MAGNETRON TYPE 7796

Band Sweep Operation	1-1/2 Watts	Electro-Mechanical
Amplitude Modulation	Power Output	Frequency Sweep

The 7796 is a C band CW magnetron intended for use in applications requiring swept frequency operation over the band from 4200 to 4400 megacycles. Over this band, the power output is 1.5 watts minimum. Frequency is changed by varying the strap-to-strap capacity of the doubly-strapped vane resonator. This is accomplished by an electrically-driven reed inside the vacuum envelope. This member can be driven at any frequency from 0 to 300 cycles per second. Reed resonance occurs at approximately 300 cycles per second.

The 7796 can be frequency modulated at frequencies up to 300 cycles per second at a deviation from 0 to 100 megacycles. The AM modulation resulting from this deviation is very small. The center frequency can be varied from 4200 to 4400 by passing dc current through the drive coils.

The 7796 has a very low pushing figure, permitting it to be amplitude modulated with small amounts of incidental FM. Amplitude modulation is accomplished by varying the anode voltage. Modulation at frequencies up to 1 megacycle is possible.

The 7796 is small, light weight and resistant to shock and vibration. Integral magnets are contained within an external steel shell. Output is from a BNC connector.

ELECTRICAL:		
Cathode	Coated Unipotential	
Heater:		
Voltage	6.3	Volts
Current	0.6 ± 10%	Ampere
Heating Time	40	Seconds
Reed Drive Coil Resistance at 25°C	0.3 to 0.4	Ohms

MECHANICAL:	
Operating Position (Note 1)	Any
Connectors:	
Output	Couples with BNC Jack (JAN UG-89/U)
Operating Voltages	Special 8-Pin In-Line Socket
Cooling	Unrestricted Air Convection
Ambient Temperature	−55 to +70 °C
Shell Temperature (Max.)	40 °C Above Ambient
Magnet Isolation	Shell must be at least 1" from Magnets
Vibration: (Note 2)	
Frequency	25 CPS
Amplitude	0.080 Inches
Net Weight	1 Pound
Shipping Weight	2 Pounds

MAXIMUM RATINGS:			
Absolute Maximum Values:			
Heater Voltage	7.0	max.	Volts
Anode Voltage	350	max.	Volts
Anode Modulating Voltage for Pulse or Amplitude Modulation for 100% Modulation	100	max.	Volts
Heater-Cathode Voltage	± 45	max.	Volts

TYPICAL OPERATING CHARACTERISTICS:		
Anode Voltage	350	Volts
Anode Current	30	Ma.
Reed Resonant Frequency	300 ± 30	CPS
Reed Drive Peak-to-Peak Voltage at Resonance for ± 100 Mc. Shift	0.1	Volts
Reed Drive Direct Current for ± 100 Mc Shift	± 0.5	Ampere
Audio Power for 100% Amplitude Modulation	2.5	Watts
Average RF Power Output over Band	1.5	Watts

1. The connectors do not provide mechanical support. Non-magnetic clamps should be used to support the shell.
2. Special vibration problems should be referred to Westinghouse Electronic Tube Division, Elmira, New York.

from JEDEC release #3184, March 13, 1961

PIN#	CONNECTION
1	DRIVE (+)
2	NO CONNECTION
3	NO CONNECTION
4	DRIVE (GROUND)
5	ANODE (GROUND)
6	HEATER
7	CATHODE
8	HEATER