



HMX Extender System Remote Access to Computer Resources over IP Network

Extend your desktop any distance from the computer over a standard TCP/IP network using HMX extender system access over IP solutions

Access over IP solutions are designed for desktop administrators who need to physically separate the computer from the user in the work environment. Physical separation of computer and user can be critical where security and/or environmental issues are major concerns. The Avocent HMX extender system access over IP solution provides the ideal solution for these environments. The HMX system can be easily deployed over a local area network (LAN) and supports a comprehensive range of peripherals, including DVI-I video, CD audio, USB mass storage, keyboard, mouse and most other USB devices. The HMX Manager provides administration and connection management control from a central location, enabling the desktop administrator to effectively and efficiently manage the desktop computing resource without compromising the user experience.

Enhanced Security

In many modern organizations, the competitive advantage, revenue and profitability of the organization is becoming increasingly dependent on the efficient use of computing resources and technology. In fact, more often than not, the revenue of a company may be directly dependent on or produced by the computing resources of the company. Protecting the data and intellectual property of the company is crucial to its long-term success. Most companies provide layers of logical security to protect the company against external attack, but security breaches can happen from within the company. The HMX extender system solution physically separates the computer from the user and enhances security by adding a physical layer to the security system.

The Avocent HMX appliances also ease the deployment and management of these technologies. With easy-to-use IPMI provisioning capabilities and an auto-discovery mechanism for server management technologies within the network, the Avocent HMX appliances are ideal for enterprise data centers as well as for high-performance computing (HPC) and other clustering environments.

Award-Winning Solution

The Avocent HMX extender system, Digital KVM over LAN was a recipient of the STAR award for being one of the most innovative technologies at the 2009 NAB Show. TV Technology also recognized the HMX Digital KVM over LAN extender system as a significant technical breakthrough by awarding it the Mario Award.



Key Technical Features

- **Rich User Experience:** The user gets a rich computer experience, even though the computer is located remotely, including:
 - Dual Digital DVI Video up to 1920x1200
 - USB media and most other USB devices
 - CD audio
 - Increased support video resolution: 1680x1050 @ 60Hz
 - USB keyboard/mouse as well as vUSB
 - Interoperability between the HMX extender system single- and dual-video, high-resolution products
- **Central Management:** Manage the entire HMX extender solution from one central console, including one database to manage user authentication and access. The HMX Manager includes features such as:
 - Flexible Access Modes
 - Logging and Reporting
 - Desktop Pooling
- **Ethernet Operation:** Allows the computer and user to be located anywhere on the 100 or 1000Mbps network with full routing of data across routers, switches and subnets
- **Full Hardware Solution:** No software or drivers required; provides access to all computer peripheral ports regardless of the state of the operating system (OS) or BIOS
- **Upgradeable:** The HMX system has an embedded Linux® OS and is fully upgradeable to allow for future feature enhancements

HMX Manager

The HMX Manager provides administration and connection management for Avocent HMX system components along with a rich suite of access profiles and internal authentication options. The HMX Manager is delivered as a hardened appliance with secure, browser-based access. The HMX Manager can be connected to two simultaneous networks, allowing one network to be used for deployment of the HMX system and the other network to be used by the desktop administrator to monitor, manage and control the HMX system.



HMX User Stations

Users can connect to a comprehensive range of peripherals using a number of different HMX user stations. User station selection depends on the type and number of displays to be supported and the video to be shown on these displays. The HMX user station has an Ethernet connection to allow for connection to the TCP/IP network and to communicate across the network to a Computer Interface Module. All information and data received from the Computer Interface Module is encrypted to 128-bit AES SSL.



HMXIQ Modules/Transmitters

Target computers can be connected to the TCP/IP Area Network using a number of different HMX IQ modules (also called transmitters). HMX IQ module/transmitter selection depends on type and number of displays to be supported and the video that is generated by the computer. All HMX IQ modules/transmitters are hardware based and require no software or drivers to be loaded onto the target computer. All HMX IQ modules/transmitters are OS independent, enabling the solution to function with Windows®, Mac®, Linux or Sun® computers.



Features

Extending the reach of the computer

Many companies would like to extend and expand the reach and use of computers in the workplace. The challenges presented to the desktop administrator in this environment are very different than those encountered in a typical desktop/office environment.

The challenges/problems include:

- Local environment of the computer may not be suitable for a person because of noise, heat, chemical or dust pollution; electromagnetic fields; or excessive vibration
- Operator needs to operate several machines or production lines from one central location
- Administrator needs to provide redundancy to control computers and prevent downtime of the production line
- Avoiding budget overruns by setting a maximum threshold of power usage
- Working conditions can be impacted by the proximity of a computer (i.e., test labs, sterile lab environments, etc.)

All of these problems can be solved by moving the computer and/or user and employing the Avocent HMX over IP extender system solution.

Increased Productivity and Efficiency

- Reliability and Service:** In the event of a fault, users can be “remapped” to an alternate computer, thus reducing their downtime and improving the service provided by the desktop administrator.
- Increased Productivity:** Remapping the user to another computer enables the desktop administrator to conduct fault analysis and repairs “offline”, ensuring there is no impact on the productivity of the user.
- Access:** Placing the computers in a central location simplifies the desktop administrator’s task of gaining access to the computers.
- Ease of Migration:** Desktop administrators can easily install and deploy new computing resources. Migrating users is achieved without impacting productivity, ensuring users gain access to the latest versions of computing power without disruption.
- Improved Virus Control:** The computers are now situated remotely from the user, so the introduction of virus-infected files is more difficult and, through the use of appropriate software policies, can be eliminated completely.

Part Number	Description
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Ordering Details

Part Number	Description
HMXMGR	HMX management appliance
HMX 1050	HMX user station, single-head DVI-I
HMIQDI	HMX IQ module/transmitter, single-head DVI-I
HMX 1070	HMX user station, single-head DVI-D or VGA
HMIQSHDI	HMX module/transmitter, single-head DVI-D or VGA
HMX 2050	HMX user station, dual-head DVI-I
HMIQDHDD	HMX IQ module/transmitter, dual-head DVI-D