



IZICConverter User Manual

Software version: 1.0.0.83
Manual version: 1.0.1





IWANE LABORATORIES, LTD.

Address: 7-3-25 Maruyamanishi-machi, Chuo-ku, Sapporo, Hokkaido, Japan 064-0944

TEL: +81-(0)11-643-0872; FAX: +81-(0)11-643-4182

Email: technicalsupport@iwane.com

Website: <http://www.iwane.com/en/>

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IZICConverter

1. Introduction

1.1. What is IZICConverter

IZICConverter is an application which provides users to convert ZIC files with the corresponding ICV files into IZIC files. This manual introduces how to use IZICConverter.

1.2. System Requirements

Operation System (OS)	Windows 7 64-bit or Windows 8 64-bit
Processor (CPU)	3.4 GHz or better
Memory (RAM)	8GB or better
Graphic Card (GPU)	NVIDIA GeForce GT 620 or better

1.3. About This Manual

In this manual, chapter 2 introduces each part of main window of IZICConverter. Chapter 3 introduces how to convert IZIC files. Chapter 4 introduces how to generate streaming video files by commands.

Words in single quotes with *Italics* type (like '*File*') mean the name of window, box or menu.

Words in square brackets [] mean the name of button.

Each number behind chapter, section, and page can connect to corresponding place by using '*ctrl*' + left click.

Each "Figure" and "Table" in this manual can link to corresponding figure and table by using '*ctrl*' + left click.

2. Main Window

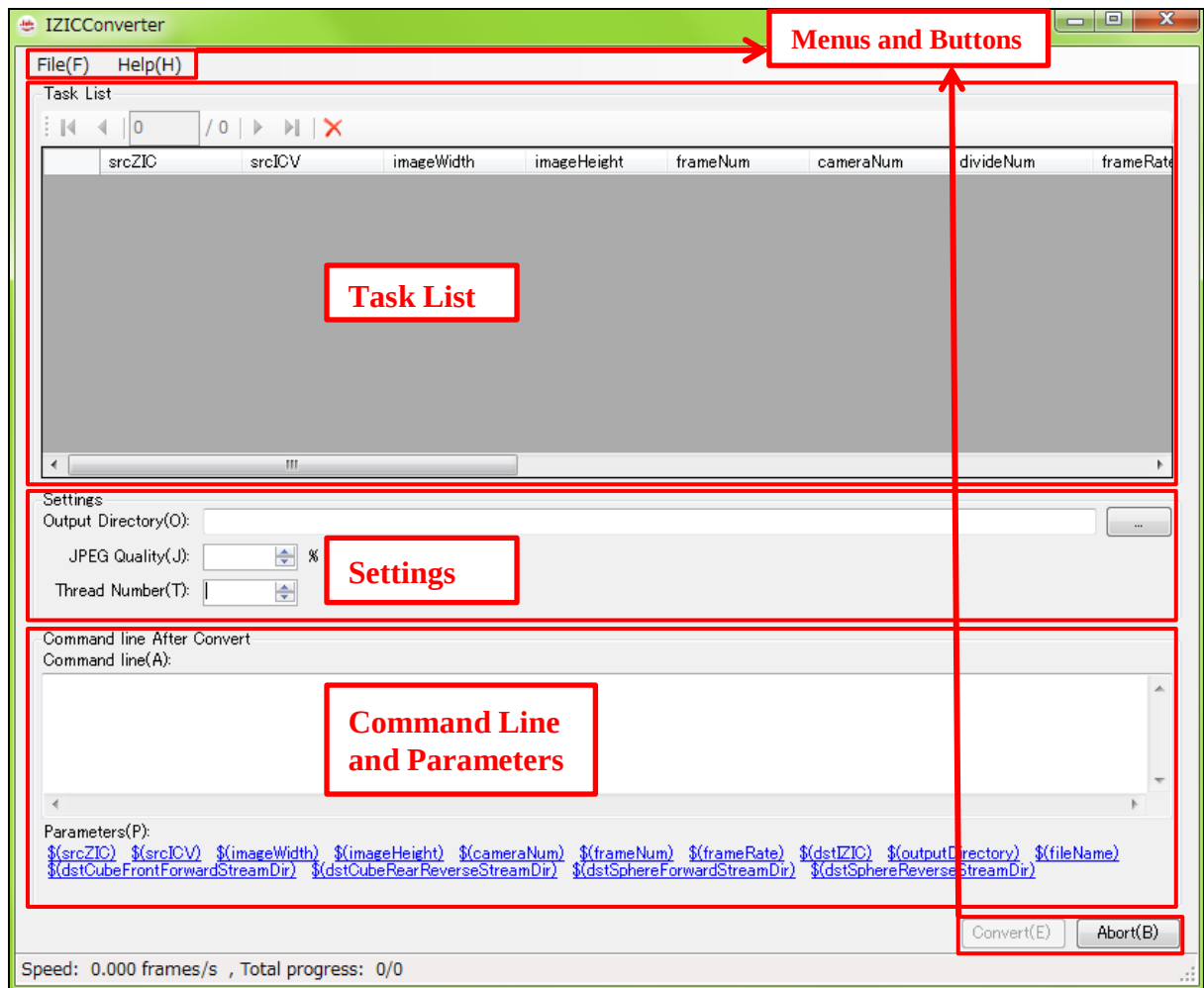


Figure 2-1 (Main Window)

IZICConverter consists of four parts as follows:

2.1. Menus and Buttons

Table 2-1 (Menus and Buttons in Main Window)

File (F)	Open 'File' menu
Help (H)	Open 'Help' menu
Convert(E)	Start converting work
Abort(B)	Abort current converting

2.1.1. File Menu

Open the 'File' menu to open log file or close 'IZICConverter' window (Figure 2-2).

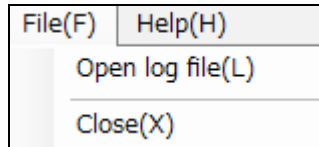


Figure 2-2 (File Menu)

2.1.2. Help Menu

Open 'Help' menu to see version and import license file.

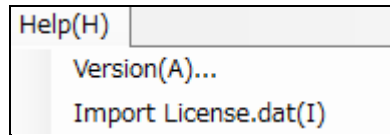


Figure 2-3 (Help Menu)

Click 'Version' in 'Help' menu to open 'About IZICConverter' window to see "Assembly Version" and "Publish Version", this window can be closed by clicking on [OK] button (Figure 2-4).

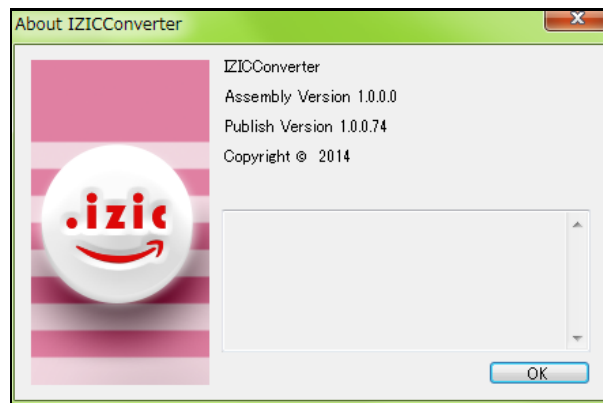


Figure 2-4 (IZICConverter Version Information)

Click 'Import License.dat' in 'Help' menu to choose a license file to import.

2.1.3. Convert

Click on [Convert] button to start converting files.

2.1.4. Abort

Abort current converting. Converting operation can only be restarted by clicking on [Convert] button.

2.2. Task List

The added ZIC and ICV files will be shown in ‘Task List’.

Users can arrange added files in an ascending/descending order of the value in each label by clicking on them.

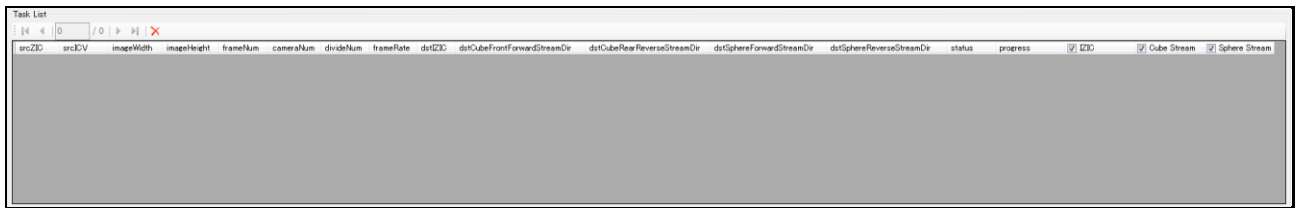


Figure 2-5 (Task List)

Table 2-2 (Labels in Task List)

srcZIC	ZIC file name
srcICV	ICV file name
imageWidth	Image width of an IZIC file
imageHeight	Image Height of an IZIC file
frameNum	Total number of frames of an IZIC file
cameraNum	Total number of cameras
divideNum	Number of pieces which one frame will be divided
frameRate	Frame rate of camera
dstIZIC	A root of generated IZIC files
dstCubeFrontForwardStreamDir	A root of generated image files of cube forward
dstCubeRearReverseStreamDir	A root of generated image files of cube reverse
dstSphereForwardStreamDir	A root of generated image files of sphere forward
dstSphereReverseStreamDir	A root of generated image files of sphere reverse
status	Status of current operation (Running, Abort or Complete)
progress	Progress of converting
IZIC	Choosing whether generate IZIC files by clicking on small white box nearby
Cube Stream	Choosing whether generate cube image files by clicking on small white box nearby
Sphere Stream	Choosing whether generate sphere image files by clicking on small white box nearby
	Skip to first or last ZIC files and the corresponding ICV files
	Skip to previous or next ZIC files and the corresponding ICV files
	Remove current ZIC files and the corresponding ICV files from ‘Task List’

2.3. Settings

Figure 2-6 (Settings)

Table 2-3 (Labels in Settings)

Output Directory	Output directory of generated IZIC files
...	Choose a output directory
JPEG Quality	Quality of generated IZIC files
Thread Number	Thread number of converting at one time

2.4. Command Line and Parameters

Figure 2-7 (Command Line and Parameters)

Command line provides users multiple functionalities (for example, generating streaming video files and so on) by commands.

Each parameter in 'Parameters' part has same meaning with same label name in 'Task List'.

More details of the commands refer to section 3.3.

3. Converting IZIC Files

Converting IZIC files is the main functionality of IZICConverter. Users can convert ZIC files and the corresponding ICV files into IZIC files. In this chapter, a method to convert IZIC files is explained.

Before introducing how to convert IZIC files, some notations are introduced as a background.

- **ZIC files:** Contain JPEG files token by camera.
- **ICV files:** Contain location information and CV calculation.
- **IZIC files:** Contain JPEG files with location information and CV calculation.
- **Cube streaming files:** Streaming files only contain cube image files.
- **Sphere streaming files:** Streaming files only contain sphere image files.

3.1. Adding ZIC Files and ICV Files

Users can add ZIC files by dragging them into 'Task List' box (Figure 3-1), and then the corresponding ICV files will be added into 'Task List' automatically (Figure 3-2).

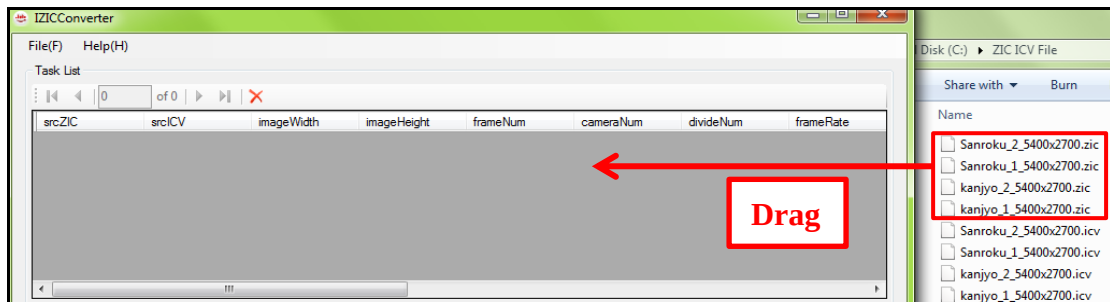


Figure 3-1 (Add ZIC Files)

The added files can be removed from 'Task List' by choosing them and clicking on  button.

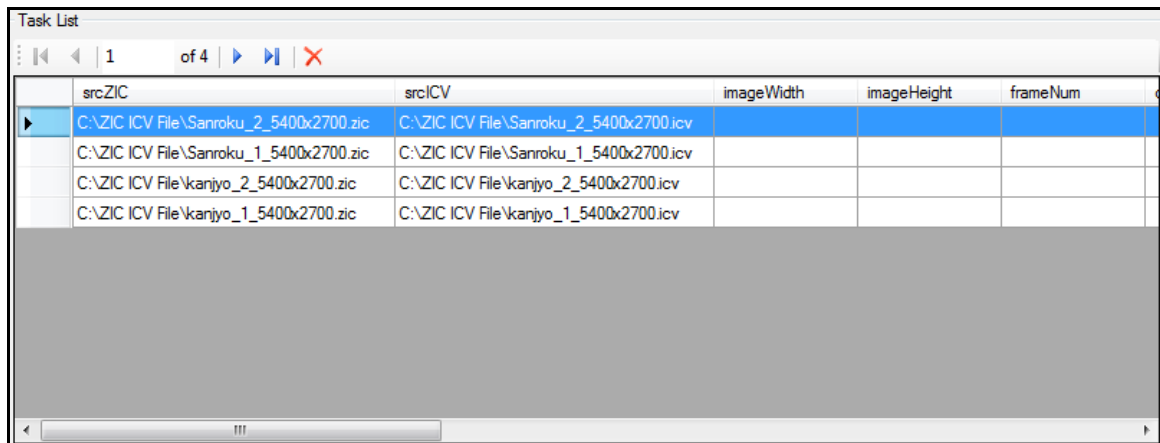


Figure 3-2 (Task List after Adding ZIC and ICV Files)

3.2. Setting

After adding ZIC and ICV files into ‘Task List’, some converting parameters should be set (Figure 3-3). First select a directory to store generated IZIC files. Then enter JPEG quality (usually use 95%) and thread number (it can be any number but more threads means lower converting speed, so 2 or 3 threads will be appropriate).

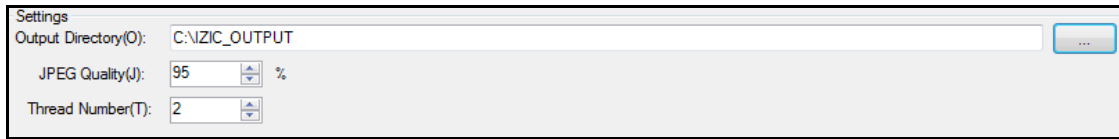


Figure 3-3 (Set Converting Parameters)

3.3. Command Line

In IZICConverter command line provides users many functionalities through commands in ‘Command line’ box.

A command form is:

“ROOT\FILENAME.bat” “PARAMETER1” “PARAMETER2” ...

Parameters from IZIC files should be written as: \$(PARAMETER).

For example, a parameter which means output path of IZIC files, they should write this parameter into ‘Command line’ box as: “\$(outputDirectory)”.

If users want to enter a subdirectory of the output path they should write this parameter as: “\$(outputDirectory)\SUBDIRECTORYPATH”

Another situation that an IZIC file named “Sapporo.izic” then write a parameter like “\$(frameNAME) _Center”, the command will recognize this parameter as “Sapporo_Center”.

Parameters in command will input into BAT files after converting. Then users can achieve different functionalities by different commands.

The parameters of IZIC files can be entered into ‘Command line’ box through keyboard or clicking parameter labels in ‘Parameters’ part.

In addition, commands can only be set before converting and will start to work after converting.

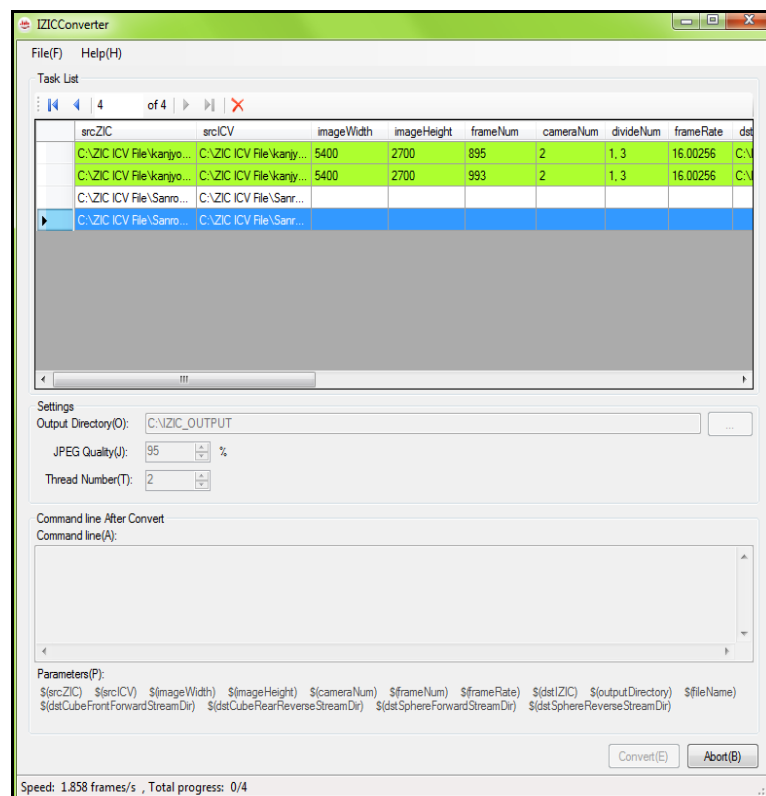
3.4. Converting Files

Before converting work, users can choose output file types they need from IZIC files, cube streaming files and sphere streaming files by clicking corresponding small white box.

After all settings have been completed, converting work can be started by clicking on [Convert] button.

Then converting work will start in current order, converting speed and total progress will be shown on the bottom of main window (Figure 3-4).

In ‘Task List’ green background color means running thread, white background color means idle thread and blue background color means chosen thread.

**Figure 3-4 (Converting Work)**

Task List							
1 of 4							
	CubeFrontForwardStreamDir	dstCubeRearRever	dstSphereForwardS	dstSphereReverseS	status	progress	
▶	ZIC_OUTPUT\kaniyo_2_5400x27...	C:\ZIC_OUTPU...	C:\ZIC_OUTPU...	C:\ZIC_OUTPU...	Running	87/895 (1/2)	
	ZIC_OUTPUT\kaniyo_1_5400x27...	C:\ZIC_OUTPU...	C:\ZIC_OUTPU...	C:\ZIC_OUTPU...	Running	89/993 (1/2)	

Figure 3-5 (Add Class Dialog Box)

After converting work, the background color of converted threads will turn to white and status will turn to “Complete” (Figure 3-6)

Complete	895/895 (2/2)	☐	☐	☐
Complete	993/993 (2/2)	☐	☐	☐

Figure 3-6 (Converted Threads)

3.5. Aborting Converting Work

If users want to stop current converting work or change some settings, they can click on [Abort] button. Then the converting work will be aborted after processing current image file, meanwhile background color of aborted threads will turn to yellow and the status will turn to “Abort” (Figure 3-7).

The aborted threads can only be restarted from the beginning by clicking on [Convert] button.

status	progress	☒ IZIC	☒ Cube Stream	☒ Sphere Stream
Abort	399/1647 (1/2)	☒	☒	☒
Abort	601/1123 (1/2)	☒	☒	☒

Figure 3-7 (Aborted Threads)

4. Generating Streaming Video Files

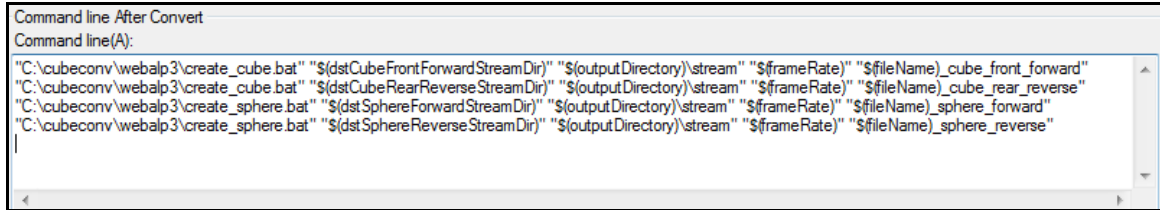
Generating streaming video files is an important functionality which is achieved by commands.

The generating streaming video files commands have a same form:

“ROOT\BATCHFILE.bat” “INPUTPATH” “OUTPUTPATH” “FRAMERATE” “FILENAME”

The functionalities of BAT files in generating streaming video files are similar, that are combining image files into streaming video files (contain FLV files and MP4 files).

Figure 4-1 gives an example of commands of generating streaming video files.



```

Command line After Convert
Command line(A):
"C:\cubeconv\webalp3\create_cube.bat" "$(dstCubeFrontForwardStreamDir)" "$(outputDirectory)\stream" "$(frameRate)" "$(fileName)_cube_front_forward"
"C:\cubeconv\webalp3\create_cube.bat" "$(dstCubeRearReverseStreamDir)" "$(outputDirectory)\stream" "$(frameRate)" "$(fileName)_cube_rear_reverse"
"C:\cubeconv\webalp3\create_sphere.bat" "$(dstSphereForwardStreamDir)" "$(outputDirectory)\stream" "$(frameRate)" "$(fileName)_sphere_forward"
"C:\cubeconv\webalp3\create_sphere.bat" "$(dstSphereReverseStreamDir)" "$(outputDirectory)\stream" "$(frameRate)" "$(fileName)_sphere_reverse"
  
```

Figure 4-1 (An Example of Generating Streaming Video Files Commands)

Table 4-1 (An Example of One of Generating Streaming Video Files Commands)

Command Form	Example Command
“ROOT\BATCHFILE.bat”	“C:\cubeconv\webalp3\create_cube.bat”
“INPUTPATH”	“\$(dstCubeFrontForwardStreamDir)”
“OUTPUTPATH”	“\$(outputDirectory)\stream”
“FRAMERATE”	“\$(frameRate)”
“FILENAME”	“\$(fileName)_cube_front_forward”

The functionality of BAT file “create_cube.bat” is combining cube image files into a cube streaming video file (contain a FLV file and a MP4 file).



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Address: 7-3-25 Maruyamanishi-machi, Chuo-ku, Sapporo, Hokkaido, Japan 064-0944

TEL: +81-(0)11-643-0872; FAX: +81-(0)11-643-4182

Email: technicalsupport@iwane.com

Website: <http://www.iwane.com/en/>



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