**.1 YEAR**
WARRANTY

**OMEGA CARE**
Extended Warranty
Program
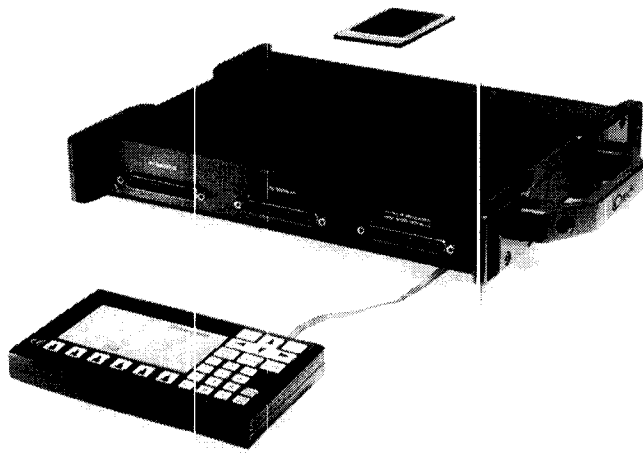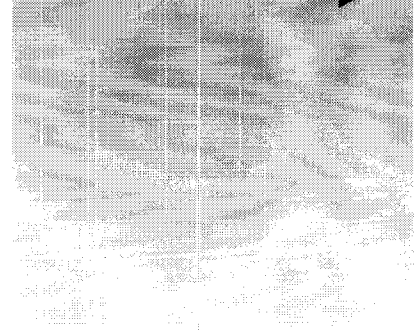
C E

**QUICK START**

# OMB-LOGBOOK-300
## Stand-Alone, Intelligent PC-Based Data Acquisition System
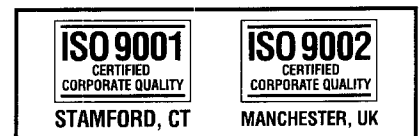
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## Warnings, Cautions, Notes, and Tips

Refer all service to qualified personnel. This symbol warns of possible personal injury or equipment damage under noted conditions. Follow all safety standards of professional practice and the recommendations in this manual. Using this equipment in ways other than described in this manual can present serious safety hazards or cause equipment damage.

This warning symbol is used in this manual or on the equipment to warn of possible injury or death from electrical shock under noted conditions.

This ESD caution symbol urges proper handling of equipment or components sensitive to damage from electrostatic discharge. Proper handling guidelines include the use of grounded anti-static mats and wrist straps, ESD-protective bags and cartons, and related procedures.

This symbol indicates the message is important, but is not of a Warning or Caution category. These notes can be of great benefit to the user, and should be read.

In this manual, the book symbol always precedes the words "Reference Note." This type of note identifies the location of additional information that may prove helpful. References may be made to other chapters or other documentation.

Tips provide advice that may save time during a procedure, or help to clarify an issue. Tips may include additional reference.

| | **WARNING** |
|---|---|
| ⚠ | Electric shock hazard. Turn off power to all system-connected devices prior to connecting or disconnecting cables, or setting hardware configurations. Failure to do so could result in electric shock or death, and equipment damage, even under low-voltage conditions. |

**When using LogBook/300 in *attached mode*, the PC-Card [in LogBook/300] must already have the file `logbook.sys`. Otherwise, LogView cannot communicate with LogBook/300, and LogBook/300 will appear dead.**

**Reference Notes:**
Depending on the nature of your LogBook system, you may find one or more of the following references to the *LogBook User's Manual* PDF helpful. The PDF manual is included on the Data Acquisition CD and is also available on our web-site.

- o   For system block diagrams and operational overviews, refer to Chapter 1 of the PDF.

- o   For information on system expansion and calculating system power, refer to Chapter 4 and to the *DBK Basics* section.

- o   For information regarding LBK options, refer to Chapter 5.

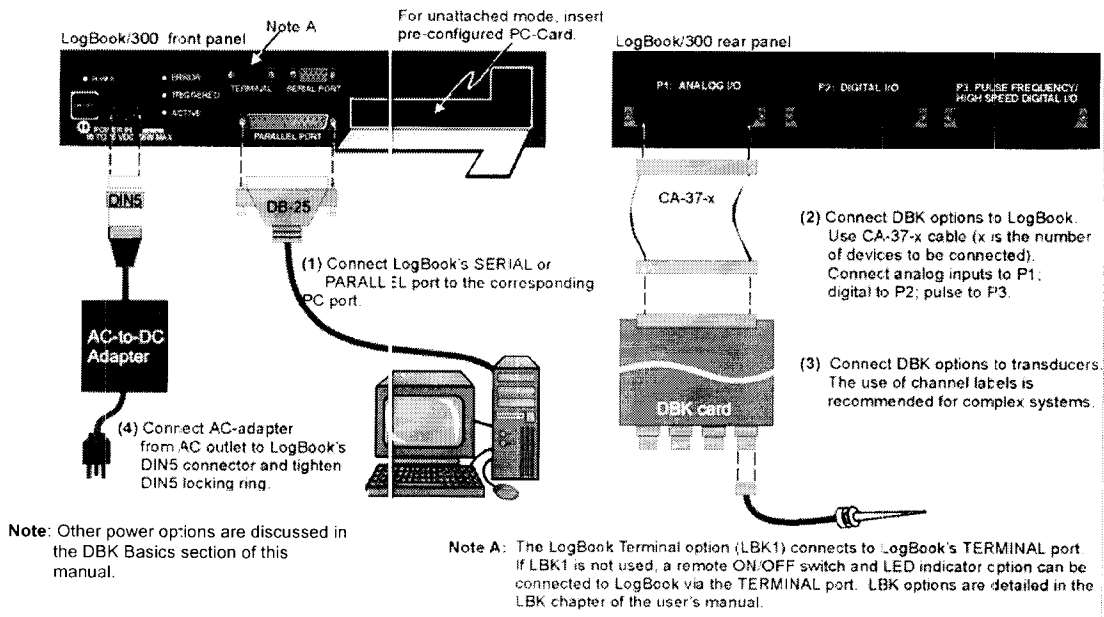- o   For specific DBK card information, refer to the *DBK Options Manual* PDF.

**Should you need to enter an authorization code for software options, please enter:**

## ED7B55484273

**This code will enable all features of LogView.**

## Hardware Connection

The following hardware-connection figure and procedure are generic; details vary with system complexity.



*LogBook/300 System, Basic Connections*

**Note:** There are two styles of Log3ook/300. The earlier version's PC-Card door is hinged on the right edge. The newer model, represented in the figure, is hinged on the lower edge.

After verifying that all equipment power is off, hardware connection typically proceeds as follows. Refer to the previous figure as needed.

1.  Connect LogBook/300 to PC. There are three ways for LogBook/300 to communicate with the host PC. These are: parallel port, serial port, and manual transportation of the PC-Card. Note that the parallel port method is represented in the previous figure.

    a)  **Parallel port** – *If using the parallel port*, connect a DB25male to DB25female parallel cable [e.g., CA-35-2 or CA-35-6 (2ft. or 6ft. respectively)] to PARALLEL PORT on LogBook/300, and to the corresponding parallel port on the host PC. When this method is used, the PC must be set to the ECP mode See *ECP Parallel Port*, page QS300-5 for additional information.

    b)  **Serial port** – *If using the serial port*, use a null modem serial cable (CA-47) to connect the DB9 SERIAL PORT on LogBook/300 to the corresponding DB9 serial port on the host PC.

    c)  **PC-Card** – With PC-Card communication, LogBook/300 does not require a connection to the computer, as communication is accomplished via the PC-Card. To provide the PC-Card with the correct configuration file, it must be configured from the PC, through LogView. After the PC-Card is configured, it is inserted into LogBook's PC-Card slot, located behind the front panel door.

    **Reference Note:**
    Information pertaining to PC-Cards can be found in chapter 1 and in the *LogView* section of the *LogBook User's Manual* PDF.

2. Connect the LogBook/300 to the DBK cards and modules. Most of the analog DBKs connect to P1 on the rear panel; the digital DBKs generally connect to P2.
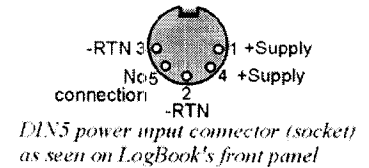
> **Reference Note:**
> For DBK card related information, refer to the *DBK Options Manual* PDF. The document is included on the Data Acquisition CD and is also available on our web-site.

**Note:** The CA-37-x cable can daisy-chain several DBKs including the DBK41, which has a built-in P1 bus connection for 10 DBK cards. The *x* in the cable part number refers to the number of devices that can be connected to a device, for example: a CA-37-1 cable has two DB-37 connectors, one for connecting to the LogBook and another for connecting the card or module. Pinouts for P1, P2, and P3 are included in the *System Expansion* chapter.

| ⚠ | CAUTION |
|---|---|
| | For analog signal inputs via P1, do not exceed -35 VDC or +45 VDC. Exceeding these limits could result in equipment damage. |

3. Connect DBK(s) to transducer(s). Follow instructions for the specific DBK(s) as described in the *DBK Option Cards & Modules User's Manual*, as well as instructions for the applicable transducers.

4. Connect the LogBook/300 to a suitable power source such as the included AC-to-DC adapter or the optional DBK34A. DC power sources such as a car batteries must supply 10 to 45 VDC and use the correct DIN5 pinout (see figure). A locking DIN5 connector assures a secure power connection for applications subject to vibration or thermal stress.


-RTN 3 · · 1 +Supply
No 5 · · 4 +Supply
connection 2
-RTN

*DIN5 power input connector (socket) as seen on LogBook's front panel*

5. *Optional* - Just one cable connects between the LBK1 (via RJ-11 connector) and the LogBook/300 (via a DB9 connector). The standard cable is 6 feet long. An optional 25 foot cable is available. See chapter 5 of the *LogBook User's Manual* PDF for details regarding the installation of LBK1.

## Hardware Configuration

> **Reference Note:**
> Refer to the device-specific sections of the *LBK Options* chapter of the user's manual and to the *DBK Options Manual* PDFs for information regarding these devices. Note that certain DBK options require manual configuration.

LogBook/300's top cover does not need to be removed, except to add or remove an LBK option, or to replace the fuse.

Most LogBook/300 configuration is done via software as described in the *LogBook/300 Device Configuration* section of this document (page QS300-4). LogBook/300 configuration does not require the setting of jumpers or switches, unless the RS-485 communication option is being used.

## Software Installation

**Note:** LogBook/300 is supported under Windows 2000 and XP.

**Note:** Before installing software, ensure LogBook/300 is connected to the selected port
(serial, or ECP-parallel); and that the system is powered-on.

1. Remove previous version drivers, if present. You can do this through Microsoft's **Add/Remove Programs** feature.

2. Place the Data Acquisition CD into the CD-ROM drive. *Wait for PC to auto-run the CD. This may take a few moments, depending on your PC.* If the CD does not auto-run, use the Desktop's Start/Run/Browse feature.

3. After the intro-screen appears, follow the screen prompts.

4. Should you need to enter an **authorization code** for software options, please enter:

# ED7B55484273

This code will enable all features of LogView.

Upon completing the software installation, continue with LogBook/300 Device Configuration.


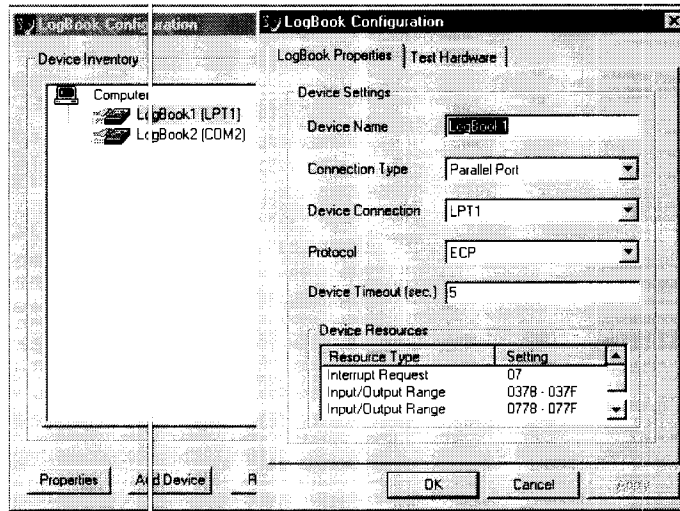## LogBook/300 Device Configuration

A configuration utility is supplied via a control panel applet. The **LogBook Configuration** applet allows you to add a device, remove a device, or change existing configuration settings. From this same window, you can also access a built-in utility to test the connected device for current setup and performance.

LogBook Configuration can be found in the Microsoft Windows Control Panel. The Control Panel can be navigated to from Windows desktop Start button as follows:

**Start ⇒ Settings ⇒ Control Panel**

You can enter LogBook Configuration during driver installation or whenever you wish to add, remove or change device configuration settings.

The first configuration window will display configured devices in the Device Inventory field based on the port they're connected to. Devices are represented by an icon and text, e.g., LogBook (LPT1), as can be seen in the following figure. If no devices are configured, the device inventory field will remain blank. The figure shows the first and second configuration windows overlapped.



*LogBook Configuration Windows*

The four buttons across the bottom of the first configuration window (previous figure) are used as follows:

- **Properties.** Configuration settings for a device can be changed or modified from the corresponding properties window. To do so, double-click the device icon or single-click the device and then single-click the Properties button. The second configuration window will appear for the selected device as shown in the previous figure.

- **Add Device.** The Add Device button is used to add a device configuration whenever a new device is added to the system. LogView cannot recognize a device unless listed in the configuration window.

- **Remove.** The Remove button is used to remove a device from the configuration. A device may be removed if it is no longer installed or if the device's configuration no longer applies.

- **Close.** The Close button may be used at any time to exit the LogBook Configuration applet.

The second configuration window displays the properties for the selected LogBook/300. Fields include:

- **Device Name** is displayed with the default name, numbered successively as configured. This field can be changed to any descriptive name as desired.

- **Connection Type** can be serial or parallel port.

- **Device Connection** specifies the port name.

- **Protocol** is used to set the parallel port protocol (ECP only) or serial protocol (RS-232 or RS-485).

- **Device Timeout** specifies the number of seconds LogView will be wait for a LogBook response before displaying an error condition.

### ECP Parallel Port

> **Note**
> To use parallel port communication with an attached LogBook/300, your PC *must* support the ECP protocol AND be set in the ECP mode.

The majority of today's PCs support the Enhanced Computer Port protocol (ECP). If your computer does not support ECP, you can communicate with the LogBook/300 via the RS-232 serial port, or you can add an ECP-compatible ISA board or PC-Card parallel port. Setting the PC to ECP mode varies with different computers. On some computers, you can enter the BIOS Setup utility from Windows Settings or during startup by pressing the F1 function key. The Parallel Port Mode property can be found under the Peripheral Configuration group menu item. If necessary, consult your PC's documentation or your PC's manufacturer.

> **Tip**
> To ensure ECP compatibility after proper setup, use the Test Hardware utility (described on page QS300-6). Before testing, make sure LogBook/300 is properly connected, powered on, and that the Parallel Port Mode is set to ECP (in BIOS Setup).

| ⚠ | **CAUTION** | |
|---|---|---|
| | Making errors in BIOS Setup can disrupt your system's operation. If test hardware indicates a problem and you have inadequate experience with the BIOS Setup utility, consult your System Administrator or other qualified individual. | |

### Serial Port

If the selected device is connected to a serial port the properties window will include the fields shown in the following figure. Baud rate can be set from 1200 to 115200 bits per second (default 9600). When all fields have been changed to the desired settings, you can click on one of the following options:

- **Apply** to store the device configuration. Parameters ae not locked in until you click the Apply button. If you make changes and don't click Apply, clicking the Test button in Test Hardware will yield unexpected errors.

- **OK** to store the configuration and exit the current property screen.

- **Cancel** to exit the current screen without storing any changes.

- **Test Hardware** to test the current device.
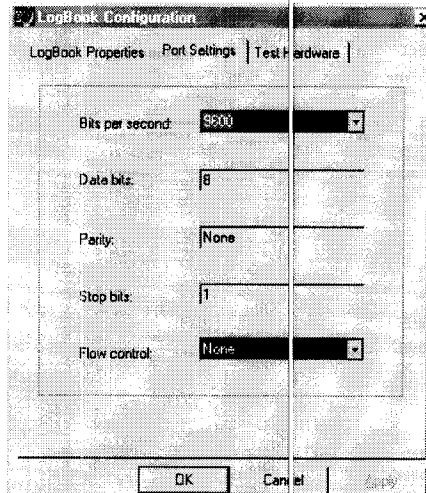


*LogBook Properties Tab*
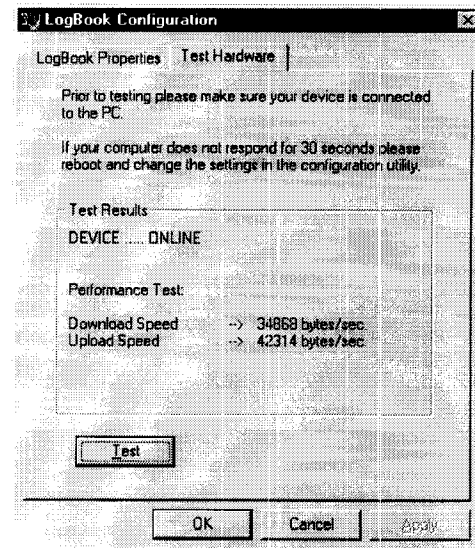


*Test Hardware Tab*

## Testing the Hardware

Before testing LogBook/300:

(a) Verify the device has been properly installed
(b) Make sure the communication cable (serial or parallel) is firmly in place to the proper ports.
(c) Verify the device is powered-on.

**Testing the LogBook/300 device might cause the system to hang. If test results are not displayed within 30 seconds, or if the system does not respond properly do the following:**

- **Reboot the system.**
- **Upon power-up, re-enter the LogBook Configuration.**
- **Ensure the configuration settings are correct. Change the settings as applicable.**

To begin the test, click the Test button. Test results should be displayed within a few seconds.

Test results indicate if the device is online (properly connected, powered on and ready to transfer the data) or offline. If the device is online, Performance Test will display Download and Upload speed rates. These rates represent the maximum speed at which downloading and uploading files can be performed. Actual transfer time will depend on channel configuration and the size of the transfer.

## Acquisition Configuration

An acquisition is configured using LogView on a PC and then stored as an acquisition setup file on a PC-Card. The PC-Card may be in an attached LogBook/300 or in the PC to be later manually transferred to an unattached LogBook/300. The system's DBK cards are listed; the scan sequence is defined; the trigger conditions are specified, etc.

**Reference Note:**
Configuring the acquisition is described in the *LogView* section of the *LogBook User's Manual* PDF, which is included on the Data Acquisition CD and on our web-site.

## A Note about Calibration

Calibration is typically performed automatically through LogView software; however, some DBKs may require manual calibration. LogView's 2-point calibration fine-tunes the reading's slope and offset error ($mx+b$). DBKs working with non-linear sensors typically condition/convert the reading to a linear form. Otherwise, a non-linear analog input signal is difficult to read accurately. Careful use of the calculated channels may yield usable approximations in simple, limited-range conditions.

**Reference Notes:**

- An example of 2-point calibration is provided under the *Procedures* heading in the *LogView* section of the manual.

- For information on calibrating the DBK16 and the DBK43A, refer to the *DBK Option Cards and Modules User's Manual* (p/n 457-0905).

# WARRANTY/DISCLAIMER

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2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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2. Model and serial number of the product, and
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