



ENGINEERING BULLETIN

ELECTRONIC COMPONENTS

6170 & 6324

25 CHANNEL RADIAL BEAM TUBES MULTIPLE GRID TYPE

6170 APPLICATION:

The type 6170 is a multiple grid 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 a 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.

6324 APPLICATION:

The tube application and characteristics of the 6324 are identical to those of the 6170. The only difference is that the 6324 comes furnished with a special 33-pin base.

ELECTRICAL RATINGS

Heater Voltage (AC or DC) ±10%	6.3 volts
Maximum Anode Voltage	500 volts
Maximum Cathode Current	30 mAdc

MECHANICAL RATINGS

STYLE.....	Special
BULB.....	T-18
BASE 6170.....	34-Lead Acorn Type
BASE 6324.....	Special 33-pin
DIMENSION..	See Attached Drawings

TYPICAL OPERATING CONDITIONS

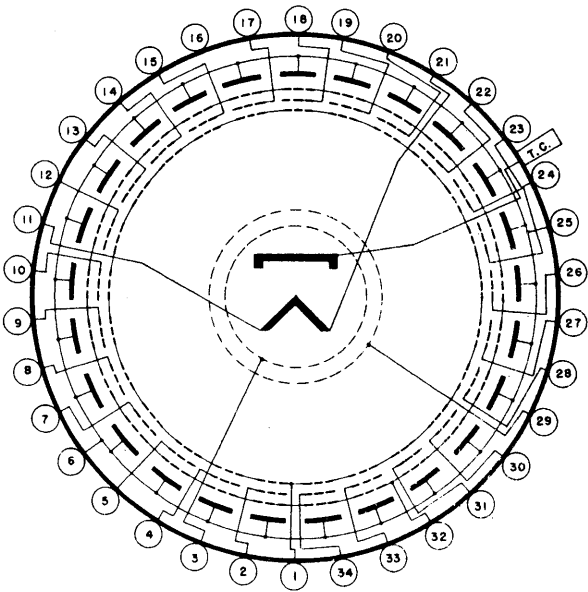
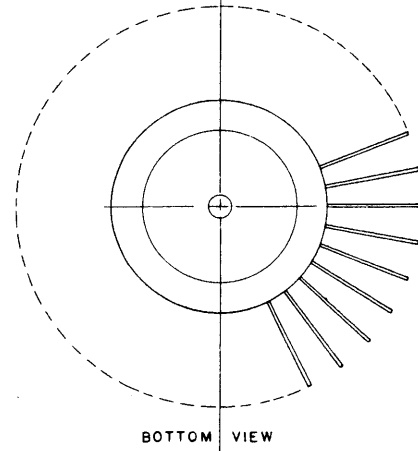
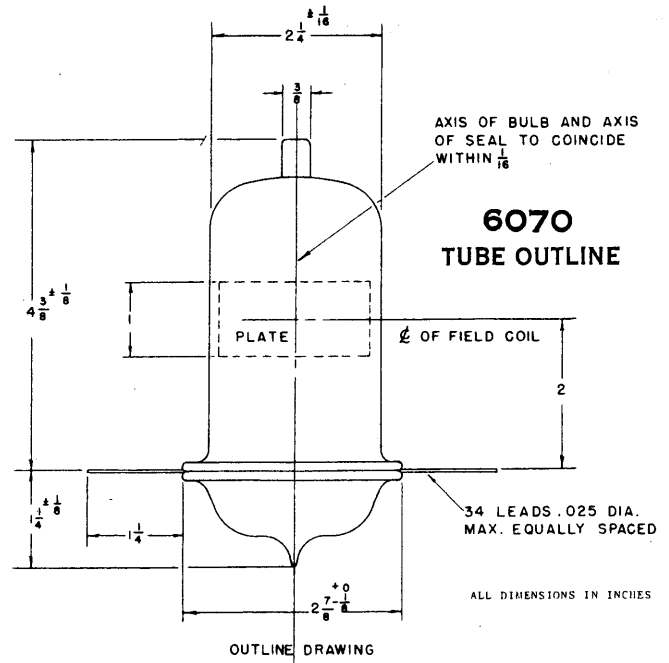
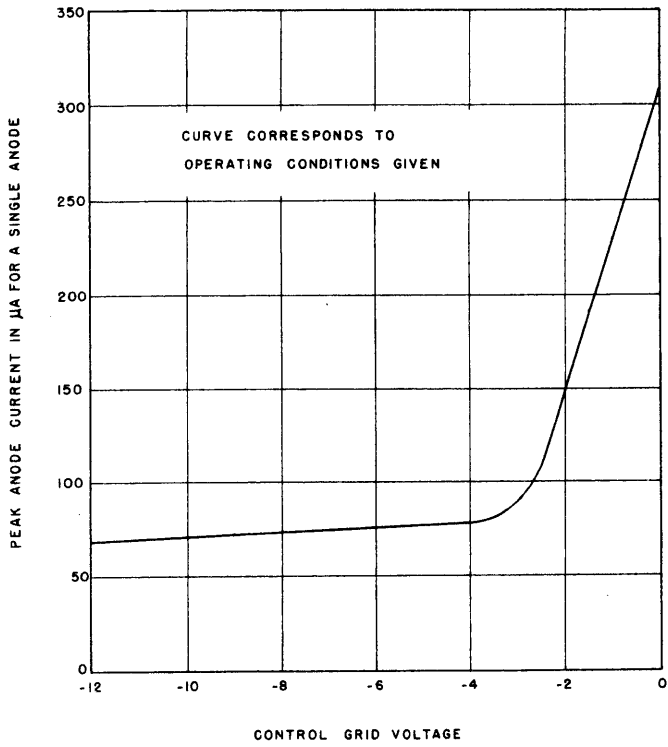
Heater Voltage	6.3 volts
Heater Current	0.300 amperes
Anode Voltage	300 volts dc
Screen Grid Voltage (G ₃)	77 volts dc
Space Charge Voltage (G ₁)	18 volts dc
Channel Defining Post Voltage (G ₅)	50 volts dc
Single Channel Peak Plate Current	310 μAdc
Screen Current	4.7 mAdc
Channel Defining Post Current	28 μAdc
Space Charge Grid Current	1.7 mAdc
Single Channel Transconductance	80 μmhos
Single Channel Grid Bias (Eg ₄) for	-4 volts dc
Anode Current Cut Off	
Field	140 Gauss

Mica Rings (G₂) Normally connected to the Cathode

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



BASING DIAGRAM
6170 - LEAD NUMBER 1 IS MARKED WITH A YELLOW DOT
6324 - ALL PINS ARE NUMBERED

