



6BQ7

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MEDIUM-MU TWIN TRIODE

LOW-NOISE 9-PIN MINIATURE TYPE
For Driven Grounded-Grid Circuits

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathodes:

Voltage. 6.3 ac or dc volts

Current. 0.4 amp

Direct Interelectrode Capacitances (According to RTMA Standard
ET-109-A with external shield No.315):

	Unit No. 1	Unit No. 2	
Grid to Plate.	1.15	1.15	μf
Input.	2.85	—	μf
Input (<i>Grounded Grid</i>).	—	4.95	μf
Output	1.35	—	μf
Output (<i>Grounded Grid</i>)	—	2.27	μf
Plate to Cathode	0.15 max.	0.15 max.	μf
Heater to Cathode.	2.20	2.30	μf
Plate of Unit No.1 to Plate of Unit No.2		0.010 max.	μf
Plate of Unit No.2 to Plate & Grid of Unit No.1.		0.024 max.	μf

Characteristics, Amplifier Class A:

Plate Voltage.	150	volts
Cathode-Bias Resistor.	220	ohms
Amplification Factor	35	
Plate Resistance	5800	ohms
Transconductance	6000	μmhos
Plate Current.	9	ma
Grid Volts (Approx.) for plate current of 10 μamp	-10	volts

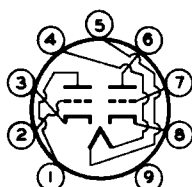
Mechanical:

Mounting Position.	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length.	1-15/16"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9AJ

Pin 1—Plate of
Triode No.2Pin 2—Grid of
Triode No.2Pin 3—Cathode of
Triode No.2

Pin 4—Heater

Pin 5—Heater

Pin 6—Plate of
Triode No.1Pin 7—Grid of
Triode No.1Pin 8—Cathode of
Triode No.1Pin 9—Internal
Shield

MAY 1, 1951

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TENTATIVE DATA

6BQ7



6BQ7

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AMPLIFIER - Class A

*Values are for Each Unit***Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE.	250 [▲] max.	volts
PLATE DISSIPATION.	2 max.	watts
CATHODE CURRENT.	20 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	200 [▲] max.	volts
Heater positive with respect to cathode.	200 max.	volts

Typical Operation in Push-Pull Grounded-Grid Circuit:*Values are for Each Unit*

Plate Voltage.	150	volts
Grid Voltage*.	-2	volts
Cathode Resistor (Common to both units). .	100	ohms
Plate Current.	10	ma

Typical Operation in Grounded-Grid Circuit**with Direct-Coupled Drive:**

*Unit No. 1 (driver tube) is directly coupled to Unit No. 2
(driven grounded-grid amplifier tube) as
shown in accompanying circuit*

	Unit No. 1	Unit No. 2	
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Plate Supply Voltage	250	250	volts
Plate Voltage.	135	115	volts
Grid Voltage	-1	-	volt
Grid Resistor.	-	0.5	megohm
Plate Current.	10	10	ma
Grid Current	0	0	ma
Grid Voltage (Approx.) for			
plate current of 10 μ amp . .	-14	-	volts
Peak Heater-Cathode Voltage:			
Heater negative with			
respect to cathode	1	250	volts

Maximum Circuit Values (Each Unit):

Grid-Circuit Resistance. . . .	0.5 max.	megohm
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* Obtained from cathode resistor.

[▲] under cutoff conditions, ingrounded-grid circuits with direct-coupled drive, it is permissible for this voltage to be as high as 300 volts.

MAY 1, 1951

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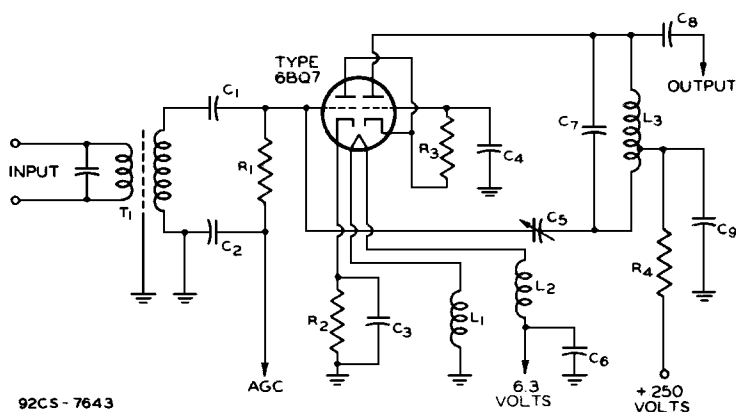
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6BQ7

6BQ7

MEDIUM-MU TWIN TRIODE

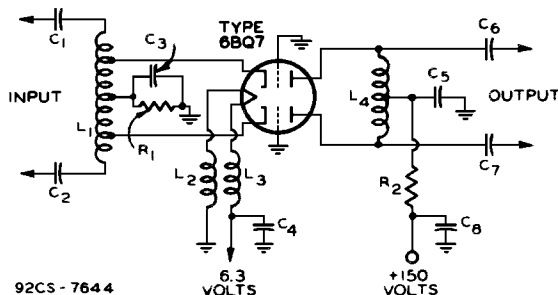
RCA-6BQ7 in Driven Grounded-Grid Amplifier
Circuit with Direct-Coupled Drive.

92CS-7643

- C1: 33 μf , 400 volts
 C2: 1000 μf , 400 volts
 C3: 1000 μf , 400 volts
 C4: 1000 μf , 400 volts
 C5: 0.5 to 1.5 μf , 400 volts
 C6: 1000 μf , 400 volts
 C7: 2 μf , 400 volts
 C8: 33 μf , 400 volts
 C9: 1000 μf , 400 volts
 R1: 10000 ohms, 0.5 watt
 R2: 100 ohms, 0.5 watt
 R3: 500000 ohms, 0.5 watt
 R4: 100 ohms, 0.5 watt

- L1, L2: Bifilar chokes, each
 10 turns No.18 enamel
 wire, 1/4" coil form
 L3: Tuned circuit element of
 tuner. Value depends on
 distributed circuit capaci-
 tances. To determine tap
 point, tap down to 80 to
 90% of total number of turns
 T1: Tuned circuit element
 of tuner. Value de-
 pends on distributed
 circuit capacitances.

RCA-6BQ7 in Push-Pull Grounded-Grid Circuit.



92CS-7644

- C1 C2 C3 C4 C5:
 1000 μf , 400 volts
 C6 C7: 100 μf , 400 volts
 C8: 1000 μf , 400 volts
 R1 R2: 100 ohms, 0.5 watt

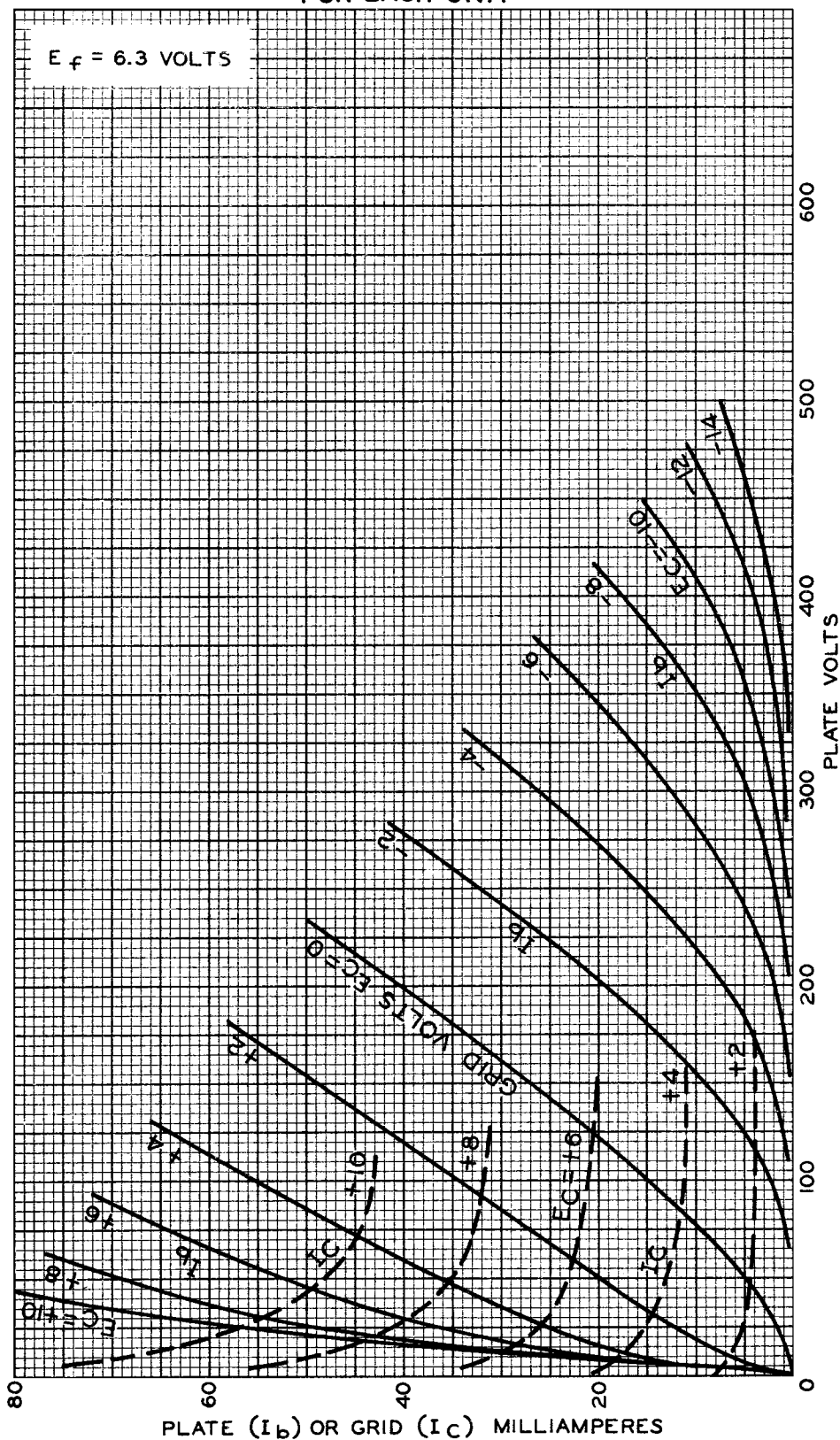
- L1 L4: Tuned circuit elements of tuner.
 Values depend on distributed circuit
 capacitances.
 L2 L3: Bifilar chokes, each 10 turns of
 No.18 enamel wire, 1/4" coil form.

6BQ7



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AVERAGE PLATE CHARACTERISTICS FOR EACH UNIT



SEPT. 6, 1950

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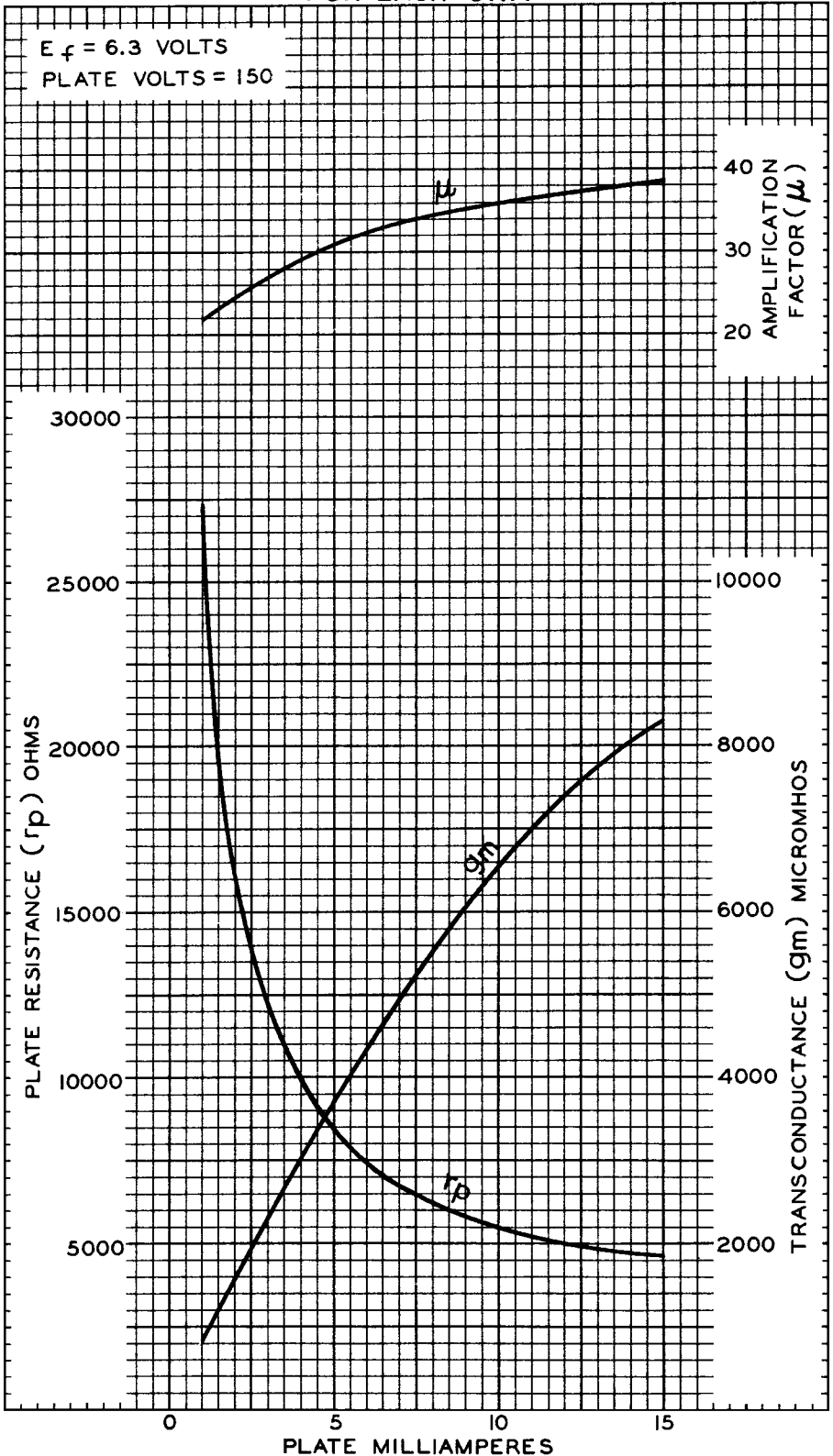
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AVERAGE CHARACTERISTICS FOR EACH UNIT



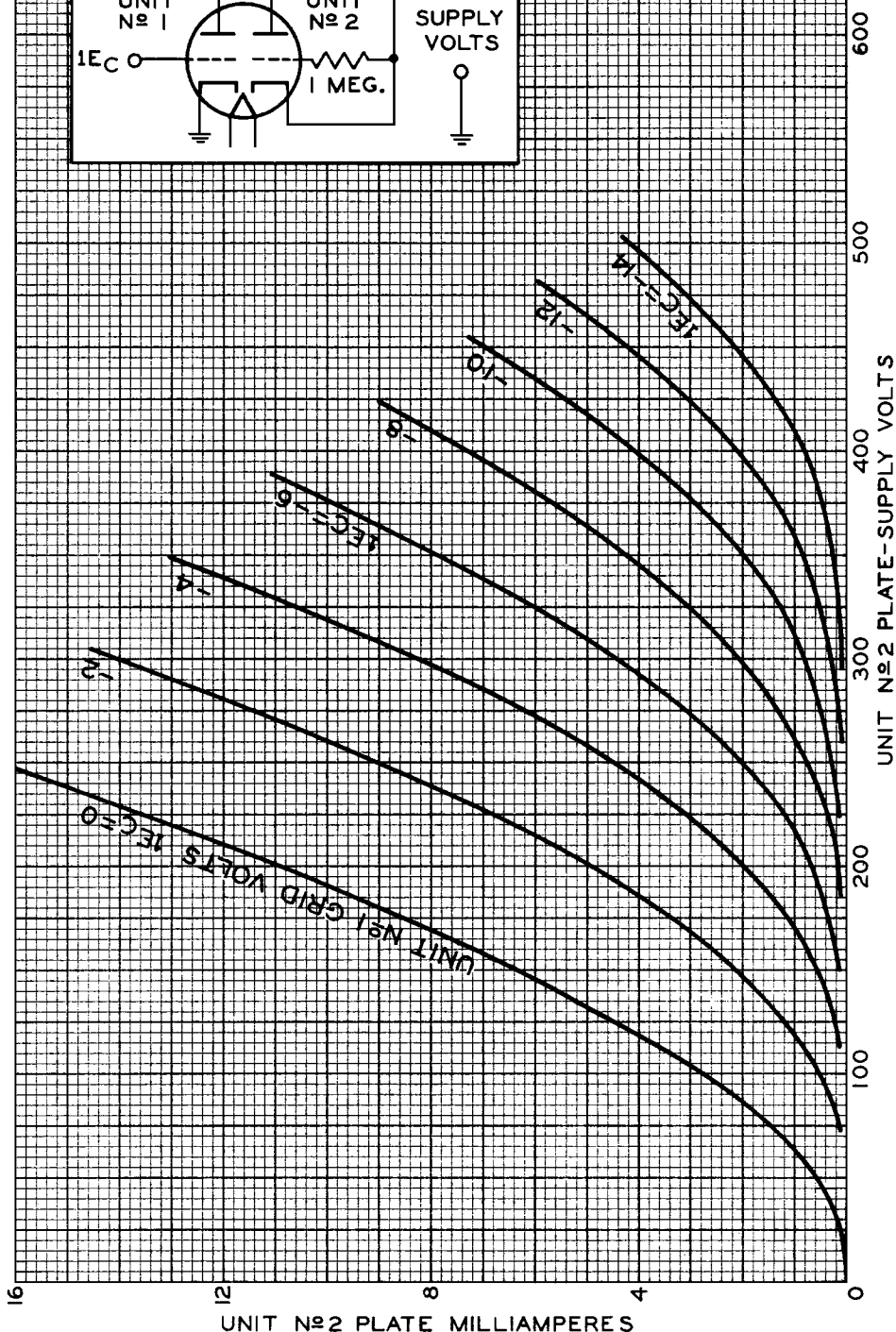
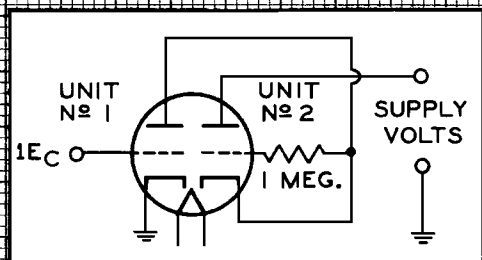
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AVERAGE PLATE CHARACTERISTICS AS DIRECT-COUPLED DRIVEN GROUND-GRID AMPLIFIER

$E_f = 6.3$ VOLTS



OCT. 3, 1950

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92CM-7549



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AVERAGE CHARACTERISTICS

$E_f = 6.3$ VOLTS

CURVE A: SUPPLY VOLTS = 300

CURVE B: PLATE VOLTS = 150

