



## **EBU STL Viewer User's Guide**

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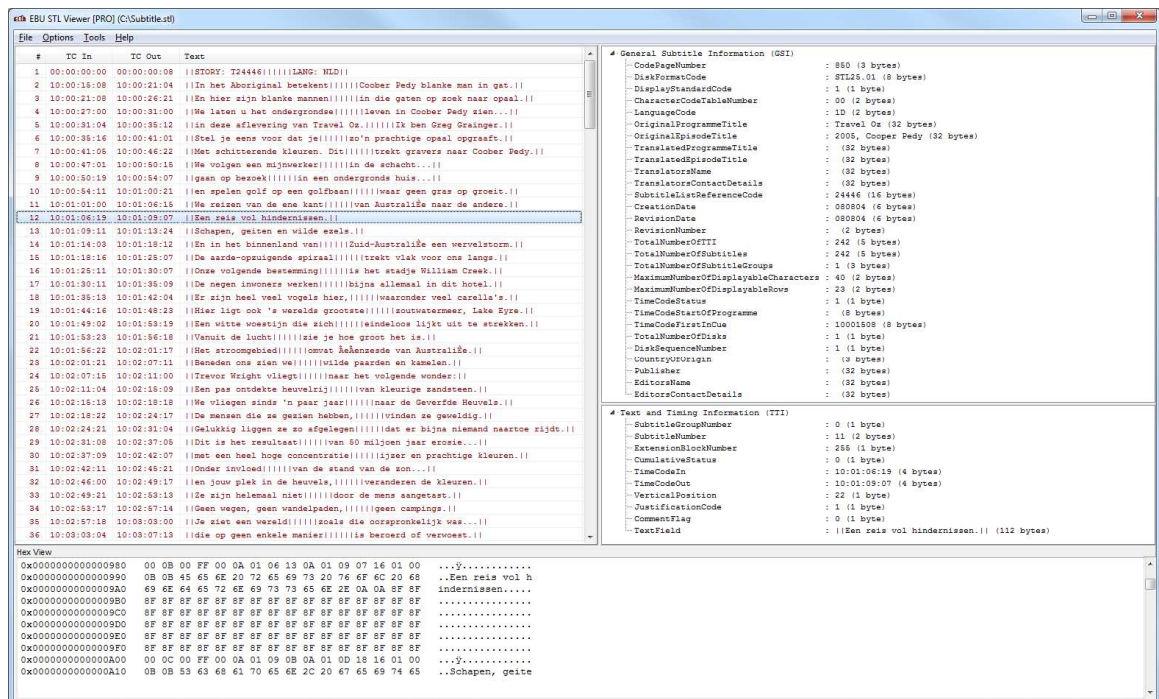
The logo for Jongbel Media Solutions features the word "JONGBEL" in a bold, blue, sans-serif font. The letter "O" is stylized with a yellow and orange circular graphic element. Below "JONGBEL" is the text "MEDIA SOLUTIONS" in a smaller, blue, sans-serif font.

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# 1. Overview

**EBU STL Viewer** application provides a structural representation of the EBU STL subtitle file container. Supported is the original Subtitling Data Exchange Format according to the European Broadcasting Union (EBU) specification (.stl). Binary hex view is available along with the General Subtitling Information (GSI) and Text and Timing Information (TTI) blocks tree view. Binary hex data editing of GSI and TTI blocks is available. Along with the presentation capabilities, the EBU STL Viewer can perform EBU STL subtitle file format validation.



## 1.1 General Features

- Structural representation of EBU STL file format
- Hex data representation of the file
- Automatic hex positioning of the selected TTI block
- Hex data editing of General Subtitling Information (GSI)

- Hex data editing of the selected Text and Timing Information (TTI) block
- EBU STL files validation – available in EBU STL Viewer Pro
- Text encoding codepage selection

## 1.2 Supported EBU STL blocks

This is the list with the supported EBU STL blocks by the EBU STL Viewer.

GSI	General Subtitling Information
TTI	Text and Timing Information

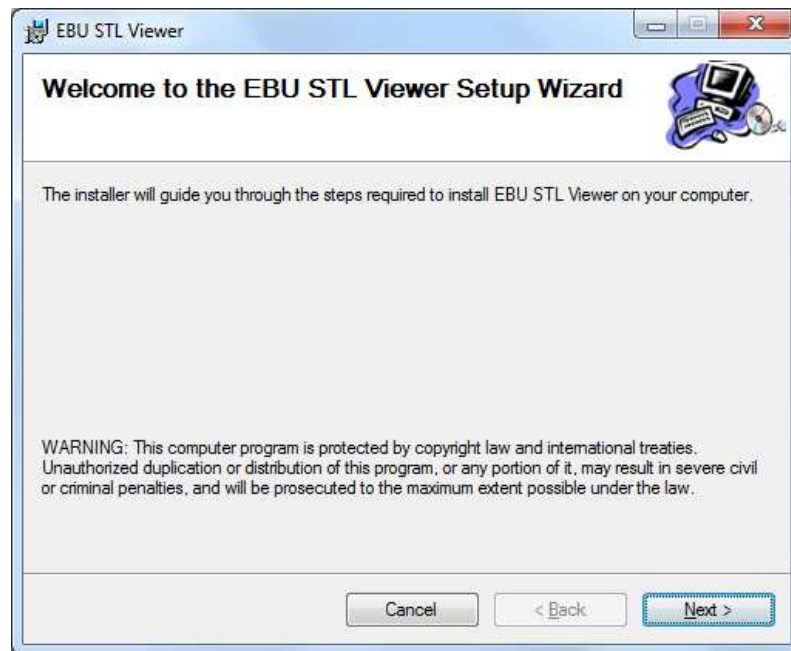
## 2. Installation

### 2.1 Installing EBU STL Viewer

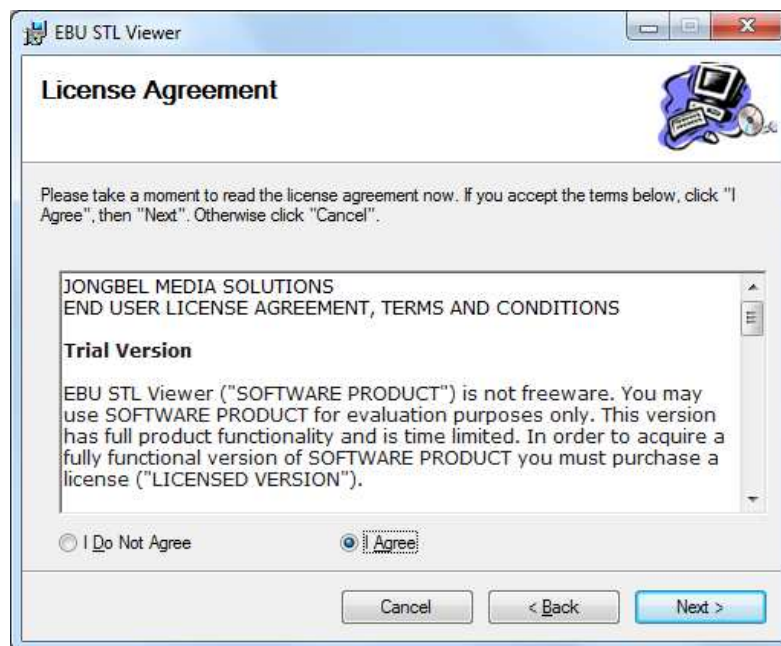
Before installing the **EBU STL Viewer** solution, make sure that any previous version of the product has been uninstalled refer 2.2.

The installation package of **EBU STL Viewer** is distributed in msi file. After downloading the file from the official Jongbel Media Solutions web site – [www.jongbel.com](http://www.jongbel.com), execute the installation by starting the msi file.

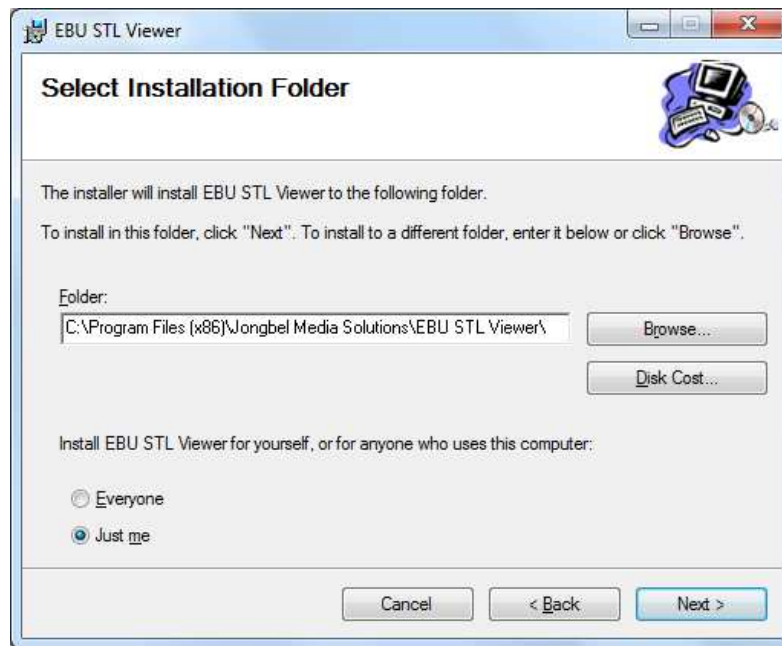
First a Welcome dialog pops up. Click “Next” in order to proceed.



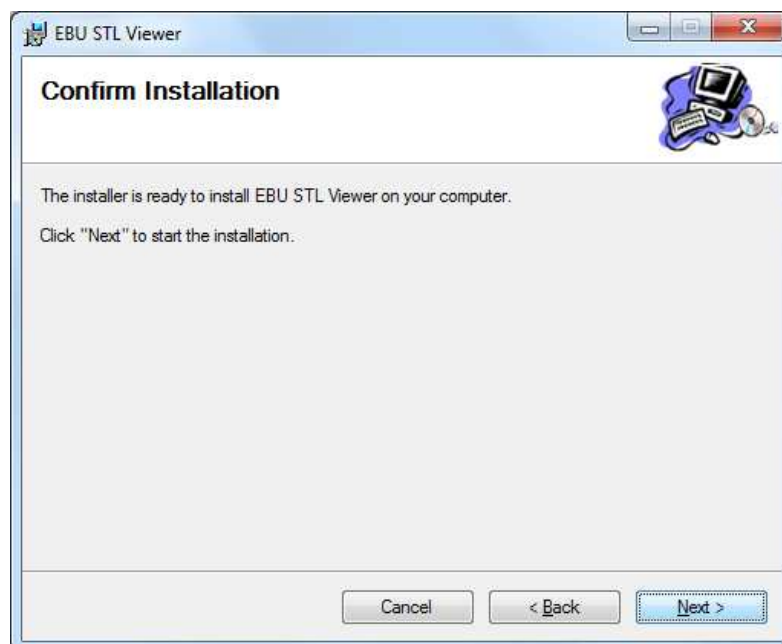
After this a License Agreement dialog pops up. Read the agreement carefully, select "I Agree" if you agree all the terms and click "Next" to proceed.



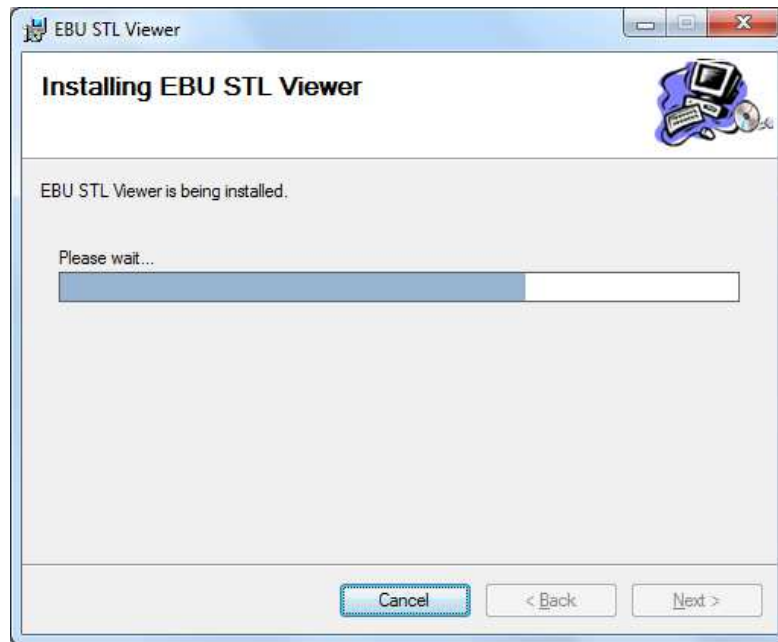
The next window shown specifies the installation product location and user access to the product. Change the destination product folder and user access if needed and click "Next" to proceed.



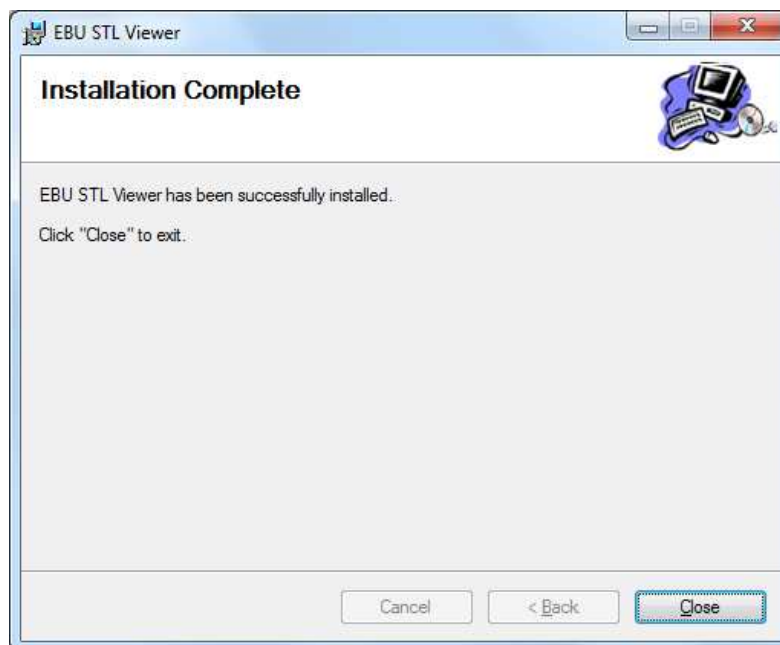
The next dialog is a confirmation dialog. Confirm by clicking "Next" in order to start the installation procedure.



While the product is being installed an "Installing" window shows the installation progress. Wait until the product is being installed.



At the end an "Installation Complete" dialog pops up, which denotes the successful EBU STL Viewer installation. Click "Close" to finalize the process.





## 2.2 Uninstalling EBU STL Viewer

The application can be removed opening the Control Panel – Programs and Features. Select the **EBU STL Viewer** application and click Uninstall.

## 3. Functions

The following functions are available from the application **File** menu.

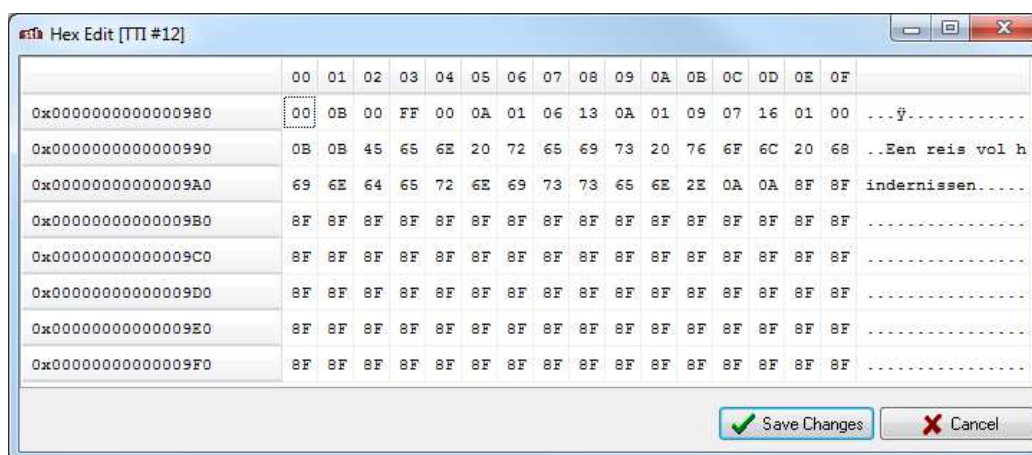
**Open** – Opens a file open dialog box for selecting subtitle file for loading.

**Close** – Closes the opened file and clears the tree and hex views.

**Exit** – Closes the application.

The following functions are available from the application **Tools** menu.

**Hex Edit GSI** – Opens a Hex Edit dialog box for byte hex manipulating the binary data of the GSI block.



By double-clicking on the byte cell, the form will enter into byte editing mode, making it possible to change the value of the selected byte cell. The byte cells with values different from the values of the original file are marked in red. **Save Changes** button will save the altered bytes to the

original file. **Cancel** button will exit the form, without altering the original file.

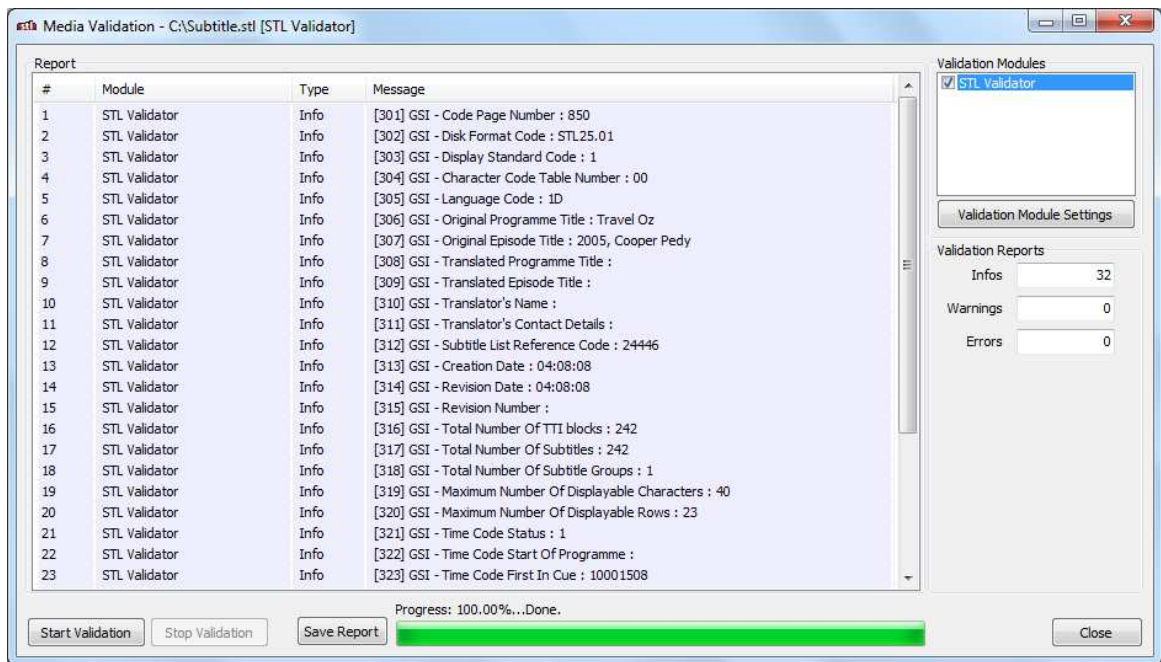
**Hex Edit TTI** – Opens a Hex Edit dialog box for byte hex manipulating the binary data of the selected TTI block from the list view.

**Export** – The function can be used for exporting the currently opened EBU STL file to a text subtitle format. The following export subtitle formats are supported:

- Advanced Substation Alpha
- AQTitle
- DKS Subtitle Format
- JACOSub
- Karaoke Lyrics LRC
- MPlayer
- MPlayer 2
- OVR Script
- Panimator
- Phoenix Japanimation Society
- Power DivX
- Softitler RTF
- Sasami Script
- MacSUB
- Spruce DVDMaestro
- SubRip
- SubStation Alpha
- Sonic Scenarist
- Stream SubText Player
- Stream SubText Script
- Spruce Subtitle File
- Softni
- SonicDVD Creator
- DVDSubtitle
- MicroDVD

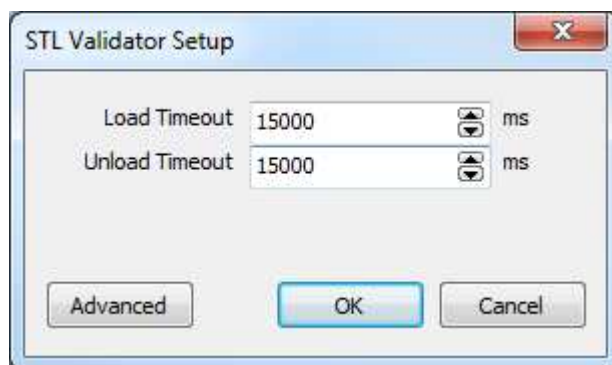
- MPSub
- Philips SVCD Designer
- SubSonic
- SubViewer 1
- SubViewer 2
- Turbo Titler
- Adobe Encore DVD
- Captions 32
- Captions
- CPC-600
- DVD Junior
- DVD Subtitle System
- FAB Subtitler
- I-Author Script
- Inscriber CG
- MAC DVD Studio Pro
- Pinnacle Impression
- PowerPixel
- QuickTime Text
- SubCreator 1
- TMPlayer
- Ulead DVD Workshop 2
- Karaoke Lyrics VKT
- ViPlay Subtitle File
- ZeroG

**Validation** – Performs validation and verification of the EBU STL subtitle file format. The function opens the media validation dialog from where the validation process can be started.



Once the Media Validation dialog is opened, the validation process can be started by pressing the “Start Validation” button. During the validation, the process can be stopped by pressing the “Stop Validation” button. The validation Report table contains four columns. The first column is the index of the validation report starting from 1. The second column denotes the validation module name. At this point EBU STL Viewer supports only “STL Validator” module. The third column denotes each report type, which can be “Info” for informational report, “Warning” for warning report and “Error” for error report. The fourth column contains the Validation ID and the report message.

The button “Settings” opens the validation module settings dialog.

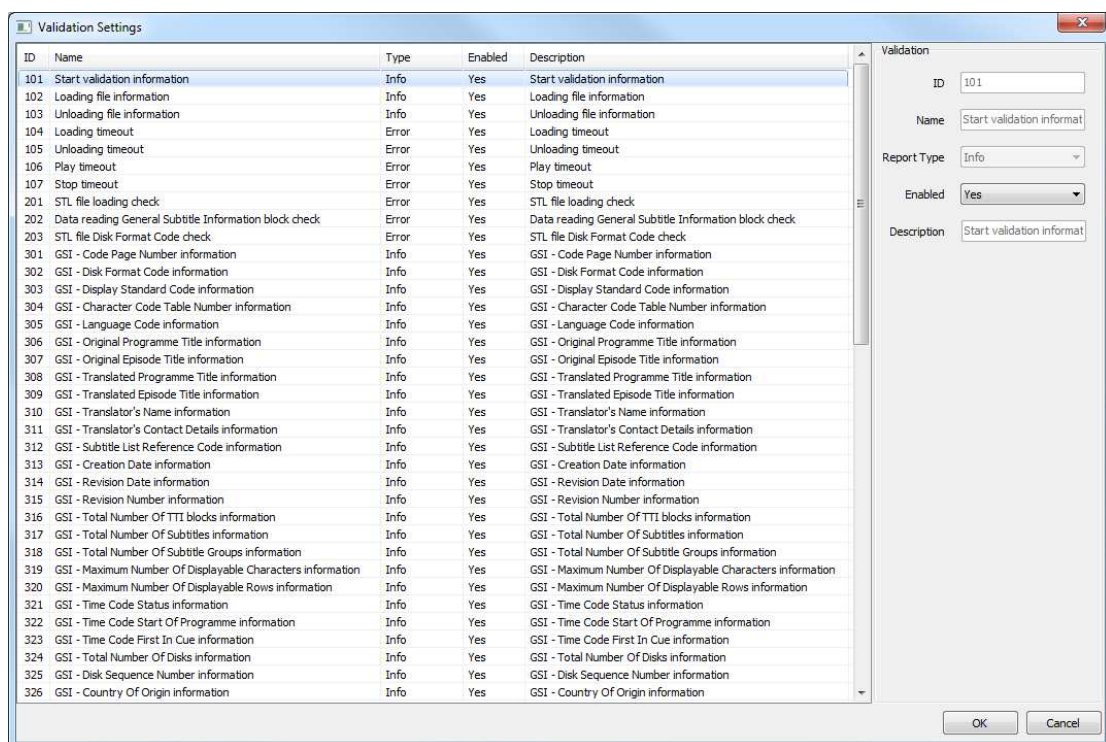


From the validation module settings dialog it is possible to control the loading and unloading timeout.

**Load Timeout** denotes the timeout, in milliseconds, for the media file loading process.

**Unload Timeout** denotes the timeout, in milliseconds, for the media file unloading process.

The advanced settings are also accessible from this dialog by pressing the “Advanced” button.



From the Validation Settings dialog it is possible to control all validation procedures. All validation procedures can be Disabled/Enabled and the report type of some can be switched to “Info”, “Warning” or “Error” depending on each custom workflow. The validation customization allows easy integration of the product in every workflow.

The button “Save Report” saves the validation report into XML validation report file, which allows integration with third party systems.

The button “Close” closes the Media Validation dialog.

For more information about the validation checks go to Chapter 4.

The following functions are available from the application **Options** menu.

**Font** – Opens a font selection form. The selected font is applied to the TTI list view and TTI tree view.

**Encoding** – Opens a submenu of text encoding code pages. Along with the standard code pages it is possible to choose a custom code page by selecting “Other” encoding. This will open a small dialog for code page selection.

The following functions are available from the application **Help** menu.

**Registration** – Opens the product registration form. This function is available only in the full licensed version of the product.

**Check For Updates** – Enables/Disables automatic check for updates.

**About** – Opens the About dialog box of the product.

## 4. Validation

STL Validation Module provides validation of the EBU STL subtitle file, according to the EBU “Specification of the EBU Subtitling data exchange format” – TECH 3264 specification. The validation process examines and validates the internal General Subtitle Information (GSI) block and all Text and Timing Information (TTI) blocks structure. The validation of a single EBU

STL subtitle file takes only a few second, thus enabling the product for fast processing of big number of local or remote files.

The following list contains some of the verifications, which are applied by this validation module:

- GSI block size and completeness validation
- GSI block structure and fields validation
- File size and declared TTI blocks validation
- TTI blocks completeness validation
- TTI blocks structure and fields validation

The following list contains some of the information fields, which are displayed by this validation module:

- GSI block fields

The following validation checks are available for this module:

**ID :** 101

**Name :** 'Start validation information'

**Type :** Info

**Description :** Reports information on file validation start.

**ID :** 102

**Name :** 'Loading file information'

**Type :** Info

**Description :** Reports information on file load.

**ID :** 103

**Name :** 'Unloading file information'

**Type :** Info

**Description :** Reports information on file unload.

**ID :** 104

**Name :** 'Loading timeout'

**Type :** Error

**Description :** Reports load timeout if the loading time is greater than the maximum loading time specified in the main property page of the validation module.

**ID :** 105

**Name :** 'Unloading timeout'

**Type :** Error

**Description :** Reports unload timeout if the unloading time is greater than the maximum unloading time specified in the main property page of the validation module.

**ID :** 201

**Name :** 'STL file loading check'

**Type :** Error

**Description :** Reports STL files, which cannot be loaded.

**ID :** 202

**Name :** 'Data reading General Subtitle Information block check'

**Type :** Error

**Description :** Reports insufficient data reading the General Subtitle Information block.

**ID :** 203

**Name :** 'STL file Disk Format Code check'

**Type :** Error

**Description :** Reports invalid Disk Format Code value in the GSI block.

**ID :** 301

**Name :** 'GSI - Code Page Number information'

**Type :** Info

**Description :** Reports the Code Page Number value in the GSI block.



**ID :** 302

**Name :** ' GSI - Disk Format Code information'

**Type :** Info

**Description :** Reports the Disk Format Code value in the GSI block.

**ID :** 303

**Name :** ' GSI - Display Standard Code information'

**Type :** Info

**Description :** Reports the Display Standard Code value in the GSI block.

**ID :** 304

**Name :** ' GSI - Character Code Table Number information'

**Type :** Info

**Description :** Reports the Character Code Table Number value in the GSI block.

**ID :** 305

**Name :** ' GSI - Language Code information'

**Type :** Info

**Description :** Reports the Language Code value in the GSI block.

**ID :** 306

**Name :** ' GSI - Original Programme Title information'

**Type :** Info

**Description :** Reports the Original Programme Title value in the GSI block.

**ID :** 307

**Name :** ' GSI - Original Episode Title information'

**Type :** Info

**Description :** Reports the Original Episode Title value in the GSI block.

**ID :** 308

**Name :** ' GSI - Translated Programme Title information'

**Type :** Info

**Description** : Reports the Translated Programme Title value in the GSI block.

**ID** : 309

**Name** : ' GSI - Translated Episode Title information'

**Type** : Info

**Description** : Reports the Translated Episode Title value in the GSI block.

**ID** : 310

**Name** : ' GSI - Translator's Name information'

**Type** : Info

**Description** : Reports the Translator's Name value in the GSI block.

**ID** : 311

**Name** : ' GSI - Translator's Contact Details information'

**Type** : Info

**Description** : Reports the Translator's Contact Details value in the GSI block.

**ID** : 312

**Name** : ' GSI - Subtitle List Reference Code information'

**Type** : Info

**Description** : Reports the Subtitle List Reference Code value in the GSI block.

**ID** : 313

**Name** : ' GSI - Creation Date information'

**Type** : Info

**Description** : Reports the Creation Date value in the GSI block.

**ID** : 314

**Name** : ' GSI - Revision Date information'

**Type** : Info

**Description** : Reports the Revision Date value in the GSI block.

**ID :** 315

**Name :** ' GSI - Revision Number information'

**Type :** Info

**Description :** Reports the Revision Number value in the GSI block.

**ID :** 316

**Name :** ' GSI - Total Number Of TTI blocks information'

**Type :** Info

**Description :** Reports the Total Number Of TTI blocks value in the GSI block.

**ID :** 317

**Name :** ' GSI - Total Number Of Subtitles information'

**Type :** Info

**Description :** Reports the Total Number Of Subtitles value in the GSI block.

**ID :** 318

**Name :** ' GSI - Total Number Of Subtitle Groups information'

**Type :** Info

**Description :** Reports the Total Number Of Subtitle Groups value in the GSI block.

**ID :** 319

**Name :** ' GSI - Maximum Number Of Displayable Characters information'

**Type :** Info

**Description :** Reports the Maximum Number Of Displayable Characters value in the GSI block.

**ID :** 320

**Name :** ' GSI - Maximum Number Of Displayable Rows information'

**Type :** Info

**Description :** Reports the Maximum Number Of Displayable Rows value in the GSI block.

**ID :** 321

**Name :** ' GSI - Time Code Status information'

**Type :** Info

**Description :** Reports the Time Code Status value in the GSI block.

**ID :** 322

**Name :** ' GSI - Time Code Start Of Programme information'

**Type :** Info

**Description :** Reports the Time Code Start Of Programme value in the GSI block.

**ID :** 323

**Name :** ' GSI - Time Code First In Cue information'

**Type :** Info

**Description :** Reports the Time Code First In Cue value in the GSI block.

**ID :** 324

**Name :** ' GSI - Total Number Of Disks information'

**Type :** Info

**Description :** Reports the Total Number Of Disks value in the GSI block.

**ID :** 325

**Name :** ' GSI - Disk Sequence Number information'

**Type :** Info

**Description :** Reports the Disk Sequence Number value in the GSI block.

**ID :** 326

**Name :** ' GSI - Country Of Origin information'

**Type :** Info

**Description :** Reports the Country Of Origin value in the GSI block.

**ID :** 327

**Name :** ' GSI - Publisher information'

**Type :** Info

**Description :** Reports the Publisher value in the GSI block.

**ID :** 328

**Name :** ' GSI - Editor's Name information'

**Type :** Info

**Description :** Reports the Editor's Name value in the GSI block.

**ID :** 329

**Name :** ' GSI - Editor's Contact Details information'

**Type :** Info

**Description :** Reports the Editor's Contact Details value in the GSI block.

**ID :** 401

**Name :** ' STL file size and Text And Timing Information blocks count check'

**Type :** Error

**Description :** Reports invalid file size and reported Text And Timing Information blocks count.

**ID :** 402

**Name :** ' GSI - Code Page Number check'

**Type :** Error

**Description :** Reports invalid Code Page Number value in the GSI block.

**ID :** 403

**Name :** ' GSI - Data Format Code check'

**Type :** Error

**Description :** Reports invalid Data Format Code value in the GSI block.

**ID :** 404

**Name :** ' GSI - Display Standard Code check'

**Type :** Error

**Description :** Reports invalid Display Standard Code value in the GSI block.

**ID :** 405

**Name** : ' GSI - Character Code Table Number check'

**Type** : Error

**Description** : Reports invalid Character Code Table Number value in the GSI block.

**ID** : 406

**Name** : ' GSI - Language Code check'

**Type** : Error

**Description** : Reports invalid Language Code value in the GSI block.

**ID** : 407

**Name** : ' GSI - Creation Date check'

**Type** : Error

**Description** : Reports invalid Creation Date value in the GSI block.

**ID** : 408

**Name** : ' GSI - Revision Date check'

**Type** : Error

**Description** : Reports invalid Revision Date value in the GSI block.

**ID** : 409

**Name** : ' GSI - Revision Number check'

**Type** : Error

**Description** : Reports invalid Revision Number value in the GSI block.

**ID** : 410

**Name** : ' GSI - Total Number of TTI Blocks check'

**Type** : Error

**Description** : Reports invalid Total Number of TTI Blocks value in the GSI block.

**ID** : 411

**Name** : ' GSI - Total Number of Subtitles check'

**Type** : Error

**Description** : Reports invalid Total Number of Subtitles value in the GSI block.

**ID** : 412

**Name** : ' GSI - TNS and TNB check'

**Type** : Error

**Description** : Reports invalid Total Number of Subtitles value related to the Total Number of TTI blocks.

**ID** : 413

**Name** : ' GSI - Total Number of Subtitle Groups check'

**Type** : Error

**Description** : Reports invalid Total Number of Subtitles value in the GSI block.

**ID** : 414

**Name** : ' GSI - Maximum Number of Displayable Characters check'

**Type** : Error

**Description** : Reports invalid Maximum Number of Displayable Characters value in the GSI block.

**ID** : 415

**Name** : ' GSI - Maximum Number of Displayable Rows check'

**Type** : Error

**Description** : Reports invalid Maximum Number of Displayable Rows value in the GSI block.

**ID** : 416

**Name** : ' GSI - Time Code Status check'

**Type** : Error

**Description** : Reports invalid Time Code Status value in the GSI block.

**ID** : 417

**Name** : ' GSI - Time Code Start-of-Programme check'

**Type** : Error

**Description** : Reports invalid Time Code Start-of-Programme value in the GSI block.

**ID** : 418

**Name** : ' GSI - Time Code First in-cue check'

**Type** : Error

**Description** : Reports invalid Time Code First in-cue value in the GSI block.

**ID** : 419

**Name** : ' GSI - Total Number of Disks check'

**Type** : Error

**Description** : Reports invalid Total Number of Disks value in the GSI block.

**ID** : 420

**Name** : ' GSI - Disk Sequence Number check'

**Type** : Error

**Description** : Reports invalid Disk Sequence Number value in the GSI block.

**ID** : 421

**Name** : ' GSI - DSN and TND check'

**Type** : Error

**Description** : Reports invalid Disk Sequence Number value related to the Total Number of Disks.

**ID** : 422

**Name** : ' STL file size smaller than the announced TTI blocks count check'

**Type** : Error

**Description** : Reports smaller STL file size than the reported TTI blocks count announced in the GSI block.

**ID** : 423



**Name** : ' STL file size bigger than the announced TTI blocks count check'

**Type** : Warning

**Description** : Reports bigger STL file size than the reported TTI blocks count announced in the GSI block.

**ID** : 424

**Name** : ' TTI blocks completeness check'

**Type** : Error

**Description** : Reports incomplete or missing TTI blocks at the end of the file.

**ID** : 425

**Name** : ' TTI - Duplicate Subtitle Number check'

**Type** : Warning

**Description** : Reports duplicated Subtitle Number value in the TTI block.

**ID** : 426

**Name** : ' TTI - Equal or Subsequent Subtitle Number check'

**Type** : Error

**Description** : Reports non equal or subsequent Subtitle Number announced in the TTI block.

**ID** : 427

**Name** : ' TTI - Cumulative Status check'

**Type** : Error

**Description** : Reports invalid Cumulative Status value announced in the TTI block.

**ID** : 428

**Name** : ' TTI - Time Code In - Hours check'

**Type** : Error

**Description** : Reports invalid Time Code In - Hours value announced in the TTI block.

**ID** : 429

**Name** : ' TTI - Time Code In - Minutes check'

**Type** : Error

**Description** : Reports invalid Time Code In - Minutes value announced in the TTI block.

**ID** : 430

**Name** : ' TTI - Time Code In - Seconds check'

**Type** : Error

**Description** : Reports invalid Time Code In - Seconds value announced in the TTI block.

**ID** : 431

**Name** : ' TTI - Time Code In - Frames check'

**Type** : Error

**Description** : Reports invalid Time Code In - Frames value announced in the TTI block.

**ID** : 432

**Name** : ' TTI - Time Code Out - Hours check'

**Type** : Error

**Description** : Reports invalid Time Code Out - Hours value announced in the TTI block.

**ID** : 433

**Name** : ' TTI - Time Code Out - Minutes check'

**Type** : Error

**Description** : Reports invalid Time Code Out - Minutes value announced in the TTI block.

**ID** : 434

**Name** : ' TTI - Time Code Out - Seconds check'

**Type** : Error

**Description** : Reports invalid Time Code Out - Seconds value announced in the TTI block.

**ID :** 435

**Name :** ' TTI - Time Code Out - Frames check'

**Type :** Error

**Description :** Reports invalid Time Code Out - Frames value announced in the TTI block.

**ID :** 436

**Name :** ' TTI - Time Code In value is equal to the Time Code Out check'

**Type :** Error

**Description :** Reports equal Time Code In and Time Code Out values announced in the TTI block.

**ID :** 437

**Name :** ' TTI - Time Code In value is greater than the Time Code Out check'

**Type :** Error

**Description :** Reports greater Time Code In value than the Time Code Out value announced in the TTI block.

**ID :** 438

**Name :** ' TTI - Vertical Position check'

**Type :** Error

**Description :** Reports invalid Vertical Position values announced in the TTI block.

**ID :** 439

**Name :** ' TTI - Justification Code check'

**Type :** Error

**Description :** Reports invalid Justification Code values announced in the TTI block.

**ID :** 440

**Name :** ' TTI - Comment Flag check'

**Type :** Error

**Description** : Reports invalid Comment Flag values announced in the TTI block.

**ID** : 441

**Name** : ' TTI - Reserved Chars check'

**Type** : Error

**Description** : Reports on reserved chars discovery in the TTI block. Reserved chars are in the following ranges: 0x86..0x89, 0x8B..0x8E and 0x90..0x9F.

**ID** : 501

**Name** : ' TTI - Comment Flag set'

**Type** : Info

**Description** : Reports if the Comment Flag is set in the TTI block.