OpenToonz

GTS

GTS Instruction Manual

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Installation Settings

01 Preparing the Scanner & Driver

Connect the TWAIN scanner to your computer and turn on the power.
(EPSON DS - 50000, EPSON Scan Ver. 5.3.1.4 has been tested, other drivers are unconfirmed)
Install the TWAIN driver corresponding to the connected scanner,
please confirm that it works.
The TWAIN driver does not mix with other scanner models,
it will be installed independently.

02 TWAIN Driver Environment Settings (※ EPSON Scan Ver. 5.3.1.4)

a Run "EPSON Scan", & open the "EPSON Scan" window,
   Click the "Preferences..." button to open the "Preferences" window

b Click the "Preview" tab,
   Uncheck "Photo/film auto rotation (O)"

c Click the "Color" tab,
   Uncheck "Always execute automatic exposure"
   Set "Display gamma" to "1.8" (other values may be used as necessary)

d Click the "Documents" tab,
   Set "Boundary compensation amount" to zero

e Click the "Others" tab,
   Uncheck "Compress transfer"

03 Pre-execution Settings (※ Please set as necessary)

○ "Level", "Load Config...", "Save As Config..." Initial folder

Write in the file "gts_install_setup.txt".
(Place this file in the folder where "gts.exe" exists)
For example, if you specify "C:¥User¥public",
browser_directory_path "C:¥User¥public"
will be set to the initial folder.

If not specified, it becomes "C:¥".

○ Shortcut key setting for sequential scan execution

Write in the file "gts_install_setup.txt".
(Place this file in the folder where "gts.exe" exists)
You can only specify Space, Enter, & Esc.
For example,

short_cut_key_start_scan	Enter
short_cut_key_rescan	Space
short_cut_key_next_scans	Enter
short_cut_key_stop_scan	Esc

will set the shortcut keys.

○ Preset settings of scan area

Write in the file "_gts-scan_area.txt".
Place it in one of the following places. The top is higher priority.

Each user's home	※Environment Variable Path → "%HOMEDRIVE%%HOMEPATH%"
All user profiles	※Environment Variable Path → "%ALLUSERSPROFILE%"
Share home	※Environment Variable Path → "%PUBLIC%"
Folder where "gts.exe" resides	

Specify the position & size of the scan area
For example,

A3	0	0	43.18	29.718
NTSC_in_A3	1.778	0	39.624	29.718
HD_in_A3	0	2.714625	43.18	24.28875

will set the desired format.

Specify the aspect ratio of the scan area (horizontal by longitudinal)
For example,

aspect_ratio	HD	16	9
aspect_ratio	NTSC	4	3

will set the desired aspect ratio.

○ Position & size of the display

Write in the file "_gts-desktop.txt".
This file is in the home folder of the logon account.
Automatically saves at the end of the application.

Execution & Termination

04 Execution Method

"gts.exe"
Execute this file.

If you see a message saying, "Normal communication with the scanner can not be done…"
at this time
· Check if the scanner cable is connected,
· Check that the power switch is turned on,
· Check that the driver has been properly installed,
please double check the above.

05 Termination Method
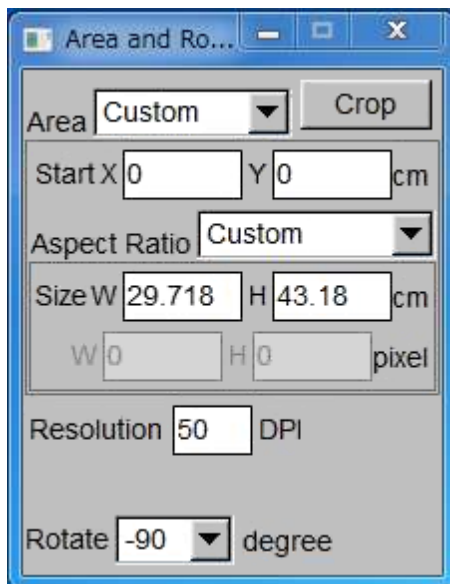
Select "Quit" from the "File" menu,
Click "Yes" on the confirmation dialog box displayed to exit.

If you click "No", you can continue working without exiting.

Pre-scan Settings

06 Setting Resolution, Rotation & Capture Range

Select "Area and Rot 90..." on the "Setup" menu,
this will open the "Area and Rot 90" window.

Information about the settings for "Resolution" → "Rotation" → "Capture Range", is shown below.

○ Resolution

Click on the input part of "Resolution",
enter a numerical value from the keyboard.
The unit is Dot Per Inch.

Please note that if you change the resolution after scanning with the "Crop" button,
you will need todo a "Crop" scan again.

○ Rotation

It is specified in units of 90 degrees.
Please choose from the "Rotate" pull down options.

○ Capture Range

There are two setting methods, preset setting & manual setting.

Preset settings are specified in advance, inside a file,

select from the "Area" pull down options.

How to set presets

> "03 Pre-execution Settings" → "○ Preset settings of scan area"

Please see the above section for details.

Scan with manual settings & specify the range while looking at the picture.

By pressing the "Crop" button, you can scan a picture through the entire range of the scanner,

it will be displayed on the screen. At the same time, a red frame & small square are displayed.

A red frame indicates the range.

Drag the small square with the middle mouse button to change the range.

You can also enter numbers directly into the items "Start X", "Y", "Size W", "H".

How to change the overall display including images

> "Appendix A How To Change the Image Display"

Please see the above section for details.

If you want to set the aspect ratio to a specified ratio, use the "Aspect Ratio" preset.
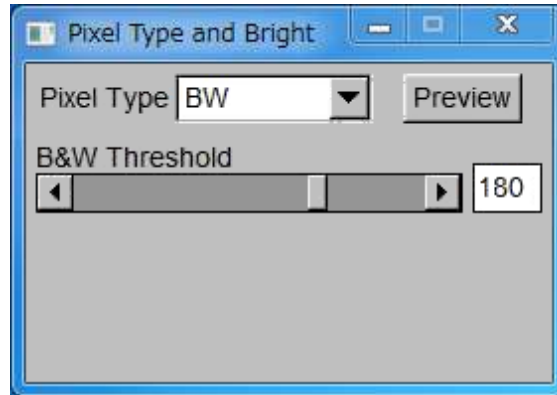
How to set presets

> "03 Pre-execution Settings" → "○ Preset settings of scan area"

Please see the above section for details.

When selecting from the "Aspect Ratio" preset, with the fixed width "W",

the height "H" value will change to the specified ratio.

07 Setting Image Type

Select "Pixel Type and Bright..." from the "Setup" menu
this will open the "Pixel Type and Bright" window.

○ Image Type "Pixel Type"

Select from the following three types.

|	
BW	Black & white monochrome binary image
Grayscale	Black & white grayscale image
RGB	Full-color image

○ Capture Adjustment

In the case of "BW", the binary conversion is made directly to black & white during scanning.
Therefore, we decide the threshold (boundary) value of black & white.
Change the "B&W Threshold" with a value between 0 and 255,
Adjust the value while checking the image by repeating the scan,
and using the "Preview" button.

"Grayscale", "RGB": In the case of "Brightness", "Contrast", "Gamma"
Although there are parameters, for basic use,
it is recommended to use all default values for these settings.

08 Sequential Scan & Save File Registration

Select "Level..." from the "File" menu
this will open the "Browse Level" window.
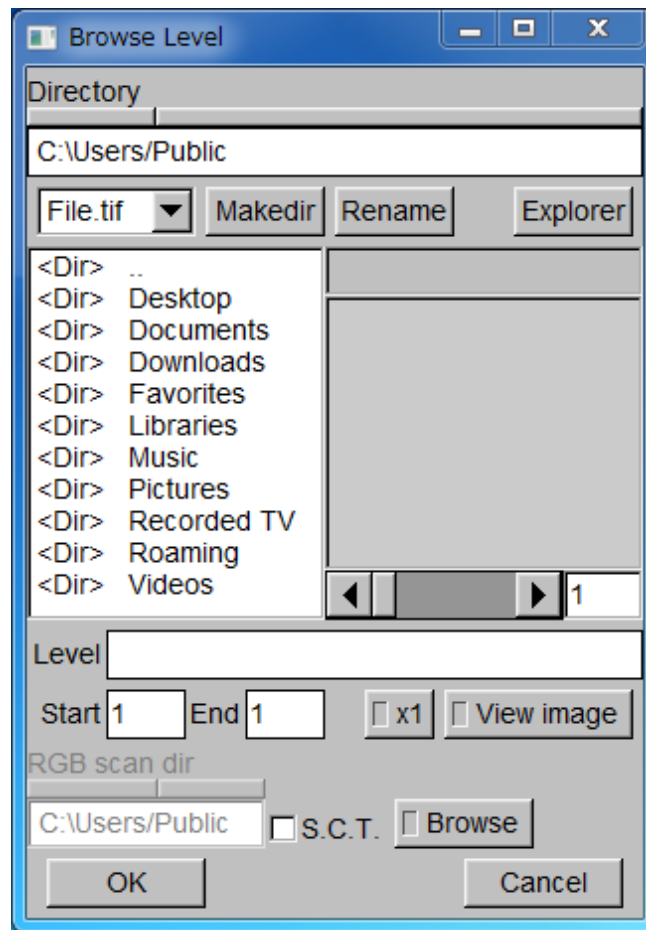
○ Set the storage location, name, start number & end number of the sequential images

using the following items,

"Directory"	Storage location
"Level"	(The beginning of the file) Name
"Start"	Start (frame) number
"End"	End (frame) number

and click the "OK" button, to set the values.

To change the "Storage location",
Click the desired folder from the list displayed on the left to move it.

○ Creating a new folder

Press the "Makedir" button, enter the folder name into the "New directory name" input part,
using the keyboard, and click the "OK" button.

○ Renaming folders

While holding down the "Ctrl" key, click the folder to select it.
Then press the "Rename" button, using the "Rename Directory" input part,
change the folder name and click the "OK" button.

○ When you want to perform other folder or file operations

Please click the "Explorer" button which will open Windows Explorer.

○ Save file format & extension

The format of the image file which will be saved is TIFF.
Each file is automatically appended with the extension "tif".

○ File name format

For example,
     "Level"   A
     "Start"   1
     "End"   2
then,
     "A.0001.tif"
     "A.0002.tif"
will be the saved file names.

○ Intermediate file name for full-color images

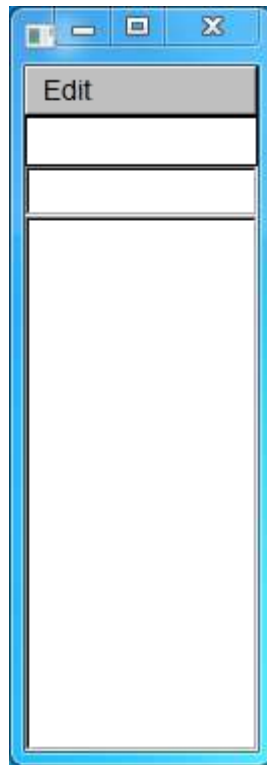However, when "RGB" is selected for "Pixel Type",
     "A.0001.tif"
"_full" is automatically added to the name,
     "A_full.0001.tif"
will be the saved file name.

09 Sequential Scan Confirmation

Select "File Number…" on the "Setup" menu
this will open the "Number" window.

Displays the sequential number of the start and end frames set by "Level",
and makes sure it is in selected state.

10 Sequential Scan Edit

To delete frame numbers,
in the "Number" window, select only the frames you wish to delete,
if you select "Delete" from the "Edit" menu,
it will delete all the selected frames.

To add a frame number,
click on the input entry directly under the menu in the "Number" window,
enter the new frame number using the keyboard and then press the Enter key to add it.

When partially scanning a sequential number,
only the frame number is selected.
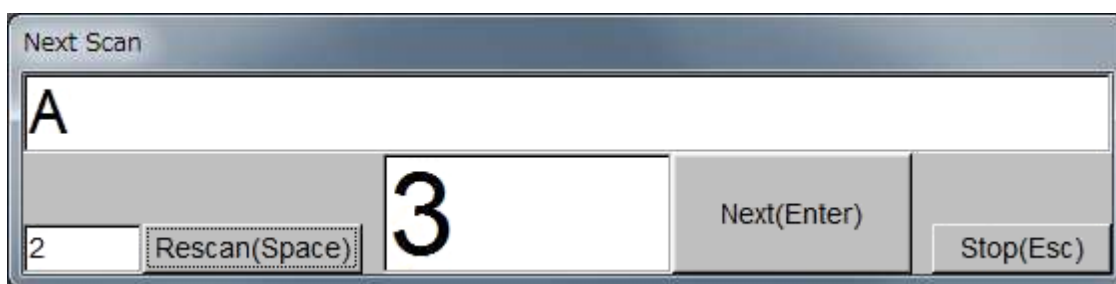
Scan Execution & Storage

11 Sequential Scan Execution (& Save)

Scanning will start as soon as you select "Scan" in the "Scanning" menu.

From the top, select the number selected in the "Number" window,
After scanning & saving, an "S" mark will be added.

When the first image is completed, the "Next" window will be displayed.

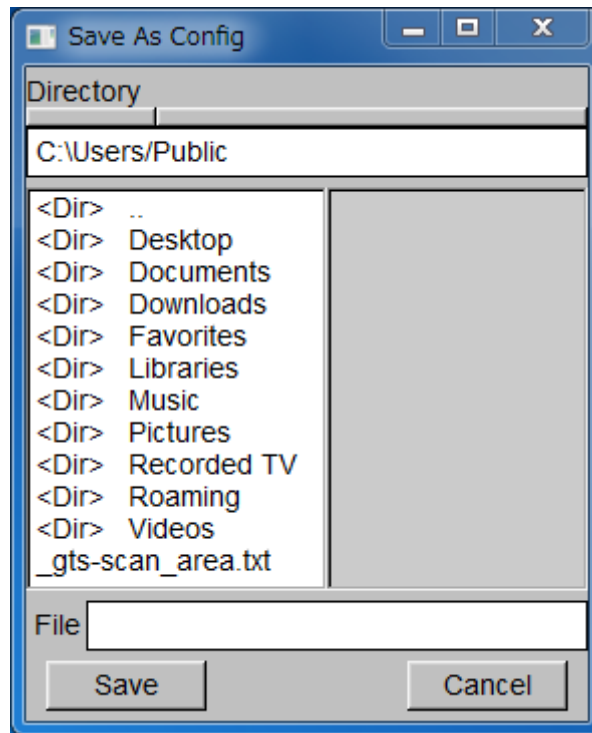The following operations are performed with each button.

      "Rescan"   → Rescan the current number
      "Next"   → Scan the next number
      "Stop"   → Cancel continuous scan

After scanning the last number, the "Next" window will not be displayed.

State Saving & Rescanning

12 Save State to Resume Work

Select "Save As Config..." on the "File" menu
this will open the "Save As Config" window.

Navigate to the same place as "Level", give the same name and save with the "Save" button.

".txt" is appended automatically as an extension.
Even if you enter ".txt" at the end of the name, it will not be doubled.

13 Resume Work, or Do Work such as Rescanning

Select "Load Config..." on the "File" menu
this will open the "Load Config" window.
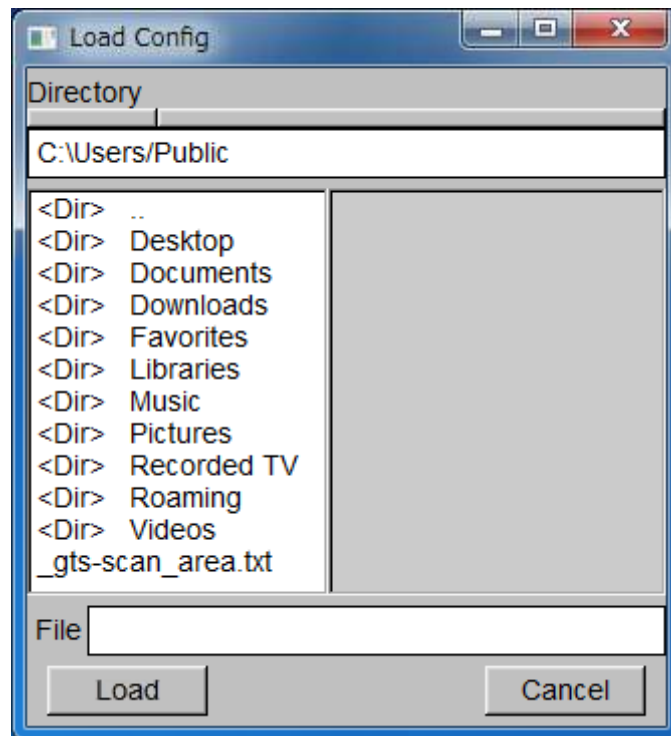
Select the saved file and click the "Load" button.
This will reproduce the work state.

Trace (Full-Color Image Binary)

14 Trace Preparation

First, scan the full-color image.

Select "Level…" from the "File" menu
this will open the "Browse Level" window.

Specify the RGB image file using the following procedure.
  1 Set the pull-down selection item at the bottom right of the "Directory" item of "Browse Level"
     to "Level.tif".
  2 Move to the place where the scanned image is located and set the path to "Directory"
  3 Click the image file name,
     and confirm the display of "Level", "Start", "End"
  4 Click the "OK" button to close it
  5 Confirm that the number and "S" are displayed in the "Number" window

Display the image on the screen
If you select "Preview Trace File" on the "Scanning" menu
the first image of the selected number is displayed.
Incidentally,
when the Zoom value of the image is smaller than 1/2, the binary image will not be redisplayed

How to change the display of the entire image
        "Appendix A How To Change the Image Display"
Please see the above section for details.

To display only images before binarization,
click "main_to_lr_to_sub" in the "Color Trace Window" of the "View" menu.
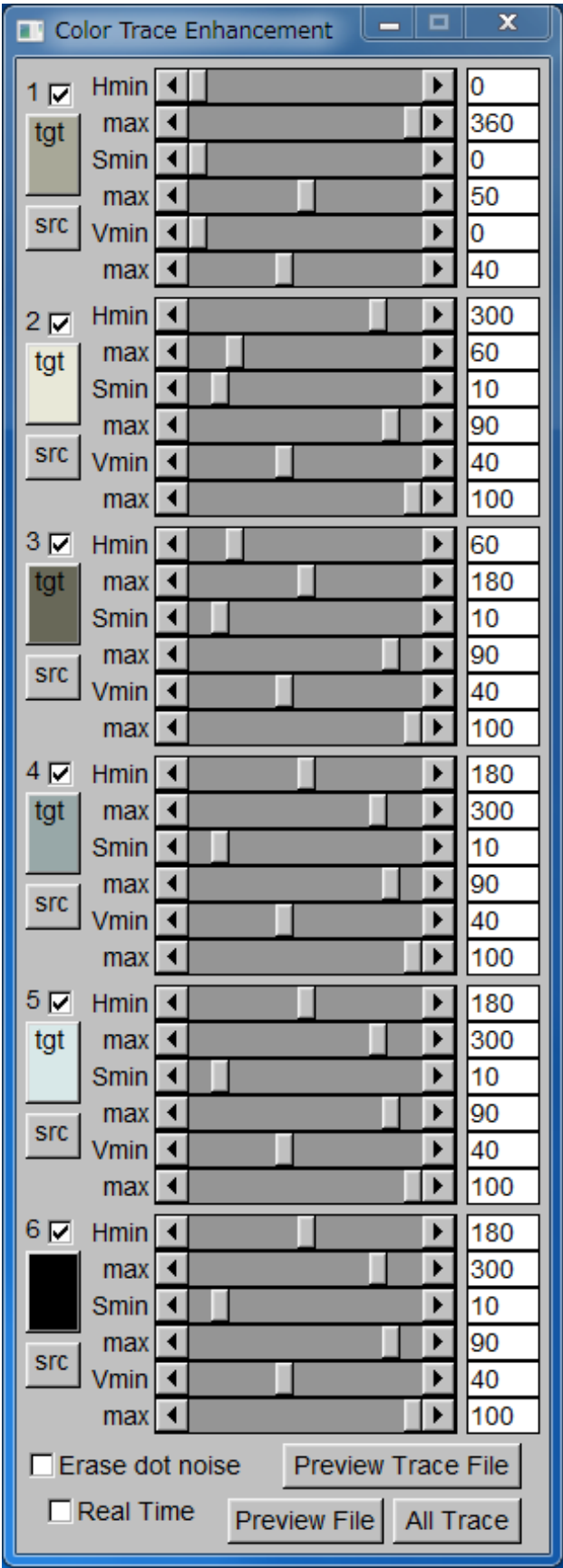Click the same item again to undo.

To display it separately from the top and bottom instead of right and left,
click "lr_to_ud" in the "Color Trace Window" of the "View" menu.
Click the same item again to undo.

15 Trace Adjustment

Select "Color Trace Enhancement..." from the "File" menu
this will open the "Color Trace Enhancement" window.

Information of how you can adjust while looking at the image, is shown below.
At this time, Zoom needs to be set to 1/2 or more,
please check the "Real Time" box.

You can specify up to six colors from 1 to 6 to binarize.

First, they will show initial values
        if you inspect all the numbers on the right
        all the items of Hmin, max, Smin, max, Vmin, max will be set to zero
(all from 1 to 6).

Break the image up into the smallest amount of colors that you want to scan.
For example,
        Highlight Color   Red Pencil
        Black Line   Pencil
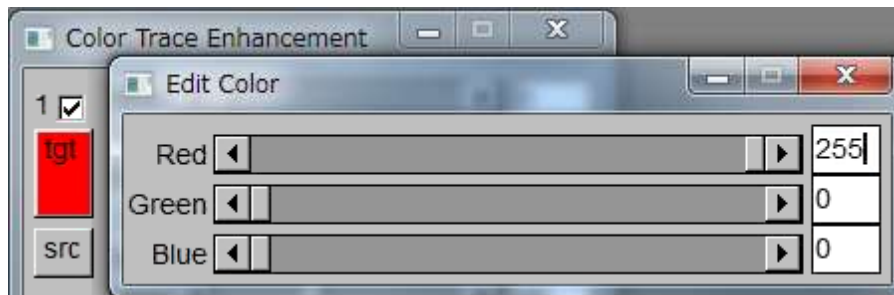   Shade Line   Blue Pencil

When binarizing these three colors
if you want to binarize in order of highlights and then the pencil lines,
use Red Pencil on 1, Pencil on 2, & Blue Pencil on 3.

Set the colors of the desired binarized result.
Click the "tgt" button to display the "Edit Color" window,

specify the color with the slide bars.

Specify the color range to pick up as binarization.
        Red Pencil adjustment example
                Hmin   330
                 max   30
                Smin   Smaller values makes the line thicker, larger values makes the line thinner
                 max   100
                Vmin   0
                 max   100
        Black Line adjustment example
                Hmin   0
                 max   360

	Smin	0
	max	100
	Vmin	0
	max	Larger values makes the line thicker, smaller values makes the line thinner

Blue Pencil adjustment example

	Hmin	210
	max	270
	Smin	Smaller values makes the line thicker, larger values makes the line thinner
	max	100
	Vmin	0
	max	100

Button Explanation

Erase dot noise

If checked, 1 dot noise will be erased.

Automatically block dust points and 1 dot holes on the line.

Real Time

If checked, shows real time changes of numerical values,

or each time you scroll, the binary image will be redisplayed.

This does not work when the Zoom is 1/4 or less.

Please set the Zoom to 1/2 or more.

Preview Trace File

Redisplays the image selected in the "Number" window

and the binarized image.

Preview File

This will redisplay only the image selected in the "Number" window.

All Trace

The binarized image is redisplayed from the current image.

16 Trace Save Execution

If you select "Trace Save" from the "Scanning" menu
it will read the file and save it while binarizing it.

Cancellation can not be canceled.

It will be saved it in the same place as the input image.

If the input image is "A_full.0001.tif", it will be saved with the filename "A.0001.tif".

Full-Color Scan & Trace

17 Trace & Save Simultaneously,

While Scanning Full-Color Images

When scanning is performed with "S.C.T." (Save Color Trace level) checked in the "Browse Level" window, binarized images are saved at the same time.
For example,
full-color image is "A_full.0001.tif"
binary image is   "A.0001.tif"
will both be saved in the same place with the names above.

You can specify a location to store full-color images separately.
First, on the right of "RGB scan dir" in the "Browse Level" window,
click the "Browse" button to turn it ON.
Next, navigate to the place to save, to change the path of "RGB scan dir".
Then, click the "OK" button to close it and execute the scan,
only the full-color images will be saved in this other designated location.

Appendix A How To Change the Image Display

Translation	Drag with the middle mouse button (you are outside the frame if there is a small rectangle)
Expand	Left mouse button or 'z' key
Reduce	Right mouse button or 'x' key
Full View	'm' key
Equal Pixel View	'n' key