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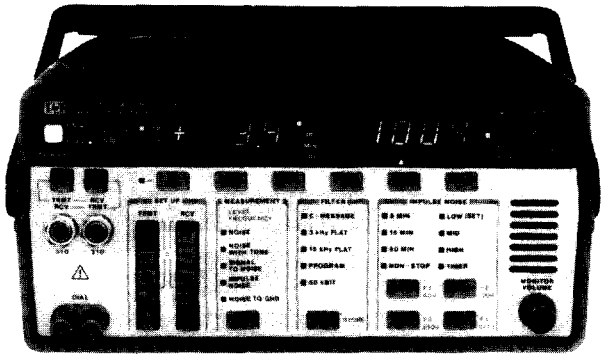
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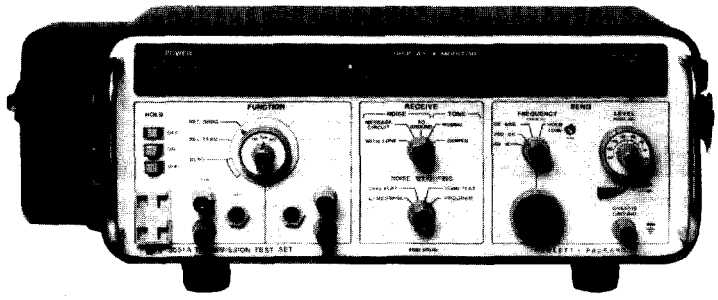
# DATA COMMUNICATIONS TEST EQUIPMENT

## Transmission Impairment Measuring Sets (TIMS)

### Models HP 4935A/4936A HP 3551A/3552A



HP 4935A



HP 3551A

## Product Description

### Qualify Circuits for Voice, Data or Program

The HP 4935A/4936A Transmission Impairment Measuring Sets and the HP 3551A/3552A Transmission Test Sets are rugged, portable test sets that provide the basic analog tests to isolate faults and to qualify circuits for voice, data, and broadcast service. In addition, the HP 4935A, with its 110 kHz bandwidth, performs the required tests to qualify the local loop for Digital Data System (DDS) up to 56 kbps. The Peak-to-Average Ratio (P/AR) measurement option on the HP 4935A gives users a powerful, yet simple measure of the combined factors that affect the overall data transmission quality of the line.

### Different Instruments for Different Standards

The HP 4935A and HP 3551A perform measurements compatible with the Bell standards (BSTR 41009) and IEEE standards (IEEE 743-1984). These standards are primarily used in North America. The HP 4936A and HP 3552A are compatible with the recommendations of the CCITT.

### HP 4935S Data Transmission Test System

The HP 4935S combines the analog test power of the HP 4935A with the compact, yet powerful digital test abilities of the HP 4925B to form a complete data installation and maintenance tool. This is especially useful for those technicians who have both analog and BERT test needs. See page 00.00 for more information.

### Capability Summary

**HP 4935A/4936A**

**Measurements**

- **Level**
- **Frequency**
- **Circuit Noise**
- **Noise-with-Tone**
- **Signal-to-Noise Ratio**
- **3 Level Impulse Noise (quiet) ('36A)**
- **3 Level Impulse Noise (with tone)**
- **Noise-to-Ground ('35A)**
- **P/AR (option '35A)**

**Ranges**

**Trans. Level:** −40 to +13 dBm
**Trans. Freq.:** 20 Hz to 110 kHz
**Rec. Level:** −60 to +13 dBm('35A
−70 to +13 dBm ('36A)
**Rec. Freq.:** 20 Hz to 110 kHz
**Message Circuit Noise**
(600 and 900 ohm): 0 to 100 dBrn('35A)
−90 to +10 dBm ('36A)
**Noise-with-Tone:**
(600 and 900 ohm: 10 to 100 dBrn ('35A)
−80 to +10 dBm ('36A)
**Noise-to-Ground:** 50 to 130 dBrn ('35A)
**Signal-to-Noise Ratio:** 10 to 45 dB
**Impulse Noise Threshold:**
30 to 109 dBrn ('35A)
−60 to +16 dBm ('36A)
**Impulse Noise Separation:** 4 dB ('35A)
3 dB ('36A)
**P/AR Range:** 0 to 120 P/AR units ('35A)

**General**

**Impedances:** 135, 600, 900 ohms ('35A)
150, 600, 900 ohms ('36A)

**Filters**

***4935A:***

- **C-Message**
- **3 kHz flat**
- **Program**
- **15 kHz flat**
- **50 kbit**
- **1010 Hz notch**

***4936A:***

- **Psophometric (P.53)**
- **275-3250 Hz flat (0.71 impulse noise)**
- **Sound unweighted (J.16)**
- **Sound weighted (J.16)**
- **820 Hz notch (1020 Hz optional)**

**Size:** 127 x 279 x 381 mm (5.0 x 11.0 x 15.0 in.)
**Weight:** 5.0 kg (11 lb), 6.5 kg (14 lb) with battery

***3551A/3552A:***

**Measurements**

- **Level**
- **Frequency**
- **Circuit Noise**
- **Noise-with-Tone**
- **Noise-to-Ground**

**Range**

**Trans. Level:** −60 to +10 dBm
**Trans. Freq.:** 40 Hz to 60 kHz
**Rec. Level:** −70 to +15 dBm
**Rec. Freq.:** 40 Hz to 60 kHz
**Message Circuit Noise:**
0 to 85 dBrn ('51A)
−90 to −5 dBm ('52A)
**Noise-with-Tone:**
(600 and 900 ohm) 10 to 85 dBrn ('51A)
−80 to −5 dBm ('52A)
**Noise-to-Ground:** 40 to 125 dBrn ('51A)
−50 to +35 dBm ('52A)

**General**

**Impedances:** 135, 600, 900 ohms ('51A)
150, 600, 900 ohms ('52A)

**Filters**

***3551A:***

- **C-Message**
- **3 kHz flat**
- **Program**
- **15 kHz flat**

***3552A:***

- **Psophometric**
- **3 kHz flat**
- **Program**
- **15 kHz flat**
- **1010 Hz notch**

**Size:** 159 H x 368 W x 273mm D (6.3″ x 14.5″ x 10.8″
**Weight:** 6.6. kg (14 lb)

| Ordering Information | Price |
|---|---|
| **HP 3551A** Transmission Test Set | $4,000 |
| **HP 3552A** Transmission Test Set (CCITT) | $4,700 |
| **HP 4935A** Transmission Impairment Measuring Set* | $3,500 |
| **Option 001:** Adds Rechargeable Battery Pack | $370 |
| **Option 002:** Adds P/AR Measurement in place of Noise-to-Ground | $150 |
| **Option 003:** Adds both Battery Pack and P/AR, deletes Noise-to-Ground | $450 |
| **Option 910:** Adds extra HP 4935A Operating and Service Manual | $30 |
| **HP 4936A** Transmission Impairment Measuring Set | $4,500 |
| **Option 001:** Includes 820 Hz tone with rechargeable Battery Pack | $520 |
| **Option 002:** 1020 Hz tone | NC |
| **Option 003:** Includes 1020 Hz tone with rechargeable Battery Pack | $520 |
| **Option 910:** Adds extra HP 4936A Operating and Service Manual | $40 |

*There are quantity discounts on 5 or more of the HP 4935A

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