

HT1000 TechMate®

Copper Wire Analyzer



- **Noise finder via a 30 MHz spectrum analyzer**
- **7 user selectable auto tests**
- **Incremental pair test program**
- **200 pair pre-post test storage**
- **AC or DC power**
- **USB port downloads updates and uploads test results**
- **Part of the Meggernetworks line of telecom/datacom products**

DESCRIPTION

The TechMate® is a high performance, full feature, hand held instrument designed to provide copper wire provisioning and maintenance technicians with the most critical tests at the touch of a button. Durable and water resistant, the TechMate® is equipped with a highly effective 1/4 VGA LCD screen and a powerful backlight designed to make testing and troubleshooting easier in all work environments.

The on-screen menu launches most tests with a single keystroke.

Super Stress™ reaches beyond standard longitudinal balance testing, identifying even hard to find short loop unbalances.

Dual trace TDR is standard, with 12 trace storage and intermittent fault location.

The TechMate® has user selectable auto tests with an incremental pair testing process.

Test for DC and AC volts at the same time, no need to switch between separate screens.

Download updates and upload test results quickly and easily via the integrated USB port.

FEATURES

Easy to navigate and launch testing; many of the standard 26 tests begin with the push of a single button: either from the numeric keypad, or the soft key navigation pad.

- **Direct access to tests: no cumbersome menus.** Adds to ease of training new technicians.
- **Voltage, resistance and all standard telecom testing is accessed through the same simple menu layout.**

- **Super stress - this test is ten times more sensitive than other technologies available today.** What that means is imbalances in twisted pairs can be seen below the 0dB threshold, zeroing in on those imbalances hiding in short-wire loops.
- **Automatic super stress mode - aids technicians in finding invisible faults on short wire loops.**
- **All transmission and noise tests for voiceband are included along with an open meter which is pinpoint accurate, even in the presence of shunt resistance (dirty open).**
- **TDR - the built-in TDR locates shorts, crosses and opens at distances ranging from the end of the test leads to 14.7 km (45,000 ft).** It can trace two pairs simultaneously with pair comparison mode to identify potential cable trouble spots.
- **Dual trace TDR allows technician to compare good pair to questionable pair - reads accurately to open or shorted pair.** TDR traces can be saved and uploaded to PC for review.
- **Auto test / incremental pair test - user can configure up to 8 series of tests to run automatically.**
Used in conjunction with the incremental pair test and bulk pair recovery.
- **Built in pair recovery program allows technician to gather data on defective pairs and troubleshoot faults.**
Store test results - The HT-1000 stores test results data in a comma delimited format which can be uploaded via the integrated USB port to a customer-driven database.
- **Download firmware updates - via the integrated USB port.**
- **Spectrum analyzer - loss readings up through the VDSL range test protocols.**

- Send and receive frequency spectrum through VDSL band.
- Spectrum analyzer assists the technician in finding interrupters that cause disruptions to DSL service - will read to VDSL band
- ADSL2+ and VDSL2 - with optional card installed, xDSL cards allow technicians to interface with the CO (DSLAM) and measure communication protocols, such as speed - upstream and downstream, signal to noise ratios and percent utilization.

The VDSL card also allows for CO emulation

- Techmate® RFL uses three or four wire setup and pinpoints fault size and location with simple temperature and cable gage adjustments.

SPECIFICATIONS

(Model HT1000-A unless otherwise noted)

Feature	Range/Accuracy: (whichever is greater)
ACV	0 V to 250 V ($\pm 2\%$, ± 1 V)
DCV	0 V to ± 300 V ($\pm 2\%$, ± 1 V)
Resistance	0 Ω to 1,000 K Ω ($\pm 2\%$, ± 1 Ω)
Leakage	1 M Ω to 999 M Ω ($\pm 3\%$), 150 V open circuit output
Longitudinal balance	+30 dBrn to +80 dBrn (± 2 dBrn)
Super Stress™	-10 dBrn to +30 dBrn (± 2 dBrn)
Load coil detection	0 coil to 4 coils (± 1 coil)
Loop current	0 mA to ± 100 mA ($\pm 2\%$, ± 1 mA)
Power influence	+40 dBrnC to +100 dBrnC (± 2 dBrnC)
Noise (Voice Band)	0 dBrnC to +60 dBrnC (± 2 dBrnC)
Loss (Voice Band)	-40 dBm to +10 dBm (± 1 dBm)
Open meter	0 m (0 ft) to 900 m (3,000 ft) $\pm 2\%$, ± 1.5 m (5ft) 900 m (3,000 ft) to 15 km (50,000 ft) ($\pm 3\%$)
Auto test	7 user-selectable auto test scripts, 200 pair storage, retest capability, Incremental pair testing program
ID tone	Frequency: 577.5 Hz ($\pm 1\%$) Amplitude: 0 dBm, 600 Ω (± 1 dBm)
Caller ID	Yes
Wideband tone send	Frequency: 20 KHz to 9 MHz ($\pm 1\%$) Amplitude: 0 dBm, 135 Ω (± 1 dBm)
Wideband tone receive	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm, +2 dBm (± 2 dBm)
Wideband loss	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm, +2 dBm (± 2 dBm) RFL Distance to fault: 0 – 3,000 m (10,000 ft) $\pm 0.5\%$, ± 1 m (3 ft) Maximum measurable fault resistance: 100 M Ω Maximum locatable fault resistance: 2 M Ω

TDR	Dual trace, 12 trace memory storage, Automatic pulse width selection, Pair comparison mode, Split/crosstalk mode, Intermittent fault location, Closest range 0 – 8 m (25 ft), Longest range 0 – 16,000 m (49,000 ft) (@VOP = 0.7), Zoom mode
Wideband spectrum analyzer	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm to +10 dBm (± 2 dBm) -130 dBm/Hz to -30 dBm/Hz (± 2 dBm/Hz)
Impulse noise	Amplitude: -45 dBm to +10 dBm (± 2 dBm) Filters: F, G, J, None (30 MHz)
Voiceband spectrum analyzer	Frequency: 50 Hz to 4,100 Hz Amplitude: -64 dBm to 0 dBm (± 2 dBm) -76 dBm/Hz to -12 dBm/Hz (± 2 dBm/Hz)
Display	High resolution, ¼ VGA graphics with LED backlight

Batteries

Rechargeable nickel-metal hydride
Battery Life Approximately 30 hours typical usage

Weight

0.8 kg (28 oz)

Dimensions

254 mm x 114.3 mm x 63.5 mm (10 in. x 4.5 in. x 2.5 in.)

Environmental

Weather and drop resistant in accordance with MIL-STD-810F

HT1000C (VDSL2) Specifications

In addition to features of HT1000-A

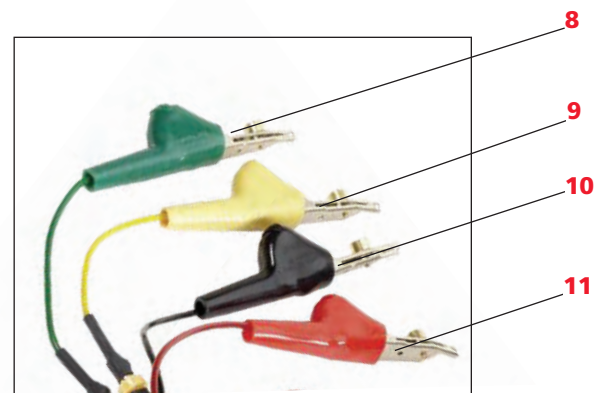
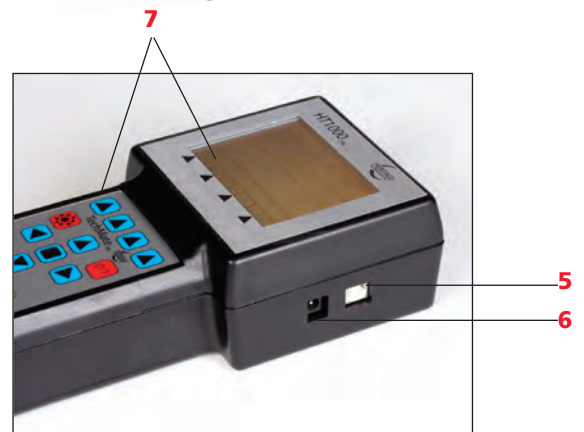
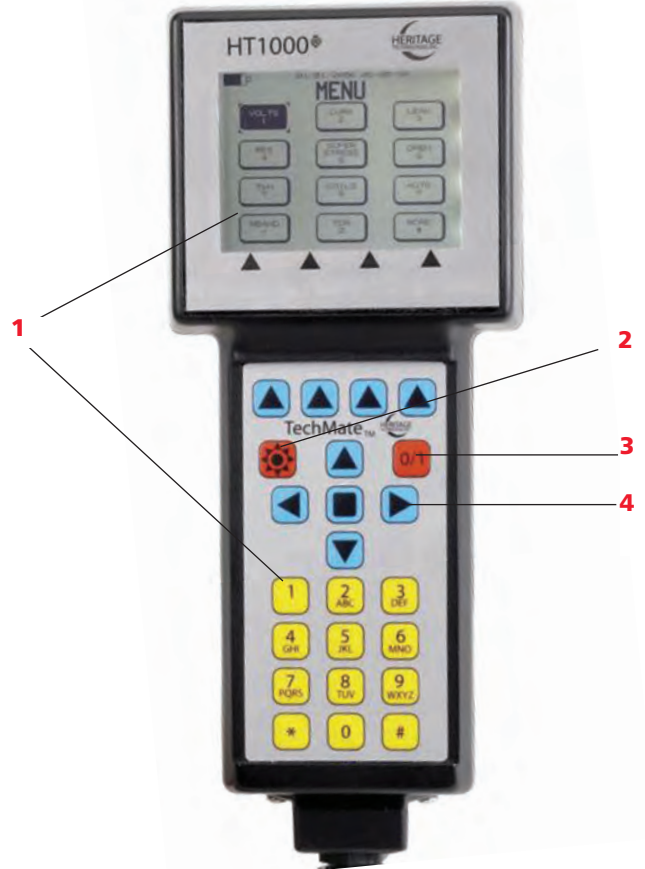
Feature	Description
Standards compliance	VDSL2 G.993.2 Bandplans: 8, 12, 17, 30 MHz Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a Plan 997, Plan 998 Capable of emulating a CO/DSLAM
Link statistics	Connection Type (VDSL2, RT, CO)

HPNA Specifications

In addition to features of HT1000C

Feature	Description
Standards compliance	ITU G.9954 (Home PNA 3.1)
Parameters measured	Phy - Physical connection rate PER - Packet error rate SNR - Signal to noise ratio Attn - Attenuation

1. Menu selections correspond to keypad numbers
2. Backlight
3. On/Off button
4. Navigation: Up, Down, Left, Right, Home
5. USB port
6. AC/DC charging port
7. Soft keys correspond to screen display options
8. Ground clip
9. Test lead for RFL or dual trace TDR
10. Tip clip
11. Ring Clip



SELECTION GUIDE			
	HT1000-A	HT1000-C	HT1000-C-H
Physical Layer Testing	■	■	■
Caller ID	■	■	■
Auto Test	■	■	■
TDR	Dual Trace	Dual Trace	Dual Trace
RFL	■	■	■
Impulse Noise	■	■	■
Noise	■	■	■
Longitudinal Balance (Stress Test)	■	■	■
Super Stress	-20dB to +30dB	-20dB to +30dB	-20dB to +30dB
Ground Resistance	■	■	■
Incremental Pair Test	■	■	■
200 Pair Storage, Pre-Post Test	■	■	■
Wideband Spectrum Analyzer	20KHz to 33MHz	20KHz to 33MHz	20KHz to 33MHz
Wideband Tone Send	■	■	■
Wideband Tone Receive	■	■	■
Wideband Loss	■	■	■
ADSL2+		■	■
VDSL2		■	■
HPNA			■

ORDERING INFORMATION

Item (Qty)	Cat. No.
HT1000-A Standard	1001-5000
HT1000-C VDSL	1001-5015
HT1000-CH VDSL with HPNA	1001-5040
Included accessories	
Test Lead Assembly	1001-1390
AC charger	1001-2020
Soft carrying case	1001-2001
DC charger	1001-2025
USB cord	1001-2015



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