

Oscilloscope System Recovery

The oscilloscope application (firmware) runs on a Microsoft Windows® platform. While the instrument is designed to operate reliably for many years, the loading or incomplete removal of additional Windows applications can cause problems in the stability of the operating system. Severe cases may require you to reload the base operating system and firmware. For this purpose, Teledyne LeCroy provides a recovery application and a backup image. The recovery procedure is easy to perform.

Both the application used and the delivery method vary by oscilloscope model and year. Although the recovery procedures may seem similar, there are important differences, and using the incorrect procedure can cause system failure. Follow these guidelines to choose the correct procedure.

Model Series	Windows OS	Delivery Method	Procedure
WaveSurfer 3000	CE	N/A	N/A
HDO4000/HDO4000A HDO6000/HDO6000A	10 7 Pro	Partition on hard drive	HDO4000/HDO6000 System Recovery
HDO8000/HDO8000A MDA800/MDA800A	10 7 Pro	USB Key (see Note)	System Recovery from USB Key
DDA/SDA/WM 8 Zi-B	10 7 Pro	USB Key	System Recovery from USB Key
All others	10 7 Pro Vista XP	Partition on hard drive	System Recovery from Hard Drive
All others	2000	CD	Contact Service



Note: Some HDO8000 and MDA800 instruments were shipped without the USB recovery key. However, it is crucial to use the USB key recovery procedure. Contact support@teledynelecroy.com for instructions on creating a recovery key.

After Recovery...

The recovery process produces a replica of the software at the time of manufacture. It does not automatically update the:

- Oscilloscope firmware
- Windows operating system
- Virus scan definition files
- Drivers for some hardware options and accessories

Therefore, after completing the disk image recovery, it is highly recommended to search vendor websites and upgrade the individual components to current revision levels. The latest oscilloscope firmware can be downloaded from:

teledynelecroy.com/support/softwaredownload

under Oscilloscope Downloads > Firmware Upgrades. Most required hardware drivers can be installed during the firmware upgrade.

Application and calibration data is stored on the D: drive. Current calibration constants are not overwritten during recovery of the C: drive. You do not need to restore these.

Contact Teledyne LeCroy

For the most complete and up-to-date list of offices by country, visit:

teledynelecroy.com/support/contact

HDO4000/HDO6000 Recovery



This procedure is for HDO4000/HDO4000A and HDO6000/HDO6000A models only. **This procedure will destroy all data on the C: drive.** If your drive is still accessible, first back up any files you may want to restore after recovering.

Before You Start

- Connect a keyboard and mouse to the instrument.
- Power down the instrument.
- Note the serial number on the label on the back of the instrument.

Using True Image Home

1. Power on the instrument.
2. During the startup process, as soon as you see "Starting Acronis Loader...", press the **F11** key until the Acronis logo appears momentarily. The Acronis window is displayed.
Do not press F11 before you see "Starting Acronis Loader..." If a boot menu dialog appears, press Cancel or Esc.
3. Select **Acronis True Image Home (Full Version)**.
4. On the Acronis True Image Home page, under options for Recover, select **My Disks**. The Recovery Wizard opens.
5. On the Recovery Wizard, under Archive Selection, **select the disk archive with a create date**, then click **Next**.
6. Under Recovery Method, select **Recover whole disks and partitions**, then click **Next**.
7. Under What to Recover, select **NTFS (SYSTEM) (C:)**, then click **Next**.
8. Under Settings of Partition C, in the top section, Partition location (required), select **New Location**. The Partition Destination window opens.
9. Under New Partition Location, select **NTFS (SYSTEM) (D:)**, then click **Accept**. This returns you to the Settings of Partition C step. Click **Next**.
10. A summary window indicates that Acronis True Image is ready to proceed with recovering partition C -> D. Click **Proceed** to start the recovery.
Recovery takes 4 - 15 minutes. Do not power down or otherwise interrupt the recovery while in process.
11. When recovery is complete, you will see "Recover operation succeeded." Click **OK**.
12. Click the **close button** to exit the Acronis window. The instrument will restart and begin installing the required software.
If asked to restart Windows, select **Restart Later**.

Reinstall the X-Stream Application

1. When the X-Stream DSO Setup Wizard appears, click **Next**.
2. On the License Agreement page, select **I Agree**.
3. On the Choose Components page, select the **default (installation)** and click **Install**.
If you see a message that Windows can't verify the publisher of the driver software, choose "Install this driver software anyway" and click **Install**.
4. When the X-Stream installation is complete, choose to **Reboot now** and click **Finish**.

Rename Instrument

In order to apply option keys to the instrument in the future, restore the correct name (serial number).

1. Minimize the oscilloscope application window.
2. From the Windows **Start Menu**, choose **Control Panel > System**.
3. Scroll down to **Computer name, domain, and workgroup settings**, then click **Change Settings**.
4. On the System Properties dialog, click **Change** and enter the oscilloscope serial number in **Computer name**.
5. Click **OK** twice to return to the desktop.

Reactivate the F11 Startup Utility

In order for the system recovery wizard to be accessed again from the boot menu, reactivate the F11 startup utility. It is critical to complete these steps after restarting.

1. From the Windows **Start Menu** choose **All Programs > Acronis > Acronis True Image Home**.
2. On the Acronis True Image Home window, towards the top right, click **Tools & Utilities**.
3. On the Tools & Utilities page, beneath Protection Tools, click **Acronis Startup Recovery Manager**.
4. On the Acronis Startup Recovery Manager window, click **Activate**. F11 boot time recovery is now enabled.



Note: The process may take several minutes.

System Recovery from USB Key



This procedure is for MDA800/MDA800A, HDO8000/HDO8000A, and DDA/SDA/WaveMaster 8 Zi-B (*not Zi/Zi-A*) models. If your Acronis recovery key is lost, contact support for instructions on creating a replacement key. **This procedure will destroy all data on the C: drive.** If your drive is still accessible, first back up any files you may want to restore after recovering.

You must re-activate Windows after recovery is complete, either by Internet connection to Microsoft's website or by telephone. Have your Windows Product Key number handy for Windows reactivation.

Before You Start

- Note the Windows Product Key number and serial number, usually listed on a sticker on the back of the instrument.
- If you intend to reactivate Windows through the Internet, connect the instrument to your network.
- Power down the instrument.
- Connect a keyboard to the instrument.
- Remove any mouse that is already connected. Do **not** connect a mouse until instructed later in the procedure.

Boot from USB Key

1. **Connect the supplied USB key** to the instrument.
2. **Power on** the instrument.
3. During the startup process, as soon as you see "F2 for System Utilities," press the **F2 key** to enter the BIOS menu.
If you miss the F2 prompt and begin to boot into Windows, shut down and begin again.
4. Enter the BIOS password **lcrsys** (lower case).
5. When on the BIOS menu, press the **Cursor Right → key** until **Boot menu** is selected.
6. On the Boot menu, press the **Cursor Down ↓ key** until **USB HDD** is selected.
7. Press the **Plus + key** to move USB HDD to the top of the list.
8. Press the **F10 key**, then press **Enter** to save. The instrument will boot into the Acronis environment.
9. Once at the Acronis loader page, press the **Cursor Up key** to select **Acronis True Image Home 2015**, then press **Enter**.

10. When you see the Acronis True Image Home window, **connect a mouse** to the instrument.

Run the Recovery Wizard

1. On the Acronis Home page, under options for Recover, select **My Disks**. The Recovery Wizard opens.
2. On the Recovery Wizard, under Archive Selection, **select the disk archive with a create date**, then click **Next**.
3. Under Recovery Method, select **Recover whole disks and partitions**, then click **Next**.
4. Under What to Recover, select **NTFS (SYSTEM) (C:)**, then click **Next**.
5. Under Settings of Partition C, in the section Partition location (required), select **New Location**. The Partition Destination window opens.
6. Under New Partition Location, select **NTFS (SYSTEM) (C:)**, then click **Accept**. This returns you to the Settings of Partition C. Click **Next**.
7. A summary window indicates that Acronis True Image is ready to proceed with recovering C: > C:. Click **Proceed** to start the recovery.



Recovery takes 4 - 15 minutes. Do not power down or otherwise interrupt the recovery while in process.

8. When recovery is complete, you will see "Recovery operation succeeded." Click **OK**.
9. Click the **close button** to exit the Acronis window. The instrument will begin to shut down and restart.

Restore the Boot Sequence

1. During the startup process, as soon as you see "F2 for System Utilities," press the **F2 key** to enter the BIOS menu.
If you miss the F2 prompt and begin to boot into Windows, shut down and begin again.
2. Enter the BIOS password **lcrsys** (lower case).
3. When on the BIOS menu, press the **Cursor Right → key** until **Boot menu** is selected.
4. On the Boot menu, press the **Cursor Down ↓ key** until **ATA HDD 0** is selected.
5. Press the **Plus + key** to move ATA HDD 0 to the top of the list.
6. Press the **F10 key**, then press **Enter** to save. The instrument will begin to reboot.

Reinstall the Oscilloscope Application

1. When the X-Stream DSO Setup Wizard appears, click **Next**.
2. On the License Agreement page, select **I Agree**.
3. On the Choose Components page, select the **default (installation)** and click **Install**.
If you see a message that Windows can't verify the publisher of the driver software, choose "Install this driver software anyway" and click **Install**.
4. When the X-Stream installation is complete, choose to **Reboot now** and click **Finish**.
5. When prompted, **enter your Windows Product Key number** and follow the Microsoft procedure to re-activate Windows.



Note: The Windows re-activation may occur before or after the X-Stream installation. The order does not matter.

Rename Instrument

In order to apply option keys to the instrument in the future, restore the correct name (serial number).

1. Minimize the oscilloscope application window.
2. From the Windows **Start Menu**, choose **Control Panel > System**.
3. Scroll down to **Computer name, domain, and workgroup settings**, then click **Change Settings**.
4. On the System Properties dialog, click **Change** and enter the oscilloscope serial number in **Computer name**.
5. Click **OK** twice to return to the desktop.

System Recovery from Hard Drive



Do **not** use this procedure for HDO4000s, HDO6000s, HDO8000s, MDA800s, DDA/SDA/WaveMaster 8 Zi-Bs, or any instruments running Windows 2000. **This procedure will destroy all data on the C: drive.** If your drive is still accessible, first back up any files you may want to restore after recovering.

You must reactivate Windows after recovery is complete, either by Internet connection to Microsoft's website or by telephone. Have your Windows Product Key number handy for Windows reactivation.

Important!

Depending on the year and model, your oscilloscope may be installed with Acronis True Image Home, Acronis True Image Echo Workstation, or Phoenix cME PC Edition.

It is critical to check which application you are using, as following the incorrect procedure can cause system failure.

Before You Start

- If you intend to reactivate Windows through the Internet, connect the instrument to your network.
- Connect a keyboard and mouse to the instrument.
- Note the Windows Product Key number and serial number, usually listed on a sticker on the back of the instrument.



Note: In LabMasters, the Windows Product Key is found on the removable hard drive. **Power down the oscilloscope before removing the hard drive to find the product key.** Replace the drive before powering on again at the start of the recovery.

- Power down the instrument.

Determine the Recovery Product

1. Power on the instrument.
2. During the startup process, when you see "Starting Acronis Loader...", press the **F11 key** until the Acronis logo appears momentarily. The Acronis window is displayed.



Note: Do not press F11 before you see "Starting Acronis Loader..." If a boot menu dialog appears, press Cancel or Esc.

Check the Acronis window to determine which product you are using. Follow Using True Image Home or Using Echo Workstation accordingly.

Or

If you do NOT see "Starting Acronis Loader..." during your boot sequence, press the **F4 key** when the LeCroy logo appears and follow Using Phoenix cME.

Using True Image Home

1. Select **Acronis True Image Home (Full Version)**.
2. On the Acronis True Image Home page, under options for Recover, select **My Disks**. The Recovery Wizard opens.
3. On the Recovery Wizard, under Archive Selection, **select the disk archive with a create date**, then click **Next**.
4. Under Recovery Method, select **Recover whole disks and partitions**, then click **Next**.
5. Under What to Recover, select **NTFS (SYSTEM) (C:)**, then click **Next**.
6. Under Settings of Partition C, in the top section, Partition location (required), select **New Location**. The Partition Destination window opens.
7. Under New Partition Location, select **NTFS (SYSTEM) (D:)**, then click **Accept**. This returns you to the Settings of Partition C step. Click **Next**.
8. A summary window indicates that Acronis True Image is ready to proceed with recovering partition C -> D. Click **Proceed** to start recovery.



Recovery takes 4 - 15 minutes. Do not power down or otherwise interrupt the recovery while in process.

9. When recovery is complete, you will see "Recover operation succeeded." Click **OK**.
10. Click the **close button** to exit the Acronis window. The instrument will restart and begin installing the required software. Continue to reinstall the X-Stream application.



Note: If asked to restart Windows, select **Restart Later**.

Using Echo Workstation

1. On the Pick a Task page, select **Recovery**. The Restore Data Wizard opens.
2. Click **Next** on the Welcome page.
3. On Backup Archive Selection, choose **Acronis Secure Zone** (this is where the recovery data is located on the instrument). Click **Next**.

4. On Restoration Type Selection, select **Restore disks or partitions**, then click **Next**.
 5. On Partition or Disk to Restore, select **SYSTEM (C:)** as the source, then click **Next**.
 6. On Restored Partition Location, select **SYSTEM (C:)**, then click **Next**.
 7. On Restored Partition Type, select **Active**, then click **Next**.
11. A summary window indicates that Acronis True Image is ready to proceed with the recovery of the C: partition. Click **Proceed** to start the recovery.



Note: If asked if you want to buy Acronis products, check "Do not show this message again" and click OK.



Recovery takes 4 - 15 minutes. Do not power down or otherwise interrupt the recovery while in process.

8. On Restored Partition Size, simply click **Next**.
9. On Next Selection, select **No, I do not** (want to restore another partition), then click **Next**.
10. On Restoration Options, click **Next** to use the default selections.
12. Once the recovery is complete, an Information dialog indicates that the Data was successfully restored. Click **OK**.
13. From the Acronis menu bar, choose **Operations > Exit**. The oscilloscope will restart and begin installing the required software.

Using Phoenix cME

1. When the cME console End User License Agreement is shown, read the agreement and click **Accept**.
2. On the Phoenix cME Console main page, click the link "**Click here to start recover**".

The recovery starts shortly after the FirstWave flash page, and the FirstWare Progress screen is displayed. No further selections are required. The recovery takes about 10 minutes.



Note: The screen occasionally goes blank for prolonged periods. This is normal and not an indication of malfunctioning.

Reinstall the X-Stream Application

1. When the X-Stream DSO Setup Wizard appears, click **Next**.
2. On the License Agreement page, select **I Agree**.
3. On the Choose Components page, select the **default (installation)** and click **Install**.



Note: If you see a message that Windows can't verify the publisher of the driver software, choose "Install this driver software anyway" and click Install.

4. When the X-Stream installation is complete, choose to **Reboot now** and click **Finish**.
5. When prompted, enter your Windows Product Key number to re-activate Windows.

Rename Instrument

In order to apply option keys to the instrument in the future, restore the correct name (serial number).

1. Minimize the oscilloscope application window.
2. From the Windows **Start Menu**, choose **Control Panel > System**.
3. Scroll down to **Computer name, domain, and workgroup settings**, then click **Change Settings**.
4. On the System Properties dialog, click **Change** and enter the oscilloscope serial number in **Computer name**.
5. Click **OK** twice to return to the desktop.

Reactivate the F11 Startup Utility

Phoenix and Echo Workstation users can skip this procedure and go on to update software to current levels.

In order for the system recovery wizard to be accessed again from the boot menu, reactivate the F11 startup utility. It is critical to complete these steps after restarting.

1. From the Windows **Start Menu** choose **All Programs > Acronis > Acronis True Image Home**.
2. On the Acronis True Image Home window, towards the top right, click **Tools & Utilities**.
3. On the Tools & Utilities page, beneath Protection Tools, click **Acronis Startup Recovery Manager**.
4. On the Acronis Startup Recovery Manager window, click **Activate**. F11 boot time recovery is now enabled.



Note: The process may take several minutes.

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