

DATA COMMUNICATIONS TEST EQUIPMENT

Network Circuit Access Test Set, Transmission Impairment Measuring Set

Models 4938A/4937A

HP 4935S Data Transmission Test Set	\$4,900
Option 001: Adds rechargeable Battery Pack to HP 4935A	\$375
Option 002: Adds P/AR measurement in place of Noise-to-Ground in HP 4935A	\$150
Option 003: Adds both battery Pack and P/AR to HP 4935A, deletes Noise-to-Ground	\$450
Option 101: Adds RS-232C/V.24 Interface to HP 4925B	\$410
Option 102: Adds V.35 Interface and HP 18184A Power Module (115V) to HP 4925B	\$600
Option 104: Adds V.35 Interface and HP 18194A Power Module (220V) to HP 4925B	\$640
Option 910: Adds extra HP 4935A and HP 4925B Operating and Service Manuals	\$65

HP 4937S Network Access Transmission Test Set

HP 4937S = HP 4937A + HP 4938A

A Transmission Test Set With Signaling

The HP 4937S Network Access Transmission Test Set provides transmission tests, supervisory signaling simulation, and network access capabilities for installation and maintenance of networks and PBXs. It is a field-service, portable test set designed for craft-level use. All the transmission measurements are compatible with current Bell standards.

One Instrument for Installation/Maintenance of PBXs and Networks.

The HP 4937A contains a set of voiceband transmission tests — level/frequency measurement, noise, and 2- and 4-wire return loss measurements. It also has the ability to seize and hold three types of E/M lines. In addition, the HP 4937A simulates signaling both from the central office and from the PBX at the network interface.

The HP 4938A provides additional network access and margin testing capabilities. It includes access to 4-wire simplex leads, generating ringing signal, and providing access for loop current and ringing voltage measurement.

HP 4937A Specifications

Level/Frequency	
Transmitter	
Level: -40 dBm to +13 dBm	
Frequency: 20 Hz to 9999 Hz	
Receiver	
Level: -60 dBm to +13 dBm	
Frequency: 20 Hz to 9999 Hz	



Noise Measurements

Noise: 0 to 99 dBm
Noise-with-Tone: 10 dBm to 99 dBm
Signal-to-Noise Ratio: 10 to 45 dB
Noise-to-Ground: 50 to 99 dBm
Filters: C-Message, 3 kHz flat, 1010 Hz notch

Return Loss

Impedances: 600 and 900 ohms
Signal Spectra: Echo return loss, singing return loss high, singing return loss low.

Return Loss, 2-Wire

Transmitter Level: -26 dBm to -2 dBm
Receiver Range: 0 to 40 dB

Return Loss, 4-Wire

Transmitter Level: -26 dBm to -2 dBm
Receiver Range: 0 to 50 dB

Transhybrid Loss Compensation: -29.9 to +29.9 dB

Supervisory Signaling

E/M Signaling: Types I, II, III
Loop Signaling: Loop start, Ground start, Loop Reverse Battery
Battery: -48 Vdc current limited to 29 mA
Hold Circuit: 2 each drawing 20 mA at a minimum voltage of 8.5 Vdc
Wink: Idle state, 100 ms; off-hook state, 200 ms

General

Battery Supply (Optional): Typically 5 hours of continuous operation at +25°C. Complete recharging in 14 hours with unit in STBY
Dimensions: 127 H x 279 W x 380 mmD (5.0" x 11.0" x 15.0")
Weight: 5.3 kg (12 lb), 7.6 kg (17 lb) with batteries

HP 4938A Specifications

Ringing Voltage Generator
Output Level: 86 Vrms into a REN-3 load
Frequencies: 20 Hz and 30 Hz
Ring Trip Threshold: 17 mA typical
Ringing Termination: REN-3 load, ring trip closure (330 ohms)

Loop Signaling Network: loop start, 430 ohms; ground start, 550 ohms from ring to ground

4-Wire Network Access: 2 dual center-tapped simplex transformers

Battery Simulator: 48 Vdc maximum current 100 mA

General

Dimensions: 91 H x 261 L x 126 mm W (3.6 x 10.3 x 4.9 in.)
Weight: 1.5 kg (3.2 lb)

Ordering Information

HP 4937S Network Access Transmission Test Set	\$5,700
Option 001: Rechargeable batteries for HP 4937A	\$270
Option 002: Replace 900 ohms with 150 ohms on HP 4937A	N.C.
Option 910: Adds extra HP 4937A and HP 4938A Operating and Service Manuals.	\$55
HP 4937A Transmission Impairment Measuring Set	\$4,700
Option 001: Rechargeable batteries	\$270
Option 002: Replace 900 ohms with 150 ohms	N.C.
HP 4938A Network Circuit Access Test Set	\$1,150

Accessories

HP 18132A: 19 in. rack mount for HP 4935A and HP 4937A	\$165
HP 18134A: Soft Vinyl Carrying Case for HP 4935A or HP 4935S	\$140
HP 15512A: 1 m audio cable with two 3-pin connectors (Siemens type) (for the HP 4936A)	\$80
HP 15513A: 1 m audio cable with two WECO 310 jack plugs (for the HP 4935A and HP 4937A)	\$60
HP 18182A: 1.5 m audio cable, WECO 310 plug to alligator clips	\$65
HP 18064A: Noise-to-ground adapter for the HP 4935A. Allows P/AR instruments (options 002 and 003) to measure noise-to-ground	\$135
HP 18161A: Ladder bracket for HP 4935A and HP 4937A	\$30

See also HP 4925B