

TRIADYNE 6B5 - 6N6 MG

TECHNICAL BULLETIN 101

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

6B5 - Glass Type Power Output Triadyne

More than a year in development, the Triadyne tube was first introduced at the beginning of 1935. Exclusively pioneered in the laboratory of the Triad Mfg. Co., the Triadyne 6B5 is now being manufactured by most leading tube companies. Its almost universal acceptance by many prominent set manufacturers has made it one of the outstanding tube developments of the year.

Utilizing a new principle of radio tube design, the 6B5 requires less circuit considerations than other power amplifier tubes available to date. It requires no grid bias voltage inasmuch as the bias is automatically developed within the tube. The cathode connects directly to B minus, hence, no bias resistor is required or its associated by-pass condenser. The input grid does not draw grid current, thus high impedance coupling is possible. Operation of the 6B5 is strictly Class A and no special driver, or exceptional voltage regulation is necessary.

Employed in push pull operation two 6B5's will easily produce ten watts of power into a 10,000 ohm plate to plate load. Single ended it will deliver a clean five watts of power into a 7000 ohm load. Furthermore, because of a unique overload characteristic the Triadyne distortion output does not rise abruptly when more than rated signal voltage is impressed. This is explained by the fact that grid current is not encountered even when the rated signal voltage is exceeded, hence the distortion output is held well within tolerable limits.

Power sensitivity of the 6B5 is comparable to a pentode type power amplifier tube. Efficiency is comparable to a Class B type tube, yet it requires a signal of only 15 volts RMS single ended, and 38 volts RMS when employed in a push-pull circuit, for maximum rated power output. Plate voltage supply need have no better regulation than required for Class A operation since the Triadyne operates from the center point of its plate current-grid voltage characteristic.

6N6 MG - Metal-Glass Type Power Output Triadyne

Identical in all respects, electrically to the 6B5, the new 6N6 MG is available in metal shielded construction. Smaller in size, similar in appearance to the metal line, the 6N6 MG offers the finest type of output tube for mobile operation. Also available in the Triad series is the 6Z6 MG rectifier and other special tubes for a complete mobile circuit.

For those manufacturers using metal or metal-glass tubes in their standard types of receivers, the 6N6 MG fits nicely in the line up as a high quality output tube to replace the 6F6 with a resultant lowering in cost, increase sales appeal and better quality.





POWER OUTPUT, HARMONICS, PLATE CURRENT VERSUS R_L

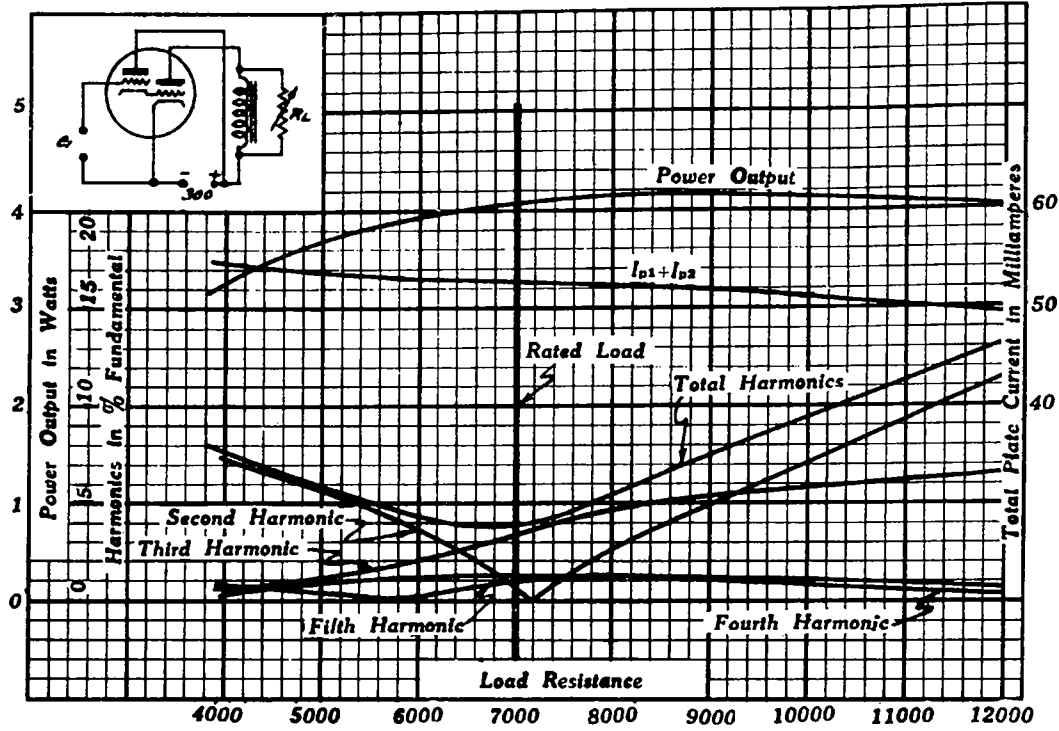


Figure NO. 1

POWER OUTPUT, HARMONICS, PLATE CURRENT VERSUS LOAD RESISTANCE
Push - Pull Operation

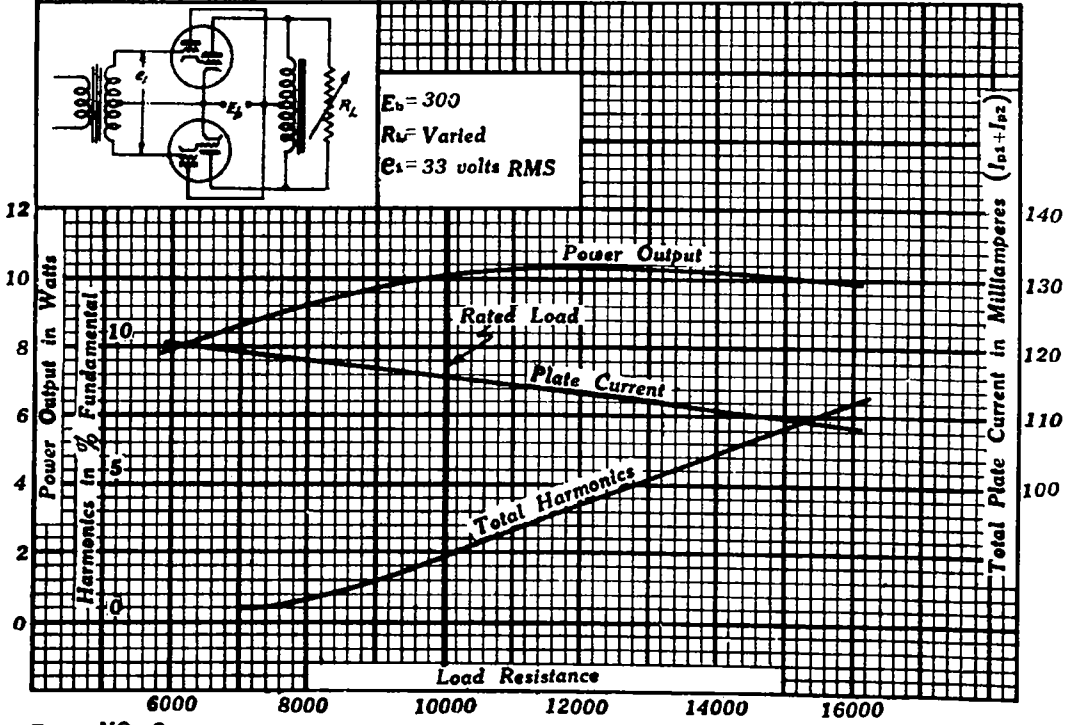


Figure NO. 2



POWER OUTPUT, HARMONICS, PLATE CURRENT VERSUS SIGNAL VOLTS

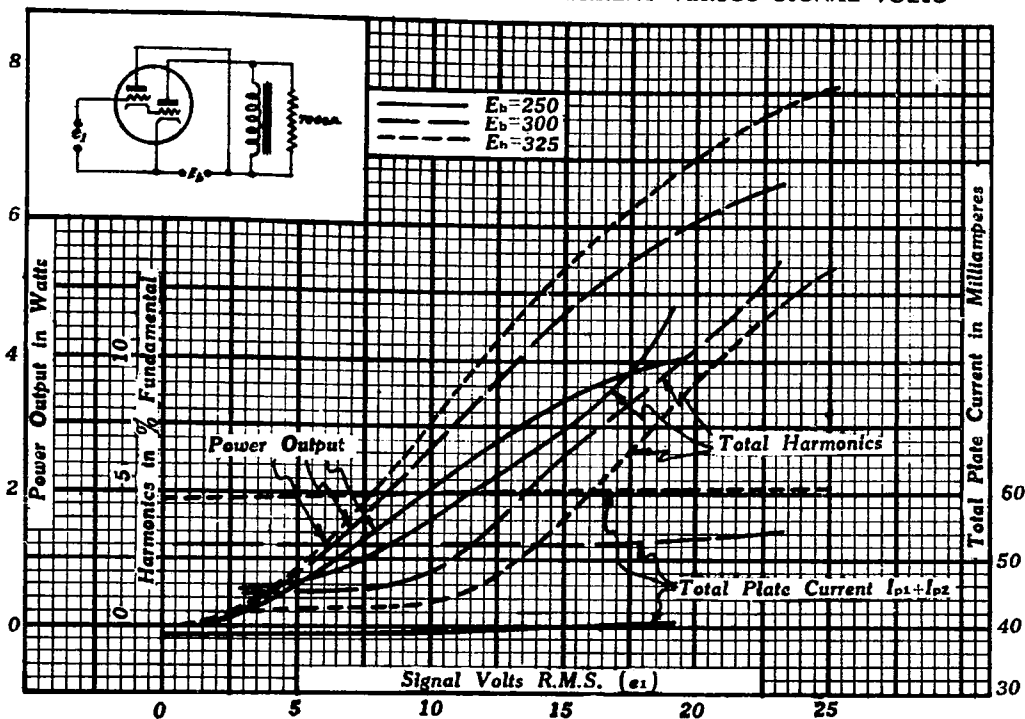


Figure NO. 3

POWER OUTPUT, HARMONICS, PLATE CURRENT VERSUS SIGNAL VOLTS

Push - Pull Operation

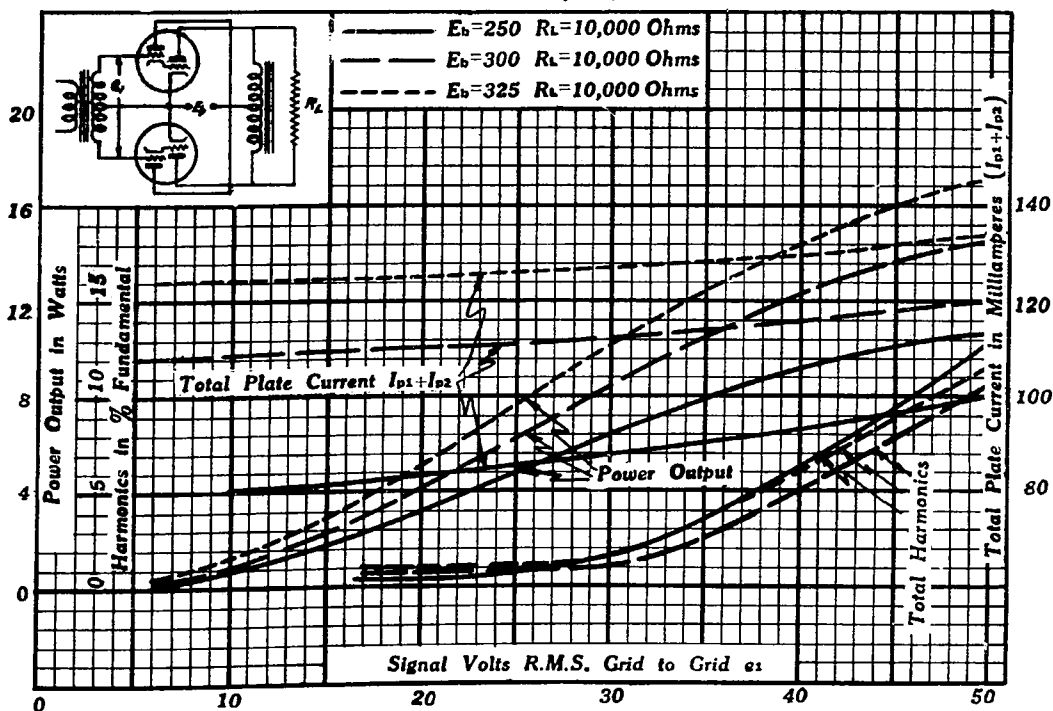


Figure NO. 4

TRIADYNE 6B5 - 6N6 MG

AVERAGE ELECTRICAL CHARACTERISTICS

Heater
Voltage
Current

Coated uni-potential cathode
6.3 volts
0.8 ampere

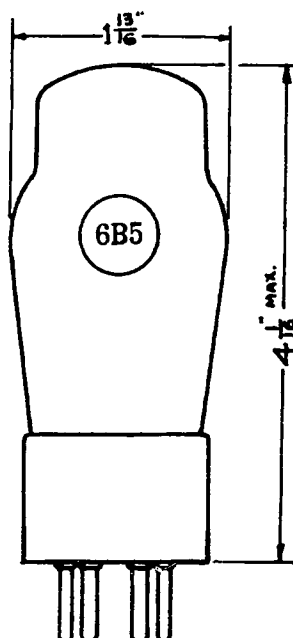
Output Plate	250	300	325	volts
Input Plate	250	300	325	volts
Grid Bias	0	0	0	volts
Output Plate Cur.	33	45	51	ma.
Input Plate Cur.	6.5	8.0	9	ma.
Amp. Fact.		58		
Plate Res.		24,100		ohms
Mut. Cond.		2,400		umhos.

SINGLE TUBE CLASS A

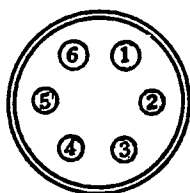
Load Res.	7,000	7,000	7,000	ohms
Total Distortion	5	5	5	%
Power Output	2.5	4.0	5.2	watts
Input Signal	13.5	15	17	r.m.s.

PUSH-PULL CLASS A

Load Res. (p. to p.)	10,000	10,000	10,000	ohms
Total Distortion	5	5	5	%
Power Output	8.5	10	13.5	watts
Input Signal (g. to g.)	38	38	42	r.m.s.

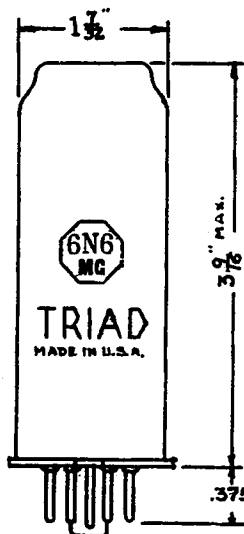


6B5 BASE CONNECTIONS

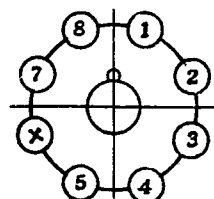


Bottom View of Base

- Pin 1 - Heater
- Pin 2 - Output Plate (p₂)
- Pin 3 - Input Plate (p₁)
- Pin 4 - Input Grid
- Pin 5 - Cathode
- Pin 6 - Heater



6N6 MG BASE CONNECTIONS



Bottom View of Base

- Pin 1 - Shell
- Pin 2 - Heater
- Pin 3 - Output Plate (p₂)
- Pin 4 - Input Plate (p₁)
- Pin 5 - Input Grid
- Pin 7 - Heater
- Pin 8 - Cathode

55A

RADIO MANUFACTURERS ASSOCIATION



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WASHINGTON, D. C.

R.M.A. DATA BUREAU
90 West Street
New York, N. Y.

RELEASE NO. 55A

SEP 29 1939

To
Tube Engineers:

The inclusion of a resistor in the structure of the 6N6 requires the modification of the basing designation applicable to this tube type.

As originally announced, the assigned basing designation was 7W.

To the modified basing the designation 7AU has been assigned.

Respectfully yours,

RMA DATA BUREAU

By: L.C.F. Horle