

# TM 11-6625-665-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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ORGANIZATIONAL, DS, GS, AND  
DEPOT MAINTENANCE MANUAL

## GENERATOR SIGNAL AN/USM-205



HEADQUARTERS, DEPARTMENT OF THE ARMY  
MARCH 1966

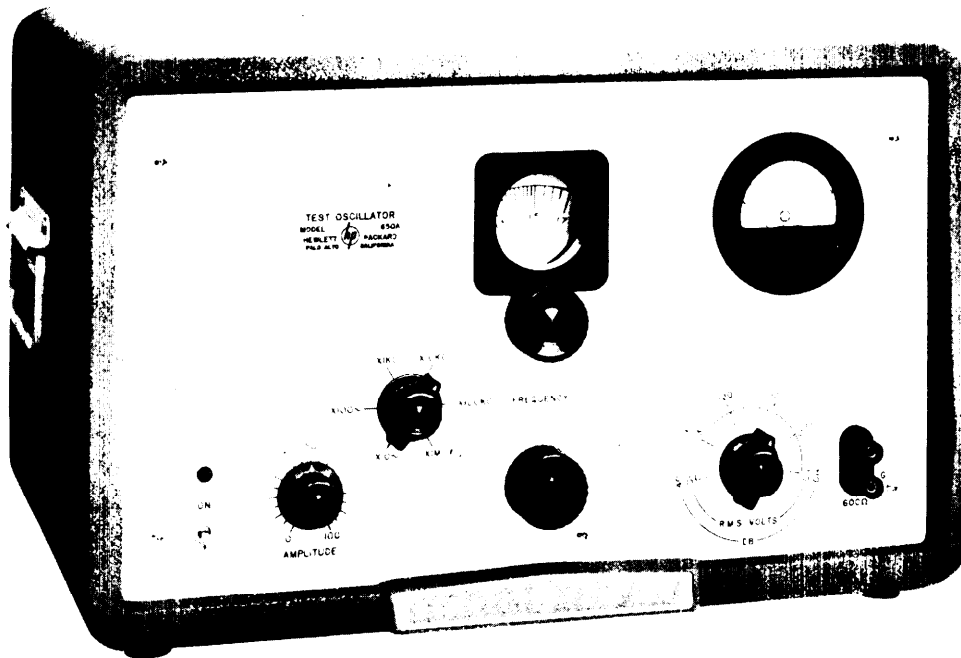
OPERATING AND SERVICING MANUAL



MODEL 650A  
TEST OSCILLATOR

SERIALS PREFIXED: 233-

ALSO SERIAL PREFIX 203 THRU 025



TECHNICAL MANUAL }  
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HEADQUARTERS  
DEPARTMENT OF THE ARMY  
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**Operator's, Organizational, Direct Support, General Support, and  
Depot Maintenance Manual**

**GENERATOR SIGNAL AN/USM-205**

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## SECTION II

### GENERAL DESCRIPTION

#### 1-1. General

##### NOTE

Throughout this technical manual, all references to Hewlett-Packard Model 650A Test Oscillator apply to Generator, Signal AN/USM-205.

The purpose of this technical manual is to provide complete instructions for the operation, maintenance, and repair of Generator, Signal AN/USM-205. The Hewlett-Packard Model 650A Test Oscillator is a wide range precision resistance tuned oscillator covering from 10 cps to 10 mc. It has a highly stable output signal level that is adjustable from 30 microvolt to 3 volts into 600 ohms. Frequency response is essentially flat ( $\pm 1$  db) throughout the complete extended range. The output impedance is normally 600 ohms. Where a low source impedance is desired, 6 ohms is provided by the Voltage Divider Cable supplied with the instrument. The Model 650A Test Oscillator output voltage is constantly monitored by a vacuum tube voltmeter at the input to the output attenuator system. This VTVM has two voltmeter scales plus a dbm scale (0 dbm = 1 milliwatt in 600 ohms). The attenuator control, in conjunction with the AMPLITUDE control, will produce a monitored signal of any desired level when the instrument is resistive loaded with 600 ohms. The flexibility and simplicity of the 650A Test Oscillator find a wide variety of uses in audio, video, rf, and alignment applications as well as laboratory wide band measurements. This instrument was designed for such applications as fast and accurate testing of filter transmission characteristics, tuned circuit response, complete receiver alignment, telephone or telegraph carrier equipment, plus video and audio amplifiers. The Model 650A Test Oscillator is

well suited as a signal source for af and rf bridge measurements. The wide range of test frequencies necessary for repair and testing of electronic frequency counters is also available from the 650A Test Oscillator.

#### 1-2. Indexes of Publication

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 P4030.29, and DSAR 4145.8.

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.

#### 1-4. Reporting of Errors

The reporting of errors, omissions, and recommendations for improving this publication by