

High-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For Use in Sync-Separator, Sync-Clipper, Voltage Amplifier, Phase-Inverter, and Video Output Amplifier Circuits in TV Receivers

Electrical:

Heater Characteristics and Ratings:

Current.	0.450 ± 0.030	amp
Voltage (AC or DC) at heater amperes = 0.450.	10.5	volts
Warm-up time (Average)	11	sec
Peak heater-cathode voltage (Each Unit): Heater negative with respect to cathode	200	max. volts
Heater positive with respect to cathode	200 ^a	max. volts

Direct Interelectrode Capacitances:^b

Triode Unit:

G _T to P _T	4.0	pf
Input: G _T to (K _T , K _p +G _{3p} +I _S , H)	2.6	pf
Output: P _T to (K _T , K _p +G _{3p} +I _S , H)	2.6	pf

Pentode Unit:

G _{1p} to P _p	0.1 max.	pf
Input: G _{1p} to (K _p +G _{3p} +I _S , G _{2p} , H)	11	pf
Output: P _p to (K _p +G _{3p} +I _S , G _{2p} , H)	4.4	pf
G _{1p} to P _T	0.005 max.	pf
P _p to G _T	0.018 max.	pf
P _p to P _T	0.17 max.	pf

Characteristics, Class A₁ Amplifier:

	Triode Unit		
Plate Voltage.	135	200	volts
Grid Voltage	-2	-2	volts
Amplification Factor	60	70	
Plate Resistance (Approx.)	39000	19000	ohms
Transconductance	1550	3700	μmhos
Plate Current.	1	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μ _a = 10.	-4.8	-7	volts

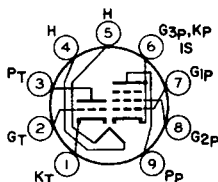
	Pentode Unit		
Plate Voltage.	30	135	200 volts
Grid-No.2 Voltage.	135	135	135 volts
Grid-No.1 Voltage.	0	-1.5	-1.5 volts
Plate Resistance (Approx.)	—	66000	70000 ohms
Transconductance	—	12600	14000 μmhos
Plate Current.	32 ^c	17	18 ma
Grid-No.2 Current.	14 ^c	4.2	4 ma
Grid-No.1 Voltage (Approx.) for plate μ _a = 10.	—	-5	-5 volts



10JA8

Mechanical:

Operating Position.	Any
Types of Cathodes	Coated Unipotential
Maximum Overall Length.	2-5/8"
Maximum Seated Length.	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" $\pm$ 3/32"
Diameter.	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW.	9DX
Pin 1 - Triode Cathode	
Pin 2 - Triode Grid	
Pin 3 - Triode Plate	
Pin 4 - Heater	
Pin 5 - Heater	
Pin 6 - Pentode Cathode, Pentode Grid No.3, Internal Shield	
Pin 7 - Pentode Grid No.1	
Pin 8 - Pentode Grid No.2	
Pin 9 - Pentode Plate	



AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

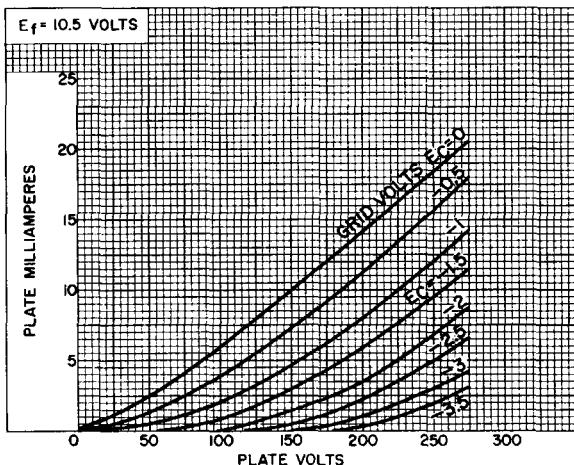
	Triode Unit	Pentode Unit	
Plate Voltage.	300 max.	330 max.	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	330 max.	volts
Grid-No.2 Voltage.	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section		
Grid-No.1 (Control-Grid) Voltage:			
Positive-bias value.	0 max.	0 max.	volts
Plate Dissipation.	1 max.	5 max.	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts.	—	1.5 max.	watts
For grid-No.2 voltages between 165 and 330 volts.	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section		

Maximum Circuit Values:

	Triode Unit	Pentode Unit	
Grid-No.1 Circuit Resistance:			
For cathode-bias operation. . .	1.0 max.	1.0 max.	megohm
For fixed-bias operation. . .	0.5 max.	0.25 max.	megohm

- a The dc component must not exceed 100 volts.
 b Without external shield.
 c This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

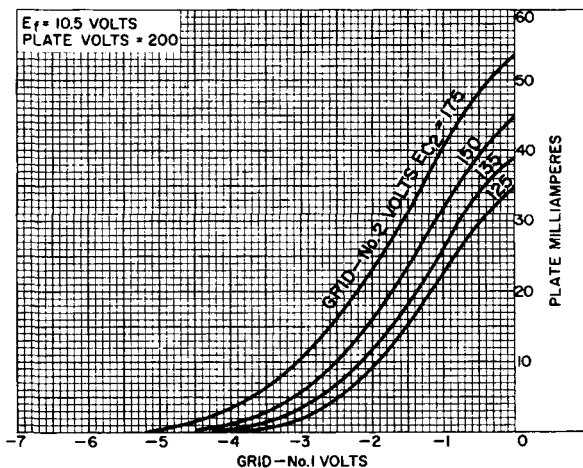
AVERAGE PLATE CHARACTERISTICS Triode Unit



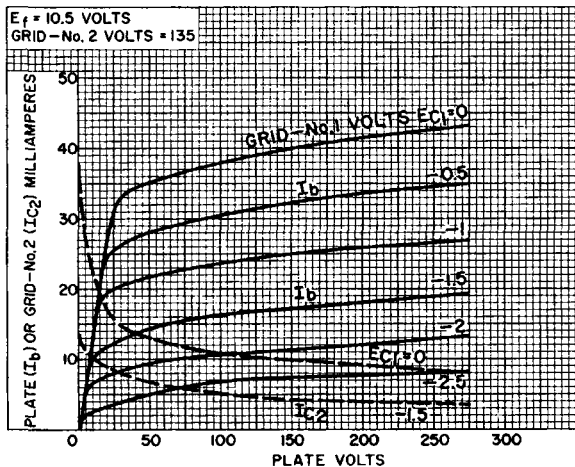
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AVERAGE CHARACTERISTICS Pentode Unit



92CS-12160



92CS-12159