

# VIRTUALBENCH™ VERSION 2.0 RELEASE NOTES FOR WINDOWS

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## Welcome to VirtualBench

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These release notes contain the installation instructions, lists of system requirements and new features, and updated information to help you begin using VirtualBench, version 2.0.

# VirtualBench Installation for Windows

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You must install VirtualBench along with two other items:

- A National Instruments (NI) data acquisition (DAQ) device
- NI-DAQ driver software

## Minimum System Requirements

Your computer must have the following hardware and software to work with VirtualBench:

- MS-DOS, version 5.0 or later
- Microsoft Windows 3.1 or later; Microsoft Windows 95 or Microsoft Windows NT 4.0 or later
- Personal computer using at least a 33 MHz 80486 or higher microprocessor (National Instruments recommends a 66 MHz 80486 or higher microprocessor.)
- VGA resolution (or higher) video adapter
- Math coprocessor or one of the following coprocessor emulation programs:
  - WEMM387.386 from WATCOM
  - Q387 from Quickware
- Minimum of 16 MB of RAM
- 30 MB free hard disk space
- Microsoft-compatible mouse
- NI-DAQ 4.9.0 if you plan to use an AT-DSP2200, AT-A2150, or EISA-A2000 data acquisition device

- NI-DAQ 5.0 or later if you plan to use Microsoft Windows NT 4.0 or later, or if you plan to use any of the following new data acquisition devices:
  - PCI-MIO-16E-1
  - PCI-MIO-16E-4
  - PCI-MIO-16XE-10
  - PCI-MIO-16XE-50
  - PCI-1200
  - PCI-DIO-96
  - PCI-DIO-32HS
  - PCI-5411
  - VXI-AO-48XDC
  - VXI-SC-1000
  - AT-DIO-32HS
  - AT-5102
  - AT-5411
  - DAQCard-5102
  - DAQCard-4050
  - PC-DIO-96PNP
  - PC-DIO-24PNP
  - SCXI-1120D
  - VXI-MIO
  - PCI-5102

## Installing VirtualBench under Windows 3.1x

To install VirtualBench from CD, perform the following steps:

1. Open the Windows Program Manager by double-clicking on the Program Manager icon.



**Note:**

*It is recommended that you not run other applications while you install VirtualBench.*

2. Insert your VirtualBench CD into your CD-ROM drive.
3. Select **Run** from the **File** menu in the Program Manager.
4. Enter X:\WIN31\DISK1\SETUP (where X is your CD drive) in the input box and click on **OK**.
5. Follow the instructions that appear in the dialog boxes.

To install VirtualBench from diskettes, perform the following steps:

1. Make backup copies of your VirtualBench diskettes and store the originals in a safe place.
2. Open the Windows Program Manager by double-clicking on the Program Manager icon.



**Note:**

*It is recommended that you not run other applications while you install VirtualBench.*

3. Insert Disk 1 into your 3.5-inch floppy disk drive.
4. Select **Run** from the **File** menu in the Program Manager.
5. Enter A:setup or B:setup (depending on the pathname of your floppy disk drive) in the input box and click on **OK**.
6. Follow the instructions that appear in the dialog boxes.

## Installing VirtualBench under Windows 95/NT 4.0

To install VirtualBench from CD, perform the following steps:

1. Insert your VirtualBench CD into your CD-ROM drive.



**Note:**

*At this point your operating system may prompt you to run SETUP.EXE. You should ignore this prompt. Select Close and continue to the next step.*

2. Select **Run** from the Windows 95/NT **Start** menu.
3. Enter X:\WIN95-NT\DISK1\SETUP (where X is your CD drive) in the input box and click on **OK**.
4. Follow the instructions that appear in the dialog boxes.

To install VirtualBench from diskettes, perform the following steps:

1. Make backup copies of your VirtualBench diskettes and store the originals in a safe place.
2. Insert Disk 1 into your 3.5-inch floppy disk drive.



**Note:**

*It is recommended that you not run other applications while you install VirtualBench.*

3. Select **Run** from the **Start** menu.
4. Enter A:setup or B:setup (depending on the pathname of your floppy disk drive) in the input box and click on **OK**.
5. Follow the instructions that appear in the dialog boxes.

## What Is Installed by the Setup Program

If you purchased the full VirtualBench suite, the setup program for VirtualBench will install the VirtualBench engine and nine virtual instruments: the oscilloscope (Scope), dynamic signal analyzer (DSA), digital multimeter (DMM), function generator (FG), logger, arbitrary waveform generator (Arb), DC analog output controller (AODC), digital input/output controller (DIO), and device calibrator. Each instrument comes with online help.

If you did not purchase the full VirtualBench suite, the setup program for VirtualBench will install the VirtualBench engine and the instruments you purchased in separate subdirectories. The VirtualBench toolbar only will enable the buttons for the instruments you purchased. However, you can access online help for all the VirtualBench instruments.



**Note:**

*Do not rename the VirtualBench folders: scope, logger, dmm, fg, dsa, arb, aodc, dio, and cal. VirtualBench must have this folder hierarchy to work correctly.*



**Note:**

*Be sure to view the **VirtualBench** readme.txt file in Disk 1 of the VirtualBench installation disk for the latest information concerning the installation and use of VirtualBench.*

## Installing on a Network

Contact National Instruments for licensing information if you plan to run VirtualBench on a network.

## Using Non-Plug and Play DAQ Devices in Windows 95

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National Instruments DAQ devices that are not Plug and Play compatible require special instructions for installation. If you are having trouble installing this type of DAQ device, please consult your NI-DAQ documentation for more information.

## Using Plug and Play DAQ Devices in Windows 95

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In some cases, Windows 95 may classify a National Instruments Plug and Play DAQ device (PCI, PCCard, and ISA PnP) as a generic card and install it in the Device Manager under Other Devices. The device will then not be recognized by NI-DAQ as a valid DAQ device. This may occur if the card has been installed in the computer prior to installation of NI-DAQ 5.0. Please consult your NI-DAQ documentation for more information on correcting this problem.

## Using ISA Plug and Play DAQ Devices in Windows NT

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To use ISA Plug and Play DAQ devices on Windows NT 4.0, you must first install the Windows NT 4.0 ISA Plug and Play driver before configuring your device with the NI-DAQ Configuration Utility. This driver is not installed by default. Please consult your NI-DAQ documentation for more information on installing the Windows NT 4.0 ISA Plug and Play driver.

# VirtualBench Requires Administrator Access in Windows NT

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Under Windows NT 4.0, by default VirtualBench can only be run by someone with administrator access to the system. If the administrator decides that any user can run VirtualBench from the system, please consult your NI-DAQ documentation on how to do so.

## Using an AT-DSP2200 with VirtualBench

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Take the following steps to install AT-DSP2200 software for use with VirtualBench:

1. Create a `TEMP` directory in your VirtualBench directory, `VBENCH` (the default name of your VirtualBench directory).
2. Run `SETUP.EXE` on Disk 1 of the NI-DSP for LabVIEW for Windows diskettes you received with your AT-DSP2200.
3. Select Custom Installation as the setup type and NI-DSP Interface Utilities for Select Components when the installation routine prompts you.
4. Select the `TEMP` directory you created in step one when the installation routine prompts you for a directory location.

The AT-DSP2200 Windows kernel files `LV2200.OUT` and `LV2200S.OUT` should now be located in `\VBENCH\TEMP\LIB`. You will use these files when configuring your AT-DSP2200 in the NI-DAQ Configuration Utility. You must copy `LV2200.OUT` and `LV2200S.OUT` into your VirtualBench directory and then delete the entire contents of the `TEMP` directory. Please consult your NI-DAQ documentation if you have any questions about configuring your AT-DSP2200.

## Using VirtualBench-Device Calibrator with NI-DAQ 4.9.0

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If you want to use VirtualBench-Device Calibrator, you should upgrade to NI-DAQ 5.0 or later. VirtualBench-Device Calibrator does not work in NI-DAQ 4.9.0.

## Using Hysteresis with an AT-DSP2200

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If you are using an AT-DSP2200 with Use DSP Memory turned on, you cannot use a hysteresis value greater than 0.0 V. If hysteresis is set greater than 0.0 V, data acquisition stops with no error or timeout indication. To avoid this problem, either set hysteresis to 0.0 V or turn off DSP memory. Please consult *VirtualBench-DSA Online Help* for more information on the Use DSP Memory feature.

## Using Other Windows Applications while Logging Data to Disk

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You may lose logged data without warning if you run Windows applications while logging data to disk. The data losses show up as inconsistencies in the logged time stamps. To protect the integrity of data logging, you should close all other applications while using VirtualBench-Logger.

## Using Equivalent Time Sampling (ETS) with the VirtualBench-Scope and E-Series Devices

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With ETS you can achieve up to a 20 MHz/Channel equivalent sampling rate on repetitive waveforms. However, if you sample more than one channel using ETS, both channels must pass through the trigger level. In addition, all phase information between the channels is lost.

ETS works with the following devices: AT-MIO-16E-1, AT-MIO-16E-2, AT-MIO-64E-3, NEC-MIO-16E-4, and NEC-AI-16E-4. If you are using an 5102 device, these restrictions do not apply when you are performing RIS sampling.



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