

Leader

FrameCapture Viewer

Instruction Manual

Read this instruction manual carefully, and use the product safely.

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1. SPECIFICATIONS

1.1 General

This software is an application for loading frame data (.frm files) saved using the frame capture function of a LEADER MULTI MONITOR into a PC and performing data analysis.

1.2 Features

- Single frame data of video signals is displayed two-dimensionally with lines and samples.
- You can specify any line or sample number and display that point.
- Data searching as possible in frame data.
- You can search for errors in frame data detected by the MULTI MONITOR.

1.3 Applicable Data

Frame data saved using the following frame capture function

LV5600, LV7600, LV 5490, LV 5770A, LV 5770, LV 5800A, LV 5800, LV5900A, LV5900

1.4 Operating Environment

Windows 11, Windows 10

1.5 About the Software

- LEADER ELECTRONICS CORP. holds all copyrights to the software.
- Software installation is to be performed under the customer's responsibility.
- It is prohibited to decompile, disassemble, decrypt, extract, or otherwise reverse engineer the software.
- You may not copy, modify, or distribute the software to third parties, or use it for commercial purposes (rental, pseudo rental, selling to third parties, and so on).
- The software is subject to change without prior notice.

2. INSTALLATION AND UNINSTALLATION

2.1 Installation

1. Run the installation program "FrameCaptureViewerInstaller v*.**.msi".
2. Click Next.

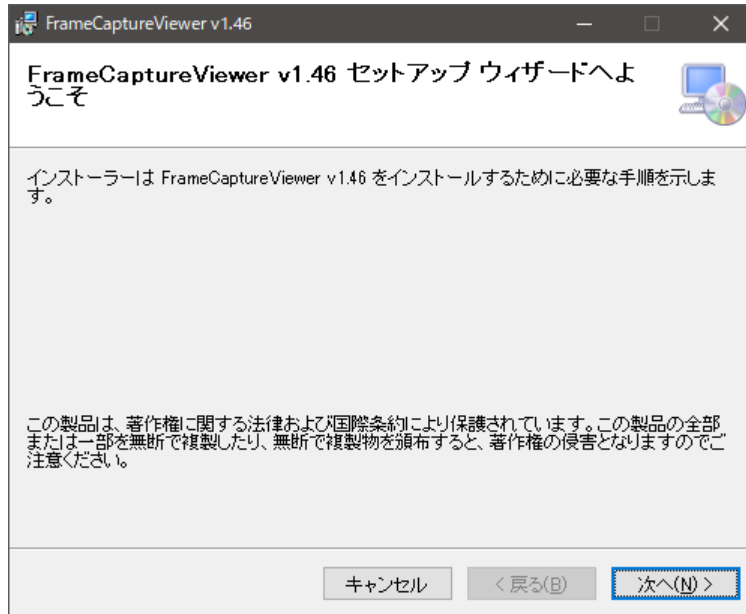


Figure 2-1 Installation 1

3. Set the installation destination, and click Next.

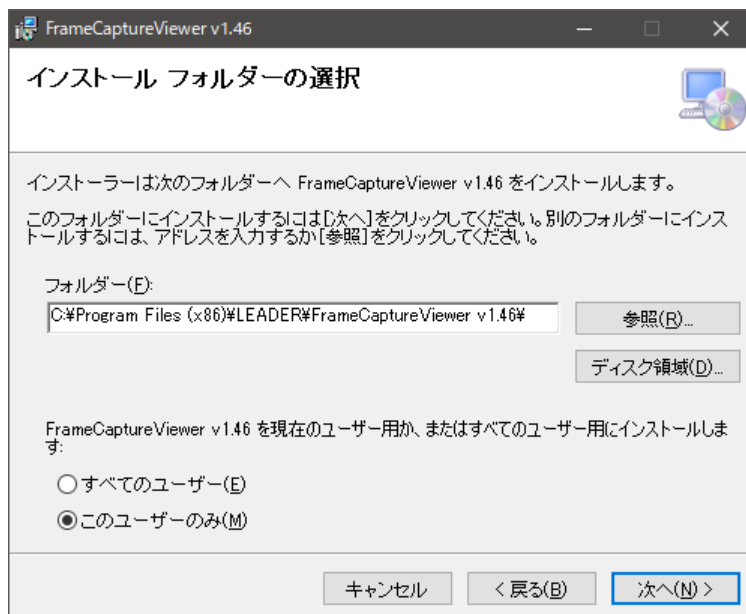


Figure 2-2 Installation 2

2. INSTALLATION AND UNINSTALLATION

4. Click Next.

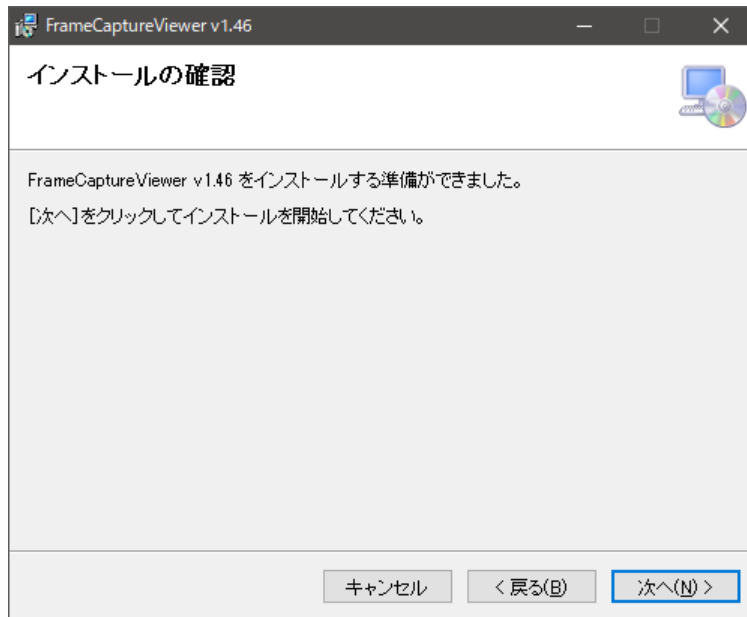


Figure 2-3 Installation 3

5. Click Close to finish the installation.

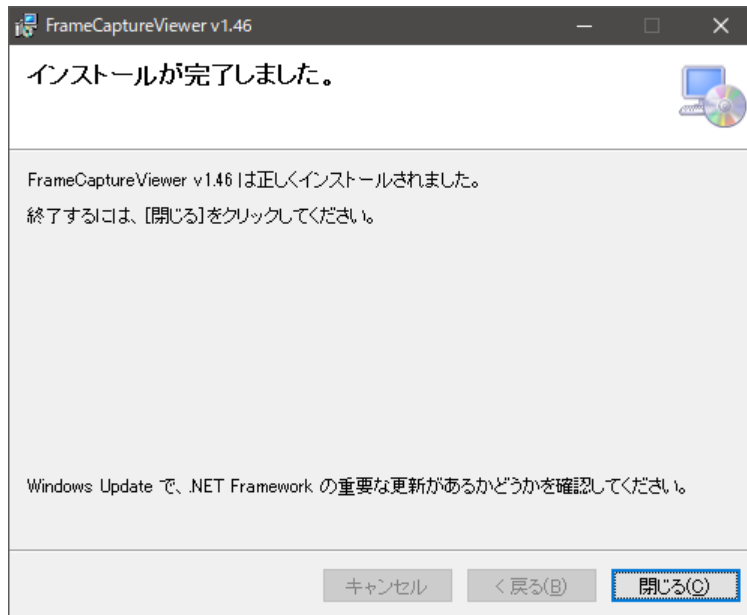


Figure 2-4 Installation 4

2. INSTALLATION AND UNINSTALLATION

2.2 Uninstallation

Under Programs and Features in Control Panel, select “FrameCaptureViewer v *.*”, and click Uninstall.

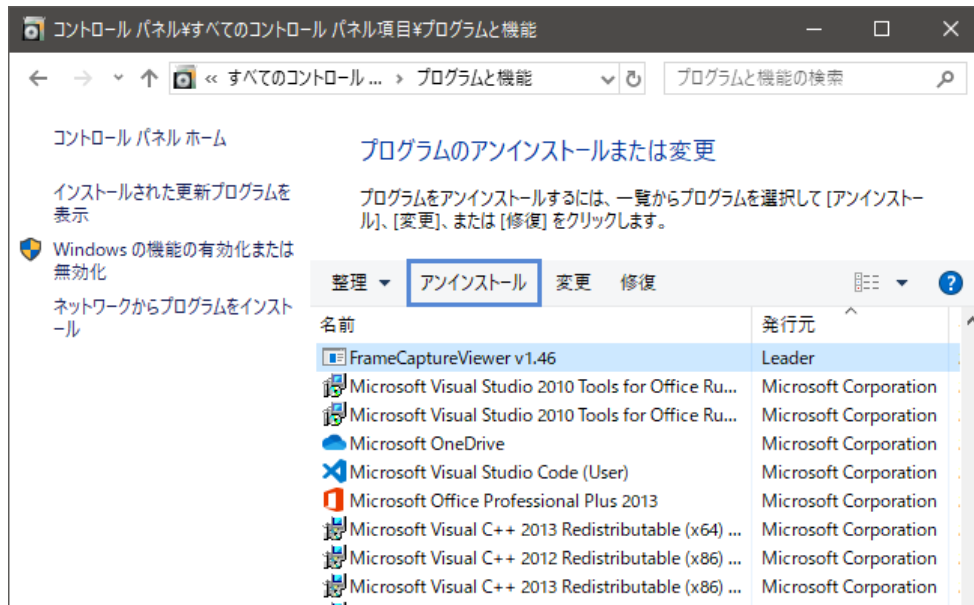


Figure 2-5 Uninstallation

3. HOW TO USE

3.1 Starting the Program

In the installation folder, open “FrameCaptureViewer.exe”. When a file selection dialog box opens, select the frame data you want to view, and click Open.

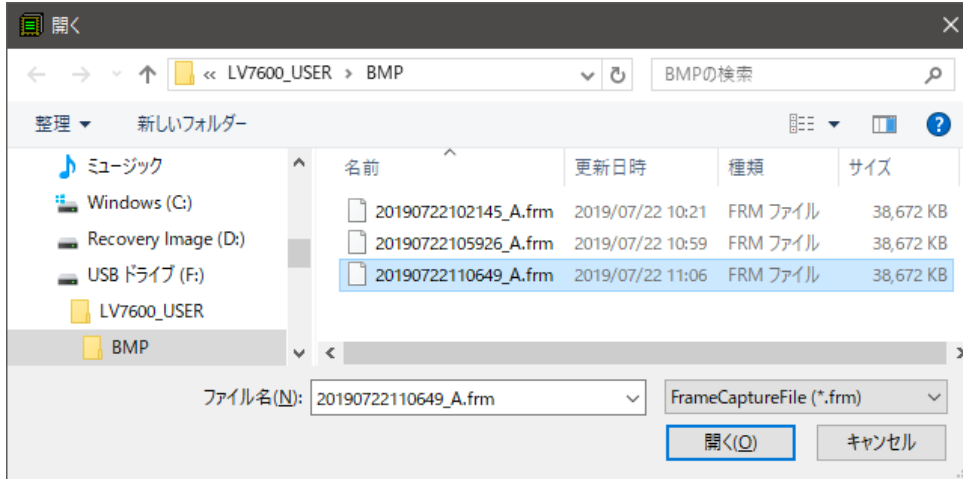


Figure 3-1 File selection dialog box

The main window appears.

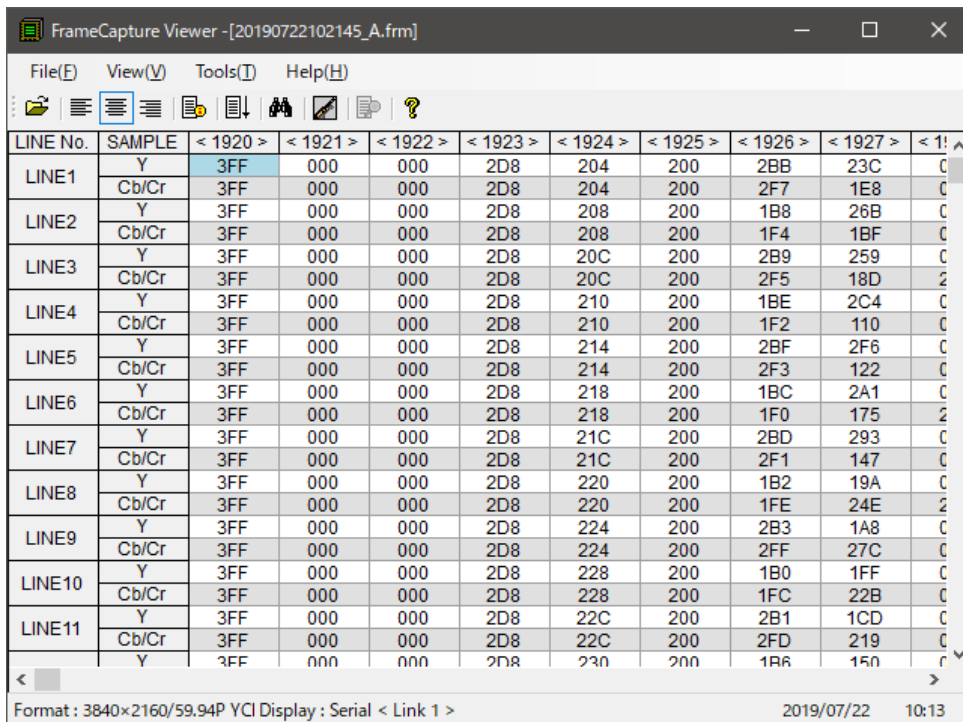


Figure 3-2 Main window

3.2 Closing the Program

From the File menu, select Exit. Or, click  in the upper right of the main window.

4. USER INTERFACE

4.1 File menu

Click the File menu or press Alt+F to display the File menu.

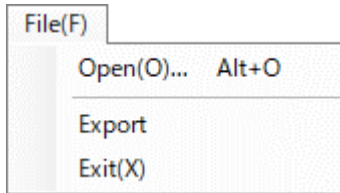


Figure 4-1 File menu

- Open
A file selection dialog box opens where you can select and load frame data.
- Export
Loaded frame data is exported in CSV format. Under the General tab in the Option window, selecting the "Export with Decimal" check box causes the data to be output in decimal notation. If you do not select the check box, data is output in hexadecimal notation.
- Exit
Closes the application.

4.2 View Menu

Click the View menu or press Alt+V to display the View menu.

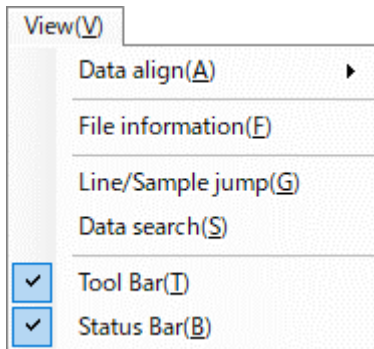
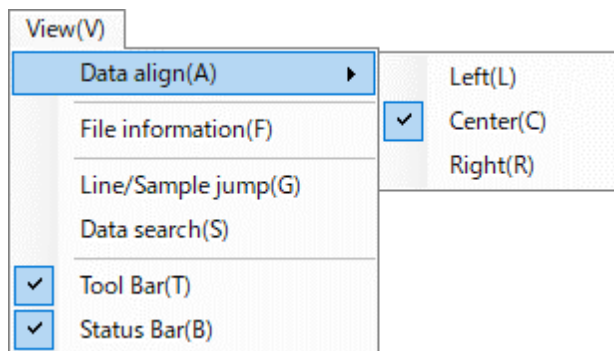


Figure 4-2 View menu

- Data align

Select the data display method in cells.



Left(L) :

Data is displayed left-justified.

Center(C) :

Data is displayed center-justified.

Right(R) :

Data is displayed right-justified.

Figure 4-3 Data align menu

- File information

A file information window opens, and information about the loaded frame data is displayed.

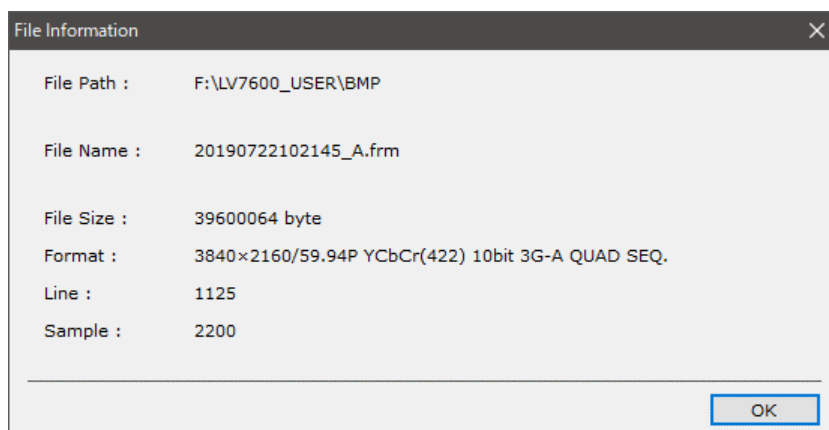


Figure 4-4 File information window

4. USER INTERFACE

- Line/Sample jump

A line/sample jump window opens.

You can specify a line or sample and jump to that point.

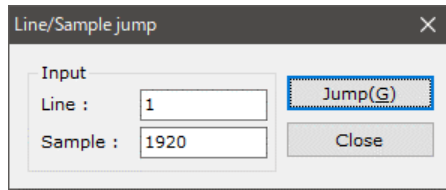


Figure 4-5 Line/sample jump window

- Data search

A data search window opens.

If you select Direction Up and click Search, data is searched from the current cell toward smaller line numbers.

If you select Direction Down and click Search, data is searched from the current cell toward larger line numbers.

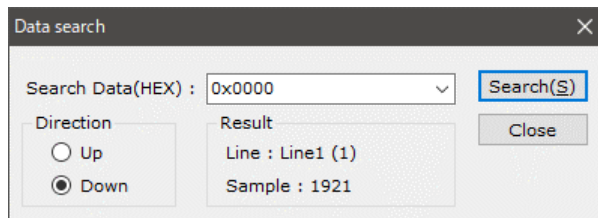


Figure 4-6 Data search window

- Tool Bar

Shows or hides the toolbar.

- Status Bar

Shows or hides the status bar.

4. USER INTERFACE

4.3 Tools Menu

Click the Tools menu or press Alt+T to display the Tools menu.

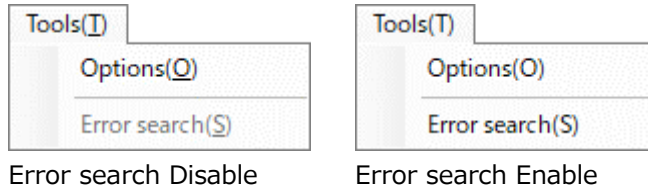


Figure 4-7 Tools menu

- Options - General tab

Set the frame data display method and error detection.

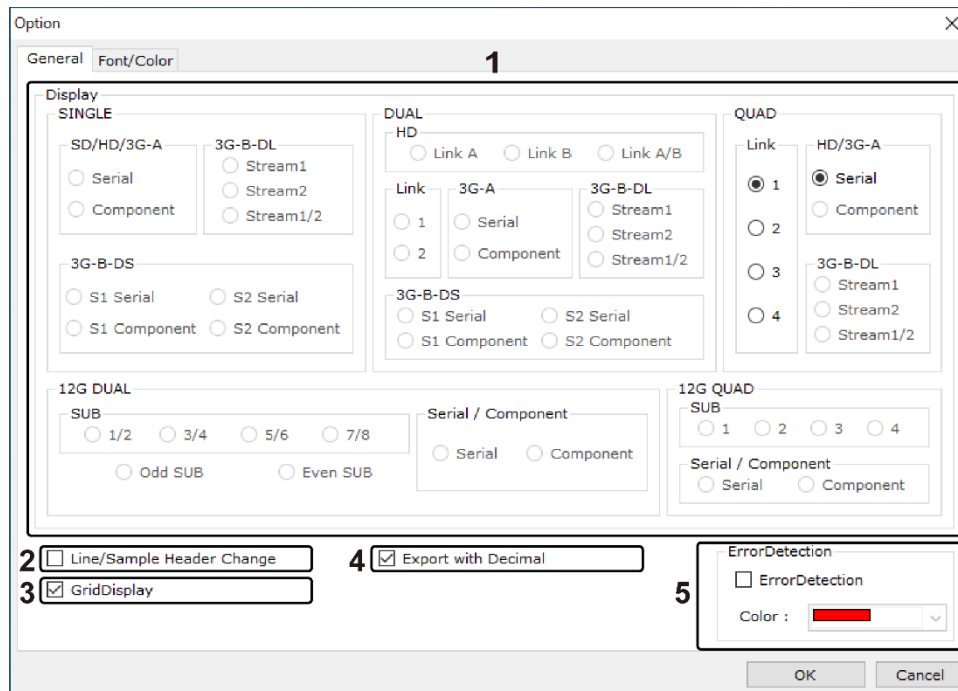


Figure 4-8 Options window (General tab)

4. USER INTERFACE

1. Display

Select the method of displaying the loaded frame data using (option buttons). Note that for the following frame data, some items are not selectable.

Standard	Sampling structure/ quantization accuracy	Items that are not selectable
3G-SDI Level A	YCbCr (422) / 10bit	Component
3G-SDI Level B – DL	YCbCr (422) / 10bit	Stream 1/2
HD DUAL LINK	YCbCr (422) / 10bit	Link A/B
3G-SDI Level A QUAD LINK	YCbCr (422) / 10bit	Component
3G-SDI Level B QUAD LINK	YCbCr (422) / 10bit	Stream 1/2

* Displayed as HD QUAD LINK on the LV5600 or LV7600 6G.

* Displayed as 3G-SDI Level A QUAD LINK on the LV5490SER06, LV5600, or LV7600 12G.

2. Line/Sample Header Change

Changes the vertical and horizontal display of frame data.

If this check box is not selected, line numbers are displayed in the vertical direction and the samples in the horizontal direction.

If this check box is selected, samples are displayed in the vertical direction and the line numbers in the horizontal direction.

3. GridDisplay

Set whether to display grid lines.

4. Export with Decimal

Set the format of the data output by using Export of the File menu.

If this check box is selected, the data is output in decimal notation. Otherwise, it is output in hexadecimal notation.

5. ErrorDetection

Frame data errors detected by the product are displayed in the specified color.

4. USER INTERFACE

- Options - Font/Color tab

Set data display parameters, such as the font, font size, text color, and background color.

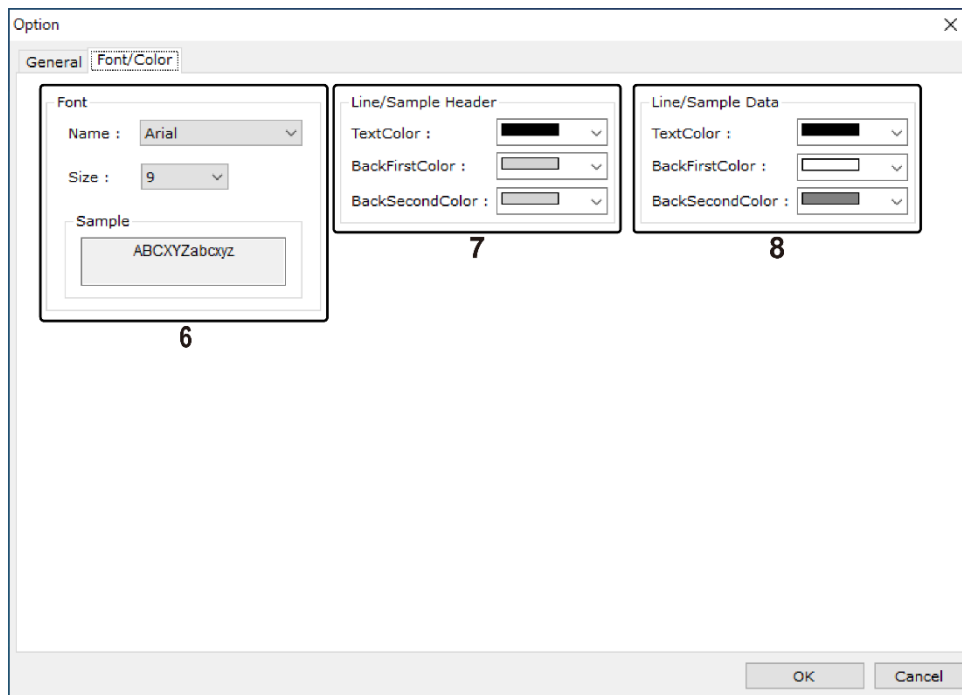


Figure 4-9 Options window (Font/Color tab)

6. Font

Set the font and font size of the data displayed in the main window.

7. Line/Sample Header

Set the background color and font color used in the header display area containing LINE No. and SAMPLE of the main window.

8. Line/Sample Data

Set the background color and font color used in the frame data display area of the main window.

4. USER INTERFACE

- Error search

This function is enabled when the ErrorDetection check box is selected under Options. If you select Direction Up and click Search, error data is searched from the current cell toward smaller line numbers.

If you select Direction Down and click Search, error data is searched from the current cell toward larger line numbers.

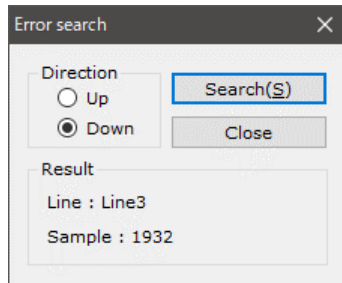


Figure 4-10 Error search window

4.4 Help Menu

Click the Help menu or press Alt+H to display the Help menu.

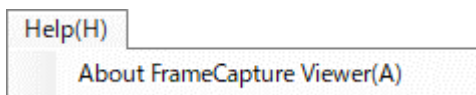


Figure 4-11 Help menu

- About FrameCapture Viewer

A version view window opens, and you can view the application version.

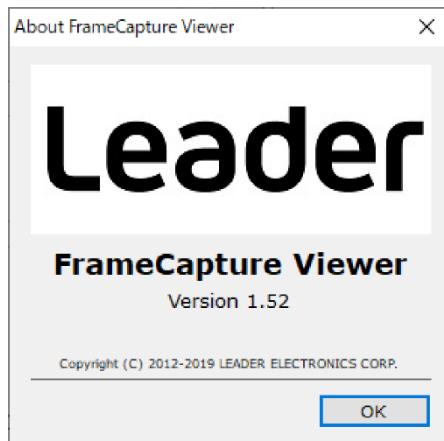


Figure 4-12 Version view window

4. USER INTERFACE

4.5 Tool Bar

The behavior when each button is clicked is described below.

The screenshot shows the FrameCapture Viewer application window with a menu bar (File, View, Tools, Help) and a toolbar. Below the toolbar is a data table with columns for LINE No., SAMPLE, and various data points. The toolbar contains several icons, each with a numbered callout:

- 1) File selection icon (floppy disk)
- 2) A group of three menu icons (list, list with arrow, list with double arrow)
- 3) File information icon (document with magnifying glass)
- 4) Line/sample jump icon (document with arrow pointing down)
- 5) Data search icon (magnifying glass over a document)
- 6) Option window icon (document with a pencil)
- 7) Error search icon (document with a red X)
- 8) Version view icon (question mark)

The data table below the toolbar shows the following content:

LINE No.	SAMPLE	< 1920 >	< 1921 >	< 1922 >	< 1923 >	< 1924 >	< 1925 >	< 1926 >	< 1927 >	< 1928 >
LINE1	Y	3FF	000	000	2D8	204	200	2BB	23C	000
	Cb/Cr	3FF	000	000	2D8	204	200	2F7	1E8	000
LINE2	Y	3FF	000	000	2D8	208	200	1B8	26B	000
	Cb/Cr	3FF	000	000	2D8	208	200	1F4	1BF	000
LINE3	Y	3FF	000	000	2D8	20C	200	2B9	259	000
	Cb/Cr	3FF	000	000	2D8	20C	200	2F5	18D	000
LINE4	Y	3FF	000	000	2D8	210	200	1BE	2C4	000
	Cb/Cr	3FF	000	000	2D8	210	200	1F2	110	000
LINE5	Y	3FF	000	000	2D8	214	200	2BF	2F6	000
	Cb/Cr	3FF	000	000	2D8	214	200	2F3	122	000
LINE6	Y	3FF	000	000	2D8	218	200	1BC	2A1	000
	Cb/Cr	3FF	000	000	2D8	218	200	1F0	175	000
LINE7	Y	3FF	000	000	2D8	21C	200	2BD	293	000
	Cb/Cr	3FF	000	000	2D8	21C	200	2F1	147	000
LINE8	Y	3FF	000	000	2D8	220	200	1B2	19A	000
	Cb/Cr	3FF	000	000	2D8	220	200	1FE	24E	000
LINE9	Y	3FF	000	000	2D8	224	200	2B3	1A8	000
	Cb/Cr	3FF	000	000	2D8	224	200	2FF	27C	000
LINE10	Y	3FF	000	000	2D8	228	200	1B0	1FF	000
	Cb/Cr	3FF	000	000	2D8	228	200	1FC	22B	000
LINE11	Y	3FF	000	000	2D8	22C	200	2B1	1CD	000
	Cb/Cr	3FF	000	000	2D8	22C	200	2FD	219	000
	Y	3FF	000	000	2D8	230	200	1B6	150	000

Format : 3840x2160/59.94P VCI Display : Serial < Link 1 > 2019/07/22 10:13

- 1) A file selection dialog box appears.
- 2) Set the data display method in cells.
- 3) A file information window appears.
- 4) A line/sample jump window appears.
- 5) A data search window appears.
- 6) An option window appears.
- 7) An error search window appears. (*1)
- 8) A version view window appears.

*1 You can click this when ErrorDetection is enabled.

4. USER INTERFACE

4.6 Status Bar

Format, display, and the current date and time are indicated.

The screenshot shows the FrameCapture Viewer application window. The main area contains a table with columns for 'LINE No.', 'SAMPLE', and 16 columns representing different video samples (labeled < 1920 > through < 1933 >). The table displays data for 11 lines, each with two samples (Y and Cb/Cr). The status bar at the bottom provides technical details: 'Format : 3840x2160/59.94P YCbCr(422) 10bit 3G-A QUAD SEQ.', 'Display : Serial < Link 1 >', and the current date and time '2019/07/22 15:32'.

LINE No.	SAMPLE	< 1920 >	< 1921 >	< 1922 >	< 1923 >	< 1924 >	< 1925 >	< 1926 >	< 1927 >	< 1928 >	< 1929 >	< 1930 >	< 1931 >	< 1932 >	< 1933 >
LINE1	Y	3FF	000	000	2D8	204	200	2BB	23C	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	204	200	2F7	1E8	200	200	200	200	200	200
LINE2	Y	3FF	000	000	2D8	208	200	1B8	26B	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	208	200	1F4	1BF	000	3FF	3FF	2E7	2E4	218
LINE3	Y	3FF	000	000	2D8	20C	200	2B9	259	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	20C	200	2F5	18D	000	3FF	3FF	2E7	1E5	218
LINE4	Y	3FF	000	000	2D8	210	200	1BE	2C4	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	210	200	1F2	110	000	3FF	3FF	2E7	1E6	218
LINE5	Y	3FF	000	000	2D8	214	200	2BF	2F6	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	214	200	2F3	122	200	200	200	200	200	200
LINE6	Y	3FF	000	000	2D8	218	200	1BC	2A1	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	218	200	1F0	175	000	3FF	3FF	2E7	2E7	218
LINE7	Y	3FF	000	000	2D8	21C	200	2BD	293	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	21C	200	2F1	147	000	3FF	3FF	2E7	2E8	218
LINE8	Y	3FF	000	000	2D8	220	200	1B2	19A	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	220	200	1FE	24E	200	200	200	200	200	200
LINE9	Y	3FF	000	000	2D8	224	200	2B3	1A8	000	3FF	3FF	1E3	200	10B
	Cb/Cr	3FF	000	000	2D8	224	200	2FF	27C	000	3FF	3FF	2E7	1E9	218
LINE10	Y	3FF	000	000	2D8	228	200	1B0	1FF	000	3FF	3FF	241	101	104
	Cb/Cr	3FF	000	000	2D8	228	200	1FC	22B	000	3FF	3FF	241	101	104
LINE11	Y	3FF	000	000	2D8	22C	200	2B1	1CD	040	040	040	040	040	040
	Cb/Cr	3FF	000	000	2D8	22C	200	2FD	219	000	3FF	3FF	2E7	2EB	218
	Y	3FF	000	000	2D8	230	200	1B8	150	040	040	040	040	040	040

Format indication

Display indication

Current date and
time indication

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Oct. 24, 2022 Ver. 4