

# CITIZEN JavaPOS DRIVER 1.11 Setup Guide

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

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## **Notes**

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**Index**

<b>1. About the Product .....</b>	<b>5</b>
<b>2. Operating Environments .....</b>	<b>5</b>
2.1. Operating System .....	5
2.2. Object Models .....	5
2.3. USB Interface Connection .....	6
<b>3. Installation .....</b>	<b>7</b>
3.1. Pre-Installation Instructions.....	7
3.2. Installation Steps for Windows .....	7
3.3. Installation Steps for Linux .....	11
3.4. How to use the Driver for windows .....	13
3.5. How to use the Driver for Linux .....	13
3.6. Setting of JavaPOS entry.....	14
<b>4. Printer Setting .....</b>	<b>16</b>
4.1. CBM-1000II Series.....	16
4.2. CT-S281 Series .....	16
4.3. CT-S300 Series .....	17
4.4. CT-S310 Series .....	17
4.5. CT-S2000 Series .....	18
4.6. CT-S601/651/801/851 Series .....	19
4.7. CT-S4000 Series .....	20

## 1. About the Product

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.

## 2. Operating Environments

### 2.1. Operating System

This driver supports the following operating systems.

- Windows XP
- Linux

### 2.2. Object Models

Object models of this product and the corresponding interface are as shown below.

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

#### Windows environment

Series of Model	Object Model	Interface	Printer Functions
CBM-1000II	CBM-1000TypeII	Serial, USB	Standard
	CBM-1000TypeII- L	Serial, USB	Blackmark paper and label paper are supported.
CT-S281	CT-S281	Serial, USB	Standard
CT-S300	CT-S300	Serial, USB, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S300-M1/M2	Serial, USB, Ethernet	Paper with blackmark on back side is supported.
CT-S310	CT-S310	Serial, USB, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S310-M1/M2	Serial, USB, Ethernet	Paper with blackmark on back side is supported.
CT-S2000	CT-S2000	Serial, USB, Ethernet	Standard
	CT-S2000-M	Serial, USB, Ethernet	Blackmark paper is supported
	CT-S2000-L	Serial, USB, Ethernet	Label paper is supported.
CT-S601/651/851	CT-S601/651/851	Serial, USB, Ethernet	Standard
	CT-S601/651/851-M	Serial, USB, Ethernet	Blackmark paper is supported
CT-S801	CT-801	Serial, USB, Ethernet	Standard
	CT-S801-M	Serial, USB, Ethernet	Blackmark paper is supported
	CT-S801-L	Serial, USB, Ethernet	Label paper is supported.
CT-S4000	CT-S4000	Serial, USB, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S4000-M	Serial, USB, Ethernet	Paper with blackmark on back side is supported.
	CT-S4000-L	Serial, USB, Ethernet	Label paper is supported.

**Linux environment**

Series of Model	Object Model	Interface	Printer Functions
CBM-1000II	CBM-1000TypeII	Serial	Standard
	CBM-1000TypeII- L	Serial	Blackmark paper and label paper are supported.
CT-S281	CT-S281	Serial, USB	Standard
CT-S300	CT-S300	Serial, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S300-M1/M2	Serial, Ethernet	Paper with blackmark on back side is supported.
CT-S310	CT-S310	Serial, USB, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S310-M1/M2	Serial, USB, Ethernet	Paper with blackmark on back side is supported.
CT-S2000	CT-S2000	Serial, USB, Ethernet	Standard
	CT-S2000-M	Serial, USB, Ethernet	Blackmark paper is supported
	CT-S2000-L	Serial, USB, Ethernet	Label paper is supported.
CT-S601/651/851	CT-S601/651/851	Serial, USB, Ethernet	Standard
	CT-S601/651/851-M	Serial, USB, Ethernet	Blackmark paper is supported
CT-S801	CT-801	Serial, USB, Ethernet	Standard
	CT-S801-M	Serial, USB, Ethernet	Blackmark paper is supported
	CT-S801-L	Serial, USB, Ethernet	Label paper is supported.
CT-S4000	CT-S4000	Serial, USB, Ethernet	Standard (Paper with blackmark on front side is supported.)
	CT-S4000-M	Serial, USB, Ethernet	Paper with blackmark on back side is supported.
	CT-S4000-L	Serial, USB, Ethernet	Label paper is supported.

**2.3. USB Interface Connection**

Installation of printer driver is required when using this product with USB connection of the Windows environment. Perform the installation of Windows Driver. Designate USB Interface Port (Virtual Printer Port for USB) which is designated by the Windows Driver at JavaPOS Driver side. Windows driver includes two types: a driver with status function (language monitor) that allows checking of printer status and a driver without status function. When using this driver, be sure to install the Windows driver without status function.

### 3. Installation

#### 3.1. Pre-Installation Instructions

Please download the file according to your operating system from the URL below to get the latest Java for your computer and install the Java run time environment in your system.

<http://www.java.com/>

Before installation, shut down all applications in operation.

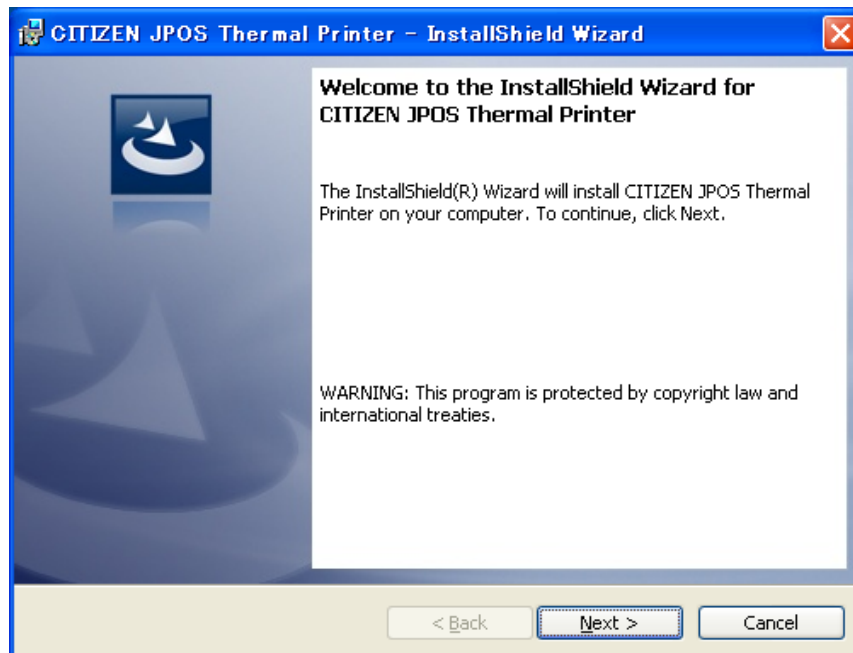
The installer should be run with Administrator (Windows) or root (Linux) privileges.

#### 3.2. Installation Steps for Windows

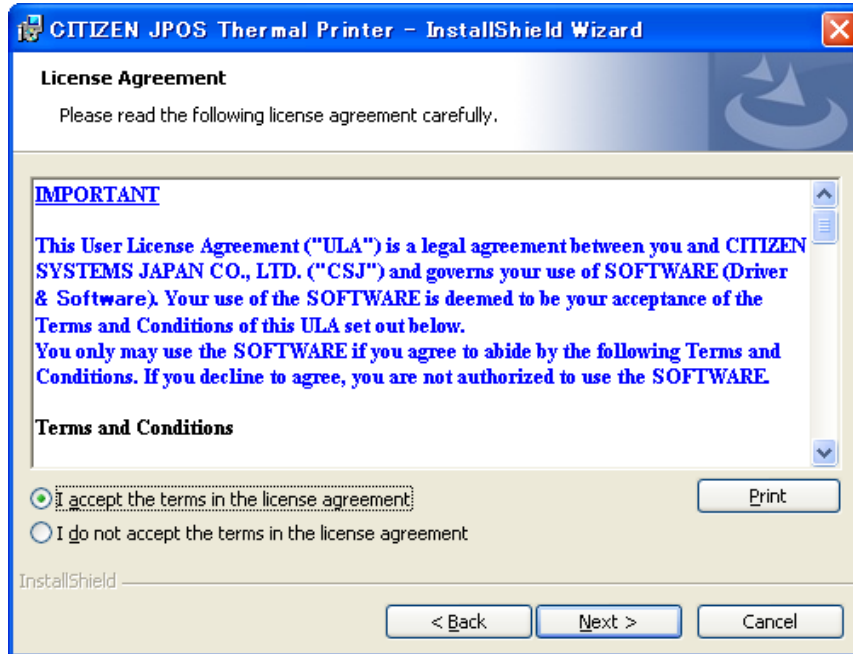
- 1) The installer for Windows is "CSJ\_JPOSxxxxx\_setupEN.exe" (xxxxx is version number).  
To run the installer, double click on it. After starting, follow the installation procedure in accordance with the dialog.



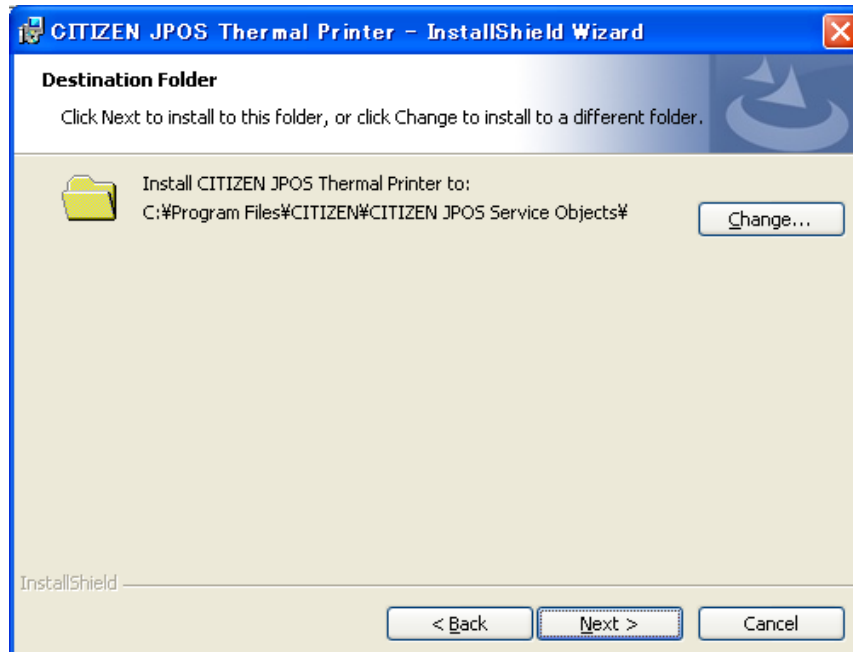
- 2) Setup wizard starts. Click [Next].



- 3) "License Agreement" window is displayed. If you agree with the product license agreement, select "I accept the terms in the license agreement" and click [Next]. If you do not agree with the product license agreement, select "I do not accept the terms in the agreement" and click [Next] to exit the wizard.

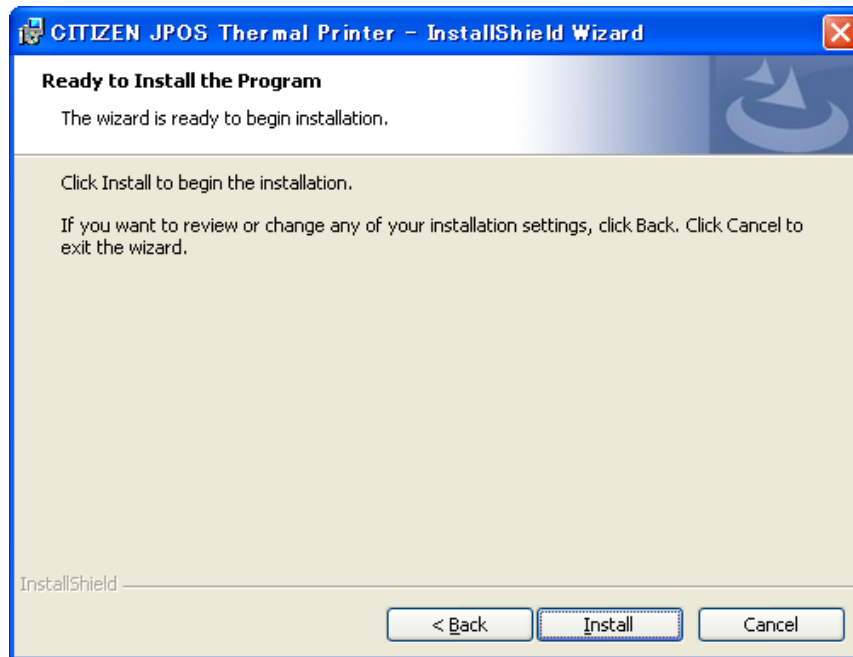


- 4) "Destination Folder" window is displayed. Specify the folder to install. If you use a default folder, click [Next]. If you want to change the folder, change the folder you want to install.

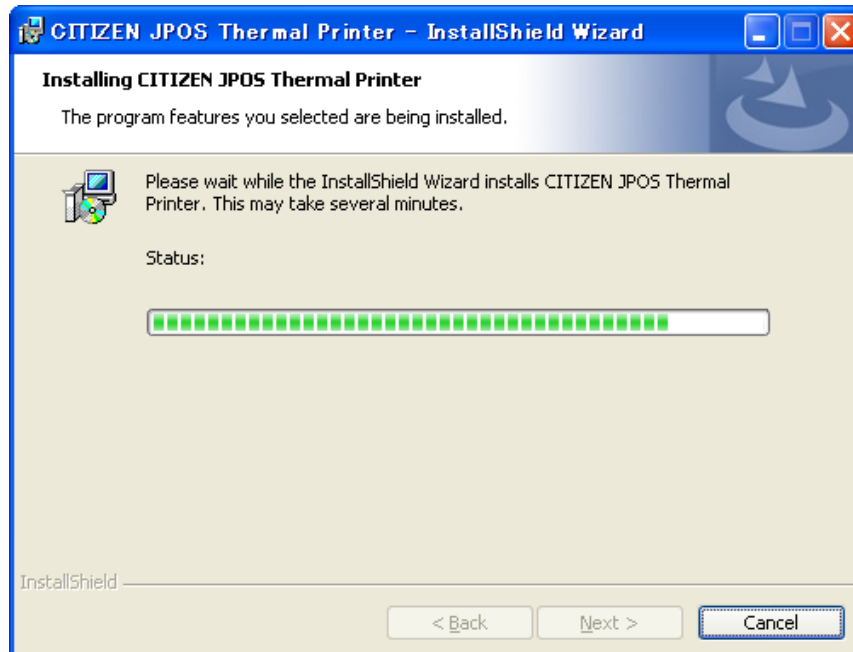




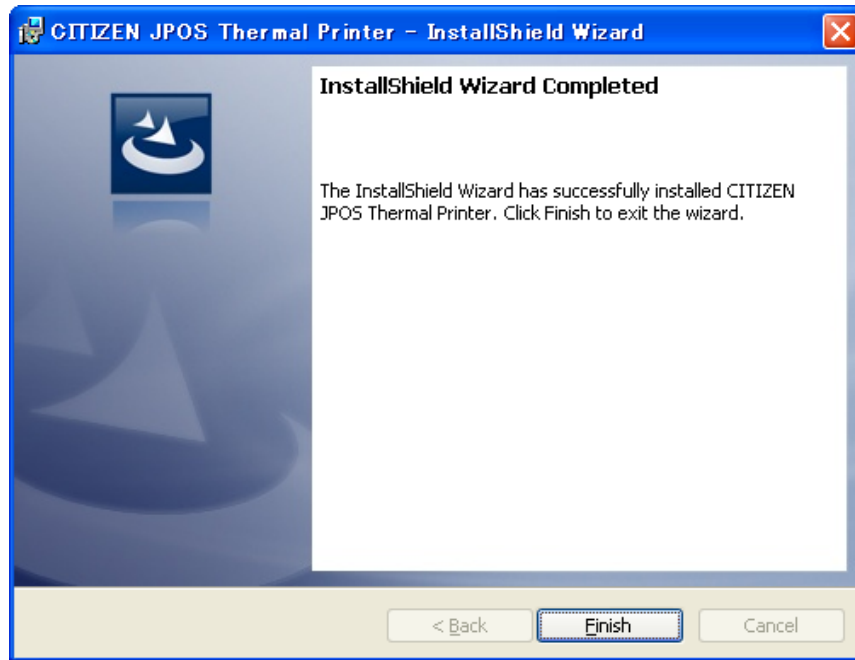
- 5) Click [Install] to begin the installation.



- 6) The installation progress status window is displayed. (It may take longer time to install depending on the environment or specifications of the terminal.)



- 7) When the installation is successful, "Installation Completed" window is displayed. Click [Close].



- 8) The following provides the description on the installation files of this product.

c:\program files\CITIZEN\CITIZEN JPOS Service Object (default)

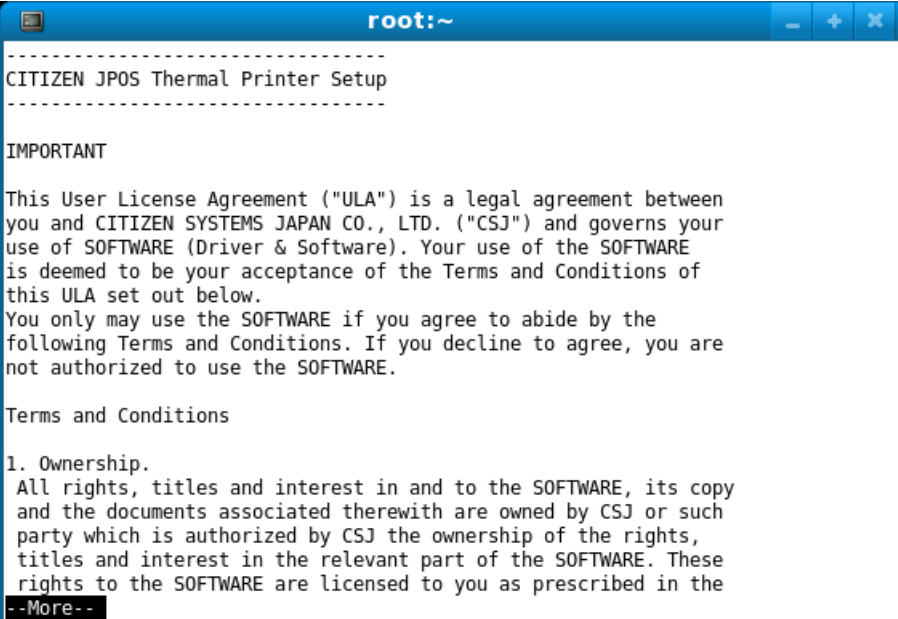
CBMjpos.jar	: CITIZEN JavaPOS library
jcl.jar	: jpos.config/loader (JCL) object
jpos18-controls.jar	: JavaPOS service object
jpos.xml	: JavaPOS configuration file
JPOSApplication.bat	: test application execute file
JPOSApplication.jar	: test application object
JPOSConfig.bat	: configuration (JCL) execute file
*.dll	: device library files
lib	: library folder
Log	: work folder for test application
Macro	: work folder for test application
Sample	: sample code folder

### 3.3. Installation Steps for Linux

- 1) The installer for Linux is "CSJ\_JPOSxxxxx\_setupEN.bin" (xxxxx is version number, self-extracting file). Please make sure the JAVA\_HOME environment property is set to the Java runtime environment installation folder. To run the installer, open the terminal window, change to the directory in which the installer is located, and type "./CSJ\_JPOSxxxxx\_setpuEN.bin" (xxxxx is version number).

After starting, follow the installation procedure in accordance with the dialog.

- 2) Installer starts. Type the space key.



```
root:~
-----
CITIZEN JPOS Thermal Printer Setup
-----

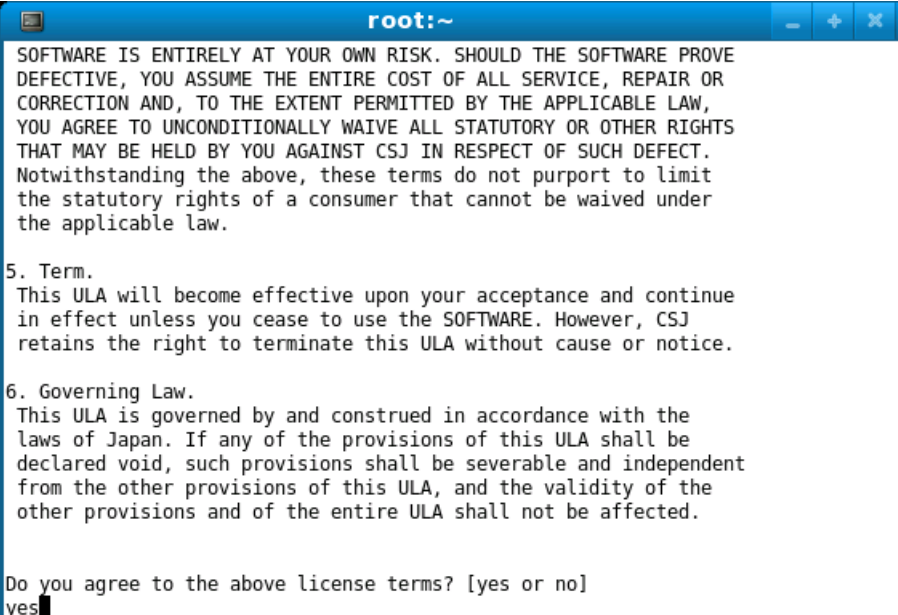
IMPORTANT

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use of SOFTWARE (Driver & Software). Your use of the SOFTWARE
is deemed to be your acceptance of the Terms and Conditions of
this ULA set out below.
You only may use the SOFTWARE if you agree to abide by the
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not authorized to use the SOFTWARE.

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party which is authorized by CSJ the ownership of the rights,
titles and interest in the relevant part of the SOFTWARE. These
rights to the SOFTWARE are licensed to you as prescribed in the
--More--
```

- 3) If you agree with the product license agreement, type "yes". If you do not agree with the product license agreement, type "no" to exit.



```
root:~
SOFTWARE IS ENTIRELY AT YOUR OWN RISK. SHOULD THE SOFTWARE PROVE
DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL SERVICE, REPAIR OR
CORRECTION AND, TO THE EXTENT PERMITTED BY THE APPLICABLE LAW,
YOU AGREE TO UNCONDITIONALLY WAIVE ALL STATUTORY OR OTHER RIGHTS
THAT MAY BE HELD BY YOU AGAINST CSJ IN RESPECT OF SUCH DEFECT.
Notwithstanding the above, these terms do not purport to limit
the statutory rights of a consumer that cannot be waived under
the applicable law.

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This ULA will become effective upon your acceptance and continue
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retains the right to terminate this ULA without cause or notice.

6. Governing Law.
This ULA is governed by and construed in accordance with the
laws of Japan. If any of the provisions of this ULA shall be
declared void, such provisions shall be severable and independent
from the other provisions of this ULA, and the validity of the
other provisions and of the entire ULA shall not be affected.

Do you agree to the above license terms? [yes or no]
yes
```

- 4) When the installation is successful, installed places is displayed.

```

root:~
CSJ_JPOS11123_LinuxEN/lib/
CSJ_JPOS11123_LinuxEN/lib/swing-layout-1.0.jar
CSJ_JPOS11123_LinuxEN/lib/xerces-2.6.0.jar
CSJ_JPOS11123_LinuxEN/lib/xerces2.jar
CSJ_JPOS11123_LinuxEN/libJavaxUsb.so
CSJ_JPOS11123_LinuxEN/librxtxParallel-2.0.5.so
CSJ_JPOS11123_LinuxEN/librxtxParallel.so
CSJ_JPOS11123_LinuxEN/librxtxSerial-2.0.5.so
CSJ_JPOS11123_LinuxEN/librxtxSerial.so
CSJ_JPOS11123_LinuxEN/LinuxCommAPI.jar
CSJ_JPOS11123_LinuxEN/LinuxCommLib.jar
CSJ_JPOS11123_LinuxEN/Log/
CSJ_JPOS11123_LinuxEN/Macro/
CSJ_JPOS11123_LinuxEN/Sample/
CSJ_JPOS11123_LinuxEN/Sample/Sample.java
CSJ_JPOS11123_LinuxEN/Sample/Sample01.bmp

Done.

CITIZEN JPOS Service Objects was installed in the following places.

    /usr/local/CITIZEN/JPOS_Service_Objects

#

```

- 5) The following provides the description on the installation files of this product.

/usr/local/CITIZEN/JPOS\_Service\_Object

CBMjpos.jar	: CITIZEN JavaPOS library
jcl.jar	: jpos.config/loader (JCL) object
jpos18-controls.jar	: Line printer service object
jpos.xml	: JavaPos configuration file
JPOSApplication.sh	: test application execute file
JPOSApplication.jar	: test application object
JPOSConfig.sh	: configuration (JCL) execute file
*.jar	: device library files
lib	: library directory
Log	: work directory for test application
Macro	: work directory for test application
Sample	: sample code directory

\$JAVA\_HOME/lib/i386 (JAVA\_HOME is the Java runtime environment installation folder)

libJavaxUsb.so	: device library files
librxtxParallel-2.0.5.so	: device library files
librxtxParallel.so	: device library files
librxtxSerial-2.0.5.so	: device library files
librxtxSerial.so	: device library files

### 3.4. How to use the Driver for windows

Change to the Windows installation folder and double clicking the following file.

For starting the test application

JPOSApplication.bat

For starting the JPOS entry editor

JPOSConfig.bat

### 3.5. How to use the Driver for Linux

Open the terminal window and change to the Linux installation directory and type the following command on the command prompt.

For starting the test application

./JPOSApplication.sh

For starting the JPOS entry editor

./JPOSConfig.sh

### 3.6. Setting of JavaPOS entry

In order for Control Object to be connected to Service Object exactly and initialize the corresponding device, the JavaPOS control requires data of the jpos.xml file.

The following is the jpos.xml setting when it connects CT-S801 (printer) by Serial as an example. It is necessary to revise a value of "portName", "parity", "flowControl", "stopBits" and "baudRate".

```
<JposEntry logicalName="CITIZEN S801 Serial Windows">
  <creation factoryClass="jpos.loader.simple.SimpleJPOSServiceInstanceFactory"
    serviceClass="jpos.services.Citizen801PrinterServices"/>
  <vendor name="CITIZEN" url="http://www.citizen-systems.co.jp"/>
  <jpos category="POSPrinter" version="1.11"/>
  <product description="Jpos printer driver" name="CITIZEN CT-S801 POS printer"
    url="http://www.citizen-systems.co.jp"/>

  <prop name="portName" type="String" value="COM1"/>
  <prop name="PhysicalDevice" type="String" value="CITIZEN CT-S801 POS Printer"/>
  <prop name="dataBits" type="String" value="8"/>
  <prop name="PrinterLanguage" type="String" value="8"/>
  <prop name="parity" type="String" value="None"/>
  <prop name="flowControl" type="String" value="Hardware"/>
  <prop name="CharacterSet" type="String" value="437"/>
  <prop name="Columns" type="String" value="48"/>
  <prop name="stopBits" type="String" value="1"/>
  <prop name="UseNVRAM" type="String" value="0"/>
  <prop name="PaperModel" type="String" value="80mm"/>
  <prop name="deviceBus" type="String" value="RS232"/>
  <prop name="baudRate" type="String" value="19200"/>
</JposEntry>
```

The following is the jpos.xml setting when it connects CT-S801 (printer) by USB as an example. It is necessary to revise a value of "PortName".

```
<JposEntry logicalName="CITIZEN S801 USB Windows">
  <creation factoryClass="jpos.loader.simple.SimpleJPOSServiceInstanceFactory"
    serviceClass="jpos.services.Citizen801PrinterServices"/>
  <vendor name="CITIZEN" url="http://www.citizen-systems.co.jp"/>
  <jpos category="POSPrinter" version="1.11"/>
  <product description="Jpos printer driver" name="CITIZEN CT-S801 POS printer"
    url="http://www.citizen-systems.co.jp"/>

  <prop name="PhysicalDevice" type="String" value="CITIZEN CT-S801 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"/>
</JposEntry>
```

The following is the jpos.xml setting when it connects CT-S801 (printer) by Ethernet as an example. It is

necessary to revise a value of "PortName" and "IPAddress".

```
<JposEntry logicalName="CITIZEN S801 Ethernet Windows">
  <creation factoryClass="jpos.loader.simple.SimpleJPOSServiceInstanceFactory"
    serviceClass="jpos.services.Citizen801PrinterServices"/>
  <vendor name="CITIZEN" url="http://www.citizen-systems.co.jp"/>
  <jpos category="POSPrinter" version="1.11"/>
  <product description="Jpos printer driver" name="CITIZEN CT-S801 POS printer"
    url="http://www.citizen-systems.co.jp"/>

  <prop name="PhysicalDevice" type="String" value="CITIZEN CT-S801 POS printer"/>
  <prop name="PortName" type="String" value="IP_192.168.82.21"/>
  <prop name="PrinterLanguage" type="String" value="8"/>
  <prop name="PortNumber" type="String" value="9100"/>
  <prop name="Columns" type="String" value="48"/>
  <prop name="CharacterSet" type="String" value="437"/>
  <prop name="UseNVRAM" type="String" value="0"/>
  <prop name="PaperModel" type="String" value="80mm"/>
  <prop name="deviceBus" type="String" value="Ethernet"/>
  <prop name="IPAddress" type="String" value="192.168.82.21"/>
</JposEntry>
```

## 4. Printer Setting

Using this product assumes that the DIP switch and memory switch of the printer are set as shown below. For the details of the method of operating each switch and the content of setting, refer to User's Guide of each model.

### 4.1. CBM-1000II Series

#### DIP Switch Setting

DSW No.	Function	Setting	Description
1-1	Auto cutter	ON	With auto cutter
1-5	CR mode	OFF	Ignored
1-6	Input buffer	OFF	4KB
2-1	Select character code table.	ON	Katakana
2-2		OFF	
2-3		OFF	
2-4		OFF	
2-5	JIS/Shift-JIS	ON	Shift-JIS
2-6	Condition for BUSY state	ON	Receiving buffer full
3-7	DSR (when serial I/F is used)	OFF	DSR
3-8	INIT (when serial I/F is used)	OFF	Disabled

\* This model has no software switch function.

### 4.2. CT-S281 Series

#### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

#### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	DSR signal (when serial I/F is used)	OFF	DSR
1-8	INIT signal (when serial I/F is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-7	CBM270-compatible mode	ON	compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Full cut command	OFF	Full cut
9-1	Code page	Katakana	-
9-2	Foreign language characters	Japan	-
9-3	Kanji	Enabled	-
9-4	JIS/Shift-JIS	Shift-JIS	-



### 4.3. CT-S300 Series

#### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

#### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	DSR signal (when serial I/F is used)	OFF	DSR
1-8	INIT signal (when serial I/F is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-3	Parallel 31 Pin (when USB I/F are used)	OFF	Reset
3-7	CBM1000-compatible mode	OFF	Non-compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Full cut command	OFF	Full cut

### 4.4. CT-S310 Series

#### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

#### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	DSR signal (when serial interface is used)	OFF	DSR
1-8	INIT signal (when serial interface is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-3	Parallel 31 Pin (when USB I/F are used)	OFF	Reset
3-7	CBM1000-compatible mode	OFF	Non-compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Full cut command	OFF	Full cut
9-1	Code page	Katakana	-
9-2	Foreign language characters	Japan	-
9-3	Kanji	Enabled	-
9-4	JIS/Shift-JIS	Shift-JIS	-

## 4.5. CT-S2000 Series

### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	Select DSR signal (when serial I/F is used)	OFF	DSR
1-8	Select INIT signal (when serial I/F is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-3	Parallel 31Pin (when USB I/F are used)	OFF	Reset
3-7	CBM1000-compatible mode	ON	Compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Forced partial	OFF	Disabled
5-2	Vertical basic calculation pitch	OFF	360 dots
7-6	DMA control	Enabled	-
9-1	Code page	Katakana	-
9-2	Foreign language characters	Japan	-
9-3	Kanji	Enabled	-
9-4	JIS/Shift-JIS	Shift-JIS	-
10-3	ACK output timing (when USB I/F are used)	Before BUSY	-

#### 4.6. CT-S601/651/801/851 Series

##### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

##### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	Select DSR signal (when serial I/F is used)	OFF	DSR
1-8	Select INIT signal (when serial I/F is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-3	Parallel 31Pin (when USB I/F are used)	OFF	Reset
3-7	CBM1000-compatible mode	ON	Compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Forced partial	OFF	Disabled
5-2	Vertical basic calculation pitch	OFF	360 dots
6-1	Act. For Driver	ON	Valid
7-6	DMA control	Enabled	-
9-1	Code page	Katakana	-
9-2	Foreign language characters	Japan	-
9-3	Kanji	Enabled	-
9-4	JIS/Shift-JIS	Shift-JIS	-
10-3	ACK output timing (when USB I/F are used)	Before BUSY	-

## 4.7. CT-S4000 Series

### DIP Switch Setting

DSW No.	Function	Setting	Description
8	INIT (when serial I/F is used)	OFF	Disabled

### Memory Switch Setting

MSW No.	Function	Setting	Description
1-1	Power ON notify setting	OFF	Enabled
1-2	Input buffer	OFF	4KB
1-3	Busy condition	ON	Buffer full
1-4	Receiving error character	OFF	Character?
1-5	CR mode	OFF	Disabled
1-7	Select DSR signal (when serial interface is used)	OFF	DSR
1-8	Select INIT signal (when serial interface is used)	OFF	-
2-2	Auto cutter operation	ON	Enabled
3-1	Auto cutter restore	OFF	L/F enabled
3-3	Parallel 31Pin (when USB I/F are used)	OFF	Reset
3-7	CBM1000-compatible mode	ON	Compatible
3-8	Cover opened while printing	OFF	Auto restore
4-8	Forced partial	OFF	Disabled
5-2	Vertical basic calculation pitch	OFF	360 dots
5-5	Power OFF notify	Disabled	-
7-6	DMA control	Enabled	-
9-1	Code page	Katakana	-
9-2	Foreign language characters	Japan	-
9-3	Kanji	Enabled	-
9-4	JIS/Shift-JIS	Shift-JIS	-
10-3	ACK output timing (when USB I/F are used)	Before BUSY	-

