

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ORGANIZATIONAL, DS, GS, AND DEPOT
MAINTENANCE MANUAL

TEST SET TS-140/PCM SIGNAL
GENERATOR SG-15/PCM AND SG-15A/PCM
AND DECIBEL METER ME-22/PCM AND
ME-22A/PCM

This copy is a reprint which includes current
pages from Change 1.

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Organizational, DS, GS, and Depot Maintenance Manual

**TEST SET TS-140/PCM, SIGNAL GENERATOR SG-15/PCM,
AND SG-15A/PCM AND DECIBEL METER ME-22/PCM
AND ME-22A/PCM**

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*This manual supersedes TM 11-2096, 7 December 1953 Including C 1, 7 April 1955; C 2, 29 May 1958; C 4, 15 May 1962; C 7, 23 September 1963; and C 8, 20 November 1963.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains a description of Test Set TS-140/PCM (fig. 1-1), and includes operating instructions, organizational maintenance information, the theory of operation, repair of the equipment, instructions for removing the equipment from service and repacking for shipment or limited storage, and instructions for demolishing the equipment to prevent enemy use.

b. Appendix I contains a list of references including supply manuals, technical manuals on associated equipment, and other available publications applicable to the equipment. Appendix II contains maintenance allocation charts for Test Set TS-140/PCM, Signal Generators SG-15/PCM, SG-15A/PCM, and Decibel Meters ME-22/PCM, ME-22A/PCM. Appendix III contains the basic issue items list for Test Set TS-140/PCM, Signal Generator SG-15/PCM, SG-15A/PCM and Decibel Meters ME-22/PCM, ME-22A/PCM.

c. Official nomenclature followed by (*) is used to indicate all models of equipment covered in this manual. Thus, Signal Generator SG-15(*)PCM represents Signal Generator SG-15/PCM and Signal Generator SG-15A/PCM. Decibel Meter ME-22(*)/PCM represents Decibel Meter ME-22/PCM and Decibel Meter ME-22A/PCM.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new

editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7*. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. *Reports of Maintenance and Unsatisfactory Equipment*. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. *Report of Packaging and Handling Deficiencies*. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58/NAVSUP PUB 378/AFR 71-4/MCO P403029, and DSAR 41458.

c. *Discrepancy in Shipment Report (DISREP) (SF 361)*. Fill out and forward Discrepancy in Shipment Report (DISREP)(SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A, and DSAR 4500.15.

1-3.1. Reporting of Errors

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 Blank Forms) and forwarded direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-C, Fort Monmouth, NJ 07703.

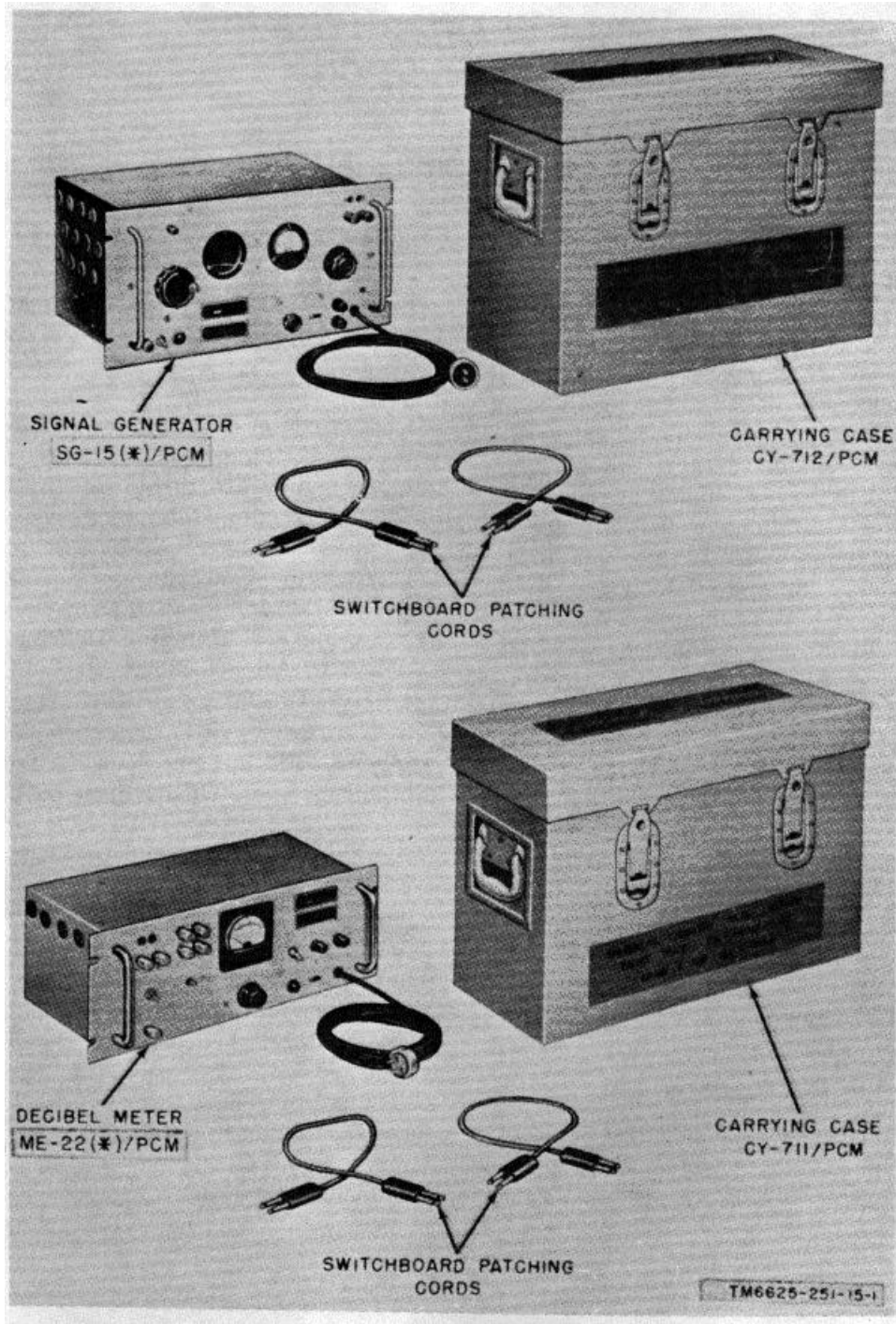


Figure 1-1. Test Set TS-140/PCM less running spares and technical manuals.

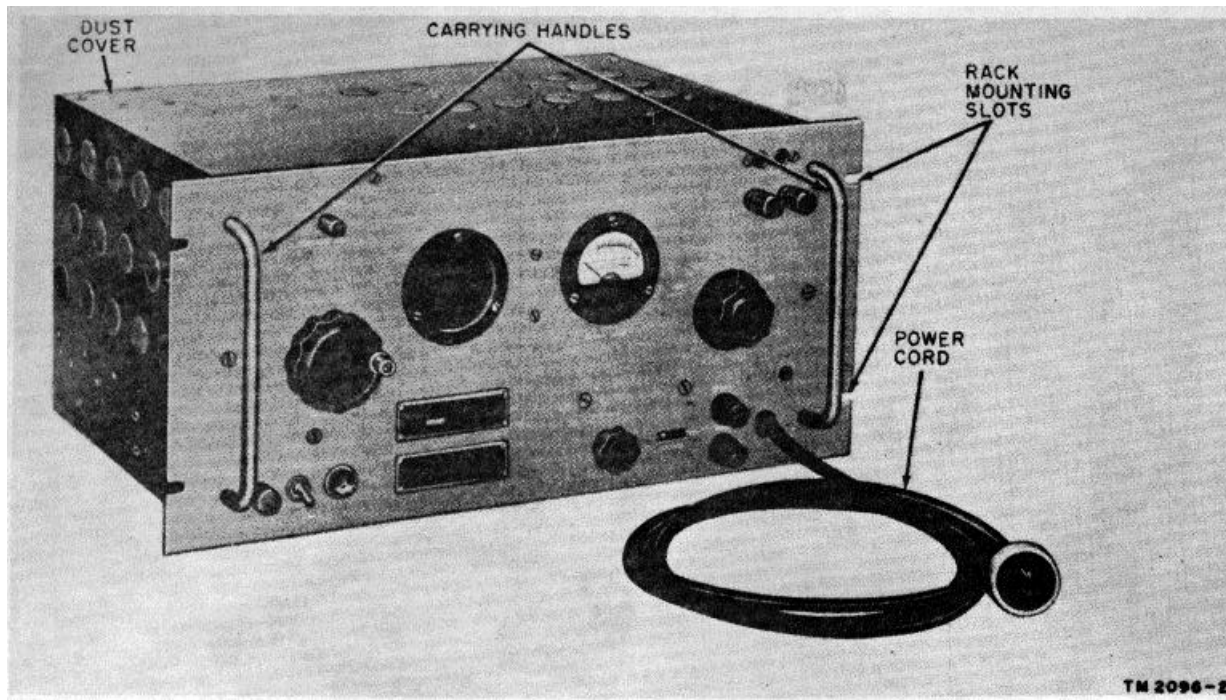


Figure 1-2. Signal Generator SG-15(*)/PCM.

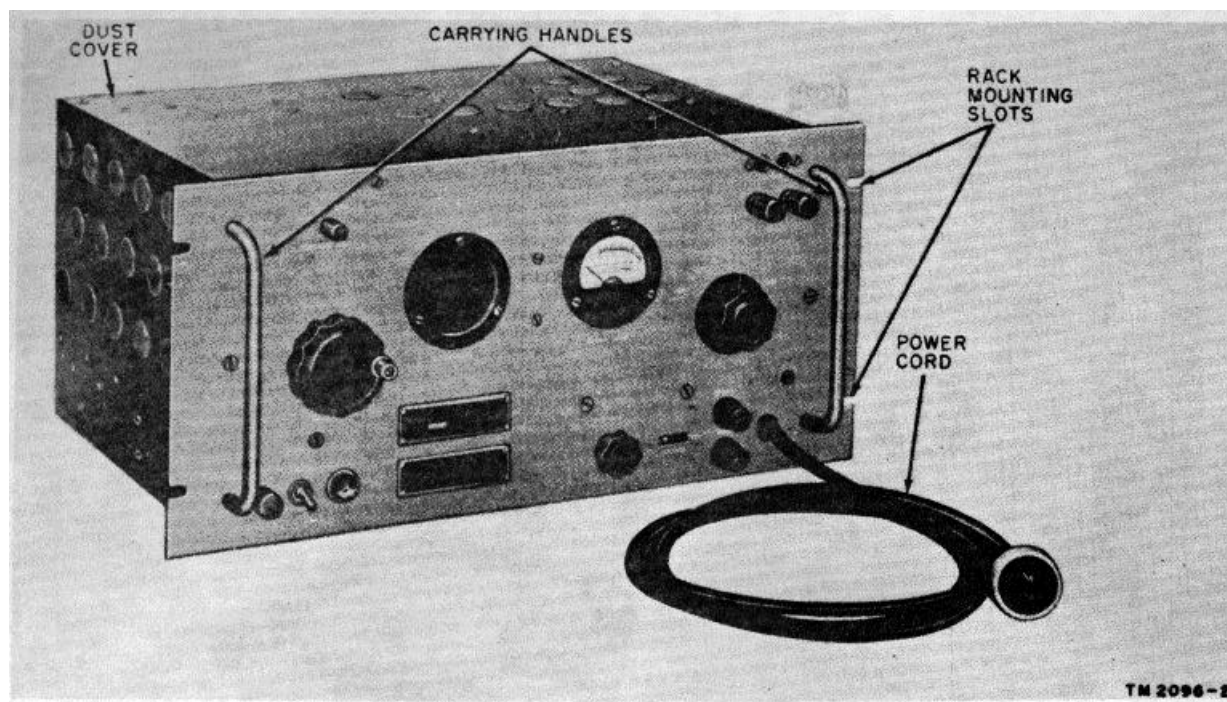


Figure 1-3. Decibel Meter ME-22(*)/PCM.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

Test Set TS-140/PCM (fig. 1-1) which consists of Signal Generator SG-15(*)/PCM (*a* below) and Decibel Meter ME-22(*)/PCM (*b* below), is a portable test set designed for making transmission measurements of v-f (voice-frequency) and carrier equipment in the frequency range of 200 cycles through 35 kilocycles. It also is used for testing wire and cable lines to determine their suitability for use with such equipment in communication systems. Gain and loss may be measured directly by Test Set TS-140/PCM since the front panel controls and meters of both the signal generator and the decibel meter indicate power levels in dbm (decibels referred to 1 milliwatt in 600 ohms). Cross talk also may be measured by using the gain and loss measurement technique and making measurements through the entire frequency range of the equipment or wire line under test.

a. Signal Generator SG-15()/PCM.* Signal Generator SG-15(*)/PCM (fig. 1-2) is a portable, heterodyne-type, vacuum-tube oscillator which provides a source of testing power for transmission measurements of carrier equipment and wire and cable lines. The signal generator is capable of supplying an output of -54 through +26 dbm to a 600-ohm load over a frequency range of 200 cycles through 35 kilocycles. It operates from a power source of 115- or 230-volt, 50- to 60-cycle a-c (alternating current) and has an output impedance of 600 ohms balanced. Signal Generator SG-15(*)/PCM also may be used as a source of testing power whenever there is a requirement for an audio oscillator or a signal generator in the same frequency range.

b. Decibel Meter ME-22()/PCM.* Decibel Meter ME-22(*)/PCM (fig. 1-3) is designed to measure received testing power. The unit is arranged for an input impedance of 600 or 8,000 ohms to permit direct or