

**EPSON OPOS ADK MANUAL**

# **APPLICATION DEVELOPMENT GUIDE**

## **Device Statistics**

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# Section 1. Introduction

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Each device supports the statistics along with the compliance of the “UPOS 1.8”.

The POS device statistics is the device configuration, which is collected per device category, and the busy condition information. Obtaining the information that stored in the device or the POS terminal can check the various conditions.

For the detailed explanation of Device Statistics, please refer to the “UPOS 1.14.1”.

For using the statistics functions, please download and install MSXML 6.0 from the Microsoft website.

The XML tag names and the latest file that defines the schema instance of the statistics regarding all the device categories can be downloaded from the OMG web site:

<http://www.omg.org/retail/index.htm>

## Section 2. Common Properties and Methods

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Explains the common properties and methods, in this section.

### 2.1 Properties

The following common properties are added to all the device classes.

#### 2.1.1 CapStatisticsReporting

Indicates the ability to supply the statistics information.

TRUE : Able to collect and supply the statistics

FALSE : Unable to collect and supply the statistics

The default setting is "TRUE".

<Operational Condition>

Open

#### 2.1.2 CapUpdateStatistics

Indicates the resetting of the statistics and whether it is able to update.

TRUE : Updatable

FALSE : Not updatable

The default setting is "TRUE".

<Operational Condition>

Open

<Functional Condition>

Only when the CapStatisticsReporting is TRUE

## 2.2 Methods

The following common methods are added to all the device classes.

### 2.2.1 ResetStatistics

Resets the statistics to "0" when the specified statistics are resettable.

Sets the parameters according to the particulars specified as follows:

Particular to Specify	Parameter
Resets all the resettable statistics.	"" (null character)
Resets the resettable statistics that are defined in the UPOS.	"U_"
Resets the resettable statistics that are defined by the manufacturer.	"M_"
Resets the re-settable statistics that are individually specified. (Multiple statistics can be specified) *1	"Definition name"

\*1 The example of the multiple specification description:

"HoursPoweredCount, CommunicationErrorCount, ..."

<Return Value>

ResultCode	ResultCodeExtended	Explanation
OPOS_E_ILLEGAL	OPOS_EX_INCAPABLE	CapStatisticsReporting or CapUpdateStatistics is FALSE.
	OPOS_EX_BADPARAM+1	Undefined statistics is specified. The same statistics is specified more than once.
OPOS_E_EXTENDED	OPOS_ESTATS_ERROR	Non-resettable statistics is included in the specified statistics.

<Operational Condition>

Open, Claim & Enabled

<Functional Condition>

Only when the CapStatisticsReporting and the CapUpdateStatistics are both TRUE

### 2.2.2 RetrieveStatistics

Obtains the collected values of the specified statistics in XML.

The values obtained by the RetrieveStatistics are not accurate numeric values.

They are approximate numeric values and estimated values.

Sets the parameters according to the particulars, as specified below:

Particular to Specify	Parameter
Obtains all the statistics.	"" (null character)
Obtains the statistics that are defined in the UPOS.	"U"
Obtains the statistics that are defined by the manufacturer.	"M"
Obtains the statistics that are individually specified. (Multiple statistics can be specified) *1	"Definition name"

\*1 The example of the multiple specification description:

"HoursPoweredCount, CommunicationErrorCount, ..."

<Return Value>

ResultCode	ResultCodeExtended	Explanation
OPOS_E_ILLEGAL	OPOS_EX_INCAPABLE	CapStatisticsReporting is FALSE.
	OPOS_EX_BADPARAM+1	Undefined statistic is specified.

<Operational Condition>

Open, Claim & Enabled

<Functional Condition>

Only when the CapStatisticsReporting is TRUE

### 2.2.3 UpdateStatistics

Updates by assigning an arbitrary value to the specified statistics.

Sets the parameters according to the particulars, as specified below:

Particular to Specify	Parameter
Updates all the resettable statistics to the given values.	"(null character)=XX" *2
Updates the resettable statistics that are defined in the UPOS to the given values.	"U_=XX" *2
Updates the resettable statistics that are defined the manufacturer to the given values.	"M_=XX" *2
Updates the individually specified resettable statistics to the given values. (Multiple statistics can be specified) *1	"Definition name=XX" *2

\*1 The example of the multiple specification description:

"HoursPoweredCount = XX, CommunicationErrorCount = XX, ..."

\*2 Sets the given value to the XX part.

<Return Value>

ResultCode	ResultCodeExtended	Explanation
OPOS_E_ILLEGAL	OPOS_EX_INCAPABLE	CapStatisticsReporting or CapUpdateStatistics is FALSE.
	OPOS_EX_BADPARAM+1	Undefined statistic is specified. The same statistic is specified more than once.
OPOS_E_EXTENDED	OPOS_ESTATS_ERROR	Non-updatable statistic is included in the specified statistics

<Operational Condition>

Open, Claim & Enabled

<Functional Condition>

Only when the CapStatisticsReporting and the CapUpdateStatistics are both TRUE



## Section 3. Statistics Definitions that are common to the Device Class

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Explains about the statistics definitions that are common to the device class, in this section.

### 3.1 Definition names and descriptions

The following tables indicate the common definitions of all the device categories and their descriptions.

#### 3.1.1 Device information that is defined in the UPOS (DeviceInformation)

Definition Name	Content
UnifiedPOSVersion	The UPOS version which the device class complies with (Fixed)
DeviceCategory	Category of each device (Fixed)
ManufacturerName	Manufacturer name
ModelName	Model name
SerialNumber	Serial number
ManufactureDate	Date of the device manufacture (Fixed)
MechanicalRevision	Hardware version (Fixed)
FirmwareRevision	Firmware version
Interface	Interface type
InstallationDate	Installation date

#### 3.1.2 Context Statistics that is defined in the UPOS (StatisticsContext)

Definition Name	Content
HoursPoweredCount	Device operation hours
Communication ErrorCount	Communication error count

### 3.2 Detailed information of the setting values

The information acquirement condition differs depending on the functions etc. that are mounted to each device. As for details, please refer to the following tables.

#### 3.2.1 Device information that is defined in the UPOS (DeviceInformation)

[Updatable: O / Non-updatable: X]

Definition Name	Details of the Setting Value	Reset Statistics	Retrieve Statistics	Update Statistics
UnifiedPOS Version	"1.14"	X	O	X
DeviceCategory	"POSPrinter", "MICR", "CheckScanner", "LineDisplay", "CashDrawer", "MSR", "Keylock", "HardTotals"	X	O	X
Manufacturer Name	The information is obtained from the device. "EPSON" is set when the information cannot be obtained from the device. *1	X	O	X
ModelName	The information is obtained from the device. The physical device name at the SetupPOS registration is set when the information cannot be obtained from the device.	X	O	X
SerialNumber	The information is obtained from the device. "UNKNOWN" is set when the information cannot be obtained from the device.	X	O	X
ManufactureDate	"1970-01-01"	X	O	X
Mechanical Revision	"UNKNOWN"	X	O	X
FirmwareRevision	The information is obtained from the device. "UNKNOWN" is set when the information cannot be obtained from the device.	X	O	X
Interface	Serial : "RS232" Parallel : "Parallel" USB : "USB" EtherNet : "Network" IEEE802.11b : "Network" Others *2 : "Other"	X	O	X
InstallationDate	The creation date of the PC store information file is set. The current date is set when the PC store information file does not exist.	X	O	X

\*1 "----" is set in the case of the CashDrawer.

\*2 Such as keyboard interface connection, etc.

### 3.2.2 Context Statistics defined in the UPOS (StatisticsContext)

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
HoursPowered Count	The information is obtained from the device. The cumulative time from "ClaimDevice" to "ReleaseDevice" is set when the information from the device cannot be obtained. <sup>*2</sup>	O	O	X <sup>*1</sup>
Communication ErrorCount	Obtains the information ("ClaimDevice" failure count) from the device.	O	O	O

<sup>\*1</sup> In the cases of the models that cannot use maintenance counter, it becomes ○ (Updatable).

<sup>\*2</sup> In the cases of the CashDrawer, Keylock and HardTotals, the cumulative time of switching the DeviceEnabled from TRUE to FALSE.

## Section 4. Statistics Definition of the Device-Class-Specific

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Explains about the statistics definition peculiar to each device class, in this section

### 4.1 POSPrinter

The UPOS defined statistics about the POSPrinter are described in the following tables.

#### 4.1.1 Definition names and descriptions

Definition Name	Content
BarcodePrintedCount	Bar code print count (Unit: time)
FormInsertionCount	Slip paper insertion count (Unit: time)
HomeErrorCount	Mechanical error count (Unit: time)
JournalCharacterPrintedCount	The number of characters printed on Journal paper (Unit: character)
JournalLinePrintedCount	The number of lines printed on the Journal paper (Unit: line)
MaximumTempReachedCount	The high head temperature error count (Unit: time)
NVRAMWriteCount	Write-in count to NVRAM (Unit: time)
PaperCutCount	Paper cut count (Unit: time)
FailedPaperCutCount	Cutter error count (Unit: time)
PrinterFaultCount	Printer error count (Unit: time)
PrintSideChangeCount	Print side switch count of slip paper (Unit: time)
FailedPrintSideChangeCount	Print side switch failure count of slip paper (Unit: time)
ReceiptCharacterPrintedCount	The number of characters printed on the receipt paper (Unit: character)
ReceiptLinePrintedCount	The number of lines printed on the receipt paper (Unit: line)
ReceiptLineFeedCount	The number of receipt feed lines (Unit: line)
ReceiptCoverOpenCount	Receipt cover open count (Unit: time)
SlipCharacterPrintedCount	The number of characters printed on the slip paper (Unit: character)
SlipLinePrintedCount	The number of lines printed on the slip paper (Unit: line)
SlipLineFeedCount	The number of slip feed lines (Unit: line)
SlipCoverOpenCount	Slip cover open count (Unit: time)
StampFiredCount	Stamp print count (Unit: time)

## 4.1.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
BarcodePrinted Count *2	The successful count of the PrintBarCode method that is obtained as the count information. The count becomes the total value of the count of all the stations when the multiple stations exist.	O	O	O
FormInsrtion Count	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the successful count of the EndInsertion method that is obtained as the count information.	O	O	X *1
HomeError Count	The mechanical error occurrence count that is obtained as the count information.	O	O	O
Journal Character PrintedCount	In the case of text, the setting value is the approximate value of the number of print characters obtained as the information. In the cases of bitmap and bar code, the setting value is the number of characters that is converted value of the print size subtracted by font A size obtained as the information.	O	O	O
JournalLine PrintedCount	The implementation count of the PrintNormal method that is obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of lines that is converted value of the print height subtracted by font A height obtained as the information.	O	O	O
MaximumTemp ReachedCount	The high head temperature error occurrence count that is obtained as the count information. The high head temperature error occurrence count that is detected by ASB and obtained as the count information. "0" is always set when the high head temperature error cannot be detected by ASB.	O	O	O
NVRAMWrite Count	The combined value of the counts of image writing to and deletion from the NVRAM that are obtained as the count information.	O	O	O
PaperCutCount	In the cases of models with the maintenance counter, the information is obtained from the device.	O	O	X *1

	In the cases of models without the maintenance counter, the total of the successful counts of the PaperCut method and ESC #P/ ESC #fP/ ESC #sP that are obtained as the count information.			
FailedPaperCut Count	The cutter error occurrence count that is detected by ASB and obtained as the count information. "0" is always set when the cutter error cannot be detected by ASB.	O	O	O
PrinterFault Count	The unrecoverable error occurrence count that is detected by ASB and obtained as the count information. "0" is always set when the unrecoverable error cannot be detected by ASB	O	O	O
PrintSide ChangeCount	The successful count of the ChangePrintSide method that is obtained as the count information.	O	O	O
FailedPrintSide ChangeCount	The failed count of the ChangePrintSide method that is obtained as the count information.	O	O	O
Receipt Character PrintedCount *2	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models with out the maintenance counter, the setting value is the number of the print characters that are obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of characters that is converted value of the print size subtracted by font A size obtained as the information.	O	O	X *1

ReceiptLine PrintedCount *2	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the successful count of the PrintNormal method that is obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of lines that is converted value of the print height subtracted by font A height obtained as the information.	O	O	X *1
ReceiptLine FeedCount *2	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the setting value is the count of LF (line feed) that is obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of lines that is converted value of the print height subtracted by font A height obtained as the information.	O	O	X *1
ReceiptCover OpenCount	The cover open error occurrence count that is detected by ASB under the receipt station selected-state and obtained as the count information. "0" is always set when the cover open cannot be detected by ASB.	O	O	O
SlipCharacter PrintedCount	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the setting value is the number of the print characters that are obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of characters that is converted value of the print size subtracted by font A size obtained as the information.	O	O	X *1

SlipLinePrinted Count	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the successful count of the PrintNormal method that is obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of lines that is converted value of the print height subtracted by font A height obtained as the information.	O	O	X <sup>*1</sup>
SlipLineFeed Count	In the cases of models with the maintenance counter, the information is obtained from the device. In the cases of models without the maintenance counter, the setting value is the count of LF (line feed) that is obtained as the count information. In the cases of bitmap and bar code, the setting value is the number of lines that is converted value of the print height subtracted by font A height obtained as the information.	O	O	X <sup>*1</sup>
SlipCoverOpen Count	The cover open error occurrence count that is detected by ASB under the slip station selected-state and obtained as the count information. "0" is always set when the cover open cannot be detected by ASB.	O	O	O
StampFired Count <sup>*2</sup>	The successful count of the ESC #sP/ESC sL that is obtained as the count information.	O	O	O

<sup>\*1</sup> In the cases of the models that cannot use maintenance counter, it becomes

○ (Updatable).

<sup>\*2</sup> These are also counted when the PrintContent method and the PrintContentFile method is executed at ElectronicJournal.

As for the executions of the ResetStatistics and the UpdateStatistics, it becomes X (Non-updatable) when the target station does not exist.



## 4.2 LineDisplay

The UPOS defined statistics about the LineDisplay are described in the following tables.

### 4.2.1 Definition names and descriptions

Definition Name	Content
OnlineTransitionCount	The success count of the display (Unit: time)

### 4.2.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
OnlineTransition Count	The successful counts of the DisplayText method and the DisplayTextAt method that are obtained as the count information	O	O	O

### 4.3 MICR

The UPOS defined statistics about the MICR are described in the following tables.

#### 4.3.1 Definition names and descriptions

Definition Name	Content
GoodReadCount	The success count of the MICR data (Unit: time)
FailedReadCount	The failure count of the MICR data (Unit: time)
FailedDataParseCount	The failure count of the received MICR data analysis (Unit: time)

#### 4.3.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
GoodRead Count	The successful count of the MICR data reception that is obtained as the count information in the check-paper-reading processing	O	O	O
FailedRead Count	The failed count of the MICR data reception that is obtained as the count information in the check-paper-reading processing	O	O	O
FailedData ParseCount	The count of the received MICR data analysis result inclusive of "?" that is obtained as the count information in the check-paper-reading processing	O	O	O

## 4.4 CheckScanner

The following tables contain the statistics about CheckScanner.

### 4.4.1 Definition names and descriptions

Definition Name	Content
ChecksScannedCount * <sup>1</sup>	The success count of the image data reception (Unit: time)
GoodReadCount * <sup>2</sup>	
FailedReadCount	The failure count of the image data reception (Unit: time)

\*<sup>1</sup> Defined in the UPOS.

\*<sup>2</sup> Defined by the manufacturer.

### 4.4.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistics	Retrieve Statistics	Update Statistics
ChecksScannedCount	The successful count of the image data reception that is obtained as the count information in the image-reading processing	O	O	O
GoodReadCount	The successful count of the image data reception that is obtained as the count information in the image-reading processing	O	O	O
FailedReadCount	The failed count of the image data reception that is obtained as the count information in the image-reading processing	O	O	O

## 4.5 CashDrawer

The UPOS defined statistics about the CashDrawer are described in the following tables.

### 4.5.1 Definition names and descriptions

Definition Name	Content
DrawerGoodOpenCount	The success count of the drawer open (Unit: time)
DrawerFailedOpenCount	The failure count of the drawer open (Unit: time)

#### 4.5.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
DrawerGood OpenCount	The successful count of the OpenDrawer method that is obtained as the count information	O	O	O
DrawerFailed OpenCount	The failed count of the OpenDrawer method that is obtained as the count information	O	O	O

#### 4.6 ElectronicJournal

The UPOS defined statistics about the ElectronicJournal are described in the following tables.

##### 4.6.1 Definition names and descriptions

Definition Name	Content
WriteCount	The success count of write process (Unit: time)
FedWriteCountail	The failure count of the write process (Unit: time)
EraseCount	The success count of erasing data (Unit: time)
MediumRemovedCount	Media removal count (Unit: time)
MediumSize	Partition size (Unit: byte)
MediumFreeSpace	Partition remaining area (Unit: byte)

#### 4.6.2 Detailed information of the setting values

[Updatable: O / Non-updatable: X]

Name	Setting Value	Reset Statistic s	Retrieve Statistic s	Update Statistic s
WriteCount	The successful count of write process of transaction data that is obtained as the count information.	O	O	O
FedWriteCountail	The failed count of write process of transaction data that is obtained as the count information.	O	O	O
EraseCount	The failed count of erasing of transaction data that is obtained as the count information.	O	O	O
MediumRemovedCount	The media removal count from device that is obtained as the count information.	O	O	X
MediumSize	Obtains the size of drive specified as a location to store data by SetupPOS utility.	X	O	X
MediumFreeSpace	Obtains free disk space of drive specified as a location to store data by SetupPOS utility.	X	O	X

#### 4.6.3 DeviceStatistics of POSPrinter

When the PrintContent method and the PrintContentFile method are executed by ElectronicJournal are obtained as POSPrinter's count.

For details of POSPrinter's definition name, please refer to "4.1.2 Detailed information of the setting values" of this manual.

## Section 5. Warnings

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- The obtained values are collectively provided as one value regardless of the number of values when the multiple instances of the same statistics are specified with execution of the RetrieveStatistics.
- The statistics that uses the maintenance counter cannot be updated.