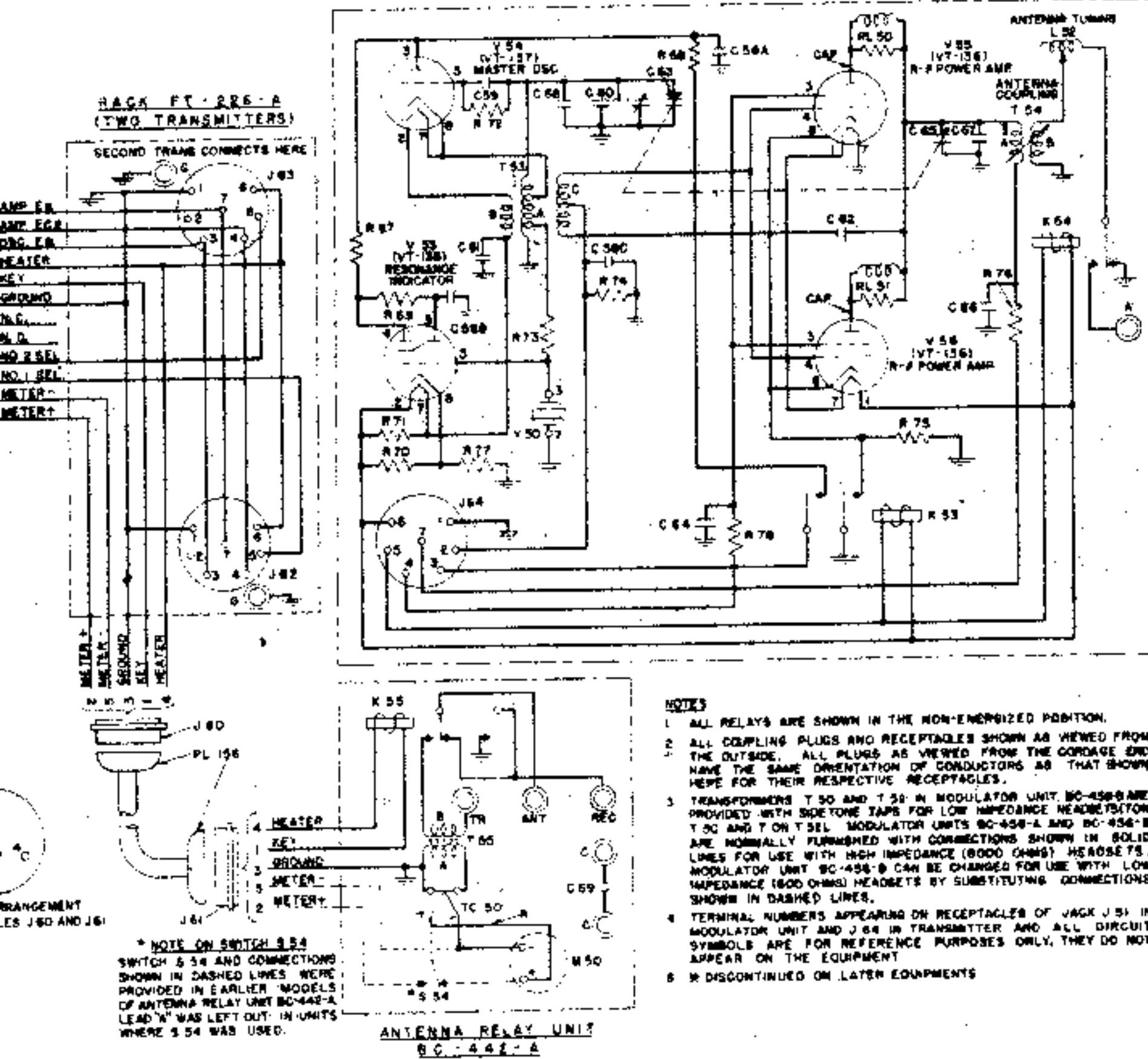


TYPICAL RADIO TRANSMITTER
 BG-696-A(3-4 MC), BC-457-A(4-5.3 MC), BC-458-A(5.3-7 MC) OR BC-459-A(7-9 MC)



- NOTES**
- 1 ALL RELAYS ARE SHOWN IN THE NON-ENERGIZED POSITION.
 - 2 ALL COUPLING PLUGS AND RECEPTACLES SHOWN AS VIEWED FROM THE OUTSIDE. ALL PLUGS AS VIEWED FROM THE CORDAGE END HAVE THE SAME ORIENTATION OF CONDUCTORS AS THAT SHOWN HERE FOR THEIR RESPECTIVE RECEPTACLES.
 - 3 TRANSFORMERS T 50 AND T 52 IN MODULATOR UNIT BC-458-B ARE PROVIDED WITH SIDETONE TAPS FOR LOW IMPEDANCE HEADSET(TOR T 50 AND T 52 IN T 52). MODULATOR UNITS BC-458-A AND BC-458-B ARE NORMALLY FURNISHED WITH CONNECTIONS SHOWN IN SOLID LINES FOR USE WITH HIGH IMPEDANCE (8000 OHMS) HEADSET T 5. MODULATOR UNIT BC-458-B CAN BE CHANGED FOR USE WITH LOW IMPEDANCE (800 OHMS) HEADSETS BY SUBSTITUTING CONNECTIONS SHOWN IN DASHED LINES.
 - 4 TERMINAL NUMBERS APPEARING ON RECEPTACLES OF JACK J 51 IN MODULATOR UNIT AND J 64 IN TRANSMITTER AND ALL CIRCUIT SYMBOLS ARE FOR REFERENCE PURPOSES ONLY, THEY DO NOT APPEAR ON THE EQUIPMENT.
 - 5 * DISCONTINUED ON LATER EQUIPMENTS

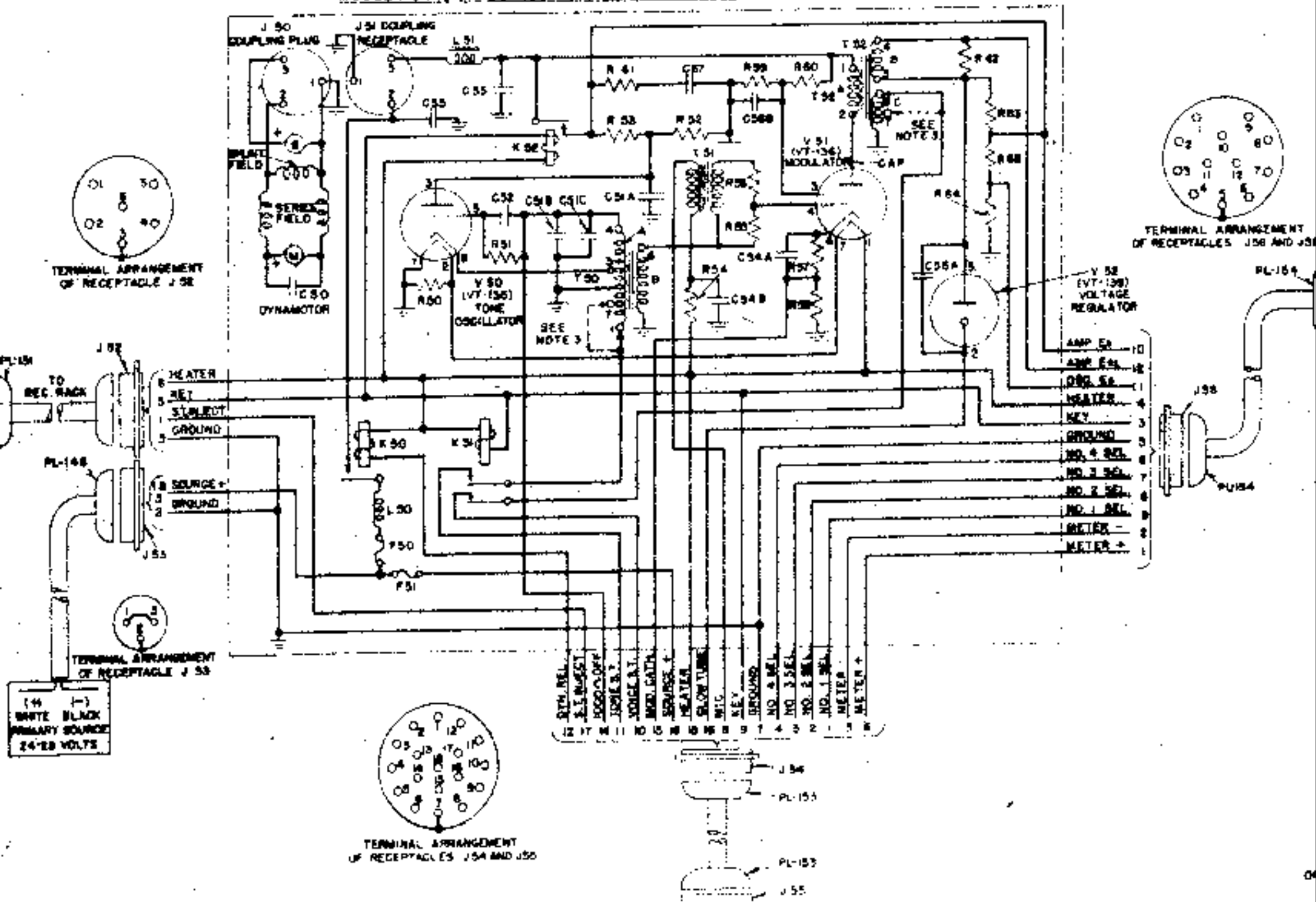
* NOTE ON SWITCH S 54
 SWITCH S 54 AND CONNECTIONS SHOWN IN DASHED LINES WERE PROVIDED IN EARLIER MODELS OF ANTENNA RELAY UNIT BC-442-A. LEAD "W" WAS LEFT OUT IN UNITS WHERE S 54 WAS USED.

ANTENNA RELAY UNIT
 BC-442-A

SYMBOL	DESCRIPTION	RESISTORS		SYMBOL	DESCRIPTION	TRANSFORMERS		SYMBOL	DESCRIPTION
		OHMS	OHMS			SYMBOL	DESCRIPTION		
R 50	42	R 70	1000 FOR BC-457-A	S 50	CHOICE OF EMISSION	T 50	TO NE OSC	TC 50	THERMOCOUPLE ANT CURRENT INDICATOR (LOCAL)
R 51	100,000	R 70	1000 FOR BC-458-A	S 51	MAIN "ON-OFF"	T 51	MICROPHONE MODULATION	M 50	
R 52	300,000	R 70	1500 FOR BC-459-A	S 52	BATTERY LINE TRANSMITTER SELECTION	T 52	MASTER OSC		
R 53	91,000	R 70	1500 FOR BC-696-A	S 53	BURNS MIC SERIES RESISTOR	T 53	FRAME OUTPUT	Y 50	CRYSTAL UNIT
R 54	360	R 71	125	S 54	ANTENNA CURRENT METER SWITCHING	T 54	ANT CURRENT	F 50	20 AMP FUSE
R 55	2,000	R 72	51,000			T 55		F 51	20 AMP FUSE
R 56	1300	R 73	10,000 FOR BC-457-A					RL 50	PARASITIC SUPPRESSOR
R 57	380	R 73	15,000 FOR BC-458-A					RL 51	PARASITIC SUPPRESSOR
R 58	51,000	R 73	5100 FOR BC-459-A						
R 59	30,000	R 73	5100 FOR BC-696-A						
R 60	73,000	R 74	19,000						
R 61	20	R 75	51,000						
R 62	10,000	R 76	20						
R 63	20,000	R 77	380						
R 64	100,000	R 78	31						
R 65	15,000								
R 66	510								
R 67	51,000								
R 68	20								
R 69	1,000,000								

FIGURE 27 -- RADIO SET SCR-271-N TRANSMITTING EQUIPMENT (INCLUDING MODULATOR), SCHEMATIC CIRCUIT DIAGRAM

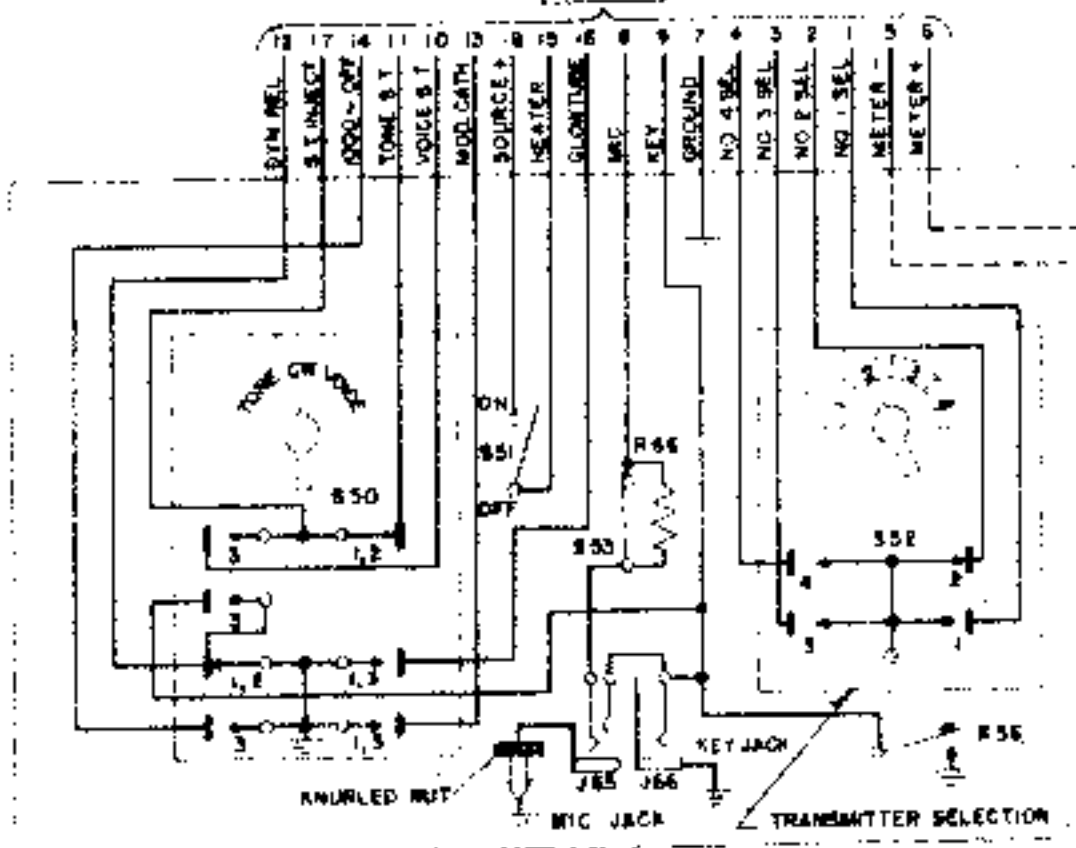
MODULATOR UNIT BC-456-A (QTH-3) WITH DYNAMOTOR CM-33-A



NOTES ON SWITCHES S 50, S 52 AND S 53
 THE NUMBERS ON THE VARIOUS CONTACTS REFER TO THE POSITIONS OF THE SWITCH LEVERS AT WHICH THESE PARTICULAR CONTACTS ARE CLOSED BY THE ACTION OF THE SWITCH. ON S 50, "TONE" IS 1, "CW" IS 2, AND "VOICE" IS 3.
 S 53 SHOULD ALWAYS BE KEPT IN "R OUT" POSITION AS INDICATED ON THE RED PLATE FOR SATISFACTORY OPERATION WITH MICROPHONE T 17, T 30 OR EQUAL.

NOTE ON MICROPHONE JACK J 65
 THE KNUBBLED NUT IS USED TO GROUND THE SLEEVE OF JACK J 65 WHEN A MICROPHONE EQUIPPED WITH A PUSH-TO-TALK SWITCH SUCH AS MICROPHONE T 17 IS USED. WHEN THE JACK SLEEVE IS NOT GROUNDING, THE PUSH-TO-TALK FUNCTION MUST BE PERFORMED BY KEY K 56 OR AN EXTERNAL KEY OR SWITCH CONNECTED TO JACK J 66.

RADIO CONTROL BOX
 BC-451-A

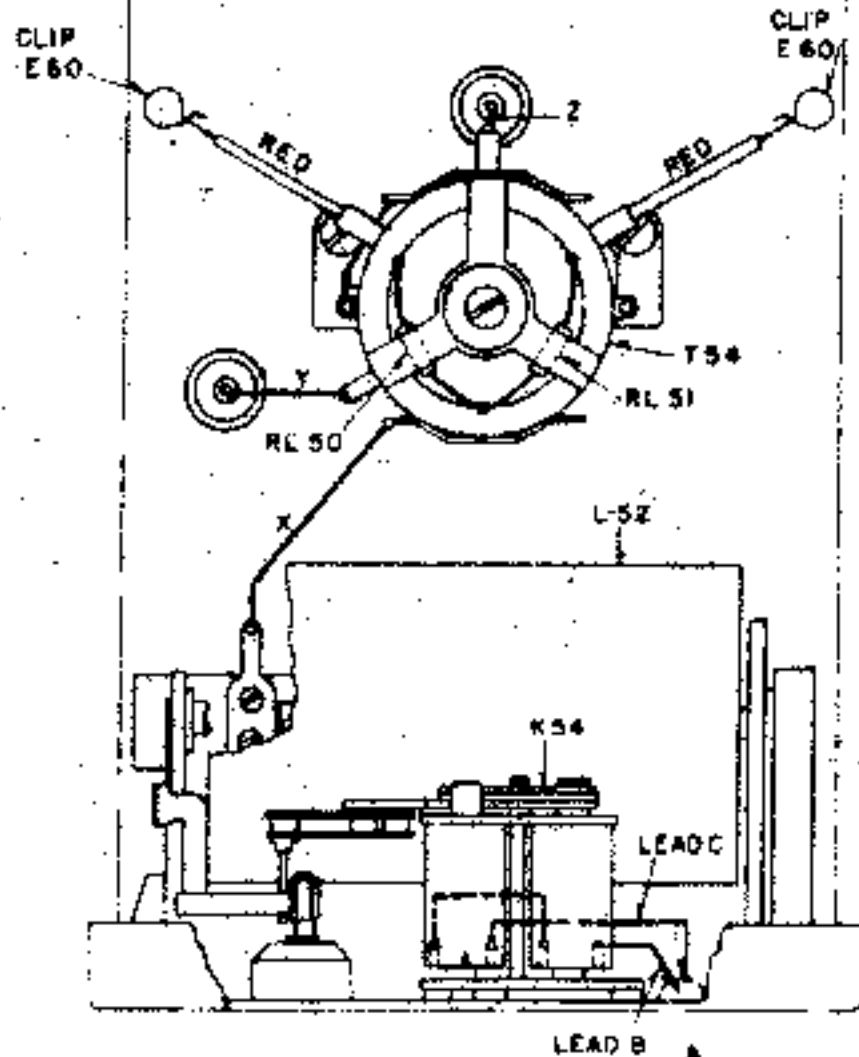
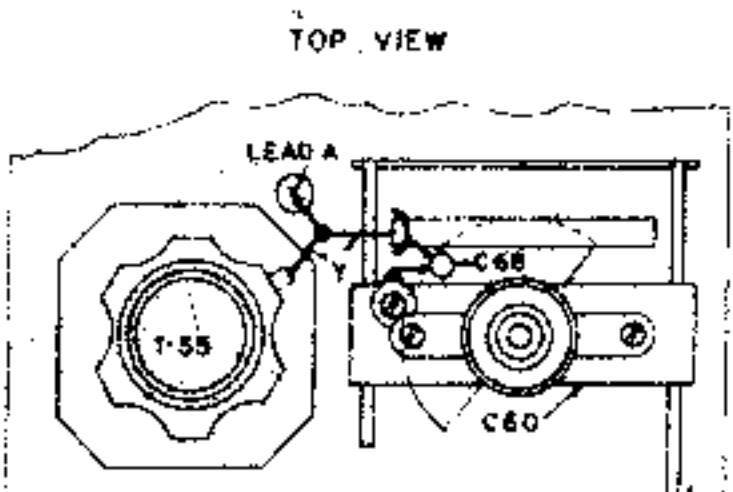
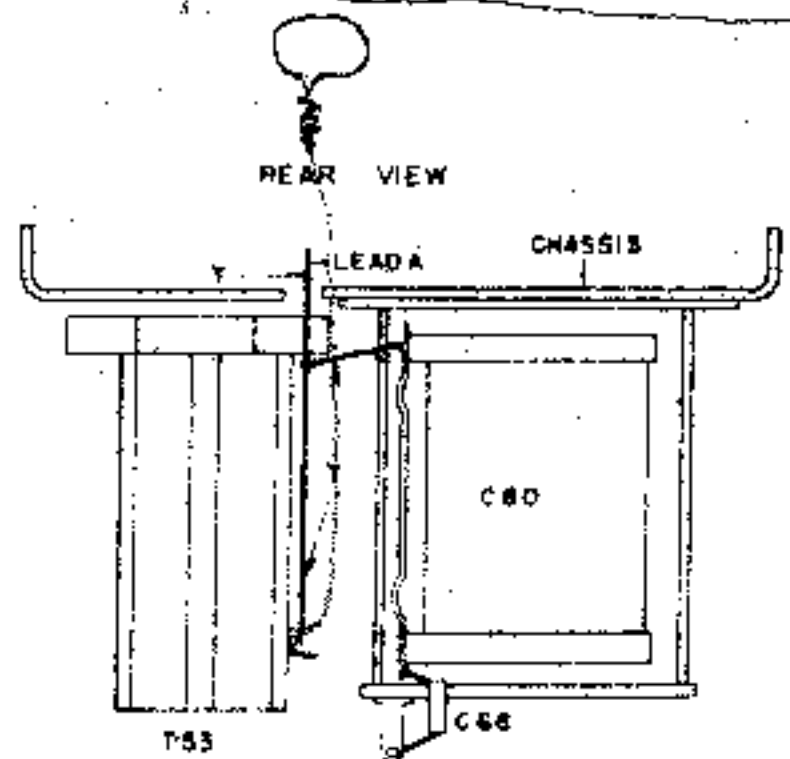
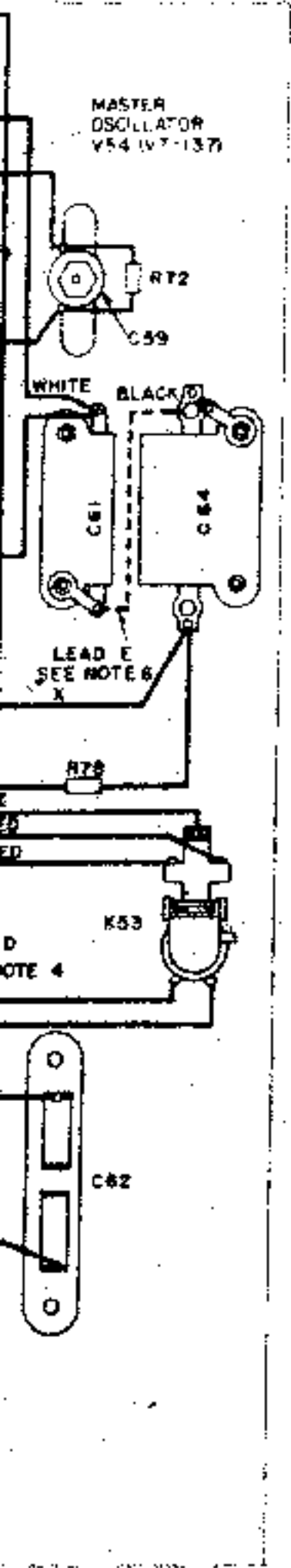


CAPACITORS	
SYMBOL	MICROFARADS
C 50	.006
C 51(A,B,C)	.05 / .05 / .05
C 52	.006
C 53	.2
C 54(A,B)	5/20
C 55	.2
C 56(A,B)	5/5
C 57	.05
C 58(A,B,C)	.05 / .05 / .05
C 59	.0018
C 60	NO. PADDDNG
C 61	.006
C 62	FIXED NEUTR
C 63	NO. TUNING
C 64	.002
C 65	PA. TUNING
C 66	.01
C 67	PA. PADDDNG
C 68	.000003
C 69	.00008

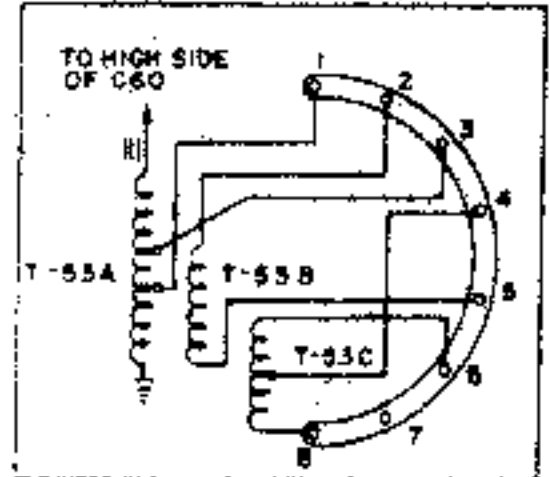
with 10A units
Z MC.

TABLE B
SEE NOTE 2

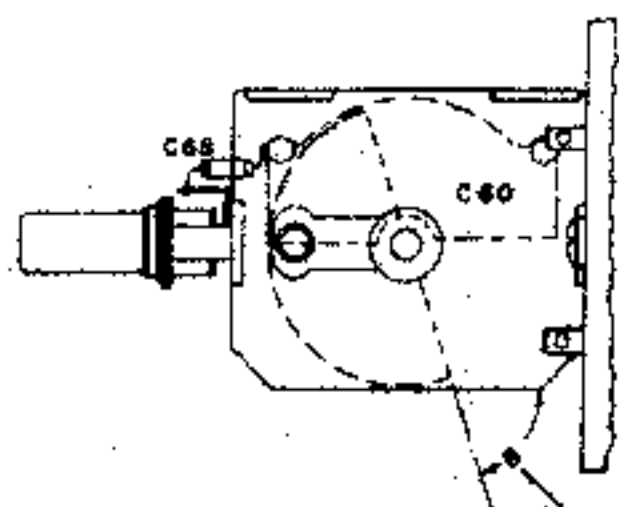
WIRES	ARE
W	NO. 16
X	NO. 18
Y	NO. 20
Z	NO. 22



CONNECTIONS ON T-53



SIDE VIEW OF OSCILLATOR
PADDING CAPACITOR



NOTES:

1. ALL WIRES MARKED WITH COLOR ARE NUMBER 22 SOLID COPPER. WIRES MARKED RED-WHITE HAVE HEAVY INSULATION.
2. WIRES MARKED W, X, Y AND Z ARE BARE TINNED SOLID COPPER WITH SIZES SHOWN IN TABLE B.
3. TERMINAL NUMBERS AND LETTERS ARE FOR REFERENCE PURPOSES AND DO NOT APPEAR ON APPARATUS.
4. PLACE LEAD "D" IN CORNER OF CHASSIS SO THAT IT WILL BE HELD SECURELY IN POSITION BY OTHER LEADS.
5. DRESS LEADS RUNNING NEAR THREADED INSERTS IN THE CHASSIS SO THAT SCREWS PROJECTING THROUGH INSERTS WILL CLEAN THE LEADS BY AT LEAST 1/16 INCH WHEN SCREWS ARE FULLY TIGHTENED.
6. GROUND TERMINAL ADDED TO C 61 AND LEAD "E" SHOWN IN DASHED LINES OMITTED IN LATER MODELS.
7. TERMINALS MARKED BLANK ARE TIE POINTS ONLY & HAVE NO CONNECTION TO TUBES OR CRYSTAL IN SOCKET.

TABLE A

RADIO TRANSMITTER	PADDING CONDENSER SETTINGS	
	C 67 ANGLE "A"	C 60 ANGLE "B"
BC-696-A (3-4 MC)	92°	77 1/2°
BC-457-A (4-5.3 MC)	53 1/2°	78°
BC-458-A (5.3-7 MC)	55°	81 1/2°
BC-459-A (7-9.1 MC)	73 1/2°	95 1/2°

FIGURE 47 — RADIO TRANSMITTERS BC-696-A, BC-457-A, BC-458-A and BC-459-A,
PRACTICAL WIRING DIAGRAM

12V HV 300V BC450 Unit used with 10A Enites at 5.0 to 5.2 Mc.



TABLE B
SEE NOTE 2

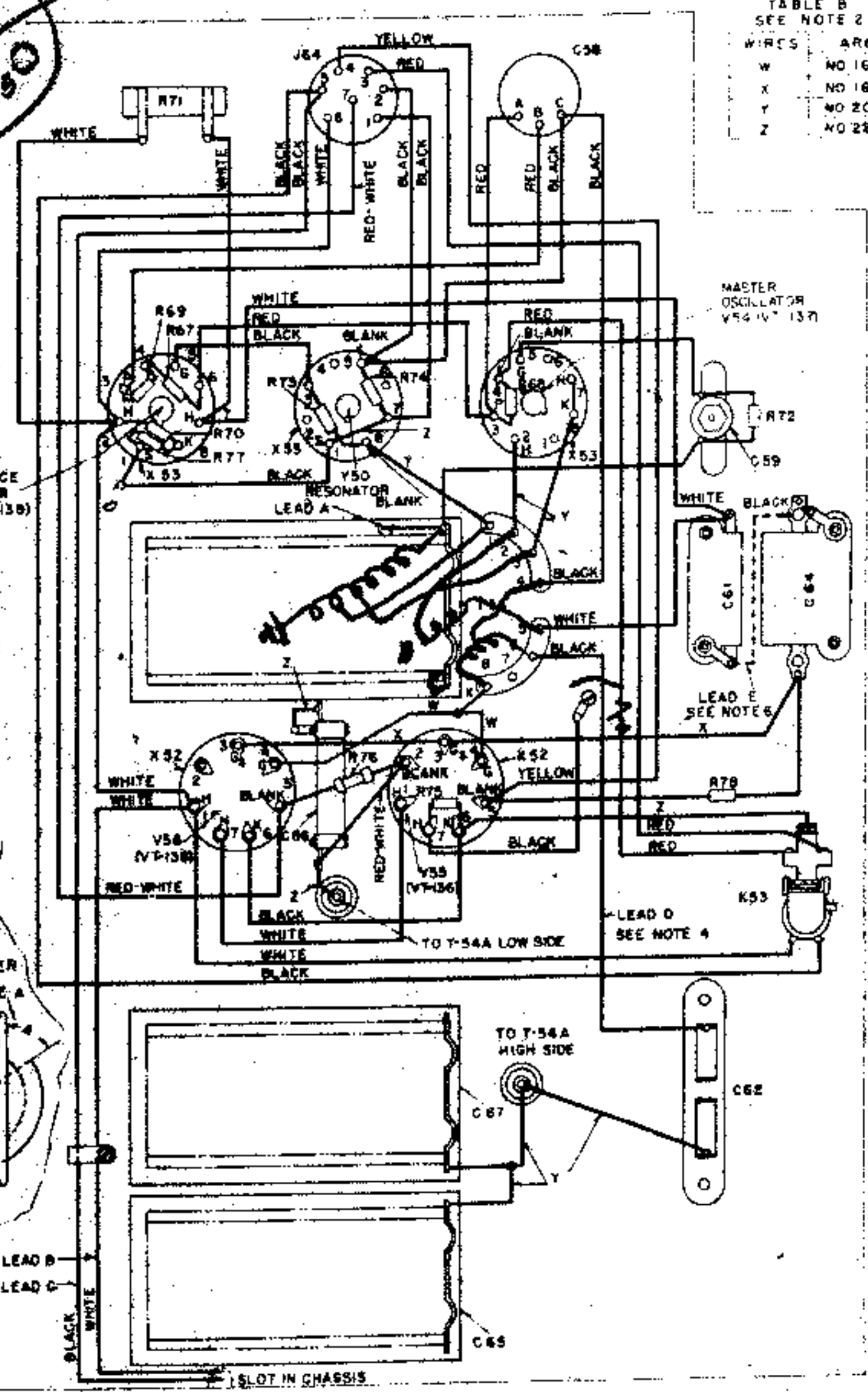
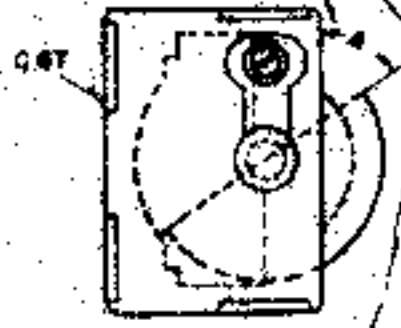
WIRCS	ARE
W	NO 16
X	NO 18
Y	NO 20
Z	NO 22

PLUG
1-1629
1-0A3

RESONANCE INDICATOR V53 (VT-136)

MASTER OSCILLATOR V54 (VT-137)

SIDE VIEW OF POWER AMPLIFIER PADDING CONDENSER SEE TABLE A



CLIP E60

LEAD B
LEAD C

SLOT IN CHASSIS

BOTTOM VIEW



K4XL's **BAMA**

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