TM 11-6625-2641-14

# TECHNICAL MANUAL

# OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL
# INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST
# [INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS]

# PLUG-IN DIGITAL VOLTMETER PL-1344/U
# [HEWLETT-PACKARD MODEL 5265A]
# [SERIAL PREFIX 914]

HEADQUARTERS, DEPARTMENT OF THE ARMY
JULY 1974

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This technical manual is an authentication of the manufacturer'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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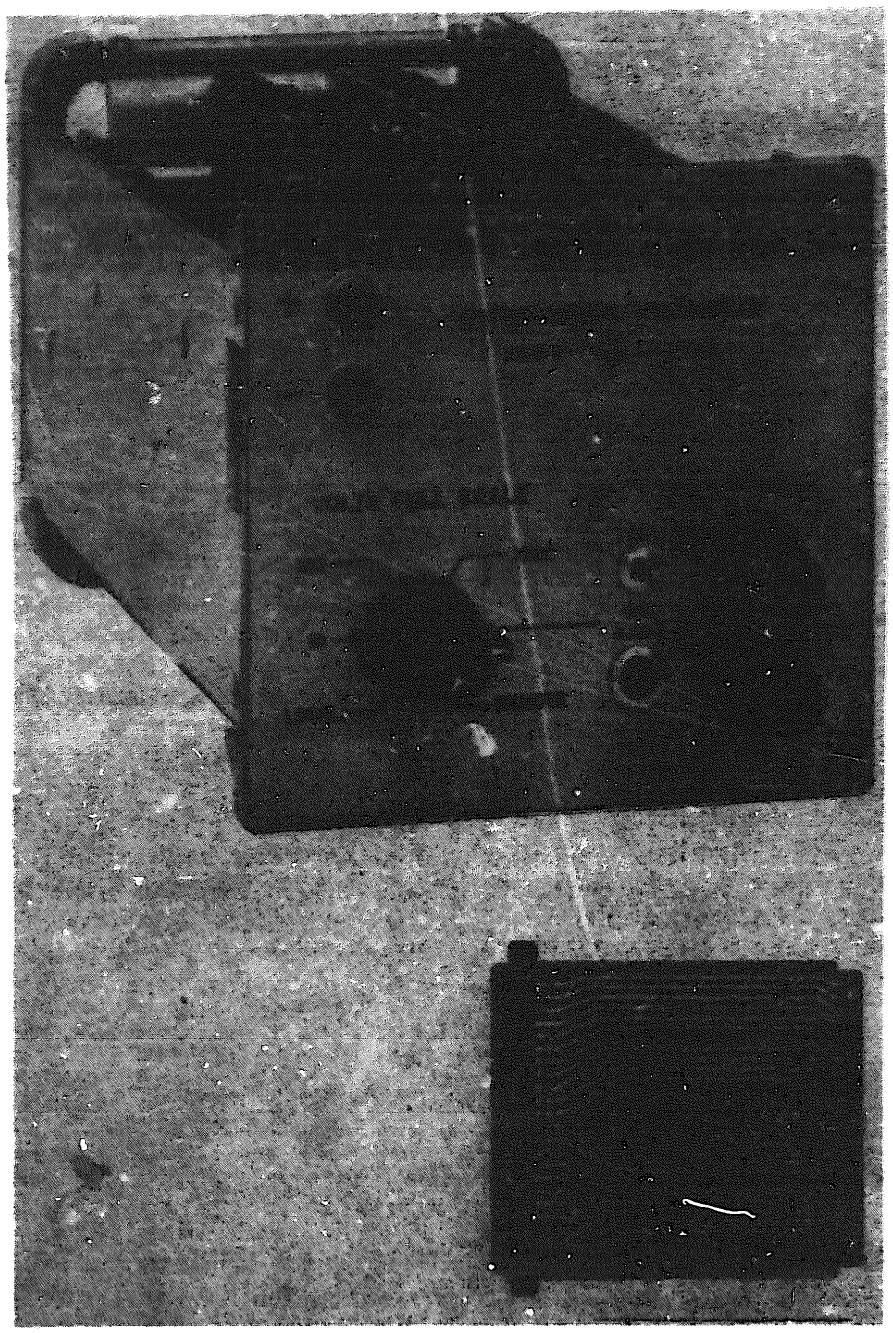

Figure 1-1. Plug-In Digital Voltmeter PL-1344/U and extender board Text

# CHAPTER 1

# INTRODUCTION

## 1-1. Scope

**This manual describes Plug-In Digital Voltmeter PL-1344/U (Hewlett-Packard Model 5255A). It includes installation and operation instructions, and covers operator's, organizational, direct support, and general support maintenance.**

## 1-2. Indexes of Publications

***a.*** **Refer to the latest issue of DA Pam 310-4 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.**

## 1-3. Forms and Records

***a. Report of Maintenance and Unsatisfactory Equipment.*** **Use equipment forms and records in accordance with instruction in 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 459/AFM 75-34/and 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.**

***d. Reporting of Equipment Manual Improvements.*** **Reports 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 Publications) and forwarded direct to Commander, U.S. Army Electronics Command, ATTN: AMSEL-MA-CT, Fort Monmouth, NJ 07703.**

## 1-4. Description

**The PL-1344/U Plug-In Digital Voltmeter (Hewlett-Packard Model 5265A) converts the HP Models 5245/M, 5246L, or 5248L/M electronic counters to an accurate dc digital voltmeter. Three ranges, 10, 100, and 1,000 V are provided. The accuracy of the digital voltmeter is ±0.1 percent of the displayed reading plus ± 0.01 percent of the full range value for operating temperatures between 0° C and +50° C. Accuracy is maintained for overrange voltages of 5 percent on all ranges. The LOCAL-REMOTE switch permits** remote selection of **the digital voltmeter mode** or operation from the **voltmeter** controls. The polarity of the input dc **voltage is** automatically sensed and displayed. The PL-1344/U is a v&age-to-time interval converter which uses a linear voltage ramp and voltage coincidence circuits to define a time interval. Since the ramp is linear with respect **to** time, the time interval is directly proportional **to input voltage, and is measured by counting a 10-MHz signal from** the counter time base. A 22-**pin printed circuit e**xtender board is supplied.

## 1-5. Technical Characteristics

| | |
|---|---|
| **Voltage range** | Six-digit presentation of 10.000, 100.000, and 1.000.00 volts full scale with 5% overrange capability. |
| Registration | On electronic counter. |
| Reads in | DC volts with decimal point positioned by range switch: automatic polarity indicator. |
| Accuracy (0 to 50°C) | 0.1% of reading above 1/10 full scale: +0.01% of full scale below l/10 full scale (within 24 hours and 100C. temperature change since front panel calibration adjustments and within 6 months of internal Zener reference calibration). |
| Internal calibration reference | Zener diode. |
| Sample rate | 5 per second to 1 per 5 seconds. with storage between samples and Hold for sampling on Command. |
| **Range selection** | Manual. |
| Programming | DVM mode or counter functions may be selected remotely (remote operation requires H65-5245M or H65-5245L). |
| Input resistance | 10.2 megohms to dc on all ranges. |
| Input filter | AC rejection: 30 dB at 60 Hz, increasing at 12 dB **per** octave. |
| | Response time: to a step function input. less than 450 msec to achieve 99.95% of final value. |