Megger.

HT1000/2 Series
Copper Wire Analyzer

- **Vectored DSL testing for VDSL2 lines**
- **Bonded pair testing**
- **Noise finder via a 30 MHz spectrum analyzer**
- **Incremental pair test program**
- **200 pair pre-post test storage**
- **AC or DC power**
- **USB port downloads updates and uploads test results**

DESCRIPTION

The HT1000/2 series of instruments are high performance, full featured, hand held instruments 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 HT1000/2 Series 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 HT1000/2 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.

VECTORED DSL
(Cat. No. HT1000/2VX and HT1000/2VB)

Vectored DSL employs line signal coordination and noise cancellation to reduce crosstalk levels and improve line performance. The use of a vectored DSL test instrument is essential to accurately determine data rate potential if the installed network has vectored DSL switch and routing gear.

BONDING
(Cat. No. HT1000/2CB and HT1000/2VB)

Bonded xDSL combines two xDSL lines in order to increase bandwidth potential over a given distance. HT1000/2 offers bonding on selected models as a function for all DSL services from ADSL through to vectored VDSL2.

The Megger bonded modem features the latest Broadcom chipset and supports ADSL1, ASDL2, ADSL2+, VDSL2, bonded ADSL and bonded VDSL services. The Broadcom chipset is compatible with a wide range of chipset manufacturers.

By using the Megger bonded modem, technicans can switch easily between testing bonded and non-bonded service.

FEATURES AND BENEFITS

- 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 easy training of new technicians.

- Fast boot-up time. Unit is ready to test within 9 seconds of turning on.

- Voltage, resistance and all standard telecom testing is accessed through the same simple menu layout.

- Super Stress test is ten times more sensitive than other technologies available today. What this means is imbalances in twisted pairs can be seen below the 0 dB 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.

- Open meter, which is pinpoint accurate even in the presence of shunt resistance (dirty open), is included.

- The built-in TDR locates shorts, crosses, opens, and those short bridge taps that plague VDSL 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. This can be used on single, stand-alone pairs or in conjunction with the incremental pair test and bulk pair recovery capability.

- Built-in pair recovery program allows technician to gather, store and recall data on defective pairs to compare the condition over time.

- The auto test stores test results in a comma delimited format that 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 VDSL2 range test protocols.

- Send and receive frequency spectrum through VDSL2 band.

- Spectrum analyzer assists the technician in finding interrupters that cause disruptions to DSL service - will read to VDSL2 band.

- ADSL 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 built-in modem uses the latest technology to provide full test capabilities for xDSL and vectored DSL without the need for separate instruments.

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

- Model specific functionality allows the user to tailor their purchase to meet their exact needs.

SPECIFICATIONS

Function	Accuracy, whichever is greater
AC voltage	300 V AC/DC
DC voltage	300 V AC/DC
Resistance range	0 Ω to 1000 KΩ (±2%, ±1 Ω)
Leakage	1 Ω to 999 MΩ (±3%), 150 V open circuit output
Longitudinal balance	+30 dBrn to +80 dBrn (±2 dBrn)
Super Stress™	-10 dBrn to +80 dBrn (±2 dBrn)
Load coil detection	0 coil to 4 coils (±1 coil)
Loop current	0 mA to ±100 mA (±2%, ±1 mA)
Power influence	+40 dBrnC to +100 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)
	±2%, ±1.5 m (5 ft) 900 m (3,000 ft) to 15 km (50,000 ft) (±3%)
Auto test	7 user-selectable auto test scripts, 200 pair storage, retest capability, Incremental pair testing program
ID tone	FED ID tone
	Frequency: 577.5 Hz (±1%) Amplitude: 0 dBm, 600 Ω (±1 dBm) ID Tone Frequency: Alternating 800 Hz and 1230 Hz (±1%)
	Amplitude: 0 dBm, 600 Ω (±1 dBm)
Caller ID	Yes
Wideband tone sent	Frequency: 20 KHz to 9 MHz (±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)
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: HDSL, ADSL, ADSL2+ and VDSL2 (20 KHZ to 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)

Resistive fault location	Distance to fault: 0 - 3,000 m (10,000 ft) ±0.5%, ±1 m (3 ft) Maximum measurable fault resistance: 20 MΩ
	3 wire measurements: Distance to strap (length of good wire) Distance to fault Distance from fault to strap calculated
	4 wire measurements: Distance to strap (length of faulted wire independent of good wire) Distance to fault Distance from fault to strap measured
	Gauge pick list: 0.91 mm (19 gauge) 0.64 mm (22 gauge) 0.51 mm (24 gauge) 0.41 mm (26 gauge) Ohms Known distance to strap Temperature adjustment: 0° to 30° C (30° to 110° F)
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 – 14,000 m (45,000 ft) (@VOP = 0.7), Zoom mode
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 x 114.3 x 63.5 mm (10 x 4.5 x 2.5 in.)
Temperature Range	Operating: -10° to 55° C (14° to 131° F) Storage: -20° to 65° C (-4° to 149° F)
Humidity	95%

HT1000/2 "C" Designation Model Specifications
In addition to features of HT1000/2"A" designation models

Standards compliance	ADSL G.dmt G.992 1/2 Annex A, B ADSL2 G. 992.3 Annex A, B, L, M, J ADSL2+ G.992.5 Annex A, B, L, M, J ADSL2+ G.992.5 Amendment 1 ADSL2+ G.998.4 Retransmission-G.INP
	VDSL G.993.2 VDSL2 G.993.2 ITU-T G.vector (G.993.5) VDSL2 Vectored DSL compatible
	Bandplans: 8, 12, 17, 30 MHz Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a Plan 997, Plan 998
Link stats	Modem status Connection type (ADSL, ADSL2, ADSL2+, VDSL, VDSL2) Actual data rate required upstream and downstream % capacity upstream and downstream S/N ratio upstream and downstream Line attenuation upstream and downstream Signal attenuation upstream and downstream Transmit power upstream and downstream
Chart/graphic	S/N ratio in each bin
Protocols	Bridge PPPoE PPPoA DHCP
Ping test	IP address assigned Packet echo statistics Transmitted Received % successfully echoed Round trip time (max, min, average)
Output connections	POTS, ADSL - VDSL, RT
Safety	Weather and drop resistant in accordance with MIL-STD-810F IEC61010-1

HT1000/2 "V" Designation Model Specifications
In addition to features of HT1000/2"C" designation models

| **Compliance** | ITU-T G.vector (G.993.5) VDSL2 vectored DSL compatible |

HT1000/2 "B" Designation Model Specifications
In addition to features of HT1000/2 base models specifications
ADSL through to vectored VDSL2 G. bond G.998.1 DSL pair bonding

SELECTION GUIDE	HT1000/2AX	HT1000/2CX	HT1000/2VX	HT1000/2CB	HT1000/2VB
Physical Layer Testing	■	■	■	■	■
Caller ID	■	■	■	■	■
Auto Test	■	■	■	■	■
TDR - Dual Trace	■	■	■	■	■
RFL - 20 MΩ	■	■	■	■	■
Impulse Noise	■	■	■	■	■
Noise	■	■	■	■	■
Longitudinal Balance (Stress Test)	■	■	■	■	■
Super Stress, -20dB to +30dB	■	■	■	■	■
Ground Resistance	■	■	■	■	■
Incremental Pair Test	■	■	■	■	■
200 Pair Storage, Pre-Post Test	■	■	■	■	■
Voiceband Spectrum Analyzer	■	■	■	■	■
Wideband Spectrum Analyzer	■	■	■	■	■
FED Control Tones	■	■	■	■	■
Wideband Tone Send	■	■	■	■	■
Wideband Tone Receive	■	■	■	■	■
Wideband Loss	■	■	■	■	■
ADSL		■	■	■	■
VDSL		■	■	■	■
IP Ping		■	■	■	■
Vectoring			■		■
Bonding				■	■

ORDERING INFORMATION			
Item (Qty)	**Cat No.**	**Item (Qty)**	**Cat No.**
HT1000/2AX (English US)	1005-300	Included accessories	
HT1000/2AX (Spanish Latin)	1005-305	Test lead pair - red/black	1004-180
HT1000/2CX (English US)	1005-307	Test lead pair - yellow/green	1004-181
HT1000/2CX (Spanish Latin)	1005-312	AC battery charger	2001-697
HT1000/2VX (English US)	1005-322	Soft carrying case	1004-182
HT1000/2VX (Spanish Latin)	1005-327	DC battery charger	1004-183
HT1000/2CB (English US)	1005-315	USB cord	1004-610
HT1000/2CB (Spanish Latin)	1005-320	Full set of test leads (red/black and green/yellow)	1004-611
HT1000/2VB (English US)	1005-329	Replacement battery pack	1004-360
HT10002/VB (English Latin)	1005-334		