

SSP-3801

HD/SD Solid State Playout Card

User Guide

M931-9900-130

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www.grassvalley.com

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toc

Table of Contents

1 Overview of the SSP-3801	1
Overview of the SSP-3801 package	2
About the SSP-3801 card	2
About the web interface	2
About the SSP-3801 documentation	3
Opening the web interface	3
2 Configuring the Channel Options	5
Configuring the off-air behavior	6
About Evergreen content	8
Defining media locations and credentials	8
Editing media locations	9
Deleting media locations	10
Editing media credentials	10
Deleting media credentials	10
Managing the media downloads to the cache	11
Manually uploading media files into the cache via FTP	12
About the supported characters for asset IDs, paths, and mnemonics	13
Setting the SCTE-104 access level	15
Configuring the General Purpose Input/Output (GPIO) triggers	17
3 Testing and Troubleshooting the Playback	19
About the Playlist page	20
Changing how event types appear in the timeline	22
Troubleshooting failures in the playback	23
Controlling the playback of events	24
Manually breaking away to a live event	26
Manually enabling or disabling secondary events in the playback	28
Configuring the transitions for the Live and Manual Controls	29
Creating a test playlist	32
About Primary Events	33
About Secondary Events	34
About the behavior of automatic and fixed primary events	36
Adding a primary event to the playlist	36
Adding a secondary event to the timeline	40
Deleting an event from the playlist	42
Deleting all the events from the playlist	43

4	Monitoring the SSP-3801 Card's Status	45
	Monitoring the card's status	46
	Monitoring the System status	46
	Monitoring the Input Status	47
	Monitoring the Output Status	47
	Monitoring the GPIO Status	48
	Monitoring the Health Status	48
	Measuring audio levels	48
	Managing card alarms	49
	Configuring the alarm levels	50
	About System Alarms	51
	About Input Alarms	54
	Monitoring the media caching process	54
	Previewing the broadcast	55
5	Analysis and Maintenance	57
	Downloading the Diagnostic Archives	58
	Downloading the Diagnostics Archive	58
	Downloading the Core Dump Archive	58
	Deleting the Core Dump Files	58
	Running System Health Checks	58
	Performing a DNS lookup	59
	Testing a server address	60
	Locating the SSP-3801 card in the Densité frame	60
	Switching SSP-3801 cards in a Densité frame (Hot Swap)	60
	Performing a Card Hot Swap	61
	Performing a Software Upgrade	62
	Scheduling a Software Upgrade	62
	Viewing the log	63
	Adjusting the logging depth	64
	Debugging the status probes	65
	Restarting or shutting down the system	65
	Enabling or disabling a license option	65
	Controlling the failover role and mode	66
	Synchronizing with the GV STRATUS Playout service	68
	Appendix A VANC Packet Creation Tool	69
	Creating a VANC packet	70



Overview of the SSP-3801

This chapter presents an overview of the Solid State Playout 3801 card (SSP-3801), including the web-based interface that allows you to configure the card, monitor the card, and perform playout tests on the card.

This chapter contains the following sections:

<i>Overview of the SSP-3801 package</i>	2
<i>Opening the web interface</i>	3

Overview of the SSP-3801 package

The SSP-3801 is a playout server on a card that plays video and audio clips in a variety of playout applications. In addition to playing out program content, the branding capabilities can insert pre-rendered graphics thanks to its built-in clip player, graphics stores, and external fill & key input.

The SSP-3801 package includes the following components and features:

- The HD/SD Solid State Playout card (SSP-3801) and SSP-3801 rear connector panel (see [About the SSP-3801 card](#) on page 2).
- The web interface that allows you to access the features on the SSP-3801 card (see [About the web interface](#) on page 2).
- A complete suite of User Documentation (see [About the SSP-3801 documentation](#) on page 3).

About the SSP-3801 card

The SSP-3801 is a playout server on a card that plays video and audio clips in a variety of playout applications. It is used for playing out channel content provided by GV STRATUS Playout, cloud-based automation and scheduling solution by Grass Valley, A Belden Brand. The card pulls a copy of the playlist from GV STRATUS Playout, caches the required media and then plays the media events to air according to the scheduled times or manual control commands.

In most cases you will interact with the GV STRATUS Playout's interface rather than the card itself. In fact, you should not have to interact directly with the card except to monitor its performance, run tests or diagnostics when necessary. For instance, if playout issues arise, you can access the card directly to run tests or diagnostics to determine the source of the issue.

Note: A full description of the card's hardware and functional specifications are provided in the *SSP-3801 Installation and Configuration Guide*.

About the web interface

Since the card resides in a Densité 3 frame and may be in a remote location, you will likely perform most of the tasks by connecting to the card's web interface (see [Opening the web interface](#) on page 3). Once you supply a username and password, the web interface allows you to monitor the card independently of any other system.

Once the SSP-3801 card is properly installed and configured, you should not have to interact directly with the card except to monitor the card's performance, run tests or diagnostics when necessary.

The interface is divided in three main sections:

- **Status header:** displays the current status of the card, who is logged into it, the system time, and allows you to log out of the card. If a connection alarm is triggered for the GV STRATUS Playout service or the HCO device, its associated tab highlights in red to bring immediate attention to the situation.
- **Menu:** contains the card features that allow you to view the media, the card status, and perform other maintenance tasks.

- **Page:** displays the content for the currently selected Menu item.

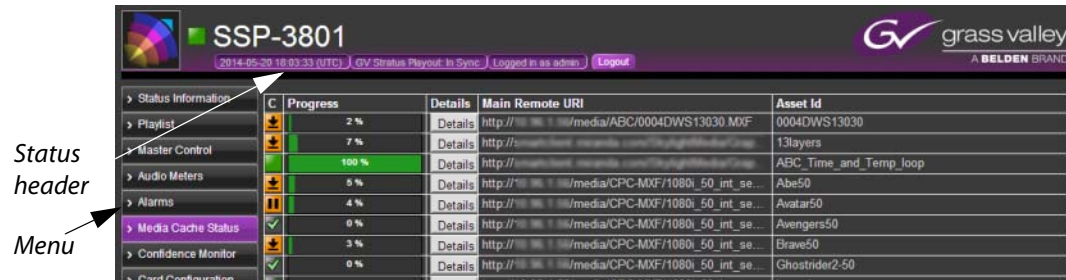
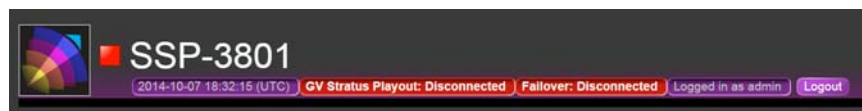


Fig. 1-1: SSP-3801 Web Interface



Connection
alarms

Fig. 1-2: Connection alarms displayed in status header

About the SSP-3801 documentation

Your package comes complete with the following documents:

- **SSP-3801 Installation and Configuration Guide** (PDF: M931-9905-110)

This Guide provides detailed instructions on how to install the SSP-3801 card in a Densité 3 frame and configure the system parameters using its web interface.

- **SSP-3801 User Guide** (PDF: M931-9900-110)

This Guide provides detailed instructions on how to access the SSP-3801 web interface, configure the system preferences, monitor the audio and video output, and use the timeline to test the playout performance on the card.

While we do our best to ensure that the information is accurate, changes to the software or hardware can be introduced that don't always get included in the documentation. If you notice any errors in the documentation, please contact us at support@miranda.com.

Opening the web interface

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.

IMPORTANT

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.

To login to the SSP-3801 card:

- 1 In a web browser, enter the IP address for the card and press Enter.

For more information on how to assign an IP address for the SSP-3801 card on your network, see the *Installation and Configuration Guide*. The **SSP-3801 Login** page opens.



Fig. 1-3: SSP-3801 login page

- 2 Enter your username and password in their respective fields and click **OK**.
If this is the first time you are logging into the SSP-3801, you should log in as follows:

- **Username:** admin
- **Password:** P1ayout (the second character is the number 1)

IMPORTANT

If you are configuring the SSP-3801 card for the first time, we recommend that you change password for the "admin" account.
For more information, see the *Installation and Configuration Guide*.

If you do not know what your username and password are, contact your System Administrator.

The **System Status** information for the SSP-3801 card is displayed in the Status header of the web interface. It displays the information about the service such as the system time, the name and status of GV STRATUS P1ayout, the HCO status (if enabled), and the username of the person who is currently logged in.



Fig. 1-4: Login name displayed in the header



Configuring the Channel Options

This chapter explains how to define the Channel Configuration options on the SSP-3801 card, including the locations of the media files, how to manage incoming system commands, and what actions to take when the media files are not available.

This chapter contains the following sections:

<i>Configuring the off-air behavior</i>	6
<i>Defining media locations and credentials</i>	8
<i>Managing the media downloads to the cache</i>	11
<i>Setting the SCTE-104 access level</i>	15
<i>Configuring the General Purpose Input/Output (GPIO) triggers</i>	17

Configuring the off-air behavior

The Off Air Behavior settings define what the card will do if you force the broadcast off air or something goes wrong during the broadcast such as a loss of media, an empty playlist, a missing asset, or a hardware or software crash, for example. Whenever you do not have a primary event on air, it is considered an off-air situation.

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

When the card encounters an off-air situation, one of the following occurs:

- If the card was forced off air and no primary events are available in the playlist, the configured Off Air Action is triggered immediately.
- If no primary event is on air but primary events are available in the playlist, there is a 3 second delay before the configured Off Air Action is triggered. During the first 2 seconds of the delay, the last frame of the last played clip remains on air. This allows time for the card to resume the playout, if possible. If the card is unable to resume playout after 2 seconds, it switches to a black screen for 1 second before triggering the configured Off Air Action.

The Off Air Action can be configured to output a black screen, output a live feed, or output a full-screen slide that announces that the broadcast is off-air. The Off Air Action can activate even in the event of a complete hardware or software crash.

If the off-air situation is still not resolved 30 seconds after the Off Air Action was triggered, the action selected in the Off Air Recovery list is applied. If a primary event is pending such as a failed event is being restarted, the card will delay triggering the Off Air Recovery for up to 30 seconds to allow the possibility of a successful resumption of the playout. Once the Off Air Recovery is triggered, the Off Air Recovery event continues until valid on-air programming resumes.

The screen graphic used as the off-air slide should be full-screen, in the required video standard for the channel, and be in OXT format. The SSP-3801 card contains some samples of off-air slides in various video standards in the FTP location /mediacache/push, which can be accessed by using local:// in the path. To use a sample slide, choose the slide with the appropriate video standard for your channel and type one of the following paths in the Off Air Slide field:

- local://ApologySlide1080.oxt
- local://ApologySlide720.oxt
- local://ApologySlideNTSC.oxt
- local://ApologySlidePAL.oxt



Fig. 2-1: Sample of an off-air slide

To configure what action to take when playout is off-air:

- 1 Select **Channel Configuration > Off Air Behavior**. The **Off Air Behavior** page opens.

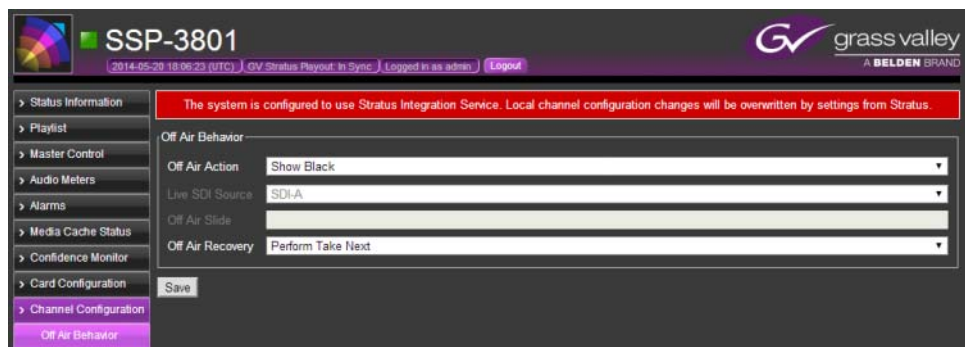


Fig. 2-2: Off Air Behavior page

- 2 From the **Off Air Action** list, select one of the following actions to occur after the initial three seconds has expired and the off-air situation is not resolved:
 - **Show Black**: displays a black screen with no graphics.
 - **Show Off Air Slide**: displays the full-screen graphic specified in the Off Air Slide field.
 - **Show Live**: displays the live feed from the source selected in the Live SDI Source list.
- 3 In the **Live SDI Source** list, select the source for the live feed to be broadcast if an off-air situation occurs and the Show Live option is selected.
- 4 In the **Off Air Slide** field, type the URI location for the screen graphic to be broadcast if an off-air situation occurs and the Show Off Air Slide option is selected. The screen graphic should be full-screen, in the required video standard for the channel, and be in OXT format.
- 5 In the **Off Air Recovery** list, select one of the following actions to occur 30 seconds after the Off Air Action if the off-air situation is not resolved:
 - **Stay Off Air**: continues the action selected in the Off Air Action list.
 - **Perform Take Next**: places the next scheduled event on-air.
 - **Play Evergreen Content**: places the Evergreen schedule on-air. For more information about Evergreen, see [About Evergreen content](#) on page 8.
 - **Play Evergreen Content Unless Playlist is Empty**: places the Evergreen schedule on-air unless the playlist is empty. If the playlist is empty, it defaults to playing the action selected in the Off Air Action list instead.
- 6 Click **Save** when done.

About Evergreen content

Evergreen content is material that is always relevant. In this case, the Evergreen content is a library of videos that can be broadcast in place of a previously scheduled event that for some reason cannot be played. The Evergreen media and schedules are managed by GV STRATUS Payout; however, the media and schedule are cached on the SSP-3801 card.

The card plays the Evergreen content according to two schedule modes depending on the situation in the playlist:

- Indefinite Media Scheduling mode: plays a continuous cycle of Evergreen videos scheduled in the order of the least-played to the most-played. If multiple videos have the same playout count, those videos will each be selected in a random order until all with the same playout count are played before continuing to the video with the next least-played count. This mode is launched when there is an indefinite period to fill with content such as when the playlist is empty.
- Timed Media Scheduling mode: plays Evergreen videos prioritized by how well the video fits within the off-air period and its playout count. An off-air situation may occur when an event in an otherwise valid playlist fails to play. This results in an off-air situation of a definite duration before another valid primary event is scheduled to play. To fill the time slot, precedence is given to a single event that fits within the given period with priority given to events that have not been played in the longest time. If a match is not found, the off-air period is divided in half and attempts are made to fill the new time slots. The process repeats until the time slots are less than an hour and no matches are found. If this occurs, then it reverts to a cycle of videos scheduled in the order of the least-played to the most-played until the off-air period is filled or exceeded to ensure continuity of the playout. This mode is launched when there is a gap in the playlist between valid events.

If the channel is configured to play Evergreen content during an off-air situation, it will access the local cache and play the Evergreen content as required by the situation.

Defining media locations and credentials

For the SSP-3801 card to access the locations where the media files are stored, you must specify which servers contain the media. Since these servers are likely to have security, you must also provide the login information so that the card can access the media files.

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To define the media locations and server credentials:

- 1 Select **Channel Configuration > Media Locations**.

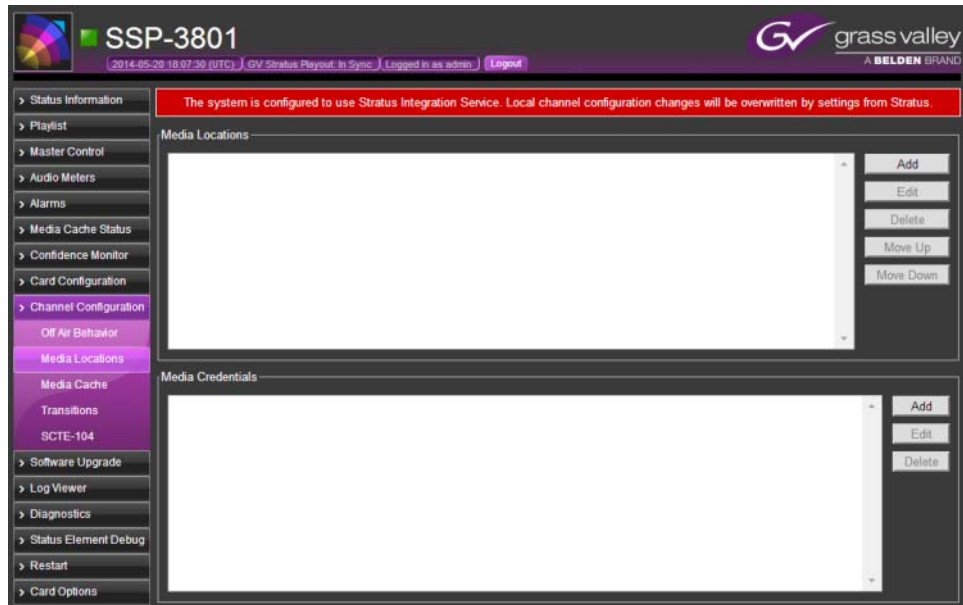


Fig. 2-3: Media Locations/Media Credentials page

- 2 In the **Media Locations** section, click **Add** to add new locations where media files are stored.
- 3 In the **Location Details** dialog box, type the URI for the media file and click **OK**. The format of the URI should be http://[URI], https://[URI], smb://[URI], or ftp://[URI].
- 4 Define the sequence that the card should follow to download the media. In the **Media Locations** section, select the URI and use the **Move Up** and **Move Down** buttons to change its position. Order the media locations closest to the card's location at the top of the list and the furthest to the bottom.
- 5 In the **Media Credentials** section, click **Add** to add the login credentials for a media server.
- 6 In the **Credential Details** dialog box, type the required information in the following fields to enable access to the server that contains the media files:
 - **URI:** type the http path where the media files reside.
 - **Domain:** type the name of the domain that stores the media files.
 - **Username:** type the login name for the specified Domain.
 - **Password:** type the password assigned to this Username.

Editing media locations

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To edit a media location:

- 1 Select **Channel Configuration > Media Locations**.
- 2 In the **Media Locations** section, select the location and click **Edit**.
- 3 In the **Location Details** dialog box, change the URI address.
- 4 Click **OK**.

Deleting media locations

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To delete a media location:

- 1 Select **Channel Configuration > Media Locations**.
- 2 In the **Media Locations** section, select the location that you want to delete.
- 3 Click **Delete**. The media location is removed from the list; however, this does not delete the media file itself from its location.

Editing media credentials

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To edit a media credential:

- 1 Select **Channel Configuration > Media Locations**.
- 2 In the **Media Credentials** section, select the credential and click **Edit**.
- 3 In the **Credential Details** dialog box, change the credential settings.
- 4 Click **OK**.

Deleting media credentials

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To delete a media credential:

- 1 Select **Channel Configuration > Media Locations**.
- 2 In the **Media Credentials** section, select the credential you want to delete.

- 3 Click Delete.

Managing the media downloads to the cache

The SSP-3801 card features onboard storage space that allows you to store and preload media content locally so that it can be retrieved and broadcast smoothly and quickly. You can define how the card manages the media cache and what action it should take if the server times out and the media cannot be accessed.

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Playout, then GV STRATUS Playout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

To configure how the media cache is managed:

- 1 Select **Channel Configuration > Media Cache**. The **Media Cache** page opens.



Fig. 2-4: Media Cache page

- 2 In the **Channel Media** section, define when the indicated pre-broadcast alarms are triggered (in HH:MM format).
 - **Missing Media time window:** type the amount of time before broadcast to trigger the **Missing Media** alarm if the media file cannot be found.
 - **Inaccessible Media time window:** type the amount of time before broadcast to trigger the **Inaccessible Media** alarm if the media file was found, but cannot be downloaded to the SSP-3801's storage space.
- 3 In the **Transfer Speed Alarm** section, define
 - **Minimal Download Speed:** type the minimum acceptable download speed (from 1 to 100MB/s) for the media. An alarm is triggered if the download speed falls below the specified threshold.
 - **Speed Test Period:** type the number of seconds (from 1 to 120) defining the length of the test period used to verify the actual download speed. The download speeds are tested throughout the specified duration and are averaged. The resulting value is compared to the Minimal Download Speed threshold to verify its performance.
- 4 In the **Max segments per download** field, type the maximum number of blocks (up to 10) you can download per server at a time.

- 5 The **Parallel Download Configuration** section defines the maximum boundaries for downloads performed in parallel. Set the following values:
 - **Max (overall) parallel downloads:** type the maximum number of downloads (up to 10) that can take place simultaneously.
 - **Max SMB parallel downloads:** type the maximum number of downloads (up to 4) that use the Server Message Block (SMB) protocol.
 - **Max HTTP/HTTPS/FTP parallel downloads:** type the maximum number of downloads (up to 10) that can take place simultaneously using the HTTP, HTTPS or FTP protocol.
- 6 Click **Save** when done.

Manually uploading media files into the cache via FTP

Media files are transferred to the card in two ways: automatically from GV STRATUS Playout or manually using FTP. The storage space is shared between the two methods, but it is not managed in the same way. The media downloaded from GV STRATUS Playout is managed by the card so that the media scheduled closest to air is cached first and media files not immediately required may be deleted to make room for those that are. The media files that were manually uploaded on the card are not managed by the card and remain until manually deleted, which can be useful for more 'permanent' media such as station logos. Be judicious about the amount of media that you manually upload on the card. Since both methods share the storage space, the more media manually uploaded on the card, the less room remains for GV STRATUS Playout's cache of media.

The manually uploaded media files are also only available on the card and are not made available to other cards. Unlike the media downloaded from GV STRATUS Playout, the manually uploaded media files are not managed through the GV STRATUS Playout service and therefore will not be restored automatically after a card hot swap.

Media files that are manually downloaded to the cache can be accessed by using `local://` in the path. For example, if you downloaded a file called `TestSlide.oxt` into the `/mediacache/push` folder, you would type `local://TestSlide.oxt` to select the file.

To download media to the cache:

- 1 Configure the FTP access in the card:
 - In the left pane, click **Card Configuration > Security**.
 - In the **FTP Password** field, type a password for the FTP server.
 - In the **Device Access Settings** section, select **Enabled** for **FTP Access**.
 - Click **Save**.
- 2 Open an FTP connection with the card using "ftp" as the username and the password that you set in Card Configuration > Security.
- 3 Add the media files to the `mediacache/push` folder.

About the supported characters for asset IDs, paths, and mnemonics

The SSP-3801 card only supports ASCII 7-bit printable characters for router source and destination mnemonics, the asset IDs for the media files, and the components of the path to the media files. The list of supported characters:

Symbol	Hexadecimal	Description
	20	space
!	21	exclamation mark
"	22	double quote
#	23	number sign
\$	24	dollar sign
%	25	percent
&	26	ampersand
'	27	single quote
(28	left or opening parenthesis
)	29	right or closing parenthesis
*	2A	asterisk
+	2B	plus
,	2C	comma
-	2D	minus or dash
.	2E	dot or period
/	2F	forward slash
0	30	zero
1	31	one
2	32	two
3	33	three
4	34	four
5	35	five
6	36	six
7	37	seven
8	38	eight
9	39	nine
:	3A	colon
;	3B	semi-colon
<	3C	less than
=	3D	equal sign

Configuring the Channel Options

About the supported characters for asset IDs, paths, and mnemonics

Symbol	Hexadecimal	Description
>	3E	greater than
?	3F	question mark
@	40	at symbol
A	41	uppercase A
B	42	uppercase B
C	43	uppercase C
D	44	uppercase D
E	45	uppercase E
F	46	uppercase F
G	47	uppercase G
H	48	uppercase H
I	49	uppercase I
J	4A	uppercase J
K	4B	uppercase K
L	4C	uppercase L
M	4D	uppercase M
N	4E	uppercase N
O	4F	uppercase O
P	50	uppercase P
Q	51	uppercase Q
R	52	uppercase R
S	53	uppercase S
T	54	uppercase T
U	55	uppercase U
V	56	uppercase V
W	57	uppercase W
X	58	uppercase X
Y	59	uppercase Y
Z	5A	uppercase Z
[5B	left or opening bracket
\	5C	backslash
]	5D	right or closing bracket
^	5E	caret or circumflex
_	5F	underscore
`	60	grave accent

Symbol	Hexadecimal	Description
a	61	lowercase a
b	62	lowercase b
c	63	lowercase c
d	64	lowercase d
e	65	lowercase e
f	66	lowercase f
g	67	lowercase g
h	68	lowercase h
i	69	lowercase i
j	6A	lowercase j
k	6B	lowercase k
l	6C	lowercase l
m	6D	lowercase m
n	6E	lowercase n
o	6F	lowercase o
p	70	lowercase p
q	71	lowercase q
r	72	lowercase r
s	73	lowercase s
t	74	lowercase t
u	75	lowercase u
v	76	lowercase v
w	77	lowercase w
x	78	lowercase x
y	79	lowercase y
z	7A	lowercase z
{	7B	left or opening brace
	7C	vertical bar or pipe
}	7D	right or closing brace
~	7E	equivalency sign or tilde

Setting the SCTE-104 access level

The SCTE-104 standard allows you to receive trigger messages from the audio or video feed, which can be used to flag the start and end points for commercial breaks, for example. It allows you to receive trigger messages in the SDI (Serial Digital Interface) signal that you can use to control the playlist.

The SSP-3801 card supports SCTE-104 splice requests with the following splice_insert_types:

- spliceStart_normal: determines the pre-roll period in milliseconds, which defines the delay between receiving the message and putting the event on air.
- splice_cancel: cancels a scheduled Take Next initiated by a spliceStart_normal command.
- spliceStart_immediate: attempts to take the next event to air as quickly as possible (non-deterministic).

In all cases, the event that is to be taken to air should already be on hold in a cued or commit state. Typically, the schedule should contain an SCTE-104 triggerable manual event that will hold at the on-air threshold until one of the SCTE-104 splice request is received. For more information on SCTE-104, refer to the “SCTE 104 2014 Automation System to Compression System Communications Applications Program Interface (API)” available from <http://www.scte.org>.

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Payout, then GV STRATUS Payout overwrites any Channel Configuration changes made through the card’s web interface any time it updates the card with its own changes.

To configure how the SSP-3801 card will treat SCTE-104 messages:

- 1 Select **Channel Configuration > SCTE-104**. The **SCTE-104 Access** page opens.

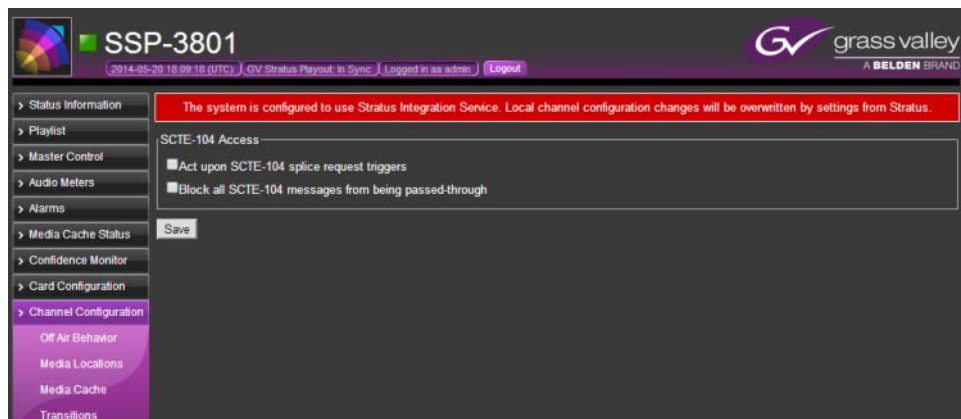


Fig. 2-5: SCTE-104 page

- 2 Select the **Act upon SCTE-104 splice request triggers** checkbox to execute and log received SCTE-104 splice messages. Clear the checkbox to ignore and not log the splice messages.
- 3 Select the **Block all SCTE-104 messages from being passed-through** checkbox to prevent all SCTE-104 messages from reaching the card and from being logged. Clear the checkbox to allow SCTE-104 messages to reach the card.
- 4 Click **Save** when done.

Configuring the General Purpose Input/Output (GPIO) triggers

The SSP-3801 card has two General Purpose Input/Output (GPIO) connectors offering up to four opto-isolated, open collector GPIOs. The pinouts are 1|G|2 and 3|G|4. The GPIO pins function both as inputs and outputs. As inputs they can be used to trigger internal pre-programmed actions and as outputs they can be used to trigger downstream external hardware. It is not recommended to use the GPIO pins as both inputs and outputs simultaneously.

When used as an output, the GPIO operates as follows:

- ON: the GPIO pin is internally driven to ground by an opto-isolated, open collector transistor (active low is represented by 1V or less) and can sink up to 20mA.
- OFF: the GPIO pin is internally pulled weakly high.

When used as an input, the GPIO input is activated as follows:

- ON: the GPIO pin is connected to 0V.
- OFF: the GPIO pin is not connected (the GPIO signal pin is pulled high).

A change from one state to another when the pin is used as an input can be configured to trigger an action in the playlist. On the GPI Triggers page, you can configure the SSP-3801 card to perform one of the following actions when an input changes to an On or Off state:

- No Action: a change to the state is not acted upon.
- Take Next: a change to the state triggers a Take Next action, which places the next event in the playlist on air.
- Cue Next: a change to the state triggers a Cue Next action, which cues the next primary event, its related secondary events, and any subsequent automatic events so they are ready to go on air safely when a Take Next action is performed.
- Hold Next: a change to the state triggers a Hold Next action, which prevents the next events from going on-air.
- Drop Next: a change to the state triggers a Drop Next action, which removes the next event in the playlist.

To configure the GPI triggers:

- 1 Select **Channel Configuration > GPI Triggers**. The GPI Triggers page opens.



Fig. 2-6: GPI Triggers page

Configuring the Channel Options

Configuring the General Purpose Input/Output (GPIO) triggers

- 2 In each GPI section, specify the action for each state. Each GPI section represents one input.

3

Testing and Troubleshooting the Payout

This chapter explains how to use the Playlist page to test or troubleshoot the payout from the card. The Playlist page is not intended to be used to create or edit schedules. Schedules are created, edited, and added to playlists in GV STRATUS Payout and then the playlist is downloaded to the SSP-3801 card.

Instead, the Playlist page is used to diagnose whether an issue is caused by GV STRATUS Payout or the card, to administer the payout during the loss of connectivity with GV STRATUS Payout, or to test or troubleshoot the configuration of the card.

This chapter contains the following sections:

<i>About the Playlist page</i>	20
<i>Troubleshooting failures in the payout</i>	23
<i>Controlling the payout of events</i>	24
<i>Manually breaking away to a live event</i>	26
<i>Manually enabling or disabling secondary events in the payout</i>	28
<i>Configuring the transitions for the Live and Manual Controls</i>	29
<i>Creating a test playlist</i>	32
<i>Deleting an event from the playlist</i>	42
<i>Deleting all the events from the playlist</i>	43

About the Playlist page

The SSP-3801 web interface features a timeline that displays the status of the events as the playlist is played out. Since the playlist is created and managed by GV STRATUS Playout and then downloaded into the SSP-3801 card, GV STRATUS Playout overwrites any playlist changes made in the Playlist page any time it updates the card with its own changes.



Fig. 3-1: Playlist page

A timeline appears at the top of the Playlist page. It is a visual display of the playlist as it is broadcast. It contains three threshold markers:

- **Cued** (orange, far-right): indicates that the media event is ready to be played. The time between the Cued and On-air markers is 15 seconds.
- **On-air** (red, middle): indicates that the media event is currently being played. The time between the On-air and Timeline boundary markers is 10 seconds.
- **Timeline boundary** (grey, far-left): indicates the boundary of the timeline view. Once an event moves fully past the boundary, it disappears from the timeline.

Events become off-air as soon as the entirety of the event rectangle has moved past the On-air threshold (red line). The event remains visible in the timeline until it moves past the Timeline boundary (grey line).



Fig. 3-2: Playlist timeline

You can move left and right through the timeline to view the entire playlist by clicking in the timeline and dragging your cursor left or right. To increase or decrease the period visible in the timeline, click in the timeline and use your scroll button to zoom in or out of the timeline.

As an event moves through the timeline from right to left, it changes color to indicate its status. As the events play out, their status is displayed in the timeline, in the channel grid at the bottom of the page, and in the buttons on the Manual Controls toolbar.

Status color	Description
Red	The event cannot be broadcast for reasons such as the event is not yet available from the cache or the event was not found. It can also mean that the event ended earlier than its allocated duration.
Dark Orange	The event is cueing up.
Orange	The event is cued up and ready to be played.
Purple	The event is not on-air due to a Breakaway event, is unable to resume playing after the breakaway event ends, or has been manually disabled from the playout.
Dark green	The event is about to go on air.
Green	The event is being broadcast.
White/Grey	The event is not active.

The Playlist page also includes various toolbars you can use to make changes in the playlist:

- **Playlist Controls:** located on the bottom left of the timeline, it contains controls such as Hold Next and Take Next, for example. The controls allow you to manually change when events are placed on-air.
- **Live Controls:** located on the bottom right of the timeline, it contains controls such as Breakaway-A, for example. The controls allow you to manually interrupt the playlist to broadcast a live event.
- **Manual Controls:** located under the Playlist Controls and Live Controls toolbars, it contains controls that allow you to enable or disable secondary events in the playout.
- **Playlist Editing Controls toolbar:** located under the Manual Controls toolbar, it contains controls that allow you to manually append events to the playlist or sync with GV STRATUS Playout. This toolbar is hidden by default.

Between the Cued and On-air threshold markers is a 15-second period referred to as the pre-roll window in which the event is prepared to go on air. During the pre-roll, you can edit, insert, replace, drop, undrop, and delete events, but events cannot be uncued using the Uncue Last button. All properties of the event can be edited, except the event's Time mode and Date/Time. Be prudent when making changes at this stage. When an event is changed in the pre-roll window, it must go through the process of being prepared to go on air again so this action should not be performed too close to the On-air threshold or unwanted consequences may occur.

At the very bottom of the Playlist page is the channel grid. It provides details about the events in the playlist and displays the status of the events as they move through the timeline:

Status	Description
Accessible	The media file is accessible, but has not been cached.
Breakaway	The event is being interrupted by a live feed.
Caching	The caching process has started, but a progress report is not available yet.
Caching (%)	The caching process is in progress and is reporting a percent (%) value of completion.

Testing and Troubleshooting the Playout

Changing how event types appear in the timeline

Status	Description
Commit	The event is committed to playout (occurs just before playout begins).
Cued	The event has been cued.
Cueing	The event is being cued.
Done	The event successfully played out for its entire duration. Its on air time may differ from the scheduled duration if an action such as Take Next or Join in Progress (see "JIP" in GV STRATUS Playout Operator Guide) was used; however, it is marked Done since the event played for the entirety of its reported on air time.
Dropped	The event is set as dropped from the playlist. It no longer appears in the timeline, but remains visible in the channel grid.
Evergreen	The event was unable to play and is being replaced by Evergreen content.
Failed	The event failed to play.
Inaccessible	The location for the media file is not accessible.
Manual off	The secondary event was manually disabled from the playout. This occurs when a secondary event is taken off air by clicking a Manual Control on the Playlist page.
Missing	The media file is missing from the defined location.
Not Ready	The event is not ready for playout.
Off Air	The event is not playing.
On Air	The event is on air.
Partial	The event only played out a portion of its duration. It may not have played out entirely due to a user requested breakaway, a bad or truncated piece of media, system misconfiguration or a fault in the playback system.
Ready	The event is ready for playout.
Skipped	The event was skipped in the playout. An event can become skipped when a dropped event enters the pre-roll window or when a playlist is appended with events that are in the past. Skipped events do not appear in the timeline, but remain visible in the channel grid.
Standby	The primary media file was unable to play and has been replaced by the configured standby media file.
Suppressed	The event is suppressed from playing in the playout.
Un-dropped	The event was dropped, but has been un-dropped from the playlist.
Waiting	The media file is in an initial state waiting for checks to be performed.

Changing how event types appear in the timeline

When events appear on the timeline, they are divided into rows according to their type. You can choose which types appear as timeline elements. If the playlist contains types that you have chosen not to display, they are regrouped into a row labeled Others.



Fig. 3-3: Example of elements in the timeline

To choose the timeline elements:

- 1 Select **Card Configuration > Playlist Elements**. The **Playlist Timeline Elements** page opens.

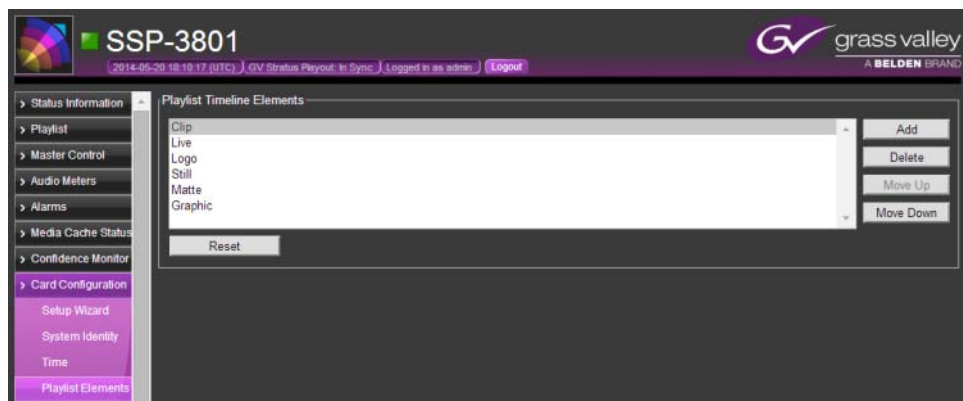


Fig. 3-4: The Playlist Timeline Elements page

- 2 To add an element, click **Add**, select the element in the **Type** list, and click **OK**.
- 3 To delete an element from the list, select the element and click **Delete**.
- 4 To change order in which the elements are displayed in the list, select the element and click **Move Up** to move it higher in the list or **Move Down** to move it lower.
- 5 To reset the order of the playlist elements, click **Reset**. The display is restored to its factory settings.

Troubleshooting failures in the playout

The main causes of a playout failure are the result of an issue with a media file, a frame rate mismatch, or a system or software fault.

Issues with media files can sometimes be identified before playout. When a playlist is added to a channel, the card performs some basic checks on the scheduled events. As the events are verified, their status should change to Ready. If the status changes to Missing or Inaccessible, the media file associated to the event cannot be found. This can be caused by an invalid path to the media file or an asset not being registered with the GV STRATUS Playout service.

Under normal circumstances, a clip should cue in less than a few seconds, but may take up to 15 seconds depending on its file size, structure (indexing), and bit rate. If it takes longer, then there may be a problem with the media file.

The following are some common playout failures detected by the card and their causes:

Failure	Symptom	Causes
Clip content runs out	Playout stops and does not recover	<ul style="list-style-type: none">• The event is longer than the clip duration• The clip is corrupted• The clip is in the process of being cached as it goes on air, but is not downloading fast enough to be played out
Clip stops prematurely	Playout stops and does not recover	<ul style="list-style-type: none">• The MPEG essence inside the MXF file is corrupt• The frame rate for the clip does not match the frame rate for the output standard
Playout momentarily stops and restarts	Playout stops momentarily and then joins in progress (off air behavior may be expected)	<ul style="list-style-type: none">• The frame rate for the clip does not match the frame rate for the output standard• A fault occurs in the MXF demuxer as a result of an oddity or corruption in the file• A unexpected software fault occurs that prevents the MPEG decoders from obtaining the data
Playout completely stops (unrecoverable)	Playout stops, does not recover and becomes unresponsive to future events	<ul style="list-style-type: none">• A system fault has occurred

In these situations, the configured off-air behavior is triggered when the playout stops. In some cases, the card may be able to recover on its own. Depending on the cause, you can do one of the following to resolve the issue:

- Verify and adjust the duration of the event in the schedule
- Verify the frame rate of the clip and the channel
- Replace the damaged media file
- Modify the media file so its file size, structure, or bit rate are optimized for playout
- Generate a diagnostics archive and reboot the card if it becomes unresponsive

Controlling the playout of events

The playlist is normally created and managed from GV STRATUS Playout. However, the Playlist page contains a toolbar of controls, called Playlist Controls, that allows you to make changes in the playlist.

IMPORTANT: During the playout, some buttons may turn red. Red buttons indicate controls that should be used with caution as they may adversely affect the playout if not used correctly.

To control the playout:

- 1 From the menu, click **Playlist**. The **Playlist** page opens.

2 Use the following Playlist Controls as required:

Control	Description	Next Actions
Hold Next	<p>Prevents the next events from going on-air.</p> <p>The event currently on-air continues to play past its duration. Depending on the type of event on-air, the timeline reflects the increased duration of the event or the playlist falls into an off-air situation until the Take Next button is clicked.</p> <p>Note: If a fixed event follows the event on hold, the fixed event and its related events will still go on air at the fixed time and thus canceling the hold. For more information on fixed events, see About the behavior of automatic and fixed primary events on page 36.</p>	<p>Cue Next</p> <p>Take Next</p>
Take Next	<p>Places the next event on-air immediately.</p> <p>The event must be in a Cued state before you can place it on-air.</p>	Cue Next
Cue Next	<p>Cues one or more events to allow the next primary event, its related secondary events, and any subsequent automatic events to go on air safely when Take Next is clicked.</p> <p>For more information on automatic events, see About the behavior of automatic and fixed primary events on page 36.</p>	Take Next
Uncue Last	<p>Places the last event cued back into a ready state.</p> <p>Uncueing the event allows it to be edited. If the event has reached the pre-roll window, it cannot be uncued. The pre-roll window is a 15-second period before the On-air threshold marker in which the event is prepared to go on air.</p>	none
Drop Next	<p>Removes the next event in the schedule.</p> <p>If the event remains dropped at the moment it was to go on-air, it appears as skipped in the channel grid to confirm it was not played.</p>	none
Drop Selected	<p>Removes the event selected in the channel grid at the bottom of the page from the playlist.</p> <p>The event is removed from the timeline, but still appears in the channel grid labeled as dropped. If the event remains dropped at the moment it was to go on-air, it appears as skipped in the channel grid to confirm it was not played.</p>	none

Control	Description	Next Actions
Un-Drop Selected	Replaces the dropped event back into its place in the playlist. This control can be used when you have a choice of several events for a time slot, but are unsure which should be placed in the playlist. The events can be left in a dropped state until decision is made and the chosen event can be un-dropped.	none
Recue	Takes the event off-air and places it on hold at the On-air threshold. The previous event is replaced on air in progress until the Take Next button is clicked. This is usually only used in the case that an event was accidentally placed on-air too early.	Take Next

Manually breaking away to a live event

The playlist is normally created and managed from GV STRATUS Playout. However, the Playlist page contains a toolbar of controls, called Live Controls, that allows you to interrupt the playlist with a live event.

IMPORTANT: During the playout, some buttons may turn red. Red buttons indicate controls that should be used with caution as they may adversely affect the playout if not used correctly.

To interrupt the playlist with a live feed:

- 1 From the menu, click **Playlist**. The **Playlist** page opens.
- 2 Use the following Live Controls as required:

Control	Description	Next action
Breakaway-A	Switches the playout from the playlist to the live feed incoming from the SDI A port. The scheduled event continues to play off-screen while the live feed is broadcast. To stop broadcasting the live feed, you can click Return or Return & Take Next .	Return or Return & Take Next
Breakaway-A & Hold	Switches the playout from the playlist to the live feed incoming from the SDI A port and places the on-air event on hold. To stop broadcasting the live feed, you must click Return & Take Next . Note: If you click Return, the screen will go black. If the next event has not been placed on air after two seconds, the off-air behavior is triggered.	Return & Take Next

Control	Description	Next action
Breakaway-B	<p>Switches the playout from the playlist to the live feed incoming from the SDI B port. The scheduled event continues to play off-screen while the live feed is broadcast.</p> <p>To stop broadcasting the live feed, you can click Return or Return & Take Next.</p>	Return or Return & Take Next
Breakaway-B & Hold	<p>Switches the playout from the playlist to the live feed incoming from the SDI B port and places the on-air event on hold.</p> <p>To stop broadcasting the live feed, you must click Return & Take Next.</p> <p>Note: If you click Return, the screen will go black. If the next event has not been placed on air after two seconds, the off-air behavior is triggered.</p>	Return & Take Next
Breakaway Source	<p>Determines the router source from which to stream the live feed when the breakaway event is triggered.</p> <p>To select the router source:</p> <ol style="list-style-type: none"> 1 Click the Breakaway Source button. 2 Click Refresh to obtain a list of the available router sources. 3 Click the desired router source and click Select. To filter the list, type the name of the router source in the Search field. To order the list, click the arrows in the column headers. <p>Note: If the page is reloaded, the Breakaway Source will revert to its default, which is set in Channel Configuration > Transitions.</p> <p>This feature is displayed only when an external router is configured. For more information, see Configuring an external router for switching between live events on page 40 in the SSP-3801 Installation and Configuration Guide.</p>	Breakaway or Breakaway & Hold
Breakaway	<p>Switches the playout from the playlist to the specified router source to stream the live feed supplied via a router connected to both the SDI A and SDI B inputs on the card's rear panel. The scheduled event continues to play off-screen while the live feed is broadcast. This feature is displayed only when an external router is configured.</p> <p>To stop broadcasting the live feed, you can click Return or Return & Take Next.</p>	Return or Return & Take Next

Control	Description	Next action
Breakaway & Hold	Switches the playout from the playlist to the specified router source to stream the live feed supplied via a router connected to both the SDI A and SDI B inputs on the card's rear panel and places the on-air event on hold. This feature is displayed only when an external router is configured. To stop broadcasting the live feed, you must click Return & Take Next .	Return & Take Next
Return	Resumes the playout of the playlist at the point it would have been if the live feed had not interrupted the playout.	none
Return & Take Next	Starts the playout of the event from the moment it was stopped to stream the live feed. It plays as if the event was paused while the live feed was broadcast.	none

Manually enabling or disabling secondary events in the playout

The playlist is normally created and managed from GV STRATUS Playout. However, the Playlist page contains a toolbar of controls, called Manual Controls, that allows you to manually enable or disable secondary events in the playout. These manual events do not appear in the timeline view or in the channel grid on the Playlist page when they are triggered. They are user-driven events that operate in parallel with playlist events.

Control	Description
Logo Graphic Voiceover (VO)	The Logo, Graphic, and Voiceover (VO) buttons are each paired with a status button which switches between Unset and Ready depending on its availability. The event associated to the control must be available, and therefore in a Ready state, before it can be placed on air. When the Logo, Graphic or VO button is green, it is present in the playout.
External F&K	The External F&K (Fill&Key) and External VO buttons place the media available from their respective ports on air when enabled. When their buttons are green, their corresponding events are present in the playout.
GPO	The GPO buttons trigger the external hardware downstream connected to the GPIO connectors when enabled. When their buttons are green, they are being triggered.
VCHIP	The VCHIP section contains two buttons. The Set button is used to select the content advisory setting. The other button displays the currently set rating system and rating. When the rating button is green, the rating is present in the playout.

Control	Description
Keyers	The Keyers button in the Suppress section is used to hide the Graphic, Logo, and Fill&Key events from the playout. When the button is green, the event is hidden.
VANC	The VANC button in the Suppress section is used to control whether or not the Vertical Ancillary Data Space (VANC) files are being embedded in the playout. When the button is green, the VANC files such as SCTE-104 triggers are disabled.

To manually control the secondary events:

- 1 From the menu, click **Playlist**. The **Playlist** page opens.
- 2 Use the Manual Controls as required:
 - If the button is green, click to disable it.
 - If the button is grey, click to enable it.

To select a media event for a button in an Unset state:

- 1 Click the control's corresponding **Unset** button.
- 2 In the **Search for** field, choose **Asset** to view the media events downloaded from GV STRATUS Playout that are still present in the cache or **File** to view the media events stored on the card.
- 3 In the **Filter** field, type part of the media file that you are searching for to display only the files containing those characters in their filename.

Note: The card only supports ASCII 7-bit printable characters for mnemonics, the asset IDs, and paths. For more information, see [About the supported characters for asset IDs, paths, and mnemonics](#) on page 13.

- 4 Select the media event.
- 5 Click **Choose**.

Configuring the transitions for the Live and Manual Controls

The settings on the Transitions page determine how a logo, graphic, voiceover, or breakaway event transitions on or off screen when they are manually controlled using the buttons on the Live Controls or Manual Controls toolbars.

To configure the transitions:

- 1 Select **Channel Configuration > Transitions**. The **Transitions** page opens.

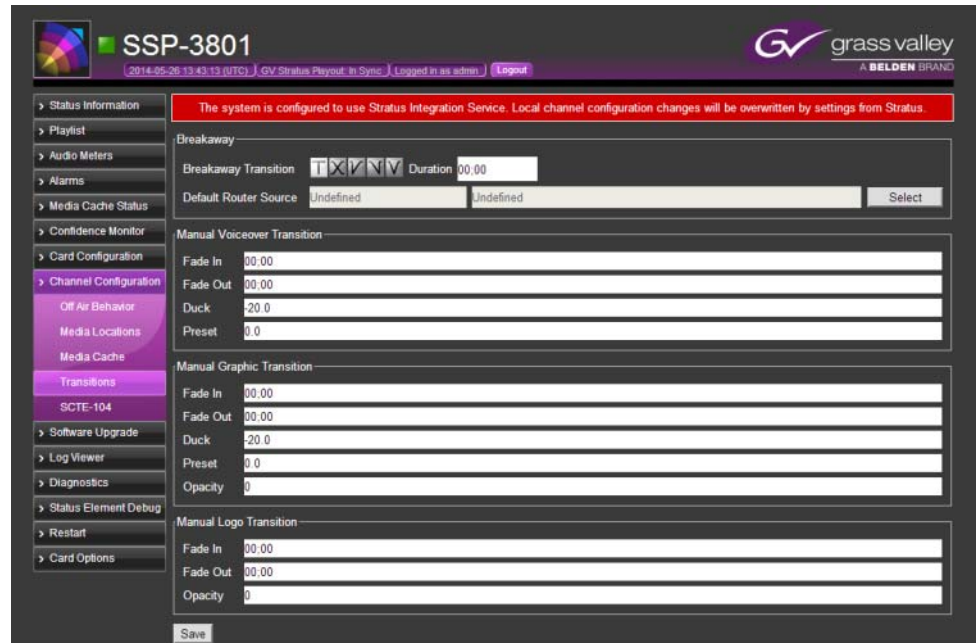


Fig. 3-5: Transitions page

2 In the **Breakaway Transition** section, configure how the Breakaway events (initiated using the breakaway buttons on the Playlist page) are handled:

Field	Description
Breakaway Transition	<p>Select the type of scene change affect to apply to the beginning of this event. You have the following choices:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cut: it switches from one event to another instantly <input checked="" type="checkbox"/> Mix: creates a cross-fade between the two events where the incoming event merges and replaces the outgoing event <input checked="" type="checkbox"/> Cut and Fade: the outgoing event switches to black and the incoming event fades in. <input checked="" type="checkbox"/> Fade and Cut: the outgoing event fades to black and the incoming event appears instantly. <input checked="" type="checkbox"/> Fade and Fade: the outgoing event fades to black and the incoming event fades in (V-Fade).

Field	Description
Duration	Type the total amount of time allocated for the transition to complete. Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.
Default Router Source	Select the default router source used to stream the live feed supplied via a router connected to the card when a breakaway event is initiated. To select the router source: <ol style="list-style-type: none"> 1 Click the Select button. 2 Click Refresh to obtain a list of the available router sources. 3 Click the desired router source and click Select. To filter the list, type the name of the router source in the Search field. To order the list, click the arrows in the column headers. <p>This feature is available only when an external router is configured. For more information, see Configuring an external router for switching between live events on page 40 in the SSP-3801 Installation and Configuration Guide.</p>

- 4 In the **Manual Voiceover Transition** section, configure how the manually controlled voiceover events (VO 1, VO 2, VO 3, VO 4, and External VO buttons) are handled:

Field	Description
Fade in	Type the time period over which the volume of the voiceover event is raised to 100% when the event is activated.
Fade out	Type the time period over which the volume of the voiceover event is lowered to 0% when the event is deactivated.
Duck	Type how much to reduce the level of the background audio (in decibels).
Preset	Type how much to increase the level of the foreground audio (in decibels).

- 5 In the **Manual Graphic Transition**, configure how the manually controlled graphic events (Graphic and External F&K buttons) are handled:

Field	Description
Fade in	Type the time period over which the graphic appears on screen when the event is activated.
Fade out	Type the time period over which the graphic disappears from screen when the event is deactivated.
Duck	Type how much to reduce the level of the background audio (in decibels).
Preset	Type how much to increase the level of the foreground audio (in decibels).
Opacity (%)	Type the percentage of opacity between 0% (fully transparent) to 100% (fully opaque).

- 6 In the **Manual Logo Transition**, configure how the manually controlled logo events (Logo 1 and Logo 2 buttons) are handled:

Field	Description
Fade in	Type the time period over which the logo appears on screen when the event is activated.
Fade out	Type the time period over which logo disappears from screen when the event is deactivated.
Opacity (%)	Type the percentage of opacity between 0% (fully transparent) to 100% (fully opaque).

- 7 Click **Save**.

IMPORTANT:

When the SSP-3801 card is registered with GV STRATUS Playout, then GV STRATUS Playout overwrites any Channel Configuration changes made through the card's web interface any time it updates the card with its own changes.

Creating a test playlist

If you need to test the playout, you can create a playlist on the fly using the controls on the Playlist Editing Controls toolbar. Normally, these tools are hidden by default since the playlist will be obtained from GV STRATUS Playout once the card is synced with it.

Note: GV STRATUS Playout will override any changes to the playlist made through the card. To disconnect the card from GV STRATUS Playout temporarily, you can use **Sync Disabled**.

You can have two types of events: primary events which are the main focus of the broadcast and secondary events which play with the primary event and provide ancillary information such network logos, graphics, or voiceovers. To create a playlist, you add at least one primary event to the playlist and then add other primary or secondary events as desired.

To create a playlist:

- 1 From the menu, click **Playlist**. The **Playlist** page opens.
- 2 To show the Playlist Editing Controls toolbar, click the **Show Edit Controls** button.
- 3 To add a Primary Event to the playlist, click the type of event you want to add from the **Primary Events** section. For more information, see [Adding a primary event to the playlist](#) on page 36.
- 4 To add a Secondary Event to the playlist, click the type of event you want to add from the **Secondary Events** section. For more information, see [Adding a secondary event to the timeline](#) on page 40.
- 5 To delete an event from the playlist, click the event in the channel grid at the bottom of the screen and click **Delete**.
- 6 To clear all the events from the playlist, click **Delete All**.

About Primary Events

Primary Events are main events that are scheduled and added to a playlist. They usually occupy the entire playout screen and command the bulk of the attention on screen. A primary event can be one of the following:

- **Clip:** is a digital video MXF file that may be sourced from a remote URI. These MXF files should be in an XDCAM HD or Sony IMX profile. If the MXF file contains regular partitions with indexes, its media can play out as it is being downloaded.
- **Live:** streams a live feed that is supplied via the SDI A or SDI B ports on the card's rear panel. The Live feed content is supplied for as long as the event lasts, but it cannot be paused or restarted.
- **Source:** switches to the specified router source to stream the live feed supplied via a router connected to both the SDI A and SDI B inputs on the card's rear panel. The Source event is only available when a router is configured.
- **Matte:** produces a single color effect on the PGM output for the entire length of the event. You can add a transition effect that reveals the Matte. For example, you can use a Matte event to fade a video image to black. A Matte event is always full screen (same size as the output resolution) and opaque. You would use a Matte for testing purposes or to generate a black-screen event.
- **Still:** displays a static image on the PGM output for the entire length of the event. The stills are pre-loaded into one of the hardware-based stores before being output to the PGM. You can add a transition effect that reveals the Still image. For example, you can use a Still event to display a Technical Difficulties message. Still images should always be large enough to match the output resolution, must be opaque, and be in OXT format.

Note: When stills are used in the playlist, only Logo 1 will be available since stills require the use of a hardware-based store in order to function.

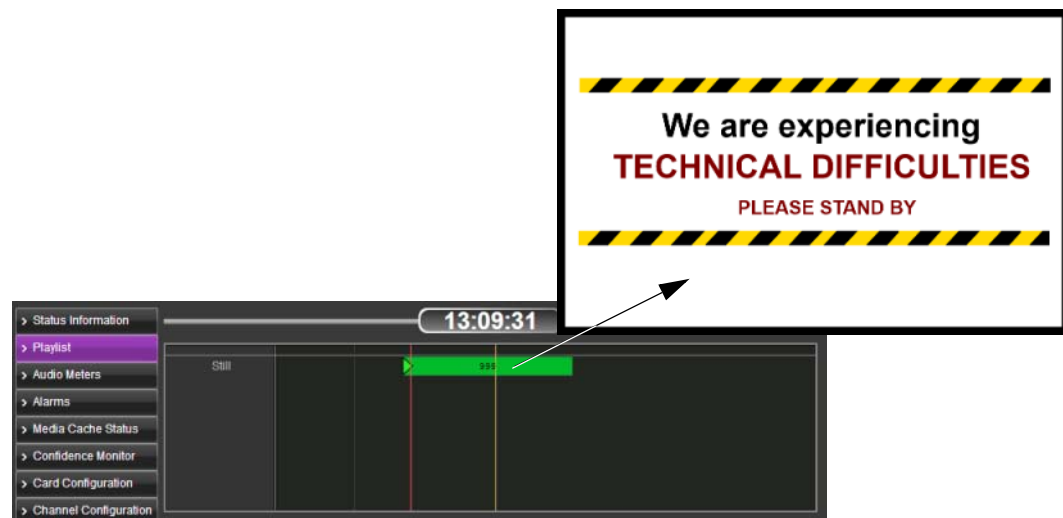


Fig. 3-6: Example of a Still event

About Secondary Events

Secondary events either play at the same time as primary events or appear super-imposed over existing video events. For example, you can add a logo graphic over a video event and you can add a voiceover that plays at the same time as a video or still image. Primary events always take priority over secondary events so if a conflict occurs between the resources the primary event takes precedence. For this reason, times set for secondary events are always relative to the times set for their parent primary event; therefore, any edits effecting the time of a primary event also affects its associated secondary events.

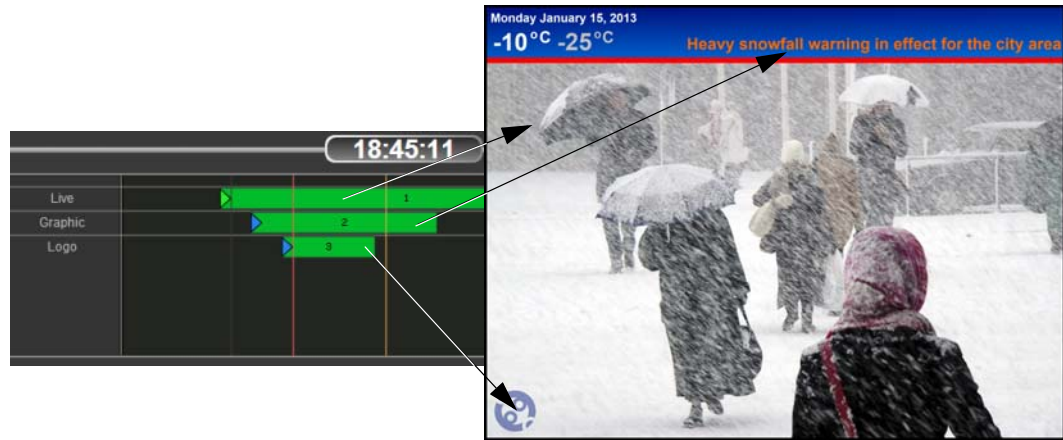


Fig. 3-7: Example of a Graphic and a Logo appearing with a Live event

These secondary events include:

- **Voiceover (VO):** plays an audio-only event (WAV format) stored in the media cache either as a foreground or background layer while a primary event occurs. You can adjust its volume to determine its layering presence in the timeline.
- **External Voiceover (External VO):** plays an audio-only media feed in AES format (110 or 75 ohm) sourced from the AES inputs rather than a media file from the media cache.
- **Graphic:** displays a animated image (GMJ format) over the primary event. The J2K-based graphic is decoded by an ADV212 chip and streamed from the SSD. Graphics are designed to load instantly, can be of any size, and can use transparency, but must be full-screen as the ADV212 does not support rasters sized smaller than the screen.
- **External Fill&Key (F&K):** applies a graphic overlay over the primary event. The Fill graphic can hide portions of the primary event. A key signal can be used to control the transparency of the overlay. The External Fill&Key event is sourced from the SDI In Fill & Key port.
- **Logo:** displays a logo graphic on top of your primary event; for example, a small graphic that appears in a corner or a side of the display area. A logo is an uncompressed cel animation or still (in OXT or OXA format) less than 252MB in size created using the Media Conversion Suite. Since a logo must be pre-loaded into one of the two available hardware-based stores before it can be played, only two logo events are supported in the playlist at a time.

Note: When stills are used in the playlist, only Logo 1 will be available since stills also require the use of a hardware-based store in order to function.

- **Suppress Keyers:** temporarily hides Graphic, Logo, or Fill&Key events from the playout.
- **Suppress VANC:** temporarily prevents Vertical Ancillary Data Space (VANC) files from being embedded in the playout.
- **VANC:** adds a Vertical Ancillary Data Space (VANC) file that embeds data in a video event, which is not displayed within the screen's viewing area.
- **Upgrade:** schedules an SSP-3801 software upgrade (see [Performing a Software Upgrade](#) on page 62).
- **GPO:** allows access to the GPIO pins to trigger external hardware downstream.

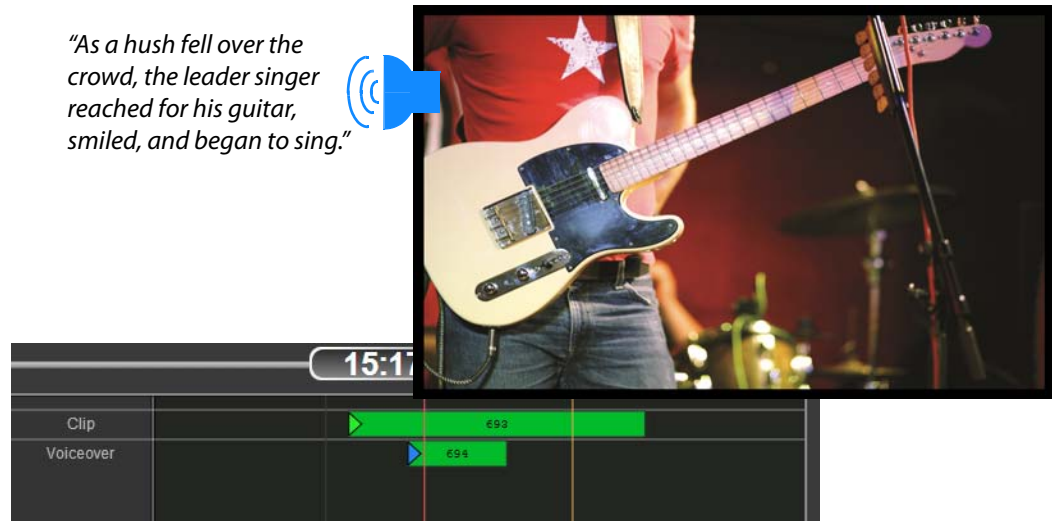


Fig. 3-8: Example of a Voiceover played with a Clip



Fig. 3-9: Example of a Fill&Key event over a video event

About the behavior of automatic and fixed primary events

Primary events can be configured as automatic or fixed depending on the Time Mode selection when they were added to the playlist. The Time Mode contains four options, two of which are automatic and two are fixed:

- **Fixed:** the event is inserted at a specified date and time and starts to play at that defined time.
- **Auto:** the event is placed immediately after the last added primary event in the playlist and starts to play when it reaches the On Air threshold marker.
- **Manual (auto):** the event is placed immediately after the last added primary event in the playlist and is placed on hold.
- **Manual (fixed):** the event is inserted at a specified date and time and placed on hold.

The automatic primary events, meaning those configured with the Auto or Manual (auto) options, do not have a date and time set for when they should play. An automatic event follows the primary event immediately before it in the playlist. As a result, its start time automatically adjusts according to any changes to the previous primary event's time or duration. If no primary event already exists in the playlist, its start time is converted to a fixed start time and is added a preset amount of time before the Cued threshold marker.

Fixed primary events, meaning those configured with the Fixed or Manual (fixed) options, have a scheduled time to go on air. They play at their configured date and time regardless of whether the previous primary event in the playlist has changed its time or duration.

Therefore, an automatic event acts as if it is grouped with the previous primary event and they behave as a unit while fixed events act independently of the previous events.

These options also affect how a primary event behaves when controls from the Playlist Controls toolbar are used. When a control is clicked, the behavior of the events in the playlist is determined by whether the affected event and those following it are automatic or fixed. For example, if Hold Next is clicked to hold an automatic primary event, it is put on hold as well as all the following automatic primary events. If a fixed primary event exists in the playlist, it will play at its designated time regardless of what is or is not on hold in the playlist and effectively cancel the hold. The fixed event will play as well as any following events as if Hold Next had not been clicked at all.

Adding a primary event to the playlist

Primary events (clip, live feed, source, matte, or still) are full-screen media events scheduled to playout on the SSP-3801 card. When you add a Primary event to the playlist, you can select when it is broadcast. You can choose to append it after the last event, or append it a certain amount of time before the Cued threshold marker, or you can select a fixed time for it to start playing.

For the Fixed time modes, Fixed and Manual (fixed), you must enter the date and time. The time you enter in the **Time** field must correspond to the current time on the card as listed in the Status header. For example, if the current time is 17:15:00, you would need to enter a value that occurs later than 17:15:00 to be able to see the event on the timeline; for example, 17:20:00.

To add a primary event:

- 1 From the menu, click **Playlist**. The **Playlist Timeline** opens.

- 2 Click the **Show Edit Controls** button if the toolbar is not displayed.
- 3 If you want to add the primary event in between existing scheduled events, click an event in the channel grid relative to what you want to do. You will have the choice of replacing the selected event, inserting the new event after the selected event, or appending the event to the end of the playlist.
- 4 Click one of the following:
 - **Clip**: plays a digital video clip (XDCAM HD or Sony IMX format).
 - **Live**: streams a live feed.
 - **Source**: streams a live feed supplied by a router (only available when a router is configured).
 - **Matte**: displays a single color effect for the entire length of the event.
 - **Stills**: displays a static image for the entire length of the event.

Note: When stills are used in the playlist, only Logo 1 will be available since stills require the use of a hardware-based store in order to function.

- 5 Define how the event is added to the timeline. The type of event you chose determines which options are available. Depending on the event type, configure the following as required:

Field	Description
Time mode	<p>Select when the event appears in the timeline:</p> <ul style="list-style-type: none"> • Fixed: the event is inserted at the date and time specified in the Date/Time fields and plays at the specified time. • Auto: the event is placed immediately after the last added primary event in the playlist and its start time depends on the previous primary event's time and duration. • Manual (auto): the event is placed immediately after the last added primary event in the playlist and is placed on hold. • Manual (fixed): the event is inserted at the date and time specified in the Date/Time fields and placed on hold. <p>For more information on automatic and fixed primary events, see About the behavior of automatic and fixed primary events on page 36.</p>
Date/Time	<p>Type or select the date and time when the event should be added in the timeline.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Duration	<p>Type the total amount of time allocated for the event to play.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>

Field	Description
Asset URI	<p>Type the URI for the media file using one of the following protocols: HTTP, HTTPS, FTP, local, or SMB, or click Find to select a file.</p> <p>Note: The card attempts to authenticate with the credentials specified in Channel Configuration > Media Locations. For more information, see Defining media locations and credentials on page 8.</p> <p>To select a file:</p> <ol style="list-style-type: none"> 1 Click the Find button. 2 In the Search for field, choose Asset to view the media events downloaded from GV STRATUS Playout that are still present in the cache or File to view the media events stored on the card. 3 In the Filter field, type part of the media file that you are searching for to display only the files containing those characters in their filename. 4 Select the media event. 5 Click Choose.
In Transition	<p>Select the type of scene change affect to apply to the beginning of this event. You have the following choices:</p> <ul style="list-style-type: none"> • <input type="checkbox"/> Cut: the event switches from one event to another instantly • <input checked="" type="checkbox"/> Mix: creates a cross-fade between the two events where the outgoing event merges and replaces the outgoing event • <input checked="" type="checkbox"/> Cut and Fade: the outgoing event switches to black and the incoming event fades in. • <input checked="" type="checkbox"/> Fade and Cut: the outgoing event fades to black and the incoming event appears instantly. • <input checked="" type="checkbox"/> Fade and Fade: the outgoing event fades to black and the incoming event fades in (V-Fade). <p>Note: Since two stills cannot play at the same time, you cannot use <input checked="" type="checkbox"/> Mix as a transition between two stills in the playlist.</p>
Transition Duration	<p>Type the total amount of time allocated for the transition to complete.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Title	<p>Type the title of the event. This title is displayed in the channel grid on the Playlist page and in other connected services such as iControl.</p>
Primary Media	<p>Define the media file being added to the playlist.</p>
Standby Media	<p>Define the backup media file in case the file defined on the Primary media tab fails. The standby media file will replace the primary media file on air if the primary media file is not present or is not fully cached unless it is in the AS-03 file format. Media files in the AS-03 file format can play out while caching.</p>

Field	Description
In Point	<p>Type the timecode for the first frame of the video that should be seen on screen relative to the clip start timecode. The Start of Media (SOM) is the first frame of the media and the clip start timecode is the timecode label associated with that first frame. The clip start timecode may not necessarily start at 00:00:00;00 since many clips may have an offset start timecode; for example, when a show is split into multiple one-hour segments, the second segment may have a clip start timecode of 01:00:00;00.</p> <p>Often the In Point value is the same as SOM; however, some media files may contain unwanted content at the start of the file that should not be displayed. In those cases the In Point timecode can be used to specify that playout should start after that unwanted content.</p> <p>If the In Point and Out Point times are both 00:00:00, the entire media file plays.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Out Point	<p>Type the timecode for the last frame of the video that should be displayed on screen relative to the clip start timecode. The End of Media (EOM) is the last frame of video in the media relative to the clip start timecode.</p> <p>Often the Out Point and EOM are the same; however, if the media ends with content that should not be displayed such as black, the Out Point point can be set to ensure the clip ends before the unwanted content is displayed.</p> <p>If the In Point and Out Point times are both 00:00:00, the entire media file plays.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Physical Input	Select the cable port that will provide the live feed (SDI A or SDI B).
Red Green Blue	In each field type a value between 0 and 255 to determine the color mix to create the matte color.
Router Source	<p>Select the router source that will provide the live feed.</p> <p>To select the router source:</p> <ol style="list-style-type: none"> 1 Click the Select button. 2 Click Refresh to obtain a list of the available router sources. 3 Click the desired router source and click Select. To filter the list, type the name of the router source in the Search field. To order the list, click the arrows in the column headers.

- 6 Click one of the following depending on how you want to add the event to the playlist. The options offered depend on if you selected an event in the channel grid (as per [step 3](#)) or not.

- **Replace selected:** to remove the event selected in the channel grid and replace it with the new event.
- **Insert after selected:** to add the new event after the event selected in the channel grid.
- **Append:** to add the event after the last primary event in the timeline.

Adding a secondary event to the timeline

Secondary events such as voiceovers, graphics, and logos either play at the same time or super-imposed over a primary event.

Note: When stills are used in the playlist, only Logo 1 will be available since stills require the use of a hardware-based store in order to function.

To add a Secondary event to the timeline:

- 1 From the menu, click **Playlist**. The **Playlist Timeline** opens.
- 2 Click the **Show Edit Controls** button if the toolbar is not displayed.
- 3 In the channel grid, click an event relative to what you want to do:
 - If you intend to replace a secondary event, click the event you want to replace.
 - If you intend to add a secondary event to a primary event, click the primary event.
 - If you intend to add a secondary event to the last primary event in the playlist, you can skip to the next step.
- 4 Click one of the following:
 - **VO:** plays an audio-only event (WAV format)
 - **External VO:** plays an audio-only media feed in AES format (110 or 75 ohm).
 - **Graphic:** displays a animated image (GMJ format).
 - **F&K:** displays a Fill&Key graphic overlay.
 - **Logo:** displays an uncompressed cel animation or still in OXT or OXA format less than 252MB in size.
 - **Suppress Keys:** temporarily hides Graphic, Logo, or Fill&Key events.
 - **Suppress VANC:** temporarily prevents Vertical Ancillary Data Space (VANC) files from being embedded into the output.
 - **VANC:** embeds a Vertical Ancillary Data Space (VANC) file into the output.
 - **Upgrade:** schedules an SSP-3801 software upgrade. For more information, see [Performing a Software Upgrade](#) on page 62.
 - **GPO:** allows access to the GPIO pins to trigger external hardware downstream.
- 5 Define how the secondary event is added to the timeline. The type of event you chose determines which options are available. Depending on the type, configure the following as required:

Field	Description
Time mode	<p>Determine how the secondary event is offset from the primary event. Select one of the following:</p> <ul style="list-style-type: none"> • Start plus: the secondary event starts after the start of the primary event offset by the amount of time specified in the Time offset field. • Start minus: the secondary event starts before the start of the primary event by the amount of time specified in the Time offset field. • End plus: the start of the secondary event is automatically calculated so it ends by the amount of time specified in the Time offset field after the end of primary event. • End minus: the start of the secondary event is automatically calculated so it ends by the amount of time specified in the Time offset field before the end of primary event. • Automatic: the duration of the secondary event is calculated automatically so it starts after the start of the primary event by the amount of time specified in the Time offset field and ends by the amount of time specified in the Time offset field before the end of primary event.
Time offset	<p>Type the amount of time used to determine the start or end of the secondary event as determined by the selected Time mode.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Duration	<p>Type the total amount of time allocated for the secondary event to play.</p> <p>Note: Illegal drop-frame timecodes are automatically rounded up to the nearest drop-frame timecode value; for example, 00:01:00;00 would be round up to 00:01:00;02.</p>
Asset URI	<p>Type the URI for the media file using one of the following protocols: HTTP, HTTPS, FTP, local, or SMB, or click Find to select a file.</p> <p>Note: The card attempts to authenticate with the credentials specified in Channel Configuration > Media Locations. For more information, see Defining media locations and credentials on page 8.</p> <p>To select a file:</p> <ol style="list-style-type: none"> 1 Click the Find button. 2 In the Search for field, choose Asset to view the media events downloaded from GV STRATUS Playout that are still present in the cache or File to view the media events stored on the card. 3 In the Filter field, type part of the media file that you are searching for to display only the files containing those characters in their filename. 4 Select the media event. 5 Click Choose.

Field	Description
Title	Type the title of the event. This title is displayed in the channel grid on the Playlist page and in other connected services such as iControl.
Fade in	Type the time period over which the secondary event comes into full effect as the event begins; for example, the amount of time for: <ul style="list-style-type: none">• the volume to raise to 100%• an image to fully appear
Fade out	Type the time period over which the secondary event disappears as the event ends; for example, the amount of time for: <ul style="list-style-type: none">• the volume to lower to 0%• an image to fully disappear
Duck	Type how much to reduce the level of the background audio (in decibels).
Preset	Type how much to increase the level of the foreground audio (in decibels).
Voiceover	Select the index number for the voiceover event that you want to use (0 to 3).
Output Pairs	Type the channel pair to output. Use a comma as the separator. To include all stereo pairs, leave the field empty.
Layer	Type the number that determines the placement of the event in relation to other overlapping events. Lower numbers push the event further into the background. Higher numbers bring it more into the foreground.
Opacity (%)	Type the percentage of opacity between 0% (fully transparent) to 100% (fully opaque).
Logo	Select the number identifying which of the two logos stores on the SSP-3801 card to output.
Index	Select the number identifying the GPIO pin to trigger.

- 6 Click one of the following depending on how you want to add the event to the playlist. The options offered depend on if you selected an event in the channel grid (as per [step 3](#)) or not.
 - **Replace selected:** to replace the selected secondary event with the new one.
 - **Add to selected:** to add the secondary event to the selected primary event.
 - **Add to Last** to add the secondary event to the last primary event in the timeline.

Deleting an event from the playlist

Since the playlist is created and managed by GV STRATUS Playout and then downloaded into the SSP-3801 card, events deleted from the Playlist page are not deleted from the playlist in GV STRATUS Playout.

If the Delete button is clicked after the selected event has reached the Cued threshold marker on the Playlist page, the event is not deleted from the playlist but is set as dropped instead. The event will not go to air, but will remain in the channel grid with dropped status and appear in the log.

To delete an event:

- 1 From the menu, click **Playlist**. The **Playlist** page opens.
- 2 Click the **Show Edit Controls** button if the toolbar is not displayed.
- 3 In the channel grid at the bottom of the screen, click the event that you want to delete.
- 4 Click **Delete**.

Deleting all the events from the playlist

Since the playlist is created and managed by GV STRATUS Payout and then downloaded into the SSP-3801 card, events deleted from the Playlist page are not deleted from the playlist in GV STRATUS Payout.

To delete all events:

- 1 From the menu, click **Playlist**. The **Playlist Timeline** opens.
- 2 Click the **Show Edit Controls** button if the toolbar is not displayed.
- 3 Click **Delete All**. All the events, including those on air, are deleted.

4

Monitoring the SSP-3801 Card's Status

This chapter explains how to monitor the status of the SSP-3801 card by tracking the hardware, by verifying the media being played in the playlist, and by configuring alarms to alert the user to any potential issues.

This chapter contains the following sections:

<i>Monitoring the card's status</i>	46
<i>Measuring audio levels</i>	48
<i>Managing card alarms</i>	49
<i>Configuring the alarm levels</i>	50
<i>Monitoring the media caching process</i>	54
<i>Previewing the broadcast</i>	55

Monitoring the card's status

The monitoring features on the web interface provide you with pages that display current and accurate information about the SSP-3801 card. You can use these monitoring features to verify aspects such as internal temperature, Input/Output port status, storage disk and memory use, firmware or software versions in use, and so on.

Monitoring the System status

The **System** page displays the technical specifications about your SSP-3801 card and the latest status information about the hardware and network features.

IMPORTANT

If you find any errors on the tabs, contact your System Administrator.

To monitor the system status:

- 1 Select **Status Information > System**. The **System** page opens.

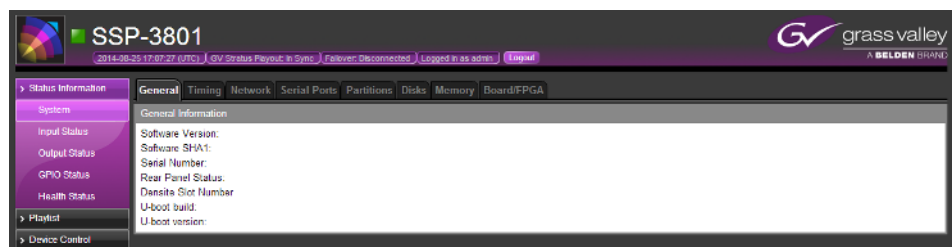


Fig. 4-1: System page

- 2 Click the **General** tab to display the software version and identification information about the SSP-3801 card, including which slot the card currently occupies in the Densité frame. You can update the software version using the **Software Upgrade** menu command (see [Performing a Software Upgrade](#) on page 62).
- 3 Click the **Timing** tab to display the current timecode settings, including the time and date and how long the card has been running.
If there is a difference between the timing on the card and GV STRATUS Payout, this may result in the video and audio becoming unlocked and de-synchronized. This may also trigger Input or Time alarms (see [Managing card alarms](#) on page 49).
- 4 Click the **Network** tab to display the current Network settings for the SSP-3801 card, as defined in **Card Configuration > System Identity**.
- 5 Click the **Serial Ports** tab to display the technical specifications about the communications ports on the SSP-3801 card.
- 6 Click the **Partitions** tab to display information about how the SSD storage disk has been sectioned.
- 7 Click the **Disks** tab to display the storage capacity of the primary and secondary disks, if available, on the SSP-3801 card.
- 8 Click the **Memory** tab to display information about memory usage and size.

- Click the **Board/FPGA** tab to display the revision number for the board and the build numbers for the field-programmable gate arrays (FPGA) on the SSP-3801 card.

Monitoring the Input Status

The Input Status page allows you to monitor the quality of video and audio input feeds for the SSP-3801 card. The video and audio inputs are compared with a reference input to ensure that they match. If they do not match, this may trigger alarms (see [Managing card alarms](#) on page 49).

To monitor the Input Status:

- Select **Status Information > Input Status**. The **Input Status** page opens.

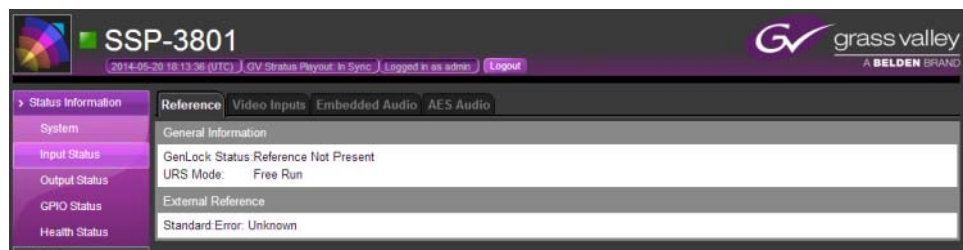


Fig. 4-2: Input Status page

- Click the **Reference** tab to display the status of the timing between the reference signal and the SDI input signals.
- Select the **Video Inputs** tab to display the status of the video input feeds, the Fill and Key inputs, and if the overall timing alarms have been triggered.
- Select the **Embedded Audio** tab to display the status of the embedded audio for the A, B, and Fill inputs.
- Select the **AES Audio** tab to display the type and status of the AES audio for channels 1 and 2.

Monitoring the Output Status

The **Video Outputs** tab displays the current video standard being output from the SSP-3801 card. This video standard is defined in **Card Configuration > Input/Output** menu, in the **Video Standard** field.

To monitor the Output Status:

- Select **Status Information > Output Status**.

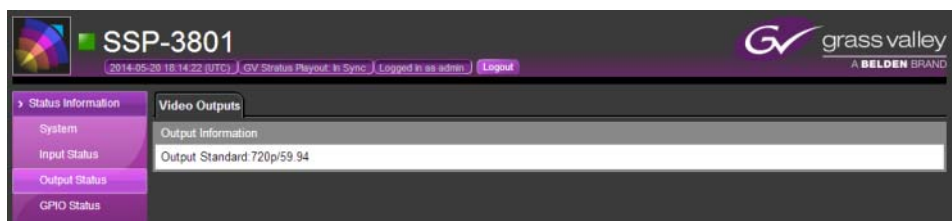


Fig. 4-3: Output Status page

- The **Video Output** tab displays the current video output standard.

Monitoring the GPIO Status

The **GPIO Information** tab displays the status of the two GPIO connectors which offer up to four GPIOs that can be configured as general purpose outputs.

To monitor the GPIO Status:

- 1 Select **Status Information > GPIO Status**.

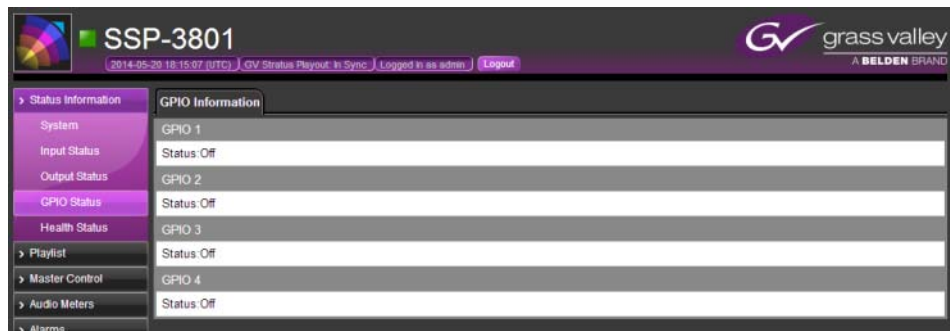


Fig. 4-4: GPIO Information page

- 2 The **GPIO Information** tab displays the state of the GPIO outputs.

Monitoring the Health Status

The **Health Information** tab displays the current temperature and power outputs on the components, the fan speed, and the minimum and maximum temperature and power values reached since the card has been running.

To view the system's temperature and power status:

- 1 Select **Status Information > Health Status**. The **Health Information** page opens.

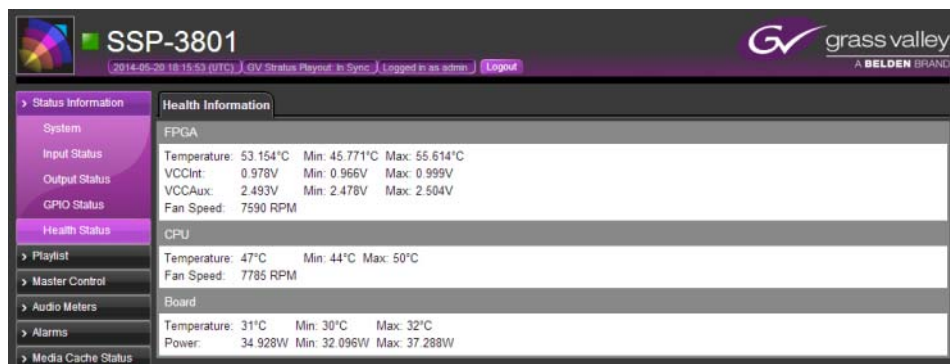


Fig. 4-5: Health Status page

- 2 The **Health Information** tab displays the health status for the field-programmable gate array (FPGA), the central processing unit (CPU), and the SSP-3801 main board (Board).

Measuring audio levels

The Audio Levels feature allows you to monitor the volume levels of the audio currently being played.

To monitor the audio levels:

- 1 From the menu, select **Audio Meters**. The **Audio Meters** page opens.

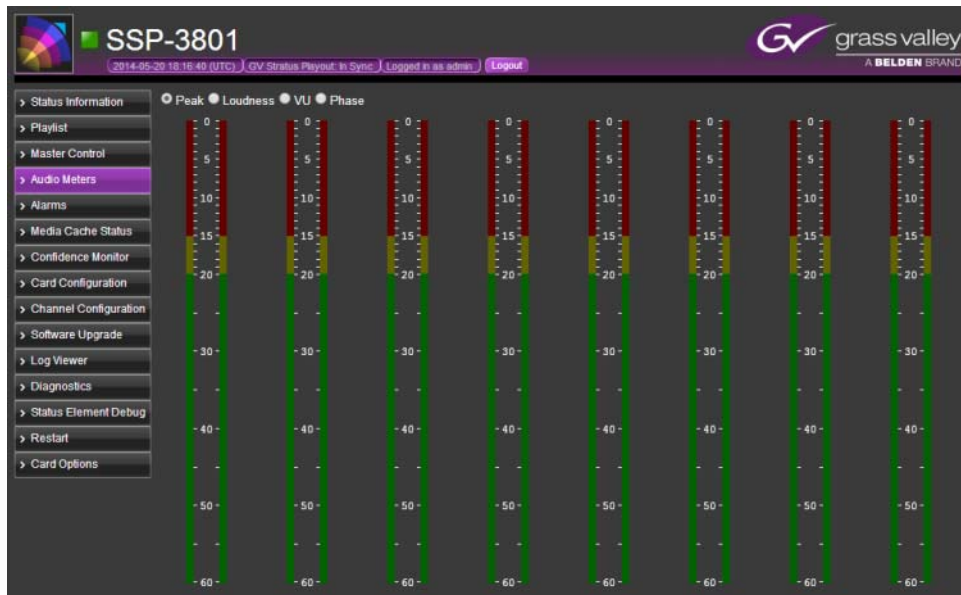


Fig. 4-6: Audio meters page

- 2 Click the type of audio measurement you wish to see:
 - **Peak:** measures the Left/Right audio levels.
 - **Loudness:** measures the average loudness of the audio signal level.
 - **VU:** displays the Left/Right Volume Units (VU), which measures the perceived loudness of the audio signal level.
 - **Phase:** displays the relative phase of two channels to indicate if they are compatible with single-channel (mono) payout.

Managing card alarms

The SSP-3801 card features a series of alarms that can alert you to the occurrence of an event, a change of status, or of a specific parameter value. The **Alarms** page contains the entire list of available alarms of which some can be configured with different alarm levels according to your requirements. The alarms are divided into two main categories: system alarms and input alarms. For a description of the system alarms, see [About System Alarms](#) on page 51. For input alarms, see [About Input Alarms](#) on page 54.

Alarms are color coded to quickly display the status of a given alarm. Alarms in green indicate normal status. When triggered, the alarm changes color depending on its configured level:

- Blinking red indicates a critical alarm
- Red indicates a major alarm
- Yellow indicates a minor alarm.

You can also open the **Alarms** page by clicking the **Alarm status** icon in the top-left of the web page. It automatically displays the first active alarm. If a connection alarm is triggered

for the GV STRATUS Playout service or the HCO device, its associated tab highlights in red to bring immediate attention to the situation.

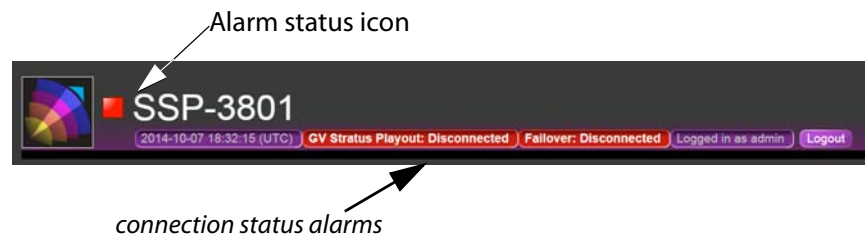


Fig. 4-7: Connection alarms displayed in status header

Configuring the alarm levels

Administrators can change the default alarm levels to meet custom requirements. In particular, you may want to adjust the alarm levels for Security Settings if you changed the defaults for any of the Device Access Settings in Card Configuration > Security. The alarm indications are displayed in the Alarms page, the top of the web interface, and on the SSP-3801 card LEDs. The error levels are broadcast via the General Status Manager (GSM) to iControl and GV STRATUS Playout.

To configure the alarm levels:

- 1 From the menu, select **Alarms**. The **Alarms** page opens.
- 2 Click the plus (+) or minus (-) icons to show or hide the alarms. Navigate to the alarm that you want to configure.
- 3 Set the **GSM Error Level** for the alarm as desired:
 - **Normal**: No alarm (green). Setting the level to Normal means that the alarm is not triggered regardless of the alarm condition's status. It indicates that no action is required.
 - **Minor**: Minor alarm (yellow). Setting the level to Minor means that when the alarm condition is met, the indicators for a minor alarm are triggered. It indicates that a low priority alarm is occurring and action may be needed to resolve the situation.
 - **Major**: Major alarm (red). Setting the level to Major means that when the alarm condition is met, the indicators for a major alarm are triggered. It indicates that a high priority alarm is occurring and action is required to resolve the situation.
 - **Critical**: Critical alarm (blinking red). Setting the level to Critical means that when the alarm condition is met, the indicators for a critical alarm are triggered. It indicates that a high priority alarm is occurring and immediate action is required to resolve the situation.

Note: The alarm indications also display on the LEDs on the card itself.

- 4 For the **Type Mismatch** alarms, select the type of **Expected Value**. Choose:
 - **Audio**: if the alarm relates to quality of the audio output only.
 - **Data**: if the alarm relates to the digital transmission of data only.

About System Alarms

Alarm Type	Alarm Conditions
Media Cache	<ul style="list-style-type: none"> • Missing Media: Displays the status of the media. The alarm triggers if the media file is missing from the SSP-3801 card's media cache and the event is within the configured search window. • Inaccessible Media: Displays the accessibility of the media. The alarm triggers when the source media file has been specified, but does not exist at the specified location(s). • Download Speed: Displays the status of the media download speed. The alarm triggers if the download speed is slower than the defined Minimal Download Speed.
Network	<ul style="list-style-type: none"> • ETH1: Displays the status of the network that is plugged into the frame using the ETH1 port. The alarm triggers if the network interface is down or a cable is not plugged in. • ETH2: Displays the status of the network that is plugged into the frame using the ETH2 port. The alarm triggers if the network interface is down or a cable is not plugged in.
Rear Panel Status	<p>Displays the type of rear panel currently in use (SSP3801_3PRP, SSP3801_3QRP). The alarm triggers if the panel is not connected or recognized by SSP-3801; also the message NOT PRESENT appears on the front panel or in iControl.</p>
Off Air	<p>Displays the off-air status of the playout (true/false). The alarm triggers if the SSP-3801 card has entered an off-air state.</p>
Failover	<ul style="list-style-type: none"> • Failover Connection Status: Displays the status of the HCO device connected to the SSP-3801 card. The alarm triggers if the status falls into the Disconnected state. <ul style="list-style-type: none"> • Disabled: Indicates that either the OPT HCO license is not enabled or HCO Control is not configured. • Disconnected: Indicates that the OPT HCO license is enabled, HCO Control is configured, but the HCO device is not communicating with the SSP-3801 card. • Connected: Indicates that the OPT HCO license is enabled, HCO Control is configured, and the HCO device is communicating with the SSP-3801 card.
Security Settings	<p>Represents the security status depending on the values configured in the Card Configuration > Security page. The SSP-3801 card is configured with a firewall enabled by default that only accepts calls using HTTPS and denies access to all other protocols. If the firewall is configured to grant access to other protocols, a security alarm is triggered.</p>

Alarm Type	Alarm Conditions
GV STRATUS Playout	<ul style="list-style-type: none"> • Synchronization Status: Displays the synchronization status between the SSP-3801 card and the GV STRATUS Playout service. The alarm triggers if the SSP-3801 card is no longer in sync with GV STRATUS Playout. • Time Difference Status: Displays the time difference (in milliseconds) between GV STRATUS Playout time and the card's internal time. The alarm triggers if the time difference between the two is greater than 30 seconds (30,000 milliseconds).
Router	<ul style="list-style-type: none"> • Router Connection Failure: Displays the connection status for the router. The alarm triggers when the communication between the SSP-3801 card and the configured external video router is failing.
Hot Swap Settings Out of Date	<p>Displays the status of the restore point to identify if the Identity settings have changed (true/false). The alarm triggers if the status is True, which indicates that a new restore point must be created.</p>
Temperature Failure	<p>Displays the status of the card's internal temperature. The alarm triggers when the SSP-3801 card has detected that the internal temperature has exceeded the following ranges:</p> <ul style="list-style-type: none"> • FPGA Temperature is above 85 °C or below 10 °C • CPU Temperature is above 85 °C or below 10 °C • Board Temperature is above 65 °C or below 10 °C <p>The alarm generates an error message to describe the issue.</p>
System Failure	<p>Displays the system status. The alarm triggers if one of the following occurs:</p> <ul style="list-style-type: none"> • CPU or FPGA fan failure (the fan stalls) • Board power usage is above 45 Watts or below 25 Watts • FPGA VCC_INT is above 1.05 Volts or below 0.95 Volts • FPGA VCC_AUX is above 2.625 Volts or below 2.375 Volts <p>The alarm generates an error message to describe the issue.</p>
SSD	<ul style="list-style-type: none"> • Wear Level (Primary Disk): Displays the physical condition of the primary solid state disk (SSD). As the disks continue to be written upon, over time parts of the disks become worn and unusable. The alarm triggers when the wear level is over 90%. • Wear Level (Secondary Disk): Displays the physical condition of the secondary solid state disks (SSD). The alarm triggers when the wear level is over 90%. • Usage: Displays the amount of the media storage is currently in use. The alarm triggers when the usage is over 90%.
Logging Rate	<p>Displays the rate (in kilobytes per second) that the card processes log messages. The alarm triggers if the value is higher than 50 kilobytes per second.</p>

Alarm Type	Alarm Conditions
Time	<ul style="list-style-type: none"> • Video Time Status: Displays whether or not the internal time matches time source (for example, VITC, LTC, NTP). The alarm triggers if the internal time is UNLOCKED meaning that it does not match the time source. • NTP Locked: Displays the status of the NTP time source. It displays a status of True if at least one NTP server is configured and it is providing a valid date to the card. The alarm triggers if: <ul style="list-style-type: none"> • The card is not configured to use an NTP time source. • The card cannot contact any of the configured NTP servers. • The difference between the system clock and the NTP server's time (drift) is greater than 43 seconds. • NTP Connectivity: Displays the communication status of the configured NTP servers. It displays as True if all the configured NTP servers are in communication with the card. The alarm triggers if the card is unable to connect with one or more of the configured NTP servers. • Video Time in UTC: Displays if the internal time is using the Universal Time Coordinated format (UTC). The alarm triggers if the internal time is set to local time instead.
Processes	<p>Displays the state of the individual software services critical to the SSP-3801 card's operation. The alarm triggers if a process is unresponsive for a length of time (length depends on the process).</p>

About Input Alarms

Alarm Type	Description
Reference	<ul style="list-style-type: none"> • URS Input Type: Displays the status of the Universal Reference Signal (25Hz, 29.97Hz, FREE RUN) if the URS is present. If it is not present, the message Not Present appears. The alarm triggers if there is a standard mismatch with the output standard. • GenLock Status: Displays the status of the selected reference use to determine if the video input and output match. If the reference matches, the status will display as Locked. If the reference does not match, the alarm triggers and one of the following messages appears: <ul style="list-style-type: none"> • Reference Standard Mismatch • Reference Unlocked • Reference Not Present • External Reference Standard Mismatch: Displays the type of external reference currently in use. This reference standard is used to lock the video output standard. The alarm triggers if the two standards do not match.
Video Input (A Input, B input, Fill and Key)	<ul style="list-style-type: none"> • Overall Video Timing Out of Range: Indicates if the timing of the video playout is no longer in sync with the input and output. The alarm triggers if input timing is not in range with any of the input video signals (A, B, FILL, KEY). • Standard Mismatch: Triggers an alarm if the video standard of the output does not match the input. • Input Timing: Triggers an alarm if the vertical timing offset is greater than zero. • Status: Triggers an alarm if the input timing is not stable with respect to the reference (Unlocked).
AES	<ul style="list-style-type: none"> • AES 1 CH1/2 Status: Displays if the AES input is locked or unlocked. The alarm triggers when the AES signal cannot be detected. • AES 1 CH1/2 Type Mismatch: Displays the type of mismatch that is causing the AES Input to be unlocked. The alarm triggers if the configured AES type (audio or data) is different than the actual AES type.
Embedded Audio	<ul style="list-style-type: none"> • Audio Loss CH#: Displays if the embedded audio input or fill is locked or unlocked. The alarm triggers when the embedded audio in the input signal cannot be detected. • Audio Type Mismatch CH#: Displays the type of mismatch that is causing the embedded audio or audio fill to be unlocked. The alarm triggers when the configured expected audio type (audio or data) is different from the actual embedded audio type.

Monitoring the media caching process

The Media Cache Status page opened from the menu displays the progress of media being transferred to the SSP-3801 card. It does not display the current contents of the media cache on the card.

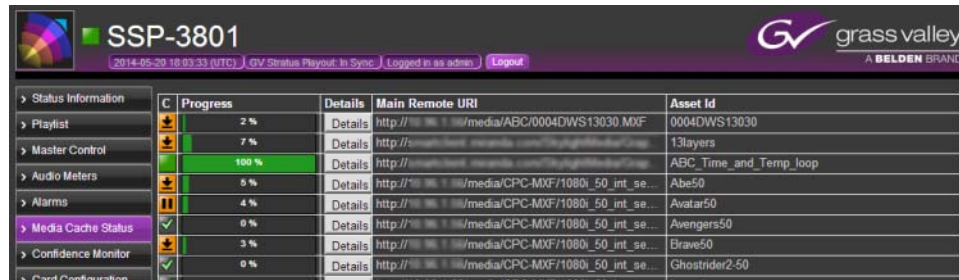


Fig. 4-8: Media Cache Status page

The columns contain the following:

- **C:** indicates the current status of the media files:

Icon	Description
	Available for download
	Available for playout
	Downloading
	Download paused
	Download failed

- **Progress:** the percentage of the asset that has been successfully transferred.
- **Details:** provides information about the media files. Click to open the **Asset Details** dialog box, which provides the local path where the media file is cached and the remote URIs for alternate download locations.
- **Main Remote URI:** where the media file is sourced.
- **Asset ID:** the file name for the media file.

You can see what is currently loaded on the card's cache by connecting to the SSP-3801 card via FTP by using the card's IP address, entering the username and password for the card, and navigating to the **mediacache/pull/assets** directory.

Previewing the broadcast

You can monitor the feed that is being currently broadcast via the card using the Confidence Monitor feature. The tools used in the preview pane affect only the preview leaving the broadcast unchanged. This Confidence Monitor feature requires that you enable RTSP Access (see Card Configuration > Security) and is only available with a PROXY license.

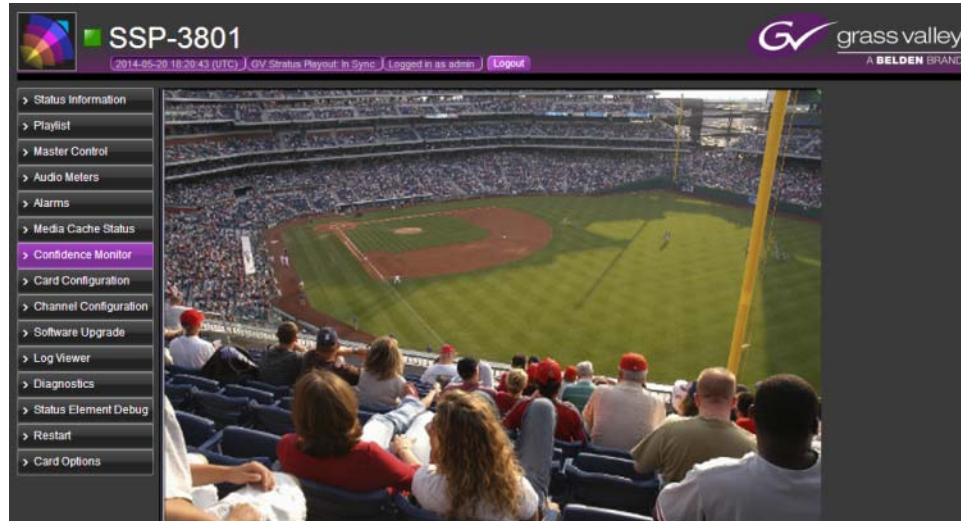


Fig. 4-9: Confidence Monitor page

To preview the broadcast stream:

- 1 From the menu, select **Confidence Monitor**. The preview page opens and displays the media that is currently being broadcast, if any.
- 2 To change the source of the media stream, enter the IP address in the **Stream IP address** field and click **Change stream IP**.
- 3 Use the following tools as desired to examine the preview.
 - **Freeze stream:** Pauses the preview. Click to pause or resume the preview.
 - **Fullscreen:** Maximizes the preview. Click to maximize or restore the preview.
 - **Toggle mute:** Mutes the audio in the preview. Click to mute or unmute the sound.
 - **De-interlaced mode:** De-interlaces the video stream in the preview. Click to select the active mode to apply:
 - **disabled:** the video is not de-interlaced, which displays both fields per frame.
 - **blend:** overlays one field over another.
 - **bob:** each interlaced frame is divided into two frames and played out at 50 fps, but the height of the video is reduced.
 - **discard:** skips every second line (which reduces the height of the picture) and then resizes the video to its original height.
 - **linear:** uses bob with linear interpolation
 - **mean:** averages the information from two fields into one blended frame.
 - **yadif/x:** re-creates missing fields by using the pixels from the previous, current, and next frames and outputs at 25 fps.
 - **yadif2x:** re-creates missing fields by using the pixels from the previous, current, and next frames and outputs at 50 fps.

5 Analysis and Maintenance

This chapter explains how to maintain your SSP-3801 card, how to use the diagnostic tools provided with the SSP-3801 card to analyze the system data, and how to swap SSP-3801 cards in a Densité frame.

This chapter contains the following sections:

<i>Downloading the Diagnostic Archives</i>	58
<i>Running System Health Checks</i>	58
<i>Performing a DNS lookup</i>	59
<i>Testing a server address</i>	60
<i>Locating the SSP-3801 card in the Densité frame</i>	60
<i>Switching SSP-3801 cards in a Densité frame (Hot Swap)</i>	60
<i>Performing a Software Upgrade</i>	62
<i>Viewing the log</i>	63
<i>Debugging the status probes</i>	65
<i>Restarting or shutting down the system</i>	65
<i>Enabling or disabling a license option</i>	65
<i>Controlling the failover role and mode</i>	66
<i>Synchronizing with the GV STRATUS Playout service</i>	68

Downloading the Diagnostic Archives

You can generate and download diagnostic files from the SSP-3801 card which contain detailed technical information about your card, its processes, and about the Densité frame itself. These files are generated on-demand and contain the latest information available upon generation. You can generate two kinds of diagnostic files:

- **Diagnostic Archive:** contains comprehensive information about the card's system processes.
- **Core Dump Archive:** contains technical details of any crashes that may have occurred.

Downloading the Diagnostics Archive

To download a Diagnostics Archive:

- 1 Click **Diagnostics** in the menu. The **Diagnostics** page opens.
- 2 Click **Download a Diagnostics Archive**. The **diagnostics.zip** file will be saved to the default folder for downloaded files. If **diagnostics.zip** file already exists in the destination folder, the new file will be renamed as **diagnostics (#).zip**.
- 3 Send the **diagnostics.zip** to a technical support representative. This can be the support representative you are in contact with or you can email it to support@miranda.com.

Downloading the Core Dump Archive

IMPORTANT: You should only delete the Core Dump Archive from the card when advised to do so by a technical support representative.

To download a Core Dump Archive:

- 1 Click **Diagnostics** in the menu. The **Diagnostics** page opens.
- 2 Click **Download a Core Dump Archive**. The **coredumps.zip** file will be saved to the default folder for downloaded files. If **coredumps.zip** file already exists in the destination folder, the new file will be renamed as **coredumps (#).zip**.
- 3 Send the **coredumps.zip** to a technical support representative. This can be the support representative you are in contact with or you can email it to support@miranda.com.

Deleting the Core Dump Files

The core dump files are stored in a separate partition on the card and do not affect the disk space available for media. You should not alter or delete the coredump files unless specifically asked to do so by a technical support representative.

IMPORTANT: You should only delete the Core Dump Files from the card when advised to do so by a technical support representative.

Running System Health Checks

System health checks are a series of tests to detect and report any fundamental problems with the card.

To run a system health check:

- 1 Click **Diagnostics** in the menu. The **Diagnostic** options page opens.
- 2 Click **Run System Health Checks**. The **System Health Checks** dialog box opens.



Fig. 5-1: System Health Check dialog box

The **System Health Checks** displays the following status reports:

- **Network Settings:** checks that the connection to the network is active and valid.
- **Time Settings:** checks that the card is connected to the NTP server and is in sync.
- **System Alarms:** checks that there are no triggered alarms.
- **System Disk(s):** checks that the system disks are responding and functional.
- **Security Settings:** checks if only HTTPS is enabled in the Card Configuration > Security > Device Access Settings section. Warnings appear if any other protocols are enabled.
- **Video Settings:** checks that the video output settings are correct.
- **Router Settings:** checks if the connected external video router is online and configured correctly when the OPT RTR license is enabled and the router type in Card Configuration > Router Control is set to an option other than None. Warnings appear if the router is offline or if a destination remains set as undefined.
- **Core Dumps:** checks if core dumps have been performed and stored on the card.
- **System Processes:** checks that the system processes are running correctly.
- **Log Masks:** checks that the logging feature is working correctly.

If there are any issues to be reported, the report name appears in red and lists the issue. Warnings appear in yellow. If there are no issues, the report name appears in green.

- 3 Click **Close** when done.

Performing a DNS lookup

The DNS lookup tool determines if the Search Domains and the DNS servers (Name Server 1 and 2) configured on the Card Configuration > System Identity page are set correctly. This can be useful when media files fail to cache from a specific server. You can use the tool to attempt to resolve a server name to its IP address. If it cannot, then it indicates that the Name Server and Search Domain settings may need to be corrected.

To perform a DNS lookup:

- 1 From the menu, click **Diagnostics**. The **Diagnostics** page opens.
- 2 In the **Perform DNS lookup using nslookup tool** field, type a DNS location and click **Lookup**. The DNS lookup dialog box opens and displays what the nslookup retrieved.
- 3 Click **Close** when done.

Testing a server address

The Location Access Test uses the information configured on the Channel Configuration > Media Locations page to determine if the media files can be accessed from the configured locations. This can be useful when used in conjunction with the DNS lookup tool to diagnose why media files are failing to cache from a server. If the server name can be resolved using the DNS lookup tool, then it may indicate that the credentials used to access the server are incorrect.

To test a server address:

- 1 From the menu, click **Diagnostics**. The **Diagnostics** page opens.
- 2 In the **Perform location access test** field, type a server address and click **Test**. The **Location Access Test** dialog box opens.
 - If the server address is valid, the following message appears in green text:
Test succeeded.
 - If the server address is invalid, the following message appears in red text:
Test failed. Couldn't access given location.
- 3 Click **Close** when done.

Locating the SSP-3801 card in the Densité frame

If you need to locate the SSP-3801 card in the Densité frame that corresponds to the web interface you are using, you can enable the Unit Identify Alarm. When the Unit Identify Alarm is activated, the Status LED on the card flashes rapidly red and green allowing you to find the specific card amongst the others in the rack.

To activate the Unit Identify Alarm:

- 1 From the menu, click **Diagnostics**. The **Diagnostics** page opens.
- 2 Click the **Enable Unit Identify Alarm** button.
- 3 Once you have located the card, disable the alarm by pressing the **Select** button on the card or by clicking the **Disable Unit Identify Alarm** button on the web interface.

Switching SSP-3801 cards in a Densité frame (Hot Swap)

A Hot Swap is when you switch one SSP-3801 card for another in a Densité frame without powering-down the system. If you need to replace an existing card with a new card with the same configuration as the original, the new card must be able to obtain the previous card's identity and configuration.

When you registered the original card as a device with the GV STRATUS Payout service, it obtained a security certificate which enabled it to authenticate itself with GV STRATUS

Playout. Once the device was configured in the service, a copy of its configuration was stored in GV STRATUS Playout. After you configured the SSP-3801 card itself, you stored a copy of its identity settings in the Densité frame's memory by creating a restore point. For instructions on how to register a card and create a restore point, see the SSP-3801 Installation and Configuration Guide.

Before your backup SSP-3801 card can be used for a Hot Swap, it must be able to obtain the original card's identity settings from a current restore point and it must already be registered as a device with the service so it can use its security certificate to authenticate itself with the GV STRATUS Playout service to obtain a copy of the original card's configuration.

IMPORTANT: If changes are made to the System Identity settings, you must create a new restore point otherwise old settings will be applied to the card upon insertion of a new card or during a system restart.

When you perform a card hot swap:

- The playout is interrupted for several minutes.
- The new card obtains the previous card's IP address and GV STRATUS Playout's registration number from the Densité frame's memory.
- The new card uses the security certificate, IP address and registration number when it connects to GV STRATUS Playout to request the previous card's stored configuration information.

Performing a Card Hot Swap

If your existing card is failing due to a hardware or software problem, you can replace the existing card with a new card with the same configuration as the original as long as you have an up-to-date restore point created and your backup card has been pre-registered with GV STRATUS Playout so it has the required security certificate.

To swap the card, follow these steps:

- 1 Open the front panel of the frame.
- 2 Pull the SSP-3801 card out of the slot.
- 3 Slide the new, pre-registered SSP-3801 card into the slot and push on the handle to seat the connectors. The card reboots, which may take several minutes.

IMPORTANT: If the Densité frame is configured so the default action for the card inserted is set to Update card settings, it will automatically provide the card with the IP address and integration registration code stored in its memory. It then automatically connects to GV STRATUS Playout and obtains its configuration. If the Densité frame is configured to Keep card settings, then you must manually load the card settings to the new card using the Densité interface.

- 4 Upload any media files that were manually uploaded to the SSP-3801 card using FTP since they are not managed by the card. Other media files will be automatically downloaded from the GV STRATUS Playout service as required by the playlist.

Performing a Software Upgrade

To update the software on your SSP-3801 card, you only need to upload the upgrade file that you received from Technical Support. This file can exist on your local computer or from a remote server. Before the upgrade is performed, the SSP-3801 card verifies the integrity of the software upgrade installer. If it is determined that the installer is invalid, the upgrade is canceled. If the installer is valid, the upgrade is performed, which may take about 30 seconds, and a status bar tracks its progress. When the upgrade process is completed the card will reboot itself and briefly interrupt the playout.

To upgrade the SSP-3801 software:

- 1 From the menu, click **Software Upgrade**.

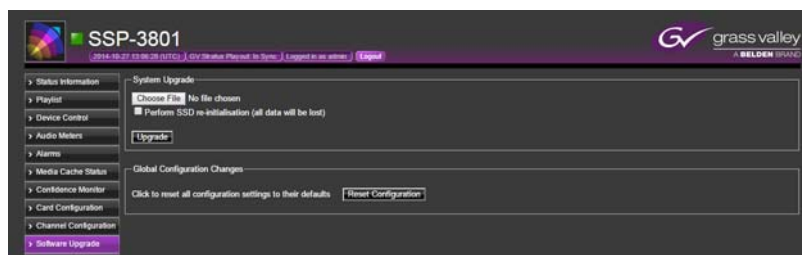


Figure 5-2. Software Upgrade page

- 2 Click **Choose File** to select the upgrade file. Navigate to directory where you placed the latest software release file you received (a file with a CGZ extension) and click **Open**.

IMPORTANT:

Make sure the **Perform factory re-initialization** checkbox is *cleared* unless you want to completely erase all the existing data.

To erase all the data and reset the configuration on the SSP-3801 card, select the **Perform factory re-initialization** checkbox. All the data will be erased when the software is upgraded.

- 3 Click **Upgrade**. A status bar tracks the progress of the upgrade process and the SSP-3801 card will automatically be restarted once the software upgrade is complete.

Scheduling a Software Upgrade

In addition to manually upgrading the software, you can automate the software upgrade process by adding it as an event in the playlist. Once the upgrade event goes on-air, the upgrade file listed in the Asset URI field will be uploaded to the SSP-3801 card. Before the upgrade is performed, the SSP-3801 card verifies the integrity of the software upgrade installer. If it is determined that the installer is invalid, the upgrade is canceled. If the installer is valid, the upgrade is performed. Once the upgrade process is completed, the card will reboot itself and briefly interrupt the playout.

To schedule a software upgrade event to the timeline:

- 1 From the menu, click **Playlist**. The **Playlist Timeline** opens.
- 2 Click **Upgrade**. The **Create Upgrade** dialog box opens.

- 3 The **Time offset** field, type the amount of time used to determine the start of the software upgrade. The software upgrade starts after the start of the primary event at the time specified in the Time offset field.
- 4 In the **Duration** field displays the total amount of time allocated for the software upgrade, which is set at a fixed period of 10 minutes.
- 5 In the **Asset URI** field, type the path where the software upgrade file resides or click **Find** to locate the file.
- 6 In the **Title** field, type the title of the event. This title is displayed in the channel grid on the Playlist page and in other connected services such as iControl.
- 7 In the **Version** field, type the version number of the software upgrade. The upgrade will only proceed if the currently installed software is a different version than the one specified.
- 8 Click **Add to Last** or **Add to selected** to add the clip to the playlist.

Viewing the log

The SSP-3801 card can record events that occur during its operation, saving these events in a log. These log entries can provide you with detailed information about the various processes that take place on the card. You can also view these logs using the GV STRATUS Playout. When viewing the log, you can select to filter the information that is being displayed so you only see what you need.

To view the log:

- 1 From the menu, select **Log Viewer**. The **Log Viewer** page opens.

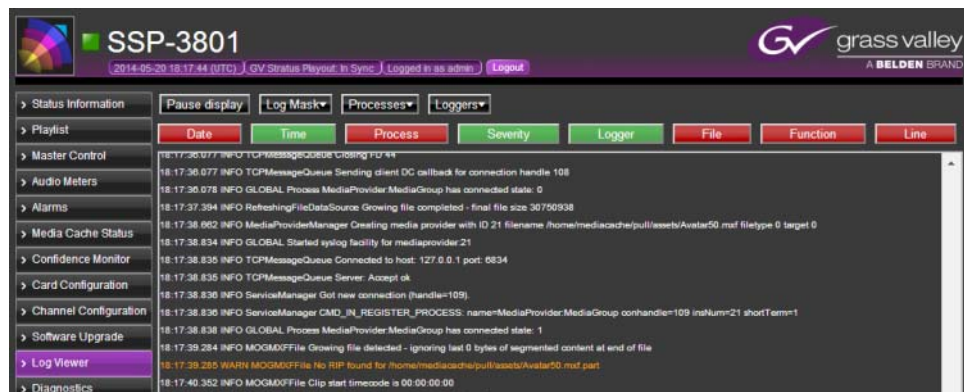


Fig. 5-3: The Log Viewer page

- 2 To pause the display of the log entries, click **Pause display**.
- 3 Select the types of log entries you wish to display in this log viewer from the **Log Mask** list. You have the following choices:
 - **Fatal**: displays issues that have occurred that will result in system failure.
 - **Error**: displays issues that have occurred that were unexpected, but are recoverable (output behavior was undefined).
 - **Warn**: displays issues that may indicate a problem (output behavior may be unexpected).
 - **Info**: displays additional information to aid in resolving issues.

- **Debug 1 and 2:** displays the first and second levels of debugging messages.
 - **Trace:** displays debugging information that describes the execution of a process.
- 4 Select which processes to display in this log viewer from the **Processes** list.
 - 5 Select which logs to display in this log viewer from the **Loggers** list.
 - 6 You can select how much information is included in the entries by toggling the following buttons. When the button is green, the corresponding information is displayed. When the button is red, the corresponding information is hidden.
 - **Date:** displays the calendar date when the entry occurred.
 - **Time:** displays the time when the entry occurred.
 - **Process:** displays the name of the process that is implicated in the entry.
 - **Severity:** displays the priority level for each entry.
 - **Logger:** displays the log type that is recording the entry.
 - **File:** displays the file name associated with the process for each entry.
 - **Function:** displays the command that is associated with the entry.
 - **Line:** displays the line number that identifies the entry.

Adjusting the logging depth

When system events occur on the SSP-3801 card, they are recorded in system logs. The card offers a number of different types of logs. The detail in the logs can be changed by adjusting the logging depth.

To adjust the log depth:

- 1 Select **Card Configuration > Logging**. The **Logging** page opens.

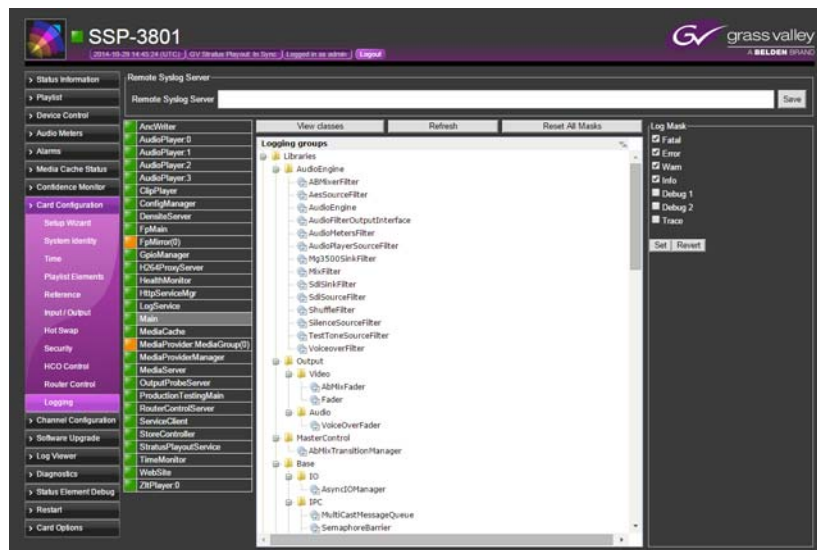


Fig. 5-4: Logging page

- 2 From the list of log types on the left, click one you want to adjust. The classes for the selected log appear in the center pane.
- 3 You can change how the classes appear in the pane by toggling the **View classes/View groups** button:

- **View classes:** displays the log classes for the selected log in alphabetical order.
 - **View groups:** displays the log classes for the selected log by logical group.
- 4 Select the logging class you wish to adjust.
 - 5 Under the **Log Mask**, select types of log entries you want to record for the selected class:
 - **Fatal:** records issues that have occurred that will result in system failure.
 - **Error:** records issues that have occurred that were unexpected, but are recoverable (output behavior was undefined).
 - **Warn:** records issues that may be indicative of a problem (output behavior may be unexpected).
 - **Info:** records additional information to aid in resolving issues.
 - **Debug 1 and 2:** records the first and second levels of debugging messages.
 - **Trace:** records debugging information that describes the execution of a process.
- IMPORTANT**

Excessive logging will slow down the system (or cause failure in some extreme cases). GSM alarms will be triggered if the log depth is too high.
- 6 Click **Set** when done or click **Revert** to revert to the default log level.
 - 7 To reset the logging depth for all the classes, click **Reset All Masks**. The logging mask levels for all the classes will revert to Fatal, Error, Warn, and Info.
 - 8 To save these logs to a remote server (not on the SSP-3801 card), type the server URI in the **Remote Syslog Server** field and click **Save**.

Debugging the status probes

The Status Element Debug feature contains detailed system and operation information. It is used for debugging built-in status probes. This feature is intended for use by or under the guidance of a technical support representative.

Restarting or shutting down the system

To restart the system:

- 1 In the menu, select **Restart**.
- 2 Click the button of the type of restart or shutdown that you need to do:
 - **Software Restart:** Restarts only the SSP-3801 card's software.
 - **Network Restart:** Restarts the network interfaces.
 - **System Restart:** Performs a soft restart of the software and hardware.
 - **Safe Shutdown:** Prepares the system to be powered down.

Enabling or disabling a license option

The features made available to you depend on the license options that you have purchased and enabled on the card. The following licenses are available:

- OPT HCO: allows the card to drive a downstream HCO device
- OPT 2SSD: allows the use of a second SSD
- OPT CLIP: allows you to play video clips in the events
- OPT PROXY: allows the use of a second confidence monitor
- OPT BR: allows you to display graphics in the events
- OPT RTR: allows you to configure an external video router

To view the licenses that are currently enabled on the SSP-3801 card, select **Card Options** from the menu.

To enable a license:

- 1 In the menu, select **Card Options**.
- 2 In the list of available licenses, click the license you have purchased and want to enable.
- 3 In the **Enter Key** field, type the key that you obtained from your account representative.
- 4 Click **Enable Option**.

To disable a license:

- 1 In the menu, select **Card Options**.
- 2 In the list of available licenses, click the license you want to disable.
- 3 Click **Disable Option**.

Controlling the failover role and mode

An HCO device can be used to perform a failover to a second, redundant card in the case of a failure on the main card. After the HCO device is installed and configured, you must enable the OPT HCO license and HCO Control in both the main and the backup cards. Once HCO Control is licensed and enabled in the card, the Failover section is visible on the Device Control page. For more information, see [Enabling or disabling a license option](#) on page 65 and see [Configuring HCO Control to support card redundancy](#) in the SSP-3801 Installation and Configuration Guide.

When the HCO device connects with a card, it sends the initial states for the role and failover mode to the cards. When the card receives the states from the HCO device, its role (Main or Backup) and its Failover Mode (Auto or Manual) appears in the card's Status header, on the Device Control page, and also in the GV STRATUS Playout service.

If the Failover Mode is set as Manual, you must manually perform the switch from Main to Backup when a failure is detected on the main card. In Auto mode, the HCO device will automatically perform the switch.

Note: If you intend to configure the HCO device to automatically perform the failover to the backup card in the event of a failure on the main card, the Switch Mode on the HCO device must be set to the Toggle option. The Toggle option enables the HCO device to automatically switch from one input to the other when alarm conditions trigger the switch. It will stay on that input until you manually perform a switch back to the original input or alarm conditions on the input trigger a switch back to the original input. For more information on configuring the HCO device, see the HCO documentation.

Regardless of the initial states set in the HCO device, you can manually change the role or failover mode from the card, the GV STRATUS Playout client, or the HCO device and its new state will be reflected in all the interfaces.

Note: Only the first and second inputs are supported on HCO devices that offer three inputs. If the HCO device switches to an input other than the supported inputs (by using iControl or the front panel menu), both SSP-3801 cards will report their roles as Backup and could potentially cause an off-air situation.

To manually change the states:

- 1 From the menu, click **Device Control**. The **Device Control** page opens.



Fig. 5-5: Device Control page

- 2 In the **Failover** section, do one of the following if you want to switch the roles on the card:
 - If the **Main** button is green, it indicates that the card is set with the role of Main. To switch the playout to the backup card, click **Backup**. The current card is now configured with the role of Backup and the HCO device switches the backup card to the role of Main.
 - If the **Backup** button is green, it indicates that the card is set with the role of Backup. To switch the playout from the main card to the current card, click **Main**. The current card is now configured with the role of Main and the HCO device switches the main card to the role of Backup.
- 3 If you want to change the Failover Mode, do one of the following:
 - If the **Auto** button is green, it indicates that the card is set automatic mode. To change the setting so that you manually perform the switch from Main to Backup when a failure is detected on the Main, click **Manual**.
 - If the **Manual** button is green, it indicates that the card is set manual mode. To have the HCO device control the switch the Main and Backup roles automatically when a failure is detected on the Main, click **Auto**.

Synchronizing with the GV STRATUS Playout service

The Playlist Sync buttons reflect the current state of the playlist synchronization between the SSP-3801 card and the GV STRATUS Playout service when the card is registered as a device with the service. When the button is green, it indicates the active state. For example, if the Enable button is green, the playlist in the card is running in sync with the one managed by the GV STRATUS Playout service. The status is also displayed in the Status header on the card's web interface.

To enable or disable synchronization:

- 1 From the menu, click **Device Control**.
- 2 In the **GV STRATUS Playout** section, click:
 - **Enable**: to synchronize the card's playlist with the one in GV STRATUS Playout.
 - **Disable**: to stop synchronizing the playlist with GV STRATUS Playout.
 - **Force Reconnection**: to quickly interrupt the sync between the card's playlist with the one in GV STRATUS Playout so the card can resynchronize its playlist with GV STRATUS Playout.

Note: Playout may be disrupted when you resynchronize with GV STRATUS Playout using any of these features.

VANC Packet Creation Tool



This Appendix contains the instructions for using the Windows-based VANC create (csvanccreate.exe) command line tool.

Creating a VANC packet 70

Creating a VANC packet

The VANC create tool (`csvanccreate.exe`) is a command line tool which you can use to create a custom ancillary data packet from a list of comma-separated values, a binary file containing a frame of VANC payload, or a folder containing a sequence of binary files each containing a frame of VANC payload. The packet generated by the tool can then be added to the playlist as a secondary event.

List of available arguments:

Argument	Description
-h --help	Displays help information. Examples: <code>csvanccreate.exe -h</code> <code>csvanccreate.exe --help</code>
--dump --filename=VALUE	Displays the contents of the specified packet. Examples: <code>csvanccreate.exe --dump -f testAnc.vanc</code> <code>csvanccreate.exe --dump --filename=testAnc.vanc</code>
-d --did=VALUE	Specifies the Data Identifier (DID) as a hexadecimal value. The DID indicates the type of the ancillary data to which the packet corresponds. Examples: <code>csvanccreate.exe -d 0x41</code> <code>csvanccreate.exe -d=0x41</code> <code>csvanccreate.exe --did=0x41</code>
-s --sdid=VALUE	Specifies the Secondary Data Identifier (SDID) as a hexadecimal value. The SDID is used in conjunction with the DID to indicate the type. It is only required if the DID is less than 0x80. Examples: <code>csvanccreate.exe -s 0x2</code> <code>csvanccreate.exe -s=0x2</code> <code>csvanccreate.exe --sdid=0x2</code>
-l --line=VALUE	Specifies the line number as decimal value into which the packet is inserted. Example: <code>csvanccreate.exe -l 21</code> <code>csvanccreate.exe -l=21</code> <code>csvanccreate.exe --line=21</code>
-p --payload=VALUE	Specifies the data as a comma-separated set of hexadecimal or decimal values. For per frame data, use the vertical bar () as a separator and enclose the value in quotes. Examples: <code>csvanccreate.exe -p 1,2,3,4</code> <code>csvanccreate.exe -p "1,2,3,4 5,6"</code> <code>csvanccreate.exe -p=1,2,3,4</code> <code>csvanccreate.exe --payload="1,2,3,4 5,6"</code>

Argument	Description
-e --externalpayload=PATH	<p>Specifies the path to the binary file containing a frame of payload. If the filename or path contains spaces, enclose the value in quotes.</p> <p>Examples:</p> <pre>csvanccreate.exe -e payloads/frame1.dat csvanccreate.exe -e="C:/payloads/frame 1.dat" csvanccreate.exe --externalpayload=payloads/frame1.dat</pre>
--directory=VALUE	<p>Specifies the path to a folder containing a sequence of binary files with each binary file containing a frame of payload. If the filename or path contains spaces, enclose the value in quotes.</p> <p>Examples:</p> <pre>csvanccreate.exe --directory /payloads/binarysequences csvanccreate.exe --directory "C:/Users/jdoe/My Binary Files/binarysequences" csvanccreate.exe --directory=/payloads/binarysequences</pre>
-f --filename=VALUE	<p>Specifies the name of the file for the created VANC packet. If the filename contains spaces, enclose the value in quotes.</p> <p>Examples:</p> <pre>csvanccreate.exe -f testAnc.vanc csvanccreate.exe -f "my test Anc.vanc" csvanccreate.exe -f=testAnc.vanc csvanccreate.exe --filename=testAnc.vanc</pre>
--endianness=VALUE	<p>Defines the endianness of the external file.</p> <p>0: big endian 1: little endian (default)</p> <p>Must be specified when creating VBI line packets from an external binary file as the payload is a series of 2 byte values.</p> <p>Examples:</p> <pre>csvanccreate.exe --endianness 0 csvanccreate.exe --endianness=0 csvanccreate.exe --endianness 1 csvanccreate.exe --endianness=1</pre>
--holdlastframe	<p>Persists the last frame of VANC data to the end of the event.</p> <p>Example:</p> <pre>csvanccreate.exe --holdlastframe</pre>
--loop	<p>Specifies the number of times the VANC data or sequence is repeated during the event. Examples:</p> <pre>csvanccreate.exe --loop 2 csvanccreate.exe --loop=2</pre>

Argument	Description
-a --ancpacket	Specifies to create an ancillary packet (series of 1 byte values). Examples: csvanccreate.exe -a csvanccreate.exe --ancpacket
-v --vbiline	Specifies to create a VBI line packet (series of 2 byte values). Examples: csvanccreate.exe -v csvanccreate.exe --vbiline

Examples:

To create an ANC packet called testAnc that contains data "1,2,3,4" on frame 0 and data "5,6" on frame 1 with DID=0x41 and SDID=0x2 on line 21, type:

```
csvanccreate.exe -d 0x41 -s 0x2 -f testAnc.vanc -l 21 -a -p "1,2,3,4|5,6"
```

To create a VBI line packet called testVBI that contains data "1,2,3,4" on frame 0 and data "5,6" on frame 1 with DID=0x41 and SDID=0x2 on line 21, type:

```
csvanccreate.exe -d 0x41 -s 0x2 -f testVBI.vanc -l 21 -v -p "1,2,3,4|5,6"
```

To create an ANC packet called testAnc that contains data "1,2,3,4" on frame 0 and data "5,6" on frame 1 with DID=0x41 and SDID=0x2 on line 21 with hold last frame enabled and a loop value of 2, type:

```
csvanccreate.exe --did=0x41 --sdid=0x2 --filename=testAnc.vanc --line=21 --ancpacket --holdlastframe --loop 2 --payload="1,2,3,4|5,6"
```

To create an ANC packet called testAnc with DID=0x41 and SDID=0x2 on line 21 using a binary file as an input:

```
csvanccreate.exe -d 0x41 -s 0x2 -f testAnc.vanc -l 21 -a -e payloads/frame1.dat
```

To create an ANC packet called testAnc with DID=0x41 and SDID=0x2 on line 21 using a sequence of binary files as an input, type

```
csvanccreate.exe -d 0x41 -s 0x2 -f testAnc.vanc -l 21 -a --directory /payloads/binarysequences
```

To see the content of a vanc packet, type

```
csvanccreate.exe --dump -f testAnc.vanc
```

To use the vanccreate tool:

- 1 Download and install the VANC create tool (windowstools/csvanccreate.exe) from the Support Portal in the same location as the SSP-3801 card software.
- 2 If you are using binary files to carry the VANC payload, create the required files.
- 3 Open a command line prompt.
- 4 Navigate to the location where csvanccreate.exe is installed.
- 5 Type the arguments as required to generate the desired VANC packet.
- 6 Once the VANC packet is created, it can be added as an event to the playlist.
 - If you want to use it with GV STRATUS Playout, upload the VANC packet using the Media Import Application and then add a VANC secondary event to the playlist. For more information, see the GV STRATUS Playout documentation.

- If you want to use it in a test playlist directly in the card, upload the VANC packet to the media cache using FTP (see [Manually uploading media files into the cache via FTP](#) on page 12) and then add a VANC secondary event to the playlist (see [Adding a secondary event to the timeline](#) on page 40.)



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