



Features

- Improved processor speed (up to 10 times faster)

- Full multimode capability:
 - Pitch-catch (RF, impulse, swept)
 - MIA (mechanical impedance analysis)
 - Resonance

- Customer-interchangeable displays:
 - High-bright electroluminescent
 - Monochrome liquid crystal
 - Color liquid crystal

- Improved screen displays:
 - Split-screen displays (P-C RF, P-C impulse)
 - Outdoor display

- VGA output

- Field-replaceable Li-ion battery

- Lightweight, 2 kg (4.4 lb)

- USB output (via adapter) for printer or computer interface

- Alarm outputs

- Program and trace storage

- PowerLink technology provides automatic probe recognition and instrument setup

- High-voltage pitch-catch probes are available

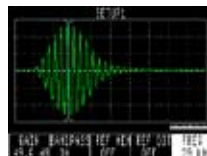
Full Multimode Composite Tester

The BondMaster™ 1000e+ is a versatile, full-multimode instrument offering pitch-catch, MIA (mechanical impedance analysis), and resonance modes. It is the only true multimode composite test instrument on the market.

The BondMaster 1000e+ allows users to select the best method for a particular application and to inspect a wide variety of composite materials. Its high performance, light weight, and rugged durability make it the ideal choice for applications related to the manufacturing, maintenance, and repair of composite materials.

With customer-interchangeable displays, the BondMaster 1000e+ offers users the highest resolution available today. The availability of a color or monochrome LCD for indoor or bright outdoor conditions, or a high-bright electroluminescent display (ELD) for normal to dark conditions provides the ultimate in flexibility and convenience. Its rugged, well-designed housing, uncomplicated front panel, SmartKnob™, and built-in PowerLink™ technology make the BondMaster 1000e+ a truly revolutionary and user-friendly handheld portable flaw detector.

The BondMaster 1000e+ uses PowerLink technology to automatically configure the instrument when a probe is connected. Built-in calibration modes assist the user in optimizing the test parameters. A variety of probes is available for each of the test technologies.



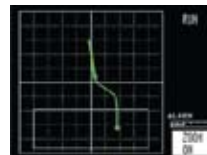
Pitch-catch RF



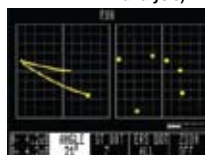
Pitch-catch impulse



Pitch-catch swept



MIA (mechanical impedance analysis)



Resonance

BondMaster 1000e+ Specifications

Inspection Methods

When a probe is connected to the BondMaster™ 1000e+, the instrument is automatically configured for the probe type.

The five inspection methods are pitch-catch (RF, impulse, and swept), MIA (mechanical impedance analysis), and resonance.

Pitch-Catch RF: Measures amplitude and phase changes using a short burst of energy to detect disbonds. Displays information in envelope or vector display format. An impedance display is available from the RF data. Requires no couplant.

Pitch-Catch Impulse: Measures amplitude and phase changes using a short burst of energy to detect disbonds. Displays information in envelope or vector display format. Requires no couplant.

Pitch-Catch Swept: Measures amplitude and phase changes using a swept frequency method to detect disbonds. Requires no couplant (5 kHz to 100 kHz).

MIA: Measures the stiffness characteristics of the material under test. The output is measured in both phase and amplitude. Requires no couplant.

Resonance: Detects disbonds by changes in phase and amplitude of probe resonance. Requires couplant.

Inputs and Outputs

Probe Connector: 11-pin Fisher

Analog Outputs: Signals: ± 5 V, adjustable offset, not affected by position controls or zoom function.

Technical Specifications

Frequency Range: 250 Hz to 1.5 MHz. Specific test modes may have limitations within this range.

Gain: -10 dB to 50 dB

Analog Output Update: Continuous rate in MIA and resonance mode. Data available at repetition rate for all pitch-catch methods.

Alarm Box: The instrument allows for any size alarm box. The box can be defined and located anywhere on the screen. An adjustable vertical-amplitude alarm operates in the RF and impulse setup mode.

Alarm Logic: Positive or negative alarm gate

Alarm Output: 0 V to 3 V HC logic output, switchable audible alarm, and front panel annunciator. Alarm indicator on probe is standard.

Clock and Calendar: Time and date are stored and printed with each waveform.

Languages: Menus can be displayed in English, Spanish, French, or German.

RS-232/USB Interface: Screen printout and computer interface. USB out is via an RS-232 adapter.

Screen Storage: Up to 20 screens can be stored.

Program Storage: Up to 100 instrument setups can be stored.

Z-Mode Alarm: Supports BondMaster 1000e+ array options.

General

Dimensions (L x H x D): 242 mm x 140 mm x 92 mm (9.5 in. x 5.5 in. x 3.6 in.)

Weight: 2 kg (4.4 lb)

Display: Customer-interchangeable QVGA displays (320 pixels x 240 pixels): color or monochrome LCD, high-bright electroluminescent

Operating Temperature: -20°C to 60°C (-4°F to 140°F)

Storage Temperature: -40°C to 80°C (-40°F to 176°F)

Humidity: 95% \pm 5%

Classification: Complies with Class 2 specifications from the MIL-PRF-28800F Handbook.

Altitude: Maximum operating and nonoperating altitude is 4,600 m (15,000 ft).

Hazardous Area Operation: Safe operation as defined by Class I, Division 2, Group D, as found in the National Fire Protection Association Code (NFPA 70), Section 500, and tested using MIL-STD-810F, Method 511.4, Procedure 1.

Power

Power: 7-pin connector to charge the internal batteries and operate the instrument from AC power

Power Requirements: 85 V to 240 V, 50 Hz to 60 Hz mains. External holder charges batteries outside the instrument. Charging time is typically 4 h.

Low Battery Protection: Display bar graph indicates approximate operating time.

Battery Operating Time: 6 h to 8 h (nominal, depending on configuration)

Probes and Accessories

All BondMaster™ 1000e+ probes include PowerLink™ functionality. Pitch-catch (S-PC), MIA (S-MP), and resonance (S-PR) probes are available.

BondMaster PC Interface Software: Enables data transfer to PC.

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