



3D22

3D22 THYRATRON

GAS TETRODE

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathode:	<u>Min.</u>	<u>Au.</u>	<u>Max.</u>	
Voltage (AC or DC)	5.7	6.3	6.9	volts
Current, with heater volts = 6.3	2.35	2.60	2.85	amp

Cathode:

Heating Time, prior to tube conduction	30	-	-	sec
Outage Time, without reheating	-	-	3	sec

Direct Interelectrode Capacitances (Approx.):*

Grid No.1 to Anode		0.1	μ mf
Input		7	μ mf
Output		3.6	μ mf

* Without external shield, and with base shell floating.
Ionization Time (Approx.):

For conditions: dc anode volts = 100; grid-No.1 square-pulse volts = +100; and peak anode amp. during conduction = 8	0.5	μ sec
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Deionization Time (Approx.):

For conditions: dc anode volts = 125; grid-No.1 volts = -200, grid-No.1 resistor (ohms) = 1000; and dc anode amp. = 0.8.	150	μ sec
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For conditions: dc anode volts = 125, grid-No.1 volts = -14.8; grid-No.1 resistor (ohms) = 1000; and dc anode amp. = 0.8.	400	μ sec
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Maximum Critical Grid Current, with ac anode-supply volts (rms) = 460, and average anode amp. = 0.8	0.8	μ amp
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Anode Voltage Drop (Approx.)	10	volts
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Grid-No.1 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0 to 0.1; grid-No.2 re- sistor (megohms) = 0; and grid-No.2 volts = 0	150
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Grid-No.2 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0; grid-No.2 resistor (megohms) = 0 to 0.1; and grid-No.1 volts = -3	650
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Mechanical:

Mounting Position	Any
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Maximum Overall Length	4-5/8"
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Maximum Seated Length	4"
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Maximum Diameter	2-3/8"
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Bulb	T-16
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Base	Medium-Metal-Shell Giant 7-Pin, Bayonet
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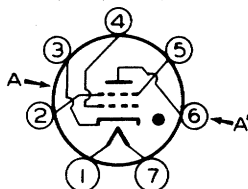
Basing Designation for BOTTOM VIEW	7BV
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Pin 1-Heater

Pin 2-Grid No.2

Pin 3-Cathode

Pin 4-Grid No.1



Pin 5-Grid No.2

Pin 6-Anode

Pin 7-Heater

AA'= PLANE OF ELECTRODES

← Indicates a change.

JUNE 15, 1948

TUBE DEPARTMENT

DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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RELAY and GRID-CONTROLLED RECTIFIER SERVICE

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

Forward.	650 max.	volts
→ Inverse.	1500 max.	volts

GRID-No.2 (SHIELD-GRID) VOLTAGE:

Peak, before anode conduction.	-100 max.	volts
→ Average, during anode conduction [■]	-10 max.	volts

GRID-No.1 (CONTROL-GRID) VOLTAGE:

Peak, before anode conduction.	-200 max.	volts
→ Average, during anode conduction [■]	-10 max.	volts

→ CATHODE CURRENT:

Peak	8 max.	amp
Average [■]	0.8 max.	amp
Surge, for duration of 0.1 sec. max. . . .	30 max.	amp

GRID-No.2 CURRENT:

→ Average [■]	+0.1 max.	amp
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GRID-No.1 CURRENT:

→ Average [■]	+0.05 max.	amp
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PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	25 max.	volts

AMBIENT TEMPERATURE RANGE. -75 to +90 °C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 2 max. megohms

■ Averaged over any interval of 30 sec. max.

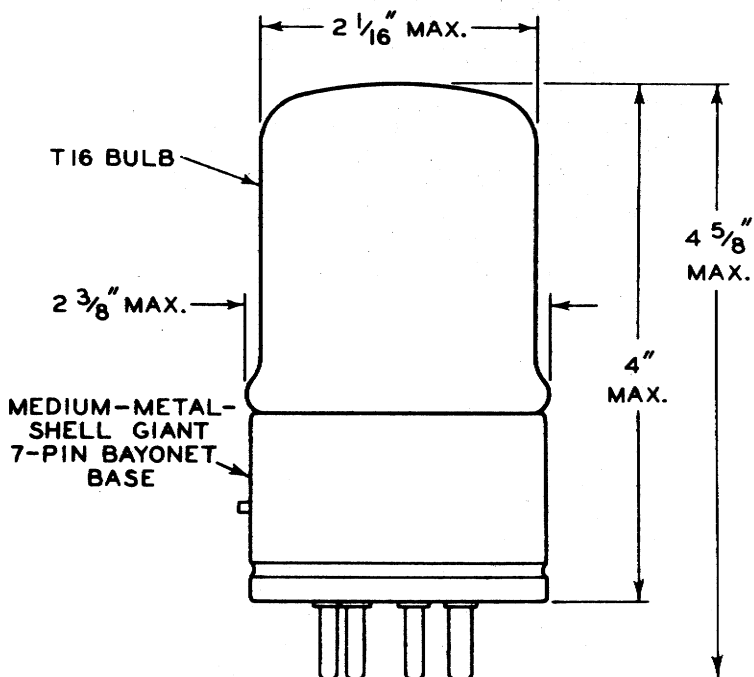
NOTE: Sufficient anode-circuit resistance, including tube load, must be used under all conditions of operation to prevent exceeding the current ratings of the tube.

→ Indicates a change.



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92CM-6569R1

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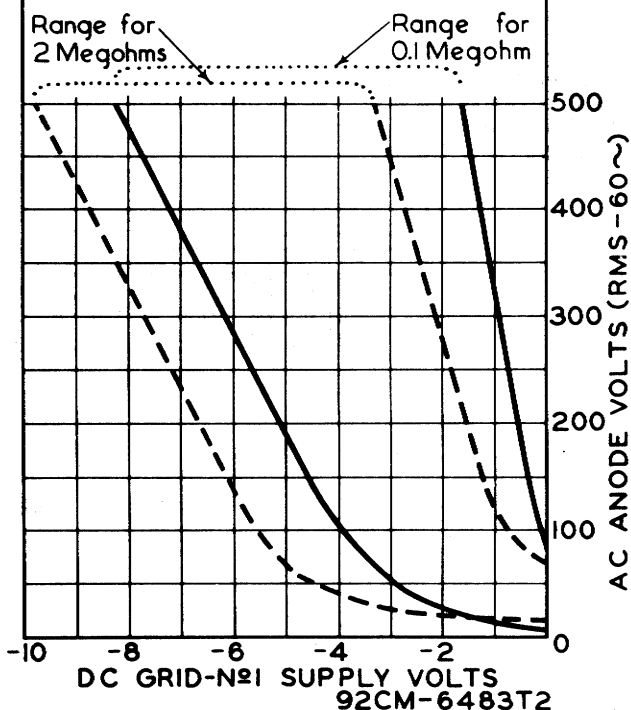
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OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

TYPE 3D22

GRID-N^o2 (SHIELD) VOLTS = 0

RANGES SHOWN ARE FOR TWO VALUES OF GRID RESISTOR—0.1 MEG. AND 2 MEG.—AND TAKE INTO ACCOUNT INITIAL DIFFERENCES BETWEEN INDIVIDUAL TUBES AND SUBSEQUENT DIFFERENCES DURING TUBE LIFE, FOR HEATER-VOLTAGE RANGE OF 5.7 TO 6.9 VOLTS, AND FOR AN AMBIENT TEMPERATURE RANGE OF -40 TO +90 °C.

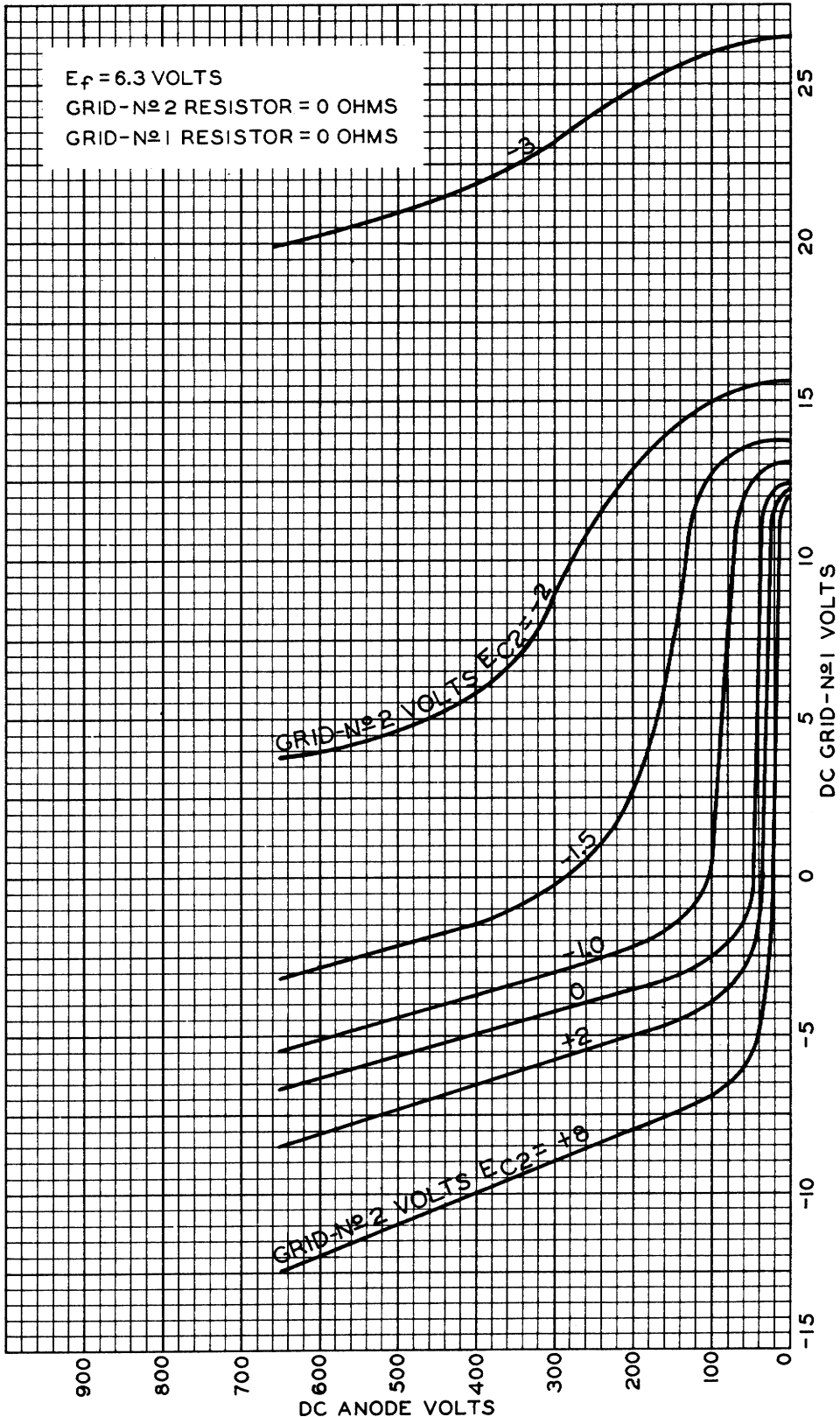




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AVERAGE CONTROL CHARACTERISTICS



JAN. 22, 1947

TUBE DEPARTMENT

92CM-6831

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

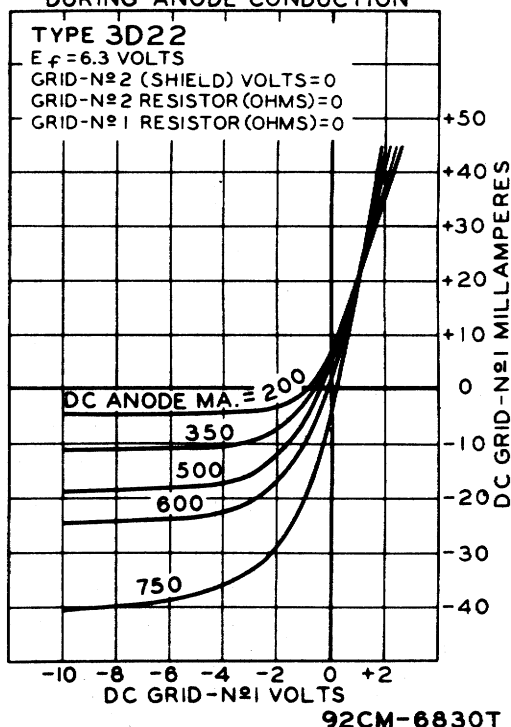
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AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION



AVERAGE GRID CHARACTERISTICS BEFORE ANODE CONDUCTION

