



TECHNICAL BULLETIN NUMBER 6001A

RF Spectrum Analyzer
TMC Model PTE-4
AN/GRM-33()



PROPERTY OF SPECIFICATIONS
AND STANDARDS ENGINEERING

TMC Model PTE-4 (AN/GRM-33()) Spectrum Analyzer is a versatile test instrument designed for RF spectrum analysis. Visual display of RF signals in tuning and aligning single side-band exciters and transmitters provides analysis of intermodulation distortion, hum and noise. Manual Sweep Control provides detailed analysis of any portion of the RF spectrum within the frequency range of 2 to 64 mc.

The unit is mounted in a sturdy 19" relay rack with four heavy duty casters which permit the analyzer to be moved to the equipment to be tested. All controls and test connections are made on the front of the unit. The PTE-4 is supplied with all cables and connections necessary for instant operation. The TMC Model VOX, Variable Frequency Oscillator, is incorporated as a part of this unit permitting accuracy and stability for easy tuning and long term testing. TMC's Model TTG provides two AF and two RF tones. The frequency of the AF tones are so chosen as to permit visual analysis of the third, fifth, and seventh order products. The two RF tones also provide a system test of the PTE-4 itself.

RF Spectrum Analyzer

TECHNICAL SPECIFICATIONS, TMC Model PTE-4

SWEEP WIDTHS:	Pre-set — 150*, 500* cps, 3.5 kc, 7 kc, 14 kc. Continuously variable 0-100 kc, 0-2 kc*. *AFC Stabilized.
MARKERS:	5 kc intervals \pm 50 kc from calibrating oscillator and marker at 500 kc.
INPUT CENTER FREQUENCY:	500 kc.
BANDPASS REGION: (after input mixer)	450-550 kc. (Uniform response within \pm 1/2 db)
IMAGE REJECTION:	Better than 100:1 at input center frequency.
INPUT IMPEDANCE:	50 ohms at each of the two terminals.
INPUT ATTENUATOR:	0-50 db attenuation of the input signal in 1 db steps. Accuracy \pm .05 db/db.
AMPLITUDE SCALES:	Linear and 2 decade log scales, selectable by front panel switch. A front panel 20 db IF attenuator may be removed to extend calibrated range to 60 db.
TWO TONE TEST:	All in-band residual (odd order) intermodulation products better than 60 db below level of the two equal reference signals deflected 20 db above full scale log, provided that: 1.) Reference signals are separated so that their intersection is at least 60 db down. 2.) All front panel gain settings are at maxi- mum. 3.) IF bandwidth control adjusted for broad- cast position consistent with visual separation of signals. 4.) VOX Output amplitude of at least 300 millivolts rms.
FREQUENCY RANGE:	2-64 megacycles continuously tuned. (Sensitivity and dynamic range are reduced above 40 mc.)
AF TEST TONES:	935 cps, 2805 cps.
RF TEST TONES:	1999 kc crystal controlled. 2001 kc crystal controlled.
HARMONIC DISTORTION:	AF: More than 65 db down. RF: More than 60 db down.
AF OUTPUT IMPEDANCE:	600 ohms balanced.
AF OUTPUT LEVEL:	0-0.5 volts continuously variable.
POWER REQUIREMENTS:	115 v, 60 cps single phase. Approximately 315 watts average or 465 watts peak depending upon cycling of oven heating element. Line regulator supplied. Special regulators available for 230 volt operation and/or 50 cycles.
INSTALLATION DATA:	22 1/4" \times 22" \times 48"; weight 269 lbs.
SHIPPING WEIGHT:	593 lbs. Cube 36.7.
COMPONENTS AND CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.
INSTRUCTION BOOK:	TMC IN 505

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