CITIZEN

OPOS DRIVER 1.14

Application Development Guide

For Ver. 1.14.1.6

CITIZEN SYSTEMS JAPAN CO.,LTD.

Revision Record

Date	Version	Description
Feb. 10, 2011	1.00	New issue
Apr. 5, 2011	1.01	- CT-S310II model was added to each item. - Changed the value of CapRecColor/RecCurrentCartridge property.
Aug. 19, 2011	1.13.1.2	- Version number is changed to same version as driver itself. - Changed an example of the registry structure to CT-S801. - Added supported barcodes. PTR_BCS_GS1DATABAR, PTR_BCS_GS1DATABAR_S, PTR_BCS_GS1DATABAR_E, PTR_BCS_GS1DATABAR_E_S. - Changed explanation of PDF417 and QRcode barcode printing. - Changed explanation of "NV bit image mode". - Changed explanation of "RecLineChars/RecLineCharsList Property". - Added "Function to detect the completion of printing" and "Function to evade buffer full when the printer error occurred in the printing output".
Oct. 7, 2011	1.13.1.3	- Added explanation of "Log function".
Nov. 14, 2011	1.13.1.4	- Updated the version number only.
Jan. 6, 2012	1.13.1.5	- Notice for Windows Vista or 7 was modified. - Added numbers beside the symbols for ResultCodeExtended which is described for ClaimDevice method. - Changed explanation of "ErrorLevel Property".
Feb. 10, 2012	1.13.1.6	- Updated the version number only.
Mar. 12, 2012	1.13.1.8	- Updated the version number only.
Apr. 12, 2012	1.13.2.0	- Changed the description about user's privilege at Operating Environment. - Changed Status of PrintMemoryBitmap method support for CD-S500. - Changed Status of DeviceName property. - Removed a note about Custom color escape sequence for CD-S500. - Added explanation of bitmap print with CD-S500. - In the VisualBasic sample, The operator which is used to concatenate strings was changed "&" from "+". - Changed the Status of DeviceName and PowerState properties for cash drawers.
Jun. 7, 2012	1.13.2.1	- Updated the version number only.
Aug. 10, 2012	1.13.2.2	- Updated the version number only.
Sep. 25, 2012	1.13.2.3	- Updated the supporting status for CheckHealth, DirectIO, RetrieveStatistics, and SetBitmap methods in the supporting methods tables. - Updated the supporting status for CapStatisticsReporting and CheckHealthText properties in the supporting property tables. - Corrected the values about ControlObjectDescription, ControlObjectVersiont, and ServiceObjectVersion in the supporting property tables. - Added description how to define Error Correction Level for QRcode. - Added description for supported image format at the SetBitmap method. - Added description for NV graphics at the SetBitmap method. - Added description for supported image format at the PrintBitmap and PrintMemoryBitmap method. - Added description for RetrieveStatistics method. - Modified a sample of Log format described an event.
May 22, 2013	1.13.2.4	- Updated the version number only.
Jan. 17, 2014	1.13.2.5	- Added Windows8/8.1 to Object Operating systems. - Added CT-S281BT/BD to Object Models. - The cash drawer of CT-S281 was added to each item.
Jul. 24, 2014	1.13.2.6	- Added 936 in the CharacterSetList property value for CT-S310II and CT-S601/651 /801/851.
Feb. 24, 2015	1.13.2.7	- CT-S251 and CT-S601II/651II/801II/851II models were added to each item. - Added the explanation about "Grayscale print".
May 14, 2015	1.13.2.8	- Updated the version number only.
Feb. 10, 2017	1.13.2.10	- Added Windows10 to Object Operating systems. - CT-D150 and CT-E351 models were added to each item.
Jun. 15, 2017	1.13.2.11	- CT-D151 and CT-E651 models were added to each item.

Aug. 22, 2018	1.14.1.0	- Deleted CT-S310 and CD-S500 at the supported models. - Added description for the peripheral devices (Line Display and Barcode Scanner).
Nov. 8, 2018	1.14.1.1	- Changed an example of the registry structure; BluetoothMode was appended. - Added description for Bluetooth Device Control.
Dec. 27, 2018	1.14.1.2	- CT-S751 and BC-NL3000U models were added to each item.
Feb. 5, 2019	1.14.1.3	- CT-S4500 model was added to each item. - Added PTR_MF_TO_NEXT_TOF to the MarkFeed method options.
Apr. 20, 2020	1.14.1.4	- PMU3300 model was added to each item. - Change the value of the PageModeArea property.
Dec. 9, 2020	1.14.1.5	- CT-D151-L and CT-E651-L models were added to each item.
May 14, 2021	1.14.1.6	- CT-D101 and CT-E301, CT-E601 models were added to each item. (Page 9, 16, 19, 21, 33 to 37, 48 to 52, 58 to 62, 118, 121, 123, 135 to 136, 140, 142 to 145, 149 to 150, 153, 154, 156, 158 to 160, 166, 169, 171, 182)

Notes

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Contents

1. Introduction

The OPOS Driver complies with OPOS1.14.   This document provides the explanation of device (POS printer)-dependent specifications and precautions.   When you want to develop applications by using this driver, refer to "OpenPOS for OLE Application Programmer's Guide, Japanese Edition, Version 1.14.1" beforehand.
Reference link (as of May 14, 2021)
https://www.microsoft.com/cms/api/am/binary/RE4n1Ek

1.1. CITIZEN OPOS Driver

This driver provides an open device driver architecture that can easily integrate the CITIZEN POS printer and the cash drawer connected to it by the POS system based on Microsoft Windows Operating System.   This driver has been developed for the following purpose.
- Definition of architecture for accessing the Win32-based POS printer and cash drawer connected to it
- Definition of interface of CITIZEN POS printer supporting POS solution and cash drawer, line display, barcode scanner connected to it

1.2. Operating Environment

Object Operating System

This driver supports the following Windows operating systems.
   Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10
An application with limited privilege may not work correctly. In such case, a user with administrator's privilege should launch this application.

Supported models (Printers)

The models supported by this driver and the corresponding drivers are as shown below.
For details of each model, refer to the Printer User's Guide.

Object Model	Function	Applicable driver (Printer)	Applicable driver (Drawer)
CT-D101	Standard	CT-D101_*	CT-D101_*.CD*
CT-D150	Standard	CT-D150_*	CT-D150_*.CD*
CT-D151	Standard	CT-D151_*	CT-D151_*.CD*
CT-D151-L	Blackmark/Label paper is supported.		
CT-E301	Standard	CT-E301_*	CT-E301_*.CD*
CT-E351	Standard	CT-E351_*	CT-E351_*.CD*
CT-E601	Standard	CT-E601_*	CT-E601_*.CD*
CT-E651	Standard	CT-E651_*	CT-E651_*.CD*
CT-E651-L	Blackmark/Label paper is supported.		
CT-S251	Standard	CT-S251_*	CT-S251_*.CD*
CT-S281/281BT/281BD	Standard	CT-S281_*	CT-S281_*.CD*
CT-S281-XL-M1	Blackmark paper is supported.		
CT-S281-XL	Label paper is supported.		
CT-S310II	Standard	CT-S310II_*	CT-S310II_*.CD*
CT-S601/651/801/851	Standard	CT-S601_* CT-S651_* CT-S801_* CT-S851_*	CT-S601_*.CD* CT-S651_*.CD* CT-S801_*.CD* CT-S851_*.CD*
CT-S801/851-M	Blackmark paper is supported.		
CT-S801-L	Label paper is supported.		

CT-S601II/651II /801II/851II	Standard	CT-S601II_* CT-S651II_* CT-S801II_* CT-S851II_*	CT-S601II_*.CD* CT-S651II_*.CD* CT-S801II_*.CD* CT-S851II_*.CD*
CT-S801II/851II-M	Blackmark paper is supported.		
CT-S801II-L	Label paper is supported.		
CT-S751	Standard	CT-S751_*	CT-S751_*.CD*
CT-S2000	Standard	CT-S2000_*	CT-S2000_*.CD*
CT-S2000-M	Blackmark paper is supported.		
CT-S2000-L	Label paper is supported.		
CT-S4000	Standard (Paper with blackmark on front side is supported)	CT-S4000_*	CT-S4000_*.CD*
CT-S4000-M	Paper with blackmark on back side is supported.		
CT-S4000-L	Label paper is supported.		
CT-S4500	Standard (Blackmark/Label paper is supported.)	CT-S4500_*	CT-S4500_*.CD*
PMU3300	Standard (Paper exit sensor is supported.)	PMU3300_*	Not supported

Supported models (Peripheral devices)

The models supported of the peripheral devices by this driver and the corresponding drivers are as listed below. For the detailed functions of each model, refer to the user's manual of the peripheral device.

Line display

Object Model	Function	Applicable driver
DSP01-LT	TFT line display	DSP01_*
DSP02-LS	STN line display	DSP02_*

Barcode scanner

Object Model	Function	Applicable driver
SCN01-Z1D	1D barcode scanner	SCN01_*
SCN02-Z2D	2D barcode scanner	SCN02_*
BC-NL3000U	2D barcode scanner	BC-NL3000U_*

1.3. Application Developer

Application developer who wants to use this driver must be familiar with the following items.
- OPOS1.14 specifications
- General characteristics of CITIZEN POS printer
- Terms and structure of ActiveX control and OLE automation
- ActiveX control container development environment such as Microsoft Visual Basic and Microsoft Visual C++, etc.

1.4. OPOS Control

The OPOS control, conforming to ActiveX control specifications, provides the application with property, method, and/or event.   It consists of control object (CO) for device class and service object (SO).   CO supplies application interface (API) and SO executes the API,
The OPOS software us implemented by the use of the layer shown in the following figure.
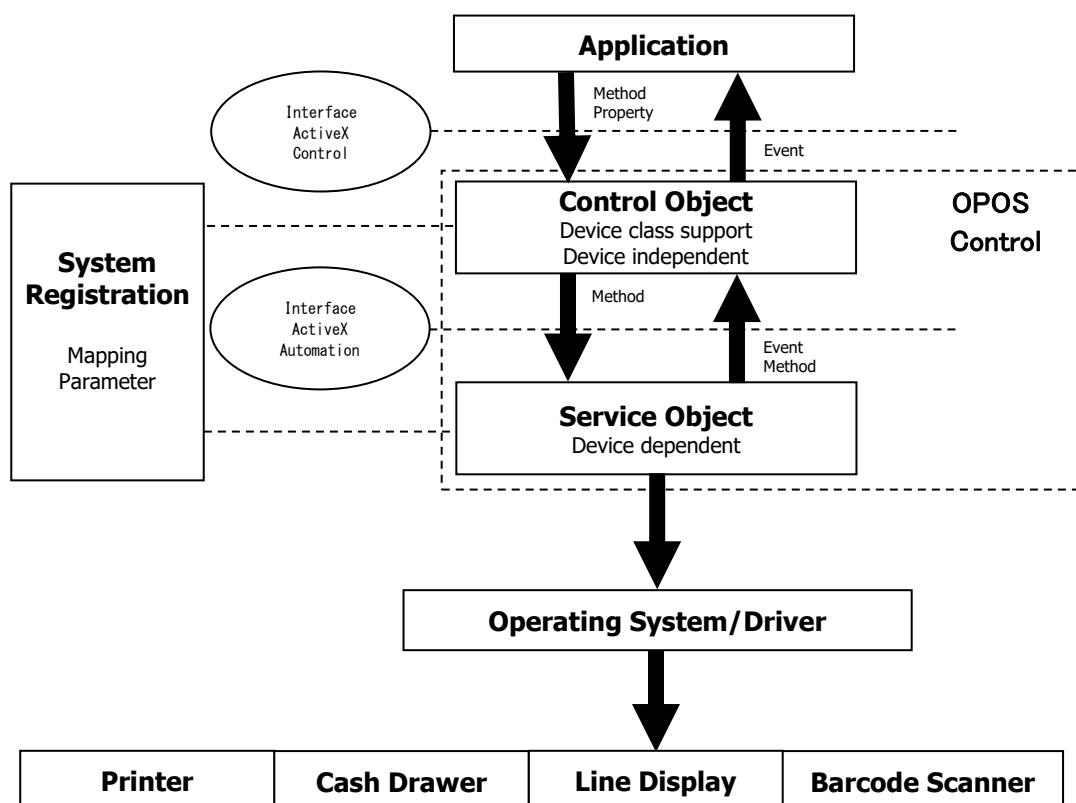
Device Class
This is a category of the POS device sharing the set of property, method and event.

Control Object (CO)
Control Object provides the application with a set of property, method and event for each device class.   CO is a standard Active (OLE 32 bit) control and is not visible at the time of execution. As a rule, this driver uses OPOS standard CO.   (OPOS standard CO is installed automatically at the installation of this driver.)

Service Object (SO)
Service Object is called by Control Object and executes the function specified by OPOS for each device.   It is implemented as automation server and provides the set of methods called by CO. This driver provides the processing dependent on the CITIZEN POS printer and cash drawer, line display, barcode scanner connected to the printer.

1.5. CITIZEN OPOS Driver Registry Structure

In order for Control Object to be connected to Service Object exactly and initialize the corresponding device, the OPOS control requires data for the system registry.　The registry has a hierarchical structure with levels called "key".　Each key consists of the following.
  - Additional key (also called sub-key)
  - Named value ("Data" of string, binary, or double-word type is defined for each value.)
  - One "default value" defined by string-type data.
OPOS defines only string data.

The following is a registry structure taking CT-S801II (printer and cash drawer), DSP01-LT (line display), and SCN01-Z1D (barcode scanner) as an example.

```
Windows Registry Editor Version 5.00

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1]
@="CBM.Thermal.POSPrinter"
"PhysicalDeviceID"="CITIZENCT-S801II"
"Version"="1014000"
"WriteTimeout"="5000"
"StatusBackInterval"="200"
"Service"="C:\\Program Files\\CITIZEN\\CITIZEN Service Objects\\CSJTSO.dll"
"Port"="NET:"
"BaudRate"="19200"
"HandShake"="000"
"BitLength"="008"
"Parity"="000"
"IP_Addr"="192.168.1.10"
"PortNo"="9100"
"LogSize"="010"
"LogMode"="002"
"LogDir"="C:\\LOG"
"FamilyID"="001"
"MapResolution"="000"
"PrinterName"="CTS801II.CITIZEN.POSPrinter"
"DeviceDescription"="Citizen Systems Thermal POSPrinter."
"ServiceObjectDescription"="Citizen Systems Service Object for Thermal PosPrinters"
"PrinterMode"="000"
"BitmapMode"="000"
"PrinterLanguageModel"="000"
"PaperModel"="080"
"Column"="048"
"UseNVRAM"="000"
"CharacterSet"="437"
"WriteBuffer"="4096"
"CheckResponse"="1"
"Grayscale"="0"
"BluetoothMode"="000"

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\CashDrawer\CT-S801II_1.CD1]
@="CBM.Thermal.CashDrawer"
"PhysicalDeviceID"="CITIZENCT-S801II"
"Version"="1014000"
"WriteTimeout"="5000"
"StatusBackInterval"="200"
"Service"="C:\\Program Files\\CITIZEN\\CITIZEN Service Objects\\CSJTSO.dll"
"Port"="NET:"
"BaudRate"="19200"
"HandShake"="000"
"BitLength"="008"
"Parity"="000"
"IP_Addr"="192.168.1.10"
"PortNo"="9100"
"LogSize"="010"
"LogMode"="002"
"LogDir"="C:\\LOG"
"ServiceObjectDescription"="Citizen Systems Service Object for Thermal PosPrinters"
```

```
"DrawerName"="CTS801II.CITIZEN.CD1"
"DeviceDescription"="Citizen Systems Thermal POSPrinter's Cash Drawer 1"
"OnTime"="005"
"PrinterID"="CT-S801II_1"
"CapStatus"="001"
"Pin3"="001"
"FamilyID"="001"
"BluetoothMode"="000"

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\LineDisplay\DSP01_1]
@="CBM.Thermal.LineDisplay"
"WriteTimeout"="5000"
"StatusBackInterval"="200"
"Port"="NET:"
"BaudRate"="9600"
"HandShake"="000"
"BitLength"="008"
"Parity"="000"
"IP_Addr"="192.168.1.10"
"PortNo"="9200"
"LogSize"="000"
"LogMode"="000"
"LogDir"=""
"DisplayName"="DSP01.CITIZEN.LineDisplay"
"PrinterID"=""
"DisplayLanguageModel"="000"
"CharacterSet"="437"
"FamilyID"="001"
"BluetoothMode"="000"

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\Scanner\SCN01_1]
@="CITIZEN.Barcode.Scanner"
"WriteTimeout"="5000"
"StatusBackInterval"="200"
"Port"="NET:"
"BaudRate"="9600"
"HandShake"="000"
"BitLength"="008"
"Parity"="000"
"IP_Addr"="192.168.1.10"
"PortNo"="9201"
"LogSize"="000"
"LogMode"="000"
"LogDir"=""
"ScannerName"="SCN01.Barcode.Scanner"
"PrinterID"=""
"FamilyID"="001"
"BluetoothMode"="000"
```

Registry Operation

Writing illegal value in a registry may cause serious trouble in the system. Therefore, Close attention is required in handling a registry. When handling a registry, the following registry-setting tool (Configuration Utility) shall be used as a rule. For the method of using this tool, refer to "Setup Guide" of this driver.
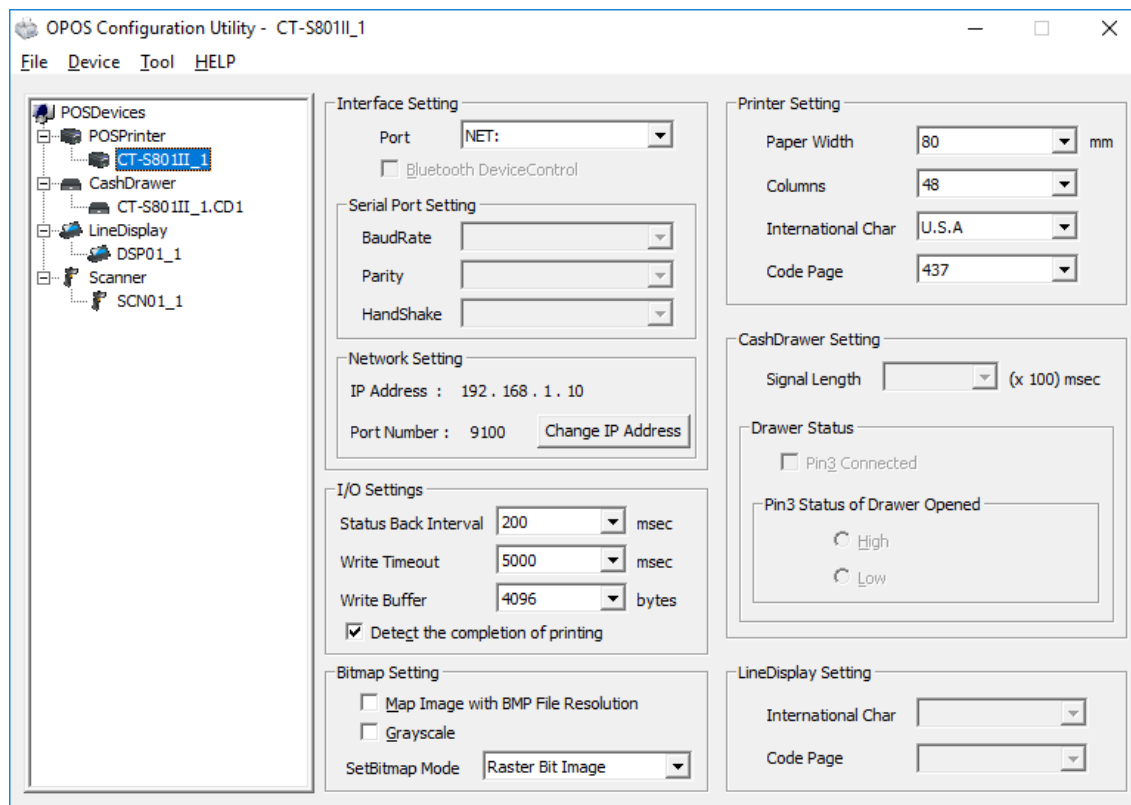
（Configuration Utility）

1.6. CITIZEN OPOS Driver Precautions

- In case of printer with USB interface, bidirectional communication which is registers to the Windows must be cancelled.

    Open the "Printer Properties" dialog which you want to use a registered printer.

    Uncheck "Enable bidirectional support" checkbutton in the "Ports" tab and click OK button. The following figure is a case of CT-S281 on Windows 10. In this figure, the "Enable bidirectional support" checkbox is indexed by red arrow, and it was already unchecked.
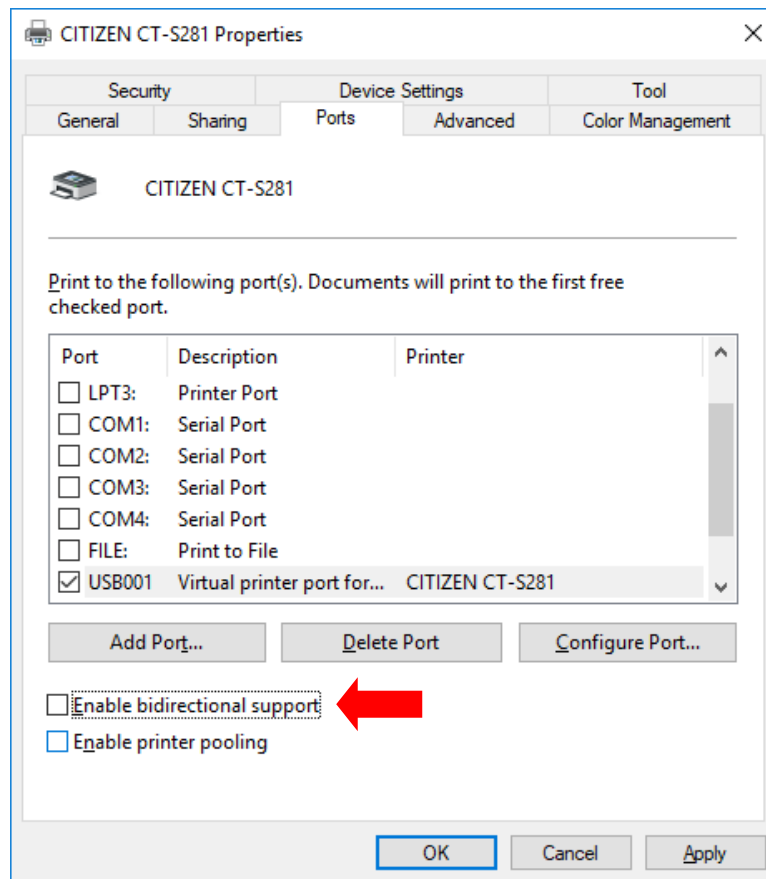
- When printing on label paper, use MarkFeed method (handling of marked paper).
  For the method of using this method, refer to "OpenPOS for OLE Application Programmer's Guide Japanese Version Rev. 1.14.1".

- Please note that proper operation is not guaranteed at the environment where OPOS driver by other company is installed.

- Also refer to the notes in each chapter.

2. POS Printer Service Object

For the details, method of use, etc. of property, method and event, refer to "OpenPOS for OLE Application Programmer's Guide, Japanese Edition, Version 1.14.1".

2.1. POS Printer Service Object and Method Relations

CT-D101

Method	Status of support by the driver (CT-D101_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-D150

Method	Status of support by the driver (CT-D150_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-D151

Method	Status of support by the driver (CT-D151_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-E301

Method	Status of support by the driver (CT-E301_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-E351

Method	Status of support by the driver (CT-E351_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-E601

Method	Status of support by the driver (CT-E601_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-E651

Method	Status of support by the driver (CT-E651_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S251

Method	Status of support by the driver (CT-S251_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput	Not applied because no input device is used.		Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion	Not supported		
DirectIO	✓	Defines error correction level of QRcode. Defines grayscale print.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics	Not supported (OPOS_E_ILLEGAL)		
RetrieveStatistics	✓		
UpdateFirmware	Not supported		
UpdateStatistics	Not supported (OPOS_E_ILLEGAL)		
PrintNormal	✓		
PrintTwoNormal	Not supported		
PrintImmediate	✓		
BeginInsertion	Not supported		
EndInsertion	Not supported		
BeginRemoval	Not supported		
EndRemoval	Not supported		
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide	Not supported (OPOS_E_ILLEGAL)		
MarkFeed	Not supported (OPOS_E_ILLEGAL)		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine	Not supported		

CT-S281

Method	Status of support by the driver (CT-S281_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S310II

Method	Status of support by the driver (CT-S310II_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S601/651/801/851

Method	Status of support by the driver (CT-S601/651/801/851_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode. Defines grayscale print.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S601II/651II/801II/851II

Method	Status of support by the driver (CT-S601II/651II/801II/851II_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode. Defines grayscale print.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S751

Method	Status of support by the driver (CT-S751_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarCode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.) (Refer to Grayscale print in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S2000

Method	Status of support by the driver (CT-S2000_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S4000

Method	Status of support by the driver (CT-S4000_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

CT-S4500

Method	Status of support by the driver (CT-S4500_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code) NV (Use key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed	✓		
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

PMU3300

Method	Status of support by the driver (PMU3300_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(Refer to ClaimDevice in 2.5.POS Printer Service Object and Precautions.)
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not applied because no input device is used.	Not applicable with OPOSPrinter
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmwareVersion		Not supported	
DirectIO	✓	Defines error correction level of QRcode.	(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
ResetStatistics		Not supported (OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported (OPOS_E_ILLEGAL)	
PrintNormal	✓		
PrintTwoNormal		Not supported	
PrintImmediate	✓		
BeginInsertion		Not supported	
EndInsertion		Not supported	
BeginRemoval		Not supported	
EndRemoval		Not supported	
CutPaper	✓	Partial cut (1-99) Full cut (0, 100)	
RotatePrint	✓		(Refer to RotatePrint in 2.5. POS Printer Service Object and Precautions.)
PrintBarCode	✓		(Refer to PrintBarcode in 2.5.POS Printer Service Object and Precautions.)
PrintBitmap	✓	Raster bit image printing	(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image NV (Unuse key code)	(Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5. POS Printer Service Object and Precautions.)
SetLogo	✓		
ChangePrintSide		Not supported (OPOS_E_ILLEGAL)	
MarkFeed		Not supported (OPOS_E_ILLEGAL)	
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(Refer to PrintBitmap Method / PrintMemoryBitmap Method in 2.5.POS Printer Service Object and Precautions.)
DrawRuledLine		Not supported	

2.2.POS Printer Service Object and Property Relations

CT-D101

Property	Attribute		Status of support by the driver (CT-D101_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	

Property	Attribute	Status of support by the driver (CT-D101_*)		Notes
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-D101_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		Not supported	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	

Property	Attribute		Status of support by the driver (CT-D101_*)	Notes
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	

Property	Attri bute	Status of support by the driver (CT-D101_*)		Notes
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R		Not supported	
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	

Property	Attribute	Status of support by the driver (CT-D101_*)	Notes
SlpLineHeight	R/W	Not supported	
SlpLineSpacing	R/W	Not supported	
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-D150

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute	Status of support by the driver (CT-D150_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-D150_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE： Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		Not supported	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-D150_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R		Not supported	
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-D150_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-D151

Property	Attri bute		Status of support by the driver (CT-D151_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE: DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute		Status of support by the driver (CT-D151_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-D151_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	

Property	Attri bute		Status of support by the driver (CT-D151_*)	Notes
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-D151_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

46

Property	Attribute	Status of support by the driver (CT-D151_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-E301

Property	Attribute		Status of support by the driver (CT-E301_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute	Status of support by the driver (CT-E301_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-E301_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE： Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		Not supported	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (CT-E301_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute	Status of support by the driver (CT-E301_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R		Not supported	
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-E301_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-E351

Property	Attribute		Status of support by the driver (CT-E351_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute	Status of support by the driver (CT-E351_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-E351_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		Not supported	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attri bute		Status of support by the driver (CT-E351_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute	Status of support by the driver (CT-E351_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R		Not supported	
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-E351_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-E601

Property	Attribute		Status of support by the driver (CT-E601_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE：DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE：Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute		Status of support by the driver (CT-E601_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-E601_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attri bute		Status of support by the driver (CT-E601_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-E601_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-E601_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-E651

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE: DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute	Status of support by the driver (CT-E651_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-E651_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-E651_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-E651_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S251

Property	Attribute		Status of support by the driver (CT-S251_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute		Status of support by the driver (CT-S251_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S251_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (CT-S251_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attribute	Status of support by the driver (CT-S251_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S251_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S281

Property	Attribute		Status of support by the driver (CT-S281_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute	Status of support by the driver (CT-S281_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S281_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R	✓	TRUE： 2-color printing is possible. (Using paper printable in 2 colors)	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R	✓	PTR_COLOR_PRIMARY | PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	

Property	Attribute		Status of support by the driver (CT-S281_*)	Notes
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,938 (www==RecLineWidth)	

Property	Attri bute	Status of support by the driver (CT-S281_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S281_*)	Notes
SlpLineSpacing	R/W	Not supported	
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S310II

Property	Attri bute		Status of support by the driver (CT-S310II_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003))	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute		Status of support by the driver (CT-S310II_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S310II_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE： Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		Not supported	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (CT-S310II_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute	Status of support by the driver (CT-S310II_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R		Not supported	
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S310II_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S601/651/801/851

Property	Attribute		Status of support by the driver (CT-S601/651/801/851_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE: DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute	Status of support by the driver (CT-S601/651/801/851_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S601_* CT-S651_* CT-S801_* CT-S851_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R	✓	TRUE：2-color printing is possible. (Using paper printable in 2 colors)	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R	✓	PTR_COLOR_PRIMARY | PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	

Property	Attri bute		Status of support by the driver (CT-S601/651/801/851_*)	Notes
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		

Property	Attri bute		Status of support by the driver (CT-S601/651/801/851_*)	Notes
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	

Property	Attribute	Status of support by the driver (CT-S601/651/801/851_*)		Notes
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	
SlpLineWidth	R		Not supported	
SlpLetterQuality	R/W		Not supported	
SlpEmpty	R		Not supported	
SlpNearEnd	R		Not supported	
SlpSidewaysMaxLines	R		Not supported	
SlpSidewaysMaxChars	R		Not supported	
SlpMaxLines	R		Not supported	
SlpLinesNearEndToEnd	R		Not supported	
SlpBarCodeRotationList	R		Not supported	
SlpPrintSide	R		Not supported	
SlpCartridgeState	R		Not supported	
SlpCurrentCartridge	R/W		Not supported	

CT-S601II/651II/801II/851II

Property	Attri bute		Status of support by the driver (CT-S601II/651II/801II/851II_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE：DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE：Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute	Status of support by the driver (CT-S601II/651II/801II/851II_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S601II_* CT-S651II_* CT-S801II_* CT-S851II_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R	✓	TRUE：2-color printing is possible. (Using paper printable in 2 colors)	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R	✓	PTR_COLOR_PRIMARY | PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	

Property	Attri bute		Status of support by the driver (CT-S601II/651II/801II/851II_*)	Notes
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		

Property	Attribute	Status of support by the driver (CT-S601II/651II/801II/851II_*)		Notes
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	

91

Property	Attribute		Status of support by the driver (CT-S601II/651II/801II/851II_*)	Notes
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	
SlpLineWidth	R		Not supported	
SlpLetterQuality	R/W		Not supported	
SlpEmpty	R		Not supported	
SlpNearEnd	R		Not supported	
SlpSidewaysMaxLines	R		Not supported	
SlpSidewaysMaxChars	R		Not supported	
SlpMaxLines	R		Not supported	
SlpLinesNearEndToEnd	R		Not supported	
SlpBarCodeRotationList	R		Not supported	
SlpPrintSide	R		Not supported	
SlpCartridgeState	R		Not supported	
SlpCurrentCartridge	R/W		Not supported	

CT-S751

Property	Attri bute		Status of support by the driver (CT-S751_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute	Status of support by the driver (CT-S751_*)		Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S751_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (CT-S751_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-S751_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S751_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S2000

Property	Attribute		Status of support by the driver (CT-S2000_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE: DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	

PowerState	R	✓	Online and Ready state
			  OPOS_PS_ONLINE(2001)
			Power off state
			  OPOS_PS_OFF(2002)
			Not Ready state
			  OPOS_PS_OFFLINE(2003)	

ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attribute		Status of support by the driver (CT-S2000_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S2000_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE：Receipt is possible.	
CapRec2Color	R	✓	TRUE：2-color printing is possible. (Using paper printable in 2 colors)	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active. FALSE: Paper-Out sensor is non-active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R	✓	PTR_COLOR_PRIMARY | PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	

Property	Attribute	Status of support by the driver (CT-S2000_*)		Notes
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	

CharacterSet	R/W	✓	Default value
			  Japanese version: Code932
			  English version: Code437	

CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	

Property	Attribute	Status of support by the driver (CT-S2000_*)		Notes
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S2000_*)	Notes
SlpLineCharsList	R	Not supported	
SlpLineHeight	R/W	Not supported	
SlpLineSpacing	R/W	Not supported	
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S4000

Property	Attri bute		Status of support by the driver (CT-S4000_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE: DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	

Property	Attri bute		Status of support by the driver (CT-S4000_*)	Notes
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S4000_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE: Receipt is possible.	
CapRec2Color	R	✓	TRUE: 2-color printing is possible. (Using paper printable in 2 colors)	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R	✓	PTR_COLOR_PRIMARY | PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	

Property	Attri bute		Status of support by the driver (CT-S4000_*)	Notes
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 998: ASCII 999: Windows Code 1252: Windows Code	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

Property	Attri bute		Status of support by the driver (CT-S4000_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S4000_*)	Notes
SlpLineSpacing	R/W	Not supported	
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

CT-S4500

Property	Attri bute		Status of support by the driver (CT-S4500_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	

Property	Attri bute		Status of support by the driver (CT-S4500_*)	Notes
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	CT-S4500_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE： Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER | PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	

Property	Attribute		Status of support by the driver (CT-S4500_*)	Notes
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,1662 (www==RecLineWidth)	

110

Property	Attri bute		Status of support by the driver (CT-S4500_*)	Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	

Property	Attribute	Status of support by the driver (CT-S4500_*)	Notes
SlpLineSpacing	R/W	Not supported	
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

PMU3300

Property	Attribute		Status of support by the driver (PMU3300_*)	Notes
AutoDisable	R/W		Not supported	Not applicable with OPOSPrinter
BinaryConversion	R/W	✓	OPOS_BC_NONE (Default value) OPOS_BC_NIBBLE OPOS_BC_DECIMAL	(Refer to BinaryConversion in 2.5.POS Printer Service Object and Precautions.)
CapCompareFirmwareVersion	R		Not supported	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapstatisticsReporting	R	✓		
CapUpdateFirmware	R		Not supported	
CapUpdateStatistics	R		FALSE	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimeDevice → True ReleaseDevice → False	
DataCount	R		Not applied because no input device is used.	Not applicable with OPOSPrinter
DataEventEnabled	R/W		Not applied because no input device is used.	Not applicable with OPOSPrinter
DeviceEnabled	R/W	✓	TRUE： DataEvent notified False: DataEvent not notified	
FreezeEvents	R/W	✓	TRUE： Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	In other than OPOS_SUCCESS, refer to OpenResult properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
OutputID	R	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state OPOS_PS_ONLINE(2001) Power off state OPOS_PS_OFF(2002) Not Ready state OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓	In other than OPOS_SUCCESS, refer to ResulCode properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
ResultCodeExtended	R	✓		(Refer to ResultCode/ ResultCodeExtended Property in 2.5.POS Printer Service Object and Precautions.)
State	R	✓	In other than OPOS_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS POSPrinter Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	

Property	Attri bute		Status of support by the driver (PMU3300_*)	Notes
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters ver *.**.**	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	Citizen Systems Thermal POSPrinter.	
DeviceName	R	✓	PMU3300_*	
CapCharacterSet	R	✓	PTR_CCS_KANJI	
CapConcurrentJrnRec	R		Not supported	
CapConcurrentPageMode	R		Not supported	
CapConcurrentJrnSlp	R		Not supported	
CapConcurrentRecSlp	R		Not supported	
CapCoverSensor	R	✓	TRUE: With cover open sensor	
CapTransaction	R	✓	TRUE: Batch processing of characters is possible.	
CapJrnPresent	R		Not supported	
CapJrn2Color	R		Not supported	
CapJrnBold	R		Not supported	
CapJrnDhigh	R		Not supported	
CapJrnDwide	R		Not supported	
CapJrnDwideDhigh	R		Not supported	
CapJrnEmptySensor	R		Not supported	
CapJrnItalic	R		Not supported	
CapJrnNearEndSensor	R		Not supported	
CapJrnUnderline	R		Not supported	
CapJrnCartridgeSensor	R		Not supported	
CapJrnColor	R		Not supported	
CapRecPresent	R	✓	TRUE： Receipt is possible.	
CapRec2Color	R		Not supported	
CapRecBarCode	R	✓	TRUE: Barcode printing is possible.	
CapRecBitmap	R	✓	TRUE: Bitmap printing is possible.	
CapRecBold	R	✓	TRUE: Bold attribute setting is possible.	
CapRecDhigh	R	✓	TRUE: Double height attribute setting is possible.	
CapRecDwide	R	✓	TRUE: Double width setting is possible.	
CapRecDwideDhigh	R	✓	TRUE: Quadruple attribute setting is possible.	
CapRecEmptySensor	R	✓	TRUE: Paper-Out sensor is active.	
CapRecItalic	R		Not supported	
CapRecLeft90	R	✓	TRUE: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	TRUE: With Paper Near-End sensor	
CapRecPapercut	R	✓	Only partial cut (90) is supported.	
CapRecRight90	R	✓	TRUE: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	TRUE: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		Not supported	
CapRecUnderline	R	✓	TRUE: Underline attribute setting is possible.	
CapRecCartridgeSensor	R		0	
CapRecColor	R		PTR_COLOR_PRIMARY	
CapRecMarkFeed	R		Not supported	
CapRecPageMode	R	✓	TRUE: Page Mode Printing is possible.	
CapRecRuledLine	R		Not supported	
CapSlpPresent	R		Not supported	
CapSlpFullslip	R		Not supported	
CapSlp2Color	R		Not supported	

Property	Attribute		Status of support by the driver (PMU3300_*)	Notes
CapSlpBarCode	R		Not supported	
CapSlpBitmap	R		Not supported	
CapSlpBold	R		Not supported	
CapSlpDhigh	R		Not supported	
CapSlpDwide	R		Not supported	
CapSlpDwideDhigh	R		Not supported	
CapSlpEmptySensor	R		Not supported	
CapSlpItalic	R		Not supported	
CapSlpLeft90	R		Not supported	
CapSlpNearEndSensor	R		Not supported	
CapSlpRight90	R		Not supported	
CapSlpRotate180	R		Not supported	
CapSlpUnderline	R		Not supported	
CapSlpBothSidesPrint	R		Not supported	
CapSlpCartridgeSensor	R		Not supported	
CapSlpColor	R		Not supported	
CapSlpPageMode	R		Not supported	
CapSlpRuledLine	R		Not supported	
AsyncMode	R/W	✓	TRUE/FALSE	(Refer to AsyncMode Property in 2.5.POS Printer Service Object and Precautions.)
CartridgeNotify	R/W		Not supported	
CharacterSet	R/W	✓	Default value Japanese version: Code932 English version: Code437	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 Eastern Europe 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Code936 Simplified Chinese 998: ASCII 999: Windows Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓	PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	(Refer to ErrorLevel Property in 2.5.POS Printer Service Object and Precautions.)
ErrorStation	R	✓	PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A, B, C	
FlagWhenIdle	R/W	✓		
MapMode	R/W	✓	PTR_MM_DOTS (Default value) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓	www,938 (www==RecLineWidth)	

Property	Attri bute	Status of support by the driver (PMU3300_*)		Notes
PageModeDescriptor	R	✓	PTR_PM_BITMAP | PTR_PM_BARCODE | PTR_PM_BM_ROTATE | PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓		
PageModePrintArea	R/W	✓		
PageModePrintDirection	R/W	✓		
PageModeStation	R/W	✓	PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓		
RotateSpecial	R/W	✓	PTR_RP_NORMAL PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Not supported	
JrnLineCharsList	R		Not supported	
JrnLineHeight	R/W		Not supported	
JrnLineSpacing	R/W		Not supported	
JrnLineWidth	R		Not supported	
JrnLetterQuality	R/W		Not supported	
JrnEmpty	R		Not supported	
JrnNearEnd	R		Not supported	
JrnCartridgeState	R		Not supported	
JrnCurrentCartridge	R/W		Not supported	
RecLineChars	R/W	✓	OPOS_SUCCESS (Normal setting) OPOS_E_ILLEGAL (Illegal line character width is specified.)	According to the value, the Font size is changed. Value should be chosen from RecLineCharsList property. (Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions)
RecLineCharsList	R	✓		(Refer to RecLineChars/ RecLineCharsList Property in 2.5.POS Printer Service Object and Precautions.)
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		If the value is smaller than RecLineHeight, the value is changed according to the RecLineHeight property.
RecLineWidth	R	✓		
RecLetterQuality	R/W		Not supported	
RecEmpty	R	✓	TRUE: Receipt paper out FALSE: With receipt paper	
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		(Refer to RecSidewaysMaxLines Property in 2.5.POS Printer Service Object and Precautions.)
RecSidewaysMaxChars	R	✓		(Refer to RecSidewaysMaxChars Property in 2.5.POS Printer Service Object and Precautions.)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	0,R90,L90,180	
RecCartridgeState	R		Not supported	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecBitmapRotationList	R	✓	0,R90,L90,180	
SlpLineChars	R/W		Not supported	
SlpLineCharsList	R		Not supported	
SlpLineHeight	R/W		Not supported	
SlpLineSpacing	R/W		Not supported	

Property	Attribute	Status of support by the driver (PMU3300_*)	Notes
SlpLineWidth	R	Not supported	
SlpLetterQuality	R/W	Not supported	
SlpEmpty	R	Not supported	
SlpNearEnd	R	Not supported	
SlpSidewaysMaxLines	R	Not supported	
SlpSidewaysMaxChars	R	Not supported	
SlpMaxLines	R	Not supported	
SlpLinesNearEndToEnd	R	Not supported	
SlpBarCodeRotationList	R	Not supported	
SlpPrintSide	R	Not supported	
SlpCartridgeState	R	Not supported	
SlpCurrentCartridge	R/W	Not supported	

2.3.POS Printer Service Object and Escape Sequence Relations

CT-D101

Escape Sequence			Status of support by the driver (CT-D101_*)	Notes
Paper cut	ESC[[#]P	✓	0-100	
Feed and paper cut	ESC[[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC[[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC[[#]lF	✓		
Unit feed	ESC[[#]uF	✓		
Reverse feed	ESC[[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC[[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC[[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC[[!]iC		Not supported	
Custom color	ESC[[#]rC		Not supported	
Reverse character	ESC[[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC[[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC[[#]hC	✓	1-8	
Vertical magnification	ESC[[#]vC	✓	1-8	
Color specification	ESC[[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC[[!][#]stC		Not supported	
Subscript	ESC[[!]tbC		Not supported	
Superscript	ESC[[!]tpC		Not supported	

CT-D150

Escape Sequence		Status of support by the driver (CT-D150_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-D151

Escape Sequence		Status of support by the driver (CT-D151_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-E301

Escape Sequence		Status of support by the driver (CT-E301_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-E351

Escape Sequence		Status of support by the driver (CT-E351_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-E601

Escape Sequence		Status of support by the driver (CT-E601_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

123

CT-E651

Escape Sequence		Status of support by the driver (CT-E351_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S251

Escape Sequence		Status of support by the driver (CT-S251_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S281

Escape Sequence		Status of support by the driver (CT-S281_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S310II

Escape Sequence		Status of support by the driver (CT-S310II_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S601/651/801/851

Escape Sequence		Status of support by the driver (CT-S601/651/801/851_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S601II/651II/801II/851II

Escape Sequence		Status of support by the driver (CT-S601II/651II/801II/851II_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S751

Escape Sequence		Status of support by the driver (CT-S751_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S2000

Escape Sequence		Status of support by the driver (CT-S2000_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S4000

Escape Sequence		Status of support by the driver (CT-S4000_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.6 POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

CT-S4500

Escape Sequence		Status of support by the driver (CT-S4500_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.6 POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

PMU3300

Escape Sequence		Status of support by the driver (PMU3300_*)		Notes
Paper cut	ESC|[#]P	✓	0-100	
Feed and paper cut	ESC|[#]fP	✓	0-100	
Feed, cut, and stamp print	ESC|[#]sP		Not supported	
Bitmap print	ESC|#B	✓	1-20 Specifies Bitmap number registered by the SetBitmap method. Printing is carried out in raster bit image or NV bit image mode.	After Bitmap printing, print position returns to the initial state (left-justified). (Refer to SetBitmap Method/ESC|#B Escape Sequence in 2.5.POS Printer Service Object and Precautions.)
Top logo print	ESC|tL	✓		
Bottom logo print	ESC|bL	✓		
Stamp print	ESC|sL		Not supported	
Multi-line feed	ESC|[#]lF	✓		
Unit feed	ESC|[#]uF	✓		
Reverse feed	ESC|[#]rF		Not supported	
Embedded data	ESC|#E	✓		
Barcode	ESC|#R	✓		
Ruled-line	ESC|#dL		Not supported	
Font type specification	ESC|#fT	✓		
Bold	ESC|[!]bC	✓		If "!" is specified, then bold is disabled.
Underline	ESC|[!][#]uC	✓		If "!" is specified, then underline is disabled.
Italic	ESC|[!]iC		Not supported	
Custom color	ESC|[#]rC		Not supported	
Reverse character	ESC|[!]rvC	✓		If "!" is specified, then reverse character is disabled.
Shaded character	ESC|[#]sC		Not supported	
Standard	ESC|1C	✓		
Double width	ESC|2C	✓		
Double height	ESC|3C	✓		
Quadruple	ESC|4C	✓		
Horizontal magnification	ESC|[#]hC	✓	1-8	
Vertical magnification	ESC|[#]vC	✓	1-8	
Color specification	ESC|[#]fC		Not supported	
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Left adjustment	ESC|lA	✓		
Normal	ESC|N	✓		
Strike-through	ESC|[!][#]stC		Not supported	
Subscript	ESC|[!]tbC		Not supported	
Superscript	ESC|[!]tpC		Not supported	

2.4.POS Printer Service Object and Event Relations

CT-D101

Event	Status of support by the driver (CT-D101_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-D150

Event	Status of support by the driver (CT-D150_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-D151

Event	Status of support by the driver (CT-D151_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-E301

Event	Status of support by the driver (CT-E301_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-E351

Event	Status of support by the driver (CT-E351_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-E601

Event	Status of support by the driver (CT-E601_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-E651

Event	Status of support by the driver (CT-E351_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S251

Event	Status of support by the driver (CT-S251_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S281

Event	Status of support by the driver (CT-S281_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S310II

Event	Status of support by the driver (CT-S310II_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S601/651/801/851

Event	Status of support by the driver (CT-S601/651/801/851_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S601II/651II/801II/851II

Event	Status of support by the driver (CT-S601II/651II/801II/851II_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S751

Event	Status of support by the driver (CT-S751_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S2000

Event	Status of support by the driver (CT-S2000_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S4000

Event	Status of support by the driver (CT-S4000_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

CT-S4500

Event	Status of support by the driver (CT-S4500_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

PMU3300

Event	Status of support by the driver (PMU3300_*)		Notes
DataEvent			Not applicable with OPOSPrinter
DirectIOEvent			
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(Refer to OutputID property/ OutputCompleteEvent event in 2.5.POS Printer Service Object and Precautions.)
StatusUpdateEvent	✓		

2.5. POS Printer Service Object and Precautions

ClaimDevice Method

No identical serial port (COM*) specified by the Windows driver is not usable in the connection of serial interface.   When this method is executed in this connection, "OPOS_E_ILLEGAL" is returned.

In addition, when [OPOS_E_ILLEGAL] is returned, the CITIZEN expansion error code is stored in ResulCodeExtended Property. (Symbols described in the ResultCodeExtended column are defined in the files located in the "include" directory where OPOS was installed.)

Return Value	ResultCode	ResultCodeExtended	Description
OPOS_SUCCESS	OPOS_SUCCESS		The exclusive access is approved. The Claimed Property is TRUE. This is returned when the application has already made exclusive access to the device.
OPOS_E_CLOSED	OPOS_E_CLOSED		Accessing was attempted to the device closed.
OPOS_E_ILLEGAL	OPOS_E_ILLEGAL	0	It is impossible to occupy this device for exclusive access. Or invalid Timeout parameter is designated.
		OPOS_EX_NOTFOUND (60001)	Device other than CITIZEN printer is connected.
		OPOS_EX_NOTCONECTED (60002)	Communication cannot be established as there is no response from printer. (1) Printer is under non-connection status. (2) Printer is not turned ON. (3) Cannot obtain handle of interface board.
		OPOS_EX_OFFLINE (60003)	Printer is connected but the following errors occurred; (1) Lid is open. (2) Run out of paper (3) Auto Cutter Error occurred due to paper jam, etc. (4) Unrecoverable error occurred due to circuit failure, etc.
		OPOS_EX_DRIVER_BIDIRECTIONAL (60004)	The status feature of the Windows driver is enabled. (Refer to 1.6. CITIZEN OPOS Driver Precautions.)
		OPOS_EX_COVER_OPEN (60005)	The printer is connected, but the cover opened error has occurred.
		OPOS_EX_REC_EMPTY (60006)	The printer is connected, but the no paper error has occurred.
OPOS_E_TIMEOUT			Another application has made exclusive access to the device and waited for releasing but Time-out period (unit in millisecond) was over.

PrintBarCode Method

- Supported barcodes
  PTR_BCS_UPCA,   PTR_BCS_UPCE, PTR_BCS_EAN8,   PTR_BCS_JAN8, PTR_BCS_EAN13, PTR_BCS_JAN13, PTR_BCS_ITF,   PTR_BCS_CODABAR, PTR_BCS_CODE39, PTR_BCS_CODE93, PTR_BCS_CODE128, PTR_BCS_CODE128_PARSED, PTR_BCS_QRCODE, PTR_BCS_PDF417

- Additional supported barcodes (Ver.1.13.1.2 or newer)

PTR_BCS_GS1DATABAR, PTR_BCS_GS1DATABAR_S, PTR_BCS_GS1DATABAR_E, PTR_BCS_GS1DATABAR_E_S

Supported model:

Model	Firmware Version
CT-D101	All version
CT-D150	
CT-D151	
CT-E301	
CT-E351	
CT-E601	
CT-E651	
CT-S251	
CT-S601II/651II/801II/851II	
CT-S751	
CT-S4500	
CT-S310II	DT00-0400 or newer
CT-S601	DL00-2000 or newer
CT-S651	DM00-2000 or newer
CT-S801	DH00-2000 or newer
CT-S851	DK00-2000 or newer

* With the older printer than above, this function doesn't work correctly.

- About UPC-E barcode printing
  This printer compresses the 11- or 12-digit data entered to 8-digit data by using the zero suppression method of UPC-E standard.   The following is an example of data compression using zero suppression method.
  Ex: Set the original code to be "0-ABCDE-VWXYZ" (11 digits).   Printable patterns are as follows:
  2304)   When all V through Y are"0"
    "0-ABCDE-0000Z": Denotes "ABCDEZ", where Z is any of 5 through 9.
  2) When E and VWXY are all "0"
    "0-ABCD0-0000Z": Denotes "ABCDZ4".   The last 4 indicates that A and D of manufacturer code is not "0".
  3) When DE and VWX are "0"
    "0-ABC00-000YZ": Denotes "ABCYZ3".   The last 3 indicates that A and C are not "0" but ABC is a number of 3 digits.
  4) When DE and VW are "0" and C is "0", "1", or "2":
    ① When C = "0": "0-AB000-00XYZ" -> "ABXYZ0"
    ② When C = "1": "0-AB100-00XYZ" -> "ABXYZ1"
    ③ When C = „2": „0-AB200-00XYZ" -> „ABXYZ2"

  The check digit is automatically calculated in the printer.   When a condition other than the above is specified and executed, error (OPOS_E_ILLEGAL) is returned because the printer cannot print due to its specification requirement.

- Regarding Designation Range of Bar-Code height (Height Parameter) and Width (Width parameter)
  The designation range for both parameters when MapMode Property is set to PtrMmDots is as follows;
  Height Parameter:
    1 – 255
  Width Parameter:
    1 – Value of the RecLineWidth property

- About Qrcode barcode printing
  When Qrcode barcode is printed in the version before CITIZEN OPOS driver Ver.1.13.1.1, this
  OPOS driver communicates with the printer heavily. Especially in asynchronous printing mode,
  print speed may be slower.
  The Height parameter will be ignored. Its height will be calculated from Width parameter.
  Due to lack of parameter, PrintBarCode method cannot indicate the Error Correction Level. But
  it could be specified by DirectIO method. The Command parameters for this method set the
  Error Correction Level of Qrcode as followings. Once this method is done, Qrcode will be
  printed with the specified Error Correction Level. The default Error Correction Level is set as L
  when the Open method is done.

Command parameter		Error Correction Level
PTR_DI_SET_QRCODE_ERROR_COLLECTION_LEVEL_L	(11001)	Level L
PTR_DI_SET_QRCODE_ERROR_COLLECTION_LEVEL_M	(11002)	Level M
PTR_DI_SET_QRCODE_ERROR_COLLECTION_LEVEL_Q	(11003)	Level Q
PTR_DI_SET_QRCODE_ERROR_COLLECTION_LEVEL_H	(11004)	Level H

(Symbols described in this table are defined in the files located in the "include" directory where
OPOS was installed.)
The cell width of the Qrcode is determined by OPOS driver automatically. It depends on Data
and Width parameter.

- About PDF417 barcode printing
  When PDF417 barcode is printed in the version before CITIZEN OPOS driver Ver.1.13.1.1, this
  OPOS driver communicates with the printer heavily. Especially in asynchronous printing mode,
  print speed may be slower.

RotatePrint Method

Printing size dynamically changes by printing data within the value of RecSidewaysMaxChars.

SetBitmap Method/ESC|#B Escape Sequence

Bitmap is registered by specifying Bitmap number (1 – 20) using the SetBitmap method and
bitmap printing is carried out by specifying the registered number in the ESC|#B escape
sequence. Image format that can be printed are BMP, JPEG, GIF, and TIFF.

This driver has three modes, raster bit image. They are NV (Unused Key Code) and NV (Used
Key Code) mode. Specification of each mode is as shown below.

- Raster bit image mode
  SO stores own bitmap using the SetBitmap method.   When SO is closed, the stored bitmap is
  cleared.   Therefore, it is necessary to register bitmap each time SO is opened.
  In this mode, bitmap is memorized including printing position designated at the time of
  registration.

- NV (Unused key code) mode
  By using the SetBitmap method, SO writes bitmap to the nonvolatile memory (Flash ROM) of
  the printer. Therefore, it is not necessary to register bitmap each time SO is opened.
  In this mode, the printing position designated at the time of registration is not stored and
  printing starts from the left end.
  Images cannot be printed in the PageMode or RotatePrint mode (except for

PTR_RP_NORMAL).
Images must be register in order from Bitmap number 1. And it is impossible to remove a registered image by assigning the FileName parameter as an empty string.
By registering an image after the mode is changed from NV (Used key code) to NV (Unused key code) mode, all images will be removed.
Also, the POS Printer Utility* can register images. Please register images (described as Logo in this utility) with Unused key code mode in order by Bitmap number.

- NV (Used key code) mode
   This mode is available with following printers.
   Supported model:

Model
CT-D101 series
CT-D150 series
CT-D151 series
CT-E301 series
CT-E351 series
CT-E601 series
CT-E651 series
CT-S251 series
CT-S310II series
CT-S601/651/801/851 series
CT-S601II/651II/801II/851II series
CT-S751 series
CT-S2000 series
CT-S4000 series
CT-S4500 series

By using the SetBitmap method, SO writes bitmap to the nonvolatile memory (Flash ROM) of the printer. Therefore, it is not necessary to register bitmap each time SO is opened.
It is not necessary that the bitmap numbers are contiguous. And it is possible to remove a registered image by assigning the FileName parameter as an empty string.
In this mode, the printing position designated at the time of registration is not stored and printing starts from the left end.
Images cannot be printed in the PageMode or RotatePrint mode (except for PTR_RP_NORMAL).
In case of overwriting an image, old image will be erased before registering new one to be registered.
By registering an image after the mode is changed from NV (Unused key code) to NV (Used key code) mode, all images will be removed.
Also, the POS Printer Utility* can register images. Please register images (described as Logo in this utility) with Key code mode. The key must be set as followings.

Bitmap Number	1	2	3	4	5	...	20
Key (Characters)	"01"	"02"	"03"	"04"	"05"	...	"20"

* You can download the POS Printer Utility from the Support page in the Citizen's WEB.

The initial value of this driver is raster bit image mode.   To change to the NV bit image mode, perform the following registry operation.
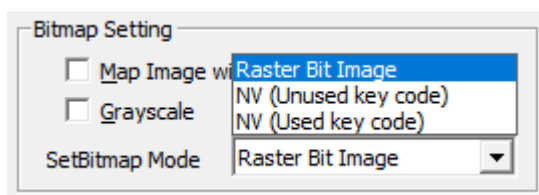<Example: CT-S801II>
   HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
   UseNVRAM = 000 … Raster bit image mode (initial value)
   UseNVRAM = 001 … NV (Unused key code) mode
   UseNVRAM = 002 ... NV (Used key code) mode

* When changing the above setting, use the setting tool of this driver (Configuration Utility) as explained in "1.5.CITIZEN OPOS Driver Registry Structure".

（Configuration Utility）

The time required for write operation in NV bit image mode depends on the communication condition, printer performance, etc.   When writing bitmap registration is unsuccessful, conduct a test after setting the registry value of the following transmission timeout time to 10,000 ms or more.
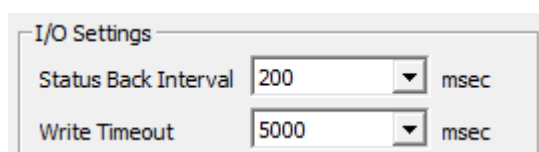
<Example: CT-S801II>
  HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
  Status Back Interval：1000 or more … 200 (Initial value)
  WriteTimeout：10000 or more … 5000 (Initial value)

* When changing the above setting, use the setting tool of this driver (Configuration Utility) as explained in "1.5.CITIZEN OPOS Driver Registry Structure".

（Configuration Utility）

* To insure long life of the printer, registration of NV bitmap shall be less than 10 times/day.

As bit map data to use NV bit image mode, the max data size and max pixel size in X/Y direction are limited as follows.

Model	Max. Data size	Max. Pixel Size in X-Direction	Max. Pixel Size in Y-Direction
CT-S281 Series	256Kbyte	8184 Pixel	2304 Pixel
PMU3300 Series			
CT-D101 Series	384Kbyte		
CT-D150 Series			
CT-D151 Series			
CT-E301 Series			
CT-E351 Series			
CT-E601 Series			
CT-E651 Series			
CT-S251 Series			
CT-S310II Series			
CT-S601/651/801/851 Series			
CT-S601II/651II/801II/851II Series			
CT-S751			
CT-S2000 Series			
CT-S4000 Series			
CT-S4500 Series			

The pixel size in X-direction which can be designated by driver side is shown as above but there

is physical limitation of size in transverse direction at printer side. The bitmap data exceeding this physical size is discarded at the printer side and then printing is performed.
Please refer to Command Reference for the details of printer physical size
The maximum data size is calculated differently for each model.

[For CT-S281/2000/4000, PMU3300 series]
　　It is controlled as one block (1020 bytes of data + 4 bytes of management information). One data registration is in multiples of 1024 bytes (rounded up).
　　　　Size of the first registration: (([Size of Data 1] + 1019) / 1020) * (1020 + 4)
　　　　Size of the second registration: (([Size of Data 2] + 1019) / 1020) * (1020 + 4)
　　　　・・・
　　　　Size of the n-th registration: (([Size of Data n] + 1019) / 1020) * (1020 + 4)
　　When the total size of registered data 1 - n (n is 20 at a maximum）　exceeds 256 KB, an error occurs.

[For CT-D101/150/151, CT-E301/351/601/651,
　　　　　　　　　CT-S251/310II/601/651/801/851/601II/651II/801II/851II/4500 series]
　　An error occurs when the total of the data size exceeds 384 KB.

PrintBitmap Method / PrintMemoryBitmap Method

PrintBitmap method performs bitmap printing with the designation of bitmap file and printing position. Image format that can be printed are BMP, JPEG, GIF, and TIFF.

PrintMemoryBitmap method performs bitmap printing with the designation of memory address where a bitmap data is stored and printing position.

- Combination of RotatePrint Method and PrintBitmap
Please be careful of printing result differing from program execution order when performing the combination of RotatePrint Method (Character Rotate Print Designation) and PrintBitmap Method.

Actual installation example (Visual Basic) using PrintBitmap and Rotateprint Method is described.

```
Station = FptrSReceipt
strBmpfilePath = "SetBitmap1.bmp"

With Printer
    .Open "CT-S4000_1"
    .ClaimDevice 1000
    .DeviceEnabled = True

    .RotatePrint Station, PtrRpNormal
    .PrintNormal Station, "NORMAL" & vbCrLf                '(1)
    .PrintBitMap Station, BmpFile, PtrBmASIS, PtrBmLeft    '(2)

    .RotatePrint Station, PtrRpRight90 Or PtrRpBitMap
    .PrintNormal Station, "RIGHT90" & vbCrLf              '(3)
    .PrintBitMap Station, BmpFile, PtrBmASIS, PtrBmCenter '(4)

    .RotatePrint Station, PtrRpLeft90 Or PtrRpBitMap
    .PrintNormal Station, "LEFT90" & vbCrLf               '(5)
    .PrintBitMap Station, BmpFile, PtrBmASIS, PtrBmRight   '(6)

    .RotatePrint Station, PtrRpRight90
    .PrintNormal Station, "RIGHT90" & vbCrLf              '(7)
    .PrintBitMap Station, BmpFile, PtrBmASIS, PtrBmRight   '(8)
```
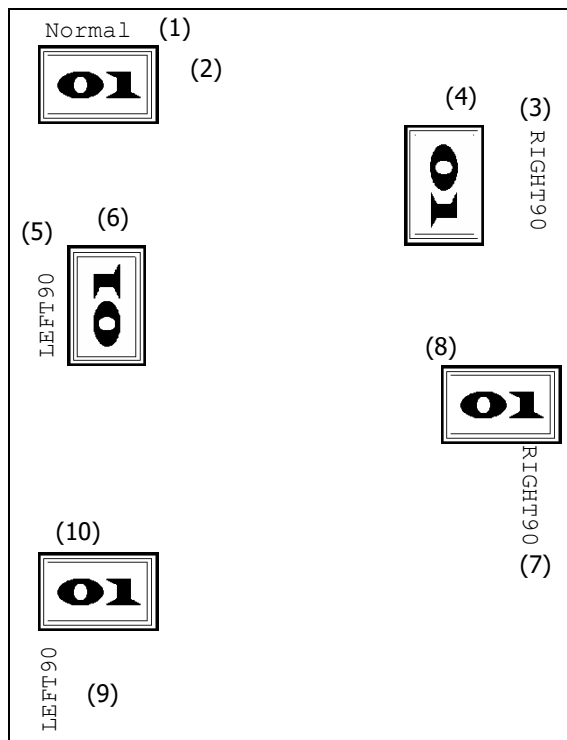
```
    .RotatePrint Station, PtrRpLeft90
    .PrintNormal Station, "LEFT90" & vbCrLf                '(9)
    .PrintBitMap Station, BmpFile, PtrBmASIS, PtrBmLeft    '(10)

    .RotatePrint Station, PtrRpNormal
    .DeviceEnabled = False
    .ReleaseDevice
    .Close
End With
```

<Output Results>
Output results are as follows; (8) and (10) are printed immediately since they will not be affected by RotatePrint Method.

```
Normal  (1)
         (2)
  01
                              (4)
                                    (3)
                               0
                               1         RIGHT90

(5)    (6)
  0
  1            LEFT90
                              (8)
                                01
                                       RIGHT90
                                    (7)

  (10)
  01
LEFT90  (9)
```

RetrieveStatistics Method

This method retrieves stats of the printer into a string data with XML format. (ManufactureName, ModelName, FirmwareVersion)
CT-D101/150/151, CT-E301/351/601/651,
CT-S251/253/310II/601/651/801/851/601II/651II/801II/851II/
751/2000/4000/4500, the following information can be also requested.

Contents of pStatisticsBuffer	Contents of value to be stored
HoursPoweredCount	Product operation time
PaperCutCount	Auto-cutter drive count
ReceiptLineFeedCount	Paper-feed line
HeadEnergizeCount	Head powering count

Installation example (Visual Basic) using the RetrieveStatistics method is described.

All informations are stored into pStatisticsBuffer with XML format.

145

```
Dim pStatisticsBuffer As String

pStatisticsBuffer = ""
result = OPOSPrinter.RetrieveStatistics(pStatisticsBuffer)
```

The power on hours and the paper cut counts are stored into pStatisticsBuffer with XML format.

```
Dim pStatisticsBuffer As String

pStatisticsBuffer = "HoursPoweredCount,PaperCutCount"
result = OPOSPrinter.RetrieveStatistics(pStatisticsBuffer)
```

AsyncMode Property

- TRUE
Output method (PrintNormal, PrintTwoNormal, CutPaper, RotatePrint, PrintBarCode, PrintBitmap, PrintMemoryBitmap, and PageModePrint) is executed asynchronously.

- FALSE
Output method is printed synchronously.   When error occurs at the asynchronous output, error event is reported at about 0.5-s intervals.

ErrorLevel Property

- PTR_EL_NONE
Indicated when error is not detected.
- PTR_EL_RECOVERABLE
Indicated when Paper Out/Cover Open/Auto Cutter error/ Auto recoverable error.
- PTR_EL_FATAL
Indicated when Mechanism error/Unrecoverable error and No response from the printer. When different errors occur simultaneously, priority is given to PTR_EL_FATAL.

BinaryConversion Property

Installation example (Visual Basic) using the BinaryConversion property and PrintNormal method is described.

- OPOS_BC_NONE
Bstring character is stored with one byte without data conversion.

```
Dim pString As String
Dim result As Long
Dim PrintStation As Long

OPOSPrinter.BinaryConversion = OPOS_BC_NONE
pString = "None" & vbCrLf _
        & "123" & vbCrLf _
        & "ABC" & vbCrLf
result = OPOSPrinter.PrintNormal(PrintStation, pString)
```

- OPOS_BC_NIBBLE
Each byte is converted to two characters.

```
Dim pString As String
Dim result As Long
Dim PrintStation As Long
OPOSPrinter.BinaryConversion = OPOS_BC_NIBBLE
pString = Chr$(&H34) & Chr$(&H3E) _
        & Chr$(&H36) & Chr$(&H39) _
```

```
        & Chr$(&H36) & Chr$(&H32) _
        & Chr$(&H36) & Chr$(&H32) _
        & Chr$(&H36) & Chr$(&H3C) _
        & Chr$(&H36) & Chr$(&H35) _
        & Chr$(&H30) & Chr$(&H3D) _
        & Chr$(&H30) & Chr$(&H3A) _
        & Chr$(&H33) & Chr$(&H31) _
        & Chr$(&H33) & Chr$(&H32) _
        & Chr$(&H33) & Chr$(&H33) _
        & Chr$(&H30) & Chr$(&H3D) _
        & Chr$(&H30) & Chr$(&H3A) _
        & Chr$(&H34) & Chr$(&H31) _
        & Chr$(&H34) & Chr$(&H32) _
        & Chr$(&H34) & Chr$(&H33) _
        & Chr$(&H30) & Chr$(&H3D) _
        & Chr$(&H30) & Chr$(&H3A)
result = OPOSPrinter.PrintNormal(PrintStation, pString)
```

- OPOS_BC_DECIMAL

Each byte is converted to three characters. To create three ASCII characters from each byte, Format(Byte,"000") is used in the following installation example.

```
Dim pString As String
Dim result As Long
Dim PrintStation As Long

OPOSPrinter.BinaryConversion = OPOS_BC_DECIMAL
pString = Format(68,"000") _
        & Format(101,"000") _
        & Format(99,"000") _
        & Format(105,"000") _
        & Format(109,"000") _
        & Format(97,"000") _
        & Format(108,"000") _
        & Format(13,"000") _
        & Format(10,"000") _
        & Format(49,"000") _
        & Format(50,"000") _
        & Format(51,"000") _
        & Format(13,"000") _
        & Format(10,"000") _
        & Format(65,"000") _
        & Format(66,"000") _
        & Format(67,"000") _
        & Format(13,"000") _
        & Format(10,"000")
result = OPOSPrinter.PrintNormal(PrintStation, pString)
```

Every printing results in the following.
(Printing order: OPOS_BC_NONE, OPOS_BC_NIBBLE, OPOS_BC_DECIMAL)

```
None
123
ABC
Nibble
123
ABC
Decimal
123
ABC
```

OutputID Property/ OutputCompleteEvent Event

Identifier of asynchronous output started just before is retained and incremented by +1 with the following output.

<Visual Basic installation example: Output subroutine>
```
Dim i as Integer
Dim Result As Long
Dim PrintStation As Long

For  i = 0 to 10
    DoEvents
    Result = OPOSPrinter.PrintNormal(PrintStation, "TEST PRINT" & Str(i) & VbCrLf)
Next i
```

<Visual Basic installation example: Event acquisition subroutine>
```
Private Sub OPOSPrinter_OutputCompleteEvent(ByVal OutputID As Long)
    Debug.Print "OutputCompleteEvent -> " & Str(OutputID)
End Sub
```

<Output result>
```
OutputCompleteEvent ->  1
OutputCompleteEvent ->  2
OutputCompleteEvent ->  3
OutputCompleteEvent ->  4
OutputCompleteEvent ->  5
OutputCompleteEvent ->  6
OutputCompleteEvent ->  7
OutputCompleteEvent ->  8
OutputCompleteEvent ->  9
OutputCompleteEvent ->  10
OutputCompleteEvent ->  11
```

RecLineChars/ RecLineCharsList Property

The number of one-byte characters of the font printed in one line on the paper is specified.
- RecLineChars property: Specifies the maximum number of digits of FontA corresponding to the specified paper size.
- RecLineCharsList property: Lists the maximum number of digits of FontA, FontB, FontC corresponding to the specified paper size.   (Some printer has no FontC.)

For details of printer fonts, refer to User's Guide of the printer.

When setting the initial value of paper size and maximum number of digits (FontA), the following
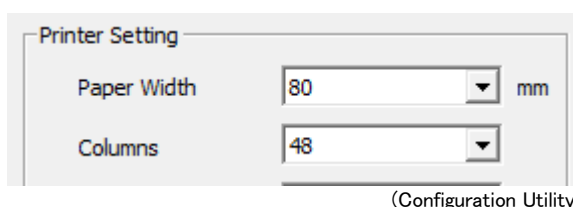
registry is operated.

<Example: CT-S801II>
HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
PaperModel = 080 … Specifies 80-mm paper.
Column = 048 … Specifies 48 digits (FontA).

* When changing the above setting, use the setting tool of this driver (Configuration Utility) as explained in "1.5.CITIZEN OPOS Driver Registry Structure".

```
┌Printer Setting──────────────
  Paper Width    [80      ▼] mm
  Columns        [48      ▼]
```
(Configuration Utility)

* The registry value set with the setting tool was changed from "CITIZEN OPOS driver Ver.1.13.1.2".   It is possible to use it without the change when set by the past value.

The value of the RecLineChars/ RecLineCharsList corresponding to "Paper size" and "Printer font" of each printer is as shown below.

CT-D101

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-D150

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-D151

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-E301

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-E351

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-E601

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-E651

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-S251

Paper Size(mm)	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
58	30	40	45	30	30, 40, 45
	32	42	48	32	32, 42, 48
	35	46	52	35	35, 46, 52
	36	48	54	36	36, 48, 54

CT-S281

Paper Size(mm)	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
58	32	42	48	32	32, 42, 48

150

CT-S310II

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-S601/651/801/851

Paper Size (mm)			FontA(12*24dot)	FontB(9*17dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
83	80	60 / 58	30	40	45	30	30, 40, 45
			32	42	48	32	32, 42, 48
			35	46	52	35	35, 46, 52
			36	48	54	36	36, 48, 54
			42	56	64	42	42, 56, 64
			48	64	72	48	48, 64, 72
			53	71	80	53	53, 71, 80

CT-S601II/651II/801II/851II

Paper Size (mm)			FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
83	80	60 / 58	30	40	45	30	30, 40, 45
			32	42	48	32	32, 42, 48
			35	46	52	35	35, 46, 52
			36	48	54	36	36, 48, 54
			42	56	64	42	42, 56, 64
			48	64	72	48	48, 64, 72
			53	71	80	53	53, 71, 80

CT-S751

Paper Size (mm)		FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		35	46	52	35	35, 46, 52
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-S2000

Paper Size (mm)			FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
83	80	60 / 58	30	40	45	30	30, 40, 45
			32	42	48	32	32, 42, 48
			35	46	52	35	35, 46, 52
			36	48	54	36	36, 48, 54
			42	56	64	42	42, 56, 64
			48	64	72	48	48, 64, 72
			53	71	80	53	53, 71, 80

CT-S4000

Paper Size (mm)			FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
112	82.5	80	42	56	64	42	42, 56 ,64
			48	64	72	48	48, 64, 72
			55	73	82	55	55, 73, 82
			60	80	90	60	60, 80, 90
			69	92	104	69	69, 92, 104

CT-S4500

Paper Size (mm)				FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
112	82.5	80	58	30	40	45	30	30, 40, 45
				32	42	48	32	32, 42, 48
				35	46	52	35	35, 46, 52
				36	48	54	36	36, 48, 54
				42	56	64	42	42, 56 ,64
				48	64	72	48	48, 64, 72
				55	73	82	55	55, 73, 82
				60	80	90	60	60, 80, 90
				69	92	104	69	69, 92, 104

PMU3300

Paper Size (mm)			FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	60	58	30	40	45	30	30, 40, 45
			32	42	48	32	32, 42, 48
			35	46	52	35	35, 46, 52
			36	48	54	36	36, 48, 54
			42	56	64	45	42, 56, 64
			48	64	72	48	48, 64, 72

- About Kanji font (KANJI)
  As shown above, Kanji font is calculated based on one-byte character.　Accordingly, when Kanji font of multi-font is used, it is treated as two characters basically.
  (Refer to the RecSidewaysMaxChars propertyof 2.6. POS Printer Service Object and Precautions.)

RecSidewaysMaxChars Property

Calculation is made based on one-byte character.
Kanji font (KANJI) is basically treated as two characters but some font selected by the value of the RecLineChars property may not correspond to two characters simply.

RecSidewaysMaxLines Property

This varies in conjunction with the value of the RecLineSpacing property and RecLineChars property.

In addition, in some cases, the value may be smaller than the actual number of printable lines depending on the value of the preset RecLineSpacing property.

ResultCode/ ResultCodeExtended Property

When the value of the ResultCode property is other than OPOS_SUCCESS, refer to the ResultCode property in "OpenPOS for OLE Application Programmer's Guide, Japanese Edition, Version 1.14".
In case of OPOS_E_EXTENDED, refer to ResultCodeExtended Property in "OpenPOS for OLE Application Programmer's Guide, Japanese Edition, Version 1.14".

Status Update Event

The *Status* parameter of this event is for device class intrinsic data and status change such as paper or lid is indicated at printer. Followings are *Status* parameter Values against status change of CITIZEN POS printer.

Printer Status	StatusUpdateEvents(*Status*)
Opened the Lid	PTR_SUE_COVER_OPEN
Paper is taken out	PTR_SUE_REC_NEAREMPTY
Closed the lid without loading paper	PTR_SUE_COVER_OK
	PTR_SUE_REC_EMPTY

In addition, power status change is indicated for the printer which is able to set PowerNotify Property Value indicating the type of power notification function on OPOS_PN_ENABLED.

Function to detect the completion of printing

In the support model, after the printing output, the driver waits for the printing completion reply from a printer and judge the success / failure of the method.

- Supported model

Model	Firmware Version
CT-D101	All version
CT-D150	
CT-D151	
CT-E301	
CT-E351	
CT-E601	
CT-E651	
CT-S251	
CT-S601II/651II/801II/851II	
CT-S751	
CT-S4500	
PMU3300	
CT-S310II	DT00-0400 or newer
CT-S601	DL00-2000 or newer
CT-S651	DM00-2000 or newer
CT-S801	DH00-2000 or newer
CT-S851	DK00-2000 or newer

- Targeted method
  CheckHealth, CutPaper, MarkFeed, PageModePrint, PrintBarCode, PrintBitmap, PrintImmediate, PrintMemoryBitmap, PrintNormal, RotatePrint, TransactionPrint

In the support model, the initial value of this driver is enabled of function to detect the completion of printing.   To change to disable, perform the following registry operation.
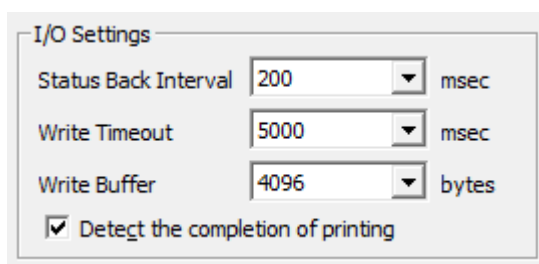
<Example: CT-S801II>
  HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
  CheckResponse = 0 ... The function to detect the completion of printing was disabled.
  CheckResponse = 1 ... The function to detect the completion of printing was enabled. (Initial
                                   value)

* When changing the above setting, use the setting tool of this driver (Configuration Utility) as explained in "1.5.CITIZEN OPOS Driver Registry Structure".

（Configuration Utility）

* The function to detect the completion of printing was supported after "CITIZEN OPOS driver Ver.1.13.1.0".

Function to evade buffer full when the printer error occurred in the printing output

In the support model, when a printer becomes the error, the printer clears a buffer automatically and supports a function to keep communication normally.

- Supported model

Model	Firmware Version
CT-D150	All version
CT-D150	
CT-D151	
CT-E301	
CT-E351	
CT-E601	
CT-E651	
CT-S251	
CT-S601II/651II/801II/851II	
CT-S751	
CT-S4500	
PMU3300	
CT-S310II	DT00-0400 or newer
CT-S601	DL00-2000 or newer
CT-S651	DM00-2000 or newer
CT-S801	DH00-2000 or newer
CT-S851	DK00-2000 or newer

* The function to evade buffer full when the printer error occurred in the printing output was supported after "CITIZEN OPOS driver Ver.1.13.1.2".

Log function

The driver supports the log function which records the OPOS methods, properties, and events. When setting the log function, the following registry is operated.
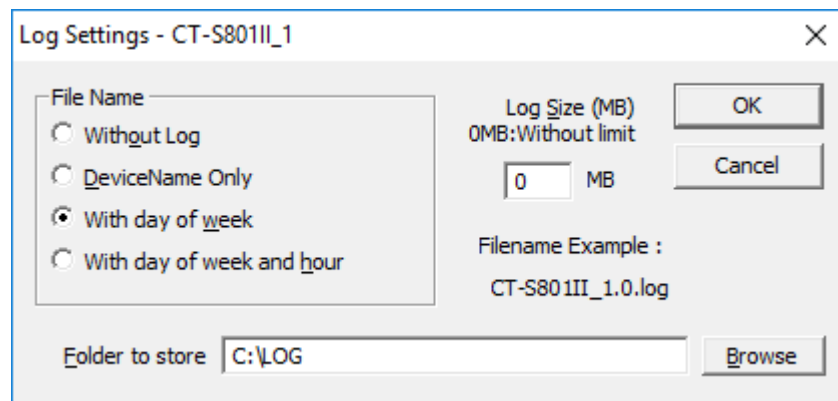
<Example: CT-S801II>
HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
LogMode="002"   ... Specifies the format of the log file name.
LogSize="010"   ... Specifies the maximum size of log file in MB.
LogDir="C:\\LOG"   ... Specifies the directory to store the log files.

 * When changing the above setting, use the setting tool of this driver (Configuration Utility) as explained in "1.5.CITIZEN OPOS Driver Registry Structure".

（Configuration Utility）

- File Name
   Select a file name format to store as a log file.
   1) Without Log（LogMode="000"）
      No log will be recorded.
   2) DeviceName Only（LogMode="001"）
      A log will be recorded into a file whose file name is as same as DeviceName.
      Example: CT-S801II_1.log
   3) With day of week（LogMode="002"）
      In the file name, a numeric character which means the day of week is followed to DeviceName. The numeric character is from 0 to 6. "0" means Sunday, "1" means Monday.
      Example: CT-S801II_1.3.log
   4) With day of week and hour (LogMode="003")
      And 2 columns which are from 00 to 23 follow to "With day of week".
      Example: CT-S801II_1.3.12.log

In case of recording into log file, the extension of log files is ".log". In case that "With day of week" or "With day of week and hour" is selected and if a log file is already exists, a log data is recorded into the log file if it has a today's time stamp. If it is older than today's, the old file will removed and the log data will recorded into a new log file.

- Log Size
   Specifies maximum size of log file in MB. If 0 is specified, log data will be recorded without limit. When the size of log file exceeds the limit by adding a new data, about 10% of oldest data will be removed.
   If you specify extremely large size and log file size is reaching to the limit, it will take long time to record a new data (Its time depends on the system environment or device to output the log file).

- Folder to store
  Specifies a folder which log files will be stored. It must be described in full path. When this setting is not appointed, no log will be recorded.

- Log format
  The log function records a date, a time, a result of the OPOS methods, properties, and events. As for the printing methods such as PrintNomal, the details of data are recorded.

```
--- Example of methods 1 (ClaimDevice) ---

2011-10-05 11:09:53.718 CT-S801II_1(COM) METHOD started ClaimDevice(3000)
2011-10-05 11:09:55.953 CT-S801II_1(COM) METHOD  ended ClaimDevice() ->
0/ResultCode=0/ResultCodeExtended=0

--- Example of methods (PrintNormal)  ---

2011-10-05 11:10:01.390 CT-S801II_1(COM) METHOD started PrintNormal(2,[See below])
-----------------Parameter Detail---------------------
Test Print\r\n
-------------------Dump Data-------------------------
00000000: 54 65 73 74 20 50 72 69-6E 74 0D 0A
------------End of Parameter Detail------------------
2011-10-05 11:10:01.625 CT-S801II_1(COM) METHOD  ended PrintNormal() ->
0/ResultCode=0/ResultCodeExtended=0

--- Example to write to properties ---

2011-10-05 11:21:07.531 CT-S801II_1(COM) PROPERTY started to write; AsyncMode <- 1
2011-10-05 11:21:07.531 CT-S801II_1(COM) PROPERTY  ended to write; AsyncMode :
ResultCode=0/ResultCodeExtended=0

--- Example to read from properties ---

2011-10-05 11:21:08.828 CT-S801II_1(COM) PROPERTY read; State -> 2

--- Example of events ---

2012-09-20 17:11:35.678 CT-S801II_1(COM) <<StatusUpdateEvent(26)[1400000F]>>Request
2012-09-20 17:11:35.678 CT-S801II_1(COM) <<StatusUpdateEvent(26)[1400000F]>>Done
```

* When the logging function is active, performance of OPOS driver will not be comfortable because a log file will be updated at every method, events and accessing property.
* Because of the following reasons or else, log data will not be stored without any notification.
   - A folder in write-protected device (such as CD-ROM, write-protected SD card) is specified.
   - A folder or file without permission is specified.
   - Write-protected log file is already exists.
   - Another program (such as a text editor) is using (locking) the log file.
   - There is not enough space to store log data in the device.

Grayscale print

In the support model, by switching the bitmap printing type to the grayscale, you can print the grayscale (4bpp bitmap).

- Support model
  CT-D151/E601/E651/S251/S601II/S651II/S751/S801II/S851II series

- Target method
  PrintBitmap, PrintMemoryBitmap, SetBitmap (Raster and NV Used key code mode)

The initial value of this driver is the normal (1bpp bitmap) print of the bitmap printing type. To change to the grayscale (4bpp bitmap) print, perform the following registry operation.
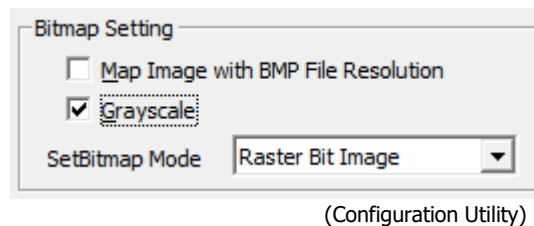
<Example: CT-S801II>
  HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S801II_1
  Grayscale =1 --- Normal (1bpp bitmap) print
  Grayscale =0 --- Grayscale (4bpp bitmap) print

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "1.5. CITIZEN OPOS Driver Registry Structure".

(Configuration Utility)

The bitmap printing type can be switched by DirectIO method. Set the value of the following into the Command parameter, please run the DirectIO method.

Command parameter		Error Correction Level
PTR_DI_SET_BITMAP_PRINTING_NORMAL	12000	Normal (1bpp bitmap) print
PTR_DI_SET_BITMAP_PRINTING_GRAYSCALE	12001	Grayscale (4bpp bitmap) print

(Symbols described in this table are defined in the files located in the "include" directory where OPOS was installed.)

Bluetooth Device Control

In case that any peripheral devices (line displays or barcode scanners) via a Bluetooth interface IF2-BT03 or IF2-BT04 simultainously, it is required to make this setting valid.

<Example: CT-S251>
  HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter\CT-S251_1
  BluetoothMode =001 --- Use peripheral devices simultainously via IF2-BT03/04.
  BluetoothMode =000 --- Other cases.

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "1.5. CITIZEN OPOS Driver Registry Structure".
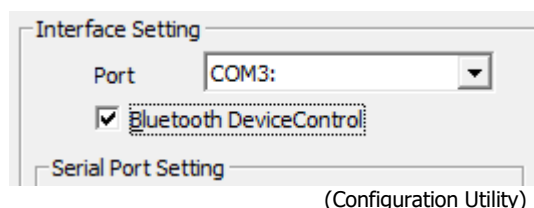
(Configuration Utility)

It is required to make this setting invalid when another Bluetooth or serial (includes virtual COM) interface is used.

3. Cash Drawer Service Object

For the details, method of use, etc. of property, method and event, refer to "OpenPOS for OLE Application Programmer's Guide, Japanese Edition, Version 1.14.1".

3.1. Cash Drawer Service and Object Method Relations

CT-D101

Method	Status of support by the driver (CT-D101_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-D150

Method	Status of support by the driver (CT-D150_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-D151

Method	Status of support by the driver (CT-D151_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-E301

Method	Status of support by the driver (CT-E301_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-E351

Method	Status of support by the driver (CT-E351_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-E601

Method	Status of support by the driver (CT-E601_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-E651

Method	Status of support by the driver (CT-E651_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S251

Method	Status of support by the driver (CT-S251_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics		Not supported(OPOS_E_ILLEGAL)	
ResetStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S281

Method	Status of support by the driver (CT-S281_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics		Not supported(OPOS_E_ILLEGAL)	
ResetStatistics	✓		
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S310II

Method	Status of support by the driver (CT-S310II_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S601/651/801/851

Method	Status of support by the driver (CT-S601_*.CD*/CT-S651_*.CD* /CT-S801_*.CD*/CT-S851_*.CD*)	Notes
Open	✓	
Close	✓	
ClaimDevice	✓	
ReleaseDevice	✓	
CheckHealth	✓	
ClearInput	Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput	Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion	Not supported	
DirectIO	Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓	
ResetStatistics	Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware	Not supported	
UpdateStatistics	Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓	
WaitForDrawerClose	✓	

CT-S601II/651II/801II/851II

Method	Status of support by the driver (CT-S601II_*.CD*/CT-S651II_*.CD* /CT-S801II_*.CD*/CT-S851II_*.CD*)	Notes
Open	✓	
Close	✓	
ClaimDevice	✓	
ReleaseDevice	✓	
CheckHealth	✓	
ClearInput	Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput	Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion	Not supported	
DirectIO	Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓	
ResetStatistics	Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware	Not supported	
UpdateStatistics	Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓	
WaitForDrawerClose	✓	

CT-S751

Method	Status of support by the driver (CT-S751_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S2000

Method	Status of support by the driver (CT-S2000_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S4000

Method	Status of support by the driver (CT-S4000_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S4500

Method	Status of support by the driver (CT-S4500_*.CD*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		
ReleaseDevice	✓		
CheckHealth	✓		
ClearInput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
ClearOutput		Not supported(OPOS_E_ILLEGAL)	Not applicable with OPOSDrawer.
CompareFirmwareVersion		Not supported	
DirectIO		Not supported(OPOS_E_ILLEGAL)	
RetrieveStatistics	✓		
ResetStatistics		Not supported(OPOS_E_ILLEGAL)	
UpdateFirmware		Not supported	
UpdateStatistics		Not supported(OPOS_E_ILLEGAL)	
OpenDrawer	✓		
WaitForDrawerClose	✓		

3.2. Cash Drawer Service Object and Property Relations

CT-D101

Property	Attri bute	Status of support by the driver (CT-D101_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-D101_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-D150

Property	Attribute	Status of support by the driver (CT-D150_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-D150_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-D151

Property	Attribute	Status of support by the driver (CT-D151_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-D151_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-E301

Property	Attribute		Status of support by the driver (CT-E301_*.CD*)	Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-E301_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-E351

Property	Attribute	Status of support by the driver (CT-E351_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-E351_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-E601

Property	Attribute	Status of support by the driver (CT-E601_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-E601_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-E651

Property	Attri bute	Status of support by the driver (CT-E651_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-E651_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S251

Property	Attribute	Status of support by the driver (CT-S251_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S251_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S281

Property	Attribute	Status of support by the driver (CT-S281_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S281_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S310II

Property	Attribute	Status of support by the driver (CT-S310II_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S310II_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S601/651/801/851

Property	Attri bute	Status of support by the driver (CT-S601_*.CD*/CT-S651_*.CD* /CT-S801_*.CD*/CT-S851_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W	OPOS_BC_NONE		Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R	FALSE		
CapStatisticsReporting	R	FALSE		Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R	FALSE		
CapUpdateStatistics	R	FALSE		Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S601_*.CD*/CT-S651_*.CD* /CT-S801_*.CD*/CT-S851_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S601II/651II/801II/851II

Property	Attri bute	Status of support by the driver (CT-S601II_*.CD*/CT-S651II_*.CD* /CT-S801II_*.CD*/CT-S851II_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S601II_*.CD*/CT-S651II_*.CD* /CT-S801II_*.CD*/CT-S851II_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S751

Property	Attribute	Status of support by the driver (CT-S751_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S751_*. CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S2000

Property	Attribute	Status of support by the driver (CT-S2000_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S2000_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S4000

Property	Attribute	Status of support by the driver (CT-S4000_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S4000_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

CT-S4500

Property	Attribute	Status of support by the driver (CT-S4500_*.CD*)		Notes
AutoDisable	R/W			Not applicable with OPOSDrawer.
BinaryConversion	R/W		OPOS_BC_NONE	Not applicable with OPOSDrawer.
CapCompareFirmwareVersion	R		FALSE	
CapStatisticsReporting	R		FALSE	Hardware not supported
CapPowerReporting	R	✓	OPOS_PR_NONE	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
CapUpdateFirmware	R		FALSE	
CapUpdateStatistics	R		FALSE	Hardware not supported
CheckHealthText	R	✓		
Claimed	R	✓	TRUE/FALSE	
DataCount	R			Not applicable with OPOSDrawer.
DataEventEnabled	R/W			Not applicable with OPOSDrawer.
DeviceEnabled	R/W	✓	TRUE/FALSE	
FreezeEvents	R/W	✓	TRUE: Event notification disabled FALSE: Event notification enabled	
OpenResult	R	✓	OPOS_SUCCESS	
OutputID	R			Not applicable with OPOSDrawer.
PowerNotify	R/W	✓	OPOS_PN_DISABLE (Power notification is not supplied.) OPOS_PN_ENABLE (Information on power notification is supplied.)	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
PowerState	R	✓	OPOS_PS_UNKNOWN	(Refer to CapPowerReporting/ Powermotify/ PowerState Property in 3.4.Cash Drawer Service Object and Precautions.)
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓	In other than I OPO_S_IDLE, refer to State properties in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".	
ControlObjectDescription	R	✓	OPOS CashDrawer Control 1.14.001 [Public, by CRM/RCS-Dayton]	
ControlObjectVersion	R	✓	1014001	
ServiceObjectDescription	R	✓	Citizen Systems Service Object for Thermal PosPrinters Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1014***	
DeviceDescription	R	✓	CITIZEN Systems Thermal POSPrinter's cash Drawer *.	
DeviceName	R	✓	CT-S4500_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	FALSE	(Refer to CapStatusMultiDrawerDerect Property in 3.4.Cash Drawer Service Object and Precautions.)
DrawerOpened	R	✓		

3.3. Cash Drawer Service Object and Event Relations

CT-D101

Event	Status of support by the driver (CT-D101_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-D150

Event	Status of support by the driver (CT-D150_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-D151

Event	Status of support by the driver (CT-D151_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-E301

Event	Status of support by the driver (CT-E301_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-E351

Event	Status of support by the driver (CT-E351_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-E601

Event	Status of support by the driver (CT-E601_*.CD*)		Notes
DataEvent	Not supported		Not applicable with OPOSDrawer.
DirectIOEvent	Not supported		
ErrorEvent	Not supported		Not applicable with OPOSDrawer.
OutputCompleteEvent	Not supported		Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-E651

Event	Status of support by the driver (CT-E651_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S251

Event	Status of support by the driver (CT-S251_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S281

Event	Status of support by the driver (CT-S281_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S310II

Event	Status of support by the driver (CT-S310II_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S601/651/801/851

Event	Status of support by the driver (CT-S601_*.CD*/CT-S651_*.CD* /CT-S801_*.CD*/CT-S851_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S601II/651II/801II/851II

Event	Status of support by the driver (CT-S601II_*.CD*/CT-S651II_*.CD* /CT-S801II_*.CD*/CT-S851II_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S751

Event	Status of support by the driver (CT-S751_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S2000

Event	Status of support by the driver (CT-S2000_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S4000

Event	Status of support by the driver (CT-S4000_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

CT-S4500

Event	Status of support by the driver (CT-S4500_*.CD*)		Notes
DataEvent		Not supported	Not applicable with OPOSDrawer.
DirectIOEvent		Not supported	
ErrorEvent		Not supported	Not applicable with OPOSDrawer.
OutputCompleteEvent		Not supported	Not applicable with OPOSDrawer.
StatusUpdateEvent	✓		

3.4. Cash Drawer Service Object and Precautions

CapPowerReporting/ Powermotify/ PowerState Property

This service object supports only cash drawer connected to the drawer kick connector at the back of the printer.   Therefore the value of the CapPowerReporting property shall be "OPOS_PR_NONE".

CapStatusMultiDrawerDetect Property

Two cash drawers can be connected by using Y-Shape cable to drawer kick connector at this service object but individual detection of cash drawer open/close situation is not possible. For this reason, CapStatusMultiDrawerDetect Property value becomes "FALSE".
When CapStatusMultiDrawerDetect Property is "FALSE", only the following status is informed.
   a) All cash drawers are closed.
   b) One or more cash drawer(s) is open.
In addition, each [Pin 3 Signal at Drawer Open Status] should be set in the same way when registering multiple numbers of cash drawers from [OPOS Driver Setting Tool].

4. Line Display Service Object

For details and usage of each property, method and event, refer to "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".

4.1. Line Display Service and Object Method Relations

DSP01-LT

Method	Status of support by the driver (DSP01_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(See Claim in 4.5. Detail on line display service object)
ReleaseDevice	✓		
CheckHealth	✓	OPOS_CH_INTERNAL OPOS_CH_EXTERNAL	
ClearInput			Not applicable
ClearInputProperties			Not applicable
ClearOutput			Not applicable
CompareFirmwareVersion		OPOS_E_ILLEGAL	Not supported
DirectIO		OPOS_E_ILLEGAL	Not supported
ResetStatistics		OPOS_E_ILLEGAL	Not supported
RetrieveStatistics		OPOS_E_ILLEGAL	Not supported
UpdateFirmware		OPOS_E_ILLEGAL	Not supported
UpdateStatistics		OPOS_E_ILLEGAL	Not supported
ClearDescriptors		OPOS_E_ILLEGAL	Unsupported hardware
ClearText	✓		
CreateWindow	✓		
DefineGlyph		OPOS_E_ILLEGAL	Unsupported hardware
DestroyWindow	✓		
DisplayBitmap		OPOS_E_ILLEGAL	Unsupported hardware
DisplayText	✓		
DisplayTextAt	✓		
ReadCharacterAtCursor	✓		
RefreshWindow	✓		
ScrollText	✓		
SetBitmap		OPOS_E_ILLEGAL	Unsupported hardware
SetDescriptor		OPOS_E_ILLEGAL	Unsupported hardware

DSP02-LS

Method	Status of support by the driver (DSP02_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(See Claim in 4.5. Detail on line display service object)
ReleaseDevice	✓		
CheckHealth	✓	OPOS_CH_INTERNAL OPOS_CH_EXTERNAL	
ClearInput			Not applicable
ClearInputProperties			Not applicable
ClearOutput			Not applicable
CompareFirmwareVersion		OPOS_E_ILLEGAL	Not supported
DirectIO		OPOS_E_ILLEGAL	Not supported
ResetStatistics		OPOS_E_ILLEGAL	Not supported
RetrieveStatistics		OPOS_E_ILLEGAL	Not supported
UpdateFirmware		OPOS_E_ILLEGAL	Not supported
UpdateStatistics		OPOS_E_ILLEGAL	Not supported
ClearDescriptors		OPOS_E_ILLEGAL	Unsupported hardware
ClearText	✓		
CreateWindow	✓		
DefineGlyph		OPOS_E_ILLEGAL	Unsupported hardware
DestroyWindow	✓		
DisplayBitmap		OPOS_E_ILLEGAL	Unsupported hardware
DisplayText	✓		
DisplayTextAt	✓		
ReadCharacterAtCursor	✓		
RefreshWindow	✓		
ScrollText	✓		
SetBitmap		OPOS_E_ILLEGAL	Unsupported hardware
SetDescriptor		OPOS_E_ILLEGAL	Unsupported hardware

4.2. Line Display Service Object and Property Relations

DSP01-LT

Property	Attribute		Status of support by the driver (DSP01_*)	Notes
AutoDisable	R/W			Not applicable
CapComapreFirmwareVersion	R		false	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	ClaimDevice method is successful: true ReleaseDevice method is successful: false	
DataCount	R			Not applicable
DataEventEnabled	R/W			Not applicable
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	(See DeviceEnable in 4.5. Detail on Line Display service object)
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputID	R			Not applicable
PowerNotify	R/W	✓	OPOS_PN_DISABLED (Power notification is not provided) OPOS_PN_ENABLED (Information on power notification is provided)	
PowerState	R	✓	Online and Ready state: OPOS_PS_ONLINE(2001) Power off state: OPOS_PS_OFF(2002) Disconnected from the printer: OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓		Refer to the State property in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".
ServiceObjectDescription	R	✓	CITIZEN Service Object for LineDisplay Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1.14.*.*	
BlinkRate	R/W	✓	0-25400	Default value: 1600
CapBitmap	R		False	
CapBlink	R	✓	DISP_CB_BLINKALL: Full screen blinking	
CapBlinkRate	R	✓	True: Blink rate can be controlled	
CapBrightness	R	✓	True: Brightness can be controlled	
CapCharacterSet	R	✓	DISP_CCS_KANJI	
CapCursorType	R		DISP_CCT_NONE	
CapCustomGlyph	R		False	
CapDescriptors	R		False	
CapHMarquee	R	✓	True: Supports horizontal marquee	
CapICharWait	R	✓	True: supports inter-character wait	
CapMapCharacterSet	R		False	
CapReadBack	R	✓	DISP_CRB_SINGLE: Cursor position readable	
CapReverse	R	✓	DISP_CR_REVERSEEACH: Can be reverse video by character	

Property	Attribute		Status of support by the driver (DSP01_*)	Notes
CapScreenMode	R		false	
CapVMarquee	R		false	
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	437,720,737,775,850,851,852,853,855,857,858,860,861,862,863,864,865,866,869,874,932,936,949,950,1250,1251,1252,1253,1254,1255,1256,1257,1258	
Columns	R	✓	Number of columns selected window	
CurrentWindow	R/W	✓		
CursorColumn	R/W	✓		
CursorRow	R/W	✓		
CursorType	R/W		DISP_CCT_NONE	
CursorUpdate	R/W	✓		
CustomGlyphList	R			Unsupported hardware
DeviceBrightness	R/W	✓		
DeviceColumns	R	✓	20	
DeviceDescription	R	✓	Citizen Systems Line Display.	
DeviceDescriptors	R		0	Unsupported hardware
DeviceName	R	✓	DSP01_*	
DeviceRows	R	✓	2	
DeviceWindows	R	✓	4	
GlyphHeight	R		16	Unsupported hardware
GlyphWidth	R		8	Unsupported hardware
InterCharacterWait	R/W	✓		
MapCharacterSet	R/W		false	
MarqueeFormat	R/W	✓		
MarqueeRepeatWait	R/W	✓		
MarqueeType	R/W	✓		
MarqueeUnitWait	R/W	✓		
MaximumX	R		0	Unsupported hardware
MaximumY	R		0	Unsupported hardware
Rows	R	✓	Number of rows selected window	
ScreenMode	R/W		0	Unsupported hardware
ScreenModeList	R			Unsupported hardware

189

DSP02-LS

Property	Attribute		Status of support by the driver (DSP02_*)	Notes
AutoDisable	R/W			Not applicable
CapComapreFirmwareVersion	R		false	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	ClaimDevice method is successful: true ReleaseDevice method is successful: false	
DataCount	R			Not applicable
DataEventEnabled	R/W			Not applicable
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	(See DeviceEnable in 4.5. Detail on Line Display service object)
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputID	R			Not applicable
PowerNotify	R/W	✓	OPOS_PN_DISABLED (Power notification is not provided) OPOS_PN_ENABLED (Information on power notification is provided)	
PowerState	R	✓	Online and Ready state: OPOS_PS_ONLINE(2001) Power off state: OPOS_PS_OFF(2002) Disconnected from the printer: OPOS_PS_OFFLINE(2003)	
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓		Refer to the State property in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".
ServiceObjectDescription	R	✓	CITIZEN Service Object for LineDisplay Ver 1.14.*.*	
ServiceObjectVersion	R	✓	1.14.*.*	
BlinkRate	R/W	✓	0-25400	Default value: 1600 (The operation cycle is 1600)
CapBitmap	R		False	
CapBlink	R	✓	DISP_CB_BLINKALL: Full screen blinking	
CapBlinkRate	R	✓	True: Blink rate can be controlled	
CapBrightness	R	✓	False: Brightness cannot be controlled	
CapCharacterSet	R	✓	DISP_CCS_KANJI	
CapCursorType	R		DISP_CCT_NONE	
CapCustomGlyph	R		False	
CapDescriptors	R		False	
CapHMarquee	R	✓	True: Supports horizontal marquee	
CapICharWait	R	✓	True: supports inter-character wait	
CapMapCharacterSet	R		False	
CapReadBack	R	✓	DISP_CRB_SINGLE: Cursor position readable	
CapReverse	R	✓	DISP_CR_REVERSEEACH: Can be reverse video by character	
CapScreenMode	R		false	

190

Property	Attribute		Status of support by the driver (DSP02_*)	Notes
CapVMarquee	R		false	
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	437,720,737,775,850,851,852,853,855,857,858,860,861,862,863,864,865,866,869,874,932,936,949,950,1250,1251,1252,1253,1254,1255,1256,1257,1258	
Columns	R	✓	Number of columns selected window	
CurrentWindow	R/W	✓		
CursorColumn	R/W	✓		
CursorRow	R/W	✓		
CursorType	R/W		DISP_CCT_NONE	
CursorUpdate	R/W	✓		
CustomGlyphList	R			Unsupported hardware
DeviceBrightness	R/W	✓		
DeviceColumns	R	✓	20	
DeviceDescription	R	✓	Citizen Systems Line Display.	
DeviceDescriptors	R		0	Unsupported hardware
DeviceName	R	✓	DSP02_*	
DeviceRows	R	✓	2	
DeviceWindows	R	✓	4	
GlyphHeight	R		16	Unsupported hardware
GlyphWidth	R		8	Unsupported hardware
InterCharacterWait	R/W	✓		
MapCharacterSet	R/W		false	
MarqueeFormat	R/W	✓		
MarqueeRepeatWait	R/W	✓		
MarqueeType	R/W	✓		
MarqueeUnitWait	R/W	✓		
MaximumX	R		0	Unsupported hardware
MaximumY	R		0	Unsupported hardware
Rows	R	✓	Number of rows selected window	
ScreenMode	R/W		0	Unsupported hardware
ScreenModeList	R			Unsupported hardware

4.3. Line Display Service Object and Escape Sequence Relations

DSP01-LT

Escape Sequence		Status of support by the driver (DSP01_*)		Notes
Bitmap display	ESC|#B			Unsupported hardware
Reverse character	ESC|rvC			Not supported
Blink	ESC|kC			Not supported
Normal	ESC|N			Not supported

DSP02-LS

Escape Sequence		Status of support by the driver (DSP02_*)		Notes
Bitmap display	ESC|#B			Unsupported hardware
Reverse character	ESC|rvC			Not supported
Blink	ESC|kC			Not supported
Normal	ESC|N			Not supported

4.4. Line Display Service Object and Event Relations

DSP01-LT

Event	Status of support by the driver (DSP01_*)	Notes
DataEvent		Not applicable
DirectIOEvent		Not supported
ErrorEvent		Not applicable
OutputCompleteEvent		Not applicable
StatusUpdateEvent	✓	

DSP02-LS

Event	Status of support by the driver (DSP02_*)	Notes
DataEvent		Not applicable
DirectIOEvent		Not supported
ErrorEvent		Not applicable
OutputCompleteEvent		Not applicable
StatusUpdateEvent	✓	

4.5. Detail on Line Display Service Object

ClaimDevice method

When [OPOS_E_ILLEGAL] is returned, the CITIZEN expansion error code is stored in ResulCodeExtended Property. (Symbols described in the ResultCodeExtended column are defined in the files located in the "include" directory where OPOS was installed.)

Return Value	ResultCode	ResultCodeExtended	Description
OPOS_SUCCESS	OPOS_SUCCESS		The exclusive access is approved. The Claimed Property is TRUE. This is returned when the application has already made exclusive access to the device.
OPOS_E_CLOSED	OPOS_E_CLOSED		Accessing was attempted to the device closed.
OPOS_E_ILLEGAL	OPOS_E_ILLEGAL	0	It is impossible to occupy this device for exclusive access. Or invalid Timeout parameter is designated.
		OPOS_EX_NOTCONECTED (60002)	Communication cannot be established as there is no response from printer. (1) Device is not connected. (2) Printer is not turned ON. (3) Cannot obtain handle of interface board.
		OPOS_EX_OFFLINE (60003)	The printer is connected but the line display is not connected to the printer.
OPOS_E_TIMEOUT			Another application has made exclusive access to the device and waited for releasing but Time-out period (unit in millisecond) was over.

BinaryConversion property

It is same as POSPrinter's way to use the BinaryConversion property. Refer to "BinaryConversion Property" for POSPrinter.

Bluetooth Device Control

In case that the line display is connected via a Bluetooth interface IF2-BT03 or IF2-BT04, it is required to make this setting valid.
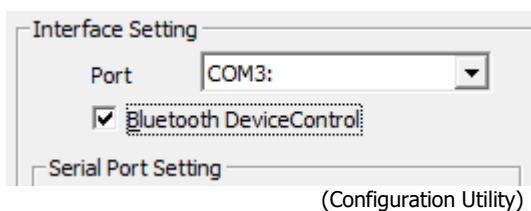
<Example: DSP01>
    HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\LineDisplay\DSP01_1
    BluetoothMode =001 --- Use line display via IF2-BT03/04.
    BluetoothMode =000 --- Other cases.

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "1.5. CITIZEN OPOS Driver Registry Structure".

(Configuration Utility)

Do not make this setting valid when the line display is connected a computer directly.

5. Barcode Scanner Service Object

For details and usage of each property, method and event, refer to "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".

5.1. Barcode Scanner Service and Object Method Relations

SCN01-Z1D

Method	Status of support by the driver (SCN01_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(See Claim in 5.4. Detail on barcode scanner service object)
ReleaseDevice	✓		
CheckHealth	✓	OPOS_CH_INTERNAL	
ClearInput	✓		
ClearInputProperties	✓		
ClearOutput			Not applicable
CompareFirmwareVersion		OPOS_E_ILLEGAL	Not supported
DirectIO		OPOS_E_ILLEGAL	Not supported
ResetStatistics		OPOS_E_ILLEGAL	Not supported
RetrieveStatistics		OPOS_E_ILLEGAL	Not supported
UpdateFirmware		OPOS_E_ILLEGAL	Not supported
UpdateStatistics		OPOS_E_ILLEGAL	Not supported

SCN02-Z2D

Method	Status of support by the driver (SCN02_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(See Claim in 5.4. Detail on barcode scanner service object)
ReleaseDevice	✓		
CheckHealth	✓	OPOS_CH_INTERNAL	
ClearInput	✓		
ClearInputProperties	✓		
ClearOutput			Not applicable
CompareFirmwareVersion		OPOS_E_ILLEGAL	Not supported
DirectIO		OPOS_E_ILLEGAL	Not supported
ResetStatistics		OPOS_E_ILLEGAL	Not supported
RetrieveStatistics		OPOS_E_ILLEGAL	Not supported
UpdateFirmware		OPOS_E_ILLEGAL	Not supported
UpdateStatistics		OPOS_E_ILLEGAL	Not supported

BC-NL3000U

Method	Status of support by the driver (BC-NL3000U_*)		Notes
Open	✓		
Close	✓		
ClaimDevice	✓		(See Claim in 5.4. Detail on barcode scanner service object)
ReleaseDevice	✓		
CheckHealth	✓	OPOS_CH_INTERNAL	
ClearInput	✓		
ClearInputProperties	✓		
ClearOutput			Not applicable
CompareFirmwareVersion		OPOS_E_ILLEGAL	Not supported
DirectIO		OPOS_E_ILLEGAL	Not supported
ResetStatistics		OPOS_E_ILLEGAL	Not supported
RetrieveStatistics		OPOS_E_ILLEGAL	Not supported
UpdateFirmware		OPOS_E_ILLEGAL	Not supported
UpdateStatistics		OPOS_E_ILLEGAL	Not supported

5.2. Barcode Scanner Service Object and Property Relations

SCN01-Z1D

Property	Attri bute		Status of support by the driver (SCN01_*)	Notes
AutoDisable	R/W	✓		
CapCompareFirmwareVersion	R		false	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapStatisticsReporting	R		false	
CapUpdateFirmware	R		false	
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimDevice method is successful: true ReleaseDevice method is successful: false	
DataCount	R	✓		
DataEventEnabled	R/W	✓		
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	(See Claim in 5.4. Detail on barcode scanner service object)
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputID	R			Not applicable
PowerNotify	R/W	✓	OPOS_PN_DISABLED (Power notification is not provided) OPOS_PN_ENABLED (Information on power notification is provided)	
PowerState	R	✓	Online and Ready state: OPOS_PS_ONLINE(2001) Power off state: OPOS_PS_OFF(2002) Disconnected from the printer: OPOS_PS_OFFLINE(2001)	
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓		Refer to the State property in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".
ServiceObjectDescription	R	✓	CITIZEN Service Object for Barcode Scanner ver 1.14.*.*	
ServiceObjectVersion	R	✓	1.14.*.*	
DecodeData	R/W	✓		
DeviceDescription	R	✓	Citizen Systems 1D Barcode Scanner	
DeviceName	R	✓	SCN01_*	
ScanData	R	✓		
ScanDataLabel	R	✓		
ScanDataType	R	✓		

SCN02-Z2D

Property	Attri bute		Status of support by the driver (SCN02_*)	Notes
AutoDisable	R/W	✓		
CapCompareFirmwareVersion	R		false	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapStatisticsReporting	R		false	
CapUpdateFirmware	R		false	
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimDevice method is successful: true ReleaseDevice method is successful: false	
DataCount	R	✓		
DataEventEnabled	R/W	✓		
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	(See Claim in 5.4. Detail on barcode scanner service object)
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputID	R			Not applicable
PowerNotify	R/W	✓	OPOS_PN_DISABLED (Power notification is not provided) OPOS_PN_ENABLED (Information on power notification is provided)	
PowerState	R	✓	Online and Ready state: OPOS_PS_ONLINE(2001) Power off state: OPOS_PS_OFF(2002) Disconnected from the printer: OPOS_PS_OFFLINE(2001)	
ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓		Refer to the State property in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".
ServiceObjectDescription	R	✓	CITIZEN Service Object for Barcode Scanner ver 1.14.*.*	
ServiceObjectVersion	R	✓	1.14.*.*	
DecodeData	R/W	✓		
DeviceDescription	R	✓	Citizen Systems 2D Barcode Scanner	
DeviceName	R	✓	SCN02_*	
ScanData	R	✓		
ScanDataLabel	R	✓		
ScanDataType	R	✓		

BC-NL3000U

Property	Attri bute		Status of support by the driver (BC-NL3000U_*)	Notes
AutoDisable	R/W	✓		
CapCompareFirmwareVersion	R		false	
CapPowerReporting	R	✓	OPOS_PR_ADVANCED	
CapStatisticsReporting	R		false	
CapUpdateFirmware	R		false	
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	ClaimDevice method is successful: true ReleaseDevice method is successful: false	
DataCount	R	✓		
DataEventEnabled	R/W	✓		
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	(See Claim in 5.4. Detail on barcode scanner service object)
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputID	R			Not applicable
PowerNotify	R/W	✓	OPOS_PN_DISABLED (Power notification is not provided) OPOS_PN_ENABLED (Information on power notification is provided)	

PowerState	R	✓	Online and Ready state:
			    OPOS_PS_ONLINE(2001)
			Power off state:
			    OPOS_PS_OFF(2002)
			Disconnected from the printer:
			    OPOS_PS_OFFLINE(2001)	

ResultCode	R	✓		
ResultCodeExtended	R	✓		
State	R	✓		Refer to the State property in "OPENPOS FOR OLE APPLICATION PROGRAMMER'S GUIDE Japanese-edition Specification Version 1.14.1".
ServiceObjectDescription	R	✓	CITIZEN Service Object for Barcode Scanner ver 1.14.*.*	
ServiceObjectVersion	R	✓	1.14.*.*	
DecodeData	R/W	✓		
DeviceDescription	R	✓	Citizen Systems 2D Barcode Scanner	
DeviceName	R	✓	BC-NL3000U_*	
ScanData	R	✓		
ScanDataLabel	R	✓		
ScanDataType	R	✓		

5.3. Barcode Scanner Service Object and Event Relations

SCN01-Z1D

Event	Status of support by the driver (SCN01_*)	Notes
DataEvent	✓	
DirectIOEvent		Not supported
ErrorEvent		Not applicable
OutputCompleteEvent		Not applicable
StatusUpdateEvent	✓	

SCN02-Z2D

Event	Status of support by the driver (SCN02_*)	Notes
DataEvent	✓	
DirectIOEvent		Not supported
ErrorEvent		Not applicable
OutputCompleteEvent		Not applicable
StatusUpdateEvent	✓	

BC-NL3000U

Event	Status of support by the driver (BC-NL3000U_*)	Notes
DataEvent	✓	
DirectIOEvent		Not supported
ErrorEvent		Not applicable
OutputCompleteEvent		Not applicable
StatusUpdateEvent	✓	

5.4. Detail on Barcode Scanner Service Object

ClaimDevice method

When [OPOS_E_ILLEGAL] is returned, the CITIZEN expansion error code is stored in ResulCodeExtended Property. (Symbols described in the ResultCodeExtended column are defined in the files located in the "include" directory where OPOS was installed.)

Return Value	ResultCode	ResultCodeExtended	Description
OPOS_SUCCESS	OPOS_SUCCESS		The exclusive access is approved. The Claimed Property is TRUE. This is returned when the application has already made exclusive access to the device.
OPOS_E_CLOSED	OPOS_E_CLOSED		Accessing was attempted to the device closed.
OPOS_E_ILLEGAL	OPOS_E_ILLEGAL	0	It is impossible to occupy this device for exclusive access. Or invalid Timeout parameter is designated.
		OPOS_EX_NOTCONECTED (60002)	Communication cannot be established as there is no response from printer. (1) Device is not connected. (2) Printer is not turned ON. (3) Cannot obtain handle of interface board.
		OPOS_EX_OFFLINE (60003)	The printer is connected but the barcode scanner is not connected to the printer.
OPOS_E_TIMEOUT			Another application has made exclusive access to the device and waited for releasing but Time-out period (unit in millisecond) was over.

Supported barcode types

This driver can read the following bar codes. The barcode type can be read with the ScanDataType property when the DecodeData property is set to true. Supported barcode types are as followings.

ScanDataType	Type	SCN01-Z1D	SCN02-Z2D BC-L3000U
SCAN_SDT_UPCA	UPC-A	✓	✓
SCAN_SDT_UPCE	UPC-E	✓	✓
SCAN_SDT_EAN8 SCAN_SDT_JAN8 (Both symbols are assigned same value.)	EAN 8 or JAN 8	✓	✓
SCAN_SDT_EAN13 SCAN_SDT_JAN13 (Both symbols are assigned same value.)	EAN 13 or JAN 13	✓	✓
SCAN_SDT_ITF	Interleaved 2 of 5	✓	✓
SCAN_SDT_Codabar	Codabar	✓	✓
SCAN_SDT_Code39	Code 39	✓	✓
SCAN_SDT_Code93	Code 93	✓	✓
SCAN_SDT_Code128	Code 128	✓	✓
SCAN_SDT_PDF417	PDF 417		✓
SCAN_SDT_QRCODE	QR Code		✓
SCAN_SDT_GS1DATABAR	GS1 DataBar		✓
SCAN_SDT_GS1DATABAR_E	GS1 DataBar Expanded		✓

BinaryConversion property

This OPOS driver may fail to show the binary data in a barcode which is not suitable for a string. In such case, OPOS driver can convert it into another formatted string by changing the BinaryConversion property. The way to convert a data is a reverse way of POS Printer's.

1. OPOS_BC_NONE
   Received data is shown directly. It is the default setting of this property.
2. OPOS_BC_NIBBLE
   2 characters describes every byte data. At first, OPOS driver stores upper 4 bits into 1st byte, and lower 4 bits into 2nd byte, and adds 48 (0x30) to each bytes.
   For example, "Z" (character code is 0x5A) is divided into 0x05 and 0x0A, and added 0x30 each. Finally, there are (converted bytes) 0x35 ("5") and 0x3A (":") or (converted string) "5:".
3. OPOS_BC_DECIMAL
   3 characters describes every byte data. Each byte is described in 3digit decimal string.
   For example, "Z" (0x5A=90;descibed before is) converted to "090".

ScanData or ScanDataLabel properties are updated when a barcode is scanned. If you want to read these properties in another BinaryConversion format, it is only required to change its value. For example, "ZZZZZ" is scanned with BinaryConversion is set to OPOS_BC_NONE , ScanDataLabel property is updated to "ZZZZZ". And setting BinaryConversion to OPOS_BC_NIBBLE makes ScanDataLabel to "5:5:5:5:5:", or OPOS_BC_DECIMAL to "090090090090090".

Bluetooth Device Control

In case that the barcode scanner is connected via a Bluetooth interface IF2-BT03 or IF2-BT04, it is required to make this setting valid.
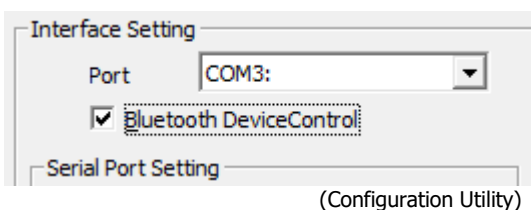
<Example: SCN01>
    HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\Scanner\SCN01_1
    BluetoothMode =001 --- Use line display via IF2-BT03/04.
    BluetoothMode =000 --- Other cases.

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "1.5. CITIZEN OPOS Driver Registry Structure".

(Configuration Utility)

Do not make this setting valid when the barcode scanner is connected a computer directly