

High-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For Sync-Separator and Noise-Immune
Gated-AGC-Amplifier Applications in
Color and Black-and White TV Receivers

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ^a	6.3 ± 0.6	volts
Current	0.600 ± 0.040	0.600 ^b	amp
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^c max. volts

Direct Interelectrode

Capacitances:^d

Triode Unit:

Grid to plate 2.2 pf

Grid to cathode & pentode
grid No.3 & internal
shield, and heater 2.8 pf

Plate to cathode & pentode
grid No.3 & internal
shield, and heater 2.2 pf

Pentode Unit:

Grid No.1 to plate 0.1 max. pf

Grid No.1 to cathode, triode
cathode & grid No.3 &
internal shield, grid No.2,
and heater 10.0 pf

Grid No.3 & triode cathode
& internal shield to plate 3.4 pf

Grid No.1 to grid No.3 &
triode cathode & internal
shield 0.36 pf

Grid No.3 & triode cathode
& internal shield to
plate, cathode, grid No.2,
grid No.1, and heater 12.5 pf

Characteristics, Class A₁ Amplifier:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate Supply Voltage	200	150	volts
Grid No.3	—	e	



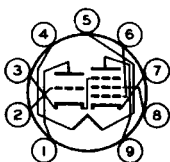
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	Triode Unit	Pentode Unit	
Grid-No.2 Supply Voltage	-	100	volts
Grid-No.1 Voltage.	-2	-	volts
Grid No.1.	-	e	
Cathode Resistor	-	180	ohms
Amplification Factor	70	-	
Plate Resistance (Approx.)	17500	100000	ohms
Transconductance, Grid No.1 to Plate	4000	4400	μ hos
Transconductance, Grid No.3 to Plate ^f	-	600	μ hos
Plate Current.	4	4	ma
Grid-No.2 Current.	-	2.8	ma
Grid-No.1 Supply Voltage (Approx.) for plate μ a =			
10	-5	-	volts
20	-	-4	volts
Grid-No.3 Supply Voltage (Approx.) for plate μ a = 20 ^f	-	-7	volts

Mechanical:

Operating Position	Any
Type 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	9QY

- Pin 1 - Triode Plate
- Pin 2 - Triode Grid
- Pin 3 - Triode
Cathode,
Pentode Grid
No.3, Internal
Shield
- Pin 4 - Heater
- Pin 5 - Heater



- Pin 6 - Pentode
Grid No.1
- Pin 7 - Pentode
Cathode
- Pin 8 - Pentode
Grid No.2
- Pin 9 - Pentode
Plate

GATED AGC AMPLIFIER & NOISE INVERTER

Pentode Unit

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^g

DC PLATE VOLTAGE	300 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE ^h	600 max.	volts



GRID-No.3 (CONTROL-GRID) VOLTAGE:		
Negative-bias value.	100 max.	volts
Positive-bias value.	0 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	300 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:		
Negative-bias value.	50 max.	volts
Positive-bias value.	0 max.	volts
GRID-No.2 INPUT:		
For grid-No.2 voltages up to 150 volts.	1.1 max.	watts
For grid-No.2 voltages between 150 and 300 volts.	See <i>Grid-No.2-Input Rating Chart</i> at front of Receiving Tube Section	
PLATE DISSIPATION.	2 max.	watts
Maximum Circuit Values:		
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.5 max.	megohm
For cathode-bias operation	1 max.	megohm

AMPLIFIER — Class A₁*Triode Unit***Maximum Ratings, Design-Maximum Values:**

PLATE VOLTAGE.	300 max.	volts
GRID VOLTAGE:		
Negative-bias value.	50 max.	volts
Positive-bias value.	0 max.	volts
PLATE DISSIPATION.	1.1 max.	watts

Maximum Circuit Values:

Grid-Circuit Resistance:		
For fixed-bias operation	0.25 max.	megohm
For cathode-bias operation	1 max.	megohm

^a At heater amperes = 0.600.

^b At heater volts = 6.3.

^c The dc component must not exceed 100 volts.

^d without external shield.

^e Connected to negative end of cathode resistor.

^f With no external connection to triode plate and triode grid.

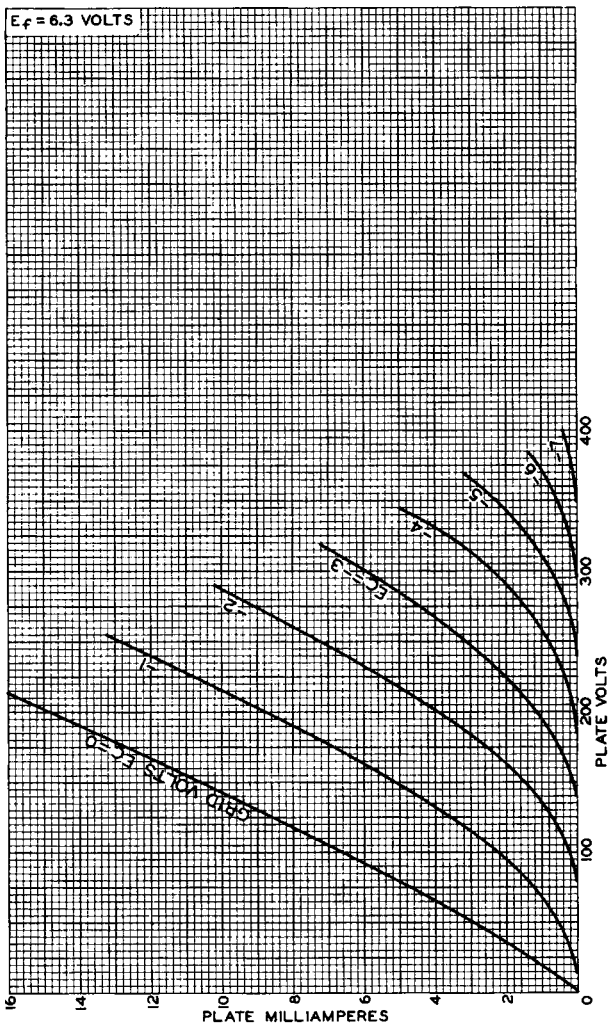
^g As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

^h This rating is applicable when the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.



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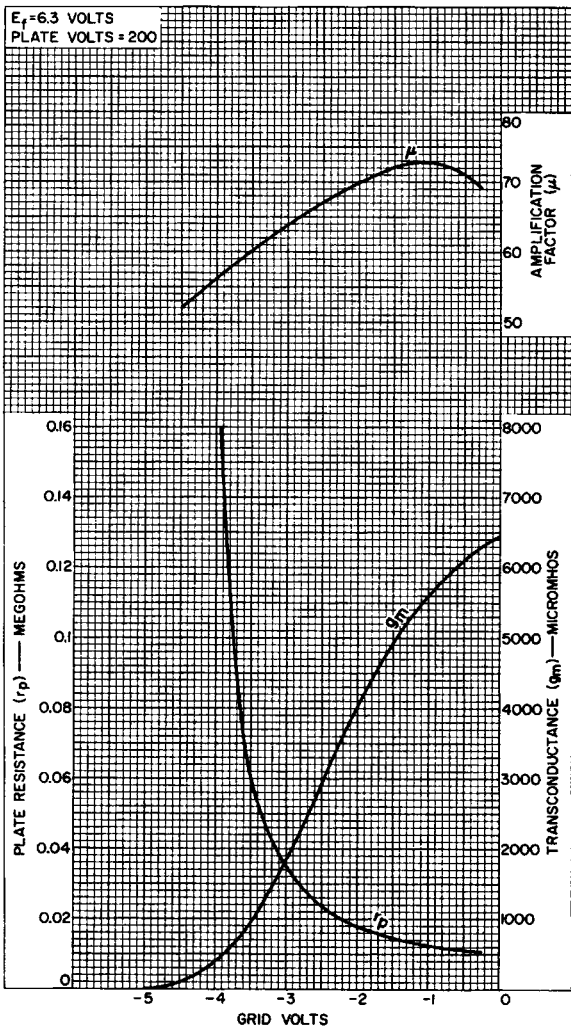
AVERAGE PLATE CHARACTERISTICS Triode Unit



92CM-8644



AVERAGE CHARACTERISTICS Triode Unit

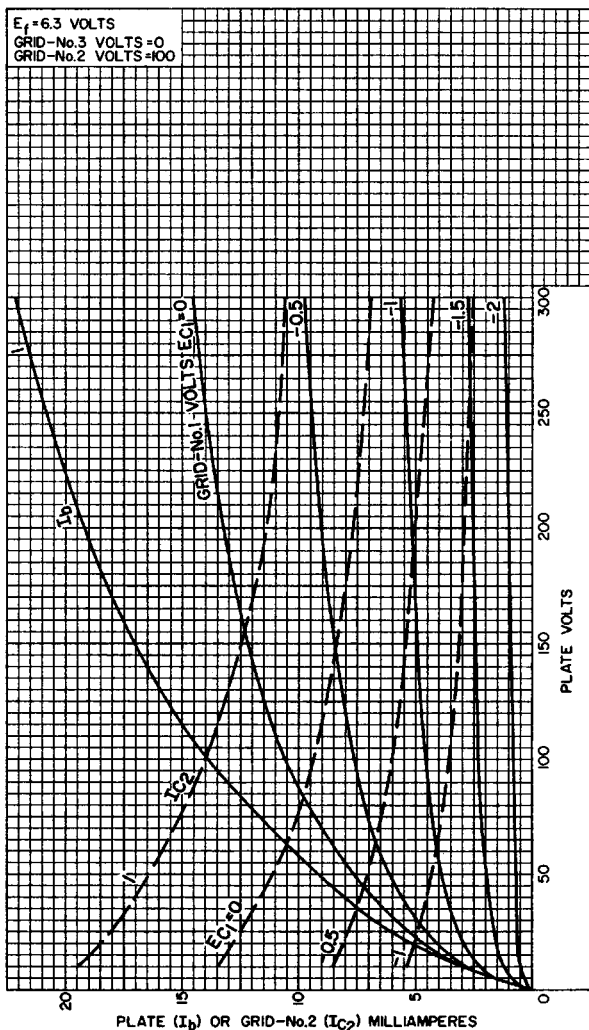


92CM-8647



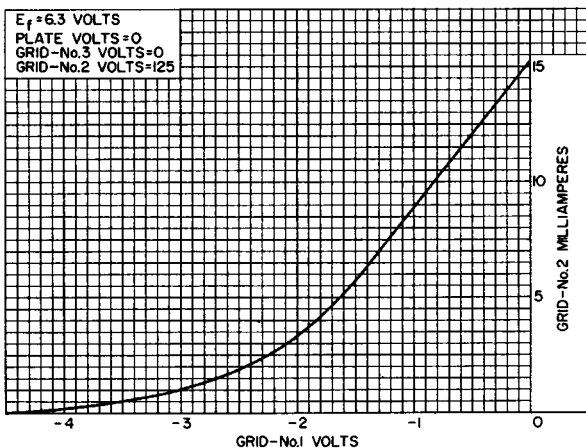
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AVERAGE CHARACTERISTICS Pentode Unit



92CM-11594



AVERAGE CHARACTERISTICS
Pentode Unit

92CS-11603

