



502-A

502-A GAS THYRATRON

NEGATIVE-CONTROL TETRODE TYPE WITH METAL SHELL

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

	Min.	Av.	Max.	
Voltage.	5.7	6.3	7	ac or dc volts
Current at 6.3 volts	-	0.6	0.66	amp

Cathode:

Minimum heating time
prior to tube conduction 10 sec

Direct Interelectrode Capacitances:

Grid No.1 to anode	0.2	μf
Grid No.1 to cathode & shell, grid No.2, and heater	2.5	μf

Ionization Time (Approx.) 0.5 μsec

Deionization Time (Approx.):

For conditions: dc anode ma = 100,
grid-No.1-circuit resistor (ohms)
= 1000, and dc grid-No.1 supply
volts = -250 10 μsec

For conditions: dc anode ma = 100,
grid-No.1-circuit resistor (ohms)
= 1000, and dc grid-No.1 supply
volts = -15 150 μsec

Maximum Critical Grid-No.1 Current:

For conditions: anode volts (rms)
= 460, and dc grid-No.1 volts ad-
justed to cutoff 2 μamp

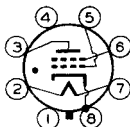
Anode Voltage Drop 8 volts

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Seated Length.	1-31/32" \pm 3/32"
Maximum Diameter	1-5/16"
Weight (Approx.)	2 oz
Bulb	Metal Shell MT8G
Base	Small-Wafer Octal 8-Pin (JETEC No. B8-21)

BOTTOM VIEW

- Pin 1 - No Connection
- Pin 2 - Heater
- Pin 3 - Anode
- Pin 4 - No Connection



- Pin 5 - Grid No.1
- Pin 6 - Grid No.2
- Pin 7 - Heater
- Pin 8 - Cathode, Shell

RELAY and GRID-CONTROLLED RECTIFIER SERVICE

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

Forward.	180 max.	650 max.	volts
Inverse.	360 max.	1300 max.	volts

← Indicates a change.

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GRID-No.2 (SHIELD-GRID)			
VOLTAGE:			
Peak, before tube			
conduction	-100 max.	-100 max.	volts
Average [■] , during tube			
conduction	-5 max.	-5 max.	volts
GRID-No.1 (CONTROL-GRID)			
VOLTAGE:			
Peak, before tube			
conduction	-250 max.	-250 max.	volts
Average [■] , during tube			
conduction	-10 max.	-10 max.	volts
CATHODE CURRENT:			
Peak	1.0 max.	1.0 max.	amp
Average [●]	0.2 max.	0.1 max.	amp
Fault, for duration of			
0.1 second max.	10 max.	10 max.	amp
GRID-No.2 CURRENT:			
Average [■]	+0.01 max.	+0.01 max.	amp
GRID-No.1 CURRENT:			
Average [■]	+0.01 max.	+0.01 max.	amp
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with			
respect to cathode . . .	100 max.	100 max.	volts
Heater positive with			
respect to cathode . . .	25 max.	25 max.	volts
AMBIENT-TEMPERATURE RANGE. .	-55 to +90	-55 to +90	°C

■ Averaged over 1 cycle.

● Averaged over any interval of 30 seconds maximum.

For Dimensional Outline, see GENERAL SECTION

MAY 1, 1955

TUBE DIVISION

DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

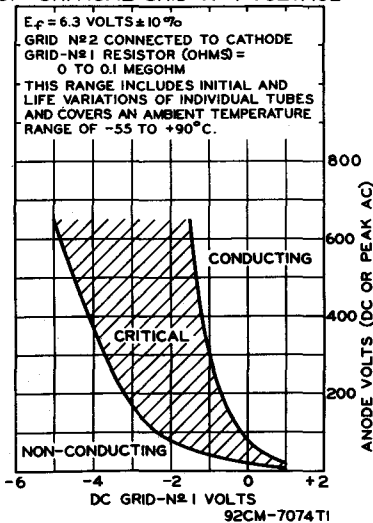


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OPERATIONAL RANGE OF CRITICAL GRID-N₂1 VOLTAGE



MAY 1, 1955

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-7074T1

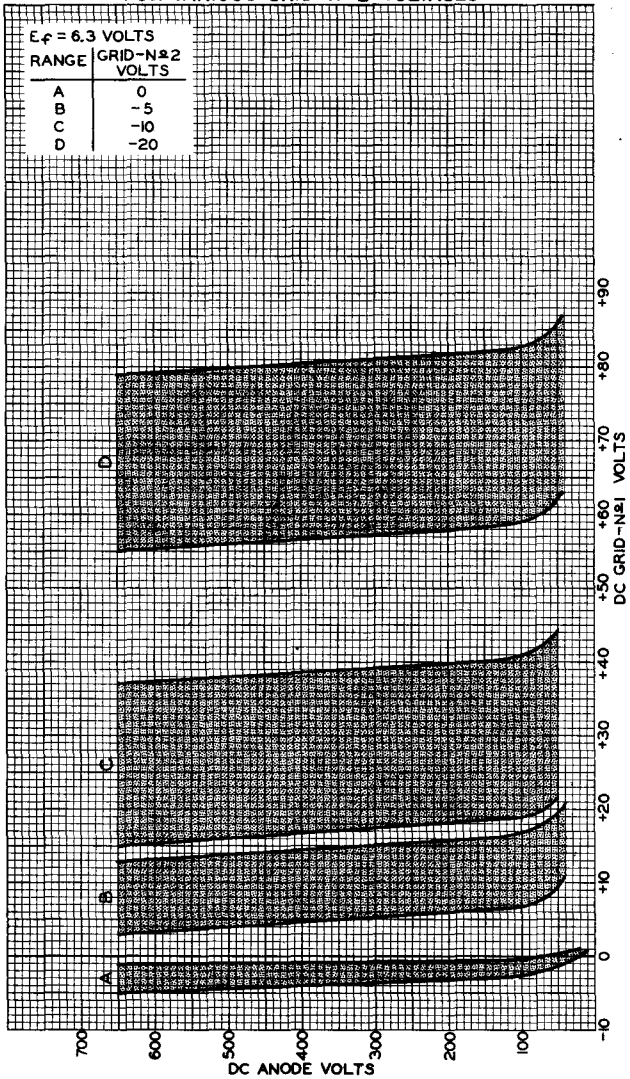
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502-A OPERATIONAL RANGES OF CRITICAL GRID-N₁ VOLTAGE FOR VARIOUS GRID-N₂ VOLTAGES

$E_f = 6.3$ VOLTS

RANGE	GRID-N ₂ VOLTS
A	0
B	-5
C	-10
D	-20



APRIL 26, 1955

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8607

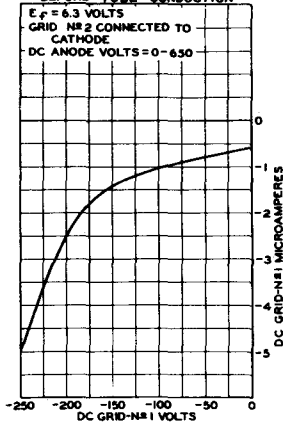


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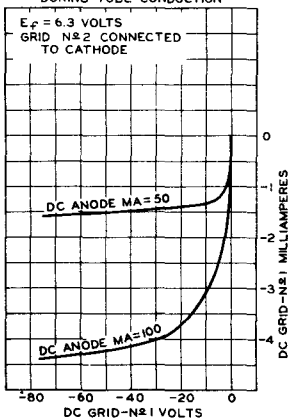
CHARACTERISTIC CURVES

MAXIMUM GRID-Nº1 CHARACTERISTIC BEFORE TUBE CONDUCTION



92CS-8610T

AVERAGE GRID-Nº1 CHARACTERISTICS DURING TUBE CONDUCTION



92CM-7072T1

MAY 1, 1955

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CE-8610T
-7072T1