100 MHz Logic Analyzer/Digital Pattern Generators

NI 6542 Bundles, NI 6552 Bundles

- 100 MHz maximum timing and state clock rate (10 ns)
- 20 to 32 bidirectional data channels per module (up to 544 channels per system)
- 4 general-purpose I/O channels and 2 clock channels per module
- 8 Mb/channel onboard memory (32 MB total)
- Multiple trigger modes including capturing numerous waveforms on a single trigger condition, match on pattern, and edge
- Pattern generation and logic analysis connectivity provided by shielded flying-lead cable
- NI 6552 bundles offer per-cycle tristate and real-time hardware comparison

Operating Systems

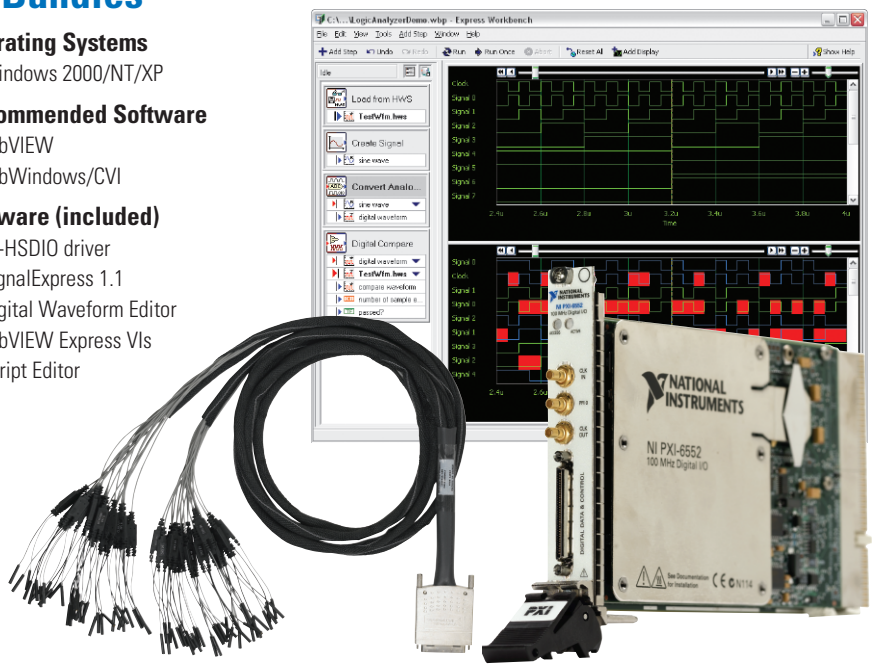
- Windows 2000/NT/XP

Recommended Software

- LabVIEW
- LabWindows/CVI

Software (included)

- NI-HSDIO driver
- SignalExpress 1.1
- Digital Waveform Editor
- LabVIEW Express VIs
- Script Editor



Overview

National Instruments logic analyzer and pattern generator bundles give you the ability to meet the analysis and generation needs of designing, testing, and debugging digital ICs and electronics. The bundles combine National Instruments SignalExpress, interactive software that aids in building programming-free applications, with NI 6542 or NI 6552 100 MHz digital waveform generator/analyzers. The high-quality flying-lead cable provides a 50 Ω signal and ground connection all the way to your device under test (DUT). Each signal and ground pair connects to standard 0.1 in. headers and the included grabber clips. At a considerable discount, these bundles provide flexible, powerful hardware and software features ideal for design and test engineers searching for a low-profile instrument for complex pattern generation, analysis of timing and state behavior, and report generation.

Choose Your Logic Analyzer Bundle

There are two different bundles to choose from, with each available for both PCI and PXI. The NI 6542 bundles, which provide 32 channels compatible with 5.0, 3.3, 2.5, and 1.8 V logic, are designed to drive inputs or acquire outputs from a circuit or system. If you need flexible voltage levels (-2.0 to 5.5 V in 10 mV steps), per-cycle control over the direction of a line for stimulus-response applications, and the ability to passively probe a circuit using with low loading, choose the NI 6552 bundles.

	NI 6542 Bundles	NI 6552 Bundles
Bus	PXI or PCI	
Max state and timing rate	100 MHz	
Channels	32	20
Voltage levels	5, 3.3, 2.5, or 1.8 V compatible	-2.0 to 5.5 V in 10 mV steps
Memory	8 Mb/ch (32 MB)	
Connectivity	Flying-lead cable	
Software	SignalExpress, Digital Waveform Editor	
Stimulus-response features	–	✓
Low load probing	–	✓
Price	$7,699	$9,599

Features

Logic Analyzer

NI 6542 and NI 6552 bundles provide 100 MHz clock rates for analyzing the timing and state information of a wide range of digital electronics. The diverse triggering options coupled with the deep memory of the digital instrument means that you can be certain to capture enough data to thoroughly analyze and debug your device. With the multirecord triggering, you can capture data around recurring events without developing complex sequential triggering or rearming the logic analyzer. NI 6552 bundles offer programmable voltage levels in 10 mV steps, making them ideal for analyzing a wide range of logic families and for using the device with the supplied 10:1 passive attenuators.

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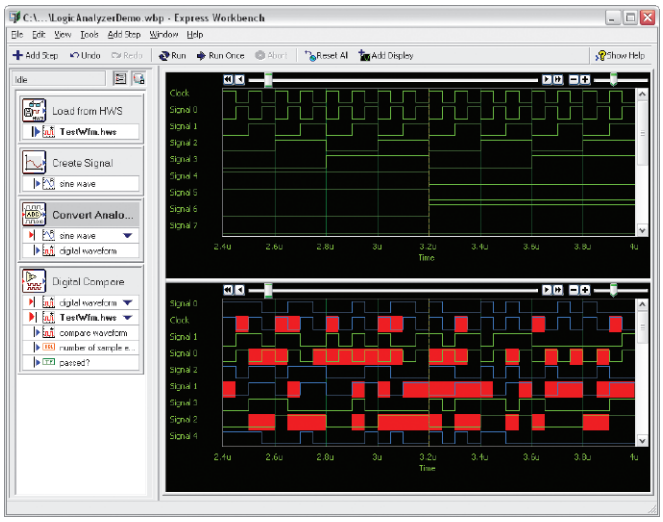
Pattern Generator

On a per-channel basis, you can programmatically configure channels to drive data to your DUT through the same flying-lead cable. You can use any set of channels for pattern generation at the same time you use another set of channels to acquire data. NI 6552 bundles are capable of switching between generation and analysis on a per-cycle basis. The digital instruments have 32 MB of onboard memory for the acquired data and a separate 32 MB of memory to store complex patterns for generation. The NI Digital Waveform Editor provides an interactive tool for creating, editing, and importing digital patterns. Once created, a pattern can be configured to be output to your DUT with a single step in NI SignalExpress.



NI SignalExpress Comparing Digital Waveforms

Data Analysis and Logging

The PC-based implementation means that, unlike traditional logic analyzers, the full power of the computer is readily available to perform complex analysis, data logging, and report generation. With SignalExpress, you can easily export the captured data to file and save images of the captured waveforms for easy report generation. Using National Instruments LabVIEW, you can create custom analysis steps to plug into SignalExpress to best match application needs.

Stimulus Response

The generation and acquisition capabilities of these instruments make them ideal for stimulus-response applications. NI 6542 bundles can drive data on one set of channels while simultaneously analyzing the response data on the remaining channels. NI 6552 bundles offer more advanced features, including per-cycle tristate and real-time hardware comparison. With per-cycle tristate, you can switch from analyzing data to generating data on a per-channel, per-clock-cycle basis. Real-time hardware comparison checks the acquired data against the known expected response for errors at the full clock rate of the digital instrument.

External Control

The digital waveform generator/analyzers included in the NI 6542 and NI 6552 bundles offer a number of options for controlling the generation and acquisition capabilities with external signals. Along with the ability to import a sample clock or export the internal clock, four general-purpose I/O lines are available for receiving external triggers or for generating events, such as the Data Active Event, for handshaking with the DUT. Using triggers and the linking and looping (scripting) features of the board, you can dynamically control the waveforms generated and the length of generation.

Mixed-Signal System in SignalExpress

SignalExpress not only includes digital analysis, acquisition, and generation capabilities, but it also provides a range of instrument control options for integrating other PCI, PXI, or stand-alone instruments into a single system. You can program the complete system using the interactive steps in SignalExpress. The shared architecture between the digital instruments and many of the NI digitizers and arbitrary waveform generators makes it easy to create a synchronized mixed-signal system.

Ordering Information

NI PCI-6542 Bundle	779635-01
NI PCI-6552 Bundle	779637-01
NI PXI-6542 Bundle	779634-01
NI PXI-6552 Bundle	779636-01

Cable

SHC68-C68-D2 shielded cable	188142-01

Other Accessories

CB-2162 connector block and prototyping board	778592-01
SMB-2163 breakout accessory	778747-01

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to **ni.com/digitalio**.

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We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with **ni.com/pxiadvisor**.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

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