



# technical information

**CBS ELECTRONICS**

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

7721 (D3a)

## Wideband Pentode Amplifier

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

### MECHANICAL DATA

Cathode	coated unipotential
Bulb	T6 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 inch
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	

\* Do not use.

### ELECTRICAL DATA

#### Heater Characteristics

Heater voltage, a-c or d-c	6.3	volts
Heater current	320	ma
Peak heater-cathode voltage, max.	60	volts

#### Direct Interelectrode Capacitances

Input	10	μμf
Output	2	μμf
Grid 1 to plate	.035	μμf

MAXIMUM RATINGS (Absolute maximum values)

Plate voltage, peak*	400	volts
Grid 2 voltage, peak*	400	volts
Plate voltage, d-c	220	volts
Grid 2 voltage, d-c	180	volts
Grid 3 voltage, d-c	0	volts
Grid 1 voltage, positive	0	volts
Grid 1 voltage, negative	10	volts
Plate dissipation	4.0	watts
Grid 2 dissipation	0.9	watts
Cathode current	29	ma
Maximum grid 1 circuit resistance†	0.5	meg
Maximum heater to cathode resistance	20000	ohms
Bulb temperature	170	°C

\* Intermittent operation

CHARACTERISTICS

Plate voltage, supply	190	volts
Grid 3 voltage, supply	0	volts
Grid 2 voltage, supply	160	volts
Grid 1 voltage, supply†	10	volts
Cathode resistor	400	ohms
Plate current	22	ma
Grid 2 current	6.0	ma
Transconductance	35000	μmhos
Plate resistance	0.12	meg
Grid 2 to plate amplification factor	85	
Input resistance, 100 mc	1000	ohms
Bandwidth factor	465	
Equivalent noise resistor	50	ohms

† Values for automatic control grid bias arrangement.

**TRANSFER  
CHARACTERISTICS**

**PLATE CHARACTERISTICS**

