M.2 PCIe SSD
User Manual

For Desktop & Laptop V1.0

addlink

addlink Technology Corp.

addlink
addlink Technology Corp.

M.2 PCIe
Users Manual

Installing a addlink SSD is easy and makes your computer significantly faster!
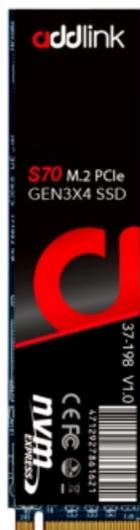
Installation by a professional desktop computer technician is recommended. Before continuing with the installation process, it is your responsibility to review any warranty policy and instructions provided by your motherboard and computer manufacturer to ensure you follow proper procedures to install your storage device. Some manufacturers may void or limit your motherboard or computer warranty if you proceed with the installation of a new storage device. Accordingly, by proceeding with any installation, you agree to be solely responsible for any failure to follow any manufacturer's instructions.

addlink
addlink Technology Corp.

Required Tools and Parts:

• Screwdriver appropriate to the type of screw used for fastening the M.2 device, and the appropriate screwdriver or tool for opening your desktop computer.

• One screw for fastening the M.2 device to the motherboard. The necessary screw or hardware for fastening an M.2 device to the motherboard may have been included with your motherboard. If this has not been included, contact your motherboard manufacturer or computer system manufacturer for this information.

• Depending on the type of hardware used by your motherboard to fasten an M.2 device, a motherboard-style stand-off screw

Prepare

1. Gather supplies
You'll need your computer, a screwdriver, your new addlink SSD, and your computer's owner's manual.

2. Back up important files
Before starting the install process, save any important files on your computer to an external storage drive, a USB flash drive, or cloud storage.

3. Go slowly and deliberately
The information you need is all here. Your computer will likely look different than the ones shown, but the process is the same.

Windows Versions Supported

The Windows NVMe device driver supports:

• Windows Server 2008 R2 (64-bit)

• Windows Server 2012 and 2012 R2 (64-bit)

• Windows 8.1 (32-bit and 64-bit)

• Windows 10 (32-bit and 64-bit)

Both Windows 10 and Windows 8.1 systems provide native support to PCIe NVMe SSDs, with drivers included in the packages to support PCIe NVMe drives.The new Ubuntu and other Linux versions also come with drivers that support PCIe NVMe drives.

The addlink PCIe NVMe SSD goes with any standard Windows (8.1 or above), Intel iRST or Linux NVMe drivers. You do not need a special driver to install the OS on the SSD.

Accessing Online Support https://www.addlink.com.tw/faq-new-m2

4

Desktop Basic Installation Steps

For the basic installation of your addlink PCle SSD M.2

in a desktop computer system, follow these steps:

1. Back Up

As a precaution, always back up your data to another storage device
before you or anyone else begins any type of work on your computer
system.

2. Disconnect other storage devices

Disconnect and remove any existing storage devices connected
to the motherboard or in the drive bay(s).

3. Power on your PC & access the motherboard BIOS.

Accessing your motherboard BIOS requires the press of a key
or combination of keys on your computer system's attached
keyboard during the preliminary stages of your computer
system boot process. Reference your motherboard or system
manufacture for the exact keyboard sequence.

4. Once you have accessed the BIOS, make sure that a PCIe device is set in the BIOS boot sequence or boot priority list.
Reference your motherboard user manual or computer system user manual for information regarding the boot sequence and detecting boot devices, for booting from an M.2 device.

5. Save these BIOS settings and exit.

6. Power down your PC.
This may require disconnecting the power cord from your PC. Confirm with your system or motherboard manufacturer for the best power-down process when connecting new hardware to the motherboard.

7. Locate the M.2 slot on your motherboard.
Please reference your motherboard user manual for detailed location and orientation of the M.2 slot.
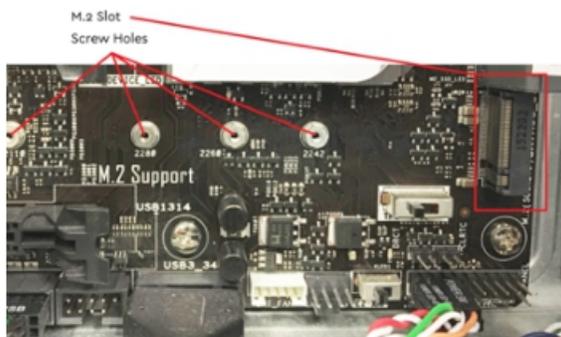
8. Insert the addlink PCIe SSD M.2 device pin-side first into the M.2 slot as is illustrated below.

Insert the M.2 device at an angle as is illustrated below. Fasten the opposite end of the addlink PCIe SSD to the motherboard with the necessary screw or hardware, as is illustrated below.
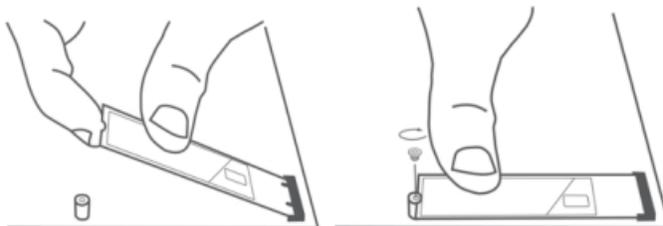
9. Begin your Microsoft Windows installation from an approved USB device.

The addlink PCIe NVMe SSD goes with any standard Windows (8.1 or above), Intel iRST or Linux NVMe drivers. You do not need a special driver to install the OS on the SSD.

The native Windows 7, on the other hand, does not recognize or work with PCIe NVMe SSDs. Nor does it come with in-box drivers. If you wish to install the Windows 7 system on a PCIe NVMe SSD, please refer to the link below, or consult Microsoft for information.
https://support.microsoft.com/en-us/help/2990941/

addlink
addlink Technology Corp.

Laptop Basic Installation Steps
For the basic installation of your addlink M.2 in a laptop computer system, follow these steps:

1. Shut down your system
Turn off your computer completely.

2. Remove the power cable and battery
Now remove the power cable and battery. The battery removal step applies only to laptops when it's possible to remove the battery. To see how to remove the battery, refer to your owner's manual.

3. Discharge residual power
If your laptop has a removable battery, remove it, and hold the power button for five seconds to discharge any electricity left in the system.

4. Open the case
How you do this will vary from system to system, so consult your owner's manual for exact instructions.

5. Ground yourself
Touch an unpainted metal surface to ground yourself. This protects your computer's components from the static electricity that's naturally present in your body – grounding is an extra safeguard.

6. Locate the M.2 PCIe slot

This slot is usually easy to find in desktops, but in laptops the location will vary – it's typically under the bottom panel, or under the keyboard. Refer to your owner's manual for the exact location, as every system looks slightly different.

7. Insert the SSD

Depending on your computer, there might be a heat sink or screw that needs to be removed prior to inserting your new NVMe PCIe SSD. To insert your addlink NVMe PCIe SSD, hold the SSD carefully by the sides. Do not touch the gold connector pins. Align the notches in the SSD with the ridges in the PCIe slot, then insert at a 30-degree angle. Do not force the connection. To secure the drive, it might be necessary to insert the screw into the provided mount on the motherboard. Do not over-tighten the screw.

M.2 PCIe
Users Manual

8. Reassemble your system

After the SSD is securely seated in the slot, put your computer back together and reconnect the battery if it was removed.

9. Turn on your computer

Turn on your computer. Unless you removed your old storage drive in a previous step, the computer is booting from the old drive.

Note:
addgame X70 has already been test and verified. It can be compatible with the most of gaming system such as MSI, Asus, ASRock, and Gigabyte. However, sometimes, the utility of the gaming system is been updated, and cause addlgame x70 module cannot be synced with the gaming system. So, if you have the sync problem, first, please make sure your system utility version is update to the latest version as below links.

https://www.msi.com/Landing/mystic-light-rgb-gaming-pc/download
http://www.asrock.com/support/index.asp?cat=Utilities
https://www.asus.com/supportonly/Armoury%20Crate/HelpDesk_Download/
https://www.gigabyte.com/MicroSite/512/download.html

After updating the utility, if there is still have problem, please contact us.
https://www.addlink.com.tw/technical-support
https://www.facebook.com/addlinktechnology/
TEL：886-2-8797 3116

addlink
addlink Technology Corp.

M.2 PCIe
Users Manual

For your benefit, some terms used in this Installation Guide are defined in this section.

Basic Input/Output System (BIOS)

The BIOS is built-in software that determines what a computer can do without accessing programs from a disk. On PCs, the BIOS contains all the code required to control the keyboard, display screen, disk drives, serial communications, and a number of miscellaneous functions at a basic level. Many modern PCs have a flash (see Flash Memory) BIOS, which means that the BIOS has been recorded on a flash memory chip, which can be updated if necessary. The PC BIOS is fairly standardized; so all PCs are similar at this level (although there are different BIOS versions). PC BIOSes that can handle Plug-and-Play (PnP) devices are known as PnP BIOSes, or PnP-aware BIOSes. These BIOSes are always implemented with flash memory rather than ROM.

M.2

M.2 is a specification for internally mounted computer expansion cards and associated connectors. It replaces the mSATA standard, which uses the PCI Express Mini Card physical card layout and connectors. M.2 is an edge connector and slides into a slot that has the corresponding Key ID or notches. This is different than the typical SATA or even SATA Express connectors we see used on many storage devices. M.2's more flexible physical specification allows different module widths and lengths, and, paired with the availability of more advanced interfacing features, makes the M.2 more suitable than mSATA for solid-state storage applications in general and particularly for the use in small devices such as ultra-thin laptops or tablets.

addlink
addlink Technology Corp.

M.2 PCIe
Users Manual

Computer bus interfaces provided through the M.2 connector are PCI Express 3.0 (up to four lanes), Serial ATA 3.0, and USB 3.0. The M.2 connector has different keying notches that denote various purposes and capabilities of M.2 hosts and modules, preventing plugging of M.2 modules into feature-incompatible host connectors. In addition to supporting legacy Advanced Host Controller Interface (AHCI) at the logical interface level, M.2 specification also supports NVM Express (NVMe) as the logical device interface for PCI Express SSDs implemented as M.2 storage devices.

NVM Express (NVMe)

NVMe or Non-Volatile Memory Host Controller Interface Specification (NVMHCI), is a technical standard that specifies the operation of host bus adapters accessing solid-state drives (SSDs) attached through the PCI Express (PCIe) bus. Basically, NVMe is a driver between a host and a device. As a logical device interface, NVM Express has been designed from the ground up, capitalizing on the low latency and parallelism of PCI Express SSDs, and mirroring the parallelism of contemporary CPUs, platforms and applications. By allowing parallelism levels offered by SSDs to be fully utilized by a host's hardware and software, NVM Express brings various performance improvements. Therefore, to experience the best performance, NVMe is best implemented with a direct PCI Express connection, foregoing any backwards compatibility with SATA. NVM Express should not be confused with SATA Express, which is a host bus specification (or physical interface) that supports both SATA and PCIe storage devices, and suffers from limitations that are not bound to NVMe.

addlink

addlink Technology Corp.

NVM Express is supported natively from Windows 8.1, Windows Server 2012 R2, and Linux Kernel 3.3.
NVM Express SSDs exist both in the form of standard-sized PCI Express expansion cards (Add-in card or AIC) and as 2.5-inch drives that provide a four-lane PCI Express interface through the U.2 connector (formerly known as SFF-8639) or the M. 2-M connector (this is a specific M.2 edge connector with the "M Key ID"). Although NVMe is supported as a logical device interface for SATA Express storage devices, it would be limited in performance by the SATA Express standard, which among other limitations, provides only a two-lane PCI Express interface.

Solid State Device (SSD)
Known either as Solid State Drive or Solid State Device, an SSD is a device that stores data using microchips (usually NAND Flash) instead of using magnetic disks that spin, like the technology used in hard disk drives (HDDs).

HEADQUARTER
3F.-1, No.200, Gangqian Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)

CONTACT INFORMATION
TEL : +886-2-8797 3116
FAX : +886-2-8797 3522

www.addlink.com.tw