



Emulex[®] Drivers for Windows for LightPulse[®] Adapters

Quick Installation Guide
Release 12.0

Broadcom, the pulse logo, Connecting everything, Avago Technologies, Avago, and the A logo are among the trademarks of Broadcom and/or its affiliates in the United States, certain other countries, and/or the EU.

Copyright © 2003–2018 Broadcom. All Rights Reserved.

The term “Broadcom” refers to Broadcom Inc. and/or its subsidiaries. For more information, please visit www.broadcom.com.

Broadcom reserves the right to make changes without further notice to any products or data herein to improve reliability, function, or design. Information furnished by Broadcom is believed to be accurate and reliable. However, Broadcom does not assume any liability arising out of the application or use of this information, nor the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.

Table of Contents

Chapter 1: Introduction	4
Chapter 2: Installation	5
2.1 OneInstall Installer	5
2.1.1 Loading OneInstall Installer Using Interactive Mode.....	5
2.1.2 Loading OneInstall Installer Using Silent Mode	6
2.1.2.1 Command Format.....	6
2.2 Driver Kit Installer	7
2.2.1 Loading the Driver Kit	7
2.3 AutoPilot Installer	7
2.3.1 Starting Installers from a Command Prompt or Script	8
2.3.2 Running a Software Installation Interactively	8
2.3.2.1 Option 1: Automatically Run AutoPilot Installer	9
2.3.2.2 Option 2: Run AutoPilot Installer Separately	9
2.3.3 Hardware-First Installation or Driver Update.....	10
2.3.4 Software-First Installation	10
2.3.5 Text-Only Driver Installation.....	11
Chapter 3: Installation Failure	12
3.1 AutoPilot Installer Failure	12
3.2 OneInstall Installer Failure	12

Chapter 1: Introduction

This product supports the following Emulex® LightPulse® adapters:

- LPe12000-series adapters
- LPe16000-series adapters
- LPe31000-series adapters
- LPe32000-series adapters

Chapter 2: Installation

Install the Windows drivers for LightPulse adapters in one of two ways:

- OneInstall Installer contains the Emulex Storport Miniport driver, Emulex PLUS (ElxPlus) driver, and the OneCommand[®] Manager application for LightPulse Adapters in a single download package.
- Driver kits and AutoPilot Installer provide installation options ranging from simple installations with a few mouse clicks to unattended installations that use predefined script files and text-only installations.

NOTE: Windows 8 x64 and Windows 8.1 x64 drivers are Emulex signed. You must accept the Emulex certificate to install these kits. Support is provided by Broadcom[®], but not by Microsoft.

NOTE: Check the Broadcom website for required updates to the Windows operating system or the Emulex drivers.

2.1 OneInstall Installer

OneInstall Installer can be run in Interactive mode or Silent mode.

NOTE: OneInstall Installer does not allow you to perform pre-installation tasks or text-only installations. For these tasks, use the driver kits.

OneInstall Installer is a self-extracting executable file that installs the following software on your system:

- FC driver
- Emulex PLUS (ElxPlus) driver (supports the OneCommand Manager application, persistent binding, logical unit numbering (LUN) mapping and masking, and virtual port creation)
- OneCommand Manager application

NOTE: The Enterprise kit for the OneCommand Manager application does not operate locally on Windows Server Core. You must install the OneCommand Manager Core Kit (command line interface only) to the Windows Server Core. Refer to the *Emulex OneCommand Manager Application for LightPulse Adapters User Guide* for installation instructions.

2.1.1 Loading OneInstall Installer Using Interactive Mode

To install the drivers using Interactive mode, perform these steps:

1. Download OneInstall Installer from the Broadcom website.
2. Navigate to OneInstall Installer in Windows Explorer.
3. Double-click **OneInstall Installer**.
The **Welcome** screen is displayed.
4. Click **Next**.
The **Installation Options** screen is displayed.
5. Select the drivers and applications that you want to install and click **Next**.
A progress screen is displayed while OneInstall installer loads the selected drivers and applications. After the drivers and application software are loaded, an **Installation completed** screen is displayed.
6. Click **Finish**.

2.1.2 Loading OneInstall Installer Using Silent Mode

Silent mode installation must be run from a batch file or from the command line.

If you run OneInstall Installer from a batch file or from a command line prompt, the default Windows behavior starts OneInstall, then immediately continues with the next command. It does not wait until OneInstall has finished.

As a result, the value of `%ERRORLEVEL%` will always be 0 because Windows successfully started OneInstall. It does *not* reflect an accurate OneInstall exit code.

To remedy this, run OneInstall Installer setup as follows:

```
START /wait OneInstall-Setup-<version>.exe  
echo %ERRORLEVEL%
```

The `START /wait` ensures that the command does not return until setup has exited. The value of `%ERRORLEVEL%` now accurately reflects the OneInstall Installer exit code.

2.1.2.1 Command Format

The format of the command is:

```
OneInstall-Setup-<version>.exe <install-mode> <options>
```

Where:

`<version>` is the version number of OneInstall Installer

`<install-mode>` is one of the following:

- `/q0` – (Interactive, non-silent install) This is the default.
- `/q1` – (non-Interactive install) This option displays status pages.
- `/q2` – (Silent install) This option is completely silent; no pages are displayed.
- `/q` – This is the same as `/q1`.

`<options>` specifies the kit, or kits, to install:

`ALL=1` – Install the FC driver and the OneCommand Manager application (default).

NOTE: On a Windows Server Core system, this installs all drivers and the OneCommand Manager Core Kit.

`ALLCORE=1` – Install the FC driver and the OneCommand Manager Core Kit.

`FC=1` – Install the FC driver only.

`OCM=1` – Install the OneCommand Manager Enterprise Kit only.

NOTE: On a Windows Server Core system, this installs the OneCommand Manager Core Kit.

`OMCORE=1` – Install the OneCommand Manager Core Kit only.

To install the drivers using Silent mode, perform these steps:

1. Download OneInstall Installer from the Broadcom website.
2. Open a DOS window.
3. Change the directory to the folder containing your OneInstall package.

The following are examples of Silent mode commands:

```
Start /wait OneInstall-Setup-<version>.exe /q2 ALL=1
Start /wait OneInstall-Setup-<version>.exe /q2 FC=1
Start /wait OneInstall-Setup-<version>.exe /q2 OCM=1
Start /wait OneInstall-Setup-<version>.exe /q2 ALLCORE=1
Start /wait OneInstall-Setup-<version>.exe /q2 OCMCORE=1
```

2.2 Driver Kit Installer

Each driver kit contains and loads the Windows driver package and includes ElxPlus (`elxdrv-r-fc-<version>.exe`).

2.2.1 Loading the Driver Kit

The driver kit copies the selected Emulex drivers and applications onto your computer.

NOTE: This procedure does not install drivers, and no driver changes are made until you run AutoPilot Installer.

To load the driver kit, perform these steps:

1. Download the driver kit from the Broadcom website to your system.
2. Double-click the driver kit to run it.
The **Emulex Kit Welcome** page is displayed.
3. Click **Next**.
The **Installation Options** window is displayed.
4. Select one or both of the following options:
 - **Perform Installation of Software** – Copies the driver kit for your operating system to your computer.
 - **Unpack All Drivers** – Extracts all drivers to the current user's `Documents` folder. Select this option to perform boot from SAN installations.The **Operation in progress** window shows the kit file-loading progress. After the kit files are loaded, the **Installation completed** window is displayed.
5. To continue with the installation, ensure that **Start AutoPilot Installer** is selected.

2.3 AutoPilot Installer

AutoPilot Installer runs after the driver kit is loaded and the OneCommand Manager application is installed. AutoPilot Installer can be installed at these times:

- Immediately after the driver kit has been loaded
- At a later time using an interactive installation
- Through an unattended installation

AutoPilot Installer provides the following functions:

- Command line functionality – Initiates an installation from a command prompt or script. Configuration settings can be specified in the command line.
- Compatibility verification – Verifies that the driver to be installed is compatible with the operating system and platform.
- Driver installation and update – Installs and updates drivers.
- Multiple adapter installation capability – Installs drivers on multiple adapters, alleviating the requirement to manually install the same driver on all adapters in the system.

NOTE: Refer to the *Emulex Software Kit Migration User Guide* for information about installing drivers on a system containing a mix of OneConnect® and LightPulse adapters.

- Driver diagnostics – Determines whether the driver is operating properly.
- Silent installation mode – Suppresses all screen output (necessary for unattended installation).

NOTE: AutoPilot Installer does not allow you to install the driver if the minimum Windows service pack or Microsoft Storport driver update is not installed.

You can install the driver by using any of the following methods:

NOTE: These installation methods are not mutually exclusive.

- **Hardware-first installation.** At least one Emulex adapter must be installed before you can install the Emulex drivers and utilities.
- **Software-first installation.** You can install drivers and utilities using AutoPilot Installer prior to the installation of any adapters. You do not need to specify the adapter models to be installed later. The appropriate drivers and utilities automatically load when you install the adapters.
- **Utility-Only installation.** If the drivers in the driver kit share the same version with those already installed on the system, you can reinstall or update the previously installed utility without reinstalling the drivers.
- **Text-Only installation.** Text-based installation mode is used automatically when AutoPilot Installer is run on a Windows Server Core system.
- **Network installation.** You can place the driver kit installers on a shared network drive and install them across your local area network (LAN). Network-based installation is often used with unattended installation and scripting, which allows you to configure and install the same driver and utility versions on all the hosts in a storage area network (SAN).
- **Unattended installation.** You can run the driver kit installers and AutoPilot Installer with no user interaction from a command line or script. Unattended installation works for both hardware-first and software-first installations and all driver kits. An unattended installation operates in Silent mode (also referred to as Quiet mode) and creates an extensive report file with installation status.

NOTE: Complete driver and utilities documentation can be downloaded from the Broadcom website.

2.3.1 Starting Installers from a Command Prompt or Script

If a driver kit or an AutoPilot Installer is run from a command prompt or command script (batch file), the Windows command processor does not wait for the installer to run to completion. As a result, you cannot check the exit code of the installer before the next command is executed. For command line invocation, always use the `START` command with the `/wait` option, which causes the command processor to wait for the installer to finish before the command processor continues.

For additional information on command line installation and configuration parameters, see the *Emulex® Drivers for Windows for LightPulse® Adapters User Guide*.

2.3.2 Running a Software Installation Interactively

Two options are available when performing an installation interactively. These options assume you have already downloaded the driver kit from the Broadcom website.

- Option 1 allows you to automatically run AutoPilot Installer, which completes the driver kit loading and installation with a few mouse clicks.
- Option 2 allows you to run AutoPilot Installer separately. This option is recommended when you are:
 - Changing installation settings for a limited number of systems
 - Familiarizing yourself with AutoPilot Installer configuration options

2.3.2.1 Option 1: Automatically Run AutoPilot Installer

Use this option unless you have specific configuration requirements.

1. Double-click the driver kit or run it from a command line. The command line parameter `APargs` allows you to specify arguments that are automatically passed to the AutoPilot Installer command.

A **Welcome** window is displayed with driver kit version information and Emulex contact information (see the *Emulex® Drivers for Windows for LightPulse® Adapters User Guide* for additional information on command line installations).

2. Click **Next** to proceed to the **Installation Options** window.

For each installation option, the default installation location for that option is displayed. Browse to a different location, if desired.

3. Click **Install** to continue the installation.

The **Progress** dialog is displayed.

After all tasks complete, a **Finish** window is displayed. The **Start AutoPilot Installer** check box is automatically selected.

4. Click **Finish**.

AutoPilot Installer runs automatically and completes one of the following installations:

- [Section 2.3.3, Hardware-First Installation or Driver Update](#)
- [Section 2.3.4, Software-First Installation](#)

2.3.2.2 Option 2: Run AutoPilot Installer Separately

To access these options, run AutoPilot Installer after the driver kit loading has been completed, which allows you to change the configuration options supplied to AutoPilot Installer.

1. Perform steps 1 through 3 in [Option 1: Automatically Run AutoPilot Installer](#).
2. Clear the **Run AutoPilot Installer** check box on the **Finish** dialog.
3. Click **Finish**.

The driver kit installer exits.

After the driver kit loading is complete, change the configuration in one of two ways:

- Change the configuration file.
- Supply parameters on the command line.

NOTE: See the *Emulex® Drivers for Windows for LightPulse® Adapters User Guide* for additional information on either of these configuration methods.

After you have finished this step, you can run AutoPilot Installer at a later time.

4. Run AutoPilot Installer using the following command:

```
C:\Program Files\Emulex\AutoPilot Installer\APInstall.exe
```

NOTE: The location of `APInstall.exe` might differ on your system, depending on your system's Program Files location. You can also specify a different location when you install the driver package.

2.3.3 Hardware-First Installation or Driver Update

The driver kit installer must be downloaded from the Broadcom website and installed before performing this installation.

NOTE: To update the Emulex protocol drivers, begin this procedure at [Step 2](#).

To perform a hardware-first installation, perform these steps:

1. Install a new Emulex adapter and power-on the system. If the **Windows Found New Hardware** wizard is displayed, click **Cancel** to exit; AutoPilot Installer performs this function.

NOTE: If there are multiple adapters in the system, the **Windows Found New Hardware** wizard is displayed multiple times. Click **Cancel** to exit the wizard each time it is displayed.

2. Run AutoPilot Installer using one of the two options listed in [Section 2.3.2, Running a Software Installation Interactively](#). Consider the following:
 - If you are updating the driver, the existing port settings are used, unless otherwise specified in the configuration file. These settings are pre-selected but can be changed. Set or change the settings, then click **Next**.
 - If you are initially installing a vendor-specific version of the Emulex driver installation program, a **Driver Configuration** window might be displayed. This window includes one or more windows with questions that you must answer before continuing the installation process. In this case, answer each question and click **Next** on each window to continue.
3. Click **Next**. The installation is completed automatically.
A dialog is displayed if Windows requires a reboot. After the installation is successful, a **Finish** window is displayed.
4. View or print a report, if desired.
 - **View Installation Report** – The installation report is a text file with current Emulex adapter inventory, configuration information, and task results.
 - **Print Installation Report** – The Windows **Print** dialog is displayed to select options for printing the installation report.
5. Click **Finish** to exit AutoPilot Installer.
6. If the system must be rebooted, you are prompted to do so as indicated in [Step 3](#). You must reboot before using the drivers or utilities.

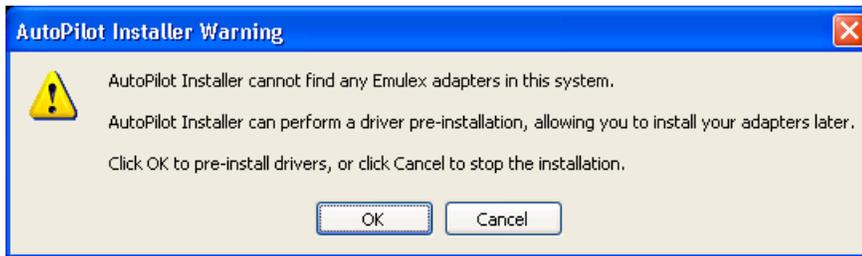
2.3.4 Software-First Installation

The driver kit must be downloaded from the Broadcom website and loaded.

To do a software-first installation, perform these steps:

1. Run AutoPilot Installer using one of the two options listed in [Section 2.3.2, Running a Software Installation Interactively](#). [Figure 1](#) is displayed.

Figure 1: AutoPilot Installer Warning (Software-First Installation)



2. Click **OK**.
A **Welcome** window is displayed.
3. Click **Next**. The installation automatically progresses.
After the installation is successful, the **Finish** window is displayed.
4. View or print a report, if desired.
 - **View Installation Report** – The installation report is a text file with current Emulex adapter inventory, configuration information, and task results.
 - **Print Installation Report** – The Windows **Print** dialog is displayed to select options for printing the installation report.
5. Click **Finish** to exit AutoPilot Installer.

2.3.5 Text-Only Driver Installation

Text-based Installation mode is used automatically when the driver kit installer runs on a server with the Server Core installation option of Windows Server. During text-based installations, AutoPilot Installer uses a command prompt window. The driver kit installer notifies you when the driver is installed and also gives you an opportunity to stop the installation.

Whether AutoPilot Installer is launched from the command line or run as a program, Windows always starts AutoPilot Installer as a separate stand-alone task. This means that AutoPilot Installer has its own command prompt window and cannot access other windows.

Chapter 3: Installation Failure

The two possible installation failures are described in this section.

3.1 AutoPilot Installer Failure

If AutoPilot Installer fails, the **Diagnostics** window shows that the adapter failed. If the adapter fails, perform these steps:

1. Select the adapter to view the reason why the adapter failed. The reason and suggested corrective action are displayed.
2. Perform the suggested corrective action, and run AutoPilot Installer again.

NOTE: You can run `APInstall.exe` from a command prompt.

3.2 OneInstall Installer Failure

OneInstall Installer might fail for any of the following reasons:

- The operating system prerequisites have not been met.
- The individual kit installation failed. To check the installation, run the installation interactively. If you encounter error messages when you run the installation interactively, those issues would also apply to an unattended installation.
- If an individual package failed to install properly, run that package's installer directly. This method displays status and error messages that can be used to diagnose the issue. (OneInstall Installer does not provide this information because each package is installed silently.)

