

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR
SYNTHESIZER DEPOT TEST SET
LITCOM MODEL NO. 7900

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SECTION I GENERAL

1. Purpose and Scope

a. This bulletin contains calibration instructions for Synthesizer Depot Test Set, Litcom Model No. 7900 (synthesizer depot test set), and is used by maintenance calibration personnel. Since maintenance calibration personnel are trained and qualified in the use of test and measuring equipment, detailed instructions concerning the operation and use of these equipments are not contained in this bulletin.

b. Integrated within this bulletin is an illustration which shows equipment setup required.

2. Reporting of Technical Bulletin Improvements

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended changes to Publications) and forwarded direct to Commanding General, US Army Electronics Command, ATTN: AMSEL-MA-CFA, Fort Monmouth, N.J. 07703.

3. Description

The Synthesizer Depot Test Set, Litcom No. 7900 is a depot maintenance test unit used to test, troubleshoot, and maintain the modules and printed circuit boards contained in the Synthesizer, Electrical Frequency 0-1488/FR, which is a component part of Receiving Set, Radio AN/FRR79; Transmitting Set, Radio AN/FAT-76; and Transmitting Set, Radio AN/FAT-77. The synthesizer depot test set contains the necessary switching and patching functions to interconnect the appropriate test circuits that provide simulated test signals, dc operating voltages, and monitoring facilities to the input and output pins of the module or printed circuit board under test. The synthesizer depot test set provides the operator with the capability of fault isolation to a particular printed circuit board of a module or to a particular circuit or component on a printed circuit board. The synthesizer depot test set is a self-contained unit consisting of three major components all housed in an electrical equipment cabinet. The major components constituting the synthesizer depot test set are matrix oscillator 1A1, synthesizer matrix test panel 1A2, and power supply 1A3. A utility drawer for cable storage is also provided. Additional data is listed in a, b, and c below.

a. Identification.

Nomenclature..... Synthesizer Depot Test
Set Litcom Model 7900.
Size 493/8 by 21 1/2 by 25 3/4 in.

Weight 366 lbs (approx.)
References TB 9-6625-961-50.

b. Specifications

Input requirements 103.5 to 126.5 volts, 54 to 66 Hz, single phase.
Oscillator frequencies... 1.0, 1.4, 1.5, 1.6, 1.7, 1.75, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.9, 4.75, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0, 26.75, 27.25, 27.75, 29.05, 30.0 MHz (Tolerance: 5 parts per 10-;) 34.0, 80.875, 86.0, 86.625, 87.125, 87.375, 92.5, 138.0, 144.25, 147.0, 148.75, 151.75, and 156.75 MHz (Tolerance: 20 parts per 10").
VHF amplifier..... 14 db gain at 130 to 190 MHz.
Multimeter..... 0 to 1000 volts dc and ac, 0-500 milliamperes, 0 to 10 amperes and 0 to 20 megohms.
Frequency doubler input 80.0 to 92.5 MHz. output 160 to 185 MHz.
Power supply output voltages..... +18,-9 volts dc, ± 3 percent

c. Program Data.

Calibration interval In accordance with TB 750-236

Time required for calibration 1 hour

Calibration level Depot maintenance

4. General Instructions

a. *Calibration Reporting.* During the performance of the calibration procedures included in this manual, annotate DA Form 2416 (Calibration Data Card) in accordance with TM 38-750.

b. *Removal.* Do not remove any of the subassemblies to be calibrated from its protective case unless necessitated by equipment connections and/or components to be adjusted which cannot be reached from the external parts on the synthesizer depot test set.

c. *Unit Under Test.* Synthesizer depot test will be referred to as "unit under test" throughout this procedure.