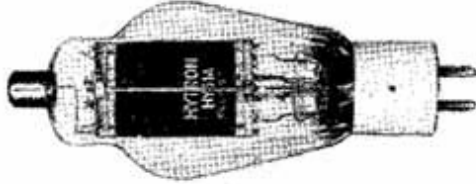




TYPE HY51A - HY51B



PHYSICAL DATA

Plate Processed Graphite
Grid Molybdenum-Nickel
Filament Thoriated Tungsten
Insulation Processed Lava
Base 4 Pin UX Iso.
Plate Load Large Metal Cap
Max. Overall Length 6 9/16"
Max. Diameter 2 7/16"
Bulb ST-19
Net Weight 3 1/4 oz.

INTERELECTRODE CAPACITANCE

Grid to Plate 7.5 uuf
Grid to Filament 6.0 uuf
Plate to Filament 2.0 uuf

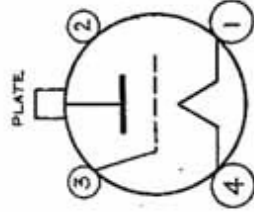
ELECTRICAL DATA

HY51A

Filament Voltage 7.5 Volts
Filament Current 3.5 Amperes
D.C. Plate Voltage 1000. Volts Max.
Plate Dissipation 65. Watts Max.
Max. Plate Current 185. ma.
Max. Grid Current 25. ma.
Average Amp. Factor 25
Mutual Conductance 6500 umhos

HY51B

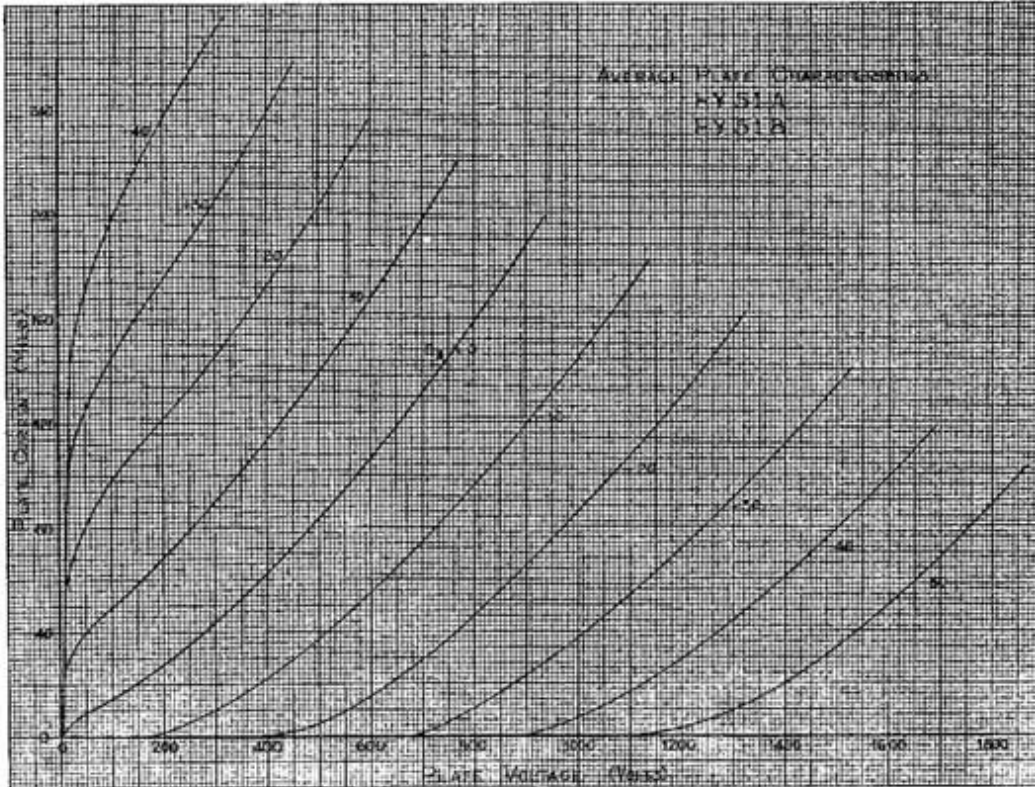
10.0 Volts
2.25 Amperes



BASE PIN CONNECTIONS

- 1 - Filament
- 2 - No Connection
- 3 - Control Grid
- 4 - Filament

Product of HYTRONIC LABORATORIES Salem, Mass.



DIVISION OF

HYTRON CORPORATION - SALEM, MASS., U.S.A.

HY51A - HY51B

R.F. POWER AMPLIFIER, OSCILLATOR, CLASS "B" MODULATOR
GENERAL PURPOSE-HIGH EFFICIENCY TRIODE

The Hytron HY51A and HY51B tubes are high efficiency triodes of rugged construction. Because of their high values of transconductance they operate at high efficiency as R.F. Amplifiers requiring low driving power. Their internal structure permits operation at maximum rating at frequencies up to 50 megacycles.

GENERAL DESCRIPTION

The Types HY51A and HY51B differ only with respect to the filament voltage and filament current. The versatility of the two popular filament supply voltages makes the tubes adaptable to any triode use.

The construction of the HY51A and HY51B is similar to that of higher priced tubes. A large sturdy graphite anode with plate lead at top of bulb isolates the plate from all stem wires. All insulating material is of specially processed lava. The mechanical assembly is mounted on heavy four way supports as well as mica top smudgers in the dome of the bulb.

The materials and workmanship in this product have been carefully prepared and are the result of lengthy research into the problems surrounding Amateur Radio. The quality and performance of these and other Hytron tubes is definitely assured by 17 years of successful manufacturing experience in the radio tube field.

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator Class "B"

D.C. Plate Voltage 1000 max. volts
Maximum Signal D.C. Plate Current* 150 max. ma.
Maximum Signal Plate Input* 150 max. watts
Plate Dissipation 65 max. watts

* Averaged over any Audio Frequency Cycle.

Typical Operation Two Tubes:

(Unless otherwise specified values are for 2 tubes.)

D.C. Plate Voltage 800 1000 volts
D.C. Grid Voltage -27 -35 volts
Static Plate Current 20 20 ma.
Peak A.F. grid to grid voltage 175 190 approx. volts
Maximum Signal D.C. Plate Current 300 300 ma.
Load Resistance per tube 1450 1750 ohms
Effective Load Resis. Pl.-Pl. 5800 7000 ohms
Maximum Signal Driving Power 5 6 approx. watts
Maximum Signal Power Output 150 180 approx. watts

R.F. POWER AMPLIFIER - CLASS "P" TELEPHONY
(Carrier conditions per tube for use with a max. modulation factor of 1.0)

D.C. Plate Voltage 1000 max. volts
D.C. Grid Voltage -27 -35 volts
Peak R.F. Grid Voltage 60 60 volts
D.C. Plate Current 100 90 ma.
D.C. Grid Currents** 7 6 approx. ma.
Driving Power Required** 8 5.5 approx. watts
Power Output 25 30 approx. watts

Typical Operation:

D.C. Plate Voltage 800 1000 volts
D.C. Grid Voltage -27 -35 volts
Peak R.F. Grid Voltage 60 60 volts
D.C. Plate Current 100 90 ma.
D.C. Grid Currents** 7 6 approx. ma.
Driving Power Required** 8 5.5 approx. watts
Power Output 25 30 approx. watts

R.F. POWER AMPLIFIER AND OSCILLATOR - CLASS "C" TELEGRAPHY
(Key down conditions per tube without modulation.)

D.C. Plate Voltage 1000 max. volts
D.C. Grid Voltage -150 max. volts
D.C. Plate Current 155 max. ma.
D.C. Grid Current 25 max. ma.
Plate Input 155 max. watts
Plate Dissipation 65 max. watts

Typical Operation:

D.C. Plate Voltage 600 800 1000 volts
D.C. Grid Voltage -45 -60 -75 volts
Peak R.F. Grid Voltage 165 170 175 volts
D.C. Plate Current 140 140 140 ma.
D.C. Grid Currents** 20 20 20 approx. ma.
Driving Power Required** 5 5 5 approx. watts
Power Output 55 80 100 approx. watts

** Subject to wide variations controlled by circuit constants and operating characteristics of associated input and output circuits.

PLATE MODULATED R.F. POWER AMPLIFIER - CLASS "C" TELEPHONY
(Carrier conditions per tube for use with a max. modulation factor of 1.0)

D.C. Plate Voltage 800 max. volts
D.C. Grid Voltage -200 max. volts
D.C. Plate Current 110 max. ma.
D.C. Grid Current 25 max. ma.
Plate Input 88 max. watts
Plate Dissipation 45 max. watts

Typical Operation:

D.C. Plate Voltage 600 800 volts
D.C. Grid Voltage -55 -67.5 volts
Peak R.F. Grid Voltage 185 195 volts
D.C. Plate Current 100 100 volts
D.C. Grid Currents** 20 15 approx. ma.
Driving Power Required** 4.5 3.5 approx. watts
Power Output 40 55 approx. watts