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PXD DIGITIZER SERIES

OPERATOR'S MANUAL

JANUARY 2004

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PXDXXX-OM-E Rev B

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WHEN YOUR DIGITIZER IS DELIVERED

CHECK THAT YOU HAVE EVERYTHING

Verify receipt of all items on the packing list or invoice copy. The following is shipped with the standard PXD Series 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.

Contact the nearest LeCroy customer service center or national distributor if anything is missing or damaged immediately. LeCroy is not responsible for replacement if not contacted immediately.

BE SURE TO READ THIS WARRANTY

The PXD Series Digitizer is warranted for normal use and operation, within specifications, for a period of one year from shipment. LeCroy will either repair or, at LeCroy option, replace any product returned to one of our authorized service centers within warranty period after verification that the product is found to be defective due to workmanship or materials, and not due to misuse, neglect, accident, or abnormal conditions or operation by the purchaser.

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. Products not made by LeCroy are covered solely by the warranty of the original equipment manufacturer.

TAKE ADVANTAGE OF MAINTENANCE AGREEMENTS

LeCroy offers a variety of services under the heading of Maintenance Agreements. These provide an extended warranty for 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.

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OBTAIN ASSISTANCE

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

RETURN A PRODUCT FOR SERVICE OR REPAIR

Identify returned LeCroy product(s) by model and serial numbers. Describe the defect or failure, and provide name and contact number.

For factory returns, use a Return Authorization Number (RAN), obtainable from customer service. Clearly mark this number on the outside of the shipping package to ensure rapid forwarding within LeCroy.

Return those products requiring only maintenance to the nearest customer service center. Defective or damaged products should be returned directly to our factory. Contact our customer service for the return address.

NOTE: Use the original shipping carton when returning Digitizer for repair or replacement. 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 (10 cm) of shock absorbent material.

Transportation charges to the factory are the responsibility of the customer, while products under warranty will be returned with transport prepaid by LeCroy. Outside the warranty period, provide a purchase order number prior to repair or replacement. The customer is responsible for parts and labor related to repair work, and return shipping charges.

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 the PXD Series Digitizer's performance within specifications, LeCroy recommends calibration 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, provided free of charge during warranty.

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SAFETY INFORMATION

SAFETY SYMBOLS

The following symbols appear on the Digitizer's front cover or in this manual and alert the customer to important safety considerations.



Refer to the accompanying information or documents in order to protect against personal injury or damage to the instrument.



This symbol is used to denote the measurement ground connection.

CAUTION — The CAUTION sign indicates a potential hazard. It calls attention to a procedure, practice or condition which, if not followed, could possibly cause damage to equipment. If a CAUTION is indicated, do not proceed until its conditions are fully understood and met.

WARNING — The WARNING sign indicates a potential hazard. It calls attention to a procedure, practice, or condition which, if not followed, could possibly cause bodily injury or death. If a WARNING is indicated, do not proceed until its conditions are fully understood and met.

CAT I — Installation (Overvoltage) Category rating per EN 61010-1 safety standard and is applicable for the Digitizer's panel measuring terminals. CAT I rated terminals must only be connected to source circuits in which measures are taken to limit transient voltages to an appropriately low level.

OPERATING ENVIRONMENT

The Digitizer is intended for operation within a PXI chassis as a plug-in module. Ensure that the PXI chassis being used to host the Digitizer fully conforms to the latest PXI specifications.

The Digitizer is intended for indoor use and should be operated in a clean and dry environment.



WARNING

The Digitizer must not be operated in explosive, dusty, or wet atmospheres.

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The design of the Digitizer has been verified to conform to EN 61010-1 safety standard per the following limits:

Installation (Overvoltage) Category I: Refers to signal level, which is applicable for equipment measuring terminals that are connected to source circuits in which measures are taken to limit transient voltages to an appropriately low level.

Pollution Degree 2: Refers to an operating environment where normally only dry non-conductive pollution occurs. Occasionally a temporary conductivity caused by condensation must be expected.

POWER REQUIREMENTS

The Digitizer operates from within a PXI chassis. Power requirements depend on the Digitizer model as indicated in the PXD Series Digitizer Specifications section of this manual. DC voltages are supplied to the instrument from the PXI backplane. The instrument requires a variety of DC currents/voltages as outlined in the Specifications section.



CAUTION

Disconnect power to the PXI Chassis before installing or removing the Digitizer.

COOLING REQUIREMENTS

The Digitizer relies on externally supplied forced air cooling for proper operation. A minimum airflow of 5 cfm (PXD212, 512,1021) or 15 cfm (PXD114, 214, 514, 522, 1022) to the Digitizer's air inlet at a temperature between 0 °C and 40 °C must be provided by the PXI chassis. The user should ensure that the PXI chassis can satisfy these airflow requirements.

GROUNDING REQUIREMENTS

To conform to the applicable safety and EMC requirements, ensure that the Digitizer instrument panel and the PXI chassis are "earth" grounded.



CAUTION

The outer shells of the front panel terminals (CH1, CH2, CH3, CH4, EXT) are connected to the instrument's chassis and, therefore, to the safety ground.

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CALIBRATION

The recommended calibration interval is one year. Calibration should be performed by qualified personnel only.

ABNORMAL CONDITIONS

Operate the Digitizer only as intended by the manufacturer. If you suspect the Digitizer has been impaired, remove it from the PXI Chassis and secure against any unintended operation. The Digitizer is likely to be impaired, if for example, the instrument fails to perform the intended measurements or shows visible damage.



WARNING

Any use of the Digitizer in a manner not specified by the manufacturer may impair the instrument and cause an unsafe condition to develop.

CLEANING

Clean only the exterior of the Digitizer, using a damp, soft cloth. Do not use chemicals or abrasive elements. Under no circumstances allow moisture to penetrate the instrument.



CAUTION

No operator serviceable parts inside. Refer servicing to qualified personnel.

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INSTALL AND POWER UP THE DIGITIZER

INTRODUCTION

Prior to inserting the Digitizer into your chassis, install the necessary software components on your system. The list of components to install depends on the NI components you have already installed:

- If you have LabWindows/CVI 6.0 and/or LabView 6.1 installed, you don't need to install any additional NI components. You can skip the INSTALL NI SOFTWARE COMPONENTS section.
- If you are using an older version of LabWindows/CVI and/or LabView, first check the NI Web site for compatibility issues.
- If you have neither Lab/Windows nor LabView installed, verify that you have the following NI components installed:

  NI VISA Engine v 2.6.0 or later

  NI IVI Engine v 1.83 or later

  NI CVI Runtime engine 6.0 or later

INSTALL NI SOFTWARE COMPONENTS[1]

For detailed information about installing NI software, please visit the National Instruments Web site: http://www.ni.com.

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.

You also must have an IVI.INI in your directory **\VXIpnp\WinNT\niivi**. If not, create one with the following default content:

[IviLogicalNames]

[LogicalName->SampleScope]

Description = "Sample Oscilloscope Logical Name"

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

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INSTALL PXD DEVICE DRIVER

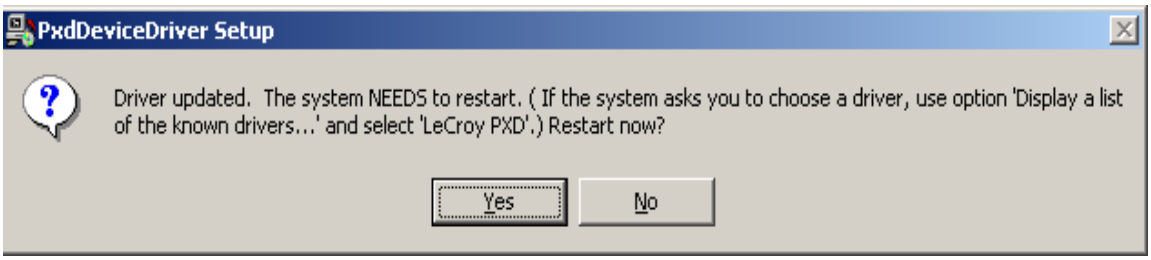
The Installation process is divided into three parts.

I. Install the PXD Device Drivers onto the controller. Run PXIInstaller.exe

II. Turn Power off and install the PXD Module hardware into the PXI mainframe.

III. Repower and Run the Found New Hardware Wizard.

- Run the PXIInstaller.exe file from the PXD Series Driver sub-directory on the CD ROM. Follow the instructions displayed. After installation is completed, the following dialog box will appear:



- Click **No**, then turn computer off and install Digitizer hardware.

INSTALL THE PXI DIGITIZERS

- 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.
- When the Digitizer is securely in place, push up on the injector/ejector handle to fully seat the Digitizer in the chassis.
- Secure the Digitizer to the front panel of the chassis with the mounting screws.
- Cover any open slots in the PXI chassis to ensure proper air flow.

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- 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. Chassis fans should be at maximum speed. Chassis cooling will vary from manufacturer to manufacturer. A minimum airflow of 5 cfm through the PXD 212, 512, and 1021; and 15 cfm through the PXD 114, 214, 514, 522, and 1022 to the Digitizer's air inlet at a temperature between 0 °C and 40 °C must be provided.

CAUTION

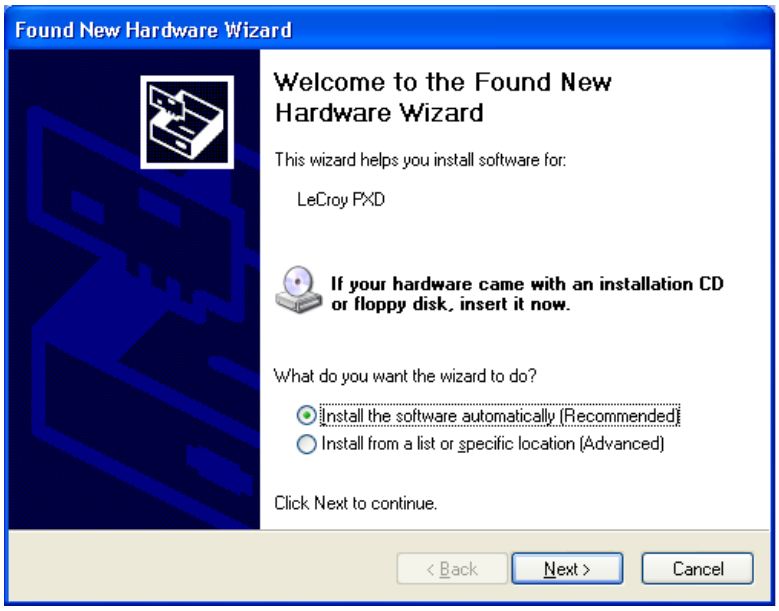
Static-sensitive parts. Proper handling, including a grounded wrist strap, should be observed at all times.

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- Windows 2000 will recognize that you have a new PCI device installed and will also install the device drivers automatically.
- Windows XP will recognize that you have a new PCI device installed, and will prompt you for instructions on installing the device driver.
- After restart, you will see the "Found New Hardware" box, confirming that the hardware has been recognized.

NOTE: Windows XP ad Win2000 users can confirm that the PXI Digitizer is properly recognized by the OS by viewing the Device Manager. This can be found within the "System" control panel option.

- Windows XP will start the New Hardware Wizard.



Click "Install the software automatically"

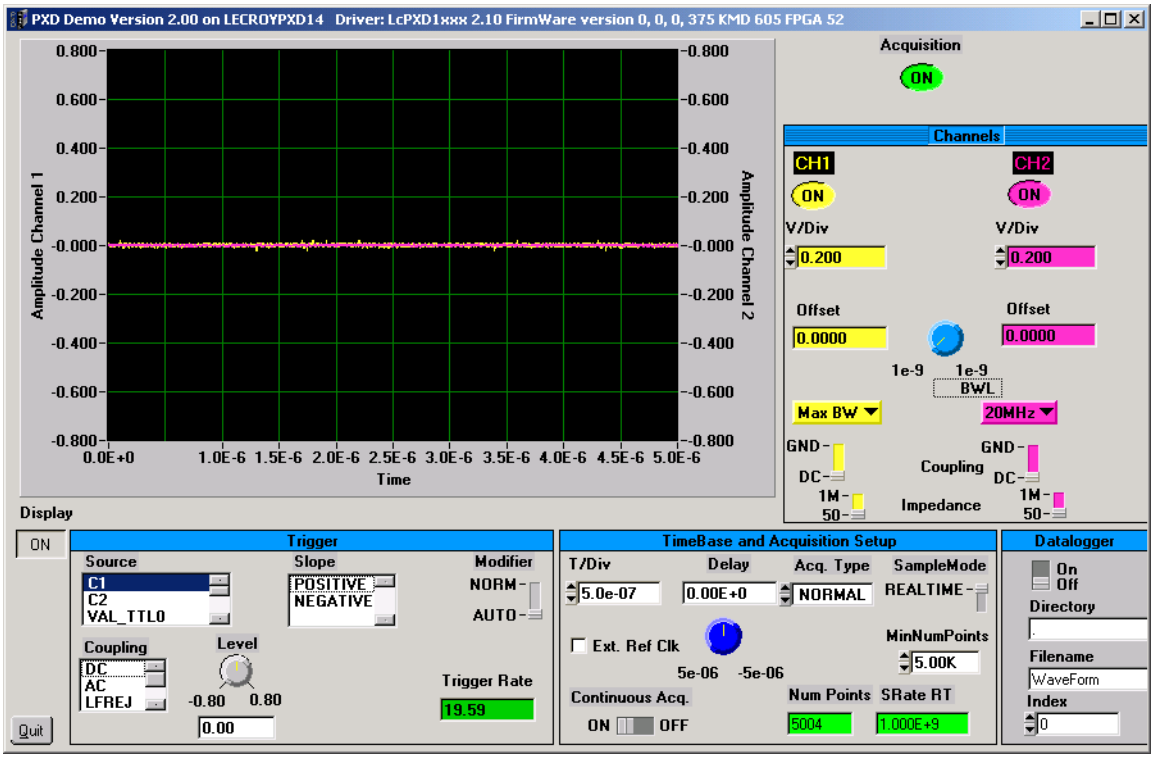
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- Click on Next to finish the installation.



To run the IVI Demo, click **Start, LeCroy, IVIDemo&GettingStarted, LCPXD1XXXscopedemo.exe**.

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INTRODUCTION

This section provides information about the standard acquisition, triggering, and measurement features of the PXD Series Digitizer. LeCroy PXD digitizers are IVI compliant which means that the structure of commands for setting up, capturing, and reading out waveforms follows the structure defined in Section 4 of the IVI Foundation specification (www.IVIfoundation.org). It is recommended that you review this section prior to programming the PXD modules. Detailed descriptions of LeCroy commands are included in the Driver Help file.

ACQUISITION MODES

The Digitizer has three modes of operation: NORMAL, RIS (Random Interleaved Sampling), and Sequence. These are defined as follows:

Normal

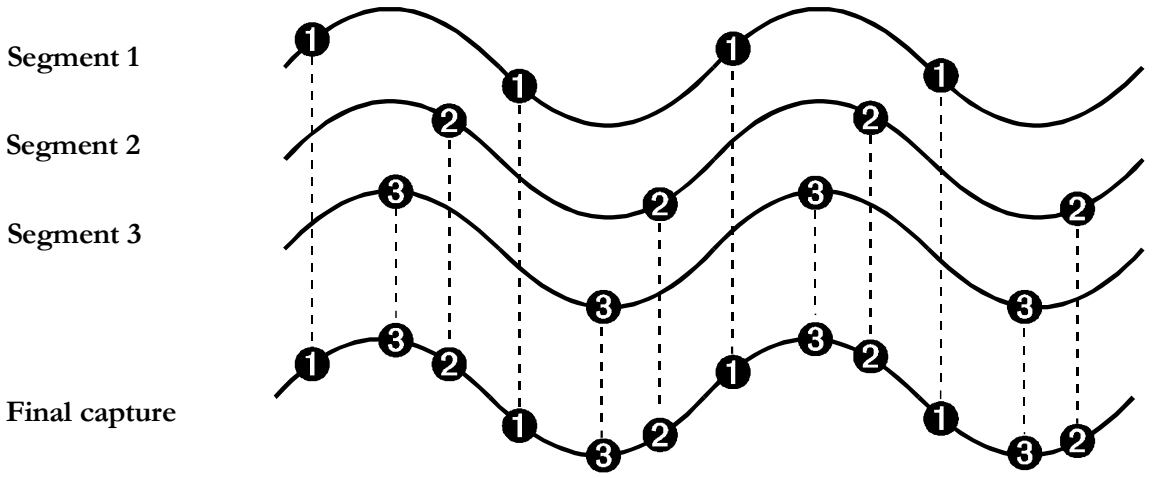
In Normal mode, the Digitizer will input the signals during a specified time window and create a data array with the digitized data, which can be read out by the controller. The user programs the number of points as well as the time window to be digitized on repetitive signals. LeCroy PXD Digitizers come with 256 kpoints of memory as standard. For storing longer single-shot signals, optimal memory of 4 Mpoints or 8 Mpoints/channel can be added. The maximum sample rate is 2 GS/s, and will vary depending on the specific model and the time window setting.

RIS – For Higher Sample Rates

RIS (Random Interleaved Sampling) is an acquisition technique that allows effective sampling rates higher than the maximum single-shot sampling rate. It is used on repetitive waveforms with a stable trigger. The maximum effective Digitizer sampling rate of 50 GS/s can be achieved with RIS by making 100 single-shot acquisitions at 500 MS/s. The bins thus acquired are positioned approximately 20 ps apart. The process of acquiring these bins and satisfying the time constraint is a random one. The relative time between ADC sampling instants and the event trigger provides the necessary variation, measured by the timebase to 5 ps resolution.

The Digitizer requires multiple triggers to complete an acquisition. The number depends on the sample rate: the higher the sample rate, the more triggers are required. It then interleaves these segments to provide a waveform that is up to 50x faster than the single-shot sampling rate. However, the real-time interval over which the Digitizer collects the waveform data is much longer, and depends on the trigger rate and the amount of interleaving required. The digitizer is capable of acquiring approximately 40,000 RIS acquisitions per second.

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Sequence – Working With Segments

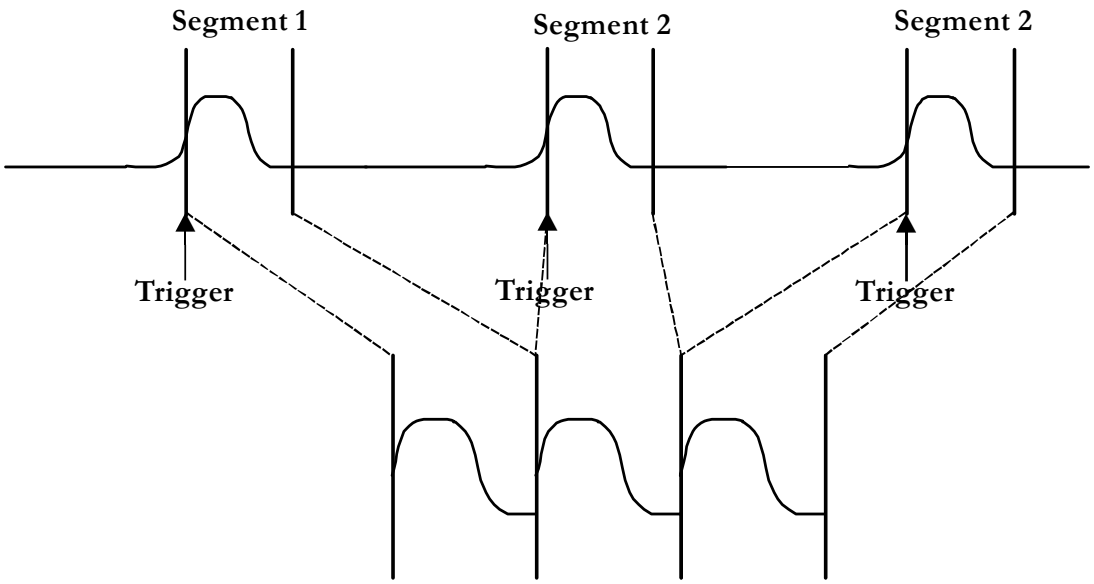
In sequence mode, the complete waveform consists of a number of fixed-size segments acquired in single-shot mode. Select the number of segments to be captured, then select each segment individually. Each trigger fills a new segment.

Sequence offers a number of unique capabilities. With it, dead time is limited between trigger events for consecutive segments. The Digitizer can capture in fine detail complicated sequences of events over large time intervals, while ignoring the uninteresting periods between the events. Time measurements can be made between events on selected segments using the full precision of the acquisition timebase.

Trigger time stamps of 1 ns resolution are given for each of the segments in the Text & Times Status menu. Each individual segment can be read out by the controller.

The Digitizer uses the sequence timebase setting to determine the capture duration of each segment: 10 x time/div. The digitizer uses this setting — with the desired number of segments, maximum segment length and total available memory — to determine the actual number of samples or segments, and time or points.

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TRIGGER MODES

In all acquisition modes, capturing the signal requires an edge trigger or a trigger generated from the controller. An edge trigger occurs when the trigger crosses the specified trigger level with the specified slope. Trigger setup is IVI compliant and is shown in example programs on the PXD-CD.

PXD IVI CAPABILITY

Group Name	Supported
Base	Yes
Continuous Acquisition	Yes
SampleMode (RIS)	Yes
Average Acquisition	Yes
Trigger Modifier	AUTO and NORMAL Trigger
Interpolation	No
TVTrigger	No
RuntTrigger	No

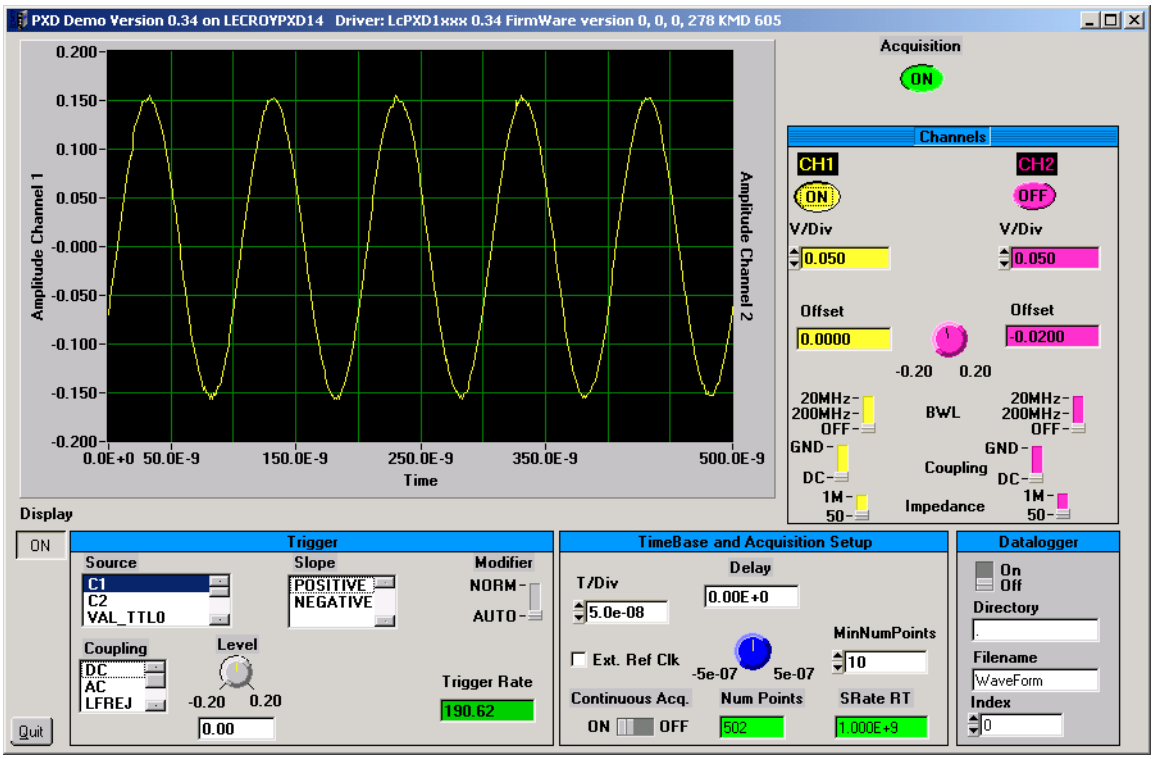
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GlitchTrigger	No
WidthTrigger	No
AcLineTrigger	No
WaveformMeasurement	No
MinMax Waveform	No
ProbeAutoSense	No
AutoSetup	No

For more information and for LeCroy specific extensions see the header file c:\Vxipnp\WINNT\include\LcPXDIxxx.h, which contains all the instrument driver declarations.

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PXD SERIES DIGITIZER QUICK START APPLICATION SOFTWARE



The Quick Start Application software provides an efficient way to view and verify PXD module performance. The simple control panel allows for amplitude adjustment, memory depth and triggering, and a simple logging function. It is intended as a verification tool to ensure that the module installation has been completed.

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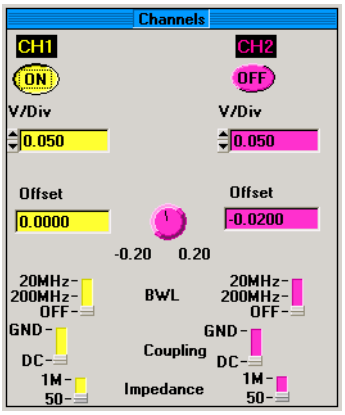
SOFT FRONT PANEL

The Digitizer Quick Start Application software has the following features for one to four channel modules:

- Graphic display with independent vertical axis for each digitizer input channel
- Acquisition section including autosetup and reset
- Channels section with independent control of probe attenuation, Volts/Div, Offset, Bandwidth limit, and coupling
- Timebase section including Time/Div, Delay, and acquisition type as well as indicators for the number of points per acquisition and the sample rate
- Trigger section with source, coupling, slope, type, and level selectors
- Data Logger section to store waveforms to hard drive



Acquisition: The "Acquisition" indicator is green when data is being acquired and red when the acquisition is stopped.



HINT: Typing values in the Offset fields is easier than using the knob.

CH1 and CH2: The channel 1 and channel 2 buttons are used to turn on and off channels 1 and 2. The color of the buttons matches the color of the trace.

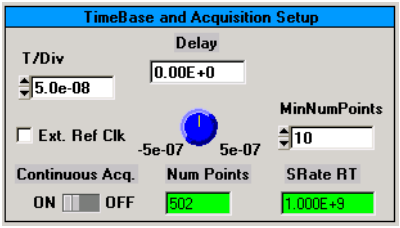
V/Div CH1 and CH2: Set the volts per division for each input independently by using the **V/Div** arrows or by selecting a value from the **V/Div** field.

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Offset CH1 and CH2: Set the Offset for each input independently using the **Offset** knob or by typing a value in the **Offset** field. The **Offset** knob will change color depending on the channel selected: yellow when channel 1 is selected and red when channel 2 is selected. These colors also match the trace colors in the graphics display.

Bandwidth Limit CH1 and CH2: To suppress high frequency noise on waveforms, limit the bandwidth of the digitizer by selecting a **20 MHz** or **200 MHz** filter. This function smooths the displayed waveform by blocking frequencies above the filter's limit.

Coupling CH1 and CH2: Each channel of the digitizer is set to **DC** coupling by default so that AC and DC signals appear on the display. Select **AC** coupling (in the Trigger control section) to view the AC signal only. Clicking the switch control toggles the selection.



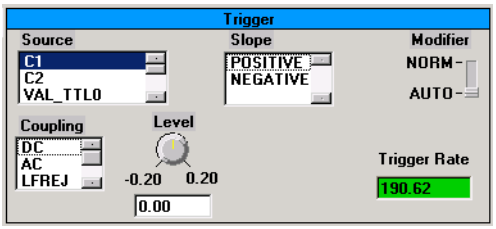
T/Div: The time per division is set by using the **T/Div** arrows or by selecting a value from the **T/Div** field. The Digitizer automatically adapts itself to use the maximum sampling rate whenever the timebase is changed.

Delay: Turn the **Delay** knob to adjust the horizontal position and the amount of pre-trigger, as desired.

Number of Points: This is an indicator that displays the number of points in each acquisition. This will vary automatically depending on the T/Div.

Sample Rate: This is an indicator that displays the sample rate for each acquisition. This will vary automatically depending on the T/Div.

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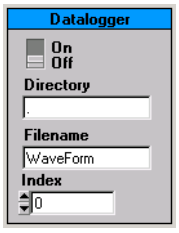
Source: The trigger source for the digitizer may be either of the input channels or the PXI Trigger and Star Trigger lines on the PXI backplane.

Coupling: This sets the trigger coupling for the input channels. **DC** is used when all the signal components (AC and DC) are coupled to the trigger circuit. When **AC** is selected, the signal is capacitively coupled, DC levels are rejected, and frequencies below 50 Hz are attenuated.

Level: Defines the source voltage at which the trigger circuit will generate an event.

Slope: Determines the direction of the trigger voltage transition used to generate a particular trigger event.

Modifier: In **NORM** mode the digitizer will acquire while there is a valid trigger. In **AUTO** mode the trace will automatically be displayed regardless of a valid trigger. When a valid trigger is present in Auto mode, the Digitizer will behave as if in Normal mode.



On/off: Turns datalogging on and off.

Directory: Sets the directory for storing waveforms. Entering a period sets the current directory of the Quick-Start Demo; entering another value (e.g., "Test 1") creates a new folder called "Test1" referenced from the current directory.

Filename: Sets prefix for the filename.

Index: An auto-incrementing index is appended to the filename. When the datalogger is turned on, and the program is in Continuous Acquisition mode, each waveform will be stored.

USING THE PXD SERIES DIGITIZER IVI INSTRUMENT DRIVERS

The CD-ROM includes several example programs written in LabWindows/CVI using the PXD Series IVI driver. Even if you are not using CVI, the ".c" files provide practical examples that will help you learn how to program the Digitizer.

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PXD SERIES DIGITIZER SPECIFICATIONS

NOTE: Specifications are subject to change without notice.

ACQUISITION SYSTEM

Table 1. One and Two Channel Models

Model	PXD512	PXD212	PXD522	PXD1022	PXD1021
Bandwidth	500 MHz	250 MHz	500 MHz	1 GHz	1 GHz
Maximum Single Shot Sample Rate	1 GS/s	1 GS/s	2 GS/s	2 GS/s	2 GS/s
Maximum Repetitive Sample Rate	50 GS/s	50 GS/s	50 GS/s	50 GS/s	50 GS/s
Channels	2	2	2	2	1
3U PXI Slots	2	2	3	3	2
Acquisition Memory Standard	256k	256k	256k	256k	256k
Acquisition Memory Option 1	4M	4M	4M	4M	4M
Acquisition Memory Option 2	N/A	N/A	8M	8M	8M
Single Shot Capture Window	10 ns – 10,000 s	10 ns – 10,000 s	10 ns – 10,000 s	10 ns – 10,000 s	10 ns – 10,000 s
Repetitive Capture Window	5 ns – 10 µs	5 ns – 10 µs	5 ns – 10 µs	2 ns – 10 µs	2 ns – 10 µs
Sequential Mode Max. Segments	4096	4096	8192	8192	8192
Power Consumption	41 W	41 W	57 W	57 W	35 W

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Table 2. Four Channel Models

Model	PDX514	PDX214	PDX114
Bandwidth	500 MHz	250 MHz	150 MHz
Maximum Single Shot Sample Rate	1 GS/s	1 GS/s	1 GS/s
Maximum Repetitive Sample Rate	50 GS/s	50 GS/s	50 GS/s
Channels	4	4	4
3U PXI Slots	3	3	3
Acquisition Memory Standard	256k	256k	256k
Acquisition Memory Option 1	4M	4M	4M
Single Shot Capture Window	10 ns – 10,000 s	10 ns – 10,000 s	10 ns – 10,000 s
Repetitive Capture Window	5 ns – 10 µs	5 ns – 10 µs	5 ns – 10 µs
Sequential Mode Max Segments	4096	4096	4096
Power Consumption Maximum	70 W	70 W	70 W

Table 3. Typical Input Current (Amps) for Different Modules

PXI Chassis Voltage (V)	PXD114/214/514 (A)	PXD522/1022 (A)	PXD212/512 (A)	PXD1021 (A)
5	7.3	6.6	4.2	3.86
3.3	5.8	4.4	3.7	3.0
12	0.28	0.14	0.11	0.08
-12	0.35	0.25	0.22	0.17

Bandwidth Limiter: 20 MHz and 200 MHz

Sensitivity: 40 mV to 8 V full scale range

Scale Factors – volts (calibrated): 0.04, 0.08, 0.16, 0.4, 0.8, 1.6, 4, 8 FSR

Full Scale Range: 8 major divisions

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Offset Range:

±1 V (40 mV to 792 mV FSR, 50 ohms only)

±10 V (800 mV to 8 V FSR, 50 ohms only)

±1 V (40 mV to 800 mV FSR, 1 Mohms only)

±20 V (816 mV to 8 V FSR, 1 Mohms only)

Variable Gain Range: 0.1 to 1.0 of full scale

Variable Gain Resolution: 0.1% of full scale

Input Coupling:

Z_{in} = 50 ohms DC, GND

Z_{in} = 1 Mohms AC, DC, GND

AC Coupled Lower Cutoff:

< 10 Hz, frequency -3 dB

Input Impedance:

Z_{in} = 50 ohms ±1.5%

Z_{in} = 1 Mohms ±1.5% || 16 ± 2 pF

DC Accuracy: ±(2% full scale + 1.6% offset setting + 1 mV) @ gain >= 80 mV FSR

Vertical Resolution: 8 bits

Maximum Input Voltage:

Z_{in} = 50 ohms, 5 V_{rms} (including DC)

Z_{in} = 1 Mohms, 100 V (DC + pk AC, frequency <= 5 kHz)

Input Connector(s): BNC (grounded)

ACQUISITION MODES

Single Shot: For transient and repetitive signals: 1 GS/s for models 114, 214, 514, 212, 512; 2 GS/s for models 1021, 1022, 522

Sampling period settable in 1-2-4 sequence.(e.g., PXD512 period: 1 ns/pt, 2 ns/pt, 4 ns/pt, etc.)

Random Interleaved Sampling (RIS): For repetitive signals: up to 50 GS/s

Sequence: Stores multiple events, each of them time stamped (1 ns resolution) in segmented acquisition memory.

Minimum Segment Length: 256 samples

Maximum Segment Length: 1 million samples

TIMEBASE SYSTEM

Capture Window at Maximum Sample Rate: up to 4 ms

Clock Accuracy: 10 ppm

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TRIGGER SYSTEM

Modes: Normal, Auto, Single, and Stop

Slope: Positive, Negative

Coupling: DC, AC, LFREJ, HFREJ

AC Cutoff (low freq.): 7.5 Hz (typical)

HFREJ, LFREJ Cutoff: 50 kHz typical (6 dB/octave)

TRIGGER DELAY

Pre-Trigger Recording: 0 –100% of horizontal full scale (adjustable in 1% increments)

Post-Trigger Delay: 0 –10,000 divisions (adjustable in 0.1 division increments)

Sources: All data channels, EXT (Slope, level, and coupling are unique for each source. PXI triggering capabilities are described below.)

EXTERNAL TRIGGER

Range: ±0.5 V (± 2.5 V with Ext/5 selected)

Input Impedance: 50 ohms ±1.5%, 1 Mohms ±3% || 20 pF ±10%



Maximum Input:

Z_{in} = 50 ohms, 5 V_{rms} (including DC)

Z_{in} = 1 Mohms, 100 V (DC + pk AC, f <= 5 kHz)

Input Connector: BNC

Trigger Outputs: PXI (see below)

MULTI-MODULE SYNCHRONIZATION

The PXD digitizers support PXI extensions to the PCI bus for the following backplane clock and trigger capabilities:

- External clock input for module synchronization to the 10 MHz TTL clock provided by the PXI backplane (PXI_CLK10).
- Trigger inputs to support an asynchronous low skew (1–5 ns) trigger source broadcast on the PXI star trigger bus.
- Asynchronous trigger I/O to support a single-line broadcast on the PXI trigger bus. The trigger input may come from an external source, or from a digitizer module. Digitizer modules provide a tri-stated output to support this mode, with high impedance guaranteed on power-up.

Software Compatibility:

The PXD hardware is compatible with the following software environments:

Operating Systems: Windows 2000/XP

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Supported Drivers:

- IVI-Scope Driver
- LeCroy PXD Getting Started Application Program
- ActiveX Control
- LabView Driver

UPDATE RATE

Supports PCI Bus transfer rates up to 100 MB/s peak data rates.

GENERAL

Auto-Calibration: Ensures specified DC and timing accuracy.

Auto-Calibration Time: < 500 ms

Recommended Factory Calibration Interval: one year

Temperature

Operating: 0 to 40 °C when installed in a PXI chassis with a minimum airflow of 5 cfm (PXD 212, 512, 1021) or 15 cfm (PXD 114, 214, 514, 522, 1022) provided to the air inlet of the Digitizer

Storage (Non-Op): -40 to +71°C

Humidity

Operating: 5 to 80% RH (non-condensing). Upper limit derates to 50% RH above 30 °C.

Storage (Non-op): 5 to 95% RH (non-condensing). Upper limit derates to 75% RH above 30 °C and 45% RH above 40 °C.

Altitude

Operating: Up to 3,048 m (10,000 ft) at or below 25 °C

Storage (Non-op): Up to 12,192 m (40,000 ft)

Vibration

Operating: Random vibration, 0.31 g_{rms}, 5 to 500 Hz, 15 minutes in each of 3 orthogonal axes

Non-operating: Random vibration, 2.4 g_{rms}, 5 to 500 Hz, 15 minutes in each of 3 orthogonal axes

Functional Shock: 30 g_{peak}, half sine, 11 ms, 3 shocks (positive and negative) in each of 3 orthogonal axes, 18 shocks total

Electromagnetic Compatibility: Conforms to EN 61326-1:1998 (Emissions and Immunity)

Safety: Conforms to EN 61010-1:2001 (Installation Category I, Pollution Degree 2)

Certifications: CE Approved

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Mechanical Dimensions:

PXD512 and PXD212 occupy 2 3U PXI slots.

PXD514, PXD214 and PXD114 occupy 3 3U PXI slots.

Recommended Factory Calibration Interval: 1 year

Warranty: 1 year

SERVICE

LeCroy is committed to customer success, regardless of the number of LeCroy products owned. Call your local service representative to discuss specific requirements.

We offer:

• Extended warranty packages

• Annual calibration maintenance

• Prompt, personalized warranty and nonwarranty repair at service offices

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