
WHEN YOUR DIGITIZER IS DELIVERED

Check That You Have Everything

Verify that all items on the packing list or invoice copy have been shipped to you. (The items are also listed below.) Contact your nearest LeCroy customer service center or national distributor if anything is missing or damaged. If there is something missing or damaged, and you do not contact us immediately, we cannot be responsible for replacement.

The following is shipped with the standard PXD 222 Digitizer:

- *Performance or Calibration Certificate*
- *Quick Reference Guide*
- *CD ROM*

NOTE: The warranty below replaces all other warranties, expressed or implied, including but not limited to any implied warranty of merchantability, fitness, or adequacy for any particular purpose or use. LeCroy shall not be liable for any special, incidental, or consequential damages, whether in contract or otherwise. The customer is responsible for the transportation and insurance charges for the return of products to the service facility. LeCroy will return all products under warranty with transport prepaid.

Be Sure To Read This Warranty

The PXD 222 Digitizer is warranted for normal use and operation, within specifications, for a period of one year from shipment. LeCroy will either repair or, at our option, replace any product returned to one of our authorized service centers within this period. However, in order to do this we must first examine the product and find that it is defective due to workmanship or materials and not due to misuse, neglect, accident, or abnormal conditions or operation.

Spare and replacement parts, and repairs, all have a 90-day warranty.

The digitizer's firmware has been thoroughly tested and is presumed to be functional. Nevertheless, it is supplied without warranty of any kind covering detailed performance. Products not made by LeCroy are covered solely by the warranty of the original equipment manufacturer.

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Take Advantage Of Maintenance Agreements

We offer a variety of services under the heading of Maintenance Agreements. These give extended warranty and allow you to budget maintenance costs after the initial one-year warranty has expired. Installation, training, enhancements, and on-site repairs — among other services — are available through special supplemental support agreements. Inquire at your LeCroy customer service center or national distributor.

Obtain Assistance

Help with installation, calibration, and the use of your PXD 222 Digitizer scope in a range of applications is also available from your customer service center.

Return a Product for Service or Repair

If you do need to return a LeCroy product, identify it by its model and serial numbers. Describe the defect or failure, and provide your name and contact number.

For factory returns, use a Return Authorization Number (RAN), obtainable from customer service. Attach it so that it can be clearly seen on the outside of the shipping package to ensure rapid forwarding within LeCroy.

Return those products requiring only maintenance to your customer service center.

NOTE: If you need to return your digitizer, use the original shipping carton. If this is not possible, the carton used should be rigid. The digitizer should be packed so that it is surrounded by a minimum of four inches (10cm) of shock absorbent material.

Within the warranty period, transportation charges to the factory will be your responsibility, while products under warranty will be returned to you with transport prepaid by LeCroy. Outside the warranty period, you will have to provide us with a purchase order number before the work can be done. You will be billed for parts and labor related to the repair work, as well as for shipping.

You should prepay return shipments. LeCroy cannot accept COD (Cash On Delivery) or Collect Return shipments. We recommend using air freight.

Stay Up-to-Date

To maintain your PXD 222 Digitizer's performance within specifications, have us calibrate it at least once a year. LeCroy offers state-of-the-art technology by continually refining and improving the instrument's capabilities and operation. We frequently update both firmware and software during service, free of charge during warranty.

SAFETY INFORMATION

Safety Symbols

Where the following symbols appear on the PXD 222 Digitizer's front or rear covers, or in this manual, they alert you to important safety considerations.

WARNING Incorrect operation or failure to heed warnings may result in death or serious injury. If a **WARNING** is indicated, do not proceed until its conditions are understood and met.

CAUTION Incorrect operation or failure to heed cautions may result in injury or damage to equipment. If a **CAUTION** is indicated, do not proceed until its conditions are understood and met.



Refer to accompanying documents (for safety related information).

See elsewhere in this manual whenever this symbol is present, as indicated in the Table of Contents.



Earth (Ground) Terminal

PXD 222 Digitizer

Warnings



WARNING

To avoid electrical shock or fire if the digitizer input is connected to more than 42 V peak (30 V rms) or on circuits of more than 4800 VA:

- Use only insulated voltage probes, test leads, and adapters.
- Before use, inspect voltage probes, test leads, and accessories for mechanical damage and replace when damaged.
- Remove all probes, test leads, and accessories that are not in use.
- Do not connect the ground spring to voltages higher than 42 V peak (30 V rms) from earth ground.
- When measuring in a CAT II environment, do not apply to any input voltages that differ by more than 300 V from earth ground.
- When measuring in a CAT II environment, do not apply to the isolated inputs voltages that differ by more than 300 V from each other.
- Do not apply input voltages above the rating of the instrument. Use caution when using 1:1 test leads because the probe tip voltage will be directly transmitted to the test tool.
- Do not use exposed metal BNC or banana plug connectors.
- Do not insert metal objects into connectors.
- Before connecting any input voltages, the unit must be properly installed in the PXI rack.
- Disconnect the applied voltage(s) before disconnecting probes, BNC leads, test leads, or accessories.
- Always use the digitizer only in the manner specified

Voltage ratings mentioned in the warnings are given as limits for "working voltage." They represent VAC rms (50–60 Hz) for AC sine wave applications and as VDC for DC applications.

Overvoltage Category II refers to local distribution level, which is applicable to appliances and portable equipment.

The terms "isolated" and "electrically floating" are used in this manual to indicate a measurement in which the digitizer input BNC or banana jack is connected to a voltage different from earth ground.

The isolated input connectors have no exposed metal and are fully insulated to protect against electrical shock.

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The BNC connectors can be independently connected to a voltage above earth ground for isolated (electrically floating) measurements and are rated up to 300 V rms (CAT II) above earth ground.

If Safety Features are Impaired

Whenever it is likely that safety has been impaired, the digitizer must be shut down, the PXI chassis disconnected from the line power, and the digitizer removed from the PXI chassis. The matter should then be referred to qualified personnel. Safety is likely to be impaired if, for example, the digitizer fails to perform the intended measurements or shows visible damage. Before use, inspect the test leads for mechanical damage and replace damaged test leads!



WARNING

Use of the digitizer in a manner not specified may impair the protection provided by the equipment.

Care and Maintenance

The exterior of the digitizer should be cleaned only with a soft cloth moistened with water or isopropyl alcohol.

The use of abrasive agents, strong detergents, or other solvents may damage the probe.

Ensure that the input receptacles are free of debris before inserting connection accessories.

All repair and maintenance should be referred to qualified service personnel.

Do not use the digitizer if any part is damaged.

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INSTALL AND POWER UP THE DIGITIZER

Prior to inserting the PXD 222 Digitizer into your chassis, you should install the necessary software components on your system. To use the PXD 222 IVI driver, you will need to install the following:

- IVI Engine (v1.65 or greater)
- NI-VISA (v2.5 Runtime version)
- PXD 222 IVI Instrument Driver

To run examples provided on the PXD 222 CDROM (including the Quick-Start demo and LabWindows™/CVI Getting Started Examples) you should also install:

- Measurement and Automation Explorer (included with NI-DAQ™ 6.8.1)
- LabWindows™/CVI Run-time Engine (included with the Quick-Start demo installation)

All of these components are included on the CDROM. Use the following instructions to install these components on any Windows operating system in order to run the LeCroy Quick Start Demo and Example programs.

Install NI Software Components

Install the following NI software components.¹ For detailed information about installing this software, please visit the National Instruments Web site, <http://www.ni.com> and search for NI-DAQ™ 6.8.1 in their Downloads section

1. Install NI-DAQ™ version 6.8.1

Installing this software will also install National Instrument's Measurement and Automation Explorer (MAX). We do not suggest using NI-DAQ™ 6.9.2 because it includes a bug that can prevent recognition of the PXD 222 and other PXI instruments. After installation, confirm that you have a MAX icon on your desktop. According to the "About Max..." dialog box, the MAX version should be version 2.0.3.17.

2. Install NI-VISA Run-time version 2.5

Installing this software will also install the LabWindows™/CVI Run-Time Engine, which is a necessary component.

3. Install IVI Engine 1.8.3

The IVI Engine software is necessary when you are using IVI drivers. Visit <http://www.ni.com/ivi> and <http://www.ivifoundation.org> for more information about the IVI standard.

1. Each component is protected by copyright © 2001 by National Instruments Corporation, all rights reserved.

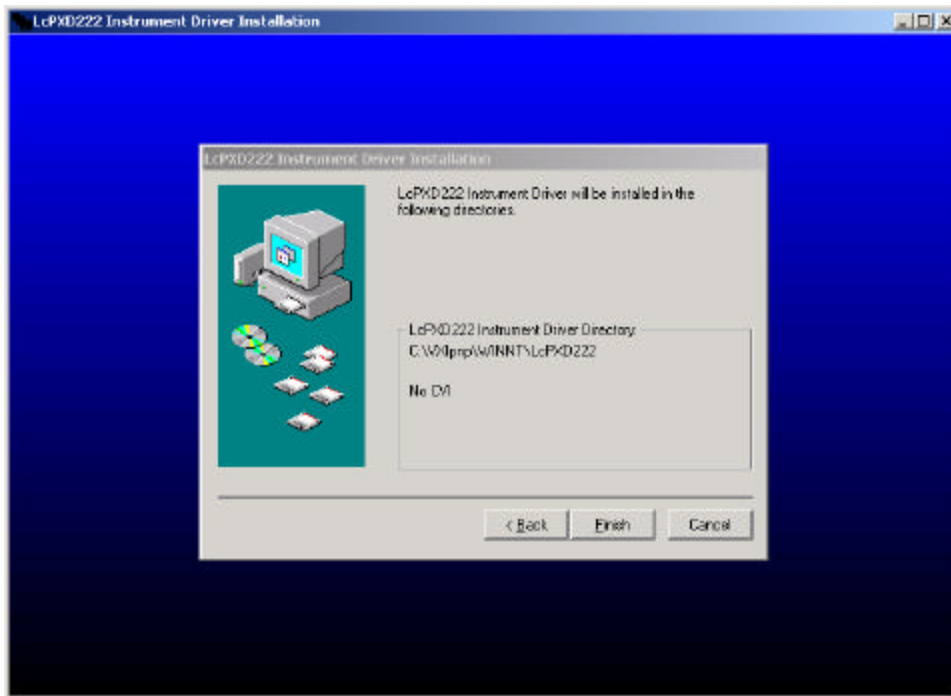
Install LcPXD222 Instrument Driver

1. Run the setup.exe file from the PXD 222 Instrument Driver directory on the CDROM. The following screen appears:



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2. Full Installation is the suggested option. After you select **OK**, the following screen appears:



3. If Labwindows™/CVI is loaded on your computer, the installation program will put the driver files within the standard CVI directory structure.
4. Click **Finish** to complete the Instrument Driver Installation. You are now ready to proceed with the installation of the PXD 222 Digitizer.



Install the PXD 222 Digitizer

1. Shut down the instrument and install the digitizer in the PXI chassis slot by first inserting the digitizer's card edge into the front module guides (top and bottom). Slide the digitizer to the rear of the mainframe with the injector/ejector handle pushed down.
2. When you begin to feel resistance, push up on the injector/ejector handle to fully seat the digitizer in the chassis.
3. Secure the digitizer to the front panel of the chassis with the mounting screws.
4. Cover any open slots in the PXI chassis to ensure proper air flow.



5. Power up the chassis. (If you are connecting to the chassis via an MXI-3 connection, power up the computer after powering up the chassis.)



CAUTION

Overheating will result if any slots in the PXI chassis remain open. Cover all open slots to ensure proper air flow.

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6. Windows 9x, Win2000, and NT5.0 will recognize that you have a new PCI device installed, and will prompt you for instructions on installing the device driver. (NT4.0 users should follow the procedure described below). Choose to search manually for the device driver for your operating system; it can be found on the CDROM, within a subfolder under "PXD 222 Device Drivers." When prompted, navigate to the folder for your operating system. Windows will install the device driver, and the PXD 222 should at this point be visible in the Device Manager screen for your operating system. For Windows9x users, you will see the following sequence of dialog boxes.



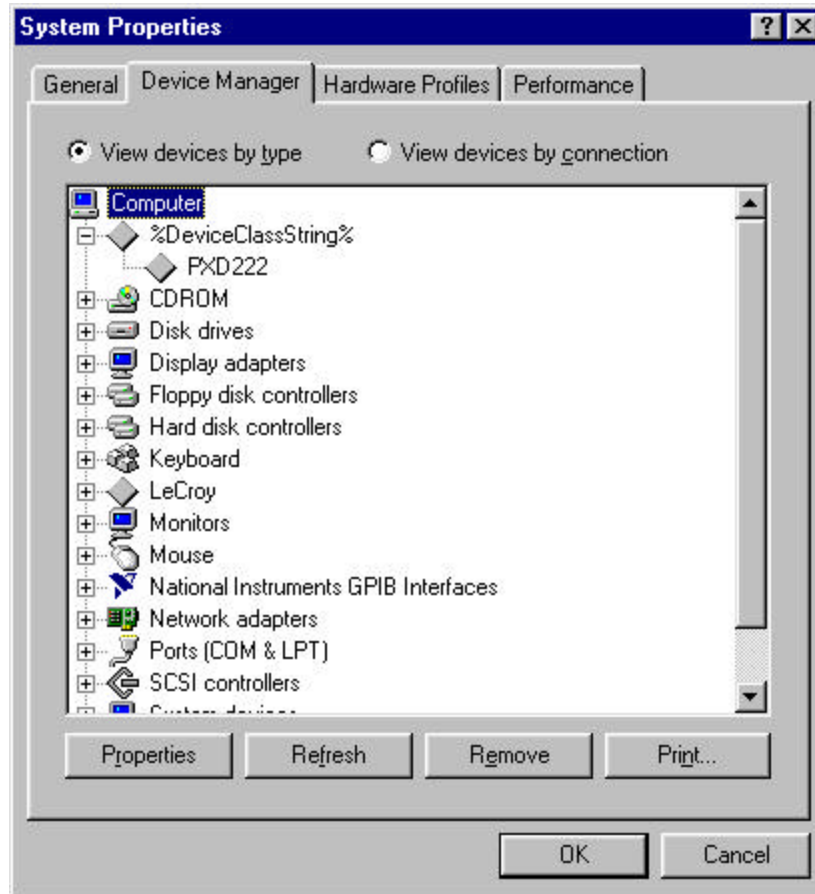


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First Things...First

7. Windows 9x, NT5, and Win2000 users can confirm that the PXD 222 Digitizer is properly recognized by the OS by viewing the Device Manager. This can be found within the "System" control panel option.



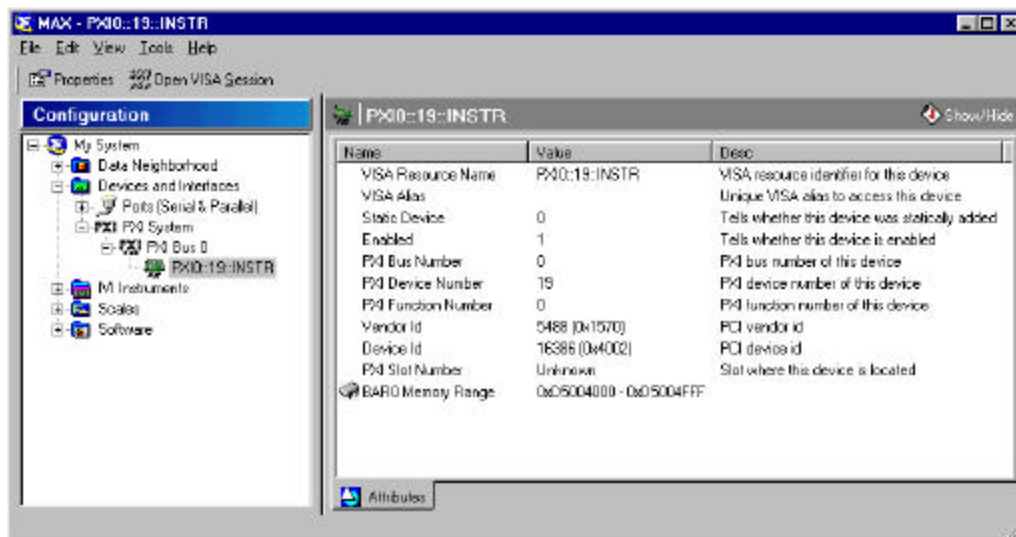
8. Windows NT4.0 Users: Copy the file "PXD222 Device Drivers\winNt4.0\LcPXD222_NT4.inf" to the WinNT\inf directory. Right-click on the file, and select "Install" to install the driver.

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Launch Measurement and Automation Explorer (MAX)

1. Launch Measurement and Automation Explorer, and refresh the device list by pressing F5.
2. If the PXD 222 Digitizer is not found, or there is no “PXI System” list within the “Device and Interfaces” folder, select “Update MAX driver support...” from the Tools menu.
3. Reboot when prompted, launch MAX, and refresh again by pressing F5. The PXD 222 Digitizer will now appear in the list.

Note: the string “PXI0::19::INSTR” in the illustration below is the VISA Resource Name MAX has assigned to the PXD 222 Digitizer. The actual name assigned will vary based on the PCI bus number and slot where the PXD 222 Digitizer is installed.

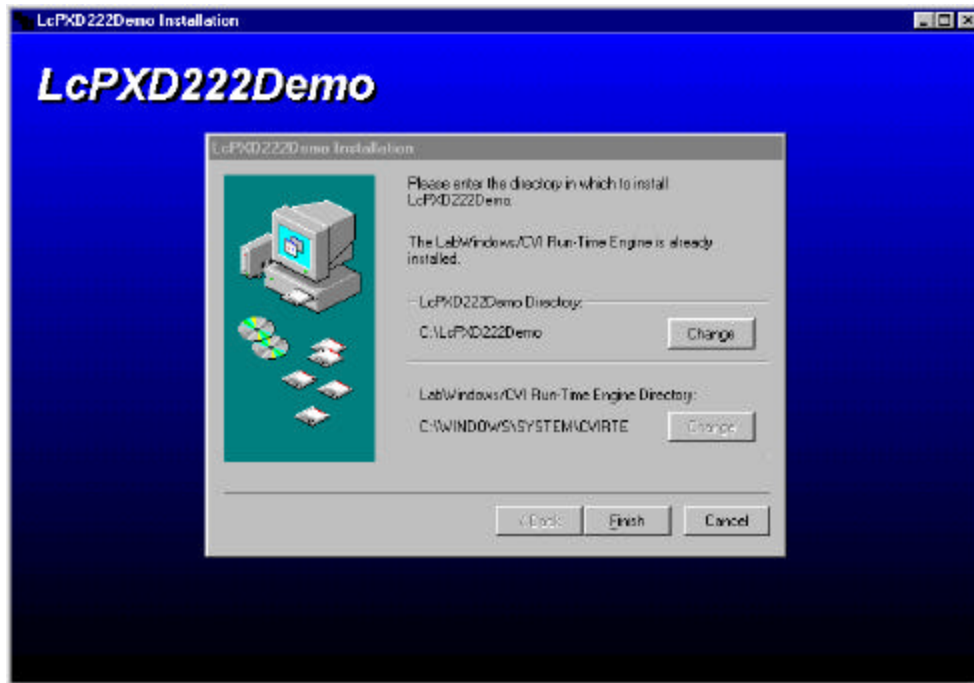


Measurement and Automation Explorer with PXD 222 Digitizer recognized

First Things...First

Install Quick-Start Application Software

This software is intended to be a tool for you to test operation of the module, and for simple triggering and viewing of signals. This application is described in the “Operation” section of this manual.



Copy Complementary Files onto Your Hard Drive (optional)

These files include the Getting Started LabWindows™/CVI example programs, and the driver help files for CVI and VisualBasic.

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Install LcIVIScopeDemo (optional)

This LcIVIScopeDemo program illustrates the use of the Basic IVI Scope Class Drivers to control the PXD 222 Digitizer. To use this demo, you will need to install the BICDSetup.exe installation program provided on the CD-ROM (also currently available from National Instruments at no charge). Then you will need to create a new “IVI Instruments” setup in MAX using the Logical Names wizard. This process modifies the IVI.INI file; examples of the file for Win98 and Win2000 systems are provided on the CD-ROM. Make a backup of your existing IVI.INI file and copy the example file into the VXIPNP/niivi directory. Perform a Refresh (F5) in MAX to see the new IVI Instrument setup.

Prior to running the IVIScope demo program, make sure that the link to the PXD 222 DLL is correct. Open MAX, and right-click on the LcPXD 222 Digitizer selection under “IVI Instruments ? Instrument Drivers.” This will open up the properties window for the driver. Verify that the “File” selection is set to the LcPXD222_32.dll file. (The parser in MAX may not have read the directory structure accurately.) Click “Browse” and navigate to the location of the DLL on your system. Most installations will place this file within the VXIPNP/Win**/Bin directory path, where “**” is either “95” or “NT”.

Once the set-up is correct, you can use the IVIScope demo program. This program is similar to the Quick-Start Demo but uses the basic IVI class driver subroutine names. For more information about the IVI architecture and IVI class drivers, visit <http://www.ni.com/ivi>.

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