

FCA3000, FCA3100, and MCA3000 Series Connectivity Installation Manual



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Tektronix

**FCA3000, FCA3100, and MCA3000 Series
Connectivity
Installation Manual**

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Introduction

This document describes how to:

- Install the National Instruments LabVIEW™ SignalExpress Tektronix Edition software (referred to as SignalExpress in the rest of the document)
- Install the Step files needed by SignalExpress to communicate with an FCA3000, FCA3100, or MCA3000 Series Timer/Counter/Analyzer
- Connect the instrument to your PC with a USB or GPIB cable and use SignalExpress software to remotely acquire measurements

Install LabVIEW SignalExpress Software

SignalExpress lets you remotely control and acquire data from the instrument. Once installed, the instrument setup, acquisition and control performs similar to other Tektronix products that are supported by the SignalExpress software.

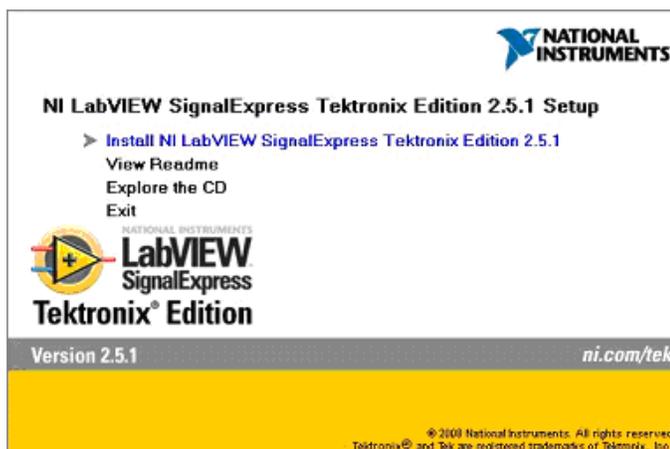
System Requirements

- 512 MB of memory
- Pentium 4 processor or equivalent (Pentium III or Celeron 600 MHz minimum)

Install SignalExpress

To install SignalExpress:

1. Insert the SignalExpress CD into the CD or DVD drive on your PC to display the installation window.



2. Click **Install NI LabVIEW SignalExpress Tektronix Edition 2.5.1**.
3. Follow on-screen instructions to complete the installation.

NOTE. *SignalExpress software requires the National Instruments version of VISA drivers. NI-VISA is automatically installed when you install the SignalExpress software.*

If you have TekVISA software installed on your PC, SignalExpress replaces the TekVISA with the NI-VISA. Some TekVISA applications, such as TVC and Tek Toolbars, are not uninstalled, and will continue to work with the NI-VISA software.

This completes the SignalExpress software installation. Go to the next section to install the SignalExpress Step files.

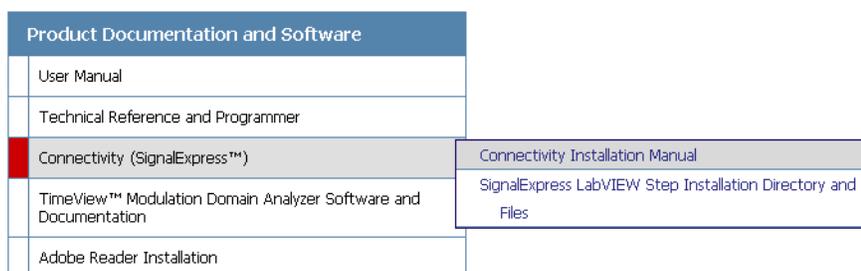
Install the SignalExpress Step Files

To install the SignalExpress Step files:

1. Insert the *FCA3000, FCA3100, MCA3000 Series Timer/Counter/Analyzers Documentation and Connectivity Software* CD (Tektronix part number 063-4288-XX) into your computer's CD or DVD drive to start the documentation browser software.

NOTE. *If the browser software does not start automatically, go to the root directory of the CD and double-click **launch.exe**.*

2. Select your language.
3. Click **Connectivity (SignalExpress™) > SignalExpress LabVIEW Step Installation Directory and Files**.



4. Double-click **Tek_FCA_MCA3000_3100.exe**. Follow the on-screen instructions.

This completes the SignalExpress Step file installation. Go to the next section to verify connectivity and communication with the instrument.

Verify Connectivity

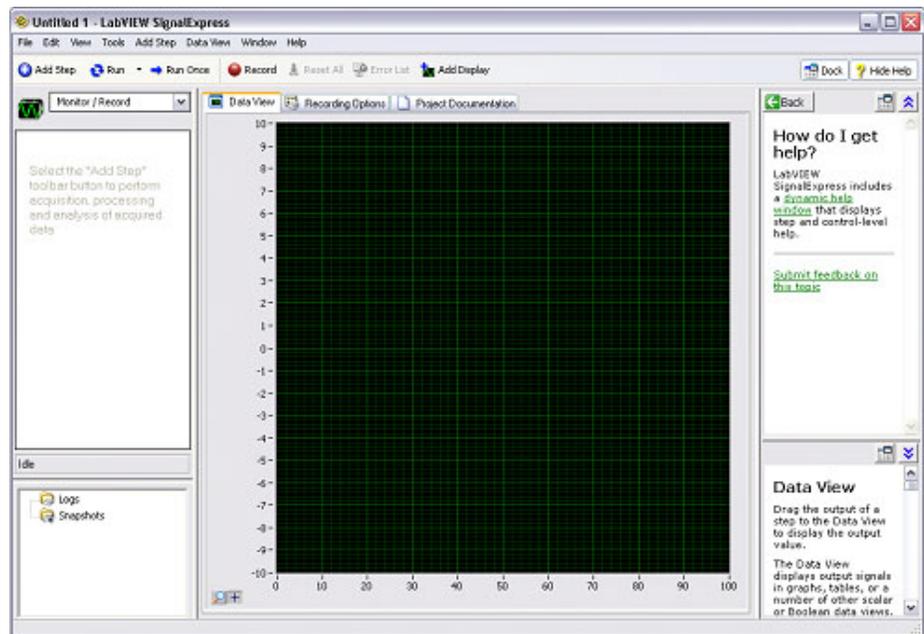
Do the following to connect and control your FCA3000, FCA3100, or MCA3000 Series instrument using SignalExpress:

1. Power off the instrument.
2. Connect the instrument to the PC (with installed GPIB controller for GPIB use) using a standard GPIB or USB type A/B cable.

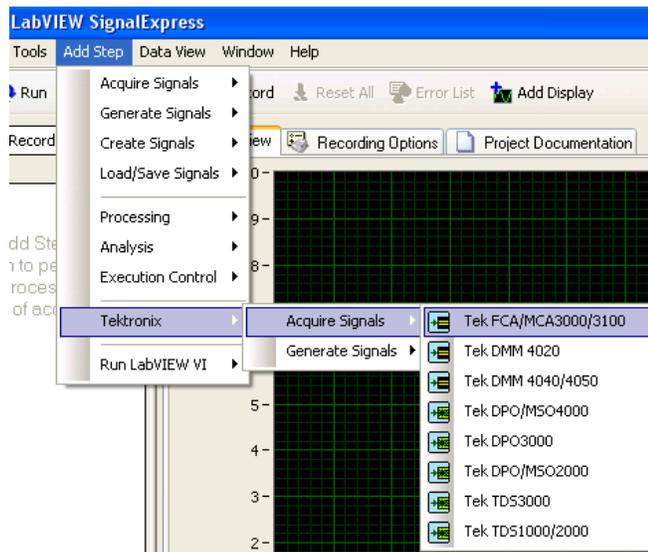
NOTE. *You can have both a USB and GPIB cable connected to the instrument at the same time. However, the instrument can only communicate using one interface at a time (USB or GPIB).*

3. Connect a cable from the rear panel **10 MHz OUT** connector to **Input A** on the front panel.
4. Power on the instrument.
5. Push **Meas > Freq > Freq > A**. The instrument should display 10 MHz, with the last few digits fluctuating.
6. Do the following to set the instrument for USB communication (to set the instrument for GPIB communication, got to step 7) :
 - a. Push **User Opt > Interface > Bus Type** and select **USB**.
 - b. Repeatedly push the **Save/Exit** button to confirm the settings and return to the instrument main measurement screen.
 - c. Go to step 8.
7. To set the instrument for GPIB communication:
 - a. Push **User Opt > Interface > Bus Type** and select **GPIB**.
 - b. Push **GPIB Mode** and select **Compatible**.
 - c. Push **GPIB Address** to set or confirm the instrument GPIB address.
 - d. Repeatedly push the **Save/Exit** button to confirm the settings and return to the instrument main measurement screen.
8. Run the SignalExpress software on the PC.

NOTE. *The SignalExpress software may automatically run when you power on the FCA3000, FCA3100, or MCA3000 Series instrument if the PC recognizes that an instrument is connected with a GPIB or USB cable.*



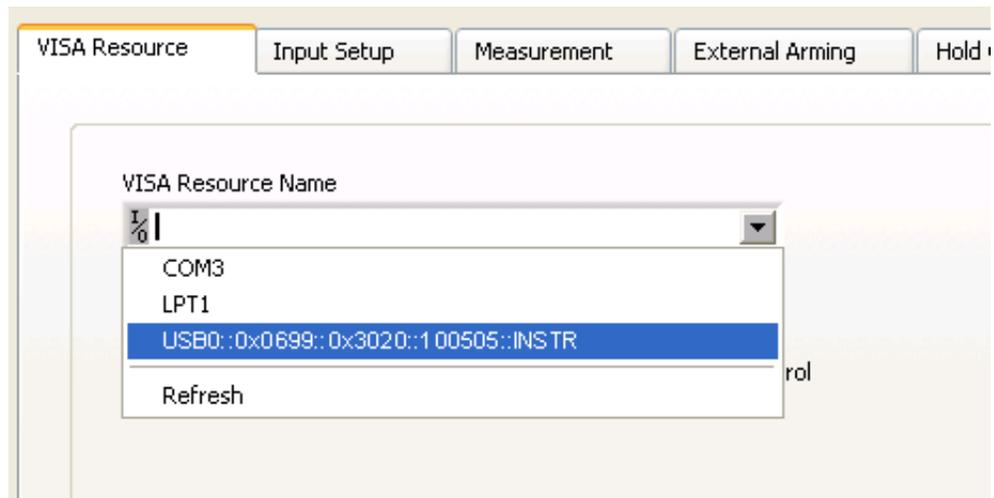
9. Click **Add Step > Tektronix > Acquire Signals > Tek FCA/MCA3000/3100**.



NOTE. If **Tek FCA/MCA3000/3100** is not in the menu, please reinstall the Step files. (See page 3, *Install the SignalExpress Step Files.*)

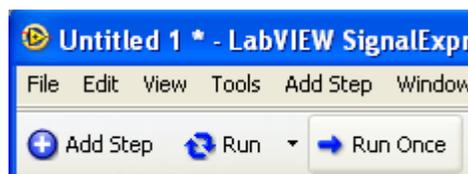
If the **Tek FCA/MCA3000/3100** menu item is still not listed after reinstalling the Step files, please contact your nearest Tektronix Customer Support center for help.

- In SignalExpress, select the **VISA Resource** tab, click the **VISA Resource Name** drop-down list, and select the address that matches the instrument that is connected to the PC. For example, the USB resource name in the following figure shows the Tektronix manufacturer ID number 0699, the instrument identifier 3003 (for FCA3003), and the instrument serial number (100505).



NOTE. If you do not see the instrument listed, click **Refresh** in the list and see if the instrument name is now listed. If the instrument is still not listed, make sure that the USB or GPIB cable is fully seated in their connectors and the instrument interface and PC GPIB or USB settings are correct. You cannot acquire a measurement from an instrument until you can select the instrument from the VISA Resource Name list.

- Click **Run Once**.



- Verify that the acquired result on the SignalExpress screen matches the main readout of the FCA3000, FCA3100, or MCA3000 Series instrument.



For more information on using the LabVIEW SignalExpress Tektronix Edition software, see the PDF manual *LabVIEW SignalExpress: Getting Started with LabVIEW SignalExpress*, and the file *NI LabVIEW SignalExpress Tektronix Edition Readme*, both of which are on the *NI LabVIEW SignalExpress* software CD.

In SignalExpress, click **Help > Getting Started with** to open the application online help.