Workstation support for 2.5" Mass Storage Devices

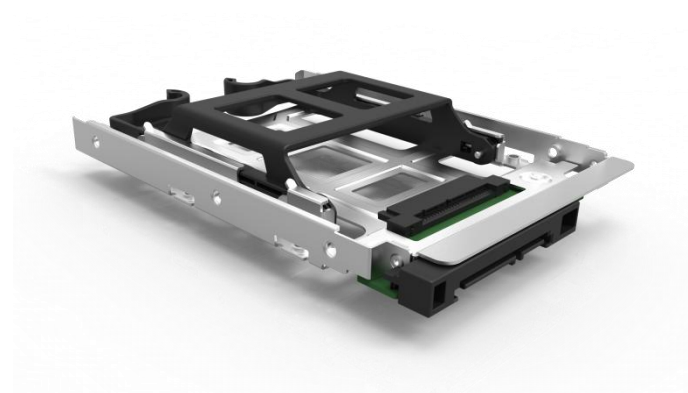HP Z420, HP Z620 and HP Z820 Workstations

Introduction

Several options exist for mounting 2.5" small form-factor (SFF) mass storage devices in the HP Z420, HP Z620, and HP Z820 chassis. This document will outline what options are available for each chassis.

Types of 2.5" Mass Storage Device Carriers

- Tool-free carriers for installation in chassis internal drive bays.
- Tool-free carriers for installing HDDs into external drive bays.

HP 2.5" HDD to 3.5" HDD Carrier

The HP 2.5"HDD to 3.5" HDD Carrier (**HP PN 668261-001**) provides an easy, tool-free solution for converting between HDD form-factors. The carrier is compatible with 2.5" form-factor HDDs and SSDs, of either SAS or SATA varieties. The carrier provides a SATA standard combination power and signal output connector, and supports speeds of up to 6Gb/s.

Assembly of the HP 2.5"HDD to 3.5" HDD Carrier is a cinch. Simply flex the BFR/PVC free plastic rails around a 2.5" device and release the mounting pins securely into place. The rail and 2.5" device then install into the sheet metal carrier and blind-mate with the integrated PCA. Once assembled, the carrier can be installed anywhere a 3.5" HDD is supported.

With all of the industry standard features of a 3.5" HDD, including mounting locations and connector placement – the carrier can be install interchangeably with any other 3.5" HDD application on any HP Workstation platform.
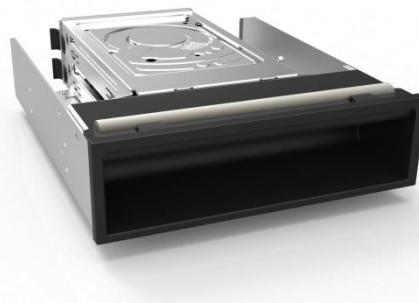
HP Z420 Workstation Carrier Options

The HP Z420 Workstation can support up to 4(qty) 2.5" Mass Storage Devices. Up to 3(qty) of these drives can be installed in the internal drive bays (HDD 0-2), with support for an additional device in the top external drive bay (ODD1).

To install 2.5" devices in the internal drive bays use the 2.5"HDD to 3.5"HDD Carrier **(HP PN 668261-001)** and the Internal HDD Rails **(HP PN 640983-001)** that ship with the system.

Some Western Digital 2.5" devices will ship pre-installed on a carrier. Install these into the Internal HDD Rails as-is (separate adapter not required).

To install a 2.5" device in the external drive bays, use the Handle, 2:1 SFF Hard Drive Carrier in ODD Bay 1 **(HP PN 660542-001) (AMO PN A9A48AA)**, which also serves as a front carrying handle.

This carrier features plastic device rails that snap securely to the device, without the use of tools. The device and rail then install through the rear of the sheet metal carrier.

Please note, since this carrier also serves as a handle, it is to be installed in the top external bay only.

HP Z620 and Z820 Workstation Carrier Options

The HP Z620 Workstation can support a total of 4(qty) 2.5" Mass Storage Devices – with up to 3(qty) devices supported in the internal drive bays (HDD0-2), and up to 2(qty) devices installed in the bottom external drive bay (ODD2).

The HP Z820 Workstation can be configured with a total of 8(qty) 2.5" Mass Storage Devices - up to 4(qty) drives can be installed in the internal drive bays (HDD0-3), with support for an additional 4(qty) drives in the bottom external drive bays (ODD2 and/or ODD3).

To install 2.5" device in the internal drive bays of the Z620 and Z820 Workstations use the 2.5"HDD to 3.5"HDD Carrier **(HP PN 668261-001)** with the Blind-mate carriers that ship with the workstation.

The Blind-mate carriers that ship with the system provide a tool-free support for Mass Storage Device installation. Simply flex the carrier rails and drop in the 2.5"HDD to 3.5"HDD Carrier and install into the Workstation.

Some Western Digital SFF drives will ship with an adapter pre-installed. Install these devices into the Blind-mate carriers as-is (separate adapter not required).

To install a single or dual 2.5" devices in the external drive bays of the Z620 and Z820 Workstations, use the 2:1 SFF in ODD Bay Carrier **(HP PN 488507-003) (AMO PN FX615AA)**.

This carrier features 2(qty) BFR/PVC free plastic rails that secure tool-free to the 2.5" device. Simply flex the rails around the device and align the mounting features to assemble. Once assembled, the 2.5" device and rails slide in to the carrier from the rear. Route and install power and signal cables to complete installation.

Please note, when installing single 2.5" devices, always install the single 2.5" device on the bottom rail.

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4-in-1 SFF Carrier

Another option available on the HP Z820 and Z620 Workstations is the "4-in-1" SFF carrier **(AMO PN B8K60AA)**. This device allows for the installation of up to 4(qty) 2.5" devices (HDD or SSD, SATA and SAS, max height 15mm) into a standard 5.25" external device bay.

This carrier features 4(qty) removable trays, designed to load and unload into the carrier tool-free. The carrier also features cooling fans located in the rear to aid in keeping the 2.5" devices running cool. Attention should be paid to the total number of storage devices installed in the system to ensure the configuration is supported.

This device requires 2(qty) 4-pin Power (legacy) connectors for power, and provides 4(qty) SATA signal headers (7-pin).

Conclusion

HP Workstations offer several custom carriers to support 2.5" Mass Storage Devices and provide unique flexibility for storage configurations. Below is a summary of the supported options available for each workstation. While other configurations exist to maximize the number of installed 2.5" devices, they have not been tested and are not supported. The configurations below do not include cabling or Storage Controller requirements.

HP Z420 Workstation

Bay	Device	Required Carrier
ODD1 (Top)	SFF 4	HP PN 660542-001/AMO PN FX615AA
ODD2 (Mid)		
ODD3 (Bot)		
HDD2 (Top)	SFF 3	HP PN 668261-001
HDD1 (Mid)	SFF 2	HP PN 668261-001
HDD0 (Bot)	SFF 1	HP PN 668261-001

HP Z620 Workstation

Bay	Device	Required Carrier
ODD1 (Top)		
ODD2 (Bot)	SFF 4	HP PN 488507-003/AMO PN FX615AA
HDD2 (Top)	SFF 3	HP PN 668261-001
HDD1 (Mid)	SFF 2	HP PN 668261-001
HDD0 (Bot)	SFF 1	HP PN 668261-001

HP Z820 Workstation

Bay	Device	Required Carrier
ODD1 (Top)		
ODD2 (Mid)	SFF 7, 8	HP PN 488507-003/AMO PN FX615AA
ODD3 (Bot)	SFF 5, 6	HP PN 488507-003/AMO PN FX615AA
HDD0 (Top)	SFF 1	HP PN 668261-001
HDD1 (MTp)	SFF 2	HP PN 668261-001
HDD2 (MBt)	SFF 3	HP PN 668261-001
HDD3 (Bot)	SFF 4	HP PN 668261-001

Definitions and Notes

HDD (Hard Disk Drive) = A Mass Storage Device type that typically uses rotating media (platters) to store data

HDD[#] = A numbered HDD bay used to support 2.5" and 3.5" Mass Storage Device, also referred to as an ***internal drive/device bay***

ODD (Optical Disk Drive) = A Mass Storage Device type that uses electromagnetics, typically laser light, to store and retrieve data from an optical media disk

ODD[#] = A numbered 5.25" Half-Height drive/device bay used to support Mass Storage Device carriers, also referred to as an ***external drive/device bay***

SSD (Solid State Drive) = A Mass Storage Device type that typically uses Integrated Circuit assemblies to store data

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