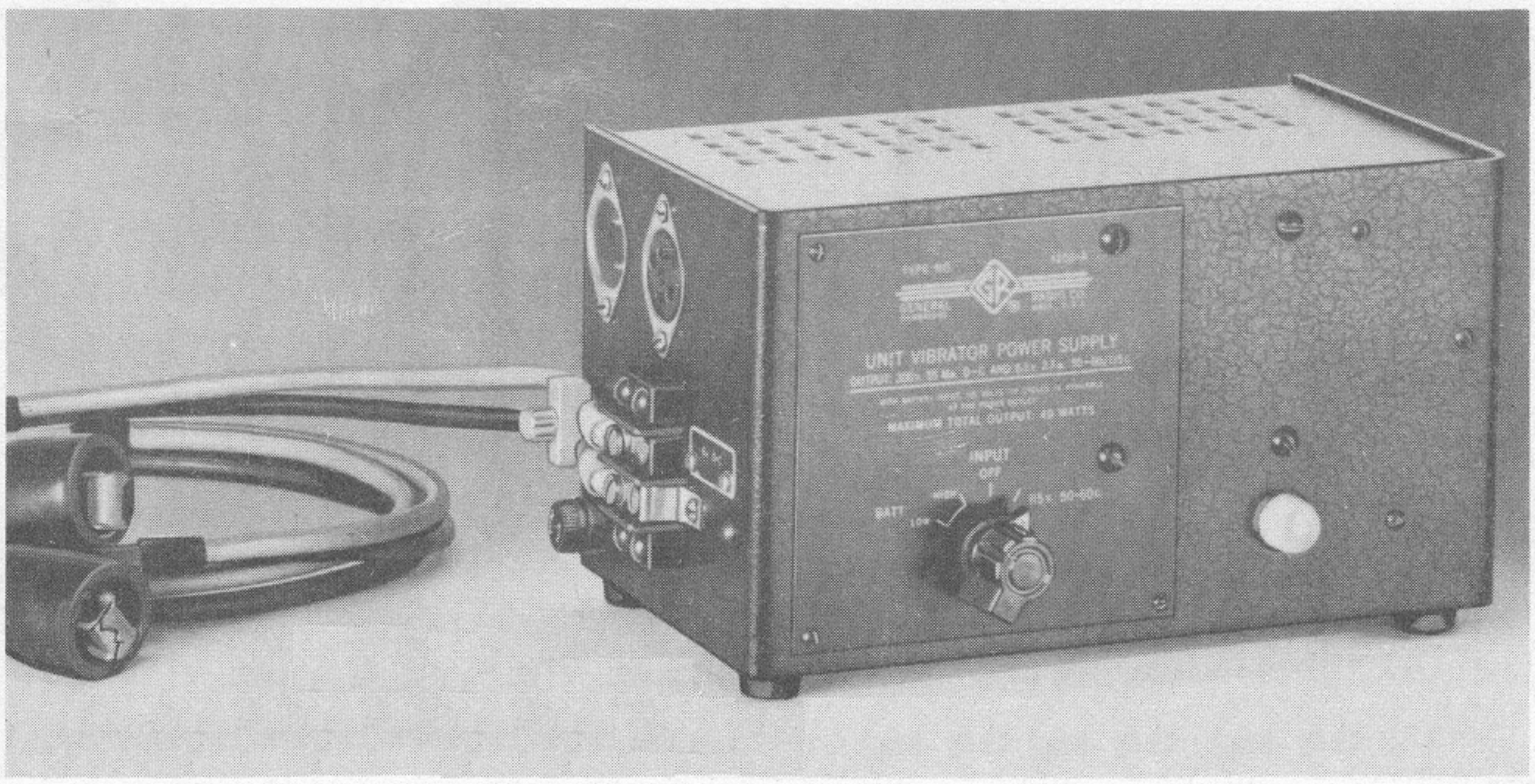
OPERATING INSTRUCTIONS

for

TYPE 1202-A UNIT

VIBRATOR POWER SUPPLY



GENERAL RADIO COMPANY

CAMBRIDGE 39 MASSACHUSETTS

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OPERATING INSTRUCTIONS

for

TYPE 1202-A UNIT

VIBRATOR POWER SUPPLY

1.0 GENERAL

The Type 1202-A Unit Vibrator Power Supply was designed primarily to supply power to other instruments of the General Radio Unit line from a 6-volt or a 12-volt storage battery. It can also be operated from a 50- to 60-cycle, 115-volt power line.

2.0 INPUT CONNECTIONS

2.1 For operation from a 115-volt, 50- to 60-cycle line, plug the power line into the power inlet plug at the left side of the cabinet.

2.2 For operation from a storage battery, connect the battery cable to the two heavy terminals at the left side of the cabinet. The two leads are held securely when clamped under the adjacent bar clamp.

CAUTION: In equipment where the battery is grounded, connect the ground terminal of the battery to the ground (lower) terminal of the Type 1202-A Supply.

IMPORTANT: The correct battery voltage (6 volts or 12 volts) is indicated on the nameplate near the terminals. To change from one voltage to the other rewire the transformer terminals (and a series resistor) as indicated on the wiring diagram and transpose the nameplate near the terminals.

3.0 OUTPUT CONNECTIONS

3.1 Output is available at the power outlet at the left side of the cabinet and at the multipoint connector at the right side of the cabinet.

The power outlet at the left is used only with storage-battery input and delivers about 115 volts rms at 115 cycles (square-wave). This outlet has been provided to make possible battery operation of the Type 1214-A Unit Oscillator and Type 1216-A Unit I-F Amplifier. It can also be used to supply many other instruments that normally operate directly from the a-c power line if they draw less than 40 watts and if 115-cycle operation is feasible (which is usually the case).

3.2 The multipoint connector outlet at the right side of the cabinet is used with both storage-battery input and 115-volt power-line input. Most instruments of the Unit line are provided with a mating multipoint connector for plugging directly into this outlet of the power supply. For those Unit instruments where the connector is mounted on the side of the cabinet (rather than at the end of an attached cable) the instrument can be firmly and permanently attached to the power supply by bolting the units together through matching holes. A 10-32 screw with wing-nut is supplied for this purpose.

3.3 If the multipoint outlet of the power supply is to be connected to equipment other than of the Unit line, use the mating multipoint connector supplied as an accessory to the Type 1202-A and make the connections to its numbered terminals as follows: Connect to No. 13 and No. 14 for 6.3 volts a-c; connect to No. 15 and No. 16 for 300 volts d-c; the positive terminal is No. 15. Both the 6.3-volt a-c supply and the 300-volt d-c supply are isolated from each other and from ground to permit greater latitude in external connections.

4.0 BATTERY OPERATION

4.1 The control switch on the front panel has two positions for battery operation. If the battery is being charged and consequently the voltage is high, set the switch to BATT. HIGH. Similarly, if the battery is at normal voltage but the load is light, (Type 1214-A, Type 1216-A or equipment that normally draws less than 20 watts), again set the switch to BATT. HIGH. At this setting, a limiting resistor is in series with the battery, but this position does NOT allow the power supply to be operated from a 12-volt battery, if the internal connections are for 6-volt operation. If the battery is at normal voltage and the load is a Unit instrument plugged into the multipoint connector or is any equipment of relatively heavy load, set the switch to BATT. LOW.

4.2 For battery operation, a load can be plugged in at the power outlet at the left side of the cabinet (e.g. Type 1216-A Unit I-F Amplifier) and at the same time another load can be plugged in at the multipoint connector at the right side of the cabinet (e.g. Type 1209-A Unit Oscillator) provided the total load is less than 40 watts.

4.3 In permanent installations, if the heater load is unusually light, it may

be found desirable to remove the short-circuits across R-6 or R-7 to lower the heater voltage.

5.0 VIBRATOR

5.1 The vibrator is the interrupter type with separate drive. It is mounted in a cylindrical enclosure 1-1/2 inches in diameter and 2-7/8 inches seated height with a 4-pin base. The rating at 6 volts is 8 amperes or more.

The power supply is correctly wired for the vibrator supplied and for the battery voltage indicated on the nameplate on the left side of the instrument.

The same vibrator is used for both 6-volt and 12-volt operation. The vibrator can be either Mallory Type 4501 or the Cornell-Dublier Type 3361. At 6-volt operation, they are interchangeable. At 12-volt operation, the correct value of resistance must be connected in series with the vibrator driving coil; the Type 1202-A supply is provided with a 24-ohm resistor (R-1) for this purpose which is the correct value for vibrator Type 4501. If the Type 3361 vibrator is used for 12-volt operation, R-1 should be shunted with 18 or 20 ohms (2 watts).

6.0 OUTPUT

6.1 The nominal output at the multipoint connector is 300 volts, 55 ma d-c and 6.3 volts, 2.7 amperes a-c. At the power outlet, it is 115 volts a-c.

The actual output of course depends on the input voltage, the characteristics of the individual vibrator, the load and the regulation of the power supply.

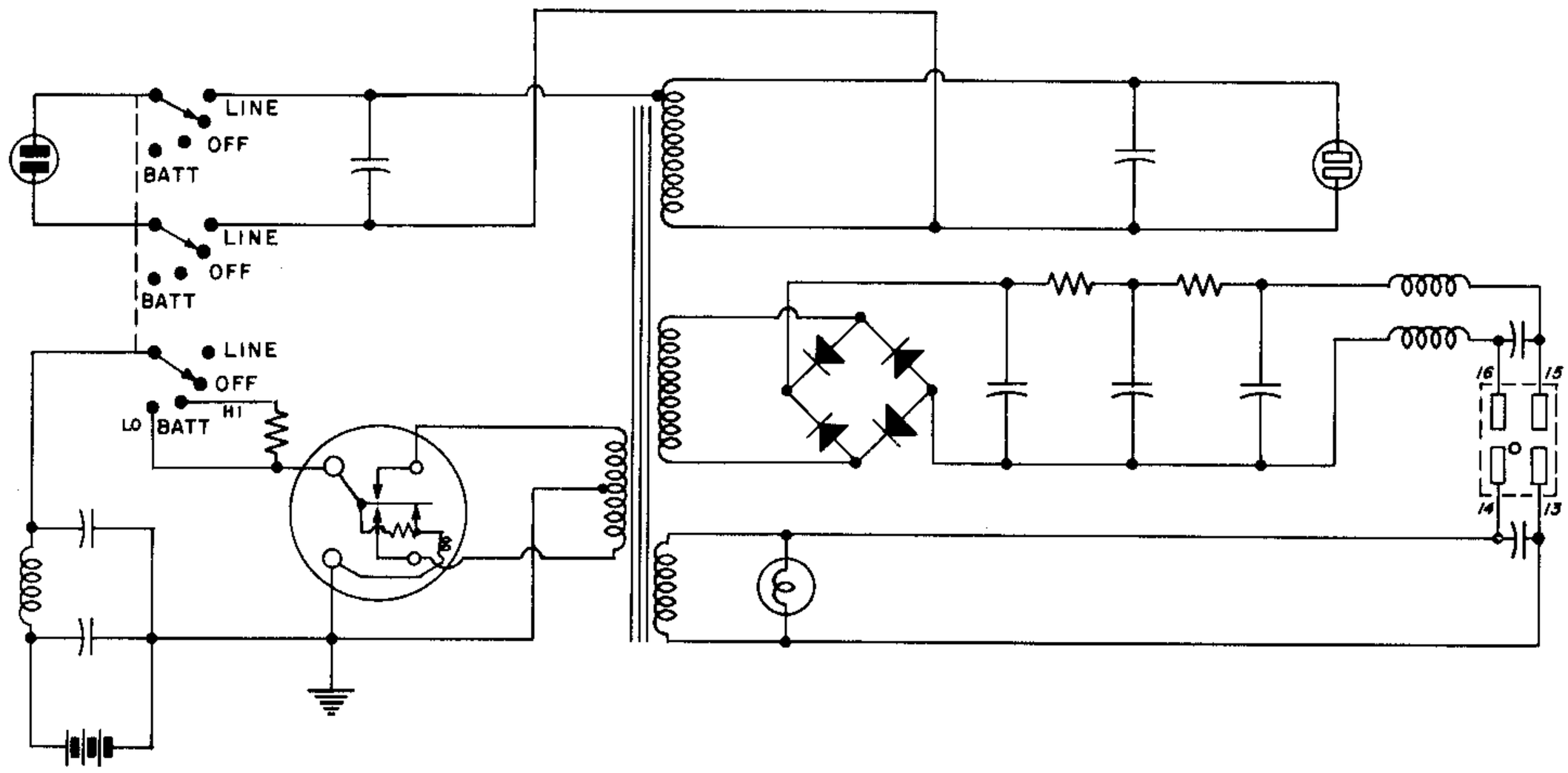
The output impedance at the power outlet on the left side of the cabinet is about 75 ohms and its open-circuit output voltage is about 135 volts.

The output impedance of the 300-volt d-c supply is about 1400 ohms and its open-circuit voltage is about 390 volts.

The output impedance of the 6.3 volts a-c supply is about 0.3 ohms and its open-circuit output voltage is about 6.7 volts.

Loading one output decreases the voltages at the other outputs proportionately.

TYPE 1202-A UNIT VIBRATOR POWER SUPPLY



Elementary Schematic Diagram of Type 1202-A Unit Vibrator Power Supply

SPECIFICATIONS

Input: 6-volt storage battery, 12-volt storage battery or 115-volt, 50- to 60-cycle power line.

Output: 300 volts at 55 ma d-c; 6.3 volts at 2.7 amperes a-c. With battery input, 115 volts at 115 cycles is also available. The maximum a-c output is 40 watts.

Vibrator: A 6-volt vibrator is supplied with the instrument. It is used for both 6-volt and 12-volt operation.

Output Connectors: A standard multipoint connector is mounted on one side of the cabinet for plugging in instruments of the General Radio Unit line. A standard a-c outlet is on the other side of the cabinet for connection to instruments that normally plug into a power line.

Accessories Supplied: Spare fuses, a mating multipoint connector, a power line cord and a heavy cable for battery connection.

Mounting: Black-crackle-finish aluminum panel and sides. Aluminum cover finished in clear black lacquer.

Dimensions: (Width) 10-1/8 x (height) 5-3/4 x (depth) 6-3/8 inches over-all.

Net Weight: 11-1/2 pounds.

Code Word: AURAL.

PARTS LIST

RESISTORS

R-1	=	24 Ω	± 5%	REW-6C
R-2	=	360 Ω	± 5%	REC-41BF
R-3	=	360 Ω	± 5%	REC-41BF
*R-4	=	15 Ω	±10%	REW-3C
R-5	=	0.1 Ω	±10%	REPO-22
R-6	=	1 Ω	±10%	REW-6C
R-7	=	3 Ω	±10%	REPO-22
R-8	=	820 Ω	±10%	REC-30BF
R-9	=	0.1 Ω	±10%	REPO-22

*Part of P-1 Socket

CAPACITORS

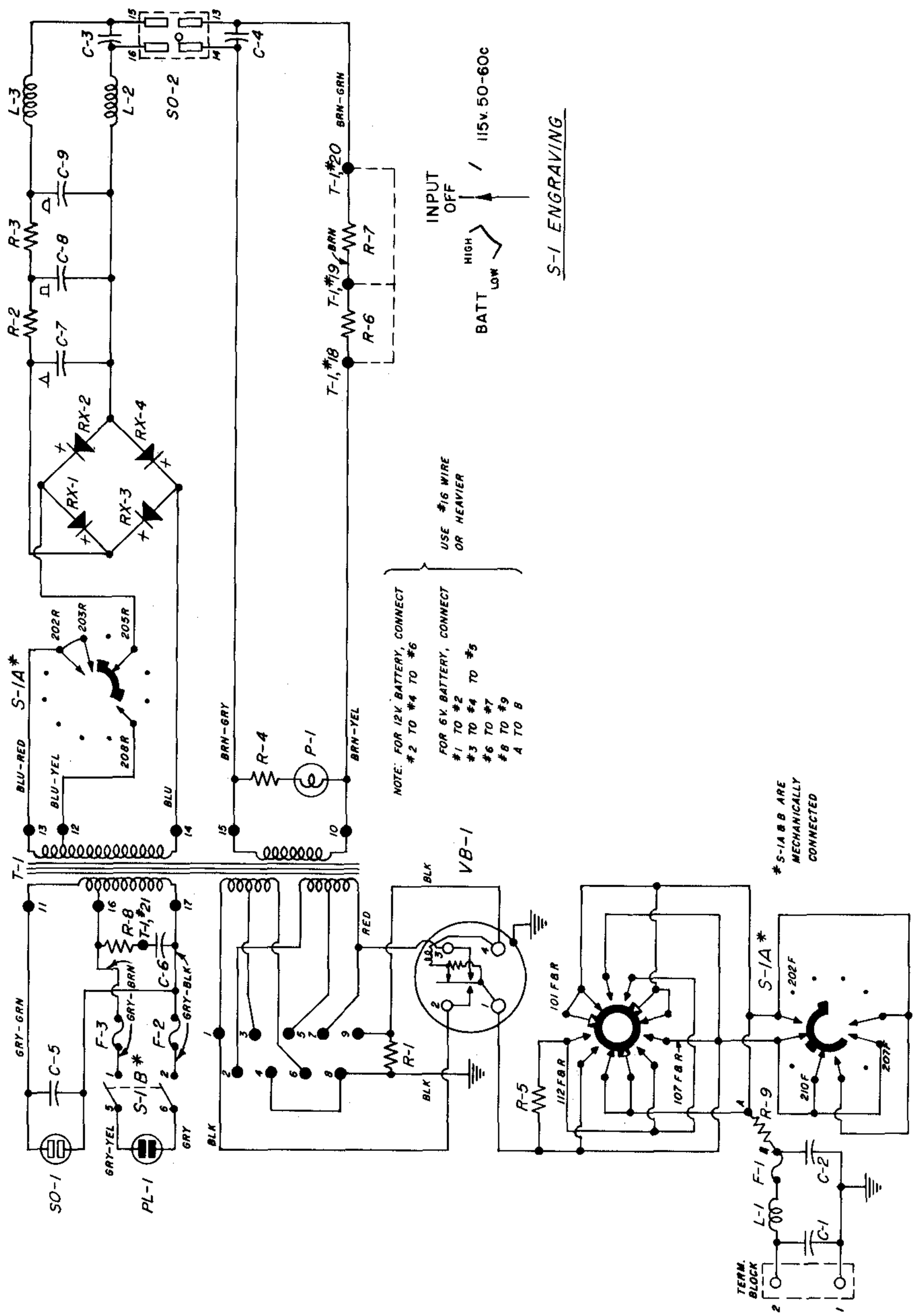
C-1	=	.01 μf	+100% -0%		COC-63
C-2	=	.01 μf	+100% -0%		COC-63
C-3	=	.01 μf	+100% -0%		COC-63
C-4	=	.01 μf	+100% -0%		COC-63
C-5	=	.01 μf	+100% -0%		COC-63
C-6	=	0.3 μf	±10% 2-0.15 μf in //		COL-57
C-7	=	25 μf	450 DCWV	Part of	COE-10
C-8	=	25 μf	450 DCWV		
C-9	=	50 μf	450 DCWV		

INDUCTORS

L-1	=	Choke		1202-25
L-2	=	55 μh	± 5%	2CHA-42
L-3	=	55 μh	± 5%	2CHA-42

MISCELLANEOUS

F-1	=	Fuse	20 Amp	Slo-Blo	FUF-1
F-2	=	Fuse	1 Amp	Slo-Blo	FUF-1
F-3	=	Fuse	1 Amp	Slo-Blo	FUF-1
PL-1	=	Power Plug			CDPP-562A
SO-1	=	Power Receptacle			CDPR-989
SO-2	=	Socket			CDMS-5-4
S-1,A,B	=	Switch			SWRW-106
T-1	=	Transformer			365-477
RX-1	=	Rectifier	(150 Ma)		2RE-11
RX-2	=	Rectifier	(150 Ma)		2RE-11
RX-3	=	Rectifier	(150 Ma)		2RE-11
RX-4	=	Rectifier	(150 Ma)		2RE-11
VB-1	=	Vibrator			1202-40
P-1	=	Pilot Light	6.3v.		2LAP-939
Term. Block					MDT-8-2



Wiring Diagram for Type 1202-A Unit Vibrator Power Supply

OTHER GENERAL RADIO UNIT INSTRUMENTS

Type 1203-A Unit Power Supply
Type 1204-B Unit Variable Power Supply
Type 1206-B Unit Amplifier
Type 1208-A Unit Oscillator (65 - 500 Mc)
Type 1209-B Unit Oscillator (250 - 920 Mc)
Type 1211-A Unit Oscillator (0.5 - 50 Mc)
Type 1212-A Unit Null Detector
Type 1213-A Unit Crystal Oscillator (1 Mc, 100 kc, and 10 kc)
Type 1214-A Unit Oscillator (400 and 1000 cycles)
Type 1215-B Unit Oscillator (50 - 250 Mc)
Type 1216-A Unit I-F Amplifier
Type 1217-A Unit Pulser