

# HT1000/2

## Copper Wire Analyser



- **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**

### DESCRIPTION

The HT1000/2 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 HT1000/2 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.

### 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 ease of training new technicians.
- Fast boot time. Unit ready to test within 9 seconds of switch on.
- 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.
- Open meter which is pinpoint accurate, even in the presence of shunt resistance (dirty open) is included.
- 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 HT1000/2 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
- ADSL through to 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.
- RFL uses three or four wire setup and pinpoints fault size and location with simple temperature and cable gage adjustments.

## SPECIFICATION

### (Model HT1000/2 (POTS))

A unless otherwise noted)

Feature	Range/ Accuracy (whichever is greater)
ACV	0 V to 200 V ( $\pm 2\%$ , $\pm 1$ V)
DCV	0 V to $\pm 200$ V ( $\pm 2\%$ , $\pm 1$ V)
Resistance	0 $\Omega$ to 999 M $\Omega$ ( $\pm 2\%$ , $\pm 1$ $\Omega$ )
Leakage	0 $\Omega$ to 999 M $\Omega$ ( $\pm 3\%$ ), 150 V open circuit output
Longitudinal balance	+30 dBrn to +80 dBrn ( $\pm 2$ dBrn)
Super stress	-20 dBrn to +80 dBrn ( $\pm 2$ dBrn)
Load coil detection	0 coil to 4 coils ( $\pm 1$ coil)
Loop current	0 mA to $\pm 100$ mA ( $\pm 2\%$ , $\pm 1$ mA)
Power influence	+40 dBrnC to +100 dBrnC ( $\pm 2$ dBrnC)
Noise (voice band)	0 dBrnC to +60 dBrnC ( $\pm 2$ dBrnC)
Loss (voice band)	-40 dBm to +10 dBm ( $\pm 1$ dBm)
Open meter	0 m (0 ft) to 900 m (3,000 ft) $\pm 2\%$ , $\pm 1.5$ 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 $\Omega$ ( $\pm 1$ dBm)
Caller ID	Yes
Wideband tone send	Frequency: 20 KHz to 9 MHz ( $\pm 1\%$ ) Amplitude: 0 dBm, 135 $\Omega$ ( $\pm 1$ dBm)
Wideband tone receive	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm, +2 dBm ( $\pm 2$ dBm)
Wideband loss	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm, +2 dBm ( $\pm 2$ dBm)
Wideband spectrum analyser	Frequency: 20 KHz to 33 MHz Amplitude: -90 dBm to +10 dBm ( $\pm 2$ dBm) -130 dBm/Hz to -30 dBm/Hz ( $\pm 2$ dBm/Hz)
Impulse noise	Amplitude: -45 dBm to +10 dBm ( $\pm 2$ dBm) Filters: F, G, J, None (30 MHz)

### Voice band spectrum analyser

Frequency: 50 Hz to 4,100 Hz  
Amplitude: -64 dBm to 0 dBm ( $\pm 2$  dBm)  
-76 dBm/Hz to -12 dBm/Hz ( $\pm 2$  dBm/Hz)

### RFL

Distance to fault: 0 - 3.000 m (10,000 ft)  $\pm 0.5\%$ ,  $\pm 1$  m (3 ft)  
Maximum measurable fault resistance: 100 M $\Omega$   
Maximum locatable fault resistance: 2 M $\Omega$   
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:  
0.91mm (19 gauge)  
0.64mm (22 gauge)  
0.51mm (24 gauge)  
0.41mm (26 gauge)  
Ohms  
Know distance to strap  
Temperature adjustment: 0C to 40C (30F to 110F)

### 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

### Display

High resolution,  $\frac{1}{4}$  VGA graphics with LED backlight

### Battery

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" x 4.5" x 2.5")

### Operating temperature range and humidity

-10  $^{\circ}$ C to + 55  $^{\circ}$ C 95%

### Storage temperature range and humidity

-20  $^{\circ}$ C to + 65  $^{\circ}$ C 95%



## HT1000/2-C (ADSL/VDSL2) Specifications

In addition to features of HT1000/2-A

### 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  
Bandplans: 8, 12, 17, 30 MHz  
Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a  
Plan 997, Plan 998

### Link stats

Connection Type  
(POTS, ADSL-VDSL2, RT)

### Safety

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

## ORDERING INFORMATION

Description	Order Code
HT1000/2-A Standard - English	1002-803
HT1000/2-C VDSL - English	1002-804
HT1000/2-A Standard - German	1002-806
HT1000/2-C VDSL - German	1002-807
HT1000/2-A Standard - French	1002-809
HT1000/2-C VDSL - French	1002-810
HT1000/2-A Standard - Italian	1002-812
HT1000/2-C VDSL - Italian	1002-813
HT1000/2-A Standard - Latin Spanish	1002-815
HT1000/2-C VDSL - Latin Spanish	1002-816
HT1000/2-A Standard - European Spanish	1002-818
HT1000/2-C VDSL - European Spanish	1002-819
<b>Included accessories</b>	
Test lead pair - red/black	1004-180
Test lead pair - yellow/green	1004-181
AC battery charger	2001-697
Soft carrying case	1004-182
DC battery charger	1004-183
USB cord	1004-610
Full set of test leads (Red/Black and Green/Yellow)	1004-611
Replacement battery pack	1004-360

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**CERTIFICATION ISO**  
Registered to ISO 9001:2000 Cert. no. Q 09290  
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