

4.0.0.12

Release notes for Version 4.0.0.12 of HMX Extenders

HMX KVM Extender System
Firmware Revision 4.0.0.12
Release Notes
March 15th 2011

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1 HMX Extender System Firmware Version and Compatibility

1.1 Version 4.0.0.12 is intended to be used in a system with the following HMX extender system-component revisions:

- 1.1.1 HMIQDHDD Transmitter revision 4.0.0.12
- 1.1.2 HMX 2050 Receiver revision 4.0.0.12
- 1.1.3 HMX 1070 Receiver revision 4.0.0.12
- 1.1.4 HMIQSHDI Transmitter revision 4.0.0.12
- 1.1.5 HMIQDI Transmitter revision 4.0.0.12 (has v-USB but not v-Media)
- 1.1.6 HMX 1050 Receiver revision 4.0.0.12 (has v-USB but not v-Media)
- 1.1.7 HMIQDI Transmitter revision 4.0.1.12 (has v-Media but not v-USB)
- 1.1.8 HMX 1050 Receiver revision 4.0.1.12 (has v-Media but not v-USB)
- 1.1.9 HMX Manager Revision 4.0.0.10

Please note: If you are already running version 4.0.0.10 of HMX Manager Software, you do not need to upgrade the HMX manager in order to use version 4.0.0.12 on the HMX extenders. The HMX Manager software has not changed.

2 Enhancements above 4.0.0.9 software

- 2.1 Even after video would begin, there were some specific cases where the OSD would remain on after being brought up to display *No Video or Unsupported Resolution* messages. This has been fixed with 4.0.0.12.
- 2.2 With version 4.0.0.9, certain monitors that can't handle 800x600 were not displaying the OSD. Version 4.0.0.12 fixes this issue. Apple Cinema 23" was one of the monitors not displaying the OSD.
- 2.3 New options have been added to the Serial Debug Information Menu to display the current configuration and USB state information.
- 2.4 Version 4.0.0.12 fixes problems with not being able to enter Apple Bootcamp startup screens.
- 2.5 Basic support for Interrupt OUT messages was added to vUSB, which fixed problems with Signotec Signpad and other devices working over HMX.
- 2.6 A problem in vUSB that prevented XKeys devices from functioning has been fixed.
- 2.7 The requirement for having the Gateway configured on the transmitters and receivers in Share Mode has been removed.

With 4.0.0.12 and newer versions of code, there is no need to set the gateway on the transmitters or receivers for Share Mode operation. If you previously set the gateway, it can remain set even in 4.0.0.12 and this will not cause a problem. For code versions 4.0.0.9 and older the following still applies: For The gateway addresses have to get set on the transmitters and receivers when Share Mode is used. If you do not have a default gateway IP address, then use the IP address of the Ethernet switch as the gateway address. For Private Mode operation only, the gateway addresses for the transmitter and receiver do not have to get set, but they still may be set for consistency if the user desires.

- 2.8 Simple ASCII management Interface (SAMI) is now supported in both extender and desktop mode.
- 2.9 Added help options and information to the serial menus
- 2.10 Added a serial menu option to select choose 3-button mouse support over the default 5-button support. This was done to fix problems with HPUX.
- 2.11 This version of code Changes the default state of Monitor Resolution Checking to *disabled*.
- 2.12 Reversion 4.0.0.12 fixes a problem with VMedia Support sometimes not disabling correctly in extended mode.
- 2.13 Reversion 4.0.0.12 fixes a problem with OSD tearing related to 700x400 resolution during boot.
- 2.14 Reversion 4.0.0.12 modifies OSD F12 to recover from more potential KM problems when switching Linux modes. If the keyboard and/or mouse is lost for no apparent reason after a connection has been made, try bringing up the OSD, then select F12.

3 Important Installation Notes

- 3.1 The new Share Mode software version 4.x.x.x for the HMX extender system is NOT compatible with older versions of HMX software! All Transmitters, Receivers and Managers on your network MUST be upgraded to firmware version 4.x.x.x or higher, if they are not already at that level. If you have purchased a completely new system, please check the software versions of each device to ensure that they are all at level 4.x.x.x or higher.
- 3.2 Please be aware that there is a unique set of upgrade instructions for the Manager, depending on its current software version. To upgrade the Manager, follow the procedure in the Manager Release notes found at: http://www.avocent.com/Support_Firmware/HMX/HMX_Manager.aspx

4 Important Share Mode Notes

- 4.1 Network requirements for Share Mode
 - 4.1.1 Using the HMX extender system in Share Mode requires IGMP protocol version 2 or higher network capabilities. In addition, all Ethernet switches to which the HMX Receivers, Transmitters or HMX Manager Appliances are connected must be IGMP Snooping capable and have IGMP Snooping enabled. Transmitters in Share Mode send out multicast IP packets to the Ethernet switch. If the switch used is a non-IGMP capable switch, the switch will broadcast the packets to every port, causing undesirable results.
 - 4.1.2 For Private Mode only users, IGMP is not required, and no changes to any current network settings are required.
- 4.2 Monitor Requirements in Share Mode
 - 4.2.1 All monitors connected to Receivers that are sharing a particular Transmitter have to be capable of displaying the same resolution and refresh rate. The Transmitter cannot transmit multiple resolutions at the same time.
- 4.3 Important Parameters to configure when Setting-up for Share Mode
 - 4.3.1 With 4.0.0.12 code and newer, there is no need to set the gateway. If you previously set the gateway, it can remain set, even in 4.0.0.12 and newer and will not cause a problem. For code versions 4.0.0.9 and older the following still applies: For The gateway addresses have to get set on the transmitters and receivers when Share Mode is used. If you do not have a default gateway IP address, then use the IP address of the Ethernet switch as the gateway address. For Private Mode operation only, the gateway addresses for the transmitter and receiver do not have to get set, but they still may be set for consistency if the user desires.
 - 4.3.2 For Share Mode operation in Desktop Mode (i.e., when a manager is in the system)

- 4.3.2.1 In Desktop Mode, the receivers can always remain in Private Mode. In Desktop Mode, the decision to connect in Private Mode or Share Mode is made by the setting on the transmitter. This allows the administrator to change between Private and Share Mode without having to use the serial interface. Setting the Transmitters to Share Mode or Private Mode can be done from the Manager. All units come from the factory with Private mode enabled.
- 4.3.3 For Share Mode operation in extender mode (i.e., there is no manager in the system)
 - 4.3.3.1 To function in Share Mode in Extender Mode, both transmitters AND receivers have to get set to Share Mode. This can be done from the serial interface.
 - 4.3.3.2 To function in Private Mode in extender mode, both transmitters AND the receivers have to get set to Private Mode. This can be done from the serial interface. All units come from the factory with Private Mode enabled.
- 4.3.4 For Share Mode, it is recommended that Monitor Resolution Checking at the receivers get set to “disabled” which is now the factory default setting.
- 4.3.5 Up to 8 receivers can share a target (computer) that is connected to a single transmitter. If there are 2 targets and each target is connected to its own transmitter, then 16 receivers can share the 2 transmitters, but no more than 8 receivers may be connected to the same target at a time. This multiplying effect can continue allowing for hundreds of transmitters and receivers connected concurrently on a single system.

5 How to Update Firmware Using the HMX Manager

It is recommended to use HMX Manager to upgrade Transmitters and Receivers. The Transmitters and Receivers can also be upgraded using a serial or http upgrade procedure, as described in another section below. This section is for upgrading using the HMX Manager.

- 5.1 Prior to upgrading/downgrading:
 - 5.1.1 Remove any attached vMedia devices (memory key or CD/DVD ROM).
 - 5.1.2 When reverting to a previous version of firmware, always set the Network Speed on both the Transmitter and Receiver to Auto-Negotiate.
- 5.2 If the HMX Manager is not running 4.0.0.10, then the Manager must be upgraded to version 4.0.0.10 before the Transmitters and Receivers are upgraded to 4.0.0.12. If any Transmitter, Receiver, or Manager is upgraded to 4.x.x.x, then ALL Transmitters, Receivers, and Managers on the system HAVE to get upgraded in order for the system to function properly. This procedure assumes that the extenders are already being managed by HMX Manager.

5.3 Procedure for upgrading a single Unit:

- 5.3.1 Check the software version of the HMX Manager being used. If it is not at level 4.0.0.10 or higher, then upgrade the Manager. To upgrade the Manager, follow the procedure in the Manager Release notes found at:
http://www.avocent.com/Support_Firmware/HMX/HMX_Manager.aspx
- 5.3.2 Upload the unit firmware file using the System > Unit Files > Add button in the HMX Manager.
- 5.3.3 In the HMX Manager software, click on the *Units* tab. A list is displayed of all the units that are managed by the HMX Manager.
- 5.3.4 Click the appropriate unit name. The Unit Overview window will open.
- 5.3.5 Click the *Upgrade Firmware* icon. The Upgrade Unit Firmware wizard will launch.
- 5.3.6 *Click Next.* The Select Firmware Files window will open.
- 5.3.7 Select the appropriate firmware file and click *Next*.
- 5.3.8 Give the task a name, any name is OK.
- 5.3.9 The unit will upgrade and reboot. The upgrade should take approximately 3 minutes if only one extender is being upgraded.

5.4 Procedure for upgrading multiple Units of the same type at once:

- 5.4.1 Check the software version of the HMX Manager being used. If it is not at level 4.0.0.10 or higher, then upgrade the Manager. To upgrade the Manager, follow the procedure in the Manager Release notes found at:
http://www.avocent.com/Support_Firmware/HMX/HMX_Manager.aspx
- 5.4.2 Upload the unit firmware file using the System > Unit Files > Add button in the HMX Manager.
- 5.4.3 Select System tab, then the sub tab Tasks, the select Add.
- 5.4.4 You will get a “welcome to the add task wizard” message. Click Next.
- 5.4.5 Under task Type, choose “Upgrade firmware of selected units”
- 5.4.6 Give the task a name.
- 5.4.7 Under *Frequency*, select when to run the task. If you want to upgrade immediately, select “Run Task now”.
- 5.4.8 Click Next.
- 5.4.9 The *unit group* is always all units, so just click next.
- 5.4.10 Make a selection from the Product Family dropdown box, and then click next.
- 5.4.11 Select from the *Available Units Window* the units you wish to upgrade.
- 5.4.12 Select the firmware file to upgrade to (version 4.x.x.x)
- 5.4.13 Click Finish.
- 5.4.14 The task will start running. The upgrade should take approximately 3 minutes if only one extender is being upgraded. Allow an additional 30 seconds for each additional extender.

6 How to upgrade using the serial Port

- 6.1 Both the Transmitter and Receiver have to get upgraded to the same revision of firmware. The Transmitter has to get upgraded first.
- 6.2 Power up the Receiver and Transmitter and make sure there is a connection between them.
- 6.3 Connect the Receiver via a null modem cable to a PC running HyperTerminal or equivalent.
 - 6.3.1 Configure the HyperTerminal session for 57600 bits per second, 8 data bits, no parity, 1 stop bit and no flow control.
- 6.4 From the first screen on the console, select option 2 to access the Transmitter menu. If the password option is enabled, you will be prompted for a password ("password" is the default).
- 6.5 From the Transmitter menu, select *Firmware Management*.
- 6.6 Choose Transmitter Flash Upgrade Via XMODEM.
- 6.7 You will begin seeing the letter C going across the screen. In HyperTerminal, go to the Transfer pull-down menu and choose *Send file*.
- 6.8 In the Filename field, specify the location of the upgrade file. In the Protocol pull-down menu, select *Xmodem*. Click the *Send* button to initiate the file transfer. The upgrade should be completed in approximately 6 to 35 minutes. *The filename to load in the unit is as follows:*
 - 6.8.1 Note: In the table, 4.x.x.x is a place holder for the code version you desire to load. For example, you may wish to load 4.0.0.12

Unit	Filename
HMX1050	RX0000_4.x.x.x
HMIQDI	TX0000_4.x.x.x
HMX2050	RX1000_4.x.x.x
HMIQDHDD	TX1000_4.x.x.x
HMX1070	RX2000_4.x.x.x
HMIQSHDI	RX2000_4.x.x.x

- 6.9 When upgrading from some versions of 3.x.x.x software to 4.x.x.x software, near the end of the upgrade there may be serial channel activity scrolling on the screen. This is an indication that the upgrade is complete. Upgrading from other versions of 3.x.x.x may not result in the same scrolling activity on the serial channel.
- 6.10 Disconnect the Ethernet (cat5) cable from the back of the Transmitter, and proceed with the upgrade of the Receiver.
- 6.11 Cycle power on the Receiver.
- 6.12 From the first screen on the console, select option 1 to access the Receiver menu. If the password option is enabled, you will be prompted for a password ("password" is the default).
- 6.13 From the Receiver menu, select option 3, *Firmware Management*.
- 6.14 Then select Receiver Upgrade via XMODEM.
- 6.15 You will begin seeing the letter C going across the screen. In HyperTerminal, go to the Transfer pull-down menu and choose *Send file*. In the Filename field, specify the location of the upgrade file *XXXXXX_4.X.X.X.dld*. In the Protocol pull-down menu, select *Xmodem*. Click the *Send* button to initiate the file transfer. The upgrade should be completed in approximately 6 to 35 minutes. *The filename to load in the unit is as follows:*

6.15.1 Note: In the table, 4.x.x.x is a place holder for the code version you desire to load. For example, you may wish to load 4.0.0.12

Unit	Filename
HMX1050	RX0000_4.x.x.x
HMIQDI	TX0000_4.x.x.x
HMX2050	RX1000_4.x.x.x
HMIQDHDD	TX1000_4.x.x.x
HMX1070	RX2000_4.x.x.x
HMIQSHDI	TX2000_4.x.x.x

- 6.16 Confirm the new revision is displayed on the serial console of the Receiver.
- 6.17 Once the Receiver has been upgraded, re-connect the Ethernet (cat5) cable to the Transmitter, and re-establish connection with the Transmitter. Then, confirm the new revision of the Transmitter.

7 How to upgrade using HTTP

- 7.1 Both the Transmitter and Receiver must be upgraded to the same revision of firmware. The Transmitter must be upgraded first.
- 7.2 Power up the Receiver and Transmitter and make sure there is a connection between them.
- 7.3 Connect the Receiver via a null modem cable to a PC running HyperTerminal or equivalent.
 - 7.3.1 Configure the HyperTerminal session for 57600 bits per second, 8 data bits, no parity, 1 stop bit and no flow control.
- 7.4 From the Transmitter menu select option 3, *Firmware Management*.
- 7.5 Choose Transmitter Flash Upgrade Via HTTP. You will be prompted to enter the URL for the upgrade file. The filename to load in the unit is as follows:
- 7.6 Note: In the table, 4.x.x.x is a place holder for the code version you desire to load. For example, you may wish to load 4.0.0.12

Unit	Filename
HMX1050	RX0000_4.x.x.x
HMIQDI	TX0000_4.x.x.x
HMX2050	RX1000_4.x.x.x
HMIQDHDD	TX1000_4.x.x.x
HMX1070	RX2000_4.x.x.x
HMIQSHDI	TX2000_4.x.x.x

- 7.7 Enter the URL for the upgrade file using the following syntax:

`http://<server IP address>[:server port]/<upgrade file path>`

- 7.8 For example:

`http://192.168.0.1:8080/TX1000_XXXX.dld`

- 7.8.1 Note: If the server is set up on standard port 80, the port information can be omitted.

The upgrade should take approximately 5 minutes.

- 7.9 When upgrading from some versions of 3.x.x.x software to 4.x.x.x software, near the end of the upgrade there may be serial channel activity scrolling on the screen. This is an indication that the upgrade is complete. Upgrading from other versions of 3.x.x.x may not result in the same scrolling activity on the serial channel.
- 7.10 Disconnect the Ethernet (cat5) cable from the back of the Transmitter, and proceed with the upgrade of the Receiver
- 7.11 Cycle power on the Receiver.
- 7.12 Connect the Receiver via a null modem cable to a PC running HyperTerminal or equivalent. Configure the HyperTerminal session for 57600 bits per second, 8 data bits, no parity, 1 stop bit and no flow control. Choose option 1 on the Main Menu to access the Receiver menu. If the password option is enabled, you will be prompted for a password.
- 7.13 From the Receiver menu select option 3, *Firmware Management*.
- 7.14 Choose Receiver Flash Upgrade Via HTTP. You will be prompted to enter the URL for the upgrade file. The filename to load in the unit is as follows:

7.14.1 Note: In the table, 4.x.x.x is a place holder for the code version you desire to load. For example, you may wish to load 4.0.0.12

Unit	Filename
HMX1050	RX0000_4.x.x.x
HMIQDI	TX0000_4.x.x.x
HMX2050	RX1000_4.x.x.x
HMIQDHDD	TX1000_4.x.x.x
HMX1070	RX2000_4.x.x.x
HMIQSHDI	TX2000_4.x.x.x

- 7.15 Enter the URL for the upgrade file using the following syntax:

http://<server IP address>[:server port]/<upgrade file path> .For example:
 http://192.168.0.1:8080/RX1000_XXXX.dld

7.15.1 Note: If the server is set up on standard port 80, the port information can be omitted.

The upgrade should take approximately 5 minutes.

- 7.16 Confirm the new revision is displayed on the serial console of the Receiver.
- 7.17 Once the Receiver has been upgraded, re-connect the Ethernet (cat5) cable to the Transmitter, and re-establish connection with the Transmitter. Then, confirm the new revision of the Transmitter by displaying it on the serial console of the Transmitter.

8 Known Issues

- 8.1 Writing to a DVD is not supported on a MAC
- 8.2 There is an issue with Intel Q45 Express Graphics chipset and Intel G41 Express Graphics chipset not outputting video.
- 8.3 For target computers HP Z800 and HP Z600, upon wakeup from standby mode, the KVM connected USB mouse and keyboard are not functional

9 Future release

No date for the release after this version has been set. There are features and bug fixes planned. Once more information is known about the next release, this set of notes will be updated and posted.