Universal Library

Redistribution Guide

MEASUREMENT COMPUTING™

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Redistributing Applications created with the Universal Library

This document explains how to distribute applications developed using the Universal Library (UL). Developers wishing to redistribute the files associated with the Universal Library may do so only if they are not altered or edited in any way.

This document includes information on how to install the Measurement Computing device drivers and InstaCal under Microsoft® Windows® 10, 8, 7, Vista, and XP. You can install the Measurement Computing device drivers and InstaCal configuration and support files using the MCC-provided installer or with a custom installer:

- **MCC installer** — include the MCC-provided installer on your distribution disk and either run it from your application installer or instruct the user to run it as a second step.
- **Custom installer** — have your installer create the Universal Library directory, install all the required files to that directory, modify the registry, and install the required drivers.

These instructions assume InstaCal has not been installed on the target computer.

Using the MCC-provided installer

To install the InstaCal device driver, configuration files, and support files using the MCC installer, do the following:

1. Download icalsetup.exe from ftp://ftp.mccdaq.com/downloads/InstaCal/ and include it on your distribution disk along with your application. icalsetup.exe is a self-extracting installer file.

2. Configure your installer to either run icalsetup.exe after installing your application, or prompt the user to run icalsetup.exe after installing your application.

In either case, icalsetup.exe should be run last, since it will prompt the user to reboot upon completion.

Using a custom installer

You can use a custom installer to install the InstaCal device driver, configuration files, and support files. Creating a custom installer involves the following steps:

- Create the UL directory on the target system
- Update the windows registry
- Update the environment variables
- Install the hardware drivers with DPInst.exe
- Reboot the computer

Details on each procedure are listed below.

Creating the Universal Library directory on the target system

1. Configure your installer to create a folder for the Universal Library, and copy the following files to it (these files can be found in the folder where you installed Universal Library on your development machine):

▪ cbercode.txt	▪ ReadMeUL.txt
▪ cbw32.dll	▪ ulprops.txt
▪ cbw64.dll	▪ HIDRegUpdater.exe (required when using Windows 8.1 and later)
▪ DaqLib.dll	▪ MccSktsifc.dll (required for use with the E-PDISO16)
▪ DaqLib64.dll	▪ MccSkts.exe (required for use with the E-PDISO16)
▪ MccDaq.dll	

When using InstaCal, also include the following files:

- cbi_cal.dll
- cbi_node.dll
- cbi_prop.dll
- cbi_test.dll
- inscal32.exe
- logo.bmp
- ReadMe.txt
- vicomponents.ocx (must be self-registered)

2. Add "Drivers", "Drivers64", "DriversEV", and "Drivers64EV" subdirectories to your installation media.

These folders are included in the icalsetup.zip file stored at https://www.mccdaq.com/downloads/InstaCal_zipfile/. Download icalsetup.zip and extract all files locally before copying the folders to your installation media.

Your installation program needs to run DPInst.exe from the appropriate folder (Drivers, Drivers64, DriversEV, or Drivers64EV) to install the hardware drivers on the system; refer to Installing the hardware drivers with DPInst.exe on page 6 for more information.

Note: DriversEV and Drivers64EV are used by systems requiring extended validation, such as Windows 10.

Updating the Windows Registry

Configure your installer to create the following registry keys:

Note: On 64-bit systems, these keys must be stored in the 32-bit branch of the registry.

- Create a new key named **ComputerBoards**:
  ```
  [HKEY_LOCAL_MACHINE]\Software\ComputerBoards
  ```

- Create a new key named **Universal Library**:
  ```
  [HKEY_LOCAL_MACHINE]\Software\Universal Library
  ```

- Create a new string key named **RootDir** and define its String Value as follows:
  ```
  RootDir = C:\Program Files\Measurement Computing\DAQ
  ```

`RootDir` sets the location of the directory that contains CBW32.DLL.

Windows 10, 8, 7, and Vista

When running Windows 10, 8, 7 and Vista, you must also create the following keys in the Windows registry:

- Create a new string key named **ConfigDir** and define its String Value as follows:

  `ConfigDir` = C:\ProgramData\Measurement Computing\DAQ

  `ConfigDir` sets the directory where the CB.CFG file is created when you run InstaCal.

- Create a new key named **Daqx**.
  ```
  [HKEY_LOCAL_MACHINE]\System\CurrentControlSet\Services\Daqx
  ```

Windows XP (32-bit)

If using older devices (such as ISA or PCMCIA devices), the legacy driver needs special handling. Note that this driver is not required for PCI or USB products, so this section can be skipped if legacy devices will not be used.

When running 32-bit Windows XP system do the following:

- Copy the cbul32.sys driver to the System32\Drivers directory.
- Create a new key named **CBUL32**, and define the following values to include the cbul32.sys device driver:
  ```
  [HKEY_LOCAL_MACHINE]\System\CurrentControlSet\Services\CBUL32

  DisplayName = Measurement Computing DataAcq
  ErrorControl = 1
  Group = Extended Base
  ImagePath = System32\Drivers\CBUL32.SYS
  Start = 1
  Type = 1
  ```

  Note that `Type`, `Start`, and `ErrorControl` must be DWORD values, while the rest are string values.

Updating the Environment variables

▪ Update the Environment variables (Path string) to include the directory containing cbw32.dll; to do this, add the following directory to the beginning of the existing string value defined for Path:

  Note: The directory containing cbw32.dll is the same directory as the string value defined above for `RootDir`.

  `Path = C:\Program Files\Measurement Computing\DAQ;....`

Installing the hardware drivers with DPInst.exe

`DPInst.exe` is a Microsoft driver package installer file.

▪ The installer should launch `DPInst.exe` from the Drivers, Drivers64, DriversEV, or Drivers64EV folder (now copied where the installer is located).

  The installer automatically installs the files contained within the drivers folder to the appropriate folders on the target computer.

  In the Command line arguments field, enter the following command-line switches: `/LM /F /SA /SE /SW` For information about these switches, refer to the Microsoft Developer Network.

Reboot the computer

Configure your installer to reboot the system.