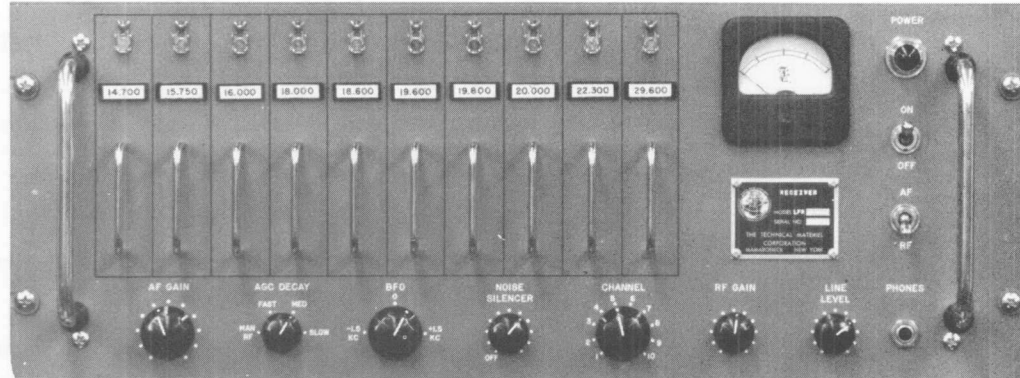


JUN 22 1963



PRELIMINARY TECHNICAL BULLETIN NUMBER 3008

Very Low Frequency Receiver
Model VLR-1



Technical Materiel Corporation Model VLR-1, Very Low Frequency Receiver, is a compact completely transistorized ten channel receiver providing exceptional stability, sensitivity, selectivity and reliability for the reception of continuous carrier, CW and FSK signals over the frequency range of 5 kc to 540 kcs. The tuning modules are designed to provide optimum reception under very weak signal conditions.

Simplicity in front panel design provides operator ease in selection of desired RF channel and complete signal control. A front panel phone jack is provided for signal monitoring or a monitor speaker may be used by means of rear apron connections. An attractive cabinet that can be fitted with shipboard shock mounts is provided.

RECEIVER SPECIFICATIONS

FREQUENCY RANGE:	5 kc to 540 kc with plug-in fixed tuned RF amplifier modules selectable by front panel control.
MODES OF RECEPTION:	AO and CW. FSK with appropriate converter.
FREQUENCY STABILITY:	Crystal controlled. Error will not exceed .001% at the operating frequency.
INPUT IMPEDANCE:	50 ohms nominal.
SENSITIVITY:	A 0.1 microvolt signal impressed across 50 ohms at the input of the receiver will produce a minimum of 10 db signal + noise to noise ratio at 100 cps bandwidth.
RF NOISE CANCELLATION:	An RF noise canceling circuit is incorporated in the individual RF tuning modules and is controlled on the front panel.

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HFO INPUT:	An external oscillator signal may be inserted to a BNC connector on the rear panel for synthesized operation.
IF FREQUENCY:	Two IF modules are available; one for operation at frequencies from 5 to 100 kcs, the other operates from approximately 50 to 540 kcs.
IF BANDWIDTH:	100 cycles at 3 db points or 3 kc at 3 db points, dependent on IF strip selected. 50 cps bandpass is available at a slight increase in cost.
AGC:	Amplified and delayed AGC provides no greater than ± 3 db change in output for an 80 db change in input.
TYPE OF DETECTION:	Product detector. IF feed-through suppressed at least 60 db below the desired signal.
BFO:	Adjustable 0 to 2.5 kc from IF frequency.
DISTORTION:	Total harmonic and intermodulation distortion 1% or less at full power output.
AUDIO OUTPUT:	500 milliwatts, 4 ohm unbalanced and one milliwatt 600 ohm balanced center tapped output.
AUDIO RESPONSE:	Constant within ± 1.5 db from 100 to 2500 cps.
OPERATING POWER:	115/230v 50/60 cycles, single phase AC with automatic switching to battery capable of operating the unit for at least four hours should primary power supply fail.
FRONT PANEL CONTROLS:	<ol style="list-style-type: none">1. A meter to monitor the audio output or AGC voltage.2. Monitor gain control (4 ohms).3. Headphone jack (600 ohms or higher impedance).4. Line gain control (600 ohms).5. Ten position control to switch desired RF tuning head.6. RF noise silencer.
INSTALLATION DATA:	7" \times 19" \times 17" — Weight approximately 30 lbs.
OPTIONAL ITEMS:	Batteries to provide 4 hour operation (or additional periods in increments of 4 hours) available in a 5 $\frac{1}{4}$ " \times 19" panel. These batteries are kept in a charged condition by a built-in "trickle" charger.

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