# DAQ Software Quick Start





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# About this Quick Start Booklet

This DAQ Software Quick Start contains the latest information on installing and running the *Measurement Computing Data Acquisition Software* you received with your Measurement Computing (MCC) hardware. This CD installs *Insta*Cal, TracerDAQ, and SoftWIRE on your computer.

Please read this booklet from beginning to end before you install any software and hardware.

Pay special attention to the "Requirements" section on page 61.

If you have questions that you cannot answer by reading this booklet, please refer to the resources listed in <u>For More</u> <u>Information</u> on page 69.

# Installing for use with a USB device

This section explains how to install MCC DAQ Software for use with an MCC USB device

If you ordered an Ethernet interface module, proceed to the section "Installing for use with an Ethernet interface module" on page 13.

If you ordered a PCI board, proceed to the section "Installing for use with a PCI board" on page 27.

## Start the DAQ Software install program

- 1. Turn your computer *on* if it is not already running.
- 2. Log onto Windows with administrative privileges.
- **3.** Make sure you are using the latest system software. Download and install the latest Microsoft Windows updates

Make sure you have XP Hotfix KB822603 installed. This update is intended to address a serious error in Usbport.sys when you operate a USB device.

Run Windows Update or download the update from www.microsoft.com/downloads/details.aspx?familyid=733 dd867-56a0-4956-b7fe-e85b688b7f86&displaylang=en. For more information, refer to the Microsoft Knowledge Base article "*Availability of the Windows XP SP1 USB 1.1 and 2.0 update*." This article is available at support.microsoft.com/?kbid=822603.

- **4.** Close all applications you have running, including antivirus software.
- **5.** Insert the Measurement Computing Data Acquisition Software CD into your CD drive.



This CD contains the following free data acquisition software.

- InstaCal® installation, calibration, and test utility
- TracerDAQ<sup>TM</sup> suite of virtual instruments
- SoftWIRE® for VS .NET graphical programming (including MCC DAQ Components for VS .NET)
- 6. If you have the **auto-run feature enabled on your computer**, the installation starts automatically.

If the **auto-run feature is not enabled on your computer**, use Explorer to navigate to the root of the CD drive, and double-click on **MCCSetup.exe**.

# Choose whether or not to install the .NET Framework 1.1

If the .NET Framework 1.1 is already installed on your computer, proceed to the "Install the MCC DAQ Software" section on page 5.

If the .NET Framework 1.1 is not installed on your computer, the following **DAQ install information** dialog opens.



1. Click on the **OK** button.

The Microsoft .NET Framework 1.1 Setup dialog opens.



**2.** The button you click depends on whether or not you want to install the .NET Framework 1.1 on your computer.

# SoftWIRE and TracerDAQ require the .NET Framework 1.1 to run.

- To install the .NET Framework 1.1, click on the **Yes** button.
- To bypass installing the .NET Framework 1.1, click on the **No** button.

# We strongly recommend that you install the Microsoft .NET Framework 1.1

The DAQ software installer program and some DAQ software components require that the .NET Framework 1.1 package be installed. If you do *not* install the .NET Framework 1.1, you may not be able to properly install the DAQ software.

## Install the MCC DAQ Software

Whether or not you install the.NET Framework 1.1, the remaining dialogs are the same, starting with the **Welcome...** dialog.



1. Click on the **Next>** button.

The Installation Information dialog opens.

**2.** Read the information on this dialog.

If a warning dialog opens during this installation asking to allow scripts to run, click the appropriate option that allows them to run.

3. Click on the Next> button.

🔂 DAQ	Software	×
Instal	lation Information	
	Security Notice! This installation will need to run script files to perform specific operations. If your computer is configured to	
	block certain script files you may get a warning dialog during installation. If the warning dialog provides you with options to run these files then simply allow them to run. Otherwise, you may need to disable script blocking through your anti-virus software utility before running the installation.	
InstallShie	eld Canc	el

The SoftWIRE License Agreement dialog opens.

**4.** Read the license agreement. If you agree with the terms, click on the *I accept the terms of this license agreement* option, and then click on the **Next>** button.



The Ready to install the programs dialog opens.

**5.** Click on the **Install** button.

🛃 DAQ Software	×
Ready to install the programs	
The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Click Cancel t exit the wizard.	0
Testellchield	
< Back Install Cance	.

The **Installing MCC DAQ Software** dialog opens, and stays open while the software installs.

👘 DAQ Sof	tware
Installing	DAQ Software
P	Please wait while the setup installs the software. This may take several minutes.
	Status:
InstallShield –	
	< Back Next > Cancel

When the software is installed, the **Setup Completed** dialog opens.



If VS . NET is not detected during installation To visual Studio . NET is not detected, the Setup Completed dialog instructs to uto install VS . NET. Visual Studio . NET is required by SoftWire.

6. Click on the **Finish** button.

### Install MCC hardware user's guides (requires .NET Framework)

If your computer *does not* have the .NET Framework installed, you can access the user's guide for your device from the *Documents\UsersGuides\USB* folder on the Measurement Computing Data Acquisition CD. Copy the PDF file to your hard drive.

If your computer has the .NET Framework installed, a **User's Guides Setup** dialog opens that gives you the option of installing one or more MCC hardware user's guides (PDF files) to your hard drive.

🖶 User's Guides Setup 📃 🗖 🗙
This application will install your Hardware User's Manual(s) onto your PC.
USB      -      MiniLAB-1008      -      PMD-1024HLS      -      PMD-1024LS      -      PMD-1208FS      -      PMD-1508FS      -      Switch-Sense-8-8      -      USB-1616FS      -      USB-ERB08      -      USB-FRB24      -      USB-SF08      -      USB-SSR24
Installation Directory C:\MEC\Documents\UsersGuides
Change Install Cancel

#### Want to install the MCC user's guides at a later time?

To skip the installation of the MCC user's guides, click on the **Cancel** button. Proceed to "Restart your computer" on page 10.

You can install the user's guides another time by using Explorer to navigate to the root of the CD drive, and double-clicking on

To install the user's guides, do the following.

1. Click on the check box next to each user's guide that you want to install.



To install all of the user's guides for a certain type of device (USB, PCI, Ethernet, etc.), click on the check box next to the device type.



- **2.** Click on the **Install** button.
- **3.** The selected user guides are copied to the *C:\MCC\Documents\UsersGuides* folder.

### Restart your computer

Once you copy the hardware manual(s) you need to your hard drive, a **DAQ Software Installer Information** dialog opens and prompts you to restart your computer.

Click on the **Yes** button to restart now, or on the **No** button to restart later.





Unpack and install your USB device after your computer restarts.

## Unpack your USB device

As with any electronic device, you should take care while handling to avoid damage from static electricity. Before removing your USB device from its packaging, ground yourself using a wrist strap or by simply touching the computer chassis or other grounded object to eliminate any stored static charge.

If any components are missing or damaged, notify Measurement Computing Corporation immediately by phone, fax, or e-mail:

- Phone: 508-946-5100 and follow the instructions for reaching Tech Support
- Fax: 508-946-9500 to the attention of Tech Support
- Email: <u>techsupport@measurementcomputing.com</u>

## Install your USB device

The general procedure for installing a USB device is explained here.

- 1. Turn your computer *on* if it is not already running.
- If your USB device shipped with an external power supply, connect the power cord to the power connector labeled
  POWER IN on the device enclosure. Then plug the AC adapter into a power outlet.
- **3.** Plug the smaller end of the USB cable into the USB connector on your USB device.
- **4.** Plug the larger end of the USB cable into a USB port on your computer or into an external USB hub that is connected to your computer.

The USB cable provides power and communication to the USB device.

When you connect the USB device for the first time, a **Found New Hardware** popup balloon (Windows XP) or dialog (other Windows version) opens when the device is detected.



For some USB products, multiple dialogs or balloons open and then close. When the last balloon or dialog closes, the installation is complete.

Do not disconnect **any** device from the USB bus while the computer is communicating with your MCC USB device, or you may lose data and/or your ability to communicate with your MCC USB device.

To learn how to run and use your MCC DAQ Software, proceed to "MCC DAQ Software in Action" on page 37.

# Installing for use with an Ethernet interface module

This section explains how to install MCC DAQ Software for use with an MCC Ethernet interface module.

If you ordered a USB device, go back to the section "Installing for use with a USB device" on page 3.

If you ordered a PCI board, proceed to the section "Installing for use with a PCI board" on page 27.

## Start the DAQ Software install program

- 1. Turn your computer *on* if it is not already running.
- 2. Log onto Windows with administrative privileges.
- **3.** Make sure you are using the latest system software. Download and install the latest Microsoft Windows updates
- **4.** Close all applications you have running, including antivirus software.
- **5.** Insert the Measurement Computing Data Acquisition Software CD into your CD drive.



This CD contains the following free data acquisition software.

• InstaCal® installation, calibration, and test utility

- TracerDAQ<sup>TM</sup> suite of virtual instruments
- SoftWIRE® for VS .NET graphical programming (including MCC DAQ Components for VS .NET)
- 6. If you have the **auto-run feature enabled on your computer**, the installation starts automatically.

If the **auto-run feature is not enabled on your computer**, use Explorer to navigate to the root of the CD drive, and double-click on **MCCSetup.exe**.

# Choose whether or not to install the .NET Framework 1.1

If the .NET Framework 1.1 is already installed on your computer, proceed to the "Install the MCC DAQ Software" section on page 15.

If the .NET Framework 1.1 is not installed on your computer, the following **DAQ install information** dialog opens.

DAQ install information	<
Some components of the DAQ Software require the .NET framework in order to run	
[OK]	

**1.** Click on the **OK** button.

The Microsoft .NET Framework 1.1 Setup dialog opens.



**2.** The button you click depends on whether or not you want to install the .NET Framework 1.1 on your computer.

# SoftWIRE and TracerDAQ require the .NET Framework 1.1 to run.

• To install the .NET Framework 1.1, click on the **Yes** button.

• To bypass installing the .NET Framework 1.1, click on the **No** button.

# We strongly recommend that you install the Microsoft .NET Framework 1.1

The DAQ software installer program and some DAQ software components require that the .NET Framework 1.1 package be installed. If you do *not* install the .NET Framework 1.1, you may not be able to properly install the DAQ software.

### Install the MCC DAQ Software

Whether or not you install the.NET Framework 1.1, the remaining dialogs are the same, starting with the **Welcome...** dialog.



1. Click on the **Next>** button.

The Installation Information dialog opens.

**2.** Read the information on this dialog.

If a warning dialog opens during this installation asking to allow scripts to run, click the appropriate option that allows them to run.

**3.** Click on the **Next>** button.



#### The SoftWIRE License Agreement dialog opens.

**4.** Read the license agreement. If you agree with the terms, click on the *I accept the terms of this license agreement* option, and then click on the **Next>** button.

👹 MCC DAQ Software			X		
SoftWIRE License Agreement Please read the following license agree	ment carefully.		SUREMENT APUTING		
only be modified in a separate writing Technology. If any part of this Agree affect the validity of the other terms o enforceable. YOUR ACCEPTANCE OF THE FORE DURNICI INSTALLATION. Copyright© 2000, 2001, 2002 SoftWIR	signed by an a ment is found f the Agreemer GOING AGREE E Technology,	uthorized officer of void or unenforceat at, which shall remai MENT WAS INDIC Middleboro, Mass	SoftWIRE And National Software		
Installshield					
	< Back	Next >	Cancel		

The Ready to install the programs dialog opens.

5. Click on the Install button.



The **Installing MCC DAQ Software** dialog opens, and stays open while the software installs.



When the software is installed, the **Setup Completed** dialog opens.





6. Click on the **Finish** button.

### Install MCC hardware user's guides (requires .NET Framework)

If your computer *does not* have the .NET Framework installed, you can access the user's guide for your device from the *Documents\UsersGuides\Ethernet* folder on the Measurement Computing Data Acquisition CD. Copy the PDF file to your hard drive.

If your computer has the .NET Framework installed, a **User's Guides Setup** dialog opens that gives you the option of installing one or more MCC hardware user's guides (PDF files) to your hard drive.

🖶 User's Guides Setup
This application will install your Hardware User's Manual(s) onto your PC. Select your Hardware User's Guides from the list below.
□    USB    ▲      □    USB-1616FS    □      □    USB-1616FS    □      □    USB-1616FS    □      □    USB-1616FS    □      □    PMD-1024HLS    □      □    PMD-1024HLS    □      □    PMD-1024HS    □      □    PMD-1024HS    □      □    PMD-1028FS    □      □    PMD-1208FS    □      □    SB-1096HFS    □      □    USB-1096HF    □      □    USB-1096H    □      □    USB-1096H    □      □    USB-ERB08    □      □    USB-ERB08    □
Installation Directory C:\MCC\Documents\UsersGuides
Change Install Cancel

#### Want to install the MCC user's guides at a later time? To skip the installation of the MCC user's guides, click on the **Cancel** button. Proceed to "Restart your computer" on page 20. You can install the user's guides another time by using Explorer to navigate to the root of the CD drive, and double-clicking on **D** UsersGuidesSetup exe

To install one or more user's guides, do the following.

1. Click on the check box next to each user's guide that you want to install. Use the scroll bar to view all of the user's guides that are available.

🖥 User's Guides Setup 📃 📃	×
This application will install your Hardware User's Manual(s) onto your PC. Select your Hardware User's Guides from the list below.	I
□ USB-ERB24  □ USB-ERB24  □ USB-SSR08  □ USB-SSR08  □ USB-SSR24  □ USB-TC  □ USB-TB-TC  □ USB-T	
PCI-CTR10  PCI-CTR05  PCI-CTR05  PCI-CTR20HD  PCI-DAC6702  PCI-DAC6703  PCI-DAC6703	
Installation Directory C:\MCC\Documents\UsersGuides	
Change Install Cancel	

To install all of the user's guides for a certain type of device (USB, PCI, Ethernet, etc.), click on the check box next to the device type.

- **2.** Click on the **Install** button.
- **3.** The selected user guides are copied to the *C:\MCC\Documents\UsersGuides* folder.

## Restart your computer

Once you copy the hardware manual(s) you need to your hard drive, a **DAQ Software Installer Information** dialog opens and prompts you to restart your computer.



Click on the **Yes** button to restart now, or on the **No** button to restart later.

#### Installing UL or UL for LabVIEW?

If you are going to install the Universal Library or Universal Library for LabVIEW, you can install either of the packages before you restart. Therefore, you should click on the **No** button and then install the software.

Unpack and connect your Ethernet module after your computer restarts.

## Unpack your Ethernet module

As with any electronic device, you should take care while handling to avoid damage from static electricity. Before removing your Ethernet module from its packaging, ground yourself using a wrist strap or by simply touching the computer chassis or other grounded object to eliminate any stored static charge.

If any components are missing or damaged, notify Measurement Computing Corporation immediately by phone, fax, or e-mail:

- Phone: 508-946-5100 and follow the instructions for reaching Tech Support
- Fax: 508-946-9500 to the attention of Tech Support
- Email: <u>techsupport@measurementcomputing.com</u>

## Connecting the external power supply

Power to the Ethernet module is provided with the +9 V, 3 A external power supply (CB-PWR-9V3A). You can connect the external power cable before or after you connect the Ethernet cable.

To connect the power supply to your Ethernet module, do the following.

- 1. Connect the +9 V DC power supply cord to the connector labeled **POWER IN** on the Ethernet module's enclosure.
- 2. Plug the power cord into an electrical outlet.

The **POWER** LED illuminates when +9 V power is supplied to the Ethernet module. If the voltage supply is less than +6.0 V or more than +12.5 V, the **POWER** LED does not light.

#### Connect the Ethernet cable

Your computer communicates with the Ethernet module remotely via the Ethernet cable.

To connect the Ethernet cable to the Ethernet module and to the network, do the following:

1. Connect the Ethernet cable to the Ethernet communication port on the Ethernet module.

Use a standard Ethernet CAT-5 shielded or unshielded twisted pair Ethernet cable when you connect the Ethernet module to a network. Use a standard cross-over cable when you connect the module directly to an Ethernet port on your computer.

2. Plug the cable into your network's Ethernet connection.

#### Use a cross-over cable for direct connections to your computer

To connect your Ethernet module directly to your computer, connect a standard cross-over cable between the Ethernet port on your computer and the Ethernet port on the module.

Check with your network administrator if you need assistance.

The LINK LED illuminates steady green to indicate that you have established an Ethernet connection between your Ethernet module and the network.

If the **LINK** LED is not illuminated, you cannot communicate with the network (or with the computer if you are connected directly). Refer to the *Ethernet Troubleshooting* chapter in the module's hardware manual for possible solutions to connection problems.

#### Add your Ethernet module to InstaCal

Follow the steps below to run InstaCal and add your Ethernet module to the InstaCal configuration file.

 To run *Insta*Cal, click on Start ► Programs ► Measurement Computing ► InstaCal.



The InstaCal main form opens.



2. Click the right mouse button on the PC Board List, and select Add Board... from the popup menu.



The Board Selection List dialog opens.



3. Click on the **Ethernet** tab.

The computer searches for Ethernet devices on your network.



The dialog lists the Ethernet modules that are detected on the network. An example is shown here.

B	oard Se	ection List			×
	ISA	PC104 PPIO	Ethernet		
	The ber	e following netw en detected PDIS016 (00-12	vork devir	ces have	
	Che to t	eck those devi he configuratio	ces you w on file.	vish to add	Cancel

**4.** Click on the name of the Ethernet module you want to add to *Insta*Cal's configuration file, and then click on the **Add** button.



The selected module is added to the main InstaCal form.



Use this form to configure the Ethernet connection settings and board-level settings for the module, and to perform applicable testing on the module.

# Installing for use with a PCI board

This section explains how to install MCC DAQ Software for use with an MCC PCI board.

**Install the software before you install the hardware** Installing the software first ensures that the information required for proper board detection is installed and available at boot up.

If you ordered a USB device, go back to the section "Installing for use with a USB device" on page 3.

If you ordered an Ethernet interface module, proceed to the section "Installing for use with an Ethernet interface module" on page 13.

## Start the DAQ Software install program

- 1. Turn your computer *on* if it is not already running.
- 2. Log onto Windows with administrative privileges.
- **3.** Make sure you are using the latest system software.

Download and install the latest Microsoft Windows updates.

- **4.** Close all applications you have running, including antivirus software.
- **5.** Insert the Measurement Computing Data Acquisition Software CD into your CD drive.



This CD contains the following free data acquisition software.

- InstaCal® installation, calibration, and test utility
- TracerDAQ<sup>TM</sup> suite of virtual instruments
- SoftWIRE® for VS .NET graphical programming (including MCC DAQ Components for VS .NET)
- 6. If you have the **auto-run feature enabled on your computer**, the installation starts automatically.

If the **auto-run feature is not enabled on your computer**, use Explorer to navigate to the root of the CD drive, and double-click on <u>MCCSetup.exe</u>.

# Choose whether or not to install the .NET Framework 1.1

If the .NET Framework 1.1 is already installed on your computer, proceed to the "Install the MCC DAQ Software" section on page 29.

If the .NET Framework 1.1 is not installed on your computer, the following **DAQ install information** dialog opens.



1. Click on the **OK** button.

The Microsoft .NET Framework 1.1 Setup dialog opens.



**2.** The button you click depends on whether or not you want to install the .NET Framework 1.1 on your computer.

#### TracerDAQ requires the .NET Framework 1.1 to run.

- To install the .NET Framework 1.1, click on the **Yes** button.
- To bypass installing the .NET Framework 1.1, click on the **No** button.

# We strongly recommend that you install the Microsoft .NET Framework 1.1

The DAQ software installer program and some DAQ software components require that the .NET Framework 1.1 package be installed. If you do *not* install the .NET Framework 1.1, you may not be able to properly install the DAQ software.

## Install the MCC DAQ Software

Whether or not you install the.NET Framework 1.1, the remaining dialogs are the same, starting with the **Welcome...** dialog.



**1.** Click on the **Next>** button.

The Installation Information dialog opens.

**2.** Read the information on this dialog.

If a warning dialog opens during this installation asking to allow scripts to run, click the appropriate option that allows them to run.

#### **3.** Click on the **Next>** button.



#### The SoftWIRE License Agreement dialog opens.

**4.** Read the license agreement. If you agree with the terms, click on the *I accept the terms of this license agreement* option, and then click on the **Next>** button.

HCC DAQ Software				×	
SoftWIRE License Agreement Please read the following license agreer	ment carefully.		1EASUF	REMENT UTING.	
only be modified in a separate writing Technology. If any part of this Agree affect the validity of the other terms of enforceable. YOUR ACCEPTANCE OF THE FOREC DURING INSTALLATION. Copyright© 2000, 2001, 2002 SoftWIR	signed by an a ment is found ' 'the Agreemen ЮING AGREE 2 Technology,	uthorized off void or unenf t, which shal MENT WAS Middleboro	icer of Soft forceable, it I remain val INDICATE , Massachu	WIRE will not id and D setts	
• I accept the terms in the license agreem	nent				
O I do not accept the terms in the license agreement					
InstallShield					
	< Back	Next		Cancel	

The Ready to Install the Programs dialog opens.

5. Click on the **Install** button.

🛃 DAQ Software				
Ready to install the programs				
The wizard is ready to begin installation.				
Click Install to begin the installation.				
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.				
InstallShield				
< <u>Back</u>				

The **Installing MCC DAQ Software** dialog opens, and stays open while the software installs.

🛱 DAQ Software					
Installing DAQ Software					
P	Please wait while the setup i minutes.	installs the software. This may take several			
	Status:				
TostallChield					
urscenomeia –		< <u>B</u> ack	Next >	Cancel	

When the software is installed, the **Setup Completed** dialog opens.





6. Click on the Finish button.
#### Install MCC hardware user's guides (requires .NET Framework)

If your computer *does not* have the .NET Framework installed, you can access the user's guide for your device from the *Documents\UsersGuides\PCI* folder on the Measurement Computing Data Acquisition CD. Copy the PDF file to your hard drive.

If your computer has the .NET Framework installed, a **User's Guides Setup** dialog opens that gives you the option of installing one or more MCC hardware user's guides (PDF files) to your hard drive.

#### **Did you get a printed hardware user's guide?** If you received a printed hardware user's guide with your PCI board, the user's guide for your board is currently not available from the CD.

This prefications will install your Hardware Manual (a seta
your PC.
Select your Hardware User's Guides from the list below.
□       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □       □
Installation Directory
Change Install Cancel

Want to install the MCC user's guides at a later time? To skip the installation of the MCC user's guides, click on the **Cancel** button. Proceed to "Restart your computer" on page 34.

You can install the user's guides another time by using Explorer to navigate to the root of the CD drive, and double-clicking on **BusersGuidesSetup exe**.

1. Click on the check box next to each user's guide you want to install.



To install all of the user's guides for a certain type of device (USB, PCI, etc.), click on the check box next to the device type.



- **2.** Click on the **Install** button.
- **3.** The selected user guides are copied to the *C:\MCC\Documents\UsersGuides* folder.

## Restart your computer

Once you copy the hardware manual(s) you need to your hard drive, a **DAQ Software Installer Information** dialog opens and prompts you to restart your computer.

Click on the **Yes** button to restart now, or on the **No** button to restart later.

#### Installing UL or UL for LabVIEW?

If you are going to install the Universal Library or Universal Library for LabVIEW, you can install either of the packages before you restart. Therefore, you should click on the **No** button and then install the software.



Unpack and install your PCI board after your computer restarts

# Unpack your PCI board

Each PCI board is shipped in an antistatic container to prevent damage by an electrostatic discharge. To avoid such damage, perform the following procedure when unpacking and handling your board:

- Before opening the antistatic container, ground yourself with a wrist-grounding strap or by holding onto a grounded object (such as the computer chassis).
- Touch the antistatic container to the computer chassis before removing the board from the container.
- Remove the board from the container. *Never* touch the exposed pins or circuit connections on the board.

If any components are missing or damaged, notify Measurement Computing Corporation immediately by phone, fax, or e-mail:

- Phone: 508-946-5100 and follow the instructions for reaching Tech Support.
- Fax: 508-946-9500 to the attention of Tech Support
- Email: <u>techsupport@measurementcomputing.com</u>

## Install your PCI board

The general procedure for installing a PCI board is explained here.

**1.** Turn your computer off, open it up, and insert your board into an available PCI slot.

**2.** Close your computer and turn it on.

If you are using an operating system with support for plugand-play (such as Windows 95 or Windows 2000), a dialog box displays as the system loads, indicating that new hardware has been detected.

Allow your computer to warm up for at least 15 minutes before acquiring data. This warm-up period is required in order for the board to achieve its rated accuracy.

To learn how to run and use your MCC DAQ Software, proceed to "MCC DAQ Software in Action" on page 37.

# MCC DAQ Software in Action

This chapter contains hands-on examples that show you how to run and use each MCC DAQ software package that you just installed—*Insta*Cal, TracerDAQ, and SoftWIRE for VS .NET.

# Configuring and testing with InstaCal

This section explains how to run *Insta*Cal and use it to add, configure, and test MCC's DEMO-BOARD. You can also use *Insta*Cal to calibrate analog input (A/D) and analog output (D/A) hardware.

# Running *Insta*Cal and adding your MCC hardware and the DEMO-BOARD

Follow the steps below to run *Insta*Cal and add your MCC hardware to the *Insta*Cal configuration file. This section assumes you have installed your MCC device (refer to "Installing for use with a USB device" on page 3, "Installing for use with an Ethernet interface module" on page 13, or "Installing for use with a PCI board" on page 27).

This exercise shows you how to add MCC's virtual DEMO-BOARD to *Insta*Cal.

1. To run *Insta*Cal, click on Start► Programs► Measurement Computing► InstaCal.



The Plug and Play Hardware Detection dialog opens.



**2.** Click on the **OK** button.

The **Plug and Play Hardware Detection** dialog closes, and the *Insta*Cal main form becomes active.



**3.** Click the right mouse button on the **PC Board List**, and select **Add Board...** from the popup menu.



The Board Selection List dialog opens.

On the **ISA** tab, scroll down the list of hardware, select *DEMO-BOARD*, and then click on the **Add** button.

Board Selecti	on List		×
ISA PC1	04 PPIO Ethern	net	
	• •	·	
CIO-QL	JAD02 JAD04	<b>_</b>	
CIO-RE	LAY08		
CIO-RE	:LAY16 :LAY16/M		
CIO-RE	LAY24		
DEMO	BOARD		
ISA-ME	)B64	<b>–</b>	
Bo	ard Number: 0	•	
		Add	Cancel

The DEMO-BOARD is added to the main InstaCal form.

🚟 InstaCal	_ 🗆 X
<u>File Install Calibrate Test Applications Help</u>	
PC Board List	
PCI Expansion (bus 1)	
Board# 0 - PCI-DAS *****/** (bus# 1, dev# 9)	
Universal Serial Bus	
Board# 1 - USB-YYYYZZ (serial# 68)	
ISA Bus	
Board# 2 - DEMO-BOARD	
Ready	

Use this form to configure, test, and calibrate your MCC hardware. *Insta*Cal's calibration feature is disabled for the DEMO-BOARD because it is a virtual board.

#### Configuring channel 1 on the DEMO-BOARD

For a simple example of configuring a data acquisition channel with *Insta*Cal, follow the steps below to change the configuration of channel 1 on the DEMO-BOARD.

1. On the **PC Board List**, double-click on the *Board*# 2 - *DEMO-BOARD* item.

The **Board Configuration** dialog for the DEMO-BOARD opens.

Board Configuration		X
DEMO-BOARD		
Analog Input Data Types		
Ch 0 Sine Wave	Ch 4 Damped Sine Wave 💌	
Ch 1 Square Wave	Ch 5 None	
Ch 2 SawTooth Wave	Ch 6 None	
Ch 3 Ramp	Ch 7 None	
	OK Cancel	

For the DEMO-BOARD, you can configure the type of wave input to each of its eight A/D channels. For other MCC products, the configuration options depend on the features available from the hardware.

**2.** Change the input type for channel 1 from *Square Wave* to *Damped Sine Wave*.



**3.** Click on the **OK** button to close the dialog.

Now, you can run a test using *Insta*Cal to make sure the DEMO-BOARD's channel 1 generates a damped sine wave.

#### Testing channel 1 on the DEMO-BOARD

*Insta*Cal includes options to test the analog and/or digital features of your MCC hardware.

For the DEMO-BOARD, you can run an analog loop back test to make sure a channel is generating the proper wave.

- 1. Make sure *Board# 2 DEMO-BOARD* is still selected on the **PC Board List**.
- 2. From the **Test** menu, select **Analog**.



The Board Test: DEMO-BOARD at 0h dialog opens.

Make sure *Ch 1* is selected in the **Input Ch** drop-down list, and a damped sine wave shows on the display.



- **3.** Click on the **OK** button to close the dialog.
- **4.** Next, you can run TracerDAQ's Strip Chart application to acquire, plot, and log three types of data from three channels on the DEMO-BOARD.

# Opening your MCC hardware user's guide

If you installed the MCC hardware user's guides during the DAQ software installation, you can open your hardware manual right from within *Insta*Cal.

1. Select User's Guides from *Insta*Cal's Help menu.



- 2. From the **Open** dialog, double-click on the folder for the type of board whose manual you want to install (*USB*, PCI, etc.).
- **3.** Double-click on the PDF hardware manual you want to open.

Open			? ×
Look in: 🗀 L	JSB	💌 🗢 🖻	<b></b>
HiniLAB-100 PMD-1024H PMD-1024L PMD-1208F3 PMD-1208L3 PMD-1208L3 PMD-1608F3	8.pdf Z Switch-Sense-8-8.pdf LS.pdf Z USB-1616FS.pdf 3.rdf Z USB-D1096H.pdf 5.pdf Z USB-ERB08.pdf 5.pdf Z USB-ERB24.pdf 5.pdf Z USB-PDIS08.pdf	f 🔁 USB-SSR08.	pdf pdf
File name:	PMD-1024LS.pdf		Open
Files of type:	Adobe PDF Files (*.pdf)	<b>•</b>	Cancel

The procedures for installing manuals and for manually accessing manuals from the CD are explained in the section "Install MCC hardware user's guides" (on page 8 for USB devices, on page 18 for Ethernet interface modules, and on page 33 for PCI boards).

#### Plotting and logging data with TracerDAQ

TracerDAQ is a suite of virtual instruments that acquires, plots, and logs analog and digital data from supported MCC hardware. In the following hands-on example, you use TracerDAQ's strip chart to plot and log data from the DEMO-BOARD.

#### Running TracerDAQ from within InstaCal

After you configure and test your hardware with *Insta*Cal, you can run TracerDAQ without having to exit *InstaCal*.

- 1. Make sure *Board# 2 DEMO-BOARD* is still selected on the **PC Board List**.
- 2. Select **TracerDAQ** from the **Applications** menu.



Assuming this is the first time you have run TracerDAQ, the **Data Source Setup** dialog opens for the TracerDAQ virtual strip chart (shown here).

Data Sou	irce Setup						? ×
Sources	Trigger						
Con	nfiguration Name	[[Default]		•			
Plot		Name	Board	Input Type	Input Cha	annel <u>Range</u>	
1	Enabled		Board #2 - DEMO-BOARD	Analog Input	• 0	-	•
2	Enabled			•	• 0	÷	•
3	🗖 Enabled			•	• 0		•
4	Enabled			•	• 0	:	•
5	Enabled			•	• 0	-	•
6	🗖 Enabled			•	• 0		•
7	Enabled			•	• 0	:	•
8	Enabled			<b>•</b>	• 0	3	•
	Save		ОК	Cancel	Help		

**Don't see the strip chart's Data Source Setup dialog?** This example assumes you are running TracerDAQ for the first time. If you already tried using TracerDAQ, a dialog associated with another virtual instrument may open instead. To open the strip chart's **Data Source Setup** dialog, click on the displayed dialog's **Cancel** button, and do the following:

1. Select **Strip Chart** from the **View** menu

```
2. Click on the No button on the Save? dialog that opens.
```

The strip chart's **Data Source Setup** dialog opens.

By default, the **Board** drop-down list is set to whatever hardware was assigned as *Board* #0, the **Input Type** dropdown list is set to *Analog Input*, and the **Input Channel** number entry box is set to 0.

#### Configuring a strip chart data source

Use the strip chart's **Data Source Setup** dialog to enable plot lines for the analog, digital, and temperature data you want to acquire, and also to select the range of analog and temperature data to acquire.

For this example application, you are going to acquire analog data from channel 0 of the DEMO-BOARD, temperature data from channel 1 of the DEMO-BOARD, and digital data from FirstPortA of the DEMO-BOARD. To do this, follow the steps below.

- 1. Click to select the first three **Enabled** check boxes under the **Plot** label.
  - 1
     Image: Enabled

     2
     Image: Enabled

     3
     Image: Enabled
- 2. On the first three **Board** drop-down lists, select *Board* #2 *DEMO-BOARD*.

<u>Board</u>	
Board #2 - DEMO-BOARD	-
Board #2 - DEMO-BOARD	•
Board #2 - DEMO-BOARD	
Board #2 - DEMO-BOARD	<u>_</u>

 Leave the first Input Type drop-down list set to Analog Input, select Temperature Input from the second Input Type drop-down list, and select Digital Bit (8255 Port) from the third Input Type drop-down list.

Input Type	
Analog Input	•
Temperature Input	•
Digital Bit (8255 Port)	•

For this example, plot 1 consists of analog data points, plot 2 consists of temperature data points, and plot 3 consists of digital data points (a series of 0s and 1s).

**4.** Leave the first **Input Channel** number entry box set to *0*, set the second **Input Channel** number entry box to *1*, and set the third to *0*.

Plot 1 gets analog data from channel 0 of the DEMO-BOARD, plot 2 gets temperature data from channel 1 of the DEMO-BOARD, and plot 3 gets digital data from bit 0 of the DEMO-BOARD's digital port FirstPortA.

Input Cl	hannel
0	-
1	-
0	÷

**5.** From the first **Range** list box, select *Bip5Volts*.

From the second Range list box, select -328 to 1112 F.

Because plot 3 consists of digital data, the third **Range** list box is disabled.

Your Data Source Setup dialog should look like this.

Data Sou	rce Setup						? ×
Sources	Trigger						
Con	figuration Name	[Default]		<b>•</b>			
<u>Plot</u>		<u>SignalName</u>	Device Name	Input Type	Input Channel	<u>Range</u>	
1	🔽 Enabled		Board #2 · DEMO-BOARD	▼ Analog Input ▼	0 🔅	Bip5Volts	•
2	🗹 Enabled 🛛		Board #2 - DEMO-BOARD	Temperature Input	1 🔹	-328 to 1112 F	•
3	☑ Enabled		Board #2 · DEMO-BOARD	▼ Digital Bit (8255 Port) ▼	0 -	Bip10Volts	7

6. Click on the **OK** button at the bottom of the dialog.

The Data Source Setup dialog closes, and the TracerDAQ - [Strip Chart] form opens, as shown below.



Use the **TracerDAQ** - **[Strip Chart]** form to acquire data and display it on the strip chart.

#### Setting up a data log file

You can log all of your data to a text file or to a Microsoft Excel spreadsheet using the strip chart's **Data Logging Options** dialog. When you log data, all of the data acquired since the scan began is saved to a file that you specify. 1. From the TracerDAQ – [Strip Chart] form, click on the 🗉 icon.



The Data Logging Options dialog opens.

Data Logging C	ptions		? ×
Text File Exce	1		
Log to tex	t file		
File Name			Browse
The file will b	ie stored in comma deli	mited text.	
	ОК	Cancel	Help

Use the options on the **Text File** tab to specify the name and location of the text file used to log data.

- 2. Click in the Log to text file check box to log data to a text file.
- 3. Click the **Browse** button to open a **Save As** dialog.
- **4.** In the **Save As** dialog, enter a name in the **File Name** text box, and navigate to the location where you want to save the text file.

TracerDAQ creates the file if it does not already exist.

5. Click the Save button to close the Save As dialog.

The **Data Logging Options** dialog returns with the name and location you specified. In this example, the data is saved to **DEMO-BOARD data.txt** in the root directory of the **C:\** drive.

Data Logging Options	?	х
Text File Excel		
· · ·		
Log to text file		
File Name C:\DEMO-BOARD data.txt	Browse	
		-
The file will be stored in comma delimited text.		
		_
OK Cancel	Help	

 Click the OK button to save your text file settings. The Data Logging Options dialog closes, and you are returned to the TracerDAQ – [Strip Chart] form.

#### Plotting and logging your data

Use the **TracerDAQ - [Strip Chart]** form to start the scan, plot and log the analog input data acquired from channel 0 on the DEMO-BOARD, plot and log the temperature input data acquired from channel 1 on the DEMO-BOARD, and plot and log the digital input data acquired from bit 0 of FirstPortA on the DEMO-BOARD.

Remember, you reconfigured the DEMO-BOARD's analog channel 0 from *Sine Wave* to *Damped Sine Wave*.

1. Click on the ▶ toolbar icon to begin acquiring and plotting analog and digital data from the DEMO-BOARD.



During a scan, the strip chart's X-axis displays the time when the analog data was acquired, and the Y-axis displays the range of analog data values.

Observe the data being acquired for as long as you want. The strip chart continues to acquire and display data until you stop the scan.

**2.** To stop the scan, click on the **(a)** icon.

An example of a strip chart data log file is shown below.

📕 DEMO-BO.	ARD data.txt	- Nol	epad		_ [	X
<u>File E</u> dit F <u>o</u> r	rmat <u>V</u> iew <u>H</u>	elp				
3/17/2005	11:45:47	AM,	2.5668,	82.4442,	0	
3/17/2005	11:45:48	AM,	2.2040,	82.4368,	1	
3/17/2005	11:45:49	AM,	1.8063,	82.4294,	0	_
3/17/2005	11:45:50	AM,	1.3803,	82.4217,	1	
3/17/2005	11:45:51	AM,	0.9325,	82.4143,	0	
3/17/2005	11:45:52	AM,	0.4698,	82.4069,	1	
3/17/2005	11:45:53	AM,	-0.0002,	82.3997,	0	
3/17/2005	11:45:54	AM,	-0.4701,	82.3931,	1	
3/17/2005	11:45:55	AM,	-0.9328,	82.3868,	0	
3/17/2005	11:45:56	AM,	-1.3806,	82.3811,	1	
3/17/2005	11:45:57	AM,	-1.8066,	82.3761,	0	
3/17/2005	11:45:58	AM,	-2.2043,	82.3714,	1	
3/17/2005	11:45:59	AM,	-2.5671,	82.3679,	0	
3/17/2005	11:46:00	AM,	-2.8896,	82.3648,	1	
3/17/2005	11:46:01	AM,	-3.1664,	82.3624,	0	•

You have now successfully configured a data source (the DEMO-BOARD), acquired analog and digital input data, plotted the data on the strip chart display, and logged the data to a text file.

The strip chart has additional features, and TracerDAQ has other virtual instruments you can use with your analog and digital data. To learn more about TracerDAQ, select **TracerDAQ Help** from TracerDAQ's **Help** menu.



### Using SoftWIRE Graphical Programming for VS .Net

This section explains how to create and run a SoftWIRE data acquisition application using MCC's DEMO-BOARD virtual hardware.

### Creating a SoftWIRE project

To start SoftWIRE, do the following:

1. Double-click on the **SoftWIRE for VS.NET** icon on your desktop.



The Create a New SoftWIRE Project dialog opens.

Ereate a New SoftWIRE Project	×
SoftWIRE	
Create a new SoftWIRE project:	
SoftWIRE VB windows application	
O SoftWIRE C# windows application	
Name of new SoftWIRE project SoftWIREWinApp1	
Location of new SoftWIRE project C:\SoftWIRE Projects	Browse
OK Cancel	

**2.** Click on the **OK** button to create a new SoftWIRE VB application.

The Visual Studio .NET development environment opens. The Diagrammer (Diag.dgm) is where you build SoftWIRE diagrams (programs).



Note that the Diagrammer window overlaps the Visual Studio Form window (Form1.vb).

**3.** To display both the Diagrammer and the Visual Studio Form at the same time, select **SoftWIRE View** from the **SoftWIRE** menu.



When you select this option, it rearranges the tabs from the standard VS for .NET format to one that is customized for SoftWIRE projects.



#### Adding SoftWIRE components

Unlike conventional programming, which involves writing text commands using special languages, SoftWIRE programs consist of diagrams made up of function blocks connected by "wires." These blocks and wires are powerful .NET components written in C#.

To create a SoftWIRE data acquisition program, follow the steps below to add the SoftWIRE components from the Diagrammer toolbar (shown below.)



Your program will take the numbers entered into two SoftWIRE Numeric Text controls, and use the first number as the low channel and the second number as the high channel. When you click on the SoftWIRE Button control, the program acquires data from the DEMO-BOARD, and plots the data on the Strip Chart.

1. Click on the **GUI** tab, and then click on the Button icon to add this control to the Diagrammer window.



2. From the **GUI** tab, click twice on the Numeric Text icon to add two of these components.



3. From the GUI tab, click on Strip Chart icon.



**4.** Click on the **Mcc Daq** tab, and then click on the AI Scan icon.



All of the components you selected are added to the Diagrammer. The four components you added from the **GUI** tab also appear on the Visual Studio form. These components will be used for entering data and for triggering your program to perform an operation, so users need to see them and interact with them directly.

To move SoftWIRE components around on the Diagrammer, simply click-and-hold the mouse button on them, and drag them where you want to place them. This is the same way components are moved on a form.

Rearrange the components on the Diagrammer and on the form like they are shown here.



#### Wiring SoftWIRE components together

In order to get SoftWIRE components to work together to form a useful program, you need to wire them together on the Diagrammer so that components can share data and perform their operations in sequence.

The first wire you are going to create is from the Button control to the AI Scan component. When you run this program and click on the Button, we want it to trigger the AI Scan component to perform its operation.

To do this, wire the Button control's green **Value** pin on the right of the component to the AI Scan component's gray **Control In** pin on the top of component.

- 1. Click-and-hold your mouse cursor on the green Value pin on the right side of the Button control.
- 2. Drag the mouse cursor (⊕) to the gray Control In pin on the top of the AI Scan component.



**3.** Release the mouse button.

You have created a wire that makes the AI Scan component respond when the Button is clicked. But before you run the program to see it work, create the other wires that make up your program.



To find out the name of the pins on a component, simply place the mouse cursor over the pin.



- Wire the green Value pin on the right side of the first Numeric Text control (NumericText1) to the blue First Channel pin on the left side of the AI Scan component.
- 5. Wire the green Value pin on the second Numeric Text control (NumericText2) to the blue Last Channel pin on the left side of the AI Scan component.



6. Wire the green **Value** pin on the right side of the AI Scan component to the blue **Value** pin on the left side of the Strip Chart control.

Your completed SoftWIRE diagram program should look like this.



Now that you've finished programming, let's see how your program works.

#### Setting SoftWIRE component properties

Wires respond to events generated by connected components. This allows a component to pass its property values to other components that are connected by a wire.

You can also set start up property values for your components using Visual Studio's **Properties** window.

- You should change the start up values for the two Numeric Text controls. By default, a Numeric Text control displays the unique name assigned to it within the SoftWIRE program. Since their function is for users to enter numbers from the keyboard, you can change their Text properties so they are blank when the form first opens.
- 2. From the Diagrammer, click to the right-mouse button on the first Numeric Text control (NumericText1), and select the **Properties...** option.



NumericText1's **Properties** window opens. The **Text** property is highlighted at the bottom of the window.

NumericText1 SoftWIRE.U	I.NumericText	×
1 🛃 🔲 📼		
Dock	None	
Enabled	True	
I Font	Microsoft Sans Serif, 8.25pt	
ForeColor	WindowText	
HideSelection	True	
ImeMode	NoControl	
∃ Lines	String[] Array	
E Location	16, 72	
Locked	False	
MaxLength	32767	
Modifiers	Friend	
Multiline	False	
OutputOnLostFocus	False	
PasswordChar		
ReadOnly	False	
RightToLeft	No	
ScrollBars	None	
SelectAlIOnFocus	False	
+ Size	100, 20	
Tabindex	1	
TabOnEnter	False	
TabStop	True	
Tag		
Text	NumericText1	

**3.** On the **Properties** window, delete the **Text** property setting of NumericText1 and leave the property blank.



4. Open the **Properties** window for NumericText2.



**5.** On the **Properties** window, delete the Text property setting of NumericText2 and leave the property blank.



You will change the number entered in NumericText2 when you run the program.

#### Running a SoftWIRE program

Except for rearranging components on the form, you have done all of your work so far on the Diagrammer. But when you run your program, you work from the form only.

Running a SoftWIRE for VS .NET program is no different that running a conventional code-based VB or C# program.

1. Use one of the methods shown below to start your program.



After a moment, the run-time version of the form opens.



The two Numeric Text controls are blank.

- 2. Enter 0 in the first Numeric Text control.
- **3.** Enter *3* in the second Numeric Text control.



**4.** Click on the Button control (labeled **Button1**).

Your program acquires data from channels 0 through 3 on the DEMO-BOARD and plots it on the Strip Chart.



With five components connected by five wires, you quickly created a simple but powerful data acquisition application.

To learn about the other components and features available from SoftWIRE, select the **Help** option from the **SoftWIRE** menu on the Visual Studio menu bar.



Refer to the next section to learn where you can get more information on MCC hardware and software.

# Requirements and features

## System requirements

#### *Insta*Cal

You can install InstaCal on the following operating systems:

- Windows 95 (does not support USB-based products)
- Windows 98 (does not support USB-based products)
- Windows 98 Second Edition
- Windows ME
- Windows NT 4.0 (Workstation or Server). Service Pack 6a recommended. (does not support USB-based products)
- Windows 2000 (Professional, Server, or Advanced Server)
- Windows XP (Personal and Professional)

#### TracerDAQ

You can install TracerDAQ on the same operating systems that support *Insta*Cal **except for Windows 95**.

TracerDAQ requires the following software, which is installed with more recent versions of Windows. If you are not sure if this software is installed, refer to the links given below.

- Microsoft .NET Framework
- Microsoft Data Access Components (MDAC)

TracerDAQ requires MDAC version 2.6 or later. To determine what version of MDAC is installed on your computer, refer to the Microsoft Knowledge Base article 301202 "*How To: Check for MDAC Version*". This article is available at

http://support.microsoft.com/default.aspx?scid=kb;enus;301202&Product=mdac. You can download the latest version of MDAC at <u>http://msdn.microsoft.com/data/downloads/updates/default.</u> <u>aspx#MDACDownloads</u>.

- TracerDAQ runs best on a Pentium computer with a 90 MHz CPU or greater. The computer should have at least 96 MB of RAM installed.
- A mouse is required to use TracerDAQ's strip chart and scope applications.

For the latest list of MCC hardware that TracerDAQ supports, refer to <u>www.mccdaq.com/tracerdaq/SupportedHardware.pdf</u>.

### SoftWIRE for Visual Studio .NET

You can install SoftWIRE on a computer running **Windows** 2000 or **Windows XP** with Visual Studio .NET installed. Software and hardware requirements and recommendations are given below.

- PC with Pentium® II-class processor, 450 MHz (Pentium III class processor, 650 MHz or higher recommended)
- Microsoft® Visual Studio® .NET
- CD-ROM drive
- VGA or higher resolution monitor (Super VGA recommended)
- Microsoft® mouse or compatible pointing device
- At least 50 Mbytes of free storage (in addition to the storage required to install Visual Studio .NET)
- Administrative rights to install SoftWIRE

#### Software features

#### *Insta*Cal

*Insta*Cal is a complete installation, calibration, and test program for MCC data acquisition and control hardware. Complete with extensive error checking, *Insta*Cal guides you through the installation and setup of your MCC hardware, and creates the hardware configuration file for use by your programming or application software. *Insta*Cal provides the easiest way to calibrate and configure your MCC data acquisition product.

#### TracerDAQ



TracerDAQ includes fully-configured and ready-to-run virtual instruments that you can use to plot and log data from supported MCC hardware directly to your computer. Your

measurements are plotted as they are acquired. Once acquired, you can save the measurement data to a text or Excel file, and capture the graphical display as a bitmap. TracerDAQ online help includes a quick start exercise that explains how to acquire and display data. You can launch TracerDAQ from *Insta*Cal's **Applications** menu.

With TracerDAQ, you can:

- specify sources of analog, digital, and temperature data from available hardware
- save data source configurations for future use
- analyze data points individually or comparatively
- zoom in on specific data points on the graphical display
- customize the colors, text, and data that you want to display
- save data to a text file or Microsoft Excel file
- email data from within the application

This is only a partial list of TracerDAQ's features. For more information on the virtual instruments and features available with TracerDAQ, refer to <u>www.mccdaq.com/tracerdaq.html</u>.

TracerDAQ technical support is FREE, and is available only via email at <u>freesupport@mccdaq.com</u>.

#### SoftWIRE Graphical Programming

**SoftWIRE** SoftWIRE is a graphical programming extension for Microsoft Visual Studio .NET.

Like LabVIEW, SoftWIRE gives you the power to create programs graphically without having to write in BASIC or C. Unlike LabVIEW, which is proprietary, SoftWIRE is based upon Visual Studio. You can easily create new icon function blocks, write a few lines of code, or add any library, driver, or component written for Visual Studio. And unlike LabVIEW, there are no runtime or design time license fees. You can freely distribute the programs you create.

SoftWIRE includes a collection of data acquisition components that you can use to develop custom applications with SoftWIRE for Visual Studio .NET. With these components, you can develop programs that control MCC hardware, and gather and display data from MCC hardware. Example programs that demonstrate how to use the data acquisition components are included with the SoftWIRE.

In addition to SoftWIRE for VS .NET and the data acquisition components, the SoftWIRE installation includes the SoftWIRE LEGO Curriculum and the SoftWIRE Developer's Kit (SDK).

# Problems installing or running your MCC DAQ Software?

This section provides helpful tips and explains how to resolve potential problems so that you get the best performance from your MCC DAQ software and the MCC hardware it supports.

If the answers to these troubleshooting questions do not resolve your problem, contact Measurement Computing Corporation technical support by phone, fax, or e-mail:

For **TracerDAQ questions**, send email to <u>freesupport@mccdaq.com</u>.

For all other software and hardware:

- Phone: 508-946-5100 and follow the instructions for reaching Tech Support.
- Fax: 508-946-9500 to the attention of Tech Support
- Email: <u>techsupport@measurementcomputing.com</u>

#### What operating systems require me to run Windows Update?

If you are running any of the operating systems that support *Insta*Cal, run Windows Update before installing the MCC DAQ software (refer to the "System requirements" listing of supported operating systems in the "Requirements" section on page 61).

#### Why is my USB device not running properly on Windows XP?

If you are running Windows XP with a USB device, make sure you have XP Hotfix KB822603 installed. This update is intended to address a serious error in Usbport.sys when you operate a USB device.

You can run Windows Update or download the update from www.microsoft.com/downloads/details.aspx?familyid=733dd8 67-56a0-4956-b7fe-e85b688b7f86&displaylang=en. For more information, refer to the Microsoft Knowledge Base article "Availability of the Windows XP SP1 USB 1.1 and 2.0 update." This article is available at support.microsoft.com/?kbid=822603.

#### Why do I see different installation dialogs than those shown in the Quick Start?

If you are running **Windows 98**, it may not contain the **Windows Installer** program. If Windows Installer is not present on your system, you see a different set of installation dialogs than those seen on other operating systems. Run Windows update to install the Windows Installer program.

# Windows Installer required to install SoftWIRE and TracerDAQ

If your computer does not have the Windows Installer program installed, only *Insta*Cal can be installed from the DAQ software CD. Run Windows Update to install the Windows Installer program.

If you are running **Windows 95**, you see a different set of installation dialogs than those seen in other operating systems.

# Why can't I run SoftWIRE for Visual Studio .NET?

SoftWIRE for Visual Studio .NET is only installed on computers running **Windows 2000** or **Windows XP** with **Visual Studio .NET** installed.

### Why can't I run TracerDAQ?

TracerDAQ is not installed on computers running **Windows 95**.

On supported operating systems, TracerDAQ requires the Microsoft .NET Framework 1.1, and Microsoft Data Access Components (MDAC) version 2.6 or later. You can download the latest version of MDAC at

http://msdn.microsoft.com/data/downloads/updates/default.asp x#MDACDownloads.
# For More Information...

Thank you again for your purchase from Measurement Computing Corporation. We think you will find our hardware and software to be the highest quality and best value in the industry.

Use the following web site addresses and contact information to learn more about the products that we offer, or to request help with your MCC hardware or software.

- MCC web site <u>www.mccdaq.com</u>
- SoftWIRE web site <u>www.softwire.com</u>. SoftWIRE online help is also available.
- TracerDAQ technical support is available via email at <u>freesupport@mccdaq.com</u>. TracerDAQ online help is also available.
- MCC hardware and software documentation (PDF) <u>www.mccdaq.com/manuals.html</u>
- MCC hardware specifications (PDF) <u>www.mccdaq.com/specs.html</u>
- Tech support contact information: *Phone*: 508-946-5100 and follow the instructions for reaching Tech Support.

*Fax*: 508-946-9500 to the attention of Tech Support *Email*: <u>techsupport@mccdaq.com</u>

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With SoftWIRE added to *Insta*Cal<sup>®</sup> and TracerDAQ<sup>TM</sup>, our suite of free data acquisition software is unmatched in the industry. It's further proof of our dedication to fulfilling our two missions:

To offer the highest-quality, computer-based data acquisition, control, and GPIB hardware and software available—at the best possible price.

To offer our customers superior post-sale support—FREE. Whether providing unrivaled telephone technical and sales support on our latest product offerings, or continuing that same first-rate support on older products and operating systems, we're committed to you!

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Measurement Computing Corporation 16 Commerce Boulevard, Middleboro, Massachusetts 02346 (508) 946-5100 Fax: (508) 946-9500 E-mail: <u>info@mccdaq.com</u> <u>www.mccdaq.com</u>