

EPSON

EPSON JavaPOS ADK Manual

Application Conversion Guide

(Changes to Version 1.9L/W)

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Chapter 1 Introduction

Part of the specification of EPSON JavaPOS ADK has been changed from Version 1.9L/W. Therefore it may be necessary to change your application accordingly. This document describes the differences in Version 1.9L/W from the previous version. Please check the changes carefully, and if necessary, modify your application.

Note: The specification changes made in versions newer than 1.9L/W of JavaPOS may not be described in this manual. Therefore, also refer to the manual included with each version of JavaPOS.

1.1 About Terminology

- “UnifiedPOS Retail Peripheral Architecture Version 1.9” may be abbreviated as “UPOS.”
- “EPSON JavaPOS ADK1.9” may be abbreviated as “JavaPOS.”
- “POSPrinter” and “printer” may be referred to as “device.”
- “DeviceService of POSPrinter provided by EPSON JavaPOS ADK1.9” may be abbreviated as “DeviceService.”
- “ErrorCode properties of JposException” may be abbreviated as “EC.”
- “ErrorCodeExtended properties of JposException” may be abbreviated as “ECX.”
- “Exception” indicates “JposException.”
- A “receipt”, “journal”, or “slip” indicates either a station or paper depending on the context.
- NVRAM indicates non-volatile random access memory.

Chapter 2 Changes

The changes to the specification of EPSON JavaPOS ADK Version 1.9L/W are as follows. The details of the changes are shown in another document or in Chapters 3 to 6. Please also refer to the relevant document.

2.1 Installation Related

This section explains the differences in installation.

2.1.1 Installer

The installer has changed. Therefore the messages displayed during installation and the procedure are different from the previous version. For details on the procedure, refer to the Installation Guide.

2.1.2 Installation directory

The default directory for installing EPSON JavaPOS ADK has changed. The installation directory (default) of the previous version was as follows.

Windows version: C:\JavaPOS

Linux version: There was no default, and a directory name had to be entered.

From Version 1.9L/W, the installation directory (default) is as follows.

Windows version: <installation location of jre>\lib\ext

Linux version: <installation location of jre>/lib/ext

Please note that when EPSON JavaPOS ADK is installed in a different directory from the previous version, it may be necessary to change the parameters of the commands and so on when starting the application.

2.1.3 File configuration

The configuration of the files that comprise EPSON JavaPOS ADK has changed. The file configuration of the previous version was as follows (for Version 1.82L/W).

```
xercesImpl.jar  
xml-apis.jar  
Jpos18.jar  
epsonJposService182.jar  
epsonJposServiceCommon.jar
```

From Version 1.9L/W, the file configuration is as follows (for Version 1.9L/W).

```
xercesImpl.jar  
xml-apis.jar  
jpos19.jar  
epsonupos.jar  
uposcommon.jar  
linuxUsbDriver.jar  
pos.jar
```

Please note that due to this change, it may be necessary to change the parameters of the commands and so on when starting the application.

2.2 Setup Tool

The setup tool for making the settings required by EPSON JavaPOS ADK has changed.

In the previous version, a tool called EJEE (EPSON JavaPOS Entry Editor) was provided, but from Version 1.9L/W, it has changed to a tool called SetupPOS.

Therefore the screens displayed and the method of operation are different from the previous version. For details of the procedure, refer to the User's Reference SetupPOS.

2.3 Sample Program

Please note that the batch file (Windows version) and shell script (Linux version) for compiling and executing a sample program from the command line are not included. As in the past, a project file for JBuilder is included.

For compilation and execution from the command line, use the following procedure. In this example, a Windows environment is used for executing Step 1 of the sample program for POSPrinter. When executing the sample program for another Step or device category, replace the directory name and so on as appropriate (the parts to replace are shown in red).

Step 1: Compilation

First, move to the Step 1 src directory of the sample program for POSPrinter. (The default is “C:\Program Files\EPSON\JavaPOS\Samples\Printer\PrinterSample_Step1\src”.)
Next, execute the following command, and compile all the source files.

```
javac printersample_step1\*.java
```

Step 2: Creating and preparing to execute a jar file

Put the class files created by compilation in a jar file. Next, copy or move the jar file up one level, and also move the current directory up one level.

```
jar -cvf PrinterSample_Step1.jar printersample_step1\*.class  
copy PrinterSample_Step1.jar ..  
cd ..
```

Step 3: Execution

Execute the program. Before executing the sample program, make the necessary settings using the SetupPOS utility (refer to the User’s Reference SetupPOS for information on the SetupPOS utility). Refer to the release notes for information on the logical device name set when using the sample program.

```
java -classpath PrinterSample_Step1.jar printersample_step1.Step1Main
```

Please note that when JavaPOS is installed in a different directory from the default (<jre installation destination>\lib\ext), it is necessary to set the name of the jar file that configures JavaPOS in the -classpath option when executing the application.

2.4 Operational Specifications

The operational specifications of EPSON JavaPOS ADK have also been revised. An outline is shown below.

No.	Category	Overview	Details
1	Differences in operation	The operation when JavaPOS is invoked is partially different from the previous version.	Refer to Chapter 3 Differences in Operation
2	Error codes	The error codes have been totally revised.	Refer to Chapter 4 Error Codes
3	DirectIO	DirectIO has undergone elimination and consolidation.	Refer to Chapter 5 DirectIO
4	Epson proprietary constants	The package names that define Epson proprietary constants have been changed. Furthermore, constant values have been changed, and some constants have been deleted.	Refer to Chapter 6 Epson Proprietary Constants

For details, see the chapters shown in the Details column of the table.

Chapter 3 Differences in Operation

The differences between the operations in JavaPOS1.82 or earlier and in JavaPOS1.9 or later, and how to handle them are shown below.

Category	Item	1.82L/W or earlier	1.9L/W or later	Reason for change	What to do	Degree of impact
Common	Event issuing conditions	Events are issued only when the DeviceEnabled property is true.	DeviceEnabled checking from queued event issuing conditions has been deleted. As a result, even when DeviceEnabled is false, there may be notification of events.	Revised in accordance with the UPOS specifications.	Revise the conditions for receiving events.	B
↑	Operation when the Open method is executed	Succeeds when service class is generated normally.	Succeeds when generation of the service class or communication class instance is generated normally.	The operation changed due to revision of internal processing.	The Open method fails if CommAPI is not installed correctly, or if TMUSB is not installed. Revise the exception processing of the Open method.	B
↑	Handling of DeviceServiceVersion property	In upgrades, the DeviceServiceVersion property was changed for all DeviceService that had not had changes made.	In upgrades, DeviceServiceVersion is changed only for service classes that had changes made.	Revised in accordance with the UPOS specifications.	Revise the DeviceServiceVersion property checking operation.	C
POSPrinter	Operation of the cutPaper method	An exception is thrown if 0 is set for the parameter of the cutPaper method.	If 0 is set for the parameter of the cutPaper method, the command is not sent, but it is processed as successful.	Revised in accordance with the UPOS specifications.	There is probably no effect on operation of the method.	C
↑	Values that can be set for RecLineSpacing property	Depending on the device, a value from 1 to 127 can be set.	For all devices, a value from 1 to 255 can be set.	Extended (improved) the functions to enhance ease of use.	Bigger line spacing value can be set. This does not affect actual operation.	C
↑	Handling of LetterQuality property with the setBitmap method and printBitmap method	With the setBitmap and printBitmap methods, the image is printed at the specified resolution, irrespective of the value of the LetterQuality property.	If the LetterQuality property is false, the specified image is sent at 1/4 resolution, and is printed at 2 times aspect ratio by the device.	Revised in accordance with the UPOS specifications.	If the LetterQuality property is set to false, printing of the image is faster, but the quality of the printed image may fall. To maintain the quality of printing, set the LetterQuality property to true.	B
↑	Notification of the DirectIOEvent (SET_BITMAPMODE) event	With the EJEE setting, notification is only sent when it is registered in the NVRAM.	With the setBitmap method, when an image is registered, notification of an event showing the location where it is registered is sent. When it is registered in the NVRAM, a key code is also sent.	Extended (improved) the functions to enhance ease of use.	There may be an impact on processing of image registration. Revise the processing of image registration.	C

Category	Item	1.82L/W or earlier	1.9L/W or later	Reason for change	What to do	Degree of impact
↑	DeviceStatistics counting method when printing with buffering	With the rotatePrint method and transactionPrint method, when the print data is buffered, DeviceStatistics that indicates the print volume is counted.	With the rotatePrint and transactionPrint methods, even if the print data is buffered, if it is canceled without being printed, it is not counted in Statistics.	Revised to a more valid value.	More accurate print volume information can be obtained. This does not affect actual operation.	C
↑	Handling of CR characters in line head at the thermal station	Returns SUCCESS with the ValidateData method.	An exception is thrown with the ValidateData method.	Revised in accordance with the UPOS specifications.	Do not use a CR character at the head of line.	C
↑	Recovery processing when slip paper runs out during printing with a network connection	The print data is not cleared, and the printer waits for paper to be inserted. When paper is inserted, printing of the data before the paper ran out continues.	The print data is cleared, and the status changes to select receipt.	Extended (improved) the functions to enhance ease of use.	If the printer is operated after the exception when paper runs out, printing continues on the next paper and the data is cleared; therefore revise the operation.	A
↑	Handling of end-of-line ESC #P	If there is no line feed with end-of-line ESC #P, the last line is buffered, and paper cutting is not executed.	If there is no line feed with end-of-line ESC #P, printing is performed to the last line, the paper is fed, and is cut.	Extended (improved) the functions to enhance ease of use.	Revise the use of ESC #P.	C
↑	Printing area judgment when printing sideways (90-degree rotation printing)	With printing methods in the sideways printing mode, an exception is not thrown even if the printable area is exceeded.	With the print method in the sideways printing mode, an exception is thrown if the buffered data exceeds the printable area. The data of the print method for which an exception is thrown is not buffered, but print data that previously returned SUCCESS is saved.	Extended (improved) the functions to enhance ease of use.	Revise the exception processing of the sideways printing mode.	C
↑	Printing area judgment when printing an image on labels during transactions	With the printBitmap method for labels during transactions, an exception is not thrown even if the printable area is exceeded.	With the printBitmap method for labels during transactions, an exception is thrown if the printable area is exceeded. The data of the print method for which an exception is thrown is not buffered, but print data that previously returned SUCCESS is saved.	Extended (improved) the functions to enhance ease of use.	Revise the exception processing of image printing on labels.	C
↑	Checking the Codabar data format	With the printBarcode method, printing may be performed even if the Codabar format is not followed (when the start code and stop code is not A to D etc.)	With the printBarcode method, an exception is thrown if the Codabar format is not followed.	Extended (improved) the functions to enhance ease of use.	Revise the barcode data format printed with Codabar.	C

Category	Item	1.82L/W or earlier	1.9L/W or later	Reason for change	What to do	Degree of impact
↑	DirectIOEvent issuing conditions	If there is a specific response from the device, an event is issued at any time.	Notification is sent only when a command is sent with ESC #E or directly after the DirectIO method command OUTPUT_NORMAL/OUTPUT_REALTIME/ is executed.	Extended (improved) the functions to enhance ease of use.	The possibility of notification of unexpected DirectIO events is inhibited.	C
MICR	Support for PG1.5 compatibility mode	PG1.5 compatibility mode can be selected with the EJEE setting.	PG1.5 compatibility mode is not supported.	Integrated the operation with that of the current UPOS specifications.	MICR can no longer be controlled with the PG1.5 compatibility mode. If the 1.5 compatibility mode is used, revise the overall processing of MICR scanning.	C
↑	Event notification when the data is invalid.	If an error occurs while the endInsertion method is being executed, a data event is not issued.	Even if an error occurs while the endInsertion method is being executed, if MICR data is received, the data event takes priority.	Extended (improved) the functions to enhance ease of use.	There may be an impact on MICR error event processing and subsequent processes.	C
↑	When the State property is S_ERROR	Even when the State property is S_ERROR, scanning is possible.	When the State property is S_ERROR, an exception is thrown with the beginInsertion and endInsertion methods.	Extended (improved) the functions to enhance ease of use.	There may be an impact on MICR error processing overall. Ensure that MICR event processing is performed with each scanning operation.	C
↑	Issuing events when a scanning error occurs	DataEvent is queued even with a scanning error (partially invalid data).	No DataEvent is queued, and only an ErrorEvent that indicates the scanning error is queued. With partially invalid scanned data, ErrorLocus is set in the property when INPUT ErrorEvent is issued.	Revised in accordance with the UPOS specifications.	Ensure that MICR event processing is performed with each scanning operation. When getting MICR data when a scanning error occurs, get the RawData property when notification of ErrorLocus rather than DataEvent is sent for INPUT ErrorEvent.	A
CheckScanner	Error notification for the endInsertion method	Notification of an error event may be sent when an error occurs while the endInsertion method is being executed.	Notification of an error event is not sent when an error occurs while the endInsertion method is being executed. An exception is thrown.	Revised in accordance with the UPOS specifications.	Revise the error processing of the endInsertion method.	C
↑	Error conditions for the beginRemoval method	SUCCESS even if endInsertion is not executed.	If beginRemoval is executed without endInsertion execution, an exception is thrown.	Revised in accordance with the UPOS specifications.	Revise the error processing of check scanning.	C
LineDisplay	Size restriction for GraphicWindow	It is acceptable for either the width or height of the logical window size to be in excess of the viewport.	It is necessary for the width and height of the logical window size to match the viewport.	Revised in accordance with the UPOS specifications. (Support for UPOS Specifications 1.7)	Make the viewport and logical window size match.	C

Category	Item	1.82L/W or earlier	1.9L/W or later	Reason for change	What to do	Degree of impact
CashDrawer	OpenDrawer method control	With the OpenDrawer method, commands are only sent, and the control is returned immediately.	With the OpenDrawer method, a command is sent, the drawer is checked to see if it is open, and the control is returned. However, if the drawer does not open after a fixed time, an exception is thrown.	Extended (improved) the functions to enhance ease of use.	Revise the exception processing of the OpenDrawer method.	C

Note: About the degree of impact

- A: If the relevant function is typical and is used, the application must be changed
- B: Even if the relevant function is used, it is not absolutely necessary to change the application (the print result, operation, and so on changes somewhat)
- C: Either the relevant function is not typically used (however, when it is used, the application must be modified), or even if the relevant function is used, it is not necessary to change the application

Chapter 4 Error Codes

Revised the error codes in accordance with the UPOS specifications and extension (improvement) of functions to enhance ease of use.

The differences between the error codes in JavaPOS1.82 or earlier and in JavaPOS1.9 or later are shown below.

If the relevant error processing is used, check the error codes.

ErrorCode and ErrorCodeExtended shown in red are items that differ between 1.8 or earlier and 1.9 or later.

Detailed error factors are set in ErrorMessage.

Category	Error content	Main error codes in 1.82L/W or earlier EC : ErrorCode ECX : ErrorCodeExtended	Main error codes in 1.9L/W or later EC : ErrorCode ECX : ErrorCodeExtended	Remarks
Common	Parameter error			
↑	An unsupported value was specified	EC : JPOS E ILLEGAL ECX : JPOS EX NOTSUPPORTED	EC : JPOS E ILLEGAL ECX : UPOS EX NOTSUPPORTED	
↑	A value in wrong range was specified	EC : JPOS E ILLEGAL ECX : JPOS EX BADPARAM + n	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID VALUE	
↑	A function with false for Capability was executed, or an unsupported value was specified	EC : JPOS E ILLEGAL ECX : JPOS EX INCAPABLE	EC : JPOS E ILLEGAL ECX : UPOS EX NOTSUPPORTED	
↑	The connected device is invalid	EC : JPOS E ILLEGAL ECX : JPOS EX BADDEVICE	EC : JPOS E ILLEGAL ECX : UPOS EX BADPORT	
↑	There is no response from the device	EC : JPOS E OFFLINE ECX : JPOS EX DEVBUSY	EC : JPOS E FAILURE ECX : 0	
↑	Serial communication			
↑	The port does not exist	EC : JPOS_E_ILLEGAL ECX : JPOS EX BADPORT	EC : JPOS_E_NOSERVICE ECX : 0	1.82 or earlier: When the claim method is executed 1.9 or later: When the open method is
↑	Initialization or the like failed	EC : JPOS E OFFLINE ECX : JPOS EX DEVBUSY	EC : JPOS E OFFLINE ECX : 0	
↑	USB communication			
↑	The port cannot be found	EC : JPOS E ILLEGAL ECX : JPOS EX BADPORT	EC : JPOS E ILLEGAL ECX : UPOS EX BADPORT	
↑	Initialization or the like failed	EC : JPOS E OFFLINE ECX : JPOS EX DEVBUSY	EC : JPOS E OFFLINE ECX : 0	
↑	Ethernet communication			
↑	The socket does not open	EC : JPOS E ILLEGAL ECX : JPOS EX BADPORT	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	Initialization or the like failed	EC : JPOS E OFFLINE ECX : JPOS EX DEVBUSY	EC : JPOS E OFFLINE ECX : 0	
↑	Printer status			
↑	Initializing	EC : JPOS E OFFLINE ECX : JPOS EPTR POWER OFF ON	EC : JPOS E OFFLINE ECX : UPOS EPTR INITIALIZING	
↑	Unrecoverable error	EC : JPOS E FAILURE ECX : JPOS EPTR UNRECOVERABLE	EC : JPOS E OFFLINE ECX : UPOS EPTR UNRECOVERABLE	
↑	Mechanical error	EC : JPOS E FAILURE ECX : JPOS EPTR MECHANICAL	EC : JPOS E OFFLINE ECX : UPOS EPTR MECHANICAL	

Category	Error content	Main error codes in 1.82L/W or earlier EC : ErrorCode ECX : ErrorCodeExtended	Main error codes in 1.9L/W or later EC : ErrorCode ECX : ErrorCodeExtended	Remarks	
↑	Cutter error	EC : JPOS E FAILURE	EC : JPOS E OFFLINE		
↑		ECX : JPOS EPTR CUTTER	ECX : UPOS EPTR CUTTER		
↑		Automatically recoverable error	EC : JPOS E FAILURE	EC : JPOS E OFFLINE	
↑			ECX : JPOS EPTR AUTOMATICAL	ECX : UPOS EPTR AUTOMATICAL	
↑		No receipt paper	EC : JPOS E EXTENDED	EC : JPOS E OFFLINE	
↑			ECX : JPOS EPTR REC EMPTY	ECX : UPOS EPTR REC EMPTY	
↑		Cover open	EC : JPOS_E_OFFLINE	EC : JPOS_E_OFFLINE *	*ErrorCode in the MICR device is JPOS E EXTENDED.
↑			ECX : JPOS_EPTR_COVEROPEN	ECX : UPOS_EPTR_COVEROPEN *	*ErrorCode in the MICR device is UPOS EMICR COVEROPEN.
↑		No cartridge	EC : JPOS E OFFLINE	EC : JPOS E OFFLINE	
↑		No ink	ECX :	ECX :	
↑	EC : JPOS E OFFLINE		EC : JPOS E OFFLINE		
↑	Cleaning head	ECX : JPOS EPTR REC CARTRIDGE EMPTY	ECX : UPOS EPTR REC CARTRIDGE EMPTY		
↑		EC : JPOS E OFFLINE	EC : JPOS E OFFLINE		
↑	Power off	ECX : JPOS EPTR REC HEAD CLEANING	ECX : UPOS EPTR REC HEAD CLEANING		
↑		EC : JPOS E OFFLINE	EC : JPOS E NOHARDWARE		
↑	ECX : JPOS EX DEVBUSY	ECX : UPOS EX POWER OFF			
POSPrinter	Sheet selection				
↑	Slip selection status	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	Insertion operation after paper is inserted	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	Ejection operation when no paper is inserted	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	Printing side switch when no paper is inserted	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	Mode related				
↑	Transaction/rotate mode	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALIDMODE		
↑	Label jam	EC : JPOS E EXTENDED	EC : JPOS E OFFLINE		
↑		ECX : JPOS EPTR LABEL JAM	ECX : UPOS EPTR MECHANICAL		
↑	Label removal standby	EC : JPOS E EXTENDED	EC : JPOS E ILLEGAL		
↑		ECX : JPOS EPTR LABEL REMOVAL	ECX : UPOS EPTR REMOVAL		
↑	Label feed button operation standby	EC : JPOS E EXTENDED	EC : JPOS E OFFLINE		
↑		ECX : JPOS EPTR BUTTON OPERATION	ECX : UPOS EPTR REMOVE BUTTON		
↑	ValidateData error	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : JPOS EX INCAPABLE	ECX : UPOS EX NOTSUPPORT		
↑	Barcode format error	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : JPOS EX BADPARAM + 2	ECX : UPOS EX INVALID VALUE		
↑	cutPaper not possible mode	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	printTwoNormal not possible mode	EC : JPOS E ILLEGAL	EC : JPOS E ILLIEGAL		
↑		ECX : 0	ECX : UPOS EX INVALID MODE		
↑	Other				
↑	File invalid	EC : JPOS E NOEXIST	EC : JPOS E EXTENDED		
↑		ECX : 0	ECX : UPOS EPTR BADFORMAT		

Category	Error content	Main error codes in 1.82L/W or earlier EC : ErrorCode ECX : ErrorCodeExtended	Main error codes in 1.9L/W or later EC : ErrorCode ECX : ErrorCodeExtended	Remarks
↑	Unrecoverable error while a method is being executed	EC : JPOS E FAILURE ECX : JPOS EPTR UNRECOVERABLE	EC : JPOS E OFFLINE ECX : UPOS EPTR UNRECOVERABLE	
↑	Mechanical error while a method is being executed	EC : JPOS E FAILURE ECX : JPOS EPTR MECHANICAL	EC : JPOS E OFFLINE ECX : UPOS EPTR MECHANICAL	
↑	Cutter error while a method is being executed	EC : JPOS E FAILURE ECX : JPOS EPTR CUTTER	EC : JPOS E OFFLINE ECX : UPOS EPTR CUTTER	
↑	Automatically recoverable error while a method is being executed	EC : JPOS E FAILURE ECX : JPOS EPTR AUTOMATICAL	EC : JPOS E OFFLINE ECX : UPOS EPTR AUTOMATICAL	
↑	No receipt paper while a method is being executed	EC : JPOS E EXTENDED ECX : JPOS EPTR REC EMPTY	EC : JPOS E EXTENDED ECX : UPOS EPTR REC EMPTY	
↑	Cover open while a method is being executed	EC : JPOS E EXTENDED ECX : JPOS EPTR COVEROPEN	EC : JPOS E EXTENDED ECX : UPOS EPTR COVEROPEN	
↑	Power off while a method is being executed	EC : JPOS E OFFLINE ECX : 0	EC : JPOS E NOHARDWARE ECX : UPOS EX POWER OFF	
CheckScanner	checkHealth			
↑	Scanning timeout	EC : JPOS E ILLEGAL ECX : JPOS EX TIMEOUT	EC : JPOS E FAILURE ECX : UPOS ECHK TIMEOUT	
↑	No paper	EC : JPOS E EXTENDED ECX : JPOS EX NOCHECK	EC : JPOS E EXTENDED ECX : UPOS ECHK NOCHECK	
↑	Invalid status when executing	EC : JPOS E ILLEGAL ECX : 0	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	beginInsertion			
↑	Invalid status when executing	EC : JPOS E ILLEGAL ECX : 0	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	beginRemoval			
↑	Status error	EC : JPOS E ILLEGAL ECX : 0	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	endInsertion			
↑	Status error when executing	EC : JPOS E ILLEGAL ECX : 0	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	TMStorage area error	EC : JPOS E ILLEGAL ECX : JPOS ECHK TMSTORE NOROOM	EC : JPOS E ILLEGAL ECX : UPOS ECHK TMSTORE NOROOM	
↑	TMStorage writing error	EC : JPOS E FAILURE ECX : JPOS ECHK TMSTORE WRITE	EC : JPOS E FAILURE ECX : UPOS ECHK TMSTORE WRITE	
↑	No paper	EC : JPOS E EXTENDED ECX : JPOS ECHK NOCHECK	EC : JPOS E EXTENDED ECX : UPOS ECHK NOCHECK	
↑	Error event			
↑	Received invalid data	EC : JPOS E EXTENDED ECX : JPOS ECHK DATAERROR	-	Error event in 1.8 Method exception in 1.9
↑	Completed issue of an event saved when an error occurred	EC : JPOS E FAILURE ECX : JPOS ECHK DATAEND	-	Error event in 1.8 Method exception in 1.9
↑	Image compression failed	EC : JPOS E FAILURE ECX : JPOS ECHK ENCODE	-	Error event in 1.8 Method exception in 1.9
↑	No data in the scanning result	EC : JPOS E EXTENDED ECX : JPOS ECHK NODATA	EC : JPOS E FAILURE ECX : UPOS ECHK NODATA	Error event in 1.8 Method exception in 1.9
↑	Printer error during the scanning operation	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL	Error event in 1.8

Category	Error content	Main error codes in 1.82L/W or earlier EC : ErrorCode ECX : ErrorCodeExtended	Main error codes in 1.9L/W or later EC : ErrorCode ECX : ErrorCodeExtended	Remarks
↑		ECX : JPOS ECHK PTRERROR	ECX : UPOS ECHK CANCEL	Method exception in 1.9
↑	Failed to send a data request response	EC : JPOS E ILLEGAL ECX : JPOS ECHK RESPONSE	EC : JPOS E FAILURE ECX : UPOS ECHK PTRERROR	Error event in 1.8 Method exception in 1.9
↑	Failed to get continuous data within the time	EC : JPOS E ILLEGAL ECX : JPOS ECHK TIMEOUT	EC : JPOS E FAILURE ECX : UPOS ECHK TIMEOUT	Error event in 1.8 Method exception in 1.9
↑	Canceled image compression processing	EC : JPOS E ILLEGAL ECX : JPOS ECHK CANCEL	EC : JPOS E FAILURE ECX : UPOS ECHK ENCODE	Error event in 1.8 Method exception in 1.9
↑	Invalid size check	EC : JPOS E ILLEGAL ECX : JPOS ECHK BADSIZE	EC : JPOS E ILLGEGAL ECX : UPOS ECHK BADSIZE	Error event in 1.8 Method exception in 1.9
↑	endRemoval			
↑	Paper removal not performed	EC : JPOS E EXTENDED ECX : JPOS ECHK CHECK	EC : JPOS E EXTENDED ECX : UPOS ECHK CHECK	
↑	retrievalImage			
↑	Not scanned	EC : JPOS E ILLEGAL ECX : 0	EC : JPOS E ILLEGAL ECX : UPOS EX INVALID MODE	
↑	storeImage			
↑	Data already in the storage	EC : JPOS E ILLEGAL ECX : JPOS ECHK EXIST	EC : JPOS E EXIST ECX : 0	
↑	Field ID already exists	EC : JPOS E ILLEGAL ECX : JPOS ECHK SAMEID	EC : JPOS E EXIST ECX : 0	
↑	Tag already exists	EC : JPOS E ILLEGAL ECX : JPOS ECHK SAMETAG	EC : JPOS E EXIST ECX : 0	
↑	Insufficient space capacity in storage	EC : JPOS E EXTENDED ECX : JPOS ECHK NOROOM	EC : JPOS E EXTENDED ECX : UPOS ECHK NOROOM	
MICR	When scanning			
↑	Invalid check	EC : JPOS E ILLEGAL ECX : JPOS EMICR NODATA	EC : JPOS E EXTENDED ECX : UPOS EMICR NODATA	
↑	Check cannot be inserted	EC : JPOS E EXTENDED ECX : JPOS EMICR NOCHECK	EC : JPOS E EXTENDED ECX : UPOS EMICR NOCHECK	
↑	Invalid data	EC : JPOS E EXTENDED ECX : JPOS EMICR BADDATA	EC : JPOS E EXTENDED ECX : UPOS EMICR BADDATA	
↑	Completed issue of an event saved when an error occurred	EC : JPOS E EXTENDED ECX : JPOS EMICR DATAEND	EC :- ECX :-	This event is not issued.
↑	Invalid size	EC : JPOS E EXTENDED ECX : JPOS EMICR BADSIZE	EC : JPOS E EXTENDED ECX : UPOS EMICR BADSIZE	
↑	No data	EC : JPOS E EXTENDED ECX : JPOS EMICR NODATA	EC : JPOS E EXTENDED ECX : UPOS EMICR NODATA	
↑	Cover	EC : JPOS E EXTENDED ECX : JPOS EMICR COVEROPEN	EC : JPOS E EXTENDED ECX : UPOS EMICR COVEROPEN	
↑	Jam	EC : JPOS E EXTENDED ECX : JPOS EMICR JAM	EC : JPOS E EXTENDED ECX : UPOS EMICR JAM	
↑	Check digit	EC : JPOS E EXTENDED ECX : JPOS EMICR CHECKDIGIT	EC : JPOS E EXTENDED ECX : UPOS EMICR CHECKDIGIT	
↑	Pull out	EC : JPOS E EXTENDED ECX : JPOS EMICR NOCHECK	EC : JPOS E EXTENDED ECX : UPOS EMICR NOCHECK	
↑	Ejection			

Category	Error content	Main error codes in 1.82L/W or earlier EC : ErrorCode ECX : ErrorCodeExtended	Main error codes in 1.9L/W or later EC : ErrorCode ECX : ErrorCodeExtended	Remarks
↑	Paper removal not performed	EC : JPOS_E_EXTENDED	EC : JPOS_E_EXTENDED	
↑		ECX : JPOS_EMICR_CHECK	ECX : UPOS_EMICR_CHECK	
LineDisplay	Mode			
↑	Marqueeing	EC : JPOS E ILLEGAL	EC : JPOS E ILLEGAL	
↑		ECX : 0	ECX : UPOS_EX_INVALID_MODE	

Chapter 5 DirectIO

Elimination and consolidation of the DirectIO method commands, and alternate functions are shown below. Commands for which the functions have not changed are not shown.

Category	Content	1.9L/W or later	Reason for change	What to do
POSPrinter	Function for subtracting colors, making enhancements and so on when printing 2-color bitmaps (PTR_DI_FILTER_COLOR)	The command was deleted. Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Function for control of label paper (PTR_DI_LABEL_REMOVE)	The command was deleted. The function was integrated with the UPOS definition markFeed method.	Integrated with the equivalent functions defined by UPOS. (Support for UPOS Specifications 1.5)	Do not use the command, and use the MarkFeed method instead.
↑	Function for printing extended ASCII code with 2-dimensional bar codes (PTR_DI_SET_BAR_CODE_DATA)	The command was deleted. The function was moved to the DirectIO command BINARY_CONVERSION.	Extended (improved) the functions to enhance ease of use.	Do not use the command, and use BINARY_CONVERSION instead.
↑	Function for specifying the bitmap registration method (PTR_DI_SET_BITMAP_MODE)	The command was deleted. The specifications were changed so that the service saves automatically in the optimum location.	Made operation of the service automatic to improve the versatility of applications.	Do not use the command.
↑	Function for setting the type of image printing (PTR_DI_SET_BITMAP_PRINTING_TYPE)	The command was deleted. Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Function for setting the print color (PTR_DI_SET_COLOR)	The command was deleted. Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Function for setting the threshold for image printing (1st color) (PTR_DI_SET_COLOR1_THRESHOLD)	The command was deleted. The function is no longer supported.	Judged to be an unnecessary function.	This function can no longer be used.
↑	Function for setting the threshold for image printing (2nd color) (PTR_DI_SET_COLOR2_THRESHOLD)	The command was deleted. The function is no longer supported.	Judged to be an unnecessary function.	This function can no longer be used.
↑	Function for switching the print side of a slip (PTR_DI_SLIP_CHANGE_SIDE)	The function was integrated with the UPOS definition changePrintSide method.	Integrated with the equivalent functions defined by UPOS. (Support for UPOS Specifications 1.5)	Do not use the command, and use the changePrintSide method instead.
CheckScanner	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE)	Since each function was moved to SetupPOS or integrated with another DirectIO command, it is no longer supported.	Of the 5 types of functions, 4 types were changed to improve the versatility of applications. The remaining type was deleted because it was no longer necessary.	Do not use the command.

Category	Content	1.9L/W or later	Reason for change	What to do
↑	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE) (DEFAULT)	Deleted because no longer necessary.	Judged to be an unnecessary function.	-
↑	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE) (PRESCAN)	Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE) (READAREA)	The command was deleted. It is now turned on and off automatically by the CHK_DI_READ_AREA command setting.	Made operation of the service automatic to improve the versatility of applications.	Do not use the command, and use the CHK_DI_READ_AREA command instead.
↑	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE) (FILTER)	The command was deleted. It is now turned on and off automatically by the CHK_DI_IMAGE_FILTER command.	Made operation of the service automatic to improve the versatility of applications.	Do not use the command, and use the CHK_DI_IMAGE_FILTER command instead.
↑	endInsertion function extension (PTR_DI_SLIP_CHANGE_SIDE) (TMSTORE)	Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Function for setting image rotation on and off (CHK_DI_ROTATE_IMAGE)	Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Function for setting the location to execute sharpening (CHK_DI_SHARPNESS_AT)	Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
↑	Error mode setting function for storage in a device (CHK_DI_TMSTORE_ERRORMODE)	Due to the character of the setting content, this was moved to SetupPOS.	Moved the function to SetupPOS to improve the versatility of applications.	Do not use the command, and use the SetupPOS settings instead.
LineDisplay	Image display function for graphic display (DISP_DI_SETIMAGE)	The command was deleted. The function was integrated with the UPOS definition setBitmap method.	Integrated with the equivalent functions defined by UPOS.	Do not use the command, and use the setBitmap method instead.

Chapter 6 Epson Proprietary Constants

Revised Epson proprietary constants due to changes in "Chapter 4 Error Codes" and "Chapter 5 DirectIO."
 Changes to constant definition class packages, changes to constants, and deletions are shown below.
 If deleted Epson proprietary constants are used, it is necessary to change the reference locations of all the constants.

Category	1.82L/W or earlier		1.9L/W or later		Remarks
	Constant class package Constant name list	Constant value	Constant class package Constant name list	Constant value	
Common	ip.co.epson.iposcommon.EpsonExtendedConst		ip.co.epson.uposcommon.EpsonUPOSConst		
↑	JPOS EX BADPORT	1001	UPOS EX BADPORT	1001	
↑	JPOS EX PORTUSED	1002	UPOS EX PORTUSED	1002	
↑	JPOS EX NOTSUPPORTED	1006	UPOS EX NOTSUPPORTED	1003	
↑	JPOS EX TRANSMIT ERROR	1008	UPOS EX TRANSMIT ERROR	1008	
↑	JPOS EX DEVBUSY	1009	UPOS EX DEVBUSY	1006	
↑	JPOS EX TIMEOUT	1010	UPOS EX TIMEOUT	1007	
↑	JPOS EX REOPEN	1003	-	-	
↑	JPOS EX NOTCLAIMED	1004	-	-	
↑	JPOS EX MICRMODE	1005	-	-	
↑	JPOS EX INCAPABLE	1007	-	-	
↑	JPOS EX BADDEVICE	1011	-	-	
↑	JPOS EX COMMAPI	1100	-	-	
↑	JPOS EX CANNOT CLOSE COMMAPI	1101	-	-	
↑	JPOS EX BADPARAM	7000	-	-	
Printer	ip.co.epson.iposcommon.EpsonPrinterConst		ip.co.epson.uposcommon.EpsonPOSPrinterConst		
↑	PTR DI DELETE NVIMAGE	116	PTR DI DELETE NVIMAGE	210	
↑	PTR DI SELECT SLIP	120	PTR DI SELECT SLIP	300	
↑	PTR DI LABEL SET PRINT MODE	201	PTR DI LABEL SET PRINT MODE	400	
↑	PTR DI LABEL SET COUNT MODE	202	PTR DI LABEL SET COUNT MODE	401	
↑	PTR DI LABEL PRINT COUNT	203	PTR DI LABEL PRINT COUNT	402	
↑	PTR DI LABEL SET COUNT VALUE	204	PTR DI LABEL SET COUNT VALUE	403	
↑	PTR DI RECOVER ERROR	300	PTR DI RECOVER ERROR	120	
↑	PTR DIE LABEL REMOVAL	601	PTR DIE LABEL REMOVAL	211	
↑	PTR DIE LABEL REMOVE OK	602	PTR DIE LABEL REMOVE OK	212	
↑	PTR DIE BUTTON OPERATION	603	PTR DIE BUTTON OPERATION	210	
↑	PTR DIE LABEL JAM	604	PTR DIE LABEL JAM	213	
↑	PTR DI CODE128 TYPE	800	PTR DI CODE128 TYPE	3	
↑	PTR DI SLIP EMPHASIS	900	PTR DI SLIP EMPHASIS	310	
↑	PTR DI RING BUZZER	1000	PTR DI RING BUZZER	600	
↑	PTR DI GET BATTERY STATUS	1100	PTR DI GET BATTERY STATUS	610	
↑	JPOS EPTR UNRECOVERABLE	1001	UPOS EPTR UNRECOVERABLE	1001	
↑	JPOS EPTR CUTTER	1002	UPOS EPTR CUTTER	1002	
↑	JPOS EPTR MECHANICAL	1003	UPOS EPTR MECHANICAL	1003	
↑	JPOS EPTR AUTOMATICAL	1005	UPOS EPTR AUTOMATICAL	1004	
↑	JPOS EPTR POWER OFF ON	1006	UPOS EPTR POWER OFF ON	1012	
↑	JPOS EPTR RESTART	1007	UPOS EPTR RESTART	1009	
↑	JPOS EPTR POWER OFF	1008	UPOS EPTR POWER OFF	1008	

Category	1.82L/W or earlier		1.9L/W or later		Remarks
	Constant class package Constant name list	Constant value	Constant class package Constant name list	Constant value	
↑	JPOS EPTR LABEL JAM	1009	UPOS EPTR LABEL JAM	1005	
↑	JPOS EPTR LABEL REMOVAL	1010	UPOS EPTR LABEL REMOVAL	1006	
↑	JPOS EPTR BUTTON OPERATION	1011	UPOS EPTR BUTTON OPERATION	1007	
↑	PTR DI BMP NONE	0	-	-	
↑	PTR DI BMP NORMAL	0	-	-	
↑	PTR DI FILTER NONE	0	-	-	
↑	PTR DI SLIP FRONT SIDE	0	-	-	
↑	PTR DI BMP HALFTONE	1	-	-	
↑	PTR DI BMP DOWNLOAD	1	-	-	
↑	PTR DI FILTER REDUCTION1	1	-	-	
↑	PTR DI ROTATE	1	-	-	
↑	PTR DI SLIP REVERSE SIDE	1	-	-	
↑	PTR DI BMP 2COLOR	2	-	-	
↑	PTR DI BMP LUSTER	2	-	-	
↑	PTR DI BMP RASTER	2	-	-	
↑	PTR DI FILTER REDUCTION2	2	-	-	
↑	PTR DI TRANSACTION	2	-	-	
↑	PTR DI FILTER REDUCTION3	3	-	-	
↑	PTR DI SET BITMAP MODE	110	-	-	
↑	PTR DI SET BITMAP PRINTING TYPE	111	-	-	
↑	PTR DI SET COLOR	112	-	-	
↑	PTR DI SET COLOR1 THRESHOLD	113	-	-	
↑	PTR DI SET COLOR2 THRESHOLD	114	-	-	
↑	PTR DI FILTER COLOR	115	-	-	
↑	PTR DI SLIP CHANGE SIDE	121	-	-	
↑	PTR DI LABEL REMOVE	200	-	-	
↑	PTR DI HARDWARE RESET	301	-	-	
↑	PTR DI SET BAR CODE DATA	801	-	-	
↑	JPOS EPTR OVERHEAT	1004	-	-	
↑	JPOS EPTR REMOVE BUTTON	1012	-	-	
↑	PTR DI BMP BLUE	0xFF	-	-	
↑	PTR DI BMP GREEN	0xFF00	-	-	
↑	PTR DI BMP RED	0xFF0000	-	-	
MICR	jp.co.epson.jposcommon.EpsonMICRConst		jp.co.epson.uposcommon.EpsonMICRConst		
↑	JPOS EMICR DATAEND	4004	UPOS EMICR DATAEND	4001	
↑	JPOS EMICR ERRORDEVICESTATUS	4001	-	-	
↑	JPOS EMICR DATAERROR	4002	-	-	
↑	JPOS EMICR COMPORT	4003	-	-	
↑	JPOS EMICR DIGITERROR	4007	-	-	
CheckScanner	jp.co.epson.jposcommon.EpsonCheckScannerConst		jp.co.epson.uposcommon.EpsonCheckScannerConst		
↑	CHK DI PRESCAN	3	CHK DI PRESCAN	1	
↑	CHK DI READ AREA	4	CHK DI READ AREA	2	
↑	CHK DI IMAGE FILTER	5	CHK DI IMAGE FILTER	3	
↑	CHK DI BORDER COLOR	8	CHK DI BORDER COLOR	4	
↑	CHK DI TMSTORE SET INDEX	10	CHK DI TMSTORE SET INDEX	5	
↑	CHK DI TMSTORE GET FREEMEM	12	CHK DI TMSTORE GET FREEMEM	6	
↑	CHK DI CHANGE MODE	13	CHK DI CHANGE MODE	7	

Category	1.82L/W or earlier		1.9L/W or later		Remarks
	Constant class package Constant name list	Constant value	Constant class package Constant name list	Constant value	
↑	CHK DI SHARPNESS IMAGE	14	CHK DI SHARPNESS IMAGE	8	
↑	CHK DI GET SUPPORT FUNCTION	15	CHK DI GET SUPPORT FUNCTION	9	
↑	CHK DI ENDINSERTION EXTEND	2	-	-	
↑	CHK DI SIZE OFFSET	7	-	-	
↑	CHK DI ROTATE IMAGE	9	-	-	
↑	CHK DI TMSTORE ERRORMODE	11	-	-	
↑	CHK DI SHARPNESS AT	16	-	-	
↑	JPOS ECHK EXIST	9012	-	-	
↑	JPOS ECHK SAMEID	9013	-	-	
↑	JPOS ECHK SAMETAG	9014	-	-	
↑	CHK DI AUTOSIZE IMAGE	10001	-	-	
↑	JPOS ECHK DATAERROR	9003	UPOS ECHK DATAERROR	9001	
↑	JPOS ECHK CANCEL	9004	UPOS ECHK CANCEL	9002	
↑	JPOS ECHK DATAEND	9005	UPOS ECHK DATAEND	9003	
↑	JPOS ECHK TIMEOUT	9006	UPOS ECHK TIMEOUT	9004	
↑	JPOS ECHK NODATA	9007	UPOS ECHK NODATA	9005	
↑	JPOS ECHK RESPONSE	9008	UPOS ECHK RESPONSE	9006	
↑	JPOS ECHK PTRERROR	9009	UPOS ECHK PTRERROR	9007	
↑	JPOS ECHK BADSIZE	9010	UPOS ECHK BADSIZE	9008	
↑	JPOS ECHK ENCODE	9011	UPOS ECHK ENCODE	9009	
↑	JPOS ECHK TMSTORE NOROOM	9015	UPOS ECHK TMSTORE NOROOM	9010	
↑	JPOS ECHK TMSTORE WRITE	9016	UPOS ECHK TMSTORE WRITE	9011	
LineDisplay	jp.co.epson.iposcommon.EpsonDisplayConst		jp.co.epson.uposcommon.EpsonLineDisplayConst		
↑	DISP DI SETLINESPACE	103	DISP DI SETLINESPACE	102	
↑	DISP DI SETFONT	104	DISP DI SETFONT	103	
↑	DISP DI GETMODE	105	DISP DI GETMODE	104	
↑	DISP DI GW STYLE	106	DISP DI GW STYLE	105	
↑	JPOS EDISP TOOMANYDEFGLYPH	3001	UPOS EDISP TOOMANYDEFGLYPH	3001	
↑	DISP DI SETIMAGE	102	-	-	
↑	DISP DI SETFONTSIZE	104	-	-	
CashDrawer	jp.co.epson.iposcommon.EpsonCashDrawerConst		jp.co.epson.uposcommon.EpsonCashDrawerConst		
↑	DRW DI OPEN DRAWER	100	DRW DI OPEN DRAWER	0	
MSR	-		jp.co.epson.uposcommon.EpsonMSRConst	-	
KeyLock	-		jp.co.epson.uposcommon.EpsonKeylockConst		
Scanner	-		jp.co.epson.uposcommon.EpsonScannerConst		