

You can update your card by downloading the new Update software by going to the **Support>Firmware Downloads** 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. The list is applicable for all Obsidian® cards unless otherwise noted.

Notes: • Some features and/or functions described below are available on a card only when certain licensable features are present.

- Date ranges are approximate. Software versions listed may not be available for all Obsidian® cards; refer to **Support>Firmware Downloads** web page for specific card firmware availability.

Software Version (Date)	Description
2.101 (3/29/2021 – present) (all 9501-DCDA, 9502-DCDA models)	<p>Corrections:</p> <ul style="list-style-type: none"> • Fixes parity error in two UDWs of ATC timecode packets . • Improved handling of CC re-generated data. <p>Improvements:</p> <ul style="list-style-type: none"> • Improved reliability of SD card recovery process; allows recovery to most recently installed firmware, license, and presets. • Status indicator shows if bootloader update is required.
2.086 (11/13/2019 – 3/29/2021) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements:</p> <ul style="list-style-type: none"> • Improves video quality on processed outputs.
2.082 (3/14/2019 – 11/13/2019) (all 9501-DCDA, 9502-DCDA models)	<p>Corrections:</p> <ul style="list-style-type: none"> • Removes unused Alarms tab from user interface. <p>Additions:</p> <ul style="list-style-type: none"> • Adds Ancillary Data Processing (ADP) tab, which allows ancillary data removed by the scaler to be preserved and bridge-reinserted into the output video. Controls allow selecting the DID/SDID of the ANC data, as well as providing VANC line insertion selection controls, as well as HANC and C insertion selections if desired.
2.072 (8/16/2018 – 3/14/2019) (all 9501-DCDA, 9502-DCDA models)	<p>Additions:</p> <ul style="list-style-type: none"> • Adds support for 23.98/24/25/29.97/30 rate formats. • Adds video input raster size/frame rate filtering which allows rejecting formats as being considered invalid inputs which do not meet user-set parameters (for example, filtering set for 720p 5994 only will reject and consider as Disabled by User any raster size/frame rate not meeting this criteria). • Adds Output Flex Mixer independent user-configurable audio mixers. <p>Improvements:</p> <ul style="list-style-type: none"> • Reduces internal messages written to device system logs. This improves log access in the case engineering support using and viewing logs is ever required. <p>Known Issue:</p> <ul style="list-style-type: none"> • An Alarms tab appears with this release. The Alarms tab is not fully supported in this product. Any settings performed in the Alarms tab have no effect on signal processing. However, Alarms tab in this product will not provide expected monitoring/logging results and should not be used.
1.228 (9/12/2016 – 8/16/2018) (all 9501-DCDA, 9502-DCDA models)	<p>Corrections:</p> <ul style="list-style-type: none"> • On models without option +FS, the Closed Captioning tab was not present. While the card indeed converted and passed closed captioning to that suitable for the output format, the enable/disable and (where applicable) HD line number controls were not present. This release restores the Closed Captioning tab for all models and option packaging. <p>Known Issue:</p> <ul style="list-style-type: none"> • (Option +LTC only) Timecode LTC Input choices (external LTC source other than embedded input audio) are present that are not applicable for these models. The presence of the unsupported input choices has no effect on processing or usage of applicable intended controls which allow use of embedded LTC sources. (This issue predates this release and may be present on earlier releases.)
1.219 (8/8/2016 – 9/12/2016) (all 9501-DCDA, 9502-DCDA models)	<ul style="list-style-type: none"> • This release is a manufacturing maintenance up-issue. Upgrade to this release is not required.

– Continued on next page –

Software Version (Date)	Description
1.203 (6/10/2016 – 8/8/2016) (all 9501-DCDA, 9502-DCDA models)	<p>Corrections:</p> <ul style="list-style-type: none"> Fixes error where Character Burner Display Type would not display input video format when Video Type was selected. When set to Video Type, selected ident burn-ins now display input video format (or where no input is present, displays NO INPUT).
1.202 (6/1/2016 – 6/10/2016) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Timecode Burn enable can be set to burn-in selected timecode format outputted by the card. (Burned-in timecode is a function of outputted timecode and not input or received timecode.) <p>Corrections:</p> <ul style="list-style-type: none"> Errant selections of “Embedded Data L” and Embedded Data R” have been removed as choices for output audio. On the card DashBoard Product tab, “Filesystem Revision” field (which is not applicable to these models) has been removed.
1.198 (5/25/2016 – 6/1/2016) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Adds two individual Character Burn strings and Timecode Burn on program video outputs. Burn-in can be individually manually enabled or disabled, or set to enable upon loss of input video. <p>Corrections:</p> <ul style="list-style-type: none"> SDI and CVBS reticule enable controls are no longer inadvertently ganged for CVBS output. <p>Known Issue:</p> <ul style="list-style-type: none"> Errant selections of “Embedded Data L” and Embedded Data R” appear as choices for output audio. These control settings do not apply to this card model. On the card DashBoard Product tab, “Filesystem Revision” field is not applicable for this card model and may display “error”. This has no effect on operation and is inconsequential and should be ignored.
1.112 (5/28/2015 – 5/25/2016) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Enhanced convert-to-SD scaler coefficients and added scaler Downscale Filtering control which allows scaling coefficient tailoring for image sharpness adjustment. Boot time improved by several seconds. <p>Known Issue:</p> <ul style="list-style-type: none"> SDI and CVBS reticule enable controls are inadvertently ganged for CVBS output. Setting SDI control to Enabled will result in reticule insertion on both SDI and CVBS outputs (CVBS reticule insertion control controls only CVBS insertion as intended).
1.107 (3/19/2015 – 5/28/2015) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Improves CAN bus reliability. If a significant number of errors occur on the CAN bus (whether due to the network card or another card in the frame) the CAN controller on the 9501/9502 card could go into a 'stop' mode and stop transmitting. Previously the card would stay in this state and drop out of Dashboard until a power cycle or reboot. Now the CAN controller will attempt to auto-restart itself and resume operation after a bus_stop condition occurs. Boot time improved by several seconds. <p>Corrections:</p> <ul style="list-style-type: none"> Adds support for SD-SDI with V-bit transition on lines 10-19 (previously only locked if on line 20). (Applicable to 9502 only) Fixes embedder HD clock phase issue. (Applicable only for models licensed with +FS) Framesync no longer outputs illegal code words during switch line. <p>Known Issue:</p> <ul style="list-style-type: none"> SDI and CVBS reticule enable controls are inadvertently ganged for CVBS output. Setting SDI control to Enabled will result in reticule insertion on both SDI and CVBS outputs (CVBS reticule insertion control controls only CVBS insertion as intended).
1.75 (11/19/2014 – 3/19/2015) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Framesync stability improvements <p>Corrections:</p> <ul style="list-style-type: none"> EDH ANC error bits now correctly set (earlier version could inadvertently show an error when none was occurring). Condition where, when multiple Dolby pairs were present in embedded audio, Dolby pairs could have phase alignment issues resulting in the pair being not recognized as Dolby in downstream systems has been corrected. A phase alignment issue affecting PCM pairs (but not as easily causing errors) has also been corrected in this release.
1.73 (11/17/2014 – 11/19/2014) (all 9501-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Framesync stability improvements <p>Corrections:</p> <ul style="list-style-type: none"> EDH ANC error bits now correctly set (earlier version could inadvertently show an error when none was occurring).

– Continued on next page –

Software Version (Date)	Description
1.58 (8/15/2014 – present) (all 9501-DCDA, 9502-DCDA models)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Allows addition of framesync licensable feature +FS. (This release must be uploaded to the card to support this licensable feature.) <p>Corrections:</p> <ul style="list-style-type: none"> Corrects SDI and CVBS reticule enable controls being inadvertently ganged. Insertion controls now function independently as intended. Corrects condition where If the card is power-cycled or rebooted, saved presets were not displayed in the Select Preset: drop-down. Saved presets are now displayed and directly available for use following a card power-cycle or reboot. Removes controls on 9501-DCDA related to an HD output (which this model does not support).
1.43 (7/29/2014 – 8/15/2014) (models 9501-DCDA-3G, 9501-DCDA-HD only)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Improves card boot time and output lock time. Improves CVBS output lock time. Adds Absolute Audio Delay display. Adds reference VITC as timecode source selection. Adds support for PAL rates. <p>Corrections:</p> <ul style="list-style-type: none"> Corrects possible audio-video delay offset issue. Delay control setting default is zero offset. Stabilizes operation when card is subjected to rapid switching between inputs. Fixes card-edge Input Format LEDs state not coinciding with actual format received on input A or B. <p>Known Issue:</p> <ul style="list-style-type: none"> SDI and CVBS reticule enable controls are inadvertently ganged. Setting either control to Enabled will result in reticule insertion on both SDI and CVBS outputs. If the card is power-cycled or rebooted, saved presets may not be displayed in the Select Preset: drop-down. If this occurs, press the Refresh button at the bottom of the DashBoard page. (Card state is always saved whether invoked by unwritten changes or invoked by a loaded preset.)
1.41 (7/25/2014 – 7/29/2014) (models 9501-DCDA-3G, 9501-DCDA-HD only)	<p>Improvements/Additions:</p> <ul style="list-style-type: none"> Improves card boot time and output lock time. Improves CVBS output lock time. Adds Absolute Audio Delay display. Adds reference VITC as timecode source selection. Adds support for PAL rates. <p>Corrections:</p> <ul style="list-style-type: none"> Corrects possible audio-video delay offset issue. Delay control setting default is zero offset. Stabilizes operation when card is subjected to rapid switching between inputs. <p>Known Issue:</p> <ul style="list-style-type: none"> SDI and CVBS reticule enable controls are inadvertently ganged. Setting either control to Enabled will result in reticule insertion on both SDI and CVBS outputs. If the card is power-cycled or rebooted, saved presets may not be displayed in the Select Preset: drop-down. If this occurs, press the Refresh button at the bottom of the DashBoard page. (Card state is always saved whether invoked by unwritten changes or invoked by a loaded preset.) Card-edge Input Format LEDs state may not coincide with actual format received on input A or B. The LOCK indicators do function as intended, and with a valid input no LED cycling will appear.
1.26 (12/20/2013 – 7/25/2014)	<p>Corrections:</p> <ul style="list-style-type: none"> Corrects rare case where significant video timing wander/shift could cause embedded audio out misalignment/ phase shift, resulting in audio errors or corruption to Dolby data. (Option +LTC only) Corrects audio LTC receive and send issues preventing use in some cases. Corrects condition resulting in no output when receiving PAL SD (625i50) input.
1.20 (released for 9501-DCDA only (11/18/2013 – 12/20/2013)	<p>Additions:</p> <ul style="list-style-type: none"> Adds support for PAL frame rates. Allows downconversion from 1080p50, 1080i50, and 720p50 to 625i50. Adds EDH packet on SD-SDI output with RP165-compliant line 9 and line 5 positions for 5994 and 50 rates (respectively). <p>Improvements:</p> <ul style="list-style-type: none"> Improved switching time for SDI input changes.
1.14 (11/5/2013 – 12/20/2013)	<p>Corrections:</p> <ul style="list-style-type: none"> User interface corrections to remove extraneous CVBS and scaler controls are card models where these controls are not applicable. Timecode controls corrected to allow use of Reference VITC as a valid selection. With priority selection appropriately set, the card will failover to reference VITC upon loss of any timecode format supported by the card. <p>Improvements:</p> <ul style="list-style-type: none"> Improved scaler operation, especially for 3G-to-HD down-conversion (where supported).

– Continued on next page –

Software Version (Date)	Description
1.04 (9/12/13 – 11/5/2013)	<p>Corrections:</p> <ul style="list-style-type: none"> • Card control settings changes saved as either a saved preset or as a random control setting change which is now persistent across a card reboot or power cycle. <p>Additions:</p> <ul style="list-style-type: none"> • Adds support for Audio LTC (+LTC) option. This allows audio LTC to be received over embedded audio channels for embedding as SMPTE VANC timecode formats into the output SDI stream. SMPTE VANC timecode data can also be outputted over an audio channel. On 9501-DCDA, audio LTC can also be outputted over an analog audio output. • Adds as standard feature audio crosspoint which can route any embedded channel, downmixer output, or one of 16 ascending-frequency -20 dBFS tones to any embedded output channel. (On 9501, these sources can be routed to any of the analog audio outputs; on 9502-DCDA, these sources can be routed to any of the AES audio output channels.) • Adds DashBoard level bar graph meters, mute, and phase invert controls to all audio output channels. <p>Known Issues:</p> <ul style="list-style-type: none"> • (9502 only) The DashBoard “Analog Output” sub-tab appears under the Output Audio Routing/Controls tab, although these controls have no effect on this card model. • If a timecode prioritization is set such that Reference VITC is selected, the card will not use this source and instead will revert to free-run timecode. This source choice should not be used. <p>Note: Due to functional additions and numerous user interface improvements and additions, we recommend obtaining a new manual for your Obsidian card after uploading this firmware version to your card. Download the manual (pdf) from the card Product page or at Cobalt>Support>Documents>Product Information and Manuals.</p>
1.0.0017 (8/26/13 – 9/12/13)	<p>Initial release</p> <p>Known Issues:</p> <ul style="list-style-type: none"> • Card will not save random control changes when the card is rebooted or power cycled. Custom changes must be saved to the card Preset > Card Settings Saved to be retained.