CITIZEN

POS for .NET DRIVER 1.12

Application Development Guide

For Ver. 1.12.2.6

CITIZEN SYSTEMS JAPAN CO.,LTD.

Revision Record

Date	Version	Description
2011/01/17	1.03	New issue
2011/04/05	1.04	- CT-S310II model was added to each item. - Changed the value of RecCurrentCartridge/CapRecColor property.
2011/06/22	1.12.1.4	- Version number is changed to same version as driver itself. - The explanation of the configuration file with Windows7 was added. - Added "About the printing completion judgment function" and "About buffer full evasion function of the printer" to "Other function".
2011/09/12	1.12.1.5	- Changed an example of the structure in Configuration.xml to CT-S801. - Changed the explanation about "Function to detect the completion of printing". - Changed the explanation about "Function to evade buffer full when the printer error occurred in the printing output". - Added the explanation about "Handling of character encoding".
2012/05/11	1.12.1.7	- Windows7-64bit was added to "Supported operating systems". - PDF-417,QRCode,GS1 DataBar were added to "Supported barcodes". - Added the explanation about "Printing GS1 DataBar barcode". - Changed the explanation about "ErrorLevel property".
2012/09/24	1.12.1.8	- Updated the version number only.
2013/09/25	1.12.1.9	- Added Windows8 to "Supported operating systems". - CT-S281 and CT-S4000 models were added to each item. - Changed the support sutatus of CheckHealth and SetBitmap in the method relations. - Changed the explanation about "SetBitmap method / ESC|#B escape sequence". - Changed the explanation about "Bitmap file format" of PrintBitmap method.
2014/01/17	1.12.2.0	- Added Windows8.1 to "Supported Operating systems". - Added CT-S281BT/BD to "Supported Models". - The cash drawer of CT-S281 was added to each item.
2014/07/01	1.12.2.1	- Added 936(Chinese) to CharacterSetList property. - Added the explanation about "Log function".
2015/02/23	1.12.2.2	- CT-S281 and CT-S601II/651II/801II/851II models were added to each item. - Added the explanation about "Grayscale print".
2016/03/01	1.12.2.2	- Modify the link to the UnifiedPOS. - Added Windows10 to "Supported Operating systems".
2016/08/12	1.12.2.3	- Added the PrinterMarkFeeds.NextTopOfForm to the MarkFeed method.
2016/12/22	1.12.2.4	- CT-D150 and CT-E351 models were added to each item.
2017/06/13	1.12.2.5	- CT-D151 and CT-E651 models were added to each item. (Page 7,13,15,28-31, 36-39,77,79,88,107,108,114,116,125)
2017/11/14	1.12.2.6	- Updated the version number only.

Notes

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Table of Contents

1. Introduction

This driver complies with Unified POS 1.12. This document mainly describes the specifications that depend on the device (POS printer) and the notes. When developing the application, refer to "UnifiedPOS Retail Peripheral Architecture Version 1.12" and "POS for .NET v1.12 SDK Documentation" of MSDN in advance.
http://www.microsoft.com/japan/business/industry/retail/opos/default.mspx
https://nrf.com/resources/retail-technology-standards/unifiedpos
http://msdn.microsoft.com/en-us/library/bb429024.aspx

1.1. CITIZEN POS for .NET Driver

This driver provides the open device driver architecture that facilitates the integration of the hardware, the CITIZEN POS printer and the cash drawers connected to it, and the Microsoft operating system Windows-base POS system, which is called Microsoft Windows Embedded for Point of Service (WEPOS). This driver is developed for the following purposes:
・ Defining architecture for access to the Win32-base POS printer and the connected cash drawers on .NET Framework while maintaining the close relationship between the UnifiedPOS specifications and the existing OPOS implementation
・ Defining interface of the CITIZEN POS printer and the connected cash drawers that can sufficiently support various POS applications that are linked to the abstracted UnifiedPOS device

1.2. Operating Environment

Supported operating systems

This driver supports the following Windows operating systems:
・ Windows XP
・ Windows 7 (32bit, 64bit)
・ Windows 8 (32bit, 64bit)
・ Windows 8.1 (32bit, 64bit)
・ Windows 10 (32bit, 64bit)

Supported models

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

Object Model	Function	Applicable driver (Printer)	Applicable driver (Drawer)
CT-D150	Standard	CT-D150_*	CT-D150_*.CD*
CT-D151	Standard	CT-D151_*	CT-D151_*.CD*
CT-E351	Standard	CT-E351_*	CT-E351_*.CD*
CT-E651	Standard	CT-E651_*	CT-E651_*.CD*
CT-S251	Standard	CT-S251_*	CT-S251_*.CD*
CT-S281	Standard	CT-S281_*	CT-S281_*.CD*
CT-S281-XL-M1	Blackmark paper is supported.		
CT-S281-XL	Label paper is supported.		
CT-S310	Standard (Paper with blackmark on front side is supported)	CT-S310_*	CT-S310_*.CD*
CT-S310-M1/M2	Paper with blackmark on back side 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-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.		

1.3. Developers of Applications

Developers of the applications that use this driver shall be familiar with the following items.
- · Specifications of POS for .NET 1.12
- · General features of the CITIZEN POS printers
- · Terminology and architecture of Microsoft .NET Framework
- · Practical knowledge on POS for .NET
- · Integrated development tool of Microsoft including Visual Studio for .NET and at least one of the.NET application development langages (Microsoft Visual Basic for .NET, C# for .NET and Visual C++ for .NET, for example)

1.4. POS for .NET

- · By calling **PosExplorer API**, the application lists the available POS peripheral devices and instantiniates their service objects. The application can directly communicate with the instantiniated service objects by using PosExplorer API. The service object shows the state and behavior of the peripheral device through the property, method and event.
- · Unlike the operation with the OPOS implementation, there is no concept of the control objects in POS for .NET. Instead, PosExplorer API operates as a sole control object for all the device classes in some ways. There is a global configuration store which is held by the setting of POS for .NET. PosExplorer API reads the logical device which is defined in the system and other relevant information from the storage area. The settings of the physical devices and the service objects are also held in the configuration store. The serviced object can read and write the property values in the configuration store.
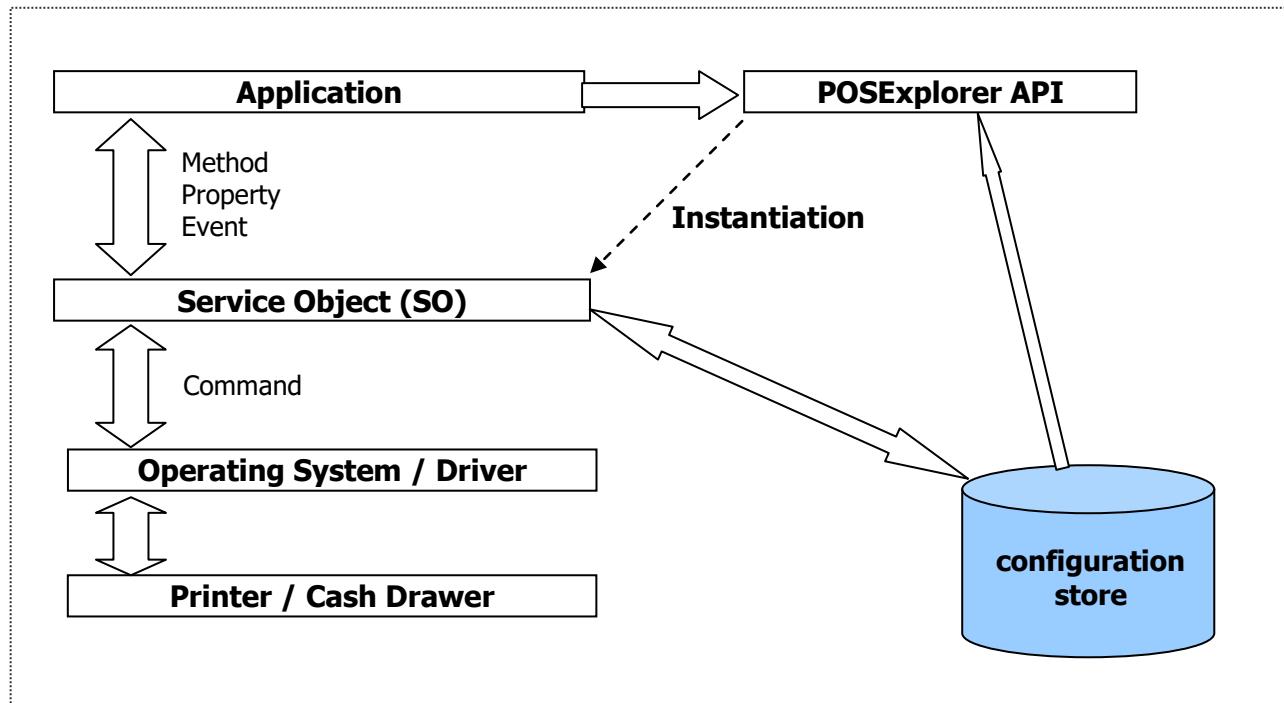
Device class
The device class is a category of the POS devices that share the set of the property, method and event.

PosExplorer API
By using PosExplorer, the application can obtain the list of the installed POS devices, open these devices or create the instances of them, and receive the plug-and-play events when the device is connected to or removed from the system.
* For detailed usage of **PosExplorer API**, refer to "POS for .NET v1.12 SDK Documentation" in MSDN.

Service object (SO)
It is a class to implement the interface of the device class which is defined by POS for .NET. It discloses the property and the methods that are called by the application. The SO of this driver performs the processing that is reliant on the CITIZEN POS printer and the cash drawers connected to it.

1.5. Structure of Configuration.xml of CITIZEN POS for .NET Driver

In order to correctly initialize the device that corresponds to each service object, POS for .NET requires the configuration file.
The configuration file is saved in the file registered in Configuration under the HKEY_LOCAL_MACHINE\SOFTWARE\POSfor.NET key of the system registry. It is saved in the following file by default:

WindowsXP:
 C:\Documents and Settings\All Users\Application Data\Microsoft\Point Of Service\Configuration\ Configuration.xml
Windows7 or newer:
 C:\ProgramData\Microsoft\Point Of Service\Configuration\Configuration.xml

However, the configuration file is saved in the following file when starting by the user-mode with Windows7 or newer.

C:\Users\[User Name]\AppData\Local\VirtualStore\ProgramData\Microsoft\Point Of Service\
Configuration\Configuration.xml

The structure of Configuration.xml, taking CT-S801II (a printer and a cash drawer) as an example,
is shown below:

```xml
<?xml version="1.0"?>
<PointOfServiceConfig Version="1.0">
  <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
    <Device HardwarePath="192.168.0.1_CT-S801II_1">
      <LogicalName Name="CT-S801II_1" />
      <Property Name="DeviceName" Value="CT-S801II_1" />
      <Property Name="PhysicalDeviceID" Value="CITIZENCT-S801II" />
      <Property Name="WriteTimeout" Value="5000" />
      <Property Name="WriteBuffer" Value="4096" />
      <Property Name="StatusBackInterval" Value="200" />
      <Property Name="Service" Value="C:\Program Files\CITIZEN\CITIZEN Service Objects for .NET\CSJWPOS.dll" />
      <Property Name="BaudRate" Value="19200" />
      <Property Name="HandShake" Value="001" />
      <Property Name="Parity" Value="000" />
      <Property Name="PortNo" Value="9100" />
      <Property Name="FamilyID" Value="001" />
      <Property Name="MapResolution" Value="000" />
      <Property Name="PrinterName" Value="CTS801II.CITIZEN.POSPrinter" />
      <Property Name="PrinterMode" Value="000" />
      <Property Name="PrinterLanguageModel" Value="000" />
      <Property Name="PaperModel" Value="002" />
      <Property Name="Column" Value="001" />
      <Property Name="UseNVRAM" Value="000" />
      <Property Name="CharacterSet" Value="437" />
      <Property Name="IP_Addr" Value="192.168.0.1" />
      <Property Name="Port" Value="NET:" />
      <Property Name="CheckResponse" Value="1" />
      <Property Name="Grayscale" Value="1" />
    </Device>
  </ServiceObject>
  <ServiceObject Type="CashDrawer" Name="CTCashDrawer1">
    <Device HardwarePath="192.168.0.1_CT-S801II_1">
      <LogicalName Name="CT-S801II_1.CD1" />
      <Property Name="DeviceName" Value="CT-S801II_1.CD1" />
      <Property Name="PhysicalDeviceID" Value="CITIZENCTII-S801" />
      <Property Name="WriteTimeout" Value="5000" />
      <Property Name="WriteBuffer" Value="3072" />
      <Property Name="StatusBackInterval" Value="200" />
      <Property Name="Service" Value="C:\Program Files\CITIZEN\CITIZEN Service Objects for .NET\CSJWPOS.dll" />
      <Property Name="BaudRate" Value="19200" />
      <Property Name="HandShake" Value="001" />
      <Property Name="Parity" Value="000" />
      <Property Name="PortNo" Value="9100" />
      <Property Name="DrawerName" Value="CTS801II.CITIZEN.CD1" />
      <Property Name="OnTime" Value="005" />
      <Property Name="PrinterID" Value="CT-S801II_1" />
      <Property Name="CapStatus" Value="001" />
      <Property Name="Pin3" Value="001" />
      <Property Name="IP_Addr" Value="192.168.0.1" />
      <Property Name="Port" Value="NET:" />
    </Device>
  </ServiceObject>
</PointOfServiceConfig>
```

Manipulating Configuration.xml

In principle, you have to use the following Configuration.xml setting tool (Configuration Utility) when manipulationg Configuration.xml. For the usage of this tool, refer to the "Setup Guide" of this driver.
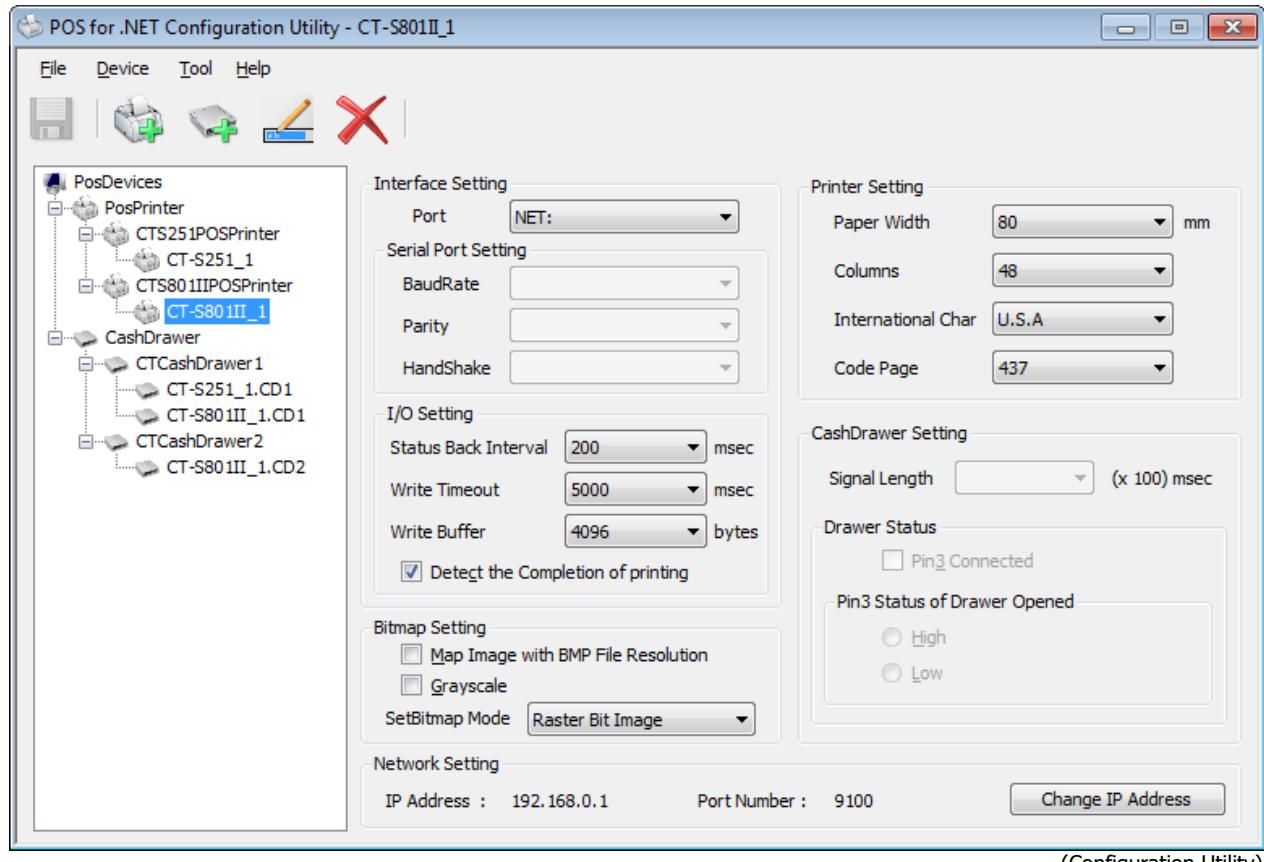
(Configuration Utility)

1.6. Notes on CITIZEN POS for .NET Driver

・ When handling label paper, use the MarkFeed method (handling of marked paper). For the usage of this method, refer to "UnifiedPOS Retail Peripheral Architecture Version 1.12".
・ When an application and Configuration.xml setting tool are started with Windows7 by a different authority, the setting might not be reflected. Please start by the same authority.
・ The operation is not guaranteed in the environment where a POS for .NET driver of other vendor is installed.
・ See the notes provided in each section below.

2. CITIZEN POS for .NET Printer Service Object

For details and usage of each property, method and event, refer to "UnifiedPOS Retail Peripheral Architecture Version 1.12".

2.1. POS Printer Service Object and Method Relations

CT-D150

Method	Status of support by the driver (CT-D150_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-D151

Method	Status of support by the driver (CT-D151_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-E351

Method	Status of support by the driver (CT-E351_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-E651

Method	Status of support by the driver (CT-E651_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S251

Method	Status of support by the driver (CT-S251_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO	✓	Defines grayscale print.	(See Grayscale print in 2.5. Detail on POS printer service object)
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(See Grayscale print in 2.5. Detail on POS printer service object)
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S281

Method	Status of support by the driver (CT-S281_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Notes on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper and label paper are supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S310

Method	Status of support by the driver (CT-S310_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Notes on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper is supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S310II

Method	Status of support by the driver (CT-S310II_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with POSPrinter	
ClearInputProperties		Not applicable with POSPrinter	
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed		ErrorCode.Illegal	Not supported
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S601/651/801/851

Method	Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applied because no input device is used.
ClearInputProperties			Not applied because no input device is used.
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper and label paper are supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

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

Method		Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)	Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applied because no input device is used.
ClearInputProperties			Not applied because no input device is used.
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO	✓	Defines grayscale print.	(See Grayscale print in 2.5. Detail on POS printer service object)
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer_service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper and label paper are supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		(See Grayscale print in 2.5. Detail on POS printer service object)
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S2000

Method	Status of support by the driver (CT-S2000_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applied because no input device is used.
ClearInputProperties			Not applied because no input device is used.
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper and label paper are supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

CT-S4000

Method	Status of support by the driver (CT-S4000_*)		Notes
Open	✓		
Close	✓		
Claim	✓		(See Claim in 2.5. Detail on POS printer service object)
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applied because no input device is used.
ClearInputProperties			Not applied because no input device is used.
ClearOutput	✓		Data being transmitted cannot be stopped.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
RetrieveStatistics	✓	Only FirmwareRevision, ManufacturerName, ModelName, Interface is supported.	
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
PrintNormal	✓		
PrintTwoNormal		ErrorCode.Illegal	Not supported
PrintImmediate	✓		
BeginInsertion		ErrorCode.Illegal	Not supported
EndInsertion		ErrorCode.Illegal	Not supported
BeginRemoval		ErrorCode.Illegal	Not supported
EndRemoval		ErrorCode.Illegal	Not supported
CutPaper	✓	Partial cut (1-99) Full cut (0,100)	
RotatePrint	✓		(See RotatePrint in 2.5. Detail on POS printer service object)
PrintBarCode	✓		(See PrintBarcode method in 2.5. Detail on POS printer service object)
PrintBitmap	✓	Raster bit image printing	(See PrintBitmap in 2.5. Detail on POS printer service object)
TransactionPrint	✓		
ValidateData	✓		
SetBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	(See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
SetLogo	✓		
ChangePrintSide		ErrorCode.Illegal	Not supported
MarkFeed	✓	PrinterMarkFeeds.Cutter PrinterMarkFeeds.NextTopOfForm	Blackmark paper and label paper are supported.
ClearPrintArea	✓		
PageModePrint	✓		
PrintMemoryBitmap	✓		
DrawRuledLine		ErrorCode.Illegal	Not supported

2.2. POS Printer Service Object and Property Relations

CT-D150

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-D150_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-D150_*)	Notes
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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		false	Unsupported hardware
RecSidewaysMaxLines	R	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-D151

Property	Attribute		Status of support by the driver (CT-D151_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	True	
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-D151_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		False	Unsupported hardware
CapConcurrentJrnSlp	R		False	Unsupported hardware
CapConcurrentPageMode	R		False	Unsupported hardware
CapConcurrentRecSlp	R		False	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-D151_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute	Status of support by the driver (CT-D151_*)		Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-D151_*)	Notes
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-E351

Property	Attribute		Status of support by the driver (CT-E351_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-E351_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-E351_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute	Status of support by the driver (CT-E351_*)	Notes
CharacterSetList	R	✓ 255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓ true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓ PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓ PrinterStation.Receipt	
ErrorString	R	✓ Description on present error is retained.	
FontTypefaceList	R	✓ Font A,B,C	
FlagWhenIdle	R/W	✓	
MapCharacterSet	R/W	✓ true	
MapMode	R/W	✓ MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓ X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓ Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓ 0 (Default value)	
PageModePrintArea	R	✓ X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓ PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓ PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓ 0 (Default value)	
RotateSpecial	R/W	✓ Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W	0	Unsupported hardware
JrnLineCharsList	R	Null int array	Unsupported hardware
JrnLineHeight	R/W	0	Unsupported hardware
JrnLineSpacing	R/W	0	Unsupported hardware
JrnLineWidth	R	0	Unsupported hardware
JrnLetterQuality	R/W	false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-E351_*)	Notes
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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		false	Unsupported hardware
RecSidewaysMaxLines	R	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-E651

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	True	
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-E651_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		False	Unsupported hardware
CapConcurrentJrnSlp	R		False	Unsupported hardware
CapConcurrentPageMode	R		False	Unsupported hardware
CapConcurrentRecSlp	R		False	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-E651_*)	Notes
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-S251

Property	Attribute		Status of support by the driver (CT-S251_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S251_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S251_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute		Status of support by the driver (CT-S251_*)	Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware

Property	Attrib ute		Status of support by the driver (CT-S251_*)	Notes
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" "36,48,54"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-S281

Property	Attribute		Status of support by the driver (CT-S 281_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S281_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

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Property	Attribute		Status of support by the driver (CT-S 281_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		false	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible.	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary | PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter | PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute	Status of support by the driver (CT-S 281_*)		Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 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	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S 281_*)	Notes
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58 mm paper "32,42,48"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Not supported
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

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CT-S310

Property	Attribute		Status of support by the driver (CT-S 310_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S310_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

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Property	Attribute		Status of support by the driver (CT-S 310_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		false	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible.	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary | PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter | PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute	Status of support by the driver (CT-S 310_*)		Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 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	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S 310_*)	Notes
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58 mm paper "30,40,45" "32,42,48" 80 mm paper "42,56,63" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Not supported
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-S310II

Property	Attribute		Status of support by the driver (CT-S310II_*)	Notes
AutoDisable	R/W		Not applicable with POPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S310II_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S310II_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
CapRecPresent	R	✓	true: Receipt is possible.	
CapRec2Color	R		false	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R		PrinterColors.Primary	Unsupported hardware
CapRecMarkFeed	R		PrinterMarkFeeds.None	Unsupported hardware
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Unsupported hardware
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	

Property	Attribute		Status of support by the driver (CT-S310II_*)	Notes
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S310II_*)	Notes
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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		false	Unsupported hardware
RecSidewaysMaxLines	R	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W		PrinterColors.Primary	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware

CT-S601/651/801/851

Property	Attribute		Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S601: CT-S601_* CT-S651: CT-S651_* CT-S801: CT-S801_* CT-S851: CT-S851_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)	Notes
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary	PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter	PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware

Property	Attrib ute		Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)	Notes
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)		Notes
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,42" 60mm paper "36,48,54" 80mm paper "42,56,64" "48,64,72" 83mm paper "53,71,80"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*, CT-S851_*)	Notes
SlpSidewaysMaxLines	R	0	Unsupported hardware
SlpSidewaysMaxChars	R	0	Unsupported hardware
SlpMaxLines	R	0	Unsupported hardware
SlpLinesNearEndToEnd	R	0	Unsupported hardware
SlpBarCodeRotationList	R	Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R	Null Rotation array	Unsupported hardware
SlpPrintSide	R	PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R	PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W	PrinterColors.None	Unsupported hardware

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

Property	Attribute		Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S601: CT-S601II_* CT-S651: CT-S651II_* CT-S801: CT-S801II_* CT-S851: CT-S851II_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)	Notes
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		False	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary | PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter | PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)		Notes
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 936: Chinese 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)		Notes
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,42" 60mm paper "36,48,54" 80mm paper "42,56,64" "48,64,72" 83mm paper "53,71,80"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*, CT-S851II_*)	Notes
SlpSidewaysMaxLines	R	0	Unsupported hardware
SlpSidewaysMaxChars	R	0	Unsupported hardware
SlpMaxLines	R	0	Unsupported hardware
SlpLinesNearEndToEnd	R	0	Unsupported hardware
SlpBarCodeRotationList	R	Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R	Null Rotation array	Unsupported hardware
SlpPrintSide	R	PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R	PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W	PrinterColors.None	Unsupported hardware

CT-S2000

Property	Attribute		Status of support by the driver (CT-S2000_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S2000_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S2000_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		false	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary | PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter | PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Not supported
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S2000_*)		Notes
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware

Property	Attrib ute		Status of support by the driver (CT-S2000_*)	Notes
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,42" 60mm paper "36,48,54" 80mm paper "42,56,64" "48,64,72" 83mm paper "53,71,80"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S2000_*)	Notes
SlpPrintSide	R	PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R	PrinterCartridgeStates.Unknown	Unsupported hardware
SlpCurrentCartridge	R/W	PrinterColors.None	Unsupported hardware

CT-S4000

Property	Attribute		Status of support by the driver (CT-S4000_*)	Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.Standard	
CapstatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	
CheckHealthText	R	✓		
Claimed	R	✓	true / false	
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓	true / false	(See DeviceEnable in 2.5. Detail on POS printer service object)
FreezeEvents	R/W	✓	true / false	
OutputId	R	✓	Increment (+1)	(See OutputId property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not supplied.) PowerNotification.Enabled (Information on power notification is supplied.)	
PowerState	R	✓	Online and Ready state: PowerState.Online(2001) Not Ready state: PowerState.Offline(2003)	
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Thermal PosPrinter ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter	
DeviceName	R	✓	CT-S4000_*	
CapCharacterSet	R	✓	CharacterSetCapability.Kanji	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true: With cover open sensor	
CapMapCharacterSet	R	✓	true	
CapTransaction	R	✓	true: Batch processing of characters is possible.	
CapJrnPresent	R		false	Unsupported hardware
CapJrn2Color	R		false	Unsupported hardware
CapJrnBold	R		false	Unsupported hardware
CapJrnDHigh	R		false	Unsupported hardware
CapJrnDWide	R		false	Unsupported hardware
CapJrnDWideDHigh	R		false	Unsupported hardware
CapJrnEmptySensor	R		false	Unsupported hardware
CapJrnItalic	R		false	Unsupported hardware
CapJrnNearEndSensor	R		false	Unsupported hardware
CapJrnUnderline	R		false	Unsupported hardware
CapJrnCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S4000_*)	Notes
CapJrnColor	R		PrinterColors.None	Unsupported hardware
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		false	Unsupported hardware
CapRecLeft90	R	✓	true: 90-degree CCW rotation attribute setting is possible.	
CapRecNearEndSensor	R	✓	true: With Paper Near-End sensor	
CapRecPaperCut	R	✓		
CapRecRight90	R	✓	true: 90-degree CW rotation attribute setting is possible.	
CapRecRotate180	R	✓	true: 180-degree rotation attribute setting is possible.	
CapRecStamp	R		false	Not supported
CapRecUnderline	R	✓	true: Underline attribute setting is possible	
CapRecCartridgeSensor	R	✓	PrinterCartridgeSensors.None	
CapRecColor	R	✓	PrinterColors.Primary | PrinterColors.Custom1	
CapRecMarkFeed	R	✓	PrinterMarkFeeds.Cutter | PrinterMarkFeeds.NextTopOfForm	
CapRecPageMode	R	✓	true	
CapRecRuledLine	R			Not supported
CapSlpPresent	R		false	Unsupported hardware
CapSlpFullSlip	R		false	Unsupported hardware
CapSlp2Color	R		false	Unsupported hardware
CapSlpBarCode	R		false	Unsupported hardware
CapSlpBitmap	R		false	Unsupported hardware
CapSlpBold	R		false	Unsupported hardware
CapSlpDHigh	R		false	Unsupported hardware
CapSlpDWide	R		false	Unsupported hardware
CapSlpDWideDHigh	R		false	Unsupported hardware
CapSlpEmptySensor	R		false	Unsupported hardware
CapSlpItalic	R		false	Unsupported hardware
CapSlpLeft90	R		false	Unsupported hardware
CapSlpNearEndSensor	R		false	Unsupported hardware
CapSlpRight90	R		false	Unsupported hardware
CapSlpRotate180	R		false	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		PrinterCartridgeSensors.None	Unsupported hardware
CapSlpColor	R		PrinterColors.None	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
CapSlpRuledLine	R			Unsupported hardware
AsyncMode	R/W	✓	true false (Default value)	(See AsyncMode property in 2.5. Detail on POS printer service object)
CartridgeNotify	R/W		PrinterCartridgeNotify.Disabled	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S4000_*)		Notes
CharacterSet	R/W	✓	Setting values of Configuration Utility	
CharacterSetList	R	✓	255: User Defined 437: Code437 850: Code850 Multilingual 860: Code860 Portugal 863: Code863 Canada-French 865: Code865 Norway 852: Code852 EasternEurope 858: Code858 864: Code864 Arabic 874: Code874 Tai Code 18 866: Code866 Russia 857: Code857 Turkey 932: KANA 998: ASCII 999: Windosw Code 1252: Windows Code	
CoverOpen	R	✓	true: POS printer cover is open. false: POS printer cover is closed.	
ErrorLevel	R	✓	PrinterErrorLevel.None PrinterErrorLevel.Recoverable PrinterErrorLevel.Fatal	(See ErrorLevel property in 2.5. Detail on POS printer service object)
ErrorStation	R	✓	PrinterStation.Receipt	
ErrorString	R	✓	Description on present error is retained.	
FontTypefaceList	R	✓	Font A,B,C	
FlagWhenIdle	R/W	✓		
MapCharacterSet	R/W	✓	true	
MapMode	R/W	✓	MapMode.Dots (Default value) MapMode.Twips MapMode.English MapMode.Metric	
PageModeArea	R	✓	X=RecLineWidth,Y=936	
PageModeDescriptor	R	✓	Logical sum of PageModeDescriptors.Barcode, PageModeDescriptors.BarcodeRotate, PageModeDescriptors.Bitmap, and PageModeDescriptors.BitmapRotate	
PageModeHorizontalPosition	R	✓	0 (Default value)	
PageModePrintArea	R	✓	X=0 Y=0 Width=0 Height=0 (Default value)	
PageModePrintDirection	R	✓	PageModePrintDirection.LeftToRight (Default value) PageModePrintDirection.BottomToTop PageModePrintDirection.RightToLeft PageModePrintDirection.TopToBottom	
PageModeStation	R	✓	PrinterStation.None (Default value) PrinterStation.Receipt	
PageModeVerticalPosition	R	✓	0 (Default value)	
RotateSpecial	R/W	✓	Rotation.Normal Rotation.Right90 Rotation.Left90 Rotation.Rotate180	(See PrintBarcode method /RotateSpecial property in 2.5. Detail on POS printer service object)
JrnLineChars	R/W		0	Unsupported hardware
JrnLineCharsList	R		Null int array	Unsupported hardware
JrnLineHeight	R/W		0	Unsupported hardware
JrnLineSpacing	R/W		0	Unsupported hardware
JrnLineWidth	R		0	Unsupported hardware
JrnLetterQuality	R/W		false	Unsupported hardware
JrnEmpty	R		false	Unsupported hardware

Property	Attribute		Status of support by the driver (CT-S4000_*)	Notes
JrnNearEnd	R		false	Unsupported hardware
JrnCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
JrnCurrentCartridge	R/W		PrinterColors.None	Unsupported hardware
RecLineChars	R/W	✓	ErrorCode.Succsess (Normal setting) ErrorCode.Illegal (Illegal line character width is specified.)	The font size varies by the set value. The set value is selected with the RecLineCharsList property (See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineCharsList	R	✓	80mm paper "42,56,64" "48,64,72" 82.5mm paper "55,73,82" 112mm paper "60,80,90" "69,92,104"	(See RecLineChars / RecLineCharsList properties in 2.5. Detail on POS printer service object)
RecLineHeight	R/W	✓	The value is not reflected upon writing.	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	✓		(See RecSidewaysMaxLines property in 2.5. Detail on POS printer service object)
RecSidewaysMaxChars	R	✓		(See RecSidewaysMaxChars property in 2.5. Detail on POS printer service object)
RecLinesToPaperCut	R	✓		
RecBarCodeRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
RecCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware
RecCurrentCartridge	R/W	✓	PrinterColors.Primary, PrinterColors.Custom1	
RecBitmapRotationList	R	✓	Rotation.Normal, Rotation.Right90, Rotation.Left90, Rotation.Rotate180	
SlpLineChars	R/W		0	Unsupported hardware
SlpLineCharsList	R		Null int array	Unsupported hardware
SlpLineHeight	R/W		0	Unsupported hardware
SlpLineSpacing	R/W		0	Unsupported hardware
SlpLineWidth	R		0	Unsupported hardware
SlpLetterQuality	R/W		false	Unsupported hardware
SlpEmpty	R		false	Unsupported hardware
SlpNearEnd	R		false	Unsupported hardware
SlpSidewaysMaxLines	R		0	Unsupported hardware
SlpSidewaysMaxChars	R		0	Unsupported hardware
SlpMaxLines	R		0	Unsupported hardware
SlpLinesNearEndToEnd	R		0	Unsupported hardware
SlpBarCodeRotationList	R		Null Rotation array	Unsupported hardware
SlpBitmapRotationList	R		Null Rotation array	Unsupported hardware
SlpPrintSide	R		PrinterSide.Unknown	Unsupported hardware
SlpCartridgeState	R		PrinterCartridgeStates.Unknown	Unsupported hardware

Property	Attribute	Status of support by the driver (CT-S4000_*)	Notes
SlpCurrentCartridge	R/W	PrinterColors.None	Unsupported hardware

2.3. POS Printer Service Object and Escape Sequence Relations

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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
Subscript	ESC|tbC		Not supported	
Superscript	ESC|tpC		Not supported	

CT-E651

Escape Sequence		Status of support by the driver (CT-E651_*)		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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓	1 Font A, 2 Font B, 3 Font C	
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
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.
Red	ESC|rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
Subscript	ESC|tbC		Not supported	
Superscript	ESC|tpC		Not supported	

CT-S310

Escape Sequence		Status of support by the driver (CT-S310_*)		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 (Unuse key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓	1 Font A, 2 Font B, 3 Font C	
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
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.
Red	ESC|rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
Italic	ESC|iC		Not supported	
Custom color	ESC|#rC		Not supported	
Red	ESC|rC		Not supported	
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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_*, CT-S651_*, CT-S801_*,CT-S851_*)	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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓	
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
Pass through embedded data	ESC|#E	✓	
Font type specification	ESC|#fT	✓	
Bold	ESC|bC	✓	
Cancel of bold	ESC|!bC	✓	
Underline	ESC|#uC	✓ Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓	
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.
Red	ESC|rC	✓	Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓	
Cancel of reverse	ESC|!rvC	✓	
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	
Left adjustment	ESC|lA	✓	
Centering	ESC|cA	✓	
Right adjustment	ESC|rA	✓	
Normal	ESC|N	✓	
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_*, CT-S651II_*, CT-S801II_*,CT-S851II_*)		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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See Grayscale print in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
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.
Red	ESC|rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
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.
Red	ESC|rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
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 (Unuse key code), NV (Use key code) mode.	The printing position aftert Bitmap printing returns to the initial state (left-aligned) (See SetBitmap method / ESC|#B escape sequence in 2.5. Detail on POS printer service object) (See PageModePrint method / ESC|#B escape sequence in 2.5. Detail on POS printer service object)
BarCode print	ESC|#R	✓		
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	
Pass through embedded data	ESC|#E	✓		
Font type specification	ESC|#fT	✓		
Bold	ESC|bC	✓		
Cancel of bold	ESC|!bC	✓		
Underline	ESC|#uC	✓	Range of # value specification # = 0: No underline # = 1: 1-dot underline # = 2: 2-dot underline	When characters in different vertical scale factors exist on the same line, the baseline of these characters is not aligned so the level of the underline becomes different.
Cancel of underline	ESC|!uC	✓		
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.
Red	ESC|rC	✓		Effective only when dedicated 2-color paper is used. Do not use this escape sequence with normal thermal paper.
Reverse character character	ESC|rvC	✓		
Cancel of reverse	ESC|!rvC	✓		
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	
Left adjustment	ESC|lA	✓		
Centering	ESC|cA	✓		
Right adjustment	ESC|rA	✓		
Normal	ESC|N	✓		
Subscript	ESC|tbC		Not supported	
Superscript	ESC|tpC		Not supported	

2.4. POS Printer Service Object and Event Relations

CT-D150

Event	Status of support by the driver (CT-D150_*)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-D151

Event	Status of support by the driver (CT-D151_*)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-E351

Event	Status of support by the driver (CT-E351_*)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-E651

Event	Status of support by the driver (CT-E651_*)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S251

Event	Status of support by the driver (CT-S251_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S281

Event	Status of support by the driver (CT-S281_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S310

Event	Status of support by the driver (CT-S310_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S310II

Event	Status of support by the driver (CT-S310II_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S601/651/801/851

Event	Status of support by the driver (CT-S601_*, CT-S651_*, CT-S801_*,CT-S851_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

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

Event	Status of support by the driver (CT-S601II_*, CT-S651II_*, CT-S801II_*,CT-S851II_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S2000

Event	Status of support by the driver (CT-S2000_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

CT-S4000

Event	Status of support by the driver (CT-S4000_*)		Notes
DataEvent	Not applicable with POSPrinter		
DirectIOEvent	Not supported		
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	(See OutputID property / OutputCompleteEvent event in 2.5. Detail on POS printer service object)
StatusUpdateEvent	✓		

2.5. Detail on POS Printer Service Object

Claim method

When this method is executed while connected to the network and the PosControlException exception occurs under the condition below, the following CITIZEN-extended error code is stored in ErrorCode and ErrorCodeExtended.

Condition	ErrorCode	ErrorCodeExtended
A device other than a CITIZEN printer is connected	ErrorCode.Illegal	60001
There is no response from the printer and the communication cannot be established (1) The printer is not connected (2) The printer is not powered on (3) The handle of the interface port cannot be obtained	ErrorCode.Illegal	60002
The printer is connected, but the following error has occurred (1) The cover is opened (2) There is no paper (3) The auto-cutter error has occurred due to a paper jam (4) A non-recoverable error has occurred due to circuit failure	ErrorCode.Illegal	60003

DeviceEnable property

When this property is set to Enable while not connected to the network and the following error occurs under the condition below, the following CITIZEN-extended error code is stored in ErrorCode and ErrorCodeExtended.

Condition	ErrorCode	ErrorCodeExtended
A device other than a CITIZEN printer is connected	ErrorCode. Extended	60001
There is no response from the printer and the communication cannot be established (1) The printer is not connected (2) The printer is not powered on (3) The handle of the interface port cannot be obtained	ErrorCode. Extended	60002
The printer is connected, but the following error has occurred (1) The cover is opened (2) There is no paper (3) The auto-cutter error has occurred due to a paper jam (4) A non-recoverable error has occurred due to circuit failure	ErrorCode. Extended	60003
The status feature of the Windows driver is enabled ("Enable bi-directional support" is on in the Port setting)	ErrorCode. Extended	60004

PrintBarCode method

・ **Supported barcodes**

BarCodeSymbology.Upca, BarCodeSymbology.Upce, BarCodeSymbology.Ean8,
BarCodeSymbology.EanJan8, BarCodeSymbology.Ean13, BarCodeSymbology.EanJan13,
BarCodeSymbology.Itf, BarCodeSymbology.Codabar, BarCodeSymbology.Code39,
BarCodeSymbology.Code93, BarCodeSymbology.Code128, BarCodeSymbology.Code128Parsed,
BarCodeSymbology.Pdf417, BarCodeSymbology.QRCode, BarCodeSymbology.Gs1DataBar,
BarCodeSymbology.Gs1DataBarExpanded, BarCodeSymbology.Gs1DataBarStackedOmnidirectional,
BarCodeSymbology.Gs1DataBarExpandedStacked

・ **Printing UPC-E barcode**

The printer prints the input 11- or 12-digit data after reducing it into 8-digit data by using the
Zero Suppression of the UPC-E standard. The example of the Zero Suppression is shown below.

The original code is "0-ABCDE-VWXYZ" (11 digits). The printable patterns are as follows:
1) When V - Y are all "0"
    "0-ABCDE-0000Z" is printed as "ABCDEZ". In this case, however, Z shall be in the range of
    5 - 9.
2) When E and VWXY are all "0"
    "0-ABCD0-0000Z" is printed as "ABCDZ4". In this case, the 4 at the end indicates that the
    manufacturer codes A and D are not "0".
3) When DE and VWX are "0"
    "0-ABCD0-0000Z" is printed as "ABCYZ3". In this case, the 3 at the end indicates that A
    and C are not "0" and ABC is a three-digit number.
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"

Note that the check digit is automatically calculated within the printer. When it is executed
with the condition other than the above specified, the printing is not allowed according to the
specifications of the printer, resulting in PosControlException(ErrorCode.Illegal).

・ **Printing GS1 DataBar barcode**

In the support model, GS1 DataBar barcode can be printed.

Support model	Firmware Version
CT-D150	All version
CT-D151	All version
CT-E351	All version
CT-E651	All version
CT-S251	All version
CT-S601II/651II/801II/851II	All version
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 firmware than above, this function doesn't work correctly.

・ **Printing rotated symbol**

The directions of rotation that can be specified are 0, R90, L90 and 180 degrees.

· **Specification ranges of the height (Height parameter) and width (Width parameter) of the barcode**

The specification ranges of these parameters are as follows when the MapMode property is set to PtrMmDots

Height parameter:
   1 - 255
Width parameter:
   1 – A value of the RecLineWidth property

· **Combination of the RotatePrint method and the PrintBarCode method**

The example of the implementation (Visual Basic for .NET) using the PrintBarCode method and the RotatePrint method is shown below:

```
Public Const PtrBcLeft As Integer = PosPrinter.PrinterBarCodeLeft
Public Const PtrBcCenter As Integer = PosPrinter.PrinterBarCodeCenter
Public Const PtrBcRight As Integer = PosPrinter.PrinterBarCodeRight

Public Const PtrBcTextNone As BarCodeTextPosition = BarCodeTextPosition.None
Public Const PtrBcTextBelow As BarCodeTextPosition = BarCodeTextPosition.Below
Public Const PtrBcTextAbove As BarCodeTextPosition = BarCodeTextPosition.Above

Dim Station As PrinterStation = PrinterStation.Receipt
dim PtrBcs As BarCodeSymbology = BarCodeSymbology.Upca

With Printer
    .Open()
    .Claim(1000)
    .DeviceEnabled = True

    .RotatePrint(Station, PrintRotation.Normal)
    .PrintNormal(Station, "Normal" & vbCrLf)                                      ' ①
    .PrintBarCode(Station, "123456789012", PtrBcs, 100, 200, PtrBcLeft, PtrBcTextBelow)   ' ②

    .RotatePrint(Station, PrintRotation.Right90 Or PrintRotation.BarCode)
    .PrintNormal(Station, "RIGHT90" & vbCrLf)                                     ' ③
    .PrintBarCode(Station, "123456789012", PtrBcs, 100, 200, PtrBcLeft, PtrBcTextBelow)   ' ④

    .RotatePrint(Station, PrintRotation.Left90 Or PrintRotation.BarCode)
    .PrintNormal(Station, "LEFT90" & vbCrLf)                                      ' ⑤
    .PrintBarCode(Station, "123456789012", PtrBcs, 100, 200, PtrBcLeft, PtrBcTextBelow)   ' ⑥

    .RotatePrint(Station, PrintRotation.Right90)
    .PrintNormal(Station, "RIGHT90" & vbCrLf)                                     ' ⑦
    .PrintBarCode(Station, "123456789012", PtrBcs, 100, 200, PtrBcLeft, PtrBcTextBelow)   ' ⑧

    .RotatePrint(Station, PrintRotation.Left90)
    .PrintNormal(Station, "LEFT90" & vbCrLf)                                      ' ⑨
    .PrintBarCode(Station, "123456789012", PtrBcs, 100, 200, PtrBcLeft, PtrBcTextBelow)   ' ⑩

    .RotatePrint(Station, PrintRotation.Normal)
    .DeviceEnabled = False
    .ReleaseDevice()
    .Close()
End With
```

<Output Result>
  The output result will be as follows. ⑧ and ⑩ are not affected by the RotatePrint method

and immediately printed.
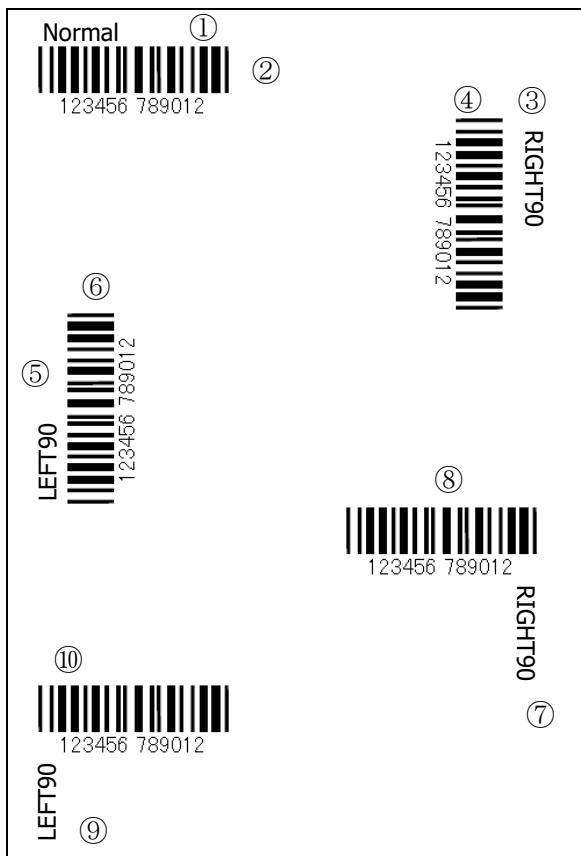
RotatePrint method

The printing size is dynamically changed up to the value of RecSidewaysMaxChars according to the printing data. The directions of rotation that can be specified are 0, R90, L90 and 180 degrees.

SetBitmap method / ESC|#B escape sequence

The bitmap is registered with the Bitmap number (1 - 20) specified using the SetBitmap method, and the bitmap is printed with the registered number specified in the ESC|#B escape sequence. This driver supports Raster Bit Image mode and NV (Unused key code) and NV (Used key code) mode.

・ **Raster Bit Image mode**

The SO itself stores the bitmap using the SetBitmap method. Since the stored bitmap is cleared when the SO is closed, it is necessary to register the bitmap every time the 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 bitmap is stored including the printing position (the Alignment parameter) specified upon the registration.
The directions of rotation that can be printed are 0, R90, L90 and 180 degrees.

・ **NV (Unused key code) mode**

The SO writes the bitmap into the nonvolatile memory (FlashROM) of the printer using the

SetBitmap method. Therefore, it is not necessary to register the bitmap every time the SO is opened.
It is necessary that the bitmap numbers are contiguous from number 1. And it is impossible to remove a registered image by assigning the FileName parameter as an empty string.
In this mode, the printing position (the Alignment parameter) specified upon the registration is not saved, and the data is printed from the left most.
The directions of rotation that can be printed are 0 degrees. It is printed as 0 degrees when 180 degrees is specified, and it is not printed when R90 or L90 degrees is specified.
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.
The image registration, can be used the "POS Printer utility" of utility software for the printer.
In this case, please register Logo with "Unused key code mode" in order by Bitmap number.

· **NV (Used key code) mode**

This mode is available with following printers.

Support model
CT-D150 series
CT-D151 series
CT-E351 series
CT-E651 series
CT-S251 series
CT-S310II series
CT-S601/651/801/851 series
CT-S601II/651II/801II/851II series
CT-S2000 series
CT-S4000 series

The SO writes the bitmap into the nonvolatile memory (FlashROM) of the printer using the SetBitmap method. Therefore, it is not necessary to register the bitmap every time the 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 (the Alignment parameter) specified upon the registration is not saved, and the data is printed from the left most.
The directions of rotation that can be printed are 0 and 180 degrees, and it is not printed when R90 or L90 degrees is specified.
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.
The image registration, can be used the "POS Printer utility" of utility software for the printer.
In this case, please register Logo with "Used key code mode". The key corresponding to the bitmap number is as follows.

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

· **How to switch the mode**

The driver is set to Raster Bit Image mode by default. Manipulate the Configuration.xml shown following to change to NV (Unused key code) mode or NV (Used key code) mode.

<Example: CT-S801II, Connected I/F: Ethernet, IP Address: 192.168.0.1>
   <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
      <Property> tag within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag
  Name="UseNVRAM" Value="000" --- Raster Bit Image mode (Default)
  Name="UseNVRAM" Value="001" --- NV (Unused key code) mode
  Name="UseNVRAM" Value="002" --- NV (Used key code) mode

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

（Configuration Utility）
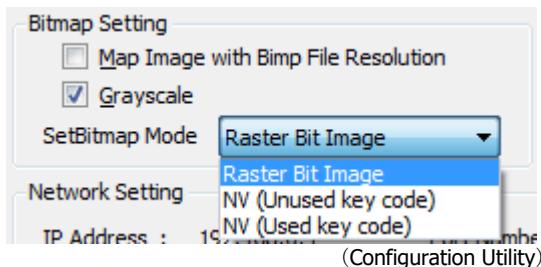
・ **Notes on NV(Unused key code) / NV(Used key code) mode**

The time required for the writing processing in NV (Unused key code) or NV (Used key code) mode mode depends on the communication conditions and the performance of the printer. When the writing for the bitmap registration fails, it is required to set the following transmission timeout time value to 10,000 msec or longer in Configuration.xml and conduct the test.

<Example: CT-S801II, Connected I/F: Ethernet, IP Address: 192.168.0.1>
  <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
    <Property> tab within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag Name="WriteTimeout" Value="10000" or lonter --- "5000" (Default)

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

（Configuration Utility）
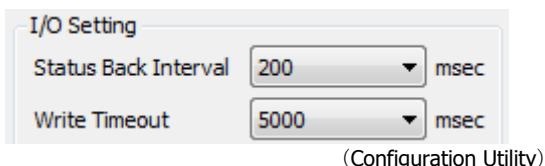
* For the longer life of the printer, it is recommended to register the NV bit image 10 times or less / day.

・ **Limit on the registration size in NV(Unused key code) / NV(Used key code) mode**

The table below lists the maximum data size and the maximum pixel sizes in X and Y directions of the bitmap data that can be registered in NV (Unused key code) and NV (Used key code) mode:

Model	Maximum Data Size	Maximum Pixel Size in X Direction	Maximum Pixel Size in Y Direction
CT-S281 series	256 Kbyte	NV(Unused key code) 8184 pixel NV(Used key code) 8192 pixel	2304 pixel
CT-S310 series			
CT-D150 series	384 Kbyte		
CT-D151 series			
CT-E351 series			
CT-E651 series			
CT-S251 series			
CT-S310II series			
CT-S601/651/801/851 series			

CT-S601II/651II/801II/ 851II series			
CT-S2000 series			
CT-S4000 series			

The printer has a limit in physical size in a lateral direction. The bitmap data exceeding the physical size is discarded by the printer when printed. For more details on the physical size for the printer, refer to the command reference.
The maximum data size is calculated differently for each model.

[For CT-S281/310/2000/4000 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 maximum data size, an error occurs.

[For CT-D150/151, E351/651, S251/310II/601/651/801/851/601II/651II/801II/851II series]
   An error occurs when the total of the data size exceeds maximum data size.

・ **Bitmap file format**

The file formats that can be specified are BMP, JPG, GIF and PNG formats.

PrintBitmap method

It specifies the bitmap file and the printing position, and prints the bitmap. The directions of rotation that can be printed are 0, R90, L90 and 180 degrees

・ **Combination of the RotatePrint method and the PrintBitmap method**

The example of the implementation (Visual Basic for .NET) using the PrintBitmap method and the RotatePrint method is shown below:

```
Public Const PtrBmAsis As Integer = PosPrinter.PrinterBitmapAsIs
Public Const PtrBmLeft As Integer = PosPrinter.PrinterBitmapLeft
Public Const PtrBmCenter As Integer = PosPrinter.PrinterBitmapCenter
Public Const PtrBmRight As Integer = PosPrinter.PrinterBitmapRight

Dim Station As PrinterStation = PrinterStation.Receipt
Dim strBmpfilePath As String = "setbitmap1.bmp"

With Printer
    .Open()
    .Claim(1000)
    .DeviceEnabled = True

    .RotatePrint(Station, PrintRotation.Normal)
    .PrintNormal(Station, "Normal" & vbCrLf)                         ' ①
    .PrintBitmap(Station, strBmpfilePath, PtrBmAsis, PtrBmLeft)      ' ②

    .RotatePrint(Station, PrintRotation.Right90 Or PrintRotation.Bitmap)
    .PrintNormal(Station, "RIGHT90" & vbCrLf)                        ' ③
    .PrintBitmap(Station, strBmpfilePath, PtrBmAsis, PtrBmCenter)    ' ④
```

```
                    .RotatePrint(Station, PrintRotation.Left90 Or PrintRotation.Bitmap)
                    .PrintNormal(Station, "LEFT90" & vbCrLf)                    ' ⑤
                    .PrintBitmap(Station, strBmpfilePath, PtrBmAsis, PtrBmRight)    ' ⑥

                    .RotatePrint(Station, PrintRotation.Right90)
                    .PrintNormal(Station, "RIGHT90" & vbCrLf)                   ' ⑦
                    .PrintBitmap(Station, strBmpfilePath, PtrBmAsis, PtrBmRigh)     ' ⑧

                    .RotatePrint(Station, PrintRotation.Left90)
                    .PrintNormal(Station, "LEFT90" & vbCrLf)                    ' ⑨
                    .PrintBitmap(Station, strBmpfilePath, PtrBmAsis, PtrBmLeft)     ' ⑩

                    .RotatePrint(Station, PrintRotation.Normal)
                    .DeviceEnabled = False
                    .ReleaseDevice()
                    .Close()
                End With
```

<Output Result>

The output result will be as follows. ⑧ and ⑩ are not affected by the RotatePrint method and immediately printed.
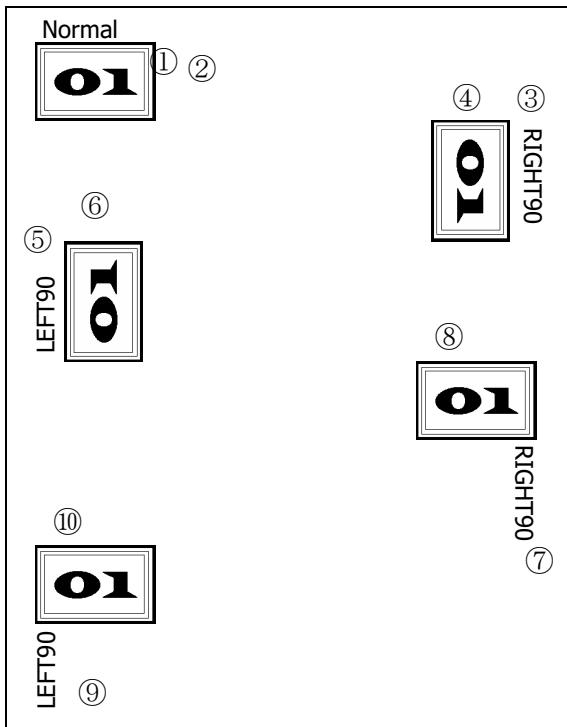
- **Bitmap file format**

  The file formats that can be specified are BMP, JPG GIF and PNG formats.

AsyncMode property

- **true**

  The output methods (PrintNormal, PrintTwoNormal, CutPaper, RotatePrint, PrintBarCode and PrintBitmap) are executed asynchronously.

- **false**

  The output methods are printed synchronously. When an error occurs during the asynchronous output, the error event is reported at intervals of about 0.5 seconds.

ErrorLevel property

- **PrinterErrorLevel.None**

  Indicated when an error is not detected
- **PrinterErrorLevel.Recoverable**

  Indicated when Paper Out/Cover Open/Auto Cutter error/ Auto recoverable error.
- **PrinterErrorLevel.Fatal**

  Indicated when Mechanism error/Unrecoverable error and No response from the printer. When different errors occur simultaneously, priority is given to PrinterErrorLevel.Fatal.

OutputId property / OutputCompleteEvent event

It holds the identifier of the asynchronous output which is started immediately before, and increments it by +1 in the output shown below.

<Example of implementation in Visual Basic for .NET: Output subroutine>

```
Dim i as Integer
Dim PrintStation As PrinterStation

PrintStation = PrinterStation.Receipt

For   i = 0 to 10
    OPOSPrinter.PrintNormal(PrintStation, "TEST PRINT" + Str(i) + Chr$(&HD) + Chr$(&HA))
Next i
```

<Example of implementation in Visual Basic for .NET: Event acquisition subroutine>

```
Private Sub posPrinterOutputCompleteEvent(sender As Object, e As OutputCompleteEventArgs)
    Debug.Print "OutputCompleteEvent -> " + Str(e.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 properties

These properties specify the number of one byte characters of the printer font that are printed on one line of paper.
- RecLineChars property: specifies the maximum number of the column of FontA for the specified paper width
- RecLineCharsList property: lists the maximum numbers of the column of FontA, FontB and FontC for the specified paper width

For details of the printer font, refer to the user's manual of the printer.
When setting the default values of the paper width and the maximum number of the column (FontA), manipulate the following Configuration.xml.

<Example: CT-S801II, Connected I/F: Ethernet, IP Address: 192.168.0.1>
  <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
      <Property> tag within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag
  Name="PaperModel" Value="002"   --- specifies 80   mm paper
  Name="Column" Value="001"   --- specifies 48   columns (FontA)

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

（Configuration Utility）
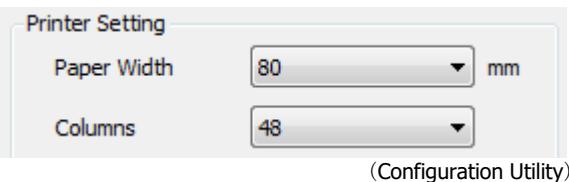
The values of RecLineChars / RecLineCharsList properties for the "paper width" and the "printer font" of each printer are as listed below:

CT-D150 series

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 series

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 series

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 series

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 series

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 series

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

CT-S310 series

Paper Size (mm)		FontA(12*24dot)	FontB(9*17dot)	FontC(8*16dot)	RecLineChars	RecLineCharsList
80	58	30	40	45	30	30, 40, 45
		32	42	48	32	32, 42, 48
		42	56	63	42	42, 56, 63
		48	64	72	48	48, 64, 72

CT-S310II series

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 series

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 series

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-S2000 series

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 series

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

· KANJI font
   It is calculated based on a one-byte character as described above. Therefore, when a multi-font KANJI is used, it is basically handled as two characters.

RecSidewaysMaxChars property

It is calculated based on a one-byte character.
A KANJI font is basically handled as two characters, but it may not be simply two characters depending on the Font selected with the value of the RecLineChars property.

RecSidewaysMaxLines property

It is changed according to the values of the RecLineSpacing property and RecLineChars property. The number of lines may be less than the number of lines that can be actually printed according to the specified value of the RecLineSpacing property.

StatusUpdateEvent event

The StatusUpdateEventArgs.Status parameter of this event is for the data specific to the device class, and indicates the change in status of paper and the cover. The values of the Status parameter for the status change of the CITIZEN POS printer are as listed below:

Printer Status	StatusUpdateEvent(StatusUpdateEventArgs.Status)
Opened the Lid	PosCommon.StatusCoverOpen
Paper is taken out	PosCommon.StatusReceiptNearEmpty
Closed the lid without loading paper	PosCommon.StatusCoverOK
	PosCommon.StatusReceiptEmpty

In addition, the printer for which the value of the PowerNotify property, which indicates the type of the power notification function, can be set to PowerNotification.Enabled, can show the change in power status.

PageModePrint method / ESC|#B escape sequence

There are following restrictions on the use of ESC|#B during the page mode printing using the PageModePrint method depending on the registration mode of the bitmap.

・ **Raster Bit Image mode**
ESC|#B can be used as in the normal printing.

・**NV(Unused key code) or NV(Used key code) mode**
ESC|#B cannot be used during the page mode printing.
When it is used, it does not cause an error but nothing is printed.
Note that when ESC|#B is specified in the ValidateData method during the page mode printing, PosControlException(ErrorCode.Illegal) occurs.

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.

Support model	Firmware Version
CT-D150	All version
CT-D151	All version
CT-E351	All version
CT-E651	All version
CT-S251	All version
CT-S601II/651II/801II/851II	All version
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 firmware than above, this function doesn't work correctly.
     Please set this function invalidly when you use a printer that is older than these printers.

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

In the support model, the initial value of this driver is enabled of function to detect the completion of printing. To change to disable, manipulate the following Configuration.xml.

  <Example: CT-S801II, Connected I/F: Ethernet, IP   Address: 192.168.0.1>
    <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
       <Property> tag within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag
    Name="CheckResponse" Value="1" --- Function to detect the completion of printing was
                             enable
    Name="CheckResponse" Value="0" --- Function to detect the completion of printing was
                             disable

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "".

（Configuration Utility）
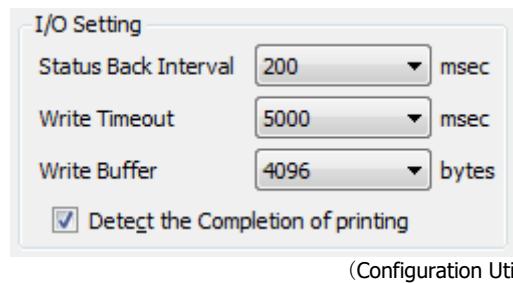
* The function to detect the completion of printing was supported after "CITIZEN POS for .NET Driver Ver.1.12.1.4"

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.

Support model	Firmware Version
CT-D150	All version
CT-D151	All version
CT-E351	All version
CT-E651	All version
CT-S251	All version
CT-S601II/651II/801II/851II	All version
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 POS for .NET Driver Ver.1.12.1.4".

Handling of character encoding

This driver is encoding with the value of the CharacterSet property, when sending the data of Unicode format to the printer.　However, when 255(UserDefined) and encoding are failures, this driver is encoding in the default code page of the system.

Log function

This driver supports the log function which records the methods, properties, and events. When setting the log function, manipulate the following Configuration.xml.

    <Example: CT-S801II, Connected I/F: Ethernet, IP　Address: 192.168.0.1>
      <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
        <Property> tag within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag
    Name="LogLevel" Value="9" --- Specifies the level of the log.
    Name="LogSize" Value="10" --- Specifies the maximum size of log file in MB.
    Name="LogFilePath" Value="C:\Users\public\Log.txt" --- Specifies the path of the log file.

* When changing the above setting, use the setting tool (Configuration Utility) of this driver as described in "1.5. Structure of Configuration.xml".
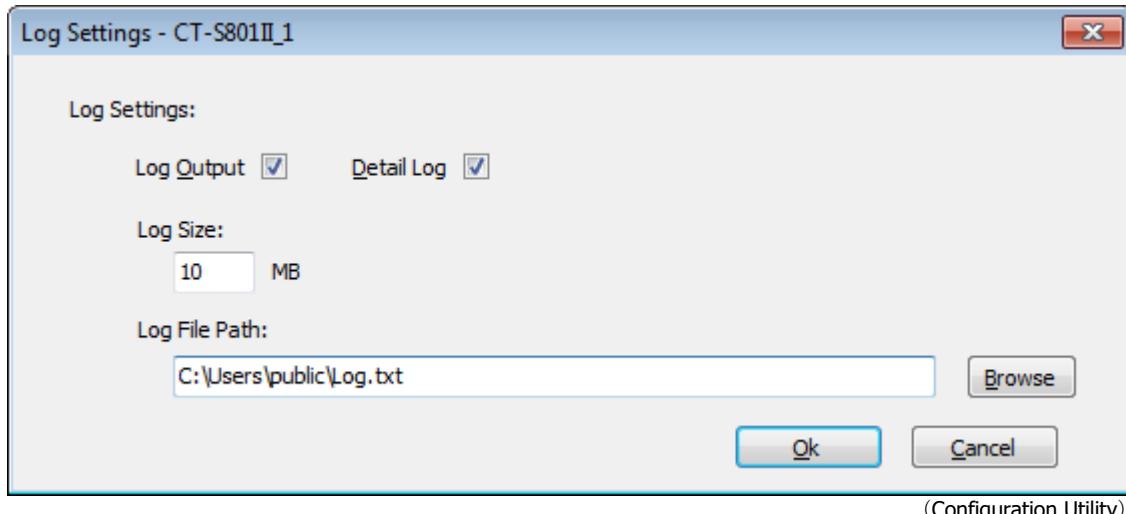
- Log Level
   Specifies the level of the log.
   1) Without log (LogLevel="0")
   2) Log output with Detail Log (LogLevel="9")
   3) Log output without Ditail Log (LogLevel="11")

- Log Size
   Specifies the 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.

- Log File Path
   Specifies the path of the log file. Please specify a file that can be written.

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

```
--- Example of methods 1 (Claim) ---
20140625 16:51:16.447 METHD FcIn   Claim                        timeout:5000
20140625 16:51:16.447 METHD FcEx   Claim                        ErrorCode:Success(0),Extended:0

--- Example of methods (PrintNormal）   ---
20140625 16:51:18.132 METHD FcIn   PrintNormal                  station:Receipt
20140625 16:51:18.148 METHD Dtl    PrintNormal                  0123456789
20140625 16:51:18.148 METHD Dtl    PrintNormal                  ABCDEFGHIJKLMNOPQRSTUVWXYZ
20140625 16:51:18.148 METHD Dtl    PrintNormal                  abcdefghijklmnopqrstuvwxyz
20140625 16:51:18.148 METHD Dtl    PrintNormal
20140625 16:51:18.148 METHD FcEx   PrintNormal                  ErrorCode:Success(0),Extended:0

--- Example to write to properties ---
20140625 16:58:19.636 PRPTY FcIn   AsyncMode                    Set:True

--- Example to read from properties ---
20140625 16:58:19.636 PRPTY FcIn   AsyncMode                    Get:True

--- Example of events ---
20140625 17:00:04.079 EVENT FcIn   StatusUpdateEvent            StatusCoverOK(12)
20140625 17:00:04.079 EVENT FcIn   StatusUpdateEvent            StatusReceiptPaperOK(26)
```

* When the logging function is active, performance of this driver will not be comfortable because a log file will be updated at every method, events and accessing property.


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-S251 series, CT-S601II/651II/801II/851II series
- Targete 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, manipulate the following Configuration.xml.

    <Example: CT-S801II, Connected I/F: Ethernet, IP   Address: 192.168.0.1>
      <ServiceObject Type="PosPrinter" Name="CTS801IIPOSPrinter">
        <Property> tag within <Device HardwarePath="192.168.0.1_CT-S801II_1"> tag
    Name="Grayscale" Value="1" --- Normal (1bpp bitmap) print
    Name="Grayscale" Value="0" --- Grayscale (4bpp bitmap) print

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

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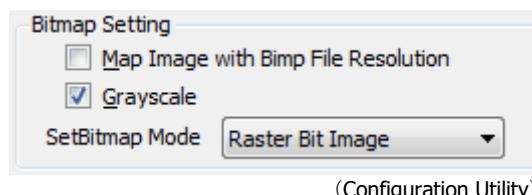
The bitmap printing type can be switched by DirectIO method. Set the value of the following into the Command parameter, please run the DirectIO method.

Command parameter	Bitmap printing type
PtrDiSetBitmapPrintingNormal (12000)	Normal (1bpp bitmap) print
PtrDiSetBitmapPrintingGrayscale (12001)	Grayscale (4bpp bitmap) print

This parameter in this table is defined by "com.citizen.wposcommon.CitizenWPOSConst". Refer to CSJWPOSCommon.dll of the installation directory, and please use it.

3. Cash Drawer Service Object

For details and usage of each property, method and event, refer to "UnifiedPOS Retail Peripheral Architecture Version 1.12".

3.1. Cash Drawer Service and Object Method Relations

CT-D150

Method	Status of support by the driver (CT-D150_*.CD*)	Notes
Open	✓	
Close	✓	
Claim	✓	
Release	✓	
CheckHealth	✓ HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with Drawer.
ClearInputProperties		Not applicable with Drawer.
ClearOutput		Not applicable with Drawer.
CompareFirmWareVersion	ErrorCode.Illegal	Not supported
DirectIO	ErrorCode.Illegal	Not supported
ResetStatistic	ErrorCode.Illegal	Not supported
ResetStatistics	ErrorCode.Illegal	Not supported
RetrieveStatistic	ErrorCode.Illegal	Not supported
RetrieveStatistics	ErrorCode.Illegal	Not supported
UpdateFirmware	ErrorCode.Illegal	Not supported
UpdateStatistic	ErrorCode.Illegal	Not supported
UpdateStatistics	ErrorCode.Illegal	Not supported
OpenDrawer	✓	
WaitForDrawerClose	✓	

CT-D151

Method	Status of support by the driver (CT-D151_*.CD*)	Notes
Open	✓	
Close	✓	
Claim	✓	
Release	✓	
CheckHealth	✓ HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput		Not applicable with Drawer.
ClearInputProperties		Not applicable with Drawer.
ClearOutput		Not applicable with Drawer.
CompareFirmWareVersion	ErrorCode.Illegal	Not supported
DirectIO	ErrorCode.Illegal	Not supported
ResetStatistic	ErrorCode.Illegal	Not supported
ResetStatistics	ErrorCode.Illegal	Not supported
RetrieveStatistic	ErrorCode.Illegal	Not supported
RetrieveStatistics	ErrorCode.Illegal	Not supported
UpdateFirmware	ErrorCode.Illegal	Not supported
UpdateStatistic	ErrorCode.Illegal	Not supported
UpdateStatistics	ErrorCode.Illegal	Not supported
OpenDrawer	✓	
WaitForDrawerClose	✓	

CT-E351

Method	Status of support by the driver (CT-E351_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-E651

Method	Status of support by the driver (CT-E651_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S251

Method	Status of support by the driver (CT-S251_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S281

Method	Status of support by the driver (CT-S281_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S310

Method	Status of support by the driver (CT-S310_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S310II

Method	Status of support by the driver (CT-S310II_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
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	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
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	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S2000

Method	Status of support by the driver (CT-S2000_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

CT-S4000

Method	Status of support by the driver (CT-S4000_*.CD*)		Notes
Open	✓		
Close	✓		
Claim	✓		
Release	✓		
CheckHealth	✓	HealthCheckLevel.External HealthCheckLevel.Internal	
ClearInput			Not applicable with Drawer.
ClearInputProperties			Not applicable with Drawer.
ClearOutput			Not applicable with Drawer.
CompareFirmWareVersion		ErrorCode.Illegal	Not supported
DirectIO		ErrorCode.Illegal	Not supported
ResetStatistic		ErrorCode.Illegal	Not supported
ResetStatistics		ErrorCode.Illegal	Not supported
RetrieveStatistic		ErrorCode.Illegal	Not supported
RetrieveStatistics		ErrorCode.Illegal	Not supported
UpdateFirmware		ErrorCode.Illegal	Not supported
UpdateStatistic		ErrorCode.Illegal	Not supported
UpdateStatistics		ErrorCode.Illegal	Not supported
OpenDrawer	✓		
WaitForDrawerClose	✓		

3.2. Cash Drawer Service Object and Property Relations

CT-D150

Property	Attribute		Status of support by the driver (CT-D150_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-D150_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-D151

Property	Attribute		Status of support by the driver (CT-D151_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-D151_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-E351

Property	Attribute		Status of support by the driver (CT-E351_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-E351_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-E651

Property	Attrib ute		Status of support by the driver (CT-E651_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-E651_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S251

Property	Attribute		Status of support by the driver (CT-S251_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S251_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S281

Property	Attribute		Status of support by the driver (CT-S281_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S281_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S310

Property	Attribute		Status of support by the driver (CT-S310_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S310_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S310II

Property	Attribute		Status of support by the driver (CT-S310II_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CTS310II_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S601/651/801/851

Property	Attribute		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 Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W			Not applicable with OPOS Drawer.
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S601: CT-S601_*.CD* CT-S651: CT-S651_*.CD* CT-S801: CT-S801_*.CD* CT-S851: CT-S851_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

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

Property	Attribute		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 Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W			Not applicable with OPOS Drawer.
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S601II: CT-S601II_*.CD* CT-S651II: CT-S651II_*.CD* CT-S801II: CT-S801II_*.CD* CT-S851II: CT-S851II_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S2000

Property	Attribute		Status of support by the driver (CT-S2000_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S2000_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

CT-S4000

Property	Attribute		Status of support by the driver (CT-S4000_*.CD*)	Notes
AutoDisable	R/W		Not applicable with Drawer.	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	PowerReporting.None	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓	Claim method is successful: true Release method is successful: false	
DataCount	R/W		Not applicable with Drawer.	
DataEventEnabled	R/W		Not applicable with Drawer.	
DeviceEnabled	R/W	✓	true: Device enable false: Device disable	
FreezeEvents	R/W	✓	true: Event notification disabled false: Event notification enabled	
OutputId	R/W		Not applicable with Drawer.	
PowerNotify	R/W	✓	PowerNotification.Disabled (Power notification is not provided) PowerNotification.Enabled (Information on power notification is provided)	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
PowerState	R	✓	PowerState.Unknown	(See CapPowerReporting / Powermotify/ PowerState properties in 3.4 Detail on cash drawer service object)
State	R	✓		For the case other than ControlState.Idle, refer to the State property in "UnifiedPOS Retail Peripheral Architecture Version 1.12".
SynchronizingObject	R/W	✓		
ServiceObjectDescription	R	✓	CITIZEN Service Object for Cash Drawer ver 1.12.*.*	
ServiceObjectVersion	R	✓	1.12.*.*	
DeviceDescription	R	✓	CITIZEN Thermal POSPrinter's Cash Drawer	
DeviceName	R	✓	CT-S4000_*.CD*	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓	false	(See CapStatusMaltiDrawerDetect property in 3.4 Detail on cash drawer service object)
DrawerOpened	R	✓		

3.3. Cash Drawer Service Object and Event Relations

CT-D150

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

CT-D151

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

CT-E351

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

CT-E651

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

CT-S251

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

CT-S281

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

CT-S310

Event	Status of support by the driver (CT-S310_*.CD*)	Note
DataEvent	Not applicable with Drawer.	
DirectIOEvent	Not supported	
ErrorEvent	Not applicable with Drawer.	
OutputCompleteEvent	Not applicable with Drawer.	
StatusUpdateEvent	✓	

CT-S310II

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

CT-S2000

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

CT-S4000

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

3.4. Detail on Cash Drawer Service Object

CapPowerReporting/ PowerNotify/ PowerState properties

This service object only supports the cash drawer(s) which is connected to the drawer kick connector on the back of the printer. Therefore, the value of the CapPowerReporting property is "PowerReporting.None".

CapStatusMultiDrawerDetect property

For this service object, up to two cash drawers can be connected by using a Y-cable for the drawer kick connecter on the back of the printer; however, open/close status of each cash drawer cannot be detected separately. Therefore, the value of the CapStatusMultiDrawerDetect property becomes "false".
When the CapStatusMultiDrawerDetect property is "false", only the following status is reported:
  a) All the cash drawers are closed.
  b) One or more cash drawer is opened.
Note that the "Pin3 signal when the drawer is opened" of each drawer has to the same setting when more than one cash drawer is registered through the "POS for .NET driver setting tool"