

203-3.6

MI-4255 POWER AMPLIFIER

ELECTRICAL SPECIFICATIONS

Line Voltage Rating	-----	105-125 volts AC
Frequency	-----	50-60 cycles
Power Consumption	-----	314 watts
Overall Gain (500 ohm input to 15 ohm load)	-----	27 DB
Power Output (3% harmonic distortion)	-----	40 watts
Output Level	-----	35 DB
Input Impedance	-----	(Terminals 6-7) work from 500 ohms
		(Terminals 6-8) work from 1,000 ohms
Output Impedance	-----	(Terminals 1-5) work into 30 ohms
		(Terminals 1-4) work into 15 ohms
		(Terminals 1-3) work into 7-1/2 ohms
		(Terminals 1-2) work into *3 ohms

*Full load cannot be taken from 3 ohm tap

MECHANICAL SPECIFICATIONS

Length	-----	17-5/16 inches
Depth	-----	17 inches
Height	-----	12-1/4 inches
Weight	-----	110 pounds

RADIOTRON SOCKET VOLTAGES

115 Volt AC Line

(Actual voltages read on voltmeter)

<u>Radiotron No.</u>	<u>Grid Volts*</u>	<u>Plate Volts*</u>	<u>Plate Current</u>	<u>Heater Volts</u>	<u>Heater Current</u>
UV-845	150	1150	75 MA	10	3.25 AMP.
UV-845	150	1150	75 MA	10	3.25 AMP.
RCA-866	(2740 volts AC Between)			2.5	5 AMP.
RCA-866	(Plates of Tubes)			2.5	5 AMP.

*Voltage to Ground

RADIOTRONS UV-845

To measure the plate current of the Radiotron UV-845 a low range voltmeter or a millivoltmeter is required. The meter should be connected to a Yaxley No. 75 phone plug or a similar plug and the plug inserted into the plate current metering jacks on the base of the power amplifier. The normal plate current is between 60 and 75 milliamperes.

Two millivolts read on the test meter equals one milliampere of plate current.

1 Added Wire from #1 Terminal to Ground

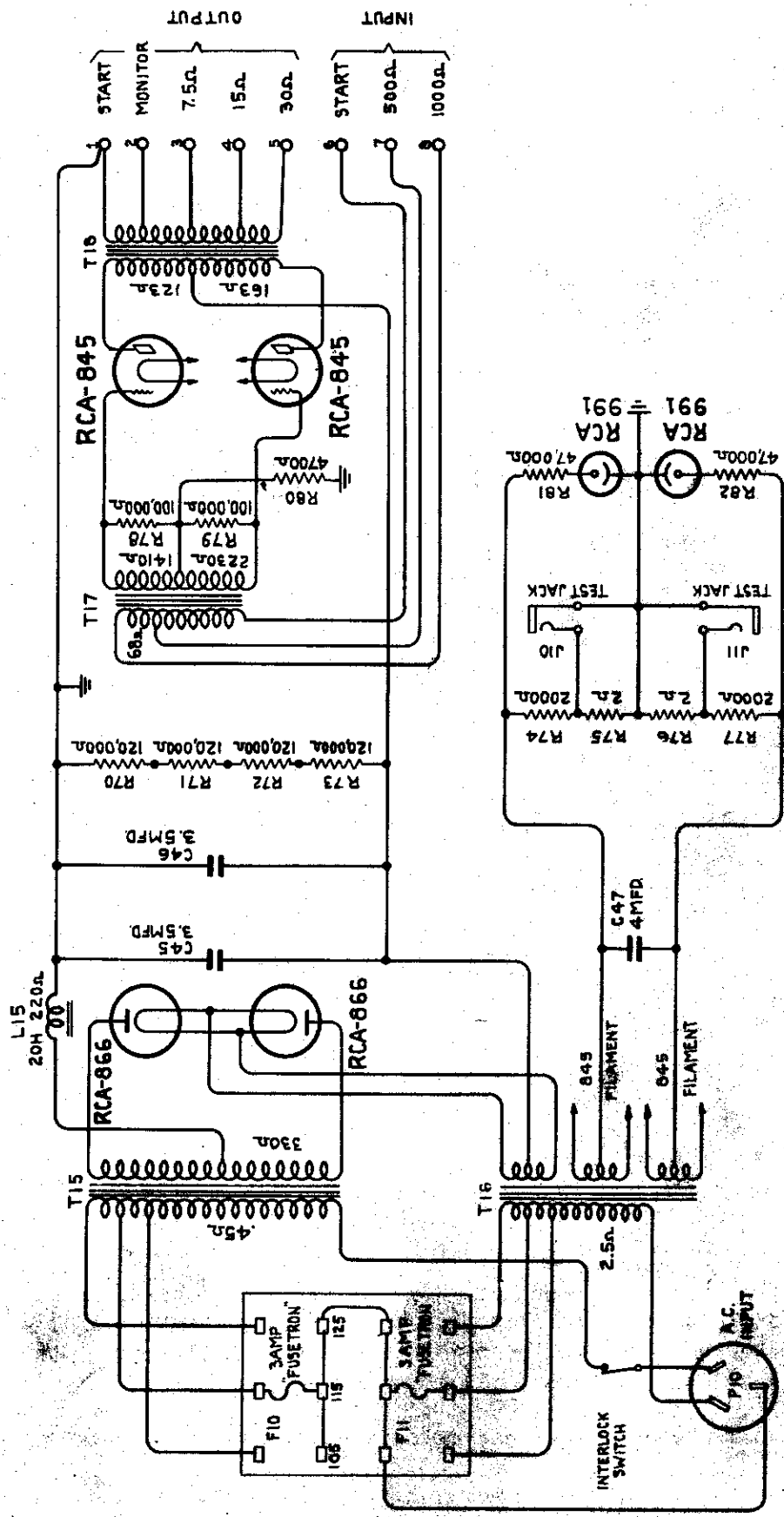


Figure 1 - Schematic Circuit Diagram - MI-4255

1 Added wire from #1 terminal to ground

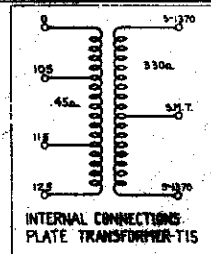
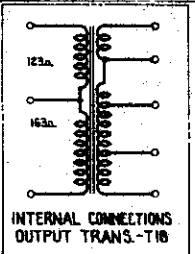
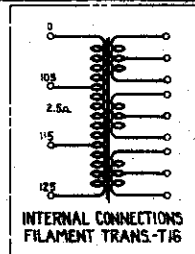
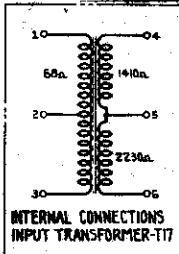
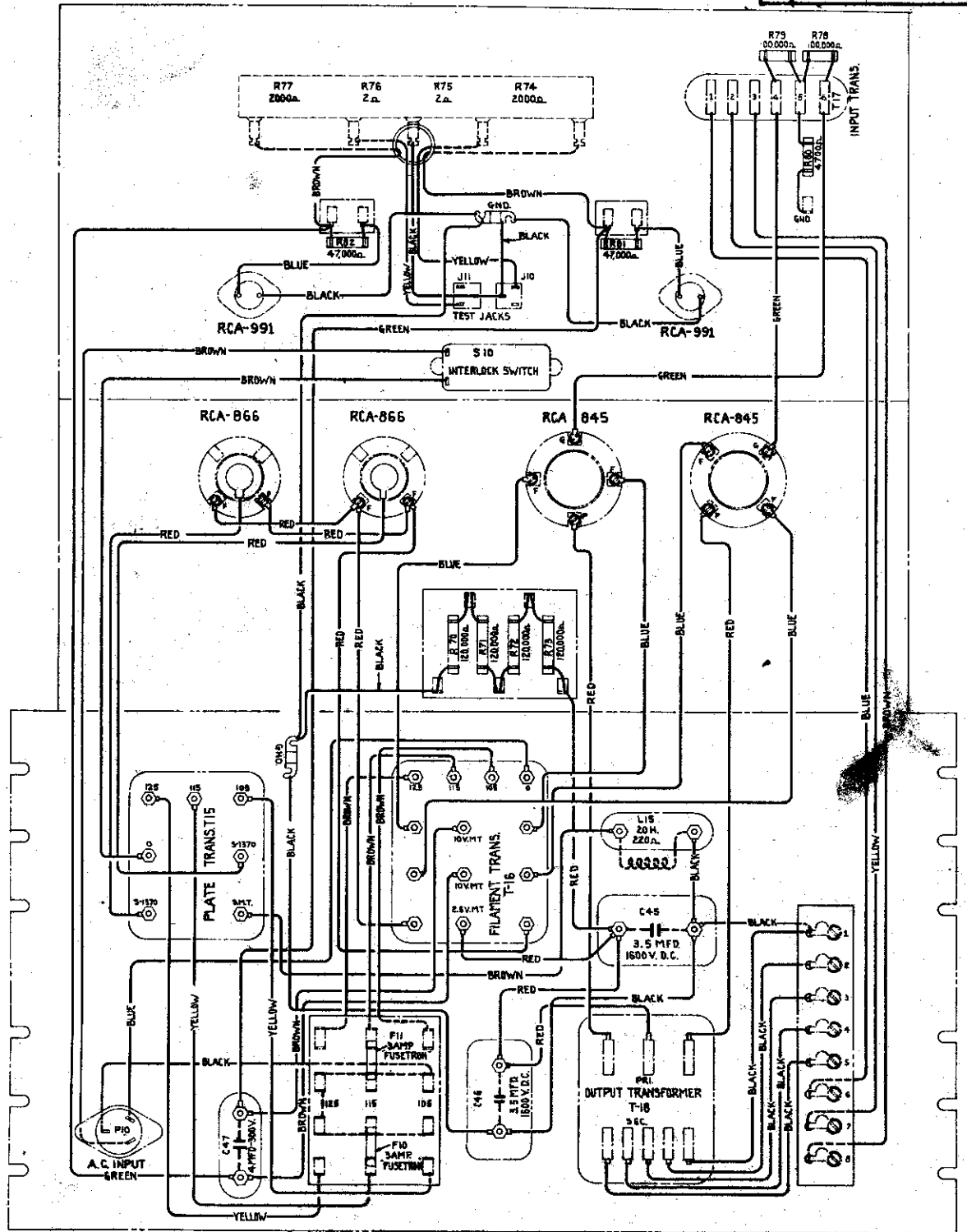


Figure 2 - Wiring Diagram - MI-4255

RADIOTRONS RCA-866

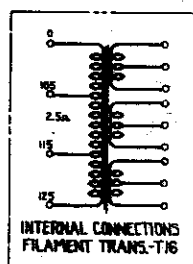
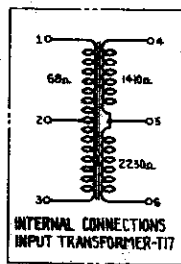
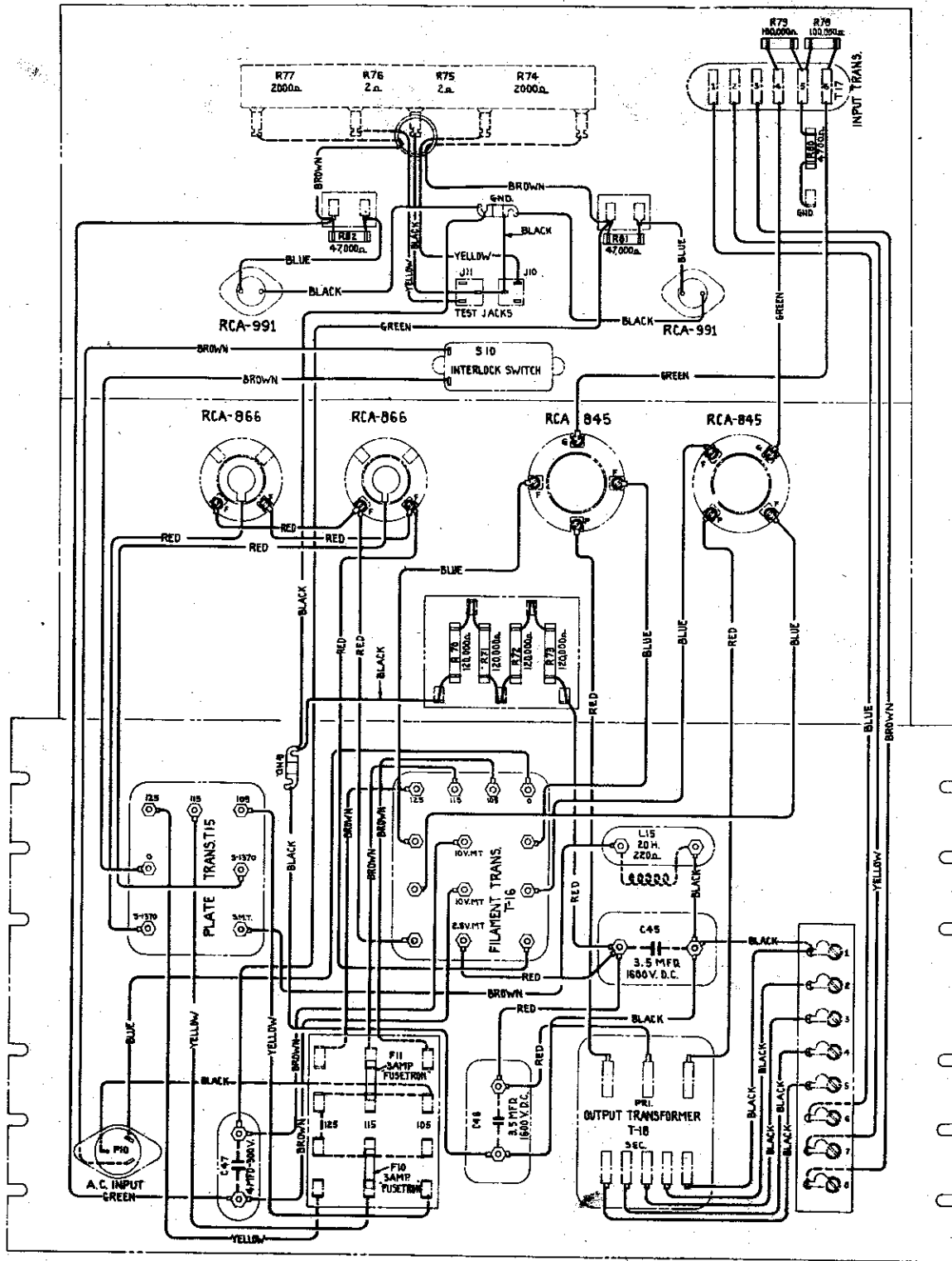
During shipment the mercury in the Radiotrons RCA-866 may spatter on the filament and plate, and, therefore, when this type of tube is first placed in operation, the filament should be heated for thirty minutes with no plate voltage applied to the tube in order to properly distribute the mercury. Heating the filament may be accomplished by removing the perforated cover from the power amplifier, which automatically opens the plate circuit of the rectifier tubes.

REPLACEMENT PARTS

Power Amplifier MI-4255

<u>Stock No.</u>	<u>Description</u>	<u>List Price</u>
26204	BOARD - Fuse board complete with 12 clips and terminals..	\$ 2.50
25393	BOARD - Input and output terminal board	4.25
22865	BOARD - Terminal board complete with 2 terminals50
26162	CAPACITOR - 3.6 mfd. capacitor - C45, C46	13.50
26163	CAPACITOR - 4 mfd. capacitor - C47	3.50
23559	FUSE - 3.2 amp. cartridge fuse - F1025
22616	JACK - Input jack - J10, J11	1.50
25380	REACTOR - Filter reactor - RT-164, (L15)	35.00
23553	RECEPTACLE - 3 contact receptacle - P10	1.55
23432	RESISTOR - 47,000 ohm 1/4 watt carbon resistor R81, R82..	.20
8072	RESISTOR - 4,700 ohm 1/2 watt carbon resistor - R8020
3252	RESISTOR - 100,000 ohm 1/2 watt carbon resistor - R78, R79	.20
11366	RESISTOR - 120,000 ohm 2 watt carbon resistor - R70, R71, R72, R7325
26206	RESISTOR - 4,004 ohm porcelain resistor, tapped at 2,000, 2,002 and 2,004 ohms - R74, R75, R76, R77	3.10
20058	SCREWS - One set of two special thumbscrews for fastening perforated cover60
23555	SOCKET - Indicator lamp socket60
24475	SOCKET - Porcelain base socket for UV-845 Radiotron	1.50*
25075	SOCKET - Porcelain base socket for RCA-866 Radiotron	6.00
23552	SWITCH - Interlock switch - S10	5.00
27397	TRANSFORMER - Filament transformer - RT-71 (T16)	85.00
26203	TRANSFORMER - Input transformer RT-375 (T17)	14.55
27450	TRANSFORMER - Output transformer - RT-163 (T18)	35.00
27398	TRANSFORMER - Plate transformer - RT-70 (T15)	85.00

*Net Price



VI-30048

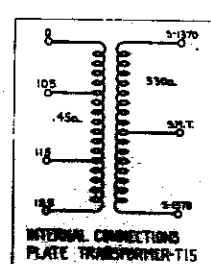
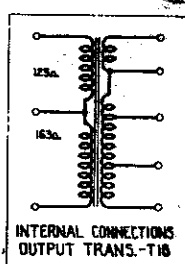


Figure 2 - Wiring Diagram - MI-4255A

RADIOTRONS UV-845

To measure the plate current of the Radiotron UV-845 a low-range voltmeter or a millivoltmeter is required. The meter should be connected to a Yaxley No. 75 phone plug, or a similar plug, and the plug inserted into the plate-current metering-jacks on the base of the power amplifier. The normal plate current is between 60 and 75 milliamperes.

An internal shunt of suitable value is provided so that two millivolts read on the test meter equals one milliampere of plate current.

RADIOTRONS RCA-866

During shipment the mercury in the Radiotrons RCA-866 may splash on the filament and plate, and therefore, when this type of tube is first placed in operation, *the filament should be heated for thirty minutes with no plate voltage applied to the tube* in order to drain mercury to the base of the envelope, prior to application of plate potential.

REPLACEMENT PARTS

Power Amplifier MI-4255A

DESCRIPTION	STOCK NO.
BOARD - Fuse board complete with 12 clips and terminals	26204
BOARD - Input and output terminal board	25393
BOARD - Terminal board complete with 2 terminals	22865
CAPACITOR - 3.6 Mfd. capacitor - C45, C46	26162
CAPACITOR - 4 Mfd. capacitor - C47	26163
FUSE - 3.2 amp. cartridge fuse - F10, F11	23559
JACK - Meter jack - J10, J11	22616
REACTOR - Filter reactor - RT-164 (L15)	25380
RECEPTACLE - 3 contact receptacle - P10	23553
RESISTOR - 47,000 ohm 1/4 watt carbon resistor - R81, R82	23432
RESISTOR - 4,700 ohm 1/2 watt carbon resistor - R80	8072
RESISTOR - 100,000 ohm 1/2 watt carbon resistor - R78, R79	6185
RESISTOR - 120,000 ohm 2 watt carbon resistor - R70, R71, R72, R73.	11366
RESISTOR - 4,004 ohm porcelain resistor, tapped at 2,000, 2,002 and 2,004 ohms - R74, R75, R76, R77	26206
SCREWS - One set of two special thumbscrews for fastening perforated cover	20058
SOCKET - Indicator lamp socket	23555
SOCKET - Porcelain base socket for UV-845 Radiotron	26442
SOCKET - Porcelain base socket for RCA-866 Radiotron	26483
SWITCH - Interlock switch - S10	23552
TRANSFORMER - Filament transformer - RT-71 (T16)	27397
TRANSFORMER - Input transformer RT-375 (T17)	26203
TRANSFORMER - Output transformer RT-163 (T18)	27460
TRANSFORMER - Plate transformer - RT-70 (T15)	27398

INSTALLATION AND SERVICE DIVISION

RCA MANUFACTURING CO., INC.

CAMDEN, N. J.

Technical - Photophone - Amplifiers

DATE March 17, 1938

SUBJECT: MI-4255-B1 Power Amplifier

NUMBER SL-203-3.7

TO: A-5, B-1, B-2, B-4, C-7, D-7, E-7, F-7, G-1, G-2, G-3, G-4, H-7

The MI-4255-B1 Power Amplifier consists of the MI-4255-A Power Amplifier with the MI-1289 Capacitor Pack added. The MI-4255-B1 Amplifier has identical electrical characteristics to the MI-4255-B Amplifier. However, the mechanical construction differs as follows:

The tube sockets used in the MI-1255-B1 are of bakelite base construction, whereas the sockets in the MI-4255-B are of porcelain base construction.

For Replacement Parts refer to SL-203-3.6A, SL-203-3.6B (MI-4255-A Power Amplifier).