

Firmware Upgrade Notice

20 May 2008

Description

Revised firmware for CATx USB Local & Remote Units has just been released.

This revision fixes some issues recently found in the initial release (Nov 2007).

Note: There is also one issue affecting a small number Remote Units that may require a return to the factory for upgrading.

The firmware may be downloaded from: <http://blackbox.kvmextender.info>

All extender products have a version number label on the base in the following format:

xxSyy/zz where **xx** = Hardware Version, **yy** = Firmware Version & **zz** = Daughterboard Version

Local Units Affected

For the following products this release version is known as 1.2

- Previous Firmware Version: 1.0 (Released November 2007) ***
- New Firmware Version: 1.2

ACU6001A, ACU6201A, ACU6022A, ACU6222A

*** Note: A small number of Local Units were recently released as v1.1 which does not have all of the fixes applied. Please see the notes below for further information.

Remote Units Affected

For the following products this release version is known as 1.1

- Previous Firmware Version: 1.0 (Released November 2007)
- New Firmware Version: 1.1

ACU6001A, ACU6201A, ACU6022A, ACU6222A

Local Unit Issues Fixed

- 1.1: USB suspend mode was (under certain circumstances) not being handled correctly. On some motherboards this meant the extender KB/Mouse could not be found on power-up or reboot. Hot-plugging into a booted system always worked. The issue could also cause occasional KB/Mouse drop-outs on these systems. This issue is fixed in units marked v1.1 (or later).
- 1.2: Under certain conditions the Local Unit did not always communicate with the Remote Unit correctly when entering Upgrade Mode. This version contains several changes to make this more reliable.

If a pair of units are connected where one unit is 'stuck' in Upgrade Mode the other unit will now also enter Upgrade Mode to enable the correct return to User Mode (by deleting the Boot file – see below).

Please note that one of the changes is in the Boot Loader (rather than the User Code which may be flash upgraded) and will only be made in factory programmed units. The only difference is that in user upgraded units the Local may occasionally have to be re-powered after connection to a Remote in order to correctly enter Upgrade Mode. You should ensure the Remote is powered up (and connected) before the Local Unit.

Remote Unit Issues

- 1.1: **A small number of Remote Units do not always restore their video settings after power cycling and/or refuse to enter Upgrade Mode (through several attempts).**

This issue is due to a hardware bug in the PIC microprocessor for which the manufacturer has recently provided us with a workaround which is included in this firmware revision.

If you can enter Upgrade Mode then flash upgrading the Remote Unit should fix this issue.

- 1.1: Changed external memory write timing to work around a compiler library bug which meant that the previous timing was marginal for a small number of memory devices. This could lead to issues entering Upgrade Mode.

If you cannot enter Upgrade Mode at all (after several attempts) then the unit will have to be returned for a full factory upgrade.

Known Issues & Future Versions

1. *Some* newer 'laser' mice, or mice with 'tilt wheels', do not operate through the extender. This has been addressed and these devices will be supported in the next firmware release.
2. Joysticks will be supported in the next release.
3. It is hoped that touch screens and graphics tablets will be supported in the next release.

Firmware Upgrade Procedure

The extender's firmware may be upgraded via USB. In addition, the current extender configuration may be saved and restored.

On entering Upgrade Mode the extender detaches itself from the USB and re-enumerates as a removable disk drive allowing upgrades to be made.

Preparation

The Local and Remote Units must both be connected and powered even if you only wish to upgrade one of them.

Connect a mouse & monitor directly to the CPU as the Remote KB & Mouse will not function in Upgrade Mode. Alternatively, connect the Local Unit to a laptop.

Entering Upgrade Mode

1. From the REMOTE KB first enter Command Mode
2. Now enter <Left Control> + <Left Shift> + <Right Shift> + <F9>

The yellow LED on both the Local & Remote units will light to indicate Upgrade Mode has been entered.

Your PC should indicate a flash drive called EXTENDER is attached. Under many operating systems a window showing the contents will pop up. If the drive contents window does not appear, then you will need to manually open the drive folder.

Operating Upgrade Mode

When in Upgrade Mode you must use a KB/mouse directly attached to the PC.

You will see four *virtual* files listed:

BOOT	Delete this file to return to normal extender operation.
LOC_xx	This shows the firmware version in the Local Unit. If the version is reported as 'LOC_BAD' the upgrade was not successful – try again
REM_xx	This shows the firmware version in the Remote Unit. If the version is reported as 'REM_BAD' the upgrade was not successful – try again.
CONFIG	This file contains the current extender configuration. You may save this file and use it setup another extender by dragging it onto the file window and overwriting it.

Upgrading a Local Unit

Drag the Local firmware file provided onto the window. After a few seconds the window display should refresh and the new firmware version displayed by file 'LOC_xx'

If the window does not refresh (will not on some OS,) and the dragged upgrade file is still shown, then you may need to re-power the Local Unit (by disconnecting the USB cable) and view the drive folder again.

If the 'LOC_xx' file displays as 'LOC_BAD' the upgrade was not successful. Try again or call technical support.

If the upgrade was successful and you only want to upgrade the Local Unit, delete the file BOOT. The extender drive will disconnect itself and normal extender operation will resume.

Note: If the upgrade was not successful, you will not be able return to normal operation and the extender will remain in Upgrade Mode.

Upgrading a Remote Unit

You need to drag each of the EIGHT the firmware files provided onto the window. Simply highlight them all and drag in one operation. After approx 50 seconds the window display should refresh and the new firmware version displayed by file 'REM_xx'

If the window does not refresh (will not on some OS), and the dragged upgrade files are still shown, then you may need to re-power the Local Unit (by disconnecting the USB cable)) and view the drive folder again.

If the 'REM_xx' file displays as 'REM_BAD' the upgrade was not successful. Try again or call technical support.

If you have finished upgrading both units delete the file BOOT. The extender drive will disconnect itself and normal extender operation will resume.

Note: If the upgrade was not successful you will not be able return to normal operation and the extender will remain in Upgrade Mode.

Important Notes

- This upgrade feature is not guaranteed to work correctly with all operating systems. It was designed for Window but has successfully been tested on Mac OS X and some Linux distributions.
- The feature functions best if write caching is switched off for flash drives. This done by default on XP SP2, Vista and OS X. If write caching is not disabled then file writes or deletes may take up to 45 seconds to complete. For example, under Windows 2000 or Linux if you delete the BOOT file to return to normal operation, it may take 30 seconds before the file is actually deleted and the EXTENDER drive reported as removed.
- Do not attempt to drag any other kinds of file onto the Extender drive. It is a virtual storage device.

Consult Technical Support if you have any issues regarding upgrading.

Upgrading Tips

If you have a number of installed units to upgrade you may not need to move them in order to upgrade.

Example: To upgrade a number of Local Units installed in a rack you may find it much faster to bring a Remote Unit & USB KB into the same room as the Local Units. To upgrade each Local Unit in turn simply connect a patch cable from the Remote to the Local Unit and then enter the Upgrade Mode entry sequence on the Remote KB. Now, with the aid of a flash drive (or upgrade file located on a shared drive), you may simply upgrade the Local Unit (by dragging the file on to the extender drive) and then delete the BOOT file before moving on to the next unit.

Example: To upgrade a number of Remote Units you may find it much faster to use a patch cable to connect (in turn) each Remote Unit to a nearby notebook which has a Local Unit connected.