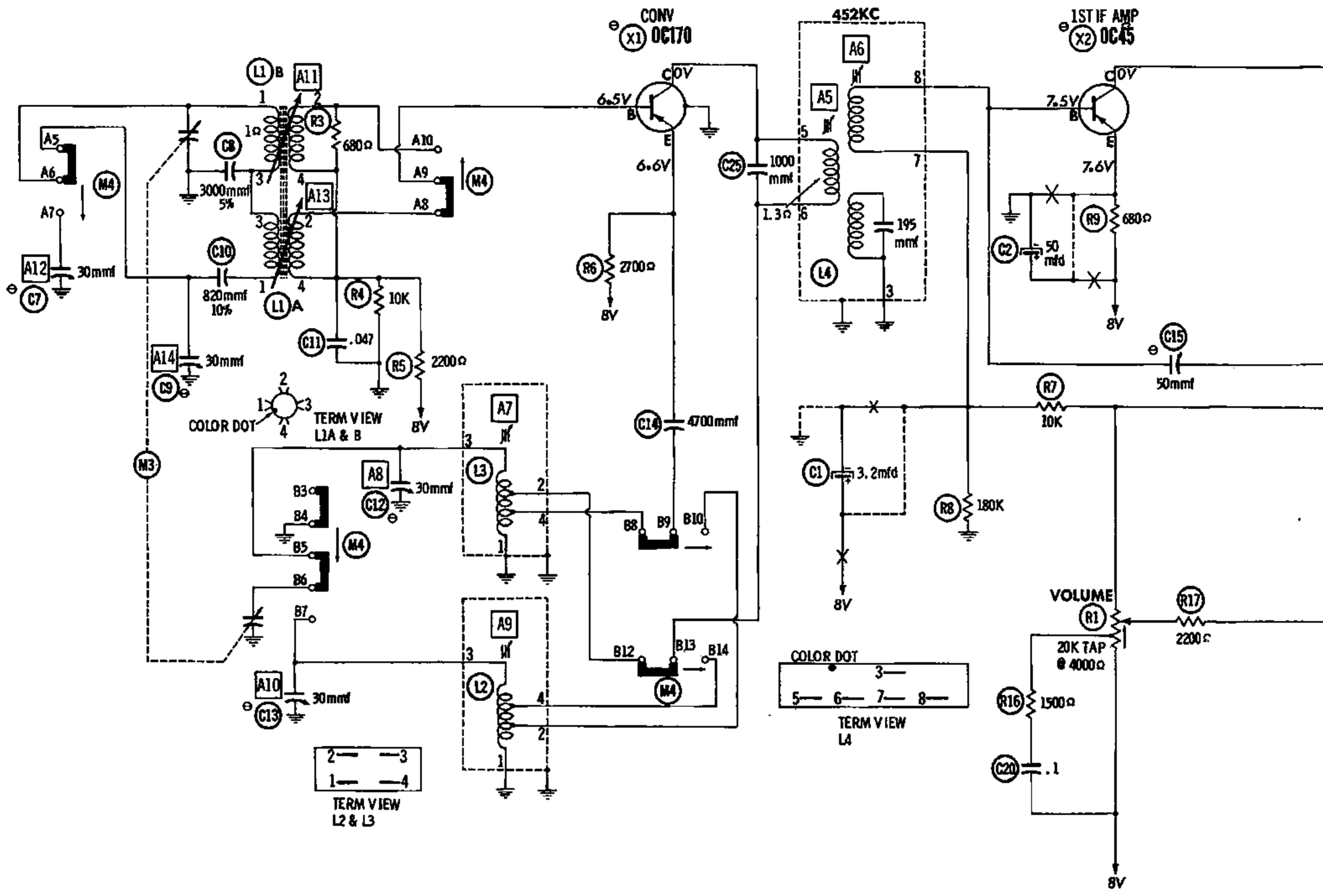
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .033mfd to base of converter. Low side to chassis.	452KC (400v Mod.)	(BC) Tuning gang fully closed.	Across voice coil.	A1, A2, A3, A4, A5, A6	Adjust for maximum output.
2.	Loop	512KC	"	"	A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	"	1635KC	Tuning gang fully open.	"	A8	"
4.	"	1.6MC	(SW) Tuning gang fully closed.	"	A9	"
5.	"	4.1MC	(SW) Tuning gang fully closed.	"	A10	"
6.	"	600KC	(BC) 600KC Signal	"	A11	"
7.	"	1500KC	(BC) 1500KC Signal.	"	A12	"
8.	"	1.8MC	(SW) 1.8MC Signal.	"	A13	"
9.	"	3.8MC	(SW) 3.8MC Signal.	"	A14	"

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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KF097

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1960 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America





RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

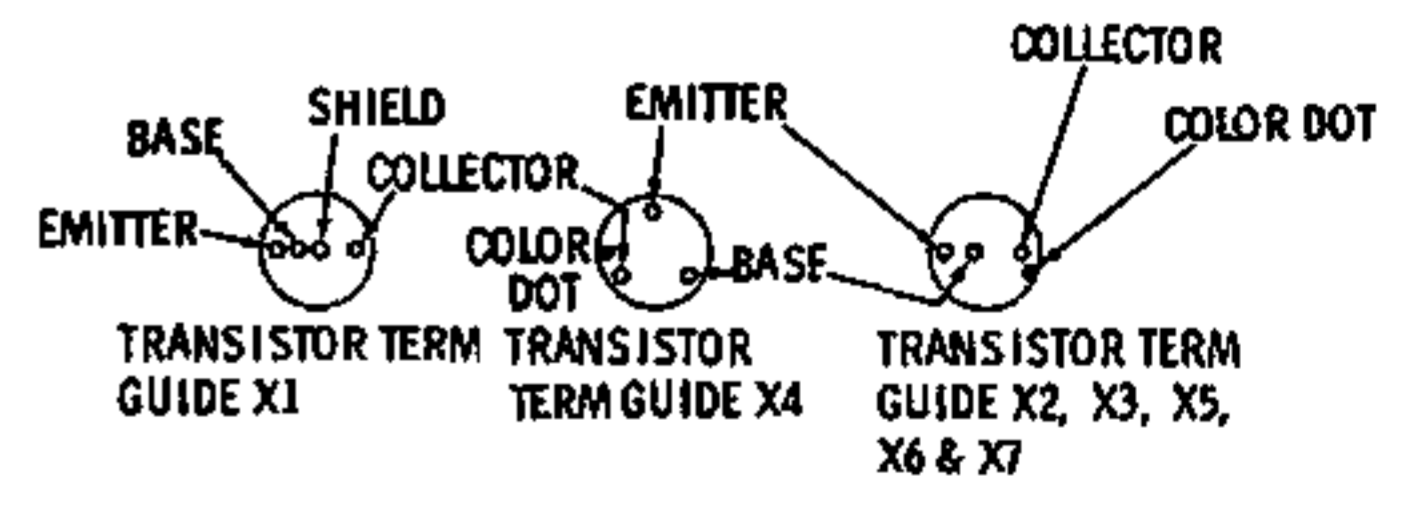
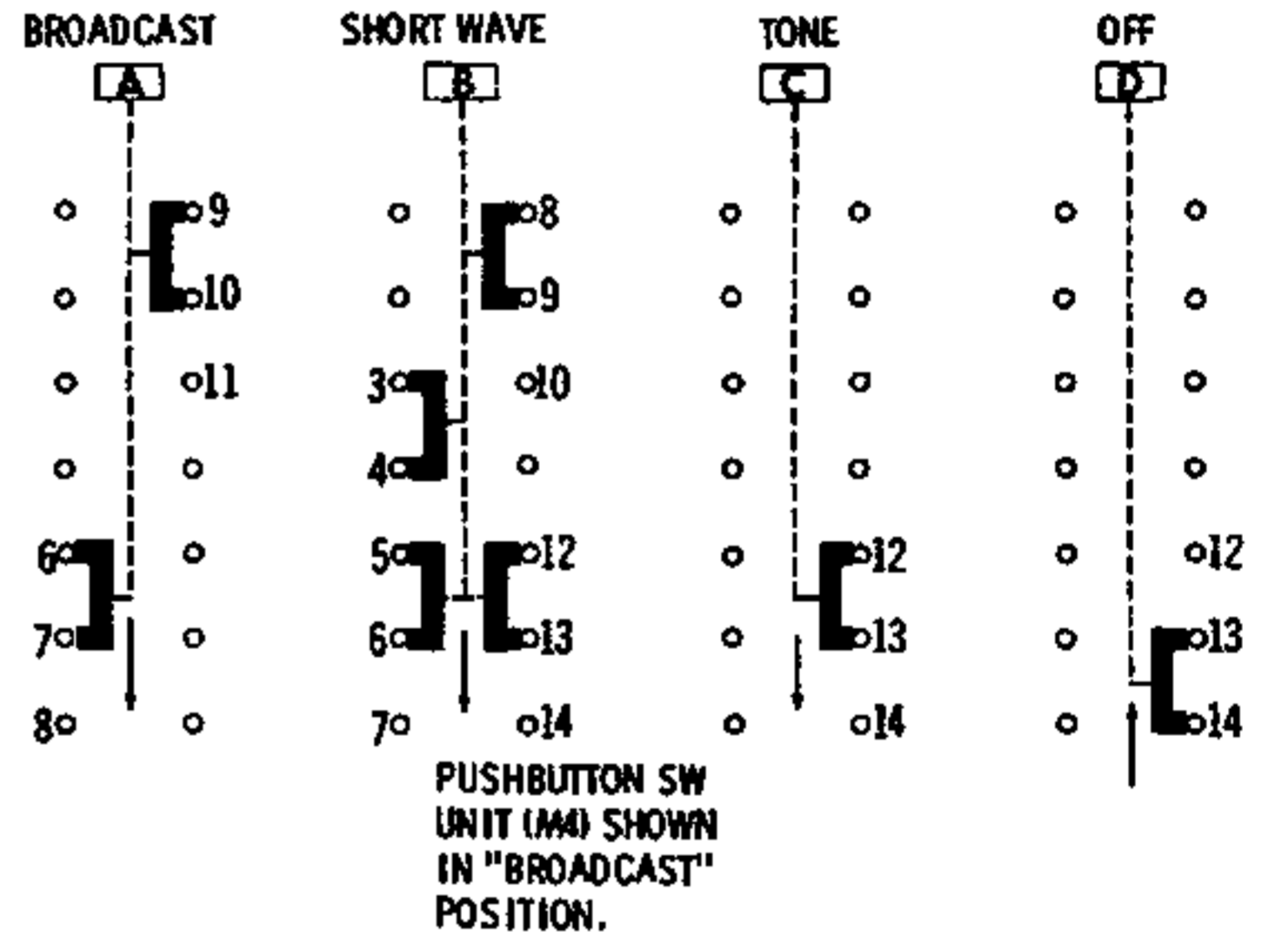
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

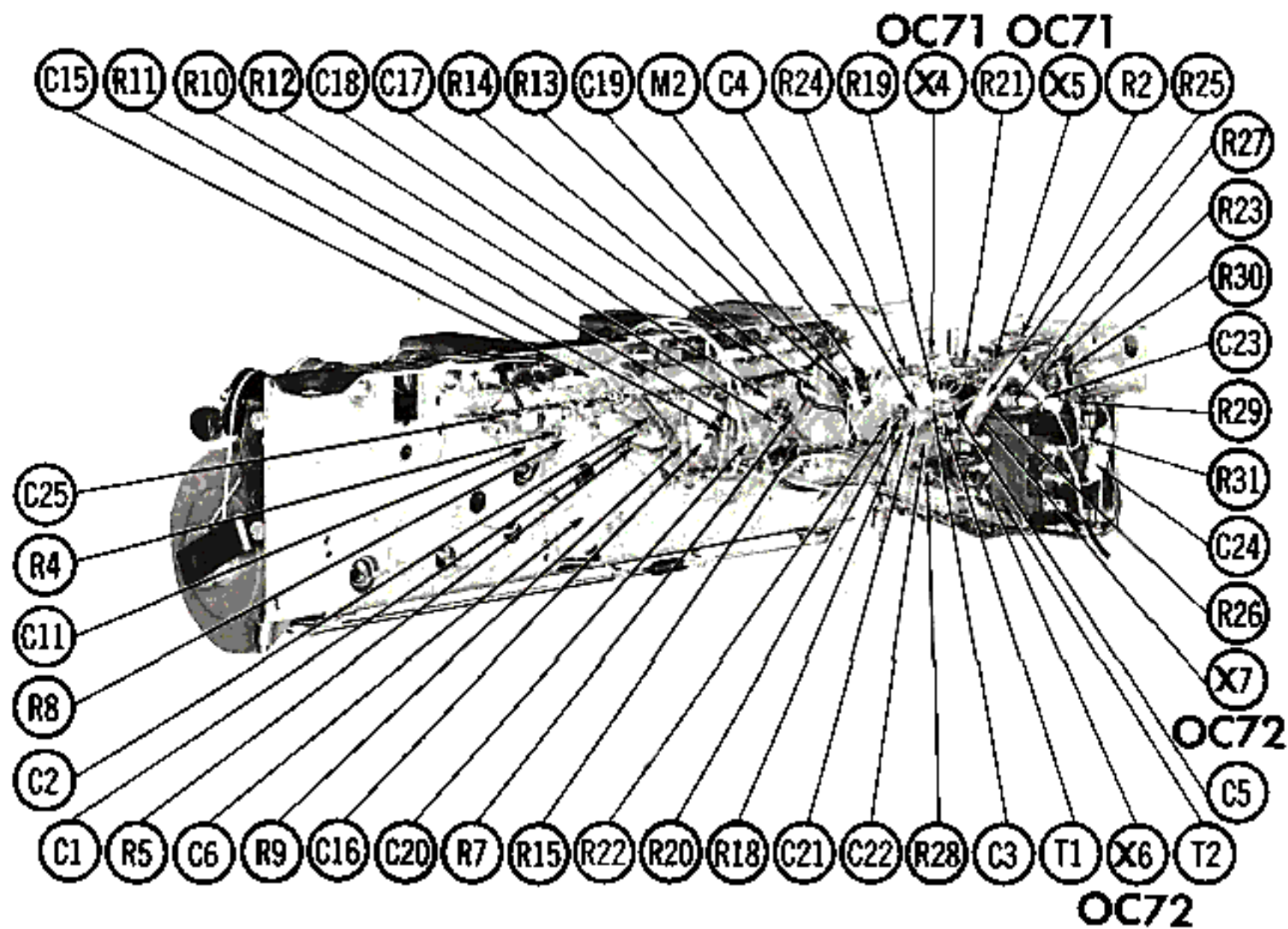
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

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.





CHASSIS BOTTOM VIEW

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	OC170 ①	Converter		2N371		2N371	PNP
X2	OC45 ②	1st IF Amp.		2N410	2N482	2N410	PNP
X3	OC45 ②	2nd IF Amp.		2N410	2N482	2N410	PNP
X4	OC71	AF Amp.		2N406		2N406	PNP
X5	OC71 ③	Driver		2N406		2N406	PNP
X6	OC72 ③	Output		2N270		2N408	PNP } Matched
X7	OC72 ③	Output		2N270		2N408	PNP } Pair

- ① Alternate Type 2N371 may be used.
② Alternate Type 2N410 may be used.
③ Has Heat Sink.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	NORELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1	3.2	70	909/ E3.2	PRS1400	NLW3-100	TT80X4	TD-4-150	TE-1403	
C2	50	12.5	909/ B50	XPP-15050	BBR50-25	TT15X50	ML50-15	TE-1160	
C3	16	16	AC5703/16	XPP-25015	NLW15-25	TT25X15	ML15-25	TE-1205	
C4	16	16	AC5703/16	XPP-25015	NLW15-25	TT25X15	ML15-25	TE-1205	
C5	100	16	909/ B100	PRS1270	EBR100-25	TC2501	ML100-25	TE-1211	
C6	250	12.5	910/ B250	PRS1210	BR2502	TC50025	TD-250-15	TE-1138	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

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.	
C7	30	Note 1							
C8	3000 5%				1R5D3		CM-20B-302J	MCE481	MS-23
C9	30	Note 1							
C10	820						VCM-20-821F		

ND DESCRIPTIONS

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.
C11	.047 125V	Note 1	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C12	30							
C13	30	Note 1	SI 4700	DD-472	BYA10D47M	CCD-472	B-247	5HK-D47
C14	4700							
C15	50	Note 1	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1
C16	.1 125V							
C17	50	Note 1	P288N-022	DD-203	CUB2S22	4DP-2-223	GEM-4122	2TM-S22
C18	.022 125V							
C19	2200	Note 1	SI 2200	DD-222	BYA10D22	CCD-221	B-222	5HK-D22
C20	.1 125V							
C21	.1 125V	Note 1	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1
C22	.047 125V							
C23	330 N750	Note 1	N750-SI 330	TCN-330	C10T33U	4DP-2-333	CN7-333	10TCU-T33
C24	.033 125V 10%							
C25	1000	Note 1	SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10

Note 1. Nominal Value.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES	
	RESISTANCE	WATTS	NORELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.		MALLORY PART No.
R1	20K	$\frac{1}{2}$	B163965					Volume
R2	4000 Ω Tap 2000 Ω	$\frac{1}{2}$	WE39597					Blas

RESISTORS (IRC or EQUIVALENT)

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

ITEM No.	RATING	REMARKS
R3	680 Ω	
R4	10K	
R5	2200 Ω	
R6	2700 Ω	
R7	10K	
R8	180K	
R9	680 Ω	
R10	3900 Ω	
R11	22K	
R12	1000 Ω	

ITEM No.	RATING	REMARKS
R13	15K	
R14	390 Ω	
R15	22K	
R16	1500 Ω	
R17	2200 Ω	
R18	18K	
R19	33K	
R20	1200 Ω	
R21	1800 Ω	
R22	220 Ω	

ITEM No.	RATING	REMARKS
R23	6800 Ω	
R24	1500 Ω	
R25	1500 Ω	
R26	56 Ω	
R27	15 Ω	
R28	330 Ω	
R29	10K	
R30	10K	
R31	4700 Ω	

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		NORELCO PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1A B	SW Loopstick BC Loopstick	A380395				
L2	SW Osc. Coll	A312882				
L3	BC Osc. Coll	A312881				
L4	1st IF Trans.	A312884 *				
L5	2nd IF Trans.	A312842 †				
L6	3rd IF Trans.	A312841 †				

* Includes 195mmf capacitor.

† Includes (2) 195mmf capacitors.

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		NORELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	PRI. SEC. 1.3 1	A316206					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES	
	PRI.	SEC.	NORELCO PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.		Triad PART No.
T2	36Ω CT	3-4Ω	918/08						

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	NORELCO PART No.	QUAM PART No.	
8P1	4"x 6"	PM	3-4Ω	AD3460Z	46A15Z3.8	

BATTERIES

ITEM No.	VOLTAGE	NORELCO PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V	*		230 *		A-100 *		M-13R *	* 6 Required

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		NORELCO PART No.	CBS PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	OA79		1N295	1N295	1N295	Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	NORELCO PART No.	NOTES
M3	Tuning Cap.	4900204	2 Gang (Ant. 8-533mmf, Osc. 7-181mmf) Pushbutton Unit (Include Off, Tone, AM & SW Switches)
M4	Switch	A379058	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	A377290	Tuning Volume
Knob	A377289	
Pushbutton	A902349	
Dial	A395643	
Cabinet	A378039	
Handle	A367324	

CHASSIS—TOP VIEW

