

NEW **NATIONAL UNION ELECTRON TUBE** DATA

6170

25 CHANNEL RADIAL BEAM TUBE COLLECTOR TYPE

APPLICATION

The type 6170 is a collector type magnetically focused and deflected radial beam tube intended for high speed commutation or switching. It is capable of handling twenty-five (25) different channels for transmission over a single carrier in multiplexing or telemetering applications. This is the input tube of such a system.

The 6170 has twenty-five (25) grid leads which are brought out separately and common anode lead for all 25 anodes. A polyphase wound stator is necessary to focus and rotate the beam. The field from the stator produces two (2) rotating electron beams spaced 180° from each other. Double-beam scanning is normally employed, but one beam may be suppressed relatively simply if necessary. The value of the field required is determined by the degree of focusing desired and the voltages on the elements. It has a coated unipotential cathode.

RATINGS

Heater Voltage (AC or DC) $\pm 10\%$	6.3 volts
Maximum Anode Voltage	500 volts
Maximum Cathode Current	30 mA _{dc}

TYPICAL OPERATING CONDITIONS:

Heater Voltage	6.3 volts
Heater Current	0.300 amperes
Anode Voltage	300 volts dc
Screen Grid Voltage (G_3)	77 volts dc
Space Charge Voltage (G_1)	18 volts dc
Channel Defining Post Voltage (G_5)	50 volts dc
Single Channel Peak Plate Current	310 μ A _{dc}
Screen Current	4.7 μ A _{dc}
Channel Defining Post Current	28 μ A _{dc}
Space Charge Grid Current	1.7 mA _{dc}
Single Channel Transconductance	80 μ mhos
Single Channel Grid Bias (E_{g4}) for Anode Current Cut Off	-4 volts dc
Field	140 Gauss

Mica Rings (G_2) Normally connected to the Cathode

PHYSICAL SPECIFICATIONS

Style	Special
Bulb	T-18
Base	34 Lead Acorn Type
Dimension	See Attached Drawing

BASE PIN CONNECTIONS

PIN 1:	G_3	PIN 18:	G_4-13
PIN 2:	G_4-1	PIN 19:	G_4-14
PIN 3:	G_1	PIN 20:	G_4-15
PIN 4:	G_4-2	PIN 21:	H
PIN 5:	G_4-3	PIN 22:	G_4-16
PIN 6:	P	PIN 23:	G_4-17
PIN 7:	G_4-4	PIN 24:	G_4-18
PIN 8:	G_4-5	PIN 25:	P
PIN 9:	G_4-6	PIN 26:	G_4-19
PIN 10:	G_4-7	PIN 27:	G_4-20
PIN 11:	H	PIN 28:	G_4-21
PIN 12:	G_4-8	PIN 29:	G_2
PIN 13:	G_4-9	PIN 30:	G_4-22
PIN 14:	G_4-10	PIN 31:	G_4-23
PIN 15:	G_4-11	PIN 32:	G_5
PIN 16:	NC	PIN 33:	G_4-24
PIN 17:	G_4-12	PIN 34:	G_4-25

TOP CAP: Cathode

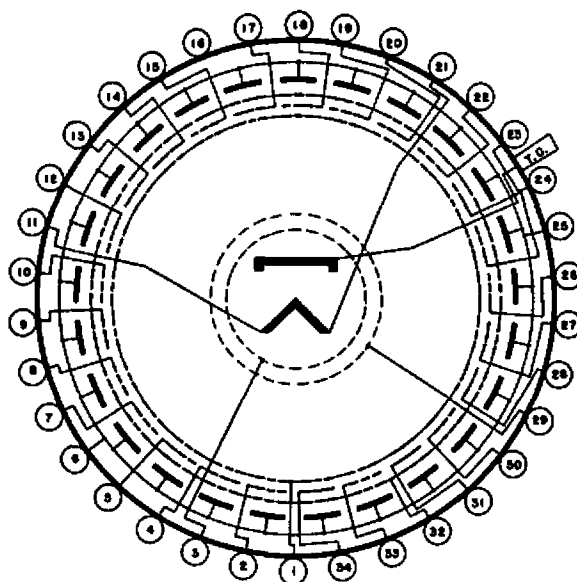
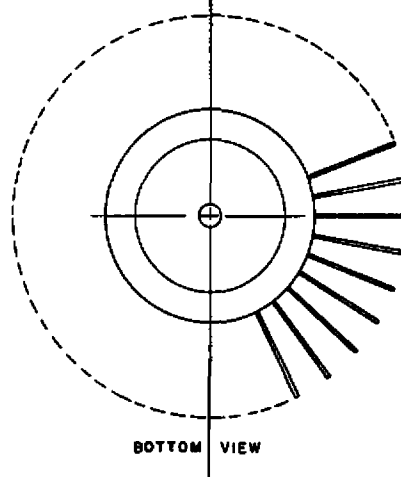
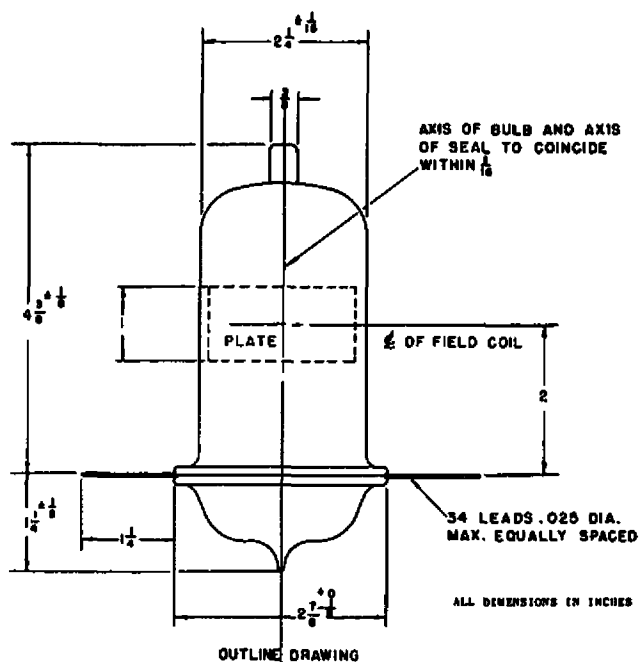
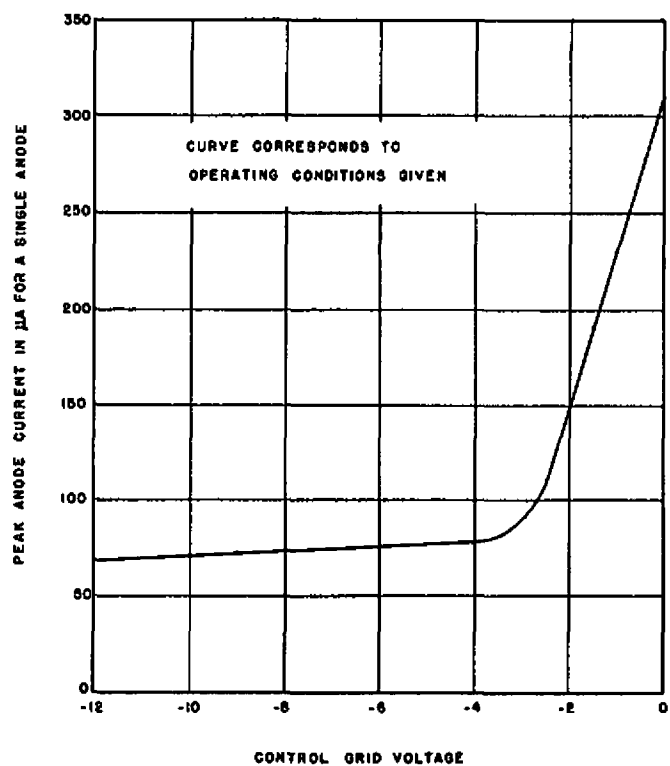
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Prepared by
Commercial Engineering Division

ORANGE **NATIONAL UNION RADIO CORPORATION** NEW JERSEY



NOTE-
LEAD NO. 1 IS
MARKED BY A
YELLOW DOT

6170
BASING DIAGRAM