TWIN TRIODE TYPES 12AU7 AND 12AU7-A

The 12AU7 and 12AU7-A are medium-mu twin triode types of the 9-pin miniature type. Its applications include multivibrators, synchronizing amplifiers, oscillators, mixers, and industrial controls. The tube may be operated from either a 6.3-volt or 12.6-volt heater supply, and it has separate cathode terminals for each triode.

The 12AU7-A is designed to have lower microphonic noise than the 12AU7 and is thus particularly well adapted to industrial control and television horizontal oscillator applications.

ELECTRICAL:

Cathodes			Coated Unipotential
Heater:	Series	Parallel	
Voltage	12.6	6.3	AC or DC Volts
Current	0.15	0.3	Ampere

Direct Interelectrode Capacitances (Unshielded):

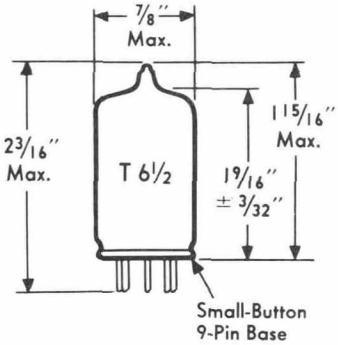
	Unit No. 1	Unit No. 2	
Grid to Plate	1.5	1.5	μμf
Grid to Cathode	1.6	1.6	μμf
Plate to Cathode	0.50	0.35	μμf

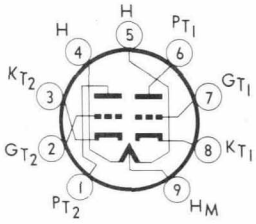
MECHANICAL:

Bulb	T-6-½
Base	Miniature 9-Pin (JEDEC E9-1)
Basing	9A
Mounting Position	Any

MAXIMUM RATINGS:
Design Maximum Values
Each Unit, Except as Noted

As	Class A_1 Amplifier	Vertical # Deflection Amplifier		
Plate Voltage	330	330	max.	Volts
Peak Positive Plate Voltage (Abs. Max.)	- -	1200	max.	Volts
Peak Negative Grid Voltage	- -	275	max.	Volts
Plate Dissipation:				
Each Plate	2.75	2.75*	max.	Watts
Both Plates	5.5	5.5*	max.	Watts
Cathode Current	22	22	max.	Ma.
Peak Cathode Current	- -	66	max.	Ma.
Heater-Cathode Voltage				
Heater Positive with Respect to Cathode				
D-C Component	100	100	max.	Volts
Total D-C and Peak	200	200	max.	Volts
Heater Negative with Respect to Cathode				
Total D-C and Peak	200	200	max.	Volts
Grid Circuit Resistance:				
Fixed Bias	0.25	- -	max.	Megohm
Cathode Bias	1.0	- -	max.	Megohms





9A

MAXIMUM RATINGS:
Design Maximum Values (Each Unit, Except as Noted)

As	Vertical # Deflection Oscillator	Horizontal # Deflection Oscillator		
Plate Voltage	330	330	max.	Volts
Peak Negative Grid Voltage	440	660	max.	Volts
Plate Dissipation:				
Each Plate	2.75	2.75	max.	Watts
Both Plates	5.5	5.5	max.	Watts
Cathode Current	22	22	max.	Ma.
Peak Cathode Current	66	330	max.	Ma.
Heater-Cathode Voltage				
Heater Positive with Respect to Cathode				
D-C Component	100	100	max.	Volts
Total D-C and Peak	200	200	max.	Volts
Heater Negative with Respect to Cathode				
Total D-C and Peak	200	200	max.	Volts

AMPLIFIER – CLASS A_1
Each Unit

CHARACTERISTICS:

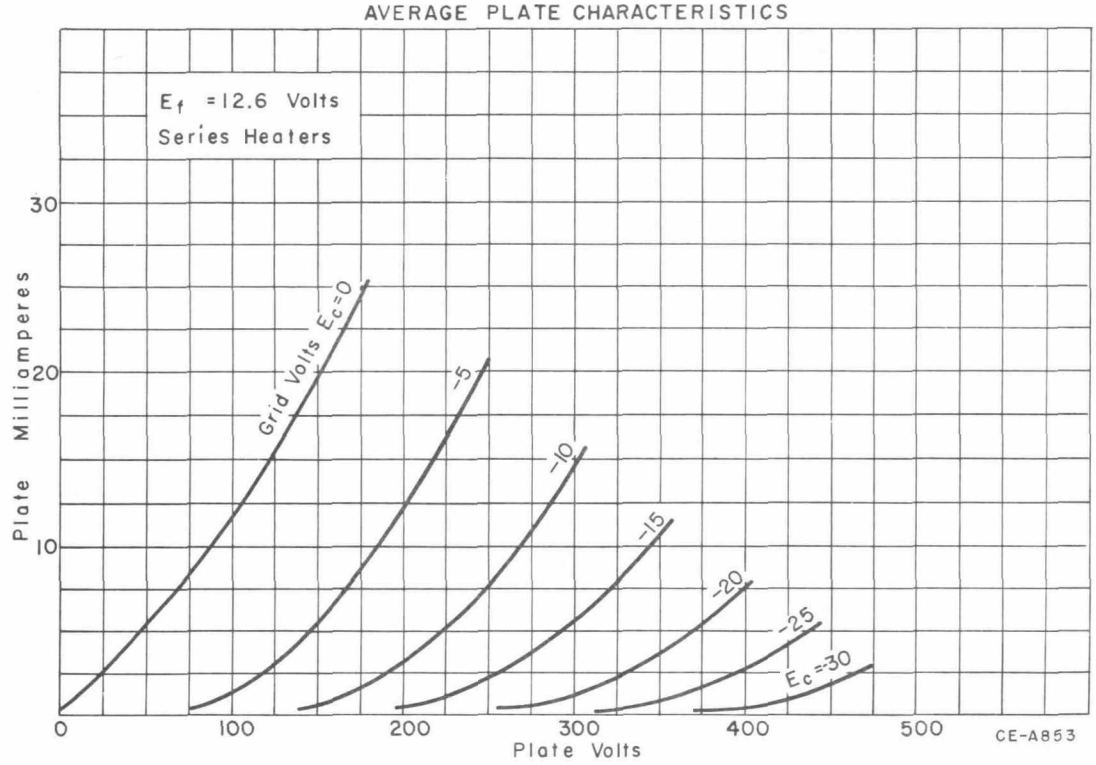
Plate Voltage	100	250	Volts
Grid Voltage	0	–8.5	Volts
Amplification Factor	19.5	17	
Plate Resistance (Approx.)	6250	7700	Ohms
Transconductance	3100	2200	μmhos
Plate Current	11.8	10.5	Ma.

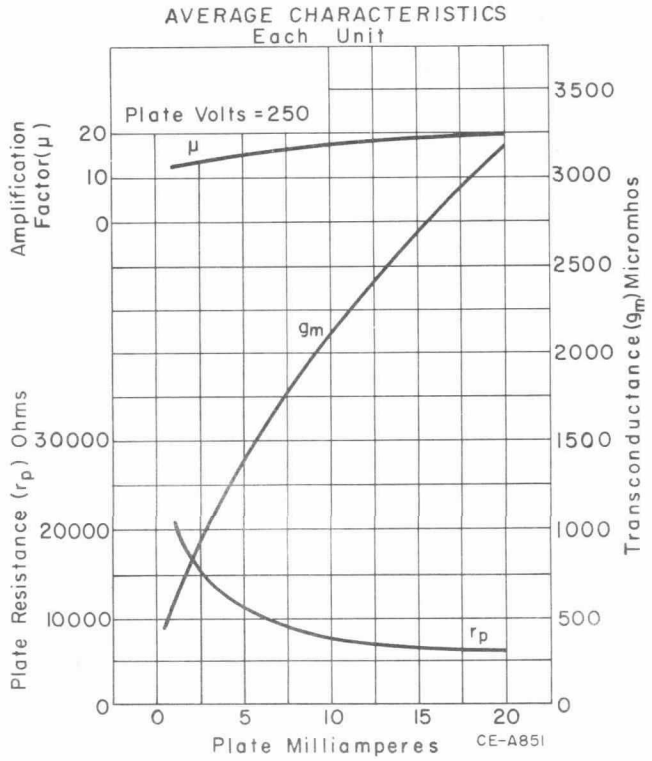
NOTES

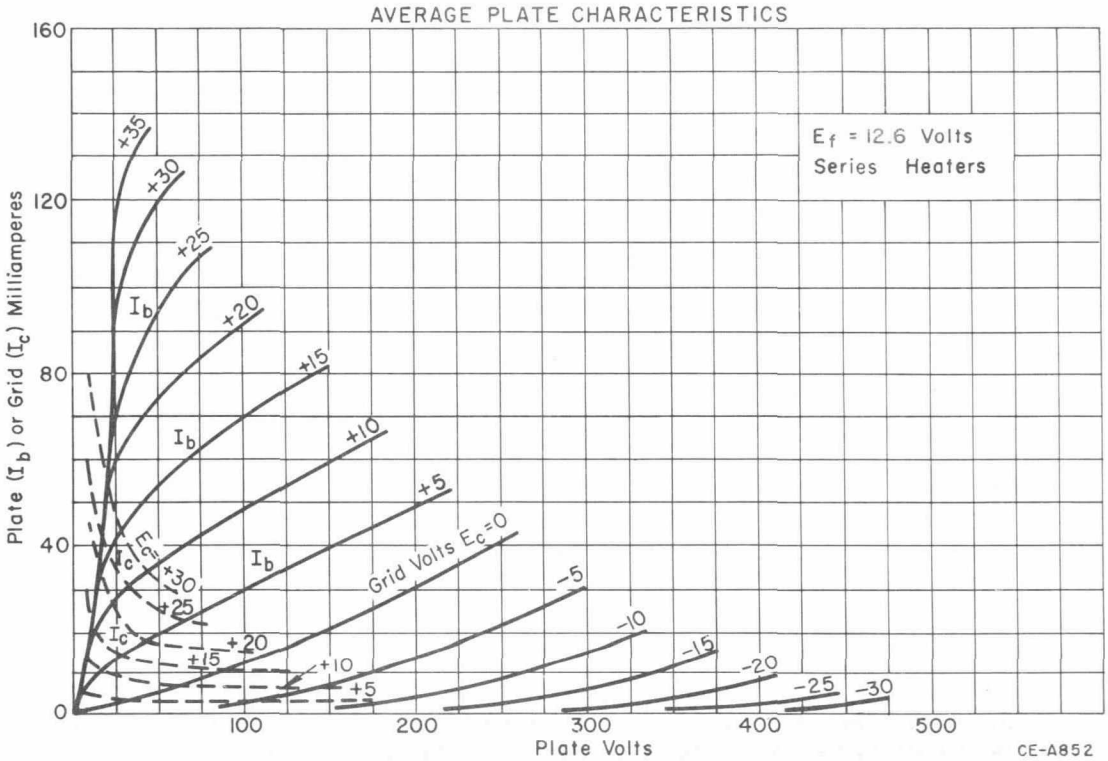
For operation in a 525-line, 30 frame system as described in, "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission". The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.

★ Stages operating with grid-leak bias require an adequate cathode-bias resistor or other suitable means to protect the tube in the absence of excitation.

AVERAGE PLATE CHARACTERISTICS




AVERAGE CHARACTERISTICS
Each Unit
Plate Volts = 250
μ
gm
rp
Amplification Factor(μ)
Plate Resistance (rp) Ohms
Transconductance (gm) Micromhos
Plate Milliamperes
CE-A851


AVERAGE PLATE CHARACTERISTICS
Ef = 12.6 Volts
Series Heaters
Ib
Ic
Grid Volts Ec=0
Plate (Ib) or Grid (Ic) Milliamperes
Plate Volts
CE-A852

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