## **RICOH THETA Stitcher Manual for Windows**

### • Product overview

This software is for stitching together images that were output as raw images by RICOH THETA and then developed by Adobe Photoshop Lightroom Classic.

• Operating environment

This software operates in the following environment.

- ✓ Windows: Windows 10 64-bit (version 1903 or later)
  - > Note: Windows 8.1 and 32-bit are not supported.
- $\checkmark\,$  GPU with support for OpenGL 4.1 or later must be installed.
- $\checkmark\,$  16 GB or more of DRAM is recommended.
- $\checkmark\,$  4 GB or more of Video RAM is recommended.
- ✓ Adobe Photoshop Lightroom Classic: Version 9.0-10.3
- Installation procedure

Launch the included RICOH THETA Stitcher Setup.exe and install the software following the instructions in the installer dialog boxes.

• Uninstallation procedure

Uninstall this software with the following procedure.

- 1. Select RICOH THETA Stitcher from [Apps & features] of [Settings].
- 2. Select [Uninstall].
- Stitching with RICOH THETA Stitcher

Use this software as described in the following procedure.

<When activated as an Adobe Photoshop Lightroom Classic plug-in>

- 1. Import raw images into Adobe Photoshop Lightroom Classic.
- 2. After the developing and other processing is complete, click [File] [Export] on

the menu bar.

 In the [Export Location] area, select [Same folder as original photo] for [Export To] and then clear the [Put in Subfolder] check box.

Recommendation: Select the [Add to This Catalog] and [Add to Stack] check boxes in the [Export Location] area.

(Note) The exported image file and the original DNG file must be saved in the same folder. If the original DNG file does not exist in the same folder as the exported image file, the DNG file selection screen(\*) appears. You can manually specify the original DNG file on this screen.

- 4. Select the check box for [Rename To] under the [File Naming] field, and select the desired settings.
- 5. Select JPEG or TIFF for [Image Format] in the [File Settings] area.
- 6. Clear the [Resize to Fit] check box in the [Image Sizing] area.
- 7. Select "Open in RICOH THETA Stitcher.exe" for [After Export] in the [Post-Processing] area.
- 8. Click [Export] at the bottom right.

<When activated as standalone software>

- 1. Develop the RAW images with Adobe Photoshop Lightroom Classic, and then export them as dual-fisheye JPEG/TIFF files.
- Double-click the RICOH THETA Stitcher icon 

   drag and drop the exported image file.

(Note) The exported image file and the original DNG file must be saved in the same folder. If the original DNG file does not exist in the same folder as the exported image file, the DNG file selection screen(\*) appears. You can manually specify the original DNG file on this screen.

# (\*) DNG file selection screen



#### • Screen

The following describes the screen of this software. The screen that appears differs depending on the number of exported images.



< When processing a single image >



# <When processing multiple images>

During batch processing, the following screen showing the processing progress appears.



|            | Item       | Description                              | Default | Settable     |
|------------|------------|--|---------|--------------|
|            | name       |  | value   | values       |
| 1          | Window     | The display size can be changed by       | _       | _            |
|            |            | dragging the edge of the window.         |         |              |
| 2          | Settings   | Changes various settings.                | _       | _            |
| 3          | Apply      | The saved preset will be applied.        | _       | _            |
|            | preset     |  |         |              |
| 4          | Save       | You can save up to 3 presets of all      | _       | _            |
|            | current    | stitching parameters* and apply them     |         |              |
|            | paramete   | to different images.                     |         |              |
|            | rs as      | (* Zenith correction, front position     |         |              |
|            | preset     | adjustment, stitching method, and        |         |              |
|            |            | camera visibility reduction)             |         |              |
| 5          | Overwrite  | Unchecking the checkbox adds "_er" to    | —       | _            |
|            | image file | the end of the file name and saves it as |         |              |
|            |            | a separate file.                         |         |              |
| 6          | Help       | Displays the manual.                     | —       | _            |
| $\bigcirc$ | Preview    | Displays a preview of the stitching      | —       | _            |
|            | area       | result.                                  |         |              |
| 8          | Top/bottom | Performs rotation correction so that the | Autom   | Automatic or |
|            | correction | sky is up and ground is down.            | atic    | Pitch: -     |
|            |            |  |         | 90.00 to     |
|            |            |  |         | 90.00 [deg]  |
|            |            |  |         | and Roll: -  |
|            |            |  |         | 90.00 to     |
|            |            |  |         | 90.00 [deg]  |
| 9          | Stitching  | Method to use when stitching together    | Autom   | Automatic or |
| 1          | method     | two images. Basically, we recommend      | atic    | 0.30/0.40/0. |
|            |            | setting this to [Automatic] but the      |         | 50/0.60/0.75 |
|            |            | distance for stitching can also be fixed |         | /1.00/1.50/3 |
|            |            | as desired.                              |         | .00/5.00/∞   |
| 1          |            |  |         | [m]          |

| 10   | Front      | Moves the images parallel in the        | 0.00    | -180.00 to   |
|------|------------|---|---------|--------------|
|      | position   | horizontal direction. Use this when you | [deg]   | 180.00 [deg] |
|      | adjustme   | wish to adjust the composition.         |         |              |
|      | nt         |   |         |              |
| 11)  | Camera     | [ON] Reduces the amount the camera      | Differe | ON, OFF      |
|      | Visibility | is captured in the shot.                | nt      |              |
|      | Reduction  | [OFF] Improves stitching accuracy       | depend  |              |
|      |            | towards the bottom of the camera.       | ing on  |              |
|      |            |   | the     |              |
|      |            |   | image   |              |
| (12) | ОК         | Outputs the stitching result.           | _       | _            |
| (13) | Cancel     | End RICOH THETA Stitcher.               | —       | _            |
|      |            | *Images will be saved as they were      |         |              |
|      |            | prior to stitching in Adobe Photoshop   |         |              |
|      |            | Lightroom Classic.                      |         |              |
| 14)  | Reset      | The parameters will be reset to their   | _       | _            |
|      |            | default values.                         |         |              |
| (15) | Process    | You can continue with the next image    | _       | _            |
|      | and next   | and process it after outputting the     |         |              |
|      |            | stitching results.                      |         |              |
| 16   | Batch      | Two or more images will be batch        | —       | _            |
|      | processin  | processed with the same settings.       |         |              |
|      | g          |   |         |              |
| (17) | Cancel     | RICOH THETA Stitcher will end after     |         |              |
|      |            | processing the current image.           |         |              |
|      |            | Subsequent images will be saved as      |         |              |
|      |            | they were prior to stitching.           |         |              |

# • Troubleshooting

| Message displayed                  | Description/solution                      |  |  |
|------------------------------------|---|--|--|
| No compatible DNG files            | DNG files that can be processed on this   |  |  |
|                                    | software are RAW image files output from  |  |  |
|                                    | RICOH THETA.                              |  |  |
| Files other than JPEG and TIFF are | Formats that are supported on this        |  |  |
| not supported                      | software are JPEG and TIFF. When          |  |  |
|                                    | activating from Adobe Photoshop           |  |  |
|                                    | Lightroom Classic, select JPEG or TIFF as |  |  |
|                                    | the file format.                          |  |  |
| The DNG file was not found.        | Specify the original DNG file on the "DNG |  |  |
| Check "Stitching with RICOH THETA  | file selection screen".                   |  |  |
| Stitcher" in [Help] for details.   | When activating from Adobe Photoshop      |  |  |
|                                    | Lightroom Classic, refer to the above     |  |  |
|                                    | "Stitching with RICOH THETA Stitcher"     |  |  |
|                                    | item, and then set [Export Location] or   |  |  |
|                                    | [File Naming] correctly.                  |  |  |
| The images could not be processed  | DNG files that can be processed on this   |  |  |
| successfully: 0x0000001            | software are RAW image files output from  |  |  |
|                                    | RICOH THETA.                              |  |  |
| The images could not be processed  | Update the driver of the graphic board.   |  |  |
| successfully: 0x00000005,          |   |  |  |
| 0x00010500, 0x00010501,            |   |  |  |
| 0x00010502, 0x00010503,            |   |  |  |
| 0x00010504, 0x00010506             |   |  |  |
| The images could not be processed  | There is insufficient memory.             |  |  |
| successfully: 0x00010505           |   |  |  |
|                                    |   |  |  |