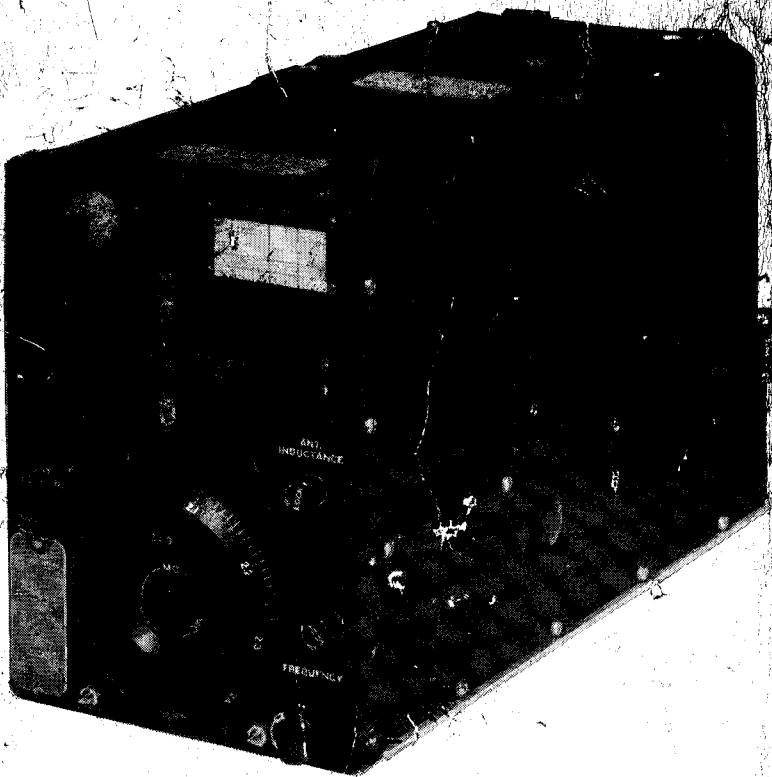


COMMAND SETS



\$1.50

COMMAND SETS

by the Editors of
CQ, the Radio Amateurs Journal

published by
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BARRY IS ... COMMAND SET HEADQUARTERS!

ARC/5 & 274N EQUIPMENT

TRANSMITTERS	RECEIVERS	MODULATOR
2.1 to 3 Mcs. \$ 5.95	520 to 1500 K..... \$14.00	BC 456 w/Dynamotor...\$ 6.95
3 to 4 mcs. 7.00	1.5 to 3.0 Mcs..... 7.50	MD-7 New w/Dyn..... 9.95
4 to 5.3 mcs. 5.95	3 to 6 mcs..... 4.95	(Uses 2-1625, 1-12J5GT, 1-VR150)
5.3 to 7 mcs. 5.95	6 to 9.1 mcs..... 4.95	and others
BC-458—New! 6.95		

WRITE FOR LATEST ARC/5-274N LIST!

ARC/5-274N RCVR. POWER SUPPLY KIT

24-28 volts DC @ 1 1/2 amps.

Components for operation of above or similar types equipment. Operates from 115 volt, 60 cycle source. Includes step-down transformer, metallic rectifier, and 500 mfd. filter condenser. Sketch included. **SPECIAL!** **\$4.75**
Bargain priced.....

INFRA-RED TRANSMISSION LAMP

CL-2 Westinghouse Infra-red transmission lamps. NO LICENSE REQUIRED to transmit voice of modulated CW or Infra-red rays! Circuit diagram and instructions for 2 way transmission given free with each lamp. A new experimental field. CL-2 infra-red lamp. Brand new. In original ctns (worth \$10.00 over \$50.00.) **SPECIAL!** **\$10.00**

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OUR SPECIAL PRICE.....

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Instruction manual included. **SPECIAL!**.....

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6 1/2" H. x 5 1/2" W. x 3 1/2" Deep. **SPECIAL!**.....

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MICRO-WAVE FREQ. METER. Lavote model 105SM 375 to 120 Mcs. For citizens band & color TV. BRAND NEW! 34.50

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5" DUMONT SCOPE MODEL 274A AT LESS THAN HALF PRICE!

We made a real scoop and we are passing our good fortune on to you. Genuine Dumont model 274A. 5" oscilloscopes, regularly sold for \$150, now available to CQ readers for **LESS THAN HALF PRICE!** Look at these features: Frequency response within 50% from 20 to 200,000 cps with recurrent sweeps from 8 to 30,000 cps. Similar X and Y amplifiers and provision for intensity modulation. Portable, light weight. Shpg. wt. only 35 lbs. Used, clean, checked out and guaranteed. **\$65.00**

1E-35-A UHF TEST SET

For equipment such as SCR-522 (2 meters) and others in the 100-160 Mcs. UHF region. Includes a highly portable, sensitive field strength meter, noise generator (hand held) for receiver tuning, dummy antenna (up to 15 watts), instruction manual, and a portable wood carrying case. **\$39.95**
Unused surplus. **SPECIAL!**.....

SATURDAY IS "BEST DEAL" DAY AT OUR STORE!
OPEN SATURDAYS FROM 10:30 AM to 4:30 P.M. THIS IS THE DAY WE TRADE THE HIGHEST AND OFFER LOWEST PRICES. ALL VISITORS WILL RECEIVE A FREE GIFT. NO OBLIGATION TO BUY!

TERMS: 25% deposit with order. Balance COD. All merchandise guaranteed. FOB, NYC. Prices subject to variation. Stock subject to depletion.

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The Command Set, by far the most popular surplus item to appear on the market, was a late starter, appearing for the first time in March 1947. I shudder to think how many of these sets were turned over to the surplus dealers, for today, ten years later, even though practically every ham in the country has one or two of the sets, there are still thousands of them left and the price is still ridiculously low for the performance that can be obtained.

Being popular and being inexpensive, many articles have appeared in CQ during the last ten years covering the modifications of the units. The demand for these articles has been so heavy that every issue of CQ that carried them was long ago sold out, leaving the fellow with no library of back issues either to go it blind or else to scrounge from a buddy.

Now, as a public service to all those poor downtrodden hams with no CQ library, and as a foxy way to bleed our ever willing audience of some extra money we are reprinting here in one book *all* of this invaluable information.

If you run into any problems or have any questions baffling you, just remember that several of the authors involved are now silent keys, others have by now forgotten they ever wrote any article, and the editor doesn't know up from down.

The Command Set is made up of Several units. There are five receiver units ranging from 190 kc to 9.1 mc. A few 9 to 18 mc receivers were built but quantity production never was undertaken. The five transmitters cover from 2.1 to 9.1 mc. Below is a table which should help you to identify them.

Frequency Range	Unit	I.F. (kc)	Service Number
190-550 kc	Receiver	85	R-23, R-23-, R-148, BC-453
520-1500 kc	Receiver	239	R-24, BC-946-
1.5-3.0 mc	Receiver	705	R-25, BC-454
3.0-6.0 mc	Receiver	1415	R-26, BC454-
6.0-9.1 mc	Receiver	2830	R-27, BC-455 ^a
100-156 mc	Receiver	12 mc	R-28
2.1-3.0 mc	Transmitter		T-18
3.0-4.0 mc	Transmitter		T-19, BC-696
4.0-5.3 mc	Transmitter		T-20, BC-457-
5.3-7.0 mc	Transmitter		T-21, BC-458-
7.0-9.1 mc	Transmitter		T-22, BC-459
100-156 mc	Transmitter		T-23
	Modulator		MD-7, BC-456-
	Dynamotor		DM-33-, DY-8
	Control Box		C-29, BC-451-
	Antenna Relay		RE-2

When a (-) appears after the service number as listed above, that type of equipment may have had more than one model as the R-23A, R-23B, etc.

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ASB-5 RECEIVER for 420 Mc BAND!

As featured in "CQ" for October 1956. Easily converted, makes a marvelous receiver for 420 band, with R1 Amplifier. Supplied complete with all tubes.
OUR LOW PRICE \$14.95
 Tuning Knob for ASB-5 Receiver\$1.29

SCR-522 FINEST 2-METER RIG!

Terrific buy! VHF Transmitter-Receiver, complete with all components. (00-156 Mc. 4 channels. Xtal-controlled. Amplitude modulated voice. They're going fast! Excellent condition.
 SCR-522 Transmitter-Receiver, complete with all tubes. COMBINATION Special **\$33.33**

ARC-5 MARINE RECEIVER-TRANSMITTER

Navy Type Comm. Receiver 1.5 to 3 Mc **\$16.95**
 BRAND NEW with 6 tubes.....
 Navy Type Comm. Transmitter 3.1-3 Mc **\$12.45**
 BRAND NEW with 4 tubes and Xtal.....



LORAN APN/4 OSCILLOSCOPE

Easily converted for use on radio-TV Service Bench!

BRAND NEW

Completely Assembled

Supplied complete with 5" Scope type 5CP1 and RCA 100 Kc. Crystal Unit.....**\$14.95**

BRAND NEW SPECIAL PURPOSE TUBES

In Original Individual Packaging

JAN CRP-730A MAGNETRON, Raytheon	Each	Lots of 12	Lots of 100
161W	\$4.45	\$5.15	\$41.00
1625	.28	2.75	21.50
1626	.16	1.75	13.50
1629	.27	3.05	23.95
826	.44	4.95	39.50
2J724B	.35	3.85	28.50
VR105	.73	8.88	70.00
VR150	.73	8.88	70.00
8002R	5.95		
RK65	7.25		

NEW! Cathode Ray Tubes NEW!

3CP1	\$1.18	5BP4	\$2.22
3FP7	1.18	5CP1	2.45
5BP1	2.22	9LP7	1.88

FLS-A RADIO FILTER\$1.79

DYNAMIC HANDMIKE with "Press-to-talk" Switch, cord and plug—BRAND NEW, only **\$2.95**

HI-FI DYNAMIC HEADSET WITH RUBBER CUSHIONS
 Freq. Range: 40-14,000 CPS. No distortion.
 BRAND NEW **\$5.95**

DYNAMIC Headphone with Dynamic Mike.
 BRAND NEW, complete. **\$3.95**

MICROPHONES

Model	Excellent Used	BRAND NEW
T8-9 Handset		\$4.95
T-17 Carbon Hand Mike	6.45	\$7.95

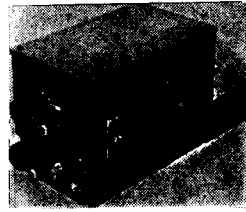
CD-307A Cords, with PL65 plug and JK26 Jack.....\$9.99

DYNAMIC HEADPHONES, 600-ohm impedance, with large ear-plate cushions, cord and phone plug.
 BRAND NEW, special. **\$2.95**

3" ROUND PANEL METER, 1-mil movement, 0-30 V scale. Standard Make. New.....**\$2.65**

AN/ARR-2 RECEIVER

BRAND NEW—A Terrific Value! Tuning Range 234 to 255 MC. Tubes: 7-900L, 2-6AK5, 1-13A6. Only a few at this low price!
\$8.88
 Complete.....
 With 28V 1.8A Dynamometer, complete **\$12.99**
110 VOLT AC POWER SUPPLY KIT for above \$7.95



BRAND NEW WOBBULATOR, Special.....\$4.95

WRITE FOR FREE CATALOG!

Please include 25% deposit with order — Balance C.O.D. MINIMUM ORDER \$3.00. All Shipments F.O.B. Our Warehouse N.Y.C.

G & G Radio Supply Co.
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Ham Special! Famous BC-645 Transceiver



With MANUAL for Easy Conversion to CITIZENS' BAND!

Makes wonderful mobile rig for 430-500 Mc. Easy to convert for phone or CW 2-way communication. This swell rig originally cost over \$1000—yours for practically a song!

BRAND NEW
 carton, BRAND NEW, complete with 17 tubes, less power supply. Conversion instructions included. **\$29.50**
 Shpg. wt. 25 lbs.

PE-101C DYNAMOMETER for BC-645, has 12-24V input (easy to convert for 6V Battery operation).....only **\$7.95**

UHF ANTENNA ASSEMBLY, for BC-645.....\$2.45
 Complete set of 10 Plugs for BC-645.....**\$5.50**

CONTROL BOX for above.....\$2.25
 SHOCK MOUNT for above.....1.25

CONVERSION BOOKLET. Instructions for most useful surplus rigs.....**\$2.50**

ARC-5/T-23 TRANSMITTER

VALUE \$100.00!

2-Meter Transmitter, 100-156 Mc. Limited Quantity, Special Offer. Excellent used. **\$5.95**
 Brand New, complete, less tubes.....**\$7.95**

DYNAMOMETER VALUES!

Type	Input	Output	Excellent Used	BRAND NEW
DA-19-A	28V 11A	400V 400A	\$4.99	\$6.95
DM-28	28V	224V .07A	2.95	4.95
DM-32A	28V 1.1A	250V .05A	2.95	5.95
DM-33A	28V 5A	575V .16A	1.95	3.95
	28V 7A	540V .25A		
DM-34D	12V 2A	220V .080A	4.25	5.50
DM-37	25.5V 9.2A	625V .225A	5.95	8.95
DM-40	14V 3.4A	172V .138A	1.75	3.45
DM-53A	28V 1.4A	220V .080A	3.95	5.95
DM-64A	12V 5.1A	275V .150A		7.95
PE-73C	28V 2.0A	1000V .350A	8.50	11.50
PE-98	28V 1.25A	250V .050A	2.95	5.24
PE-103	6/12V Input, 500V @ 160 Ma output. With cables and plugs, excellent, like new			\$24.50
DM-32	type Dynamometer, input 12V @ 2.4A; output 250V @ .060 A, BRAND NEW			\$5.95
EICOR CONVERTER 12V, 4A to 24V, 2A and 24V, 4A to 12V, 8A, BRAND NEW				\$5.95

R24-ARC/5 NAVY TYPE (Similar to BC-946)

BROADCAST RECEIVER

520 to 1500 Kc. 6 tubes: 2-12SK7, 12SR7, 12A6, 12R5. For dynamometer operation. Easily converted to 110 or 32 Volt. 2-IF stages, 3-gang tuning cond. Complete with all tubes, in original sealed carton. **\$19.95**

BRAND NEW
 BC-457 TRANSMITTER—4-5.8 Mc, complete with all tubes and crystal. BRAND NEW.....**\$7.88**
 BC-458 TRANSMITTER—5.3 to 7 Mc, complete with all tubes and crystal. BRAND NEW.....**\$7.88**
 BC-459 TRANSMITTER—7-9.1 Mc, complete with all tubes and crystal. BRAND NEW.....**\$11.95**
 BC-5/T-19 TRANSMITTER—3 to 4 Mc. BRAND NEW, complete with all tubes & crystal.....**\$8.88**

SCR-274 COMMAND EQUIPMENT

ALL COMPLETE WITH TUBES		Used	Excellent Used	BRAND NEW
Type	Description			
BC-453	Receiver 190-550 KC	\$9.95	\$11.95	\$14.95
BC-454	Receiver 3-6 Mc	7.19	8.25	11.95
BC-455	Receiver 6-9 Mc	6.25	7.95	9.95
BC-456	Modulator	2.24	2.75	4.24
ABC-5/T-19	Xmtr 2-4 Mc (like new)		8.95	8.95

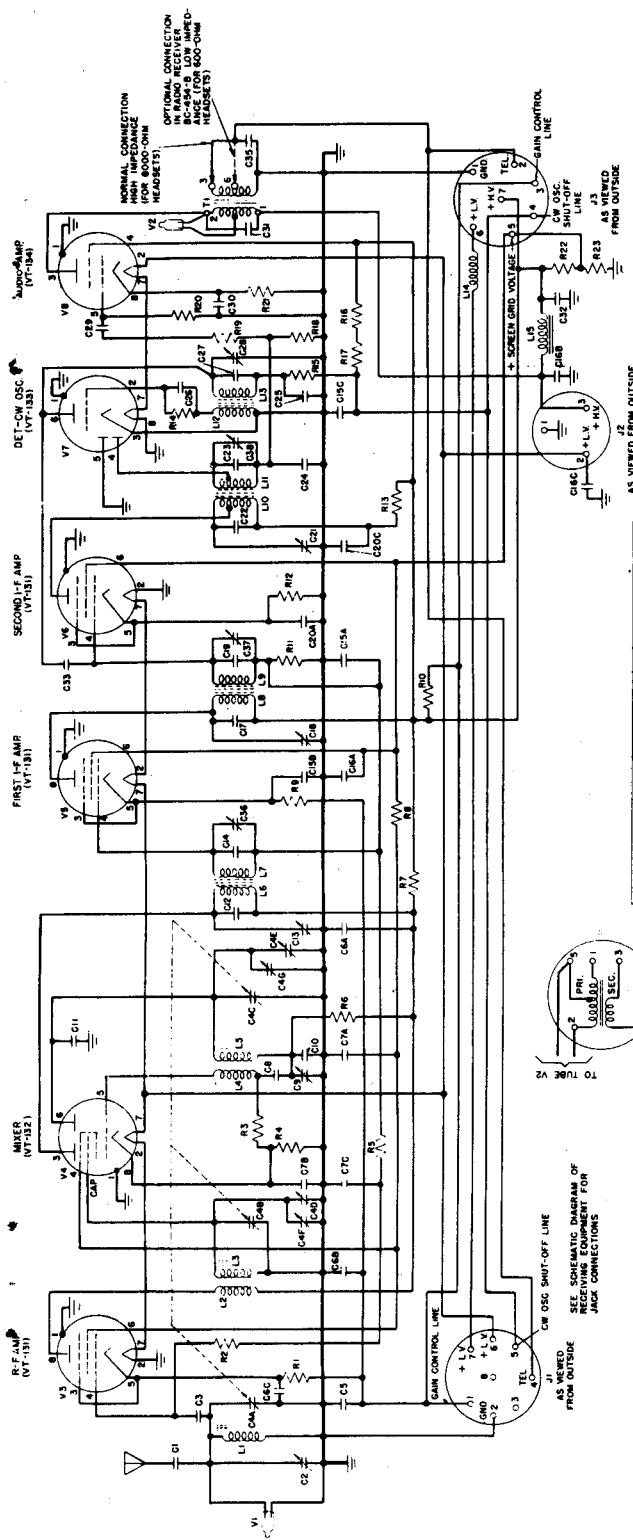
110-VOLT AC POWER SUPPLY KIT

FOR ALL 274-N AND ARC-5 RECEIVERS
 Can be assembled quickly and easily on pre-drilled chassis. Plugs into the rear of any model 274-N receiver and delivers 24 volts as well as "B" voltage. No wiring changes needed. Complete kit of parts with metal case, instructions.....**\$7.95**

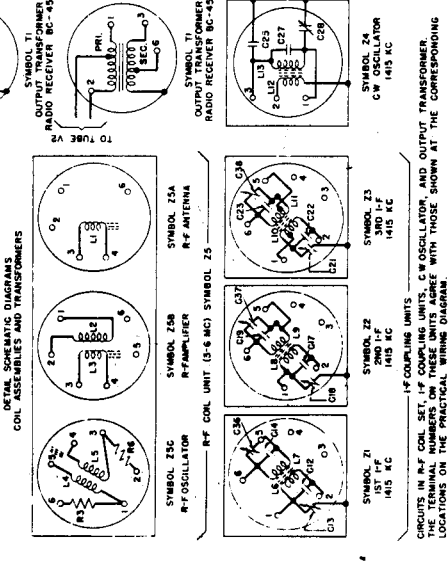
SPLINED TUNING KNOB for 274-N RECEIVERS. 49c
 Fits BC-453 BC-454 and others. Only.....

TG-5-B TELEGRAPH SET

Made for USA Army Signal Corps. A dandy little field set for 3-way communication. Sturdy metal container, 6 1/2" x 4 1/2" x 4 1/2", with hinged covers, complete with telegraph key and handset. BRAND NEW, in carrying case with shoulder strap.....**\$9.95**
 Used., exc. Cond.\$7.95



CAPACITORS		INDUCTORS		RESISTORS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	OHMS
C1	15 MUF	L1	ANT. INPUT	R1	620
C2	100 MUF	L2	500 K	R2	5/2000
C3	3 MUF	L3	500 K	R3	620
C4	1A TO 6I	L4	500 K	R4	620
C5	1A TO 6I	L5	500 K	R5	620
C6	1A TO 6I	L6	500 K	R6	200,000
C7	1A TO 6I	L7	500 K	R7	200,000
C8	1A TO 6I	L8	500 K	R8	200,000
C9	1A TO 6I	L9	500 K	R9	200,000
C10	1A TO 6I	L10	500 K	R10	200,000
C11	1A TO 6I	L11	500 K	R11	200,000
C12	1A TO 6I	L12	500 K	R12	200,000
C13	1A TO 6I	L13	500 K	R13	200,000
C14	1A TO 6I	L14	500 K	R14	200,000
C15	1A TO 6I	L15	500 K	R15	200,000
C16	1A TO 6I			R16	5,000
C17	1A TO 6I			R17	5,000
C18	1A TO 6I			R18	5,000
C19	1A TO 6I			R19	5,000
C20	1A TO 6I			R20	5,000
C21	1A TO 6I			R21	5,000
C22	1A TO 6I			R22	5,000
C23	1A TO 6I			R23	5,000
C24	1A TO 6I			R24	5,000
C25	1A TO 6I			R25	5,000
C26	1A TO 6I			R26	5,000
C27	1A TO 6I			R27	5,000
C28	1A TO 6I			R28	5,000
C29	1A TO 6I			R29	5,000
C30	1A TO 6I			R30	5,000
C31	1A TO 6I			R31	5,000
C32	1A TO 6I			R32	5,000
C33	1A TO 6I			R33	5,000
C34	1A TO 6I			R34	5,000
C35	1A TO 6I			R35	5,000
C36	1A TO 6I			R36	5,000
C37	1A TO 6I			R37	5,000
C38	1A TO 6I			R38	5,000



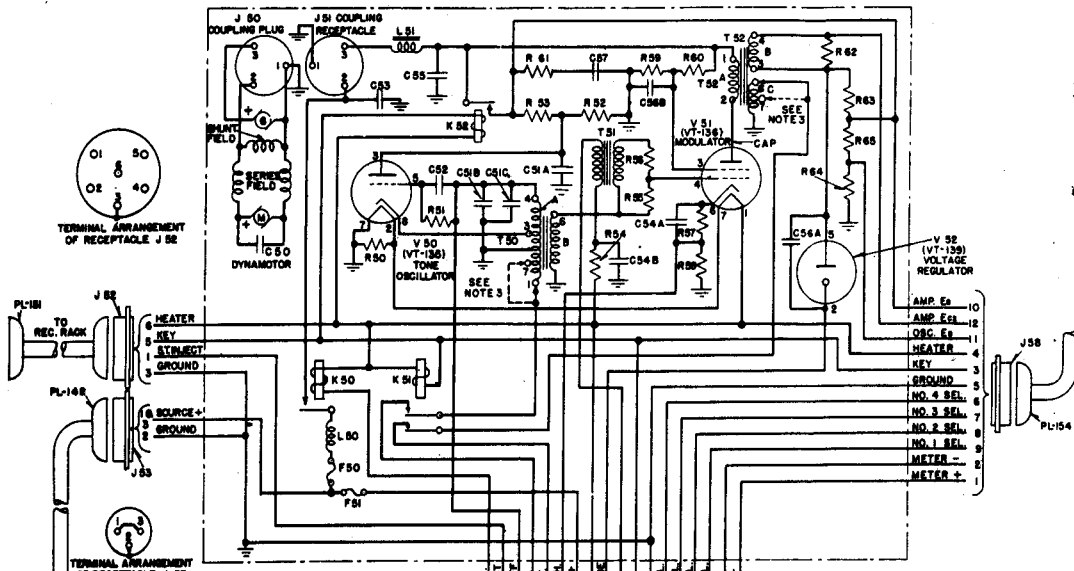
TUBE SOCKET TERMINALS AS VIEWED FROM BOTTOM
 G-CONTROL GRID
 H-HEATER
 K-CATHODE
 P-PLATE
 S-SUPPRESSOR GRID
 5-SCREEN GRID
 6-CONTROL GRID
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 8-SCREEN GRID
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 50-SCREEN GRID

DETAIL SCHEMATIC DIAGRAMS
 COIL ASSEMBLIES AND TRANSFORMERS

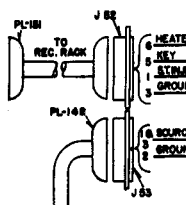
CIRCUITS IN R-F COIL SET, R-F OSCILLATOR, AND OUTPUT TRANSFORMER
 LOCATIONS ON THE PRACTICAL WIRING DIAGRAM
 WITH THOSE SHOWN AT THE CORRESPONDING
 LOCATIONS ON THE PRACTICAL WIRING DIAGRAM

* WIRING CAPACITANCE LESS THAN 2 MMF.

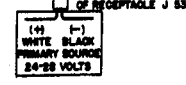
MODULATOR UNIT BG-456-A (OR-B) WITH DYNAMOTOR DM-33-A



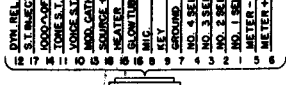
TERMINAL ARRANGEMENT OF RECEPTACLE J 52



TERMINAL ARRANGEMENT OF RECEPTACLE J 53



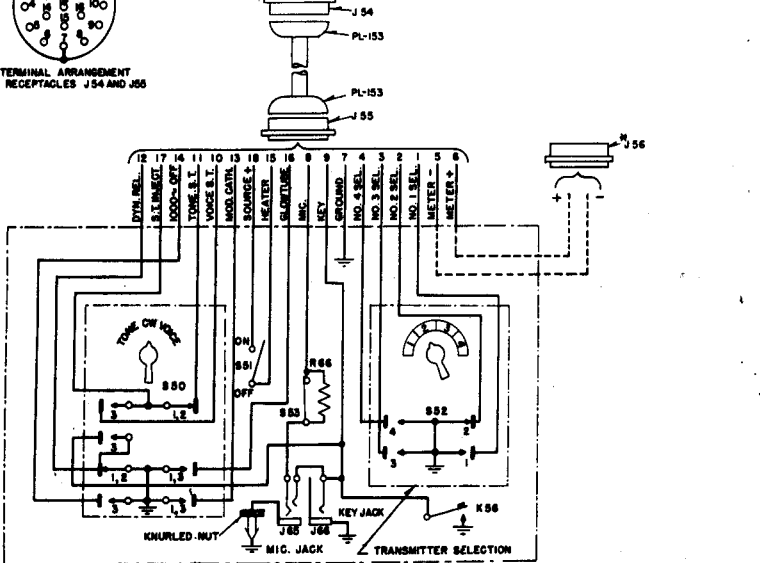
TERMINAL ARRANGEMENT OF RECEPTABLES J 54 AND J 56



NOTE 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.

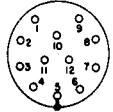
NOTE ON MICROPHONE JACK J 55
 THE KNURLED NUT IS USED TO GROUND THE SLEEVE OF JACK J 55 WHEN A MICROPHONE EQUIPPED WITH A PUSH-TO-TALK SWITCH, SUCH AS MICROPHONE T 17, IS USED. WHEN THE JACK SLEEVE IS NOT GROUNDING, THE PUSH-TO-TALK FUNCTION MUST BE PERFORMED BY KEY K 56 OR AN EXTERNAL KEY OR SWITCH CONNECTED TO JACK J 56.

RADIO CONTROL BOX BG-451-A

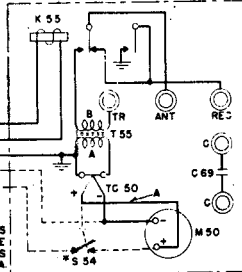
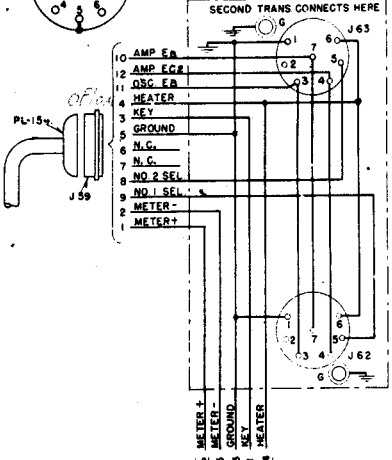


TYPICAL RADIO TRANSMITTER
 BC-696-A(3-4 MC), BC-457-A(4-5.3 MC), BC-458-A(5.3-7 MC) OR BC-459-A(7-9 MC)

TERMINAL ARRANGEMENT OF RECEPTACLES J58 AND J59



RACK FT-226-A (TWO TRANSMITTERS)



* NOTE ON SWITCH S54
 SWITCH S54 AND CONNECTIONS SHOWN IN DASHED LINES WERE PROVIDED IN EARLIER MODELS OF ANTENNA RELAY UNIT BC-442-A. LEAD 'A' WAS LEFT OUT IN UNITS WHERE S54 WAS USED.

ANTENNA RELAY UNIT
 BC-442-A

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 T50 AND T52 IN MODULATOR UNIT BC-458-B ARE PROVIDED WITH SIDETONE TAPS FOR LOW IMPEDANCE HEADSET/PHONE T50 AND T52. 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) HEADSETS. 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 J51 IN MODULATOR UNIT AND J64 IN TRANSMITTER AND ALL CIRCUIT SYMBOLS ARE FOR REFERENCE PURPOSES ONLY. THEY DO NOT APPEAR ON THE EQUIPMENT.
5. * DISCONTINUED ON LATER EQUIPMENTS

TERMINAL ARRANGEMENT OF RECEPTACLES J60 AND J61



CAPACITORS	
SYMBOL	MICROFARADE
C 50	.006
C 51(A,B,C)	.05 / .05 / .05
C 52	.006
C 53	1.2
C 54(A,B)	5/20
C 55	1.2
C 56(A,B)	5/5
C 57	.05
C 58(A,B,C)	.05 / .05 / .05
C 59	.0008
C 60	NO. PADDING
C 61	.006
C 62	FIXED NEUTR.
C 63	NO. TUNING
C 64	.002
C 65	RA. TUNING
C 66	.01
C 67	RA. PADDING
C 68	.00003
C 69	.00005

INDUCTORS	
SYMBOL	DESCRIPTION
L 50	R-F CHOKE APPR. 15 MICROHENRIES
L 51	1.7 HENRIES
L 52	ANT. TUNING INDUCTOR

RELAYS & KEYS		RESISTORS		SWITCHES		TRANSFORMERS		MISCELLANEOUS			
SYMBOL	DESCRIPTION	SYMBOL	OHMS	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION		
K 50	DYNAMOTOR INPUT SIDETONE, VOICE AND TONE	R 50	42	R 70	1000 FOR BC-457-A	S 50	CHOICE OF EMISSION MAIN "ON-OFF"	T 50	TONE OSC.	TC 50	THERMOCOUPLE ANT. CURRENT INDICATOR (LOCAL)
K 51	DYNAMOTOR HIGH VOLTAGE (KEYING) TRANSMITTER	R 51	100,000	R 70	1000 FOR BC-458-A	S 51	BATTERY LINE	T 51	MICROPHONE MODULATOR	M 50	METER
K 52	TRANSMITTER SELECTION	R 52	300,000	R 70	1500 FOR BC-459-A	S 52	TRANS. OUTPUT	T 52	MASTER OSC.	Y 50	CRYSTAL UNIT
K 53	ANTENNA SWITCHING	R 53	91,000	R 70	1500 FOR BC-696-A	S 53	SHUNTS MIC. SERIES RESISTOR	T 53	ANT. CURRENT	F 50	20 AMP. FUSE
K 54	ANTENNA SWITCHING REC. TO TRANS. BUILT-IN KEY	R 54	360	R 71	186	MS 54	ANTICURRENT METER SWITCHING	T 54	ANT. CURRENT	FL 50	PARASITIC SUPPRESSOR
K 55	ANTENNA SWITCHING REC. TO TRANS. BUILT-IN KEY	R 55	2000	R 72	51,000			T 55		RL 51	PARASITIC SUPPRESSOR
K 56	ANTENNA SWITCHING REC. TO TRANS. BUILT-IN KEY	R 56	1300	R 73	10,000 FOR BC-457-A						
		R 57	380	R 73	15,000 FOR BC-458-A						
		R 58	51,000	R 73	5100 FOR BC-459-A						
		R 59	30,000	R 73	9100 FOR BC-696-A						
		R 60	75,000	R 74	15,000						
		R 61	20	R 75	51,000						
		R 62	10,000	R 76	20						
		R 63	20,000	R 77	390						
		R 64	100,000	R 78	51						
		R 65	15,000								
		R 66	510								
		R 67	51,000								
		R 68	20								
		R 69	1,000,000								