**Current Firmware Revision: 2.03**

The following notes provide the revision history and a list of known firmware issues in the current release. For more information please call your Extron Application Engineer.

**Updated:** May 25, 2010  
**Extron Products Affected:** DVS 304, DVS 304 D, DVS 304 A, and DVS 304 AD

**Current Engineering Revision:** E22374

---

**TECH NOTES**

**Firmware upload** – Make sure the DVS 304 is plugged in and powered on before attempting to upload firmware. Do not make any front panel adjustments or remove power during the firmware upload process. Removal of power during the firmware upload process may result in improper upload or damage to the unit. Once the new firmware has uploaded, the DVS 304 will automatically restart.

**After the firmware has been loaded and the unit restarts, it is strongly recommended that a factory reset is performed using one of the following methods:**

- Through Telnet or DataViewer issue a Zap: ESC zXXX ↵
- Power cycle the unit while holding the Input 1 button
- Using the Extron Signal Processing Products Control Program, click on “Reset to Factory Defaults” under the “Tools → Reset” menu

***WARNING:*** All user settings, including presets, will be erased when upgrading the firmware. Please make note of all important values prior to uploading this firmware.

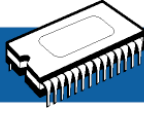
***WARNING:*** Configuration files saved on DVS 304 firmware 1.21 or older cannot be restored on a unit running 1.27 or greater.

---

**KNOWN ISSUES**

The following is a list of known firmware issues found in Firmware Version 2.03.

**No known issues**



**Released Version: 2.03**

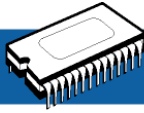
**Affects: Engineering Revision: E22374**

**Firmware Revision: 2.03**

**Date(s): Units shipped after May 2010**

The following is a list of changes and fixes in this release.

- **Corrected automatic Auto Image logic to match other Extron products –**  
When the “global” Auto Image function was enabled, an auto image was not triggered at each power cycle, input switch, or when switching between two sources of the same resolution.
- **Added Aspect Mode command to enable advanced Aspect Ratio control –**  
A new Advanced Config setting “Aspect Mode” has two settings to allow for exact Aspect Ratio control of applied inputs. In the default “Follow” mode, the DVS will apply automatic aspect ratio adjustments to maintain correct aspect ratio for newly applied signals. In the “Fill” mode, each newly detected input will fill the entire output raster, regardless of input or output aspect ratio. Since Auto Memories have priority over the Aspect Mode control, a unit reset (ZAP) is strongly recommended after uploading DVS 304 firmware v2.03.



**Released Version: 2.02**

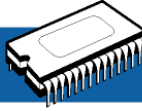
**Affects: Engineering Revision: E22258**

**Firmware Revision: 2.02**

**Date(s): Units shipped after May 2010**

The following is a list of changes and fixes in this release.

- **Fixed incorrect color space conversion for “Pass-Through” inputs** – With Input 4 set for “RGB PASS,” the output could have an incorrect color space conversion applied after a power cycle.
- **Fixed memory overlap issue** – When set for some high output rates, with a 1680x1050 input applied, ~30 vertical lines of digital artifacts were visible on the right side of the output due to a memory overlap. Note: 1680x1050 60Hz input rate may be detected as 1400x1050 due to the identical Line Count and H/V Frequencies. For proper sampling of this rate, the DVS 304 Total Pixel value must be adjusted to 2240 prior to performing an Auto Image.
- **Fixed tearing issue** – Certain input/output rate combinations caused a tear in the video output.
- **Fixed inconsistent input detection** – When multiple sources of the same resolution were sub-switched into Input 4, new sources may be detected as an incorrect resolution.
- **Fixed power-cycle output loss for 1080i output rates** – Occasional 1080i video output loss would occur when a DVS 304 power-cycle was instituted.
- **Notation update “YUVp” → “YUVp / HDTV”** – The “YUVp” input type label has been changed to “YUVp / HDTV”, indicating the inclusion of both progressive component and interlaced / non-interlaced HDTV rates.
- **Fixed incorrect 1080i input detection** – Some 1080i input sources having slight variance from the SMPTE specification caused a scrambled output from the DVS 304.
- **Fixed inconsistent behavior with the Audio Reset command** – The Audio Reset command would not always correctly reset all audio values to default.
- **Fixed incorrect response for the SIS Refresh Lock command**– The SIS command to query the Refresh Lock status would occasionally incorrectly report the current state.
- **Fixed video artifact issue for 1080i inputs** – Video artifacts occasionally manifested on a single line at the bottom of incoming 1080i signals.



**Released Version: 2.02 - Continued**

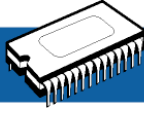
**Affects: Engineering Revision: E22258**

**Firmware Revision: 2.02**

**Date(s): Units shipped after May 2010**

The following is a list of changes and fixes in this release.

- **Corrected 1024x768 60Hz output timings** – A shift of approximately 10 pixels was present within the horizontal sync pulse of 1024x764 @ 60Hz output signals. This offset was visibly noticeable on some displays.
- **Added 59.94Hz refresh rate for SMPTE output rates** – SMPTE output rates including 480p, 720p, 1080i, and 1080p now have an additional 59.94Hz refresh rate option that provides increased compatibility with 3<sup>rd</sup> party equipment.
- **Added 1080p “Sharp” output rate** – Some Sharp Professional Displays would not accept the SMPTE 1080p rate from the DVS 304; a custom 1080p Sharp output rate has been added for compatibility with these displays (e.g. PN-G655U).
- **Added 1080p CVT Reduced Blanking output rate** – Some new 1080p display devices will only accept CVT reduced blanking timings on their RGBHV inputs. This new output resolution has a pixel clock of 138.5MHz, horizontal refresh of 66.587kHz, and a vertical refresh of 59.934Hz.
- **Added Executive Mode 2** – A new total front panel lockout, Executive Mode 2, is now available by sending “2X” via SIS command. X-mode 2 can only be enabled “2X” or disabled “0X” through SIS command.



**Released Version: 1.27**

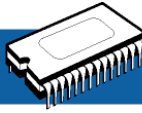
**Affects: Engineering Revision: E19608**

**Firmware Revision: 1.27**

**Date(s): Units shipped after Aug 6, 2008**

The following is a list of changes and fixes in this release.

- **Fixed incorrect hardware version detection issue** – DVS 304 firmware v1.25 would occasionally detect and report the incorrect hardware revision of the main PCB. Severe video artifacts were noticed when this error occurred.
- **Added support for YUV 720p 29.97 / 30Hz inputs on Input 4** – Component 720p 29.97 / 30Hz sources are now accepted on DVS 304 Input 4. Note that Input 4 must be set for a YUVp input type, rather than Auto Detect, for this rate to work correctly. Input 2 does not support this input rate.



**Released Version: 1.25**

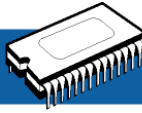
**Affects: Engineering Revision: E19505**

**Firmware Revision: 1.25**

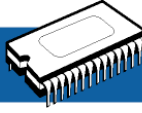
**Date(s): Units shipped after July 2008**

The following is a list of changes and fixes in this release.

- **Fixed Executive Mode enable/disable via front panel** – Executive mode was incorrectly not available via the front panel in DVS 304 firmware v 1.21.
- **Fixed Pan position recall** – The pan position would occasionally be recalled incorrectly after a power cycle was performed to the unit.
- **Fixed 1080p not accepted on Input 2** – DVS 304 firmware v 1.21 would not accept 1080p signals on Input 2.
- **Fixed incorrect Input Preset recall on low resolution inputs** – Input presets for low resolution signals would not always be recalled correctly due to the decoder detecting the incorrect standard.
- **Fixed auto memory overwrite** – Depending on the timing between applying a new input and recalling an input preset, auto memories could take precedence over the input preset.
- **Enhanced low resolution color decoding** – Values in the decoder have been optimized to provide better color separation on composite video inputs.
- **Enhanced 1080i input processing** – The sampling of incoming 1080i signals has been updated to further minimize “jaggies” in the output image.
- **Corrected YUV HDTV output levels** – YUV HDTV output rates (720p, 1080i, and 1080p) had a purple offset that was noticeable in some displays
- **Corrected Auto Image logic** – Activation of Auto Image will no longer revert Total Pixels, Phase, and Aspect Ratio settings back to default.
- **Enhanced Input 4 sync sensitivity** – Stray sync signals applied to Input 4 occasionally caused the DVS 304 to become unresponsive.
- **Disabled Tint / Color controls for RGBcvS inputs** – The Tint and Color controls were incorrectly active for RGBcvS inputs.

**Released Version: 1.25 (Continued)****Affects: Engineering Revision: E19505****Firmware Revision: 1.25****Date(s): Units shipped after July 2008**

- **Increased manual adjustment range for Total Pixels** – Some non-standard input signals could not be manually tuned for 1:1 sampling.
- **Enhanced IP Configuration menu structure** – The IP Configuration menu has been redesigned for easier navigation.
- **Added support for new input resolutions** – 1280x768, 1280x800, 720p 29.97/30Hz, 1920x1080 60Hz (PC Timings)
- **Added IR disable feature** – This feature allows the disabling of the front panel IR receiver. It is useful in areas experiencing interference issues with stray IR signals. The default setting for this feature is OFF, but it can be enabled by the 65# SIS command.
- **Added new output rates** – 1280x800 50/60Hz, 1080p 24Hz
- **Added Auto Memory disable** – Auto memories can now be disabled via the Advanced Menu, and through SIS.
- **Added auto Aspect Ratio feature** – Each input rate will now be displayed with its correct default aspect ratio. Aspect ratios can still be adjusted manually in the Input Configuration menu.
- **Added an "\*" next to default Input Setting values** – Total Pixel, Active Pixel, and Active Line values now have a "\*" next to their default settings for the detected input rate.
- **Added Refresh Lock feature** – Added refresh rate lock feature which locks the output's vertical sync to that of Input 4 to prevent tearing or stutters in the output.
  - **Note:** the refresh lock feature is intended to eliminate frame rate conversion artifacts that can occur when input refresh rates are nearly identical to the current output refresh rate. To function properly, the input refresh rate must be lower than the currently set output refresh rate; for example, 59.94Hz input with a 60Hz output rate. Some sources may cause a flashing and/or provide no output signal when the refresh lock feature is enabled; therefore, this feature should only be utilized to address identified frame rate conversion issues.



---

---

**FIRMWARE RELEASE HISTORY**

---

---

**Released Version: 1.21**

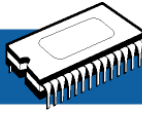
**Affects: Engineering Revision: E18407**

**Firmware Revision: 1.21**

**Date(s): Units shipped after Aug 9, 2007**

The following is a list of changes and fixes in this release.

- **Updated YUV output timings for 1440x900 and 1680x1050** – The YUV output at 1440x900 60/75 or 1680x1050 60 had incorrect timing parameters, which caused an improper image shift. The YUV timings have been modified to conform to the CVT specification.
- **Unassigned input presets renamed “[unassigned]”** - Input presets (1-128) on Input 4 that have not been previously saved will be named “[unassigned]” as specified by the product manual.



---

**FIRMWARE RELEASE HISTORY**

---

**Released Version: 1.18**

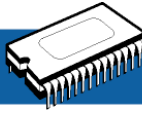
**Affects: Engineering Revision: E18171**

**Firmware Revision: 1.18**

**Date(s): Units shipped after June 11, 2007**

The following is a list of changes and fixes in this release.

- **Fixed incorrect recalling of input presets** – In certain control environments, input presets were not being recalled correctly due to timing issues.
- **Fixed loss of RGB Pass setting upon power-cycle** – Units set for RGB Pass would revert to RGB Scaled after a power-cycle. The LCD screen incorrectly indicated RGB Pass while in this condition
- **Fixed video unmute issue** – The DVS 304 would unmute, if in a muted state, upon detection of new incoming sync signals.
- **Fixed image artifact issue when switching between multiple RGB and YUV inputs** – Image artifacts were observed on YUV sources when sub-switching into Input 4 of the DVS 304.
- **Fixed improper muting condition** - The DVS 304 would intermittently mute its output when multiple sources with similar sync rates were sub-switched into Input 4.
- **Fixed Auto Image of sources with black borders** – When auto imaging a source that included a black border around the active video, invalid H and V start values would be set. The DVS 304 now references internal defaults for the current input resolution in this situation.
- **Added status messaging during firmware upgrade procedure** – The LCD now provides “Firmware uploading...” and “Please Wait Resetting” feedback during the firmware upgrade procedure.
- **Added YUV Auto on Input 2, SDI Field FLIP, and Enhanced Mode selection capabilities to the internal webpage**
- **Added new CVT output rates** – 1440x900 60/75Hz and 1680x1050 60Hz have been added to the output rates. These new rates can be located after 1080p resolution selection.



---

---

**FIRMWARE RELEASE HISTORY**

---

---

**Released Version: 1.15**

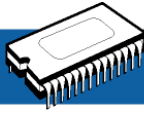
**Affects: Engineering Revision: E17950**

**Firmware Revision: 1.15**

**Date(s):** Units shipped after February 8, 2007

The following is a list of changes and fixes in this release.

- **Fixed default brightness and contrast settings for SDI inputs** – The default brightness and contrast settings for SDI inputs was too high.
- **Fixed intermittent startup errors** – When the output rate is set to 1600x1200 or 1080p at startup, the output video is scrambled. This was introduced in firmware version 1.13 and has been resolved in firmware 1.15.
- **Added input detection for reduced blanking 1680x1050**
- **Added auto-gain setting** – An auto-gain setting has been added under the Advanced Config menu, providing extended compatibility with AC coupled sources whose signals vary greatly depending on video content.



---

---

**FIRMWARE RELEASE HISTORY**

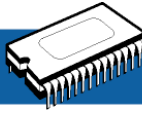
---

---

**Released Version: 1.13****Affects: Engineering Revision: E17771****Firmware Revision: 1.13****Date(s):** Units shipped after February 8, 2007

The following is a list of changes and fixes in this release.

- **Fixed component 480p output** – A green tint was noticed on the output of the DVS 304 when set for 480p component video.
- **Fixed the information response to report the proper input information** – The input type within the information response would report inaccurately when the SDI input was selected.
- **Fixed the aspect ratio of low resolution video signals** – The default sampling settings were not maintaining the correct aspect ratio for low resolution video inputs. Also, the 4:3 aspect ratio setting was not correct, when the output was set for a 16:9 rate.
- **Added more input detection rates** – The DVS 304 series now supports the following additional input rates: 1152x900 @60Hz, 1920x1200 @60Hz, and various EGA rates.
- **Added SDI field flip option to SIS and front panel menu** – SDI feeds from some beta decks were not processed correctly due to nuances in the SDI video information. A menu has been added to force the fields to be flipped to correct this issue.
- **Added RGB delay to remove glitches when a new input resolution is acquired** – When input 4 was connected to a matrix switcher, unstable video information would appear during transitions of switches made from the matrix. The RGB Delay setting now dictates both the RGB delay between DVS 304 input selections, and during the signal acquisition time associated with externally switched signals.
- **Added auto detection between YUVi and YUVp on Input #2** – A YUV AUTO option has been added to the input configuration menu to allow auto detection between interlaced and progressive component video sources on Input 2.



---

---

**FIRMWARE RELEASE HISTORY**

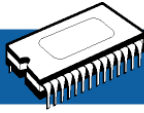
---

---

**Released Version: 1.10****Affects: Engineering Revision: E17103****Firmware Revision: 1.10****Date(s): Units shipped after August 25, 2006**

The following is a list of changes and fixes in this release.

- **Fixed auto-detect of S-video on Input #4** – Incoming S-video signals on Input 4, when set for Auto-Detect, were intermittently being detected as Composite video signals, causing the displayed output image to be black and white. This issue has been resolved.
- **Adjusted 1400x1050 output rate to match the VESA CVT specification** – The previous version of 1400x1050 was often mistaken as 1280x1024 by many display devices. The new rate follows the Coordinated Video Timings (CVT) specification and is better recognized by newer generation displays.
- **Modified input detection for 1400x1050** – Updated input detection to help differentiate between 1280x1024 and 1400x1050 (SXGA+1) input sources.
- **Added 1280x800 @60Hz & 1440x900 @60Hz input detection** – All DVS 304 models now support both new input rates.
- **Updated saved memory preset parameters** – The memory presets now save the same parameters as Input Presets. The following parameters are now stored for memory presets: color, tint, contrast, brightness, detail, aspect ratio, horizontal start, vertical start, horizontal active, vertical active, phase, total pixels, horizontal position, vertical position, horizontal size, vertical size, and zoom.
- **Fixed reset issue when latching the contact closures** – Input selections made by latching the contact closures would cause the selected input to reset to default values. The front panel input reset method has been changed. To reset an input the user must hold down the input button and the menu button simultaneously until the front panel display reads "Input X reset".



---

**FIRMWARE RELEASE HISTORY**

---

**Released Version: 1.06**

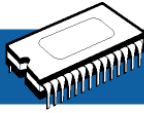
**Affects: Engineering Revision: E16675**

**Firmware Revision: 1.06**

**Date(s): Units shipped after May 2, 2006**

The following is a list of changes and fixes in this release.

- **Corrected red tint noticed on RGBcvS input** – A red tint was noticed in the scaled output image when a grayscale test pattern was applied to Input 4 as an RGBcvS signal. This issue has been resolved.
- **Support blacker-than-black level** – Previously, the blacker-than-black bar of SMPTE color bar test patterns was not viewable with composite, S-video and component video input sources. This issue has been resolved.
- **Added 852x480 @ 60Hz input detection** – The DVS 304 now properly detects incoming 852x480 @ 60Hz RGBHV signals.
- **Corrected autoswitching after disabling PIP mode** – The DVS 304 would autoswitch to an active RGB/YUVp input when connected at the same time Picture-in-Picture mode is turned off. This issue has been resolved.
- **Improved 1080i component input detection** – 1080i YUV and RGBHV input signals were not always detected in their proper formats when using Automatic Input Format Detection. This issue has been resolved.
- **Added unsolicited audio mute response (DVS 304 Audio models only)** – Audio mute changes via the IR 902 remote control now returns unsolicited response, providing status feedback.



---

---

**FIRMWARE RELEASE HISTORY**

---

---

**Released Version: 1.04**

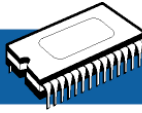
**Affects: Engineering Revision: E16280**

**Firmware Revision: 1.04**

**Date(s):** Units shipped after February 1, 2006

The following is a list of changes and fixes in this release.

- **Enhanced embedded webpage** – The File Management webpage has been updated, allowing recognition of file names with spaces between words.
- **Added save and recall configuration feature** – New commands have been added to support unit save/recall configurations. This feature allows users to quickly configure multiple units with identical setup parameters, and save current configurations for backup purposes.



---

---

**FIRMWARE RELEASE HISTORY**

---

---

**Released Version: 1.03**

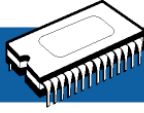
**Affects: Engineering Revision: E16164**

**Firmware Revision: 1.03**

**Date(s):** Units shipped after January 1, 2006

The following is a list of changes and fixes in this release.

- **Corrected Input 4 image retention upon signal removal**– When the input signal is removed from Input 4, the video image no longer remains on screen.
- **Corrected intermittent video dropout** – Video is now properly output when switching between SDI and other video inputs
- **Corrected 640x480 output on power up** – When powering up the unit with 640x480 output resolution, the image is no longer frozen on screen.
- **Removed power recycle requirement after performing Mode 5 reset** – Power recycle is no longer necessary for reliable operation after performing a Mode 5 reset.
- **Removed power recycle requirement after SIS Factory Reset command is issued** – Power recycle is no longer necessary after the Factory Reset SIS command is issued.



---

---

**FIRMWARE RELEASE HISTORY**

---

---

**Released Version: 1.02**

**Affects: Engineering Revision: E16123**

**Firmware Revision: 1.02**

**Date(s):** Units shipped after December 8, 2005

The following is a list of changes and fixes in this release.

- **Corrected user settings reset issue** – Faulty power up sequences caused user settings to randomly reset. The internal power up sequence has been modified to resolve this issue.
- **Enhanced image sizing operation** – Certain image size settings combined with specific input rates contributed to occasional image tearing on various display devices. Image sizing algorithms have been updated to resolve this issue.
- **Updated decoder filters** – The decoder filter settings have been optimized to deliver improved image quality for NTSC and PAL inputs.