

FUJITSU Software

PowerFORM Runtime V12.2

A decorative horizontal band with a dark red background. It features several glowing, overlapping white and light red curved lines and arcs, creating a sense of motion and depth.

Reference

Windows(64)

B1WD-3486-02ENZO(00)
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Preface

PowerFORM Runtime (PowerFORM RTS) is a service program that supports the printing of forms designed using the PowerFORM tool.

Audience

The PowerFORM RTS Reference describes the functions and usage of PowerFORM RTS. This document is intended for developers who makes programs to use form descriptors.

How this Manual is Organized

This manual consists of the following chapters and appendixes:

Chapter 1 Overview

Explains the basics of PowerFORM RTS.

Chapter 2 Operating PowerFORM RTS

Explains the development and execution of application programs.

Chapter 3 Basic Functions

Explains basic printing function.

Chapter 4 Extended Functions

Explains Extended printing function.

Chapter 5 Printer Information File

Explains the printer information file.

Chapter 6 Program Interfaces

Explains the program interfaces provided by PowerFORM RTS.

Appendix A Troubleshooting and Error Recovery

Explains PowerFORM RTS errors and operator responses for error recovery.

Appendix B Special Processing

Explains the special processing of PowerFORM RTS.

Appendix C Printer Information File

Explains the keyword of the printer information file.

Appendix D Trace Log

Explains output log function.

Appendix E Error Messages

Explains the error message that PowerFORM RTS outputs.

Related manuals

- While reading this handbook, you may also wish to use the following manuals:
 - Manuals for the various version of the Windows operating system
- To create form descriptors, use the following manual:
 - PowerFORM Getting Started
- To create application programs in COBOL, use the following manual:
 - NetCOBOL User's Guide

Product Names

Product Name	Abbreviation
Microsoft(R) Windows Server(R) 2019 Datacenter Microsoft(R) Windows Server(R) 2019 Standard Microsoft(R) Windows Server(R) 2019 Essentials	Windows Server 2019
Microsoft(R) Windows Server(R) 2016 Datacenter Microsoft(R) Windows Server(R) 2016 Standard	Windows Server 2016
Microsoft(R) Windows Server(R) 2012 R2 Datacenter Microsoft(R) Windows Server(R) 2012 R2 Standard	Windows Server 2012 R2
Microsoft(R) Windows Server(R) 2012 Datacenter Microsoft(R) Windows Server(R) 2012 Standard Microsoft(R) Windows Server(R) 2012 Essentials Microsoft(R) Windows Server(R) 2012 Foundation	Windows Server 2012
Microsoft(R) Windows Server(R) 2008 R2 Standard Microsoft(R) Windows Server(R) 2008 R2 Enterprise Microsoft(R) Windows Server(R) 2008 R2 Foundation Microsoft(R) Windows Server(R) 2008 R2 Datacenter	Windows Server 2008 R2
Windows(R) 10 Home Windows(R) 10 Pro Windows(R) 10 Enterprise Windows(R) 10 Education	Windows 10(x64)
Windows(R) 8.1 Windows(R) 8.1 Pro Windows(R) 8.1 Enterprise	Windows 8.1(x64)
Windows(R) 7 Home Premium Windows(R) 7 Professional Windows(R) 7 Enterprise Windows(R) 7 Ultimate	Windows 7(x64)

- In this manual, when all the following products are indicated, it is written as "Windows" or "Windows(x64)".
 - Windows Server 2019
 - Windows Server 2016
 - Windows Server 2012 R2
 - Windows Server 2012
 - Windows Server 2008 R2
 - Windows 10(x64)
 - Windows 8.1(x64)
 - Windows 7(x64)

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Chapter 1 Overview

This chapter explains the basics of PowerFORM RTS.

1.1 Outline of PowerFORM RTS Functions

1.1.1 What is PowerFORM RTS?

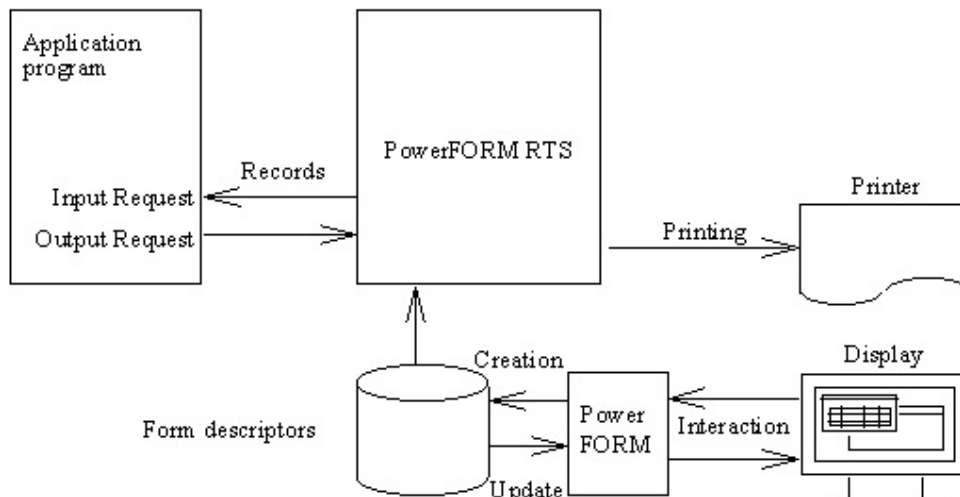
PowerFORM RTS is the service library called when an application program outputs data using a printer.

When PowerFORM RTS is used, the application program need not consider the complicated control codes of the printer. That is, the application program need only consider the output data itself.

The fixed data part of the output data need not be included in the application program. You need define the fixed data only in form descriptors. Then PowerFORM RTS automatically prints the fixed data for you. In addition to the fixed data, form descriptors can also be used to define output information such as output data locations, length, color, and ruled lines. In this case, such output information need not be considered at all in the application program.

Through PowerFORM RTS, application programs using forms are easily created.

Figure 1.1 PowerFORM RTS Operation



1.1.2 PowerFORM RTS Features

- Form descriptors used by PowerFORM RTS have specifications that are common across systems. Therefore, a system can use form descriptors created by other systems.
- Output requests for any field groups can be issued to PowerFORM RTS.
- PowerFORM RTS supports 50 or more numeric edit patterns.
- The character attributes of a field, such as underline bold or italic, in form descriptors can be changed from within the application programs.
- Overlay data common to various systems can be printed in the same way as form descriptors.
- Windows-bitmap, JPEG, TIFF and PNG data can be printed.

1.1.3 Using PowerFORM RTS

Complete the following steps before using the PowerFORM RTS:

- Design the form layout.

- Create a printer information file.
- Create the application program.
- Execute the application program.

To use PowerFORM RTS, create a form descriptor using PowerFORM on Windows. PowerFORM is an interactive tool for creating or updating a descriptor.

In addition to the above descriptor, prepare a printer information file using a text-editor.

The application programs to be used with PowerFORM RTS must be created using the NetCOBOL program language.

After the above preparations have been completed, execute the application programs.

1.1.4 Development Environment of PowerFORM RTS

To develop application programs in COBOL:

Use NetCOBOL V7.0 or later.

1.2 How to Use PowerFORM RTS

PowerFORM RTS uses records to communicate with application programs. Records contain the areas for all the fields defined in a form descriptor with the exception of static fields. The record parts assigned to these fields are record data fields. Records have an area where an application program can change the attributes of each field. PowerFORM RTS then posts the status of each changed field. This area is called a field-control field.

All the record data fields and field-control fields are generically referred to as record data areas.

1. Data storage format

The format for storing data in a record data field depends on the data type.

UNICODE is available, if COBOL program is compiled with RCS (UCS2) option.

The following explains the types of data that can be processed in the various supported fields:

- Numeric fields

External decimal numbers are stored. For details, see "Format of numeric fields" below.

- Text fields

Alphanumeric or UNICODE (UTF8) is stored.

- UCS2 fields

UNICODE (UCS2) is stored. If the COBOL program is encoded to use UTF-32, the actual values that are stored are going to be in Unicode. In order to convert the form descriptor, you would use the CNVMED2UTF32 Command. For further details, please refer to the NetCOBOL User's Guide.

2. Format of numeric fields

A numeric field is represented by an external decimal integer.

Table 1.1 lists the data format of external decimal integers.

Table 1.1 Data format of external decimal integers

		0	1	2	3	4	5	6	7	8	9
None	Character representation	0	1	2	3	4	5	6	7	8	9
	Hexadecimal representation	30	31	32	33	34	35	36	37	38	39
Positive	Character representation	@	A	B	C	D	E	F	G	H	I

		0	1	2	3	4	5	6	7	8	9
	Hexadecimal representation	40	41	42	43	44	45	46	47	48	49
Negative	Character representation	P	Q	R	S	T	U	V	W	X	Y
	Hexadecimal representation	50	51	52	53	54	55	56	57	58	59

1.2.1 Form Descriptor

Form descriptors must be created using PowerFORM.

To use PowerFORM RTS, the directory of the printer information file that contains the above descriptors must be specified. The extensions of the descriptor file names and the number of registered descriptors must be specified.

1.2.2 Printer Information Files

A printer information file is prepared for each printer to be opened. It is created using any text-editor.

You can choose to use either ASCII or UTF-8 as the character-code of the printer information file. In order to use UTF-8, it is necessary that you have added BOM to your system. If BOM is not added, the system will use a default of ASCII.

To open a printer, the corresponding printer information file must be specified using its full path name. If only the file name is specified, the directory of the printer information file must be stated in the environment variable "MEFTDIR". If the environment variable "MEFTDIR" is not defined or a correct directory name is not specified, PowerFORM RTS searches the current directory.

If a printer information file is not found in the current directory, it is assumed that the file was omitted. PowerFORM RTS then uses the default values.

For an explanation of the information that can be specified in a printer information file, see "Printer Information File".

Chapter 2 Operating PowerFORM RTS

This chapter explains the preparations required before using PowerFORM RTS and explains the development and execution of application programs. For an explanation of installing PowerFORM RTS:

Refer to the "NetCOBOL Installation Guide".

2.1 Developing Application Programs

An application program must be coded to output print files with the FORMAT clause. The compile option "FORMLIB" must be specified, and the pathname of the directory in which form descriptors are stored must be provided.

2.2 Executing Application Programs

To execute an application program that uses PowerFORM RTS, set the following environment variables:

1. PATH

- Explanation
Specify search path of PowerFORM RTS.
- Setting
Sets the PowerFORM RTS-installed directory.
- Example

```
SET PATH=C:\Program files\PowerFORM RTS;%PATH%
```

2. MEFTDIR

- Explanation
Specify search path of printer information files as environment variable "PATH".
- Setting
Specifies the storage directory for the printer information files. Two or more directories can be specified by delimiting them with a semicolon.
- Example

```
SET MEFTDIR=C:\DIR1;C:\DIR2
```

3. MEFTPRE

- Explanation
Specify print preview mode.
- Setting
N: No preview.
A: Asynchronous mode. Printing process will not wait for closing of preview window.
S: Synchronous mode. Printing process will wait for closing of preview window.
- Example

```
SET MEFTPRE=A
```

4. MEFTDLG

- Explanation
Specify print dialog mode.

- Setting

N: No print dialog.

Y: Print dialog is enabled and "Cancel" button functions as "Discard changes". Printing will be processed.

CAN: Print dialog is enabled and "Cancel" button functions as "Cancel printing". Printing will be canceled.

- Example

```
SET MEFTDLG=CAN
```

Chapter 3 Basic Functions

Application programs use form descriptors to output data to the printer. Three PowerFORM RTS functions are used for printing. Finally, the physical aspects (the form and the type of paper) must be defined. This chapter covers these basic printing operations:

3.1 Using PowerFORM RTS

This section uses the results of printing the sales slip shown in Figure 3.1 to illustrate the basic functions of PowerFORM RTS.

Figure 3.1 A sales slip to be printed

Sales slip			Slip No.	
Customer code				
Customer name A				
Delivery date				
No.	Item code	Item	Quantity	Amount
1	0005	Rince	4	2,000
2	0006	Shampoo	4	2,000
3	0020	Conditioner	2	2,000
4				
5				
<u>Totals</u>				

Figure 3.2 below shows a program that prints a sales slip such as that shown in Figure 3.1.

Figure 3.2 Sample Program: Printing a Sales Slip

```
...
INPUT-OUTPUT      SECTION.
FILE-CONTROL.
SELECT print-file ASSIGN TO PRTFILE
  ORGANIZATION      IS SEQUENTIAL
  ACCESS MODE       IS SEQUENTIAL
  FORMAT            IS PRT-FORMAT
  GROUP             IS PRT-GROUP
.
...
DATA              DIVISION.
FILE              SECTION.
FD print-file.
COPY BILL OF XMDLIB.
...
PROCEDURE         DIVISION.
  OPEN OUTPUT print-file.
  INITIALIZE BILL.
  MOVE "BILL" TO PRT-FORMAT.
  MOVE "SCREEN" TO PRT-GROUP.
  WRITE BILL.
  CLOSE print-file.
```

When an application program uses a form descriptor, the following PowerFORM RTS functions are used:

3.1.1 Open

The open function declares the start of output to the printer and specifies the printer information file. To output data to the printer, always execute the open function before using other functions. In Figure 3.2, the following statement opens the printer:

```
OPEN OUTPUT print-file
```

File identifier specified in ASSIGN clause: Printer information file name

FILE STATUS clause: Return code storage area for abnormal termination of the open process

After the operation is complete, be sure to close the file opened by the application program. If it is not closed, data is not printed and internal resources can remain allocated.

3.1.2 Specifying the Form Descriptor

You need to provide the name of the group and form descriptor to the PowerFORM RTS.

```
MOVE "SCREEN" TO PRT-GROUP.
```

Name of field group containing all fields in the descriptor

```
MOVE "BILL" TO PRT-FORMAT.
```

Specification of form descriptor "BILL"

3.1.3 Output

Output sends fixed data in the form descriptor, data provided by the application program, and overlay data to the printer. Actual printing is done during the close process.

In Figure 3.2, the following statement outputs data to the printer:

```
WRITE BILL
```

FILE STATUS clause: Return code storage area at abnormal termination.

If close is not executed and data output continues, temporary space on the disk may become insufficient, causing a system error. Execute the printing process by using the close function or increase the temporary space if necessary. Create the temporary space by setting environment variable TEMP or TMP. Refer to your Windows operating system manuals for details.

3.1.4 Close

Close declares the end of output to the printer and disables any PowerFORM RTS functions except Open.

After the close function is executed, printing starts.

In Figure 3.2, the following statement closes the printer:

```
CLOSE print-file
```

FILE STATUS clause: Return code storage area for abnormal termination of the close process.

3.2 Specifying Fields

Output is executed for a field. When the form descriptor is created, add the partition names to the partition. Specify the partition name in GROUP clause, and execute WRITE statements.

3.3 Printing Forms

This section explains the output process when PowerFORM RTS is used to print forms.

3.3.1 Partition Output

In partition output, the position of the field to be printed is not specified when creating the descriptor. The program dynamically specifies the position of the field. The position of the immediately preceding printed field is used as a reference. The print position is dynamically specified by feeding any number of lines before or after a field group is printed.

Partition field groups include the floating partition field group and fixed partition field group. The print position of the floating partition field group can be dynamically specified. The position of the fixed partition field group is specified when creating the descriptor. The field group is always printed at the position with the left top end of the form used as an origin.

When a partition field group is printed, execute the form feed function or line feed function as required. If the descriptor is changed, the system executes form feed processing according to the vertical size of the form.

If a fixed partition is output which has a position before the position of the immediately preceding output partition, a form feed is output before the fixed partition. The partition is then printed at the specified position.

Note: For a fixed partition field group that specifies a number of lines to be fed, only "printing before line feed" is valid.

The following print methods are valid for partition output:

- Printing before a line feed
- Printing after a line feed

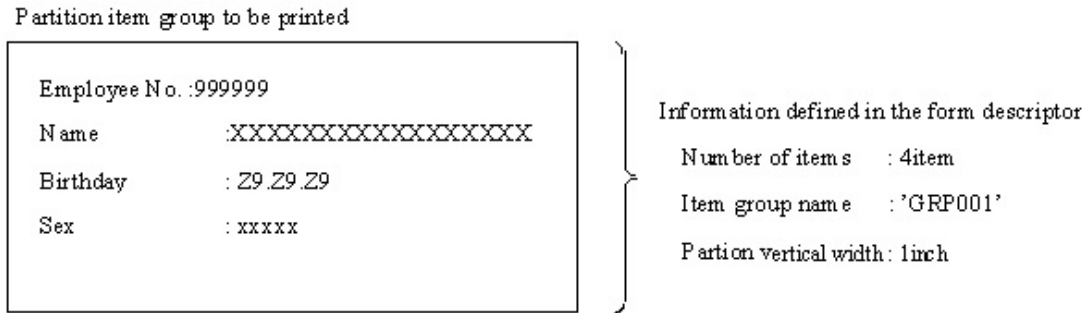
1. Printing before a line feed

Printing before line feed prints a partition field group, then feeds the specified number of lines.

The number of lines is specified during output. If 0 is specified, no lines are fed. If 0 is specified for the number of lines and a floating partition field group is continuously printed using partition output, the first line of the field group overlaps with the last line of the previously printed field group. To avoid this processing error, specify something other than 0 for the number of lines or leave the last or first line of the partition field group blank when creating the descriptor.

Figure 3.3 shows an example of printing before line feed.

Figure 3.3 Example of printing before a line feed



The above partition field group is used to execute printing after line feed twice consecutively. Four lines are fed before printing.

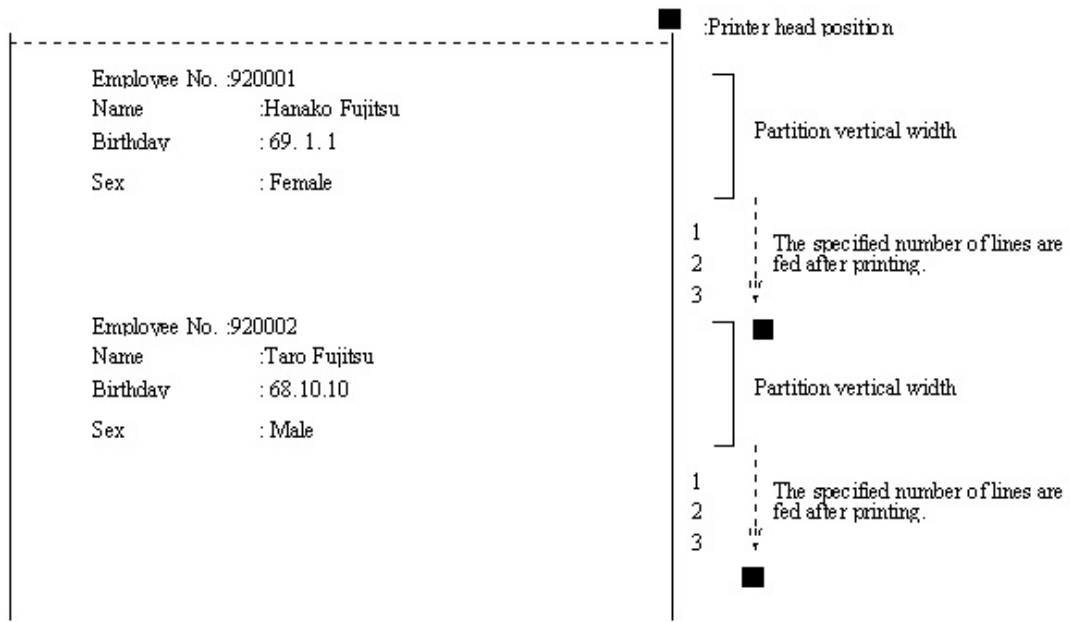


Figure 3.4 Sample Program: Printing before line feed

```
MOVE descriptor-name TO PRT-FORMAT.
MOVE partition-name TO PRT-GROUP.
...
WRITE record BEFORE ADVANCING 4
...
WRITE record BEFORE ADVANCING 4
```

2. Printing after a line feed

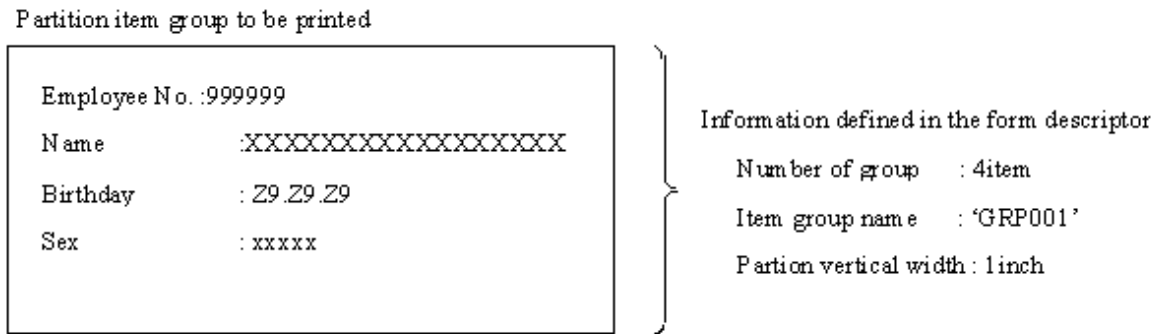
Printing after a line feed feeds a specified number of lines, and then prints a partition field group.

The number of lines is specified during output. If 0 is specified, no lines are fed. If 0 is specified for the number of lines and a floating partition field group is continuously printed using partition output, the first line of the field group overlaps with the last line of the previously printed field group. To avoid this output error, specify a value other than 0 for the number of lines or leave the last or first line of the partition field group blank when creating the descriptor.

Printing after line feed is only valid for a floating partition field group. When a fixed partition field group is printed, the number of feed lines specified by the application program is ignored. The fixed partition field group is always printed at the position specified in the descriptor.

Figure 3.5 shows an example of printing after line feed.

Figure 3.5 Example of printing after a line feed



The above partition field group is used to execute printing after line feed twice consecutively. Four lines are fed before printing.

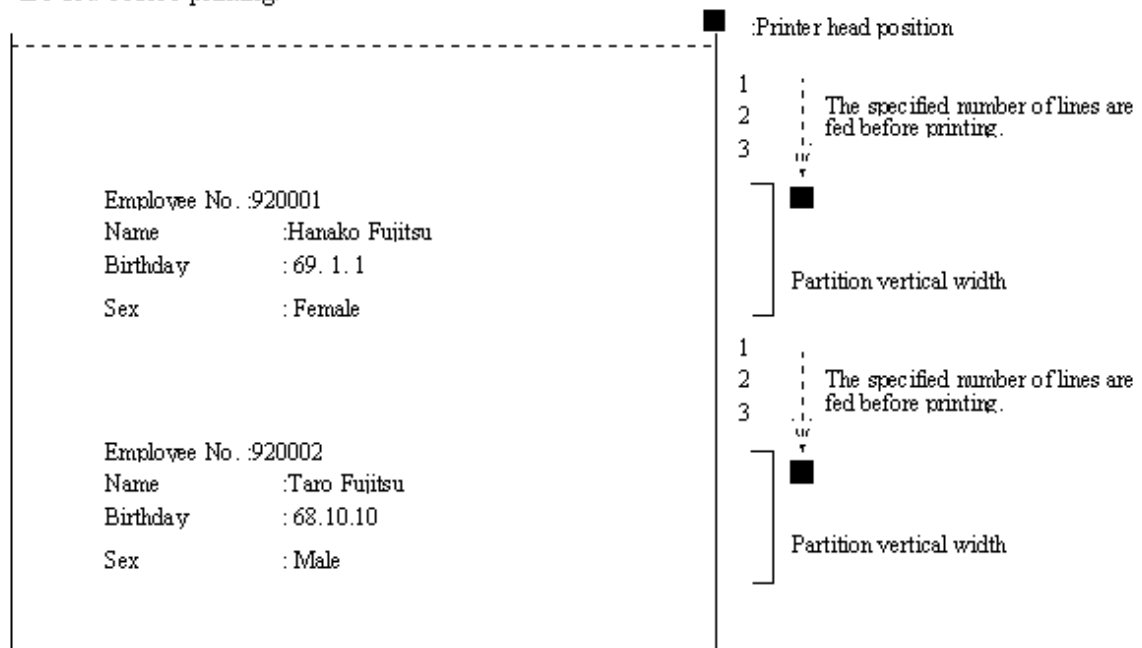


Figure 3.6 Sample Program: Printing after line feed

```
MOVE descriptor-name TO PRT-FORMAT.
MOVE partition-name TO PRT-GROUP.
...
WRITE record AFTER ADVANCING 4
...
WRITE record AFTER ADVANCING 4
```

3.3.2 Output Field Decorations

The application program can set editing for the data stored in the record data area for each field.

These decorations are explained below.

1. Character color output

The color of the character to be printed is specified for each field when creating the descriptor. Setting the field color attribute enables the color specified when creating the descriptor to be changed dynamically and disables printing of data for the field to be output.

One of the following seven colors can be specified for the character color:

- Black

- Red
- Green
- Yellow
- Blue
- Pink
- Cyan

2. Character highlight

The application program can print decorating data by using Setting the field highlight attribute.

One of the following seven can be specified for the decoration:

- Bold
- Italic
- Bold-Italic
- Underline
- Bold with underline
- Italic with underline
- Bold-Italic with underline

Underline is drawn for the character strings or whole field.

Moreover specify the parenthesized value for the field control to specify the underlined character.

3. Font specification

Depending on the font installation state, different fonts may be used. Therefore, specify and install the particular font.

4. Numeric editing

Numeric fields can be printed with data edited.

The edit format is specified when creating the descriptor.

Numeric fields can now be handled with a size up to 31 digits.

See Table 3.1, "Edit Format and Example of Edit and Output" for an example of the print results when the edit format is specified.

Table 3.1 lists examples of editing formats and editing output.

Table 3.1 Examples of editing formats and editing output

Data value	123456	001234	-00123.4	00000.0	-0.34
Number of all digits	6	6	6	6	2
Number of decimal digits	0	0	1	1	2
Editing format					
999,999,999,999,999,999	123,456	001,234	00,123.4	00,000.0	.34
ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9	123,456	1,234	123.4	0.0	.34
9999999999999999999	123456	001234	00123.4	00000.0	.34
ZZZZZZZZZZZZZZZZ9	123456	1234	123.4	0.0	.34
,,***,***,***,**9	123,456	**1,234	***123.4	*****0.0	.34
\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$9	\$123,456	\$1,234	\$123.4	\$0.0	\$.34
999,999,999,999,999,999CR	123,456__	001,234__	00,123.4CR	00,000.0__	.34CR

Data value	123456	001234	-00123.4	00000.0	-0.34
Number of all digits	6	6	6	6	2
Number of decimal digits	0	0	1	1	2
Editing format					
<i>ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9</i> CR	123,456__	1,234__	123.4CR	0.0__	.34CR
9999999999999999999999CR	123456__	001234__	00123.4CR	00000.0__	.34CR
<i>ZZZZZZZZZZZZZZZZZZZZ</i> 9CR	123456__	1234__	123.4CR	0.0__	.34CR
<i>***,***,***,***,***,***</i> 9CR	123,456__	**1,234__	***123.4CR	*****0.0__	.34CR
<i>\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$</i> 9CR	\$123,456__	\$1,234__	\$123.4CR	\$0.0__	\$.34CR
999,999,999,999,999,999-	123,456_	001,234_	00,123.4-	00,000.0_	.34-
<i>ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9</i> -	123,456_	1,234_	123.4-	0.0_	.34-
9999999999999999999999-	123456_	001234_	00123.4-	00000.0_	.34-
<i>ZZZZZZZZZZZZZZZZZZZZ</i> 9-	123456_	1234_	123.4-	0.0_	.34-
<i>***,***,***,***,***,***</i> 9-	123,456_	**1,234_	***123.4-	*****0.0_	.34-
<i>\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$</i> 9-	\$123,456_	\$1,234_	\$123.4-	\$0.0_	\$.34-
-999,999,999,999,999,999	123,456	001,234	-00,123.4	00,000.0	-.34
<i>-ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9</i>	123,456	1,234	-__123.4	0.0	-.34
-9999999999999999999999	123456	001234	-00123.4	00000.0	-.34
<i>-ZZZZZZZZZZZZZZZZZZZZ</i> 9	123456	1234	-__123.4	0.0	-.34
<i>._***,***,***,***,***,***</i> 9	123,456	**1,234	-.***123.4	*****0.0	-.34
<i>-\$\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$</i> 9	\$123,456	\$1,234	-__-\$123.4	\$0.0	-\$0.34
<i>-----,-----,-----,-----,-----</i> 9	123,456	1,234	-123.4	0.0	-.34
<i>-----9</i>	123456	1234	-123.4	0.0	-.34
<i>ZZZZZZZZZZZZZZZZZZZZ</i>	123456	1234	123.4	(*1)	.34
2-digit delimited editing Z9.Z9.Z9	12.34.56	0.12.34	(*2)	(*2)	(*2)
2-digit delimited editing 99.99.99	12.34.56	00.12.34	(*2)	(*2)	(*2)
<i>ZZZZZZZZZZZZZZZZZZZZ</i> -	123456_	1234_	123.4-	(*1)	.34-
<i>-ZZZZZZZZZZZZZZZZZZZZ</i>	123456	1234	-__123.4	(*1)	-.34
999,999,999,999,999,999DB	123,456__	001,234__	00,123.4DB	00,000.0__	.34DB
<i>ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9</i> DB	123,456__	1,234__	123.4DB	0.0__	.34DB
9999999999999999999999DB	123456__	001234__	00123.4DB	00000.0__	.34DB
<i>ZZZZZZZZZZZZZZZZZZZZ</i> 9DB	123456__	1234__	123.4DB	0.0__	.34DB
<i>***,***,***,***,***,***</i> 9DB	123,456__	**1,234__	***123.4DB	*****0.0__	.34DB
<i>\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$,\$\$\$\$</i> 9DB	\$123,456__	\$1,234__	\$123.4DB	\$0.0__	\$.34DB
999,999,999,999,999,999+	123,456+	001,234+	00,123.4-	00,000.0_	.34-
<i>ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZ9</i> +	123,456+	1,234+	123.4-	0.0_	.34-
9999999999999999999999+	123456+	001234+	00123.4-	00000.0_	.34-
<i>ZZZZZZZZZZZZZZZZZZZZ</i> 9+	123456+	1234+	123.4-	0.0_	.34-

Data value	123456	001234	-00123.4	00000.0	-0.34
Number of all digits	6	6	6	6	2
Number of decimal digits	0	0	1	1	2
Editing format					
,,***,***,***,***,***g+	123,456+	**1,234+	***123.4-	*****0.0_	.34-
\$\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$9+	\$123,456+	\$1,234+	\$123.4-	\$0.0_	\$.34-
+999,999,999,999,999,999	+123,456	+001,234	-00,123.4	00,000.0	-.34
+ZZZ,ZZZ,ZZZ,ZZZ,ZZZ,ZZZ9	+123,456	+_1,234	-__123.4	0.0	-.34
+9999999999999999999	+123456	+001234	-00123.4	00000.0	-.34
+ZZZZZZZZZZZZZZZZZZ9	+123456	+_1234	-_123.4	0.0	-.34
+***,***,***,***,***,***,***g	+123,456	+**1,234	-***123.4	*****0.0	-.34
+\$\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$,\$\$\$9	+\$123,456	+_\$1,234	-__\$123.4	\$0.0	-\$.34
++++,++++,++++,++++,++++,++9	+123,456	+1,234	-123.4	0.0	-.34
+++++9	+123456	+1234	-123.4	0.0	-.34
ZZZZZZZZZZZZZZZZZZ+	123456+	1234+	123.4-	(*1)	.34-
+ZZZZZZZZZZZZZZZZZZ	+123456	+_1234	-_123.4	(*1)	-.34

"_": 1-byte blank

"__": 2-byte blanks

*1 Zero is suppressed, and no data is displayed.

*2 The editing result is undefined.

5. Character expansion editing and output

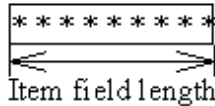
The character extended editing display function repeatedly displays the first character of a record data field up to the field length. Use Field display attribute setting at output to execute character extension editing. This editing function is valid only when an attribute of an output field is numeric. Figure 3.7 shows an output example.

Figure 3.7 Character extension editing

Setting the contents of the data output for a record data

* [?] [?] [?] [?] [?] [?] [?] [?] [?] [?] ? : Arbitrary data

Print result



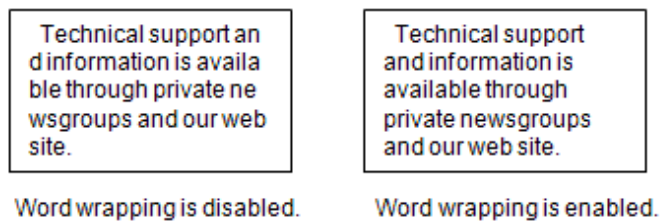
6. Multi-point and multi-pitch

Specify an optional character size and pitch for output fields.

7. Block field

Characters are output as multi-line. Word wrapping is processed, if specified in the descriptor. Specify LFCODE and LFPRINT in printer information file, if line-feeds are explicitly needed.

Figure 3.8 Block field



3.3.3 Printing ruled lines and shadings

The application program can overprint ruled lines and shading on printing data.

Ruled lines and shading are specified when creating the descriptor. The ruled lines and shadows are always printed at a fixed position.

Specify the following information fields when creating the descriptor:

1. Line information

Line information is as follows:

- Ruled line type
Ruled line type - a combination of line type and line width:
Line type: Solid line, dotted line, chain line or dashed line
Line width: Fine line or bold line
- Ruled line colors available are:
black, red, green, yellow, blue, pink, or cyan

2. Shading information

Shading information is as follows:

- Shading pattern
Specify one of the 16 types of shading patterns.
- Shading colors available are:
black, red, green, yellow, blue, pink, or cyan

3.4 Processing Depending on Print Paper

This section explains how to establish the print environment.

The print environment must be set up before running the print program. The type of paper used for printing determines how the print environment is set up. The user selects the processing to suit the paper type.

3.4.1 Printing on Continuous Forms

This section explains how to print on continuous forms supplied by the paper feed tractor.

- Specify "continuous forms" for `FORMKIND` (form type) in the printer information file.
- Prepare the serial printer for printing continuous forms.
- Specify "user-defined size" for the printer driver form size. If "user-defined size" is not supported, the paper fed by the paper size specified on the control panel.

The size specified for the descriptor size is used for printing.

If "printing on continuous forms by setting on control panel" is specified in PHYPAGE (setting form size when continuous forms are printed) in the printer information file, the physical form size specified on control panel is used. Setting of this case is as follows:

- Specify "continuous forms" for FORMKIND (form type) in the printer information file.
- Prepare the serial printer for printing continuous forms.
- Specify "printing on continuous forms by setting on control panel" for PHYPAGE (setting form size when continuous forms are printed) in the printer information file.

Specify "printing form size on control panel" for MAPINFO FORMSIZE (form size specification) in the printer information file.

3.4.2 Printing on Separate Sheets

The printing of separate sheets (or "cut forms") depends on how the paper is supplied:

- Specify "cut forms" for FORMKIND (form type) and "hopper 1", "hopper 2", "hopper 3", "hopper 4", or "cut-sheet feeder" for SUPLY (paper supply orientation) in the printer information file.
- Prepare the serial printer with cut-sheet feeder ready for printing cut forms. If this specification is set for a serial printer without a cut-sheet feeder, cut forms are fed manually.

Paper may not be supplied from the paper supply orientation specified for SUPLY (paper supply orientation). In this case, correspond to paper supply orientation on control panel and paper supply orientation specified for SUPLY (paper supply orientation) in using MAPINFO SUPLY (paper supply orientation specification) in the printer information file. Moreover correspond to form size on the control panel and form size for FORMSIZE (form size) in using MAPINFO FORMSIZE (paper size specification) in the printer information file.

Chapter 4 Extended Functions

PowerFORM RTS has several special printer functions. These functions allow the printing of standard forms (form overlay), manipulation of graphic images, barcodes and print preview as explained below.

4.1 Form Overlay

An application program can overlap and print an overlay file and descriptor. The printed output is created using the form overlay function. Up to 2 gigabytes of data can be overlaid.

To use the form overlay function, complete the following steps before running the print program:

- Create an overlay file.
- Specify the overlay file name in the descriptor or the printer information file.
- Specify the directory which contains the overlay file in the OVLDIR parameter (overlay file storage directory name) in the printer information file.

If the overlay file name is specified in both the descriptor and the printer information file, the overlay file name specified for the descriptor is used.

If the overlay file directory is not specified in either the descriptor or the printer information file, the current directory is used as the overlay file storage directory.

4.2 Bitmap field

When a bitmap field is specified in the form descriptors, the Windows-bitmap format data with the extension "BMP", TIFF data with extension "TIF", PNG data with extension "PNG" and the JPEG data with the extension "JPG", "JPEG" or "JPE" can be output.

To output bitmap data, define the format of the bitmap field to be visual and the type to be file name data when creating the form descriptors.

See Clipping and centering

To print image data in the Windows-bitmap format with the extension "BMP", write the application program as follows:

- Write to the field control field.
Set the field control field of the bitmap field to output in bit map format by Setting the field display attribute.
- Specify the bitmap file.
Specify the bitmap file by writing the file name in the bitmap field of the record to be used for printing.
- Print the bitmap.
Enter the partition name containing the bitmap field as a single name specified in a GROUP clause. Specify the bitmap file for record data.

The following code shows an example of outputting a bitmap field in COBOL.

"PICTURE.BMP" is printed in bitmap field S001 as the bit map.

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "B" TO EDIT-MODE OF S001 OF SAMP.  
MOVE "PICTURE.BMP" TO S001 OF SAMP.  
MOVE "S001" TO PRT-GROUP.  
WRITE SAMP.
```

4.3 Barcode Printing

The application program prints the range specification barcode and basic module width barcode.

- Range specification barcode

When the form descriptor is created, specify the maximum width of the printable barcode in the specified area. The printing start point is determined during printing so that the barcode is positioned at the center of the specified width.

- Basic module width barcode

This function prints barcode in basic module width specified. The features of this case are as follows:

- In case the barcode is larger than the field length, the barcode is printed within the field area. Therefore the barcode may not be printed in basic module width specified in the descriptor.
- If the basic module width specified in the descriptor is changed for printer device density, the barcode may not be printed in basic module width specified in the descriptor. Because of the value less than 1 dot is omitted.
- If the basic module width specified in the form descriptor is 9(1/1440 inch unit), the barcode is printed in basic module width 14(1/1440 inch unit).

If alphanumeric characters are specified for barcode printing and are output by the application program for the generated barcode field, the barcode is printed in the specified area.

The barcode is printed under the following conditions:

- The vertical and horizontal size can be specified.
- A check character can be added, and printing orientation and character printing can be specified.

Barcode reading test must be required with your Barcode Reader.

4.4 OCR-B font printing

Text field specified OCR-B font in the form descriptor could be printed in OCR-B font.

The character printed in OCR-B font is as follows.

<p>0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ *+--= / . , ; () < > # & \$ %</p>

To print in OCR-B font, install the OCR-B font attached PowerFORM RTS.

Installing procedure is as follows.

- Select Font setting on control panel.
- Click Add button.
- Specify the directory stored OCR-B font FJOCRB10.ttf attached PowerFORM RTS.
- Select "OCR-B FJ 10cpi(True Type)" in the list box of Font select , and click OK button. Then the font is copied to system directory.

Text field specified OCR-B font is printed only in 10CPI.

4.5 Print Preview

Print preview is enabled by specify environment variable (MEFTPRE), or printer information file (PREVIEW).

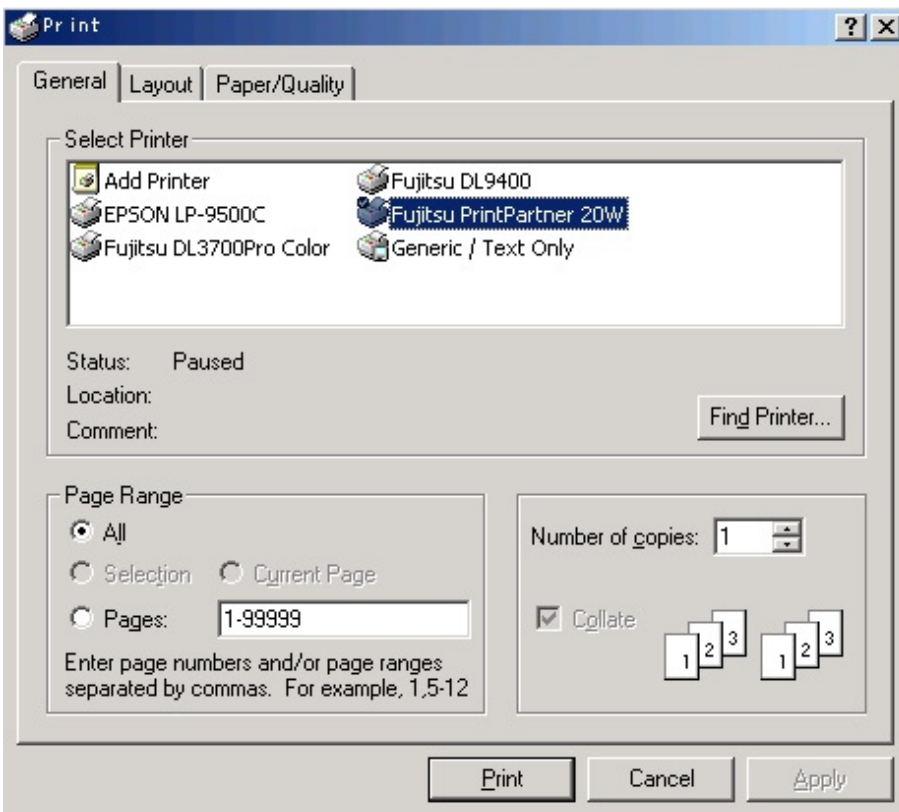
Figure 4.1 Print preview window

Region	Group	Goods	Date	Customer	Sales		
New York	GOLF	Shoes	20/01/96	Green Inc.	200,000		
		Bag	20/02/96	Blue Co.,Ltd.	600,000		
		War	20/02/96	Cyan Trading	500,000		
		Ball	20/03/96	White Inc.	5,000		
		Shoes	20/03/96	Yellow Inc.	200,000		
		War	20/04/96	Black Trading	500,000		
		Club Set	20/05/96	Brown Co.,Ltd.	1,800,000		
		Bag	20/06/96	Gray Trading	600,000		
		Ball	20/06/96	Pink Inc.	5,000		
		War	20/06/96	Light Blue Inc.	500,000		
		Shoes	20/07/96	Red Business	200,000		
		Club Set	20/08/96	Magenta Co.,Ltd	1,800,000		
		Shoes	20/09/96	Purple Inc.	200,000		
		Ball	20/11/96	Silver Business	5,000		
		Bag	20/12/96	Orange Trading	600,000		
		Club Set	20/12/96	Golden Inc.	1,800,000		
		Sum					\$9,515,000
		New York	FOOTBALL	Shoes	20/01/96	Green Inc.	200,000
Bag	20/02/96			Blue Co.,Ltd.	600,000		
War	20/02/96			Cyan Trading	500,000		
Ball	20/03/96			White Inc.	5,000		
Shoes	20/03/96			Yellow Inc.	200,000		
War	20/04/96			Black Trading	500,000		
Club Set	20/05/96	Brown Co.,Ltd.	1,800,000				
Sum					\$3,805,000		

4.6 Print Dialog

Print dialog is enabled by specify environment variable (MEFTDLG) or printer information file (SETPRTDIALOG).

Figure 4.2 Print dialog box



4.7 PDF output

The form can be preserved as a PDF file in cooperation with the List Creator PDF conversion function.

To use the PDF output, Interstage List Creator Enterprise Edition is necessary.

The printer information file is specified as follows.

- STREAM (Stream type)
The output to PDF file is specified. The keyword value is set to "PDF".
- STREAMENV (Stream administrative information file name)
The document information file name in which particular information on the List Creator PDF conversion function is described is specified. Refer to the manual of the List Creator PDF conversion function for details of the file. When the file name is omitted, the error code of MEFD_RC_OPEN(10) is produced.
- STREAMFILE (Stream output file name)
The PDF file name is specified. When the file name is omitted, the error code of MEFD_RC_OPEN(10) is produced

See "Appendix C" by the List Creator PDF conversion function for the specification of an effective printer information file.

4.8 Form descriptor (free frame) Printing

The form descriptor (free frame) is composed of three fixed partition field groups of "header, body, and footer". (The header and the footer can be omitted.) Two or more areas can be defined to output details of frame to the body.

Refer to the PowerFORM help for details of the form descriptor (free frame).

Figure 4.3 Example of defining the form descriptor (free frame)

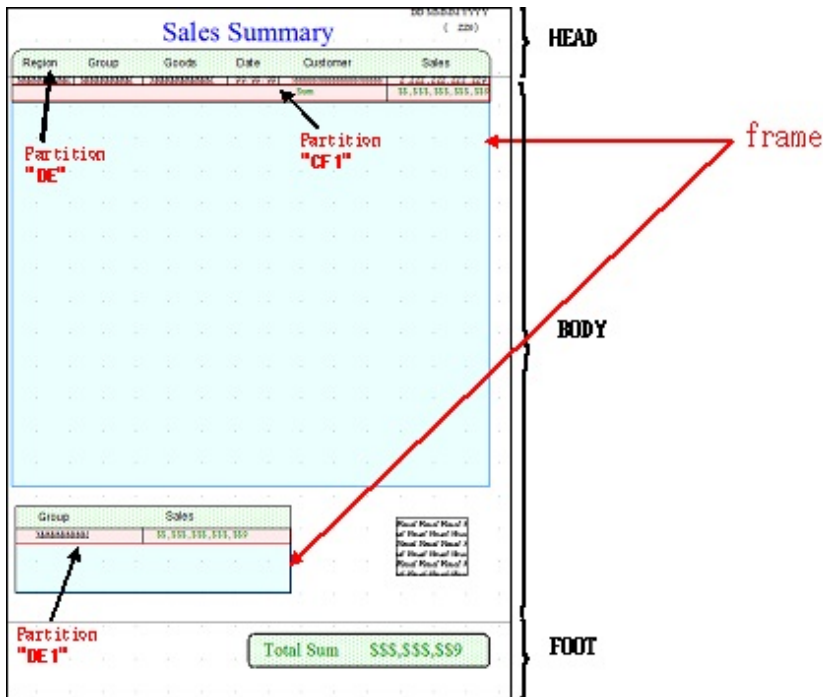


Figure 4.4 Example of outputting the form descriptor (free frame)

Sales Summary						15 December 2013
Region	Group	Goods	Date	Customer	Sales	(1)
New York	SOFT	Books	20-01-08	Petras Books Inc.	200,000	
		Mag	20-01-08	Petras Book Co Ltd	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Mag	20-01-08	Petras Book Inc.	200,000	
		Books	20-01-08	Petras Book Trading	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Club Set	20-01-08	Petras Book Co Ltd	1,000,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Mag	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Books	20-01-08	Petras Book Trading	200,000	
		Club Set	20-01-08	Petras Book Co Ltd	1,000,000	
		Books	20-01-08	Petras Book Trading	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
Club Set	20-01-08	Petras Book Co Ltd	1,000,000			
Sum					\$9,312,000	
New York	FOOTBALL	Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Co Ltd	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Club Set	20-01-08	Petras Book Co Ltd	1,000,000	
Sum					\$3,800,000	
New York	SKI	Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Co Ltd	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Club Set	20-01-08	Petras Book Co Ltd	1,000,000	
Sum					\$4,410,000	
New York	TENNIS	Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Co Ltd	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Books	20-01-08	Petras Book Inc.	200,000	
		Mag	20-01-08	Petras Book Trading	200,000	
		Club Set	20-01-08	Petras Book Co Ltd	1,000,000	
Sum					\$4,810,000	
Sum					\$22,640,000	

GROUP	Sales
SOFT	\$9,312,000
FOOTBALL	\$3,800,000
SKI	\$4,410,000
TENNIS	\$4,810,000

Total Sum	\$22,640,000
------------------	---------------------

To use the form descriptor (free frame), outputs it by the display file interface.

Refer to "Using Print Files with a FORMAT clause" in the NetCOBOL User's Guide for details of the display file.

Specify the partition field group name when outputting the item defined in "header, footer, and body".

- 'HEAD' in case of "header"
- 'FOOT' in case of "footer"
- 'BODY' in case of "body"

Even if these partitions are output, the partition defined in the frame is not output.

<Example of application program>

* Output of header

MOVE "HEAD" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "P001" TO PRT-CONTROL.

* Output of body

MOVE "BODY" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.

* Output of footer

MOVE "FOOT" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.

Specify the partition field group name when outputting the frame partition defined in the frame.

<Example of application program>

* Output of Details

~ Setting of record data ("GOLF", "Shoes", etc) ~

MOVE "DE" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A000" TO PRT-CONTROL.

WRITE SAMP.

~ Setting of record data ("Bag", etc) ~

MOVE "DE" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.

(Omission)

* Output of Control Footer (Setting the monetary amount)

~ Setting of record data ("GOLF", "Shoes", etc) ~

MOVE "CF1" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.

* Output of Control Footer (Setting the monetary amount)

~ Setting of record data ("GOLF", etc) ~

MOVE "DE1" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A000" TO PRT-CONTROL.

WRITE SAMP.

~ Setting of record data ("FOOTBALL", etc) ~

MOVE "DE1" TO PRT-GROUP.

MOVE "PW" TO PRT-MODE.

MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.



Note

- Specifying the partition name, the frame is automatically selected and it is output to the frame position.
- Output the frame partition in each frame. Whenever the partition of two or more frames is alternately output, it is output to the head of the frame. After all the processing of one intraframe is completed, it is necessary to process other frames to obtain a correct output result.
- There is no problem even if the header, the footer, the body, or the frame partition is output first.
- When using the form descriptor (free frame), even if a fixed partition is output in a position above the present printer head, a new page is not generated. A fixed partition is overwritten on a position of the present printer head. If new page is needed, it is necessary to explicit the new page control in the user program.
- The MEFP_RC_ENDFRAMELINK(6B) error is displayed when the field group is output exceeding the frame size.

The same floating partition can be output to two or more frames by using the link function of the frame.

Figure 4.5 The form descriptor (free frame): Example of defining link function

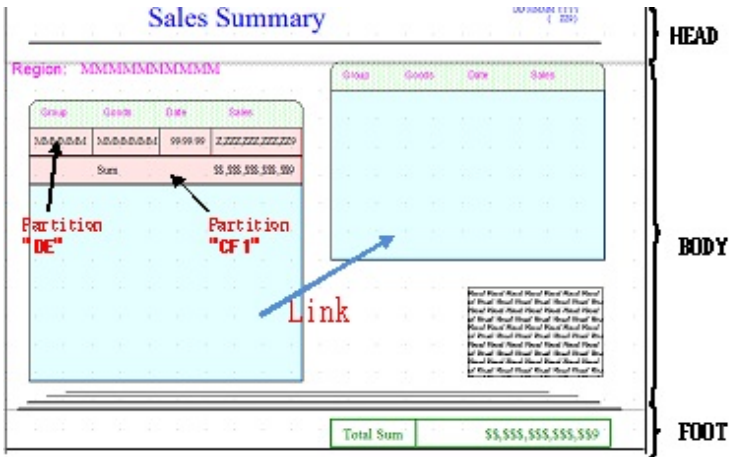


Figure 4.6 The form descriptor (free frame): Example of outputting link function



New block is specified for moving to linked frames. If new block is specified when there is no linked frame, new block is defined as a new page.

See "Printer device control" of "Chapter 6" for new block and new page.

<Example of application program>

* Output of Details ("FOOTBALL", "Wear", etc.)

MOVE "DE" TO PRT-GROUP.
 MOVE "PW" TO PRT-MODE.
 MOVE "A001" TO PRT-CONTROL.
 WRITE SAMP.

* Output of Details ("Ball", etc.) ~

MOVE "DE" TO PRT-GROUP.
 MOVE "PW" TO PRT-MODE.
 MOVE "A001" TO PRT-CONTROL.
 WRITE SAMP.

* ~ The case to change the frame ~

MOVE "CT" TO PRT-MODE.
 MOVE "BLCK" TO PRT-CONTROL.
 WRITE SAMP.

* Output of Details ("Shoes", etc.) ~

MOVE "DE" TO PRT-GROUP.
 MOVE "PW" TO PRT-MODE.
 MOVE "A001" TO PRT-CONTROL.

WRITE SAMP.
MOVE "CF1" TO PRT-GROUP.
MOVE "PW" TO PRT-MODE.
MOVE "P001" TO PRT-CONTROL.
WRITE SAMP.

(Omission as follows)

 Note

- When the field group is output exceeding the frame size, the MEFP_RC_ENDFRAMELINK(6B) error is displayed if there is no following link frame and the MEFP_RC_ENDFRAME(6C) error is displayed if following link frame exists.

Chapter 5 Printer Information File

This chapter explains the printer information files required by the application program in order to use PowerFORM RTS.

The printer information file is a text file created using any text editor. Up to 512 characters can be specified on one line. Always add a line feed code to the end of each line.

The character-code of the user program : about the case of Unicode

In a COBOL application that uses Unicode, the printer information file to which BOM(UTF-8) has been added can be used. However, the character that can be used is in the range of ASCII. It is considered that the keyword that used the character that cannot be converted into ASCII was omitted. When the printer information file to which BOM(UTF-16) or BOM(UTF-32) has been added is specified, it displays the MEFD_RC_CODE(13) error.

See "APPENDIX C" for keywords and values.

- Format

keyword value

*comment

- Parameters

- keyword:

Keywords must start in column 1.

- value:

Place one or more blanks between each keyword and its value.

- comment:

Code an asterisk (*) in column 1 of the line, then enter the comment. To begin a comment in the middle of a line containing a keyword, insert one or more blanks followed by an asterisk (*) after the keyword, then enter the comment.

- Example

```
* Overlay
OVLDIR "C:\Documents and Settings\All Users\Overlay"
* Print Abort Dialog Box
PRTDIALG Y * Enabled
```


Chapter 6 Program Interfaces

This chapter explains the program interfaces provided by PowerFORM RTS.

6.1 Function Interfaces

This section explains the function interfaces provided by PowerFORM RTS.

The names, formats, functions, parameters, examples, diagnosis, and notes about individual functions are explained below.

- Open processing
- Output processing
- Partition output processing
- Setting the descriptor name
- Close processing
- Setting the field display attribute
- Setting the field highlight attribute
- Setting the field color attribute
- Printer device control
- Obtaining the return code

6.2 Open Processing

- Format

```
OPEN OUTPUT file-name.
```

- Function

Open processing starts processing the print file.

- Parameters

ASSIGN clause

Specify the printer information file name using a file-identifier. Refer to NetCOBOL User's Guide. A file name can be specified by a full path. Only a file name can also be specified by omitting the path name. To specify only a file name, set the directory that contains the printer information file in the environment variable MEFTDIR.

- Diagnosis

Return code is stored in the FILE STATUS clause.

- NOTE

Assume that only a file name is specified and the environment variable MEFTDIR is undefined or that a correct directory name is not specified. The PowerFORM RTS retrieves the current directory. Assume that the current directory does not contain the printer information file nor that the full path is specified in ASSIGN clause and the path name is invalid. PowerFORM RTS assumes that the printer information file is omitted and the standard value (default) is specified and operates.

6.3 Output Processing

- Format

```
WRITE record-name
```

- Function

Output processing edits data contained in the record data area and outputs it to the printer according to the field attribute. The application program stores the output data in the record data field of the field to be output before calling this function.

To call this function immediately after open processing, always use the Setting the descriptor name function to set the descriptor name to be used.

- Parameters

GROUP clause:

Specify the partition name to be output.

- Example

Print the field S001 in the form descriptor "SAMP".

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "S001" TO PRT-GROUP.  
WRITE SAMP.
```

- Diagnosis

Return code is stored in the FILE STATUS clause.

6.4 Partition output Processing

- Format

Specify in the PROCESSING MODE clause and UNIT CONTROL clause.

- Function

The following can be specified for a function of the partition output processing.

- The arbitrary number of lines for changing line processing before and after outputting the partition field group based on the present printer head position.
- The partition field group is output to the specified position based on the present printer head position.

The field group that can be specified by this function is a fixed partition field group and a floating partition field group.

- Parameters

- PROCESSING MODE clause:

Specify "PW".

- UNIT CONTROL clause:

Specify the print pattern by four character definition.

The values and their meanings are as follows.

Annn (nnn : integral value) :

The item is output after nnn new lines are output. [nnn(maximum value) : 999]

Bnnn (nnn : integral value) :

After the item is output, nnn new lines are output. [nnn(maximum value) : 999]

Pnnn (nnn : integral value) :

The item is output to the line number defined by nnn. [nnn(maximum value) : 999]

APAG : After the new page is output, the item is output.

BPAG : After the item is output, new page is output.

ABLK : After the new block is output, the item is output.

BBLK : After the item is output, new block is output.

- Example

The floating partition field group "PTGRP1" is output after 10 new lines are output from the present printer head position.

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "PTGRP1" TO PRT-GROUP.  
MOVE "PW" TO PRT-MODE.  
MOVE "A010" TO PRT-CONTROL.  
WRITE SAMP.
```

- Diagnosis

Return code is stored in the FILE STATUS clause.

- NOTE

New block specification is effective for only the form descriptor (columns partition) and the form descriptor (free frame). When new block is specified while printing the final block by the form descriptor (column partition) and the form descriptor (free frame), the new page processing is completed. Also, even if new block is specified while printing the form descriptor other than the above-mentioned form, it is defined as a new page.

6.5 Setting the Descriptor Name

- Format

Specify in the FORMAT clause.

- Function

Specify the name of the descriptor to be used for output processing for one name specified in FORMAT clause. To call an output function immediately after open processing and switch a descriptor, use this function to set the descriptor name, and then call the output function.

- Parameters

FORMAT clause:

Specify the name of the descriptor to be used for output. Specify a character string of up to eight characters for the descriptor file name, excluding the file extension.

6.6 Close Processing

- Format

```
CLOSE file-name.
```

- Function

Close processing terminates processing of the print file.

- Parameters

None

- Diagnosis

Return code is stored in the FILE STATUS clause.

6.7 Setting the Field Display Attribute

- Format

Specify the EDIT-MODE of the field.

- Function

Dynamically sets the field display attribute.

- Parameters

EDIT-MODE:

Specify the display attribute to be set. The values and their meanings are as follows:

(Blank): The field is to be output.

X: The field is excluded from output processing

*: Characters are expanded and edited

B: Windows-Bitmap is output

J: JPEG is output

P: PNG is output

V: TIFF is output

O: OLE object is output

-: Deletion line is output

=: Double deletion line is output

- Example

The field name R001 in the field group name S001 is expanded and edited.

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "*" TO EDIT-MODE OF R001.  
MOVE "S001" TO PRT-GROUP.  
WRITE SAMP.
```

6.8 Setting the Field Highlight Attribute

- Format

Specify in the EDIT-OPTION of the field.

- Function

Dynamically sets the field highlight attribute.

- Parameters

EDIT-OPTION:

Specify the highlight attribute to be set. The values and their meanings are as follows:

(blank): The previously set attribute is not changed.

I: Print in Italic.

O: Print in Bold.

C: Print Bold-Italic.

U: Print with underline (whole field).

E: Print in Bold with underline (whole field).

F: Print in Italic with underline (whole field).

G: Print in Bold-Italic with underline (whole field).

H: Print with underline (on characters).

J: Print in Bold with underline (on characters).

K: Print in Italic with underline (on characters).

L: Print in Bold-Italic with underline (on characters).

- Example

The field name R001 and R002 in the field group name S001 is printed with underline.

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "H" TO EDIT-OPTION OF R001.  
MOVE "ABC D" TO R001.  
MOVE "U" TO EDIT-OPTION OF R002.  
MOVE "EFG H" TO R002.  
MOVE "S001" TO PRT-GROUP.  
WRITE SAMP.
```

- Produces:

```
  ABC D  
  EFG H
```

6.9 Setting the Field Color Attribute

- Format

Specify the EDIT-COLOR of the field.

- Function

Dynamically sets the field color attribute.

- Parameters

EDIT-COLOR:

Specify the color attribute to be set. The values and their meanings are as follows:

(Blank): The field with the color attribute in the descriptor is output.

B: Blue.

R: Red.

P: Pink.

G: Green.

T: Cyan.

Y: Yellow.

W: White.

A: Black.

D: Gray

K: Dark blue

F: Dark red

J: Dark pink

E: Dark green

I: Dark cyan

C: Dark yellow

O: Dark gray

- Example

Change the color of the character of the field name "R001" in the field group S001 to blue.

```
MOVE "SAMP" TO PRT-FORMAT.  
MOVE "B" TO EDIT-COLOR OF R001.  
MOVE "S001" TO PRT-GROUP.  
WRITE SAMP.
```

6.10 Printer device control

- Format

Specify in the PROCESSING MODE clause and the UNIT CONTROL clause.
Define the following in the FILE-CONTROL of the INPUT-OUTPUT section.

```
INPUT-OUTPUT SECTION  
FILE-CONTROL.  
SELECT print-file ASSIGN TO GS-PRTFILE  
  ORGANIZATION      IS SEQUENTIAL  
  ACCESS MODE       IS SEQUENTIAL  
  SYMBOLIC DESTINATION IS "PRT"  
  FORMAT            IS PRT-FORMAT  
  GROUP             IS PRT-GROUP  
  PROCESSING MODE   IS PRT-MODE  
  UNIT CONTROL      IS PRT-CONTROL.
```

- Function

The following printer functions are controlled.

- New page of paper
- Output range specification in rectangular domain
- Print cancel
- New block of column setting partition and new frame of frame partition
- Bottom information setting

The output range specification in the rectangular domain is effective for only a form descriptor (columnize table) and a form descriptor (Labels).

- Parameters

- PROCESSING MODE clause:

Specify "CT".

- UNIT CONTROL clause:

The printer function to control is specified.

The values and their meanings are as follows.

PAGE : New page of paper.

PRCT : The range of the output in the rectangular domain is specified.

CAN : The print is canceled.

BLCK : The new block of the column setting partition is specified. Or, the new frame of the frame partition is specified.

ULMT : The arrangement of the partition and an extensible bottom position of the partition is set. Either the following is specified for detailed information (last 2 digits of the UNIT CONTROL clause).

- PT :

The fixed partition name is specified. It is possible to output to the starting position of a fixed partition. The MEFD_RC_FLD(24) error is displayed when the partition name that does not exist or the floating partition name is specified.

- LN :
The relative line position from the head of the form is specified, except for the form descriptor (free frame). The relative line position from the head of the frame is specified for the form descriptor (free frame). The bottom that can be output is just before the specified line. It is not possible to specify it for the partition defined in a horizontal frame. In this case, the MEFD_RC_PARA(26) error is displayed. The MEFD_RC_PARA(26) error is displayed when the size of the form descriptor is exceeded or the size of the frame is exceeded.
- DT :
The relative dot position (1/1440 inches) from the head of the form is specified except for the form descriptor (free frame). The relative dot position (1/1440 inches) from the head of the frame is specified for the form descriptor (free frame). The bottom that can be output is up to a specified dot position. The MEFD_RC_PARA(26) error is displayed when the size of the form descriptor is exceeded or the size of the frame is exceeded.
- RS :
Bottom information set by either PT, LN or DT is released. Except for the form descriptor (free frame), it moves to the bottom where the height of the form descriptor can output the partition.
The bottom (right edge) that can be output is as follows for the form descriptor (free frame) by the direction where the frame is output.
 - Vertical defines the height of the frame for the output.
 - Horizontal defines the width of the frame for the output.

PRCT : Output range specification in rectangular domain

The record used when the output of the partition is controlled by output range specification (PRCT) in the rectangular domain is defined as follows.

01	Output control record	
03	Header output information	PIC X(1)
03	Footer output information	PIC X(1)
03	FILLER	PIC X(22)
03	Print beginning body number	PIC X(4)
03	Print end body number	PIC X(4)

Header output information

The output of the header is specified by the numerical value (binary).

- 0 : Output
- 1 : Control

Footer output information

The output of the footer is specified by the numerical value (binary).

- 0 : Output
- 1 : Control

Print beginning body number

The print beginning body number is specified by the character string of the numerical value.

- '0001' - '0999' : Print beginning number
- '0000' : Specified release

Print end body number

The print end body number is specified by the character string of the numerical value.

- '0001' - '0999' : Print end number
- '0000' : Specified release

Set a value that is smaller than the print end number for the print beginning number. If the print beginning number is more than the print end number, the each value is considered to be specified release. Anything outside of those values is ignored.

ULMT : Bottom information setting

The record used when the bottom position in which the partition can be output is specified by bottom information setting (ULMT) is shown.

- When the last 2 digits of the UNIT CONTROL clause : "PT"

Specify it for a bottom position in which the starting position of a fixed partition can be output.

```
01 Bottom information record
  03 Specified partition      PIC X(6)
  03 FILLER                  PIC X(2)
  03 Bottom partition        PIC X(6)
  03 FILLER                  PIC X(2)
```

Specified partition

The name of the partition that specifies the bottom position that can be output is specified within six characters.

Set blank or NULL when six characters cannot be used.

Bottom partition

The name of a fixed partition by which the starting position becomes bottom is specified within six characters.

Set blank or NULL when six characters cannot be used.

- When the last 2 digits of the UNIT CONTROL clause : "LN" or "DT"

Specify where a bottom position in which the line position or the dot position can be output.

```
01 Bottom information record
  03 Specified partition      PIC X(6)
  03 FILLER                  PIC X(2)
  03 Bottom value            PIC 9(6)
  03 FILLER                  PIC X(2)
```

Specified partition

The name of the partition that specifies the bottom position that can be output is specified within six characters.

Set blank or NULL when six characters cannot be used.

Bottom value

The bottom position is specified by an external decimal number within six digits.

Set blank or NULL when six characters cannot be used.

- When the last 2 digits of the UNIT CONTROL clause : "RS"

Specify it with either of "PT", "LN" or "DT" record data format. Only a specified partition is effective. Even if the bottom partition and the bottom value are specified, those values are ignored.

- Example

- A new page is output after the form descriptor is printed on the form.

```
MOVE "SAMP" TO PRT-FORMAT.
MOVE " " TO PRT-MODE
MOVE "@ALLF" TO PRT-GROUP.
WRITE SAMP.
MOVE "CT" TO PRT-MODE.
MOVE "PAGE" TO PRT-CONTROL.
WRITE SAMP.
```

- The output range specification in the rectangular domain is specified.

```
* Output control
MOVE "CT" TO PRT-MODE
MOVE "PRCT" TO PRT-CONTROL
MOVE X"00" TO Header output information
```



```
MOVE X"01"    TO Footer output information.
MOVE "0002"   TO Print beginning body number
MOVE "0004"   TO Print end body number
WRITE Output control record.
```

- A fixed partition is specified for arrangement of the partition and an extensible bottom position.

```
* Bottom information setting (Bottom partition specification)
MOVE "CT"     TO PRT-MODE
MOVE "ULMTPT" TO PRT-CONTROL
MOVE "DE"     TO Specified partition.
MOVE "PF"     TO Bottom partition.
WRITE Bottom information record.
```

* "PF" is specified for a bottom partition. It is possible to output "DE" just before "PF".

- The line position is specified for arrangement of the partition and an extensible bottom position.

```
* Bottom information setting (Line position specification)
MOVE "CT"     TO PRT-MODE
MOVE "ULMTLN" TO PRT-CONTROL
MOVE "DE"     TO Specified partition.
MOVE 51       TO Bottom value.
WRITE Bottom information record.
```

* 51 is specified for a bottom value. It is possible to output "DE" to the 50 th line.

- Diagnosis

Return code is stored in the FILE STATUS clause.

- NOTE

- The output range specification in the rectangular domain is effective in the form descriptor (Labels) and the form descriptor (columnize table). Specifying the output range is not allowed when specifying it in other form descriptor.
- Set the output range specification in the rectangular domain earlier than the output of the form descriptor that will become an object.
- It adjusts to all the form descriptors where specification is output until releasing it when the output range specification in the rectangular domain is specified.
- When new block of the column setting partition is specified excluding the column setting partition form, it operates as new page of the paper.

6.11 Obtaining the Return Code

- Format

Check the FILE STATUS clause after execution.

- Function

The return code is stored in the FILE STATUS clause. See [Trouble Analysis and Recovery](#), "Trouble Analysis and Action" for details on the return codes.

- Parameter

None

- Example

Check whether an error occurred on output.

```
MOVE "SAMP" TO PRT-FORMAT.
MOVE "S001" TO PRT-GROUP.
WRITE record-name.
```

```
IF PRT-STATUS = "CX" THEN.  
~ Processing if the outputting error is occurred in the field group S001 ~  
END-IF.  
~ Program error processing ~
```

Appendix A Troubleshooting and Error Recovery

Appendix A explains PowerFORM RTS errors and operator responses for error recovery. An error code without a return code label in this table indicates an error that occurs only in COBOL programs.

Table A.1 List of return codes

Return codes	Codes
MEFD_RC_END	00
MEFD_RC_UNOP	03
MEFD_RC LENG	08
MEFD_RC_IN	09
MEFD_RC_OPEN	10
MEFD_RC_CODE	13
MEFD_RC_ACCESS	18
MEFD_RC_NOSPACE	20
MEFD_RC_WRK	21
MEFD_RC_MED	22
MEFD_RC_MDMEM	23
MEFD_RC_FLD	24
MEFD_RC_PRC	25
MEFD_RC_PARA	26
MEFD_RC_INE	32
MEFD_RC_MALOAD	42
MEFD_RC_OPMDA	44
MEFD_RC_LFLD	47
MEFD_RC_JPN	52
MEFD_RC_ANK	53
MEFP_RC_MALINE	62
MEFP_RC_ENDBLOCK	65
MEFP_RC_DVFUNC	66
MEFP_RC_BLOCKLW	6A
MEFP_RC_ENDFRAMELINK	6B
MEFP_RC_ENDFRAME	6C
MEFP_RC_PMITEM	84
MEFP_RC_PMTYPE	85
MEFP_RC_SYSTOP	86
MEFP_RC_NOOVLF	91
MEFP_RC_PRTABT	92
MEFP_RC_ERRNET	97
MEFP_RC_OVLLOAD	9A

Return codes	Codes
MEFP_RC_STREAMLOAD	9H
MEFP_RC_NOSTREAM	9I
MEFP_RC_FONT	9J
MEFP_RC_ENVBAR	9K
MEFP_RC_PRTCAN	9L
MEFP_RC_CALLAPI	9M
MEFP_RC_PREVIEWEXEC	9N
MEFD_RC_NOENV	C4
MEFD_RC_MANYOPEN	C7
MEFD_RC_SEQ	CC
MEFD_RC_SYS	CX
MEFD_RC_OLELOAD	GB
MEFD_RC_MASAVE	GM

A.1 Return code explanation

A.1.1 MEFD_RC_END

Alphanumeric code:

00

Explanation:

Ended normally.

A.1.2 MEFD_RC_UNOP

Alphanumeric code:

03

Explanation:

The printer is not open.

Resolution:

- Open the printer before write.

A.1.3 MEFD_RC LENG

Alphanumeric code:

08

Explanation:

The record in the specified descriptor could not be used because the record was longer than the record area of the application program.

Resolution:

- Enlarge the record area of the application program.
- Copy the record of the descriptor. Then compile the application program.

A.1.4 MEFD_RC_IN

Alphanumeric code:

09

Explanation:

An internal error occurred. The internal area of PowerFORM RTS may have been destroyed.

Resolution:

- Contact your systems engineer - a system error may have occurred.

A.1.5 MEFD_RC_OPEN

Alphanumeric code:

10

Explanation:

Open processing failed. One of the following errors occurred:

- The user-account has insufficient authority.
- Shortage of system resources.
- The printer that was specified as the output printer in the printer information file is inactive.
- An error is found in the description of the printer information file in PDF output.

Resolution:

- Check the authority of the user-account.
- Increase the available resources by terminating other unnecessary programs.
- Activate the printer that was specified as the output printer by using the control panel.
- It is necessary to specify the following keywords in PDF output.
 - STREAMENV (Stream administrative information file name)
 - STREAMFILE (Stream output file name)

A.1.6 MEFD_RC_CODE

Alphanumeric code:

13

Explanation:

The code system is unjustified. Following are the possible causes.

- When the character-code of the user program is Unicode, the printer information file to which BOM(UTF-16,UTF-32) was added is used.

Resolution:

- Use the printer information file to which BOM(UTF-8) is added or the printer information file described by ASCII.

A.1.7 MEFD_RC_ACCESS

Alphanumeric code:

18

Explanation:

File or directory path is not available for preview.

Resolution:

- Correct the directory path and authority of environment variable "MEFTTMP", "TEMP" or "TMP".
- Confirm the STREAMENV (Stream administrative information file name) and the STREAMFILE (Stream output file name) specified to output PDF.

A.1.8 MEFD_RC_NOSPACE

Alphanumeric code:

20

Explanation:

The capacity of the disk is insufficient.

Resolution:

- The empty capacity of the disk specified by empty capacity of the disk and environment variable MEFTTMP of a temporary region of the system is increased by deleting an unnecessary file etc.

A.1.9 MEFD_RC_WRK

Alphanumeric code:

21

Explanation:

- A memory shortage occurred; the work area could not be allocated and processing stopped.
- An access error occurred; the temporary folder could not be accessed.

Resolution:

- Increase the available memory by terminating other unnecessary programs.
- Correct environment variable "TMP" and "TEMP".

A.1.10 MEFD_RC_MED

Alphanumeric code:

22

Explanation:

One of the following descriptor read errors occurred:

- The specified descriptor file was not found.
- The reference authority for the descriptor file was not found.

Resolution:

- Before setting a descriptor name by using the Setting the descriptor name function, check whether an attempt was made to execute the Output processing function, etc.
- Check that the descriptor name specified in the Setting the Descriptor Name function is valid.
- Check that the name of the directory that contains the descriptor specified for MEDDIR in the printer information file is valid.

A.1.11 MEFD_RC_MDMEM

Alphanumeric code:

23

Explanation:

A descriptor could not be read because of a memory shortage.

Resolution:

- Increase the available memory by terminating other unnecessary programs.

A.1.12 MEFD_RC_FLD

Alphanumeric code:

24

Explanation:

The specified field name or field group name is invalid. The following error occurred:

- The specified partition field group was not defined in the descriptor.

Resolution:

- Specify a valid name in the descriptor.

A.1.13 MEFD_RC_PRC

Alphanumeric code:

25

Explanation:

An invalid parameter is specified for the PROCESSING MODE clause.

Resolution:

- Correct the parameter.

A.1.14 MEFD_RC_PARA

Alphanumeric code:

26

Explanation:

An invalid parameter is specified for the UNIT CONTROL clause.

Resolution:

- Correct the parameter.

A.1.15 MEFD_RC_INE

Alphanumeric code:

32

Explanation:

An error was detected while reading the form descriptor. One of the following errors occurred:

- The form descriptor is incomplete.
- The function defined in the form descriptor is not supported.
- A form descriptor that is not for UTF-32 is used in the user program which UTF-32 is specified for the UCS2 field.

Resolution:

- Correct the error when creating the form descriptor.

- Check that the function defined in the form descriptor is supported by PowerFORM RTS.
- Use the form descriptor for UTF-32.

A.1.16 MEFD_RC_MALOAD

Alphanumeric code:

42

Explanation:

Media data could not be loaded. One of the following errors occurred:

- The specified media file was not found.
- The reference authority for the media file was not found.
- The memory space for the specified media data could not be allocated.
- Unsupported media type.

Resolution:

- Specify the correct directory for MEDIADIR.
- Check the authority of media files.
- Replace the media file with one of a supported type.

A.1.17 MEFD_RC_OPMDA

Alphanumeric code:

44

Explanation:

One of the following error occurred.

- The memory space for the specified media data could not be allocated.
- Barcode generating is failed.
- Barcode DLLs could not be loaded.
- Media DLLs could not be loaded.

Resolution:

- Release unused memory space.
- Check the barcode field specified in the descriptor.
- Check that PowerFORM RTS has been correctly installed.

A.1.18 MEFD_RC_LFLD

Alphanumeric code:

47

Explanation:

One of the following errors occurred:

- Barcode data is invalid.
- The specified value of the barcode symbol gap is too small. A width of less than one dot on the printer is specified.

Resolution:

- Specify correct data for the barcode.
- Increase the value of the barcode symbol gap.

A.1.19 MEFD_RC_JPN

Alphanumeric code:

52

Explanation:

It failed in the power output of Japanese data. There is the following causes.

- The data input to Japanese-language item doesn't compose of a character of em-size alone.
- The font that cannot treat Japanese is specified.
- Because the specified printer information file was not read, an unjustified font was specified.
- It failed in the storage of print data in the system.
- Memory shortage and system resource shortage occurred when print data was developed.
- There is a problem in the environment of the printer driver.
- Abnormality occurred in the system.

Resolution:

- Only the character of em-size is input to Japanese-language item.
- The input data is confirmed.
- Is it a specified font, a output enable as for Japanese or it confirms it.
- Whether the specified font is installed is confirmed.
- Whether the printer information file is correctly read is confirmed.
- A SPOOL region and a temporary region are enlarged.
- An unnecessary application is terminated, and it executes it again.
- The size of the swap file is enhanced.
- RAM module is increased.
- The setting of the printer driver is changed. The latest printer driver is obtained and it adjusts.
- The service pack of the system is applied.
- It contacts charge SE because there is fear of the system malfunction.

A.1.20 MEFD_RC_ANK

Alphanumeric code:

53

Explanation:

It failed in the power output of alphanumeric data. There is the following causes.

- The data input to the alphanumeric item doesn't compose of alphanumeric characters alone.
- Because the specified printer information file was not read, an unjustified font was specified.
- It failed in the storage of print data in the system.
- Memory shortage and system resource shortage occurred when print data was developed.

- There is a problem in the environment of the printer driver.
- Abnormality occurred in the system.

Resolution:

- Only alphanumeric characters are input to the alphanumeric item.
- The input data is confirmed.
- Is it a specified font, a output enable as for the alphanumeric character or it confirms it.
- Whether the specified font is installed is confirmed.
- Whether the printer information file is correctly read is confirmed.
- A SPOOL region and a temporary region are enlarged.
- An unnecessary application is terminated, and it executes it again.
- The size of the swap file is enhanced.
- RAM module is increased.
- The setting of the printer driver is changed. The latest printer driver is obtained and it adjusts.
- The service pack of the system is applied.
- It contacts charge SE because there is fear of the system malfunction.

A.1.21 MEFP_RC_MALINE

Alphanumeric code:

62

Explanation:

When the field was moved according to the specified feed lines, the field position exceeded the vertical size of the descriptor.

Resolution:

- Specify the correct position.

A.1.22 MEFP_RC_ENDBLOCK

Alphanumeric code:

65

Explanation:

The position of the partition has exceeded the vertical size of the block.

Resolution:

- Specify the correct position.

A.1.23 MEFP_RC_DVFUNC

Alphanumeric code:

66

Explanation:

The following errors were detected by the output processing of the print:

- The paper size or the paper name that was specified with the output printer device was not valid.
- The paper feed or the paper feed name that was specified with the output printer device was not valid.

Resolution:

- Check the setting of the printer device, and confirm there is no error in the specification of the paper.
- Check the setting of the printer device, and confirm there is no error in the specification of the paper feed.

A.1.24 MEFP_RC_BLOCKLW

Alphanumeric code:

6A

Explanation:

The error was detected on outputting the form descriptor (columns) or the form descriptor (free frame). The possible causes include the following.

- While outputting the form descriptor (columns) or the form descriptor (free frame), the line record output was specified.
- While using the form descriptor (free frame), new frame and new page were executed in a print file with the FORMAT phrase.

Resolution:

- Do not specify the line record output.
- Output with the display file. Or use the descriptor other than the descriptor (free frame).

A.1.25 MEFP_RC_ENDFRAMELINK

Alphanumeric code:

6B

Explanation:

The error was detected by the form descriptor (free frame). The possible causes include the following.

- The partition specified by the form descriptor (free frame) exceeded the last frame.

Resolution:

- Specify the partition specified by the form descriptor (free frame) to not exceed the last frame.

A.1.26 MEFP_RC_ENDFRAME

Alphanumeric code:

6C

Explanation:

The error was detected by the form descriptor (free frame). The possible causes include the following.

- The partition specified by the form descriptor (free frame) exceeded the frame.
- The last position of partition specified by the form descriptor (free frame) was exceeded by the bottom position specified for on setting bottom information.

Resolution:

- Specify the partition specified by the form descriptor (free frame) to not exceed the frame.
- Specify the last position of partition specified by the form descriptor (free frame) to not exceed the bottom position specified for on setting bottom information.

A.1.27 MEFP_RC_PMITEM

Alphanumeric code:

84

Explanation:

The following error was detected in print data output processing:

- A field name was specified.

Resolution:

- Specify a field group name.

A.1.28 MEFP_RC_PMTYPE

Alphanumeric code:

85

Explanation:

The following errors were detected by the output processing of the print.

- It output it by the partition power output excluding the partition descriptor.

Resolution:

- The descriptor of the partition form is output in the partition power output.

A.1.29 MEFP_RC_SYSTOP

Alphanumeric code:

86

Explanation:

A printer error was detected. The following error occurred:

- Some print files were opened, and output processing was executed for each of print files mutually.
- Output processing of forms were executed continuously before close processing. Therefore temporary area of the disk was insufficient.
- A system error occurred.
- The print server is over-loaded.

Resolution:

- Not output mutually, when some print files were opened.
- Enlarge temporary disk folder.
- Install latest service-pack for Windows operating system.
- Re-execute the application program.
- Contact your systems engineer - a system error may have occurred.

A.1.30 MEFP_RC_NOOVLF

Alphanumeric code:

91

Explanation:

An overlay file was read unsuccessfully. The following error occurred:

- The specified overlay file was not found.

Resolution:

- Check that the overlay file exists in the directory specified with keyword OVLDIR of the printer information file.

A.1.31 MEFP_RC_PRTABT

Alphanumeric code:

92

Explanation:

The printing process has been aborted (canceled).

Resolution:

- Close the printer.

A.1.32 MEFP_RC_ERRNET

Alphanumeric code:

97

Explanation:

The malfunction was detected in the printer. There is the following causes.

- Malfunction under communication.

Resolution:

- It tried to print on the printer with which the network printer was connected by the account without access authority.
- The load hangs momentarily, it becomes the busy state, and the error might occur. In this case, after it closes, it opens because it is possible to execute it again.
- Because abnormality is found in the system, it contacts charge SE.

A.1.33 MEFP_RC_OVLLOAD

Alphanumeric code:

9A

Explanation:

The overlay DLLs could not be loaded.

Resolution:

- Check that PowerFORM RTS has been correctly installed.

A.1.34 MEFP_RC_STREAMLOAD

Alphanumeric code:

9H

Explanation:

The List Creator PDF conversion function DLLs cannot be loaded.

Resolution:

- Install the List Creator PDF conversion function normally.

A.1.35 MEFP_RC_NOSTREAM

Alphanumeric code:

9I

Explanation:

The error is found in the specification of the stream type.

Resolution:

- Specify the correct stream type.

A.1.36 MEFP_RC_FONT

Alphanumeric code:

9J

Explanation:

Font Error. One of the following errors occurred

- Invalid font name is specified.
- The fonts are not installed correctly or corrupt.
- Insufficient system resources occur.

Resolution:

- Check the font name in the descriptors.
- Check the font name in the printer information files.
- Install latest service-pack for Windows operating system.

A.1.37 MEFP_RC_ENVBAR

Alphanumeric code:

9K

Explanation:

Barcode Error. One of the following errors occurred

- Invalid value for BARNWRATIO is specified.
- Invalid value for BARFNCx is specified.

Resolution:

- Correct the values for barcode.

A.1.38 MEFP_RC_PRTCAN

Alphanumeric code:

9L

Explanation:

Printing process has been canceled at print dialog box.

("CAN" is specified for environment variable MEFTDLG.)

Resolution:

- None.

A.1.39 MEFP_RC_CALLAPI

Alphanumeric code:

9M

Explanation:

The error was detected by the output processing of the print. The possible causes for the error include the following.

- The error occurred in the List Creator library that output PDF.
- There is a possibility to use the character of a surrogate pair when PDF is output.

Resolution:

- Confirm there is no error in the description of the document information file.
- Confirm there is no error in the data (ex. data of the barcode field) that outputs PDF.
- Confirm whether PDFJIS2004MODE (PDF JIS2004 character output) is specified when the character of a surrogate pair is used.
- Confirm whether to output the overlay or the picture file that is unsupported to List Creator.
- Contact the charge SE because there is fear of the system malfunction.
- Refer to the manual of the List Creator PDF conversion function for notes on PDF output.

A.1.40 MEFP_RC_PREVIEWEXEC

Alphanumeric code:

9N

Explanation:

One of the following errors occurred

- The print preview program is not good at the startup.
- The output number of pages exceeded the upper bound of a possible print preview (99999 pages).

Resolution:

- Whether MeFt is correctly installed is confirmed.
- The output number of pages is done 99999 paging.

A.1.41 MEFD_RC_NOENV

Alphanumeric code:

C4

Explanation:

One of following errors occurred in the OPEN process:

- An invalid printer name was specified.
- Printer-driver malfunctions.

Resolution:

- Correct the printer name.
- Update the printer-driver.

A.1.42 MEFD_RC_MANYOPEN

Alphanumeric code:

C7

Explanation:

An error occurred because too many files were opened.

Resolution:

- Close unnecessary files.

A.1.43 MEFD_RC_SEQ

Alphanumeric code:

CC

Explanation:

The processing request to the same file identification child was generated while processing it at the time of the presentation file identifier specified from the application program.

Resolution:

- The application program is reviewed.

A.1.44 MEFD_RC_SYS

Alphanumeric code:

CX

Explanation:

If this error occurs, subsequent operations are not guaranteed.

Resolution:

- Contact your systems engineer - a system error may have occurred.

A.1.45 MEFD_RC_OLELOAD

Alphanumeric code:

GB

Explanation:

DLL for OLE to do is not good at the load.

Resolution:

- Whether MeFt is correctly installed is confirmed.

A.1.46 MEFD_RC_MASAVE

Alphanumeric code:

GM

Explanation:

It failed in expansion/reduction print. There is the following causes.

- Memory shortage occurred, and working space was not able to be acquired.
- The system resource is insufficient.
- The capacity of the disk is insufficient.
- System API ended because of the error.

Resolution:

- An unnecessary application is terminated, and it executes it again.
- The size of the swap file is enhanced.

- RAM module is increased.
- The empty capacity of the disk specified by empty capacity of the disk and environment variable MEFTTMP of a temporary region of the system is increased by deleting an unnecessary file etc.
- The service pack of the system is applied.

Appendix B Special Processing

PowerFORM RTS supports special processing as follows.

B.1 Abort Printing

An application program can be aborted the current printing operation as follows:

- Specify PRTDIALG in the printer information file.

B.1.1 Print abort dialog box

When "Yes" is specified for the PRTDIALG in the printer information file, the printing abort dialog box is displayed on the screen. When the "Cancel" button displayed in the printing abort dialog box is selected, the current printing operation is stopped.

Figure B.1 Print abort dialog box



B.1.2 Abort-printing procedure

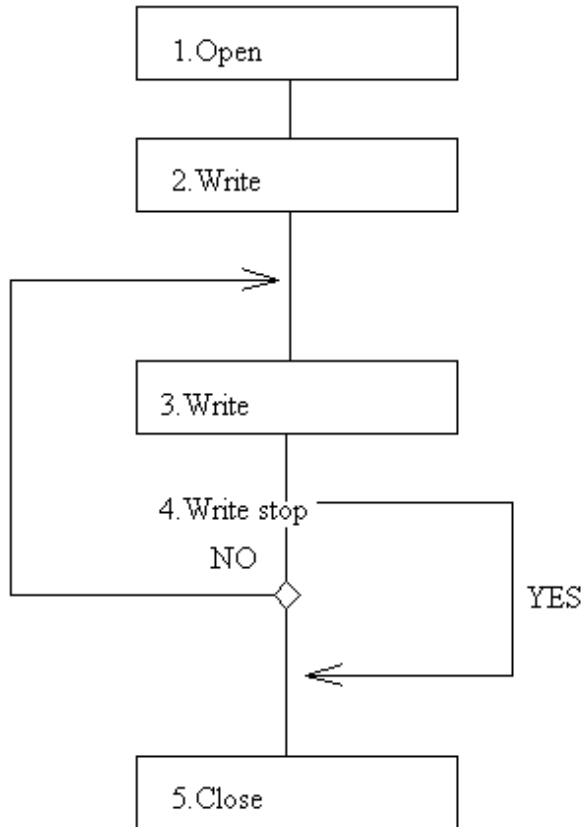
All the data contained on the page that was being processed when the "Cancel" button was selected is invalidated. However, pages for which processing has already completed are printed.

The printing stop operation is validated at the second or later output operation. At the first output operation, it is not possible to determine whether the "Cancel" button was selected. If the second or later output operation terminates abnormally. The application program must check FILE STATUS clause. When printing has aborted, the application program must close the printer.

If printing has aborted, execute the close operation.

Figure B.2 shows the abort-printing procedure.

Figure B.2 Abort printing procedure



The flow shown in Figure B.2 is as follows:

1. Open
The printer is opened.
2. Write
3. Write
Fields or field groups are printed in the partition output mode.
4. Write stop
Whether printing has aborted is checked using the Obtaining the return code function.
If a descriptor is switched during output processing, another print job may interrupt.
5. Close
The printer is closed.

B.2 Clipping and Centering

A bitmap image can be clipped and centered.

If "yes" is set to clip a bitmap field, the bitmap image is output according to the size of the bitmap field. If "no" is set, bitmap data is enlarged or reduced according to the size of the bitmap field without changing the aspect ratio of image data. Table B.1 in the diagram below shows the printing result when "yes" is specified. Table B.2 shows the printing result when "no" is specified.

Table B.1 Printing result when "yes" is specified

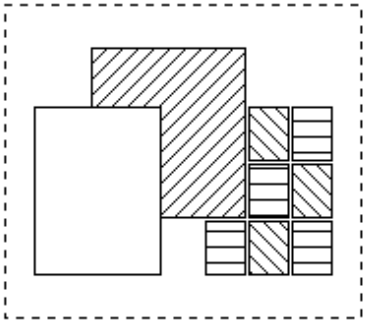
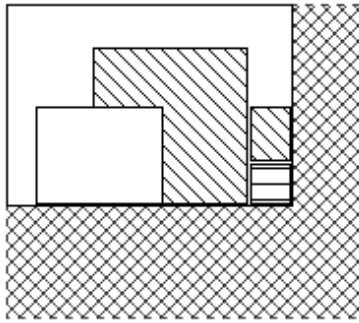
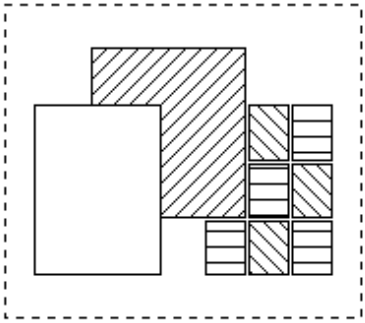
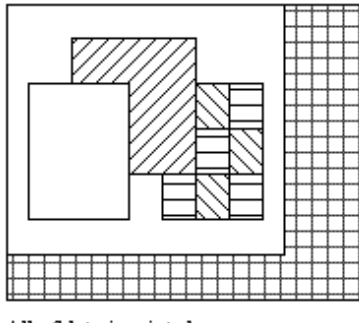




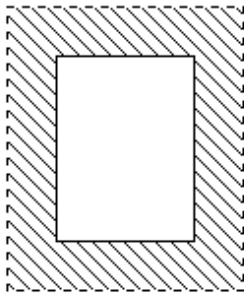
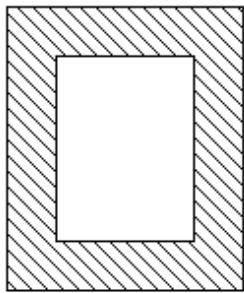
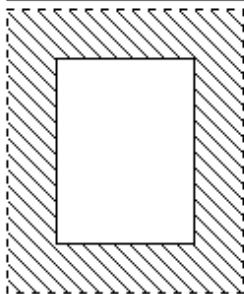
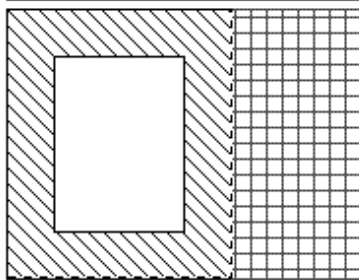



Collating sequence	Media data	Print
Size of media data > Size of built-in media field		
Size of media data ≤ size of built-in media field		
		Part of data is printed.
		All of data is printed.
	 :Media data  :Area drawn in description background color	 :Built-in media item  :Area in which data is not printed

Table B.2 Printing result when "no" is specified

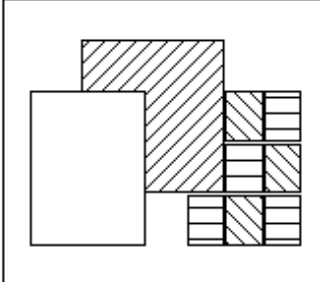
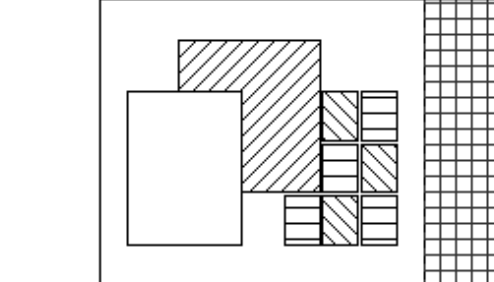
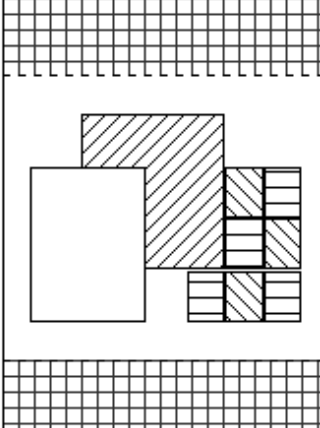
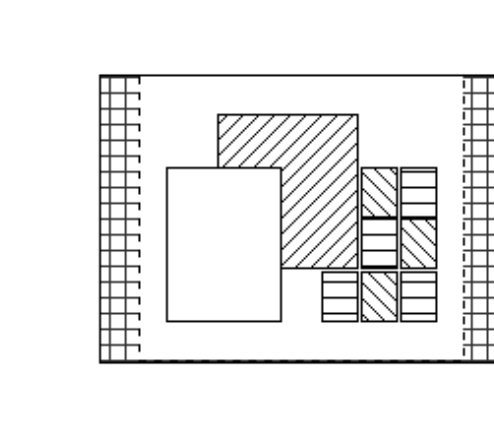
Similarity	Media data	Print
The shape of media data and that of built-in media field are similar.		 All data is printed.
The shape of media data and that of built-in media field are not similar.		 All data is printed.

 :Media data
  :Built-in media item
 :Area drawn in description background color

When "yes" is selected to center a bitmap field, media data is printed at the center of the bitmap field. This is valid when "no" is specified in the clip bitmap field.

Table B.3 shows the print position depending on the centering setting.

Table B.3 Print position depending on whether centering is specified

Centering	Print position	
No		
Yes		



Media data



Area drawn in description background color



Built-in media item

Appendix C Printer Information File

The printer information file applies to the handling of file output from open processing to close processing for the print file.

Besides the printer information file, the information specified in the I-control record or form descriptor is used.

The order of priority is as follows:

1. Information specified in the I-control record.
2. Information specified in the form descriptor.
3. Specifications in the printer information file.

C.1 Printer Information File list

Table C.1 Printer information file contents

Information classification	Contents	Keyword	Print	PDF
Printer control information	Printer name	PRTID	0	-
	Print device name	PRTDRV	0	-
	Number of copies	COPYG	0	-
	Character alignment	JALIGN	0	0
	Setting form type	PHYPAGE	0	-
	Paper side specification	SIDE	0	-
	Bonding orientation	BSUP	0	-
	Print abort dialog	PRTDIALG	0	-
	Print dialog	SETPRTDIALOG	0	-
	Default printer control	DEFPRINTER	0	-
	Paper check	CHECKPAPER	0	-
	Paper feed check	CHECKSUPPLY	0	-
	Default paper name	DEFPAPER	0	-
Paper information	Form size	FORMSIZE	0	0
	Form size detail	MAPINFO FORMSIZE	0	-
	Print format	PRTFORM	0	0
	Paper supply orientation	SUPPLY	0	-
	Paper supply orientation detail	MAPINFO SUPPLY	0	-
	Form type	FORMKIND	0	-
	Form type detail	MAPINFO FORMKIND	0	-
	Print origin position (Column)	PRTPOX	0	0
	Print origin position (Line)	PRTPOSY	0	0
Form export information	Stream type	STREAM	-	0
	Stream administrative information file name	STREAMENV	-	0
	Stream output file name	STREAMFILE	-	0

Information classification	Contents	Keyword	Print	PDF
Print preview	Print preview	PREVIEW	o	-
Edit details	Font position correction	CORRECTPOS	o	-
	Line-Feed Code	LFCODE	o	o
	Printable LFCODE	LFPRINT	o	o
	Job unique date	UNIQDATE	o	o
	Barcode Length	BAR128DATALEN	o	o
	Barcode gaps	BARGAP	o	o
	Barcode symbol ratio	BARNWRATIO	o	o
	Barcode quiet zone	BARQZONE	o	o
	Barcode function code 1	BARFNC1	o	o
	Barcode function code 2	BARFNC2	o	-
	Barcode function code 3	BARFNC3	o	o
	Barcode function code 4	BARFNC4	o	-
	Unicode full-width/half-width character table	USECHARTYPE	o	o
	Unicode full-width character range	UNICODEW	o	o
	Unicode half-width character range	UNICODEN	o	o
	Surrogate pair output	PDFJIS2004MODE	-	o
	Character output performance improvement	MULTIPLECHAR	o	-
Font performance improvement	FONTINFOCACHE	o	-	
Japanese era name	GENGO	o	o	
Font information	Map font names	MAPFONT	o	o
Descriptor information	Descriptor storage	MEDDIR	o	o
	Descriptor extension	MEDSUF	o	o
Overlay information	Overlay storage	OVLDIR	o	o
	Overlay file name	OVLNAME	o	o
	Overlay extension	OVLPSUF	o	o
Media information	Media storage	MEDIADIR	o	o
Local information	Time zone	TIMEZONE	o	o
Information file control	Include file	INCLUDE	o	o

o : Valid keyword

- : Invalid keyword

This section explains the settings of the keywords.

If the keywords and values set in the printer information file are invalid, no error is reported, and the standard values (default) are used instead.

C.2 Printer control information

C.2.1 PRTID (Print name)

Explanation:

Specify the print request name. The name specified in this keyword is displayed on the print manager display screen.

Setting:

Specify a print name using up to 16 characters.

Default:

The printer information file name is displayed.

C.2.2 PRTDRV (Output printer device name)

Explanation:

Specify the using printer device.

Setting:

To specify the printer name enclosed in double quotation marks, refer to the list displayed when the printer icon in the Control Panel window is selected.

Default:

The default printer is used.

C.2.3 COPYG (Number of copies)

Explanation:

Specify the number of times to print the same page.

This specification is valid only for print drivers that accept the "number of copies" parameter.

Setting:

Specify the number of copies.

Default:

1

C.2.4 JALIGN (Character output alignment)

Explanation:

Specify whether to align the printing position in the line direction with the bottom end or top end of line pitch specified.

Setting:

DC: Alignment with bottom end

UC: Alignment with top end

Default:

DC: Alignment with bottom end

Notes:

If alignment with bottom end is specified when the device font is used, characters which run above the top end of the paper cannot be printed.

C.2.5 PHYPAGE (Setting paper size when continuous forms are printed)

Explanation:

When continuous forms are printed, specify whether the user-defined size specified in the Control Panel printer driver is used.

Setting:

Y: Continuous forms of the user-defined size are used.

N: Continuous forms of the size specified in the form descriptor are used.

Default:

N: Continuous forms of the size specified in the form descriptor are used.

Notes:

If "N" is specified, specify a user-defined size for the printer driver paper size. If a user-defined size is not specified, forms are not correctly printed.

C.2.6 SIDE (Both-side specification)

Explanation:

Specify the both-side printing. Only the printer that have the both-side function is valid.

Specify both-side in the form descriptor, and set in the printer information file as follows.

Setting:

Y: Both-side printing

N: Single-side printing

Default:

N: Single-side printing

C.2.7 BSUP (Bonding orientation specification)

Explanation:

On both-side printing, bonding orientation of printing matter can be specified. Upper or left specification is valid.

Setting:

L: Left

U: Upper

Default:

U: Upper

C.2.8 PRTDIALG (Printing abort dialog)

Explanation:

Specify print abort dialog box.

Setting:

Y: Yes (Enable)

N: No (Disable)

Default:

N: No

C.2.9 SETPRTDIALOG (Print dialog)

Explanation:

Print dialog box could be specified.

If dialog box is showed, "Cancel" button means cancel of printing.

(It does not mean discard changing.)

Setting:

0: Depend on environment variable "MEFTDLG".

1: No dialog box.

2: Show dialog box.

3: Show dialog box with value of printer information file.

Default:

0: Depend on environment variable "MEFTDLG".

C.2.10 DEFPRINTER (Default printer control)

Explanation:

Specify the use of the default printer.

Setting:

Y: The default printer is used.

N: The default printer is not used.

O: Only when PRTDRV (Printer device name) is omitted, the default printer is used

Default:

Y: The default printer is used.

C.2.11 CHECKPAPER (Paper check)

Explanation:

Specify the behavior when the specified paper was not in the printer device.

Setting:

Y: The event log (error) is output, and it breaks off the print.

W: The event log (warning) is output, and the print is continued.

N: The event log is not output, and the print is continued.

Default:

N: The event log (warning) is output, and the print is continued.

Notes:

When printing, the event log is output only once.

When "There is no specification" is specified for paper size, it is invalid.

C.2.12 CHECKSUPPLY (Paper feed check)

Explanation:

Specify the behavior when the specified paper feed was not in the printer device.

Setting:

Y: The event log (error) is output, and it breaks off the print.

W: The event log (warning) is output, and the print is continued.

N: The event log is not output, and the print is continued.

Default:

N: The event log (warning) is output, and the print is continued.

Notes:

When printing, the event log is output only once.

When "There is no specification" is specified for paper feed, it is invalid.

C.2.13 DEFPAPER (Default paper name)

Explanation:

Specify the paper used when the paper specified by any of form descriptor, FORMSIZE (paper size), and MAPINFO FORMSIZE (paper size specification) is not supported by the output printer.

Setting:

Specify paper size name of printer driver using up to 63 characters.

Default:

No specification. The printer default is used.

Notes:

- When the intended paper is not output with the printer setting, this specification is an evasion method. Normally specify a correct paper by any of form descriptor, FORMSIZE (paper size), and MAPINFO FORMSIZE (paper size specification).
- When the paper decided by any of form descriptor, FORMSIZE, and MAPINFO FORMSIZE is "Default" (no specification), this keyword is invalid.
- When paper size name of printer driver is not found, or "Y" or "W" is specified for CHECKPAPER (paper check), the event log is output.
- Comparing the specified paper and the paper supported by the printer, the paper is decided in order of the following priority.
 - Paper specified by form descriptor or the printer information file
 - Paper specified by DEFPAPER (default paper name)
 - Specification value of CHECKPAPER (paper check)

C.3 Paper information

C.3.1 FORMSIZE (Paper size)

Explanation:

Specify the paper size as A3, A4, A5, B4, B5, postcard, letter, or legal. This specification is valid if "Default" is specified for the paper size in the descriptor.

Setting:

"A3": A3

"A4": A4

"A5": A5

"B4": B4

"B5": B5

"PS": Postcard

"LT": Letter

"LG": Legal

"NO": Default

"OT": Other

Default:

"LT": Letter

Notes:

If OT is specified, specify MAPINFO FORMSIZE (paper size specification)

If this keyword is specified NO and paper size in descriptor is specified Default, the setting on control panel is valid.

This keyword may be invalid. In case of this, specify MAPINFO FORMSIZE (paper size specification).

C.3.2 MAPINFO FORMSIZE (Paper size specification)

Explanation:

Correspond to paper supply orientation on control panel and paper supply orientation specified by FORMSIZE (paper size) by using this specification.

Setting:

MAPINFO FORMSIZE, paper size specified for FORMSIZE (paper size) ="paper size name of driver"

Example:

Specification of paper supply orientation and paper size on continuous printing.

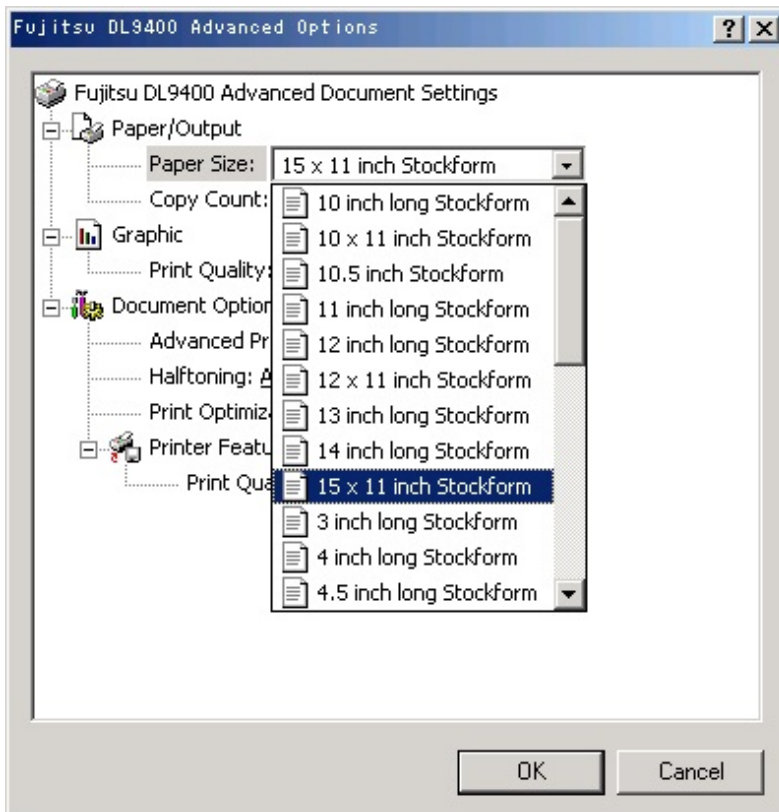
FORMKIND F

PHYPAGE Y

FORMSIZE OT

MAPINFO FORMKIND,F="Tractor(Rear)"

MAPINFO FORMSIZE,OT="15 x 11 inch Stockform"



Default:

Forms may not be printed on the paper specified by `FORMSIZE` (paper size).

If paper size is specified this keyword on continuous printing, specify "printing on continuous forms by setting on control panel" for `PHYPAGE` (setting form size when continuous forms are printed) surely.

C.3.3 PRTFORM (Print format)

Explanation:

Specify whether data is printed in portrait (vertical), landscape (horizontal), or LP mode. This specification is valid if "Default" is specified for the form size in the descriptor. LP mode is used to print 136 column data as a line printer image on A4 paper. LP mode is valid only for a laser printer.

Setting:

"PO": Portrait

"LA": Landscape

"LP": LP mode

Default:

"PO": Portrait

C.3.4 SUPPLY (Paper supply orientation)

Explanation:

Specify the cut sheet feeder, hopper 1, hopper 2, hopper 3, hopper 4, manual, or default as the paper feed slot. This specification is valid when "Default" is specified for the paper supply orientation in the descriptor.

If "Default" is specified, settings on the control panel are valid.

Setting:

CF: Cut sheet feeder

H1: Hopper 1

H2: Hopper 2

H3: Hopper 3

H4: Hopper 4

MA: Manual feed

NO: Default

Default:

"CF": Cut sheet feeder

Notes:

If the paper is not supplied from the specified paper orientation, specify MAPINFO SUPPLY (paper supply orientation specification).

To use automatic paper supply function, specify Default for this specification, FORMSIZE (Paper size) and MAPINFO FORMSIZE (Form size specification) surely.

C.3.5 MAPINFO SUPPLY (Paper supply orientation specification)

Explanation:

On printing cut paper, correspond to paper supply orientation on control panel and paper supply orientation for SUPPLY (paper supply orientation) by using this specification.

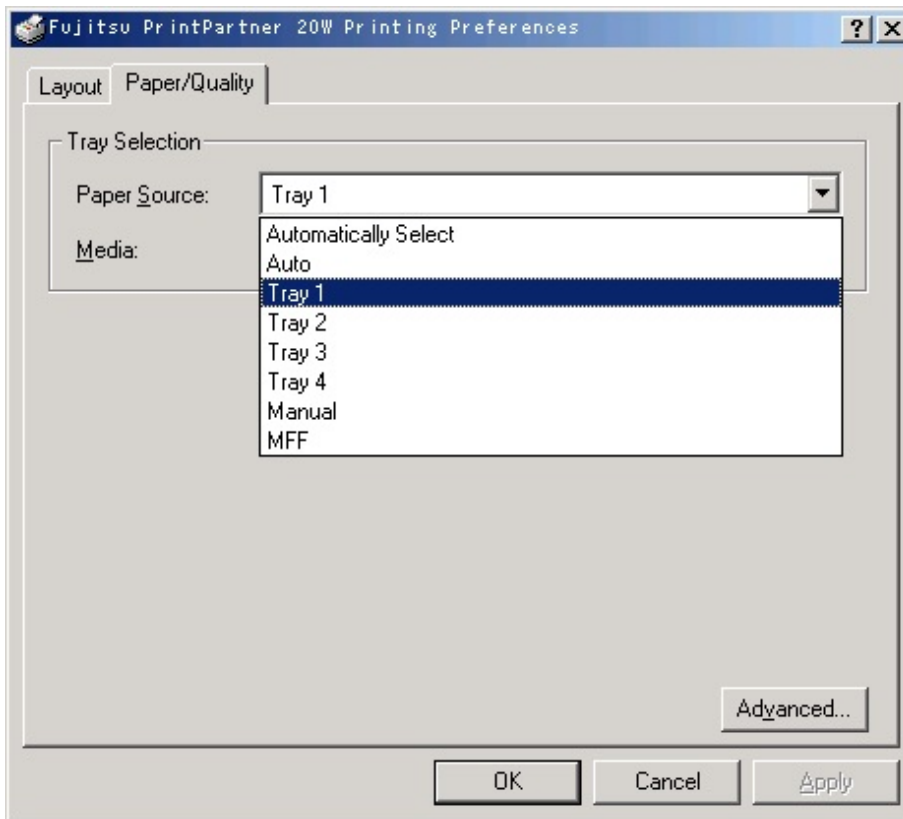
Setting:

MAPINFO SUPPLY, paper supply orientation specified for SUPPLY (paper supply orientation) ="paper supply orientation name of driver"

Example:

In case of XL5600.

MAPINFO SUPPLY,H1="Tray 1"



Default:

Paper may not be supplied from the paper supply orientation specified by SUPLY (paper supply orientation).

C.3.6 FORMKIND (Form type)

Explanation:

Specify continuous form or cut paper. If a page printer are used, specify cut paper.

Setting:

"F": Continuous forms

"C": Cut paper

Default:

"F": Continuous forms

C.3.7 MAPINFO FORMKIND (Paper supply orientation specification on continuous forms)

Explanation:

Correspond to paper supply orientation on control panel and paper supply orientation on continuous forms printing by using this specification.

If the paper is supplied incorrectly, specify this specification.

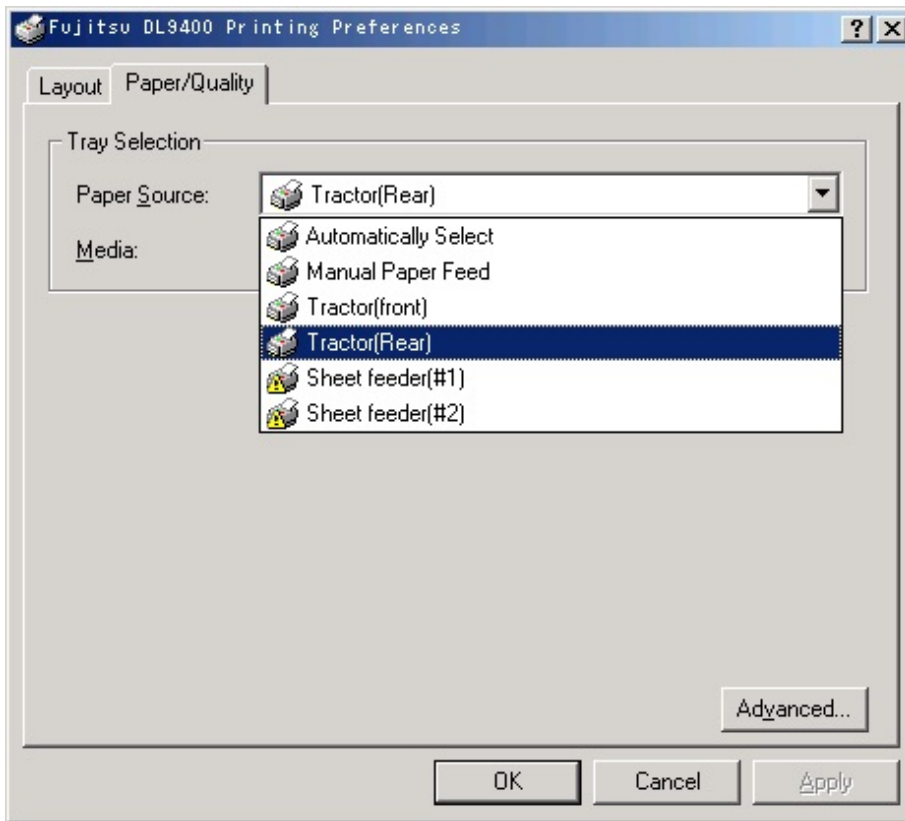
Setting:

MAPINFO FORMKIND,F="paper supply orientation name of the driver"

Example:

for a Fujitsu DL9400.

MAPINFO FORMKIND,F="Tractor(Rear)"



Default:

Paper supply orientation for continuous forms is set automatically.

C.3.8 PRTPOSX (Printing start column position)

Explanation:

Specify the printing start column position.

Setting:

Set the horizontal position using an integer representing 1/10 inch.

Default:

The printer default is used.

If PRTPOSY (printing start line position) is specified, 0 is set.

C.3.9 PRTPOSY (Printing start line position)

Explanation:

Specify the printing start line position.

Setting:

Set the vertical position using an integer representing 1/10 inch.

Default:

The printer default is used.

If PRTPOSX (printing start column position) is specified, 0 is set.

C.4 Form export information

C.4.1 STREAM (Stream type)

Explanation:

Specify the output stream type.

Setting:

PDF: PDF output

Default:

No specification.

C.4.2 STREAMENV (Stream administrative information file name)

Explanation:

Specify the document information file used in PDF output.

Setting:

The document information file name is specified in the full path.

Default:

No omissible. In this case, the error is notified.

C.4.3 STREAMFILE (Stream output file name)

Explanation:

Specify the PDF file name. When only the file name is specified, it is stored in the current folder.

Setting:

Specify the PDF file name.

Default:

No omissible. In this case, the error is notified.

C.5 Print preview

C.5.1 PREVIEW (Print preview)

Explanation:

Specify print preview mode.

Setting:

0: Depend on environment variable "MEFTPRE".

1: No preview.

2: Asynchronous mode. Printing process will not wait for closing of preview window.

3: Synchronous mode. Printing process will wait for closing of preview window.

Default:

0

C.6 Edit details

C.6.1 CORRECTPOS (Font position correction)

Explanation:

Fixed-pitch Font size (double width character) is incompatible between Windows XP and former Windows operating systems.

Specify correction method.

Setting:

FLD: Only the field which exceeds the field area length is corrected.

ALL: All Fields are corrected.

NONE: Not corrected.

Default:

FLD

C.6.2 LFCODE (Line-Feed Code)

Explanation:

Specify the line-feed code to explicitly feed a line in block field.

Setting:

Specify line-feed code in hexadecimal. (2digits.)

Example:

LFCODE 0A

Default:

Line-feed is automatically processed.

C.6.3 LFPRINT (Printable LFCODE)

Explanation:

In a block field, specify printing the LFCODE itself.

Setting:

Y: LFCODE is printed. (LFCODE must be printable character)

N: LFCODE is not printed.

Default:

N: LFCODE is not printed.

C.6.4 UNIQDATE (Job unique date)

Explanation:

Set the job unique date to date-fields.

For details, refer to the CURRENT-DATE function of the NetCOBOL User's Guide.

Setting:

Y: Job unique date is output.

N: System date is output.

Example:

UNIQDATE Y

Default:

N

C.6.5 BAR128DATALEN (Barcode length)

Explanation:

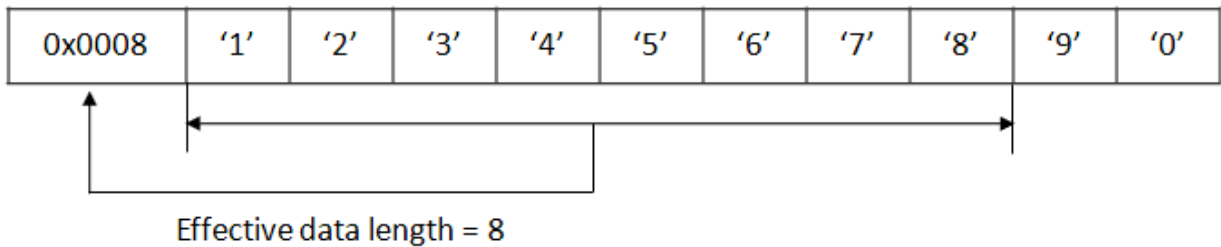
The method of specifying the effective data length is specified.

(It is valid within CODE128 and EAN-128)

Setting:

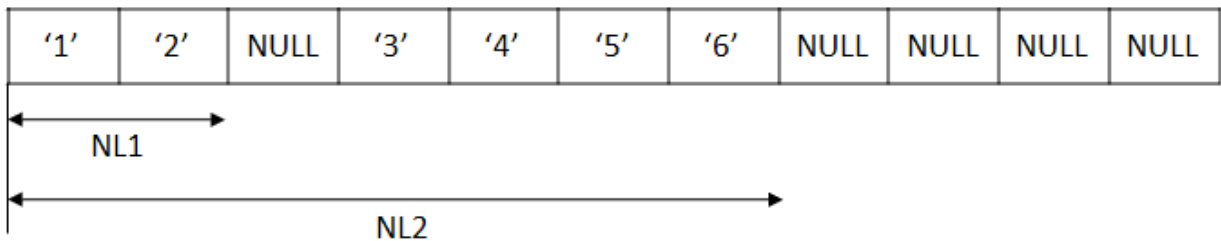
ALL: Whole field is effective.

LEN: The effective data length is specified in head 2 bytes binary (PIC 9(4) BINARY).



NL1: The effective data is "first appeared NULL" terminated.

NL2: The data is effective from head to last non-NULL data.



Default:

ALL

C.6.6 BARGAP (Barcode gap)

Explanation:

Specify the gap of barcode symbol by integer. (1/7200inch)

(It is valid within NW-7 and Code 3 of 9, if gap is not specified in the descriptor)

Setting:

Specify gap width.

Default:

The gap width is calculated automatically.

Notes:

This will change barcode size. Reading test must be required with your Barcode Reader.

C.6.7 BARNWRATIO (Barcode symbol ratio)

Explanation:

Specify the ratio of narrow bar and wide bar by integer.

(It is valid within NW-7, Code 3 of 9, Interleaved 2 out of 5 and Industrial 2 out of 5.)

Setting:

nnmm

nn: Narrow bar width.

mm: Wide bar width

Example:

The ratio is 1:2.5.

```
BARNWRATIO 0205
```

Default:

0103 (1:3)

Notes:

This will change barcode size. Reading test must be required with your Barcode Reader.

C.6.8 BARQZONE (Barcode quiet zone)

Explanation:

Specify the drawing method of quiet zone.

Setting:

I: Quiet zone is drawn inside of barcode area.

O: Quiet zone is drawn outside of barcode area.

Default:

Range specification barcode: I

Basic module width barcode: O

Notes:

This will change barcode size. Reading test must be required with your Barcode Reader.

C.6.9 BARFNC1 (Barcode function code 1)

Explanation:

Specify the FNC1 code of EAN-128 barcode.

Setting:

Specify FNC1 code in hexadecimal. (2digits.)

Example:

```
BARFNC1 FB
```

Default:

FB

Notes:

If FNC codes (FNC1, FNC2, FNC3 and FNC4) are duplicated, FNC1 has highest priority. Then FNC2, FNC3 follows. And FNC4 has lowest priority.

C.6.10 BARFNC2 (Barcode function code 2)

Explanation:

Specify the FNC2 code of EAN-128 barcode.

Setting:

Specify FNC2 code in hexadecimal. (2digits.)

Example:

BARFNC2 FC

Default:

FC

Notes:

If FNC codes (FNC1, FNC2, FNC3 and FNC4) are duplicated, FNC1 has highest priority. Then FNC2, FNC3 follows. And FNC4 has lowest priority.

C.6.11 BARFNC3 (Barcode function code 3)

Explanation:

Specify the FNC3 code of EAN-128 barcode.

Setting:

Specify FNC3 code in hexadecimal. (2digits.)

Example:

BARFNC3 FD

Default:

FD

Notes:

If FNC codes (FNC1, FNC2, FNC3 and FNC4) are duplicated, FNC1 has highest priority. Then FNC2, FNC3 follows. And FNC4 has lowest priority.

C.6.12 BARFNC4 (Barcode function code 4)

Explanation:

Specify the FNC4 code of EAN-128 barcode.

Setting:

Specify FNC4 code in hexadecimal. (2digits.)

Example:

BARFNC4 FE

Default:

FE

Notes:

If FNC codes (FNC1, FNC2, FNC3 and FNC4) are duplicated, FNC1 has highest priority. Then FNC2, FNC3 follows. And FNC4 has lowest priority.

C.6.13 USECHARTYPE (Unicode full-width/half-width character table)

Explanation:

Specify the table of full-width/half-width character used by outputting the UNICODE character when the user character-code is UNICODE.

Setting:

UNI: The table of full-width/half-width character made based on the UNICODE rule is used.

FUJ: The table of full-width/half-width character made based on "FUJ Minchotai" font is used.

Default:

The table of full-width/half-width character used by the output is different.

- PDF output:
The table of full-width/half-width character made based on "FUJ Minchotai" font is used.
- Not PDF output:
The table of full-width/half-width character made based on the output character font is used.

C.6.14 UNICODEW (Unicode full-width character range)

Explanation:

When the user character-code is UNICODE, the table of full-width/half-width character specified with USECHARTYPE (Unicode full-width/half-width character table) is customized at the character-code level.

The code of UNICODE(UCS2) of the character made full-width is specified by hexadecimal character (0-9,A-F) of four digits. Moreover, only a specific font is effectively made.

Setting:

[FONT="Font name";]beginning code[-exit code][, beginning code[-exit code]]...

Note) []setting can be omitted.

Default:

The table of full-width/half-width character is not changed.

C.6.15 UNICODEN (Unicode half-width character range)

Explanation:

When the user character-code is UNICODE, the table of full-width/half-width character specified with USECHARTYPE (Unicode full-width/half-width character table) is customized at the character-code level.

The code of UNICODE(UCS2) of the character made half-width is specified by hexadecimal character (0-9,A-F) of four digits. Moreover, only a specific font is effectively made.

Setting:

[FONT="Font name";]beginning code[-exit code][, beginning code[-exit code]]...

Note) []setting can be omitted.

Default:

The table of full-width/half-width character is not changed.

C.6.16 PDFJIS2004MODE (Surrogate pair output)

Explanation:

Specify the character (surrogate pair) added by the character-code standard "JIS X 0213:2004 (JIS2004)" when output on PDF output.

Setting:

Y: A surrogate pair is output.

N: A surrogate pair is not output.

Default:

N: A surrogate pair is not output.

Notes:

The MEFP_RC_CALLAPI(9M) error occurs when a surrogate pair is output without specifying set value "Y".

C.6.17 MULTIPLECHAR (Character output performance improvement)

Explanation:

The processing time is shortened by outputting it bringing the character of the item together.

- The execution time of the application that outputs the form that specifies expansion/reduction printing can be shortened.
- Time until the preview screen is displayed can be shortened for the print preview.

Setting:

Y: The character item outputs it bringing the character together.

N: The character item is output one by one.

Default:

N: The character item is output one by one.

Notes:

Please verify the ameliorating effect of each form used so that the effect of the performance improvement is different depending on the number of items defined by form descriptor, the specified attribute, and the output data.

C.6.18 FONTINFOCACHE (Font performance improvement)

Explanation:

Character width information on the fixed-width font is cached, and the processing time is shortened.

Setting:

W: Character width information on the fixed-width font is cached.

N: Character width information on the fixed-width font is not cached.

Default:

N: Character width information on the fixed-width font is not cached.

Notes:

This will change barcode size. Reading test must be required with your Barcode Reader.

C.6.19 GENGO (Japanese era name)

Explanation:

Customize Japanese era name.

Setting:

Specify it in the following formats.

GENGO GGGG,G:YYYYMMDD

- GGGG,G: specify character string that shows era name in the following formats.
 - GGGG: Japanese era name
 - G: Japanese era name (ANK display)
- YYYYMMDD: specify start date of Japanese era name in the following formats.
 - YYYY: 4 digits year
 - MM: 2 digits month
 - DD: 2 digits day

Default:

No specification. Japanese era name is not customized.

Notes:

- Specify the actual date in "YYYYMMDD" format.
- Specify the date since the start date (January 8, 1989) of the Heisei era.
- The start date of the era specified by this keyword is prioritized over the start date (May 1, 2019) of the Reiwa era. If you want to activate the Reiwa start date (May 1, 2019), do one of the following.
 - Do not use this keyword.
 - Specify the Reiwa start date (May 1, 2019) with this keyword.
- If the keyword exists that has the same value as either "Japanese era name (GGGG)" or "start date of Japanese era name (YYYYMMDD)", the later specified is effective.
- Japanese era names can be specified up to 5 words. It is not a specified number of this keyword.
- If the 6th is specified when 5 era names have been registered, it becomes the following.
 - When it is the same value as the registered era name, registered era name information is overwritten.
 - When it is the different value from the registered era name, specification is invalid.

C.7 Font information

C.7.1 MAPFONT (Map font names)

Explanation:

Specify a font name to substitute a font name specified in the descriptor.

This setting also applies to the overlay.

Setting:

"Old font name" "New font name"

Examples:

MAPFONT "Courier New" "Arial"

MAPFONT "Century" "SimSun"

Default:

Font name specified in the descriptor is used.

When the specified font is not found, the default of the font actually used is as follows by the operation locale.

- China: SimSun
- English: Courier New
- Portugal: Courier New

C.8 Descriptor information

C.8.1 MEDDIR (Descriptor storage directory)

Explanation:

Specify the descriptor storage directory. Multiple directories can be specified by delimiting them with a semicolon.

Setting:

Directory name

Example:

```
MEDDIR C:\DIR1;C:\DIR2
```

Default:

If the printer information file name is specified only in Open processing by file name, the current directory must contain the descriptor.

If the printer information file name is specified using a full path, the directory containing the printer information file must contain the descriptor.

C.8.2 MEDSUF (Descriptor extension)

Explanation:

Specify the extension added to the descriptor file name. If four or more characters are specified for the extension, only the first three characters are used.

Specify "NONE" if there is no extension.

Setting:

Specify extension without a dot (period).

Default:

The extension PMD is used.

C.9 Overlay information

C.9.1 OVLDIR (Overlay file storage directory name)

Explanation:

Specify the overlay file storage directory's parent directory name. Multiple directories can be specified by delimiting them with a semicolon.

Setting:

Directory name

Example:

```
OVLDIR C:\DIR1;C:\DIR2
```

Default:

Current directory

C.9.2 OVLpname (Overlay file name)

Explanation:

Specify the overlay file name. This specification is valid if the overlay file name is not specified in the descriptor.

Setting:

Specify the overlay file name using up to eight characters.

Default:

The overlay file is not printed.

C.9.3 OVLPSUF (Overlay file extension)

Explanation:

Specify the extension added to the overlay file name. If four or more characters are specified for the extension, only the first three characters are valid.

Specify "NONE" if there is no extension.

Setting:

Specify the extension added to the overlay file name.

Default:

The extension OVD is used.

C.10 Media information

C.10.1 MEDIADIR (Media file storage directory name)

Explanation:

Specify the media file storage directory.

Multiple directories can be specified by delimiting them with a semicolon. If the media file name is specified using the full path by a program, the specification overrides MEDIADIR.

Setting:

Specify media file storage directory.

Example:

```
MEDIADIR C:\DIR1;C:\DIR2
```

Default:

The current directory or a directory specified by a directory path.

C.11 Local information

C.11.1 TIMEZONE (Time zone)

Explanation:

Specify the time difference from UTC (Coordinated Universal Time).

Setting:

- +HHMM (When you advance time)
- HHMM (When you delay time)
 - HH: Time (00 - 23)
 - MM: Minutes (00 - 59)

Default:

It is output at local time.

C.12 Information file control

C.12.1 INCLUDE (Include file)

Explanation:

When another printer information file is taken in the printer information file, it specifies it.

The specified file is retrieved in the order of the folder shown as follows.

1. Specified folder when specified by full path.
2. Environment variable: Folder specified with MEFTDIR.
3. Current folder.

Setting:

The taken printer information file name is specified.

Default:

Include stripes cork of printer information file.

Notes:

When the printer information file specified by the INCLUDE keyword is not found, the INCLUDE keyword becomes invalid. Moreover, the error is not notified in this case.

Even if the INCLUDE keyword is described further in the printer information file specified by the INCLUDE keyword, it becomes invalid.

When the same keyword exists in the specified printer information file and the file of printer information on the INCLUDE keyword specification when opening, the value of the keyword specified later becomes effective.

Appendix D Trace Log

The trace log can be output in PowerFORM RTS. If you encounter an error that is not described here, please open a support incident with Fujitsu Technical Support.

The following information is gathered in the trace log:

- System information (environment variable, module information)
- Form descriptor, Form overlay, media data
- Printer information file
- Record data
- Output printer information
- Error information
- Output font information
- An output file for print preview, expansion / reduction print time

D.1 Trace log storage folder

The storage folder for the trace log is as follows:

```
"root folder" \function folder"\output date Folder"
```

- root folder

Use a full path name to assign the root folder in environment variable "MEFTLOGROOT". The root folder must be created beforehand. The default at installation is: "C:\MEFTLOGROOT".

- function folder

The function folder is MEFTPLOG. If it does not already exist, it is automatically created during output. The name of the function folder cannot be changed.

- output date Folder

The output date folder contains the date on which it was made (in YYYYMMDD format) in the folder name. It contains various information files that are output by subordinate programs.

When working with Fujitsu Technical Support, please attach your trace log folder to the associated incident.

D.2 Trace log environment variables

Use the following environment variables to set up the collection of trace log information.

- MEFTLOGROOT

Specify the full path for the root folder of the trace log. The default at installation is "C:\MEFTLOGROOT".

- MEFTLOGNUMP

Specify the largest number of trace log entries, 0-1024, that can be included in one day. When the maximum number is exceeded, the oldest output date Folder is deleted. When a maximum of 0 is entered, the trace log is not output. If a number outside the range is entered, a maximum of 32 is assigned.

- MEFTLOGSIZEP

Specify the maximum size of the log that can be output in one job unit (an output date folder unit), 1 - 8192 MB. If a number outside the range is entered, a maximum of 8192 is assigned. If the log exceeds the maximum, subsequent trace logs are not output.

Note

- You must have enough disk space available to accommodate the trace log. This can be calculated by multiplying the value of MEFTLOGNUMP (maximum trace log entries) by the value of MEFTLOGSIZEP (maximum log size output in one job unit).
- The output file to use in a print preview or enlarged / reduction print is output. When using print preview or enlarged / reduced for multiple page files, specify the size according to the value in MEFTLOGSIZEP. A size of 2,048MB is recommended.
- Outputting the trace log can affect print quality. Check the print quality with trace log enabled versus disabled.

D.3 Trace log delete command

Output date folder can be deleted by trace log delete command.

All folders that the created date are older than the parameter specified in "days" are deleted.

The description form of the command is shown as follows:

```
\PowerFORM RTS-installation folder\CLEANLOG.EXE -p days
```

A blank is required after each parameter.

Explanation of Parameters

- *-p*
Deletes output date folders in "MEFTPLOG".
- *days*
Specify lapsed days of output date folders to be deleted.
Only unsigned integers of 1 or more may be specified.
When 0 is specified, no folders are deleted.

Note

- When these parameters are omitted, no folders are deleted.
- When the delete command is started with the scheduler, the right of access for the storage folder for the trace log is necessary for the start account (user).

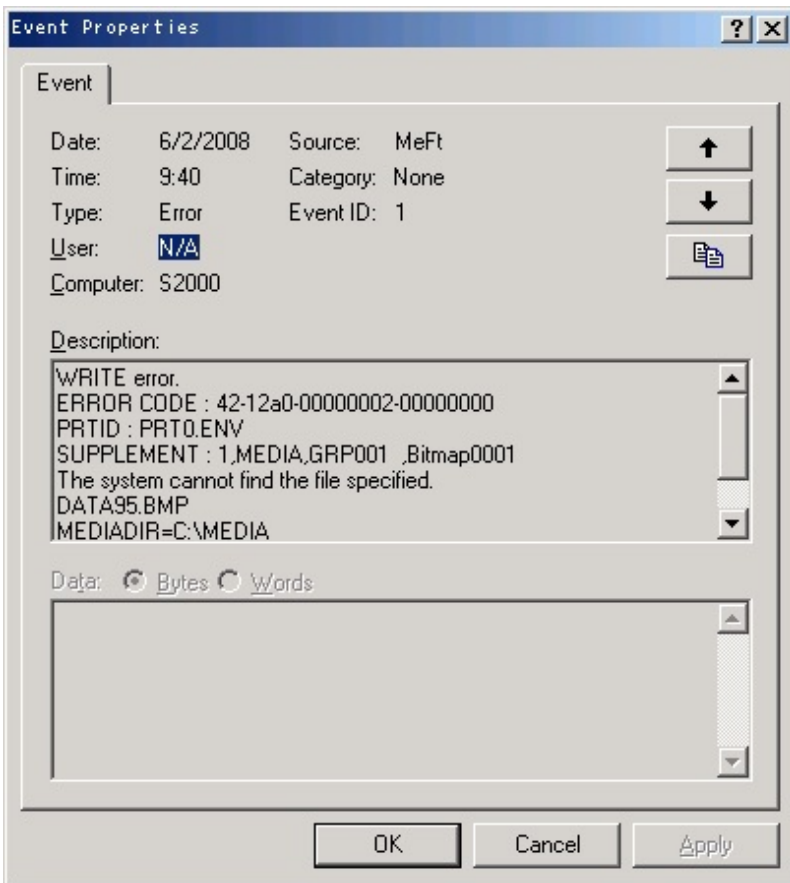
Appendix E Error Messages

This appendix provides information about PowerFORM RTS output error messages.

E.1 Output format of error messages

PowerFORM RTS error messages are output by the event log for the Windows version.

An example of a PowerFORM RTS error message is shown below.



The output format of the error messages is as follows:

- Event ID always outputs "1".
- The source name is output by "MeFt".
- "Error" or "Warn" is output in the Type field.

Detailed error information is output as follows:

- **For ERROR type: "Explanation" is output as follows:**

```
%s1  
ERROR CODE: aa[Return code]-xxx[detection information]-yyyyyyy[system error code]-zzzzzzz[tool error code]  
PRTID: Print name  
SUPPLEMENT: dddd[Page Number], Form descriptor,partition name,item name  
system failure code explanation  
File or directory path name
```

- %s1: The error detection processing type is output.

OPEN error : An error occurred by OPEN handling of MeFt PowerFORM RTS.

WRITE error: An error occurred by WRITE handling of MeFt PowerFORM RTS.

CLOSE error: An error occurred by CLOSE handling of MeFt PowerFORM RTS.

- ERROR CODE: Outputs detailed error information.

The detailed error information is output to ERROR CODE. The expected performance return code is output to aa by the two digit alphanumeric characters row. Error detection information is output to xxxx by the four digit hexadecimal number. The system error code that occurred at the Windows API call is output to yyyyyyyy. The tool error code that occurred at the API call of a third party product is output to zzzzzzzz.

- The print name processing it to PRTID is output.

The print name specified by the "PRTID" keyword of the printer information file is output. When the keyword is omitted, the specified printer information file name is output. When the printer information file is not specified, nothing is output.

- Error subsidiary information is output to SUPPLEMENT.

The system failure code explanation is output. When an error is detected by the access processing of each file of the form descriptor, the form overlay descriptor, and built-in media, information for each file is output to file passing information.

- **For a WARNING type: The "Explanation" is output in messages as follows:**

- When an open of the specified printer fails and the open normally succeeds, the following is output:

Tried to print with the default printer, because failed to open the specified printer. Please confirm the network environment.

- If a failure occurs when creating the MEFTPLOG directory in the trace log collection, the following is output:

It failed in making the MEFTPLOG folder for the log collection.

- If a failure occurs when creating the output date directory in the trace log collection, the following is output:

It failed in making the YYYYMMDDHEDxxx folder for the log collection.

- If a failure occurs when opening the log file in the trace log collection, the following is output:

It failed in the opening of the log file.

- If a failure occurs when writing to the log file in the trace log collection, the following is output:

It failed in the write of the log file.

- If a failure occurs when closing the log file in the trace log collection, the following is output:

It failed in the close of the log file.

- If the maximum size of the log size gathered by one job when the trace log is gathered is exceeded, the following is output:

The log file exceeded the upper bound value of one job.

- When the specified paper size is not found, the following is output:

The specified paper is not found. Is specification correct?

- When the specified paper name is not found, the following is output:

The specified paper "%1" is not found. Is specification correct?

"%1": The specified paper name is output.

- When the specified paper name is not found, and it switches to the specification of the paper size, the following is output:

The specified paper "%1" is not found. An alternative form "%2" was selected. Is specification correct?

"%1": The specified paper name is output.

"%2": The specified paper size is output.

- When the specified paper name is not found, the following is output:

The paper "%1" specified for DEFPAPER is not found.

"%1": The specified default paper name is output.

- When the specified paper feed is not found, the following is output:

The specified paper feed slot is not found. Is specification correct?

- When paper feed cannot be done by the specified paper feed name, and it switches to the specification of paper feed slot, the following is output:

The specified paper feed slot "%1" is not found. An alternative paper feed slot "%2" was selected. Is specification correct?

"%1": The specified paper feed name is output.

"%2": The paper feed slot specified of paper feed is output..

- When the specified paper feed name is not found, the following is output:

The specified paper feed slot "%1" is not found. Is specification correct?

"%1": The specified paper feed name is output.

E.2 Detailed error information

This section provides detailed information about the error messages output, and the corrective action that can be taken. This information is categorized by return code. "Error code when the error is detected by system function" and "Error code notified from the liaising product" are omitted here.

E.2.1 Return code 03 - 09

"03-3030" - "03-3035"

Meaning

The specified presentation file identifier was incorrect, and processing was discontinued.

User Action

Use the presentation file identifier acquired by open processing.

"08-3050"

Meaning

The record length of the form descriptor was larger than the length of the record area of the application program, and processing was discontinued.

User Action

Increase the length of the record area of the application program. The record of form descriptor used develops in COPY, and the application program is recreated (build).

"09-02b1"**Meaning**

An error was detected in development processing when the form overlay was output.

User Action

Check for an error in the specified form overlay.

"09-30b0"**Meaning**

An error occurred when printing in reduced or expanded size.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.2 Return code 10 - 18

"10-0011"**Meaning**

The maximum (1024) that can be opened at the same time in the same process was exceeded by the open processing of PowerFORM RTS.

User Action

The document output under execution is ended. Decrease the number open by closing the one that has opened, and execute the output again.

"10-0211" - "10-021a"**Meaning**

An error occurred on the open printer processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"10-021d"**Meaning**

An error occurred during the printer open processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"10-3010"**Meaning**

The specified presentation file identifier was incorrect, and processing was discontinued.

User Action

Use the presentation file identifier acquired by the open processing.

"10-3215"**Meaning**

An error occurred during the printer open processing at the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"10-3e10"

Meaning

The document information file is not specified in PDF output.

User Action

Specify the document information file for STREAMENV(administrative information file name specification) of the printer information file.

"10-3e11"

Meaning

PDF file name is not specified in PDF output.

User Action

Specify the PDF file name for STREAMFILE (stream output file name) of the printer information file.

"10-3e12"

Meaning

The error was notified from the initialization of the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"13-3010"

Meaning

The system does not support Unicode, so it cannot be output even though it was specified as the character-code of the application program.

User Action

Use Unicode with a system that supports Unicode.

"13-3015"

Meaning

When the character-code of the user program is Unicode, the printer information file to which BOM(UTF-16,UTF-32) was added is used.

User Action

Use the printer information file to which BOM(UTF-8) is added or the printer information file described by ASCII.

"18-0010"

Meaning

A file access error occurred during the creation of the printer information confirmation file.

User Action

Confirm that environment variable MEFTTMP, TMP or TEMP exists. Confirm the access authority of passing, and set necessary access authority. Confirm that the disk space specified with environment variable MEFTTMP, TMP or TEMP is available.

"18-0011","18-0012"**Meaning**

An error occurred when making the temporary file at the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-0013"**Meaning**

An error occurred while generating the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-0014"**Meaning**

An error occurred when making the temporary file for the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-0050"**Meaning**

An error occurred while generating the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-0090","18-00b0" - "18-00b3","18-0220"**Meaning**

An error occurred when making the temporary file for the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-02a0" - "18-02a4"**Meaning**

An error occurred while generating the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-0eb0","18-0eb1","18-0ef0" - "18-0ef4"**Meaning**

The file access error was notified from the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"18-41b0", "18-42d0", "18-42d1"

Meaning

An error occurred while creating the temporary file to output to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-4e10", "18-4e20", "18-4ec0", "18-4ef0", "18-4ef1", "18-4ef2"

Meaning

The file access error was notified from the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"18-5210" - "18-5214"

Meaning

An error occurred during the printer open processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"18-52b0" - "18-52b3"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.3 Return code 20 - 26

"20-0010" - "20-0013", "20-0050", "20-0070", "20-0090", "20-00b0" - "20-00b3", "20-0220" - "20-0222"

Meaning

Insufficient disk space to make the print preview temporary file.

User Action

Check the disk space of the drive specified with environment variable MEFTTMP, TMP or TEMP. Output the file again after increasing the capacity of the disk by deleting unnecessary files, etc.

"20-02a0" - "20-02a4"

Meaning

An error occurred while generating the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"20-41b0", "20-42d0", "20-42d1"

Meaning

Insufficient disk space to make the temporary file when outputting to media.

User Action

Check the disk space of the drive specified with environment variable MEFTTMP, TMP or TEMP. Output the file again after increasing the capacity of the disk by deleting unnecessary files, etc.

"20-5210" - "20-5214"

Meaning

An error occurred during printer open processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"20-52b0" - "20-52b3"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0000", "21-0010" - "21-0015"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0016", "21-0017"

Meaning

An error occurred during initialization.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0018" - "21-001a"

Meaning

A memory shortage occurred while creating the temporary file for the print preview.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-001b", "21-001c", "21-0050"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0051"

Meaning

An error occurred while generating the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0090"

Meaning

An error occurred while making the temporary file for the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0091", "21-0092", "21-00b0", "21-00b2"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-00b3" - "21-00b6"

Meaning

An error occurred while making the temporary file for the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0210" - "21-0215"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0216"

Meaning

An error occurred during initialization.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-0220" - "21-0223"

Meaning

A memory shortage occurred while making the temporary file for the print preview.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-02a1"

Meaning

An error occurred when outputting to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-02a4","21-02a5","21-02a7","21-02aa"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"21-02ab","21-02ac","21-02ae","21-02af"

Meaning

A memory shortage occurred while generating the print preview.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-02b0","21-02b6"

Meaning

An error occurred in output processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"21-02b7"

Meaning

It failed in the acquisition of the work area due to memory shortage in the barcode output.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"21-0e10","21-0e11"

Meaning

It failed in the acquisition of the work area due to memory shortage in the PDF output.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0eb0" - "21-0eb2"

Meaning

A memory shortage occurred by the PDF conversion function while outputting PDF.

User Action

- Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.
 - The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.
-

"21-0ed0"

Meaning

It failed in the acquisition of the work area due to memory shortage in the PDF output.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0ef0", "21-0ef1"

Meaning

A memory shortage occurred by the PDF conversion function while outputting PDF.

User Action

- Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.
 - The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.
-

"21-0ef2", "21-0ef3"

Meaning

It failed in the acquisition of the work area due to memory shortage in the PDF output.

User Action

Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.

"21-0ef4" - "21-0ef8"

Meaning

A memory shortage occurred by the PDF conversion function while processing the barcode during PDF output.

User Action

- Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.
 - The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.
-

"21-41b0", "21-42d0", "21-42d1"

Meaning

Memory shortage occurred by the temporary file making when media were output.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"21-4e10", "21-4e11", "21-4e20", "21-4ec0", "21-4ee0", "21-4ef0" - "21-4ef2"

Meaning

A memory shortage occurred by the PDF conversion function while outputting PDF.

User Action

- Terminate unnecessary applications and increase the virtual memory, or increase the memory, and execute it again.
 - The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.
-

"21-5010", "21-5011"

Meaning

There was a failure to acquire the work area due to memory shortage.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"21-5210" - "21-5214"

Meaning

There was a memory shortage during printer open processing.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"21-52b0" - "21-52b3"

Meaning

A memory shortage occurred in the output processing.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"22-3050"

Meaning

An error was detected by the descriptor reading processing.

User Action

Check the specified definition name for errors, and check the directory specified with MEDDIR of the printer information file (descriptor storage directory).

"22-3090"

Meaning

The descriptor name was omitted on setting bottom information of the printer device control.

User Action

Confirm the specification of the descriptor name.

"23-0050"

Meaning

A memory shortage occurred during the descriptor reading processing.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute it again.

"24-02a0"

Meaning

An unsupported media attribute was specified during output to media.

User Action

Specify a supported media form or media attribute.

"24-2040"

Meaning

The specified item name or item group name was not found.

User Action

Check the item name and item group name by the descriptor.

"24-3092"

Meaning

The specified partition field group name was not found in descriptor on setting bottom information of the printer device control.

User Action

Confirm the specification of partition field group name on the descriptor.

"24-3093"

Meaning

The floatage partition was specified for the bottom partition on setting bottom information of the printer device control.

User Action

Specify a fixed partition for the bottom partition.

"24-3094"

Meaning

In the form descriptor (free frame), the bottom partition is not corresponding to the frame of a specified partition.

User Action

Specify the partition of the same frame.

"25-3040", "25-3041"

Meaning

An error was found in the argument specified by the application program. The value that was specified excluding the constant label or specified for the PROCESSING MODE phrase is not correct.

User Action

Check the constant label in the argument and the value specified for use in the PROCESSING MODE phrase.

"26-3040"

Meaning

There is an error in the argument specified by the application program. The value that was specified for the constant label or specified for the UNIT CONTROL clause is not correct.

User Action

Check the constant label in the argument and the value specified for use in the UNIT CONTROL clause.

"26-3043"

Meaning

"0" was specified for the absolute line number when the partition was output.

User Action

Specify "1" or greater for the absolute line number.

"26-3044", "26-3045"

Meaning

There is an error in the argument specified by the application program. The value that was specified for the constant label or specified for the UNIT CONTROL clause is not correct.

User Action

Check the constant label in the argument and the value specified for use in the UNIT CONTROL clause.

"26-3047"

Meaning

There is an error in the argument specified by the application program. Neither the value specified for the number of lines or number of changing lines nor the value specified for the UNIT CONTROL clause are correct.

User Action

Check the value specified for the number of lines or the number of changing lines or the value specified for the UNIT CONTROL clause.

"26-3090"

Meaning

The value that was specified for the UNIT CONTROL clause is not correct on setting bottom information of the printer device control.

User Action

Check the value specified for the UNIT CONTROL clause.

"26-3091"

Meaning

The partition defined in the horizontal direction frame of the description (free frame) was specified on setting bottom information of the printer device control.

User Action

Do not specify the partition defined in a horizontal direction frame.

"26-3092"

Meaning

A non-numeric value was specified for a bottom value on setting bottom information of the printer device control.

User Action

Specify the numeric for a bottom value.

"26-3093"

Meaning

The value that exceeded the size of the form descriptor or the frame was specified for a bottom value on setting bottom information of the printer device control.

User Action

Specify the value that does not exceed the form descriptor or the frame for a bottom value.

E.2.4 Return code 32

"32-3050" - "32-3052"

Meaning

An error occurred while reading the descriptor. The descriptor is incomplete or incorrect or it defines an unsupported function.

User Action

Check and correct the descriptor.

"32-3053"

Meaning

A form descriptor that is not for UTF-32 is used in the user program which UTF-32 is specified for the UCS2 field.

User Action

Use the form descriptor for UTF-32.

"32-3090"

Meaning

The form descriptor excluding the partition format and the free frame was specified on setting bottom information of the printer device control.

User Action

Specify the form descriptor of the partition format and the free frame.

E.2.5 Return code 42 - 47

"42-02a1"

Meaning

An error occurred while generating a print preview with expansion or reduction specified.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"42-02a3" - "42-02a6"

Meaning

An error occurred during an output to media (bitmap).

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"42-02a7"

Meaning

Files other than bitmap were specified when outputting to bitmap media.

User Action

Check the specified media file format.

"42-12a0"

Meaning

The media file specified while outputting to bitmap media was not found.

User Action

Store the file in a folder that specifies the bitmap media file.

"42-3ed1"

Meaning

The OLE cooperation was specified in the PDF output.

User Action

Do not specify the OLE cooperation in the PDF output.

"42-3ed2"

Meaning

The unsupported media form was specified for the Image Field in PDF output.

User Action

Confirm the specified media form.

"42-42d0", "42-42d1"

Meaning

An error occurred while creating the temporary file during output to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"42-4ee0"

Meaning

A file access error occurred by the PDF conversion function while processing the media during PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"44-02a0"

Meaning

An error occurred during output to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"44-02a1"

Meaning

An error occurred during the OLE linkage process while outputting to bitmap media.

User Action

Check that the specified file is an Object Linking and Embedding object. Confirm that URL is specified for the Object Linking and Embedding object.

"44-02a3", "44-02a4", "44-02a6", "44-02a7"

Meaning

An error occurred when media were output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"44-02af"

Meaning

A file of "0" bytes was specified when outputting to bitmap media (bitmap).

User Action

Check the media file specifications.

"44-02b2" - "44-02be"

Meaning

There was a lack of system resources during development processing when the barcode was output.

User Action

Check the system resources.

"44-0ca3"

Meaning

When bitmap media (JPEG, TIFF or PNG) was output, an unsupported picture file format was specified.

User Action

Check the media file specifications.

"44-0ca4" - "44-0ca6"

Meaning

An error occurred during output to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"47-02b0"

Meaning

Data that cannot be treated as barcode output (basic module width specification) was specified.

User Action

Check the barcode data specifications.

"47-02b1"

Meaning

Data that cannot be treated as barcode output (range specification) was specified.

User Action

Check the barcode data specifications.

"47-02b2"

Meaning

Data that cannot be treated as barcode output (customer barcode) was specified.

User Action

Check the barcode data specifications.

"47-02b3"

Meaning

The barcode output (U.S.POSTNET or U.S. Postal FIM) could not be output within the range specified by the form descriptor.

User Action

Increase the range of the form descriptor specification.

"47-02b4"

Meaning

The barcode output (U.S.POSTNET or U.S. Postal FIM) could not be treated as specified.

User Action

Check the barcode data specifications.

"47-02b5"

Meaning

The size for which input data was able to be specified at barcode output (QR Code) was exceeded.

User Action

- Check the barcode data specifications.
 - Reduce input data or lower the error correction ratio and execute the output again.
-

"47-02b6","47-02b7"

Meaning

The length of the entry or the data valid lengths when the barcode is output are not correct.

User Action

Check the specified barcode data, referring to the explanation of BAR128DATALEN of the printer information file (data valid length specification of CODE128 and EAN-128).

"47-02bc"

Meaning

The barcode output cannot be output within the range that had been specified by the form descriptor.

User Action

Increase the range of the form descriptor specification.

"47-0ef1","47-0ef3","47-0ef4"

Meaning

A barcode output error occurred by the PDF conversion function in PDF output.

User Action

- Check the barcode data specifications.

- Confirm a detailed error from log information on the PDF conversion function.

E.2.6 Return code 52 - 53

"52-02b0" - "52-02b3"

Meaning

An error occurred when the character was output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"53-02b0" - "53-02b2"

Meaning

An error occurred when the character was output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.7 Return code 62 - 6C

"62-00b0"

Meaning

The length of the descriptor was exceeded when the partition was output.

User Action

Change the descriptor and the application program so that the length of the descriptor is not exceeded when the specified partition is output.

"65-00b0"

Meaning

The descriptor size was exceeded by the descriptor of the column setting partition form when the partition was output.

User Action

Output the partition so as not to exceed the descriptor size.

"66-32b0"

Meaning

The paper size or the paper name that was specified with the output printer device was not valid.

User Action

Confirm the setting of the printer device, and confirm there is no errors in the specification of the paper.

"66-32b1"

Meaning

The paper feed or the paper feed name that was specified with the output printer device was not valid.

User Action

Confirm the setting of the printer device, and confirm there is no errors in the specification of the paper feed.

"6A-3060"

Meaning

The following errors were detected on outputting the form.

- While outputting the form descriptor (columns) or the form descriptor (free frame), the line record output was specified.
- While using the form descriptor (free frame), new frame and new page was executed in a print file with the FORMAT phrase.

User Action

- Do not specify the line record output.
- Output with the display file. Or use the descriptor other than the form descriptor (free frame).

"6B-30b0"

Meaning

While outputting the form descriptor (free frame), the specified partition exceeded the last frame.

User Action

Specify not to exceed the last frame by executing new frame and new page.

"6C-30b0"

Meaning

While outputting the form descriptor (free frame), the specified partition exceeded the frame or bottom position.

User Action

Do not exceed the frame or the bottom position.

E.2.8 Return code 84 - 86

"84-3090"

Meaning

The output item group name was not specified when the partition form was specified.

User Action

Specify the output item group name.

"85-3090"

Meaning

The partition output was specified in descriptors other than the partition form.

User Action

Do not specify the partition output in descriptors other than the partition form.

"86-00b1"

Meaning

A memory shortage occurred during character output processing.

User Action

Terminate unnecessary applications and increase the virtual memory or increase the memory, and execute again.

"86-0222"

Meaning

An error occurred while closing PowerFORM RTS.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0224"

Meaning

An error occurred while processing the print preview.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-02b4", "86-02b5", "86-02b9"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0ab4", "86-0ab6", "86-0ab7"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0ab8"

Meaning

An error occurred during display processing.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0aba"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0abd", "86-0abe"

Meaning

An error occurred when printing in reduced or expanded size.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0bb5", "86-0bb6"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"86-0cb7"

Meaning

An error occurred while processing the printer output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.9 Return code 91 - 9N

"91-0ef0"

Meaning

The form overlay that was specified in PDF output was not found.

User Action

Verify that the form overlay pattern file exists in the folder specified for OVLDIR (overlay file storage directory name) in the printer information file.

"91-0ef2", "91-0ef3"

Meaning

An error occurred by the PDF conversion function while processing the form overlay during PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"91-12a0"

Meaning

The form overlay that was specified when the form overlay was output was not found.

User Action

Verify that the form overlay pattern file exists in the folder specified for OVLDIR of the printer information file (form overlay pattern storage directory name).

"91-12a2" - "91-12ab"

Meaning

An error occurred in development processing when the form overlay was output.

User Action

Check the specified form overlay.

"92-1000" - "92-1bbb"

Meaning

A print cancellation was executed that prevented the close of the print file.

User Action

Close the print file.

"97-5210" - "97-5214", "97-52b0" - "97-52b3"

Meaning

A network related error was generated while accessing the printer.

User Action

Confirm the access authority of the specified network printer. Check for an error that corresponds to the error explanation associated with the system failure code.

"9A-02b0" - "9A-02b2"

Meaning

There was a failure in loading the form overlay.

User Action

Confirm that PowerFORM RTS is correctly installed.

"9H-0090"

Meaning

When PDF was output, there was a failure in loading the PDF conversion function.

User Action

Confirm that List Creator (PDF conversion function) is correctly installed.

"9H-0e10" - "9H-0e13"

Meaning

When PDF was output, there was a failure in loading the PDF conversion function.

User Action

Confirm that List Creator (PDF conversion function) is correctly installed.

"9I-3010"

Meaning

The values other than "PDF" were specified for STREAM (Stream type) of the printer information file.

User Action

Confirm the specification of the stream type.

"9J-02b0" - "9J-02b4"

Meaning

An error occurred while creating the font when the character was output.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

"9K-02b0"

Meaning

An unjustified value was specified for BARNWRATIO of the printer information file (Hosoftoshi element ratio specification) when the barcode was output.

User Action

Check the value specified for BARNWRATIO of the printer information file (Hosoftoshi element ratio specification).

"9K-02b1"

Meaning

BARFNC2 ('FNC2' specification of the barcode): An unjustified value was specified for BARFNC3 ('FNC3' specification of the barcode) and BARFNC4 ('FNC4' specification of the barcode).

User Action

BARFNC2 ('FNC2' specification of the barcode): Check the value specified for BARFNC3 ('FNC3' specification of the barcode) and BARFNC4 ('FNC4' specification of the barcode).

"9K-0ef0"

Meaning

When the barcode was output, an unjustified value was specified for BARNWRATIO of the printer information file (Hosoftoshi element ratio specification).

User Action

Check the value specified for BARNWRATIO of the printer information file (Hosoftoshi element ratio specification).

"9L-0210"

Meaning

The cancellation button was pressed on a set screen in the print dialog box, while the print dialog box was specified in display with SETPRTDIALOG of the printer information file (print Dialogue DISPLAY specification) and CAN was specified for environment variable MEFTDLG.

User Action

No user action necessary.

"9M-0eb0","9M-0eb1"

Meaning

The file access error was notified from the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-0ef0","9M-0ef1"

Meaning

An error occurred by the PDF conversion function while processing the barcode during PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-3ef0" - "9M-3ef5"

Meaning

An error occurred by the PDF conversion function while processing the barcode during PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-4e10"

Meaning

The error was notified from the initialization of the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-4e20"

Meaning

The error was notified from the initialization of the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-4ec0"

Meaning

The file access error was notified from the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-4ee0"

Meaning

An error occurred by the PDF conversion function while processing the media during PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9M-4ef0" - "9M-4ef2"

Meaning

The file access error was notified from the PDF conversion function in the PDF output.

User Action

The error code notified in the tool error code from the PDF conversion function is output. Confirm a detailed error from log information on the PDF conversion function.

"9N-0220"

Meaning

The start of the print preview failed.

User Action

Verify that PowerFORM RTS is correctly installed.

"9N-0221"

Meaning

The pagination exceeded the upper boundary of the print preview (99999 pages).

User Action

Do not exceed the upper boundary (99999 pages).

E.2.10 Return code C4 - CX

"C4-0210","C4-3211"

Meaning

There was a failure to acquire the default printer during printer open processing.

User Action

Verify that the printer is registered in the system. Verify that the printer name specified for PRTDRV of the printer information file (output printer device name) is correct.

"C7-0050"

Meaning

A file that has been opened was not able to be read.

User Action

Decrease the number of files being opened.

"CC-3030"

Meaning

A processing request to the same file identification child was generated while processing it at the time of the presentation file identifier specified from the application program.

User Action

Check the application program.

"CX-02a8","CX-02ac","CX-02ad"

Meaning

An error occurred while creating the temporary file when outputting to media.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.11 Return code GB - GM

"GB-02a0"

Meaning

A failure occurred while loading the OLE linkage process.

User Action

Verify that PowerFORM RTS is correctly installed.

"GM-02b0" - "GM-02b7"

Meaning

An error occurred in the expansion/time of ..reduction.. print.

User Action

Check for an error that corresponds to the error explanation associated with the system failure code.

E.2.12 Other Return Codes

For return codes other than those above:

Meaning

An internal contradiction was detected.

User Action

Record the return code, the message, and the content of the operation, and open a support incident with Fujitsu Technical Support.

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