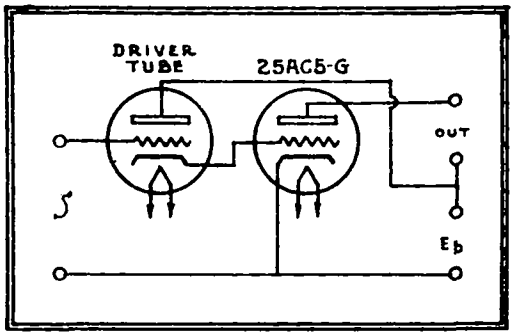
from RMA release #145, Oct. 18, 1938

Rel #145

25AC5 G TRIADYNE 6AE5 G

TECHNICAL BULLETIN 116

TRIAD MANUFACTURING COMPANY, INC., PAWTUCKET, R. I.



The Triadyne *25AC5G* is a positive grid Power Amplifier Triode designed particularly for Dynamic-Coupled Class A operation, similar to the *6AC5G*. This new output tube requires a *25* volt heater potential and its *0.3* ampere heater permits its use in series heater circuits commonly employed in ac-dc receivers.

In *110* volt ac-dc receivers a low mu driver is required to provide positive grid bias and to center the plate current at the nominal value of *45* ma. This necessitated the design of a new driver, the *6AE5G*. This combination provides *2* watts of power output. As usual with Dynamic-Coupled amplifiers, the positive bias for the output tube and the negative bias for the driver are automatically provided by the circuit. A high value of resistance is permitted in the grid circuit of the driver, allowing the plate of the first audio to operate into a lightly loaded circuit. Since this coupling resistor is connected to the input driver rather than the output tube, grid current trouble, often encountered with other ac-dc power output tubes, is eliminated. For typical ac-dc receivers, a *6Q7G* should be used for the detector and first audio with a *0.25* meg. plate resistor and *1.05* volts bias.

The *25AC5G* may also be operated at *180* plate volts. The tube offers an excellent solution to the tube compliment problem in low voltage ac receivers when it is economically feasible to operate the heaters in series and to use a small inexpensive transformer for the plate supply. A type *6P5G* (octal base equivalent of a *76*) may be used as the driver. This combination delivers *2* watts of power output. If more power is desired, a type *37* driver may be used, providing *2.7* watts.

The simple construction and conservative wide element spacing of the *25AC5G* insures against life problems and failures in the field. The tube offers a most inexpensive manner of increasing the number of tubes in a receiver. This is obvious because of the inherent low cost of both the driver and output tubes and the absence of circuit components.

25AC5 G RATING - TYPICAL OPERATION

CLASS A DYNAMIC-COUPLED POWER AMPLIFIER

Driver Tube	6AE5G	6P5G	37	Type
Plate-Supply Voltage	110	180	180	Volts
Grid Voltage	*	*	*	Volts
Power Tube Plate Current	45	27	37	Ma.
Driver Plate Current	7	4	5.3	Ma.
Input Signal To Driver**	22	12	17	Volts rms
Load Resistance	2,000	8,000	5,000	Ohms
Harmonic Distortion	10	10	10	%
Power Output	2.0	2.0	2.7	Watts

*Bias voltage for both the 25AC5G and the driver is automatically developed by the Dynamic-Coupled connection.
**Driver grid current does not flow during any part of the input cycle. The total resistance in the driver grid circuit should not exceed one megohm.

We do not assume responsibility for any possible patent liability involved by the use of circuits described above.

25AC5 G RATING (Continued)

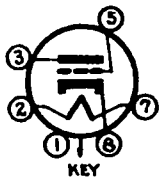
HIGH-MU POWER AMPLIFIER TRIODE
(For Dynamic-Coupled Amplifiers)

HEATER		Coated Unipotential Cathode
Voltage	25.0	Volts ac-dc
Current	0.3	Amperes
PLATE		
Voltage	180	Max. Volts
Dissipation	10	Max. Watts

STATIC AND DYNAMIC CHARACTERISTICS

Plate Voltage	110	Volts
Grid Voltage	+15	Volts
Amplification Factor	58	
Plate Resistance	15,200	Ohms
Transconductance	3,800	Umhos
Plate Current	45	Milliamperes
Grid Current	7	Milliamperes

BASE CONNECTIONS



PIN ARRANGEMENT

Pin 1 - No Connection
Pin 2 - Heater
Pin 3 - Plate
Pin 5 - Grid
Pin 7 - Heater
Pin 8 - Cathode

PHYSICAL DIMENSIONS

Max. Overall Length	4-15/32"
Max. Diameter	1-9/16"
Bulb	ST12
Base	Small Octal 6 Pin

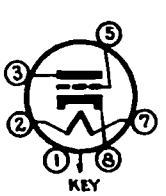
6AE5 G TRIODE AMPLIFIER DATA

HEATER		Coated Unipotential Cathode
Voltage	6.3	Volts ac-dc
Current	0.3	Amperes

AMPLIFIER CLASS A

Plate	95	Volts
Grid	-15	Volts
Amplification Factor	4.2	
Plate Resistance	3,500	Ohms
Transconductance	1,200	Umhos
Plate Current	7	Milliamperes

BASE CONNECTIONS



PIN ARRANGEMENT

Pin 1 - No Connection
Pin 2 - Heater
Pin 3 - Plate
Pin 5 - Grid
Pin 7 - Heater
Pin 8 - Cathode

PHYSICAL DIMENSIONS

Max. Overall Length	4-1/8"
Max. Diameter	1-9/16"
Bulb	ST12
Base	Small Octal 6 Pin