

PC-over-IP® Host Data Sheet

Amulet Hotkey® PC-over-IP (PCoIP®) host devices connect with our zero client desktop products to allow a workstation to be located remotely from the workplace without compromising performance.

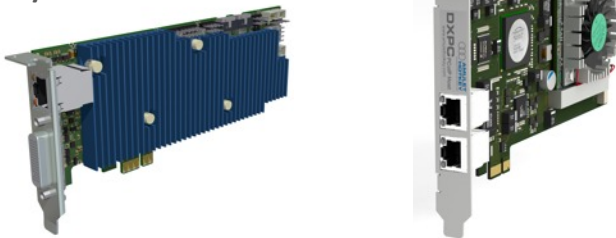
The host is installed in or near to the workstation and interfaces directly with the workstation video, USB and audio signals. Using hardware, these signals are compressed and encrypted and then transmitted over Ethernet using the PCoIP protocol to a remotely located 'zero client' (receiver). The zero client decrypts and decompresses the PCoIP traffic presenting the video, USB and audio signals to standard desktop peripherals. Pairing of a PCoIP host to the zero client is achieved using unique MAC and IP addresses. The distance over which this system operates will depend on the network latency between host and zero client.

Amulet Hotkey manufacture a range of PCoIP hosts and zero clients supporting either dual or quad video head applications. Hosts can be cascaded to provide support for more complex configurations should the need arise. In addition, a software PCoIP host is built into VMware® View® (version 4 onwards) allowing certain Amulet Hotkey zero clients to be used with virtual machines.

All Amulet Hotkey PCoIP hosts are designed for long term reliable use in business and mission critical applications. Using the ground-breaking PCoIP protocol they deliver a no-compromise, cost effective experience with pixel perfect, real-time graphics to the desktop. This document covers the specifications of each Amulet Hotkey PCoIP host and also includes a host to zero client compatibility chart.

Dual Video Head PCIe Hosts

DXHK / DXPC



The **DXHK** is an entry level PCoIP host that installs into a PCIe slot in the host workstation. It uses the existing workstation graphics card as a source of video data. The card is recognised by the workstation operating system as standard audio card and a USB controller. The card can be cascaded to provide support for additional heads of video but note that this will also require the installation of more graphics cards. The video feed into the DXHK must be from a digital source (DVI-I).

The **DXPC** builds on the features of the DXHK and adds an integral GPU making the use of separate graphics cards unnecessary. Like the DXHK, the DXPC can be cascaded to provide support for applications requiring four or more video heads.

DXHK

- Compact, half-height PCIe compatible format
- Bidirectional stereo audio link
- Dual video head support (digital video input only)
- Wide range of USB devices supported¹
- Compatible with all major operating systems
- Flash programmable
- Very secure protocol using 128 bit encryption with host to zero client device pairing by unique MAC and IP address
- Brings break-through PCoIP technology to a wide range of computers
- Enhances data and hardware security through back-racking of key resources
- Multiple DXHK cards can be installed and linked to provide support for additional video heads - four or more²
- Compatible with all Amulet Hotkey PCoIP zero clients

DXPC - all the features of the DXHK and...

- Integrated MXM GPU with dual video head support
- Video resolutions up to & including 1920 x 1200 @60Hz CVT-RB (WUXGA) or 1600 x 1200 CVT
- Dual redundant network connections

Rack Mounted Hosts

DXiP-2



The **DXiP-2** is a rack-mounted PCoIP Host designed to support any workstation with digital video, USB and audio connections. It installs into a DX-iP rack and connects to a workstation using a loom with standard video, USB and audio connections. This makes it ideal for use in applications where the workstation is sealed or where there are no free PCIe slots. DXiP-2 cards can be cascaded to provide support for applications requiring four or more video heads.

The **DXiP Rack** provides support for up to 12 DXiP-2 cards making this an extremely cost-effective and compact solution for back-racking a large number of computers. The rack can be fitted with dual redundant power supplies.

- Dual head video support (digital video input only)
- Video resolutions up to & including 1920 x 1200 @60Hz CVT-RB (WUXGA) or 1600 x 1200 CVT
- Bidirectional stereo audio link
- USB keyboard and mouse support³
- Integrated support for serial (RS232) protocol
- Compatible with all major operating systems - no drivers required
- Firmware can be upgraded using network connection
- Installs in Amulet Hotkey DXiP-Rack or legacy DX Rack
- Non-intrusive connection to a wide range of workstations and servers.
- Very secure network protocol using 128 bit encryption with host to portal device pairing by unique MAC and IP address
- Comprehensive system and link status through front and rear panel LEDs
- Card and 'end of cable' identification LEDs for easy patching
- Quick release mechanism on card for easy re-configuration
- Dual redundant power supply on Rack enclosure
- 3u DXiP Rack supports 12 DXiP-2 cards



PCoIP Blade Workstation

DXM series



The **DXM series** are state of the art workstation blades with integral Amulet Hotkey BIOS, NVIDIA GPU and PCoIP host. Based on the acclaimed Dell® M series blades, these workstations use the latest Intel Xeon chipsets and are available in a wide variety of specifications. Blades install in the award winning Dell M1000e enclosure. The enclosure has multiple redundant power supplies and space for a range of modular network interfaces. Qualified to work with the latest 32 and 64 bit operating systems, the DXM series is an easily maintained, energy efficient design that generates a fast ROI.

- Award winning power efficient Dell M1000e enclosure with
- 10u enclosure accommodates 16 DXM610 workstation blades
- Compatible with DXM610-X, DXM710 & DXM910 Extreme blade⁴
- State of the art Intel Xeon architecture with support for latest processors, memory modules and associated technologies
- Dell approved Amulet Hotkey BIOS supports 32 and 64 bit workstation operating systems
- Integrated dual, quad or octal video head PCoIP host
- Bidirectional stereo audio link - line level, head phones, microphone
- 4 USB sockets - keyboard & mouse, 2 spare
- Supports wake on LAN optionally controlled from the remote zero client
- Blade power cycle controlled from the remote zero client
- Secure protocol using 128 bit encryption with host to client device pairing by unique MAC and IP address
- Wide range of network interface modules available
- Integrated configuration utility with GUI

Features & connection matrix

PCoIP Hosts				PCoIP Zero Clients						
Device	Video screens	Network Copper on RJ45 Fiber on SFP	Special features	DXR-iP	DXR2-iP	DXR2-iPM	DXR2-iPS Special order only	DXR2-iPC Special order only	DXR4-iP	DXR4-iPM
DXHK	2 ²	Copper	PCIe half height, cascadable	●	●	●	●	●	○	○
DXPC	2 ²	Dual redundant Copper	PCIe with integral MXM GPU	●	●	●	●	●	○	○
DXiP-2	2 ²	Dual redundant copper / fiber	DXiP Rack mountable	●	●	●	●	●	○	○
DXM series PCoIP Workstation Blades. For full details contact Amulet Hotkey sales.				○	○	○	○	○	●	●
VMware® View 4.x®	2	Dual redundant fiber	Integrated PCoIP Host for VDI	●	●	●	●	●	○	○

● Full support ○ Limited support: the number of video heads available will be limited.

PCoIP performance is dependent on network latency. For latencies up to approximately 40 ms the operation is perception free. That is, the user will notice little or no change in the performance of their workstation. For longer latencies up to and including 150 ms, PCoIP deploys a selection of WAN optimisation features which minimise the impact on performance to an acceptable level. Typical bandwidth requirement will depend on video content and rate of change. However, a quad head system can give 'perception free' performance on less than 25Mb/s. If changes to the display are minimal the bandwidth can drop to a few kilobits.

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Technical Specifications

General					Parts
Device	Shipping Weight kg / lbs	Dimensions H x W x D mm / inches	Video	Network* up to 1Gb/s	The following items are included in the standard kits of parts for each product.
DXHK KT-DXHK-0001	1.5 / 3.3	30 x 164 x 110 1.8 x 6.6 x 4.3	Bridged from existing graphics card. DVI-I only. 2 video heads supported.	Single, copper	DXHK PCIe PCoIP host card. Half and full height mounting brackets. Dual DVI-I bridging cable, internal jumper cable for cascading cards, printed quick start guide, Resource CD.
DXPC KT-DXPC-0001	1.5 / 3.3	30 x 220 x 160 1.8 x 8.7 x 6.3	Integrated dual video head GPU**	Dual redundant, copper	DXPC PCIe PCoIP host card. Half and full height mounting brackets. Dual DVI-I bridging cable, internal jumper cable for cascading cards, printed quick start guide, Resource CD.
DXiP-2 KT-DXiP-0001	1.5 / 3.3	31 x 220 x 160 1.8 x 8.7 x 6.3	Bridged from existing graphics card. DVI-I only. 2 video heads supported.	Dual redundant, Copper	DXiP-2 rack mounted PCoIP host card with rear panel personality module. Cable loom with connections for dual DVI, USB and audio signals. Printed quick start guide, Resource CD.
DXiP Rack KT-DXRP-0005	7.0 / 15.4	32 x 220 x 160 1.8 x 8.7 x 6.3	N/A	Dual redundant, copper	DXiP Rack enclosure fitted with 1 x PSU and full set of front & rear panel blanking plates, IEC lead, Resource CD and printed quick start guide.

DXM series PCoIP Workstation Blades. For full details contact Amulet Hotkey sales.

Conforms to relevant parts of EN55024, EN55022 and FCC Part 15b. USB 2.0 devices are supported but not in high speed mode.
*Copper connectors are RJ45. Fiber network connections are modular and use SFP format devices at 10, 100 or 1000 baseT.
** NVIDIA Quadro FX 370M / 770M. ATI option also available.

Notes:

1. PCIe format hosts support the full range of USB devices. USB2.0 devices may be connected but do not run in high-speed mode.
2. PCIe and DXiP-2 hosts may be cascaded to support more than two heads of video.
3. The DXiP-2 host card provides support for USB keyboard, mouse and selected memory sticks.
4. For more information on the DXM610-X, DXM710 and class leading DXM910 - Extreme contact Amulet Hotkey sales.

