

WESTERN ELECTRIC 6891 ELECTRON TUBE

TYPE DESIGNATION REGISTRATION

JUL 7 1958

Reservation No.: 6891  
Reservation Date: April 12, 1956

Manufacturers Designation: M-1958  
Data Bureau Designation: 6891

DESCRIPTION

The 6891 traveling wave tube employs a helix-type wave propagating structure. The tube is used for low-level gain in the 8500 to 9600 megacycles frequency range. The power output is approximately +17 dbm. The input and output circuits employ matching waveguides. A uniform axial magnetic field is provided by a permanent magnet which is an integral part of the tube.

ELECTRICAL RATINGS, ABSOLUTE VALUES

Heater Voltage . . . . .	5.5	volts
Heater Current . . . . .	0.53	ampere
Maximum Collector Voltage . . . . .	1500	volts
Maximum Helix Voltage . . . . .	1500	volts
Maximum Anode Voltage . . . . .	1500	volts
Maximum Beam Forming Electrode Voltage:		
Negative Value . . . . .	100	volts
Positive Value . . . . .	0	volts
Maximum Collector Current . . . . .	5	milliamperes
Maximum Helix Current . . . . .	0.6	milliamperes
Maximum Anode Current . . . . .	0.1	milliampere
Maximum Beam Forming Current . . . . .	10	microamperes
Maximum Power Dissipation . . . . .	7.5	watts

MECHANICAL DATA

Dimensions . . . . .	See outline drawing
Type of Cathode . . . . .	Oxide Impregnated Unipotential
Mounting Position . . . . .	Any
Weight (including magnet) . . . . .	6-3/4 pounds
Type of Cooling . . . . .	Convection

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WESTERN ELECTRIC 6891 ELECTRON TUBETYPE DESIGNATION REGISTRATIONTYPICAL OPERATION

Frequency Band . . . . .	8500-9600 megacycles
Collector Voltage . . . . .	1200 volts
Collector Current . . . . .	4 milliamperes
Helix Voltage . . . . .	1180 volts
Helix Current . . . . .	0.24 milliampere
Anode Voltage . . . . .	1450 volts
Anode Current . . . . .	3 microamperes
Power Output . . . . .	20 dbm
Gain . . . . .	44 db
Noise Figure . . . . .	21 db
Magnetic Field . . . . .	500 gauss

Note: Manufacture of this type has been discontinued by Western Electric Company.  
This sheet is for information only and does not imply continuing availability of the device.

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- NOTES:
- 1 THE ANGULAR REGISTRATION OF THE NUMBERED TERMINALS AT THE END ONLY MAY VARY UP TO 180° FROM THE POSITION SHOWN.
  - 2 TEXT OF MARKING: MOUNTAIN 2 INCHES BETWEEN THE MAGNETIC AND MAGNETIC MATERIALS (MAGNETS, STEEL, TOOLS, PLATES, ETC.)
  - 3 A CYLINDER  $\frac{1}{8}$  IN. DIAMETER WITH THE ANG. LOCATED AS INDICATED, SHALL PASS OVER EACH END.
  - 4 ALL METAL SURFACES, INCLUDING AREA 'C', COVERED BY GRAY FINISH EXCEPT THOSE MARKED (X).
  - 5 EACH WAVEGUIDE SURFACE 'B' SHALL BE PARALLEL TO FACE OF SURFACE 'A' WITHIN .015" AND SHALL HAVE NO SCRATCHES AND SURFACE IMPERFECTIONS.
  - 6 THE OPENING OF THE WAVE GUIDE SHALL BE ENCLOSED BY A DUST COVER WHEN TUBE IS NOT IN USE.

