OUTPUT PENTODE for use as line output tube in television receivers.

MECHANICAL DATA
Cathode Coated unipotential
Base B7-59
Bulb T9
Mounting position Any
RETMA basing designation 8GT
Top cap C1-2

TUBE OUTLINE

ELECTRICAL DATA
HEATER DATA
Heater voltage 6.3 volts
Heater current 1.25 amp

DIRECT INTERELECTRODE CAPACITANCES
Grid No.1 to all other elements 17.5 µF
Plate to all other elements 7.7 µF
Plate to grid No.1 max. 1.1 µF

MAXIMUM RATINGS (Design Center Values)
Plate voltage 250 volts
Plate voltage without plate current 550 volts
Peak plate voltage 7000 volts
Peak inverse plate voltage 1500 volts
Plate dissipation 10 watts
Grid No.2 dissipation 5 watts
Plate and grid No.2 dissipation together 13 watts

1) For A.F. class B operation the maximum permissible value of the plate voltage is 300 volts
2)3) See page 2

August 14, 1956
MAXIMUM RATINGS (continued)
Grid No.2 voltage 250 volts
Grid No.2 voltage without current 550 volts
Peak negative grid No.1 voltage 1000 volts
Cathode current 200 mamps
Grid No.1 circuit resistance 0.5 megohm
Grid No.1 circuit resistance when plate and grid No.2 dissipation together are less than 10 watts 2.2 megohms
Voltage between cathode and heater 100 volts

TYPICAL CHARACTERISTICS
Plate voltage 100 volts
Grid No.2 voltage 100 volts
Grid No.1 voltage -7.7 volts
Plate current 100 mamps
Grid No.2 current 7.0 mamps
Transconductance 14000 micromhos
Plate resistance 5300 ohms
Amplification factor of grid No.2 with respect to grid No.1 6

OPERATING CONDITIONS AS CLASS B AMPLIFIER. Two tubes
Plate voltage 300 volts
Grid No.2 voltage 150 volts
Grid No.1 voltage -29 volts
Load resistance, plate to plate 3500 ohms
Input A.F. voltage 20 volts, rms
Zero signal plate current 2x18 mamps
Max. signal plate current 2x100 mamps
Zero signal grid No.2 current 2x0.5 mamp
Max. signal grid No.2 current 2x19 mamps
Max. signal power output 44.5 watts
Total harmonic distortion 7.2 percents

REMARK: On pages 6, 7, 8 and 9 plate characteristics for nominal new tubes are given. To allow for tube spread and deterioration during life the line output circuit should be designed around a current 25% lower than the values shown on pages 6 and 7 and 20% lower than the values shown on pages 8 and 9

2) Valid for line time base circuits where the pulse duration is max. 18% of a cycle with a max. of 18 μsec.

3) During the heating time of the booster this value is max. 7 watts
Supplementary voltage = 190 volts
See remark on page 2

Grid No.1 bias = +2 volts
-1 volt
-2 volts
0 volt
+1 volt
+2 volts
Grid No.1 series resistor = 1500 ohms

Grid No.2 current

Grid No.1 bias = 0 volt; grid No.2 series resistor = 1500 ohms

Grid No.1 bias = 0 volt; grid No.2 series resistor = 3300 ohms

March 6, 1956
Supply voltage = 190 volts
See remark on page 2
Supply voltage = 215 volts
See remark on page 2

Plate and grid No.2 current (milli-ampere)

Grid No.1 bias = ±2 volts
+2 volt
+1 volt
0 volt
-1 volt

Grid No.2 series resistor = 2200 ohms

Grid No.2 series resistor = 4700 ohms

Plate current

Grid No.2 current

Grid No.1 bias = 0 volt, grid No.2 series resistor = 2200 ohms

Grid No.1 bias = 0 volt, grid No.2 series resistor = 4700 ohms

Plate voltage (volts)

March 6, 1956
Supply voltage = 215 volts
See remark on page 2

Plate and grid No.2 current (milli-amps)

Grid No.1 bias = +2 volts
+1 volt
0 volt
-1 volt

Grid No.2 series resistor = 3300 ohms
+2 volts
+1 volt
0 volt
-1 volt

Grid No.2 series resistor = 6800 ohms

Plate current

Grid No.1 bias = 0 volt; grid No.2 series resistor = 3300 ohms

Grid No.1 bias = 0 volt; grid No.2 series resistor = 6800 ohms

Plate voltage (volts)

March 6, 1956