Cobalt Digital Inc.

2406 E. University Ave.
Urbana, IL 61802
Voice 217.344.1243 • Fax 217.344.1245
www.cobaltdigital.com

Engineering
Release
Notes

You can update your card by downloading the new 'Update software by going to the **Support>Firmware** link at www.cobaltdigital.com. Download "Firmware Update Guide", which provides simple instructions for downloading the latest firmware for your card onto your computer, and then uploading it to your card through DashBoard™. **Software updates are field-installed without any need to remove the card from its frame**. The table below lists released software versions and describes the corresponding functions additions, improvements and/or corrections.

Notes: • Some features and/or functions described below are available on a card only when certain licensable features have been activated.
• Date ranges are approximate. Refer to **Support>Firmware** web page for specific card firmware availability.

Software Version (Date)	Description
Rev 24 9/22/2014 – present	**Corrections:** • Fixes issue where the card could spontaneously reboot upon loss or disturbance of external reference when card is set to use frame reference. **Known Issues:** • For an input channel carrying 525i5994, the Flat Field control should be set to Disabled. If signal is lost with any other setting, the card may not revert to outputting valid program video and instead retain outputting the flat field pattern or exhibit other corruption. This issue is being analyzed and will be resolved in a subsequent firmware update. This issue may precede this release. • Multiple tone generators, even if set to the same frequency, may not exhibit phase coherence. If identical tones with frequency and phase coherence are required, use a single tone generator (e.g., "TG1") across multiple channels instead of multiple generators set to the same frequency. • When a presets file is uploaded to the card, a persistent "Upgrade in progress" message may be displayed in the card state display. Clear the message by rebooting the card.
Rev 23 3/17/2014 – 9/22/2014	**Improvements:** • Addresses a manufacturability requirement for new hardware builds. (Current cards in field use do not require this upgrade.) **Additions:** • AES inputs SRCs allow 32 kHz thru 96 kHz rates (including "consumer" 44.1 kHz) to be glitchlessly embedded into SDI video, MADI, or other audio. **Known Issues:** • For an input channel carrying 525i5994, the Flat Field control should be set to Disabled. If signal is lost with any other setting, the card may not revert to outputting valid program video and instead retain outputting the flat field pattern or exhibit other corruption. This issue is being analyzed and will be resolved in a subsequent firmware update. This issue may precede this release. • Multiple tone generators, even if set to the same frequency, may not exhibit phase coherence. If identical tones with frequency and phase coherence are required, use a single tone generator (e.g., "TG1") across multiple channels instead of multiple generators set to the same frequency. • When a presets file is uploaded to the card, a persistent "Upgrade in progress" message may be displayed in the card state display. Clear the message by rebooting the card.
Rev 22 3/11/2014 – present	**Improvements:** • Input stability improvements. • User interface improvements for flat-field controls. • Full dual-reference support. Card can receive reference (and VITC waveform timecode from reference) selectable from frame REF 1 or REF 2. **Known Issues:** • Multiple tone generators, even if set to the same frequency, may not exhibit phase coherence. If identical tones with frequency and phase coherence are required, use a single tone generator (e.g., "TG1") across multiple channels instead of multiple generators set to the same frequency. • When a presets file is uploaded to the card, a persistent "Upgrade in progress" message may be displayed in the card state display. Clear the message by rebooting the card.

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Software Version (Date)	Description
Rev 21 11/4/2013 – 3/11/2014	**Corrections:** • Fixed unstable output of RS-485 LTC timecode. RS-485 Tx and/or Rx can be used without restrictions.
Rev 20 9/20/2013 – 11/4/2013)	**Corrections:** • Fixed internal clocking issue where MADI audio could erroneously be reported as asynchronous even if OK. (Unrelated to this correction is the normal requirement that received MADI audio must be synchronous with the video stream to which MADI is being embedded.) **Additions:** • Adds independent timecode controls for all video paths. • Adds audio/RS-485 LTC timecode conversion between SMPTE VANC SDI formats and audio LTC (via embedded or MADI channels) and RS-485. **Note:** RS-485 LTC I/O requires use of Rear I/O Module with RS-485 port(s). See card web page or datasheet. **Known Issues:** • Transmit of timecode over RS-485 output should not be used. LTC timecode output over RS-485 LTC may have drop-outs under some conditions. (Audio LTC *receive* via audio channels or RS-485 is not subject to this condition.)