

# SSP-3801

HD/SD Solid State Playout Card

## Release Notes

18 September 2014



[new.grassvalley.com](http://new.grassvalley.com)

# Introducing the SSP-3801 v1.2

The Densité SSP-3801 is a single card, solid state HD/SD playout server that is housed in the Densité 3RU frame. It is fully integrated with the GV STRATUS Playout cloud-based automation and schedule management service and is equally suitable for deployment at a regional site or within a network operation center. The SSP-3801 card uses solid state storage and broadcast hardware technology, with no reliance on external databases, resulting in low cost of ownership, rock solid reliability, total frame accuracy, simple installation and very low power consumption.

## New Features

### **SSP-2239: Add NVISION 9000 router controller support**

Added support for NVISION 9000 router controller for switching of upstream routers up to 1152x1152. All level switching is the only mode of operation supported. System names defined in 7-bit ASCII are supported and will be displayed when a source event is scheduled.

### **SSP-2167: Add SD support**

Support for 625 Line (PAL) and 525 Line (NTSC) standards has been added to this release.

### **SSP-2144: Add option to pass closed captions/WSS in 625 (PAL) and 525 (NTSC)**

An option was added to the Card Configuration > Input/Output page to offer the choice to carry video or closed captioning/widescreen signaling (WSS) on line 23 in PAL (625 Line) or lines 20 and 21 in NTSC (525 Line). When the option is enabled, the data on line 23 in PAL (625 Line) or lines 20 and 21 in NTSC (525 Line) is unaffected by the ABMixer, logos and stills.

### **SSP-2104: Add support for HCO device control by GV STRATUS Playout service**

An HCO device can be used to perform a change-over (or failover) to a second, redundant card (Slave) in the case of a failure on the main card (Master). This change-over can be performed automatically by the HCO device or manually by the user. New controls have been added to the Device Control page to enable the GV STRATUS Playout service to allow users to initiate the change-over between the Master and Slave roles and change the failover modes set on the cards.

### **SSP-2061: Add support for breaking away to a router source**

The Playlist page now supports the ability to perform a breakaway to a specified router source. When Router Control is enabled, the Breakaway Source, Breakaway, and Breakaway & Hold buttons are made available so a router source for the breakaway can be set and triggered regardless of whether the playlist is currently airing source events, other events or is empty.

### **SSP-2048: Add new router control license**

A new license has been added in this release to enable access to external router control. This feature allows the user to switch between sources made available through an external video router connected to the card's SDI A and SDI B inputs by either creating scheduled "source" events in a playlist or by manually initiating a breakaway.

### **SSP-1973: Add support for testing device response time**

Support added for responding to the GV STRATUS Playout device ping, which allows GV STRATUS Playout to measure the round trip time between the GV STRATUS Playout web client and the SSP-3801 card.

### **SSP-1964: Add support for downloading media from FTP locations**

The SSP-3801 card now supports downloading media from FTP servers supporting PASV mode. Supported: segmented downloads, concurrent FTP downloads, basic authentication and download pause and resume.

### **SSP-1950: Add support for retrying failed routes for source events**

Router sources are now retried up to five times before the source event is considered to have failed. In the case of failure, the pre-configured off-air behavior is used if no remedial action is taken before the event goes to air. The status of the router source is now also displayed in the channel grid on the Playlist page.

### **SSP-1897: Add support for handling premature router tallies**

Added a configurable delay in Card Configuration > Router Control for routers that tally before they switch. The Post Router Tally Delay field specifies a value in milliseconds (between 160 to 2000 ms) representing the delay between when the message is received from the router controller confirming that the switch has been made and when the actual switch is performed by the router frame. This delay is specified to prevent premature switching causing unwanted effects in the playout.

### **SSP-1819: Reduce latency with Take Next and status notifications**

The SSP-3801 card now uses long polling instead of polling every second, which has resulted in the card being more responsive to events from GV STRATUS Playout, and restrictions on notification sending have been removed so notifications are only delayed by 100mS instead of 500mS.

### **SSP-1812: Add support for router source primary events**

A new primary event type called "Source" has been added to the Playlist page to allow users to specify a router source to stream a live feed supplied via a router connected to the SSP-3801 card's SDI A and SDI B inputs.

### **SSP-1730: Add support for selecting router source mnemonic**

New interface added to enable the selection of a router source mnemonic when live source events are added to the schedule on the Playlist page.

### **SSP-1392: Add support for biasing routing to the SDI A input**

The routing of the primary live feed is now biased to the SDI A input to ensure the router source is automatically passed to PGM (SDI Out) output via the mechanical bypass relay in case of power loss or card failure. It also enables operators to quickly change the source on the SDI A input to prevent the wrong source or a bad source from going on air.

### **SSP-1209: Add support for the NVision Compact CQX router**

A new option has been added to Card Configuration > Router Control to allow users to switch between sources made available through the NVision Compact CQX router.

## **Improvements**

### **SSP-2263: S:/ marker for externalpayload replaced by new command**

In the previous version of the Windows-based VANC create (csvanccreate.exe) command line tool, the S:/ marker (-e S:/path\_to\_folder) was required with the externalpayload command to specify the path to a folder containing a sequence of binary files. In this release, the S:/ marker has been replaced by a new argument (--directory).

### **SSP-2234: Default website admin password changed**

In previous releases the default SSP web interface administrator password was M1randaSSP. To conform with the rebranding of the products, the default password has been changed to P1ayout.

### **SSP-2230: HCO Control label changes on Device Control page**

To improve the usability of HCO Control on the Device Control page, the HCO Control section has been renamed to Failover and the Role buttons have been renamed Main and Backup to be consistent with the terminology used in GV STRATUS Payout.

### **SSP-2183: GV STRATUS Payout Playlist Sync controls moved to new page**

The Playlist Sync controls reflect the current state of the playlist synchronization between the SSP-3801 card and the GV STRATUS Payout service when the card is registered as a device with the service. These controls, once available on the Playlist page, have been moved to a new page called Device Control.

## **SSP-2151: Added support for handling device unregistration requests from GV STRATUS Payout**

When an SSP-3801 card receives a deletion message from GV STRATUS Payout, it responds with an "Unregister" message to the service and removes its certificate from the service's certificate store.

## **SSP-2034: Identified OpenSSL heartbleed bug vulnerability**

A security bug in the SSP-3801 web interface was identified and resolved by upgrading to OpenSSL 1.0.1g.

## **SSP-1648: Add support for forcibly renewing a GV STRATUS Payout device certificate**

Support has added so the SSP-3801 card will replace its device certificate upon receiving a certificate renewal request from GV STRATUS Payout.

## **Fixes**

### **SSP-2400: H.264 confidence monitor crashes and causes the system to become unresponsive**

The H.264 confidence monitor would sometimes become unresponsive and as a result cause other parts to also become unresponsive. A workaround has been implemented which restarts the H.264 proxy server if it stops working and ensures that the rest of the system is not affected by any malfunctions in the H.264 proxy server. Long term fix for H.264 proxy server will be addressed in a later release.

### **SSP-2395: SDI output is occasionally unstable at start up**

At times the SSP-3801 card would start up with an unstable SDI output. A number of firmware issues in the genlock may have been causing some devices to output an illegal SDI signal upon startup or presentation of a new reference signal. These firmware issues have been fixed to prevent the SDI output from becoming unstable.

### **SSP-2375: Clips sometimes start at wrong In Point or sometimes fail to start if the SOM and In Point are the same**

At times clips were failing to start when the clip had a non-zero Start of Media (SOM) and a Mark In point equal to the SOM. Also, some clips were starting at an In Point one frame earlier than intended. A fix was made to correct an error in the time to frame count conversions that caused some frame counts to be one less than they actually were, which resolves both of these issues.

### **SSP-2357: Fill&Key and External Voice-over events sometimes get reported as Off-Air**

Fill and key (F&K) and external voice-over (External VO) would appear in the channel grid on the Playlist page and in the As Run logs with an Off-Air or Partial status despite playing out on air correctly. A fix was made to event status notifications to prevent an "Off-Air" status being reported at the start of the event.

### **SSP-2340: Synchronization sometimes fails after channel reassignment**

In some instances the SSP-3801 card failed to resynchronize with GV STRATUS Playout after a channel was reassigned to it. The implemented fix resolves this issue as well as some others related to manual resynchronization so the playout on the SSP-3801 card correctly follows the playout on its assigned channel.

### **SSP-2286: Events are sometimes mistakenly marked as Partial rather than Done**

During playout events were displayed as Partial even if they had played out in their entirety and that incorrect state was also reported in the As Run logs. A fix has been made to correct the calculation for determining whether events have a state of Partial or Done so their correct state is correctly reflected in the Playlist page and in the logs.

### **SSP-2285: Using graphics in the wrong frame rate caused card to become unresponsive**

If a playlist contained a graphic in the wrong frame rate (for example: playing a 60 Hz graphic on a card in 50Hz), the SSP-3801 card would fail to playout further graphics and would need to be restarted to rectify the issue. A change was made so now the invalid graphic will fail to air, but the card will recover and graphics in the correct frame rate later in the playlist air as intended.

### **SSP-2274: Graphics sometimes stop prematurely**

Graphics with a simple (plain solid white) key caused underrun errors in the logs and would stop prematurely after 5 to 10 seconds. A fix was made to resolve an issue with simple key graphics, which prevents the underrun errors and the premature stop of the graphic event.

### **SSP-2268: System fails to start up if invalid IP is set**

Previously, the SSP-3801 software would become unresponsive during start-up if the IP address was set to 0.0.0.0 and DHCP was disabled. Users are now prevented from entering the IP address of 0.0.0.0 for either of their interface IP addresses. If the 0.0.0.0 IP address is found at start-up, then the system will switch into DHCP mode to attempt to obtain an IP address.

### **SSP-2256: An unstable or illegal output occasionally occurs on initial start-up when using an external reference**

A firmware issue caused the genlock to fail at start-up when using an external reference, which would manifest itself either as a completely corrupted output (525 line) or as line length errors reported on a waveform monitor. A fix was made to the firmware to resolve this issue.

### **SSP-2243: Undesired refresh between router dialog boxes**

An issue caused an undesired affect between the Card Configuration > Router Control> Select > Choose Router Destination dialog box and the Playlist > Source > Choose Router Source dialog box. Triggering a refresh in one dialog box caused a refresh in the other. A fix was made in this release to resolve the issue so the dialog boxes no longer affect each other.

### **SSP-2238: Standby Content appears as On Air before content is playing**

The standby content would be displayed as On Air in the Playlist page before it was actually placed on air resulting in two primary events being shown as on Air simultaneously. A fix was made to ensure that the status displayed in the grid accurately reflects the status of the events. Also, the status for standby content at the on air point has been changed from "On Air" to "Standby" to provide a clear indication that the scheduled event has been replaced.

### **SSP-2191: VCHIP incorrectly inserted on line 23 in 525 instead of line 21 (second field)**

In 525i the VCHIP data was being inserted on line 23 rather than on line 21. The offset has been corrected in this release so the VCHIP is now inserted on line 21.

### **SSP-2178: Micron M500DC SSDs do not work**

The auto-activate feature enabled on the Micron M500DC SSD prevented the SSD from being compatible with the Freescale P2041 SATA controller. A fix was introduced in this release to automatically disable the auto-activate feature when a Micron M500DC SSD is present. The Micron M500DC SSD is now supported by the SSP-3801 card.

### **SSP-2157: Breakaway & Hold does not work if a source event is on air**

When a Breakaway & Hold button was clicked while a source event was on air, the breakaway did not appear to work and it resulted in an unrecoverable state where breakaways could no longer be performed. A fix was made in this release to resolve the issue and Breakaway & Hold is now supported for source events. If a transition is in progress when a Breakaway & Hold button is clicked, the breakaway is delayed until the transition has been completed since both operations require control of the router.

### **SSP-2148: MXF/GMJ files greater than 4GB or growing files sometimes restart**

In some cases, files greater than 4GB or files that continuously grow in duration would encounter issues that caused the playout to be briefly interrupted. A fix was made in the release to resolve the issue so these files will playout without interruption.

### **SSP-2137: Playlist does not resume playing after card hot swap**

When a card hot swap is performed, the new card should join the playout in progress on the channel, however an issue prevented playout from a new card after a faulty card was replaced. A fix was introduced in this release to trigger the new card to reconnect with the GV STRATUS Playout service after a card hot swap so its playlist is in sync with the playlist in progress on the channel.

### **SSP-2134: Fade-Cut, Cut-Fade and V-Fade transitions durations are 1 frame short**

When Fade-Cut, Cut-Fade transitions were used, the transition was occurring one frame too early. A fix was made in this release to correct the issue so the duration of the specified transition is correct.

### **SSP-2112: Skipped items are not appearing in Show History**

When an event was skipped during playout on the Channel Control page, the skipped event was not appearing in the As Run History grid when Show History was clicked. This issue has been fixed. Skipped events now appear in the As Run History grid.

### **SSP-2036: HCO connection state is being reported incorrectly**

The connection state of the HCO was not being reported correctly in the web interface header when the HCO was configured with the wrong IP address or port number. A fix was made in this release to ensure that if the HCO is configured incorrectly, it will appear as disconnected.

### **SSP-2031: Media cache produces errors if schedule is removed**

If a schedule was removed from the channel from GV STRATUS Playout before the availability check on the assets was completed, it caused numerous errors because the media cache would attempt to process the assets even though they had been removed. The situation has been resolved by having the availability check performed in the background, which now allows schedules to be added, modified and removed without waiting for previous checks to be completed.

### **SSP-2025: Events preceding manual events prevented from going on air**

When an event was preceded by a manual event and both events entered the pre-roll window, the first event was placed in hold when it reached the on-air threshold. This incorrect behavior was fixed in this release so the first event goes on air as expected.

### **SSP-2019: Status for dropped events is displayed incorrectly**

Cued events dropped from a schedule from the GV STRATUS Playout service were displayed in the channel grid as Ready in the Status column and Dropped in the Duration column in both the SSP-3801 and GV STRATUS Playout web interfaces. A fix was made so the Status of a dropped event is correctly displayed as Dropped in both the web interfaces. The status of events that remain in a dropped state at air time switch to a Skipped status.

### **SSP-2015: Cannot configure an HCO in slot 20**

The HCO Slot field on the Card Configuration > HCO Control page only provided options for slots 1 to 19 when 20 slots should be available. A fix was made to correct this issue so users have the ability to select HCO slots 1 to 20.



### **SSP-2013: Parts of the system become unresponsive after a security settings change**

An issue was causing the firewall setup application to become unresponsive when multiple configuration changes were made concurrently. This issue has been fixed in this release to prevent this situation from reoccurring.

### **SSP-2005: SMB paths containing spaces (%20) fail to cache**

Media location paths containing spaces failed to cache and displayed as inaccessible. This was because the SSP-3801 was not treating URL encoded paths received from GV STRATUS Playout correctly. A fix was made so URL encoded paths are resolved correctly.

### **SSP-1994: Users are unable to log in using non-alphanumeric passwords**

An error in the method passwords were stored caused non-alphanumeric passwords to become misrepresented as string and therefore unusable. A fix has been applied to correct the use of the hashing algorithm used to generate the passwords.

**NOTE: This change invalidates all existing passwords and will force the password file back to its default upon upgrade, and you will no longer be able to downgrade from version 1.2 to version 1.1.**

### **SSP-1984: Back-to-back secondary logo events remain in the Cueing state until just prior to air**

Previously, logos remained in a Cueing state late in the pre-roll window which caused an issue when Take Next was clicked. This resulted in the logo not being ready for playout. A change has been made in this release so back-to-back logos using the same logo store can now load immediately if enough space is available in the logo store.

### **SSP-1982: Manually cueing a manual fixed event causes the playlist to stop**

Manually cueing manual events would cause the timeline on the Playlist page to stop. A fix was made to resolve the issue so the Playlist controls function as expected.

### **SSP-1979: Log files are continuously filled with licensing information**

Logs were being filled with licensing information so it became difficult to use the logging data to track useful information and errors. A fix was made to prevent the licensing from being repeatedly initialized and creating unnecessary log entries.

### **SSP-1972: Manual events that were on hold sometimes display Partial status [126159]**

In some cases a manual event that was on hold before playout would incorrectly display a status of Partial upon completion. A fix has been made to accommodate for events placed on hold so the status is displayed correctly.

### **SSP-1931: Router specific configuration is lost after restart**

When restarting the software or the system the router specific configuration was lost. A fix has been made so the router settings are saved correctly and are preserved after a restart.

### **SSP-1817: SSP-3801 card crashes when caching assets**

The SSP-3801 card would crash and become inaccessible when attempting to cache media files. A fix has been made to resolve the internal issue.

### **SSP-1788: MXF files containing D10 audio tracks do not play out**

When MXF files containing D10 audio tracks were scheduled in a playlist, the event failed to play out. Currently, D10 audio tracks are not supported; however, a fix has been made so the MXF file can play out by omitting the audio tracks.

### **SSP-1785: NTP is not being automatically restarted when the IP settings are changed**

A time sync issue was occurring when the IP settings were changed because the NTP server was not automatically restarted after the change. A fix has been made to ensure that the NTP server is always restarted after a network settings change.

### **SSP-1735: Loading logos repeatedly in Manual Controls causes logo and still events to fail**

When Logo 1 and Logo 2 were repeatedly manually set in either the Playlist page in the card's web interface or in the Channel Control page in the GV STRATUS Playout service, it caused a failure which resulted in logo and still events failing to play out until the card was restarted. A fix was made in this release to resolve the underlying cause of the failure.

### **SSP-1734: SSP-3801 card becomes slow and unresponsive after numerous events**

SSP-3801 card would become slow or unresponsive after numerous clip events were played out. A fix has been made to resolve the issue and prevent the number of events from affecting performance.

### **SSP-1733: SSP-3801 card becomes slow and unresponsive after recurring a clip event multiple times**

The SSP-3801 card would become slow or unresponsive when the number of pending recall events reached a certain threshold. A fix has been made to prevent this issue from reoccurring.

### **SSP-1727: Spaces and percent characters in SMB paths or filenames cause errors**

Having a space or a percent character in a path or filename for media being accessed over SMB were failing. The path was not being correctly escaped for special characters. A fix has been made so special characters are handled correctly.

### **SSP-1714: Cannot take Manual event before scheduled time [126125]**

If the next primary event to go to air is a manual event, the operator cannot perform a Take Next until the prior event has finished playing. A fix has been made so Take Next functions properly with manual events.

### **SSP-1706: Schedules starting with a manual event do not hold [126128]**

In the previous release, schedules with the first event configured with a Manual Time Mode were being played out automatically when appended to a channel. A fix was made to correct this issue so the events configured with the Manual Time Mode only play after the operator clicks the Take Next button.

### **SSP-1659: SSP-3801 card fails to start up**

In some cases, the SSP-3801 card would not start. A fix was made to resolve the internal issue that prevented start up.

### **SSP-1639: RTSP streams are inaccessible when the firewall is enabled [126108]**

The Card Configuration > Security > Firewall Status needed to be set to Disabled to view RTSP streams. This issue has been resolved by opening all ports between 6970 and 65536 for incoming UDP traffic when the RTSP Access setting is enabled so RTSP streams are accessible when the firewall is enabled.

### **SSP-1632: Unregistering a device causes errors**

Numerous errors would appear in the SSP-3801 and GV STRATUS Playout logs when an SSP-3801 card was unregistered or deleted. A fix has been made to prevent an unregistered SSP-3801 card from unnecessarily reporting errors.

### **SSP-1621: Event ID for secondary events edited in pre-roll not updated correctly**

When a secondary event was edited in the pre-roll window, its Event ID was not updated which resulted in it not going to air correctly. A change has been made so now when a secondary event is edited during pre-roll a replace operation is performed and the event is cued again.

### **SSP-1568: Clip Player sometimes crashes and generates a core dump on software restart**

Clip, graphic and audio players in the SSP-3801 card were crashing and generating core dumps when the software was restarted. A fix was made to resolve the issue so the players no longer crash on a software restart.

## **Installing the SSP-3801 card**

The SSP-3801 rear connector panel must be installed in the Densité 3 frame before the card can be inserted. Once a matching rear connector panel has been installed, you can install the SSP-3801 card. For more information, please refer to the SSP-3801 Installation and Configuration Guide.

Note: All Densité 3 cards and rear panels can be installed with the frame power on. As a safety precaution however, we recommend turning off power to the Densité 3 frame during the installation of the rear connector panel.

### **To install the rear connector panel:**

1. If a card is installed in the slot whose rear panel is being changed, remove it or slide it over by releasing the captive screw(s) at the bottom and then moving or removing the card.
2. Position the SSP-3801 rear connector panel with the connectors facing outwards and the captive screws at the bottom.
3. Secure the rear connector panel in place by tightening the captive screws at the bottom.

### **To install the SSP-3801 card:**

1. Open the front panel of the frame.
2. Slide the SSP-3801 card into the slot and push gently on the Ejector handle to seat the connectors. The card should be inserted into the far left slot associated with the SSP-3801's 4-slot rear panel. If you insert the card into the wrong slot, the on-card status LED will flash red to indicate that there is no connection to the rear panel. Ensure that the card is in the correct slot to prevent damage to itself or other hardware in the frame.
3. Close the front panel of the frame.

Note: To remove an existing SSP-3801 card from the slot, tilt up the swivel handle on the front of the card to lever the connectors apart, then use the handle to pull the card straight out of the slot.

## **Supported Devices and Software**

To be able to test, monitor, and diagnose a specific SSP-3801 card, you need to access the card directly. To do this, you need to access the card on your network using its IP address and login to it.

To access the SSP-3801 web interface, we recommend that you use a display with a minimum screen resolution of 1920 x 1080 pixels and the latest version of Google Chrome at 100% zoom in full-screen (F11) mode.

## **Supported Formats**

The SSP-3801 cards support the following formats. If the media files that you want to use are not in a supported format, you can use the GV STRATUS Playout File Processing Node to convert the files. For more information on the File Processing Node, see the GV STRATUS Playout documentation.

- Off Air slide: Oxtel Still format (OXT)
- Still: Oxtel Still format (OXT)
- Voiceover: 48kHz multi-channel WAV file (8, 16, 24 or 32 bit) (WAV)
- Graphic: Transcoded by the GV STRATUS Playout File Processing Node (GMJ)
- Logo: Oxtel Still format (OXT) and Oxtel Animation format (OXA)

- Clip: Op1A XDCAM HD or Sony IMX (MXF)
- VANC: Created by csvanccreate.exe tool (VANC). For more information, see the SSP-3801 User Guide.

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