

# CITIZEN

## **JavaPOS DRIVER 1.14**

### **Application Development Guide**

**For Ver. 1.14.0.3**

**CITIZEN SYSTEMS JAPAN CO., LTD.**

**Revision Record**

Date	Version	Description
May 7, 2010	1.00	New issue
Oct 8, 2010	1.01	- Added the explanation about the bitmap format to [setBitmap Method/ESC #B Escape Sequence] and [printBitmap Method].
Apr 5, 2011	1.02	- Added CT-S310II to the support models. - "58mm/35columns" setting was added for CT-S601/651/801/851/2000. - Relations table was changed according the model. - "User Defined" was added for CharSetList of Property Relations.
Oct 31, 2011	1.11.2.6	- Version number is changed to same version as driver itself. - Added the explanation about error code of Claim Method. - Changed the explanation about width parameter of [printBarCode Method/ESC #R Escape Sequence]. - Added the explanation about the directions of rotation to [setBitmap Method/ESC #B Escape Sequence].
Mar 26, 2012	1.11.2.7	- Added CD-S500 to the support models. - Changed each item of relations table about the page mode function. - Changed the explanation about the directions of rotation of printBarCode Method. - Changed the explanation about the directions of rotation of printBitmap Method.
Mar 11, 2013	1.11.2.8	- Added the function to detect the completion of printing in [Other printer setting]. - Added the JPOS_CH_INTERNAL of checkHealth in Method Relations. - PDF-417,QRCode,GS1 DataBar were added to "Supported barcodes". - Added the explanation about "Printing GS1 DataBar barcode". - Added the explanation about "Function to detect the completion of printing" and "Function to evade buffer full when the printer error occurred in the printing output".
Jan 17, 2014	1.11.3.0	- Added Windows8/8.1 to Object Operating systems. - Added CT-S281BT/BD to Object Models. - The cash drawer of CT-S281 was added to each item.
Jul 9, 2014	1.11.3.1	- Added 936(Chinese) to the Code Page. - Added NV (Use key code) mode to the SetBitmap mode. - Added the case of "The status feature of the Windows printer driver is enabled" to the extended error code of Claim Method. - Added the explanation about "Handling of character encoding".
Feb 16, 2015	1.11.3.2	- Added CT-S251 and CT-S601II/651II/801II/851II to the support models. - Added the explanation about "Grayscale print".
Sep 30, 2015	1.11.3.3	- Added CT-S310II Ethernet to the applicable driver. - Added CD-S500 USB to the applicable driver of Linux.
Nov 28, 2016	1.11.3.4	- Added Windows10 to Object Operating systems. - Added CT-D150 and CT-E351 to the support models.
Jun 13, 2017	1.11.3.5	- Added CT-D151 and CT-E651 to the support models.
Jan 7, 2019	1.14.0.1	- Supported JavaPOS1.14 - Added CT-S751 and PMU2300III to the support models. - Changed the function of the power notify to JPOS_PR_ADVANCED. - Modied description for extended error code of the claim method.
Feb 12, 2019	1.14.0.2	- Added CT-S4500 to the support models. - Added PTR_MF_TO_NEXT_TOF to the MarkFeed method options. - Added the explanation about "Printing UTF-8 encode characters".
Dec 9, 2020	1.14.0.3	- Added CT-D151-L, CT-E651-L and PMU3300 to the support models. (Page 26,28,40,46,54,101-104,120,124) - Change the value of the PageModeArea property. (Page 43,47,51,55,59,71,75,79,83,87,91,95)

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## **1. Introduction**

This driver complies with JavaPOS1.14. This document provides the explanation of device (POS printer)-dependent specifications and precautions. When you want to develop applications by using this driver, refer to "Java for Retail POS Programming Guide" beforehand.

### **1.1. CITIZEN JavaPOS Driver**

This driver provides an open device driver architecture that can easily integrate the CITIZEN POS printer and the cash drawer connected to it by the POS system based on Java. This driver has been developed for the following purpose.

- Definition of architecture for accessing the Java-based POS printer and cash drawer connected to it
- Definition of interface of CITIZEN POS printer supporting POS solution and cash drawer connected to it

### **1.2. Application Developer**

Application developer who wants to use this driver must be familiar with the following items.

- JavaPOS1.14 specifications
- General characteristics of CITIZEN POS printer
- Terms and structure of Java
- Java development environment

### **1.3. CITIZEN JavaPOS Driver Precautions**

- When printing on label paper, use MarkFeed method (handling of marked paper).
- Please note that proper operation is not guaranteed at the environment where OPOS driver by other company is installed.
- Also refer to the notes in each chapter.



## 2. Operating Environment

### 2.1. Object Operating System

This driver supports the following operating systems.

- Windows XP, Windows7, Windows8, Windows8.1, Windows10 (Use Java Virtual Machine)
- Linux (Use Java Virtual Machine)

### 2.2. Object Models

Object models of this driver and the corresponding drivers are as shown below.

For details of each model, refer to the Printer User's Guide.

#### 2.2.1 Applicable driver (Windows)

Series of Model	OS	Interface	Logical Name
CT-D150	Windows	Serial	CITIZEN D150 Serial Windows CITIZEN D150 Cash Drawer 1 Serial Windows CITIZEN D150 Cash Drawer 2 Serial Windows
		USB	CITIZEN D150 USB Windows CITIZEN D150 Cash Drawer 1 USB Windows CITIZEN D150 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN D150 Ethernet Windows CITIZEN D150 Cash Drawer 1 Ethernet Windows CITIZEN D150 Cash Drawer 2 Ethernet Windows
CT-D151	Windows	Serial	CITIZEN D151 Serial Windows CITIZEN D151 Cash Drawer 1 Serial Windows CITIZEN D151 Cash Drawer 2 Serial Windows
		USB	CITIZEN D151 USB Windows CITIZEN D151 Cash Drawer 1 USB Windows CITIZEN D151 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN D151 Ethernet Windows CITIZEN D151 Cash Drawer 1 Ethernet Windows CITIZEN D151 Cash Drawer 2 Ethernet Windows
CT-E351	Windows	Serial	CITIZEN E351 Serial Windows CITIZEN E351 Cash Drawer 1 Serial Windows CITIZEN E351 Cash Drawer 2 Serial Windows
		USB	CITIZEN E351 USB Windows CITIZEN E351 Cash Drawer 1 USB Windows CITIZEN E351 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN E351 Ethernet Windows CITIZEN E351 Cash Drawer 1 Ethernet Windows CITIZEN E351 Cash Drawer 2 Ethernet Windows
CT-E651	Windows	Serial	CITIZEN E651 Serial Windows CITIZEN E651 Cash Drawer 1 Serial Windows CITIZEN E651 Cash Drawer 2 Serial Windows
		USB	CITIZEN E651 USB Windows CITIZEN E651 Cash Drawer 1 USB Windows CITIZEN E651 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN E651 Ethernet Windows CITIZEN E651 Cash Drawer 1 Ethernet Windows CITIZEN E651 Cash Drawer 2 Ethernet Windows
CT-S251	Windows	Serial	CITIZEN S251 Serial Windows CITIZEN S251 Cash Drawer 1 Serial Windows CITIZEN S251 Cash Drawer 2 Serial Windows
		USB	CITIZEN S251 USB Windows CITIZEN S251 Cash Drawer 1 USB Windows CITIZEN S251 Cash Drawer 2 USB Windows

Series of Model	OS	Interface	Logical Name
CT-S281/281BT/ 281BD	Windows	Ethernet	CITIZEN S251 Ethernet Windows CITIZEN S251 Cash Drawer 1 Ethernet Windows CITIZEN S251 Cash Drawer 2 Ethernet Windows
		Serial/Bluetooth	CITIZEN S281 Serial Windows CITIZEN S281 Cash Drawer 1 Serial Windows
		USB	CITIZEN S281 USB Windows CITIZEN S281 Cash Drawer 1 USB Windows
CT-S310	Windows	Serial	CITIZEN S310 Serial Windows CITIZEN S310 Cash Drawer 1 Serial Windows CITIZEN S310 Cash Drawer 2 Serial Windows
		USB	CITIZEN S310 USB Windows CITIZEN S310 Cash Drawer 1 USB Windows CITIZEN S310 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S310 Ethernet Windows CITIZEN S310 Cash Drawer 1 Ethernet Windows CITIZEN S310 Cash Drawer 2 Ethernet Windows
CT-S310II	Windows	Serial	CITIZEN S310II Serial Windows CITIZEN S310II Cash Drawer 1 Serial Windows CITIZEN S310II Cash Drawer 2 Serial Windows
		USB	CITIZEN S310II USB Windows CITIZEN S310II Cash Drawer 1 USB Windows CITIZEN S310II Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S310II Ethernet Windows CITIZEN S310II Cash Drawer 1 Ethernet Windows CITIZEN S310II Cash Drawer 2 Ethernet Windows
CT-S601	Windows	Serial	CITIZEN S601 Serial Windows CITIZEN S601 Cash Drawer 1 Serial Windows CITIZEN S601 Cash Drawer 2 Serial Windows
		USB	CITIZEN S601 USB Windows CITIZEN S601 Cash Drawer 1 USB Windows CITIZEN S601 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S601 Ethernet Windows CITIZEN S601 Cash Drawer 1 Ethernet Windows CITIZEN S601 Cash Drawer 2 Ethernet Windows
CT-S601II	Windows	Serial	CITIZEN S601II Serial Windows CITIZEN S601II Cash Drawer 1 Serial Windows CITIZEN S601II Cash Drawer 2 Serial Windows
		USB	CITIZEN S601II USB Windows CITIZEN S601II Cash Drawer 1 USB Windows CITIZEN S601II Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S601II Ethernet Windows CITIZEN S601II Cash Drawer 1 Ethernet Windows CITIZEN S601II Cash Drawer 2 Ethernet Windows
CT-S651	Windows	Serial	CITIZEN S651 Serial Windows CITIZEN S651 Cash Drawer 1 Serial Windows CITIZEN S651 Cash Drawer 2 Serial Windows
		USB	CITIZEN S651 USB Windows CITIZEN S651 Cash Drawer 1 USB Windows CITIZEN S651 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S651 Ethernet Windows CITIZEN S651 Cash Drawer 1 Ethernet Windows CITIZEN S651 Cash Drawer 2 Ethernet Windows
CT-S651II	Windows	Serial	CITIZEN S651II Serial Windows CITIZEN S651II Cash Drawer 1 Serial Windows CITIZEN S651II Cash Drawer 2 Serial Windows
		USB	CITIZEN S651II USB Windows CITIZEN S651II Cash Drawer 1 USB Windows CITIZEN S651II Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S651II Ethernet Windows CITIZEN S651II Cash Drawer 1 Ethernet Windows CITIZEN S651II Cash Drawer 2 Ethernet Windows

Series of Model	OS	Interface	Logical Name
CT-S801	Windows	Serial	CITIZEN S801 Serial Windows CITIZEN S801 Cash Drawer 1 Serial Windows CITIZEN S801 Cash Drawer 2 Serial Windows
		USB	CITIZEN S801 USB Windows CITIZEN S801 Cash Drawer 1 USB Windows CITIZEN S801 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S801 Ethernet Windows CITIZEN S801 Cash Drawer 1 Ethernet Windows CITIZEN S801 Cash Drawer 2 Ethernet Windows
CT-S801II	Windows	Serial	CITIZEN S801II Serial Windows CITIZEN S801II Cash Drawer 1 Serial Windows CITIZEN S801II Cash Drawer 2 Serial Windows
		USB	CITIZEN S801II USB Windows CITIZEN S801II Cash Drawer 1 USB Windows CITIZEN S801II Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S801II Ethernet Windows CITIZEN S801II Cash Drawer 1 Ethernet Windows CITIZEN S801II Cash Drawer 2 Ethernet Windows
CT-S851	Windows	Serial	CITIZEN S851 Serial Windows CITIZEN S851 Cash Drawer 1 Serial Windows CITIZEN S851 Cash Drawer 2 Serial Windows
		USB	CITIZEN S851 USB Windows CITIZEN S851 Cash Drawer 1 USB Windows CITIZEN S851 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S851 Ethernet Windows CITIZEN S851 Cash Drawer 1 Ethernet Windows CITIZEN S851 Cash Drawer 2 Ethernet Windows
CT-S851II	Windows	Serial	CITIZEN S851II Serial Windows CITIZEN S851II Cash Drawer 1 Serial Windows CITIZEN S851II Cash Drawer 2 Serial Windows
		USB	CITIZEN S851II USB Windows CITIZEN S851II Cash Drawer 1 USB Windows CITIZEN S851II Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S851II Ethernet Windows CITIZEN S851II Cash Drawer 1 Ethernet Windows CITIZEN S851II Cash Drawer 2 Ethernet Windows
CT-S751	Windows	Serial	CITIZEN S751 Serial Windows CITIZEN S751 Cash Drawer 1 Serial Windows CITIZEN S751 Cash Drawer 2 Serial Windows
		USB	CITIZEN S751 USB Windows CITIZEN S751 Cash Drawer 1 USB Windows CITIZEN S751 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S751 Ethernet Windows CITIZEN S751 Cash Drawer 1 Ethernet Windows CITIZEN S751 Cash Drawer 2 Ethernet Windows
CT-S2000	Windows	Serial	CITIZEN S2000 Serial Windows CITIZEN S2000 Cash Drawer 1 Serial Windows CITIZEN S2000 Cash Drawer 2 Serial Windows
		USB	CITIZEN S2000 USB Windows CITIZEN S2000 Cash Drawer 1 USB Windows CITIZEN S2000 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S2000 Ethernet Windows CITIZEN S2000 Cash Drawer 1 Ethernet Windows CITIZEN S2000 Cash Drawer 2 Ethernet Windows
CT-S4000	Windows	Serial	CITIZEN S4000 Serial Windows CITIZEN S4000 Cash Drawer 1 Serial Windows CITIZEN S4000 Cash Drawer 2 Serial Windows
		USB	CITIZEN S4000 USB Windows CITIZEN S4000 Cash Drawer 1 USB Windows CITIZEN S4000 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S4000 Ethernet Windows CITIZEN S4000 Cash Drawer 1 Ethernet Windows CITIZEN S4000 Cash Drawer 2 Ethernet Windows

Series of Model	OS	Interface	Logical Name
CT-S4500	Windows	Serial	CITIZEN S4500 Serial Windows CITIZEN S4500 Cash Drawer 1 Serial Windows CITIZEN S4500 Cash Drawer 2 Serial Windows
		USB	CITIZEN S4500 USB Windows CITIZEN S4500 Cash Drawer 1 USB Windows CITIZEN S4500 Cash Drawer 2 USB Windows
		Ethernet	CITIZEN S4500 Ethernet Windows CITIZEN S4500 Cash Drawer 1 Ethernet Windows CITIZEN S4500 Cash Drawer 2 Ethernet Windows
PMU2300III	Windows	Serial	CITIZEN PMU2300III Serial Windows
		USB	CITIZEN PMU2300III USB Windows
PMU3300	Windows	Serial	CITIZEN PMU3300 Serial Windows
		USB	CITIZEN PMU3300 USB Windows

## 2.2.2 Applicable driver (Linux)

Series of Model	OS	Interface	Logical Name
CT-D150	Linux	Serial	CITIZEN D150 Serial Linux CITIZEN D150 Cash Drawer 1 Serial Linux CITIZEN D150 Cash Drawer 2 Serial Linux
		USB	CITIZEN D150 USB Linux CITIZEN D150 Cash Drawer 1 USB Linux CITIZEN D150 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN D150 Ethernet Linux CITIZEN D150 Cash Drawer 1 Ethernet Linux CITIZEN D150 Cash Drawer 2 Ethernet Linux
CT-D151	Linux	Serial	CITIZEN D151 Serial Linux CITIZEN D151Cash Drawer 1 Serial Linux CITIZEN D151 Cash Drawer 2 Serial Linux
		USB	CITIZEN D151 USB Linux CITIZEN D151 Cash Drawer 1 USB Linux CITIZEN D151 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN D151 Ethernet Linux CITIZEN D151 Cash Drawer 1 Ethernet Linux CITIZEN D151 Cash Drawer 2 Ethernet Linux
CT-E351	Linux	Serial	CITIZEN E351 Serial Linux CITIZEN E351 Cash Drawer 1 Serial Linux CITIZEN E351 Cash Drawer 2 Serial Linux
		USB	CITIZEN E351 USB Linux CITIZEN E351 Cash Drawer 1 USB Linux CITIZEN E351 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN E351 Ethernet Linux CITIZEN E351 Cash Drawer 1 Ethernet Linux CITIZEN E351 Cash Drawer 2 Ethernet Linux
CT-E651	Linux	Serial	CITIZEN E651 Serial Linux CITIZEN E651 Cash Drawer 1 Serial Linux CITIZEN E651 Cash Drawer 2 Serial Linux
		USB	CITIZEN E651 USB Linux CITIZEN E651 Cash Drawer 1 USB Linux CITIZEN E651 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN E651 Ethernet Linux CITIZEN E651 Cash Drawer 1 Ethernet Linux CITIZEN E651 Cash Drawer 2 Ethernet Linux
CT-S251	Linux	Serial	CITIZEN S251 Serial Linux CITIZEN S251 Cash Drawer 1 Serial Linux CITIZEN S251 Cash Drawer 2 Serial Linux
		USB	CITIZEN S251 USB Linux CITIZEN S251 Cash Drawer 1 USB Linux CITIZEN S251 Cash Drawer 2 USB Linux

Series of Model	OS	Interface	Logical Name
CT-S281/281BT/ 281BD	Linux	Ethernet	CITIZEN S251 Ethernet Linux CITIZEN S251 Cash Drawer 1 Ethernet Linux CITIZEN S251 Cash Drawer 2 Ethernet Linux
		Serial	CITIZEN S281 Serial Linux CITIZEN S281 Cash Drawer 1 Serial Linux
		USB	CITIZEN S281 USB Linux CITIZEN S281 Cash Drawer 1 USB Linux
CT-S310	Linux	Serial	CITIZEN S310 Serial Linux CITIZEN S310 Cash Drawer 1 Serial Linux CITIZEN S310 Cash Drawer 2 Serial Linux
		USB	CITIZEN S310 USB Linux CITIZEN S310 Cash Drawer 1 USB Linux CITIZEN S310 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S310 Ethernet Linux CITIZEN S310 Cash Drawer 1 Ethernet Linux CITIZEN S310 Cash Drawer 2 Ethernet Linux
CT-S310II	Linux	Serial	CITIZEN S310II Serial Linux CITIZEN S310II Cash Drawer 1 Serial Linux CITIZEN S310II Cash Drawer 2 Serial Linux
		USB	CITIZEN S310II USB Linux CITIZEN S310II Cash Drawer 1 USB Linux CITIZEN S310II Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S310II Ethernet Windows CITIZEN S310II Cash Drawer 1 Ethernet Linux CITIZEN S310II Cash Drawer 2 Ethernet Linux
CT-S601	Linux	Serial	CITIZEN S601 Serial Linux CITIZEN S601 Cash Drawer 1 Serial Linux CITIZEN S601 Cash Drawer 2 Serial Linux
		USB	CITIZEN S601 USB Linux CITIZEN S601 Cash Drawer 1 USB Linux CITIZEN S601 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S601 Ethernet Linux CITIZEN S601 Cash Drawer 1 Ethernet Linux CITIZEN S601 Cash Drawer 2 Ethernet Linux
CT-S601II	Linux	Serial	CITIZEN S601II Serial Linux CITIZEN S601II Cash Drawer 1 Serial Linux CITIZEN S601II Cash Drawer 2 Serial Linux
		USB	CITIZEN S601II USB Linux CITIZEN S601II Cash Drawer 1 USB Linux CITIZEN S601II Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S601II Ethernet Linux CITIZEN S601II Cash Drawer 1 Ethernet Linux CITIZEN S601II Cash Drawer 2 Ethernet Linux
CT-S651	Linux	Serial	CITIZEN S651 Serial Linux CITIZEN S651 Cash Drawer 1 Serial Linux CITIZEN S651 Cash Drawer 2 Serial Linux
		USB	CITIZEN S651 USB Linux CITIZEN S651 Cash Drawer 1 USB Linux CITIZEN S651 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S651 Ethernet Linux CITIZEN S651 Cash Drawer 1 Ethernet Linux CITIZEN S651 Cash Drawer 2 Ethernet Linux
CT-S651II	Linux	Serial	CITIZEN S651II Serial Linux CITIZEN S651II Cash Drawer 1 Serial Linux CITIZEN S651II Cash Drawer 2 Serial Linux
		USB	CITIZEN S651II USB Linux CITIZEN S651II Cash Drawer 1 USB Linux CITIZEN S651II Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S651II Ethernet Linux CITIZEN S651II Cash Drawer 1 Ethernet Linux CITIZEN S651II Cash Drawer 2 Ethernet Linux

Series of Model	OS	Interface	Logical Name
CT-S801	Linux	Serial	CITIZEN S801 Serial Linux CITIZEN S801 Cash Drawer 1 Serial Linux CITIZEN S801 Cash Drawer 2 Serial Linux
		USB	CITIZEN S801 USB Linux CITIZEN S801 Cash Drawer 1 USB Linux CITIZEN S801 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S801 Ethernet Linux CITIZEN S801 Cash Drawer 1 Ethernet Linux CITIZEN S801 Cash Drawer 2 Ethernet Linux
CT-S801II	Linux	Serial	CITIZEN S801II Serial Linux CITIZEN S801II Cash Drawer 1 Serial Linux CITIZEN S801II Cash Drawer 2 Serial Linux
		USB	CITIZEN S801II USB Linux CITIZEN S801II Cash Drawer 1 USB Linux CITIZEN S801II Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S801II Ethernet Linux CITIZEN S801II Cash Drawer 1 Ethernet Linux CITIZEN S801II Cash Drawer 2 Ethernet Linux
CT-S851	Linux	Serial	CITIZEN S851 Serial Linux CITIZEN S851 Cash Drawer 1 Serial Linux CITIZEN S851 Cash Drawer 2 Serial Linux
		USB	CITIZEN S851 USB Linux CITIZEN S851 Cash Drawer 1 USB Linux CITIZEN S851 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S851 Ethernet Linux CITIZEN S851 Cash Drawer 1 Ethernet Linux CITIZEN S851 Cash Drawer 2 Ethernet Linux
CT-S851II	Linux	Serial	CITIZEN S851II Serial Linux CITIZEN S851II Cash Drawer 1 Serial Linux CITIZEN S851II Cash Drawer 2 Serial Linux
		USB	CITIZEN S851II USB Linux CITIZEN S851II Cash Drawer 1 USB Linux CITIZEN S851II Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S851II Ethernet Linux CITIZEN S851II Cash Drawer 1 Ethernet Linux CITIZEN S851II Cash Drawer 2 Ethernet Linux
CT-S751	Linux	Serial	CITIZEN S751 Serial Linux CITIZEN S751 Cash Drawer 1 Serial Linux CITIZEN S751 Cash Drawer 2 Serial Linux
		USB	CITIZEN S751 USB Linux CITIZEN S751 Cash Drawer 1 USB Linux CITIZEN S751 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S751 Ethernet Linux CITIZEN S751 Cash Drawer 1 Ethernet Linux CITIZEN S751 Cash Drawer 2 Ethernet Linux
CT-S2000	Linux	Serial	CITIZEN S2000 Serial Linux CITIZEN S2000 Cash Drawer 1 Serial Linux CITIZEN S2000 Cash Drawer 2 Serial Linux
		USB	CITIZEN S2000 USB Linux CITIZEN S2000 Cash Drawer 1 USB Linux CITIZEN S2000 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S2000 Ethernet Linux CITIZEN S2000 Cash Drawer 1 Ethernet Linux CITIZEN S2000 Cash Drawer 2 Ethernet Linux
CT-S4000	Linux	Serial	CITIZEN S4000 Serial Linux CITIZEN S4000 Cash Drawer 1 Serial Linux CITIZEN S4000 Cash Drawer 2 Serial Linux
		USB	CITIZEN S4000 USB Linux CITIZEN S4000 Cash Drawer 1 USB Linux CITIZEN S4000 Cash Drawer 2 USB Linux
		Ethernet	CITIZEN S4000 Ethernet Linux CITIZEN S4000 Cash Drawer 1 Ethernet Linux CITIZEN S4000 Cash Drawer 2 Ethernet Linux

Series of Model	OS	Interface	Logical Name
CT-S4500	Linux	Serial	CITIZEN S4500 Serial Linux
			CITIZEN S4500 Cash Drawer 1 Serial Linux
			CITIZEN S4500 Cash Drawer 2 Serial Linux
		USB	CITIZEN S4500 USB Linux
			CITIZEN S4500 Cash Drawer 1 USB Linux
			CITIZEN S4500 Cash Drawer 2 USB Linux
PMU2300III	Linux	Ethernet	CITIZEN S4500 Ethernet Linux
			CITIZEN S4500 Cash Drawer 1 Ethernet Linux
			CITIZEN S4500 Cash Drawer 2 Ethernet Linux
PMU2300III	Linux	Serial	CITIZEN PMU2300III Serial Linux
		USB	CITIZEN PMU2300III USB Linux
		Serial	CITIZEN PMU3300 Serial Linux
		USB	CITIZEN PMU3300 USB Linux

## 3. JavaPOS Driver Setting

### 3.1. Cnfiguration Operation

In order for Control Object to be connected to Service Object exactly and initialize the corresponding device, the JavaPOS control requires data for the jpos.xml file. The setting data is described as a set of the properties in JposEntry, and it is stored in a key, the pair of the value.

The following is a jpos.xml taking CT-S801II (printer and cash drawer) as an example.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE JposEntries PUBLIC "-//JavaPOS//DTD//EN"
        "jpos/res/jcl.dtd">
<JposEntries>

  <JposEntry logicalName="CITIZEN S801II USB Windows">
    <creation factoryClass="jpos.loader.simple.SimpleJPoSServiceInstanceFactory"
      serviceClass="jpos.services.Citizen801IIPrinterServices"/>
    <vendor name="CITIZEN" url="http://www.citizen-systems.co.jp"/>
    <jpos category="POSPrinter" version="1.14"/>
    <product description="Jpos printer driver" name="CITIZEN CT-S801II POS printer"
      url="http://www.citizen-systems.co.jp"/>

    <prop name="PhysicalDevice" type="String" value="CITIZEN CT-S801II POS Printer"/>
    <prop name="PortName" type="String" value="USB001"/>
    <prop name="PrinterLanguage" type="String" value="8"/>
    <prop name="Columns" type="String" value="48"/>
    <prop name="CharacterSet" type="String" value="932"/>
    <prop name="UseNVRAM" type="String" value="0"/>
    <prop name="PaperModel" type="String" value="80mm"/>
    <prop name="deviceBus" type="String" value="USB"/>
    <prop name="ResponseCheck" type="String" value="1"/>
    <prop name="Grayscale" type="String" value="0"/>
  </JposEntry>

  <JposEntry logicalName="CITIZEN S801II Cash Drawer 1 USB Windows">
    <creation factoryClass="jpos.loader.simple.SimpleJPoSServiceInstanceFactory"
      serviceClass="jpos.services.CashDrawerService1"/>
    <vendor name="CITIZEN" url="http://www.citizen-systems.co.jp"/>
    <jpos category="CashDrawer" version="1.14"/>
    <product description="Jpos Cash Drawer Driver" name="CITIZEN CT-S801II Cash Drawer"
      url="http://www.citizen-systems.co.jp"/>

    <prop name="PhysicalDevice" type="String" value="CITIZEN CT-S801II Cash Drawer"/>
    <prop name="deviceBus" type="String" value="USB"/>
    <prop name="PortName" type="String" value="USB001"/>
    <prop name="OnTime" type="String" value="5"/>
    <prop name="Pin3" type="String" value="1"/>
    <prop name="CapStatus" type="String" value="1"/>
  </JposEntry>

</JposEntries>
```

It is registered with an attached jpos.xml file according to a model, the OS, a connection method. Whether you revise it in text editor or please revise it with the setting tool (JCL) of the installation folder.

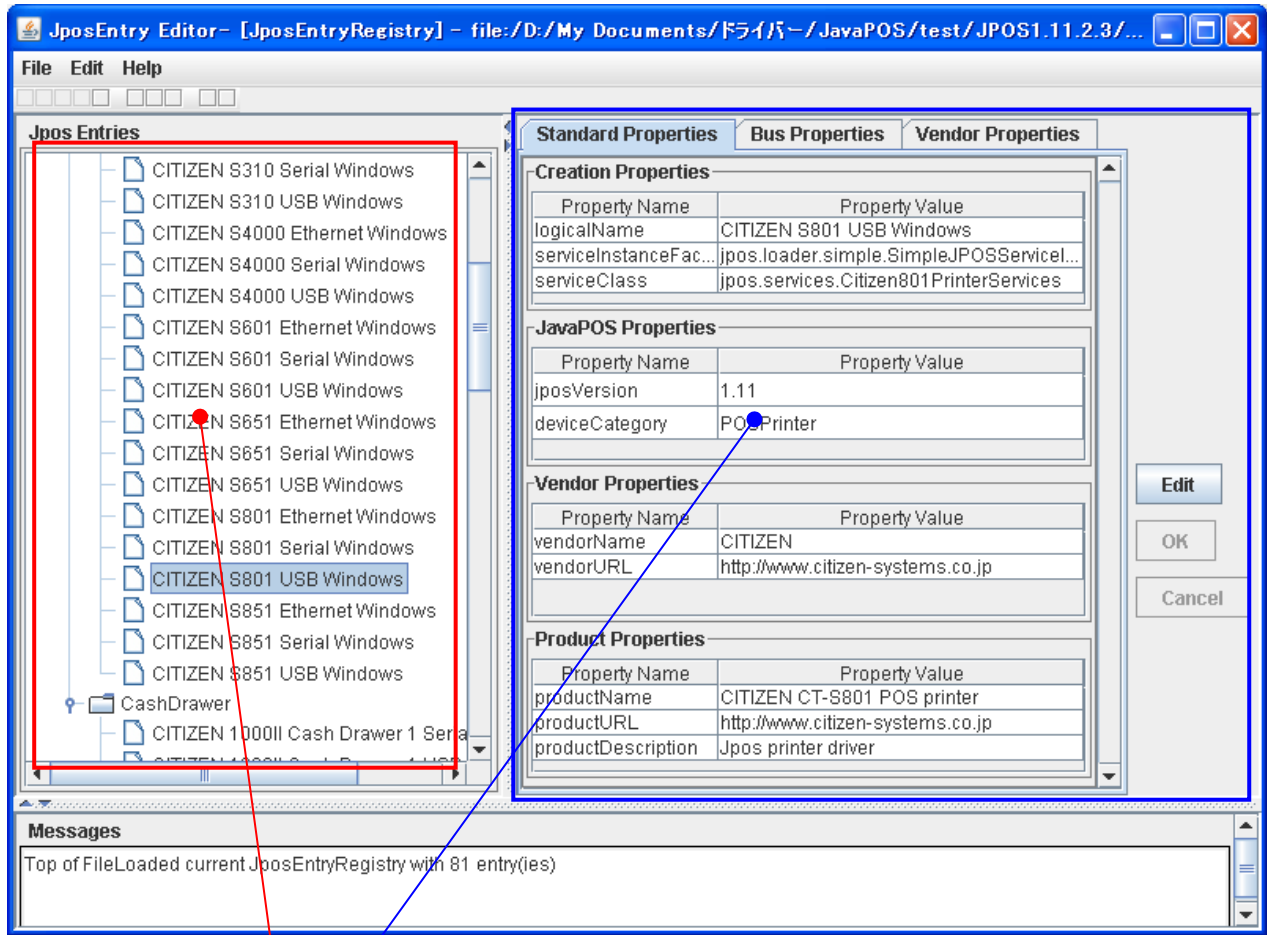


### 3.2. JavaPOS Driver Setting Tool (JCL)

1) Please execute the following files in the installation folder. The following screen is displayed.

Windows : JPOSConfig.bat  
Linux : JPOSConfig.sh

#### Setting Tool Main Screen



Setting view: Indicates the setting of each device (Direct change of setting is available).

Device view: Tree of physical devices and logical devices is indicated.

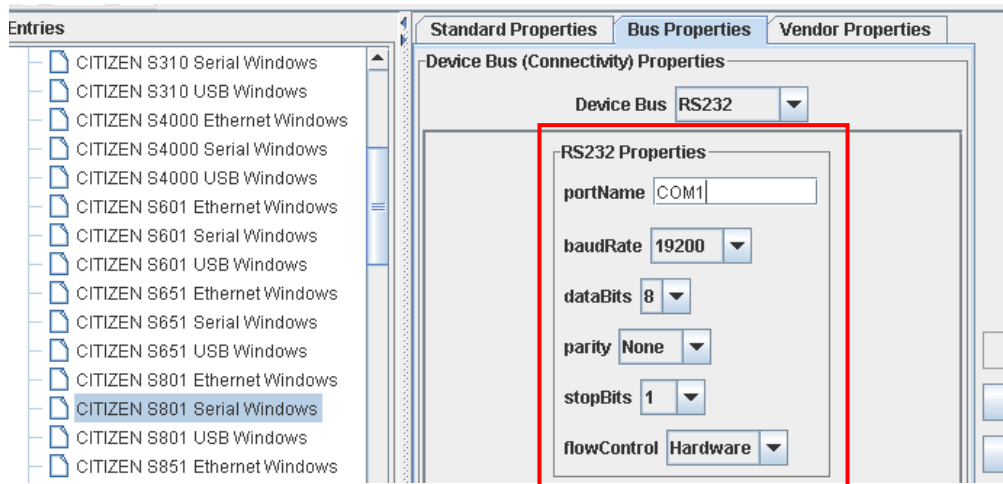
- 2) Select a logical device from the Device view. Please select a "Bus Properties" or "Vendor Properties" tab of the setting view.
- 3) Click "Edit" button, and the revision of the value is enabled.
- 4) Click "OK" button after having revised a value.
- 5) Click "Save JposEntryRegistry" from the File menu for registration.

### 3.3. Connection setting

#### 3.3.1 Serial connection (Windows)

<code>&lt;prop name="portName" type="String" value="COM1"/&gt;</code>	--- Set port name
<code>&lt;prop name="parity" type="String" value="None"/&gt;</code>	--- Set parity
<code>&lt;prop name="flowControl" type="String" value="Hardware"/&gt;</code>	--- Set flow control (Hardware, Xon/Xoff)
<code>&lt;prop name="stopBits" type="String" value="1"/&gt;</code>	--- Set stop bits
<code>&lt;prop name="baudRate" type="String" value="19200"/&gt;</code>	--- Set baud rate

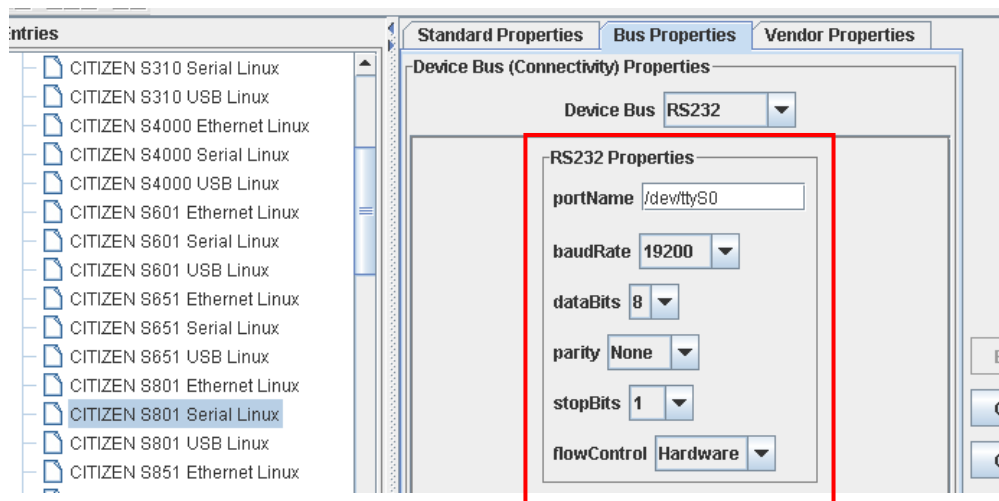
##### Setting Tool Screen



#### 3.3.2 Serial connection (Linux)

<code>&lt;prop name="portName" type="String" value="/dev/ttyS0"/&gt;</code>	--- Set port name
<code>&lt;prop name="parity" type="String" value="None"/&gt;</code>	--- Set parity
<code>&lt;prop name="flowControl" type="String" value="Hardware"/&gt;</code>	--- Set flow control (Hardware, Xon/Xoff)
<code>&lt;prop name="stopBits" type="String" value="1"/&gt;</code>	--- Set stop bits
<code>&lt;prop name="baudRate" type="String" value="19200"/&gt;</code>	--- Set baud rate

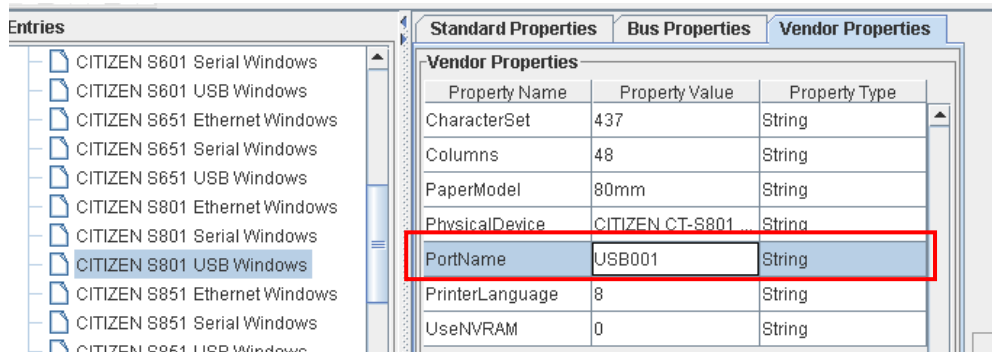
##### Setting Tool Screen



### 3.3.3 USB connection (Windows)

<prop name="PortName" type="String" value="USB001"/> --- Set port name

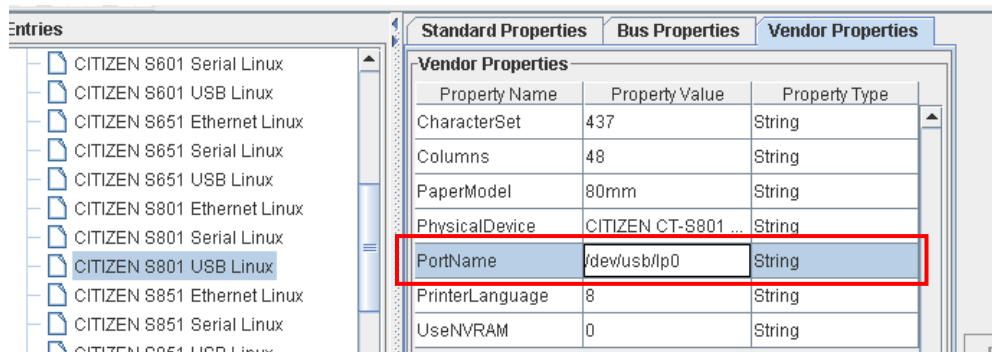
#### Setting Tool Screen



### 3.3.4 USB connection (Linux)

<prop name="PortName" type="String" value="/dev/usb/lp0"/> --- Set port name

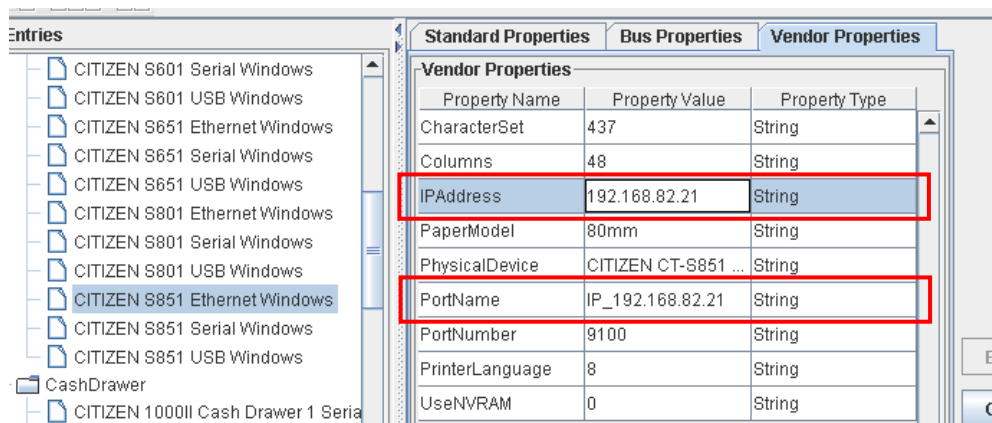
#### Setting Tool Screen



### 3.3.5 Network connection (Windows, Linux)

<prop name="PortName" type="String" value="IP\_192.168.82.21"/> --- Set port name  
 <prop name="IPAddress" type="String" value="192.168.82.21"/> --- Set IP address  
 <prop name="PortNumber" type="String" value="9100"/> --- Set port number

#### Setting Tool Screen



### 3.4. Printer function setting

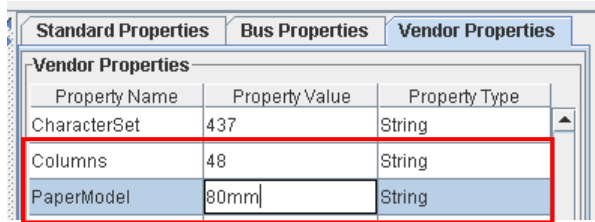
For the details, refer to the chapter of "[4.POS Printer Service Object](#)".

#### 3.4.1 Size of Paper width used and the maximum number of columns per line

This setting is interlocked with the default value of the "RecLineChars/RecLineCharsList" property.

```
<prop name="Columns" type="String" value="48"/>          --- Set maximum columns
<prop name="PaperModel" type="String" value="80mm"/>    --- Set paper width
```

Setting Tool Screen



Specify the size of paper width used (PaperModel) and the maximum number of columns per line (Columns) referring to the following table.

##### CT-D150 Series

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30
		32	384	32
		35	420	35
		42	504	42
		48	576	48

##### CT-D151 Series

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30
		32	384	32
		35	420	35
		42	504	42
		48	576	48

##### CT-E351 Series

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30
		32	384	32
		35	420	35
		42	504	42
		48	576	48

##### CT-E651 Series

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30
		32	384	32
		35	420	35
		42	504	42
		48	576	48

**CT-S251 Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
58mm	30	360	30	30, 40, 45
	32	384	32	32, 42, 48
	35	420	35	35, 46, 52
	36	432	36	36, 48, 54

**CT-S257 Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30, 40, 45
		32	384	32, 42, 48
		35	420	35, 46, 52
	58mm	42	504	42, 56, 63
		48	576	48, 64, 72

**CT-S281 Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
58mm	32	384	32	32, 42, 48

**CT-S310 Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30, 40, 45
		32	384	32, 42, 48
	58mm	42	504	42, 56, 63
		48	576	48, 64, 72

**CT-S310II Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	58mm	30	360	30, 40, 45
		32	384	32, 42, 48
		35	420	35, 46, 52
	58mm	42	504	42, 56, 63
		48	576	48, 64, 72

**CT-S601/651/801/851 Series**

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
83mm	80mm	60mm	58mm	30	360	30	30, 40, 45
				32	384	32	32, 42, 48
				35	420	35	35, 46, 52
				36	436	36	36, 48, 54
				42	512	42	42, 56, 64
				48	576	48	48, 64, 72
				53	640	53	53, 71, 80

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

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
83mm	80mm	60mm	58mm	30	360	30	30, 40, 45
				32	384	32	32, 42, 48
				35	420	35	35, 46, 52
			36	436	36	36, 48, 54	
			42	512	42	42, 56, 64	
			48	576	48	48, 64, 72	
		53	640	53	53, 71, 80		

**CT-S2000 Series**

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
83mm	80mm	60mm	58mm	30	360	30	30, 40, 45
				32	384	32	32, 42, 48
				35	420	35	35, 46, 52
				36	436	36	36, 48, 54
				42	512	42	42, 56, 64
				48	576	48	48, 64, 72
				53	640	53	53, 71, 80

**CT-S4000 Series**

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
112mm	82.5mm	80mm		42	512	42	42, 56, 64
				48	576	48	48, 64, 72
				55	660	55	55, 73, 82
				60	720	60	60, 80, 90
				69	832	69	69, 92, 104

**CT-S4500 Series**

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
112mm	82.5mm	80mm	58mm	30	360	30	30, 40, 45
				32	384	32	32, 42, 48
				35	420	35	35, 46, 52
				36	432	36	36, 48, 54
				42	504	42	42, 56, 63
				48	576	48	48, 64, 72
				55	660	55	55, 73, 82
				60	720	60	60, 80, 90
				69	832	69	69, 92, 104

**PMU2300III Series**

Paper Model	columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	42	512	42	42, 56, 63
	48	576	48	48, 64, 72

**PMU3300 Series**

Paper Model				columns	RecLineWidth	RecLineChars	RecLineCharsList
80mm	60mm	58mm		30	360	30	30, 40, 45
				32	384	32	32, 42, 48
				35	420	35	35, 46, 52
				36	432	36	36, 48, 54
				42	512	42	42, 56, 64
				48	576	48	48, 64, 72

**3.4.2 Other printer setting**

```

<prop name="PrinterLanguage" type="String" value="0"/>
<prop name="CharacterSet" type="String" value="437"/>
<prop name="UseNVRAM" type="String" value="0"/>
<prop name="ResponseCheck" type="String" value="1"/>

```

```

<prop name="Grayscale" type="String" value="0"/>

```

```

--- Set printer language
--- Set character set
--- Set setbitmap mode
--- Set function to detect the completion of
    printing
--- Set grayscale printing

```

Setting Tool Screen

Standard Properties		
Bus Properties		
Vendor Properties		
Property Name	Property Value	Property Type
CharacterSet	437	String
Columns	48	String
Grayscale	0	String
PaperModel	80mm	String
PhysicalDevice	CITIZEN CT-S801III...	String
PortName	USB001	String
PrinterLanguage	0	String
ResponseCheck	1	String
UseNVRAM	0	String

Settings of each item are as shown below.

### **International Char (PrinterLanguage)**

Specify an international character table to use. (Support content differs by the model)

Set value: U.S.A(0)/ France(1)/ Germany(2)/ U.K.(3)/ DenmarkI(4)/ Sweden(5)/  
Italy(6)/ SpainI(7)/ Japan(8)/ Norway(9)/ Denmark II(10)/ Spain II(11)/  
Latin America(12)/ Korea(13)

### **Code Page (CharacterSet)**

Designate code page. (Support content differs by the model)

Set value: 437 / 850 / 852 / 857 / 858 / 860 / 863 / 864 / 865 / 866 / 874 / 932 / 936 / 998 /  
999 / 1252 / 65001 / 255(User Defined)

### **SetBitmap Mode (UseNVRAM)**

Specify the bit image mode of the SetBitmap method. (Support content differs by the model)

Set value: Raster bit image mode(0) / NV (Unuse key code) mode(1) /  
NV (Use key code) mode(2)

### **Function to detect the completion of printing (ResponseCheck)**

In the support model, specify the function to detect the completion of printing.

Set value: Enable(1) / Disable(0)

### **Grayscale printing (Grayscale)**

In the support model, specify the grayscale printing.

Set value: Enable(1) / Disable(0)

## 3.5. Cash Drawer function setting

### 3.5.1 Cash Drawer Connection setting

Please set connection setting same as printer which Cash Drawer is connected to.

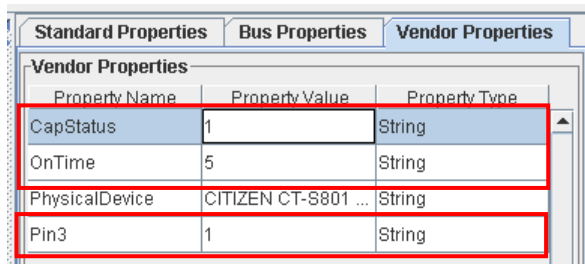
Please refer to "[3.3.Connection setting](#)" for printer connection setting.

### 3.5.2 Other Cash Drawer setting

```
<prop name="OnTime" type="String" value="5"/>
<prop name="Pin3" type="String" value="1"/>
<prop name="CapStatus" type="String" value="1"/>
```

```
--- Set signal length
--- Pin3 status of Drawer opened
--- Set Pin3 connected
```

Setting Tool Screen



Property Name	Property Value	Property Type
CapStatus	1	String
OnTime	5	String
PhysicalDevice	CITIZEN CT-S801 ...	String
Pin3	1	String

Settings of each item are as shown below.

#### **Signal Length (OnTime)**

Specify the time width of the pulse signal output to the solenoid of the cash drawer.

Setting range: 1 to 8 msec

#### **Pin3 Connected (CapStatus)**

Specify the connection of the the pin 3 (drawer switch input) of the drawer kick connector.

Setting range: Connect(1)/Not connect(0)

#### **Pin3 Status of Drawer Opened (Pin3)**

Specify the drawer switch input signal level with cash drawer open.

Setting value: High(1)/Low(0)



## 4. POS Printer Service Object

For the details, method of use, etc. of property, method and event, refer to “Java for Retail POS Programming Guide”.

### 4.1.POS Printer Method Relations

#### **CT-D150**

Method	Status of support by the driver (CITIZEN D150 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-D151**

Method	Status of support by the driver (CITIZEN D151 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO	✓	Defines grayscale print.	<a href="#">Refer to 4.5.16 Grayscale print</a>
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method, Refer to 4.5.16 Grayscale print</a>
printImmediate	✓		
printMemoryBitmap	✓		<a href="#">Refer to 4.5.16 Grayscale print</a>
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence, Refer to 4.5.16 Grayscale print</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-E351**

Method	Status of support by the driver (CITIZEN E351 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-E651**

Method	Status of support by the driver (CITIZEN E651 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO	✓	Defines grayscale print.	<a href="#">Refer to 4.5.16 Grayscale print</a>
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method, Refer to 4.5.16 Grayscale print</a>
printImmediate	✓		
printMemoryBitmap	✓		<a href="#">Refer to 4.5.16 Grayscale print</a>
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence, Refer to 4.5.16 Grayscale print</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S251**

Method	Status of support by the driver (CITIZEN S251 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO	✓	Defines grayscale print.	<a href="#">Refer to 4.5.16 Grayscale print</a>
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method, Refer to 4.5.16 Grayscale print</a>
printImmediate	✓		
printMemoryBitmap	✓		<a href="#">Refer to 4.5.16 Grayscale print</a>
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence, Refer to 4.5.16 Grayscale print</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S281**

Method	Status of support by the driver (CITIZEN S281 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S310**

Method	Status of support by the driver (CITIZEN S310 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper is supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S310II**

Method	Status of support by the driver (CITIZEN S310II *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		



**CT-S601/651/801/851**

Method	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)	Notes
Open	✓	
Close	✓	
Claim	✓	<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓	
checkHealth	✓ JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput	Not applicable with POSPrinter	
clearInputProperties	Not applicable with POSPrinter	
clearOutput	✓	Data being transmitted cannot be stopped.
directIO	JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion	JPOS_E_ILLEGAL	Not supported
resetStatistics	JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓	
updateFirmware	JPOS_E_ILLEGAL	Not supported
updateStatistics	JPOS_E_ILLEGAL	Not supported
beginInsertion	JPOS_E_ILLEGAL	Not supported
beginRemoval	JPOS_E_ILLEGAL	Not supported
changePrintSide	JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓	
cutPaper	✓ Partial cut (1-99) Full cut (0,100)	
drawRuledLine	JPOS_E_ILLEGAL	Not supported
endInsertion	JPOS_E_ILLEGAL	Not supported
endRemoval	JPOS_E_ILLEGAL	Not supported
markFeed	✓ Blackmark paper and label paper are supported.	
pageModePrint	✓	
printBarCode	✓	<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓ Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓	
printMemoryBitmap	✓	
printNormal	✓	
printTwoNormal	JPOS_E_ILLEGAL	Not supported
rotatePrint	✓	<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓ Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓	
transactionPrint	✓	
validateData	✓	

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

Method	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO	✓	Defines grayscale print.	<a href="#">Refer to 4.5.16 Grayscale print</a>
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method, Refer to 4.5.16 Grayscale print</a>
printImmediate	✓		
printMemoryBitmap	✓		<a href="#">Refer to 4.5.16 Grayscale print</a>
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B _ Escape Sequence, Refer to 4.5.16 Grayscale print</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S751**

Method	Status of support by the driver (CITIZEN S751 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO	✓	Defines grayscale print.	<a href="#">Refer to 4.5.16 Grayscale print</a>
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method, Refer to 4.5.16 Grayscale print</a>
printImmediate	✓		
printMemoryBitmap	✓		<a href="#">Refer to 4.5.16 Grayscale print</a>
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence, Refer to 4.5.16 Grayscale print</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S2000**

Method	Status of support by the driver (CITIZEN S2000 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S4000**

Method	Status of support by the driver (CITIZEN S4000 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**CT-S4500**

Method	Status of support by the driver (CITIZEN S4500 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper and label paper are supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode NV (Use key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**PMU2300III**

Method	Status of support by the driver (CITIZEN PMU2300III *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed	✓	Blackmark paper is supported.	
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		

**PMU3300**

Method	Status of support by the driver (CITIZEN PMU3300 *)		Notes
Open	✓		
Close	✓		
Claim	✓		<a href="#">Refer to 4.5.1 Claim Method</a>
Release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		Not applicable with POSPrinter	
clearInputProperties		Not applicable with POSPrinter	
clearOutput	✓		Data being transmitted cannot be stopped.
directIO		JPOS_E_ILLEGAL	Not supported
compareFirmwareVersion		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics	✓		
updateFirmware		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
beginInsertion		JPOS_E_ILLEGAL	Not supported
beginRemoval		JPOS_E_ILLEGAL	Not supported
changePrintSide		JPOS_E_ILLEGAL	Not supported
clearPrintArea	✓		
cutPaper	✓	Partial cut (1-99) Full cut (0,100)	
drawRuledLine		JPOS_E_ILLEGAL	Not supported
endInsertion		JPOS_E_ILLEGAL	Not supported
endRemoval		JPOS_E_ILLEGAL	Not supported
markFeed		JPOS_E_ILLEGAL	Not supported
pageModePrint	✓		
printBarCode	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC  #R Escape Sequence</a>
printBitmap	✓	Raster bit image printing	<a href="#">Refer to 4.5.5 printBitmap Method</a>
printImmediate	✓		
printMemoryBitmap	✓		
printNormal	✓		
printTwoNormal		JPOS_E_ILLEGAL	Not supported
rotatePrint	✓		<a href="#">Refer to 4.5.3 rotatePrint Method</a>
setBitmap	✓	Raster bit image mode NV (Unuse key code) mode	<a href="#">Refer to 4.5.4 setBitmap Method/ ESC  #B Escape Sequence</a>
setLogo	✓		
transactionPrint	✓		
validateData	✓		



## 4.2. POS Printer Property Relations

### CT-D150

Property	Attribute	Status of support by the driver (CITIZEN D150 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-D150 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN D150 *)		Notes
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R		0	Unsupported hardware
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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 Thai Code 18 866:Code866 Russia 857:Code857 Turkey 932:KANA 936:Chinese 998:ASCII 999:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN D150 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**CT-D151**

Property	Attribute	Status of support by the driver (CITIZEN D151 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	True	
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-D151 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN D151 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN D151 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**CT-E351**

Property	Attribute	Status of support by the driver (CITIZEN E351 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-E351 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN E351 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R		0	Unsupported hardware
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN E351 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**CT-E651**

Property	Attribute	Status of support by the driver (CITIZEN E651 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	True	
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-E651 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN E651 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN E651 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**CT-S251**

Property	Attribute	Status of support by the driver (CITIZEN S251 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S251 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S251 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R		0	Unsupported hardware
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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:Windows Code 1252:Windows Code	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	

Property	Attribute	Status of support by the driver (CITIZEN S251 *)		Notes
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" "36,48,54"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarcodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**CT-S281**

Property	Attribute	Status of support by the driver (CITIZEN S281 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S281 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S281 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false true	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R	✓	PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S281 *)	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	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,936	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	
RecBitmapRotationList	R	✓ Raster bit image mode: 0,R90,L90,180	

Property	Attribute	Status of support by the driver (CITIZEN S281 *)		Notes
			NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarcodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



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Property	Attribute	Status of support by the driver (CITIZEN S310 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S310 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S310 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R	✓	PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R		false	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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S310 *)	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	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,936	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	
RecBitmapRotationList	R	✓ Raster bit image mode: 0,R90,L90,180	

Property	Attribute	Status of support by the driver (CITIZEN S310 *)		Notes
			NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineCharsList	R	✓	58 mm paper "30,40,45" "32,42,48" 80 mm paper "42,56,63" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

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Property	Attribute	Status of support by the driver (CITIZEN S310II *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S310II POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S310II *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R		0	Unsupported hardware
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN 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 Thai Code 18 866:Code866 Russia 857:Code857 Turkey 932:KANA 936:Chinese 998:ASCII 999:Windows Code 1252:Windows Code	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	

Property	Attribute	Status of support by the driver (CITIZEN S310II *)		Notes
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarcodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**CT-S601/651/801/851**

Property	Attribute	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S601 POS Printer CITIZEN CT-S651 POS Printer CITIZEN CT-S801 POS Printer CITIZEN CT-S851 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors

Property	Attribute	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)	Notes
CapRecBarCode	R	✓ true	
CapRecBitmap	R	✓ true	
CapRecBold	R	✓ true	
CapRecDhigh	R	✓ true	
CapRecDwide	R	✓ true	
CapRecDwideDhigh	R	✓ true	
CapRecEmptySensor	R	✓ true	
CapRecItalic	R	false	Unsupported hardware
CapRecLeft90	R	✓ true	
CapRecNearEndSensor	R	✓ true	
CapRecPapercut	R	✓ true	
CapRecRight90	R	✓ true	
CapRecRotate180	R	✓ true	
CapRecRuledLine	R	0	Unsupported hardware
CapRecStamp	R	false	
CapRecUnderline	R	✓ true	
CapRecCartridgeSensor	R	✓ PTR_CART_OK	
CapRecColor	R	✓ PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓ PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓ true	
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
CapSlpRuledLine	R	0	Unsupported hardware
CapSlpUnderline	R	false	Unsupported hardware
CapSlpBothSidesPrint	R	false	Unsupported hardware
CapSlpCartridgeSensor	R	false	Unsupported hardware
CapSlpColor	R	false	Unsupported hardware
CapSlpPageMode	R	false	Unsupported hardware
AsyncMode	R/W	✓ true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W	PTR_CN_DISABLED	
CharacterSet	R/W	✓	

Property	Attribute	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)	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:Windows Code 1252:Windows Code	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)		Notes
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
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"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

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

Property	Attribute	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S601II POS Printer CITIZEN CT-S651II POS Printer CITIZEN CT-S801II POS Printer CITIZEN CT-S851II POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors

Property	Attribute	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)	Notes
CapRecBarCode	R	✓ true	
CapRecBitmap	R	✓ true	
CapRecBold	R	✓ true	
CapRecDhigh	R	✓ true	
CapRecDwide	R	✓ true	
CapRecDwideDhigh	R	✓ true	
CapRecEmptySensor	R	✓ true	
CapRecItalic	R	false	Unsupported hardware
CapRecLeft90	R	✓ true	
CapRecNearEndSensor	R	✓ true	
CapRecPapercut	R	✓ true	
CapRecRight90	R	✓ true	
CapRecRotate180	R	✓ true	
CapRecRuledLine	R	0	Unsupported hardware
CapRecStamp	R	false	
CapRecUnderline	R	✓ true	
CapRecCartridgeSensor	R	✓ PTR_CART_OK	
CapRecColor	R	✓ PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓ PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓ true	
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
CapSlpRuledLine	R	0	Unsupported hardware
CapSlpUnderline	R	false	Unsupported hardware
CapSlpBothSidesPrint	R	false	Unsupported hardware
CapSlpCartridgeSensor	R	false	Unsupported hardware
CapSlpColor	R	false	Unsupported hardware
CapSlpPageMode	R	false	Unsupported hardware
AsyncMode	R/W	✓ true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W	PTR_CN_DISABLED	
CharacterSet	R/W	✓	

Property	Attribute	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)	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:Windows Code 1252:Windows Code	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)		Notes
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
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"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**CT-S751**

Property	Attribute	Status of support by the driver (CITIZEN S751 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	True	
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S751 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R		false	Unsupported hardware
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S751 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R		false	Unsupported hardware
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R		0	Unsupported hardware
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R		0	Unsupported hardware
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S751 *)	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:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN S751 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" 80mm paper "42,56,64" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R			Unsupported hardware
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**CT-S2000**

Property	Attribute	Status of support by the driver (CITIZEN S2000 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S2000 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S2000 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R	✓	PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R		false	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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S2000 *)	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	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	
RecBitmapRotationList	R	✓ Raster bit image mode: 0,R90,L90,180	

Property	Attribute	Status of support by the driver (CITIZEN S2000 *)		Notes
			NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
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"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarcodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**CT-S4000**

Property	Attribute	Status of support by the driver (CITIZEN S4000 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S4000 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S4000 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R	✓	PTR_COLOR_PRIMARY   PTR_CUSTOM_COLOR1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S4000 *)	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 Thai Code 18 866:Code866 Russia 857:Code857 Turkey 932:KANA 998:ASCII 999:Windows Code 1252:Windows Code	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	
RecBitmapRotationList	R	✓ Raster bit image mode: 0,R90,L90,180	

Property	Attribute	Status of support by the driver (CITIZEN S4000 *)		Notes
			NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList_Property</a>
RecLineCharsList	R	✓	80mm paper "42,56,64 " "48,64,72" 82.5mm paper "55,73,82" 112mm paper "60,80,90" "69,92,104"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList_Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**CT-S4500**

Property	Attribute	Status of support by the driver (CITIZEN S4500 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN CT-S4500 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN S4500 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R		0	Unsupported hardware
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R	✓	true	
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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN S4500 *)	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 Thai Code 18 866:Code866 Russia 857:Code857 Turkey 932:KANA 936:Chinese 998:ASCII 999:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese 65001: UTF-8	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,1662	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN S4500 *)		Notes
JrnCurrentCartridge	R/W			Unsupported hardware
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W		PTR_COLOR_PRIMARY	Unsupported hardware
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineCharsList	R	✓	58mm paper "30,40,45" "32,42,48" "35,46,52" "36,48,54" 80mm paper "42,56,64 " "48,64,72" 82.5mm paper "55,73,82" 112mm paper "60,80,90" "69,92,104"	<a href="#">Refer to 4.5.9 RecLineChars/RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



**PMU2300III**

Property	Attribute	Status of support by the driver (CITIZEN PMU2300III *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN PMU2300III POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN PMU2300III *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R	✓	PTR_COLOR_PRIMARY   PTR_COLOR_CUSTOM1	
CapRecMarkFeed	R	✓	PTR_MF_TO_CUTTER   PTR_MF_TO_NEXT_TOF	
CapRecPageMode	R		false	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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN PMU2300III *)	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	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,936	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware
RecBarCodeRotationList	R	✓ 0, R90, L90, 180	
RecBitmapRotationList	R	✓ Raster bit image mode: 0,R90,L90,180	

Property	Attribute	Status of support by the driver (CITIZEN PMU2300III *)		Notes
			NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineCharsList	R	✓	80 mm paper "42,56,63" "48,64,72"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarcodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware

**PMU3300**

Property	Attribute	Status of support by the driver (CITIZEN PMU3300 *)		Notes
AutoDisable	R/W		Not applicable with POSPrinter	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_ADVANCED	
CapStatisticsReporting	R	✓	true	
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with POSPrinter	
DataEventEnabled	R/W		Not applicable with POSPrinter	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OutputID	R	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
PowerNotify	R/W	✓		
PowerState	R	✓		
State	R	✓	Online and Ready state JPOS_PS_ONLINE(2001) Power off state JPOS_PS_OFF(2002) Not Ready state JPOS_PS_OFFLINE(2003)	
DeviceControlDescription	R	✓	JavaPOS POSPrinter Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	Citizen Thermal POSPrinter	
PhysicalDeviceName	R	✓	CITIZEN PMU3300 POS Printer	
CapCharacterSet	R	✓	PTR_CCS_ASCII	
CapConcurrentJrnRec	R		false	Unsupported hardware
CapConcurrentJrnSlp	R		false	Unsupported hardware
CapConcurrentPageMode	R		false	Unsupported hardware
CapConcurrentRecSlp	R		false	Unsupported hardware
CapCoverSensor	R	✓	true	
CapTransaction	R	✓	true	
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		false	Unsupported hardware
CapJrnColor	R		false	Unsupported hardware
CapRecPresent	R	✓	true	
CapRec2Color	R	✓	true	Using paper printable in 2 colors
CapRecBarCode	R	✓	true	
CapRecBitmap	R	✓	true	
CapRecBold	R	✓	true	

Property	Attribute	Status of support by the driver (CITIZEN PMU3300 *)		Notes
CapRecDhigh	R	✓	true	
CapRecDwide	R	✓	true	
CapRecDwideDhigh	R	✓	true	
CapRecEmptySensor	R	✓	true	
CapRecItalic	R		false	Unsupported hardware
CapRecLeft90	R	✓	true	
CapRecNearEndSensor	R	✓	true	
CapRecPapercut	R	✓	true	
CapRecRight90	R	✓	true	
CapRecRotate180	R	✓	true	
CapRecRuledLine	R		0	Unsupported hardware
CapRecStamp	R		false	
CapRecUnderline	R	✓	true	
CapRecCartridgeSensor	R	✓	PTR_CART_OK	
CapRecColor	R		PTR_COLOR_PRIMARY	Unsupported hardware
CapRecMarkFeed	R	✓	0	Unsupported hardware
CapRecPageMode	R		false	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
CapSlpRuledLine	R		0	Unsupported hardware
CapSlpUnderline	R		false	Unsupported hardware
CapSlpBothSidesPrint	R		false	Unsupported hardware
CapSlpCartridgeSensor	R		false	Unsupported hardware
CapSlpColor	R		false	Unsupported hardware
CapSlpPageMode	R		false	Unsupported hardware
AsyncMode	R/W	✓	true / false(default)	<a href="#">Refer to 4.5.6 AsyncMode Property</a>
CartridgeNotify	R/W		PTR_CN_DISABLED	
CharacterSet	R/W	✓		

Property	Attribute	Status of support by the driver (CITIZEN PMU3300 *)	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:Windows Code 1252:Windows Code 1258: Code1258 Vietnamese	
CoverOpen	R	✓ TRUE: POS printer cover is open. FALSE: POS printer cover is closed.	
ErrorLevel	R	✓ PTR_EL_NONE PTR_EL_RECOVERABLE PTR_EL_FATAL	<a href="#">Refer to 4.5.7 ErrorLevel Property</a>
ErrorStation	R	✓ PTR_S_RECEIPT	
ErrorString	R	✓	Description on present error is retained.
FontTypefaceList	R	✓ 0,1,2	
FlagWhenIdle	R/W	✓	
MapMode	R/W	✓ PTR_MM_DOTS(default) PTR_MM_TWIPS PTR_MM_ENGLISH PTR_MM_METRIC	
PageModeArea	R	✓ RecLineWidth,936	
PageModeDescriptor	R	✓ PTR_PM_BITMAP   PTR_PM_BARCODE   PTR_PM_BM_ROTATE   PTR_PM_BC_ROTATE	
PageModeHorizontalPosition	R/W	✓ 0(default)	
PageModePrintArea	R/W	✓ 0,0,0,0(default)	
PageModePrintDirection	R/W	✓ PTR_PD_LEFT_TO_RIGHT(default) PTR_PD_BOTTOM_TO_TOP PTR_PD_RIGHT_TO_LEFT PTR_PD_TOP_TO_BOTTOM	
PageModeStation	R/W	✓ PTR_S_RECEIPT	
PageModeVerticalPosition	R/W	✓ 0(default)	
RotateSpecial	R/W	✓ PTR_RP_NORMAL(default) PTR_RP_RIGHT90 PTR_RP_LEFT90 PTR_RP_ROTATE180	
JrnLineChars	R/W		Unsupported hardware
JrnLineCharsList	R		Unsupported hardware
JrnLineHeight	R/W		Unsupported hardware
JrnLineSpacing	R/W		Unsupported hardware
JrnLineWidth	R		Unsupported hardware
JrnLetterQuality	R/W		Unsupported hardware
JrnEmpty	R		Unsupported hardware
JrnNearEnd	R		Unsupported hardware
JrnCartridgeState	R	PTR_CART_UNKNOWN	Unsupported hardware
JrnCurrentCartridge	R/W		Unsupported hardware

Property	Attribute	Status of support by the driver (CITIZEN PMU3300 *)		Notes
RecBarCodeRotationList	R	✓	0, R90, L90, 180	
RecBitmapRotationList	R	✓	Raster bit image mode: 0,R90,L90,180 NV bit image mode: 0,180	
RecCartridgeState	R		TR_CART_UNKNOWN	
RecCurrentCartridge	R/W	✓	PTR_COLOR_PRIMARY, PTR_COLOR_CUSTOM1	
RecEmpty	R	✓		
RecLetterQuality	R/W			Not supported
RecLineChars	R/W	✓		<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
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"	<a href="#">Refer to 4.5.9 RecLineChars/ RecLineCharsList Property</a>
RecLineHeight	R/W	✓		The value is changed according to the RecLineChars property.
RecLineSpacing	R/W	✓		Only if the value is smaller than RecLineHeight property, the value is changed in accordance with to the RecLineHeight property.
RecLinesToPaperCut	R	✓		The value is changed according to the RecLineChars property.
RecLineWidth	R	✓		The value is changed according to the RecLineChars property.
RecNearEnd	R	✓		
RecSidewaysMaxLines	R	✓		<a href="#">Refer to 4.5.11 RecSidewaysMaxLines Property</a>
RecSidewaysMaxChars	R	✓		<a href="#">Refer to 4.5.10 RecSidewaysMaxChars Property</a>
SlpBarCodeRotationList	R			Unsupported hardware
SlpBitmapRotationList	R			Unsupported hardware
SlpCartridgeState	R		PTR_CART_UNKNOWN	Unsupported hardware
SlpCurrentCartridge	R/W			Unsupported hardware
SlpEmpty	R			Unsupported hardware
SlpLetterQuality	R/W			Unsupported hardware
SlpLineChars	R/W			Unsupported hardware
SlpLineCharsList	R			Unsupported hardware
SlpLineHeight	R/W			Unsupported hardware
SlpLinesNearEndToEnd	R			Unsupported hardware
SlpLineSpacing	R/W			Unsupported hardware
SlpLineWidth	R			Unsupported hardware
SlpMaxLines	R			Unsupported hardware
SlpNearEnd	R			Unsupported hardware
SlpPrintSide	R		PTR_PS_UNKNOWN	Unsupported hardware
SlpSidewaysMaxChars	R			Unsupported hardware
SlpSidewaysMaxLines	R			Unsupported hardware



## 4.3. POS Printer Escape Sequence Relations

### CT-D150

Escape Sequence		Status of support by the driver (CITIZEN D150 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBItmap Method/ ESC #B Escape Sequence</a>
Top logo print	ESC tL	✓		
Bottom logo print	ESC bL	✓		
Stamp print	ESC sL		Not supported	
Multi-line feed	ESC #fF	✓		
Unit feed	ESC #uF	✓		
Reverse feed	ESC #rF		Not supported	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #FT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN D151 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN E351 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN E651 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S251 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a> , <a href="#">Refer to 4.5.16 Grayscale print</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S281 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
Top logo print	ESC tL	✓		
Bottom logo print	ESC bL	✓		
Stamp print	ESC sL			
Multi-line feed	ESC #lF	✓		
Unit feed	ESC #uF	✓		
Reverse feed	ESC #rF		Not supported	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #FT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2- color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2- color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S310 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2- color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2- color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S310II *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #FP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
Top logo print	ESC tL	✓		
Bottom logo print	ESC bL	✓		
Stamp print	ESC sL		Not supported	
Multi-line feed	ESC #IF	✓		
Unit feed	ESC #uF	✓		
Reverse feed	ESC #rF		Not supported	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #FT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2- color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2- color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #FP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a> , <a href="#">Refer to 4.5.16 Grayscale print</a>
Top logo print	ESC tL	✓		
Bottom logo print	ESC bL	✓		
Stamp print	ESC sL		Not supported	
Multi-line feed	ESC #IF	✓		
Unit feed	ESC #uF	✓		
Reverse feed	ESC #rF		Not supported	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2-color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2-color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
Centering	ESC cA	✓		
Right adjustment	ESC rA	✓		
Normal	ESC N	✓		
Subscript	ESC tbC		Not supported	
Superscript	ESC tpC		Not supported	

**CT-S751**

Escape Sequence		Status of support by the driver (CITIZEN S751 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S2000 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2-color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2-color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
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 (CITIZEN S4000 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2-color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2-color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
Centering	ESC cA	✓		
Right adjustment	ESC rA	✓		
Normal	ESC N	✓		
Subscript	ESC tbC		Not supported	
Superscript	ESC tpC		Not supported	

**CT-S4500**

Escape Sequence		Status of support by the driver (CITIZEN S4500 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
Centering	ESC cA	✓		
Right adjustment	ESC rA	✓		
Normal	ESC N	✓		
Subscript	ESC tbC		Not supported	
Superscript	ESC tpC		Not supported	

**PMU2300III**

Escape Sequence		Status of support by the driver (CITIZEN PMU2300III *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
Top logo print	ESC tL	✓		
Bottom logo print	ESC bL	✓		
Stamp print	ESC sL		Not supported	
Multi-line feed	ESC #IF	✓		
Unit feed	ESC #uF	✓		
Reverse feed	ESC #rF		Not supported	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #FT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC	✓		Effective only when dedicated 2- color paper is used.
Red	ESC rC	✓		Effective only when dedicated 2- color paper is used.
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
Centering	ESC cA	✓		
Right adjustment	ESC rA	✓		
Normal	ESC N	✓		
Subscript	ESC tbC		Not supported	
Superscript	ESC tpC		Not supported	

**PMU3300**

Escape Sequence		Status of support by the driver (CITIZEN PMU3300 *)		Notes
Paper cut	ESC #P	✓	Partial cut (1-99) Full cut (0,100)	
Feed and paper cut	ESC #fP	✓	Partial cut (1-99) Full cut (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.	After Bitmap printing, print position returns to the initial state (left-justified). <a href="#">Refer to 4.5.4 setBitmap Method/ ESC #B Escape Sequence</a>
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	
BarCode print	ESC #R	✓		<a href="#">Refer to 4.5.2 printBarCode Method/ ESC #R Escape Sequence</a>
Font type specification	ESC #fT	✓		
Bold	ESC bC	✓		
Underline	ESC #u C	✓		
Italic	ESC iC		Not supported	
Custom color	ESC #rC		Not supported	
Red	ESC rC		Not supported	
Reverse character	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 #h C	✓	1-8	
Vertical magnification	ESC #vC	✓	1-8	
Color specification	ESC #fC		Not supported	
Centering	ESC cA	✓		
Right adjustment	ESC rA	✓		
Normal	ESC N	✓		
Subscript	ESC tbC		Not supported	
Superscript	ESC tpC		Not supported	



## 4.4. POS Printer Event Relations

### **CT-D150**

Event	Status of support by the driver (CITIZEN D150 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

### **CT-D151**

Event	Status of support by the driver (CITIZEN D151 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

### **CT-E351**

Event	Status of support by the driver (CITIZEN E351 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

### **CT-E651**

Event	Status of support by the driver (CITIZEN E651 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

### **CT-S251**

Event	Status of support by the driver (CITIZEN S251 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S281**

Event	Status of support by the driver (CITIZEN S281 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S310**

Event	Status of support by the driver (CITIZEN S310 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S310II**

Event	Status of support by the driver (CITIZEN S310II *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S601/651/801/851**

Event	Status of support by the driver (CITIZEN S601 *, CITIZEN S651 *, CITIZEN S801 *, CITIZEN S851 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

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

Event	Status of support by the driver (CITIZEN S601II *, CITIZEN S651II *, CITIZEN S801II *, CITIZEN S851II *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S751**

Event	Status of support by the driver (CITIZEN S751 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S2000**

Event	Status of support by the driver (CITIZEN S2000 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S4000**

Event	Status of support by the driver (CITIZEN S4000 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**CT-S4500**

Event	Status of support by the driver (CITIZEN S4500 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**PMU2300III**

Event	Status of support by the driver (CITIZEN PMU2300III *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

**PMU3300**

Event	Status of support by the driver (CITIZEN PMU3300 *)		Notes
DataEvent		Not applicable with POSPrinter	
DirectIOEvent		Not supported	
ErrorEvent	✓		
OutputCompleteEvent	✓	Increment (+1)	<a href="#">Refer to 4.5.8 OutputID Property/ OutputCompleteEvent Event</a>
StatusUpdateEvent	✓		

## 4.5. POS Printer Precautions

### 4.5.1 Claim Method

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	JPOS_E_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	JPOS_E_ILLEGAL	60002
The printer is connected, but the following error has occurred (1) The auto-cutter error has occurred due to a paper jam (2) A non-recoverable error has occurred due to circuit failure	JPOS_E_ILLEGAL	60003
The status feature of the Windows printer driver is enabled ("Enable bi-directional support" is on in the Port setting)	JPOS_E_ILLEGAL	60004
The printer is connected, but the cover opened error has occurred.	JPOS_E_ILLEGAL	60005
The printer is connected, but the no paper error has occurred.	JPOS_E_ILLEGAL	60006

### 4.5.2 printBarCode Method / ESC | #R Escape Sequence

#### - Supported barcodes

PTR\_BCS\_UPCA, PTR\_BCS\_UPCE, PTR\_BCS\_EAN8, PTR\_BCS\_JAN8, PTR\_BCS\_EAN13, PTR\_BCS\_JAN13, PTR\_BCS\_ITF, PTR\_BCS\_CODABAR, PTR\_BCS\_CODE39, PTR\_BCS\_CODE93, PTR\_BCS\_CODE128, PTR\_BCS\_CODE128\_PARSED, PTR\_BCS\_QRCODE, PTR\_BCS\_PDF417, PTR\_BCS\_GS1DATABAR, PTR\_BCS\_GS1DATABAR\_S, PTR\_BCS\_GS1DATABAR\_E, PTR\_BCS\_GS1DATABAR\_E\_S

#### - About UPC-E barcode printing

This printer compresses the 11- or 12-digit data entered to 8-digit data by using the zero suppression method of UPC-E standard. The following is an example of data compression using zero suppression method.

Ex: Set the original code to be "0-ABCDE-VWXYZ" (11 digits). Printable patterns are as follows:

1) When all V through Y are "0"

"0-ABCDE-0000Z": Denotes "ABCDEZ", where Z is any of 5 through 9.

2) When E and VWXY are all "0"

"0-ABCD0-0000Z": Denotes "ABCDZ4". The last 4 indicates that A and D of manufacturer code is not "0".

3) When DE and VWX are "0"

"0-ABC00-000YZ": Denotes "ABCYZ3". The last 3 indicates that A and C are not "0" but ABC is

a number of 3 digits.

4) When DE and VW are "0" and C is "0", "1", or "2":

- i) When C = "0": "0-AB000-00XYZ" -> "ABXYZ0"
- ii) When C = "1": "0-AB100-00XYZ" -> "ABXYZ1"
- iii) When C = "2": "0-AB200-00XYZ" -> "ABXYZ2"

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

#### - Printing GS1 DataBar barcode

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

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

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

#### - About rotating printing of symbol

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

\* The horizontal rotate designation of printBarcode method was supported after "CITIZEN JavaPOS Driver Ver.1.11.2.7".

#### - Regarding Designation Range of Bar-Code height (height parameter) and Width (Width parameter)

The designation range for both parameters when MapMode Property is set to PTR\_MM\_DOTS is as follows;

Height Parameter:

1 - 255

Width Parameter:

1 - Value of the RecLineWidth Property

\* The width parameter was supported after "CITIZEN JavaPOS Driver Ver.1.11.2.6".

### 4.5.3 rotatePrint Method

Printing size dynamically changes by printing data within the value of RecSidewaysMaxChars. Please refer to [\[4.5.5 printBitmap Method\]](#) for printBitmap Method when RotatePrint method (Rotate print) is designated.

#### 4.5.4 setBitmap Method / ESC | #B Escape Sequence

Bitmap is registered by specifying Bitmap number (1 - 20) using the SetBitmap method and bitmap printing is carried out by specifying the registered number in the ESC | #B escape sequence. This driver has two modes, raster bit image mode and NV bit image mode. Specification of each mode is as shown below.

##### - Raster bit image mode

SO stores own bitmap using the SetBitmap method. When SO is closed, the stored bitmap is cleared. Therefore, it is necessary to register bitmap each time SO is opened.

In this mode, bitmap is memorized including printing position designated at the time of registration.

The directions of rotation that can be printed are 0, R90, L90 and 180 degrees. (CD-S500 supports 0 and 180 degrees.) But the printing position is invalid at R90 and L90 degrees.

##### - NV (Unuse key code) mode

By using the setBitmap method, SO writes bitmap to the nonvolatile memory (Flash ROM) of the printer. Therefore, it is not necessary to register bitmap each time SO is opened.

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 (Use 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-S751 series
CT-S2000 series
CT-S4000 series
CT-S4500 series

By using the setBitmap method, SO writes bitmap to the nonvolatile memory (Flash ROM) of the printer. Therefore, it is not necessary to register bitmap each time SO is opened.

It is not necessary that the bitmap numbers are contiguous. And it is possible to remove a registered image by assigning the FileName parameter as an empty string.

In this mode, the printing position (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"

The initial value of this driver is raster bit image mode. To change to the NV (Unuse key code) or NV (Use key code) mode, perform the configuration operation. Please refer to [\[3.4.2 Other printer setting\]](#).

- \* The time required for write operation in NV (Unuse key code) or NV (Use key code) mode depends on the communication condition, printer performance, etc.
- \* To insure long life of the printer, registration to FlashROM shall be less than 10 times/day.
- \* The pixel size which can be designated by driver side is shown as above but there is physical limitation of size in transverse direction at printer side. Please refer to Command Reference for the details of printer physical size.

#### - About bitmap file format

Available file format is BMP, PNG, GIF and JPEG.

### 4.5.5 printBitmap Method

Perform bitmap printing with the designation of bitmap file and printing position.

#### - Combination of rotatePrint Method and printBitmap

The directions of rotation that can be printed are 0, R90, L90 and 180 degrees. (CD-S500 supports 0 and 180 degrees.) But the printing position is invalid at R90 and L90 degrees.

- \* The horizontal rotate designation of printBitmap method was supported after "CITIZEN JavaPOS Driver Ver.1.11.2.7".

#### - About bitmap file format

Available file format is BMP, PNG, GIF and JPEG.

### 4.5.6 AsyncMode Property

#### - TRUE

Output method (printNormal, printTwoNormal, cutPaper, rotatePrint, printBarCode, printBitmap) is executed asynchronously.



**- FALSE**

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

**4.5.7 ErrorLevel Property****- PTR\_EL\_NONE**

Indicated when error is not detected.

**- PTR\_EL\_RECOVERABLE**

Indicated as recoverable error when Paper Out/Cover Open.

**- PTR\_EL\_FATAL**

Indicated as irrecoverable error at Auto Cutter error happened.

**4.5.8 OutputID Property / OutputCompleteEvent Event**

Identifier of asynchronous output started just before is retained and OutputID Property is incremented by +1.

**4.5.9 RecLineChars / RecLineCharsList Property**

The number of one-byte characters of the font printed in one line on the paper is specified.

- RecLineChars property: Specifies the maximum number of digits of FontA corresponding to the specified paper size.
- RecLineCharsList property: Lists the maximum number of digits of FontA, FontB, FontC corresponding to the specified paper size. (Some printer has no FontC.)

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

When setting the initial value of paper size and maximum number of digits (FontA), perform the configuration operation. Please refer to [\[3.4.1 Size of Paper width used and the maximum number of columns per line\]](#).

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

**CT-D150 Series**

Paper Model	columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
80mm	58mm	30	30	40
		32	32	42
		35	35	46
		42	42	56
		48	48	64

**CT-D151 Series**

Paper Model	columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
80mm	58mm	30	30	40
		32	32	42
		35	35	46
		42	42	56
		48	48	64

**CT-E351 Series**

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

**CT-E651 Series**

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

**CT-S251 Series**

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

**CT-S281 Series**

Paper Model		columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
58mm		32	32	42	48

**CT-S310 Series**

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

**CT-S310II Series**

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

**CT-S601/651/801/851 Series**

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

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

Paper Model				columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
83mm	80mm	60mm	58mm	30	30	40	45
				32	32	42	48

			35	35	46	52
			36	36	48	54
			42	42	56	64
			48	48	64	72
			53	53	71	80

**CT-S751 Series**

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

**CT-S2000 Series**

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

**CT-S4000 Series**

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

**CT-S4500 Series**

Paper Model				columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
112mm	80.5mm	80mm	58mm	30	30	40	45
				32	32	42	48
				35	35	46	52
				36	36	48	54
				42	42	56	64
				48	48	64	72
				55	55	73	82
				60	60	80	90
				69	69	92	104

**PMU2300III Series**

Paper Model	columns	FontA(12*24dot)	FontB(9*24dot)	FontC(8*16dot)
80mm	42	42	56	63
	48	48	64	72

**PMU3300 Series**

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

**- About Kanji font (KANJI)**

As shown above, Kanji font is calculated based on one-byte character. Accordingly, when Kanji font of multi-font is used, it is treated as two characters basically.

(Refer to [\[4.5.10 RecSidewaysMaxChars Property\]](#).)

**4.5.10 RecSidewaysMaxChars Property**

Calculation is made based on one-byte character.

Kanji font (KANJI) is basically treated as two characters but some font selected by the value of the RecLineChars property may not correspond to two characters simply.

**4.5.11 RecSidewaysMaxLines Property**

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

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

**4.5.12 StatusUpdateEvent Event**

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

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

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

**4.5.13 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.

**- Supporte model**

Model	Firmware Version
CT-D150	All version
CT-D150	
CT-E351	
CT-E651	
CT-S251	
CT-S601II/651II/801II/851II	
CT-S751	
CT-S4500	
PMU3300	
CT-S310II	
CT-S601	DT00-0400 or newer
CT-S651	DL00-2000 or newer
	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.

- Targeted 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, perform the configuration operation. Please refer to [\[3.4.2 Other printer setting\]](#).

\* The function to detect the completion of printing was supported after "CITIZEN JavaPOS Driver Ver.1.11.2.8"

#### 4.5.14 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

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

\* The function to evade buffer full when the printer error occurred in the printing output was supported after "CITIZEN JavaPOS Driver Ver.1.11.2.8".

#### 4.5.15 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.

#### 4.5.16 Printing UTF-8 encode characters

In the support model, by setting the CharacterSet property to 65001, you can print the interoperating

East Asian legacy double-byte character sets for Japanese, Korean, Simplified and Traditional Chinese. The printer picks up available characters one by one based on the language assigned for the MSW9-4 selection. Please note that this may result in an inconsistency of the font typeface.

- Support model

CT-D150/151 series, CT-E351/651 series, CT-S751/4500 series

#### 4.5.17 Grayscale print

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

- Support model

CT-D151, CT-E651, CT-S251, CT-S601II/651II/801II/851II/751 series

- Targeted method

printBitmap, printMemoryBitmap, setBitmap (Raster and NV Used key code mode)

The initial value of this driver is the normal (1bpp bitmap) print of the bitmap printing type. To change to the grayscale (4bpp bitmap) print, perform the configuration operation. Please refer to [\[3.4.2 Other printer setting\]](#).

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
PTR_DI_SET_BITMAP_PRINTING_NORMAL (12000)	Normal (1bpp bitmap) print
PTR_DI_SET_BITMAP_PRINTING_GRAYSCALE (12001)	Grayscale (4bpp bitmap) print

This parameter in this table is defined by "com.citizen.jpos.service.CSJjposConst ". Refer to CBMjpos.jar of the installation directory, and please use it.

## 5. Cash Drawer Service Object

For the details, method of use, etc. of property, method and event, refer to “Java for Retail POS Programming Guide”.

### 5.1. Cash Drawer Method Relations

#### **CT-D150**

Method	Status of support by the driver (CITIZEN D150 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

#### **CT-D151**

Method	Status of support by the driver (CITIZEN D151 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-E351**

Method	Status of support by the driver (CITIZEN E351 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-E651**

Method	Status of support by the driver (CITIZEN E651 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S251**

Method	Status of support by the driver (CITIZEN S251 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		



**CT-S281**

Method	Status of support by the driver (CITIZEN S281 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S310**

Method	Status of support by the driver (CITIZEN S310 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S310II**

Method	Status of support by the driver (CITIZEN S310II Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S601/651/801/851**

Method	Status of support by the driver (CITIZEN S601 Cash Drawer *, CITIZEN S651 Cash Drawer *, CITIZEN S801 Cash Drawer *, CITIZEN S851 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

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

Method	Status of support by the driver (CITIZEN S601II Cash Drawer *, CITIZEN S651II Cash Drawer *, CITIZEN S801II Cash Drawer *, CITIZEN S851II Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S751**

Method	Status of support by the driver (CITIZEN S751 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S2000**

Method	Status of support by the driver (CITIZEN S2000 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S4000**

Method	Status of support by the driver (CITIZEN S4000 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

**CT-S4500**

Method	Status of support by the driver (CITIZEN S4500 Cash Drawer *)		Notes
open	✓		
close	✓		
claim	✓		
release	✓		
checkHealth	✓	JPOS_CH_INTERNAL, JPOS_CH_EXTERNAL	
clearInput		JPOS_E_ILLEGAL	Not supported
clearOutput		JPOS_E_ILLEGAL	Not supported
directIO		JPOS_E_ILLEGAL	Not supported
resetStatistics		JPOS_E_ILLEGAL	Not supported
retrieveStatistics		JPOS_E_ILLEGAL	Not supported
updateStatistics		JPOS_E_ILLEGAL	Not supported
openDrawer	✓		
waitForDrawerClose	✓		

## 5.2. Cash Drawer Property Relations

### **CT-D150**

Property	Attribute	Status of support by the driver (CITIZEN D150 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-D150 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-D151**

Property	Attribute	Status of support by the driver (CITIZEN D151 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		False	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		False	Not supported
CapUpdateFirmware	R		False	Not supported
CapUpdateStatistics	R		False	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-D151 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-E351**

Property	Attribute	Status of support by the driver (CITIZEN E351 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-E351 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-E651**

Property	Attribute	Status of support by the driver (CITIZEN E651 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-E651 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		



**CT-S251**

Property	Attribute	Status of support by the driver (CITIZEN S251 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S251 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S281**

Property	Attribute	Status of support by the driver (CITIZEN S281 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S281 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S310**

Property	Attribute	Status of support by the driver (CITIZEN S310 Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S310 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S310II**

Property	Attribute	Status of support by the driver (CITIZEN S310II Cash Drawer *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S310II Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S601/651/801/851**

Property	Attribute	Status of support by the driver (CITIZEN S601 Cash Drawer *, CITIZEN S651 Cash Drawer *, CITIZEN S801 Cash Drawer *, CITIZEN S851 Cash Drawer *)	Notes
AutoDisable	R/W		Not applicable with Drawer
CapCompareFirmwareVersion	R	false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R	false	Not supported
CapUpdateFirmware	R	false	Not supported
CapUpdateStatistics	R	false	Not supported
CheckHealthText	R	✓	
Claimed	R	✓	
DataCount	R		Not applicable with Drawer
DataEventEnabled	R/W		Not applicable with Drawer
DeviceEnabled	R/W	✓	
FreezeEvents	R/W	✓	
OpenResult	R	✓	
OutputID	R		Not applicable with Drawer
PowerNotify	R/W		JPOS_PN_DISABLE <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓	
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control
DeviceControlVersion	R	✓	1014000
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*
DeviceServiceVersion	R	✓	1014***
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *
PhysicalDeviceName	R	✓	CITIZEN CT-S601 Cash Drawer CITIZEN CT-S651 Cash Drawer CITIZEN CT-S801 Cash Drawer CITIZEN CT-S851 Cash Drawer
CapStatus	R	✓	
CapStatusMultiDrawerDetect	R	✓	
DrawerOpened	R	✓	

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

Property	Attribute	Status of support by the driver (CITIZEN S601II Cash Drawer *, CITIZEN S651II Cash Drawer *, CITIZEN S801II Cash Drawer *, CITIZEN S851II Cash Drawer *)	Notes
AutoDisable	R/W		Not applicable with Drawer
CapCompareFirmwareVersion	R	false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
CapStatisticsReporting	R	false	Not supported
CapUpdateFirmware	R	false	Not supported
CapUpdateStatistics	R	false	Not supported
CheckHealthText	R	✓	
Claimed	R	✓	
DataCount	R		Not applicable with Drawer
DataEventEnabled	R/W		Not applicable with Drawer
DeviceEnabled	R/W	✓	
FreezeEvents	R/W	✓	
OpenResult	R	✓	
OutputID	R		Not applicable with Drawer
PowerNotify	R/W		JPOS_PN_DISABLE <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN <a href="#">Refer to 5.4.1 CapPowerReporting/ PowerNotify/ PowerState Property</a>
State	R	✓	
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control
DeviceControlVersion	R	✓	1014000
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*
DeviceServiceVersion	R	✓	1014***
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *
PhysicalDeviceName	R	✓	CITIZEN CT-S601II Cash Drawer CITIZEN CT-S651II Cash Drawer CITIZEN CT-S801II Cash Drawer CITIZEN CT-S851II Cash Drawer
CapStatus	R	✓	
CapStatusMultiDrawerDetect	R	✓	
DrawerOpened	R	✓	

**CT-S751**

Property	Attribute	Status of support by the driver (CITIZEN S751 *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S751 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S2000**

Property	Attribute	Status of support by the driver (CITIZEN S2000 *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S2000 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		



**CT-S4000**

Property	Attribute	Status of support by the driver (CITIZEN S4000 *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S4000 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

**CT-S4500**

Property	Attribute	Status of support by the driver (CITIZEN S4500 *)		Notes
AutoDisable	R/W		Not applicable with Drawer	
CapCompareFirmwareVersion	R		false	Not supported
CapPowerReporting	R	✓	JPOS_PR_NONE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
CapStatisticsReporting	R		false	Not supported
CapUpdateFirmware	R		false	Not supported
CapUpdateStatistics	R		false	Not supported
CheckHealthText	R	✓		
Claimed	R	✓		
DataCount	R		Not applicable with Drawer	
DataEventEnabled	R/W		Not applicable with Drawer	
DeviceEnabled	R/W	✓		
FreezeEvents	R/W	✓		
OpenResult	R	✓		
OutputID	R		Not applicable with Drawer	
PowerNotify	R/W		JPOS_PN_DISABLE	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
PowerState	R		JPOS_PS_UNKNOWN	<a href="#">Refer to 5.4.1 CapPowerReporting/PowerNotify/PowerState Property</a>
State	R	✓		
DeviceControlDescription	R	✓	JavaPOS CashDrawer Device Control	
DeviceControlVersion	R	✓	1014000	
DeviceServiceDescription	R	✓	CITIZEN Service Object for Thermal Printer Cash Drawers ver 1.14.*.*	
DeviceServiceVersion	R	✓	1014***	
PhysicalDeviceDescription	R	✓	CITIZEN Thermal POSPrinter Cash Drawer *	
PhysicalDeviceName	R	✓	CITIZEN CT-S4500 Cash Drawer	
CapStatus	R	✓		
CapStatusMultiDrawerDetect	R	✓		
DrawerOpened	R	✓		

## 5.3.Cash Drawer Event Relations

### **CT-D150**

Event	Status of support by the driver (CITIZEN D150 Cash Drawer *)		Notes
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 (CITIZEN D151 Cash Drawer *)		Notes
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 (CITIZEN E351 Cash Drawer *)		Notes
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 (CITIZEN E651 Cash Drawer *)		Notes
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 (CITIZEN S251 Cash Drawer *)		Notes
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 (CITIZEN S281 Cash Drawer *)	Notes
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 (CITIZEN S310 Cash Drawer *)	Notes
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 (CITIZEN S310II Cash Drawer *)	Notes
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 (CITIZEN S601 Cash Drawer *, CITIZEN S651 Cash Drawer *, CITIZEN S801 Cash Drawer *, CITIZEN S851 Cash Drawer *)	Notes
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 (CITIZEN S601II Cash Drawer *, CITIZEN S651II Cash Drawer *, CITIZEN S801II Cash Drawer *, CITIZEN S851II Cash Drawer *)	Notes
DataEvent	Not applicable with Drawer	
DirectIOEvent	Not supported	
ErrorEvent	Not applicable with Drawer	
OutputCompleteEvent	Not applicable with Drawer	
StatusUpdateEvent	✓	

**CT-S751**

Event	Status of support by the driver (CITIZEN S751 Cash Drawer *)		Notes
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 (CITIZEN S2000 Cash Drawer *)		Notes
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 (CITIZEN S4000 Cash Drawer *)		Notes
DataEvent		Not applicable with Drawer	
DirectIOEvent		Not supported	
ErrorEvent		Not applicable with Drawer	
OutputCompleteEvent		Not applicable with Drawer	
StatusUpdateEvent	✓		

**CT-S4500**

Event	Status of support by the driver (CITIZEN S4500 Cash Drawer *)		Notes
DataEvent		Not applicable with Drawer	
DirectIOEvent		Not supported	
ErrorEvent		Not applicable with Drawer	
OutputCompleteEvent		Not applicable with Drawer	
StatusUpdateEvent	✓		

## **5.4.Cash Drawer Precautions**

### **5.4.1 CapPowerReporting / PowerNotify / PowerState Property**

This service object supports only cash drawer connected to the drawer kick connector at the back of the printer. Therefore the value of the CapPowerReporting property shall be "JPOS\_PR\_NONE". (The power state can not be acquired with the PowerState property.)

### **5.4.2 CapStatusMultiDrawerDetect Property**

Two cash drawers can be connected by using Y-Shape cable to drawer kick connector at this service object but individual detection of cash drawer open/close situation is not possible. For this reason, CapStatusMultiDrawerDetect Property value becomes "FALSE" .

When CapStatusMultiDrawerDetect Property is "FALSE", only the following status is informed.

- a) All cash drawers are closed.
- b) One or more cash drawer(s) is open.

In addition, each [Pin 3 Status of Drawer Opened (Pin3)] should be set in the same way when registering multiple numbers of cash drawers.

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