





PrintSimulator Reference MANUAL

Notation

The following icons are used throughout this manual.

Important Indicates warnings about equipment damage and time loss that may result from incorrect operation.

Note Indicates supplementary information and tips that are not included in the body of the manual.

Reference Indicates where to look for related information or shared procedures.

Operation Indicates operational procedures. The actual procedures for operating the system appear in bold and the results of the procedures are in plain text.

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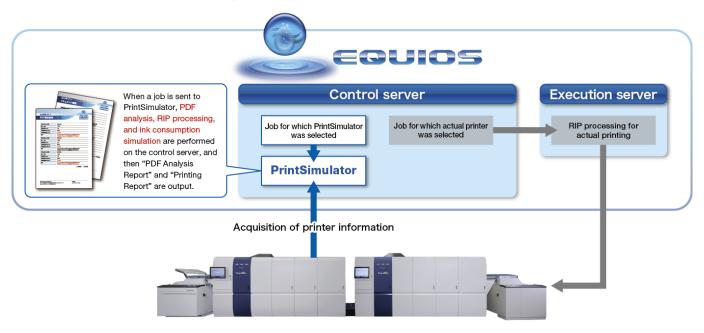
1 Overview of PrintSimulator

PrintSimulator

PrintSimulator estimates the RIP speed, occurrence of RIP errors, and ink consumption without using the Truepress Jet, and creates a printing report. It also analyzes an input PDF and creates a PDF analysis report. The PDF analysis report points out PDF descriptions that may cause a problem during RIP processing.

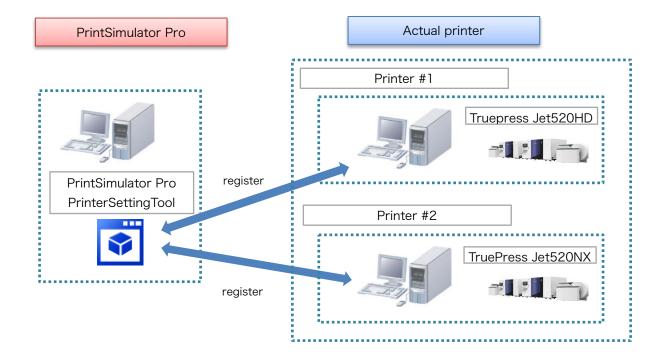
You can improve the operation rate of the Truepress Jet by using PrintSimulator, instead of the Truepress Jet, for part of the test printing performed before a new job is processed (or before a new job is actually ordered).

Configuration of **PrintSimulator**



PrintSimulator Pro

PrintSimulator Pro runs on its own dedicated EQUIOS server, which is not used for actual printers. PrintSimulator Pro enables to perform simulation of multiple Truepress Jet printers on a single server machine. You can check the simulation results via WebUI in addition to a PDF report.



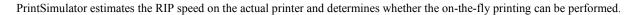
Note

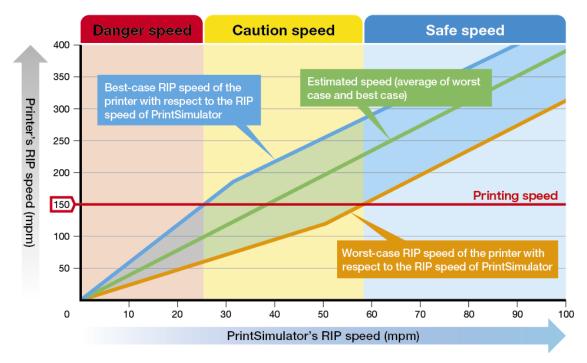
- · Special server and license are required to use PrintSimulator Pro.
- To use multiple Truepress Jet printers for simulation, a license is required for each printer.
- Features specific for PrintSimulator Pro are indicated with [PriS Pro].

Referenc

For PrintSimulator WebUI, see the PrintSimulator WebUI Reference Manual, which is provided separately.

RIP Speed Simulation





PrintSimulator performs RIP processing on the control server. There is a correlative relationship between the RIP speed on the control server and that on the execution server. The slowest RIP speed estimated by PrintSimulator is referred to as the worst case. As the speeds vary depending on the data files, print speeds are compared to the worst case and classified into three levels.

Printing speed faster than the worst case: Safe speed

Printing speed slower than the worst case: Caution speed or Danger speed

"Simulation Speed" in "RIP Speed Simulation" of "Printing Report" shows the printer's RIP speed estimated based on the RIP speed of PrintSimulator. This speed is indicated as B (green line) in the graph above.

Note: The values in the graph are prepared for this explanation and differ from the product specification.

When a speed is estimated as a danger level or caution level, the following message is displayed as an alert. The RIP processing may not keep pace with the processing of the on-the-fly printer. Select the "RIP and Hold" check box or slow down the print speed.

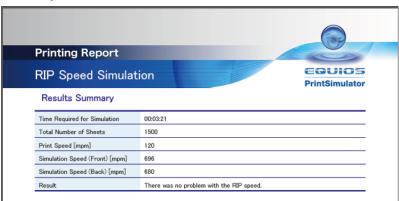
How to read the example graph above (printing speed is 150 mpm)

Simulation speed of PrintSimulator	Comparison with printing speed	Result
250 mpm	Even the worst case (175 mpm) is faster than the printing speed.	Safe speed
200 mpm	The worst case (120 mpm) is slower than the printing speed.	Caution speed
75 mpm	Even the best case (120 mpm) is slower than the printing speed.	Danger speed 1

Reference

You need data for at least 1,500 sheets to estimate the RIP speed accurately. If you do not have a sufficient pages in the test data, increase the number using the Smart Copy Tool. The Smart Copy Tool identifies common objects in the PDF and increases the number of pages in the optimal way for RIP speed estimation. For how to use the Smart Copy Tool, see "Smart Copy Tool" in "4 Tools".

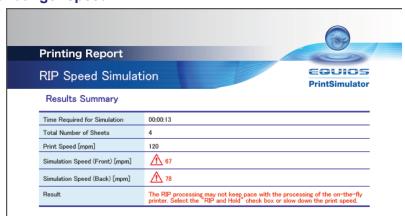
Example of safe speed



Example of caution speed



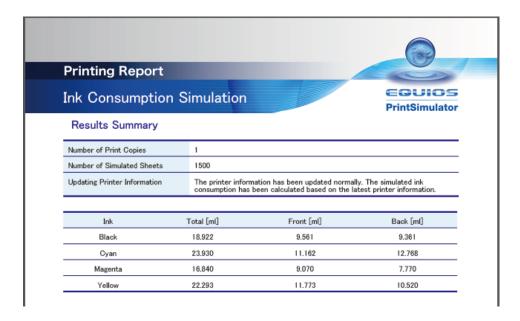
Example of danger speed



Ink Consumption Simulation

An "Ink Consumption Simulation" shows accurate estimation results generated based on the same RIP image as the actual printing after taking into account printer information including printhead uniformity, density settings, and flushing settings. When a PrintSimulator job is issued, the latest printer information is obtained from the printer controller.

Variable data items are also calculated based on the RIP'ed images.



Note

You can also check the ink consumption simulation results in the actual result record.

The actual result information can be output in a CSV file format via **Export result record...**For more information, see the EQUIOS Reference Manual.

PDF Analysis Report

PrintSimulator analyzes the causes of the following PDF problems and creates a report.

- RIP error occurs.
- RIP speed cannot keep pace with the on-the-fly printing.
- RIP results are incorrect.

If the RIP speed is estimated as the caution level or danger level in "RIP Speed Simulation" of "Printing Report", or if a RIP processing error occurs, refer to the problems in the PDF analysis report.

Note: A problem does not always occur during the RIP processing even when a problem is indicated in the PDF analysis report.

Features of PDF analysis report

• High speed analysis of variable PDF problems

To achieve high speed analysis of PDFs including tens of thousands of pages, the file is checked through in order to find feature pages, and then the feature pages are analyzed in detail. The pages from the beginning to page 1,000 are always analyzed in detail.

• Use of analysis know-how from past problems

Each PDF is checked for whether it contains the same descriptions that caused problems during past RIP processing, and then the report is created.

Note

A feature page refers to a representative page in the variable data file. After analyzing a feature page, you can avoid unnecessary processing such as repeated analysis of the Xobject that is commonly used in each page.

PrintSimulator operation workflow

The simulation result report output is generally divided into three processes including the preparation.

Preparation

- Create printing conditions to perform simulation using PrintSimulator on the printer controller.
- When the number of pages in the PDF to be tested is less than 1,500 sheets, increase the number of pages using the Smart Copy Tool.

(The number of pages should not be increased when accurate RIP speed simulation is not required, for example, for book data.)

Output operation

1. Creating a job template

A job template is created for simulation using PrintSimulator. A job template needs to be created for each printing condition.



2. Registering a file to the job template

The PDF to be tested is registered to the job template created in step 1.

Check and subsequent operation

The created "Printing Report" and "PDF Analysis Report" are checked.

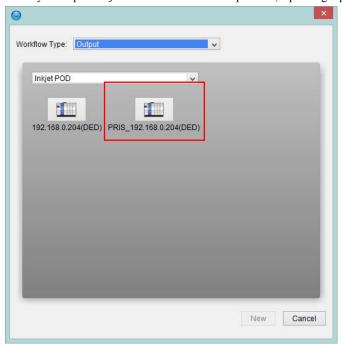
When there is no problem in the results in the reports, test printing (final check) is performed on the printer.

2 Printing Report

How to create a printing report

Creating a printing report

To create a printing report for PrintSimulator, specify PrintSimulator as an output device when you create a job. When you output the job to the PrintSimulator specified, a printing report is created.



Note

- Printing report files are named according to the following rule.
 Job name>_<Date and time>.pdf
 Example) TestJob_20180206205912.pdf
 (The report is created at 20:59:12 on February 6, 2018 from the job named [TestJob].)
- You can specify the sheet range to be tested using PrintSimulator in Specify records (or Specify pages) of Output.

Reference

To change the storage destination and language of printing reports, see "PrintSimulator Setting Tool" in "4 Tools".

Important

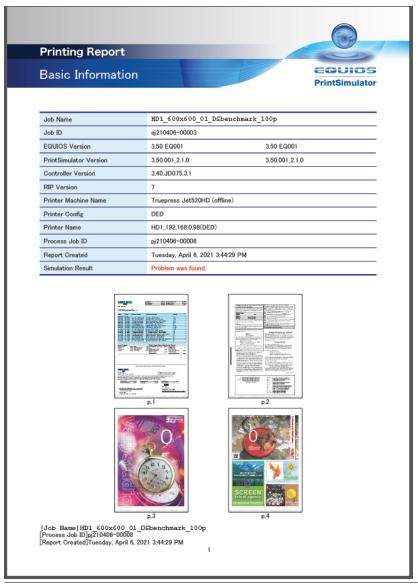
For duplex printing, it will take approximately 8 times longer for the PrintSimulator processing (RIP processing time) than the actual printing.

If you cancel the PrintSimulator processing in the middle, no report will be created.

Information acquired from the printing report

A printing report shows four types of information, including "RIP Speed Simulation" and "Ink Consumption Simulation", in addition to "Basic Information" and "Printer Information".

Basic Information



Job Name	Job name based on which the printing report was created
Job ID	Job ID based on which the printing report was created
EQUIOS Version	EQUIOS version [PriS Pro] EQUIOS version of PrintSimulator Pro, EQUIOS Version of actual printer
PrintSimulator Version	PrintSimulator version [PriS Pro] PrintSimulator version of PrintSimulator Pro, PrintSimulator version of actual printer

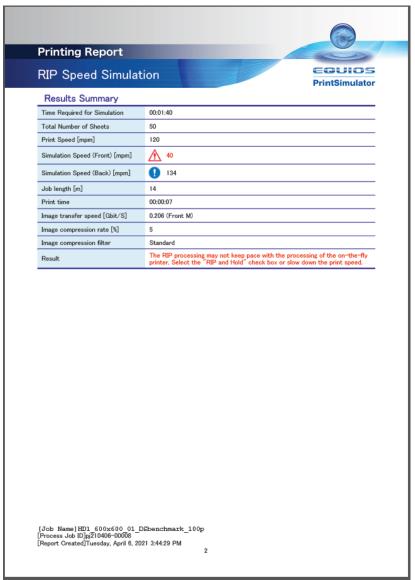
Controller Version	Printer controller version
RIP Version	RIP version that processed the job
Printer Machine Name	Printer model Note: A printer set up offline will be displayed with (offline).
Printer Config	Printer configuration
Printer Name	Printer name
Process Job ID	ID of the process job based on which the printing report was created
Report Created	Creation date and time of the printing report
Simulation Result	Shows whether or not there is a problem based on the simulation results. When it shows "A problem was found.", check "Result" in "RIP Speed Simulation" and "Updating Printer Information" in "Ink Consumption Simulation", and then perform an appropriate countermeasure.
Thumbnail	The number of thumbnails and switching ON/OFF of the thumbnail can be changed using the PrintSimulator Setting Tool.

Important

[PriS Pro] The EQUIOS version on PrintSimulator Pro and the actual printer should be, as much as possible, the same. If the different versions are used, a warning message will be displayed below the simulation result.

Simulation Result	No problem was found.
	The version of EQUIOS differs between PrintSimulator and printer system. Output prediction report may not be accurate.

RIP Speed Simulation



Time Required for Simulation	Time required to estimate the RIP processing time
Total Number of Sheets	Total number of RIP'ed sheets
Print Speed [mpm]	Printing speed in the printing condition setting
Simulation Speed (Front) [mpm]	Estimated speed for the front sheet
Simulation Speed (Back) [mpm]	Estimated speed for the back sheet
Job length[mpm]	Length of the job based on imposition and number of copies. Note: Flushing pages are not included.

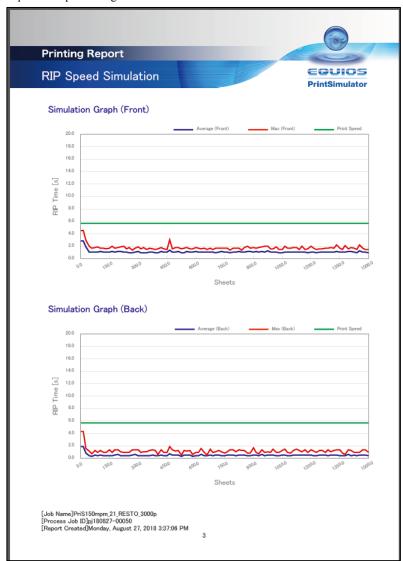
Print time	Printing time of the job. Note: Job length / printing speed
Image transfer speed[Gbit/S]	Image transfer speed of the largest plate (maximum-size plate) within the eight CMYK color separations for the front and back sides. Note: The maximum-size plate is shown in parentheses.
Image compression rate [%]	Average compression ratio of the maximum-size plate. Note: Compression ratio = size after compression / size of raw image.
Image compression filter	Image compression filter for RIP settings specified in the job.
Result	RIP speed simulation result.

Note

If the result falls within the caution speed range, the worst case speed simulation is displayed.

Simulation Graph

Results of RIP processing using PrintSimulator are displayed as a graph. The horizontal axis of the graph indicates the number of sheets and the vertical axis indicates the RIP processing time. You can check that there is no deviation in the time required for processing of sheets in the PDF.

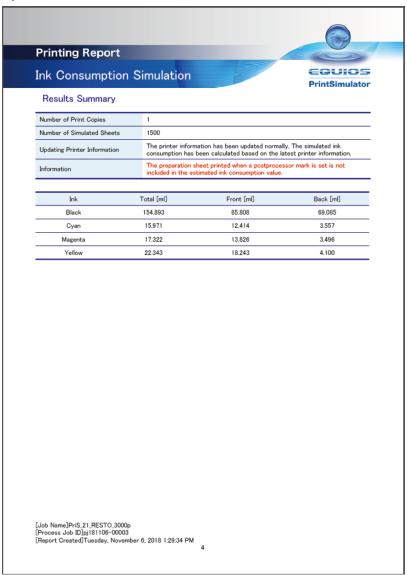


Simulation Graph (Front)	RIP processing time graph for the front sheet
Simulation Graph (Back)	RIP processing time graph for the back sheet
Average	Average RIP processing time between plots on the graph
Max	Maximum RIP processing time between plots on the graph
Print Speed	Reference RIP processing time to follow the print speed

Note

- The number of plots on a graph is 100. When 1,500 sheets are tested, a plot is drawn on every 15 sheets.
- The maximum value for the vertical axis is 20 seconds. If the RIP time exceeds 20 seconds, the maximum value is increased and the scale is changed to red.

Ink Consumption Simulation

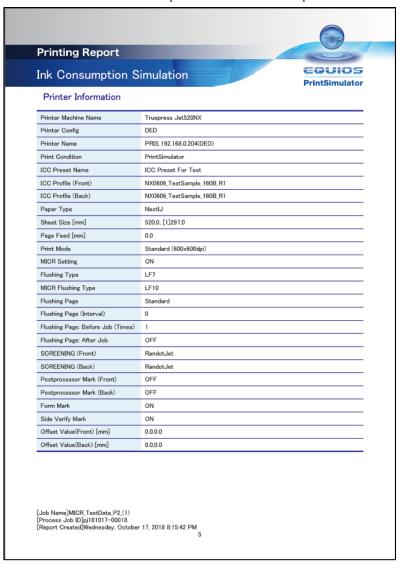


Number of Print Copies	Number of print copies specified in the job ticket
Number of Simulated Sheets	Number of sheets calculated by multiplying the number of sheets in the job by the number of print copies Ink consumption values shown in the "Total" column are calculated using the value of "Number of Simulated Sheets".
Updating Printer Information	Printer information updated when the job is executed

Information	This is displayed when there is any information about ink consumption simulation.
Ink	Ink type. For monochrome printing, it shows only the result for Black.
Total [ml]	Total ink consumption required for front sheet and back sheet
Front [ml]	Ink consumption required for front sheet
Back [ml]	Ink consumption required for back sheet

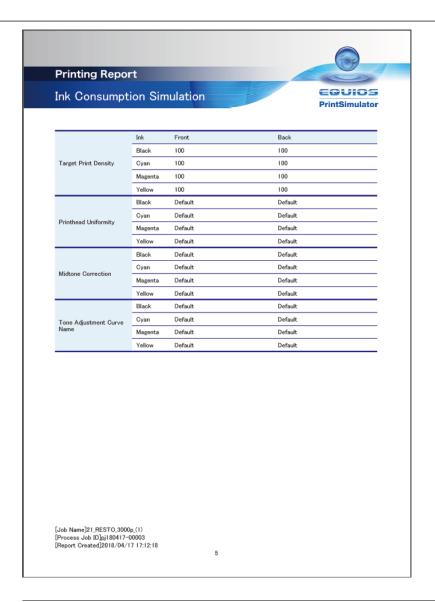
Printer Information

This shows the information on the printer used for ink consumption simulation.



Printer Machine Name	Actual printer model name used for simulation (*1)
Printer Config	Printer configuration

Printer Name	Printer name (*1)
Printing Condition	Printing condition used for creating the printing report (*1)
ICC Preset Name	ICC preset in the printing condition setting (*2)
ICC Profile (Front)	ICC profile name set in "ICC Preset Name" (front)
ICC Profile (Back)	ICC profile name set in "ICC Preset Name" (back)
Paper Type	Paper type in the printing condition setting (*2)
Sheet Size [mm]	Paper size (width, [number of sheets] length) When the paper feed length can be changed in the job, this shows multiple "[number of sheets] length" values.
Page Feed [mm]	Paper feed size in the printing condition setting (*1)
Print Mode	Printing mode in the printing condition setting (*2)
MICR Setting	MICR (ON/OFF) in the printing condition setting (*7)
Flushing Type	Flushing type in the printing condition setting (*4)
MICR Flushing Type	MICR flushing type in the printing condition setting
Multiple Lines	Flushing in page (ON/OFF) in the printing condition setting (*4)
Flushing Page	Flushing page in the printing condition setting (*3)
Flushing Page (Interval)	Flushing page interval in the printing condition setting (*3)
Flushing Page: Before Job (Times)	Flushing count when Before Job is ON under Flushing Page in the printing condition setting It shows OFF when the flushing is set to OFF. (*3)
Flushing Page: After Job	After Job setting (ON/OFF) under Flushing Page in the printing condition setting (*3)
SCREENING (Front)	Screening name (front) in the printing condition setting
SCREENING (Back)	Screening name (back) in the printing condition setting
Postprocessor Mark (Front)	Postprocessor mark (ON/OFF) on the front side in the printing condition setting (*4)
Postprocessor Mark (Back)	Postprocessor mark (ON/OFF) on the back side in the printing condition setting (*4)
Form Mark	Printing start mark (ON/OFF) in the printing condition setting (*4)
Side Verify Mark	Front-back verification mark (ON/OFF) in the printing condition setting (*4)
Offset Value (Front) [mm]	Offset values (front) in the printing condition setting (*4)
Offset Value (Back) [mm]	Offset values (back) in the printing condition setting (*4)

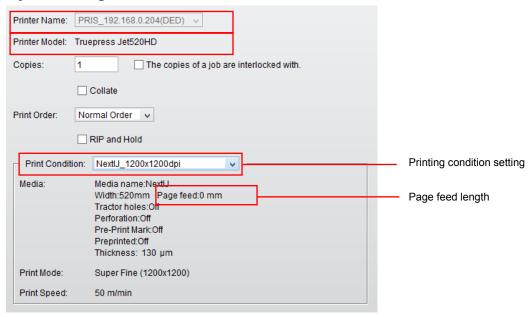


Target Print Density	Target print density for print density adjustment (*5)
Printhead Uniformity	Printhead uniformity setting value (*6)
Midtone Correction	Midtone correction setting value (*5)
Tone Adjustment Curve Name	Printing condition setting: Tone adjustment curve name (*2)

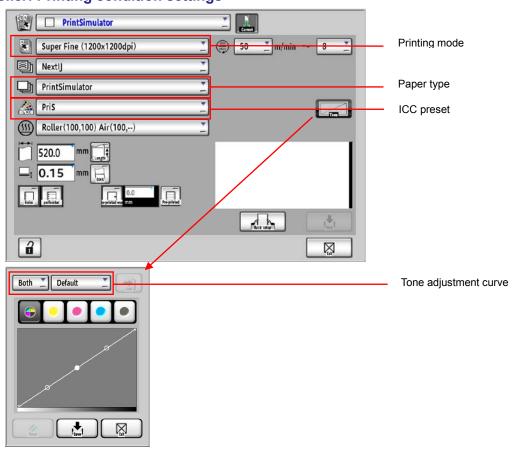
Note

Some printer information items may not be displayed depending on the printer type and availability of the option.

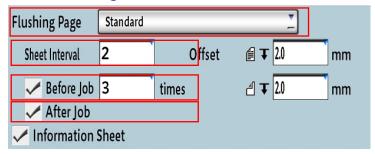
(*1) EQUIOS job: Printing conditions



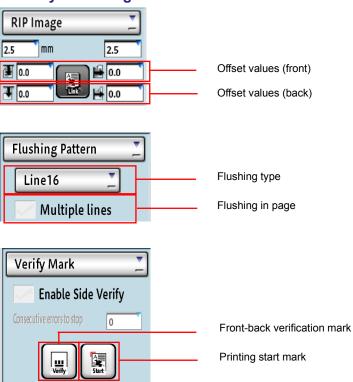
(*2) Controller: Printing condition settings

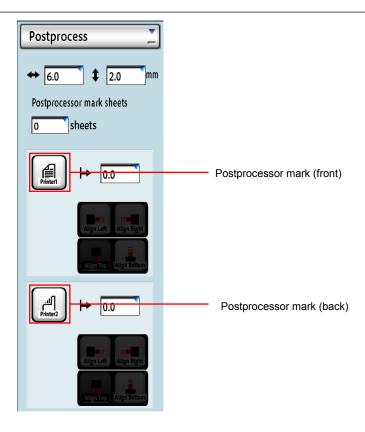


(*3) Controller: Job settings window

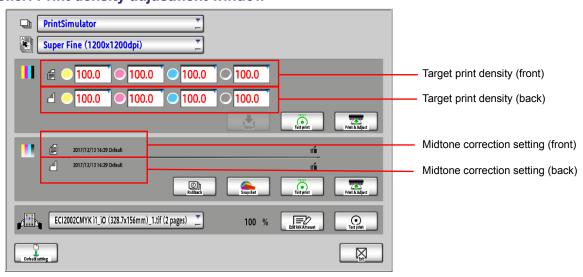


(*4) Controller: Layout settings window

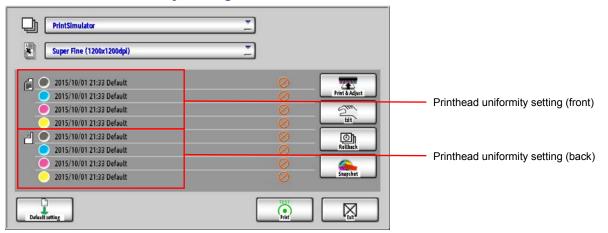




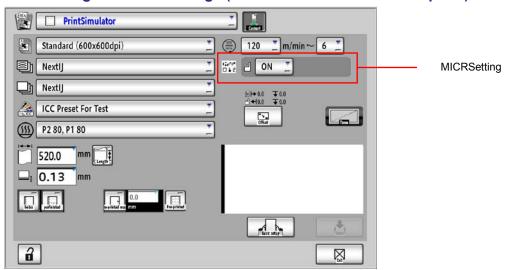
(*5) Controller: Print density adjustment window



(*6) Controller: Printhead uniformity settings window



(*7) Controller: Printing condition settings (TruePress Jet520NX MICR Option)

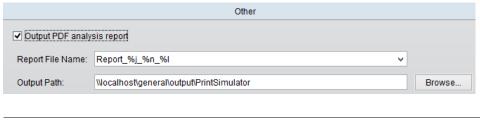


3 PDF Analysis Report

How to output a PDF analysis report

Outputting a PDF analysis report using an input processing ticket

In the Other window of an input processing ticket, perform settings for Output PDF analysis report.



Output PDF analysis report	Select this check box to output a PDF analysis report into the folder specified in Output Path using the file name specified in Report File Name .
Report File Name	Allows you to specify the file name for the PDF analysis report.
Output Path	Allows you to specify the output destination of the PDF analysis report. Click the Browse button to display the Output Path Setting window, in which you can select a folder or create a new folder.

Note

Macros for Report File Name

- %j,%J: Job name
- %n,%N: Input file name (excluding extensions)
- %I,%L: Output time (short form)

Example) September 30 at 20:11:00 becomes "0930201100".

You can use a macro in combination with another one.

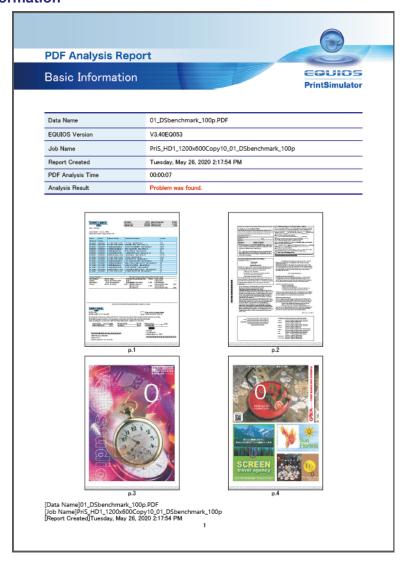
Reference

To create an analysis report directly from a PDF without using an input processing ticket, see "PDF Analysis Tool" in "4 Tools".

Information acquired from the PDF analysis report

A PDF analysis report shows four types of information, including "Document Information" and "PDF Analysis Results", in addition to "Basic Information" and "Detailed Information".

Basic Information

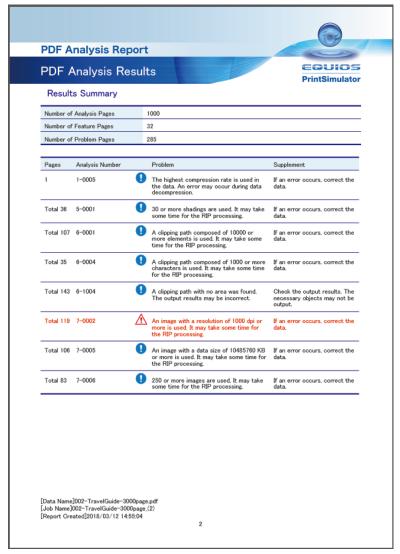


Data Name	Analyzed PDF file name
EQUIOS Version	EQUIOS version
Job Name	Job name
Report Created	Creation date and time of the PDF analysis report
PDF Analysis Time	Time required for the PDF analysis processing
Analysis Result	Shows whether or not there is a problem based on the analysis results. When it shows "Problem was found.", check the analysis results.

Thumbnail

The number of thumbnails and switching ON/OFF of the thumbnail can be changed using the PrintSimulator Setting Tool. The top page of the thumbnail display can be changed at Thumbnail Target Page in the Other window of the input processing.

PDF Analysis Results



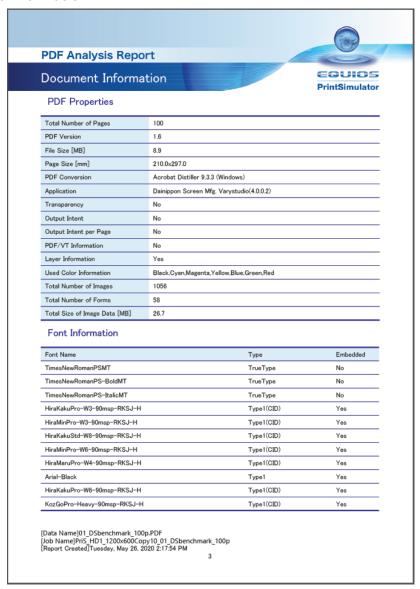
Number of Analysis Pages	Number of analyzed pages
Number of Feature Pages	Number of feature pages
Number of Problem Pages	Number of pages in which any problem was found
Pages	Page number or number of pages in which any problem was found. When the number of pages is noted, the relevant page numbers are indicated in "Detailed Information". "-" will be indicated when the page number cannot be identified.
Analysis Number	Analysis number of problem found in the PDF

Problem	Description and danger level of the problem The danger level is indicated using two types of icons in the "Problem" column. 1: Level 1 A problem may occur during the RIP processing. 1: Level 2 A problem may be more likely to occur during the RIP processing than Level 1. Level 2 is noted in red in the report.
Supplement	Countermeasure against the problem

Reference

For a list of analysis results, see "List of messages for PDF analysis report" in "5 Reference".

Document Information



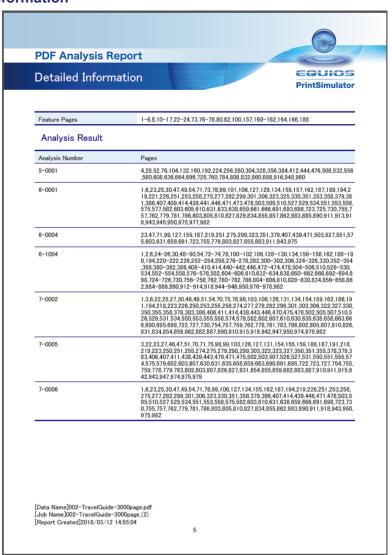
Total Number of Pages Total number of pages in PDF

PDF Version	PDF version
File Size [MB]	PDF size
Page Size [mm]	PDF page size
PDF Conversion	Core software used to create the PDF
Application	Application used to create the PDF
Transparency	Use of transparency effects in the PDF (Yes/No)
Output Intent	Use of output intent in the PDF (Yes/No)
Output Intent per Page	Use of output intent per page in the PDF2.0(Yes/No)
PDF/VT Information	Use of PDF/VT information in the PDF (Yes/No)
Layer Information	Use of layer information in the PDF (Yes/No)
Used Color Information	Color separation information used in the PDF
Total number of Images	Number of images used in the PDF
Total number of Forms	Number of forms used in the PDF
Total size of image data[MB]	Total volume of image data sizes used in the PDF
Font Information	List of fonts used in the PDF

Note

- When a large number of images and/or forms are used, the RIP speed may become slow as images and forms are not shared.
- "Total size of image data" indicates the size of uncompressed image data. Shared images are not calculated more than once. When this value is large, the RIP speed may become slow.

Detailed Information



Feature Pages	Feature page numbers
Analysis Number	Analysis number of a problem found in the PDF
Pages	Page numbers in which the analysis number was detected

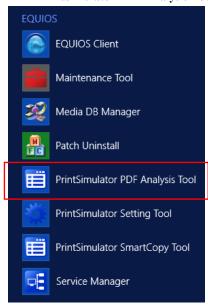
4 Tools

PDF Analysis Tool

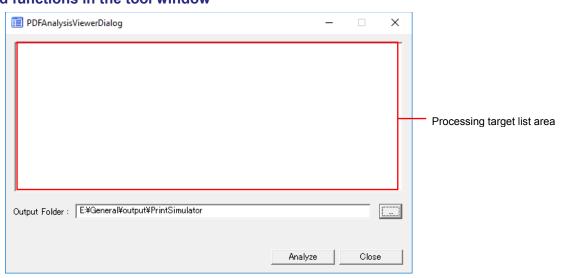
You can output a PDF analysis report directly from a PDF.

How to launch the tool

Click PrintSimulator PDF Analysis Tool to launch the tool.



Names and functions in the tool window



Processing target list area	You can drag and drop PDF files to be analyzed into this area. The dropped PDF files are listed.
Output Folder	Allows you to specify the output destination folder of PDF analysis reports. Click the button to display the Browse For Folder window, in which you can select a folder.
Analyze	Executes an analysis.
Close	Exits the PDF Analysis Tool.

Note

Analysis report files created by this tool are named according to the following rule.

<Input file name>_<Date and time>.pdf

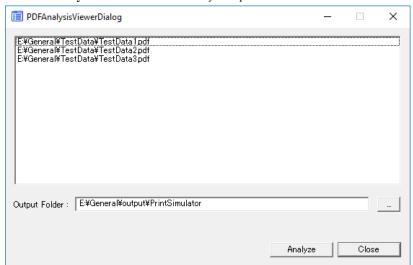
Example) TestData_20180206_205912.pdf

(When the file name is "TestData.pdf" and the creation date and time is 20:59:12 on February 6, 2018.)

How to use this tool

From Explorer, drag and drop a PDF into the processing target list area.

Click the Analyze button to create an analysis report.



Note

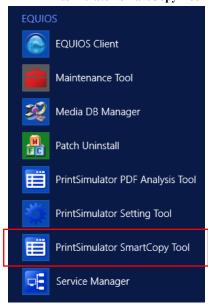
- You can delete the files in the processing target list using the menu displayed by right-clicking the mouse in the processing target list area.
- You can register up to 100 files in the processing target list area at a time.

Smart Copy Tool

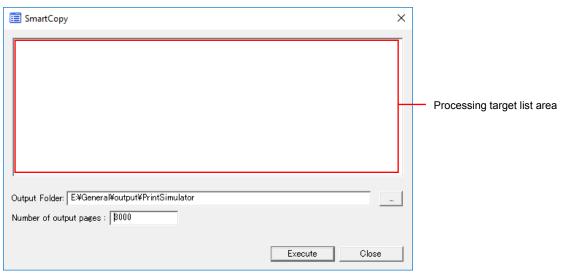
You need at least 1,500 sheets to estimate the RIP speed accurately. If you do not have a sufficient pages in the test data, increase the number using the Smart Copy Tool. The Smart Copy Tool identifies common objects in the PDF and increases the number of pages in the optimal way for RIP speed estimation.

How to launch the tool

Click PrintSimulator SmartCopy Tool to launch the tool.



Description of the tool window



Processing target list area You can drag and drop the PDF for which you want to increase the number of pages into this area. The dropped PDF files are listed. You can register up to 20 files.

Output Folder:	Allows you to specify the output destination folder of the PDF for which the number of pages has been increased. Click the button to display the Browse For Folder window, in which you can select a folder.
Number of output pages:	Allows you to specify the number of pages for the PDF to be output. You can specify up to 10,000 pages.
Execute	Starts the processing.
Close	Exits the Smart Copy Tool.

Note

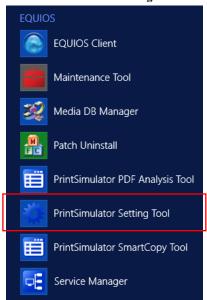
- PDF files to be output are named according to the following rule.
 Input file name>_P<Number of pages to be output>.pdf
 Example) TestData_P3000.pdf
 (When the number of pages for TestData.pdf has been increased to 3,000.)
- If the output destination folder includes a file with the same name as the one to be saved, the older file will be overwritten.
- When the number of pages to be output is less than the number of pages in the input PDF, the processing is not performed.
- You can delete the files in the processing target list using the menu displayed by right-clicking the mouse in the processing target list area.

PrintSimulator Setting Tool

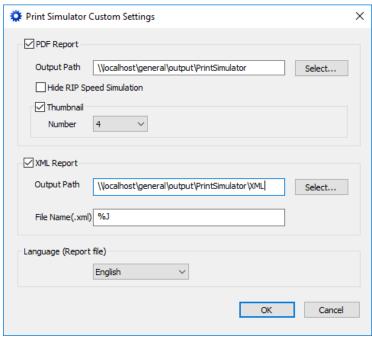
You can set the storage destination and language of printing reports.

How to launch the tool

Click **PrintSimulator Setting Tool** to launch the tool.



Description of the tool window



PDF Report

Select this check box to output PDF Analysis Report and Printing Report. PDF Analysis Report requires the setting of input processing ticket.

Output Path:	Allows you to specify the output destination folder of printing reports. You can specify any folder by clicking the Select button.			
Hide RIP Speed Simulation	Select this check box to hide RIP Speed Simulation of Printing Report.			
Thumbnal	Select this check box to display thumbnails on the PDF Analysis Report and Printing Report. You can set the number of thumbnail pages from "Number".			
XML Report	Select this check box to output an XML Report. The file name of the XML report is <job name="">.xml.</job>			
Output Path:	Allows you to specify the output destination folder of XML reports. You can specify any folder by clicking the Select button.			
File Name(.xml)	Allows you to set a name for the file be output. The following macros are available. %B: Order code %J: Job name %T: File output date and time			
Language (Report file)	Allows you to select a language to create printing reports from the pull-down list. You can select Japanese , English , or Custom .			
ок	Applies the settings and exits the setting tool.			
Cancel	Cancels the settings and closes the setting tool.			

Important

• Language: Custom

Select this option to create a report using a language other than Japanese or English. Before selecting Custom, you need to prepare a file for the target language. A printing report will not be created without a file for the target language.

5 Reference

List of messages for PDF analysis report

No.	Analysis Number	Level	Problem	Supplementary information
1	1-0001	2	There are pages of different sizes used in the data. The output results may be incorrect.	Check the output results.
2	1-0002	1	The PDF includes contents with a volume of 5MB or more. It may take some time for the RIP processing.	There may be a large number of objects, or a large number of complex paths or inline images may be used.
3	1-0003	2	Page magnification is used. An error may occur when "Maintain Compatibility with PDF 1.3" is selected. The output results may be incorrect.	Check the output results. If an error occurs, do not select "Maintain Compatibility with PDF 1.3".
4	1-0004	1	There is a page with a different orientation. The output results may be incorrect.	Check the output results. If an error occurs, unify the orientations of the pages using a PDF editing tool and then save the data.
5	1-0005	1	The highest compression rate is used in the data. An error may occur during data decompression.	If an error occurs, correct the data. *The page number of the problem can not be specified.
6	1-0006	1	Each page has a different output intent. If multiple pages are imposed, it may be output incorrectly.	Check the output results.
7	1-1001	1	The media box origin is set at a position other than the coordinates of (0.0). The output results may be incorrect when output is executed with "Maintain Compatibility with PDF 1.3" selected.	Check the output results. If an error occurs, do not select "Maintain Compatibility with PDF 1.3".
8	1-1002	2	There is a problem with the structure of the mark content. A input error may occur.	If an error occurs, correct the data.
9	1-1003	2	The container hierarchy is very deep. A input error may occur.	If an error occurs, correct the data by optimization of Acrobat etc.
10	2-0001	1	Some fonts are not embedded. The output results may be incorrect.	Check the output results.
11	2-0002	1	A text part using 2500 or more characters is found in the PDF. It may take some time for the RIP processing.	If an error occurs, correct the data.
12	2-1001	2	Table value of TrueType font is incorrect. A RIP error may occur.	If an error occurs, correct the data.
13	2-1002	2	Table value of TrueType font is incorrect. A RIP error may occur.	If an error occurs, correct the data.
14	3-0001	1	A single path is composed of 50000 or more objects. It may take some time for the RIP processing.	If an error occurs, correct the data.
15	3-0002	1	50000 or more stroke paths are used. It may take some time for the RIP processing.	If an error occurs, correct the data.
16	3-0003	1	The path is composed of a total of 200000 or more objects. It may take some time for the RIP processing.	If an error occurs, correct the data.
17	3-1001	2	The coordinate values of the path are set outside the limit range of (-32768 to +32767).	Check the output results.
18	3-1002	2	The CTM coordinate values of the path are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.

19	3-1003	2	The path is set with "0" for the enlargement/reduction value. The output results may be incorrect. Check the output results. The relevant may not be output.		
20	3-1004	1	Some stroke paths were not closed by the close command. The output results may be incorrect.	Check the output results.	
21	3-1005	1	A stroke with a line width of "0" was found. The stroke may not be output.	Check the output results.	
22	3-1006	1	A pattern is used for the stroke. The output results may be incorrect.	Check the output results.	
23	3-1007	1	The CTM of the path are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.	
24	3-1008	1	Because the stroke width is thick, the junction shape of the output result may be incorrect.	Check the output results.	
25	4-0001	2	30 or more patterns are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
26	4-1001	2	A transparent object is used for the pattern. It may take some time for the RIP processing. The output results may be incorrect.	Check the output results.	
27	4-1002	1	A negative value is specified as the interval of pattern cells. The output results may be incorrect.	Check the output results. There may be a problem in the pattern output results.	
28	4-1003	1	"0" is specified as the interval of pattern cells. The output results may be incorrect.	Check the output results. There may be a problem in the pattern output results.	
29	4-1004	1	An extremely large pattern size is set with respect to the interval of pattern cells. The output results may be incorrect.	Check the output results. There may be a problem in the pattern output results.	
30	4-1005	1	A shading object is used for the pattern. It may take some time for the RIP processing.	If an error occurs, correct the data.	
31	4-1006	1	A pattern is used for the pattern. It may take some time for the RIP processing.	If an error occurs, correct the data.	
32	4-1007	2	A small pattern of size including an image is used. A RIP error may occur.	If an error occurs, correct the data.	
33	5-0001	1	30 or more shadings are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
34	5-1001	2	The shading is set with "0" for the enlargement/reduction value. The output results may be incorrect.	Check the output results. The relevant shadings may not be output.	
35	5-1002	1	The CTM of the shading are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.	
36	6-0001	1	A clipping path composed of 10000 or more elements is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
37	6-0002	1	A clipping path composed of a total of 100000 or more objects is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
38	6-0003	1	2500 or more clipping texts are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
39	6-0004	1	A clipping path composed of 1000 or more characters is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	

40	6-1001	2	The coordinate values of the clipping path are set outside the limit range of (-32768 to +32767). The output results may be incorrect.		
41	6-1002	2	The CTM coordinate values of the clipping path are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.	
42	6-1003	2	The clipping path is set with "0" for the enlargement/reduction value. The output results may be incorrect.	Check the output results. The necessary objects may not be output.	
43	6-1004	1	A clipping path with no area was found. The output results may be incorrect.	Check the output results. The necessary objects may not be output.	
44	7-0001	2	A 1-bit image with a resolution of 1000 dpi or more is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
45	7-0002	2	An image with a resolution of 1000 dpi or more is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
46	7-0003	2	A compressed image with a JPEG 2000 format is used. It may take some time for the RIP processing. The output results may be incorrect.	Check the output results. If an error occurs, it can be eliminated by changing the compression format to JPEG.	
47	7-0004	2	The total size of the image data is 1024MB or more. It may take some time for the RIP processing.	If an error occurs, correct the data. *The page number of the problem can not be specified.	
48	7-0005	1	An image with a data size of 10MB or more is used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
49	7-0006	1	250 or more images are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
50	7-0007	1	250 or more inline images are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
51	7-0008	1	A soft mask (transparency effect) is applied to the image. It may take some time for the RIP processing.	If an error occurs, correct the data.	
52	7-0009	1	A 16-bit/channel image is used. The output results may be incorrect.	Check the output results.	
53	7-0010	1	A 1-bit RGB image is used. The output results may be incorrect.	Check the output results.	
54	7-1001	1	The data size of the image is incorrect. A RIP error may occur.	If an error occurs, correct the data.	
55	7-1002	2	The image is used with "0" for the enlargement/reduction value. The output results may be incorrect.	Check the output results. The relevant images may not be output.	
56	7-1003	1	The embedded inline image exceeds 4K bytes. A RIP error may occur.	If an error occurs, correct the data.	
57	7-1004	1	The CTM of the image are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.	
58	8-0001	1	Black point compensation is enabled for the object. The output results may be incorrect.	Check the output results.	
59	8-1001	1	The HT dictionary is referred to directly. A RIP error may occur.	If an error occurs, correct the data.	
60	8-1002	1	A negative value is set as the dotted line phase. The output results may be incorrect.	Check the output results.	

61	8-1003	1	A negative value is specified as the interval of dotted lines. The output results may be incorrect.	Check the output results.	
62	9-0001	1	100000 or more transparent paths are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
63	9-0002	1	2500 or more transparent characters are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
64	9-0003	1	30 or more transparent images are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
65	9-0004	1	30 or more transparent shadings are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
66	9-0005	1	30 or more transparent form XObjects are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
67	9-0006	1	50000 or more overprint paths are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
68	9-0007	1	2500 or more overprint characters are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
69	9-0008	1	1 or more overprint images are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
70	9-0009	1	1 or more overprint shadings are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
71	9-0010	1	15or more overprint form XObjects are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
72	9-1001	2	Transparency effects are set for RGB objects. The output results may be incorrect.	Check the output results.	
73	9-1002	2	Overprinting is set for RGB objects. The output results may be incorrect.	Check the output results.	
74	9-1003	1	White overprint objects are used. The output results may be incorrect.	Check the output results.	
75	9-1004	2	Soft mask dictionary is incorrect. A RIP error may occur.	If an error occurs, correct the data.	
76	10-0001	2	A spot color name uses a prohibited character. The output results may be incorrect.	Check the output results. If an error occurs, change the spot color name.	
77	10-1001	1	Colorless objects are used. The output results may be incorrect.	Check the output results.	
78	10-1002	1	The CS dictionary is referred to directly. A RIP error may occur.	If an error occurs, correct the data.	
79	11-0001	1	RGB or Lab is used for a soft mask (transparency effect). The output results may be incorrect.	Check the output results.	
80	11-0002	1	30 or more form XObjects are used. It may take some time for the RIP processing.	If an error occurs, correct the data.	
81	11-0003	1	Non-default values are set for the coordinate transformation matrix of the form XObject. The output results may be incorrect. Check the output results.		
82	11-1001	2	The coordinate values of the form XObject are set outside the limit range of (-32768 to +32767). An error may occur. The output results may be incorrect.	Check the output results.	

83	11-1002	2	The CTM coordinate values of the form XObject are set outside the limit range of (-32768 to +32767). An error may occur. The output results may be incorrect.	Check the output results.
84	11-1003	2	The form XObject is set with "0" for the enlargement/reduction value. The output results may be incorrect.	Check the output results.
85	11-1004	1	The CTM of the form are set outside the limit range of (-32768 to +32767). The output results may be incorrect.	Check the output results.
86	11-1005	1	An Xobject reference part is set in the form. The output results may be incorrect.	Check the output results.
87	99-0001	2	The PDF is composed of complex transparency objects. It may take some time for the RIP processing.	If an error occurs, correct the data. *The page number of the problem can not be specified.
88	99-0002	2	There are 10000 or more fonts. It may take some time for the RIP processing.	If an error occurs, correct the data. *The page number of the problem can not be specified.
89	99-1001	2	A form with no content is detected. A RIP error may occur.	If an error occurs, correct the data.

Reference of XML output keys

You can output the results of PDF Analysis Report and Printing Report in the XML format using PrintSimulator. This chapter describes the XML structural elements.

Reference

For XML output settings, see "PrintSimulator Setting Tool" in "4 Tools".

1. Overview of output XML

The XML standard version is 1.0 and the text is encoded with UTF8.

The XML uses the <data> tag as the root element and the simulation and analysis data are laid out as the parent-child relation of elements directly under the root (<data>) tag.

The parent-child relationship (nesting) consists of two layers.

```
XML declaration
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
                     Start tag of root element
<data>
- <BASIC>
   <JOB_NAME>PriS_600x600_2320345-1.1.481375-t
   <PROC_JOB_ID>pj200129-00377</PROC_JOB_ID>
   <EQ_VER>3.40EQ043</EQ_VER>
   <DATA_NAME>2320345-1.1.481375-t.pdf
   <JD_VER>3.40.JD021.6.1
   <PRIS_VER>3.40.041</PRIS_VER>
   <DATE>2020/01/29 17:49:17</DATE>
                                                                     Prediction /
   <ERROR_CODE>0</ERROR_CODE>
                                                                     Analysis data
  </BASIC>
                                                                     is described in
- <PDF_RESULT>
                                                                     parent-child
   <ANALYSIS_TIME>7</ANALYSIS_TIME>
                                                                     relationship
   <ANALYSIS_RESULT>1</ANALYSIS_RESULT>
   <NUM_ANALYSIS_PAGES>631/NUM_ANALYSIS_PAGES>
   <NUM_FEATURE_PAGES>12</NUM_FEATURE_PAGES>
   <NUM_ISSUE_PAGES>468</NUM_ISSUE_PAGES>
  </PDF_RESULT>
- <PRINTER>
   <PRINTER_MODEL_NAME>Truepress Jet520HD</PRINTER_MODEL_NAME>
   <PRINTER_CONFIG>DED</PRINTER_CONFIG>
   <PRINTER_NAME>PRIS_192.168.0.204(DED)</PRINTER_NAME>
   <PRINT_CONDITION>NextIJ_600x600dpi</PRINT_CONDITION>
  </PRINTER>
</data>
                     End tag of root element
```

2. Parent element keys of Prediction / Analysis data

The following keys are defined in the parent elements.

Key	Category	Description
BASIC	Basic	Printsumilator Basic Information
PDF_RESULT	Analysis	PDF Analysis Results Summary
PDF_RESULT_DETAIL	Analysis	PDF Analysis Results
PDF_PROP	Analysis	PDF Analysis Information
RIP_RESULT	RIP	RIP Speed Simulation
RIP_RESULT_MSG	RIP	RIP prediction errors and warnings
INK_RESULT	Ink	Ink Consumption Simulation Summary
INK_RESULT_DETAIL	Ink	Ink Consumption Simulation
PRINTER	Ink	Printer Information

3. Child element keys of Prediction / Analysis data

Description of the child element keys of each parent element

3.1 . BASIC element

Key	Туре	Description	Example
JOB_NAME	String	Job name	test_JOB
JOBID	String	JOB ID	ej20025-00001
PROC_JOB_ID	String	Process job ID	pj170101-00001
EQ_VER	String	EQUIOS version	V3.40EQ001
DATA_NAME	String	Data name	Sample.pdf
JD_VER	String	Controller version	V3.40JD001
PRIS_VER	String	PrintSimulator version	V1.00PS001
RIP_VER	Number	RIP version	8
DATE	String	Report created time	2019/11/11 12:12:12
ERROR_CODE	Number	Error code	0
		0: no error	
		1: RIP error	
		2: Ink Simulation error	
		3: Internal error	

3.2 . PDF_RESULT element

Key	Туре	Description	Example
ANALYSIS_TIME	Number	PDF analysis time[sec]	65
ANALYSIS_RESULT	Boolean	Analysis result	1
		0: No problem was found	
		1: Problem was found	
NUM_ANALYSIS_PAGES	Number	Number of Analysis Pages	102
NUM FEATURE PAGES	Number	Number of Feature Pages	9
NUM_ISSUE_PAGES	Number	Number of Problem Pages	7

3.3. PDF_RESULT_DETAIL element

Key	Туре	Description	Example
FOUND_PROBLEMS	String	Analysis Number list	1-0001,1-0002,1-0003,1-0004,1
		For Analysis Number info,	-0005,1-1001,2-0001,2-0002,3-
		refer to file [PrintSimulator Reference MANUAL],	0001,3-0002,3-0003,3-1001,3-1
		section 5 Reference "List of messages for PDF	002,3-1003
		analysis report"	

3.4. PDF_PROP element

Key	Туре	Description	Example
NUM_TOTAL_PAGES	Number	Total Number of Pages	10000
PDF_VER	String	PDF Version	1.6
FILE_SIZE	Number	File Size [MB]	65.9
PAGE_SIZE	String	Page Size [mm] Value represents width and height	311.5x152.4
PDF_CONVERTER	String	PDF Conversion	Adobe PDF Library 15.0
APPLICATION	String	Application	Adobe Indesign CC 2015 (Windows)
DOC_TRANSPARENT	Boolean	Transparenc 0:none / 1:available	1
DOC_OUTPUT_INTENT	Boolean	Output Intent 0:none / 1:available	0
DOC_PDF_VT_INFO	Boolean	PDF/VT Information 0:none / 1:available	0
DOC_LAYER_INFO	Boolean	Layer Information 0:none / 1:available	1
USED_COLOR	String	Used Color Information	Black,Cyan,Magenta,Yellow, Green,Orange
NUM_TOTAL_IMAGES	Number	Total Number of Images	300
NUM_TOTAL_FORMS	Number	Total Number of Forms	400
ANA_IMAGESUMBYTES	Number	Total Size of Image Data [MB] To the first decimal place	100.0

3.5. RIP_RESULT element

Key	Туре	Description	Example
SIMULATION_RESULT	Boolean	Simulation Result	0
		0: no error / 1: there is error in RIP simulation	
RIP_TIME_PREDICT	Number	Time Required for RIP Simulation[sec]	202
NUM_TOTAL_SHEETS	Number	Total Number of Sheets	1500
PRINT_SPEED	Number	Print Speed [mpm]	120
RIP_SPEED_F	Number	Simulation Speed (Front) [mpm] To the first decimal place	203.3
RIP_SPEED_ISSUE_F	Number	Simulation Speed (Front) issue flag 0: no problem, 1: caution, 2: danger	0
RIP_SPEED_B	Number	Simulation Speed (Back) [mpm] To the first decimal place	93.3
RIP_SPEED_ISSUE_B	Number	Simulation Speed (Back) issue flag 0: no problem, 1: caution, 2: danger	1
JOB_LENGTH	Number	Job length[mpm]	445
PRINT_TIME	Number	Print time[s]	235
MAX_IMG_TRANSFER_SPEED	Number	Image transfer speed[Gbit/S]	0.139
MAX IMG SPD PLANE NAME	String	Max plate	Front M
MAX IMG SPD COMPRESS RATE	Number	Image compression rate [%]	5
RIP_IMG_COMPRESS_FILTER	String	Image compression filter None Std: Standard Low: Quality priority High: Compression rate priority	Std

3.6. RIP_RESULT_MSG element

Key	Туре	Description	Example
RIP_SPEED_RESULT	Number	RIP result	1
		0: no problem, 1: caution, 2: danger	

3.7. INK_RESULT element

Key	Type	Description	Example
INK_PRINTS	Number	Number of Print Copies	10
PREDICTED_SHEETS_NUM	Number	Number of Simulated Sheets	500
SYNC_JUDGE	Number	Updating Printer Information	1
_		0: success, 1: fail, 2: no info	

3.8. INK_RESULT_DETAIL element

Key	Туре	Description	Example
BLACK_F	Number	Ink consumption: Black/front	0.730
		Rounded down to the fourth decimal place	
		Not used ink: empty	
		Same as below	
CYAN_F	Number	Ink consumption: Cyan/front[ml]	0.058
MAGENTA_F	Number	Ink consumption: Magenta/front[ml]	0.084
YELLOW_F	Number	Ink consumption: Yellow/front[ml]	0.066
S1_F	Number	Ink consumption: Spot 1/front[ml]	0.267
S2 F	Number	Ink consumption: Spot 2/front[ml]	
S3_F	Number	Ink consumption: Spot 3/front[ml]	
S4_F	Number	Ink consumption: Spot 4/front[ml]	
BLACK_B	Number	Ink consumption: Black/back[ml]	0.267
CYAN_B	Number	Ink consumption: Cyan/back[ml]	0.105
MAGENTA_B	Number	Ink consumption: Magenta/back[ml]	0.126
YELLOW_B	Number	Ink consumption: Yellow/back[ml]	0.117
S1_B	Number	Ink consumption: Spot 1/back[ml]	0.611
S2_B	Number	Ink consumption: Spot 2/back[ml]	
S3_B	Number	Ink consumption: Spot 3/back[ml]	
S4_B	Number	Ink consumption: Spot 4/back[ml]	

3.9 . PRINTER element

Key	Туре	Description	Example
PRINTER MODEL NAME	String	Printer Machine Name	Truepress Jet520HD
PRINTER_CONFIG	String	Printer Config	DED
PRINTER_NAME	String	Printer Name	PRIS_192.168.0.204(DED)
PRINT_CONDITION	String	Print Condition	NextIJ_600x600dpi

EQUIOS Version 3.50 PrintSimulator REFERENCE MANUAL 100410824V04 Published Jun. 2021

 Published by: SCREEN Graphic Solutions Co., Ltd.