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**SONARCOM
MODEL CBP**



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).

**SONARCOM
MODEL CBP**

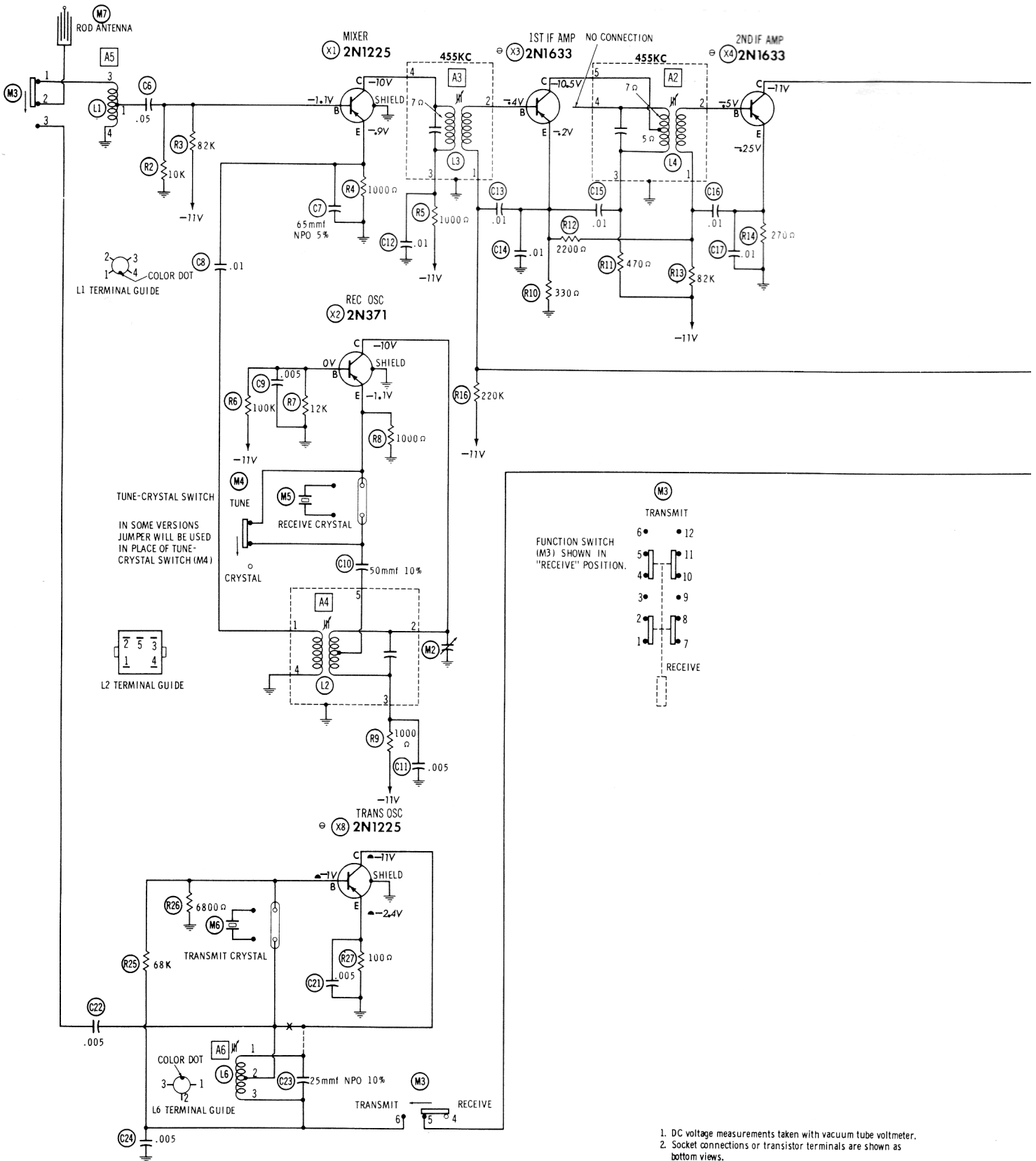
TRADE NAME	Sonarcom Model CBP		
MANUFACTURER	Sonar Radio Corp., 3050 W. 21st Street, Brooklyn 24, N. Y.		
TYPE SET	Battery Operated Transistorized Portable Citizens Band Transmitter-Receiver		
POWER SUPPLY	12 Volts DC	RATING	30MA @12 Volts DC (Transmit) 12MA @12 Volts DC (Receive)
TUNING RANGE	Any one of Citizens Band Channels 1 thru 22 (Receiver may be continuously tuned)		

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 LY259

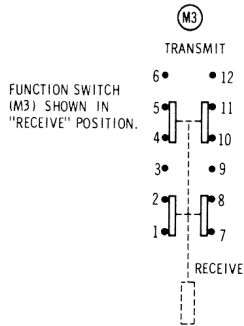
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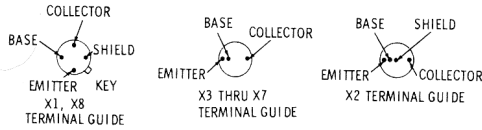
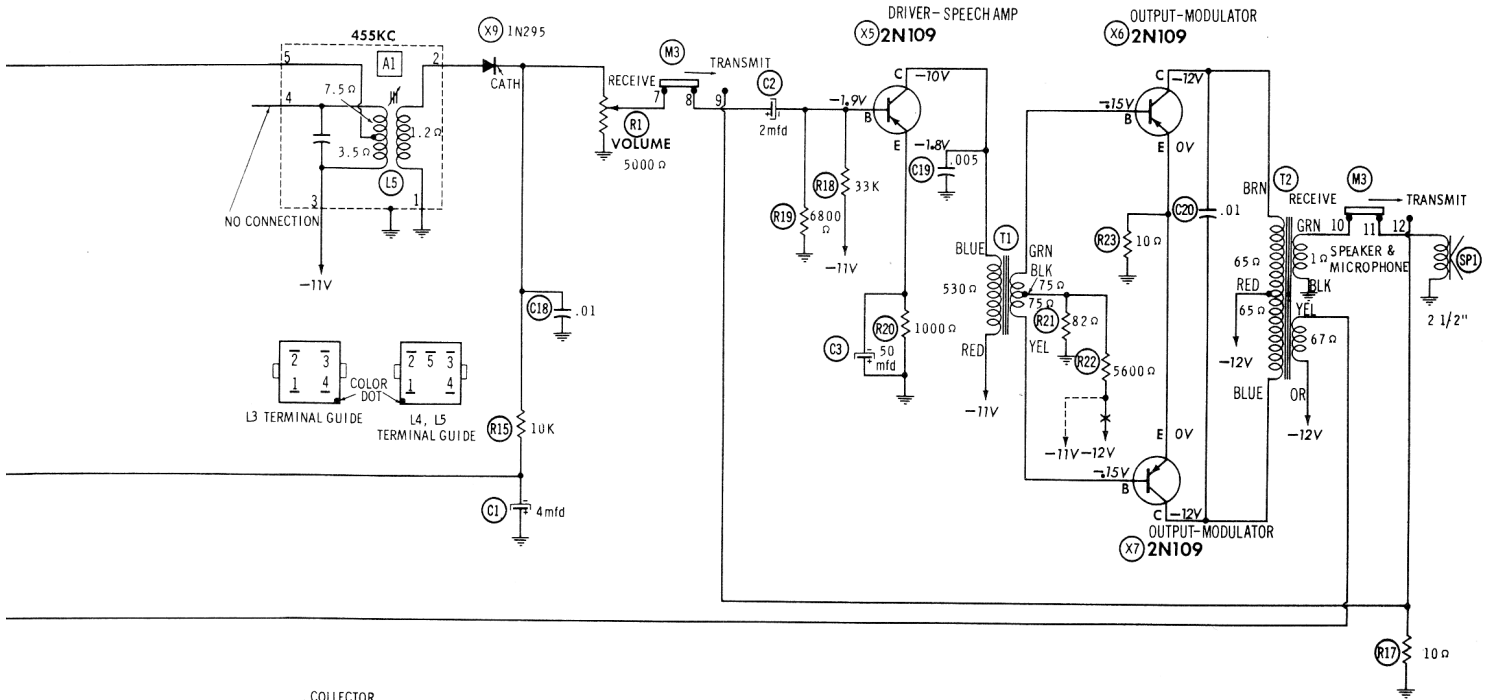
A PHOTOFAC STANDARD NOTATION SCHEMATIC
 © Howard W. Sams & Co., Inc. 1962

SEE PARTS LIST FOR ALTERNATE
 VALUE OR APPLICATION

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



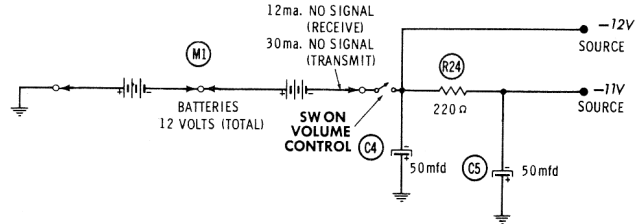
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance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



RESISTANCE READINGS

ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	2N1225	10K	1000 Ω	†1200 Ω
X2	2N371	12K	1000 Ω	†1200 Ω
X3	2N1633	10K	330 Ω	†700 Ω
X4	2N1633	2500 Ω	270 Ω	†220 Ω
X5	2N109	6800 Ω	1000 Ω	†750 Ω
X6	2N109	15 Ω	10 Ω	†65 Ω
X7	2N109	15 Ω	10 Ω	†65 Ω
X8	2N1225	6800 Ω	100 Ω	†67 Ω

TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS.
 ALL MEASUREMENTS MADE IN "RECEIVE" POSITION
 UNLESS OTHERWISE DESIGNATED.
 ● MEASURED IN "TRANSMIT" POSITION.
 † MEASURED FROM NEGATIVE BATTERY CONNECTOR.



TRANSMIT-RECEIVE SWITCH (M3)
 SHOWN IN RECEIVE POSITION.

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.

SONARCOM
 MODEL CBP

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

- A1, A2, A3.....GENERAL CEMENT #5097, 8727
 WALSCO #2515
 A4, A5, A6..... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
 WALSCO #2526, 2543, 2544, 2545

RECEIVER ALIGNMENT

Connect DC VTVM across Volume Control.

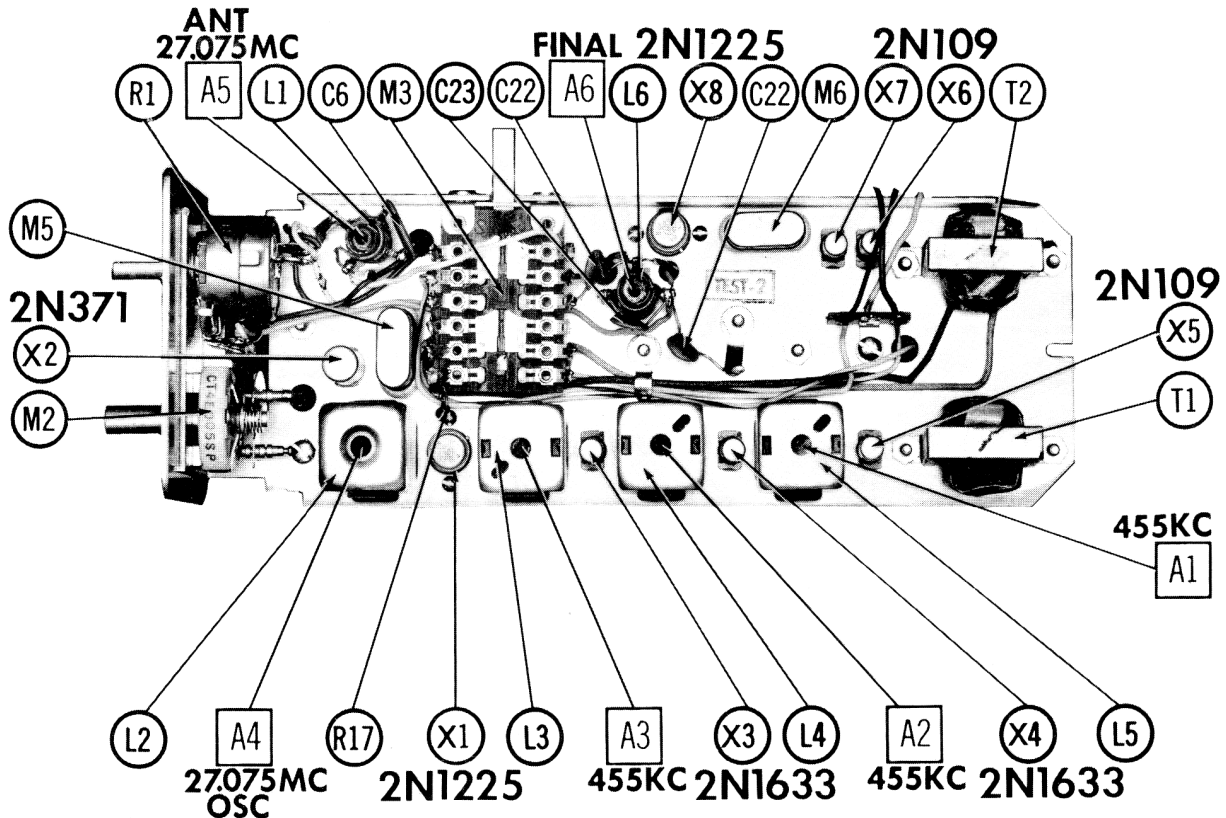
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
Tune to 455KC. High side thru .01mfd to base of mixer, low side to chassis.	10	A1, A2, A3	Adjust for maximum deflection.
Tune to channel freq. and radiate signal in antenna.	10	A4, A5	Adjust for maximum deflection.

TRANSMITTER ALIGNMENT

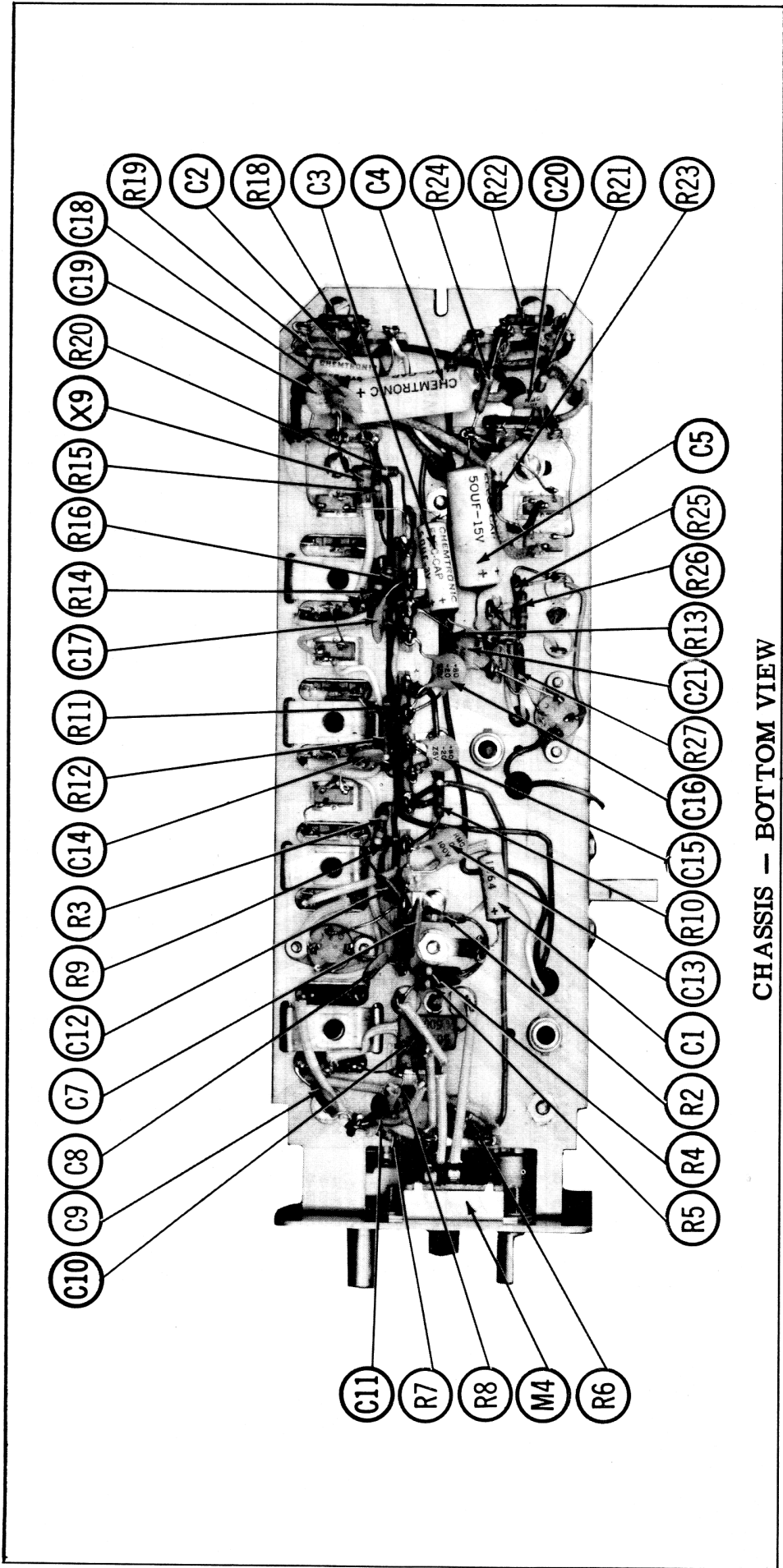
Output frequency should be checked by an accurately calibrated standard to be sure frequency is within .005%.

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SPECIAL INSTRUCTIONS	INDICATOR	ADJUST	REMARKS
Extend whip antenna fully.	Field strength meter.	A6	Adjust for maximum output.



CHASSIS — TOP VIEW



CHASSIS - BOTTOM VIEW

PARTS LIST AND DESCRIPTIONS

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid 22AWG) Available In 12 Colors
 8524 (Stranded 22AWG)
 8570 (Stranded 26AWG)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N1225	Mixer	2N1179		
X2	2N371	Rec. Osc.	PNP		
X3	2N1633	1st IF Amplifier	PNP		
X4	2N373*	1st IF Amplifier	PNP		
X5	2N1633	2nd IF Amplifier	PNP		
X6	2N373*	2nd IF Amplifier	PNP		
X7	2N109	Driver-Speech Amp.	PNP		
X8	2N109	Output-Modulator	PNP		
X9	2N1225	Trans. Osc.	PNP		
X10	2N1397*	Trans. Osc.	PNP		* Alternate

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		NOTES
			RCA PART No.	SARKES TARZIAN PART No.	
X9		42-302-295	IN295	Detector	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	VOLTS.	SONARCOM PART No.	REPLACEMENT DATA			SPRAGUE PART No.
				AEROVOX PART No.	CORNELL DUBIERRE PART No.	GENERAL ELECTRIC PART No.	
C1	4	10	06-712-39	PTT37	NLW4-15	MTI-3	TE-1123
C2	2	10	06-712-32	PTT35	NLW2-50	MTI-1	TE-1121
C3	50	3	06-702-66	PTT12	NLW50-3	MTI-15	TE-1058
C4	50	15	06-722-66	PTT72	NLW50-15	MTI-16	TE-1160
C5	15	15	06-722-66	PTT72	NLW50-15	MTI-16	TE-1160

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBIERRE PART No.	ELMENCOR PART No.	MALLORY PART No.	
C6	.05		BPD-05	DD-503	C10Q89C	CCTO-680	BT-150	TH-850
C7	65 NPO 5%		BPD-01	TCZ-68	BYA10S1	CCD-103	CNO-468	10TCC-Q88
C8	.01		BPD-005	DD-502	BYA10S5	CCD-103	BT-110	TH-S10
C9	50 10%		1469-00005	DD-502	C10Q5C	CCTO-510	BT-250	TH-D50
C10	.005		BPD-005	DD-502	BYA10S5	CCD-502	CNO-450	10TCC-Q50
C11	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-250	TH-D50
C12	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C13	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C15	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C16	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C18	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C19	.005		BPD-005	DD-502	BYA10S5	CCD-502	BT-250	TH-D50
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	BT-110	TH-S10
C21	.005		BPD-005	DD-502	BYA10S5	CCD-502	BT-250	TH-D50
C22	.005		BPD-005	DD-502	BYA10S5	CCD-502	BT-250	TH-D50
C23	25 NPO 10%		NFO-DI 25	PTZ-25	C10Q25C	CCTO-270	CNO-425	10TCC-Q25
C24	.005		BPD-005	DD-502	BYA10S5	CCD-502	BT-250	TH-D50

CONTROLS

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

ITEM No.	USE	REPLACEMENT DATA			
		SONARCOM PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R1	Volume & Switch	03-001-113	B-11, KR-1, or (A P-1), A E-1, KR-1)	A47-5000-S/ KSS-3, SWE12	Q13-114, 76-1
M2	Variable Cap.				
M3	Switch				
M4	Switch				
M5	Crystal				
M6	Crystal				
M7	Antenna				

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		IRC PART No.	WORKMAN PART No.			IRC PART No.	WORKMAN PART No.
R2	10K			R15	10K		
R3	82K			R16	220K		
R4	1000Ω			R17	10Ω		
R5	1000Ω			R18	33K		
R6	100K			R19	8800Ω		
R7	12K			R20	1000Ω		
R8	1000Ω			R21	82Ω		
R9	1000Ω			R22	5600Ω		
R10	330Ω			R23	10Ω		
R11	470Ω			R24	220Ω		
R12	2200Ω			R25	88K		
R13	82K			R26	8800Ω		
R14	270Ω			R27	100Ω		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			ITEM No.	USE	REPLACEMENT DATA		
		SONARCOM PART No.	Merit PART No.	Miller PART No.			Stancor PART No.	Workman PART No.	Notes
L1	Ant. Osc.	22-196-501							
L2	1st IF	22-390-502							
L3	1st IF	14-211-004							
L4	2nd IF	14-221-005							
L5	3rd IF	14-231-006							
L6	Final	22-492-500							

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA			ITEM No.	NOTES
		SONARCOM PART No.	Merit PART No.	Thordarson PART No.		
T1	2 1	14-325-008				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			ITEM No.	NOTES
		SONARCOM PART No.	Merit PART No.	Thordarson PART No.		
T2	1500Ω CT	14-335-007				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		ITEM No.	NOTES
		SONARCOM PART No.	QUAM PART No.		
SP1	2 1/2" PM	36-220-503	25A07Z8		

BATTERIES

ITEM No.	VOLTAGE	REPLACEMENT DATA			ITEM No.	NOTES
		SONARCOM PART No.	BURGESS PART No.	EVEREADY PART No.		
M1	6V	*	"A"	"B"	"A"	"B"
				2713*		* 2 Required

MISCELLANEOUS

ITEM No.	PART NAME	SONARCOM PART No.	NOTES
M2	Variable Cap.		
M3	Switch	08-210-250	
M4	Switch	09-324-508	
M5	Crystal		Receiver Tuning (1-5mmf) Function Selector (Pushbutton Type) Tune-Crystal (SPDT Slide Type)
M6	Crystal		Receive (Order by Channel & Freq. Desired) Transmit (Order by Channel & Freq. Desired)
M7	Antenna	21-116-507	