

# RCA-841

## R-F Power Amplifier, Oscillator, Class B Modulator

RCA-841 is a high- $\mu$ , three-electrode tube of the thoriated-tungsten filament type. As a radio-frequency power amplifier it may be operated under maximum rated conditions at frequencies as high as 6 megacycles. For socket and outline drawing, refer to RCA-1602.

### CHARACTERISTICS

|                                   |      |                                  |           |
|-----------------------------------|------|----------------------------------|-----------|
| Filament Volts (a-c or d-c) ..... | 7.5  | Grid-Plate Capacitance .....     | 7 $\mu$ f |
| Filament Amperes .....            | 1.25 | Grid-Filament Capacitance .....  | 4 $\mu$ f |
| Amplification Factor .....        | 30   | Plate-Filament Capacitance ..... | 3 $\mu$ f |

### MAXIMUM RATINGS

|                             | Class B<br>Modu-<br>lation | Class B<br>Tele-<br>phony* | Class C<br>Tele-<br>phony* | Class C<br>Tele-<br>graphy§ |              |
|-----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|--------------|
| D-C PLATE VOLTAGE .....     | 425                        | 450                        | 350                        | 450                         | Volts        |
| D-C GRID VOLTAGE .....      | —                          | —                          | -200                       | -200                        | Volts        |
| D-C PLATE CURRENT .....     | —                          | 50                         | 60                         | 60                          | Milliamperes |
| MAX.-SIG. D-C PLATE CUR.†   | 60                         | —                          | —                          | —                           | Milliamperes |
| D-C GRID CURRENT .....      | —                          | —                          | 20                         | 20                          | Milliamperes |
| PLATE INPUT .....           | —                          | 22.5                       | 21                         | 27                          | Watts        |
| MAX.-SIG. PLATE INPUT†..... | 25                         | —                          | —                          | —                           | Watts        |
| PLATE DISSIPATION .....     | 15†                        | 15                         | 10                         | 15                          | Watts        |

# RCA-842

## A-F Power Amplifier, Modulator

RCA-842 is a low- $\mu$ , three-electrode tube of the thoriated-tungsten filament type for use primarily as a class A power amplifier. For socket and outline drawing, refer to RCA-1602.

### CHARACTERISTICS

|                                   |      |                                  |           |
|-----------------------------------|------|----------------------------------|-----------|
| Filament Volts (a-c or d-c) ..... | 7.5  | Grid-Plate Capacitance .....     | 7 $\mu$ f |
| Filament Amperes .....            | 1.25 | Plate-Filament Capacitance ..... | 4 $\mu$ f |
| Amplification Factor .....        | 3    | Plate-Filament Capacitance ..... | 3 $\mu$ f |

### MAXIMUM RATINGS FOR CLASS A SERVICE

|                         |     |       |
|-------------------------|-----|-------|
| D-C PLATE VOLTAGE ..... | 425 | Volts |
| PLATE DISSIPATION ..... | 12  | Watts |

With a plate voltage of 425 volts, a grid bias of -100 volts, and a load resistance of 8000 ohms, the 842 is capable of giving an undistorted power output of 3 watts.

# RCA-843

## R-F Power Amplifier, Oscillator

RCA-843 is a three-electrode tube of the heater-cathode type for use as an oscillator and r-f power amplifier. The 843 may be operated at maximum input at frequencies as high as 6 megacycles.

### CHARACTERISTICS

|                                 |                   |                                 |              |
|---------------------------------|-------------------|---------------------------------|--------------|
| Heater Volts (a-c or d-c) ..... | 2.5               | Grid-Plate Capacitance .....    | 4.5 $\mu$ f  |
| Heater Amperes .....            | 2.5               | Grid-Cathode Capacitance .....  | 4 $\mu$ f    |
| Amplification Factor .....      | 7.7               | Plate-Cathode Capacitance ..... | 4 $\mu$ f    |
| Maximum Overall Length .....    | 5 $\frac{5}{8}$ " | Bulb .....                      | S-17         |
| Maximum Diameter .....          | 2 $\frac{1}{8}$ " | Base .....                      | Medium 5-Pin |

†, \*, §: see next page.

## MAXIMUM RATINGS

|                         | Class B<br>Tele-<br>phony* | Class C<br>Tele-<br>phony* | Class C<br>Tele-<br>graphy§ |              |
|-------------------------|----------------------------|----------------------------|-----------------------------|--------------|
| D-C PLATE VOLTAGE ..... | 450                        | 350                        | 450                         | Volts        |
| D-C GRID VOLTAGE .....  | —                          | -200                       | -200                        | Volts        |
| D-C PLATE CURRENT ..... | 30                         | 40                         | 40                          | Milliamperes |
| D-C GRID CURRENT .....  | —                          | 7.5                        | 7.5                         | Milliamperes |
| PLATE INPUT .....       | —                          | 14                         | 18                          | Watts        |
| PLATE DISSIPATION ..... | 15                         | 10                         | 15                          | Watts        |

## RCA-844

## Screen-Grid R-F Power Amplifier

RCA-844 is a screen-grid transmitting tube of the heater-cathode type for use as a radio-frequency amplifier and multiplier. The 844 may be operated at maximum rated conditions at frequencies as high as 8 megacycles.

## CHARACTERISTICS

|                                                                |                   |                                                        |              |               |
|----------------------------------------------------------------|-------------------|--------------------------------------------------------|--------------|---------------|
| Heater Volts (a-c or d-c) .....                                | 2.5               | Grid-Plate Capacitance (With external shielding) ..... | 0.15 max.    | $\mu\text{f}$ |
| Heater Amperes .....                                           | 2.5               | Input Capacitance .....                                | 9.5          | $\mu\text{f}$ |
| Amplification Factor .....                                     | 75                | Output Capacitance .....                               | 7.5          | $\mu\text{f}$ |
| Transconductance (For plate current of 13 ma.) Micromhos ..... | 600               | Bulb .....                                             | ST-16        |               |
| Maximum Overall Length .....                                   | 5 $\frac{3}{8}$ " | Cap .....                                              | Medium Metal |               |
| Maximum Diameter .....                                         | 2 $\frac{1}{8}$ " | Base .....                                             | Medium 5-Pin |               |

## MAXIMUM RATINGS

|                          | Class B<br>Tele-<br>phony* | Class C<br>Tele-<br>phony* | Class C<br>Tele-<br>graphy§ |              |
|--------------------------|----------------------------|----------------------------|-----------------------------|--------------|
| D-C PLATE VOLTAGE .....  | 500                        | 500                        | 500                         | Volts        |
| D-C SCREEN VOLTAGE ..... | 175                        | 175                        | 175                         | Volts        |
| D-C GRID VOLTAGE .....   | —                          | -200                       | -200                        | Volts        |
| D-C PLATE CURRENT .....  | 25                         | 25                         | 30                          | Milliamperes |
| D-C GRID CURRENT .....   | —                          | 5                          | 5                           | Milliamperes |
| SCREEN INPUT .....       | 3                          | 2                          | 3                           | Watts        |
| PLATE DISSIPATION .....  | 15                         | 10                         | 15                          | Watts        |

\* Carrier conditions per tube for use with a max. modulation factor of 1.0.

§ Key-down conditions per tube without modulation. Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

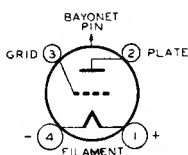
† Averaged over any audio-frequency cycle of sine-wave form.

## INSTALLATION AND APPLICATION

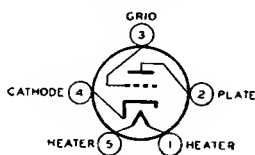
The plate of the 841, 842, 843, or 844 shows no color at the maximum plate-dissipation rating for each class of service.

For high-frequency operation of the 841, 843, and 844, see page 144.

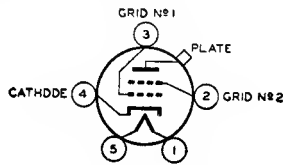
## Top Views of Socket Connections



RCA-841 and 842



RCA-843



RCA-844