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A **BELDEN** BRAND

# **ITX™ SOFTEL™ INSIDE**

INTEGRATED iTX™ SUBTITLING SOLUTION

## **Configuration & User Guide**

v2.8

2015-12-07

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

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# About iTX Softel Inside Subtitles

Softel Inside is an integrated solution for importing, managing and playing out subtitles on an iTX channel. This includes both open and closed subtitles (including closed subtitles from both files and live feeds). This guide explains the concepts behind Softel Inside subtitling, how to configure Softel Inside for your iTX system, how to import and manage subtitle sources, and assets and how to playout Softel Inside subtitles with your videos and live events.

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Note: In this document, the word “subtitles” is used as a collective term for open captions, closed captions (including Teletext) and live subtitles.

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## Summary

*Overview of Softel Inside Features* ..... 1  
*About Subtitle Sources, Assets and Intents* ..... 2  
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*About Services and Streams* ..... 3  
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## Overview of Softel Inside Features

Softel Inside provides the following features and functionality:

- Importing of subtitle files using Delivery Manager.
- Playout of open and closed subtitle files.
- Live subtitle playout.
- Multi-language subtitles associated with a single video asset.
- For Teletext, an apology page can be displayed if the expected subtitles are unavailable.
- Configurable landing page for Teletext, which is displayed when viewers first access Teletext.
- Subtitle asset management using Asset layout in iTX Desktop.
- Time and text metadata definitions, which can be viewed from the Events tab of the subtitle asset.
- Subtitle preview via the Channel Preview layout in iTX Desktop.
- Automatic scheduling of subtitle content when video assets are scheduled.

In order to use Softel Inside subtitles, your iTX system must meet following requirements:

- You must have the required Subtitle and Softel Inside licenses.
- Your iTX channel must be running on Output Server 2.

For more information about purchasing software licenses and the Grass Valley license dongle, please contact: [itxlicensing@grassvalley.com](mailto:itxlicensing@grassvalley.com).

## About Subtitle Sources, Assets and Intents

Within iTX, subtitles are a type of asset, which are created using one of the following sources:

- **Subtitle files**, which are imported and registered using a Delivery Manager end point with a drop folder. This then becomes a subtitle asset. If you give a subtitle file the same name as a video asset, the subtitles and video asset are automatically linked on registration in the database.

As a subtitle file can only contain one transcription, to support multiple languages or alternative transcriptions (e.g. for hard or hearing), all of the different subtitle files for a single video must be placed into their own sub-folders within the Delivery Manager drop folder. Once registered in iTX, each of these alternative subtitle files becomes a different location within the same subtitle asset. Each location and file are distinguished by a user-defined tag called an "Intent". The names of your Intents should identify the transcription's language and purpose. For example, a subtitle asset with subtitle files containing transcriptions for English, French and English for hard of hearing could have Intents called `English`, `Francais` and `English_SDH`.

### IMPORTANT

A subtitle file can only be transmitted in the format that it was imported (e.g. open subtitle files can only be transmitted as open subtitles).

- **Live subtitles**, which are typically used for live broadcasts and come from external feed via the iTX Subtitle Gateway. The subtitle text is created moment-to-moment by a stenographer or an automatic speech-to-text solution and delivered to the iTX system over IP.

Live subtitles also become assets within iTX. Each feed of a live transcription has its own location and Intent in the subtitle asset. These Intents can be the same as those used for file-based subtitles.

## About Open and Closed Subtitles

iTX supports both closed and open caption subtitles and each has its own use case:

- **Closed** subtitles are transmitted as data alongside the video signal. This means the viewer can turn them on and off from their television or set-top box.

Teletext is a form of closed subtitles that is commonly used in Europe and Asia. An iTX channel can have more than one Teletext page, each page carrying a different Intent. Teletext pages are configured as services within iTX. See [About Services and Streams](#) on page 3.

iTX supports Teletext landing pages (one per channel). This is the default page that is displayed when a viewer turns on Teletext.

iTX also supports an apology page, which an information page that is displayed when subtitles are required but not available to inform the viewer of the missing subtitles.

- **Open** subtitles are embedded into the visible frame with the video and are therefore cannot be turned on/off by the viewer.

## Supported Subtitle Formats

The following subtitle file formats can be imported into iTX, where they are converted to an internal format.

Subtitle Format	Open Supported	Closed Supported	Mixed Supported	Unspecified Supported	File extension
Cavena	Yes	Yes	No	Yes, but not recommended	.890
EBU N19	Yes	Yes	No	Yes, but not recommended	.STL
EBU-TT	Yes	Yes	No	Yes, but not recommended	.XML

## About Services and Streams

Each channel transmits its subtitle information via a stream. For closed/Teletext subtitles, streams are used to define the VBI lines on which the subtitle information is to be transmitted and, by extension, the bandwidth available to the channel. For open subtitles, the stream is used to communicate to the render engine that the video includes open subtitles that need to be rendered. No data is transmitted to air on the VBI lines used for an open service.

For Softel Inside subtitles, each transcription (whether open or closed), needs to be assigned to a subtitle service. In the case of Teletext, each service corresponds to a Teletext page, which in turn corresponds to one or more Intents in the subtitle asset.

A stream may have several services allocated to it, but the more services that are allocated the more bandwidth the stream requires to transmit them.

Open subtitles support up to two services, one for displaying open subtitles on the top of the screen and one for displaying them on the bottom. We recommend open subtitles are configured on a separate stream to closed services.

## About Subtitles Service Rules

When configuring Teletext subtitles, you create a page for each set of subtitles you want to make available. For example, you could create a Teletext page for French subtitles and call it page 900 and a page for English subtitles called page 901. However, you could also have alternative languages for each page, in case the preferred set of subtitles are not available in the subtitle asset. This is controlled with a subtitle service rule.

For example, you could have a rule that says for page 900 look for French subtitles first, but if they are unavailable, to use English subtitles. If the scheduled subtitle asset has both English and French Intents, the French Intent will be selected and displayed on page 900. However, if the scheduled subtitle asset only has an English Intent, that Intent would be displayed when the viewer selects page 900.

In addition to alternative Intents, the subtitle service rule can also be set to display an apology page if none of the selected Intents are available in the scheduled subtitle asset.

## Functional Overviews of Softel Inside Subtitle Integration

Figure 1-1 provides a functional overview of how the iTX system imports, manages and plays out subtitle content on an iTX channel.

### Annotation key:

- 1 Closed and/or open subtitle files are imported into the iTX system using the iTX Delivery Manager application.
- 2 Once imported, the subtitle files are stored as assets within the iTX system. Using the Asset layout in iTX Desktop, you can perform various asset management tasks, such as removing the link between a subtitle and a media asset if they have been incorrectly associated.
- 3 Scheduling and playing out subtitle content using the iTX Desktop and iTX Output Server 2.
- 4 Live subtitle insertion and ployout.

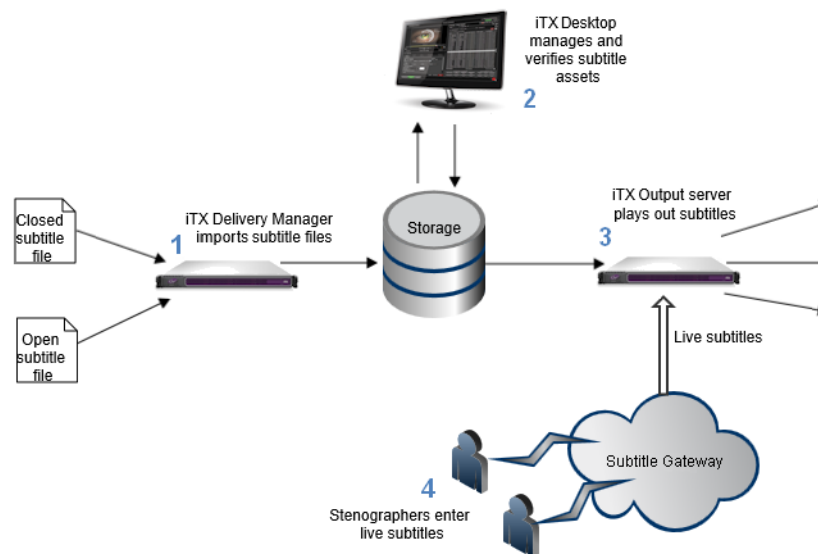


Fig. 1-1: An overview of subtitle import, management and playback.

Figure 1-2 on page 5 illustrates the relationship between a video asset, its subtitle asset and the subtitle sources (which can be both subtitle files or live subtitles). It also shows how subtitle service rules can be used to map specific Intents to the scheduled video event, even if the subtitle asset has additional Intents. This means the same video and subtitle asset pair can be used for different broadcasts.



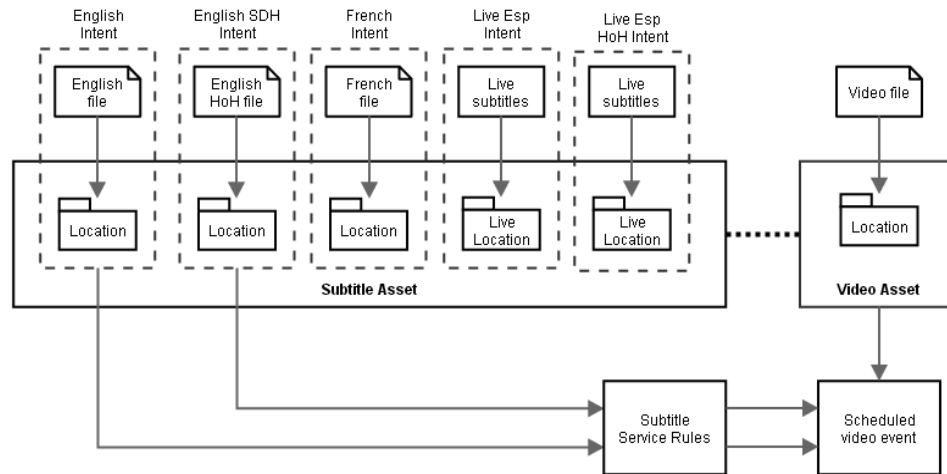


Fig. 1-2: A video asset and its linked subtitle asset, which contains multiple Intents, only two of which are mapped to the schedule video event at playback.

Figure 1-3 illustrates how the streams, services and Intent rules relate to one another. The streams and services are configured in the Output Server 2 service, while rules are mapped to services in iTX Desktop. A single stream can be assigned to multiple services, but you must have separate streams for open and closed subtitles. Each service then has its own rule. In the case of closed services, this would typically include file-based subtitles, live subtitles (as a fall back), then an apology page. For open subtitles, it is possible to have one service for carrying subtitles that are displayed at the top of the screen and one for displaying subtitles at the bottom (i.e. two different languages).

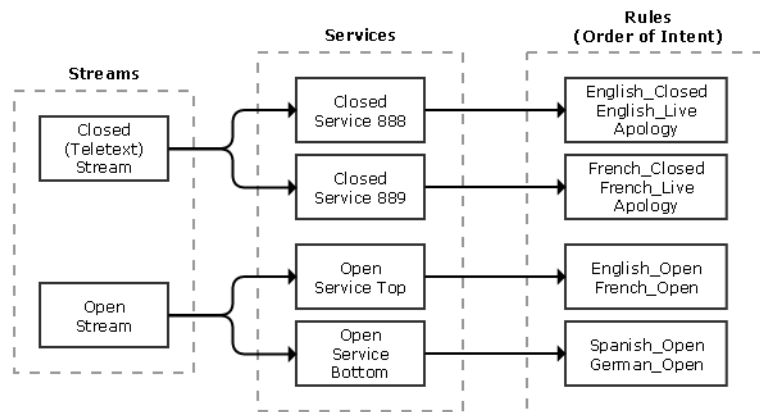


Fig. 1-3: The relationship between streams, services and rules, which provide the order of Intent usage.



# 2

## Configuring iTX to Import Subtitles

This chapter explains the how iTX imports subtitle files, via Delivery Manager, and how to configure your iTX system to ensure your subtitles are imported as required. This includes how to create the required Intents on your Opus database and how to configure an Delivery Manager CIFS (Common Internet File System) endpoint to import subtitles with different Intents. Finally, this chapter also explains the process of importing a subtitle file.

### Summary

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### About Subtitle File Imports

Subtitle files are imported into iTX by putting them into a drop box folder, monitored by iTX Delivery manager, from where they are automatically imported and assigned properties, including their Intent. To ensure that the subtitles are imported with the correct properties and stored in the right location configuration needs to be carried out on the iTX Output Server and iTX channel using the iTX Desktop.

The iTX configuration needed to import subtitle files must be carried out in the following order:

- 1 Create the required subtitle Intents using the iTX Desktop.
- 2 Define a subtitle import template.
- 3 Create the CIFS end point folders.
- 4 Configure a new Delivery Manager CIFS end point.

When a subtitle file is imported, Delivery Manager uses a Translator module to do the following:

- 1 Translate the subtitle file from its native format to an iTX internal format. All closed subtitle files are translated to `.stl` files and all open subtitle files are translated to `.xif` files.
- 2 If you have a Delivery Manager endpoint that has been configured with **Correct Subtitles** enabled, the translated file will be formatted so that it can have a house style, whilst retaining its STL or XIF type. STL files can be formatted for language, font height,

text color, justification, alignment and vertical positioning; XIF files have additional formatting options such as, font, boxing or drop shadow.

**Note:** The Correct Subtitle option in the Delivery Manager Config should not be enabled without first consulting Grass Valley Support for guidance.

- 3 Creates a sidecar DFXP file which iTX uses to extract time and text information to associate with the asset. This DFXP file is also registered as a location in the asset

A configuration file, `xif_config.xml` controls what changes are made to the subtitle file. It also controls some aspects of translation, as some subtitle file types do not specify the font or size, so the Translator uses `xif_config.xml` defaults to provide them.

#### IMPORTANT

A subtitle file can only be transmitted in the format that it was imported (e.g. open subtitle files can only be transmitted as open subtitles).

## Managing Subtitle Intents

A subtitle Intent is a user-defined profile, used to group subtitles by type and language. They are needed for both live subtitles and subtitle files and are used in rules and subtitle assets. Open and closed subtitles of the same language must have separate Intents (for example, `English_Closed` and `English_Open`).

When importing subtitles, a subtitle is given properties, specified in the template, by matching the name of the drop folder to an Intent in the template.

When playing out subtitles, rules are used to specify the order that the subtitles should be used, through the ordering of Intents.

These Intents are defined in the Opus Admin layout of iTX Desktop and are accessible to all other iTX channels within the same iTX domain.

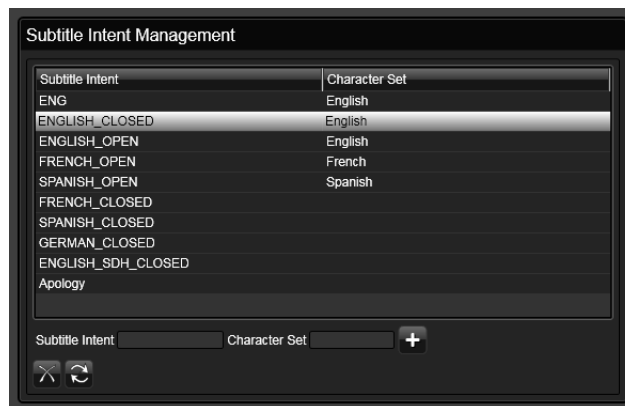



Fig. 2-1: The Subtitle Intent Management panel in Opus Admin showing existing Intents.

## Refresh the Subtitle Intent List

Before adding or removing an Intent, it is worth refreshing your local list to ensure you have the latest list of Intents on your iTX domain.

**To refresh the list of subtitle Intents:**

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, click **Refresh** .

The updated list shows the latest Intents stored by any user in the same iTX domain.

## Add a Subtitle Intent

Intents can be added to iTX as required. When you add a subtitle Intent it becomes available to all other channels in the same iTX domain.

**To add a subtitle Intent:**

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, give the **Subtitle Intent** a name that identifies its purpose and type, for example `ENGLISH_SDH_CLOSED` for English closed subtitles with additional text for the deaf and hard-of-hearing. Subtitle Intents are case insensitive and must have unique names.

---

Note: The **Character Set** field is a placeholder for future functionality. We recommend that this field be left blank at this time.

---


- 5 Click **Add** .

The Intent is displayed appended to the list and the entry fields cleared.

## Delete a Subtitle Intent

Intents can be deleted to iTX as required. When you delete a subtitle Intent it is removed across the entire iTX domain.

**To delete a subtitle Intent:**

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Opus Admin**.
- 4 In the **Subtitle Intent Management** panel, select the Intent to be deleted.
- 5 Click **Delete** .

## Creating Subtitle End Point Sub-Folders for Delivery Manager

Delivery Manager is able to import subtitle files and automatically assign an Intent and location to the resulting asset, by matching the endpoint sub-folder the subtitle file was dropped into with an Intent in the Opus database. However, this is reliant on you creating a specific folder structure for your endpoint. As such, you must add a new end point to your Delivery Manager specifically for importing subtitle files. This must be CIFS endpoint set to

drop box mode. See [Configuring Subtitle End Points in Delivery Manager Config](#) on page 11

The folder structure within the CIFS inbox has the following requirements:

- To keep subtitle files separate from other media, it is recommended that you create a `Subtitles` sub-folder within the Inbox folder (e.g. `CIFS_Inbox`).
- Within the `Subtitles` folder, create two sub-folders, one called `CLOSED` and one called `OPEN`.
- Within the `CLOSED` and `OPEN` folders, create sub-folders that correspond to the Intents that you have already configured.

Figure 2-2 below illustrates the minimum folder structure required.

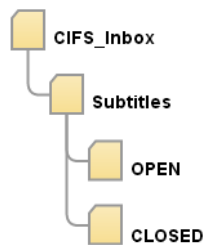


Fig. 2-2: The minimum required folder structure for importing open and closed subtitles.

Figure 2-3 provides an example of a drop box folder, called `CIFS_Inbox`, and its sub-folder structure. The table that appears after Figure 2-3 provides an explanation of how a subtitle file would be registered if placed in each folder.

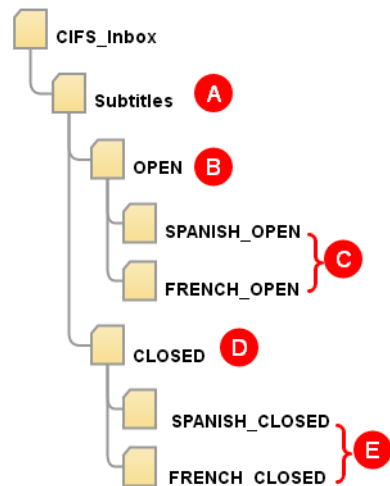


Fig. 2-3: Example CIFS drop box folder structure for open and closed subtitles and subtitles with Intents. The annotation is explained in the table below.

Folder	Use this folder to register...
A	Do not use. Subtitles placed at this level will fail the import.
B	an open subtitle file without Intent.
C	an open subtitle file with an Intent of <code>FRENCH_OPEN</code> or <code>SPANISH_OPEN</code> .

Folder	Use this folder to register...
D	a closed subtitle file without Intent.
E	a closed subtitle file with an Intent of FRENCH_CLOSED or SPANISH_CLOSED.

Where and how the physical sub-folder structure is created will depend on your file storage system, so cannot be covered in this documentation. iTX needs to know the location of the drop box folder and this is specified in [step 13 of Configuring Subtitle End Points in Delivery Manager Config](#).

## Configuring Subtitle End Points in Delivery Manager Config

So that subtitles are automatically imported, a CIFS endpoint set to drop box mode needs to be configured in the iTX Delivery Manager Config. The steps below explain how to create a CIFS drop box specifically for subtitles.

**To create and configure a CIFS endpoint in Delivery Manager End:**

- 1 Open **Delivery Manager Config**.
- 2 From the **Select Configuration** dialog, right-click on a blank part of the dialog and selecting **Add new Configuration**.
- 3 The **Delivery Manager Configuration** dialog appears.
- 4 Click **Add new End Point**. A new, blank endpoint configuration tab appears.
- 5 Click the **Select** button next to the **Endpoint Driver** field. The **Select Delivery Manager Driver** dialog appears.
- 6 Select **CIFS** and click **OK**.
- 7 In the **Endpoint Name** field, enter the name to be used as a reference in the iTX database. For example, "Subs Drop Box".
- 8 Under **CIFS Endpoint Details**, select **Drop Box**.
- 9 Click the browse button for the **Content Changed Workflow** field. The **Select 'Content Changed' Workflow...** dialog appears.
- 10 Select the required workflow for performing drop box actions. For example `DefaultContentChangediTX_RegisterAndImport`.
- 11 Make sure **Correct Subtitles** is unchecked.

---

**Note:** The Correct Subtitles option tells Delivery Manager to format an imported subtitle file to conform to a house style. As house styles are not commonly used, this option should not be enabled without guidance from Grass Valley Support.

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- 12 The **Asset Template Name** field can be left blank.
- 13 Select **Media Path** and find the required root drop box folder.
- 14 Check **Search Sub Folders** so any Intent or open/closed folders below the root drop box are searched.
- 15 Click **Save** to store the configuration.
- 16 Restart the Delivery Manager service.

## Importing Subtitle Files

Subtitle files are automatically imported when they are placed into a sub-folder of the CIFS drop box folder. When the subtitle is imported properties are assigned to it depending on the template's configuration. If a subtitle file is put into an incorrect folder an error is generated.

If the subtitle file has the same name as an existing video asset, the subtitle will be linked to the video asset automatically. If the subtitle file does not have the same name as a video asset, the subtitle will be imported but not linked to any video asset.

A subtitle file can be manually linked from within iTX Desktop. See [Linking a Subtitle Asset to Another Asset](#) on page 37.

The following example scenarios cover the configuration that needed to import different types of subtitles.

### Scenario 1: Importing subtitles of all the same language

In this example scenario, all the subtitles to be imported are in French and closed caption.

#### Create the following:

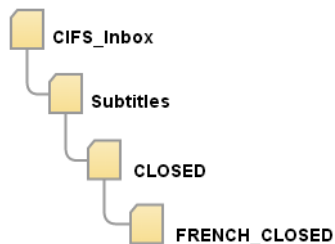
- 1 An Intent with a name that clearly describes its language and type, for example FRENCH\_CLOSED.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS end point folder structure as

CIFS\_Inbox\Subtitles\Closed\[Intent name].

For Example:



See [Creating Subtitle End Point Sub-Folders for Delivery Manager](#), on page 9.

### Scenario 2: Importing open or closed subtitles of the same language

In this example scenario, all the subtitles to be imported are in French but they can be open or closed files.

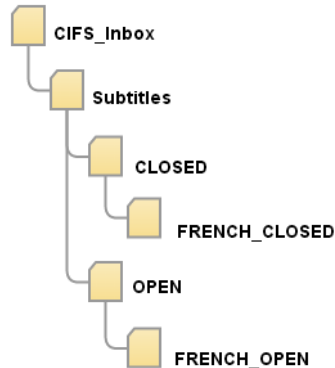
#### Create the following:

- 1 Two Intents with names that clearly describe their language and type, for example FRENCH\_CLOSED and FRENCH\_OPEN.

See [Managing Subtitle Intents](#), on page 8.



- 2 The CIFS end point folder structure containing the following folders, as shown below.



See [Creating Subtitle End Point Sub-Folders for Delivery Manager](#), on page 9.

### Scenario 3: Importing all open or all closed subtitles of different languages

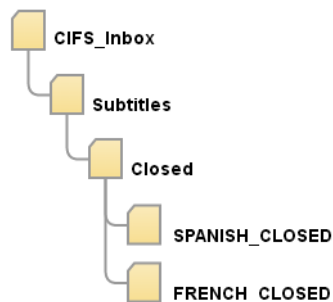
In this example scenario, all the subtitles to be imported are closed files but they are either in French or Spanish.

**Create the following:**

- 1 Two Intents with names that clearly describe their language and type, for example `FRENCH_CLOSED` and `SPANISH_CLOSED`.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS end point folder structure containing the following folders, as shown below.



See [Creating Subtitle End Point Sub-Folders for Delivery Manager](#), on page 9.

### Scenario 4: Importing open or closed subtitles of different languages

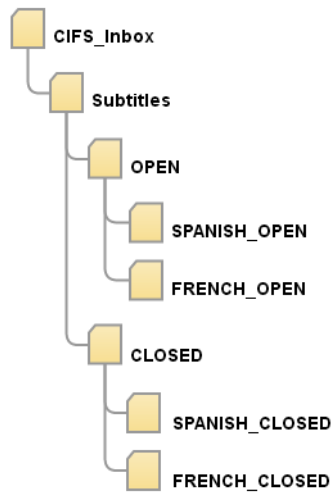
In this example scenario, the subtitles to be imported are in French or Spanish and can be open or closed.

**You must have created/configured the following:**

- 1 Four Intents with names that clearly describe their language and type, for example:
  - `FRENCH_CLOSED`
  - `FRENCH_OPEN`
  - `SPANISH_CLOSED`
  - `SPANISH_OPEN`.

See [Managing Subtitle Intents](#), on page 8.

- 2 The CIFS end point folder structure containing the following folders, as shown below.



See [Creating Subtitle End Point Sub-Folders for Delivery Manager](#), on page 9.

# 3

## Configuring iTX for Subtitle Playout

Softel Inside subtitles can only be played out on a channel operating on Output Server 2. This chapter explains how to configure a landing page, the streams and services, an apology pages and the iTX Gateway within the Output Server 2 user interface.

For more information on Output Server 2, see the *iTX Output Server 2 Channel Configuration Guide*.

This chapter also explains how to create subtitle service rules, which is performed within the iTX Desktop.

### Summary

<i>Overview of the Subtitle Configuration in Output Server 2</i> .....	15
<i>Configuring the Channel Landing Page</i> .....	16
<i>Creating and Configuring Streams</i> .....	18
<i>Creating and Allocating Subtitle Services</i> .....	20
<i>Configuring the iTX Gateway</i> .....	22
<i>Setting Subtitle Service Rules</i> .....	24

## Overview of the Subtitle Configuration in Output Server 2

---

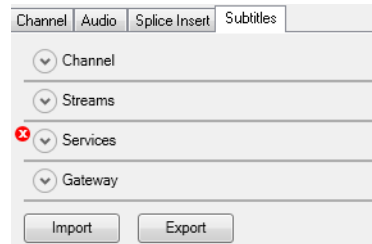
Note: Before configuring Output Server 2 for Softel Inside subtitles, you must first configure how your subtitles will be imported. This includes creating the required Intents. See [Configuring iTX to Import Subtitles](#) on page 7.

---

For a Softel Inside subtitle to play out, the following must be configured in the Output Server 2 Configuration user interface:

- A channel landing page with its required VBI lines
- Streams with their required VBI lines
- Services with streams allocated to them
- For closed subtitles you can also configure an apology page
- If you are sending subtitles to an external Teletext inserter, you must also configure the iTX Gateway.

Note: Within the Output Server 2 user interface, the Subtitle configuration panel will display a red cross **✖** against any features that have been configured without the required license, as shown below:



The mis-configured feature will not function without the required license. To clear these errors, you must either update your license or remove the configuration for the unlicensed feature.

---

Outside of Output Server 2, once you have created and configured your subtitle service, you must define the order of priority for your subtitle Intents. This is known as a service rule and is performed with iTX Desktop.

## Configuring the Channel Landing Page

A landing page is the default page displayed when Teletext is accessed by the viewer. The landing page is generated from an EP1 file and may contain text stating which Teletext page the subtitles are available on.

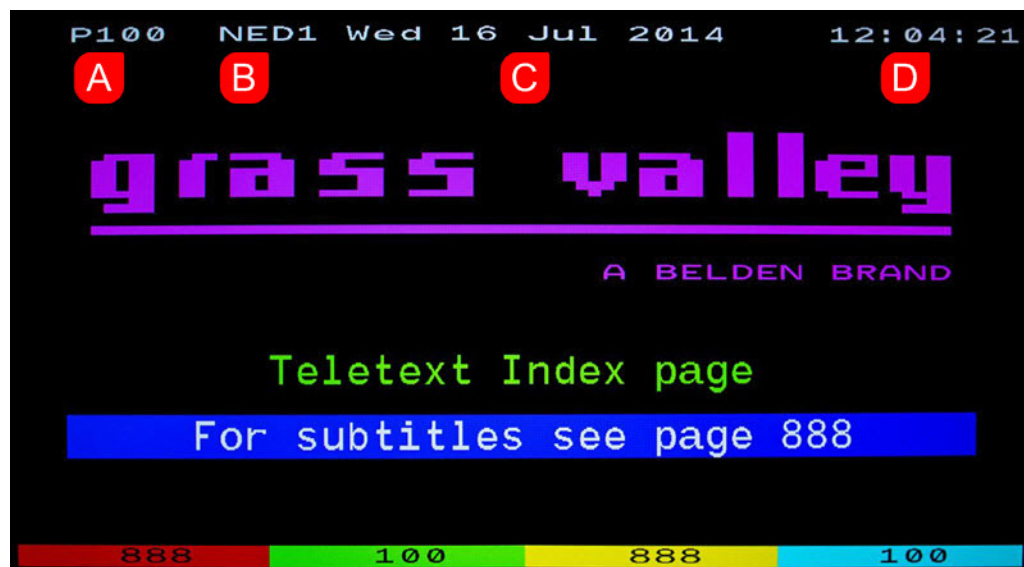
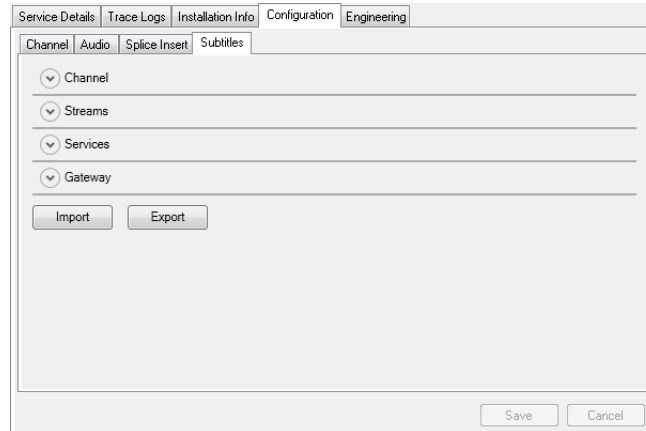


Fig. 3-1: An EP1 landing page, showing the Landing Page Number (A), channel name (B), channel date (C) and channel time (D). If an Offset Time is configured, the channel time displayed on the landing page will be updated accordingly.

**To configure the channel landing page:**

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).  
The Output Server 2 user interface appears.
  - b Click **Configuration**, then click **Subtitles**.  
The Subtitles configuration panel appears.



- 2 Expand the **Channel** section and complete the following fields.

Field	Description
<b>Row Zero</b>	<p>Row Zero defines what text should be displayed across the top of the screen when viewing the Landing Page. This user definable text is always suffixed with the channel time.</p> <p>Enter the trip codes to be used to specify the contents of Row Zero. This can include the date, page number and magazine number, in a range of colors.</p> <p>Valid entries are displayed within the Channel section of the Subtitles tab. All codes are case sensitive.</p> <p>The default trip codes display the following in white:</p> <ul style="list-style-type: none"> <li>• Three letter day of the week abbreviation</li> <li>• Day of the month</li> <li>• Three letter month abbreviation</li> <li>• '20' followed by a two-digit abbreviation for the year.</li> </ul>
<b>Row Zero Language</b>	Use the drop-down list to select the language for the landing page.
<b>Time Offset:</b>	Time added/subtracted to the system time so the landing page displays the local time.
<b>Landing Page Number:</b>	This read-only field displays the landing page number.
<b>Landing Page File:</b>	The pathname to an EP1 file displayed when the landing page number is accessed.

Field	Description
<b>VBI Lines:</b>	Used to specify on which Field 1 and Field 2 VBI lines the landing page information is to be sent.

- 3 You should now create your streams. See [Create the Streams](#) on page 18.  
If you are not creating a stream at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Creating and Configuring Streams

Streams are used to carry one or more subtitle services within the video.

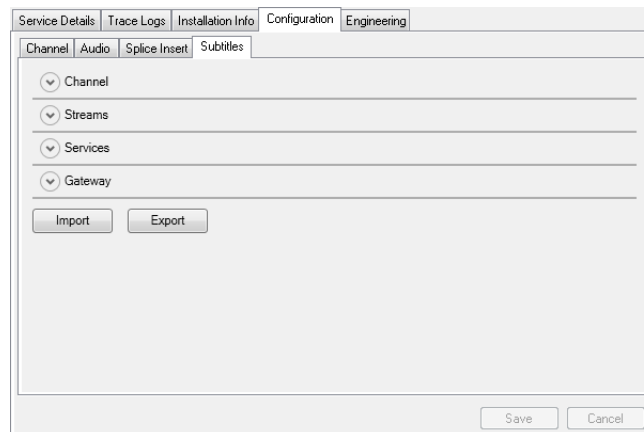
It is recommended that a single stream is configured to carry all closed services and a separate stream is configured to carry all open services.

It is also recommended that you allocate all VBI lines not in use by the closed services to the stream carrying open services.

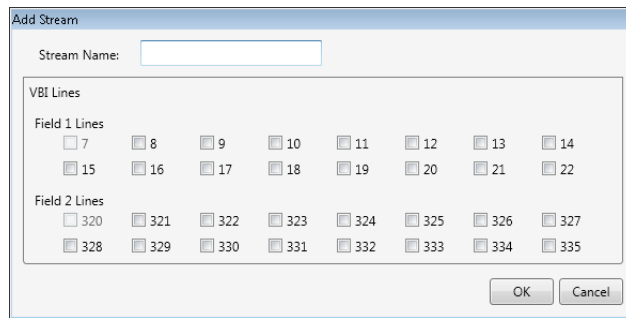
### Create the Streams

To create a stream:

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).  
The Output Server 2 user interface appears.
  - b Click **Configuration**, then click **Subtitles**.  
The Subtitles configuration panel appears.



- 2 Expand the **Stream** section.
- 3 Click **Add**. The **Add Stream** dialog appears.



- 4 In the **Stream Name** field, enter a name to identify the new stream. For example `ClosedStream` or `OpenStream`.
- 5 In the **VBI Lines** section, check the VBI lines required for transmitting the subtitles. As a rough guideline, for timely delivery of a single subtitle service, 4 VBI lines will be needed.  
Lines that have been assigned to the landing page or another stream appear grayed out.  
Although VBI lines must be assigned to both open and closed subtitles, no data is transmitted to air on the VBI lines used for an open service.
- 6 Click **OK** to exit the **Add Stream** dialog.
- 7 You should now configure your streams. See [Configure the Streams](#) on page 19.
- 8 If you are not configuring a stream at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Configure the Streams

### To configure a stream:

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Streams** section.
- 2 From the **Stream** drop-down list, select a stream (as created in [Create the Streams](#), on page 18).
- 3 If you want to keep the VBI lines active, check the **Dummies**. This tells iTX to send empty Teletext data on the selected VBI lines.  
When this option is checked, three more fields become active:
  - a In the **Magazine** field enter the magazine number on which the dummy data is to be transmitted. It is recommended that this is left as the default value.
  - b In the **Dummy Page** field, enter the page on which the dummy data is to be transmitted. It is recommended that this is left as the default value.
  - c From the **Language** drop-down list, select the language character set to use for this page. Note that if this is not set correctly it may cause both the preview in iTX Desktop and television receivers to display incorrect characters.
- 4 If you want to override the VBI lines that were specified when the stream was created, expand the **VBI Lines** section and change the current selection.
- 5 You should now create your subtitle services. See [Creating and Allocating Subtitle Services](#) on page 20.

If you are not creating a service at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Creating and Allocating Subtitle Services

Services can be for an open or closed subtitle. Each closed subtitle page requires its own service e.g. page 888.

When allocating a subtitle service, you must define the Magazine and Header page. Together these form the Teletext page on which the subtitles will be viewed i.e. if Magazine is set to 8 and Header Page is set to 88, this would transmit the subtitles on page 888.

Each closed service can also have an apology page associated with it. The apology page is only displayed if it has been added to the service rules.

Open subtitle services can be configured to display the text on either the top of the screen or the bottom. If you create two open subtitle services, it is possible to have one language displayed using a bottom service and a different language displayed using a top service. The assignment of languages to a service is done using Language Intent Rules.

## Create the Subtitle Services

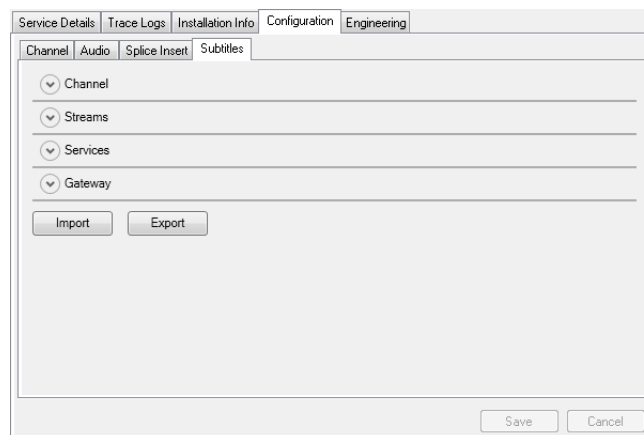
To create a service:

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).

The Output Server 2 user interface appears.

- b Click **Configuration**, then click **Subtitles**.

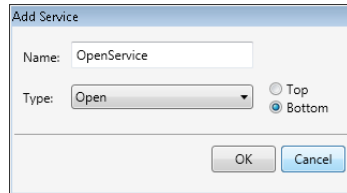
The Subtitles configuration panel appears.



- 2 Expand the **Service** section.
- 3 Click **Add**. The **Add Service** dialog appears.
- 4 In the **Name** field, enter the name to identify the service. For example, `Closed888` or `OpenService`.



- 5 From the **Type** drop-down list, select a service type from the following options:
  - Teletext (closed)
  - Open.
- 6 If you select a **Type** of Open, you must also select whether you want it to be a Top or Bottom service.



This dictates where on the screen the open subtitles will appear.

- 7 Click **OK**. The **Add Service** dialog closes.  
On the Subtitles configuration user interface, the **Service Name** and **Service Type** fields are populated with your selection.
- 8 You should now allocate your subtitle services to streams. See [Allocate a Subtitle Service to a Stream](#) on page 21.  
If you are not allocating subtitle services to streams at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Allocate a Subtitle Service to a Stream

### To allocate a service to a stream:

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Services** section.
- 2 From the **Service** drop-down list, select a service (as configured in [Create the Subtitle Services](#) above).  
The read-only fields **Service Name** and **Service Type** are updated.
- 3 From the **Stream** drop-down list, select a stream (as configured in [Create the Streams](#) above) to which to allocate to the service.
- 4 If you created an open service, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

If you created a closed service, complete the following additional fields:


- a From the **Language** drop-down list, select the language character set to use for previewing in iTX Desktop and also for packet 6 data in the transmission signal. This will inform compatible set top boxes and televisions which character set to use for displaying the subtitles.
  - b Enter the following values for the page where the subtitles are to be displayed:
    - **Magazine**
    - **Header Page**
    - **Stopper Page** (It is recommended that this is left as the default value).
- 5 You should now configure your apology page. See [Configure an Apology Page for Closed Subtitles](#) on page 22.

If you are not configuring an apology page at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Configure an Apology Page for Closed Subtitles

Apology pages can only be configured for Closed services.

### To configure an apology page:

- 1 In the Output Service 2 user interface, go to the **Subtitles** tab and expand the **Services** section.
- 2 From the **Service** drop-down list, select a service (as configured in [Create the Subtitle Services](#) above).
- 3 Click the **Apology Page** browse button . A Windows browse window appears.
- 4 Navigate to an EP1 file and click **Open**. The Apology Page field now contains the path and filename of the EP1 file.
- 5 If you are using live subtitles, you should now configure your iTX Gateway for live subtitle feeds. See [Configuring Live Subtitles](#) on page 27.

If you are not configuring your iTX Gateway for live subtitle feeds at this point, click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Configuring the iTX Gateway

iTX can send subtitles to an external Teletext inserter rather than embedding the subtitle in SDI video output. Typically this is used when a full Teletext service is being generated and iTX subtitles need to be multiplexed into this service. How the full Teletext service is embedded into video is outside the scope of iTX.

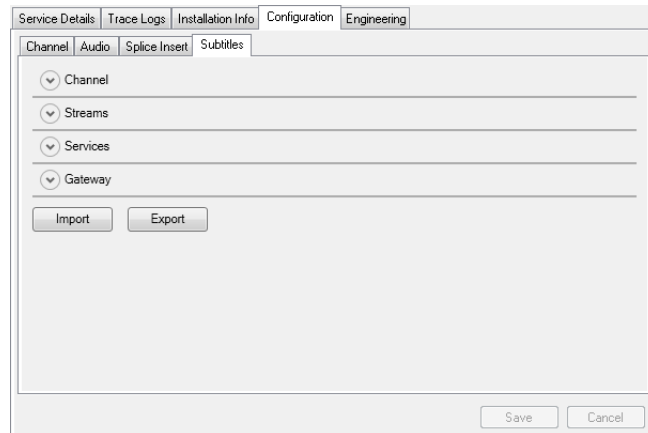
---

Note: Enabling a gateway service IP address will result in all subtitles being stripped from the video, because they are being sent to an external Teletext system.

---

### To configure a gateway:

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).  
The Output Server 2 user interface appears.
  - b Click **Configuration**, then click **Subtitles**.  
The Subtitles configuration panel appears.



- 2 Expand the **Gateway** section and any existing destination hosts and ports are displayed.
- 3 Click **Add**. The **Add URL** screen appears.
- 4 In the **Host** field, enter the destination IP address or host name
- 5 In the **Port** field, enter the port number to connect to the host.
- 6 Click **OK**.
- 7 Repeat [step 3](#) to [step 6](#) for each Gateway you require.
- 8 Click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.

## Setting Subtitle Service Rules

A subtitle service rule is a list of subtitle Intents, in the order the service should use them. This ensures a fallback if a subtitle file is missing, or if nothing is specified in the subtitle event for this service. Subtitle rules ensure that text is displayed, whenever subtitles are expected, even if it is an apology page.

The Intents required for the Subtitle Service Rules must first be created when you configure iTX for subtitle import. See [Managing Subtitle Intents](#) on page 8.

The services named in Subtitle Service Rules are created whilst configuring Output Server 2. See [Create the Subtitle Services](#) on page 20.

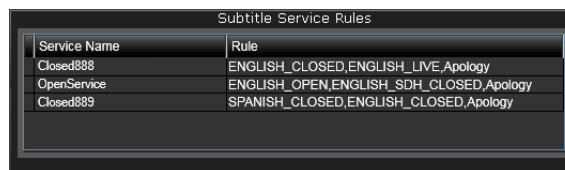
There is no minimum or maximum number of Intents that can be added to a rule, but for a closed service it is recommended that you end with an Apology Intent.

---

**Note:** Subtitle rules are made up of subtitle Intents and services, so the Intents and services must be created before the rules.

---

Example: In the subtitle service rules in Figure 3-2 for service `closed888`, in the absence of first a subtitle file (`English_Closed`), or second a live subtitle feed (`LIVE`), the subtitle service would display an apology page (`Apology`). The apology page will advise the viewer that subtitles are not available.



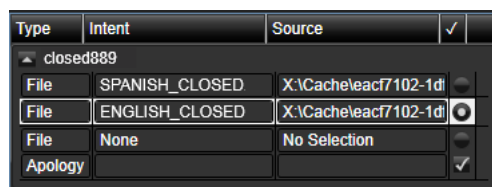
Service Name	Rule
Closed888	ENGLISH_CLOSED,ENGLISH_LIVE,Apology
OpenService	ENGLISH_OPEN,ENGLISH_SDH_CLOSED,Apology
Closed889	SPANISH_CLOSED,ENGLISH_CLOSED,Apology

Fig. 3-2: Example Subtitle Service Rules

### WARNING

If there is a match for a subtitle file and a live feed, potentially both of these will be active. So if a stenographer types a live subtitle, whether the live subtitle or the subtitle file is displayed depends on whichever was sent last.

Example: In the subtitle service rules for service `closed889` in Figure 3-2, in the absence of the preferred subtitle file (`SPANISH_CLOSED`), a second subtitle file (`ENGLISH_CLOSED`) will be used if it exists. The subtitle information in Figure 3-3 shows that, in this case, the subtitle file (`SPANISH_CLOSED`) is missing and therefore the second choice file is being used, because it matches a valid location. If neither subtitle file is available, an apology page (`Apology`) is displayed.



Type	Intent	Source	✓
closed889			
File	SPANISH_CLOSED	X:\Cache\ea77102-1d	
File	ENGLISH_CLOSED	X:\Cache\ea77102-1d	⊙
File	None	No Selection	
Apology			✓

Fig. 3-3: Example of subtitle information, as show in the Event Editor.

## Configuring the Subtitle Rules

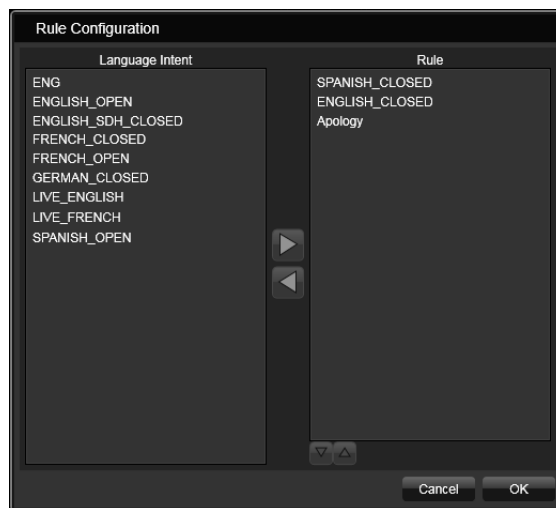
To configure a subtitle rule:


- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** menu, select the channel to be configured.
- 5 Select the **Channel Config 4** tab.
- 6 Scroll down to the **Subtitle Service Rules** section.

The **Service Name** column should be populated with the names of the services you configured in the Output Server 2 user interface (as shown in [Figure 3-2](#) on page 24).


- 7 Click the **Rule** cell adjacent to the service for which you want to configure a rule.

The **Rule Configuration** dialog is displayed.




- 8 To append an Intent to the service rule:
  - a From the **Language Intent** column, select an Intent to add.
  - b Click the right arrow .
  - c The Intent is added to the bottom of the **Rule** column.

To remove an Intent from the service rule:

- a From the **Rule** column, select an Intent to remove.
- b Click the left arrow .
- c The Intent is removed from the rule.

Alternatively, double-clicking on an Intent to move it between the two columns.

- 9 To re-order Intents within the rule, select an Intent and use the up/down arrows .
- 10 Click **OK** to save the changes.



# 4 Configuring Live Subtitles

This chapter explains the purpose of live subtitles, how to configure the Softel Subtitle Gateway with the sources and destinations for your live subtitles and how to assign Intents to sources.

## Summary

<i>About Live Subtitles in iTX</i> .....	27
<i>Setting Up the Subtitle Gateway</i> .....	28
<i>Adding a Live Subtitle Feed</i> .....	33

## About Live Subtitles in iTX

Live subtitles are used for:

- Live television programs.  
This is achieved via a dedicated subtitle asset that only contains live locations.
- A fallback for recorded programs, when the expected subtitle file is unavailable.  
This is achieved via a subtitle asset that has both file and live locations.

In both cases, a live subtitle location can only be used if its Intent has been set in the Subtitle Service Rules section of Channel Config 4.

A live subtitle location shows there is a need for live subtitles, but not from where they are being sourced. The live source (or feed) is defined in the **XAP Configuration** section of **Channel Config 4**, where you map Intents to live subtitle sources.

Each channel can have multiple live subtitle sources, each with their own Intent (e.g. for different languages).

If the same video clip or live asset is scheduled on multiple channels (e.g. for simulcast or a +1 channel), each channel must have the same Intents and sources configured in the XAP Configuration.

Live subtitles require the Subtitle Gateway service to route the subtitle sources to iTX.

## Setting Up the Subtitle Gateway

Live subtitle sources connect to a subtitle gateway, which needs to be configured to specify how the live subtitle sources are routed to the playout servers. Only one gateway is required for all languages and channels.

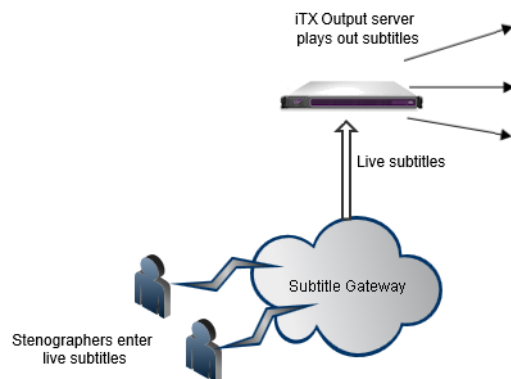


Fig. 4-1: Live subtitle portion of the subtitle functional overview.

This configuration is done using the Subtitle Gateway Administrator (SGA), which is typically installed on an iTX framework server. The SGA uses a graphical user interface comprising of linked nodes to represent the live sources and destinations. These linked nodes are known as data flows.

## Locate Your Service IDs

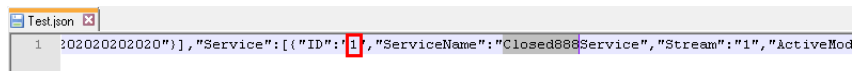
As part of the configuration of the SGA, you must provide the IDs for the services that will carry live subtitles. These IDs are one or two digits long and can be found within exported Output Server 2 subtitle configuration files.

### To locate your service IDs:

- 1 On your playout server, export the Output Server 2 subtitle configuration to a JSON file. See [Backing Up/Exporting the Output Server 2 Configuration](#) on page 51.
- 2 Open the JSON file using a text editor, such as Notepad.exe.
- 3 Open your text editor's search function. For example, in Notepad go to **Edit>Find**.
- 4 In the search field, enter the name of the service, as it appears in the Output Server 2 configuration and click **Search**.

The service name is highlighted by the text editor.

- 5 The service ID appears before the service name with a string of "Service": [{"ID": "1"}, as highlighted in the image below:



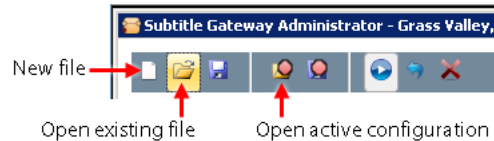
- 6 Make a note of the service ID number.
- 7 Repeat [step 4](#) to [step 6](#) for each service that will be carrying live subtitles.



## Starting SGA and Choosing a Configuration File

To start SGA double-click on the SGA shortcut on the Framework server desktop.

As well as creating new configuration files and opening existing ones, the SGA toolbar allows you to open the active configuration. For example, you can open and edit an existing pre-saved configuration file without making it the active file. Once you have edited a separate configuration file you can revert to the active configuration by clicking Open active configuration.



## Creating Data Flows

A data flow is made up of a subtitle source configuration, a subtitle destination configuration and a connector linking them together. There are three types of source configuration node available:

- XAP
- Cyclone IP
- Newfor IP

All three source types need to be connected to a XAP destination node. You need to create a data flow for each service you have configured in Output Server 2 that will carry live subtitles and you can link multiple source nodes to a single destination node.

Figure 4-2 below provides an overview of the SGA interface and shows source configuration nodes connected to destination configuration nodes.

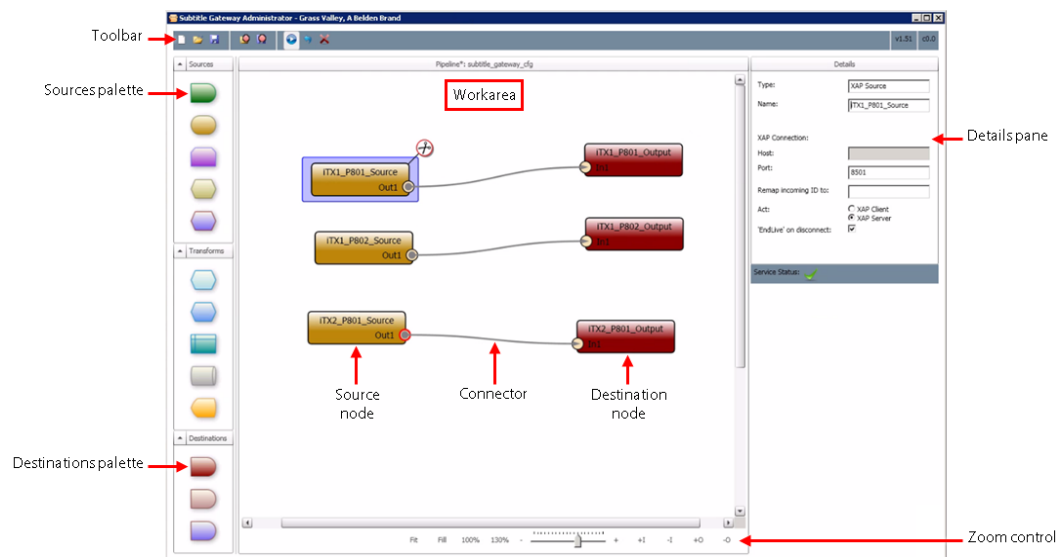



Fig. 4-2: Overview of the SGA interface. The Details pane shows the configuration for the currently selected node.


### Create and configure a XAP source node

In SGA, XAP source nodes are represented in the Sources palette by a yellow oval symbol .

#### To create and configure a XAP source node:

- 1 Drag and drop a **XAP source node** from **Sources** palette on the left to the workarea in the middle.
- 2 Click the **XAP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
  - Select the **XAP Server** radio button.
  - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
  - **Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
  - **Remap incoming ID to:** Leave this blank
  - **'Endlive' on disconnect:** Check this checkbox. This sends a signal when the live subtitle source disconnects, so an apology page can be displayed (if configured).
- 4 Create a XAP destination and link it to the new source node. See [Create and Connect a XAP Destination Node](#) on page 32.


### Create and configure a Cyclone IP source node

In SGA, XAP source nodes are represented in the Sources palette by a green half-oval symbol .

#### To create and configure a Cyclone IP source node:

- 1 Drag and drop a **Cyclone IP source node** from **Sources** palette on the left to the workarea in the middle.
- 2 Click the **Cyclone IP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
  - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
  - **Server Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
  - **Assign a service ID:** Enter 1 for all services.
- 4 Create a XAP destination and link it to the new source node. See [Create and Connect a XAP Destination Node](#) on page 32.


### Create and configure a Newfor IP source node

In SGA, XAP source nodes are represented in the Sources palette by a purple hexagonal symbol .

**To create and configure a Newfor IP source node:**

- 1 Drag and drop a **Newfor IP source node** from the **Sources** palette on the left to the workarea in the middle.
- 2 Click the **Newfor IP source node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
  - Select the **XAP Server** radio button.
  - **Name:** Each node must have a unique name, for example this could be based on channel, page name and source type.
  - **Port:** Set the port to correspond to the live stream port on the external subtitling source (e.g. 8500).
  - **Remap incoming ID to:** Leave this blank
  - **'Endlive' on disconnect:** Check this checkbox. This sends a signal when the live subtitle source disconnects, so an apology page can be displayed (if configured).
- 4 Create a XAP destination and link it to the new source node. See [Create and Connect a XAP Destination Node](#) on page 32.

## Create and Connect a XAP Destination Node

In SGA, XAP destination nodes are represented in the Destinations palette by a green half-oval symbol .

To create a destination node and link to a source node:

- 1 Drag and drop a **XAP destination node** from the **Destination** palette on the left to the workarea in the middle.
- 2 Click the **XAP destination node** to highlight it. The **Details** pane on the right updates to display the configuration options.
- 3 Complete the fields in the **Details** pane as follows:
  - Select the **XAP Server** radio button.
  - **Name:** Each node must have a unique name, for example this could be based on channel and page name.
  - **Port:** Set the Port on this gateway (e.g. 5557) to match the one specified in XAP Configuration (see [Adding a Live Subtitle Feed](#), on page 33).
  - **Remap outgoing ID to:** Enter the service ID located in the exported JSON file. See [Locate Your Service IDs](#) on page 28.
- 4 Click on the circle on the source node to drag a connector to the corresponding circle on the destination node. This creates a connection between a source and destination.

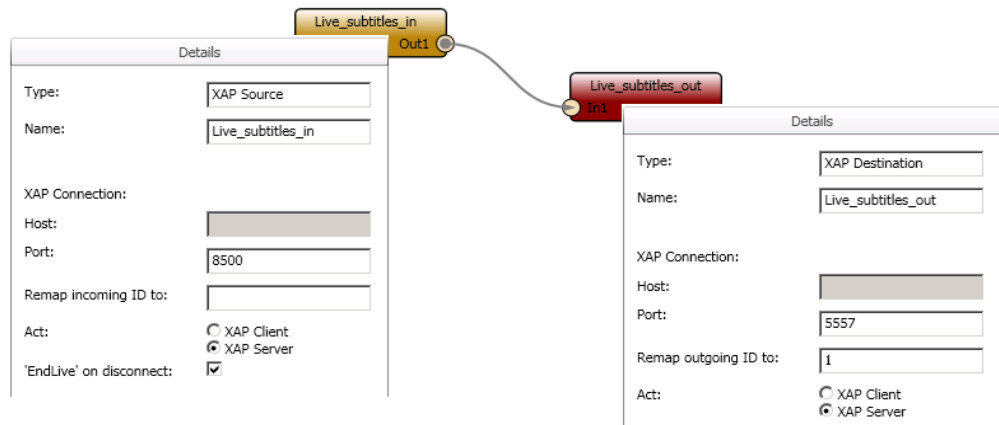


Fig. 4-3: XAP Source and Destination showing their respective settings.

If required, multiple source nodes can be connected to a single destination node, as illustrated in below.

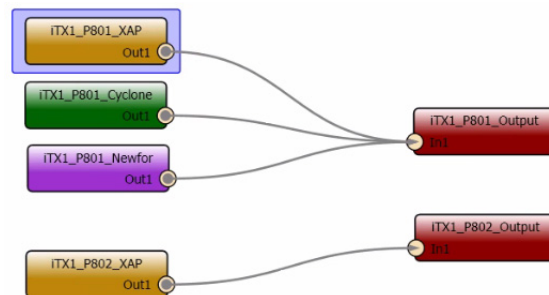



Fig. 4-4: SGA configuration showing one destination with a single source and another with multiple sources, each of a different type.

- 5 To save the configuration, on the toolbar click **Save**.

To save and apply the current configuration as the active one:

- a On the toolbar, click **Save As Active Configuration** .

Using this option to store the configuration file removes the need to enter a pathname, as the configuration file is automatically saved to the location needed for the active file.

- b To enable the saved changes to take effect, click **Restart Subtitle Gateway Service** .

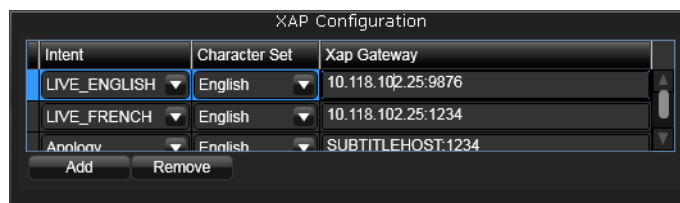
## Adding a Live Subtitle Feed

Each channel can have one or more live subtitle feeds; these can be a scheduled live feed or a fallback, used if a scheduled subtitle file fails whilst on air.

**To add a live subtitle feed:**

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** menu, select the channel to be configured.
- 5 Click **Channel Config 4**.
- 6 Scroll down to the **XAP Configuration** section.
- 7 Click **Add**.
- 8 Select a XAP Intent (specified on [page 8](#)), from the **Intent** drop-down list.
- 9 Select the language from the **Character Set** drop-down list.
- 10 In the **Xap Gateway** field, type in the IP address/hostname and port, from where the live feed will be received.

The IP address and port should be in the format `xx.x.xx.xx:nnnn` where `nnnn` is the port id. Alternatively, you can enter the hostname and port in the format `hostname:nnnn`.





# 5

## Managing and Verifying Subtitle Assets

This chapter explains how to use the Asset layout in iTX Desktop to manage your subtitles before going to air. This includes linking subtitle assets to video and live assets, unlinking subtitle assets from other assets, how to change a subtitle file's Intent, viewing subtitle content and deleting subtitle data.

This chapter also discusses the Preview as Channel layout in iTX Desktop, which can be used to verify the quality and accuracy of the subtitle content by viewing them alongside their associated video asset. From this layout you can preview configured services and how the subtitle service rules have been applied. Two services can be previewed simultaneously.


### Summary

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### Searching for Subtitle Assets Using PinPoint

Using PinPoint, you can search for subtitle assets stored in iTX.

#### To search for a subtitle asset using PinPoint:

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Search for a Subtitle Asset
- 4 Click  to limit the search to subtitles.
- 5 Using drop-down lists at the top of PinPoint, create search criteria to locate the required subtitle asset.

---

Note: The **Subtitle Linked** filter can be used to find subtitles which are/are not linked to another asset. This is useful for finding subtitles which are linked to assets which no longer exist, so they can be deleted. It is also useful for finding subtitles which should be linked to an asset and currently are not.

---

- 6 Click  to start the search.

A list of subtitles which match the search criteria is displayed in the search results pane. Selecting one of the subtitles displays information about it in the Property Editor (on the right).

## Locating the Video Asset Linked to a Specific Subtitle Asset

iTX can automatically link subtitle files to a video asset, so a video asset can be accessed and loaded by searching for the subtitle asset linked to it. Once the subtitle asset link has been found it can be linked to other assets.

### To locate the video asset linked to a subtitle asset:

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Search for your subtitle asset, making sure you set the search criteria to **Subtitle Linked** | Yes, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35.
- 4 From the results pane, select the required subtitle asset.
- 5 In the **Property Editor**, click the **Used by** tab.

A list of all video assets that the subtitle is linked to, is displayed.





- 6 Double-click on the video asset to load it. Confirm that the video is to be loaded.

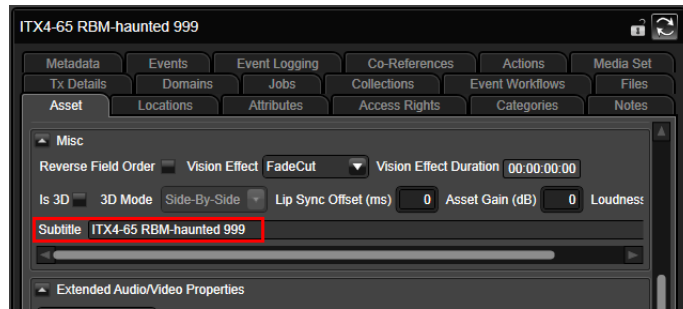
## Verifying that the Subtitle Asset is Linked to the Correct Video Asset

iTX can automatically link subtitle files to a video asset, so it is useful to be able to verify that the subtitle file has been linked to the matching video asset. When a search has returned the video asset, the subtitles linked to it can be accessed.

### How to verify the video subtitle link:

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar and the PinPoint search tool is displayed.
- 3 Search for a video asset.
  - a Click  to limit your searches to video clips.
  - b Using drop-down lists at the top of PinPoint, create your search criteria to locate the required video asset.
  - c Click **Search** 
- 4 From the results pane, select the required video asset.
- 5 Click **Asset** in the Property Editor.
- 6 Scroll down to the **Misc** section. This should contain a **Subtitle** field, as pictured below:





This is the subtitle asset associated with the selected video asset.

## Linking a Subtitle Asset to Another Asset

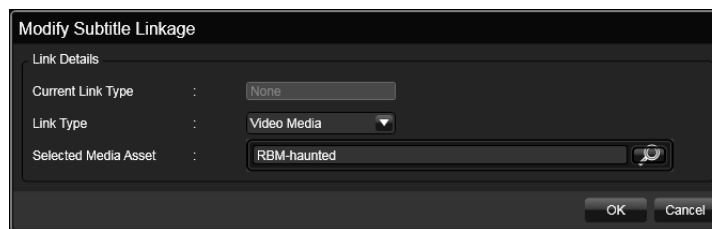
A subtitle asset can be associated with (linked to) another asset type; so if the other asset is scheduled the subtitle asset is automatically scheduled too. The asset can be one of:


- **Video media** - a video asset.
- **Live Event** - usually a live subtitle asset would be linked to a live event.

A subtitle asset can only be linked to one video media or set identifier; however the subtitle asset can be linked to multiple live events.

### To link a subtitle asset to another asset:

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35.
- 2 In the **Property Editor**, click the **Used by** tab.  
Any existing links are displayed.
- 3 Click **Add New Linkage** and a **Modify Subtitle Linkage** dialog is displayed.



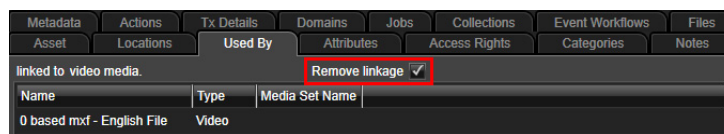
- 4 Select a **Link Type** from the drop-down list. The options are **Video Media** or **Live Event**.
- 5 Click **Search** . A pop-up PinPoint dialog appears.
- 6 Search for the video asset you want to link to the current subtitle asset.
- 7 Click **OK**.
- 8 Click **Save** to store the linkage to the subtitle asset.

## Removing the Link Between a Subtitle Asset and Another Asset

If a subtitle asset has been associated with the wrong media asset, the link between them can be removed.

To delete the link from a subtitle asset:

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35
- 2 In the **Property Editor**, click the **Used by** tab.  
Any existing links are displayed.
- 3 If the linked asset is of the type **Video media**, check **Remove Linkage**, as pictured below:



If the linked asset is of the type **Live Event**:

- a Check the check box next to each of the assets to be removed, as pictured below:



- b Select **Remove Selected Linkages**.

- 4 Click **Save**.

## Changing a Subtitle File's Intent

When a subtitle file has been given an incorrect Intent, you can change a subtitle's Intent through the iTX Desktop.

**IMPORTANT** Care should be taken when changing an Intent, to ensure after the change Intents still exist which match those in the service rules.

To change the subtitle Intent:

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35
- 2 In the **Property Editor**, click **Locations** tab.

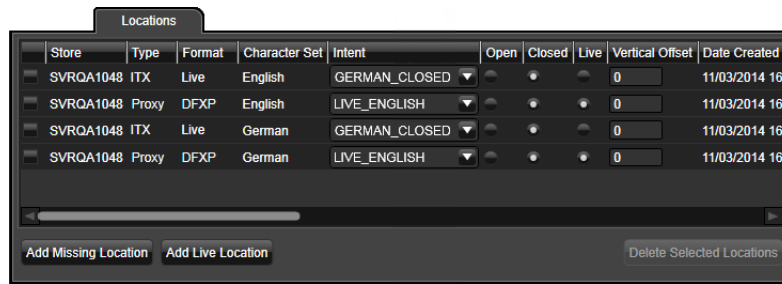


Fig. 5-1: The Locations tab of the Property Editor.

- For the required subtitle select an Intent from the drop-down list. Changing the Intent automatically changes the **Character Set** to the one paired with the new Intent.

**Note:** Duplicate Intents are not allowed for subtitle locations. If a duplicate Intent is attempted to be selected, an error message appears.

## Adding a Location to a Subtitle Asset

Adding a placeholder location for a missing subtitle file to a subtitle asset, allows the subtitle file to be imported later. So if only the placeholder location exists when the item is scheduled, then the system will report that there is a missing subtitle.

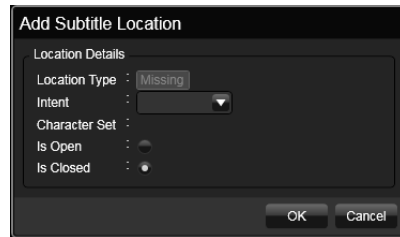
Locations can also be added for live subtitles.

### To add a location to the subtitle asset:

- In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35
- In the **Property Editor**, click **Locations** tab.
- If you are using live subtitles, create a live location by setting the Intent and character set properties:
  - Click **Add Live location** and an **Add Subtitle Location** dialog is displayed.



- Select the required Intent from the drop-down list and the **Character Set** is automatically updated to the one paired with the Intent.
  - Click **OK** to complete adding the live location.
- If you are using subtitle files, create a missing location by setting the Intent and character set properties.
    - Click **Add Missing location** and an **Add Subtitle Location** dialog is displayed, which includes options for selecting whether the location is open or closed:



- b Select the required Intent from the drop-down list and the **Character Set** is automatically updated to the one paired with the Intent.
  - c Select a radio button to pick whether the subtitle file will be **open** or **closed**.
  - d Click **OK** to complete adding the missing location.
- 5 Select **Save** to store the changes.

## Deleting Subtitles Data

### Deleting Subtitle Assets

Subtitle assets, including the subtitle files located in the asset, can be deleted from iTX using this method.

**To delete a subtitle asset:**

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35.
- 2 In the **Property Editor**, click **Delete**.  
A dialog appears asking you to confirm this action.
- 3 Click **Delete** to confirm the deletion.

### Deleting Subtitle Assets Locations

A subtitle asset can contain one or more subtitle file locations. Individual subtitle file locations can be removed from a subtitle asset using this method. The subtitle file location and the physical subtitle file will be removed. The subtitle asset still exists, even if it no longer contains any locations.

**To delete a subtitle asset location:**

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35
- 2 In the **Property Editor**, click **Locations** tab.
- 3 Check the check box next to each subtitle location to be removed.
- 4 Click **Delete Selected Locations**.
- 5 Click **Save**.

## Deleting a Live Subtitle Feed

When a live subtitle feed is no longer required it can be removed.

### To delete a live subtitle feed:

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** drop-down list, select the view containing the channel to be configured.
- 5 Select the required channel.
- 6 Click **Channel Config 4** tab.
- 7 Scroll down to the **XAP configuration** panel in the **Subtitles** section.
- 8 Click on the live subtitle feed to be deleted.
- 9 Click **Remove**.

The live subtitle feed is removed from the list.

- 10 Click **Save** and then **Close**.

### Live subtitle connections

If iTX is expecting a live subtitle feed (which will depend on the service rules), it will connect to the gateway configured for that live feed and wait for data. The live subtitle source providing the subtitles can disconnect and reconnect to the gateway at any time and iTX will continue to display subtitles as they are available.

## Viewing Subtitle Content Information

Subtitle information such as subtitle text, time the subtitle is displayed and its duration can be viewed using the **Events** tab in the Property Editor of either a subtitle asset or a video asset that is linked to a subtitle asset.




If a subtitle asset contains multiple subtitle files, information for each subtitle file is displayed chronologically as separate entries in the Events.

---

Note: Subtitle event information cannot be edited or deleted using the Events tab.

---

### To view subtitle content:

- 1 Open the iTX Desktop.
- 2 Click **Asset** in the layout selection bar. The PinPoint search tool is displayed.
- 3 Search for your one of the following assets:
  - For a subtitle asset click  to limit your searches to subtitles.
  - For a video asset, click  to limit your searches to videos.
- 4 Using drop-down lists at the top of PinPoint, create search criteria to locate the required asset.
- 5 Click  to start the search.
- 6 Click **Events** in the Property Editor.

The Events tab is displayed, containing the following columns:

Column	Description
<b>Name</b>	The subtitle Intent
<b>In Point</b>	The time the subtitle is displayed
<b>Duration</b>	The length of time the subtitle is displayed
<b>Summary</b>	The subtitle text, for each subtitle file

Figure 5-2 on page 42 shows an example of the events in a subtitle asset.

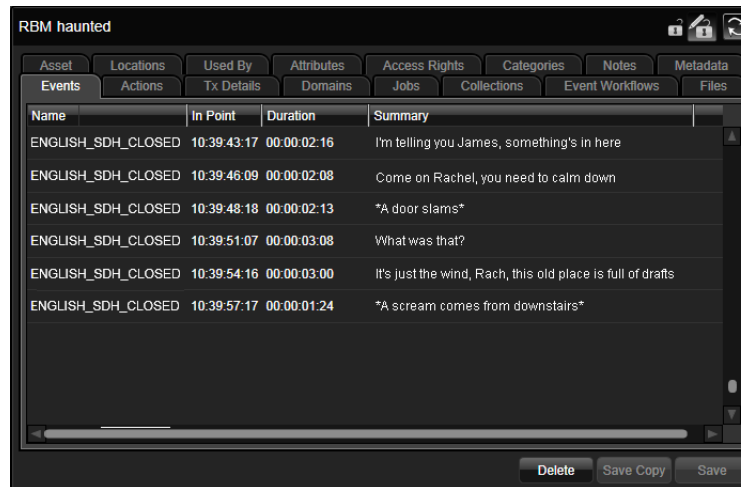


Fig. 5-2: Example of subtitle information displayed in the Events tab.

## Accessing the Subtitle File Stored on the iTX System


The subtitle information includes the folder where the subtitle file is stored, enabling the subtitle file to be accessed.

---

Note: This option gives you direct access to the transmittable subtitle file. We advise you not to delete, edit or replace the subtitle file directly, but to use iTX to make any changes, as you may cause errors on transmission.

---

### To navigate to the subtitle folder:

- 1 In iTX Desktop, search for and select your subtitle asset, as described in [Searching for Subtitle Assets Using PinPoint](#), on page 35
- 2 Click **Locations** in the Property Editor.
- 3 Scroll to the right on the **Locations** tab.
- 4 Click  next to the required subtitle file.

The folder where the subtitle file is stored is displayed.

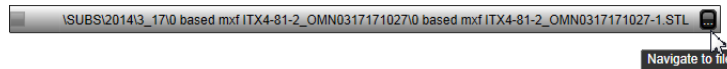


Fig. 5-3: The Locations tab showing how to navigate to the subtitle storage folder.

## Previewing Subtitle Playout Using the Preview as Channel Layout

The **Preview As Channel** layout has similar functionality to the Asset layout, but includes a media player that previews video clips in the context of a selected channel, rather than using an external monitor. If the video clip being previewed is linked to a subtitle asset, you can configure the media player to preview the following:

- Up to two streams of closed caption/Teletext subtitles
- Open top and open bottom captions

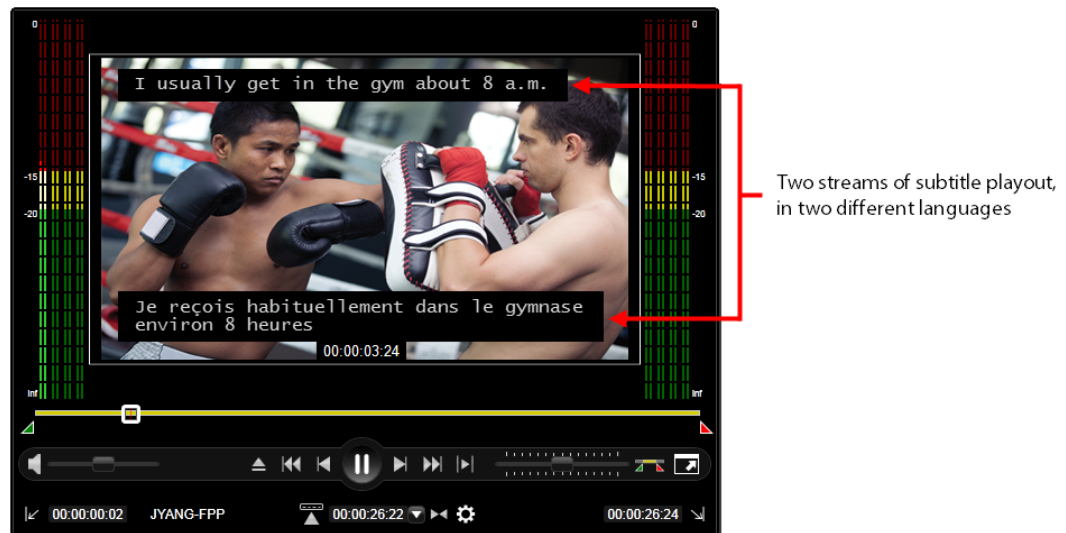


Fig. 5-4: The Preview as Channel media player, showing the playout of two subtitle streams.

### Note:

- When an AJA Corvid card and drivers are installed on the host workstation, the Preview as Channel's media player can be configured to control the preview playout on an SDI video monitor. This functionality is useful for verifying video, subtitle and audio playback quality. See the *iTX Desktop Operator's Guide* for more information on SDI monitoring.
- As Softel Inside is only supported by Output Server 2, the Preview as Channel layout can only display subtitles for Output Server 2 channels.

Before you can preview the subtitles in the Preview as Channel's media player, the following conditions must be satisfied:



- The subtitle Services must be properly configured on the Output Server 2 Subtitle configuration page. See [Create the Subtitle Services](#), on page 20.
- The video asset being previewed must already have a subtitle asset linked to it.

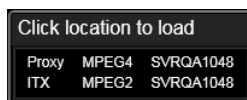
- The video asset must be the same resolution as the playout channel. If the resolutions do not match, the following error message appears in the media player:  
*Frame rate mismatch: Please select a clip with compatible frame rate to the channel.*



Once the media player's subtitle services properties are set, you can use the media player's controls (Play/Pause button or seek slider) to play or scrub the video and the subtitles appear in the media player window along with the video.

## Preview Video Assets with Subtitles

To preview the playout of subtitles in the Preview As Channel media player:

- 1 Open the iTX Desktop.
- 2 Click **Preview As Channel** in the layout selection bar.  
The **Preview As Channel** is displayed.
- 3 In the **View As Channel** section at bottom of the layout, select a channel to view:
  - a Click **View**. The **Select Item** dialog appears.
  - b Select the view with the required channel.
  - c Click **OK**.
  - d Click **Channel**. The **Select Item** dialog appears.
  - e Select the view with the required channel.
  - f Click **OK**.
  - g Click **Enable**.
- 4 Search for a video asset.
  - a Click  to limit your searches to video clips.
  - b Using drop-down lists at the top of PinPoint, create your search criteria to locate the required video asset.
  - c Click **Search** .
- 5 The video automatically loads in the media player. If you have generated proxies of your media, you must select which location (the proxy or iTX) from which to load the video:



- 6 To have the subtitles playout at the top of the screen:
  - a In the Media Player controls, click **Asset Properties** .
  - b From the **Subtitle Top Service** drop-down list, select a subtitle service.  
Select **None** if you do not want the subtitles to be displayed at the top of the screen.
- 7 To have the subtitles playout at the bottom of the screen:
  - a In the Media Player controls, click **Asset Properties** .
  - b From the **Subtitle Bottom Service** drop-down list, select a subtitle service.  
Select **None** if you do not want the subtitles to be displayed at the top of the screen.




- 8 Use the media player's controls (Play/Pause button or seek slider) to play or scrub. Subtitles appear along with the video in the media player window.

## Reset or Clear the Subtitle Services Settings in the Media Player

To avoid having to set the media player's **Subtitle Top Service** and **Subtitle Bottom Service** settings each time you switch between channels or close the iTX Desktop, the Subtitle Service settings are automatically retained with the channel. This option can be displayed, if required.

**To quickly reset or disable both of the current Subtitle Service settings:**

- 1 Search for a video clip and load it into the media player, as described in [Preview Video Assets with Subtitles](#), on page 44.
- 2 In the media player, click **Asset Properties** .
- 3 Click **Reset Subtitles**.
- 4 Click **OK** to confirm that you want to reset these settings.

Both the **Subtitle Top Service** and **Subtitle Bottom Service** settings are set to **None** and disappear from the preview.



# 6

## Scheduling & Controlling Subtitle Playout

Typically subtitles are scheduled for playout as part of a traffic system. Once a schedule containing subtitles has been loaded into iTX various operations can be applied to subtitles. For example, you may need to change or remove a subtitle for a video asset which has been scheduled or is being played out. This chapter explains how to make these changes.

### Summary

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<i>Disabling the subtitle source for a scheduled video asset</i> .....	48
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### Automatically adding a subtitle to a scheduled video event

The iTX channel can be configured to automatically schedule associated subtitle assets with video events. If a video event is added to a schedule, then two checks are made:

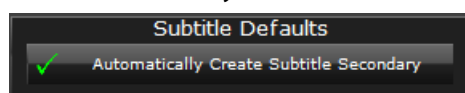
- is the **Automatically Create Subtitle Secondary** option enabled in the Channel Config?
- is there a subtitle asset linked to the video asset?

If both of these conditions are true, then a new subtitle event is added to the schedule as a secondary event.

If the video asset has already been scheduled, when the secondary subtitle event is linked to it, then the subtitle event is generated at the time when the link is made (as long as the event has not yet reached a state of cueing).

#### To automatically add a subtitle to a scheduled video event:

- 1 Open the iTX Desktop.
- 2 Click **Engineering** in the layout selection bar.
- 3 Click **Channel Config**.
- 4 From the **View** drop-down list, select the view containing the channel to be configured.
- 5 Select the required channel.
- 6 Click **Channel Config 4**.
- 7 Click **Automatically Create Subtitle Secondary** and it changes to a green check mark.



- 8 Click **Save** and then **Close**.

In the schedule any video asset with an associated subtitle file, or other secondary event such as a logo, will be marked with a +. Selecting + expands the event to display the secondary subtitle as shown below.

Start Time	Type	Global ID	C	Tr	N	W	Item Name	Item Title	Duration	Status	Source
+ 14:08:57:21	Video Clip		+	N		-	0 based mxfl 2	0 based mxfl 2	00:02:00:00	Commit	X:\Cache\1c444b8-96a1-4b3d-8
- 14:08:57:21	Video Clip		+	N		-	0 based mxfl 3	0 based mxfl 3	00:02:00:00	Ready	\\SVRQA9010\CACHE\6d08a1f0-
14:08:57:21	Subtitle		+	-		-	0 based mxfl 3	0 based mxfl 3	00:02:00:00	Ready	\\SVRQA9010\CACHE\2dc85130

## Manually adding a subtitle to a scheduled video event

If a scheduled video does not have subtitles linked to it, a separate subtitle asset can be added to the schedule as a secondary item on the video event. A secondary subtitle event can be added to a video event even if the video event has been cued, but not once video event is on-air.

---

Note: Manually adding a subtitle asset does not permanently link the subtitle asset to the video asset - it is only linked for this one time schedule.

---

### To manually add a subtitle to a scheduled video event:

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 From the Content Select, select the **Subtitle** plugin.

---

Note: If the **Subtitle** tab is not displayed, select **Configure** and add **Subtitle** to the available options list.

---

- 4 Click **Search** to display PinPoint.
- 5 Use PinPoint to locate the required subtitle and select it. For more information on using PinPoint see, [Searching for Subtitle Assets Using PinPoint](#), on page 35.
- 6 Select **OK**.  
On the **Content Selector** only the subtitle which was found is listed.
- 7 Click **Drag from Here** then drag and drop the subtitle over the relevant video event.  
This subtitle becomes a secondary item on the video event, so they are played out together.

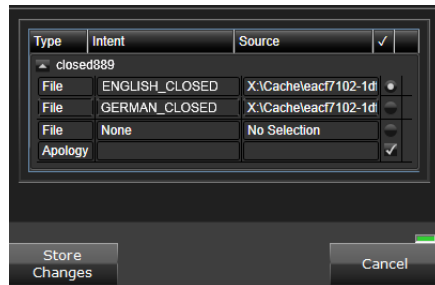
## Disabling the subtitle source for a scheduled video asset

You can disable the subtitle source going to a service, for example, if the service had the wrong subtitle file or if it is a corrupted live feed. Disabling the service leaves other services unaffected. Either an on air or scheduled subtitle source can be edited.

### To disable the subtitle source:

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 In the **Schedule Grid**, expand the video asset, by clicking on the +, to list the subtitle.
- 4 Click on the subtitle asset to display it in the **Event Editor**, as shown below.

The radio button shows which subtitle location is currently being used.



- 5 Check the radio button next to `None` to disable the current subtitle.
- 6 Click **Store Changes**.

Note: If the video asset being changed is currently on air, a warning pops up about the changes you are making. You need to confirm that you want to change the video asset currently on air.

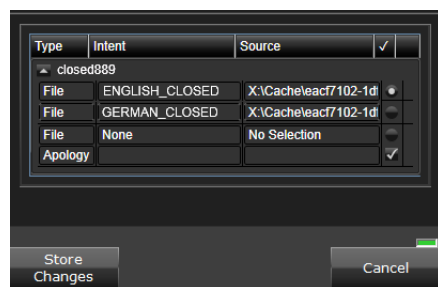
## Overriding the subtitle source for a scheduled video asset

If a service has more than one matching subtitle Intent then the highest ordered one is used. This default behavior can be overridden and another subtitle Intent played out instead. Either an on air or scheduled subtitle source can be edited.

For example, the subtitle has assets for the Intents `FRENCH_CLOSED`, `GERMAN_CLOSED` and `ENGLISH_CLOSED` but the subtitle service rule for service `Closed889`, specifies `ENGLISH_CLOSED`, `GERMAN_CLOSED` and `Apology`.

Asset	Locations	Used By	Attributes	Access Rights	Categories	Notes			
Store	Type	Format	Character Set	Intent	Open	Closed	Live	Vertical Offset	Date Create
SVRQA1048	ITX	STL		FRENCH_CLOSED	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0	31/03/2014
SVRQA1048	Proxy	DFXP		FRENCH_CLOSED	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0	31/03/2014
SVRQA1048	ITX	STL		GERMAN_CLOSED	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0	31/03/2014
SVRQA1048	Proxy	DFXP		GERMAN_CLOSED	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	0	31/03/2014
SVRQA1048	ITX	STL		ENGLISH_OPEN	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	01/04/2014
SVRQA1048	Proxy	DFXP		ENGLISH_OPEN	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	01/04/2014

As `FRENCH_CLOSED` is not specified in the rule it cannot be used to over-ride the scheduled subtitle Intent, even though it exists. The subtitle with the `ENGLISH_CLOSED` Intent will be used as it has higher priority than `GERMAN_CLOSED`.



If you have an Apology with a Source of `No Selection`, the Apology page will be displayed, but `No Selection` without an Apology displays nothing.

**To override the subtitle source:**

- 1 Open the iTX Desktop.
- 2 Click **Channel Control** in the layout selection bar.
- 3 In the **Schedule Grid**, expand the video asset, by clicking on the +, to list the subtitle.
- 4 Click on the subtitle asset to display it in the **Event Editor**, as shown above.  
The radio button shows which subtitle location is currently being used.
- 5 Check the radio button next to the alternative subtitle location, to select it instead.
- 6 Click **Store Changes**.

---

Note: If the video asset being changed is currently on air, a warning pops up about the changes you are making.

---

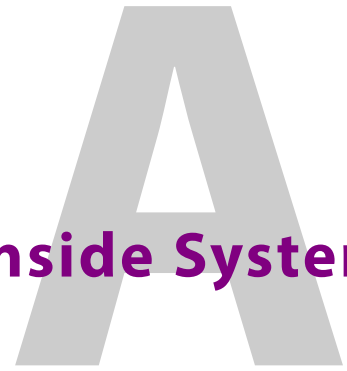
## Replacing on air subtitle files with an updated file

You can import a new version of a subtitle file into the system and replace the one which is already on air, if it is faulty or missing data.

**To replace an on air subtitle:**

- 1 Open **Delivery Manager**.
- 2 Locate the subtitle file to replace the one currently being played out.
- 3 Drop the subtitle file into the drop box.
- 4 Open the iTX Desktop.
- 5 Click **Channel Control** in the layout selection bar.  
If the subtitle is a new version of the one that is currently being aired the following warning is displayed:  
*An updated file for currently on air subtitles has arrived.*  
If the subtitle is a higher priority than the currently on air subtitle, the following warning is displayed:  
*Subtitle file with a higher priority than the on air subtitle has arrived.*
- 6 Click **Fix All**, for either case, to replace the currently on air subtitle file with the newly imported one.

# Maintaining Softel Inside System



This appendix covers some of the common maintenance tasks required for a Softel Inside system, including importing and exporting Output Server 2 configuration information and removing live subtitle feeds and common troubleshooting tasks, such as issues with configuration for unlicensed features.

## Summary

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## Backing Up/Exporting the Output Server 2 Configuration

The subtitle configuration carried out in the Output Server 2 Configuration user interface can be exported to another location, to be used as a backup or for importing to another channel.

---

Note: A configuration can be exported at any time during editing, as long as the configuration is not in an error state.

---

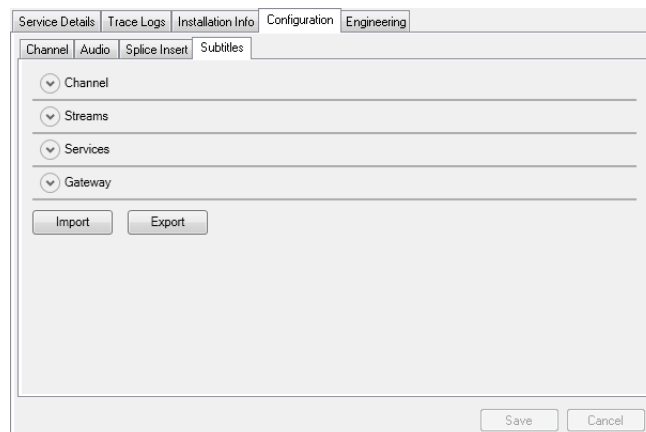
### To backup/export the configuration:

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).

The Output Server 2 user interface appears.

- b Click **Configuration**, then click **Subtitles**.

The Subtitles configuration panel appears.



- 2 Click **Export**.
- 3 Browse to the location where the configuration file is to be saved.
- 4 Enter the name of the configuration file to be saved.

The configuration is saved to a `.json` file.

## Importing a Saved Output Server Configuration

Subtitle configuration settings which have been exported from the Output Server (see [Backing Up/Exporting the Output Server 2 Configuration](#), on page 51) can be imported to another channel, to save time when setting up multiple channels.

---

Note: A configuration can be imported at any time, even if the current configuration has not been saved.

---

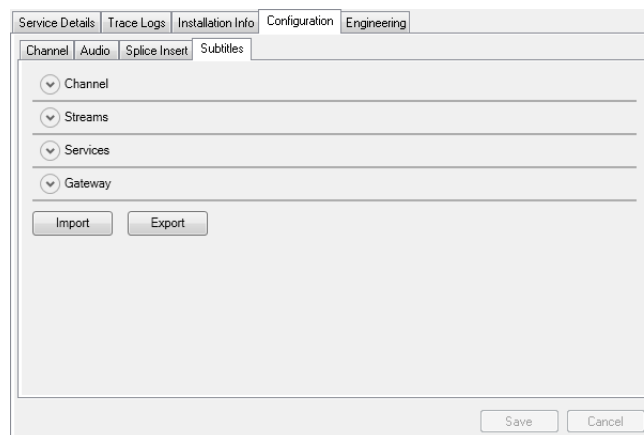
### To import a saved Output Server configuration:

- 1 Open the Output Server 2 user interface:
  - a On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).

The Output Server 2 user interface appears.

- b Click **Configuration**, then click **Subtitles**.

The Subtitles configuration panel appears.



- 2 Click **Import**.
- 3 Browse to the location where the configuration file to be imported has been stored.
- 4 Select the stored configuration file (it is a `.json` file) and click **Open**.
- 5 Confirm the file to be imported.
- 6 Click **Save** to store the imported configuration and automatically reboot the Output Server.

Clicking **Cancel** during an import reverts the settings to the last saved configuration.



## Playing Out Legacy Subtitles or Closed Captions

If you had been playing out basic subtitles or closed captions on a previous installation of Output Server 2, you would have had to configure one stream and one service. As of iTX v2.8 or later, legacy subtitles and closed captions no longer require this baseline configuration and therefore it must be removed from the Output Server 2 user interface.

### To remove the previous baseline subtitle configuration for legacy subtitles:

- 1 On the playout server, expand the instance of **Output Server 2** for the channel to be configured (e.g. ITX1 Output Server 2).  
The Output Server 2 user interface appears.
- 2 Go to **Configuration > Subtitles** tab.
- 3 Expand the **Services** tab.
- 4 From the Service drop-down list, select each service you have configured and click **Remove**.
- 5 Expand the **Streams** tab.
- 6 From the **Streams** drop-down list, select each stream you have configured and click **Remove**.
- 7 Click **Save**. Output Server 2 will automatically shut down and restart to apply your changes.





## **Grass Valley Technical Support**

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's website ([www.grassvalley.com](http://www.grassvalley.com)).

An online form for e-mail contact is also available from the website.

## **Corporate Head Office**

Grass Valley  
3499 Douglas-B.-Floreani  
St-Laurent, Quebec H4S 2C6  
Canada  
Telephone: +1 514 333 1772  
Fax: +1 514 333 9828  
[www.grassvalley.com](http://www.grassvalley.com)