

1. What is iTConverter?

iTConverter is an application which runs on Windows95/98/NT and 2000.

This tool outputs 16 bits gray scale TIFF file by converting data of logarithmically compressed img/inf file (QL value) into linear data to analyze with a third party analyzer software the data read using a scanner such as a BAS series scanner.

Its usability enables you to easily convert a file with simple drag & drop based operation.

2. Convertible files

iTConverter can process data of img/inf files of RI (data obtained by reading IP) and fluorescent light.

It can also output gray scale TIFF file of CCD data (data of which the inf file begins with "CCD") which is originally linear expanding the range into 16 bits keeping the ratio of values of img/inf file data.

Other data can not be converted.

The type of data of img/inf file is decided by checking the first three characters of the inf file.

- Inf file beginning with "BAS" or "FDL": RI data (Converted from log into linear.)
- Inf file beginning with "FLA": Fluorescent data (Converted from log into linear.)
- Inf file beginning with "CCD": CCD data (The ratio of values are kept as it is.)
- Inf file beginning with other than the above: Not converted.

For conversion from log into linear file, data of correct "number of bits per a pixel" and "dynamic range (latitude)" are required among inf file data.

3. Method to convert values

3-1. Method to convert logarithmically compressed data into linear data

QL values of img data are converted into PSL values (for RI) or LAU values (for fluorescent light) (expression 1 and 2).

The range is expanded so that the largest QL value (QLMAX) in the data converted into PSL/LAU value ($PSL(QL=MAX)/LAU(QL=MAX)$) be 65535 (figure1).

However, if QL=0, then PSL/LAU=0 and output data=0.

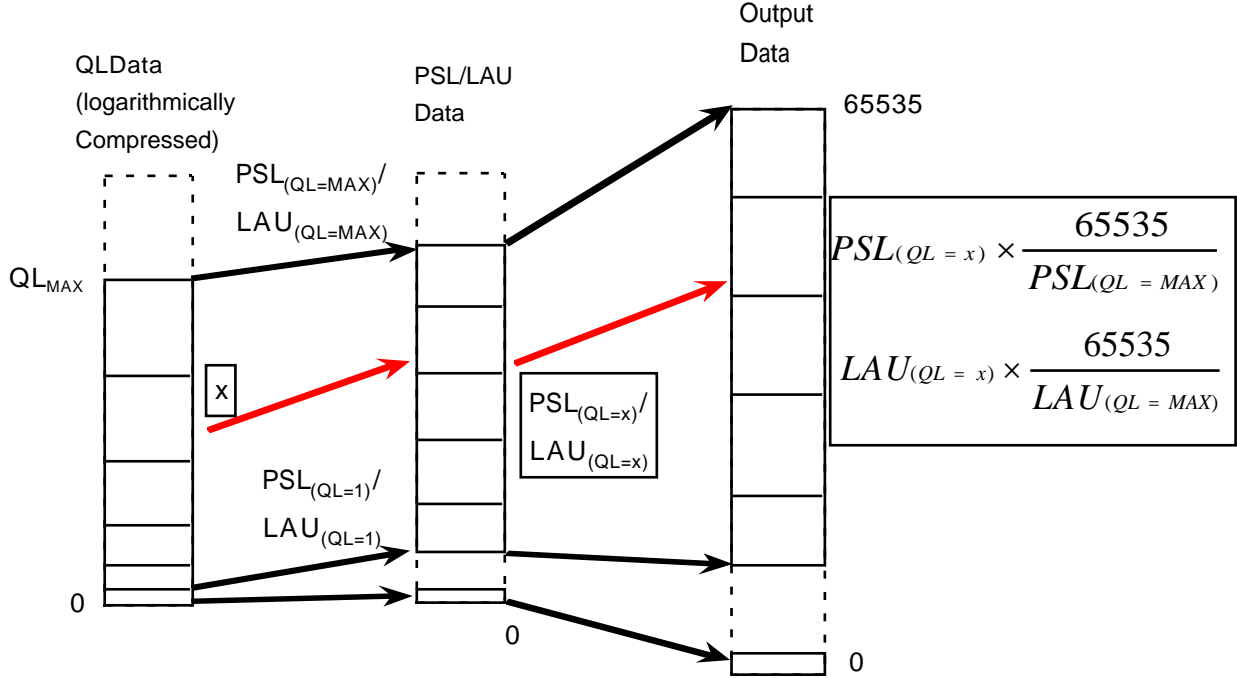


Fig1:Method to convert logarithmically compressed data into linear data

$$PSL = \frac{P_{SIZE}}{100}^2 \times \frac{4000}{S} \times 10^L \frac{QL}{2^B - 2} - \frac{1}{2} \dots (1)$$

However, if QL=0, then PSL=0

expression 1 (PSL: PSL value, Psize: Pixel size(micron meter), S: Sensitivity, L: Dynamic Range(Latitude)

B: bit number per pixel, QL: QL value)

$$LAU = \frac{P_{SIZE}}{100}^2 \times \frac{100}{F} \times 10^L \frac{QL}{2^B - 2} - \frac{1}{2} \dots (2)$$

However, if QL=0, then LAU=0

expression 2 (LAU: LAU value, Psize: Pixel size(micron meter), F: Sensitivity, L: Dynamic Range(Latitude)

B: bit number per pixel, QL: QL value)

3-2. Method to convert CCD data

Because CCD data is linear data from the beginning, it is simply converted to expand its range from 0-[maximum value of QL] to 0-65535 (figure 2).

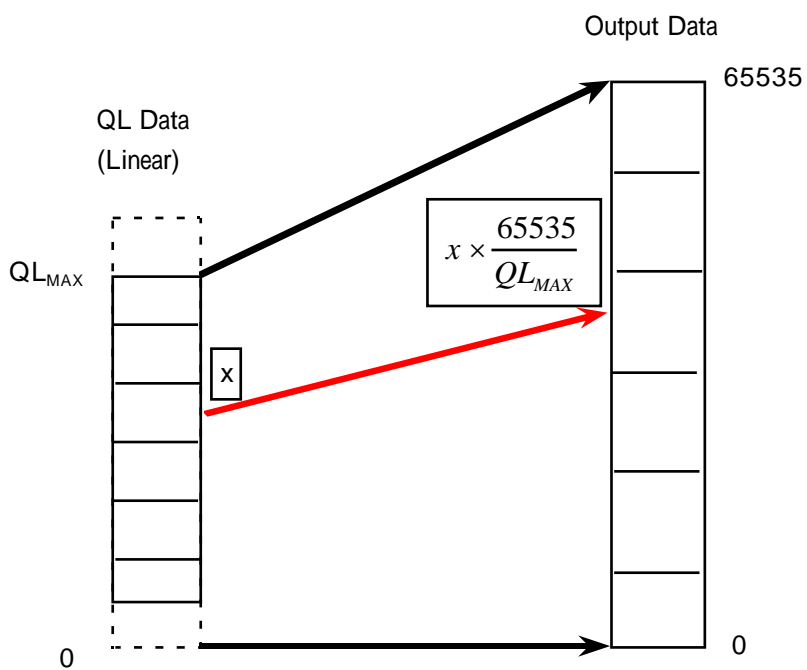


Fig2:Method to convert CCD data

4. File conversion

iTConverter reads inf file ("A.inf") which is in the same folder and has the same name (only extension is different) as the img file ("A.img") for example) to process and converts the data into an img file and generates a TIFF file with the same name and extension tif ("A.tif") in the same folder as the img file. If a TIFF file with the same name as the img file ("A.tif") already exists in the same folder as the img file, iTConverter generates a file with unused name by appending a numeric character to the file name ("A1.tif").

If you specify a folder (by drag and drop or folder selection operation etc.), iTConverter will convert all img files in the folder. However, it will not convert files in sub-folders in the specified folder.

That is, specification of conversion by folder is only effective on one layer.

5. Operation method

You can convert files using iTConverter in several ways.

5-1. Drag and drop file/folder icon on iTConverter icon

Drag and drop img file or folder icon onto iTConverter icon (figure 3) or a short cut icon for iTConverter.

Then, iTConverter will be activated and will execute conversion.

When conversion is completed, iTConverter will be terminated.

You may drag and drop multiple img files or folders for conversion at the same time.

You may also specify img files and folders together.



Fig3:iconofiTConverter

5-2. Drag and drop file/folder icon onto the main window of iTConverter

When you double-click iTConverter icon, a window like shown in Figure 4 will appear.

You can convert data by dragging and dropping img file or folder icon into the window.

Multiple img files or folders may be dragged and dropped for conversion at the same time and you may also mingle img files and folders.

5-3. Select files by pressing "Select 'img' Files..." button in the main window of iTConverter

When you press "Select 'img' Files..." button in the main window of iTConverter (Figure 4-7), standard file selection dialog will appear.

When you select img files there, specified files will be converted.

You may select multiple img files at once in the file selection dialog.

5-4. Select files by pressing "Select Folder..." button of the main window of iTConverter

When you press "Select Folder..." button in the main window of iTConverter (Figure 4-6), folder selection dialog will appear.

When you select folders there, img files in the specified folders will be converted.

Only files in the top layer of the folder will be converted and those in the lower layers will not be converted.

5-5. Give file name from command line or "execute specifying file name"

When you type img file names and folder names you wish to convert following the file name

(path to iTConverter) to execute from command prompt or "execute specifying file name,

" the same processing as that executed when you dragged and dropped file/folder on iTConverter icon

(the same operation as 5-1) will be executed.

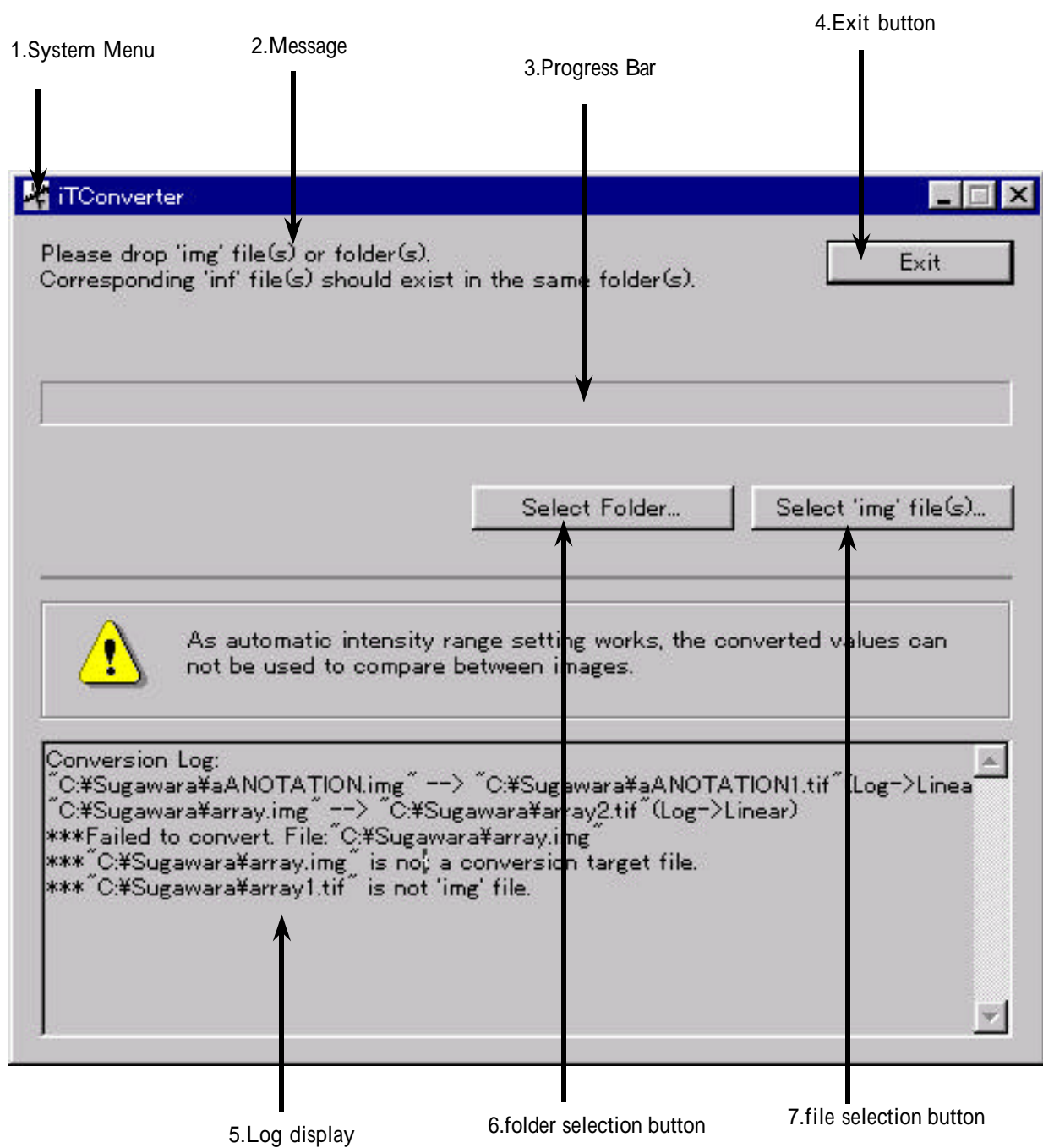


Fig4: Main window of iT Converter