Note!

RADIO MANUFACTURERS ASSOCIATION

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L. L. A.
REGISTRATION
FILE

Release No. 445

October 20, 1945

To
Tube Engineers:

Registration has been made by the RMA Data Bureau of the vacuum tube type designations

2J36	(Registration No. 905)
2J37	" " 906)
2J38	" " 907)
2J61A	" " 908)
2J62A	" " 909)
4J31	" " 910)
4J32	" " 911)
4J33	" " 912)
4J34	" " 913)
4J35	" " 914)

as defined by the characteristics and ratings given in the following data on application of

Raytheon Manufacturing Company
Waltham, Mass.

Your attention is called to the fact that while the data sheets attached are labelled "Confidential", the fact is that since their preparation the security status of the tube types referred to has been reclassified from "confidential" to "unclassified".

Respectfully yours,

RMA DATA BUREAU

By

LCFHorle/CAP

Security Classification: Confidential

Type 2J36
MAGNETRON

GENERAL CHARACTERISTICS

Electrical

Cathode	Coated Unipotential
Filament Voltage	6.3 volts
Filament Current	1.3 amps

Frequency	Min.	Max.
	9003	9168 Mc
Field Strength	2500 gauss	
Anode voltage	11,500 volts	
Power Output at 10 amperes .001 duty cycle	12 watts	

Mechanical

Maximum Dimensions - see outline
Mounting Position - any

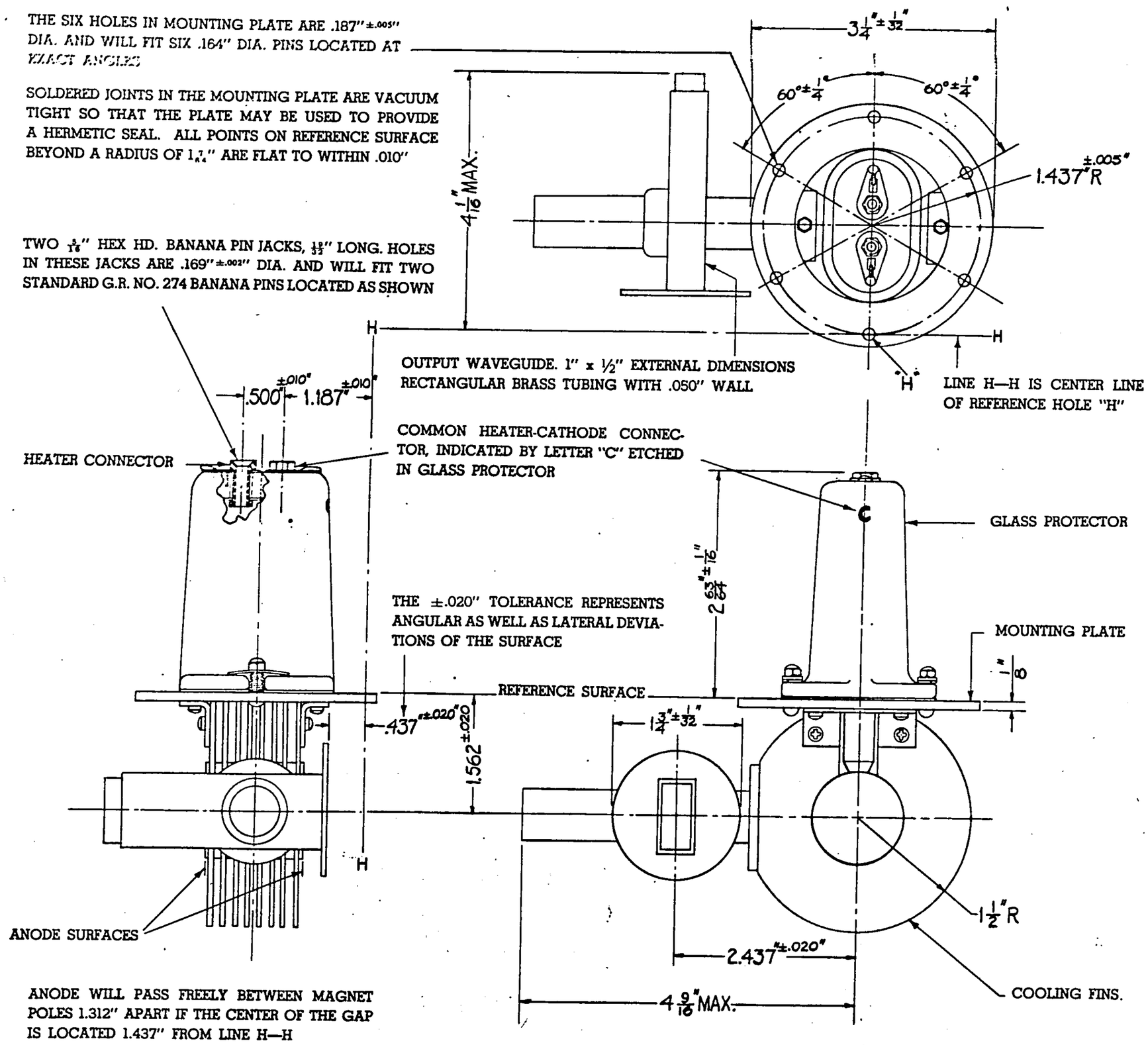
Maximum Ratings

Duty Cycle*	.002
Anode voltage	13,500 volts
Anode current	12 amps
Anode dissipation	180 watts
Anode temperature	100 C degrees

* In any 100 microsecond interval the tube shall not be operated longer than 5 microseconds.

Sponsor: Raytheon Manufacturing Company - Power Tube Division

TECHNICAL INFORMATION
MAGNETRON OSCILLATOR
OUTLINE DRAWING



Security Classification: Confidential

Type 2J37 Magnetron

General Characteristics

Electrical

Cathode		Coated Unipotential
Filament Voltage		6.3 volts
Filament Current		1.5 amps
Frequency	Min. 3267	Max. 3277 Mc
Magnetic Field Strength		.1375 gauss
Peak Anode voltage		10,500 volts
Power Output at .002 duty cycle and 15 peak amperes		80 watts

Mechanical

Maximum dimensions - see outline drawing
Base Connections - see outline drawing
Mounting Position - any

Maximum Ratings

Duty Cycle*	.006
Peak Anode voltage	12,000 volts
Peak anode current	15 amps
Anode dissipation	300 watts
Anode temperature	100 C degrees

* In any 100 microsecond interval, the tube shall not be operated longer than 5 microseconds.

Sponsor: Raytheon Manufacturing Company-Power Tube Division

Security Classification: Confidential

Type 2J38
MAGNETRON

GENERAL CHARACTERISTICS

Electrical

Cathode	Coated Unipotential
Filament voltage	6.3 volts
Filament current	1.25 amps
Frequency	3249 - 3263 Mc
Peak anode voltage	4500 volts
Power output at .004 duty cycle and 3 peak amperes	10 watts

Mechanical

Maximum Dimensions - see outline drawing
Base connections - see outline drawing
Mounting position - any

Maximum Ratings

Duty Cycle*	.012
Peak anode voltage	5000 volts
Peak anode current	8 amps
Anode dissipation	160 watts
Anode temperature	100 C degrees

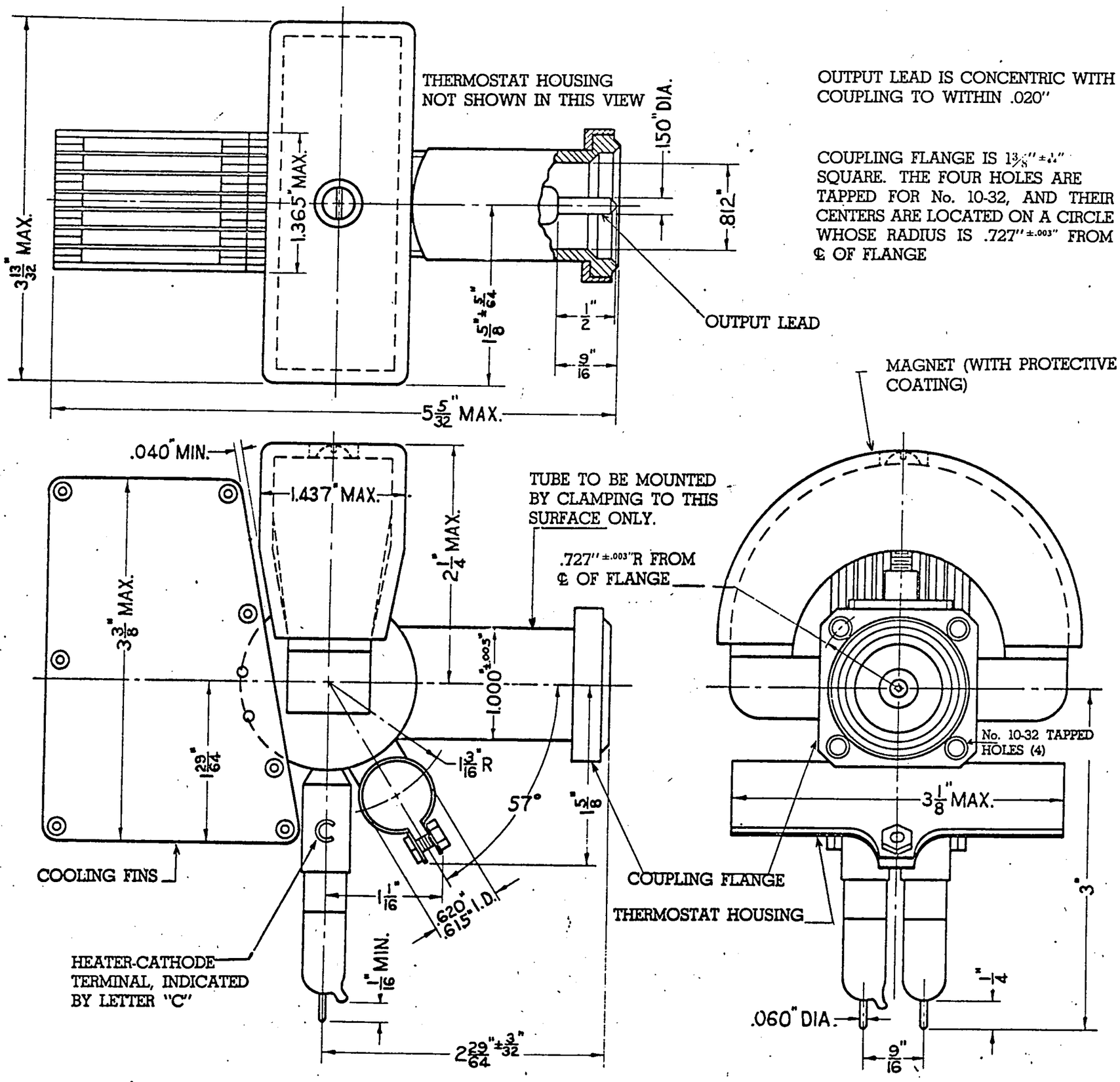
* In any 100 microsecond interval, the tube shall not be operated longer than 5 microseconds.

Sponsor: Raytheon Manufacturing Company - Power Tube Division

RAYTHEON

TYPE 2J38

TECHNICAL INFORMATION
MAGNETRON OSCILLATOR
OUTLINE DRAWING



RAYTHEON MANUFACTURING COMPANY—POWER TUBE DIVISION

T-915-E1 **CONFIDENTIAL NO.....** 3-4-44

Security Classification: Confidential

Type 2J61-A Tentative Tunable Magnetron

GENERAL CHARACTERISTICS

Electrical

Cathode	Coated Unipotential
Filament voltage	6.3 volts
Filament current	1.5 amps
Frequency Range	3050 ± 55 Mc
Magnetic Field Strength	1300 gauss
Peak Anode Voltage	10,000 volts
Power output at .002 cuty cycle and 12.5	60 watts

Mechanical (Note)

Maximum Dimensions	- see outline drawing
Base Connections	- see outline drawing
Mounting Position	- any

Maximum Ratings

Duty Cycle*	.002
Peak Anode Voltage	14,000 volts
Peak Anode Current	15 amps
Anode Dissipation	200 watts
Anode Temperature	100 C degrees

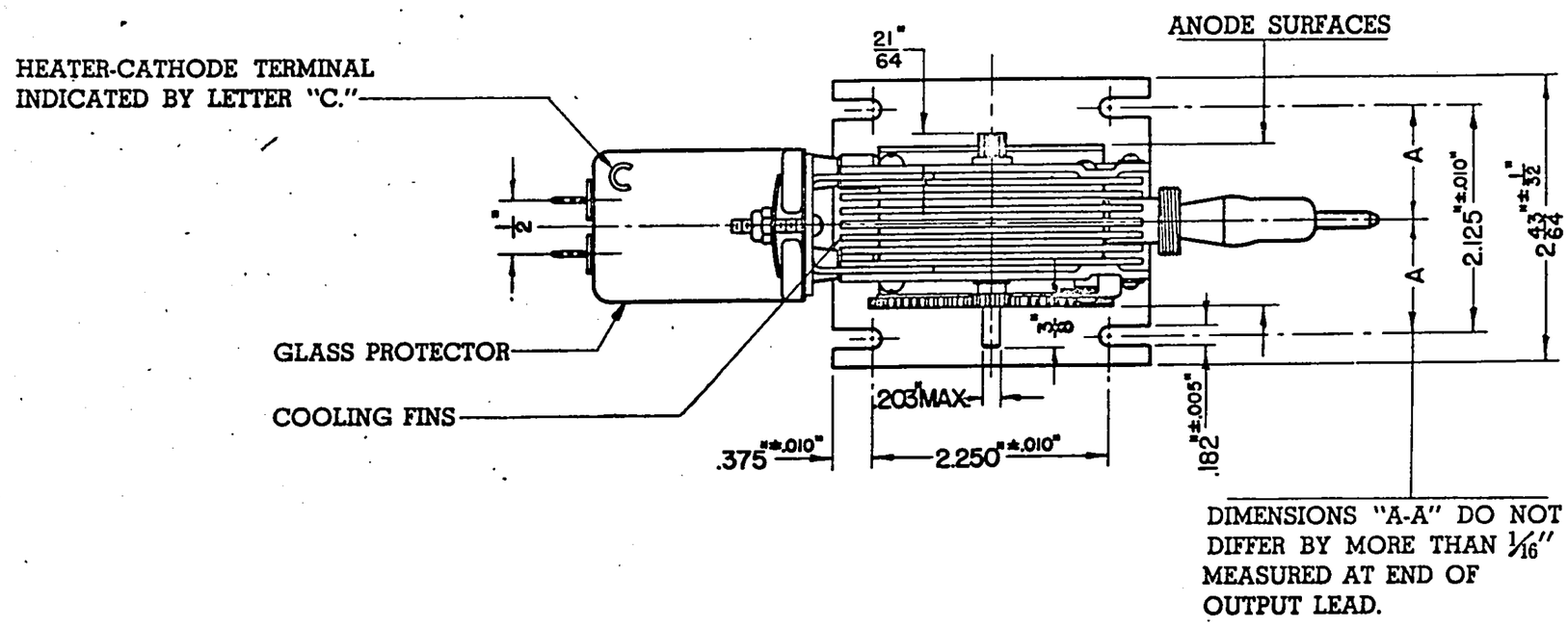
* In any 100 microsecond interval the tube shall not be operated longer than 5 microseconds.

Note: Type 2J61A is ruggedized version of 2J61. The two types are completely interchangeable.

Sponsor: Raytheon Mamufacturing Company-Power Tube Division

TECHNICAL INFORMATION
TUNABLE MAGNETRON OSCILLATOR

OUTLINE DRAWING

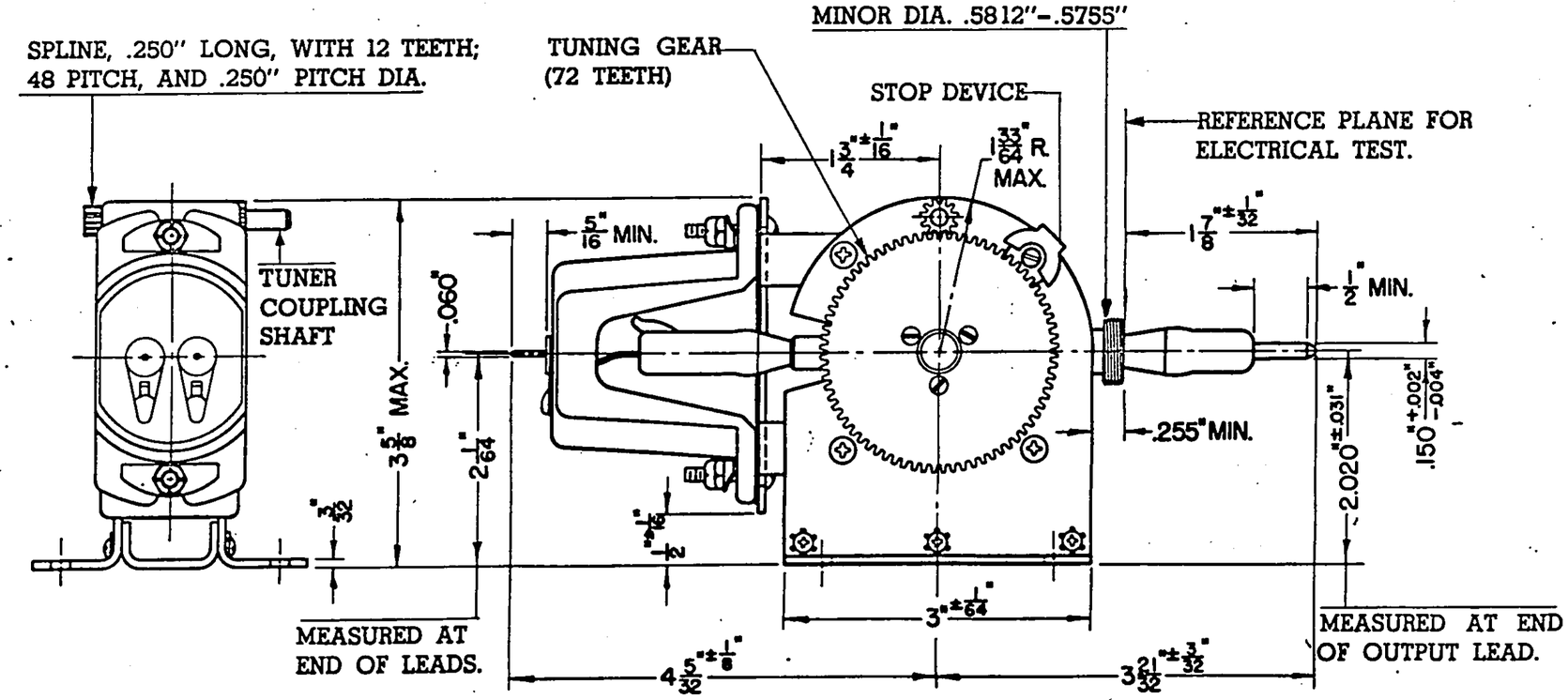


GEAR ASSEMBLED WITH STOP DEVICE TO PERMIT TWO TURNS (700 DEGREES) FOR TUNING.

ANODE AND GLASS PROTECTOR WILL PASS FREELY BETWEEN PARALLEL PLANES 1.490" APART WHEN CENTERED WITH RESPECT TO THE MOUNTING SLOTS.

OUTPUT COUPLING THREAD
.625"-27 N.S.F. THD.

MAJ. DIA. .6250"-.6168"
PITCH DIA. .6018"-.5987"
MINOR DIA. .5812"-.5755"



Security Classification: Confidential

Type 2J62-A Tentative Tunable Magnetron

GENERAL CHARACTERISTICS

Electrical

Cathode	Coated Unipotential
Filament voltage	6.3 volts
Filament current	1.5 amps
Frequency Range	2967 ± 55 Mc
Magnetic Field Strength	1300 gauss
Peak anode voltage	10,000 volts
Power output at .002 duty cycle and 12.5	60 watts

Mechanical (Note)

Maximum Dimensions - see outline drawing
Base Connections - see outline drawing
Mounting position - any

Maximum Ratings

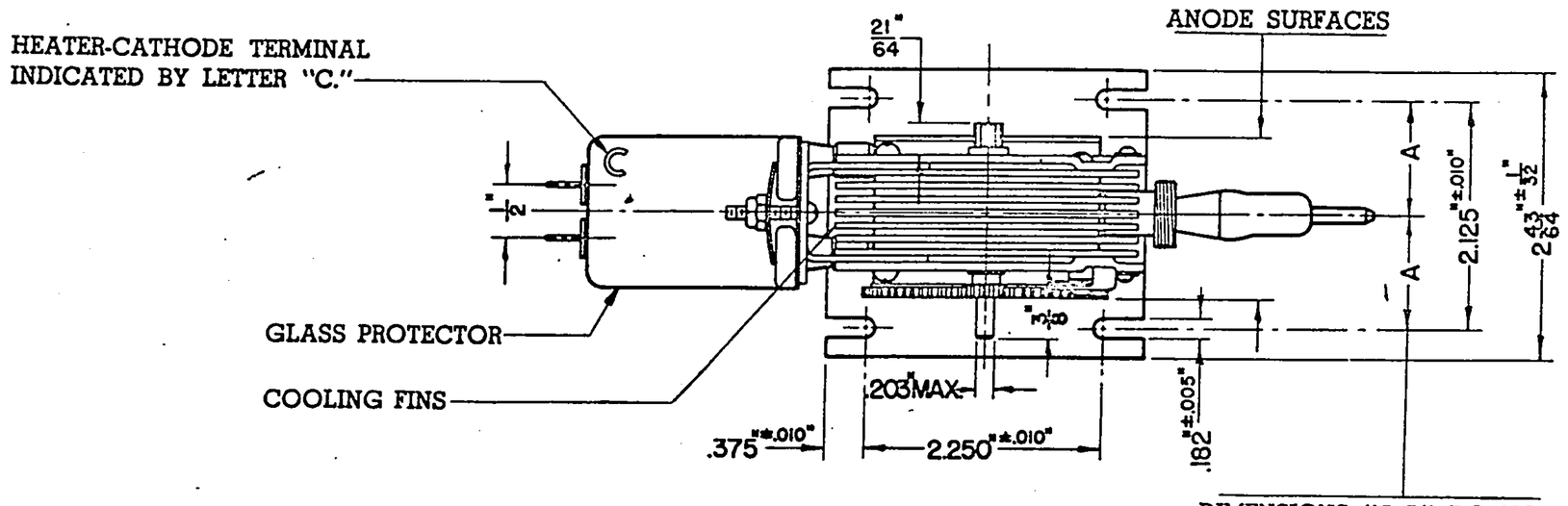
Duty Cycle *	.002
Peak Anode Voltage	14,000 volts
Peak Anode Current	15 amps
Anode dissipation	200 watts
Anode temperature	100 C degrees

* In any 100 microsecond interval, the tube shall not be operated longer than 5 microseconds.

Note: Type 2J62-A is ruggedized version of 2J62. The two types are completely interchangeable.

Sponsor: Raytheon Manufacturing Company - Power Tube Division

TECHNICAL INFORMATION
TUNABLE MAGNETRON OSCILLATOR
OUTLINE DRAWING



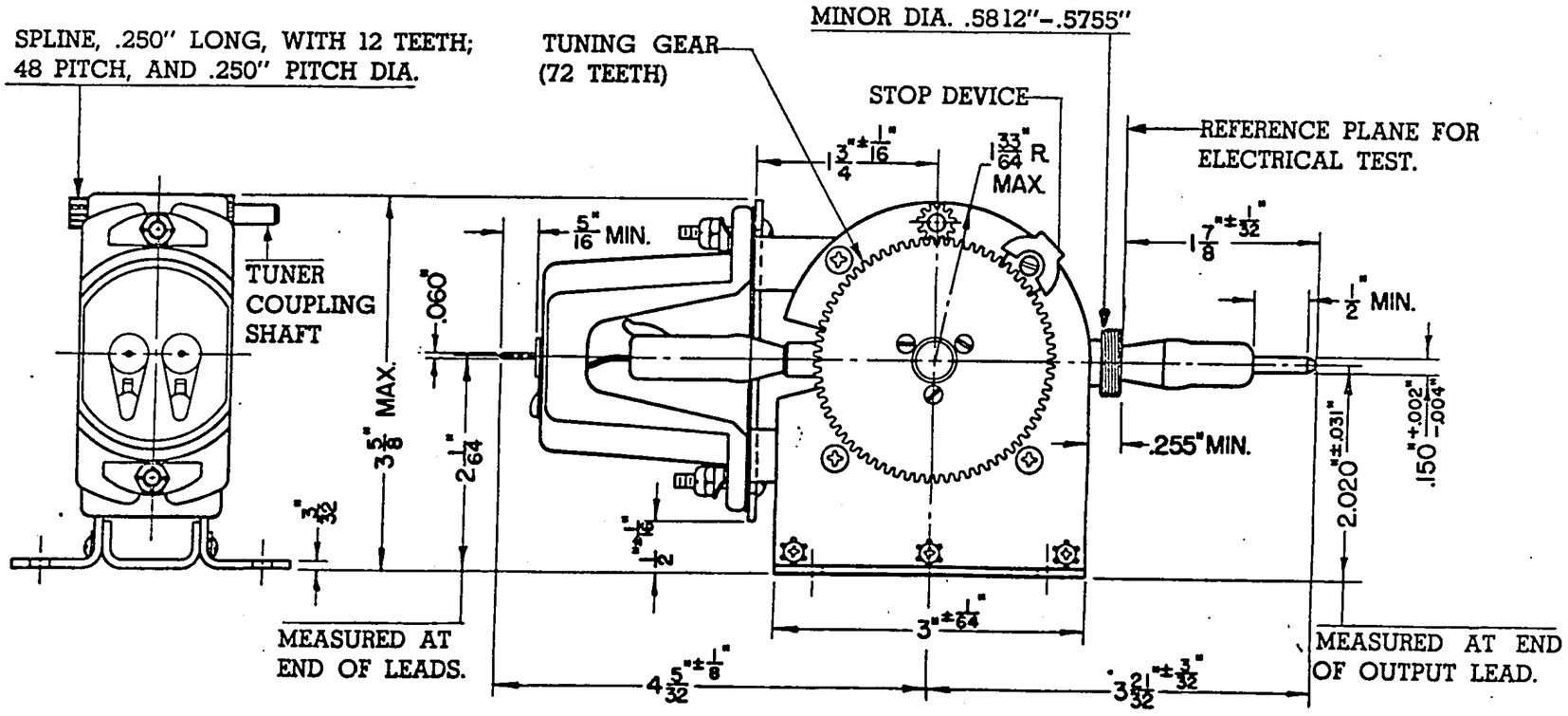
DIMENSIONS "A-A" DO NOT DIFFER BY MORE THAN 1/16" MEASURED AT END OF OUTPUT LEAD.

GEAR ASSEMBLED WITH STOP DEVICE TO PERMIT TWO TURNS (700 DEGREES) FOR TUNING.

ANODE AND GLASS PROTECTOR WILL PASS FREELY BETWEEN PARALLEL PLANES 1.490" APART WHEN CENTERED WITH RESPECT TO THE MOUNTING SLOTS.

OUTPUT COUPLING THREAD
.625"–27 N.S.F. THD.

MAJ. DIA. .6250"–.6168"
PITCH DIA. .6018"–.5987"
MINOR DIA. .5812"–.5755"



Security Classification: Confidential

Type 4J31 - 35
MAGNETRON

GENERAL CHARACTERISTICS

Electrical

Filament or Cathode	Cathode
Voltage	16 volts
Current	3.1 amps

Frequency

Type	Min.	Max.
4J31	2860	2900
4J32	2820	2860
4J33	2780	2820
4J34	2740	2780
4J35	2700	2740

Field Strength	2700 gauss
Peak Power Output	750 kilowatts

Mechanical

See Outline drawing

Maximum Ratings (Peak values for duty cycle specified)

Duty Cycle	500
Anode voltage	30 kilovolts
Anode current	75 amps
Anode dissipation	500 watts

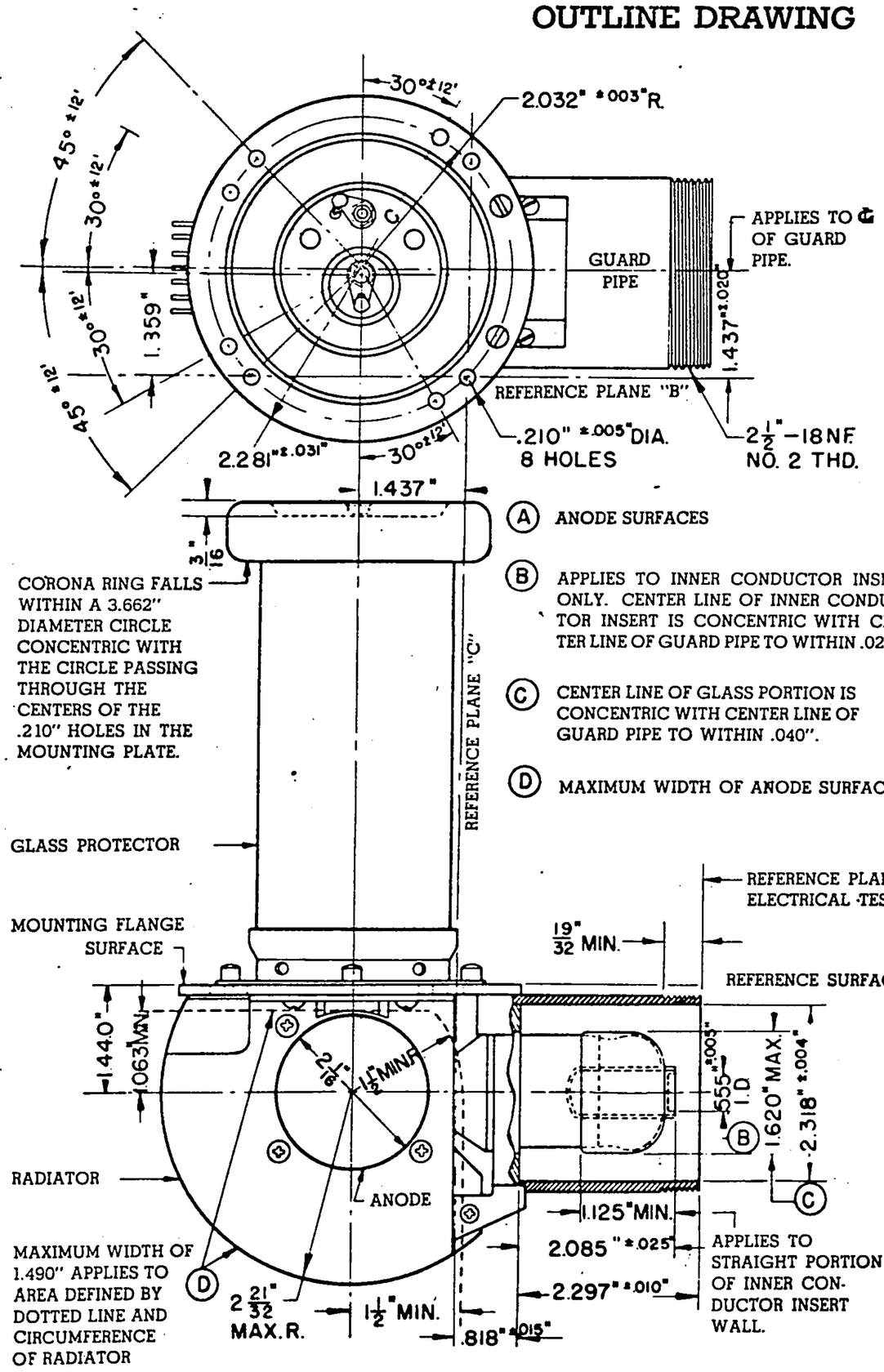
Sponsor: Raytheon Manufacturing Company - Power Tube Division

RAYTHEON

TYPE 4J31-4J35

TECHNICAL INFORMATION
MAGNETRON OSCILLATOR

OUTLINE DRAWING



Ⓐ ANODE SURFACES

Ⓑ APPLIES TO INNER CONDUCTOR INSERT ONLY. CENTER LINE OF INNER CONDUCTOR INSERT IS CONCENTRIC WITH CENTER LINE OF GUARD PIPE TO WITHIN .025".

Ⓒ CENTER LINE OF GLASS PORTION IS CONCENTRIC WITH CENTER LINE OF GUARD PIPE TO WITHIN .040".

Ⓓ MAXIMUM WIDTH OF ANODE SURFACES.

COMMON HEATER-CATHODE CONNECTION INDICATED BY LETTER "C".

SOLDERED JOINTS IN THE MOUNTING FLANGE AND OUTPUT PIPE ARE VACUUM TIGHT TO PROVIDE A HERMETIC SEAL. ALL POINTS ON THE REFERENCE SURFACE ARE FLAT TO WITHIN .015" FOR ½" FROM OUTER EDGE.

LOCKING TYPE PIN JACKS ARE SPACED .797" ±.015" WITH RESPECT TO EACH OTHER AND ARE WITHIN A RADIUS OF .100" OF THE LOCATION SPECIFIED. PIN JACKS WILL FIT G. R. 274 BANANA PLUG AND ARE 19/32" LONG.