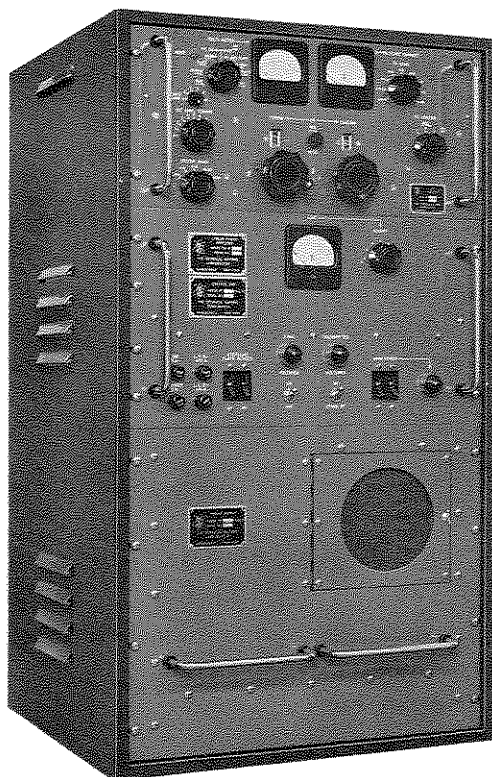


TECHNICAL BULLETIN NUMBER 2003

Linear Power Amplifier
TMC Model PAL-1KB
AN/URA-36()



- 2 to 32 mc continuous (1.75 - 32 mc optional)
- Completely bandswitched
- No rolling contacts
- Filtered, forced air cooling
- Complete overload protection
- Safety interlock system

The Technical Materiel Corporation's Model PAL-1KB Linear Power Amplifier provides 1000 watts over the frequency range of 2 to 32 megacycles from a 100-milliwatt input. Continuous coverage down to 1.75 mc is available.

This unit has been used as a final or intermediate amplifier in thousands of transmitters in use worldwide. Combined with a suitable exciter, such as TMC Model SBE-(), SBG-(), or GPE-(), the PAL-1KB forms a powerful and compact 1 kw transmitter for CW, MCW, AM, AME, SSB, ISB, FSK and FAX modes of emission.

The PAL-1KB is completely bandswitched and continuously tunable with all controls on the front panel. A multi-meter with an 8-position switch provides a convenient front panel check for monitoring DC and RF voltages of the linear amplifier. Complete overload protection is furnished by circuit breakers and ALDC (Automatic Load and Drive Control).

A safety interlock system is included to protect personnel from shock hazards and prevent overheating of equipment due to blower failure. The final power amplifier tube is a ceramic beam pentode, filtered, forced air cooled by a built-in exhaust blower.

Linear Power Amplifier

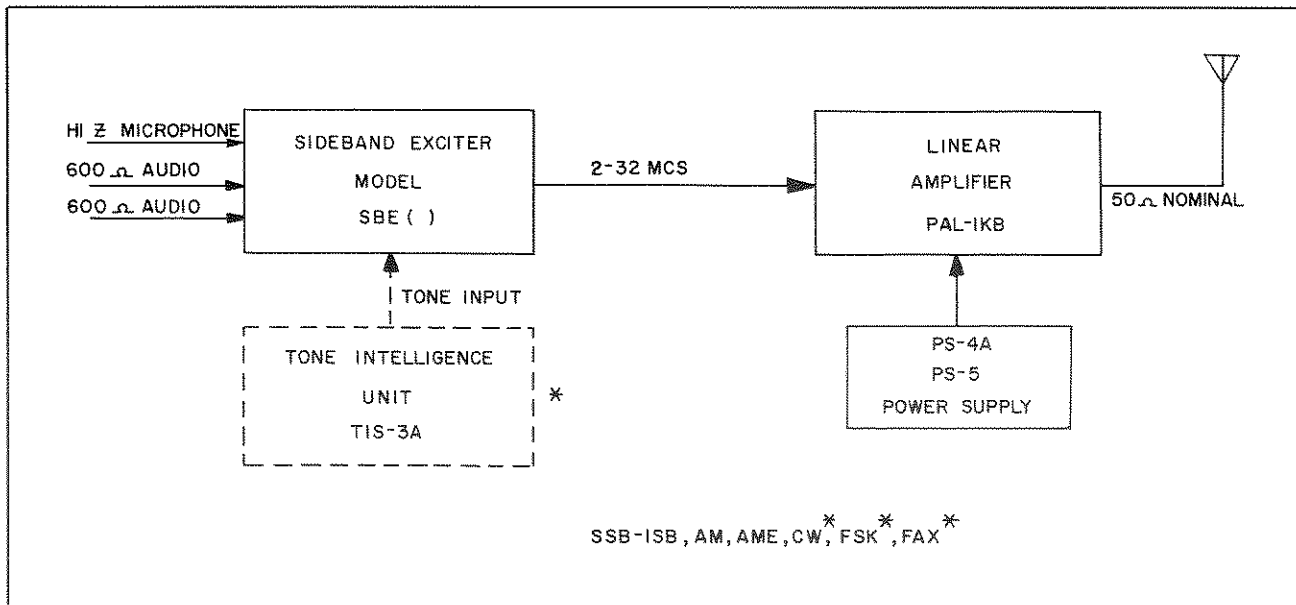
TECHNICAL SPECIFICATIONS, MODEL PAL-1KB

FREQUENCY RANGE:	2 to 32 mc continuous, bandswitched. (For operation to 1.75 mc, see OPTIONS/ACCESSORIES)
MODES OF OPERATION:*	CW, MCW, AM, AME, SSB, ISB, FSK and FAX.
POWER OUTPUT:	At least 1000 watts PEP. 1000 watts CW and FSK.
OUTPUT IMPEDANCE:	50 ohms nominal. Pi-L network will match a load with up to a 2:1 VSWR.
INPUT SIGNAL:	100 milliwatts RF input will produce full PEP output.
INPUT IMPEDANCE:	70 ohms nominal.
TUNING:	All tuning and bandswitching accomplished from front panel (no plug-in components).
SIGNAL/DISTORTION RATIO:	<ol style="list-style-type: none">1. At least 40 db below either tone of standard two-tone test at 1 kw PEP, at frequencies below 30 mc.2. At least 35 db below either tone of standard two-tone test at 1 kw PEP, 30 to 32 mc.
HARMONIC SUPPRESSION:	Second harmonic at least 40 db down, all others at least 50 db down from full PEP output.
ALDC:	An Automatic Load and Drive Control Circuit is incorporated to generate a DC voltage for external control of an associated exciter. The DC voltage varies from 0 to —14 volts and can be extended back to the exciter to provide improved linearity and to minimize distortion.
METERING:	Front panel meters provide indications of the operation of all critical circuits.
ENVIRONMENTAL CONDITIONS:	Designed to operate in any ambient temperature between 0° to 50°C, and any value of humidity up to 90%.
COOLING:	High capacity, filtered, forced air cooling.
SAFETY FEATURES:	Full interlock protection. Full overload and fuse protection.

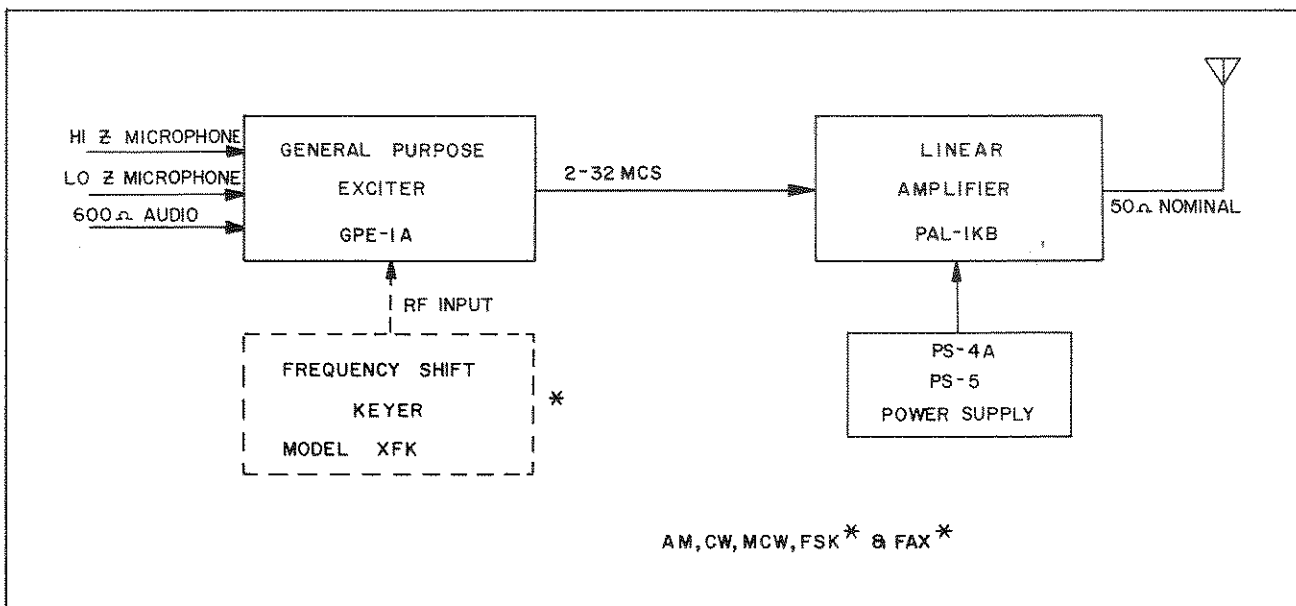
*With appropriate Exciter.

TMC Model PAL-1KB, AN/URA-36()

INSTALLATION DATA:	Weight: RFD-1B — 40 lbs. PS-4A — 60 lbs. PS-5 — 160 lbs.
	Size: RFD-1B — 8¾" × 19". PS-4A — 10½" × 19". PS-5 — 15¾" × 19".
SHIPPING DATA:	Packed in two cartons, total weight 487 lbs.
PRIMARY POWER REQUIREMENTS:	115/230 volts, single phase, 50/60 cycle AC, approximately 2500 watts under full power output, 400 watts on standby.
INSTRUCTION BOOK:	TMC IN 523A
MILITARY NOMENCLATURE:	AN/URA-36()
LOOSE ITEMS:	Mating RF connectors and instruction manuals.
COMPONENTS & CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.
MOUNTING:	Standard 19" panel spacing. For slide mounts and cabinet, see OPTIONS/ACCESSORIES.
OPTIONS/ACCESSORIES:	Priced separately. <ol style="list-style-type: none">1. Equipment cabinet: Full range of cabinet heights available to house Model PAL-1KB alone, or with optional exciter equipment.2. Slide mounts: The RFD-1B and PS-4A may be equipped with slide mounts for cabinet mounting. The slide permits the unit to be tilted, allowing easy access for maintenance. Slide mounts are not available for the PS-5.3. RFD-2 provides continuous coverage from 1.75 to 32 mcs.



FUNCTIONAL BLOCK DIAGRAM SIDEBAND USE



FUNCTIONAL BLOCK DIAGRAM GENERAL PURPOSE USE

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