

EPSON OPOS ADK MANUAL

**APPLICATION DEVELOPMENT
GUIDE**

CheckScanner

Version 3.00 Feb. 2019

Notes

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Section 1. Introduction

This manual describes the method of use and related items, including device-specific precautions, when the CheckScanner device is used with EPSON OPOS ADK.

Before the CheckScanner can be used, the EPSON OPOS ADK should be installed and the devices to be used should be set using the SetupPOS utility. For setting methods, please refer to the Section 2 of this manual.

This manual applies to the following devices.

EPSON TM-H6000III with Scanner

Hereafter, throughout This manual, the various model names will be referred to as "TM-H6000III".

Compatibility mode

The compatibility mode for upward compatibility was added in OPOS Ver2.60.

For the details of the compatibility mode, please refer to "EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE Compatibility Mode".

Section 2. Details on Settings

This section describes connection configurations and how to make the settings for the CheckScanner devices.

2.1 Device Information

The DeviceDescription and DeviceName for each model are as follows.

Model Name	I/F	DeviceDescription	DeviceName
TM-H6000III	S	EPSON TM-H6000III Scanner	TM-H6000III
	P	EPSON TM-H6000IIIP Scanner	TM-H6000IIIP
	U	EPSON TM-H6000IIIU Scanner	TM-H6000IIIU
	E	EPSON TM-H6000IIIE Scanner	TM-H6000IIIE

I/F indicate the connected interface.

The following is the list of the four connecting interfaces.

S: Serial

P: Parallel

U: USB

E: Ethernet

2.2 References of Firmware Versions

Please refer to the release notes (Relnote.txt).

2.3 Settings of DIP Switches and Hardware

There are no Dip Switch settings for the CheckScanner. Please refer to the settings of the Printer.

2.4 Setting of Devices

The SetupPOS utility should be used for setting devices. Regarding how to use the SetupPOS utility, please refer to the "EPSON OPOS ADK MANUAL User's Manual (Installer/ SetupPOS/ TMUSB)".

1) Setting of Parallel interface devices

When the SetupPOS utility is used to select the device when using a Parallel port, select devices with "P" appended to the end of the device name.

Example: TM-H6000IIIP

2) Setting of USB interface devices

When the SetupPOS utility is used to select the device when using a USB port, select devices with "U" appended to the end of the device name.

Example: TM-H6000IIIU

3) Setting of Ethernet interface devices

When the SetupPOS utility is used to select the device when using an Ethernet port, select devices with "E" appended to the end of the device name.

Example: TM-H6000IIIE

4) Device Specific Settings

Not applicable

2.5 Port Information

This section explains the port information for each device.

1) Port information when using serial port

The port information that can be set with the SetupPOS utility is as follows.

Setting Information	Effective Setting Range
Baud rate	4800, 9600, 19200, 38400
Bit length	7 bits, 8 bits
Parity	NONE, ODD, EVEN
Stop bit	1 bit
Handshake	DTR/DSR
Output buffer length	32-1024
Output interval time	0-9999

The default settings are as shown in the following table.

Setting Information	Effective Setting Range
Baud rate	19200
Bit length	8 bits
Parity	NONE
Stop bit	1 bit
Handshake	DTR/DSR
Output buffer length	1024
Output interval time	2500

All CheckScanner settings are exactly the same as the printer.

2) Port information when using parallel port

All CheckScanner settings are exactly the same as the printer.

3) Port information when using USB port

All CheckScanner settings are exactly the same as the printer.

4) Port information when using Ethernet port

All CheckScanner settings are exactly the same as the printer.

Section 3. Function Details

This section describes the functions of the CheckScanner device in details. Supplementary explanation of the parts not described in detail in "UPOS" is also given here.

3.1 CheckHealth Method

3.1.1 Internal Test

Confirms whether the CheckScanner can establish a communication and returns a result.

When the method is executed by OPOS_CH_INTERNAL, the character string of the CheckHealthText property is as follows.

"Internal Hcheck: Complete" : CheckHealthText

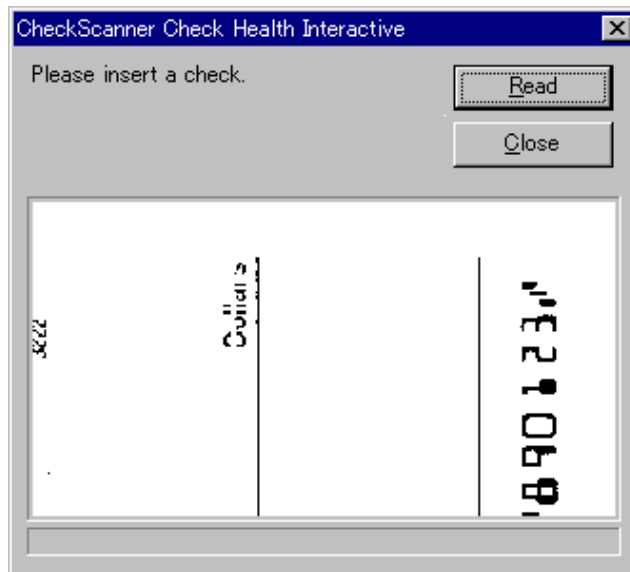
After executing the CheckHealth method, be sure to confirm the return value. If an error has occurred, there is no point in referring to the CheckHealthText property. For details on the error, please refer to Section 6 of this manual.

3.1.2 External Test

Not supported

3.1.3 Interactive Test

Executes interactive CheckHealth test. When executed, the following dialog box is displayed.



When the dialog box is displayed, press the [Read] button. The checks to be read here are read in accordance with the set mode by CHK_DI_CHANGE_MODE of DirectIO. If the Check is present, please first remove and then set the check in slip station. If a check or card is set correctly, data will be read. If a check or card is not set, a message requesting for inserting a check or card will be displayed. After inserting the check or card, press the [Read] button. Then the check or card is read. Reading takes from a few seconds to dozens of seconds. Confirm the reading state on the progress bar. The read data appears as an image in the dialog box, and the image format is fixed at bitmap. For CheckHealth, part of the image is read in and displayed. Confirm the contents.

When the method is executed by OPOS_CH_INTERACTIVE, the character strings of the CheckHealthText property are as follows.

- “Interactive Hcheck: Canceled” : When the [Close] button is pressed without executing the [Read].
- “Interactive Hcheck: Complete” : When the [Close] button is pressed after executing the [Read].

After executing the CheckHealth method, be sure to confirm the returned value. If an error has occurred, there is no point in referring to the CheckHealthText property. For details on the error, please refer to Section 6 of this manual.

3.2 Property Set Values and Default Values

3.2.1 Capability Set Value

Capability Name	Check Scanner Mode	Card Scanner Mode
CapAutoGenerateFileID	FALSE	FALSE
CapAutoGenerateImageTagData	FALSE	FALSE
CapAutoSize	TRUE	FALSE
CapColor	CHK_CCL_MONO CHK_CCL_GRAYSCALE	CHK_CCL_GRAYSCALE
CapConcurrentMICR	FALSE	FALSE
CapDefineCropArea	TRUE	TRUE
CapImageFormat	CHK_CIF_BMP CHK_CIF_TIFF CHK_CIF_JPEG	
CapImageTagData	TRUE	TRUE
CapMICRDevice	TRUE	TRUE
CapStoreImageFiles	TRUE	TRUE
CapValidationDevice	FALSE	FALSE
CapAutoContrast	FALSE	FALSE
CapContrast	TRUE	TRUE

3.2.2 Other Information

Property Name	Check Scanner Mode	Card Scanner Mode
Color (*1)	CHK_CL_MONO	CHK_CL_GRAYSCALE
ImageFormat (*1)	CHK_IF_TIFF	CHK_IF_JPEG
MaxCropAreas (*2)	10	
QualityList	"200"	"200"

*1 Indicates the setting information of default value.

*2 Does not change depending on reading mode.

3.3 Device Statistics

The DeviceStatistics function is added in response to the compliance of the "UPOS 1.8".

Please refer to the "EPSON OPOS ADK MANUAL APPLICATION GUIDE Device Statistics" for the details of the Device Statistics.

3.4 Contrast

The Contrast function is added in response to the compliance of the "UPOS 1.9". The brightness of the image can be adjusted by set value in the range of 0 through 100 of the Contrast property.^{*1} Please refer to UPOS for detail.

^{*1} The setting of the Contrast Property can only be effective when the Color property is set to CHK_CL_GRAYSCALE.

Section 4. Expanded Functions

This section describes the expanded functions of the CheckScanner device.

4.1 DirectIO Function

The usage of the DirectIO method and DirectIOEvent event is described in the following.

4.2 DirectIO Method

Syntax **DirectIO** *Command* As Long, *pData* As Long, *pString* As String

1) CHK_DI_ENDINSERTION_EXTEND

Parameter	Explanation
<i>Command</i>	CHK_DI_ENDINSERTION_EXTEND
<i>pData</i>	Specifies the following values indicating the extended functions of EndInsertion. CHK_DI_EXTEND_DEFAULT CHK_DI_EXTEND_PRESCAN CHK_DI_EXTEND_READAREA CHK_DI_EXTEND_FILTER CHK_DI_EXTEND_ATTACHED CHK_DI_EXTEND_TMSTORE
<i>pString</i>	Not used. Null character string is entered.

Explanation Expands the function of EndInsertion
 When CHK_DI_EXTEND_DEFAULT is set, the EndInsertion method inserts the paper and scans an image.
 When CHK_DI_EXTEND_PRESCAN is set, the EndInsertion method inserts the paper and then executes pre-scanning. EndInsertion scans an image after pre-scanning.
 When CHK_DI_EXTEND_READAREA is set, the EndInsertion method scans an image after setting the reading area. Please

refer to the `CHK_DI_READ_AREA` command reference regarding the effective reading area.

When `CHK_DI_EXTEND_FILTER` is set, the `EndInsertion` method scans an image after setting the filtering area. Please refer to the `CHK_DI_IMAGE_FILTER` command reference regarding the effective reading area.

When `CHK_DI_EXTEND_FILTER` is set, the `EndInsertion` method scans an image after setting the filtering area. Please refer to the `CHK_DI_IMAGE_FILTER` command reference regarding the effective reading area.

When `CHK_DI_EXTEND_ATTACHED` is set, the `EndInsertion` method sets an embedded character string to the header of the read image data.

Please refer to the `CHK_DI_ATTACHED_DATA` command reference regarding the embedded character string.

When `CHK_DI_EXTEND_TMSTORE` is set, the `EndInsertion` method stores the image data in the Storage Memory of the device. When the device does not have Storage Memory function, this command is unable to use.

For Executing the `EndInsertion` method under the above flag, it is required to number storing memory by using the `CHK_DI_TMSTORE_SET_INDEX` command in advance.

Please refer to the `CHK_DI_TMSTORE_SET_INDEX` command reference on how to set memory ID (number).

When storing image data in the Storage Memory is done successfully, the Work Memory does not acquirer any data. Therefore, the contents of the working buffer memory area are not updated under the flag. When the data image storing is failed, the action configured by the `CHK_DI_TMSTORE_ERRORMODE` command occurs. Please refer to the `CHK_DI_TMSTORE_ERRORMODE` command reference for error reaction.

Values other than `CHK_DI_EXTEND_DEFAULT` can be specified simultaneously using the OR operation.

The default value is `CHK_DI_EXTEND_DEFAULT`.

`CHK_DI_EXTEND_PRESCAN`,

CHK_DI_EXTEND_READAREA and CHK_DI_EXTEND_FILTER are effective only for check scanner mode. Those flags can be set during card scanner mode, but the settings are not reflected to card reading directly. If those flags were set during card scanner mode, the flags become effective after changing the mode to check scanner mode.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal. The device does not have Storage Memory function.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

2) CHK_DI_PRESCAN

Parameter	Explanation
<i>Command</i>	CHK_DI_PRESCAN
<i>pData</i>	Not used. "0" is always entered.
<i>pString</i>	Not used. Null character string is entered.

Explanation Executes pre-scanning.
Executes this command when the paper is inserted for pre-scanning. If the paper is not inserted, or is inserted but pre-scanning cannot be executed, an error occurs. When this command is executed, control does not return until pre-scanning is finished.

This command is effective only for check scanner mode.
During card scanner mode, this command is not available.

When the CHK_DI_SHARPNESS_IMAGE command of DirectIO method is set, the set value with this command is not reflected to the read images.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function and the pre-scanning cannot be executed.
	The current reading mode does not support this command.
OPOS_E_EXTENDED	The paper is not inserted.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

3) CHK_DI_READ_AREA

Parameter	Explanation
<i>Command</i>	CHK_DI_READ_AREA
<i>pData</i>	Not used. "0" is always entered.
<i>pString</i>	Character string to specify an area.

Explanation Specifies the reading area to set in *pString*.

Example: When you use the area of X = 0, Y = 500, CX = 1000, CY = 1500, specify *pString* = "0, 500, 1000, 1500".
 X is the X coordinate of the start of the specified area.
 Y is the Y coordinate of the start of the specified area.
 CX is the X coordinate of the end of the specified area.
 CY is the Y coordinate of the end of the specified area.
 The values specified here affect MapMode.

Use the null character string ("") to cancel the specified area.

If the range of specified area exceeds the available range of the device, it is reduced to within the effective range.

When you specify the reading area, you must set the size of check in the DocumentWidth and DocumentHeight properties before executing the EndInsertion method.

Be sure to specify the X coordinate of the end of the specified area. Scanning fails if the length from the specified coordinates to the left end of the paper is less than 50 mm. In this case, ECHK_PTRERROR is notified as ErrorEvent.

Use the CHK_DI_ENDINSERTION_EXTEND command to enable the setting. Please refer to CHK_DI_ENDINSERTION_EXTEND for details.

The settings with this command are effective only for check scanner mode. Although during card scanner mode, a reading area can be set by executing this command, the settings are not reflected to card reading directly. If these settings are set during card scanner mode, the settings become effective after changing the mode to check scanner mode, and only for reading checks.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function.
	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

4) CHK_DI_IMAGE_FILTER

Parameter	Explanation
<i>Command</i>	CHK_DI_IMAGE_FILTER
<i>pData</i>	Specifies an area number. The available value is 1 to 10.
<i>pString</i>	Specifies an area to set.

Explanation Specifies an area to become effective after reading.

Example: When you use the area of X = 0, Y = 500, CX = 1000, CY = 1500, specify *pString* = "0, 500, 1000, 1500".

Here,

X is the X coordinate of the start of the specified area.

Y is the Y coordinate of the start of the specified area.

CX is the X coordinate of the end of the specified area.

CY is the Y coordinate of the end of the specified area.

The values specified here affect MapMode.

Use the area number in *pData* and null character string ("") in *pString* to cancel the specified area. Specify "0" in *pData* to cancel all area.

When you set at least one effective reading area, images other than the setting area is filled with white.

When you specify the effective reading area, you must set the size of

check in the DocumentWidth and DocumentHeight properties before executing the EndInsertion method.

Use the CHK_DI_ENDINSERTION_EXTEND command to enable the setting.

Please refer to the CHK_DI_ENDINSERTION_EXTEND command reference for details.

The settings with this command are effective only for check scanner mode. Although during card scanner mode, a filtering area can be set by executing this command, the settings are not reflected to card reading directly. If these settings are set during card scanner mode, the settings become effective after changing the mode to check scanner mode, and only for reading checks.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function and pre-scanning cannot be executed.
OPOS_E_EXTENDED	The paper is not inserted.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

5) CHK_DI_ATTACHED_DATA

Parameter	Explanation
<i>Command</i>	CHK_DI_ATTACHED_DATA
<i>pData</i>	Not used. "0" is always entered.
<i>pString</i>	Sets the character string to embed.

Explanation Sets the character string to embed at the header of an image file.

The character string can be up to 1024 bytes.

Depending on the image format specified for reading, sometimes you cannot embed the character string. However, you can embed the character string in the TIFF and JPEG image formats.

Use the CHK_DI_ENDINSERTION_EXTEND command to enable the setting.

Please refer to the CHK_DI_ENDINSERTION_EXTEND command reference for details.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function.
	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

6) CHK_DI_SIZE_OFFSET

Parameter	Explanation
<i>Command</i>	CHK_DI_SIZE_OFFSET
<i>pData</i>	Sets the offset value.
<i>pString</i>	Not used. Null character string is entered.

Explanation Sets offset value for auto sizing.
 Cuts off the portion set by offset value from the top and bottom of the check detected by SO. The MapMode property affects the values specified here.
 Use this function only when an unnecessary line remains on the top and bottom of the read check. Do not use the function for the other purposes.
 The default value is "0".

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal.

Requirement Open, Claim & Enable

7) CHK_DI_BORDER_COLOR

Parameter	Explanation
<i>Command</i>	CHK_DI_BORDER_COLOR
<i>pData</i>	Sets the threshold value.
<i>pString</i>	Not used. Null character string is entered.

Explanation Sets the threshold value to read, using two values.

The threshold value settings are as follows:

Setting value	Meaning
0	Basic setting
-128 to -1	Setting thinner than the basic setting. - 128 is the thinnest setting.
1 to 127	Setting deeper than the basic setting. 127 is the deepest setting.

The threshold value set with the pre-scanning has priority when pre-scanning is executed before executing the EndInsertion method.

The default value is "0".

The settings with this command are effective only for check scanner mode. Although during card scanner mode, a threshold value can be set by executing this command, the settings are not reflected to card reading directly. If these settings are set during card scanner mode, the settings become effective after changing the mode to check scanner mode, and only for reading checks.

When the CHK_DI_SHARPNESS_IMAGE command of DirectIO method is set, the set value with this command is not reflected to the read images.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function.
	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

8) CHK_DI_ROTATE_IMAGE

Parameter	Explanation
<i>Command</i>	CHK_DI_ROTATE_IMAGE
<i>pData</i>	CHK_DI_ROTATE_OFF CHK_DI_ROTATE_ON
<i>pString</i>	Not used. Null character string is entered.

Explanation Specifies how an image is rotated when saved.
 When CHK_DI_ROTATE_OFF is set in the second parameter, the scanned image is saved without any rotation.
 When CHK_DI_ROTATE_ON is set in the second parameter, the scanned image is rotated 90 degrees and then saved.
 You must set it up before executing the EndInsertion method.
 The default value is CHK_DI_ROTATE_ON.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function.
	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

9) CHK_DI_TMSTORE_SET_INDEX

Parameter	Explanation
<i>Command</i>	CHK_DI_TMSTORE_SET_INDEX
<i>pData</i>	Storage Memory ID
<i>pString</i>	Not used. Null character string is entered.

Explanation Set up memory numbers (ID) of the memories stored in the Storage Memory.

Please refer to the explanation of the CHK_DI_EXTEND_TMSTORE command, subordinate to the CHK_DI_ENDINSERTION_EXTEND command, regarding the Storage Memory.

The available values by *pData* are integers between 1 and 65534.

When storing image data to the Storage Memory, specifies the memory number (ID) set by the command. The command shall be set before execution of the EndInsertion method.

When the memory number that had been used is specified, memory is overwritten and saved. Please be careful with overwriting on the saved image if there is any image stored previously. The initial setup value is "1".

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal. The device does not have Storage Memory function.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

10) CHK_DI_TMSTORE_ERRORMODE

Parameter	Explanation
<i>Command</i>	CHK_DI_TMSTORE_ERRORMODE
<i>pData</i>	CHK_DI_ERRORMODE_CANCEL CHK_DI_ERRORMODE_RETRY
<i>pString</i>	Not used. Null character string is entered.

Explanation There are two error modes for storing image to the device when the CHK_DI_EXTEND_TMSTORE method is specified among the subsidiaries of the CHK_DI_ENDINSERTION_EXTEND method.

a) *pData*: CHK_DI_ERRORMODE_CANCEL

When it is failed to store image to the device, the transaction is terminated immediately. The captured image data are cancelled. The result of the EndInsertion command becomes Error.

(ResultCode)	(ResultCodeExtended)
OPOS_E_ILLEGAL	OPOS_ECHK_TMSTORE_NOROOM
and	
OPOS_E_FAILURE	OPOS_ECHK_TMSTORE_WRITE

CHK_DI_ERRORMODE_CANCEL configuration is recommended.

b) *pData*: CHK_DI_ERRORMODE_RETRY

When it is failed to store image to the device, the data is stored in the working buffer memory area. The result of the EndInsertion command becomes Error even the data are successfully stored in the working buffer memory area.

(ResultCode)	(ResultCodeExtended)
OPOS_E_ILLEGAL	OPOS_ECHK_TMSTORE_NOROOM
and	
OPOS_E_FAILURE	OPOS_ECHK_TMSTORE_WRITE

Under the condition of CHK_DI_ERRORMODE_RETRY configuration, a large quantity of data is received upon Error occurrence. This would affect its performance considerably.

CHK_DI_ERRORMODE_CANCEL is set as the default value.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal. The device does not have Storage Memory function.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

11) CHK_DI_TMSTORE_GET_FREEMEM

Parameter	Explanation
<i>Command</i>	CHK_DI_TMSTORE_GET_FREEMEM
<i>pData</i>	Set up free space capacity.
<i>pString</i>	Not used. Null character string is entered.

Explanation Acquires free space capacity of the device.
The capacity is used to set *pData*.
This free space confirmation is required prior to store any data in the device.
It is recommended to not store any data when the free space becomes close to 1 MB in order to avoid a shortage of free space.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal. The device does not have Storage Memory function.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

12) CHK_DI_CHANGE_MODE

Parameter	Explanation
<i>Command</i>	CHK_DI_CHANGE_MODE
<i>pData</i>	Indicates the value of reading mode to be set. The value to be specified is one of the following. CHK_DI_MODE_CHECKSCANNER CHK_DI_MODE_CARDSCANNER
<i>pString</i>	Not used. Null character string is entered.

Explanation By specifying CHK_DI_MODE_CHECKSCANNER in *pData*, the mode becomes check scanner mode.
By specifying CHK_DI_MODE_CARDSCANNER in *pData*, the mode becomes card scanner mode.

Settings become effective after the next execution of BeginInsertion or EndInsertion.

The default value is CHK_DI_MODE_CHECKSCANNER.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function. The parameter is illegal. The device does not support the specified reading mode.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

13) CHK_DI_SHARPNESS_IMAGE

Parameter	Explanation
<i>Command</i>	CHK_DI_SHARPNESS_IMAGE
<i>pData</i>	Specifies the value to indicate the execution of sharpening process. The value to be specified is one of the following. CHK_DI_SHARPNESS_ON CHK_DI_SHARPNESS_OFF
<i>pString</i>	Not used. Null character string is entered.

Explanation By specifying CHK_DI_SHARPNESS_ON in *pData*, sharpening process on read image is executed after the check or card reading.

By specifying CHK_DI_SHARPNESS_OFF in *pData*, sharpening process on read image is not executed after the check or card reading.

Settings become effective after the next execution of BeginInsertion or EndInsertion.

When `CHK_DI_SHARPNESS_ON` is set, the settings of the `CHK_DI_PRESCAN` command and the `CHK_DI_BORDER_COLOR` command of DirectIO method are not reflected to read images.

The default value is `CHK_DI_SHARPNESS_OFF`.

Returned value One of the following is returned and stored in the `ResultCode` property.

Value	Meaning
<code>OPOS_SUCCESS</code>	DirectIO succeeded.
<code>OPOS_E_CLOSED</code>	The device is closed.
<code>OPOS_E_NOTCLAIMED</code>	The device is not claimed.
<code>OPOS_E_DISABLED</code>	The device is disabled.
<code>OPOS_E_ILLEGAL</code>	Specifies command number without a function. The parameter is illegal. The device is not supporting image sharpening process.
Other	Refer to the <code>ResultCode</code> item.

Requirement Open, Claim & Enable

14) CHK_DI_GET_SUPPORT_FUNCTION

Parameter	Explanation
<i>Command</i>	CHK_DI_GET_SUPPORT_FUNCTION
<i>pData</i>	Sets the value to indicate the functions of the device.
<i>pString</i>	Not used. Null character string is entered.

Explanation The function information of currently used device is set in *pData*. When more than one function is loaded, logical OR of the following constant numbers is set.

Check reading function is loaded : CHK_DI_CHECKSCANNER (1)

Card reading function is loaded : CHK_DI_CARDSCANNER (2)

TM Storage Memory is loaded : CHK_DI_TMSTORAGE (4)

Sharpening Support Firmware is loaded : CHK_DI_SHARPNESS (8)

Example:

When a device is loading check reading function and TM Storage Memory, "5" is set in *pData*.

This information is the information of loading function for the claimed device. If the claimed device is swapped, claim again with new device. Otherwise, the information of loading function cannot be acquired.

Even the device without Sharpening Support Firmware is able to sharpen depending on its connection mode.^{*1}

To find out its capability, either checks the connection mode or executes CHK_DI_SHARPNESS_IMAGE command of DirectIO method.

^{*1} Available at UB-U05 connection only

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	Specifies command number without a function.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

15) CHK_DI_RETRIEVEQUALITY

Parameter	Explanation
<i>Command</i>	CHK_DI_RETRIEVEQUALITY
<i>pData</i>	CHK_DI_200 x 200 CHK_DI_100 x 100
<i>pString</i>	Not used. Null character string is entered.

Explanation Sets the resolution of the image that was acquired using EndInsertion.

When CHK_DI_200 x 200 is set to *pData*, the resolution of an image becomes 200 x 200 dpi.

When CHK_DI_100 x 100 is set to *pData*, the resolution of an image becomes 100 x 100 dpi.

The setting information is reflected to the image obtained on execution of RetrieveImage and StoreImage, even when the crop area is specified in DefineCropArea.

The resolution of an image that is obtained from a device is 200×200 dpi.

The setting information of a command is not reflected to Quality property, QualityList property, DocumentWidth property and DocumentHeight property.

The setting that is specified by command becomes valid on execution of RetrieveImage or StoreImage.

The default value is CHK_DI_200 x 200.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

16) CHK_DI_RECOVER_ERROR

Parameter	Explanation
<i>Command</i>	CHK_DI_RECOVER_ERROR
<i>pData</i>	Not used. "0" is always entered.
<i>pString</i>	Not used. Null character string is entered.

Explanation Recover from recoverable error.

When a printer is not in an error mode, the command has no effect on the printer.

Returned value One of the following is returned and stored in the ResultCode property.

Value	Meaning
OPOS_SUCCESS	DirectIO succeeded.
OPOS_E_CLOSED	The device is closed.
OPOS_E_NOTCLAIMED	The device is not claimed.
OPOS_E_DISABLED	The device is disabled.
OPOS_E_ILLEGAL	The parameter is illegal.
Other	Refer to the ResultCode item.

Requirement Open, Claim & Enable

4.3 DirectIOEvent Event

The CheckScanner device does not have an extended specification using the DirectIOEvent event.

Section 5. Device Specific Programming

This section describes device specific programming of the CheckScanner devices.

5.1 Specifying the Extended Function of EndInsertion

In CheckScanner, you can set the extended function of EndInsertion using the DirectIO method.

The following shows how to specify pre-scanning and filtering as the extended function setting of EndInsertion.

```
Dim RC As Long
```

```
Dim Command As Long
```

```
Dim Data As Long
```

```
Dim Dummy As String
```

```
Command = CHK_DI_IMAGE_FILTER
```

```
Data = 1
```

```
Dummy = "0, 500, 1000, 1500"
```

```
RC = CheckScanner1.DirectIO (Command, Data, Dummy)
```

```
If RC = OPOS_SUCCESS Then
```

```
    'Success
```

```
Else
```

```
    'Error
```

```
End If
```

```
Command = CHK_DI_ENDINSERTION_EXTEND
```

```
Data = CHK_DI_EXTEND_PRESCAN Or CHK_DI_EXTEND_FILTER
```

```
Dummy = ""
```

```

RC = CheckScanner1.DirectIO (Command, Data, Dummy)
If RC = OPOS_SUCCESS Then
    'Success
Else
    'Error
End If

```

5.2 Specifying the Reading Area

In CheckScanner, you can set the data area to read using EndInsertion.

The sample program on extended function setting of EndInsertion is shown below.

```

Dim RC As Long
Dim Command As Long
Dim Data As Long
Dim Dummy As String

Command = CHK_DI_READ_AREA
Data = 0
Dummy = "0, 500, 1000, 1500"

RC = EPSONCheckScanner1.DirectIO (Command, Dummy, Data)
If RC = OPOS_SUCCESS Then
    'Success
Else
    'Error
End If

```

Section 6. Error Information

This section describes the error codes that may result from execution of CheckScanner methods. The common properties and methods are described in "EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE GENERAL DEVELOPMENT". Please refer to this guide for more information.

6.1 Executing the Property

The ResultCode and ResultCodeExtended when properties are executed are as follows.

Property Name	ResultCode	ResultCodeExtended	Meaning
Color	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
		OPOS_EX_INCAPABLE	The function cannot be used.
ConcurrentMICR	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_INCAPABLE	Set value is illegal.
DocumentHeight	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
DocumentWidth	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
FileID	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
FileIndex	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
ImageFormat	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
		OPOS_EX_INCAPABLE	The function cannot be used.
MapMode	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
Quality	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
ImageTagData	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_INCAPABLE	The function cannot be used.
Contrast	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPROPVAL	Set value is illegal.
		OPOS_EX_INCAPABLE	The function cannot be used.

6.2 Executing the Method

The ResultCode and ResultCodeExtended when methods are executed are as follows.

Method Name	ResultCode	ResultCodeExtended	Meaning
BeginInsertion	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_BUSY	0	Printer power is OFF.
	OPOS_E_TIMEOUT	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	Timeout parameter is illegal.
		OPOS_EX_INVALIDMODE	Cannot execute in the current mode.
		OPOS_EX_DEVBUSY	Device was busy.
		OPOS_EX_TIMEOUT	Output result is not returned within timeout period.
		OPOS_EX_NOASB	Could not get ASB.
	OPOS_E_FAILURE	OPOS_EX_MICRMODE	MICR mode.
		OPOS_EX_WAITING_REMOVAL	Check is present still in the device.
		POSPrinter condition errors ^{*1}	Refer to <i>UPOS Specifications</i> .
BeginRemoval	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_BUSY	0	Printer power is OFF.
	OPOS_E_TIMEOUT	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	Timeout parameter is illegal.
		OPOS_EX_INVALIDMODE	Cannot execute in the current mode.
		OPOS_EX_DEVBUSY	Device was busy.
		OPOS_EX_TIMEOUT	Output result is not returned within timeout period.
		OPOS_EX_NOASB	Could not get ASB.
	OPOS_E_FAILURE	OPOS_EX_MICRMODE	MICR mode.
		OPOS_EPTR_UNRECOVERABLE	Irrecoverable error occurred.
		POSPrinter condition errors ^{*1}	Refer to <i>UPOS Specifications</i> .

Method Name	ResultCode	ResultCodeExtended	Meaning
EndInsertion	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_BUSY	0	Printer power is OFF.
	OPOS_E_ILLEGAL	0	Refer to UPOS Specifications.
		OPOS_EX_INVALIDMODE	Cannot execute in the current mode.
		OPOS_EX_DEVBUSY	Device was busy.
		OPOS_EX_TIMEOUT	Output result is not returned within timeout period.
		OPOS_EX_NOASB	Could not get ASB.
		OPOS_ECHK_TMSTORE_NOROOM	The free space of the Storage Memory is insufficient.
		OPOS_ECHK_PTRERROR	The printer causes the error while image is being received.
	OPOS_E_EXTENDED	OPOS_ECHK_NOCHECK	No check is in the jaw.
	OPOS_E_FAILURE	OPOS_EX_MICRMODE	The MICR mode is active.
		OPOS_ECHK_TMSTORE_WRITE	Writing error to the Storage Memory
		OPOS_EX_WAITING_REMOVAL	Check is present still in the device.
		POSPrinter condition errors ^{*1}	Refer to <i>UPOS Specifications</i> .
EndRemoval	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_BUSY	0	Printer power is OFF.
	OPOS_E_FAILURE	OPOS_EPTR_MECHANICAL	Refer to <i>UPOS Specifications</i> .
		OPOS_EPTR_CUTTER	Refer to <i>UPOS Specifications</i> .
		OPOS_EPTR_UNRECOVERABLE	Refer to <i>UPOS Specifications</i> .
		OPOS_EPTR_AUTORECOVERABLE	Refer to <i>UPOS Specifications</i> .
	OPOS_E_ILLEGAL	OPOS_EX_DEVBUSY	Device was busy.
		OPOS_EX_TIMEOUT	Output result is not returned within timeout period.
		OPOS_EX_NOASB	Could not get ASB.
	OPOS_E_EXTENDED	OPOS_ECHK_CHECK	Check or Card is present in the device.
DefineCropArea	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	cropAreaID parameter is illegal.
		OPOS_EX_BADPARAM + 2	x parameter is illegal.
		OPOS_EX_BADPARAM + 3	y parameter is illegal.
		OPOS_EX_BADPARAM + 4	cx parameter is illegal.
		OPOS_EX_BADPARAM + 5	cy parameter is illegal.
		OPOS_EX_INCAPABLE	The function cannot be used.

Method Name	ResultCode	ResultCodeExtended	Meaning
RetrieveImage	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	<i>cropAreaID</i> parameter is illegal.
		OPOS_EX_INVALIDMODE	Cannot execute in the current mode.
RetrieveMemory	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	<i>by</i> parameter is illegal.
	OPOS_E_NOEXIST	0	Refer to UPOS Specifications.
StoreImage	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	<i>cropAreaID</i> parameter is illegal.
		OPOS_EX_INCAPABLE	The function cannot be used.
		OPOS_EX_INVALIDMODE	Cannot execute in the current mode.
		OPOS_ECHK_EXIST	Data is already saved in the storage.
		OPOS_ECHK_SAMEID	The value is same as the already saved FileID.
		OPOS_ECHK_SAMETAG	The value is same as the already saved ImageTagData.
	OPOS_E_EXTENDED	OPOS_ECHK_NOROOM	The free space of the Storage Memory is insufficient for saving image data.
ClearImage	OPOS_SUCCESS	0	Refer to UPOS Specifications.
	OPOS_E_CLOSED	0	Refer to UPOS Specifications.
	OPOS_E_DISABLED	0	Refer to UPOS Specifications.
	OPOS_E_NOTCLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_CLAIMED	0	Refer to UPOS Specifications.
	OPOS_E_ILLEGAL	OPOS_EX_BADPARAM + 1	<i>by</i> parameter is illegal.
	OPOS_E_NOEXIST	0	Refer to UPOS Specifications.

*1 The POSPrinter condition errors are as follows:

- OPOS_EPTR_COVER_OPEN
- OPOS_EPTR_JRN_EMPTY
- OPOS_EPTR_REC_EMPTY

- OPOS_EPTR_REC_CARTRIDGE_REMOVED
- OPOS_EPTR_REC_CARTRIDGE_EMPTY
- OPOS_EPTR_REC_HEAD_CLEANING
- OPOS_EPTR_LABEL_JAM
- OPOS_EPTR_MECHANICAL
- OPOS_EPTR_CUTTER
- OPOS_EPTR_UNRECOVERABLE
- OPOS_EPTR_AUTORECOVERABLE

6.3 Remedial Actions for Principal Errors

ResultCodeExtended	Remedy
OPOS_EX_DEVBUSY OPOS_EX_TIMEOUT	If the power to the CheckScanner (TM Printer) is disconnected, it is necessary to once apply Close and then invoke Open/Claim/Enable again.
OPOS_EPTR_COVER_OPEN OPOS_EPTR_REC_EMPTY OPOS_EPTR_CUTTER OPOS_EPTR_UNRECOVERABLE OPOS_EPTR_AUTORECOVERABLE OPOS_EPTR_MECHANICAL OPOS_EPTR_OVERHEAT OPOS_ECHK_RESPONSE OPOS_ECHK_CANCEL OPOS_ECHK_PTRERROR OPOS_ECHK_TIMEOUT OPOS_EPTR_REC_CARTRIDGE_REMOVED OPOS_EPTR_REC_CARTRIDGE_EMPTY OPOS_EPTR_REC_HEAD_CLEANING	Confirm the status of the printer, and then execute the program and method again.
OPOS_EX_INVALIDMODE	Establish the condition where processing can be executed, and execute again.
OPOS_EX_BADPARAM + x	The parameter is not correct for the method to be used. Confirm the parameter range for the method to be used.
OPOS_ECHK_NOCHECK OPOS_ECHK_CHECK	A Check is inserted/ removed incorrectly. Confirm if the check is inserted/ removed correctly.
OPOS_ECHK_DATAERROR OPOS_ECHK_NODATA OPOS_ECHK_ENCODE	Check data's error. Once remove it, then insert again, or use a proper check.
OPOS_ECHK_EXIST	Data is already saved in the storage. Delete the corresponding data of FileIndex.
OPOS_ECHK_NOROOM	The free space of the Storage Memory is insufficient. Delete the unnecessary data.
OPOS_ECHK_SAMEID OPOS_ECHK_SAMETAG	The specified data already exists in the Storage Memory. Set another value.
OPOS_ECHK_TMSTORE_NOROOM	The free space of the Storage Memory in the device is insufficient.
OPOS_ECHK_TMSTORE_WRITE	Fails to write in the Storage Memory of the device.

Section 7. Warnings

- The CheckScanner settings follow the same hydra connection settings as the master device EPSON TM series printer. Please refer to the Section 7 of "EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)" for further information.
- Do not set the input and output buffers below the minimum 32 bytes.
- The EPSON TM series CheckScanner's EndInsertion method readies the printer to receive a check. This setting may take a time. During this time, all devices connected by hydra settings are frozen. (For example, the display marquee stops.)
- During MICR mode (waiting receive a check), using the Claim method on any hydra devices (except the CashDrawer) will return an error.
- When you use CHK_DI_ROTATE_IMAGE on the DirectIO method, the size of the same image data may be different depending on whether the rotation setting is turned on.
- During a scan operation, the state of the hydra device cannot be known immediately. For example, as long as the scan operation is not completed, opening the cover does not cause status to rise against any hydra device.
- When the tracing mode is specified, contents of the ImageData property cannot be written in the log file. This is because the amount of data is too large. In this case, the message below is written in the log file.

"Data was returned normally. The contents cannot be checked here."

- The following table indicates environmental aptitudes for scanning function.

Environment	Image scanning with Bi-tonal (Check)	Image scanning with Gray scale (Check)	Image scanning with Gray scale (Card)
Serial (9,600 bps)	C	C	C
Serial (19,200 bps)	B	C	C
Serial (38,400 bps)	A	C	C
Parallel	B	C	C
USB (USB interface board for This printer; UB-U05)	A	A	A
Ethernet	B	C	C

A: It is recommended.

B: Confirm the required time to transmit stored time in your environment.

C: When using the storage function for NV memory, the environment may be OK. Because the transmission speed is slow.

- The following are precautions about the RemainingImagesEstimate property.

- The value of the RemainingImagesEstimate property indicates how many image files can be stored in the remaining free space of the storage area.
- The default value of the RemainingImagesEstimate property is computed at the execution of the open method.

The computation is as follows:

First, computes the free space of the storage by deducting the total amount of the stored image file from the storage maximum capacity of 16 MB. Then, computes how many files of "the last stored image data size"^{*1} can be stored in the remaining free space.

^{*1} 10 KB, which is the average size of the Bi-tonal Tiff Image data, is used as "the last stored image data size" since the size is unknown at the execution of the open method.

- How many files of the stored image data size in the storage area can be stored in the remaining free space is computed upon the execution of the storeImage method, and the result value is set to the RemainingImagesEstimate property.

- Please note that the setting value of the RemainingImagesEstimate property may drastically change at the execution of the storeImage method when the size of "the image to store" is quite different from the size of "the last stored image" since the value set to the RemainingImagesEstimate property is based on "the last stored image".
- The following are precautions about the CHK_DI_EXTEND_TMSTORE command.
 - Capacity of the device's Storage Memory is 16 MB.
 - Bi-tonal JPEG image data cannot be stored to the device.
When bi-tonal JPEG is specified as the format, replace it with TIFF then store the data.
 - Size auto-adjustment is not executed.
 - The contrast of an image cannot be adjusted when it is being stored onto the device.
 - When the EndInsertion method is executed under the condition of CHK_DI_EXTEND_TMSTORE is set, no data is stored to the working buffer memory area. Therefore, the values of the DocumentWidth property and the DocumentHeight property that indicate information size are not updated.
 - It is not supported to retrieve stored image data from the Storage Memory of the device. The program specified for reading from Storage Memory of the device should be used for reading the stored image. Please refer to "EPSON OPOS ADK MANUAL TM Storage OCX MANUAL TM Storage OCX" for details. The file name of this manual is "TMStorage.pdf". It is placed in the "Manual" folder in the directory where OPOS is installed.
 - When the EndInsertion method is executed under the condition of CHK_DI_EXTEND_TMSTORE is set, the CHK_DI_SIZE_OFFSET command and the CHK_DI_ROTATEIMAGE command settings become invalid.
- The following are precautions about the CHK_DI_CHANGE_MODE command.
 - For executing card reading, switching the reading mode to card scanner mode by executing the CHK_DI_CHANGE_MODE command of DirectIO is

necessary. After the mode switching, card can be read with the same procedure as the check.

- BeginInsertion, EndInsertion and CheckHealth methods are transacted corresponding to specified reading mode at the method execution. BeginRemoval and EndRemoval methods are transacted regardless of reading mode.
- Slip operations for POSPrinter and MICR are practicable, even with card scanner mode.
While a slip is being inserted, or the slip station is in operation, card transactions are impracticable. While a card is being inserted, or the card station is in operation, slip transactions are impracticable.
- Please note that the Storage Memory of device does not distinguish check read image and card read image since the Storage Memory of device uses the same memory area regardless of reading mode.
- The following are precautions about the CHK_DI_SHARPNESS_IMAGE command.
 - The settings of the CHK_DI_PRESCAN command and the CHK_DI_BORDER_COLOR command are reflected when the setting of the CHK_DI_SHARPNESS_IMAGE command is CHK_DI_SHARPNESS_OFF at the execution of EndInsertion method.
 - The settings of the CHK_DI_PRESCAN command and the CHK_DI_BORDER_COLOR command are not reflected when the setting of the CHK_DI_SHARPNESS_IMAGE command is CHK_DI_SHARPNESS_ON at the execution of EndInsertion method.
- The error code differs by that timing when the power is turned OFF.