OCT 22 1948

RADIO MANUFACTURERS ASSOCIATION

SUITE 701-4 AMERICAN BUILDING
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REGISTRATION
FILE

R.M.A. DATA BUREAU
90 West Street
New York, N. Y.

Release No. 703

October 19, 1948

To
Tube Engineers:

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

3J21	(Registration No.	1545)
4J21	" "	1546)
4J22	" "	1547)
4J23	" "	1548)
4J24	" "	1549)
4J25	" "	1550)
4J26	" "	1551)
4J27	" "	1552)
4J28	" "	1553)
4J29	" "	1554)
4J30	" "	1555)
4J52	" "	1556)
5J21	" "	1557)
5J22	" "	1558)
5J23	" "	1559)
5J24	" "	1560)
5J25	" "	1561)
5J26	" "	1562)

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

Western Electric Company
New York, N. Y.

Respectfully yours,

RMA DATA BUREAU

By L. C. Horle

LCFHorle/cap
Enc.

WESTERN ELECTRIC 3J21 ELECTRON TUBE

TYPE DESIGNATION REGISTRATION

Reservation No.: 5222 Manufacturers Designation: 1456
Reservation Date: 10/2/44 Data Bureau Designation: 3J21

U.H.F. MAGNETRON - PACKAGED TYPE

Electrical Date - General

Heater Voltage	12.6 volts
Heater Current	1.6 amperes
Cathode Heating Time	3 minutes
Frequency	23,746-24,226 megacycles
Frequency Pulling (max.)	18 megacycles
Frequency Change with Anode Temperature (max.)	0.45 megacycle per degree C

Mechanical Data - See Outline Drawing

Maximum Ratings, Absolute Values

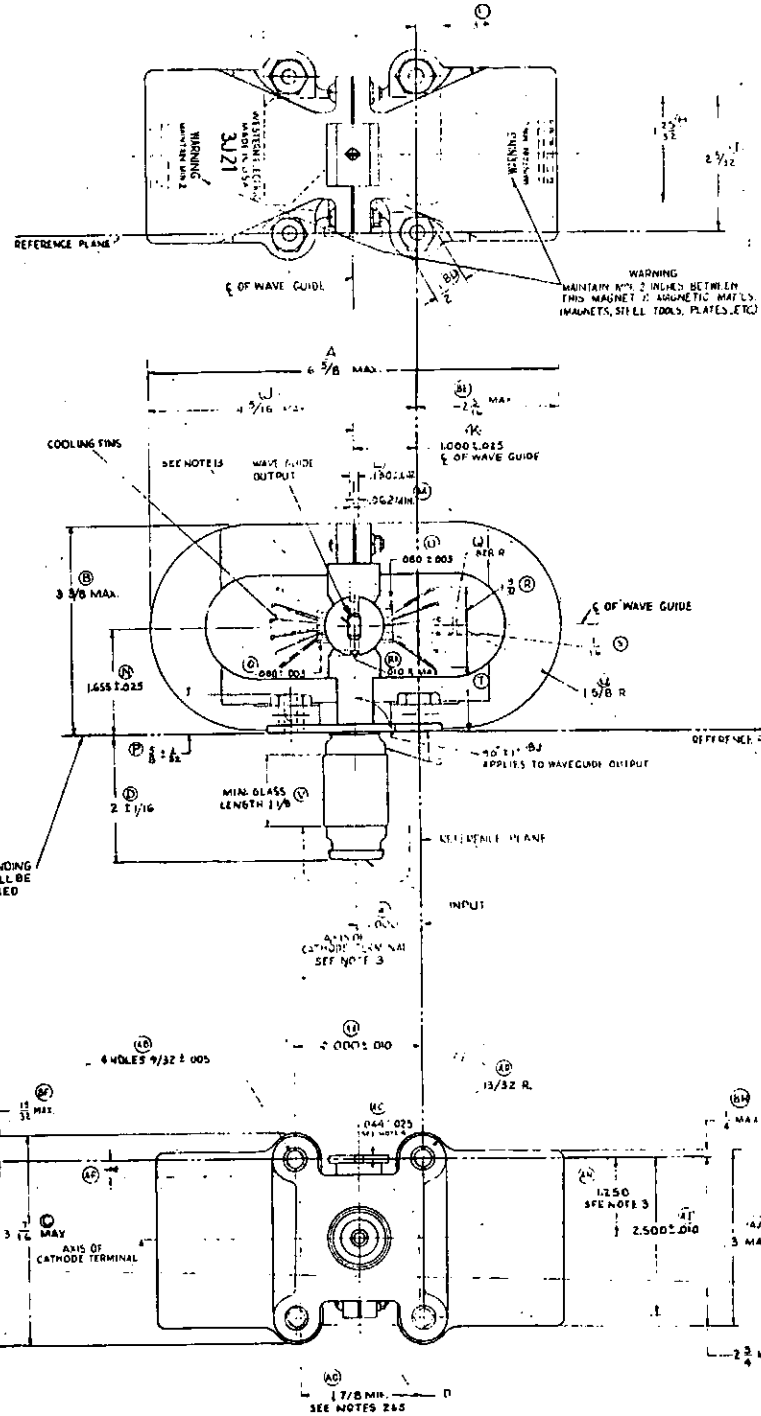
Peak Anode Voltage	15	16	kilovolts
Peak Anode Current	10	16	amperes
Peak Power Input	150	225	kilowatts
Average Power Input	150	110	watts
Duty Cycle	.001	.0006	
Pulse Duration	0.55	0.55	microseconds
Anode Temperature	150°	150°	Centigrade
Operation Time in 100 Microsecond Interval	0.6	0.6	microsecond

Typical Operation

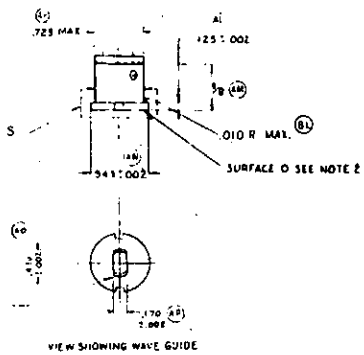
Heater Voltage *			
Magnetic Field	Integral Magnet		
Peak Anode Voltage	15	15	kilovolts
Peak Anode Current	15	15	amperes
Pulse Repetition Rate	1000	2000	pulses/second
Pulse Duration	0.5	0.25	microseconds
Peak Power Output	60	60	kilowatts
Maximum R.F. Bandwidth	6	12	megacycles

*During high voltage operation the heater voltage must be reduced so that the cathode operates at approximately 820°C.

Note: This sheet does not imply commercial availability of the tube.

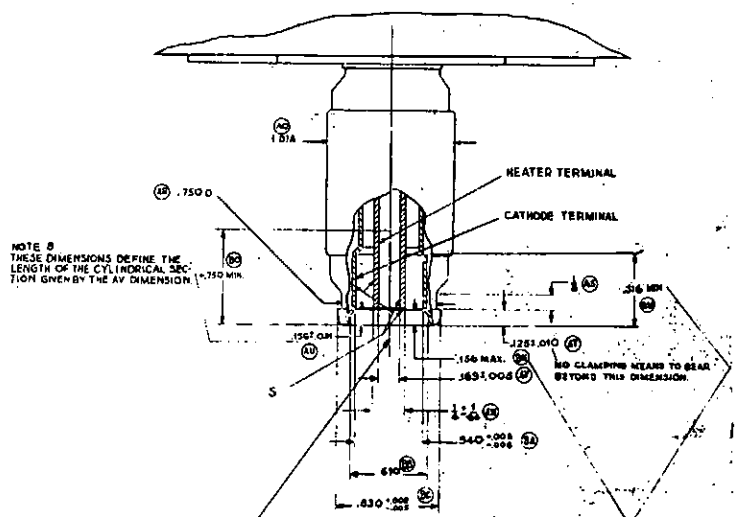


NOTE 7
ANY PORTION OF THE ASSEMBLY EXTENDING BELOW THIS REFERENCE PLANE SHALL BE WITHIN A 5/8 RADIUS OF THE SPECIFIED AXIS OF THE INPUT



NOTE 11
THIS OPENING TO BE CONCENTRIC WITH .943 DIA. WITHIN .003

VIEW SHOWING WAVE GUIDE



NOTE 8
THESE DIMENSIONS DEFINE THE LENGTH OF THE CYLINDRICAL SECTION GIVEN BY THE AV DIMENSION

NOTE 10
THE HEATER TERMINAL SHALL BE CONCENTRIC WITH THE CATHODE TERMINAL WITHIN .010

NOTE 9
THESE DIMENSIONS DEFINE THE LENGTH OF THE CYLINDRICAL SECTION GIVEN BY THE BA DIMENSIONS.

ENLARGED VIEW OF INPUT

NOTE 1: ALL METAL SURFACES COVERED BY BLACK FINISH EXCEPT THOSE MARKED S AND D WHICH SHALL BE SILVER OR NICKEL PLATED

NOTE 2: HERMETIC CONNECTIONS CAN BE MADE TO SURFACES D

NOTE 3: THE AXIS OF THE CATHODE TERMINAL SHALL BE WITHIN A RADIUS OF 3/64 OF THE SPECIFIED LOCATION. LIMIT INCLUDES ANGULAR DEVIATION.

NOTE 4: THIS SURFACE SHALL BE COPLANAR WITH REFERENCE PLANE WITHIN ±1°.

NOTE 5: WITH THE 1/8 R DIA RESTING ON A PLANE SURFACE, A .010 THICKNESS GAUGE 1/8 WIDE SHALL NOT ENTER.

NOTE 6: DIMENSIONS WITHOUT LIMITS ARE FOR EQUIPMENT DESIGN PURPOSES ONLY AND NEED NOT BE CHECKED.

NOTE 12: ON GOVERNMENT ORDERS THE INITIAL ISSUE OF THIS DRAWING AND ALL SUBSEQUENT CHANGES ARE SUBJECT TO APPROVAL BY THE SERVICES

NOTE 13: THE OPENING IN THE WAVEGUIDE SHALL BE ENCLOSED BY DUST COVER WHEN TUBE IS NOT IN USE.

WESTERN ELECTRIC 4J21 to 4J25 ELECTRON TUBES

TYPE DESIGNATION REGISTRATION

Reservation Nos.: 5077 to 5081 Manufacturers Designation: 1402M
Reservation Date: 7/2/43 Data Bureau Designation: 4J21 to 4J25

U.H.F. MAGNETRONS

Electrical Data - General

Heater Voltage	20.5	volts
Heater Current	2.2	amperes
Cathode Heating Time	3	minutes
Frequency	4J21 = 1336-1350	megacycles
	4J22 = 1322-1336	megacycles
	4J23 = 1308-1322	megacycles
	4J24 = 1294-1308	megacycles
	4J25 = 1280-1294	megacycles
Frequency Pulling (Max.)	6.0	megacycles
Frequency Change with Anode Temperature (Max.)	.03	megacycles per degree C

Mechanical Data - See Outlint Drawing

Maximum Ratings, Absolute Values

Peak Anode Voltage	30	kilovolts
Peak Anode Current	60	amperes
Peak Power Input	1500	kilowatts
Average Power Input	1500	watts
Duty Cycle	0.002	
Pulse Duration	6.0	microseconds
Anode Temperature	100°	Centigrade
Operation Time in 100 Microsecond Interval	8	microseconds

Typical Operation

Heater Voltage *		
Magnetic Field	1400	gauss
Peak Anode Voltage	26.5	kilovolts
Peak Anode Current	48	amperes
Pulse Repetition Rate	200	pulses/second
Pulse Duration	5	microseconds
Peak Power Output	640	kilowatts
Maximum R.F. Bandwidth	4	megacycles

* During high voltage operation, the heater voltage must be reduced so that the cathode operates at appoximately 820°C.

Note: This sheet does not imply commercial availability of the tube.

NOTE 1
THE CONCENTRICITY OF THESE DIMENSIONS WITH RESPECT TO EACH OTHER SHALL BE CONSIDERED SATISFIED IF THEY MEET THE FOLLOWING CONDITIONS: CONCENTRIC TUBES AND PLUG MEASURING 2.315" I.D. X 1.926" O.D. X 1.600" I.D. AND .530 DIA. MUST PASS FREELY INTO OR OVER THESE PARTS TO THE DISTANCES INDICATED IN NOTES 2 AND 5.

NOTE 2
DEPTH TO WHICH THE 1.926 I.D. X 1.600 I.D. TUBE IN NOTE 1 MUST PENETRATE.

NOTE 3
ZONES A-A MUST BE CAPABLE OF BEING INSERTED BETWEEN TWO PARALLEL PLANES 3.540" APART, WHICH ARE EQUIDISTANT FROM THE AXIS OF A 2.315" DIA. TUBE INTO WHICH THE SUPPORT TUBING IS INSERTED. THE LOCATING PIN MUST FALL BETWEEN PARALLEL PLANES .150 APART EQUIDISTANT FROM THE Y Y AXIS AND NORMAL TO THE ABOVE NOTED PLANES 3.540 APART.

NOTE 4
THIS COUNTERSINK SHALL BE CAPABLE OF ACCEPTING A CONE HAVING A 60° INCLUDED ANGLE AND A BASE DIAMETER OF .234" AND SHALL REJECT A SIMILAR CONE HAVING A BASE DIAMETER OF .254"

NOTE 5
DEPTH TO WHICH THE .530" DIA. PLUG IN NOTE 1 MUST PENETRATE

NOTE 6
ROUNDED EDGES

NOTE 7
CONTOUR OF GLASS MAY VARY FROM THAT SHOWN WITHIN LIMITING BOUNDS OF NOTE.

ENLARGED

NOTE 8
PROTECTIVE CAP SHALL BE IN PLACE WHEN TUBE IS NOT IN USE.

NOTE 9
JACK HOLES- .169 ± .005 DIA. 19/32 DEEP MIN.

CATHODE-HEATER TERMINAL

HEATER TERMINAL

LOCATING PIN ROUNDED END

NOTE 12
ALL SURFACES IN THIS AREA TO HAVE A BLACK FINISH.

JAN-4J21
JAN-4J24
JAN-4J21
JAN-4J24
JAN-4J25
} CODE NUMBER TO CORRESPOND TO TUBE TYPE.

JAN MARKING TO BE IN ACCORDANCE WITH PARA. 5.6 TO ETC INCLUSIVE SPEC JAN-1A

NOTE 13

NOTE 14
RADIATORS NUMBER OF RADIATOR FINS MAY VARY

NOTE 11
2.3125"-16 N.S.F. THREAD
5 FULL THREADS MIN

MAX. MAJ. DIA.	-2.3120
MIN. MAJ. DIA.	-2.2980
MAX. PITCH DIA.	-2.2714
MIN. PITCH DIA.	-2.2629
MAX. MINOR DIA.	-2.2353

NOTE 15
"MAX" AND "MIN" SHALL BE CONSIDERED AS AXIS OF SUPPORT.

NOTE 16
THE JACK HOLES SHALL BE WITHIN A RADIUS OF .250 OF THE SPECIFIED LOCATION BUT SHALL BE SPACED .300 ± .003 WITH RESPECT TO EACH OTHER. THE CENTER LINES OF THE JACK HOLES SHALL BE PARALLEL TO ONE ANOTHER WITHIN 3°

WESTERN ELECTRIC 4J26 to 4J30 ELECTRON TUBES
TYPE DESIGNATION REGISTRATION

Reservation Nos.: 5083 to 5087 Manufacturers Designation: 1402M
Reservation Date: 7/16/43 Data Bureau Designation: 4J26 to 4J30

U.H.F. MAGNETRONS

Electrical Data - General

Heater Voltage	23.5	volts
Heater Current	2.2	amperes
Cathode Heating Time	3	minutes
Frequency	4J26 = 1268-1280	megacycles
	4J27 = 1256-1268	megacycles
	4J28 = 1244-1256	megacycles
	4J29 = 1232-1244	megacycles
	4J30 = 1220-1232	megacycles
Frequency Pulling (Max.)	5.5	megacycles
Frequency Change with Anode Temperature (Max.)	.03	megacycles per degree C

Mechanical Data - See Outline Drawing

Maximum Ratings, Absolute Values

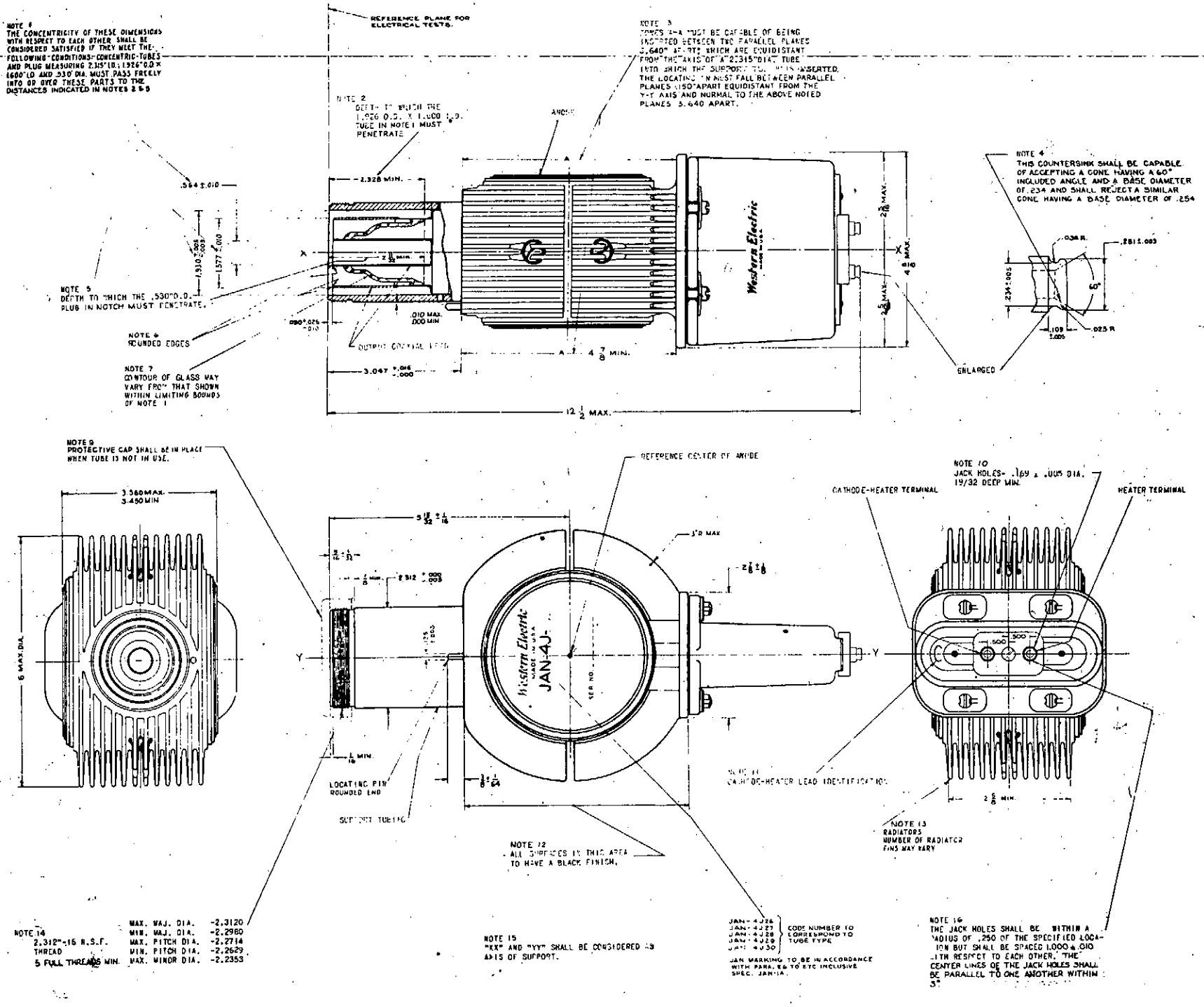
Peak Anode Voltage	30	kilovolts
Peak Anode Current	60	amperes
Peak Power Input	1500	kilowatts
Average Power Input	1500	watts
Duty Cycle	.002	
Pulse Duration	6.0	microseconds
Anode Temperature	100°	Centigrade
Operation Time in 100 Microsecond Interval	8	microseconds

Typical Operation

Heater Voltage *		
Magnetic Field	1400	gauss
Peak Anode Voltage	27	kilovolts
Peak Anode Current	46	amperes
Pulse Repetition Rate	200	pulses/second
Pulse Duration	5	microseconds
Peak Power Output	700	kilowatts
Maximum R.F. Bandwidth	4	megacycles

* During high voltage operation, the heater voltage must be reduced so that the cathode operates at approximately 820°C.

Note: This sheet does not imply commercial availability of the tube.


NOTE 1
THE CONCENTRICITY OF THESE DIMENSIONS WITH RESPECT TO EACH OTHER SHALL BE CONSIDERED SATISFIED IF THEY MEET THE FOLLOWING CONDITIONS: CONCENTRIC TUBES AND PLUG MEASURING 2.315"I.D. 1.926"O.D. X 1.600"I.D. AND .530" DIA. MUST PASS FREELY INTO OR OVER THESE PARTS TO THE DISTANCES INDICATED IN NOTES 2 & 5
REFERENCE PLANE FOR ELECTRICAL TESTS.
NOTE 3
TUBES MUST BE CAPABLE OF BEING INSERTED BETWEEN TWO PARALLEL PLANES 3.640" APART WHICH ARE EQUIDISTANT FROM THE "X" AXIS OF A 2.345" DIA. TUBE INTO WHICH THE SUPPORT TUBING IS INSERTED. THE LOCATING PIN MUST FALL BETWEEN PARALLEL PLANES .150" APART EQUIDISTANT FROM THE Y-Y AXIS AND NORMAL TO THE ABOVE NOTED PLANES 3.640 APART.
NOTE 2
DEPTH TO WHICH THE 1.926 O.D. X 1.600 I.D. TUBE IN NOTE 1 MUST PENETRATE
ANODE
.564 ± .010
1.310 +.005 -.003
1.577 ± .010
NOTE 5
DEPTH TO WHICH THE .530 O.D. PLUG IN NOTCH MUST PENETRATE.
NOTE 6
ROUNDED EDGES
NOTE 7
CONTOUR OF GLASS MAY VARY FROM THAT SHOWN WITHIN LIMITING BOUNDS OF NOTE 1
2.328 MIN.
.080 +.025 -.010
.010 MAX. .000 MIN
OUTPUT COAXIAL LEAD
3.047 +.046 -.000
4 7/8 MIN.
12 1/2 MAX.
Western Electric
2.78 MAX.
4.140 MAX.
2.25 MAX.
NOTE 4
THIS COUNTERSINK SHALL BE CAPABLE OF ACCEPTING A CONE HAVING A 60° INCLUDED ANGLE AND A BASE DIAMETER OF .234 AND SHALL REJECT A SIMILAR CONE HAVING A BASE DIAMETER OF .254
.038 R.
.281 ± .003
.234 +.005 -.000
60°
.109 ±.005
.025 R
ENLARGED
NOTE 9
PROTECTIVE CAP SHALL BE IN PLACE WHEN TUBE IS NOT IN USE.
3.380 MAX. 3.450 MIN
6 MAX. DIA.
5 13/32 ± 1/16
3/16 ± 1/32
1/8 MIN.
2.312 +.000 -.005
.125 +.005 -.000
1/16 MIN.
LOCATING PIN ROUNDED END
SUPPORT TUBING
1/8 ± 1/64
REFERENCE CENTER OF ANODE
3/8 R MAX
2 3/8 ± 1/8
Western Electric
MADE IN U.S.A.
JAN-4J-
SER NO.
NOTE 12
ALL SURFACES IN THIS AREA TO HAVE A BLACK FINISH.
NOTE 10
JACK HOLES- .169 ± .005 DIA. 19/32 DEEP MIN.
CATHODE-HEATER TERMINAL
HEATER TERMINAL
.500
.300
NOTE 11
CATHODE-HEATER LEAD IDENTIFICATION
2 5/8 MIN.
NOTE 13
RADIATORS
NUMBER OF RADIATOR FINS MAY VARY
NOTE 14
2.312"-16 N.S.F. THREAD
5 FULL THREADS MIN.
MAX. MAJ. DIA. -2.3120
MIN. MAJ. DIA. -2.2960
MAX. PITCH DIA. -2.2714
MIN. PITCH DIA. -2.2629
MAX. MINOR DIA. -2.2353
NOTE 15
"XX" AND "YY" SHALL BE CONSIDERED AS AXIS OF SUPPORT.
JAN-4J26
JAN-4J27
JAN-4J28
JAN-4J29
JAN-4J30
CODE NUMBER TO CORRESPOND TO TUBE TYPE
JAN MARKING TO BE IN ACCORDANCE WITH PARA. 6a TO 6TC INCLUSIVE SPEC. JAN-1A.
NOTE 16
THE JACK HOLES SHALL BE WITHIN A RADIUS OF .250 OF THE SPECIFIED LOCATION BUT SHALL BE SPACED 1.000 ± .010 WITH RESPECT TO EACH OTHER. THE CENTER LINES OF THE JACK HOLES SHALL BE PARALLEL TO ONE ANOTHER WITHIN 3°

WESTERN ELECTRIC 4J52 ELECTRON TUBE

TYPE DESIGNATION REGISTRATION

Reservation No.: 5233 Manufacturers Designation: 1471
Reservation Date: 11/6/44 Data Bureau Designation: 4J52

U.H.F. MAGNETRON - PACKAGED TYPE

Electrical Data - General

Heater Voltage	12.6 volts
Heater Current	2.1 amperes
Cathode Heating Time	4 minutes
Frequency	9345-9405 megacycles
Frequency Pulling (Max.)	15 megacycles
Frequency Change with Anode Temperature (Max.)	.25 megacycles per degree C

Mechanical Data - See Outline Drawing

Maximum Ratings, Absolute Values

Peak Anode Voltage	16	16 kilovolts
Peak Anode Current	20	30 amperes
Peak Power Input *	300	450 kilowatts
Average Power Input	300	450 watts
Duty Cycle	.002	.002
Pulse Duration	6.0	1.2 microseconds
Anode Temperature	150	150° Centigrade
Operation Time in 100 Microsecond Interval	6	6 microseconds

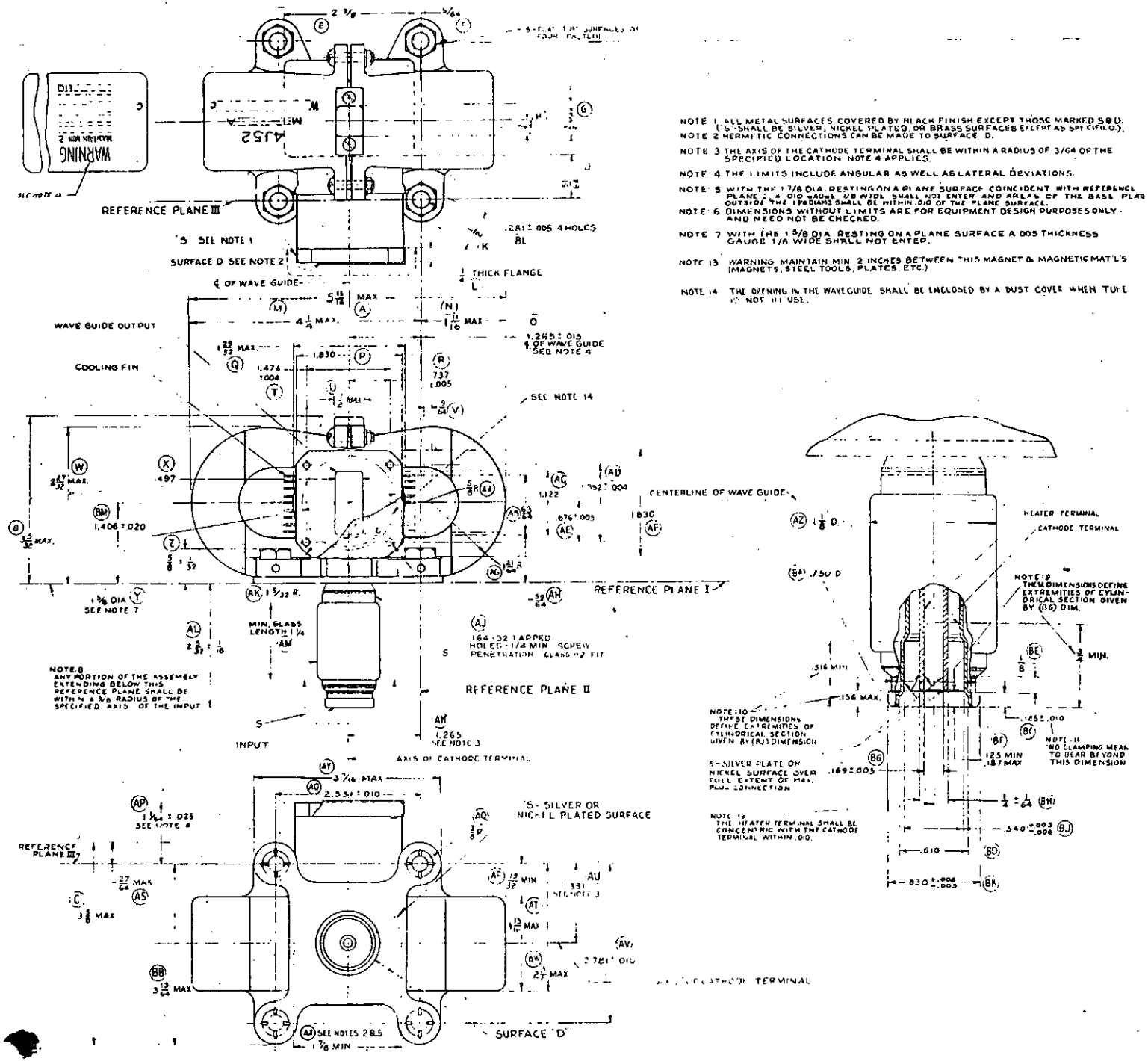
Typical Operation

Heater Voltage **		
Magnetic Field	Integral Magnet	
Peak Anode Voltage	15	15 kilovolts
Peak Anode Current	15	15 amperes
Pulse Repetition Rate	1000	200 pulses/second
Pulse Duration	1	5.5 microseconds
Peak Power Output	100	100 kilowatts
Maximum R.F. Bandwidth	3	3 megacycles

* Tube shall not be operated at maximum peak input power at pressure of less than 60 cm Hg.

** During high voltage operation, the heater voltage must be reduced so that the cathode operates at approximately 820°C.

Note: This sheet does not imply commercial availability of the tube.



NOTE 1 ALL METAL SURFACES COVERED BY BLACK FINISH EXCEPT THOSE MARKED S&D. (S - SHALL BE SILVER, NICKEL PLATED, OR BRASS SURFACES EXCEPT AS SPECIFIED).

NOTE 2 HERMETIC CONNECTIONS CAN BE MADE TO SURFACE D.

NOTE 3 THE AXIS OF THE CATHODE TERMINAL SHALL BE WITHIN A RADIUS OF 3/64 OF THE SPECIFIED LOCATION. NOTE 4 APPLIES.

NOTE 4 THE LIMITS INCLUDE ANGULAR AS WELL AS LATERAL DEVIATIONS.

NOTE 5 WITH THE 1 7/8 DIA. RESTING ON A PLANE SURFACE COINCIDENT WITH REFERENCE PLANE I, A .010 GAUGE 1/8 WIDE, SHALL NOT ENTER AND AREAS OF THE BASE PLATE OUTSIDE THE 1 7/8 DIAM. SHALL BE WITHIN .010 OF THE PLANE SURFACE.

NOTE 6 DIMENSIONS WITHOUT LIMITS ARE FOR EQUIPMENT DESIGN PURPOSES ONLY - AND NEED NOT BE CHECKED.

NOTE 7 WITH THIS 1 5/8 DIA. RESTING ON A PLANE SURFACE A .005 THICKNESS GAUGE 1/8 WIDE SHALL NOT ENTER.

NOTE 13 WARNING MAINTAIN MIN. 2 INCHES BETWEEN THIS MAGNET & MAGNETIC MAT'L'S (MAGNETS, STEEL TOOLS, PLATES, ETC.)

NOTE 14 THE OPENING IN THE WAVEGUIDE SHALL BE ENCLOSED BY A DUST COVER WHEN TUBE IS NOT IN USE.

WESTERN ELECTRIC 5J21 to 5J25 ELECTRON TUBES

TYPE DESIGNATION REGISTRATION

Reservation Nos.: 5038 to 5042 Manufacturers Designation: 1382M
Reservation Date: 1/22/43 Data Bureau Designation: 5J21 to 5J25

U.H.F. MAGNETRONS

Electrical Data - General

Heater Voltage	20.5 volts
Heater Current	3.4 amperes
Cathode Heating Time	3 minutes
Frequency	5J21 = 1098-1110 megacycles
	5J22 = 1086-1098 megacycles
	5J23 = 1074-1086 megacycles
	5J24 = 1062-1074 megacycles
	5J25 = 1050-1062 megacycles
Frequency Pulling (Max.)	5.5 megacycles
Frequency Change with Anode Temperature (Max.)	.03 megacycles per degree C

Mechanical Data - See Tube Outline

Maximum Ratings, Absolute Values

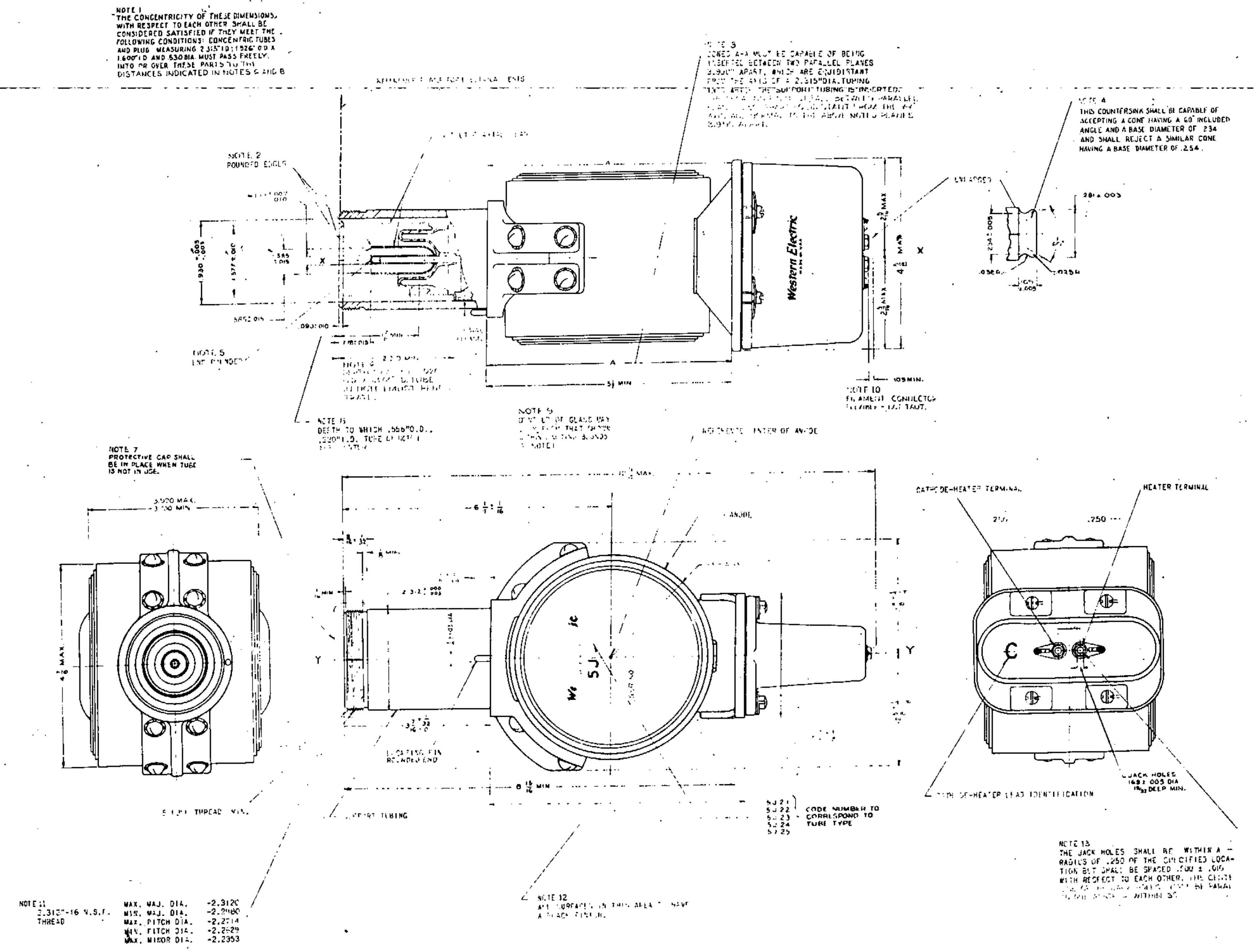
Peak Anode Voltage	25 kilovolts
Peak Anode Current	30 amperes
Peak Power Input	750 kilowatts
Average Power Input	750 watts
Duty Cycle	.001
Pulse Duration	2.0 microseconds
Anode Temperature	100° Centigrade
Operation Time in 100 Microsecond Interval	5 microseconds

Typical Operation

Heater Voltage *	
Magnetic Field	900 gauss
Peak Anode Voltage	19 kilovolts
Peak Anode Current	24 amperes
Pulse Repetition Rate	1000 pulses/second
Pulse Duration	1.5 microseconds
Peak Power Output	250 kilowatts
Maximum R. F. Bandwidth	4 megacycles

* During high voltage operation, the heater voltage must be reduced so that the cathode operates at approximately 820°C.

Note: This tube is obsolete and manufacturing facilities are no longer available.



NOTE 1
THE CONCENTRICITY OF THESE DIMENSIONS, WITH RESPECT TO EACH OTHER SHALL BE CONSIDERED SATISFIED IF THEY MEET THE FOLLOWING CONDITIONS: CONCENTRIC TUBES AND PLUG MEASURING 2.315"I.D.; 1.526" O.D. & 1.600"I.D. AND .530 DIA. MUST PASS FREELY INTO OR OVER THESE PARTS TO THE DISTANCES INDICATED IN NOTES 6 AND 8
NOTE 2
ROUNDED EDGES
NOTE 4
THIS COUNTERSINK SHALL BE CAPABLE OF ACCEPTING A CONE HAVING A 60° INCLUDED ANGLE AND A BASE DIAMETER OF .234 AND SHALL REJECT A SIMILAR CONE HAVING A BASE DIAMETER OF .254.
ENLARGED
Western Electric
NOTE 7
PROTECTIVE CAP SHALL BE IN PLACE WHEN TUBE IS NOT IN USE.
CATHODE-HEATER TERMINAL
HEATER TERMINAL
ANODE
5J
CODE NUMBER TO CORRESPOND TO TUBE TYPE
5J21
5J22
5J23
5J24
5J25
JACK HOLES
.169 ± .005 DIA
15/32 DEEP MIN.
NOTE 11
2.3125-16 N.S.F. THREAD
MAX. MAJ. DIA. -2.3120
MIN. MAJ. DIA. -2.2980
MAX. PITCH DIA. -2.2714
MIN. PITCH DIA. -2.2629
MAX. MINOR DIA. -2.2353

WESTERN ELECTRIC 5J26 ELECTRON TUBE
TYPE DESIGNATION REGISTRATION

Reservation No.: 5290 Manufacturers Designation: 1475M
Reservation Date: 3/14/45 Data Bureau Designation: 5J26

U.H.F. MAGNETRON

Electrical Data - General

Heater Voltage	23.5 volts
Heater Current	2.2 amperes
Cathode Heating Time	3 minutes
Frequency	1220-1350 megacycles

Mechanical Data - See Outline Drawing

Maximum Ratings, Absolute Values

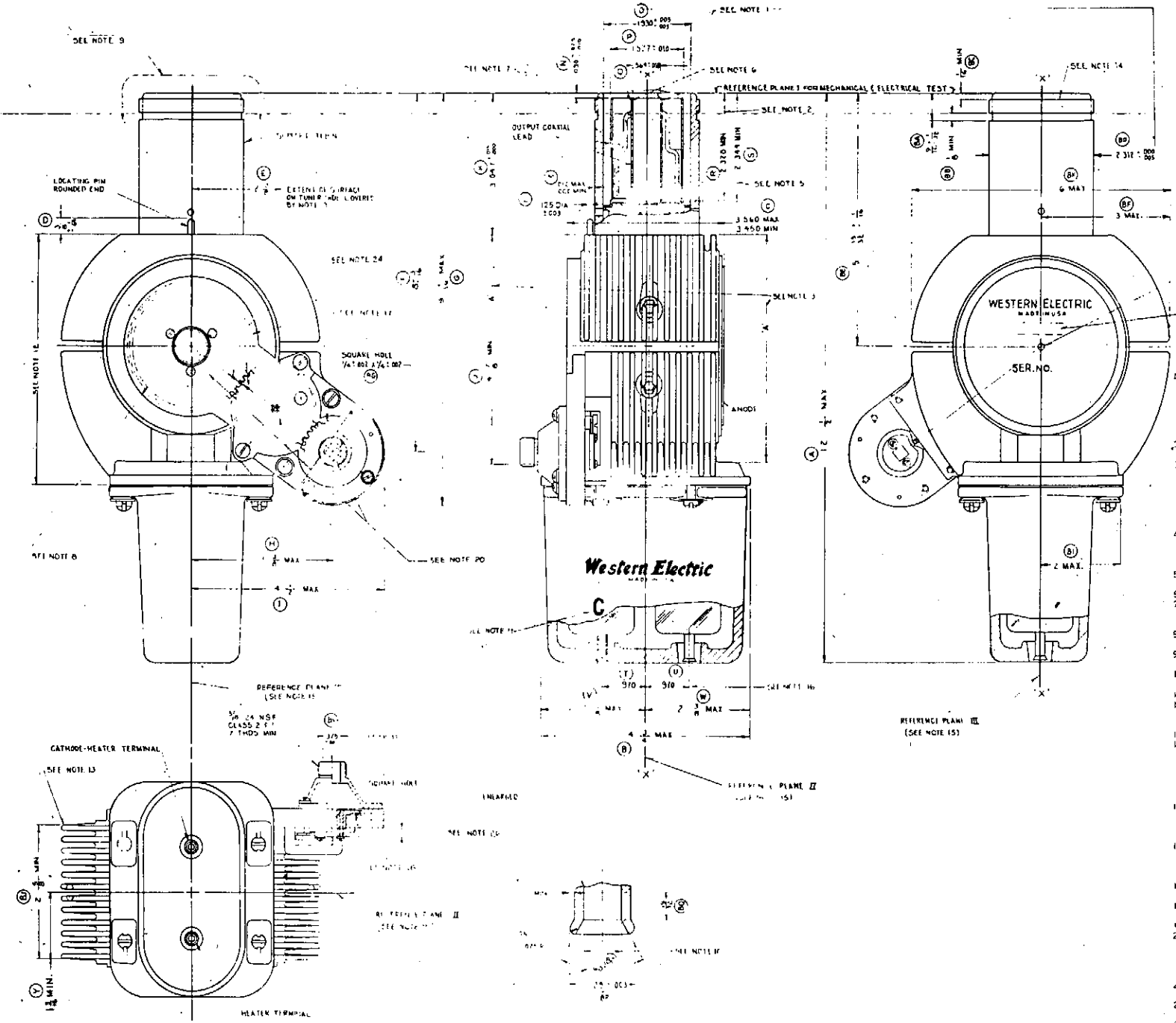
Peak Anode Voltage	31 kilovolts
Peak Anode Current	60 amperes
Peak Power Input	1800 kilowatts
Average Power Input	1800 watts
Duty Cycle	.002
Pulse Duration	6.0 microseconds
Anode Temperature	125° Centigrade
Operation Time in 100 Microsecond Interval	8 microseconds

Typical Operation

Heater Voltage *	
Magnetic Field	1400 gauss
Peak Anode Voltage	27 kilovolts
Peak Anode Current	46 amperes
Pulse Repetition Rate	1000 pulses/second
Pulse Duration	1 microsecond
Peak Power Output	600 kilowatts

* During high voltage operation the heater voltage must be reduced so that the cathode operates at approximately 820°C.

Note: This sheet does not imply commercail availability of the tube.



NOTES:

1. THE CONCENTRICITY OF THESE DIMENSIONS WITH RESPECT TO EACH OTHER SHALL BE CONSIDERED SATISFIED IF THEY MEET THE FOLLOWING CONDITIONS: CONCENTRIC TUBES & PLUG MEASURING 2.315 I.D., 1.926 O.D. X 1.600 I.D. & .530 DIA. MUST PASS FREELY INTO OR OVER THESE PARTS TO THE DISTANCES INDICATED IN NOTES 2 & 5.
2. DEPTH TO WHICH THE 1.926 O.D. X 1.600 I.D. TUBE OF NOTE 1 MUST PENETRATE.
3. ZONE "A"-"A" MUST BE CAPABLE OF BEING INSERTED BETWEEN TWO PARALLEL PLANES 3.560 APART; WHICH ARE EQUIDISTANT FROM THE AXIS OF A 2.315 DIA. TUBE INTO WHICH THE SUPPORT TUBE IS INSERTED. THE LOCATING PIN MUST FALL BETWEEN PARALLEL PLANES .150 APART EQUIDISTANT FROM THE "X"-"X" AXIS & NORMAL TO THE ABOVE NOTED PLANES 3.560 APART.
4. THIS COUNTERSINK SHALL BE CAPABLE OF ACCEPTING A CONE HAVING A 60° INCLUDED ANGLE & A BASE DIA. OF .234 & SHALL REJECT A SIMILAR CONE HAVING A BASE DIA. OF .204.
5. DEPTH TO WHICH THE .530 DIA. PLUG AND 2.315 I.D. TUBE OF NOTE 1 MUST PENETRATE.
6. ROUNDED EDGES.
7. CONTOUR OF GLASS MAY VARY FROM THAT SHOWN WITHIN LIMITING BOUNDS DEFINED BY CONCENTRIC CYLINDERS & PLUGS REFERRED TO IN NOTE 1.
8. GEARS SHALL BE UNDERFLUSH WITH RESPECT TO GEAR HOUSING.
9. THE OPENING IN THE SUPPORT TUBING SHALL BE PROTECTED BY A DUST SAVER WHEN NOT IN USE.
10. GEAR PILOT .498 ± .005 × $\frac{19}{32}$ DEEP MIN. NOT INCLUDING TAPERED SECTION.
11. CATHODE-HEATER LEAD IDENTIFICATION.
12. ALL SURFACES IN THIS AREA TO HAVE A BLACK HEAT RESISTANT FINISH EXCEPT GEARS, GEAR BEARING SURFACES, GEAR SUPPORTS AND GEAR HOUSING.
13. NUMBER OF RADIATOR FINS MAY VARY.
14. 2.312 – 16 N.S.F. 5 FULL THDS. MIN.
    MAX. MAJ. DIA. 2.3120
    MIN. MAJ. DIA. 2.2980
    MAX. PITCH DIA. 2.2714
    MIN. PITCH DIA. 2.2629
    MAX. MINOR DIA. 2.2265
15. REFERENCE PLANE II SHALL BE PARALLEL TO EITHER FACE OF THE ANODE. REFERENCE PLANES II AND III SHALL BE AT RIGHT ANGLES TO EACH OTHER AND INTERSECT AT THE AXIS OF THE SUPPORT TUBING.
16. THE GEAR SHALL BE CONCENTRIC WITH RESPECT TO THE HOLE IN THE GLASS BOOT WITHIN .002". THE CENTERS OF THE HOLES IN THE GLASS BOOT SHALL BE WITHIN A RADIUS OF .001" OF THE SPECIFIED CENTERS.
17. PROOF TEST GEARS ROTATE CLOCKWISE (CW) INCREASING FREQUENCY.
18. COMPLETE FREQUENCY RANGE COVERED IN APPROX. 9½ TURNS OF DRIVING GEAR.
19. TEST PER LTP-17936
20. VISIBLE ANODE PARTS MUST BE FREE FROM CORROSION, PAINT OR OTHER SURFACE IMPERFECTIONS. THE TUNING MECHANISM SHALL OPERATE OVER THE ENTIRE MECHANICAL RANGE WITH A MAXIMUM TORQUE OF 8 INCH POUNDS APPLIED TO THE DRIVING GEAR.
21. LUBRICANT TO APPEAR ON VISIBLE BEARING SURFACES OF ALL MOVABLE PARTS.
22. DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE PURPOSES ONLY & NEED NOT BE INSPECTED.
23. ALL SCREWS TO BE NON-MAGNETIC, NON-CORROSIVE MATERIAL OR TO HAVE NON-CORROSIVE HEAT RESISTANT FINISH. SCREW HEADS MAY BE HEXAGON, HEXAGON SOCKET OR STRAIGHT SLOTTED.
24. MATCHED ARROWS INDICATE APPROXIMATE NO. AND FREQUENCIES.
25. THIS SQUARE HOLE SHALL BE CONCENTRIC WITH THE SQ. HOLE WITHIN .003.
26. IN THIS ZONE THERE SHALL BE A CYLINDRICAL CLEARANCE OF .360 DIA. CENTERED ON AXIS OF ROTATION OF DRIVER GEAR
27. ON COMPLAINT ORDERS THE INITIAL ISSUE OF THIS DRAWING & ALL SUBSEQUENT CHANGES ARE SUBJECT TO APPROVAL BY THE SER