

# engineering TUBE DATA

F-7820  
POWER TRIODE



*Components Division*

## DESCRIPTION:

THE F-7820 IS A THREE ELECTRODE TUBE DESIGNED FOR USE AS A MODULATOR, ITS ELECTRICAL CHARACTERISTICS MAKING IT PARTICULARLY SUITABLE FOR CLASS AB MODULATOR CIRCUITS. THIS TUBE IS EXCEPTIONALLY DESIRABLE UNDER CONDITIONS OF OPERATION WHERE VIBRATION\* OR SHOCK\* ARE PRESENT. THE ANODE IS AIR-COOLED AND CAPABLE OF 4.3 KILOWATTS DISSIPATION. THE CATHODE IS A THORIA-TED TUNGSTEN FILAMENT. MAXIMUM RATINGS APPLY FOR AUDIO FREQUENCY USE ONLY.

## ELECTRICAL:

FILAMENT VOLTAGE	7.0	VOLTS
FILAMENT CURRENT	110	AMPERES
AMPLIFICATION FACTOR	6	
Ec = -200 v. Ib = 1.0 AMPS.		
DIRECT INTER-ELECTRODE CAPACITANCE		
GRID PLATE	42	UUF
GRID FILAMENT	43	UUF
PLATE FILAMENT	12	UUF

## MECHANICAL:

MOUNTING POSITION			VERTICAL, ANODE DOWN
TYPE OF COOLING			FORCED AIR
MAXIMUM INCOMING AIR TEMPERATURE			45 °C
REQUIRED AIR FLOW ON ANODE			
PLATE DISSIPATION - KW	4.3	3.75	2.75
AIR FLOW - CFM	200	160	100
PRESSURE - INCHES OF WATER	4.8	3.2	1.6
MAXIMUM GLASS & SEAL TEMPERATURE**			180 °C
MAXIMUM RADIATOR TEMPERATURE (MEASURED ON THE CORE AT THE END AWAY FROM INCOMING AIR)**			200 °C
WEIGHT, APPROXIMATE			16 LBS.

\* FOR SPECIFIC INFORMATION, PLEASE WRITE TO THE ELECTRON TUBE ENGINEERING DEPARTMENT.

\*\* A TEMPERATURE SENSITIVE LACQUER MANUFACTURED BY THE TEMPIL CORPORATION, 132 WEST 22ND STREET, NEW YORK 11, NEW YORK IS CONVENIENT FOR THIS MEASUREMENT.

from JEDEC release #3064, Dec. 12, 1960



ELECTRON TUBE DEPARTMENT  
**COMPONENTS DIVISION**

10-60

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

P. O. BOX 412, CLIFTON, NEW JERSEY

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS:

AUDIO-FREQUENCY POWER AMPLIFIER AND MODULATOR - CLASS AB<sub>1</sub>

MAXIMUM RATINGS, ABSOLUTE VALUES

D-C PLATE VOLTAGE	8	KV
MAXIMUM SIGNAL D-C PLATE CURRENT***	5	AMPERES
PLATE DISSIPATION***	4.3	KW

TYPICAL OPERATION

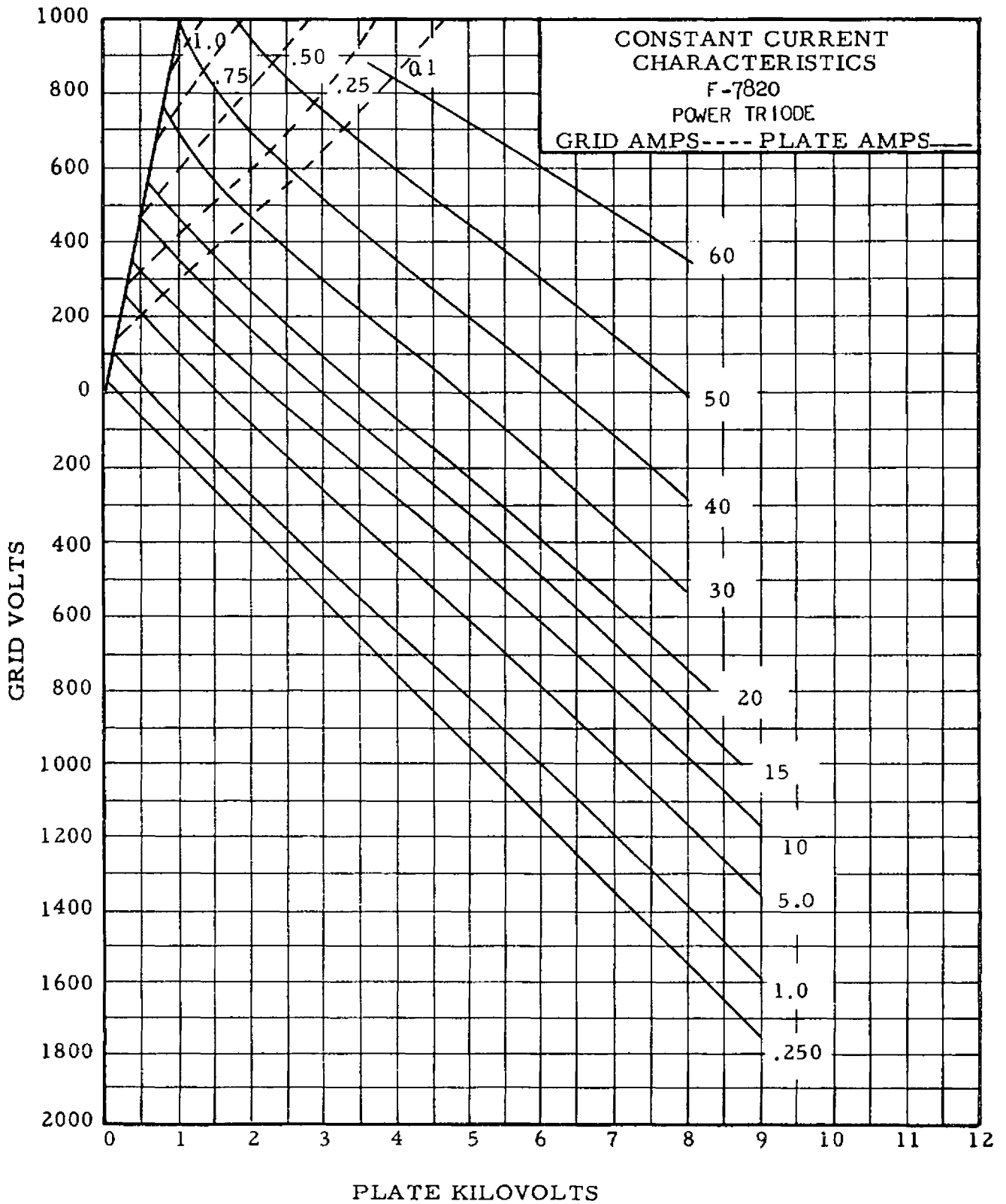
(UNLESS OTHERWISE SPECIFIED, VALUES ARE FOR TWO TUBES)

D-C PLATE VOLTAGE	3750	5000	7000	VOLTS
D-C GRID VOLTAGE	-650	-900	-1400	VOLTS
PEAK A-F GRID-TO-GRID VOLTAGE	1260	1760	2700	VOLTS
ZERO SIGNAL D-C PLATE CURRENT	0.6	0.8	0.5	AMPERES
MAXIMUM SIGNAL D-C PLATE CURRENT	2.8	2.6	2.55	AMPERES
EFFECTIVE LOAD RESISTANCE PLATE-TO-PLATE	2250	3700	5500	OHMS
MAXIMUM SIGNAL DRIVING POWER	0	0	0	WATTS
MAXIMUM SIGNAL POWER OUT	5.4	7.4	11.0	KW

\*\*\* AVERAGED OVER ANY AUDIO FREQUENCY CYCLE OF SINE WAVE FORM.

ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE:

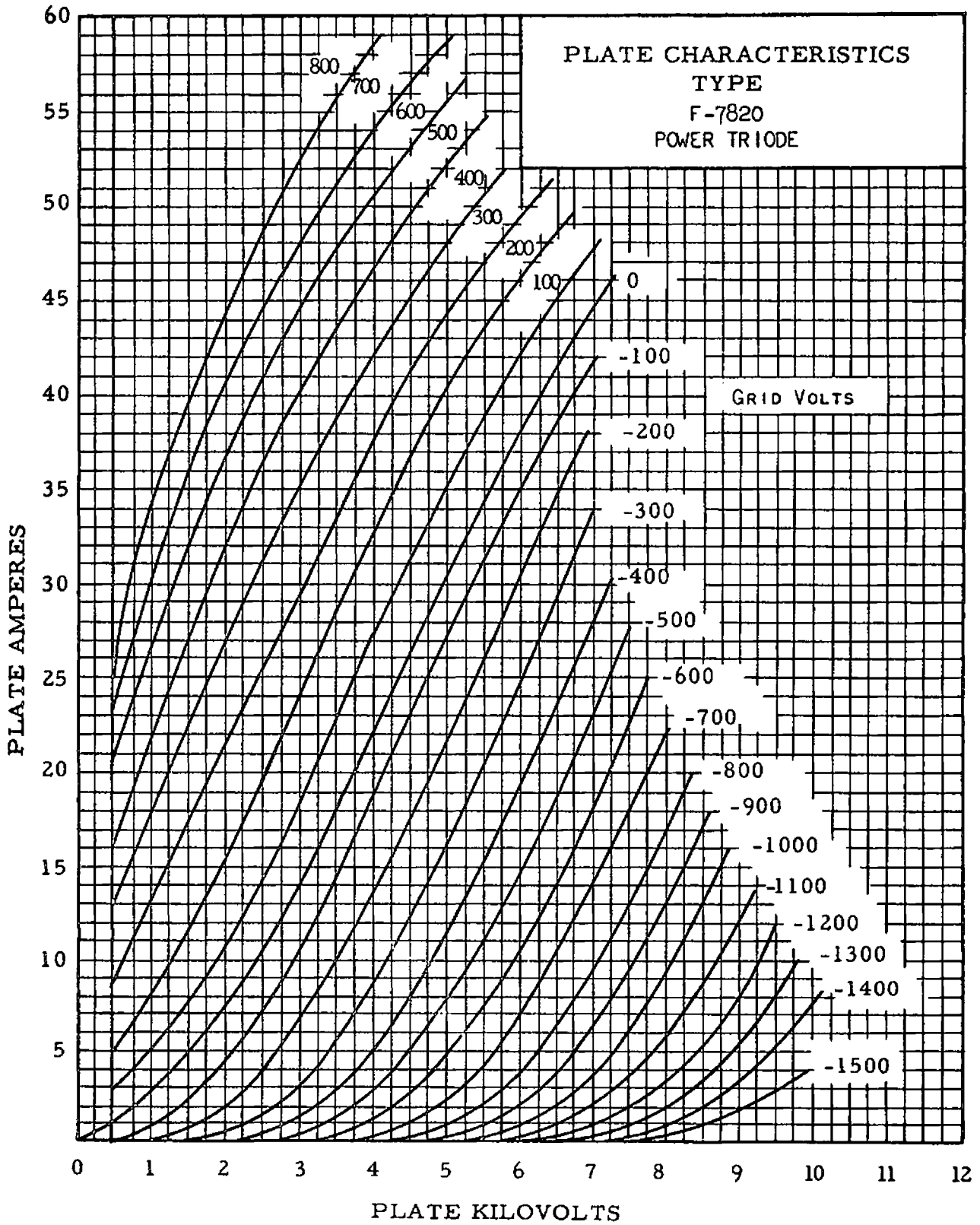
ELECTRON TUBE APPLICATIONS SECTION  
ITT COMPONENTS DIVISION  
POST OFFICE BOX 412  
CLIFTON, NEW JERSEY



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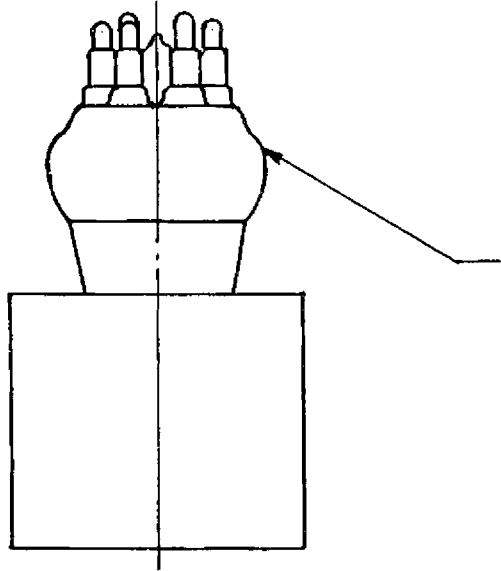




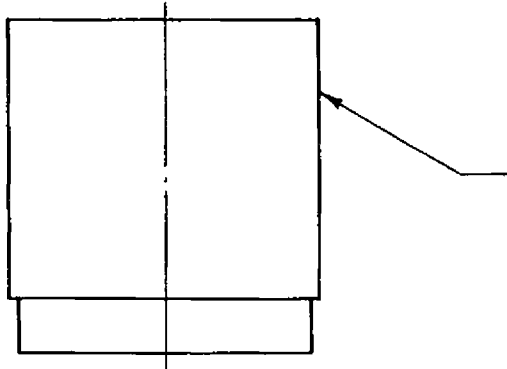
Spanner Wrench  
RT-52843-1 - 2 required



Terminal Connector Assy.  
RT-53978-1



Tube Types  
F-8C25  
F-7820



Air Jacket  
RT-54632-1

Size I F-8C25  
Size II F-7820

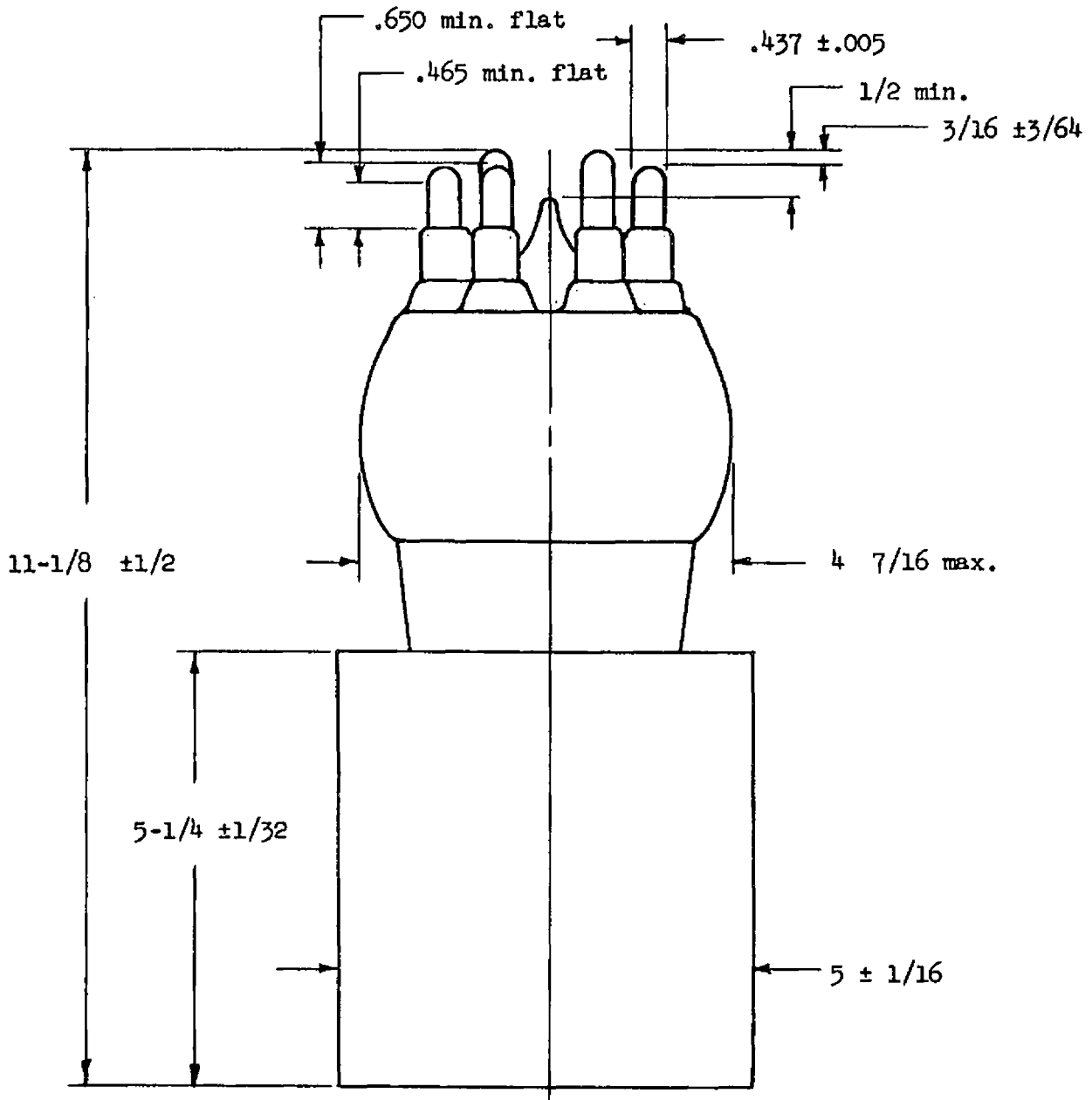
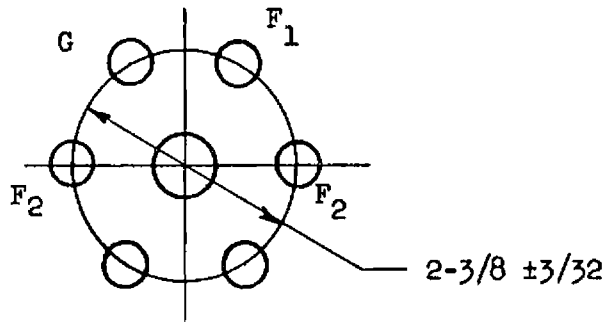
ACCESSORIES



ELECTRON TUBE DEPARTMENT  
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