Compar Pro™

Compar™

User Manual

Version 9.7.7.207

GRAYMETA

Foreword

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1 Introduction

1.1 Overview

GrayMeta Compar Pro is a powerful video comparison tool that helps professionals quickly identify differences between two video files. Unlike traditional methods that rely on filenames or file sizes, Compar Pro analyzes videos frame by frame to detect technical and visual changes, such as compression artifacts, shot replacements, watermarks, or AI-generated edits.

Designed for media teams, forensic experts, and archivists, Compar Pro ensures accuracy in quality control, legal validation, and content management.

This manual provides step-by-step guidance for installing, setting up, and using Compar Pro effectively. It covers essential tasks such as running comparisons, interpreting results, and customizing analysis settings.

Since Compar Pro is built from the core functionality of Iris QC Pro, this manual only covers the specific features and functionality for the use of Compar Pro. For further information on all the general settings, please visit www.graymeta.com/downloads/ for the latest Iris QC Pro user manual.

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2 Installation

2.1 Installing Compar Pro

a) Please download the installer from www.graymeta.com/downloads/
b) Run the installer and follow the step-by-step instructions on screen.



2.2 Starting Compar Pro

Double-click the GrayMeta Compar Pro shortcut on the desktop to start. Or from the startup menu to start the application.

2.3 Licensing

Compar Pro should be licensed using a locally stored license file. The local license requires importing the licensing file (see section 3.2.2.4). Licenses can be unlimited or use start and end dates. Please contact support.graymeta.com to obtain a license.

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3 Using Compar Pro

3.1 The Main Player

3.1.1 Component Windows

1 - Source file 1 player window

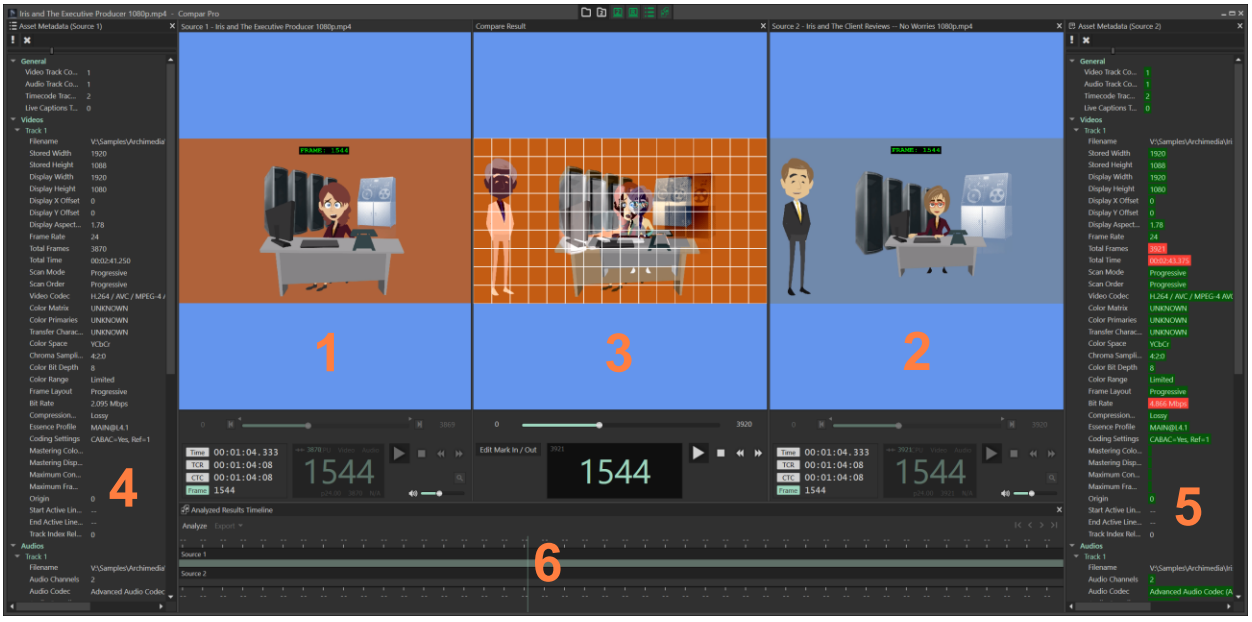
2 - Source file 2 player window

3 - Comparison Results window

4 - Source file 1 Asset Metadata window

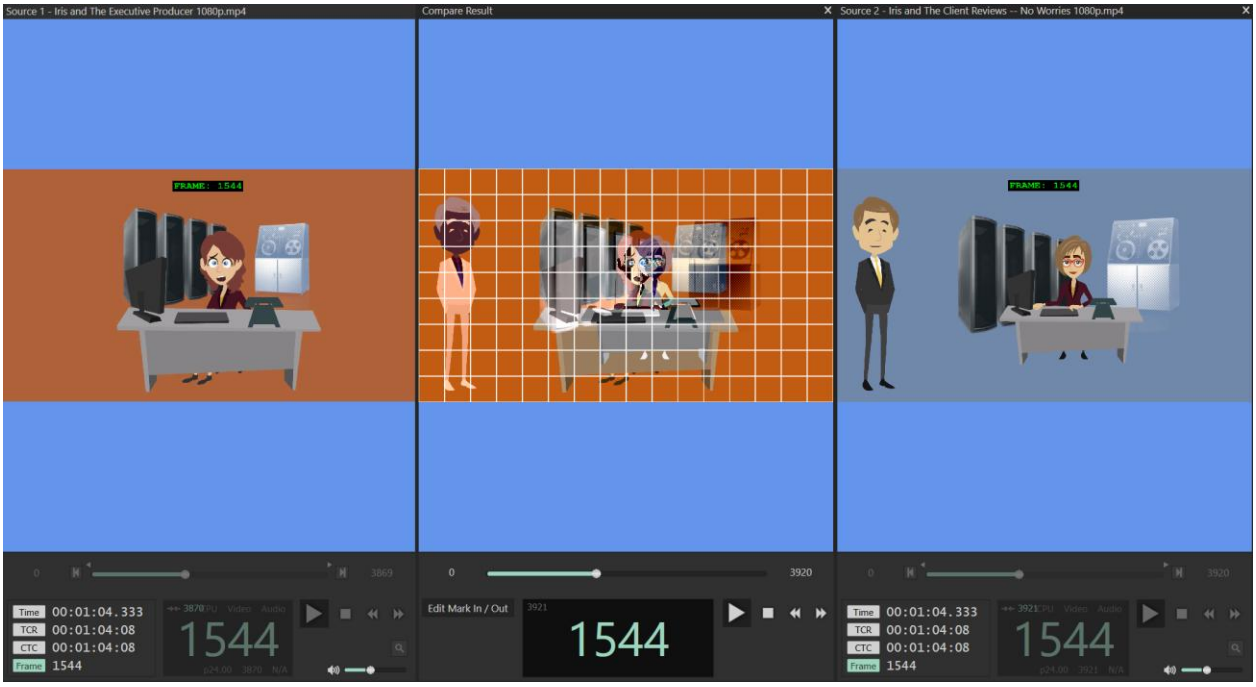
5 - Source file 2 Asset Metadata window

6 - Analyzer timeline window



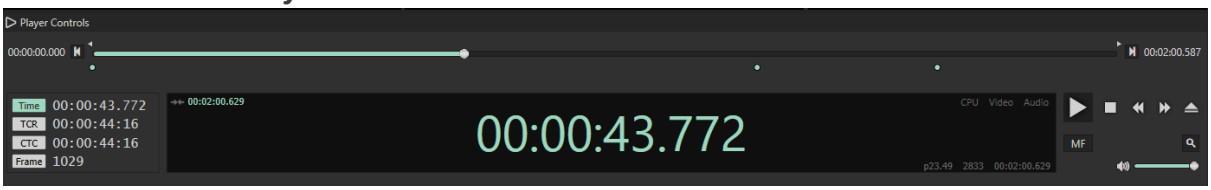
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3.1.2 Source 1, 2 and Results Windows

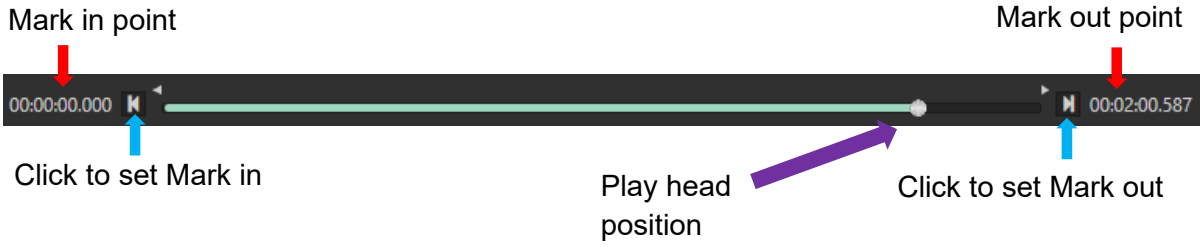


Right click on the Source 1 and 2 windows to bring up a context menu to load a file into each window. The Results window is the difference of Source 1 subtracted from Source 2 for every pixel. Ie. Results(x,y) = Source2(x,y) – Source1(x,y) + 128 (mid grey). The Results window also has a configurable grid that becomes visible when the percentage of differences within each grid box exceeds the threshold set in the Options->Compar page. The grid box is highlighted in real time as both sources are played.

3.1.2.1 Source 1 and 2 Player Controls



The Source 1 and 2 player controls become active only when in edit mode. To edit the mark in and out positions of each source, press the “Edit Mark In/Out” button on the Results window panel. The play head indicates the current position of the playback and allows the user to jump to any position of the video. Set the mark in and out points if required otherwise the entire duration of the clip is used.

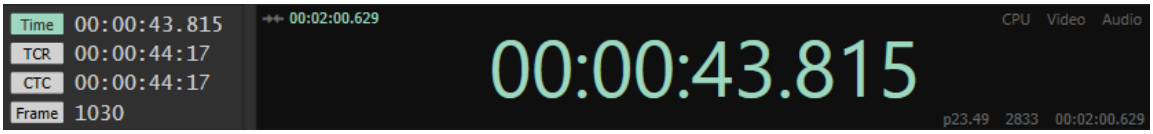


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3.1.2.1.1 Time Display

Current display mode: **Tape Time Code (TCR), Control Time Code (CTC), Time position (TIME) or absolute FRAME**. Click on the “Time”, “TCR”, “CTC” or “Frame” buttons to select the active mode.

Current display mode: **Tape Time Code (TCR), Control Time Code (CTC), Time position (TIME) or absolute FRAME**. Click on the “Time”, “TCR”, “CTC” or “Frame” buttons to select the active mode.



Time format: hours: minutes: seconds: milliseconds

TCR / CTC format: hours: minutes: seconds: frames. A semi-colon ‘;’ separator between the seconds and frames counter denotes drop-frame timecode.

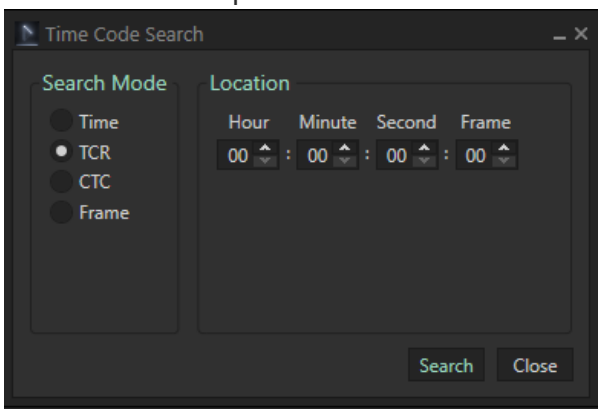
It is possible to jump to a specific position in the video by editing the Time Display. Editing mode is enabled by double-clicking on the time display and entering the new position to jump to followed by ENTER key. Press ESCAPE to cancel edit mode. The current display mode (Time, TCR, CTC and Frame) determines how positional data is interpreted during edit mode, so if the current display mode is in time code, then a time code must be entered during edit mode.

3.1.2.1.2 Player Control

Button	Description
	Stop the current playback.
	Rewind the playback. Supports the following speeds: 2x, 4x, 8x, 16x, 32x and 64x.
	Begin playing the video. Button changes to Pause while playing.
	Pause the playback. Button changes to Play when paused.
	Fast forward the playback. Supports the following speeds: 2x, 4x, 8x, 16x, 32x and 64x.
	Search and jump to position.

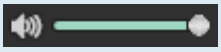
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3.1.2.1.3 Search and Jump



Select the search mode, time code track, control track, play time or absolute frame. Enter the required position and click “Search.” The play position will jump to the specified value if found.

3.1.2.1.4 Audio Control

Button	Description
	Adjust the volume level.
	Click to mute audio.
	Click to un-mute audio.

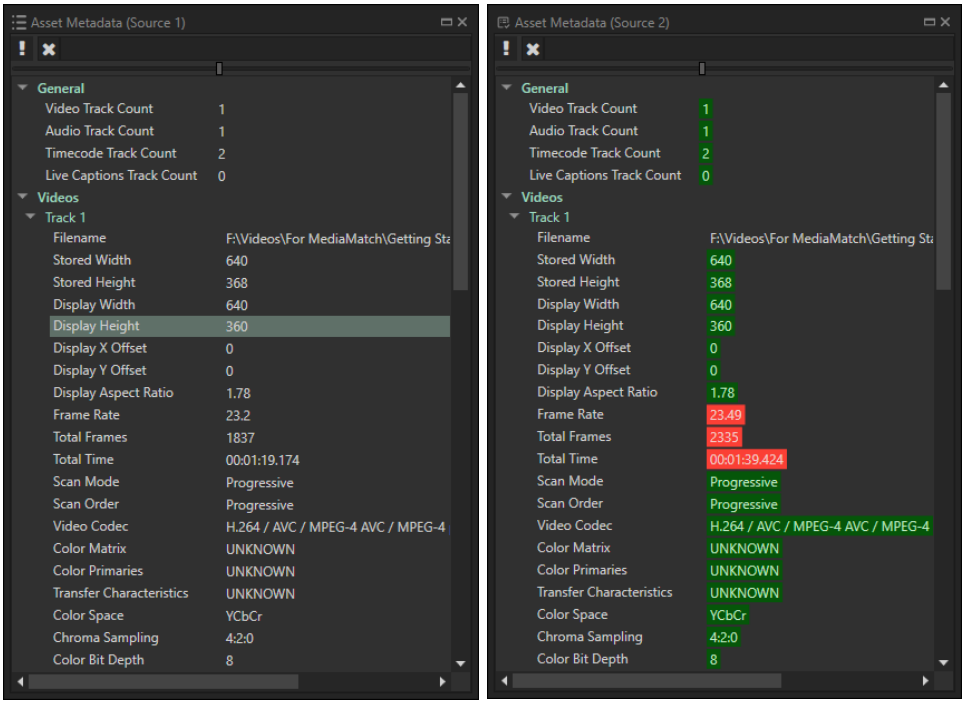
3.1.2.2 Comparison Result Controls



This window has a simplified set of transport controls. It is the combination of both sources with their mark in and out positions. Position 0 represents the mark in frame position of both the sources. The end frame represents the largest duration (mark out minus mark in) of both sources. The seek bar, fast forward and rewind buttons can be used to play, jog and shuttle both sources and see the differences in real-time. The displayed number is always in frames.

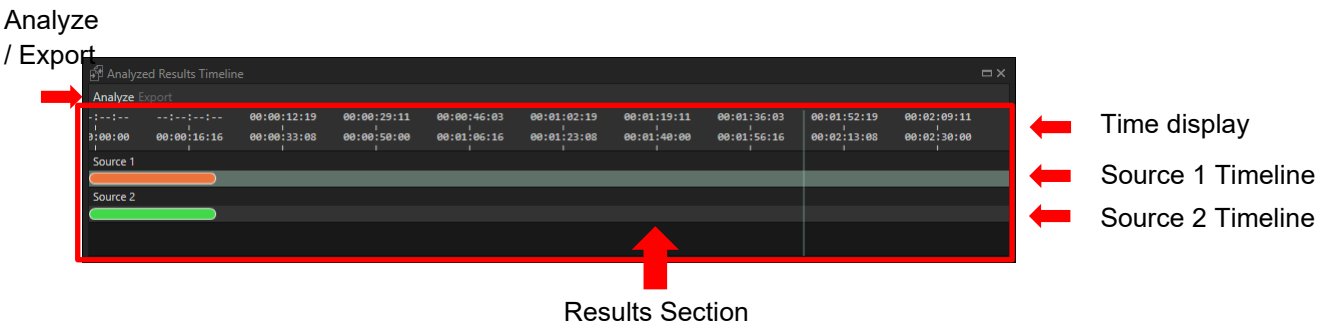
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3.1.3 Asset Metadata Windows



Since there are two sources, there are two windows for asset metadata, one window for each source. A list of the media package's metadata is displayed in each window. Any differences in the data will then be highlighted in red, otherwise in green in the window for source 2.

3.1.4 Analyzed Results Timeline Window



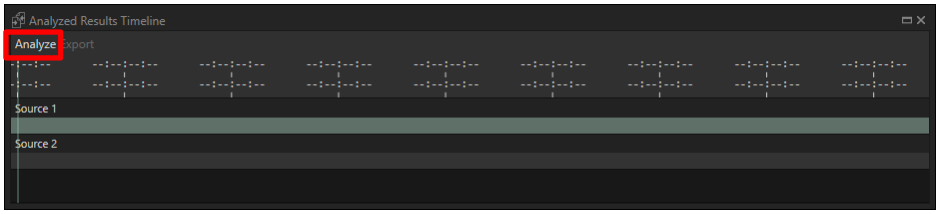
Analyzed Results Timeline is a tool to pick up 3 types of differences (changes, additions and removals) from the sources.

The Results Section consists of 3 parts, Time Display, Source 1 Timeline and Source 2 Timeline.

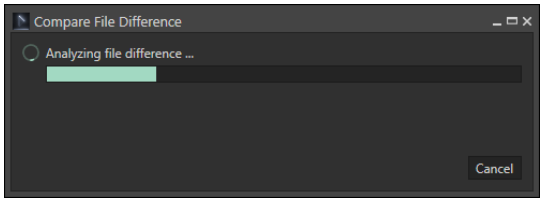
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3.1.4.1 *Analyze*

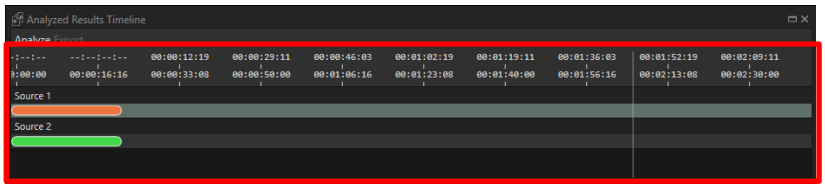
After Source 1 and 2 have been loaded and if required, the mark in and out positions set, press the “Analyze” menu to perform a faster than real-time analysis of the differences between the two files.



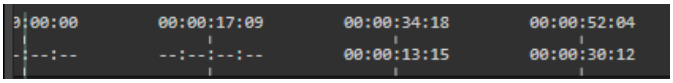
A popup box will display the progress.



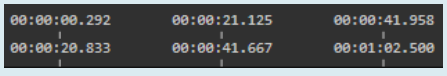
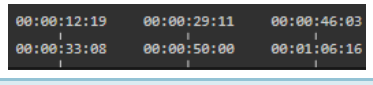
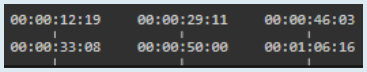
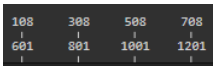
When it is completed, the timeline section will show the results.



3.1.4.2 *Time Display*



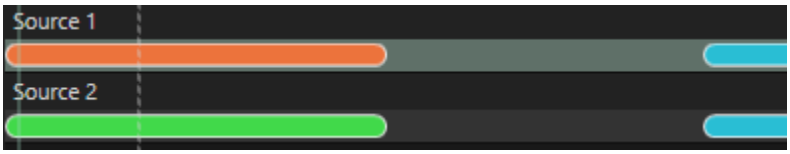
This is an example of a Time Display. It can change the presentation depending on display mode like **Tape Time Code (TCR), Control Time Code (CTC), Time position (TIME) or absolute FRAME**.

Time Display Example	Description
	In **Time position (TIME)** mode
	In **Tape Time Code (TCR)** mode
	In **Control Time Code (CTC)** mode
	In **absolute FRAME** mode

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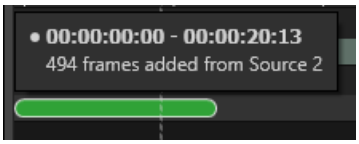
3.1.4.3 Source 1 & Source 2 Timeline

Each source has its own timeline and there are different colors for identification.



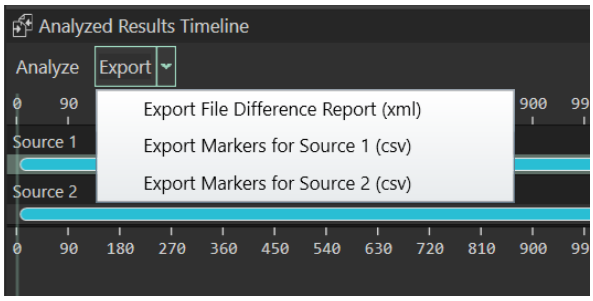
Colors	Type	Description
	Changes	There are differences in specific frames between the 2 sources.
	Additions	There are additional frames in the current source compared with the other.
	Removal	There are missing frames in the current source compared with the other.

When the mouse hovers over the color section, a tooltip will pop up to show the details of that section. Click on the tooltip to jump to the start location of the detected difference.



3.1.4.4 Export

You can export the analyzed results by clicking on “Export” in the Analyzed Result Timeline window. Select what to export from the menu.



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3.2 Menus and Toolbars Options

3.2.1 Toolbar

The toolbar, located on the title bar, provides single-click operations to enable/disable tool windows.

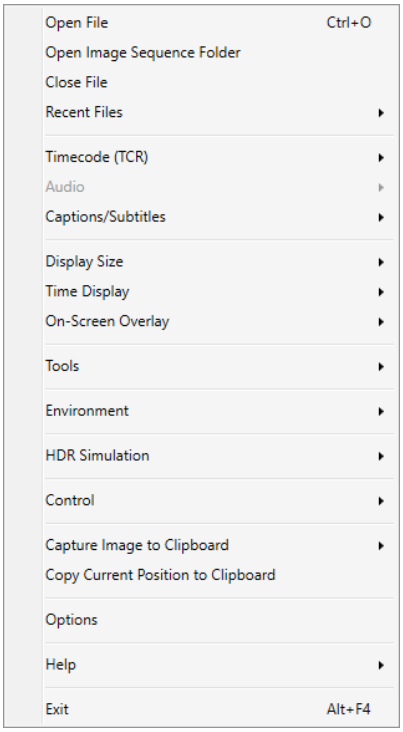


From left to right, the icons in the Toolbar represents:

- Open File for Source 1
- Open File for Source 2
- Show / hide Source 2 window
- Show / hide both Asset Metadata tool windows
- Show / hide Analyzed Results Timeline window

3.2.2 Main Context Menu

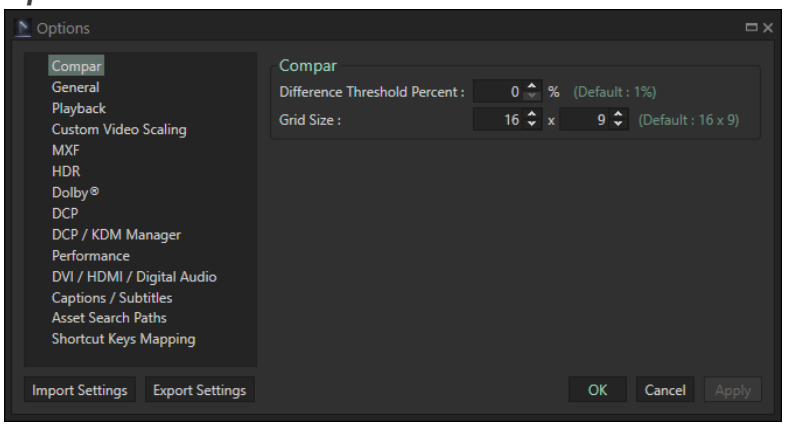
Using the mouse, right-click on the Source 1 window to bring up the main context menu. This menu provides access to most of the features and functions of Compar Pro. The Source 2 and Results windows have their own sub-set of menus.



Refer to the Iris QC Pro user manual for general options such as opening a file, selecting timecode and audio tracks, HDR simulation etc.

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3.2.2.1 Options



Compar options.

3.2.2.1.1 Difference Threshold Percent

This affects the threshold of displaying a grid in the Compare Result window. Generally, a grid appears when there is a significant number of pixel differences within the grid. The higher the percentage, the greater number of pixel differences are required to trigger a grid.

Some common values and use cases:

0 – This is the most sensitive level. This will highlight single bit level differences. This can be used for encoder or bitrate testing.

0.001 to 0.1 This can detect differences that are virtually invisible to the naked eye.

to 0.5 – This range can detect very small changes that may be visible to the naked eye under close inspection.

0.7 to 2.0 – This range can detect most visual differences similar to what the naked eye can detect.

10 to 25 – This range can detect large differences. Can be used to discard encoding and format differences and most color space differences.

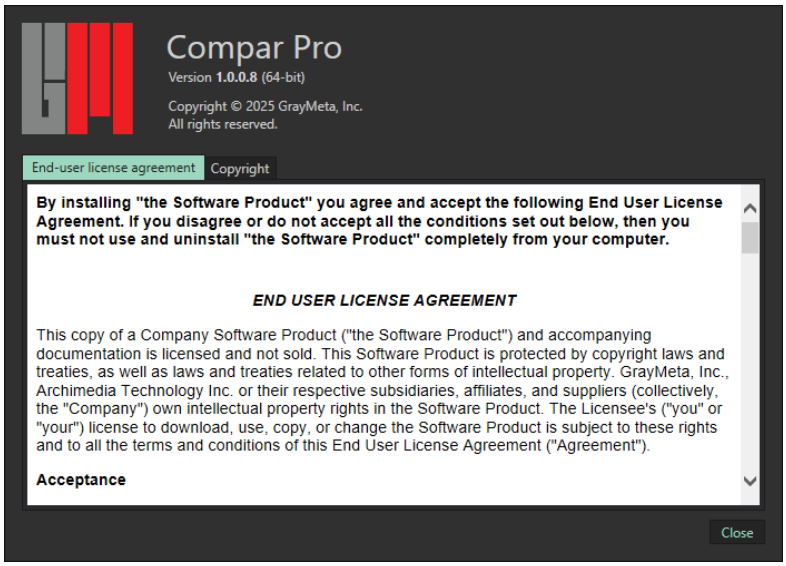
30 to 50 This range can be used to detect very large differences like scene changes but discard all other differences.

3.2.2.1.2 Grid Size

The size of the girds shown in the Compared Result. The grid size is only a visual guide to help the user identify which area of the picture has differences. The default size is 16 x 9.

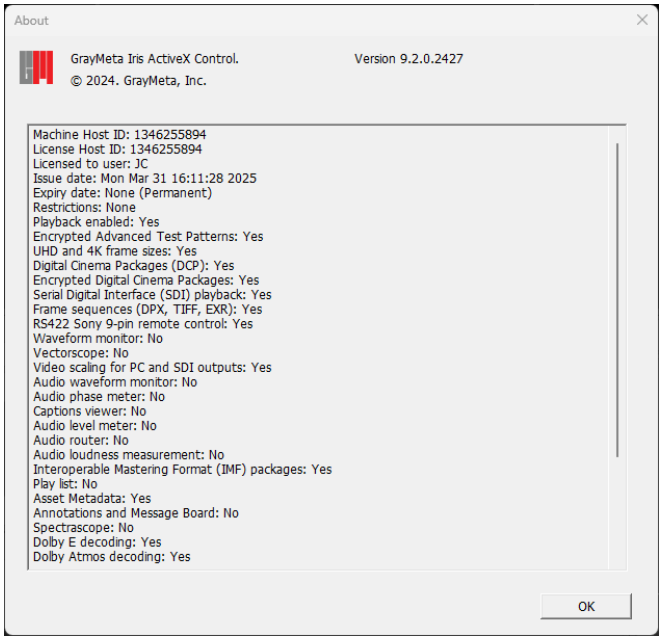
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3.2.2.2 *About*



Opens the **About** window. This is useful for verifying the version number of the running application.

3.2.2.3 *License Information*



This shows the ‘Offline hardware’ license information (expiry time and the Host ID of the machine).

Each license needs to be registered to a machine (in particular, the Host ID). Only one Host ID can be registered at any one time for each license.

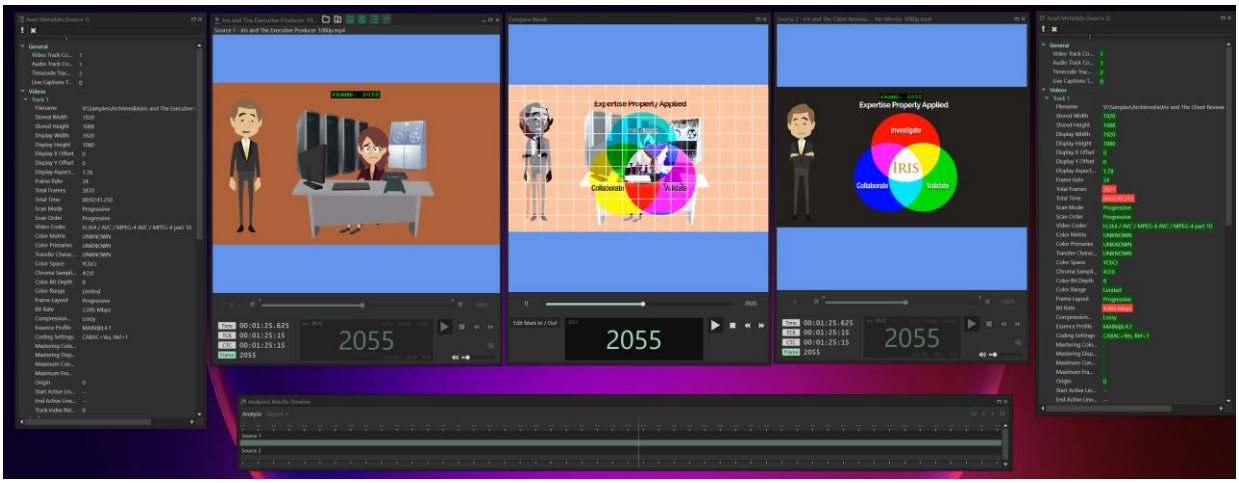
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3.2.2.4 Import license

Select the license file (.lic) to import.

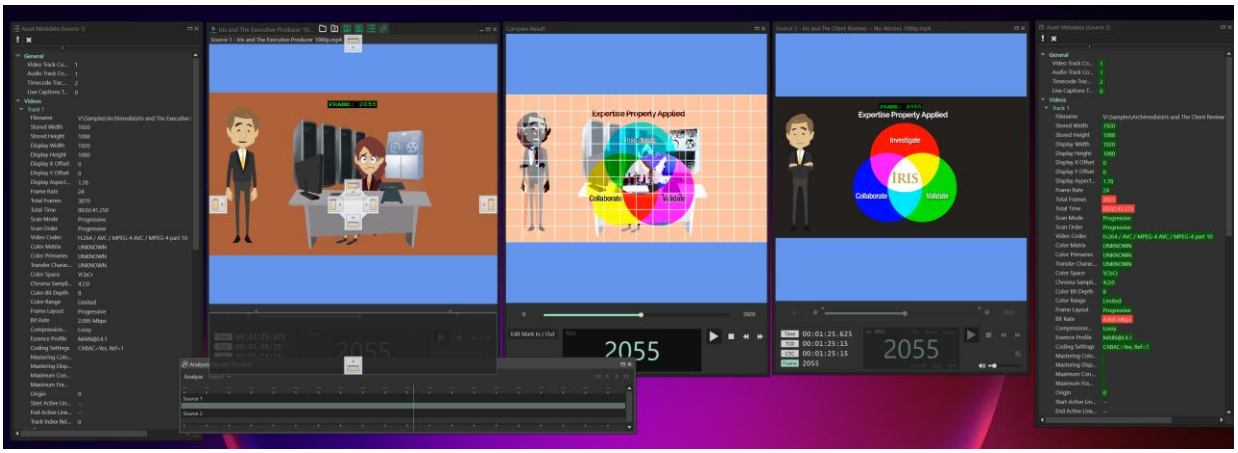
3.3 Docking Windows and Layout

3.3.1 Individual Floating Windows



Compar Pro is comprised of a main player window (Source 1) and a set of ‘tool’ windows that can be placed anywhere on the screen for convenience. You can navigate around the windows and set up a layout that best suits your needs.

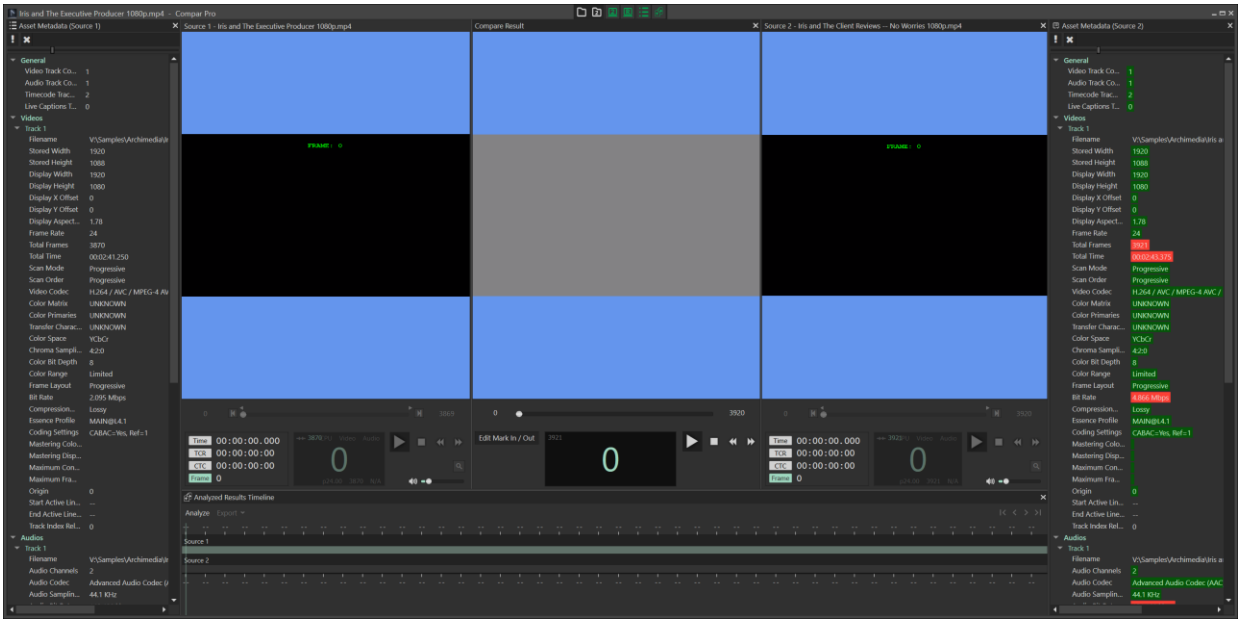
3.3.2 Docking a Window



To dock a window to another window, click and grab the title bar of the window you want to dock and then move the mouse over the window you want to dock to. As the mouse moves over the window, docking ‘handles’ appears in the middle and edges of the window. By

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moving the mouse over the handles, an outline of where the window will dock will be highlighted. Since a window may already contain multiple windows, moving the mouse over different parts of the window will show multiple docking handles. To dock the window, release the mouse button when the desired position is highlighted.



The above shows a typical layout. The dividing borders between the windows can be dragged to resize the windows. To undock a window, click and grab the title bar of the tool window and move it away from its position in any direction. Release the mouse, and the window will reform back to a floating tool window.

3.3.3 Docking Tabs

When you release the mouse over the center handle, the window forms a tabbed layout. To bring a window to the top, click on the tab name on the bottom.

3.3.4 Saving and Restoring the Window Layout

See the ‘Docking Layout’ context menu on how to save and restore a window layout.

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