



6SN7-GTA

MEDIUM-MU TWIN TRIODE

6SN7-GTA

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage 6.3 ac or dc volts
Current 0.6 amp

Direct Interelectrode Capacitances (With no external shield):

	Unit No. 1	Unit No. 2	
Grid to plate	4	3.8	$\mu\mu\text{f}$
Grid to cathode and heater . .	2.2	2.6	$\mu\mu\text{f}$
Plate to cathode and heater . .	0.7	0.7	$\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier (Each Unit):

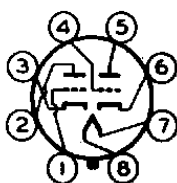
Plate Voltage	90	250	volts
Grid Voltage	0	-8	volts
Amplification Factor	20	20	volts
Plate Resistance (Approx.) . . .	6700	7700	ohms
Transconductance	3000	2600	μmhos
Plate Current	10	9	ma
Plate Current for grid voltage of -12.5 volts	-	1.3	ma
Grid Voltage (Approx.) for plate current of 10 μamp	-7	-18	volts

Mechanical:

Mounting Position Any
Maximum Overall Length 3-5/16"
Maximum Seated Length 2-3/4"
Maximum Diameter 1-9/32"
Bulb T-9
Base Short Intermediate-Shell Octal 8-Pin
with External Barriers (JETEC No. B8-58)

Basing Designation for BOTTOM VIEW 8B0

Pin 1 - Grid of
Unit No. 2
Pin 2 - Plate of
Unit No. 2
Pin 3 - Cathode of
Unit No. 2
Pin 4 - Grid of
Unit No. 1



Pin 5 - Plate of
Unit No. 1
Pin 6 - Cathode of
Unit No. 1
Pin 7 - Heater
Pin 8 - Heater

AMPLIFIER - Class A₁

Values are for Each Unit

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE 450 max. volts
CATHODE CURRENT 20 max. ma

JUNE 14, 1954

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA 1

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MEDIUM-MU TWIN TRIODE

PLATE DISSIPATION:

Either plate	5 max.	watts
Both plates (Both units operating) . . .	7.5 max.	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 [▲] max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias operation	1 max.	megohm
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Typical Operation as Resistance-Coupled Amplifier:

See RESISTANCE-COUPLED AMPLIFIER CHART No. 29
at front of this Section

HORIZONTAL DEFLECTION OSCILLATOR

Values are for Each Unit

Maximum Ratings, Design-Center Values:

For operation in a 525-line, 30-frame system[□]

DC PLATE VOLTAGE	450 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE [▲]	600 max.	volts
CATHODE CURRENT:		
Peak	300 max.	ma
Average	20 max.	ma

PLATE DISSIPATION:

Either plate	5 max.	watts
Both plates (Both units operating) . . .	7.5 max.	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 [▲] max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or cathode-bias operation	2.2 max.	megohms
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VERTICAL DEFLECTION OSCILLATOR

Values are for Each Unit

Maximum Ratings, Design-Center Values:

For operation in a 525-line, 30-frame system[□]

DC PLATE VOLTAGE	450 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE [▲]	400 max.	volts
CATHODE CURRENT:		
Peak	70 max.	ma
Average	20 max.	ma

[▲], [□], [●], [#]: See next page.

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TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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MEDIUM-MU TWIN TRIODE

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PLATE DISSIPATION:

Either plate 5 max. watts
Both plates (Both units operating) . . . 7.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode 200 max. volts
Heater positive with respect to cathode 200[▲] max. volts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or
cathode-bias operation 2.2 max. megohms

VERTICAL DEFLECTION AMPLIFIER

Values are for Each Unit

Maximum Ratings, Design-Center Values Except as Noted:

For operation in a 525-line, 30-frame system[□]

DC PLATE VOLTAGE 450 max. volts

PEAK POSITIVE-PULSE PLATE VOLTAGE[‡]

(Absolute Maximum) . . 1500[‡] max. volts

PEAK NEGATIVE-PULSE GRID VOLTAGE 250 max. volts

CATHODE CURRENT:

Peak 70 max. ma

Average 20 max. ma

PLATE DISSIPATION:

Either plate 5 max. watts

Both plates (Both units operating) . . . 7.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode 200 max. volts

Heater positive with respect to cathode 200[▲] max. volts

Maximum Circuit Values:

Grid-Circuit Resistance:

For cathode-bias operation 2.2 max. megohms

[▲] The dc component must not exceed 100 volts.

[□] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

[‡] This rating is applicable where 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.

^{*} This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

[■] Under no circumstances should this absolute value be exceeded.

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TENTATIVE DATA 2

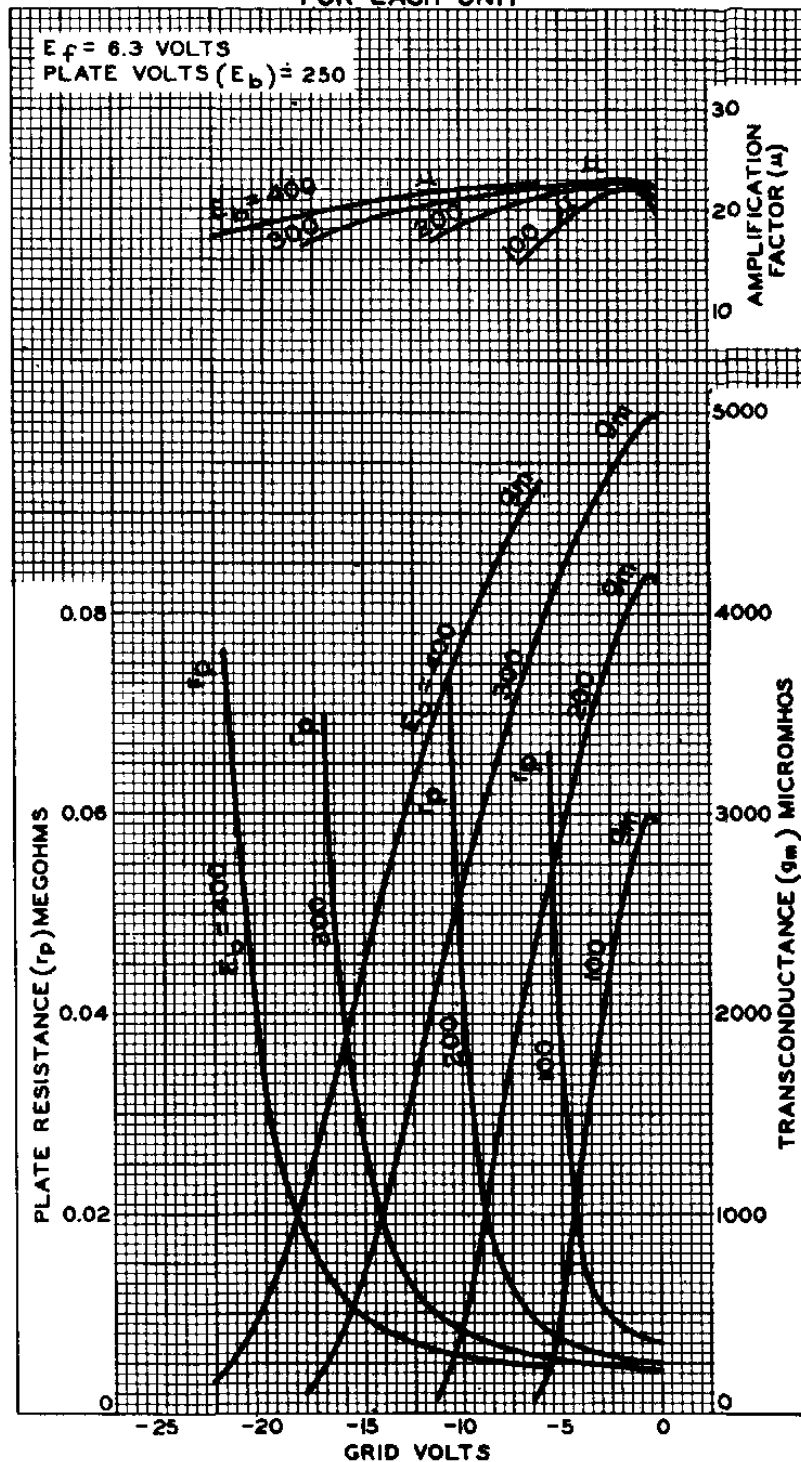
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6SN7-GTA

AVERAGE CHARACTERISTICS
FOR EACH UNIT

6SN7-GTA



OCT. 14, 1953

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8122



RESISTANCE-COUPLED AMPLIFIER CHARTS (Continued)

See Circuit Diagram 1									
13									
E _{bb}	R _p	R _g	R _{g2}	R _k	C _{g2}	C _k	C	E _o	V.G.
90	0.05	0.05	—	1650	—	2.80	0.06	11	11
		0.1	—	2070	—	2.66	0.029	14	12
		0.25	—	2380	—	1.95	0.012	17	13
	0.1	0.1	—	3470	—	1.85	0.035	12	13
		0.25	—	3940	—	1.29	0.012	17	13
		0.5	—	4420	—	1.0	0.007	19	13
	0.25	0.25	—	7860	—	0.73	0.0135	14	13
		0.5	—	9760	—	0.55	0.007	18	13
		1.0	—	10690	—	0.47	0.004	20	13
180	0.05	0.05	—	1190	—	3.27	0.06	24	13
		0.1	—	1490	—	2.86	0.032	30	13
		0.25	—	1740	—	2.06	0.0115	36	13
	0.1	0.1	—	2330	—	2.19	0.038	26	14
		0.25	—	2830	—	1.35	0.012	34	14
		0.5	—	3230	—	1.15	0.006	38	14
	0.25	0.25	—	5560	—	0.81	0.013	28	14
		0.5	—	7000	—	0.62	0.007	36	14
		1.0	—	8110	—	0.5	0.004	40	14
300	0.05	0.05	—	1020	—	3.56	0.06	41	13
		0.1	—	1270	—	2.96	0.034	51	14
		0.25	—	1500	—	2.15	0.012	60	14
	0.1	0.1	—	1900	—	2.31	0.035	43	14
		0.25	—	2440	—	1.42	0.0125	56	14
		0.5	—	2700	—	1.2	0.0065	64	14
	0.25	0.25	—	4590	—	0.87	0.013	46	14
		0.5	—	5770	—	0.64	0.0075	57	14
		1.0	—	6950	—	0.54	0.004	64	14

**6F8-G, 6SN7-GT, 6J5, 12SN7-GT
6CG7, 6FQ7, 8CG7, 7N7, 7A4, 12FQ7**