

Grid Voltage	0 Volt
Cathode Bias Resistor	220 Ohms
Plate Current	10 Ma
Transconductance	6200 μ mhos
Plate Resistance	5300 Ohms
Amplification Factor	35
Grid Voltage for Gm = 50 μ mhos (Approx.)	-13 Volts

NOTES:

- (1) This rating may be as high as 300 volts max. under cutoff conditions when the tube is used as a cascode amplifier and the two sections are connected in series.
(2) Shield No. 315.

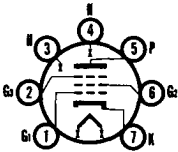
RF/IF AMPLIFIER

6BD6

12BD6

Remote Cutoff Pentode

Construction	Miniature T-5½
Base	Button 7 Pin, E7-1
Basing	.7BK
Outline	5-2
Maximum Diameter	0.750 In.
Maximum Seated Height	1.875 In.
Maximum Overall Height	2.125 In.



12BD6

12.6
150



6BD6

6.3 Volts
300 Ma
90 Volts

**ELECTRICAL DATA
HEATER OPERATION**

Heater Voltage	
Heater Current	
Maximum Heater-Cathode Voltage	

DIRECT INTERELECTRODE CAPACITANCES

	Shielded (1)	Unshielded
Grid to Plate (Max.)	0.005	0.004 Pf
Input	4.3	4.3 Pf
Output	5.0	5.0 Pf

RATINGS (Design Center Rating System)

Plate Voltage (Max.)	300 Volts
Grid No. 2 Voltage (Max.)	125 Volts
Plate Dissipation (Max.)	4.0 Watts
Grid No. 2 Dissipation (Max.)	0.4 Watt
Cathode Current (Max.)	14 Ma

CHARACTERISTICS AND TYPICAL OPERATION

Class A1 Amplifier

Plate Voltage	100	250 Volts
Grid No. 3 Voltage	(Connected to Cathode at Socket)	
Grid No. 2 Voltage	100	100 Volts
Grid No. 1 Voltage	-1	-3 Volts
Plate Current	13	9 Ma
Grid No. 2 Current	5	3.5 Ma
Transconductance	2350	2000 μ mhos
Plate Resistance	0.12	0.7 Megohm
Ec1 for Gm = 10 μ mhos (Approx.)	-35	-35 Volts

NOTE:

- (1) With external Shield No. 316 connected to pin 7 (cathode).

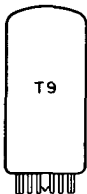
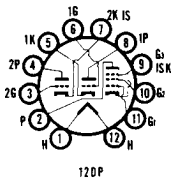
**GENERAL PURPOSE AMPLIFIER (T)
SYNC SEPARATOR (T)
VIDEO AMPLIFIER (P)**

6BD11

15BD11, 15BD11A

**High Mu Triode, Medium Mu Triode
and Sharp Cutoff Pentode**

Construction	Compactron T-9
Base	Button 12 Pin, E12-70
Basing	12DP
Outline	9-58
Maximum Diameter	1.188 In.
Maximum Seated Height	2.000 In.
Maximum Overall Height	2.375 In.



**ELECTRICAL DATA
HEATER OPERATION**

	15BD11 15BD11A	6BD11
Heater Voltage.....	14.7	6.3 Volts
Heater Current	450	1050 Ma
Heater Warm-up Time	11	— Seconds
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC and Peak.....		200 Volts
Heater Positive with Respect to Cathode		
DC Component		100 Volts
Total DC and Peak.....		200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)**Triode (Section 1)**

Grid to Plate	1.9 Pf
Input: T1g to (1Tk + 2Tk + Pk + Pg3 + h + IS)	3.0 Pf
Output: T1p to (1Tk + 2Tk + Pk + Pg3 + h + IS)	2.2 Pf

Triode (Section 2)

Grid to Plate	3.6 Pf
Input: T2g to (2Tk + Pk + Pg3 + h + IS)	2.4 Pf
Output: T2p to (2Tk + Pk + Pg3 + h + IS)	3.8 Pf

Pentode

Grid No. 1 to Plate	0.13 Pf
Input: Pg1 to (2Tk + Pk + Pg2 + Pg3 + h + IS)	11 Pf
Output: Pp to (2Tk + Pk + Pg2 + Pg3 + h + IS)	4.6 Pf

Coupling

Pentode Plate to Triode Plate (Section 2) (Max.)	0.045 Pf
Triode Plate (Section 1) to Triode Plate (Section 2) (Max.)	0.075 Pf

RATINGS (Design Maximum Rating System)**Triode No. 1**

Plate Voltage (Max.)	330 Volts
Positive DC Grid Voltage (Max.)	0 Volt
Plate Dissipation (Max.)	1.5 Watts
Grid Circuit Resistance	
With Fixed Bias (Max.)	0.5 Megohm
With Cathode Bias (Max.)	1.0 Megohm

Triode No. 2

Plate Voltage (Max.)	330 Volts
Positive DC Grid Voltage (Max.)	0 Volt
Plate Dissipation (Max.)	2.0 Watts
Grid Circuit Resistance	
With Fixed Bias (Max.)	0.5 Megohm
With Cathode Bias (Max.)	1.0 Megohm

Pentode Section

Plate Voltage (Max.)	330 Volts
Screen-Supply Voltage (Max.)	330 Volts
Screen Voltage	See Rating Chart (Gen. Info. Sec.)
Positive DC Grid No. 1 Voltage (Max.)	0 Volt
Plate Dissipation (Max.)	4.0 Watts
Screen Dissipation (Max.)	1.1 Watts
Grid No. 1 Circuit Resistance	
With Fixed Bias (Max.)	1.0 Megohm
With Cathode Bias (Max.)	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION**Triode No. 1**

Plate Voltage	200 Volts
Grid Voltage	-2.0 Volts
Amplification Factor	68
Plate Resistance (Approx.)	12,400 Ohms
Transconductance	5500 μ mhos
Plate Current	7.0 Ma
Grid Voltage (Approx.)	
Ib = 100 μ a	-5.5 Volts

Triode No. 2

Plate Voltage	200 Volts
Cathode-Bias Resistor	220 Ohms
Amplification Factor	41
Plate Resistance (Approx.)	9400 Ohms
Transconductance	4400 μ mhos
Plate Current	9.2 Ma
Grid Voltage (Approx.)	
Ib = 100 μ a	-6.5 Volts

Pentode Section

Plate Voltage	35	135 Volts
Screen Voltage	135	135 Volts
Grid No. 1 Voltage ⁽¹⁾	0	— Volt
Cathode Bias Resistor	—	100 Ohms

Plate Resistance (Approx.)	—	45,000 Ohms
Transconductance	—	10,400 μ mhos
Plate Current	34	17 Ma
Screen Current	13	4.0 Ma
Grid No. 1 Voltage (Approx.)	—	—
Ib = 100 μ a	—	-6 Volts

NOTE:
(1) Applied for short interval (two seconds maximum) so as not to damage tube.

Color Television Type

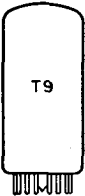
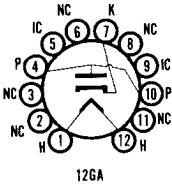
DAMPER

6BE3A

12BE3A, 17BE3A

Heater-Cathode Diode

Construction.....Compactron T-9
Base Button 12 Pin, E12-70
Basing 12GA
Outline 9-60
Maximum Diameter 1.188 In.
Maximum Seated Height 2.500 In.
Maximum Overall Height 2.875 In.



ELECTRICAL DATA
HEATER OPERATION

	17BE3A	12BE3A	6BE3A
Heater Voltage.....	16.8	12.6	6.3 Volts
Heater Current	450	600	1200 Ma
Heater Warm-up Time	11	11	— Seconds
Maximum Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
DC			900 Volts
Total DC and Peak.....			5000 Volts
Heater Positive with Respect to Cathode			
DC			100 Volts
Total DC and Peak.....			300 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Heater to Cathode	3.4 Pf
Plate to Cathode and Heater.....	8.0 Pf
Cathode to Plate and Heater.....	10 Pf

RATINGS (Design Maximum Rating System)

Damper Service

Peak Inverse Plate Voltage ⁽¹⁾ (Max.)	5000 Volts
Plate Dissipation (Max.)	6.5 Watts
Steady State Peak Current (Max.)	1200 Ma
DC Plate Current (Max.)	200 Ma

CHARACTERISTICS AND TYPICAL OPERATION

Tube Voltage Drop for Ib = 350 Ma DC.....	22.5 Volts
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NOTE:
(1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.

AM/FM PENTAGRID CONVERTER

6BE6

3BE6, 4BE6, 12BE6

Heptode

Construction Miniature T-5½
Base Button 7 Pin, E7-1
Basing 7CH
Outline 5-2
Maximum Diameter 0.750 In.
Maximum Seated Height 1.875 In.
Maximum Overall Height 2.125 In.

