

# DATA COMMUNICATIONS TEST EQUIPMENT

## Transmission Impairment Measuring Sets (TIMS)

HP 4934A, 4935A, 4935S, 4936A, 4947A, 4948A

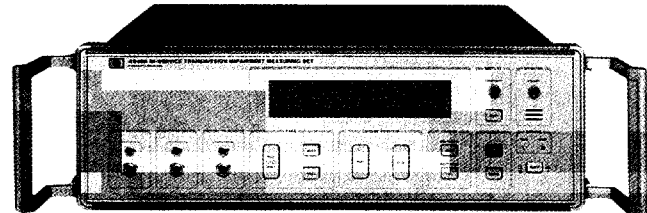
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- Complete analog testing to North American and CCITT standards
- Testing of voice-grade data circuits, program circuits, metallic digital circuits

- Wide choice ranging from rugged portables to systems instruments, including unique in-service TIMS



HP 4934A



HP 4948A



### HP 4934A TIMS

The HP 4934A transmission impairment measuring set (TIMS) increases installation and maintenance productivity for telephone companies and service providers through its ease of use, portability, and ruggedness. Hewlett-Packard offers versions of the HP 4934A that perform measurements to either IEEE 743 or CCITT specifications, including:

- Level/frequency up to 110 kHz
- Noise and noise-to-ground
- Noise-with-tone and signal-to-noise ratio
- 3-level impulse noise
- P/AR (North American version only)

Battery power is available as an option.

### HP 4947A TIMS

The HP 4947A is a full featured transmission impairment measuring set with HP-IB remote control for use in installation, maintenance, and manufacturing. The HP 4947A provides measurements to IEEE 743 (North American) standards, supplemented by a special option for a psophometric noise filter, and level/frequency to 5 kHz.

### HP 4935A/4936A TIMS

The HP 4935A/4936A transmission impairment measuring sets are rugged, portable test sets that provide the basic analog tests to isolate faults and to qualify circuits for voice, data, and broadcast services. The HP 4935A performs measurements compatible with the Bell (BSTR 41009) and IEEE (IEEE 743-1984) standards. The HP 4936A is compatible with CCITT recommendations. The HP 4935S data transmission test system consists of the HP 4935A TIMS plus the HP 4925B bit error-rate test set.

The HP 4935A/4936A measure: Level, frequency, circuit noise, noise-with-tone, signal-to-noise ratio, 3-level impulse noise (quiet) (HP 4936A), 3-level impulse noise (quiet or tone) (HP 4935A), noise-to-ground (HP 4935A), and P/AR (HP 4935A option).

### HP 4948A In-Service TIMS

The HP 4948A transmission impairment measuring set provides unique in-service measurements (North American and CCITT) on voice-grade modem circuits using the live traffic signal. It is ideal for preventive maintenance and use in network monitoring systems. The HP 4948A measures:

- Level/frequency
- Signal-to-noise ratio
- Phase and amplitude jitter
- Dropouts, gain hits, phase hits
- Impulse noise
- Attenuation and delay distortion

### Ordering Information

	<b>Price</b>
<b>HP 4934A TIMS</b> , including front-panel cover, power cord, 2 HP 15513A test cords (with WECO 310 jack plugs)	\$2,790
<b>Opt 001</b> Battery Pack with Built-In Charger	+ \$300
<b>Opt 010</b> Delete Test Cords	- \$100
<b>Opt J01</b> Replaces North American Features and Connectors with CCITT; 820 Hz Hold Tone; Deletes Test Cords	+ \$700
<b>Opt J02</b> same as J01, Except 1020 Hz Hold Tone	+ \$700
<b>HP 4947A TIMS</b>	\$11,800
<b>Opt 908</b> 19-in. Rackmount Kit	+ \$41
<b>HP 4935A TIMS (North American)</b>	\$3,830
<b>Opt 001</b> Rechargeable Batteries	+ \$380
<b>Opt 002</b> Add P/AR Measurement, Delete Noise-to-Ground	+ \$155
<b>Opt 003</b> Add Options 001 and 002	+ \$465
<b>HP 4936A TIMS (CCITT)</b>	\$4,880
<b>Opt 001</b> Include 820 Hz Tone, Add Rechargeable Batteries	+ \$535
<b>Opt 002</b> 1020 Hz Tone Replaces 820 Hz	\$0
<b>Opt 003</b> Add Options 001 and 002	+ \$535
<b>HP 4935S data transmission test system</b>	+ \$5,405
<b>Opt 001, 002, 003</b> Same as HP 4935A	
<b>Opt 101</b> RS-232/V.24 on HP 4925B	+ \$420
<b>Opt 102</b> V.35 Interface and 115 V Power Module (HP 18185A) on HP 4925B	+ \$620
<b>Opt 104</b> V.35 Interface and 220 V Power Module (HP 18194) on HP 4925B	+ \$660
<b>HP 4948A In-Service TIMS</b>	\$13,690
<b>Opt 006</b> 14.4 kb/s V.33 Capability	+ \$1,010
<b>Opt 908</b> 19-in. Rack Mount Kit	+ \$35
<b>Accessories</b>	
<b>HP 15513A</b> 1 m Cable, WECO 310 Jack Plug Each End	\$62
<b>HP 18134A</b> Vinyl Carrying Case for HP 4934A, HP 4935A	\$144
<b>HP 18182A</b> 1.5 m Cable, WECO 310 Jack Plug to Alligator Clips	\$67