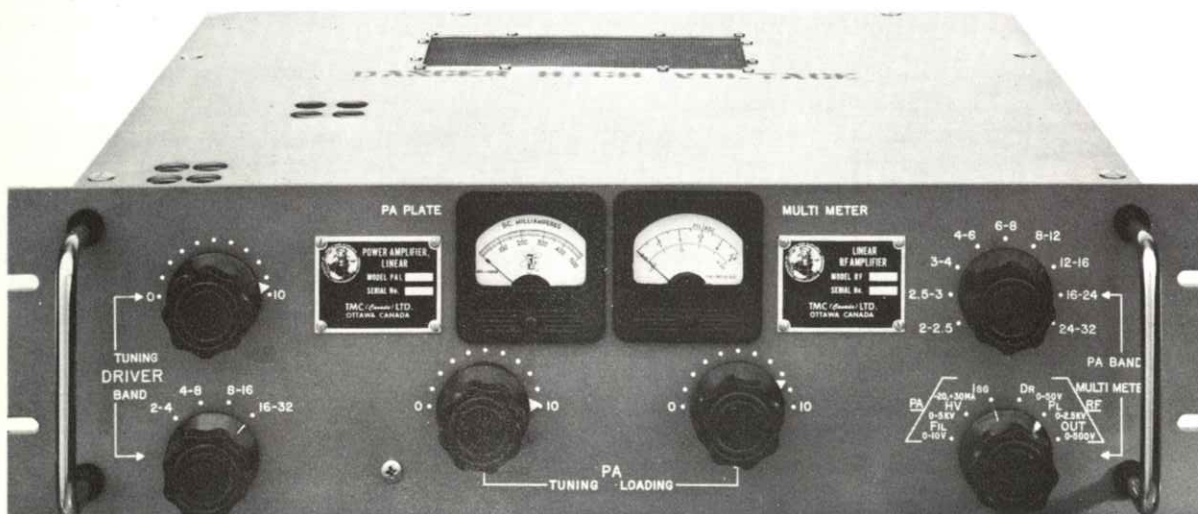


Linear Power Amplifier TMC model PAL-500



TMC
Technical
Bulletin

102037



MODEL RFE-1

Features

- 2 to 32 mcs.
- Solid State Power Supply
- Compact, 5¼" x 19" panel (RF Amplifier)
8¾" x 19" panel (Power Supply)
- 100 Milliwatts Drive for Full Output

The Technical Materiel Corporation's Model PAL-500 linear amplifier is a conservatively rated general purpose amplifier which provides 500 watts PEP output over the frequency range of 2.0 to 32 mcs.

This linear power amplifier is constructed on two compact 19" rack panels with the power supply separate from the linear amplifier thus providing flexibility in its installation. This type of construction makes it ideal for console and table top mounting in mobile, fixed station and shipboard installations.

Pi network output tuning compensates for unbalanced impedances from 50 to 600 ohms.

One hundred milliwatts drive may be obtained from a sideband exciter such as TMC's Model SBE; Model STE; Model SME. Solid State multi-channel exciter; or from a general purpose exciter, such as Model GPE; or any other suitable exciter. Power supply solid state components provide long-term, trouble-free operation. Particular attention has been given to suppression of distortion products, stability of the output amplifier and low hum and noise output.

Full interlock, overload and fuse protection have been provided for the safety of operating personnel and protection of the equipment. A filtered, forced air blower system is included as an integral part of the amplifier equipment. An effective ALDC (Automatic Load and Drive Control) system has been included to limit the distortion products produced when high drive peaks occur.

Technical Specifications

Frequency Range: 2 to 32 megacycles continuous; bandswitched.

Output Power: 500 watts 2 tone PEP. 300 watts key down, CW or FSK.

Operating Modes: With appropriate exciter, AM, AME, CW, MCW, SSB, ISB, DSB, FSK or Pulse operation.

Tuning: All tuning and bandswitching controls on the front panel. (No plug-in components.)

Output Impedance: Will match any unbalanced load from 70 to 150 ohms at ± 20 degrees in the range 2 to 4 megacycles. Will match any unbalanced load from 50 to 600 ohms at ± 45 degrees in the range of 4 to 32 megacycles.

Output Connection: Type C. coaxial.

Input Impedance: Nominal 70 ohms coaxial.

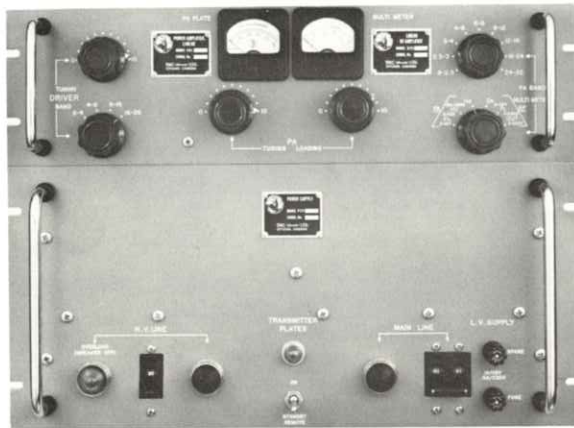
Input Requirements: 100 milliwatts will produce full output.

Input Connection: BNC.

Distortion Products: At full PEP output, 3rd order distortion products are at least 40 db below either tone of a standard two tone test.

Harmonic Suppression: Second – at least 40 db from PEP output.
Third – at least 50 db down from PEP output.

ALDC: An Automatic Load and Drive Control is provided to limit distortion during high drive peaks.



MODEL PAL-500 (RFE-1 and PSP-500)

Primary Power Requirements: 115/230 volts, 50/60 cycle, single phase, 1150 watts under 500 watts PEP output conditions.

Safety: Full interlock protection. Full overload and fuse protection.

Cooling: Filtered, forced air blower system.

Temperature Humidity: Designed to operate in any ambient temperature between 0 degrees and 50 degrees C for any value of relative humidity up to 90%.

Ruggedness: The unit is designed for mobile application with the addition of shock mounts.

Power Supply Construction: PSP-500 contains solid state rectifier and voltage regulators.

Installation Data: Size: RFE, 19" w x 5-1/4" h x 17" d.
PSP-500, 19" w x 8-3/4" h x 13" d.

Shipping Weight: 165 pounds, commercial or military packing.

Components and Construction: All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.

TMC (Canada) Limited

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