

Xena 5.1 Release Notes

Bug Fixes in 5.1

XenaHD:

Playback of HD video from .AVI files has been improved, for some formats.

The frame rates specified by the Render filter now match the rates requested by Windows Media Player.

(This in turn prevents the addition of a CPU-intensive 'AVI Decompressor' filter to the DirectShow filter graph, and thus improves performance.)

This changes improves playback performance of 1080i/59.94, 720p/60, and 1080p/24 video.

XenaSD:

Fixed a problem which caused inability to playback some .avi files when Windows Media Player is configured for 'Output to Xena'.

A fix was made for 720x480 capture and playback.

Known Problems in 5.1

When Windows Media Player is configured to output to Xena HD, the playback Frame Rate may be incorrect. 1920x1080 and 1280x720 video will always be played at 29.97 frames per second. This is due to an interface incompatibility between Windows Media Player and the Xena HD driver. This is not a new problem, but a problem which has existed with all Xena HD versions. A solution is being researched.

It may be helpful to set the Video Format to 1080i/59.94 or 720p/59.94 (in the Xena Control Panel) when playing video that was recorded at rates. This will result in some dropped or duplicated frames, but the hardware will at least produce a valid output signal.

RELEASE HISTORY

New Features in 5.0

Added support for new XenaHS board.
(This is the dual-rate board, used in the Xena DXT product.)

Added preliminary support for 64-bit Windows XP (AMD-64).

Added new Register Watcher utility (NewWatcher).
(The old 'avWatcher' is still included, also, as NewWatcher may be incompatible with Windows 2000 machines.)

Bug Fixes in 4.5

Improved sync when genlocking to noisy inputs.
(New XenaHD (XenaHD-R) and XenaHD2 boards.)

Firmware fix for rare power-up problem: inputs display only noise.
This problem (and fix) affects only 'new' XenaHD (XenaHD-R), and XenaHD2 boards.

New firmware for XenaHD2 - fixes a potential timing problem that can cause the last line of data captured to be corrupted.

testHDavDma ("Test PCI Performance with XenaHD") will no longer crash if run while in 720p video format.

New Features in 4.4

Multiple Control Panel instances for multiple board installations.
For multiple-board installations, start one Control Panel for each board.
(Please note that multiple-board installations are still not supported completely for Windows Media applications.)

Bug Fixes in 4.4

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Capture problem fixed for XenaHD.
(Some frames were shifted horizontally. Problem existed in 4.3 thru 4.3.3.)

About 4.3.3

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The 4.3.2 Release Notes indicated that there was a problem using 4.3.2 with XenaHD2. Actually, this is not true. The problem (Windows Explorer problems unless audio 'features' are disabled) existed only for an OEM version of the XenaHD2. Retail versions of the card do not exhibit this bug.

Bug Fixes in 4.3.2

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With 4.3.1, the new XenaHD boards did not function with Windows Media Player.
(The new board's device ID was not supported properly.)

Bug Fixes in 4.3.1

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With the 4.3 release, there was a bug in the XenaSD Control Panel; after upgrade to 4.3 from any previous software version, the video format selected in the Control Panel was invalid. If the format was not manually changed to a valid format, any DMA operation could cause a system crash.

Bug Fixes in 4.3

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Embedded audio:

For XenaHD, embedded audio output is now compatible with Panasonic and Sony VTR's.

10-bit YCbCr video under DirectShow:

'v210' pixel format did not work correctly under version 4.2

Genlock:

Improved genlock capability for XenaHD and XenaHD2.

Xena Control Panel: Capture could be broken for -11 boards, if installed after a -22 board.

If a -22 board was installed and the selection was left at 'Input2',
Capture would be broken, and there was no way to set it back to 'Input1'
(the drop-down selection is disabled for -11 boards)!

New Features in 4.3

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Xena Control Panel:

New check-box in Windows Media Preferences page, "64-bit PCI slot", to enable 64-bit DMA transfers, even when the board does not detect the a 64-bit slot.

This is to allow older Xena boards, which don't always autodetect, to run at full speed in 64-bit PCI slots.

(Box is disabled (and checked) if a 64-bit slot is auto-detected.)

Compatibility

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Control Panel versions:

Pre-4.3.1 Control Panels are not compatible with 4.3.1 drivers (nor vice-versa), because of a change in Video Format representation.

Windows Media Encoder configuration files:

Device names for Windows Media and DirectShow have been changed to include the AJA company name. For instance, the Capture filter for XenaSD formerly was listed as "Xena-SD Video Capture Device", and is now (with the 4.3 driver) listed as "AJA Xena-SD Video Capture Device". The Windows Media Encoder configuration files in the Xena menus have been updated to reflect the new names. For other configuration files, the device with the old name will not be found, and you will have to re-select the devices.

PCI Firmware note

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In January '04, a bug was found in the Xena PCI implementation, and new boards are now shipping with the fixed firmware. The problem was that some BIOS implementations (notably for the new Intel 7505 chipset) would end the PCI Reset phase before the Xena was fully initialized. The result was that Xena would not detect a 64-bit slot, and DMA transfer speeds would be slowed down to 32-bit speeds. The new firmware finishes initialization faster, in accordance with the PCI specification. For the old boards, this problem can be prevented by using software to put the board into 64-bit mode. (The Control Panel will support this 'Force-64-bit' mode in a future release.)

New Features in 4.2

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10-bit YCbCr video under DirectShow:

'v210' pixel format is now supported in the driver's DirectShow interface (in addition to YUY2, UYVY, and RGB32).
(This format has always been available through our proprietary API)

XenaHD board revision:

Support for 'new' XenaHD board. The XenaHD hardware was redesigned due to parts availability issues. The functionality is the same as the previous XenaHD board.

Bug Fixes in 4.2

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Synchronous switching of FrameBuffer Format at start of stream playback.
This prevents 'garbage' frames of the wrong format.
Slightly changed 'frame period' specification for 720p to enable playback of recorded 720p video.

Bug fixes in 4.1.1

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Embedded audio:

On XenaSD, embedded audio output is no longer corrupted with 'clicks'.
(This firmware bug had existed since the 4.0 release.)

Export YUV:

.YUV files are now accessible in the Control Panel's 'choose file' dialog for Export.

Benchmark:

DMA Benchmark tests are now more consistent. (FrameBuffer Format is set before testing.)

Known bugs in 4.1.1

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Embedded audio bug:

On XenaHD and XenaHD2, the embedded audio output may not be compatible with some disembedders. (Specifically, high-end Panasonic VTR's will refuse the audio.)

New Features in 4.1

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New User Manual with Installation instructions.

Dual-Link 4:4:4 test pattern files are available for the XenaHD2. This allows the XenaHD2 to be used as a dual-link test pattern generator. Available patterns are RGB Color Bars and RGB Line Sweep. See "ReadMeDualLink.txt".

Bug fixes in 4.1

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Bug Fix: On XenaSD and XenaSD2, some boards exhibited a periodic 'storm' of green lines in the output video.

Bug Fix: Gen-lock to input was often failing after system start-up with video connected.

Bug Fix: XenaHD would not gen-lock to a 720p input.

Control Panel capture and export bugs fixed:

“Capture From: Input1 +Input2” now produces 2 correct files (the specified filename, filename.ext from Input1,and filename.KEY.ext from Input2).

Export of file to Channel 1 now looks for a corresponding ‘.key’ file, and exports it to Channel 2.

Typing a filename into the filename edit box now works correctly.
(In 4.0.6, the last filename selected in the ‘choose file’ (...) dialog was used.)

.YUV files are now accessible in the ‘choose file’ dialog for Capture.

Fixes in 4.0.6

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Fixed bug causing Windows Media Player re-configuration to fail. The Control Panel installer now sets the Control Panel application’s working directory, so that the files needed for Windows Media Player re-configuration can be found.

Fixes in 4.0.5

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Improvements to Windows Media Player re-configuration
(in Xena Control Panel > Windows Media Prefs > Windows Media Player Preferences)

- 1) We can now recover in case the Control Panel is uninstalled while set to “Output to Xena Board”. Previous versions required uninstalling Windows Media Player or performing a System Restore to recover from this uninstall sequence.
- 2) The “Output to Xena Board” configuration now works for Kona boards also.

Fixes in 4.0.4

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Start Menu - some shortcuts were not working.

Xena User’s Guide - AJA logo was missing.

New Features in 4.0.3

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PowerCG support

Photoshop plugins

AfterEffects plugins

Control Panel - A Capture page has been added. (Includes support for ThumbsPlus.)

Known Issues

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- 1) The Export/Select File dialog on the Video Processing page of the Control Panel does not include .YUV files. To export a .YUV file, drag and drop the file onto the Control Panel.

- 2) Windows Messenger

There seem to be incompatibilities with Windows Messenger.
Windows Messenger may fail after installing the Xena.

- 3) Windows Media Player

There is a problem with the DirectShow graph clock when using Windows Media Player that will not currently allow us to output every frame while still maintaining the correct video rate. The rate out of our board will always be accurate, so some frames will be dropped. You can expect to see about one dropped frame per hour. This is something that will probably not be fixed until the next Microsoft Operating System (Longhorn) ships.

For rock solid frame reliability, try the Xena board with QuickClip PRO software from Drastic Technologies.

4) Windows Media

At high data rates and strict requirements for stream quality, there may be issues with Windows Media, DirectShow, Windows Media applications, or with the Xena driver itself. There may also be issues with the way all these components interact. Feedback to AJA regarding performance, compatibility, and problem areas is encouraged. Feedback can be directed to: sdksupport@aja.com.

We have fairly high confidence in Windows Media Encoder, and Capture applications in general, for Standard-Definition rates. High-definition rates (Xena-HD) present more issues, and performance may vary according to PC hardware specifications and system set-up. Likewise, Video playback applications (Windows Media Player, with the Xena Control Panel modifications, is currently the only known application to use this feature of the Xena) may exhibit performance problems in some situations, especially at HD rates.