



# technical information

**CBS ELECTRONICS**  
*A Division of Columbia Broadcasting System, Inc.*  
Danvers, Massachusetts

E280F/7722

## Wideband Pentode Amplifier

Wideband pentode amplifier with very high transconductance in a miniature envelope and 9-pin base.

### MECHANICAL DATA

Cathode, coated unipotential	
Bulb	T-6 1/2
Base	9-pin miniature button
Basing	9EQ
Maximum overall height	2.43 inches
Maximum seated height	2.15 inches
Maximum height from base to shoulder	1.88 inches
Maximum diameter	.875 inches
Mounting position	Any

### PIN CONNECTIONS

Pin 1: Cathode	Pin 6: Internal Connection
Pin 2: Grid 1	Pin 7: Plate
Pin 3: Cathode	Pin 8: Grid 3 and shield
Pin 4: Heater	Pin 9: Grid 2
Pin 5: Heater	

### ELECTRICAL DATA

#### Heater Characteristics

Heater voltage	6.3	volts
Heater current	320	ma
Peak heater-cathode voltage, max.		
Heater negative to cathode	60	volts
Heater positive to cathode	120	volts

#### Direct Interelectrode Capacitances

Input	9.3	μf
Output	2.1	μf
Grid 1 to plate	.035	μf

Maximum Ratings (Absolute maximum values)

Plate supply voltage	400	volts
Plate voltage, d-c	220	volts
Grid 2 supply voltage	400	volts
Grid 2 voltage, d-c	180	volts
Grid 1 voltage, negative	50	volts
Grid 1 voltage, positive†	0	volts
Plate dissipation	4.0	watts
Grid 2 dissipation	1.1	watts
Cathode current	30	ma
Grid 1 circuit resistance‡	0.5	meg
Bulb temperature at hottest point	170	°C

Characteristics

	Pentode	Triode	
Plate supply voltage	190	160	volts
Grid 3 voltage	0	0	volts
Grid 2 supply voltage	160	160	volts
Grid 1 supply voltage †	+8	+8	volts
Cathode resistor	370	400	ohms
Plate current	20	24.5	ma
Grid 2 current	6		ma
Transconductance	26,000	33,000	μmhos
Amplification factor		60	
Input resistance, 100 mc *	1400		ohms
Plate resistance, approximate	100k	1800	ohms

- † Grid 1 current must not exceed 0.5 μa, to prevent damage to tube.
- ‡ Values for automatic control grid bias arrangement.
- \* Both cathode leads connected together.

