
TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT

GENERAL SUPPORT, AND DEPOT

MAINTENANCE MANUAL

SIERRA SPECTRUM DISPLAY

UNIT MODEL 360A

HEADQUARTERS, DEPARTMENT OF THE ARMY
OCTOBER 1971

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OPERATOR, ORGANIZATIONAL, DS, GS, AND DEPOT MAINTENANCE MANUAL
FOR

SIERRA SPECTRUM DISPLAY UNIT MODEL 360A

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*This technical manual is an authentication of the manufacture's commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

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SECTION A

INTRODUCTION

A-1. Scope

This manual describes the Sierra Spectrum Display Unit Model 360A and **covers its operation**, end organizational, direct end general support, end depot **maintenance**. It includes troubleshooting, alignment, end replacement of **parts** available to organizational, DS, GS, and depot maintenance personnel.

A-2. Indexes of Publications

- a. Refer to the latest issue of DA Pam 310-7 to determine whether there are new editions, changes, or additional publications pertaining to this equipment.
- b. Refer to the latest Issue of DA Pam 310-7 to determine if there are current, applicable modification work orders (MWO's) pertaining to this equipment.

A-3. Forms and Records

- a. **Report of Maintenance and Unsatisfactory Equipment.** Use equipment forms and records in accordance with instructions in TM 38-750.
- b. **Reports of Packaging and Handling Deficiencies.** Fill out and forward DD Form 6 (**Report of Packaging and Handling Deficiencies**) as prescribed in AR 700-58 (Army), NAVSUP Publication 378 (Navy), AFR 71-4 (Air Force) and MCO P4610-5 (Marine Corps).
- c. **Discrepancy in Shipment (DISREP) (SF361).** Fill out end forward **Discrepancy in Shipment Report (DISREP) (SF361)** as prescribed in AR 55-38 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).
- d. **Reporting of Equipment Manual Improvement.** Report of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to: Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, New Jersey 07703.

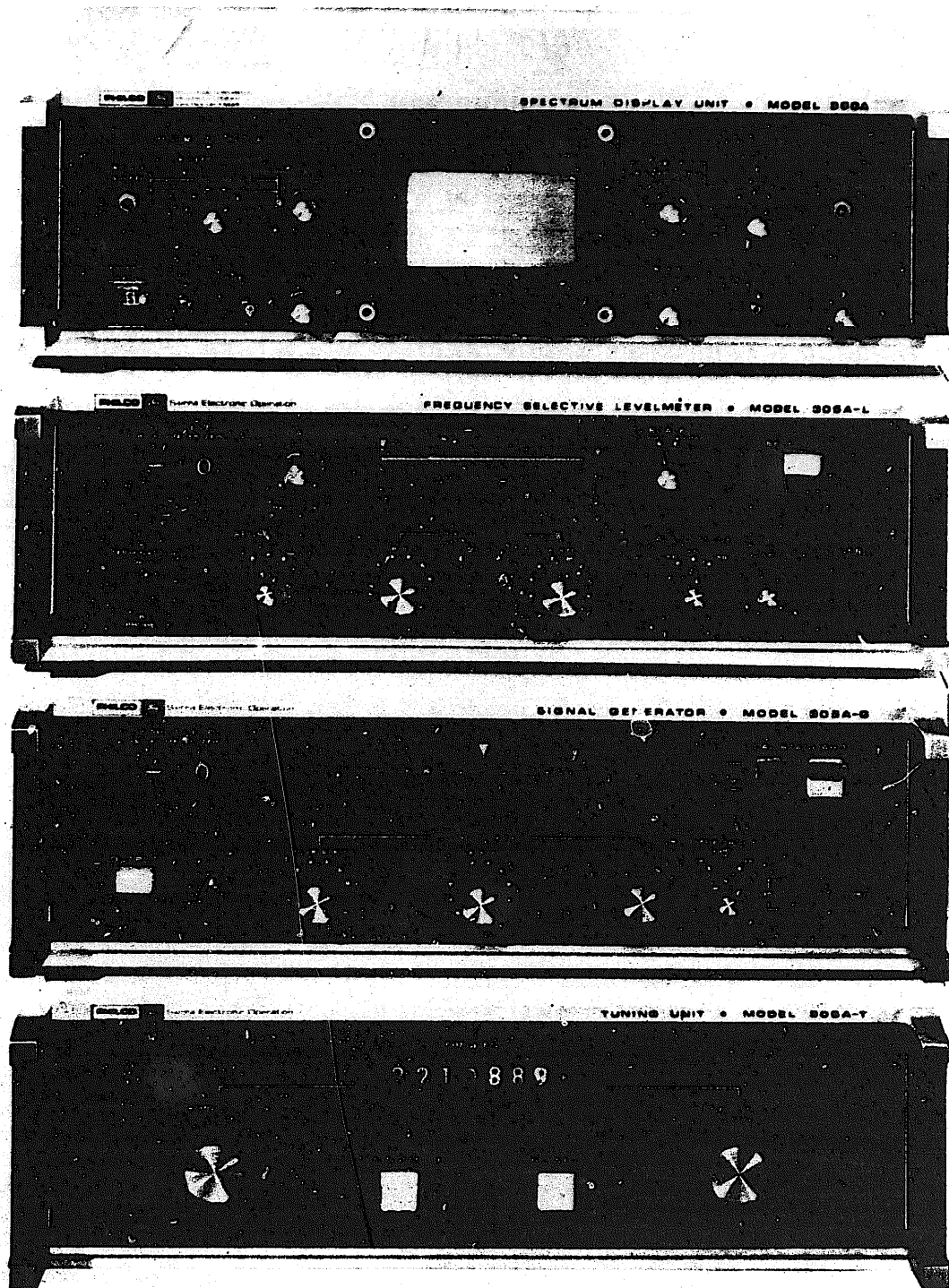


Figure 1-1 Spectrum Display Unit Model 360A with Transmission Measuring Set Model 305A

SECTION I

GENERAL

A. PURPOSE

The Sierra Model 360A Spectrum Display Unit provides a visual display of the signal present in either a 120 kHz, a 12 kHz, or a 3.6 kHz band of the frequency spectrum. These signals are presented on a CRT Display calibrated for both signal amplitude and frequency. The Display Unit works in conjunction with a companion Sierra Model 305A or a Model 128A Frequency Selective Voltmeter. The tuning of the Voltmeter determines the frequency band that is displayed and the frequency range of the Voltmeter determines the total range of the frequency spectrum that may be covered. The design further provides a rapid sweep rate for a search mode of operation, slower rates for high resolution of signals and single sweeps for trace photography .

B. DESCRIPTION

The display of the signals in the selected band is presented on the display areas of a rectangular, long persistence P7 phosphor, Cathode Ray tube. A graticule over the face of the tube contains a linear horizontal frequency scale and a +5 dB to -20 dB logarithmic vertical scale. An amber filter is used with the graticule to cut down reflections and the effect of ambient light. Display amplitude is adjustable with a 20 dB per step attenuator supplemented by a continuously variable 0 dB CAL control which also is used to calibrate the Display Unit to the companion Frequency Selective Voltmeter.

To generate the required display, outputs from the 21 MHz intermediate frequency (IF) amplifier and the incremental oscillator of the companion Voltmeter are connected to the Display Unit. Either a 120 kHz, a 12 kHz, or a 3.6 kHz band of the Voltmeter IF is continuously scanned by the internal sweep circuits of the Display Unit. Very narrow band-pass filters provide essentially single frequency resolution of the scanned signals.

The Fine Tuning oscillator output of the Voltmeter is used to generate a marked pulse which indicates the frequency of the signal being observed at that point. The frequency of the signal observed at the marker is the sum of the Coarse Tuning and the Fine Tuning dial recordings of the Voltmeter. The marker may be disconnected, if desired, with a front panel control. In the 10 kHz/Div Sweep mode the marker may be positioned at any point over the 120 kHz band of frequencies being scanned. In the 1 kHz/Div and the .3 kHz/Div modes, half the bandwidth on each side of the marker is scanned and the