N.U. ENGINEERING BULLETIN

ELECTRONIC COMPONENTS

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N.U. MAGNETIC PICK-UP TUBE

TYPE 6462

DESCRIPTION

The new National Union Pick-up Tube, formerly Type R-2211, is a miniature cathode-ray tube in a T-5½ bulb with a 7-pin miniature stem. The tube consists of a miniature electron gun, magnetic pole pieces, electrostatic deflection plates, and beam collectors. With no magnetic signal the beam is adjusted, by means of the electrostatic deflection plates, so that the beam equally divides between the two collector plates. A change in the magnetic field (input signal) between the pole pieces, results in a deflection of the electron beam, with a corresponding change in the relative division of the beam between the two plates. When the plates are connected to suitable load resistors, a push-pull output signal voltage is developed between the plate terminals. The output of the tube depends upon the flux density in the pole pieces. Magnetic field measurements down to 1 gamma have been obtained with this new device.

ELECTRICAL DATA

MAXIMUM TUBE RATINGS

Heater Voltage (ac/dc)	6.3 volts ±10%
Cathode Current	2.5 ma.
Grid Nos. 2 & 4, Pole pieces, and D1	300 volts
Plate No. 1 and Plate No. 2	400 volts
Deflection Voltage	±25 volts
Load Resistance (per Plate)	0.5 megohm

TYPICAL TUBE OPERATING CONDITIONS

Heater Voltage	6.3 volts (ac/dc)
Heater Current	175 ma.
Cathode Current	1.5 ma.
Grid Nos. 2 & 4, Pole pieces, and D1	200 volts
Grid No. 3 (focusing electrode)	14 volts
Voltage between D1 and D2	variable
Plate Voltages	280 volts
Plate Current (both elements)	400 μa.
Load Resistance/Plate	0.1 megohms
Plate Resistance (plate to Plate)	2.6 megohms

TUBE MECHANICAL DATA

STYLE..... Miniature

BULB..... T-5½

BASE..... 7-pin button

MOUNTING POSITION..... Any

BASE PIN CONNECTIONS

PIN 1..... Plate No. 1 (P1)

PIN 2..... Grid No. 3 (G3), focusing electrode

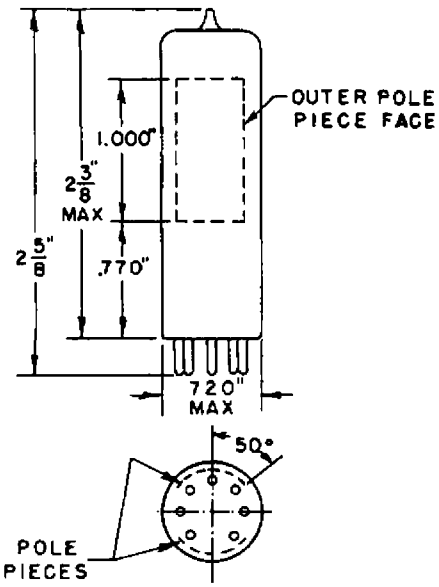
PIN 3..... Heater (H), Grid No. 1 (G1), Cathode (K), Repeller (R)

PIN 4..... Heater (H)

PIN 5..... Deflection Plate (D2)

PIN 6..... Grid Nos. 2 and 4 (G2, G4), Pole Pieces (PP), Deflection Plate (D1)

PIN 7..... Plate No. 2 (P2)



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