

141A Amplifier.

Use — The 141A is used as a pre-amplifier for basic amplifier units such as the 142A or 143A Amplifiers.

Description — A three-stage pre-amplifier, the 141A may be connected to a basic amplifier unit without the use of transformers. Provision is made on the 142A and 143A basic amplifier chassis for mounting one 141A unit, or the 141A can be mounted up to 300 feet away from the basic amplifier unit with little effect on the overall performance characteristics, or it can be mounted as far as 1,000 feet away by operating it at a lower output level.

Where a 141A amplifier is to be located close to a basic amplifier unit, the power required can be drawn from the basic amplifier. If the pre-amplifier is to be located remotely from the basic amplifier, the power can be obtained from rectifiers of the 18 or 20 type.

Typical Specifications

Frequency Response: ±1 db, 50 to 15,000 cycles.

Output Noise: —45 dbm.

Source Impedance: 30, 250, or 600 ohms nominal. Source impedance may be ±40% from these values with little effect upon the response characteristic.

Load Impedance: Any impedance 600 ohms or above.

Gain: 70 db maximum.

Gain Control: Adjustable in three steps of 10 db each.

Output Power: See Figure 1.

Power Required: Filament 0.9 ampere at 6.3 volts, a-c or dc; 15 ma. at 275 volts d-c.

VACUUM TUBES

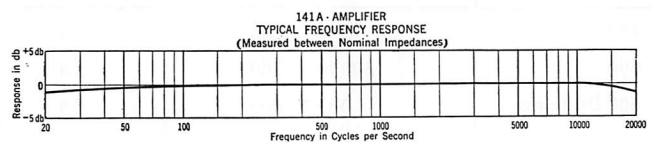
Quantity Required	Commercial Receiver Type
1	6J7 or (6J7G)
1	6SN7

Mounting: Up to three 141A amplifiers can be mounted on a 203A Mounting Plate.

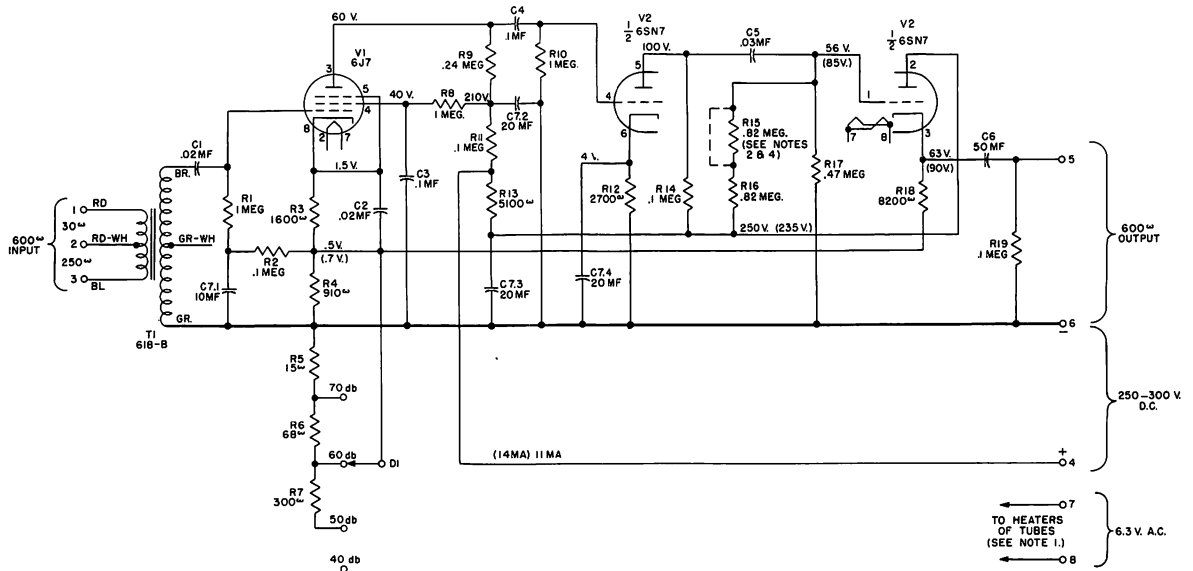
Output power varies in accordance with gain setting and load impedance. Output levels below are for 50-7500 cycles and 1% total harmonic distortion.

Level	Load	Gain
+ 8 dbm	600 ohms	40 db
+ 18 dbm	6000 ohms	40 db
+ 10 dbm	6000 ohms	70 db

Figure 1 — Output Power 141A Amplifier.



Frequency Response Curve, 141A Amplifier.

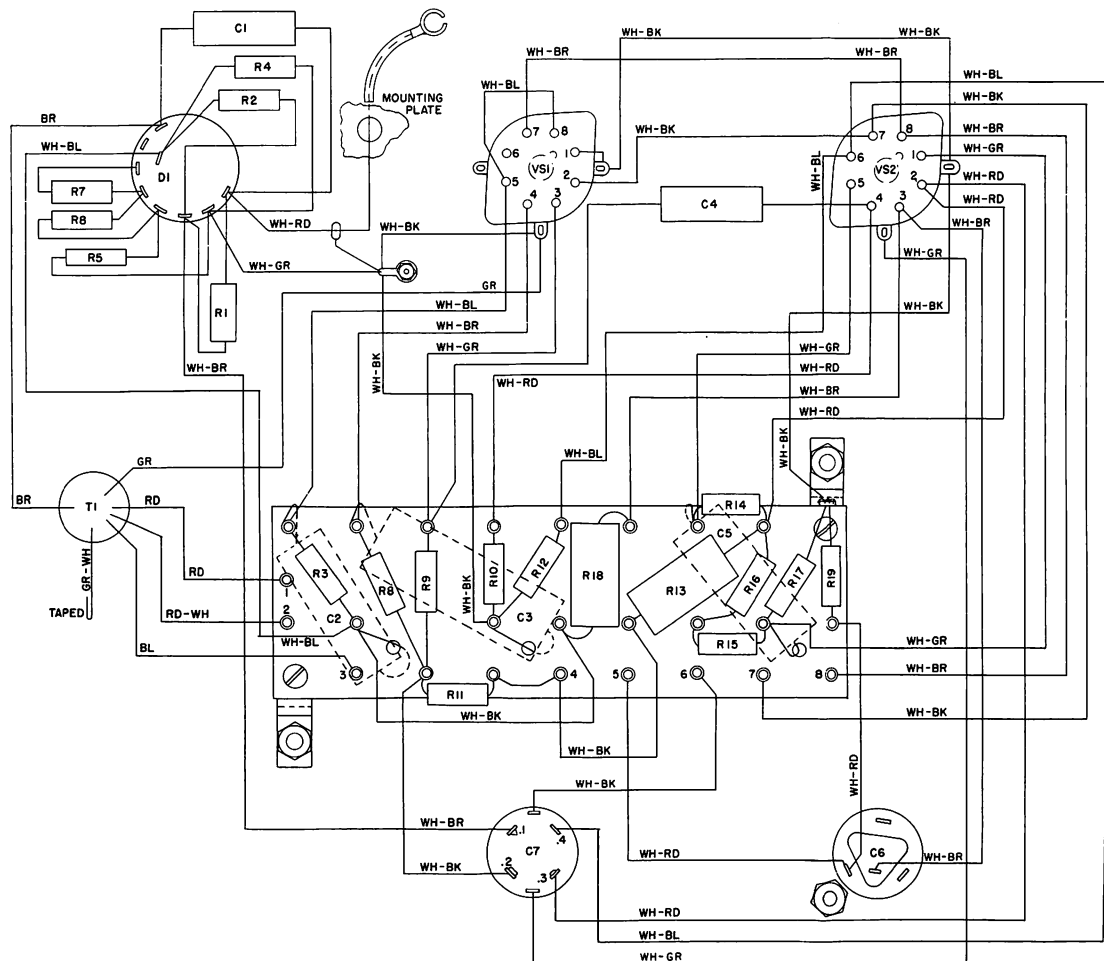


NOTES:

1. FOR MINIMUM NOISE LEVEL, THE HEATER SUPPLY SHOULD BE BIASED ± 15 TO ± 45 VOLTS D.C. WITH RESPECT TO GROUND.
2. THE OUTPUT POWER VARIES WITH THE GAIN SETTING AND LOAD IMPEDANCE AND IS TABULATED BELOW FOR REPRESENTATIVE OPERATING CONDITIONS. THESE OUTPUT LEVELS ARE OBTAINED WITH NOT MORE THAN 1% TOTAL HARMONIC DISTORTION OVER THE FREQUENCY RANGE OF 50 TO 7500 CYCLES WHEN A 300 VOLT D.C. SUPPLY IS EMPLOYED.
3. THE NUMBERS IN PARENTHESES ARE THE VOLTAGES AND CURRENT WITH R15 SHORTED.
4. IN CASES WHEN THE "B" SUPPLY VOLTAGE IS OTHER THAN 300 V, THE VOLTAGES INDICATED ARE MULTIPLIED BY THE RATIO OF THAT VOLTAGE TO 300.
5. THE VOLTAGES AND TOTAL CURRENT INDICATED REPRESENTS TYPICAL OPERATING CONDITIONS WITH AVERAGE TUBES, WITH A 300 V. D.C. "B" SUPPLY AND THE GAIN CONTROL AT 70 db. THESE VOLTAGES SHOULD BE MEASURED WITH A VOLTMETER HAVING 11 MEGOHMS D.C. RESISTANCE. VOLTAGES ARE MEASURED FROM POINTS SHOWN TO TERMINAL 6 AND SHOULD BE WITHIN $\pm 20\%$.

GAIN CONTROL POSITION	CIRCUIT AS SUPPLIED	R15 SHORTED
600 OHM LOAD		
40	+11	+14
50	+11	+14
60	+10	+13
70	+8	+11
6000 OHM LOAD		
40	+17	+17
50	+17	+17
60	+17	+16
70	+15	+15

141A Amplifier Schematic



141A Amplifier Wiring Diagram