

MODEL RFA-1

The TMC Model PAL-350, Power Amplifier, Linear, is a conservatively rated general purpose amplifier which provides 350 watts PEP output over the frequency range 2 to 32 megacycles.

The Model PAL-350 is composed of two small and compact units; the Linear Power Amplifier, Model RFA-1 (5-1/4 inch panel) and the Power Supply, Model PSP-350 (8-3/4 inch panel). The entire unit occupies only 14 inches of panel space for standard rack mounting which makes it ideal for console, table top, mobile, and shipboard installations. A pair of 4X250B Beam Power Amplifier tubes in parallel with a pi network provide unbalanced output of from 50 to better than 600 ohms.

The combination of the TMC Model SBE, Mode Selector, Transmitting, and the PAL-350 provides a compact transmitting system capable of producing single, double or double or independent sideband signals with any degree of carrier insertion.

The PAL-350 has been carefully designed with no compromise in workmanship or component quality. Particular attention has been given to suppression of distortion products, amplifier stability, power supply hum content and dynamic impedance. Full interlock, overload and fuse protection have been provided for the safety of the operating personnel and protection of the equipment. A filtered, forced blower system is included as an integral part of the equipment. An effective ALDC (Automatic Load and Drive Control) system has been included to limit the distortion produced when high drive peaks occur.

## TECHNICAL SPECIFICATIONS:

**FREQUENCY RANGE:** 2 to 32 megacycles continuous, bandswitched.

**OUTPUT POWER:** 350 watts 2 tone PEP.  
200 watts key down CW or FS.

**OPERATING MODES:** With appropriate exciter; CW, MCW, SSB, ISB, DSB, FS or pulse operation.

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

**OUTPUT IMPEDANCE:** Will match any unbalanced load from 70 to 150 ohms at  $\pm 20$  degrees in the range 2 to 4 megacycles. Will match any unbalanced load from 50 to 600 ohms at  $\pm 45$  degrees in the range 4 to 32 megacycles.

**OUTPUT CONNECTION:** Type C. coaxial.

**INPUT IMPEDANCE:** 70 ohms coaxial.

**INPUT REQUIREMENTS:** 100 milliwatts will produce full output.

**INPUT CONNECTION:** Type BNC coaxial (RG-59/U).

**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 from PEP output.

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

**PRIMARY POWER REQUIREMENTS:** 115/230 volts, 50/60 cycle, single phase, 550 watts under 350 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.

**TUBE COMPLEMENT:** RFA-1 Linear RF Amplifier  
2 ea. 4X250B RF Amplifiers  
1 ea. 6CL6 Controlled Amplifier  
1 ea. 6146 Driver

PSP-350 Power Supply

2 ea. 866A Rectifiers  
3 ea. OA2 Voltage Regulators  
1 ea. 5R4 Rectifier

**MOUNTING:**

Standard WE relay rack.

**SIZE:** RFA-1  
PSP-350

19" wide x 5-1/4" high x 17" deep.  
19" wide x 8-3/4" high x 13" deep.

**WEIGHT:** RFA-1  
PSP-350

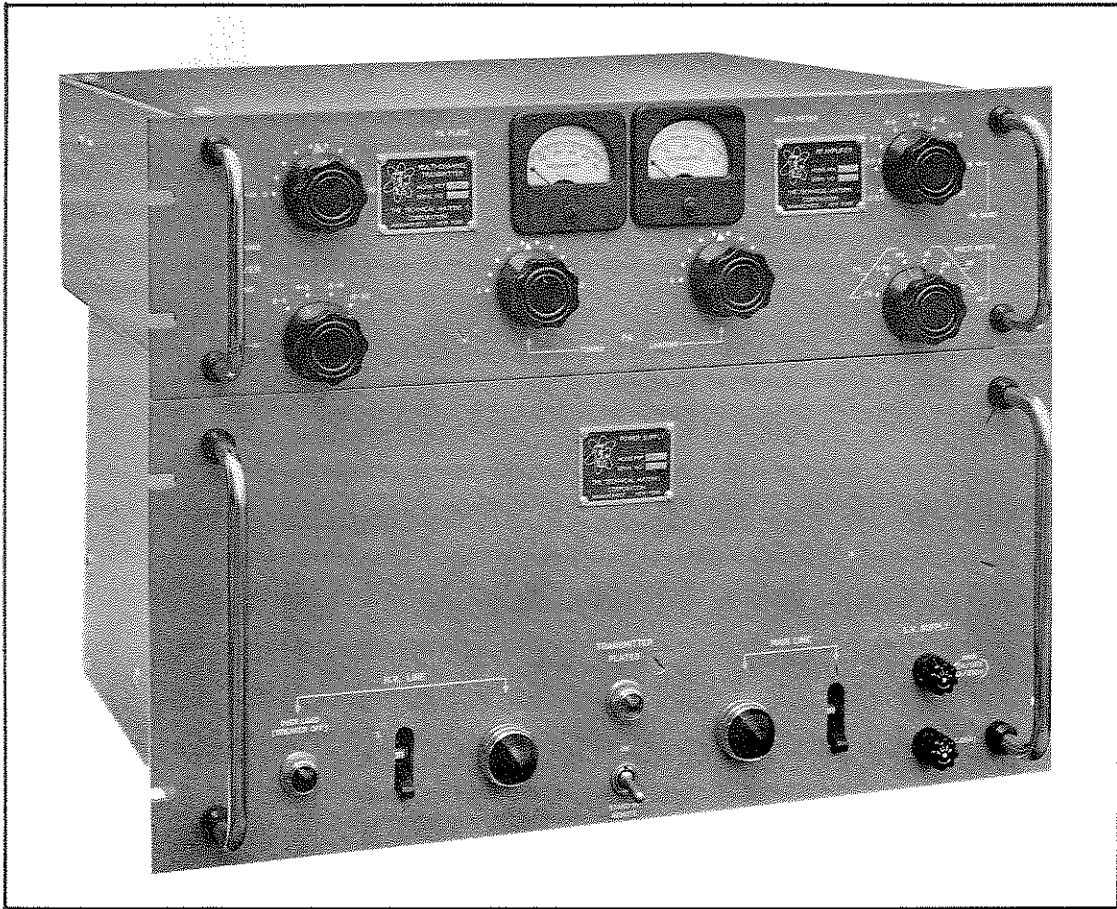
30 lbs.  
60 lbs.

**SHIPPING WEIGHT:**

140 lbs. gross.

**COMPONENTS AND  
CONSTRUCTION:**

Equipment is manufactured in accordance with  
JAN/MIL specifications wherever practicable.



**MODEL PAL-350 (RFA-1 and PSP-350)**

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THE TECHNICAL MATERIEL CORP.

# THE TECHNICAL MATERIEL CORPORATION

700 FENIMORE ROAD

MAMARONECK, NEW YORK

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