**Current Firmware Revision:** 2.05

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:** March 18, 2015

**Extron Products Affected:** VTG 400 DVI

## TECH NOTES

**Firmware Upload** – Make sure the VTG is plugged in and turned on, with the DVI cable disconnected, before attempting to upload the firmware. During the firmware upload, the unit will not respond to front panel operation. The upload process will take approximately two minutes, at the end of which, the VTG will be reset and turned off. Removal of power during the firmware upload process may result in improper upload or damage to the unit.

Additionally, if the VTG is equipped with the older DVI output board (ship date prior to September 2014) and is running firmware v2.04, the unit should be reset to the factory firmware prior to uploading v2.05. This is accomplished by holding the "Frequency Up", "Level Up", and "Test Pattern Up" buttons for 15 seconds while applying power.

**Model Specific –** The firmware for the VTG 400 product line is model specific. Firmware "VTG400_SDI_FW_2X##.bin" should not be loaded into a VTG 400DVI model. If firmware is accidentally loaded onto the incorrect model, the digital output will be disabled. To re-enable the digital output, the correct model's firmware must be loaded. If further complications occur please contact Extron Electronics.

## KNOWN ISSUES

The following is a list of known issues found in VTG 400 firmware version 2.05

**Issue (originated in v2.00) – Missing pixels in circle pattern for PAL and some high resolution workstation output rates** – Slight pixel dropout can be noticed in the circle pattern for certain high resolution workstation rates and PAL video output rates. The absence of this information does not affect geometry of the circle itself.



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## FIRMWARE RELEASE HISTORY

**Released Version: 2.05**

**Affects:** **Firmware Revision:** 2.04
**Date:** Units shipped prior to January 29, 2015

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

- **Fixed Issue (originated in v2.04) – DVI connector would not output video for newly created custom rates** – Custom rates created with the VTG Control Program v1.2 could not be displayed out of the DVI connector of VTG 400's equipped with the updated DVI output board (ship date September 2014 and after). This issue has been resolved.



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## FIRMWARE RELEASE HISTORY

**Released Version: 2.04**
**Affects:** **Firmware Revision:** 2.00
**Date:** Units shipped prior to August 7, 2013

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

- **Added ability to disable individual color channels on the DVI output –** On page 4 of the 'Video Setup' menu, the user can disable/enable the Red, Green and Blue color channels individually. These controls now affect the DVI output in addition to the RGB output.

- **Fixed loss of LCD Backlight setting after a power cycle –**This setting will now persist after the VTG is power-cycled.

- **Removed noise from analog output on 1920x1200 –** When the VTG is set to the resolution of 1920x1200, diagonal noise is no longer seen on the analog output.

- **Fixed geometry of 'Circles' test pattern for 15:9 and 16:10 aspect ratios** The 'Circles' test pattern has been adjusted for all resolutions with a 15:9 or 16:10 aspect ratio; that the circles no longer stretch into ovals.

- **Fixed the Ramp test pattern video level on the DVI output–** The range for the video level has been increased from 'limited' to 'full' for the DVI output. This change provides blacker blacks and whiter whites.

- **Updated the video level calculation for variable level test patterns –** The video level calculation for variable level test patterns has been adjusted for greater accuracy.

- **Updated the sync polarity for various HDTV resolutions –** The sync polarity has been corrected to match SMPTE standards for all HDTV resolutions.

- **Updated timings for WXGA6 and WXGA7 –** The timings for these rates have been updated to match industry standards.

- **Updated timings for DVI output for multiple resolutions –** The signal timings for the DVI output have been adjusted so that the H-sync delay conforms to SMPTE/VESA standards.

- **Updated the timing of EDID polling –** Previously, EDID was polled constantly, which caused a flickering image with some products such as Extron DTP Series extenders. EDID is now polled only when the VTG 400 is powered on, a cable is connected, or if the user requests it from the 'Advanced Setup' menu.
- **Increased the voltage on the DDC channel –** The voltage on the DDC channel was increased to 5V to conform to the DVI specification.



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- **Increased the bandwidth of the SDI output–** The increase in bandwidth for the SDI output allows for more accurate reproduction of high frequency content in test patterns such as Alternating Pixels.



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## FIRMWARE RELEASE HISTORY

**Released Version: 2.00**
**Affects:** **Firmware Revision:** 1.05
**Date:** Units shipped prior to July 21, 2009

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

- **Added new 2048x1536 resolution to PC Rates group –** A new 2048x1536 resolution has been added to the PC rates as QXGA1. The new rate follows the Proposed VESA Coordinated Video Timings (CVT) specification. The previous version of 2048x1536 is still available but has been renamed to QXGA2.

- **Added 1280x800 (WXGA4), 1360x768 (WXGA6), 1440x900 (WSXGA), 1680x1050(WSXGA+1), 1680x1050 (WSXGA+2), and 2560x1600 (WQXGA) to 16:9 Hi-Res group** – New resolutions based on the Proposed CVT specification have been added to the VTG 400.

- **Added new 1280x768 and 1920x1200 resolutions to 16:9 Hi-Res group –** A new 1280x768 resolution has been added to the 16:9 Hi-Res group as WXGA3, as well as a new 1920x1200 resolution which is named WUXGA1. The new rates follow the Proposed VESA Coordinated Video Timings (CVT) specification. The previous versions of 1280x768 are still available but have been renamed to WXGA1 and WXGA2. The previous version of 1920x1200 is also still available but has been renamed to WUXGA2.

- **Added 3 new 720p resolutions to HDTV Rates group** – New 720p resolutions have been added to the HDTV Rates as 720p @25Hz, 720p @29.9Hz, and 720p @30Hz. The new rates follow the Proposed VESA Coordinated Video Timings (CVT) specification. The previous versions of 720p (60Hz and 59.94Hz) are still available under the HDTV Rates group**.**

- **Updated the timings for 1080i@25Hz and 1080p@24Hz, 25Hz, and 50Hz–** The front porch timing for these rates have been modified to match SMPTE standards.

- **Updated the names of resolutions listed below:**

| *Old Name* | *New Name* |
|---|---|
| 16:9 HR 1280x768 (56.25Hz) | WXGA1 1280x768 |
| 16:9 HR 1280x768 (60Hz) | WXGA2 1280x768 |
| 16:9 HR 1360x765 | WXGA5 1360x765 |
| 16:9 HR 1365x768 | WXGA6 1365x768 |
| 16:9 HR 1366x768 | WXGA7 1366x768 |
| 16:9 HR 1920x1080 | 1080p PC 1920x1080 |
| 16:9 HR 1920x1200 | WUXGA2 1920x1200 |



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- **Updated displacement of Input Resolution names -** The Input Resolution Names where modified to fix their alignment on the LCD.



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## FIRMWARE RELEASE HISTORY

**Released Version: 1.05**
**Affects:** **Firmware Revision:** 1.04
**Date:** Units shipped prior to December 12, 2006

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

- **Updated the timings for 1080i@25Hz and 1080p(SF)@24Hz –** The vertical sync area for the component video output has been modified to correct the broad pulse timings. The VTG 400 now follows the SMPTE 274M specification.



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## FIRMWARE RELEASE HISTORY

**Released Version: 1.04**

**Affects:** **Firmware Revision:** 1.03
**Date:** Units shipped prior to June 23, 2006

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

- **Added new 1400x1050 resolution to PC Rates group –** A new 1400x1050 resolution has been added to the PC rates as SXGA+2. The new rate follows the Proposed VESA Coordinated Video Timings (CVT) specification and is better recognized by newer generation displays. The previous version of 1400x1050 is still available but has been renamed to SXGA+1.

- **Added 1920x1080 and 1920x1200 to 16:9 Hi-Res group** – New resolutions based on the Proposed CVT specification have been added to the VTG 400.

- **The description for 576p has been changed in the LCD menu –** The active area text description in the LCD menu for 576p has been changed to 720x576 to match the actual active area of the signal being generated.



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## FIRMWARE RELEASE HISTORY

**Released Version: 1.03**

**Affects:** **Firmware Revision:** 1.02
**Date:** Units shipped prior to April 6, 2006

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

- **Corrected reset states for Audio Frequency Sweep Format and Sine Burst Intervals and Direction –** These settings were not reverting back to factory default upon unit reset, resulting in an invalid output tone. Proper default settings include: Audio Frequency Sweep Format to Log, the Sine Burst Interval to 00001 and the Sine Burst Direction to Lo-Hi. This issue has been resolved.

- **Corrected preset updating of Audio Frequency Sweep Format and Sine Burst Intervals and Direction settings –** Unit settings were not properly instituted upon recalling of related presets, resulting in an invalid output tone. This issue has been resolved.

- **Removed vertical lines from the ramp and grayscale on HD-SDI output** – The HD-SDI output displayed minor video artifacts. This issue has been resolved.



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## FIRMWARE RELEASE HISTORY

**Released Version: 1.02**

**Affects:** **Firmware Revision:** 1.01
**Date:** Units shipped prior to July 29, 2006

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

- **Adjusted the HD-SDI pixel clock frequency for 59.94/29.97 Hz HDTV refresh rates –** Periodic glitches were previously noticed when using the VTG 400D with specific HD-SDI equipment. A minor adjustment to the pixel clock frequency resolved this issue.



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## FIRMWARE RELEASE HISTORY

**Released Version: 1.01**

**Affects:** **Firmware Revision:** 1.00
**Date:** Units shipped prior to July 6, 2006

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

- **Corrected the HD-SDI output to follow SMPTE standards** – Errors were noticed in the EAV and SAV area of the HD-SDI output. These were corrected and verified against SMPTE 296 (720p) and SMPTE 274 (1080i) standards to ensure conformability.

- **Corrected the SIS response for recalling presets and toggling the raster border on or off –** The response for recalling presets and turning the raster border on or off had spaces between the three letter acronym and the numeric value. These spaces have been removed to match the format described in the VTG 400/400D User's Manual.

- **Corrected the SIS response for the '0Q' command –** The response for the '0Q' command did not include asterisk marks that indicate current firmware versions. These asterisks have been added into the response for proper feedback of firmware versions.

- **Removed noise on circle and safe area test patterns for output rate "SUN 1600x1280 89.30kHz/67Hz" –** A slight amount of noise was detected on the circle and safe area test patterns when displayed at the indicated Sun rate. This issue has been resolved.

- **Removed flashing white line noticed when switching between NTSC Flat Field and Window patterns –** A single flash of a small white line was present when switching between the Flat Field and Window test patterns. This flashing line has been removed and is no longer detectable within these test patterns.

- **Fixed the SIS List Rates command (L/I) –** Repeated List Rates commands issued to the VTG 400/400D would result in locking up of the device. A complete power cycle was required to restore functionality. Repeated commands will no longer lock up the unit.

- **Changed the PAL N subcarrier frequency from 4.43 MHz to 3.58 MHz –** Usage of the 3.58 MHz subcarrier frequency for the PAL N format was determined to be most common in South America with primary acceptance in the country of Argentina.



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