

Driver Power Output (Approx.)	125	100	watts
Power Output (Approx.)	180	140	watts

* The maximum negative grid current should never exceed 10 milliamperes.

■ Approximate total driving power required. A portion of this power appears in the plate circuit.

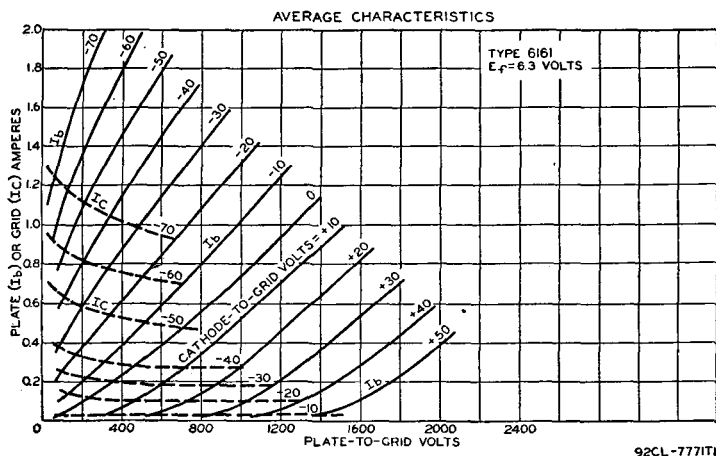
OPERATING CONSIDERATIONS

Type 6161 may be mounted in any position. OUTLINE 71, *Outlines* Section.

For operation at 1200 Mc, plate voltage and plate input should be reduced to 80 per cent of maximum ratings; at 1400 Mc, to 71 per cent; at 1650 Mc, to 62.5 per cent; at 2000 Mc, to 62.5 per cent.

A minimum air flow of 16 cubic feet per minute should be directed by a blower through the radiator toward the bulb and the grid terminal when the 6161 is operated at maximum rated dissipation. Air flow should start before and continue during the application of any voltages to the 6161. Maximum temperatures; radiator (measured on core at end adjacent to plate ring), 180°C; grid terminal, 150°C; cathode terminal, 150°C; plate, grid, and cathode seals, 150°C.

The 6161 supersedes the 5588 for new equipment design.

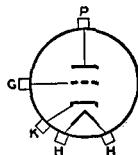


MEDIUM-MU TRIODE

6263

Pencil-type tube having integral radiator used as rf power amplifier and oscillator in mobile equipment and in aircraft transmitters at altitudes up to 60,000 feet without pressurized chambers.

May be used with full input up to 500 Mc and with reduced input up to 1700 Mc. Class C Telegraphy maximum plate dissipation, CCS 8 watts, ICAS 13 watts.



HEATER VOLTAGE (AC/DC):

Under transmitting conditions	6.0 ± 10%	volts
Under stand-by conditions	6.3 max	volts

HEATER CURRENT (At 6.0 volts)

0.280 ampere

TRANSCONDUCTANCE*

7000 μmhos

AMPLIFICATION FACTOR

27

DIRECT INTERELECTRODE CAPACITANCES:

Grid to plate	1.7	μf
Grid to cathode and heater	2.9	μf
Plate to cathode and heater	0.08 max	μf

* Plate volts, 200; plate milliamperes, 27.

RCA Transmitting Tubes

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1.0

Maximum Ratings (For pressures down to 46 mm of Hg●):	CCS	ICAS	
DC PLATE VOLTAGE.....	275 max	330 max	volts
DC GRID VOLTAGE.....	-100 max	-100 max	volts
DC PLATE CURRENT.....	33 max	46 max	ma
DC GRID CURRENT.....	25 max	25 max	ma
DC CATHODE CURRENT.....	50 max	60 max	ma
PLATE INPUT.....	9 max	15 max	watts
PLATE DISSIPATION.....	5.5 max	9 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.....	90 max	90 max	volts
Heater positive with respect to cathode.....	90 max	90 max	volts

Typical Operation in Cathode-Drive Circuit at 500 Mc:

DC Plate Voltage.....	275	320	volts
DC Grid Voltage δ	-42	-52	volts
DC Plate Current.....	35	35	ma
DC Grid Current (Approx.).....	13	12	ma
Driver Power Output (Approx.).....	2	2.4	watts
Useful Power Output (Approx.) -75-per-cent circuit efficiency.....	6.7	8	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-Circuit Resistance.....	0.1 max	megohm
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● Corresponds to altitude of about 60000 feet.

δ Obtained from grid resistor, or from a combination of grid resistor with either fixed supply or cathode resistor.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy# and RF POWER AMPLIFIER—Class C FM Telephony

Maximum Ratings (For pressures down to 46mm of Hg●):	CCS	ICAS	
DC PLATE VOLTAGE.....	300 max	400 max	volts
DC GRID VOLTAGE.....	-100 max	-100 max	volts
DC PLATE CURRENT.....	40 max	55 max	ma
DC GRID CURRENT.....	25 max	25 max	ma
DC CATHODE CURRENT.....	55 max	70 max	ma
PLATE INPUT.....	13 max	22 max	watts
PLATE DISSIPATION.....	8 max	13 max	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.....	90 max	90 max	volts
Heater positive with respect to cathode.....	90 max	90 max	volts

Typical Operation in Cathode-Drive Circuit at 500 Mc:

	Oscil- lator	Ampli- fier	Oscil- lator	Ampli- fier	
DC Plate Voltage.....	300	300	350	350	volts
DC Grid Voltage δ	-30	-48	-35	-58	volts
DC Plate Current.....	35	35	40	40	ma
DC Grid Current (Approx.).....	11	13	14	15	ma
Driver Power Output (Approx.).....	-	2.2	-	3	watts
Useful Power Output (Approx.) -75-per-cent circuit efficiency.....	5	7	7	10	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-Circuit Resistance.....	0.1 max	megohm
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Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative amplitude may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

● Corresponds to altitude of about 60000 feet.

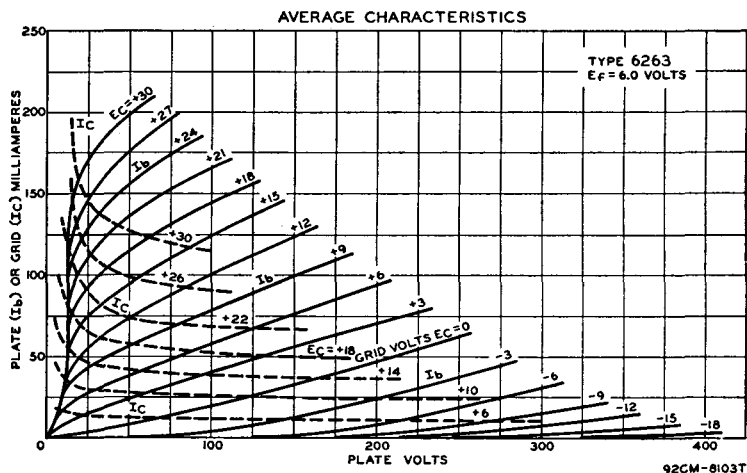
δ Obtained from grid resistor, or from a combination of grid resistor with either fixed supply or cathode resistor.

OPERATING CONSIDERATIONS

Type 6263 may be mounted in any position. OUTLINE 67, *Outlines* Section.

In many applications, the 6263 does not require forced-air cooling. The radiator in combination with a connector having adequate heat conduction capability will generally provide adequate cooling under conditions of free circulation of air.

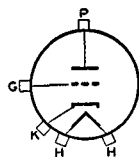
The cooling must be sufficient to limit the plate-seal temperature to 175°C. When conditions do not provide adequate circulation of air, provision should be made to direct a blast of air from a small blower through the radiator fins. Maximum temperatures: incoming air, 40°C; radiator, 175°C.



MEDIUM-MU TRIODE

6264

Pencil-type tube having integral radiator used as rf power amplifier and oscillator and as frequency multiplier in mobile equipment and in aircraft transmitters at altitudes up to 60,000



feet without pressurized chambers. May be used with full input up to 500 Mc and with reduced input up to 1700 Mc. Class C Telephony maximum plate dissipation, CCS 8 watts, ICAS 13 watts. May be mounted in any position. OUTLINE 67, Outlines Section. Cooling requirements for the 6264 are similar to those of type 6263.

HEATER VOLTAGE (AC/DC):

Under transmitting conditions	6.0 ± 10%	volts
Under stand-by conditions	6.3 max	volts

HEATER CURRENT (at 6.0 volts)

0.280 ampere

TRANSCONDUCTANCE*

6800 μmhos

AMPLIFICATION FACTOR

40

DIRECT INTERELECTRODE CAPACITANCES:

Grid to plate	1.75	μμf
Grid to cathode and heater	2.95	μμf
Plate to cathode and heater	0.07 max	μμf

* Plate volts, 200; plate milliamperes, 18.5.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telephony

and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum Ratings (For pressures down to 46mm of Hg):

	CCS	ICAS	
DC PLATE VOLTAGE	330 max	400 max	volts
DC GRID VOLTAGE	-100 max	-100 max	volts
DC PLATE CURRENT	40 max	55 max	ma
DC GRID CURRENT	25 max	25 max	ma
DC CATHODE CURRENT	55 max	70 max	ma
PLATE INPUT	13 max	22 max	watts
PLATE DISSIPATION	8 max	13 max	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode	90 max	90 max	volts
Heater positive with respect to cathode	90 max	90 max	volts