

*Millimeter Wave*

**"M" Type CARCINOTRON<sup>®</sup> CM-08X**

**BACKWARD WAVE  
OSCILLATOR**

**8mm range  
31-37 Gc/s**



- VERY HIGH C.W. POWER OUTPUT
- HIGH EFFICIENCY
- WIDE ELECTRONIC TUNING BAND  
31-37 Gc/s

**AMERICAN RADIO Co., Inc.**

A SUBSIDIARY OF

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PLaza 3-5046



**Compagnie générale  
de télégraphie Sans Fil**

Paris, France



**GENERAL INFORMATION**

- The model CM-08X is a new member of the family of world famous "M" type backward wave oscillators — (Carcinotron®) — produced by CSF-Compagnie générale de télégraphie Sans Fil, of Paris, France. It is distributed in the United States by American Radio Company, Inc.
  
- Recently developed, this 8mm Carcinotron is conveniently packaged in an integral permanent magnet creating the focusing field.
  
- As in other M type Carcinotrons, the CM-08X can be frequency modulated over its entire band by changing the cathode to delay line voltage. Amplitude modulation is achieved by modulating the anode A1 (accelerator) voltage.
  
- The tube is liquid cooled. It can deliver a minimum of 15 watts c.w. over a 31 to 37 Gc/s band. Typical power of 20 to 30 watts are achieved at certain points in the band with a maximum cathode to delay line A2 voltage of 3500 volts. The tube operates on a low voltage power supply in spite of the extremely high power delivered.

**PERFORMANCE CHARACTERISTICS**

	Minimum	Typical	Maximum
Frequency range (Gc/s).....	31	—	37
Heater F voltage (V).....	4	5	6
Heater F current (A).....	1.6	2.1	2.4
Cathode K to anode A1 voltage (V).....	0	1,200	1,800
Anode A1 current (mA).....	—	—	2
Cathode K to delay line A2 voltage (V).....	1,000	—	3,500
Line A2 current (mA).....	—	—	250
Cathode K to sole S voltage (V).....	-1,000	—	-2,000
Sole S current (mA).....	-2	—	+2
Cathode to grid voltage* (V).....	0	—	0
c.w. R.F. output power (W).....	15	20	40
Frequency vs. A2 voltage variation (Mc/s per volt).....	—	4	—
V.S.W.R. presented by the load.....	—	—	1.5:1

\*The grid is internally connected to the cathode.