

SALES SERVICE BULLETIN NUMBER 193B

Variable Frequency Oscillator and
Heterodyne Frequency Meter, Model PMO

(O-459 ()/URT)



Figure 1 Model PMO-5

The TMC Model PMO, Variable Frequency Oscillator, is a precision, direct reading device which may be used as a transmitter exciter, frequency meter or receiver calibrator for field, fixed station or laboratory use. Engineering emphasis has been placed on simplicity of operation, ease of maintenance and high stability.

A large easily read counter provides direct reading of the output frequency over the basic range of 2,000 to 4,000 Kc while the last three figures (cycles) are on an easily read engraved dial.

The high stability oscillator and crystal calibrator are housed in a temperature controlled double oven and provision is made for checking the crystal standard against WWV. This standard provides both visual and aural 50 Kc check points and a vernier front panel control allows the operator to calibrate the PMO to zero beat at any crystal check point. Once calibrated, the instrument is readable and resettable to a tolerance of better than 30 parts per million.

The PMO is available as follows:

- A. Model PMO-4* -- A portable unit 16" wide in a reinforced fiber glass case. (Fig. 2)
- B. Model PMO-5 -- For standard 19" relay rack mounting. (Fig. 1)
- C. Model PMO-6 -- A model PMO-5 in a attractive metal case. (Fig. 3)

* The Model PMO-4 may be widened for standard rack mounting by TMC Part No. A-804, Adaptor Kit.

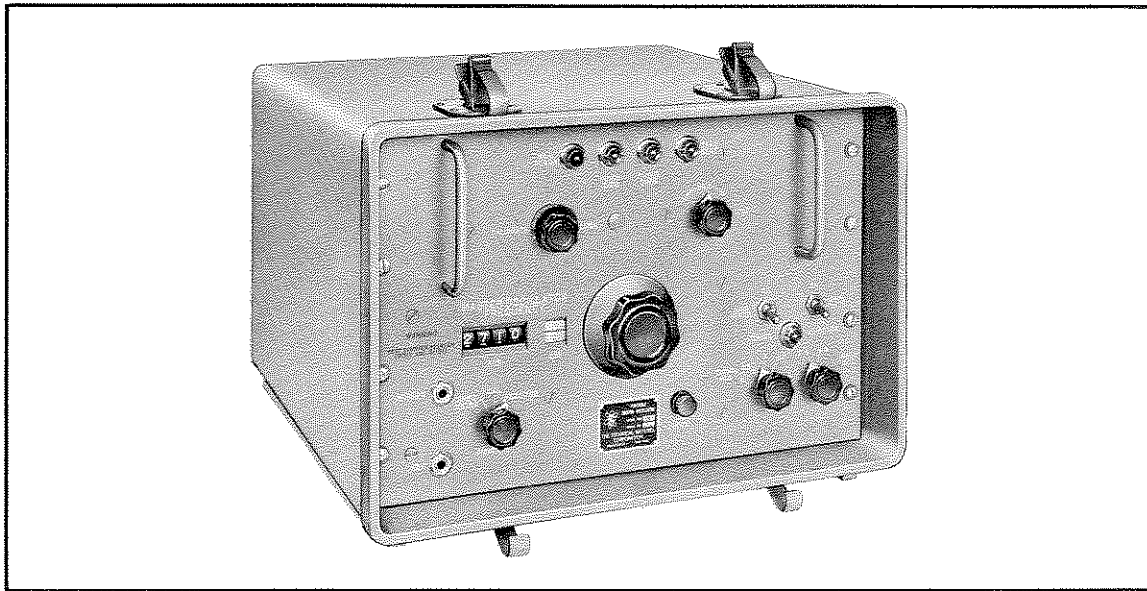


Figure 2 Model PMO-4

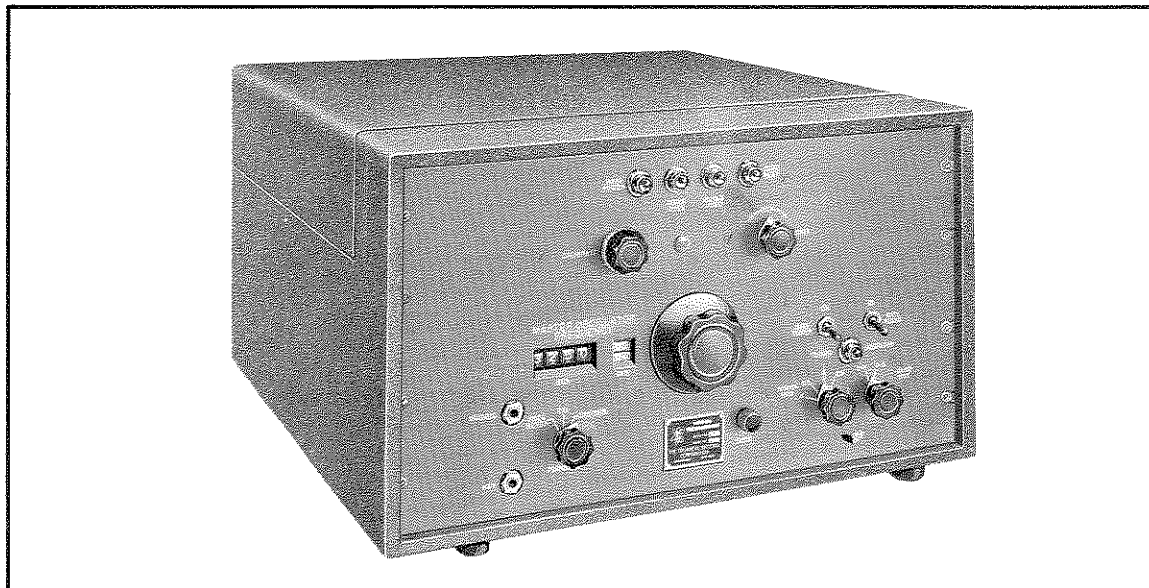


Figure 3 Model PMO-6

TECHNICAL SPECIFICATIONS:

A. WHEN USED AS A TRANSMITTER EXCITER:

FREQUENCY RANGE: 2 - 8 megacycles, continuously variable in two bands.
OUTPUT POWER: At least 3 watts, adjustable from front panel.
OUTPUT CONNECTIONS: BNC (RG-58, 59/U) coaxial connectors.
OUTPUT VOLTAGE: Sinusoidal.
OUTPUT IMPEDANCE: 70 ohms nominal.

B. WHEN USED AS A FREQUENCY METER:

FREQUENCY RANGE:
1. Transmitter Measurements; 2 - 30 Mcs. and usable beyond this range.
2. Receiver Measurements; 2 to approximately 100 Mcs.
ANTENNA Built-in Antenna contained in the case of the Model PMO-4 connected by cable to a BNC receptacle.
INPUT IMPEDANCE: 70 ohms.
INPUT CONNECTIONS: BNC Connector.

C. GENERAL

CALIBRATION: Direct reading in CPS over basic range of 2 to 4 Mc.
STABILITY: Better than 20 CPS per Mc for a 30° change in ambient.
LINE VOLTAGE STABILITY: Not more than 6 cycles at 2 Mcs and 10 cycles at 4 Mcs for ± 10%.
READABILITY AND RESETABILITY: Better than 30 parts per million to a previously calibrated frequency.
CALIBRATE ADJUST: 50 Kc check points against a selfcontained oven controlled crystal oscillator.
ZERO BEAT INDICATION: Neon Light null each 50 Kcs.
Aural headphone each 50 Kcs.
KEYING INPUT: Provision of ON/OFF through front panel jack and rear terminal board.

CONTROLS: Primary Power Switch
M.O. Frequency Control
Band Switch
Output Control
PA Tuning Control
Calibrate Control
Function Switch
Dial Lock
Amplifier Plate Switch

POWER REQUIREMENTS: 115/230 volts, 50-60 cps, 80 watts average, 220 watts at momentary intervals as ovens cycle.

TUBE COMPLEMENT: 2 - 12AU7, Cathode Follower and Audio Amplifier.
1 - 6AB4, Oscillator
1 - 6BE6, Mixer
1 - 6AH6, RF Amplifier
1 - 6AQ5, RF Amplifier
1 - 5Y3GT, HV Rectifier
1 - 0A2, Voltage Regulator

SIZE: PMO-4: 18'' wide, 16'' deep, 12'' high
PMO-5: 19'' wide, 13'' deep, 10½'' high
PMO-6: 20'' wide, 15'' deep, 12'' high

SHIPPING DATA: WEIGHT
PMO-4 70 lbs.
PMO-5 59 lbs.
PMO-6 83 lbs.

DIMENSIONS: PMO-4 30 lg. x 23 wd. x 29 high
PMO-5 23 lg. x 21 wd. x 16 high
PMO-6 18 lg. x 23 wd. x 19 high

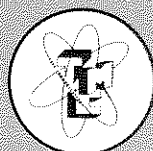
COMPONENTS AND CONSTRUCTION: Equipment is manufactured in accordance with JAN/MIL specifications wherever practicable.

THE TECHNICAL MATERIEL CORPORATION

700 FENIMORE ROAD

MAMARONECK, NEW YORK

CABLE
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COMMUNICATION ENGINEERS

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