

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.

Software Version (Date)	Description
Rev 2.108 (6/29/2021 – present) 9940-ACO / BBG-1040-ACO models	<p>Additions/Improvements:</p> <ul style="list-style-type: none"> • Adds ACO Setup subtab and controls to Event Setup tab. Instead of previous 2-input failover for screened events (such as loss of audio or loss/black/frozen video events), this functionality screens all four available card inputs for substitutes to be used in cases of primary program input experiencing loss event(s). <p>In addition to accommodating up to three failover sources (SDI IN B, SDI IN C, and SDI IN D as failover sources for primary SDI IN A), this function applies a weighting/priority to the failovers to be invoked.</p> <ul style="list-style-type: none"> - Failover will attempt to use next-highest weighted input source, and progressively use lower-weighted sources if higher-weighted sources are not available. - If higher-weighted inputs again become viable, the highest-weighted source will be used. <p>(For example, if primary SDI IN A experiences a screened event and failover SDI IN C is screened as OK and is invoked, highest-weighted SDI IN A will be again used should it again become available even if SDI IN B is OK and present.)</p> <p>Note: If ACO Setup functionality described here on the ACO Setup subtab is used, the Event Triggers subtab should not also be set to invoke event failovers to alternate inputs. This could cause a conflict and instability if both screening mechanisms are used simultaneously. (A Product Manual revision describing the added functionality in detail will be forthcoming.)</p> <p>Note: Because BBG-1040-ACO model only offers two SDI inputs (SDI IN A and SDI IN B) on its rear panel, the multi-input ACO failover in this release has limited benefit. Upload of this version to BBG-1040-ACO is discretionary and optional.</p>
Rev 2.098 (10/21/2020 – 6/29/2021) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> • Closed captioning status when CC source is analog input bridge mode to SDI. • Fixes incorrect per-channel audio delay choices for audio bus channels 5 thru 16. • Fixes parity error in two UDWs of ATC timecode packets. <p>Additions/Improvements:</p> <ul style="list-style-type: none"> • Adds controls to explicitly set HRD flags in apply ST352 VPID (OETF and colorimetry) in SDI output video. • Adds UDP Raw ANC data insertion mode. • SD card recovery process improved and allows recovery to most recently installed firmware, licensing, and saved presets. • Where video quality event screening is present (option +QC or standard ACO functionality), adds failover choice to stay on failover input choice even if primary input "comes back", thereby preventing bouncing between two input choices if primary input is unreliable. • Adds Bootloader Revision field in card Product Info tab. Shows revision or if card requires bootloader update.
Rev 2.081 (3/12/2019 – 10/21/2020) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> • (BBG-1000 variants only) Fixes rare cases where certain front-panel button presses could result in unit front-panel control lock-up. • Improves presets performance where large-scale manipulations could occur (such as Delete All Presets). Also provides enhanced stability and conformity when accessing presets from both DashBoard™ remote control and the built-in web browser UI.
Rev 2.080 (1/17/2019 – 3/12/2019) 9940-ACO / BBG-1040-ACO models	<p>Improvements:</p> <ul style="list-style-type: none"> • Adds Parameter Blast checkbox (located on the Admin > System tab). When enabled, Parameter Blast can reduce the time it takes for a card/device to appear and populate in DashBoard (this is especially relevant where high-latency connections are present). This is facilitated by reducing some handshakes on initial DashBoard setup where control settings are static (not being manipulated) while the card is first appearing. (Note that the frame network card is the arbiter of all frame/card communications and in some cases may not accept full extent of parameter blast under some conditions.)

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Software Version (Date)	Description
2.077 (12/10/2018 – 1/17/2019) 9940-ACO / BBG-1040-ACO models	Improvements: <ul style="list-style-type: none"> • Adds new preset functionality including new controls for deleting all presets on a card and managing how preset uploads get processed. • Extends max EAS crawl length from 256 to 2048 characters. • Increases per-channel audio delay from 800ms to 1500ms. • WebUI improvements. <ul style="list-style-type: none"> - Improved page loading time. - All controls and status parameters supported and displayed (previously, some controls/parameters were not exposed on WebUI). - User-selectable page color/background schemes (which are persistent across power cycling and/or reboots). • Trouble Slate and Logo Insertion tabs now display the name of each graphic. The name of each graphic is also displayed in the Event Setup tab under the Event Action column. (This functionality requires uploading graphic files into bin files using the latest posted web conversion tool at http://a.cdi-eng.com:55080/cgi-bin/image_upload.py) Full compatibility is maintained meaning older graphics bin files will work with new firmware and new graphics BIN files with the name encoded will work with older firmware versions.
2.052 (7/3/2018 – 12/10/2018) 9940-ACO / BBG-1040-ACO models	Improvements: <ul style="list-style-type: none"> • Various stability improvements. • New WebUI which exposes all user controls • Improvement allows multiple SCTE104 insertions on same frame • Reduction in openGear frame traffic for reporting card parameter updates. Corrections: <ul style="list-style-type: none"> • Corrects mis-calibration of DashBoard audio level meters (bars). Full red = 0dBFS; Red/yel point = -10 dBFS; Yel/green point = -20 dBFS.
2.031 (1/4/2018 – 7/3/2018) 9940-ACO / BBG-1040-ACO models	Additions: <ul style="list-style-type: none"> • Adds audio output flex mixing, including output downmixers as flex mix sources. • Allows user-selectable ST352 VPID insertion as regenerated (default mode) or pass-thru mode where ST352 VPID is passed untouched. • (Option +TTS) Adds support for additional non-English language options. Improvements: <ul style="list-style-type: none"> • Various stability improvements. Corrections: <ul style="list-style-type: none"> • Addresses issue where non-PCM audio can spontaneously mute on outputs in rare cases of rapid input interruption/resumption. • (Option +SCTE104) Corrects UI typo in the log on +SCTE104 insertion page. • Corrects case where 23.98 frame formats would always be accepted regardless of how the input video filtering controls were set.
1.251 (5/11/2017 – 1/4/2018) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Addresses a production compatibility issue. • Fixes nuisance “modified” card state message when no changes were actually made. • Fixes cases where card may not show in DashBoard when enabling Event-Based Loading.
1.235 (11/29/2016 – 5/11/2017) 9940-ACO / BBG-1040-ACO models	Additions: <ul style="list-style-type: none"> • Adds Alarms DashBoard tab, which allows input video error conditions (missing, frozen, or black frame, CC loss, audio missing) to be propagated as a card general Warning (yellow) or Error (red) alarm. Maintains a log in DashBoard of all logged alarm activity, which can also be downloaded as Alarm.txt files. A Syslog IP function allows alarm propagation directly over IP (card must be fitted with Rear Module having a dedicated IP port or frame capable of per-card dedicated IP communications). • 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). <p>Note: The added user interface controls in this firmware version will not display or function properly on older versions of DashBoard. Version 7.0.0 or newer is recommended.</p>
1.232 (11/10/2016 – 11/29/2016) 9940-ACO / BBG-1040-ACO models	Improvements: <ul style="list-style-type: none"> • Adds explicit controls to use frame network card or direct network connection for NTP source. • (Option +TTS only) Creates SSH public keys directory. This is to assist using public key SSH auth for +TTS using SCP to copy playout files to card. • (Option +SCTE104-FAST only) Improvements to accuracy of +SCTE104-FAST insertion for out-of-time-order messages.

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Software Version (Date)	Description
1.224 (9/1/2016 – 10/13/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Corrects case where Frame Sync “On Loss of Video”, when set to Flat Field, could instead output a test pattern during the LOS intervals. This typically occurred only with intermittently present input LOS or large shifts in input timing. This is now corrected for any input LOS condition.
1.231 (10/13/2016 – 11/10/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Fixes cases where GPI level-based triggering was used in conjunction with event actions, changes of level state may not always have been detected (resulting in the combined triggering not being executed). • (Option +SCTE104-FAST only) Fixes cases where a “0” would be inserted at the start of a UPID string in a SCTE104 <i>insert_segmentation_descriptor</i> operation, resulting in the last character of the UPID being dropped. Improvements: <ul style="list-style-type: none"> • (Option SCTE104-FAST only) SCTE104 messages inserted via +SCTE104-FAST with an expired UTC timestamp are now immediately inserted (previously rejected since the insertion time was expired).
1.197 (5/16/2016 – 7/25/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • (-2FS models only.) Fixes Known Issue noted in 1.193 thru 1.196. Both paths now allow independent LOS actions per the respective path control settings.
1.209 (7/25/2016 – 8/3/2016) 9940-ACO / BBG-1040-ACO models	Additions: <ul style="list-style-type: none"> • Adds support for multicast IP de/insertion with IGMPv3 support and source filtering. • IP de/insertion using data-over-audio maintains IP packet structure. • IP de/insertion using data-over-audio capable of continuously de/inserting multiple packets per frame. • Adds general purpose “Event Timers” that can be used in conjunction with event-based actions. • (option +SCTE104) Adds support for SCTE104 messages as triggers for event actions. • (option +LOGO) +LOGO option can now be enabled/disabled using event actions. • Adds support for option +EAS
1.196 (4/11/2016 – 5/16/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Fixes case where custom audio delay settings would not return to default settings when a default preset was applied.
1.193 (3/23/2016 – 4/11/2016) 9940-ACO / BBG-1040-ACO models	Additions: <ul style="list-style-type: none"> • Adds Silence selection as a source choice for input audio channel selections.
1.191 (3/17/2016 – 3/23/2016) 9940-ACO / BBG-1040-ACO models	Additions: <ul style="list-style-type: none"> • Adds SNMP support; adds button for SNMP MIB file download. • Adds button to clear SDI error count/OK time. • Adds silence as an output audio routing source. • (Option +T-SLATE) Allows support of option +T-SLATE. Option provides graphic file upload and manual/quality-event invoke of trouble slate raster insertions. • (Option +LOGO) Allows support of option +LOGO. Option provides graphic file upload and user-controlled insertion of logo “bug” onto active video.
1.184 (1/20/2016 – 3/17/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Fixes case where some parameters were not properly displayed when using an OGCP-9000 Remote Control Panel. • AES and analog audio output controls now properly control sources using card/device downmixer and flex mixers (fixes known issue noted in version 1.179 below). Additions: <ul style="list-style-type: none"> • (Option +TTS) Allows support for Spanish characters (as extended ASCII, UTF-8 and UTF-16) and encoding when licensed with option +TTS and Spanish-language TTS option +2L-SPAN. • (Option +TTS) Additional XML parser options added.
1.179 (12/16/2015 – 1/20/2016) 9940-ACO / BBG-1040-ACO models	Corrections: <ul style="list-style-type: none"> • Fixes a potential remote control (DashBoard, etc.) communications drop-out condition in long-term use under certain conditions. Known Issues: <ul style="list-style-type: none"> • When using AES or analog audio outputs sourced from audio output Downmix or Output Flex Mix sources, AES and/or analog output channel Gain, Mute, and Invert DashBoard controls may not be honored (control settings will have no effect on output). These outputs are fully usable, but will not be controllable by these controls. Parameters such as gain will remain at default null settings. (+TTS option) TTS routing and program ducking is not affected by this issue and will play out as set using the Text to Speech Audio Routing DashBoard controls. This issue exists for earlier releases also.

– Continued on next page –

Software Version (Date)	Description
1.178 (12/7/2015 – 12/16/2015)	<ul style="list-style-type: none"> This release is superseded by release 1.179. Use version 1.179.
1.175 (11/24/2015 – 12/7/2015) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> (+TTS option): Invalid XML files no longer cause card to dropout of DB. (+TTS option): Watch folders reconnect after reboot of servers hosting SMB shares. (+TTS option): CIFS share status would report total number of files incorrectly in some cases. Improves de-embedder alignment checking to avoid falsely flagging align errors for out-of-sequence but valid audio. Incoming CC is stripped when insertion is enabled. DashBoard controls added to remove and regenerate closed-captioning, with line no. control for regenerated insertion. <p>Known Issues:</p> <ul style="list-style-type: none"> Timecode burn-in will only produce a burn-in when the card is outputting (passing) ATC_VITC timecode data. However, regardless of input or card-generated (free run) timecode source, burn-in can be accomplished by making certain ATC_VITC Insertion is set to Enabled on corresponding SD or HD insertion controls on the Timecode tab.
1.167 (11/12/2015 – 11/24/2015) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> (+TTS option) Fixes program audio ducking where program audio uses downmix or flex mix audio sources. Previously, program ducking settings were not honored using these audio sources during TTS playout. <p>Improvements/Additions:</p> <ul style="list-style-type: none"> (+TTS option) enhancements: <ul style="list-style-type: none"> XML parser fields can accept longer text strings In Event Action drop-down selection list, “TTS Folder 1 Play New or Old” thru “TTS Folder 3 Play New or Old” selections added <p>Known Issues:</p> <ul style="list-style-type: none"> Timecode burn-in will only produce a burn-in when the card is outputting (passing) ATC_VITC timecode data. However, regardless of input or card-generated (free run) timecode source, burn-in can be accomplished by making certain ATC_VITC Insertion is set to Enabled on corresponding SD or HD insertion controls on the Timecode tab.
1.158 (10/27/2015 – 11/12/2015) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> For +TTS option, files fetched via FTP could get corrupted in some cases. All TTS functionality now contained within TTS licensed functions and not other licensed functions (this affected GPO or user presets as a result of TTS playout status actions). <p>Improvements/Additions:</p> <ul style="list-style-type: none"> +TTS enhancements: <ul style="list-style-type: none"> XML parser parent field is true parent not just immediate parent
1.156 (10/19/2015 – 10/27/2015) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> Negative audio delay is now achievable. Timecode “Apply Free Run” button now requires confirm. Multiple-pair Dolby stability improvements. Fixes cases where keyer could shift alignment on enable/disable. Fixes de-embedder alignment issue which could cause intermittent phase misalignment. Fixes condition where some audio controls would not be engaged unless pressed multiple times. <p>Improvements/Additions:</p> <ul style="list-style-type: none"> +TTS enhancements: <ul style="list-style-type: none"> FTP connections can be standard/extended and passive/active. FTP poll rate can be set by user. Allows up to five XML parser configurations to be set up. XML parser setup now supports parent and attr/value qualifiers. Improved watch folder status reporting. Full support and status reporting for user uploaded warning tones. Tone generator frequencies are displayed rather than just “Tone N”. All overlays (including ident burn-ins) default to disabled.
1.145 (9/14/2015 – 10/19/2015) 9940-ACO / BBG-1040-ACO models	<p>Corrections:</p> <ul style="list-style-type: none"> Corrects condition where DashBoard remote control for card/device could in some cases not initialize upon initial power-up. <p>Note: This condition only affected to card/device remote control and not card/device processing.</p> <p>Improvements/Additions:</p> <ul style="list-style-type: none"> Adds support for option +TTS which allows automated 21CVAA Text-To-Speech generation/audio insertion.
1.120 and earlier (prior – 9/14/2015) 9940-ACO / BBG-1040-ACO models	<ul style="list-style-type: none"> Initial releases