Oscilloscope System Recovery

MAUI oscilloscopes run 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 is easy to perform.

⚠ Caution: 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. Be prepared to reinstall third-party software.

Before Recovery…

The recovery application, Windows OS, and delivery method vary by oscilloscope model and year. There are important differences between recovery procedures, and using the incorrect procedure can cause system failure.

Find the exact oscilloscope model and operating system by choosing **Support > About** from the oscilloscope menu bar, then use this table to choose the correct procedure.

Model Series	Windows OS	Delivery Method	Procedure
Most MAUI oscilloscopes shipped after May 2018	10	Partition on hard drive	Windows 10 System Recovery
HDO8000/HDO8000A MDA800/MDA800A DDA/SDA/WM 8 Zi-B (not Zi/Zi-A) shipped prior to Jan. 2018	7 Pro	USB key (see Note below)	System Recovery from USB Key
Other MAUI oscilloscopes shipped prior to 2018	7 Pro Vista XP	Partition on hard drive	System Recovery from Hard Drive
	2000	CD	Contact Service

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

📄 Note: There is no recovery procedure for WaveSurfer 3000 models that run on Windows CE.

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, external device drivers, etc. After completing the disk image recovery, it is highly recommended to search vendor websites and upgrade components to current revision levels. The latest oscilloscope firmware is available from:

teledynelecroy.com/support/softwaredownload

You will need to register an account to complete the firmware download.

On some models, you must reactivate the Windows license after recovery is complete, either via Microsoft's website or by telephone. Have your Windows Product Key number handy for Widows reactivation.

User and calibration data are stored on the D: drive and are not overwritten during recovery. You do not need to restore them.

Windows 10 System Recovery

Most 64-bit MAUI oscilloscopes shipped after May 2018 run on the Windows 10 operating system. Windows 10 oscilloscopes utilize the Acronis True Image 2017 OEM recovery software with an F10 startup utility script that automates the recovery process. The entire process takes about 17 minutes to complete.

Before You Start

- Connect the instrument to your network.
- Connect a keyboard and mouse to the instrument.

Run Recovery Script

1. Choose **File > Exit** to close the oscilloscope application and show the Windows desktop.

2. From the Windows **Start menu** , choose **Restart**.

3. During the boot sequence, watch for the message "Starting Acronis Loader..." When you see the Acronis message, press the **F10 key**.

   Do not press F10 before you see "Starting Acronis Loader..." If a boot menu dialog appears, press Cancel or Esc.

4. When you see the Acronis window, select **Recover** and press **Enter**.

5. Accept the Acronis license agreement.

6. Allow the recovery process to run.

7. When the XStreamDSO (MAUI) Setup Wizard appears, enter the **Password SCOPEADMIN** (all uppercase) and follow the installer prompts.

   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.

8. Choose **Yes** to reboot the instrument at the conclusion of the installation.

Conclude

Check Windows Activation

Your Windows license may or may not need to be reactivated following recovery. Reactivation sends a digital license key stored with the recovery image to Microsoft via the Internet, so the instrument must be networked to do this. To check activation status:

1. Choose **File > Exit** to close the oscilloscope application and show the Windows desktop.

2. From the Windows **Start menu**, choose
   Settings > **Update & security** > **Activation**.

3. The activation status appears at the top of the dialog. An **Activate** button appears if reactivation is required. Click the button and follow the Microsoft reactivation procedure.

Re-enable Windows Defender

The Windows Defender anti-virus software installed with Windows 10 is disabled by default on our recovery image. If you wish to re-enable Windows Defender, do the following:

1. From the Windows **Start menu**, hover over the
   Teledyne LeCroy logo and select **user LCRYADMIN**. Enter the administrative password **SCOPEADMIN** (all uppercase).

2. Once logged on to the admin account, search for the program **gpedit.msc** (Edit Group Policy).

3. Navigate to **Administrative Templates > Windows Components > Windows Defender**.

4. Select **Windows Defender** from the navigation pane so the settings appear at the right of the window.

5. From the settings pane, right-click on **Turn Off Windows Defender** and select **Edit**.

6. Select **Disable**. (By disabling "Turn off", you re-enable the software.)

Reset Serial Number

Go on to reset the serial number .

Recovery from Hard Drive

⚠️ **Caution:** Do **not** use this procedure for Windows 7 Pro instruments delivered with a USB recovery key.

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 the oscilloscope serial number, usually listed on a sticker on the back of the instrument.

  On 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

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

1. Power on the instrument.

2. During the boot sequence, watch for the message "Starting Acronis Loader..."

3. If you see the Acronis message, press the **F11 key**. When you see the Acronis window, check the title bar to see which application you're using and follow the appropriate procedure below.

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

   Or

   If you do NOT see the Acronis message during your boot sequence, press the **F4 key** when the LeCroy logo appears and follow steps for Phoenix cME below.

Run the Recovery Wizard

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**. Click **Next**.

4. Under Recovery Method, select **Recover whole disks and partitions**. Click **Next**.

5. Under What to Recover, select **NTFS (SYSTEM) (C:)**. 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:)**. Click **Accept**. This returns you to the Settings of Partition C step. Click **Next**.

8. When you see Acronis is ready, click **Proceed**.

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

9. When you see "Recover operation succeeded", click **OK**.

10. Click the **close button** to exit the Acronis window. The instrument will reboot.

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, select **Acronis Secure Zone**. Click **Next**.

4. On Restoration Type Selection, select **Restore disks or partitions**. Click **Next**.

5. On Partition or Disk to Restore, select **SYSTEM (C:)** as the source. Click **Next**.

6. On Restored Partition Location, select **SYSTEM (C:)**. Click **Next**.

7. On Restored Partition Type, select **Active**. Click **Next**.

   If asked to buy Acronis products, check "Do not show this message again" and click OK.

8. On Restored Partition Size, simply click **Next**.

9. On Next Selection, select **No, I do not** (want to restore another partition). Click **Next**.

10. On Restoration Options, leave defaults and click **Next**.

11. When you see Acronis is ready, click **Proceed**.

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

12. When you see a message that the Data was successfully restored, click **OK**.

13. From the Acronis menu bar, choose **Operations > Exit**. The instrument will reboot.

Phoenix cME

1. Read the EULA 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. No further selections are required.

   The recovery takes about 10 minutes, during which the screen occasionally goes blank for prolonged periods. This is normal and not an indication of malfunctioning.

Conclude

1. When X-StreamDSO Setup Wizard appears, follow the prompts to **reinstall the oscilloscope application, accepting all defaults**.

   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.

2. If prompted, enter your **Windows Product Key number** and follow the Microsoft reactivation procedure.

3. Acronis users should go on to reset the serial number and reactivate the F11 startup utility.

   Phoenix users should go on to reset the serial number.

Recovery from USB Key

> ⚠️ **Caution:** This procedure is for Windows 7 Pro oscilloscopes delivered with a USB recovery key. If your recovery key is lost, contact support for instructions on creating a replacement key.

Before You Start

- Note the Windows Product Key number and oscilloscope 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 connected. Do **not** connect a mouse until instructed during the procedure.

Boot from USB Key

1. **Connect the supplied USB key** to the instrument.
2. **Power on** the instrument.
3. 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. 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**.
2. On the Recovery Wizard, under Archive Selection, **select the disk archive with a create date**. Click **Next**.
3. Under Recovery Method, select **Recover whole disks and partitions**. Click **Next**.
4. Under What to Recover, select **NTFS (SYSTEM) (C:)**. 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. When you see Acronis True Image is ready to recover C: > C:, click **Proceed** to start recovery. **Caution:** Recovery takes 4 - 15 minutes. Do not power down or otherwise interrupt the recovery while in process.
8. When you see "Recovery operation succeeded," click **OK**.
9. Click the **close button** to exit the Acronis window. The instrument will begin to reboot.

Restore the Boot Sequence

1. During the boot process, as soon as you see "F2 for System Utilities," press **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** (all lower case).
3. 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 **F10 key**, then press **Enter** to save. The instrument will begin to reboot.

Conclude

1. When the X-StreamDSO Setup Wizard appears, follow the prompts to **reinstall the oscilloscope application**, accepting all defaults.

   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.
2. When prompted, **enter your Windows Product Key number** and follow the Microsoft procedure to reactivate Windows.
3. Go on to .

Reset Serial Number

In order to apply option keys to the instrument in the future, you must restore the correct instrument serial number after recovering the hard drive. The number is the found on the back panel product sticker or removable hard drive.

1. Choose **File > Exit** to close the oscilloscope application.
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.
6. Double-click the **StartDSO** desktop icon.

Reactivate F11 Startup Utility

If your recovery procedure includes an F11 startup utility script for an oscilloscope running on Windows 7 or earlier, follow these steps to re-activate the script so that it is ready to run next time you need to recover.

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

   The process may take several minutes.
6. Double-click the touch screen icon in the lower right of the desktop to restore the oscilloscope application.

March, 2018