

BondMaster 600 Composite Bond Tester Getting Started Guide

Intended Use

The BondMaster 600 composite bond tester is designed to perform nondestructive inspections of industrial and commercial materials. Do not use the BondMaster 600 for any purpose other than its intended use.

Instruction Manual

Before use, thoroughly review the BondMaster 600 *User's Manual*. Use the product as instructed. The User's Manual contains essential information on how to use this Evident product safely and effectively. Keep the User's Manual in a safe, accessible location.

Safety Signal Words



DANGER

Indicates an imminently hazardous situation and calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, will result in death or serious personal injury.



WARNING

Indicates a potentially hazardous situation and calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in death or serious personal injury.



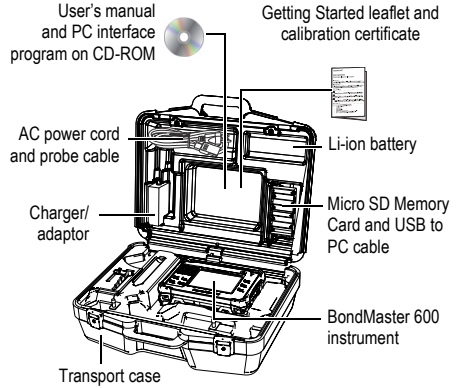
CAUTION

Indicates a potentially hazardous situation and calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, may result in minor or moderate personal injury, material damage, particularly to the product, destruction of part or all of the product, or loss of data.

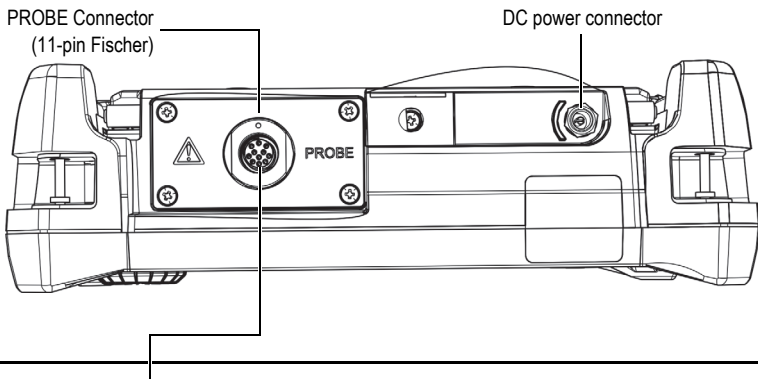
Contents of the Case

The BondMaster 600 comes standard with several key accessories:

- Calibration certificate (P/N: B600-CERT [U8010093])
- Charger/adaptor (Evident P/N: EP-MCA-X), where "X" denotes the AC power cord type
- AC Power cord
- Transport case (P/N: 600-TC [U8780294])
- *Getting Started Guide* (P/N: DMTA-10044-01XX), where "XX" denotes the language.
- BondMaster 600 *User's Manual* and PC interface program on CD-ROM (Evident P/N: B600-CD [U8141002])
- MicroSD Memory Card, 2 GB (Evident P/N: MICROSD-ADP-2GB [U8779307])
- USB communication cable (Evident P/N: EPLTC-C-USB-A-6 [U8840031])
- 600 Series rechargeable Li-ion battery; 10.8 V, 6.8 Ah, 73 Wh (Evident P/N: 600-BAT-L-2 [U8760058])
- 8-cell battery holder with connector plug (Evident P/N: 600-BAT-AA [U8780295])
- Pitch-and-catch and MIA mode cable for BondMaster 600; 3.3 meter (11 foot) length, 11-pin to 11-pin connectors (Evident P/N: SBM-CPM-P11 [U8800058])
- Resonance mode cable for BondMaster 600; 1.8 meter (6 foot) length, 11-pin to 6-pin connectors (Evident P/N: SBM-CR-P6 [U8800059])
- Factory-installed wrist strap on left side of BondMaster 600 (Evident P/N: 38DLP-HS [U8779371])

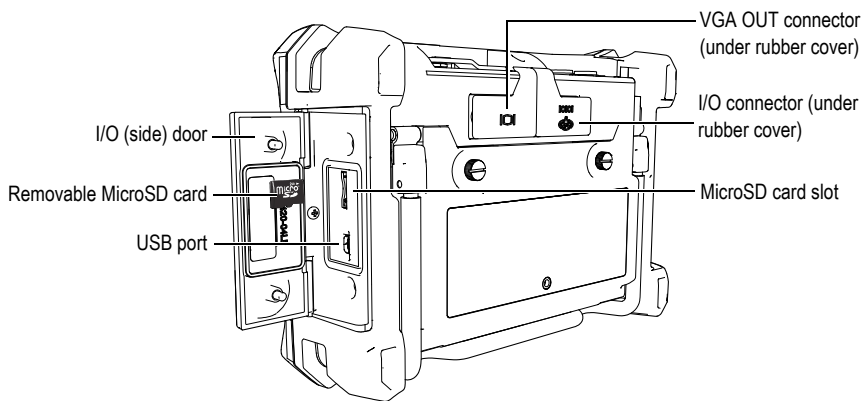


Connections



CAUTION

To avoid the risk of an electric shock, do not touch the inner conductors of the PROBE connector. Up to 80 V can be present.



Charging the Lithium-Ion Battery

The BondMaster 600 charges the internal lithium-ion battery while it is connected to the AC charger/adaptor.



WARNING

If the BondMaster 600 is to be used with a rechargeable battery, only use Evident battery P/N: 600-BAT-L-2 [U8760058]. Using any other type of battery might cause an explosion and injury.



WARNING

The BondMaster 600 charger/adaptor (P/N: EP-MCA-X) is designed to power the BondMaster 600 and charge the lithium-ion battery only (P/N: 600-BAT-L-2 [U8760058]). Do not attempt to charge any other batteries, including alkaline batteries in the battery holder (P/N: 600-BAT-AA [U8780295]), or use any other charger/adaptor. Doing so might cause an explosion or injury.

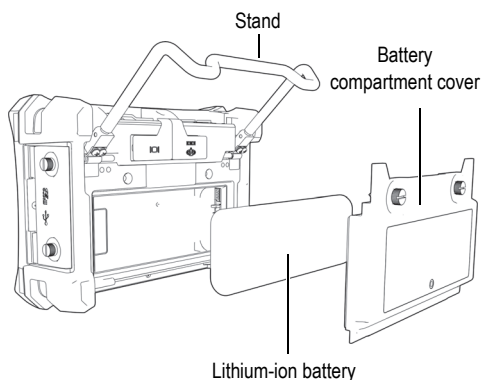
Do not attempt to power or charge other electronic equipment with the charger/adaptor (P/N: EP-MCA-X), unless specifically instructed in the manual. Misuse of the charger/adaptor can cause other batteries and/or instruments to explode, which could lead to serious injury or death.

IMPORTANT

The lithium-ion battery is not fully charged when the instrument is shipped. You must charge the battery for two to three hours before using the battery power to operate the instrument.

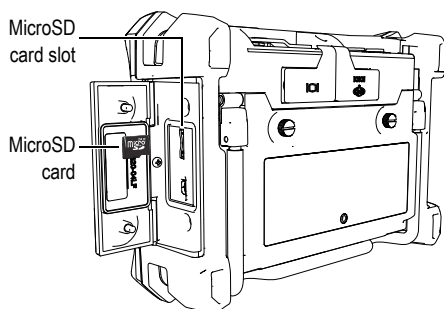
To Replace the Lithium-Ion Battery

1. Unfold the instrument stand.
2. On the back of the instrument, loosen the two thumb screws securing the battery compartment cover.
3. Remove the battery compartment cover.
4. Disconnect and remove the battery.
5. Install a new battery (P/N: 600-BAT-L-2 [U8760058]) into the battery compartment.
6. Reinstall the battery compartment cover on the back of the instrument, and tighten the two thumb screws to complete the installation.



To Install the MicroSD Card

1. Remove the MicroSD card (P/N: MICROSD-ADP-2GB [U8779307]) from its packaging.
2. Loosen the two thumb screws, and then open the BondMaster 600 I/O door
3. Hold the card so that the MicroSD card label faces toward the rear of the instrument.
4. Gently slide the card into the MicroSD slot until it clicks.



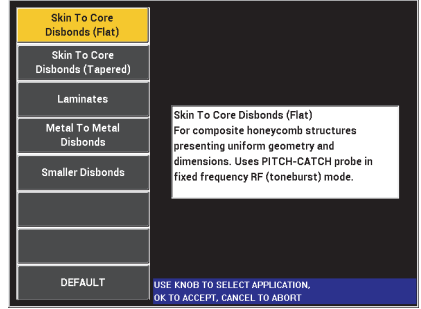
NOTE

To remove the MicroSD card, gently push the card into the instrument and release. A spring-loaded mechanism will partially eject the card, and then you can grasp and remove it from the instrument.

Starting Up

When power is turned on, the BondMaster 600 starts up in one of two modes, depending on what is connected to the instrument.

If no probe is connected, or if a probe that is not a PowerLink type of probe is connected, the first screen displayed by the BondMaster 600 software is the application quick-setup menu. From this menu, choose a basic application to automatically configure the appropriate instrument settings.



NOTE

The BondMaster 600 applications are designed for quick setup of the instrument. However, always follow published maintenance procedures when inspecting.

Navigating the Application Menu

Navigating the application menu is designed to be intuitive, and the settings for each application are designed to permit immediate inspection; little or no additional instrument setup is needed.

1. Rotate the knob to highlight one of the applications.
2. Press the Enter key (✓) to select the application.
OR

Press the Return key (↶) to go back to the BondMaster 600 main screen.

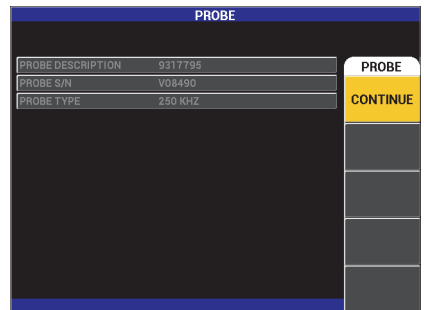
Alternatively, if a PowerLink probe is connected to the instrument before it is turned on, the BondMaster 600 starts up in the PowerLink recognition screen, and you can proceed as follows:

- ◆ In the PowerLink recognition screen, load the program stored in the PowerLink probe by pressing the A key. This automatically sets up the instrument.

OR

Bypass the stored program in the probe and gain access to the instrument's main inspection screen by

pressing the Return key (↶).

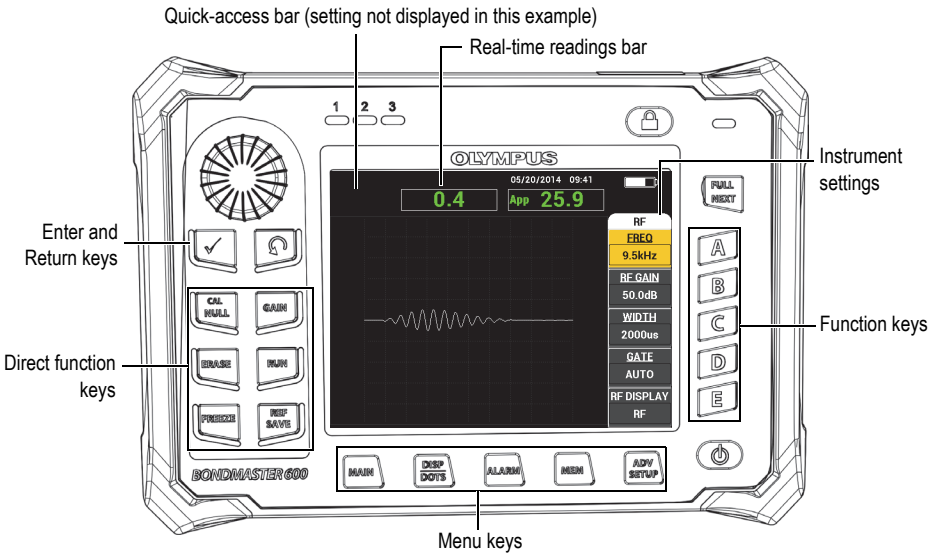
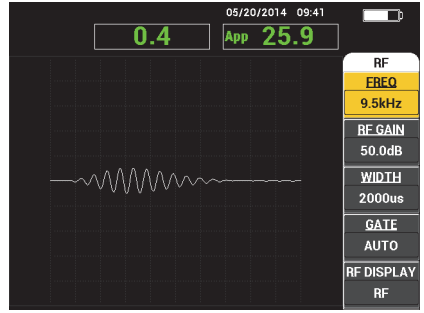


Main Inspection Screen

After the initial steps have been completed via the quick-setup menu or PowerLink menu, the main inspection screen is displayed.

The battery power indicator always remains visible at the top of the screen, except when in full-screen mode. The time and date also always remain visible, except when in full-screen mode.

The quick-access bar is located at the top left of the main inspection screen. It displays either the instrument's combined horizontal and vertical gain settings, horizontal gain only, vertical gain only, or angle when the GAIN (**dB**) direct function key is pressed. The quick-access bar remains visible until any other key is pressed.



The real-time readings bar displays user-configurable readings (measurements). It displays a maximum of two real-time readings from among the available choices. You can set the real-time readings bar to display one or two readings, or you can deactivate it.

The instrument settings are displayed on the right hand side of the main screen. The displayed settings information changes, depending on the menu key that is pressed. The menu keys are the five

keys located at the bottom of the front panel: MAIN (📶), DISP/DOTS (📄), ALARM (📢), MEM (📁), and ADV/SETUP (⚙️).

The MicroSD indicator appears in the bottom right-hand corner of the screen when a removable MicroSD memory card is inserted in its slot. This slot is located behind the I/O door on the right-hand side of the instrument.

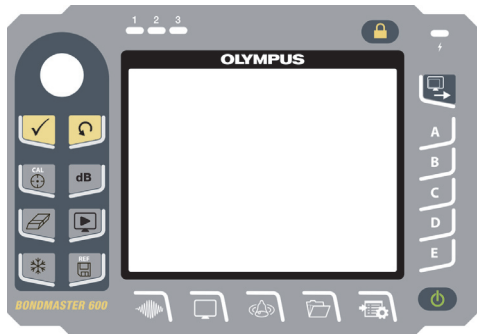
Depending on the context and on the available functions and options, various indicators and numerical values appear on the screen and around the main measurement value.

Keypad

The BondMaster 600 is available with an English, International, Chinese, or Japanese keypad configuration.



English keypad



International keypad













Chinese keypad



Japanese keypad

English	International	Function
Enter	✓	The Enter key is used to make selections.
Return	↶	The Return (or, Back) key is used to exit a menu and return to a previous screen.
CAL/NULL	CAL ⊕	If this direct function key is pressed once, it nulls (zeros) the BondMaster 600. If this key is pressed and held, a calibration wizard is initiated in RESON (resonance) and MIA (mechanical impedance analysis) modes of operation only.
GAIN	dB	Direct function key used to display either the BondMaster 600 combined horizontal and vertical gain settings, horizontal gain only, or vertical gain only.

English	International	Function
ERASE		Direct function key used to erase the currently displayed image.
RUN		Direct function key used to change the RUN (display) mode. Depending on the operation mode, different displays are available. NOTE: changing the RUN (display) mode also changes the available settings in the BondMaster 600 menus.
FREEZE		Direct function key used to freeze the image displayed on the BondMaster 600 for further evaluation. When the image is frozen, the BondMaster 600 also allows signal calibration, and changing the gains or angle.
REF/SAVE		Direct function key used to save images and settings in the BondMaster 600 memory. When this key is pressed once (and released), the currently displayed image and settings are saved. When this key is pressed and held, the current BondMaster 600 image is set as the reference memory display.
MAIN		Provides access to the main menu, which controls functions such as frequency, gain, angle, filters, RF signal, and gate.
DISP/DOTS		Provides access to the display menu, which controls functions such as display mode, position, trace, grid. Also allows you to add reference dots (not available in PC Swept mode).
ALARM		Provides access to the alarm menu, which controls functions such as alarm type, dwell time, horn, and alarm position.
MEM		Provides access to the memory menu, which controls functions such as previewing stored memory files, recalling and editing stored files, capture mode, capture time, and user information.
ADV/SETUP		Provides access to the BondMaster 600 advanced settings, including the APPLICATION SELECTION menu, the ALL SETTINGS menu, instrument mode, colors, password, systems setup, reset, calibration menu, unlock options, and legal/regulatory information.
FULL/NEXT		Used to expand the instrument display to full screen, or to select items in the menu.
A	A	Function key
B	B	Function key
C	C	Function key

English	International	Function
D	D	Function key
E	E	Function key

Battery Precautions



CAUTION

- Before disposing of a battery, check your local laws, rules, and regulations, and follow them accordingly.
- Transportation of lithium-ion batteries is regulated by the United Nations under the United Nations Recommendations on the Transport of Dangerous Goods. It is expected that governments, intergovernmental organizations, and other international organizations shall conform to the principles laid down in these regulations, thus contributing to worldwide harmonization in this field. These international organizations include the International Civil Aviation organization (ICAO), the International Air Transport Association (IATA), the International Maritime Organization (IMO), the US Department of Transportation (USDOT), Transport Canada (TC), and others. Please contact the transporter and confirm current regulations before transportation of lithium-ion batteries.
- Do not open, crush, or perforate batteries; doing so, could cause injury.
- Do not incinerate batteries. Keep batteries away from fire and other sources of extreme heat. Exposing batteries to extreme heat (over 80 °C) could result in an explosion or personal injury.
- Do not drop, hit, or otherwise abuse a battery, as doing so could expose the cell contents, which are corrosive and explosive.
- Do not short-circuit the battery terminals. A short circuit could cause injury and severe damage to a battery making it unusable.
- Do not expose a battery to moisture or rain; doing so could cause an electric shock.
- Only use the BondMaster 600 or an external charger approved by Evident to charge the batteries.
- Only use batteries supplied by Evident.
- Do not store batteries that have less than 40 % remaining charge. Recharge batteries to between 40 % and 80 % capacity before storing them.
- During storage, keep the battery charge between 40 % and 80 %.
- Do not leave batteries in the BondMaster 600 during instrument storage.

Hearing Protection



CAUTION

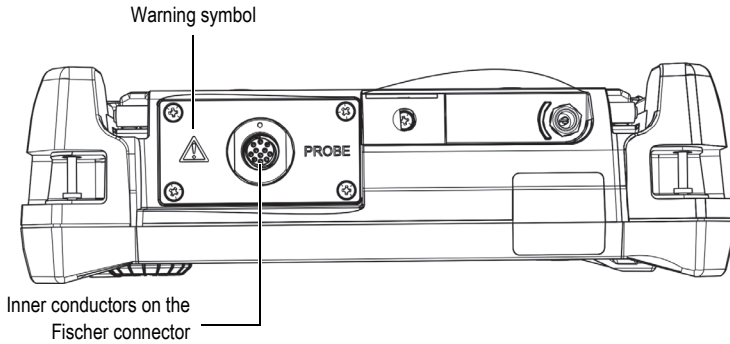
The BondMaster 600 probes emit audible sounds that easily propagate and that are amplified by the part being tested. The sound level is dependent on numerous factors, including (but not limited to) part composition, frequency, extent of defect(s), and proximity to the part being tested. Under specific test conditions, sound levels in excess of 85 dB have been measured near the probe. Sounds of this intensity can result in hearing fatigue and possible hearing damage after long-term exposure, and therefore a hearing-protection program may be necessary. In particular, the mechanical impedance analysis (MIA) and pitch-and-catch swept modes are capable of generating high-pitched sounds that can cause earlier onset of hearing fatigue. Because of the variations of part composition, test conditions, and part proximity, OSHA (Evident Scientific Solutions Americas) recommends that you evaluate your particular test applications to determine if hearing protection is required.

Electrical Warnings



CAUTION

To avoid the risk of electric shock, do not touch the inner conductors of the 11-pin Fischer connector. Up to 80 V can be present on the inner conductors. The warning symbol shown in the figure below warns of this electric shock risk.



WARNING

- The instrument must only be connected to a power source corresponding to the type indicated on the rating label.



CAUTION

- If a non-approved power supply cord not dedicated to Evident products is used, Evident will not be able to ensure the electrical safety of the equipment.

Equipment Disposal

Before disposing of the BondMaster 600, check your local laws, rules, and regulations, and follow them accordingly.

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Printed on Rolland Hitech50,
which contains 50 % post-
consumer fiber.