

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL,
DIRECT SUPPORT AND GENERAL
SUPPORT MAINTENANCE MANUAL
FOR**

OSCILLOSCOPE OS-261B(V)1/U

(NSN 6625-01-101-1318)

(TEKTRONIX MODEL 475 WITH OPTION 04)

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

HEADQUARTERS, DEPARTMENT OF THE ARMY

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**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL**

**OSCILLOSCOPE OS-261B(V)1/U
(TEKTRONIX MODEL 475 WITH OPTION 04)
(NSN 6625-01-101-1318)
AND
OSCILLOSCOPE OS-261C(V)1/U
(TEKTRONIX MODEL 475 WITH OPTION 04
AND OPTION 07)
(NSN 6625-01-119-7314)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703-5007. In either case, a reply will be furnished direct to you.

This manual is an authentication of the manufacturer's commercial literature which, through usage, has been found to cover the data required to operate and maintain this equipment. Since the manual was not prepared in accordance with military specifications, the format has not been structured to consider levels of maintenance.

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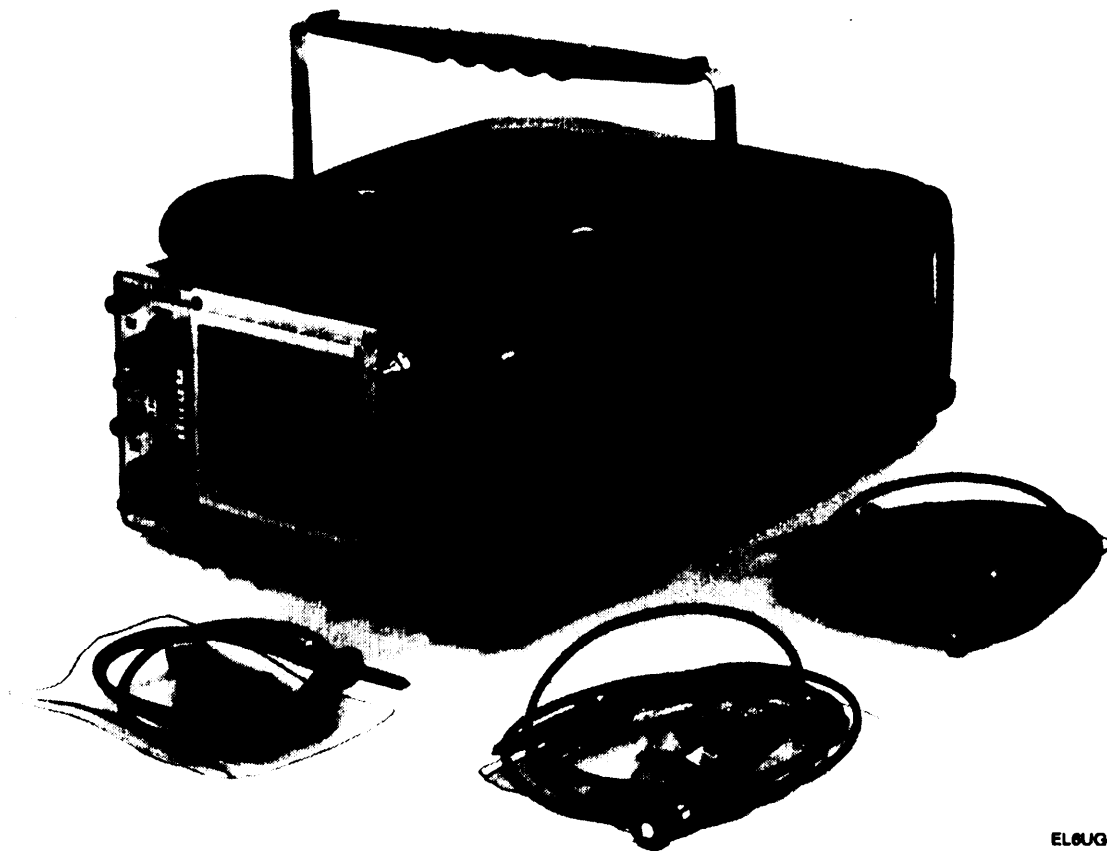
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Fig. 1-1. Oscilloscope OS-261B(V)1/U and OS-261C(V)1/U.

NOTE

UNITS WITH OPTION 07, POWER SUPPLY
PP-7549/U (TEKTRONIX MODEL 1106),
WILL USE TM 11-6625-2973-14 FOR POWER
SUPPLY MAINTENANCE.



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Fig. 1-1.1. Oscilloscope, OS-261B and OS-261C(V)1/U, Power Supply -1106 Battery Pack.

SECTION 0

INTRODUCTION

Scope

This manual describes Oscilloscope OS-261B(V)1/U and OS-261C(V)1/U and provides instructions for operation and maintenance. Throughout this manual, the OS-261B(V)1/U is referred to as Tektronix Model 475 with option 04, and the OS-261C(V)1/U is referred to as Tektronix Model 475 with option 07.

Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of DA Pam 310-1 to determine whether there are new additions, changes, or additional publications pertaining to the equipment.

Maintenance Forms, Records, and Reports

a. *Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750 as contained in Maintenance Management Update.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-54/MCO 4430.3F.

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 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

Reporting Equipment Improvement Recommendations (EIR)

If your OS-261B(V)1/U and OS-261C(V)1/U needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703-5007. We'll send you a reply.

Administrative Storage

To prepare the equipment for administrative storage, ascertain its operability and reliability. In addition, use the proper packing materials.

Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

GENERAL INFORMATION AND INSTALLATION

Introduction

The 475 Oscilloscope is a 200 megahertz bandwidth portable instrument designed to operate in a wide range of environmental conditions. The lightweight, compact design combines accurate high-frequency measurement capability and ease of transportation.

The dual-channel, DC-to-200 megahertz vertical deflection system provides calibrated deflection factors from 2 millivolts to 5 volts/division. A BW/TRIG VIEW switch permits limiting the bandwidth of the vertical system to reduce interference from high-frequency signals when viewing lower-frequency, low-level signals. The switch also permits displaying of the signal applied to the 'A' Trigger Generator on the CRT.

The trigger circuits provide stable sweep triggering to beyond the 200 megahertz bandwidth of the vertical deflection system. Separate controls are provided to select the desired mode of triggering for the A and B sweeps. The A sweep can be operated in one of three modes; automatic triggering, normal triggering, or single sweep. A variable trigger holdoff control permits the A

sweep to trigger in a stable manner on aperiodic signals or complex digital words. The horizontal deflection system has calibrated sweep rates from 0.5 second to 0.01 microsecond/division. A X10 magnifier increases each sweep rate by a factor of 10 to provide a maximum sweep rate of one nanosecond per division in the .01 μ s position. The delayed and mixed sweep features allow the start of B sweep to be delayed a selected amount from the start of A sweep to provide accurate relative-time measurements. Calibrated X-Y measurements can be made with Channel 2 providing the vertical deflection and Channel 1 providing the horizontal deflection (TIME/DIV switch fully counterclockwise and VERT MODE switch to CH 2). Regulated DC power supplies provide stable instrument performance over a wide range of line voltages and frequencies. Maximum power consumption of the instrument is approximately 100 watts.

Characteristics

The following instrument specifications apply over an ambient temperature range of -15°C to $+55^{\circ}\text{C}$ unless otherwise specified. Warmup time for specified accuracies is 20 minutes. The calibration procedure given in Section 6, if performed completely, will ensure the instrument meets the electrical characteristics listed in this section.