



EPSON JavaPOS ADK

Installation Guide

Version 1.13.15 Nov. 2013

Notes

- (1) Reproduction of any part of this documentation by any means is prohibited.
- (2) The contents of this documentation are subject to change without notice.
- (3) Comments and notification of any mistakes in this documentation are gratefully accepted.
- (4) This software cannot be used with other equipment than the specified.
- (5) EPSON will not be responsible for any consequences resulting from the use of any information in this documentation.

Trademarks

Microsoft®, Windows®, Windows Server® and Windows Vista® are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Linux is a trademark or registered trademark of Linus Torvalds in the U.S.A. and/or other countries.

Red Hat is a registered trademark of Red Hat, Inc.

SUSE is a registered trademark of SuSE Linux AG, a Novell business.

JBuilder is a trademark of Borland Software Corporation in the United States and other countries.

EPSON and ESC/POS are registered trademarks of Seiko Epson Corporation.

Java and JavaPOS are trademarks and registered trademarks of Sun Microsystems, Inc. in the United States of America and other countries.

Other product and company names used herein are for identification purposes only and may be trademarks or registered trademarks of their respective companies.

Epson disclaims any and all rights in those marks.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by SEIKO EPSON is under license. Other trademarks and trade names are those of their respective owners..

Copyright (c) 2005-2013 SEIKO EPSON CORPORATION

Contents

Chapter 1 Introduction	1
Chapter 2 Installation	2
2.1 Install Java	2
2.2 Install Java Advanced Imaging (JAI)	2
2.3 Configure your environment	3
2.4 Start the Installer	3
2.5 Select the Language	4
2.6 Pre-Installation checks	4
2.7 Introduction	5
2.8 License Agreement	6
2.9 Select a Java Virtual Machine	7
2.10 Selecting the Type of Installation	8
2.11 Selecting Components to Install	9
2.12 Selecting Shortcut Folders	10
2.13 Selecting the User Classpath	11
2.14 Selecting the Communication method	12
2.15 Location for jpos.xml	13
2.16 Upgrading	14
2.17 Pre-Installation Summary	16
2.18 Completion	18
Chapter 3 Uninstalling	19
3.1 Changing Installed Items and Starting Uninstall	19
3.2 Confirm uninstallation	19
3.3 Delete Electronic Journal data files	20
Chapter 4 Silent Installation/Uninstallation	21
4.1 Silent Installation Process	21
4.2 Preparing Device Registration Information	21
4.3 Creating an Installation Script	22
4.4 Running Installation	24
4.5 Running Uninstallation	24
Chapter 5 Forced Uninstall	25
5.1 Using the Forced Uninstall option	25

Chapter 6 Windows Information.....	26
6.1 Configuring environment variables	26
Chapter 7 Linux Information	27
7.1 Installing Java	27
7.2 Configuring environment variables	27
<i>SuSE</i>	28
<i>Red Hat/CentOS</i>	28
7.3 Installing Java Advanced Imaging (JAI)	29
7.4 Installing libusb.....	29
7.5 Serial Settings	29
<i>Settings for COM3 or higher</i>	29
<i>User group settings</i>	30

Chapter 1 Introduction

The following hardware and software configuration is required when installing EPSON JavaPOS ADK.

- Computer
 - IBM PC/AT compatible
 - Please follow the specifications recommended by your OS for system requirements (CPU, RAM, etc.).
 - A minimum of 10 MB of available hard disk space is required.
 - The minimum supported screen resolution on Linux is 800x600.
- Supported Operating systems
 - Windows XP Professional Service Pack 3
 - Windows 2000 Service Pack 4
 - Windows Vista (Business/Enterprise/Ultimate) Service Pack 2
 - Windows Server 2008 Service Pack 2
 - Windows Server 2008 R2 Service Pack 1
 - Windows 7 (Professional/Enterprise/Ultimate) Service Pack 1
 - Windows Embedded Standard
 - Windows Embedded Standard 7
 - Windows 8
 - Windows 8.1
 - Windows Server 2012
 - Windows Server 2012 R2
 - Red Hat Enterprise Linux 6.1
 - SuSE Linux Enterprise 11.1
 - CentOS Linux6.0
 - Ubuntu 9.04
- Java Virtual Machine
 - Java Standard Edition 6 Update 26
 - See “2.1 Install Java”
- Ibusb (Linux only)
 - libusb-1.0.0 or later
 - See “7.4 Installing libusb”

Chapter 2 Installation

2.1 Install Java

Java must be installed on your system before you can run the installer. This can be downloaded from <http://www.sun.com/java/>.

Users: Install the Java Runtime Environment (JRE).

Developers: Install the Java Development Environment (JDK).

Note that Java version 1.6.0_26 or higher is required.

For detailed instructions on installing Java on Linux, refer to: [7.1 Installing Java](#).

2.2 Install Java Advanced Imaging (JAI)

Java Advanced Imaging (JAI) must be installed in order to use the JavaPOS ADK. This is necessary for printing BMP files on the POSPrinter, and for the CheckScanner. This is not included with the JavaPOS ADK installer.

Please refer to the following website for downloads and detailed installation instructions:

<http://www.oracle.com/technetwork/java/current-142188.html>

Users: Install the Java Runtime Environment (JRE) version.

Developers: Install the Java Development Environment (JDK) version.

For detailed instructions on installing JAI on Linux, refer to: [7.3 Installing Java Advanced Imaging \(JAI\)](#).

To install JAI with 64-bit Java on Windows operating systems, download and run the jai-1_1_3-lib-windows-i586.exe installer. After installation, copy jai_codec.jar and jai_core.jar into the 64-bit Java's ext folder.

2.3 Configure your environment

Configuring the environment on Windows is only necessary for application developers.

Windows: For more information, refer to: Chapter 6 Windows Information

Linux: For more information, refer to: Chapter 7 Linux Information

2.4 Start the Installer

The installer for Windows is "Epson_JavaPOS_ADK_113xx.exe".

The installer in Linux is "Epson_JavaPOS_ADK_113xx.bin".

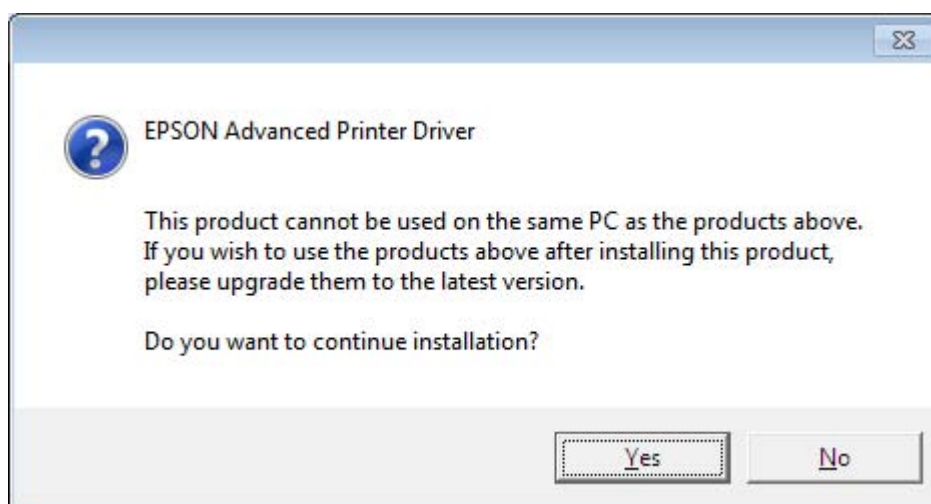
Windows: To run the installer, double-click on it.

Linux: To run the installer, bring up a terminal window, change to the directory in which the installer is located, and type `./Epson_JavaPOS_ADK_113xx.bin`.

Note: The installer should be run with Administrator (Windows) or root (Linux) privileges. Failure to do so may result in unexpected behavior and the installation may not be successful.

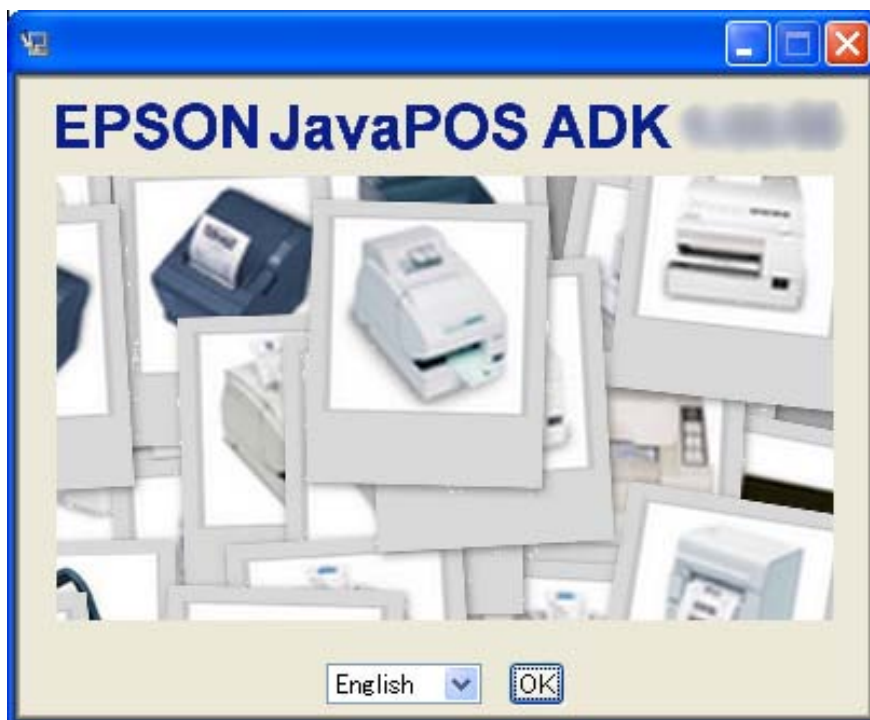
Note:

The following message will appear when an installed version of Epson software is incompatible with this version. Choose whether to continue the installation according to the message. (Windows only)



2.5 Select the Language

Select a language to use for the installation and click 'OK'.



2.6 Pre-Installation checks

The following is checked before proceeding with the install:

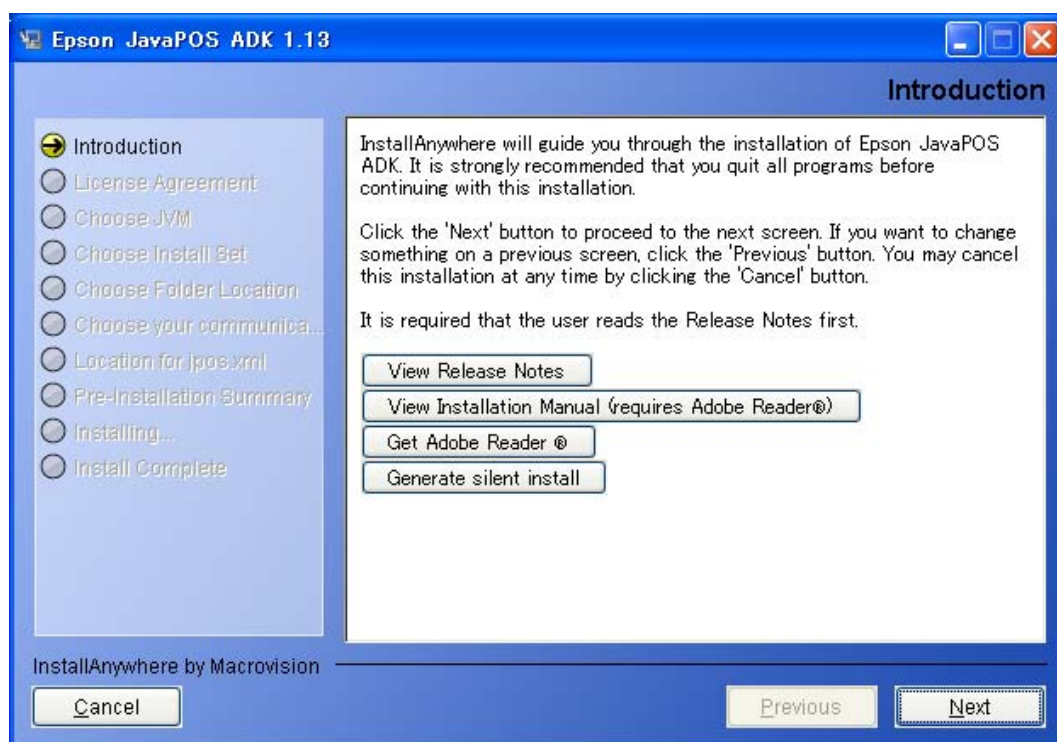
- Multiple instances of the Installer should not be run as it may result in an unexpected behavior. If multiple instances are found, then the installer will display an error message and exit.
- If the system already has the newer or the same version of the software installed, then the installer will display an error message and exit.
- If the system has an older version of JavaPOS ADK installed, then the installer will use the default values from the last install. It will uninstall the previous version and install the new version with the old values. If this upgrade is being performed, after the License Agreement screen, the Upgrading screen will be shown. See section [2.16](#) for details on this.
- If the installer is not run with Administrator (Windows) or root (Linux) privileges, then it will display an error message and exit.

2.7 Introduction

At this screen, there are a couple of choices.

- Click the 'View Release Notes' button to view the release notes.
- Click the 'View Installation Manual' button to view the Installation manual. This manual is in Adobe Portable Document Format (PDF). If your system does not have a reader to view that file, download one by clicking on 'Get Adobe Acrobat Reader' button.
- Click the 'Generate silent install' button to generate a properties file to be used by silent installer. See Chapter 4 Silent Installation/Uninstallation for more details. To create the silent installer, the installer should not be run from a read-only medium like a CD-ROM as it creates the silent installer properties file in the same location.

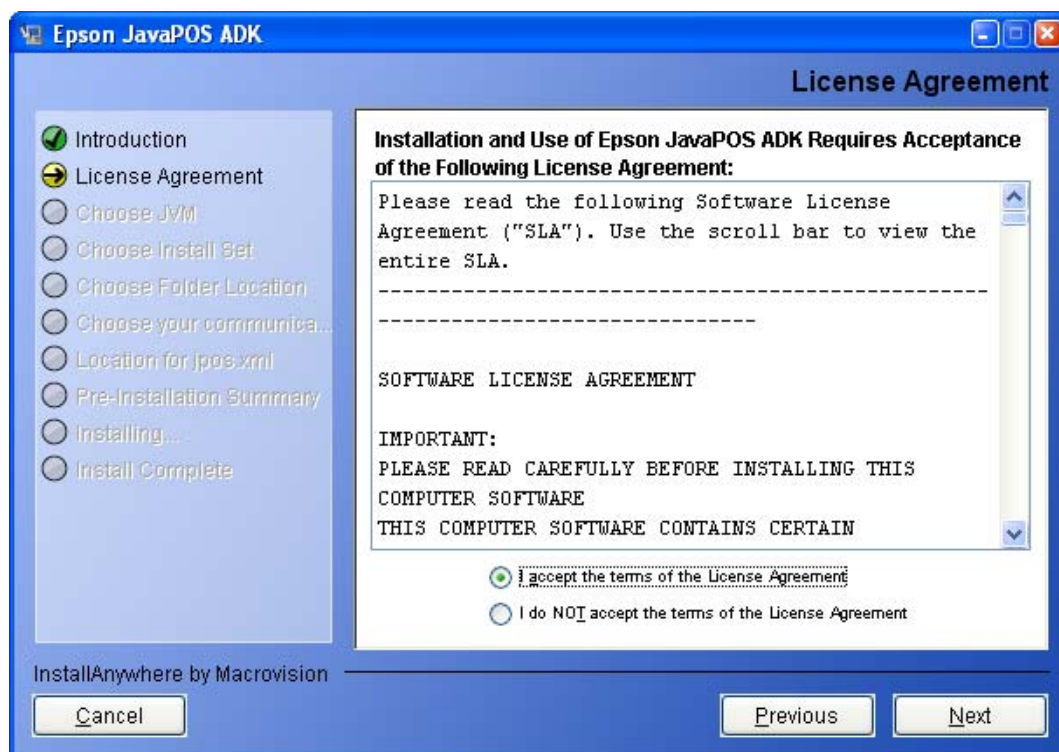
Click Next to continue installing the software.



2.8 License Agreement

The user must agree to the License Agreement to continue with the installation. After reading the entire agreement, select “I accept the terms of the License Agreement” and then click Next.

If “I accept the terms of the License Agreement” is not selected, Next is not enabled.



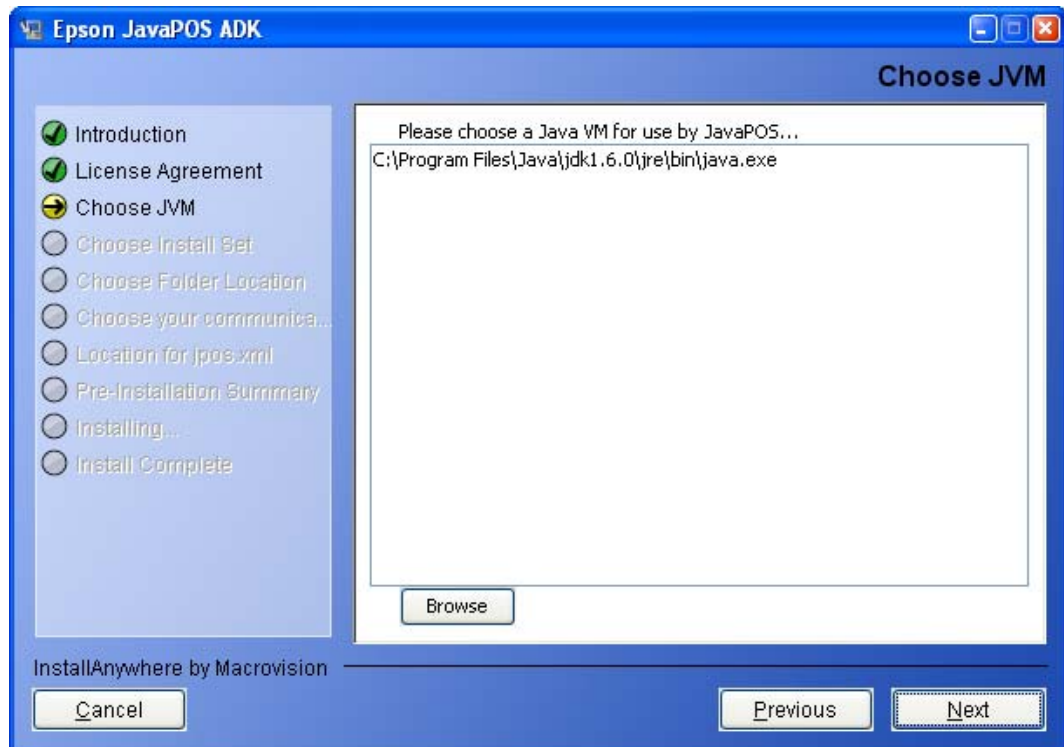
At any time, the user clicks on “I do not accept the terms of the License Agreement”, the following screen appears.



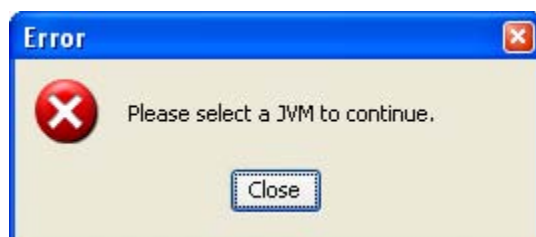
2.9 Select a Java Virtual Machine

A Java Virtual Machine (JVM) is required to run JavaPOS ADK 1.13.15.

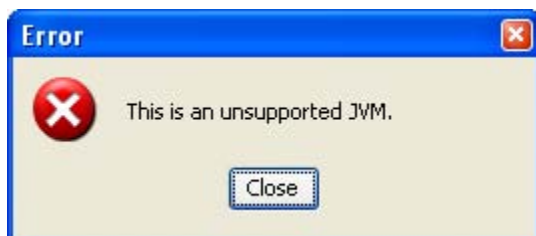
The supported JVM is Sun JVM version 1.6.0_26 and higher. This list is automatically populated with the JVM found on the system. Select a JVM to use.



If no JVM is selected, the following message will appear and the installation will stay at the JVM screen.



User can select a JVM not found by the installer by clicking the 'Browse' button. If an unsupported JVM is selected, the following message will be displayed.



2.10 Selecting the Type of Installation

Select the type of installation to run and click Next.

- Selecting Developer installs the Services, Setup utility, Check Health utility, Documentation and Samples.
- Selecting User installs the Services, Setup utility and Check Health utility.
- Selecting Custom allows you to select installation options.

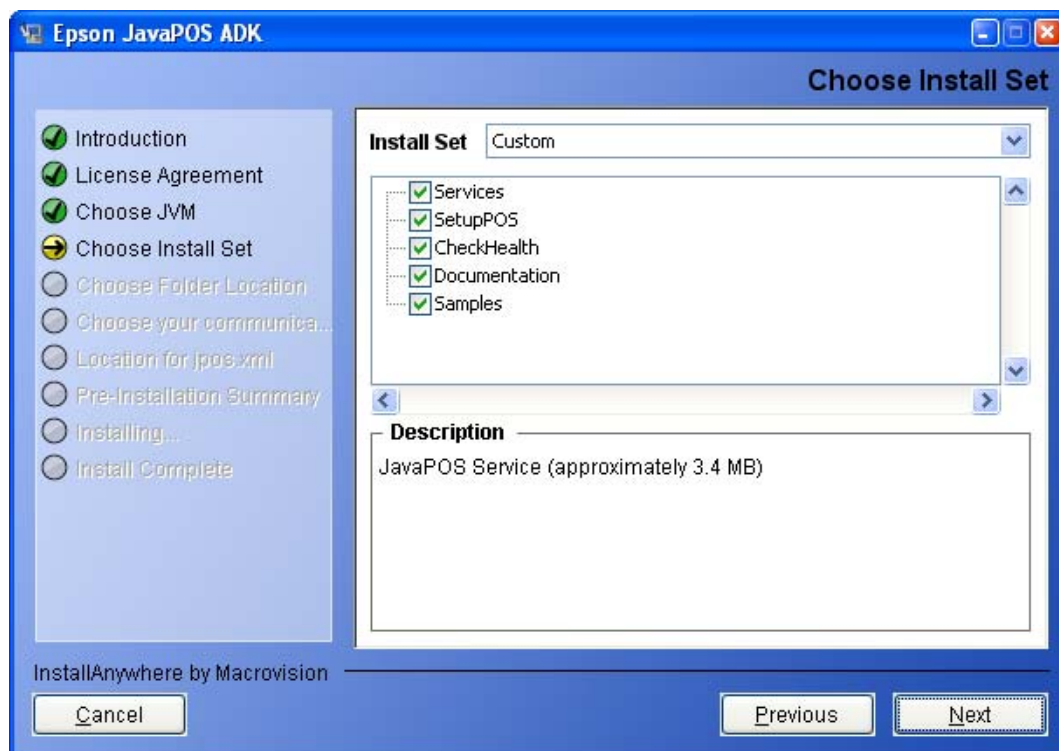


When Custom is selected, the user can customize the components installed. The user can also select the installation folder locations.

2.11 Selecting Components to Install

Select the components to install and click Next.

At least one component must be selected to proceed with the installation.



2.12 Selecting Shortcut Folders

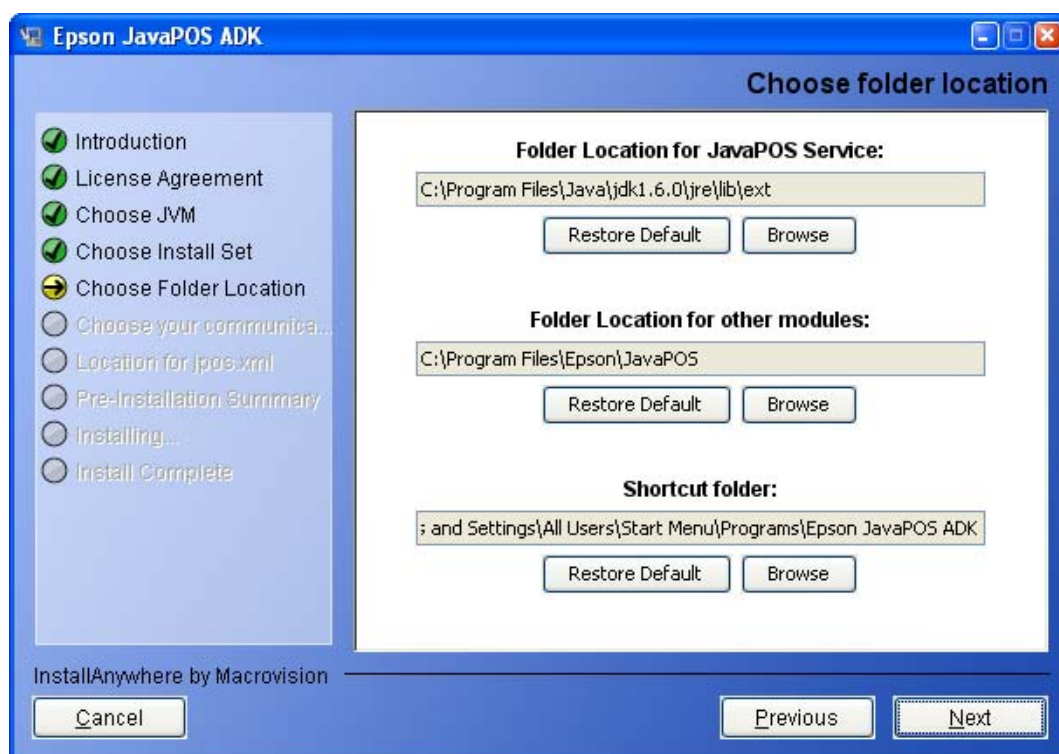
When the custom set is selected, the user is given the choice to select installation folder locations for the different modules. A default location is given in each scenario. The 'Restore Default' button resets to the default location.

The default location for JavaPOS Services is '%JAVA_HOME%\lib\ext'.

The default location for other modules (SetupPOS, CheckHealth, Documentation, Samples) is 'Program Files\Epson\JavaPOS' in Windows and '/opt/EpsonJavaPOS' in Linux.

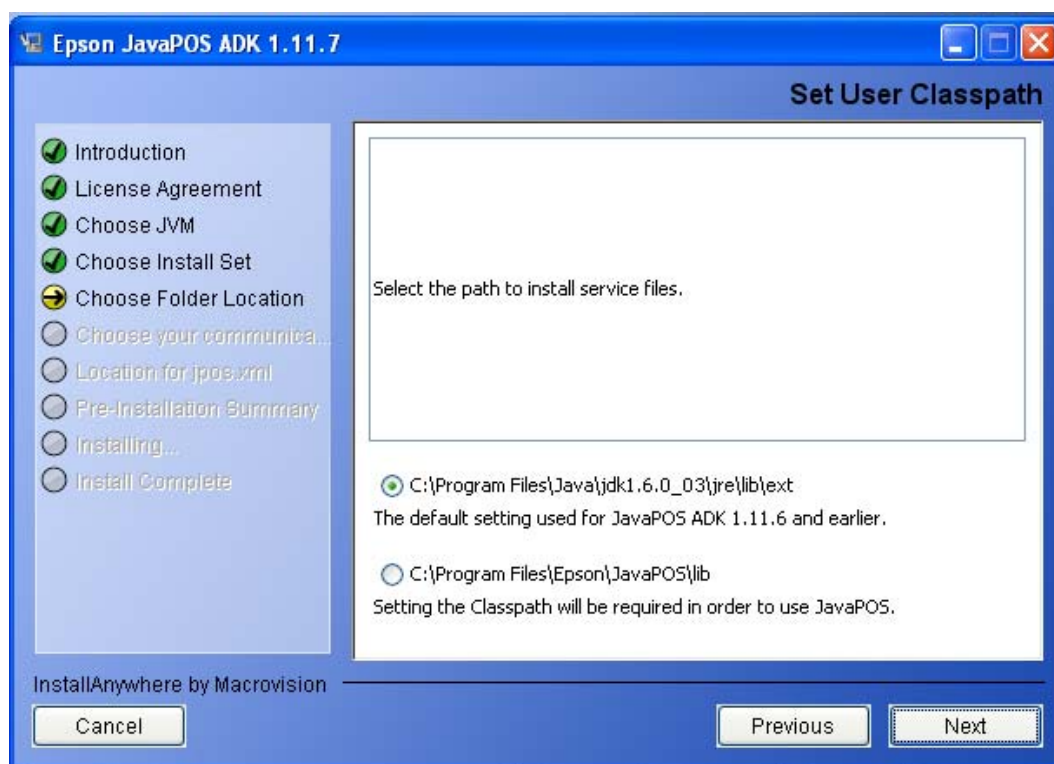
The default location for shortcut folder is the 'All Users\Start Menu\Programs\Epson JavaPOS ADK' in Windows and desktop in Linux.

The shortcut folders in Windows do not include the Uninstall link. It can be uninstalled from "Add or Remove Programs" in Control Panel. In Linux, the uninstall link exists.



2.13 Selecting the User Classpath

Select the Classpath for the service files and then click Next.

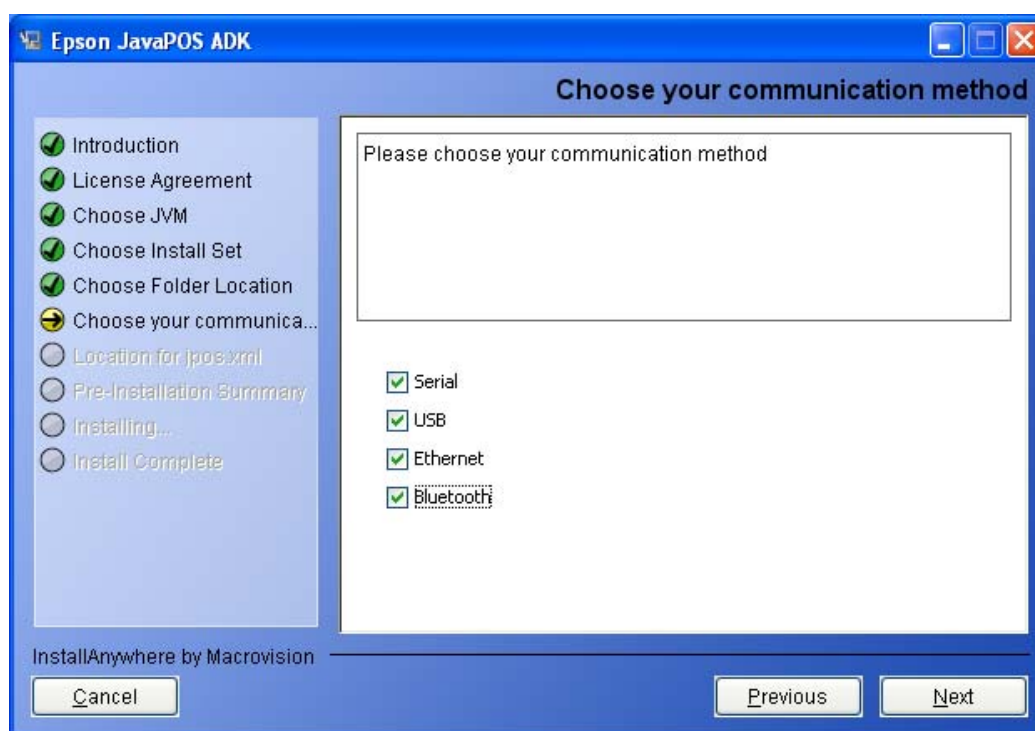


2.14 Selecting the Communication method

Select the communication method used by POSPrinter (Serial, USB, Ethernet or Bluetooth) and then click Next. One of the communication methods must be selected to continue.

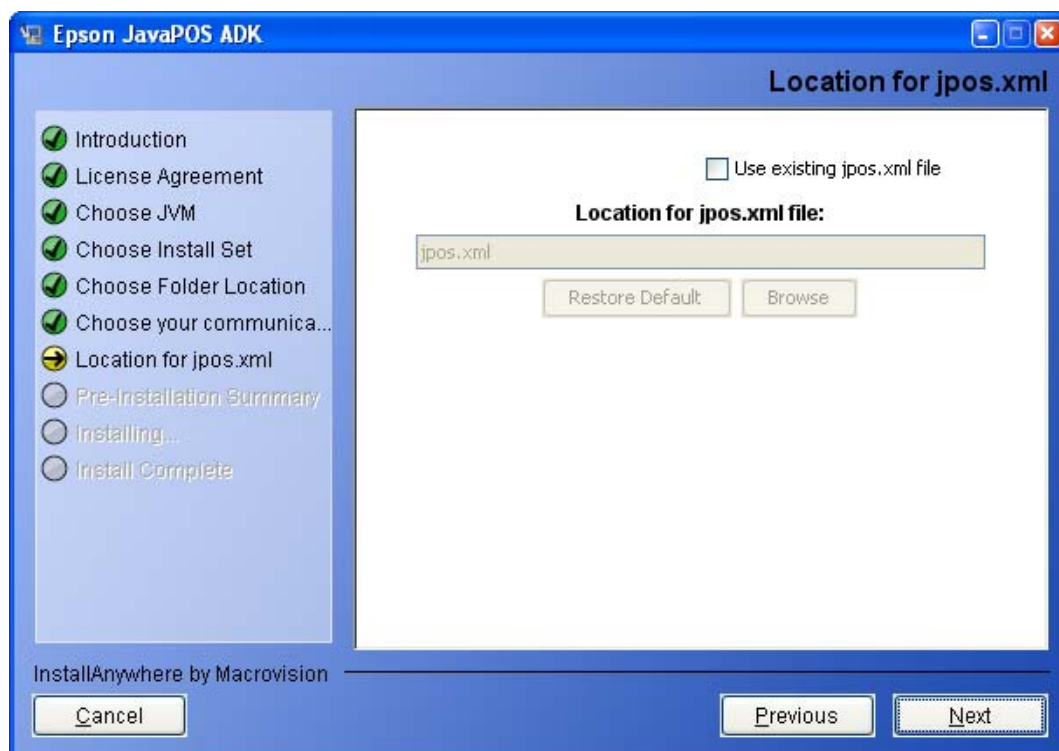
If USB is selected, TMUSB is installed.(Windows only)

You can select multiple connection methods.



2.15 Location for jpos.xml

The location for jpos.xml screen is used to import an existing jpos.xml file, a file that contains the configuration information for devices. If you want to use an existing file, check the Checkbox to enable the file chooser and then select the jpos.xml file to use.



To import device configuration settings

1. Select to use "Location for jpos.xml file" during installation.
2. After installation, copy and overwrite the communication properties file in the appropriate location.

For Windows 2000 and XP, the file is located at

%APPDATA%\EPSON\portcommunicationservice\pcs.properties

For Windows Vista or later, the file located at

%ALLUSERSPROFILE%\EPSON\portcommunicationservice\pcs.properties

For Linux, the file is located at

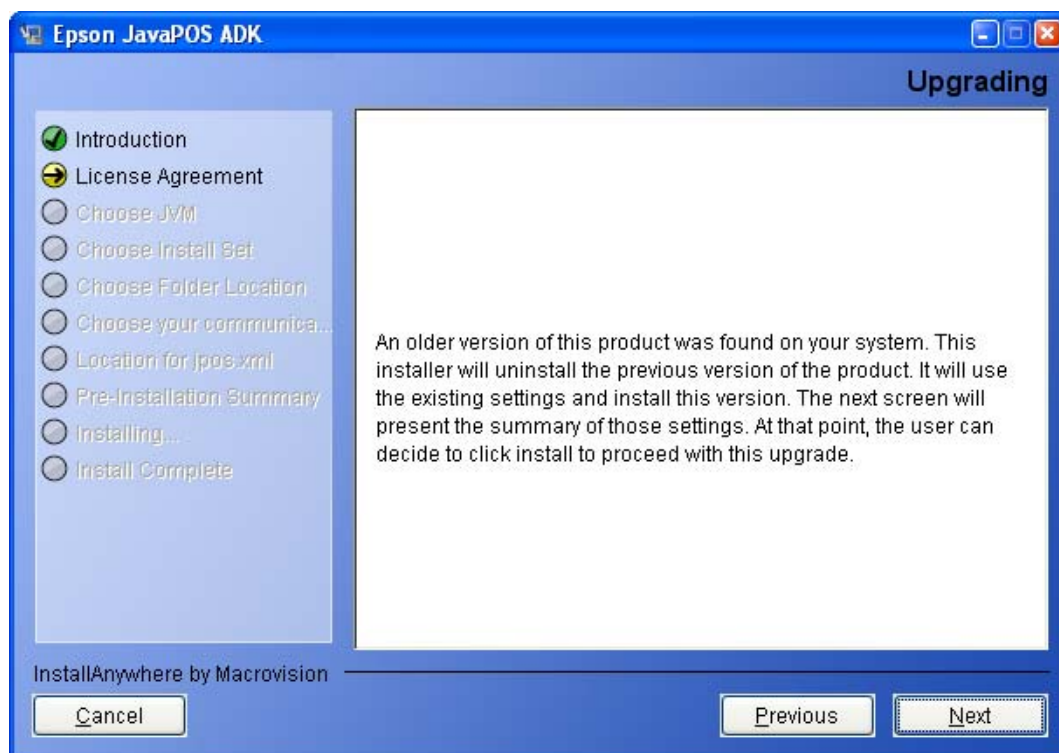
/var/epson_pcs/portcommunication/pcs.properties

2.16 Upgrading

If the installer detects an older version of this application, it will copy the settings from the previous install. It will not display the screens from section [2.9](#) to [2.15](#). After the user clicks Next, the Pre-Installation Summary screen will be displayed with settings from the previous install.

If the user clicks Install on that screen, the installer will uninstall the previous install. It will then install the latest version with the settings from previous version.

The user can choose to click cancel, un-install the application and then install this version. The user can then customize the settings.



Note:

When installing this version on a system where EPSON JavaPOS ADK 1.11.20 or older is installed and the following devices are registered, be sure to re-register the devices after installation is complete.

POSPrinter

For Windows:

TM-H6000II, TM-H6000III, TM-T88III, TM-T88IV, TM-T70, TM-T90, TM-L90,

TM-U220A, TM-U220B, TM-U220D

For Linux:

TM-H6000II, TM-H6000III, TM-T88III, TM-T88IV, TM-T70, TM-T90, TM-L90,
TM-U220A, TM-U220B, TM-U220D, TM-H5000II, TM-H5200, TM-J2000,
TM-J2100, TM-J7000, TM-J7100, TM-J7500, TM-J7600, TM-P60, TM-U230,
TM-U950, TM-T88IIIX

LineDisplay

All Devices

CashDrawer

All Devices

MICR

All Devices

Checkscanner

All Devices

ElectronicJournal

All Devices

2.17 Pre-Installation Summary

A summary screen to show the options selected before installing files.

If the settings are correct, click Install.



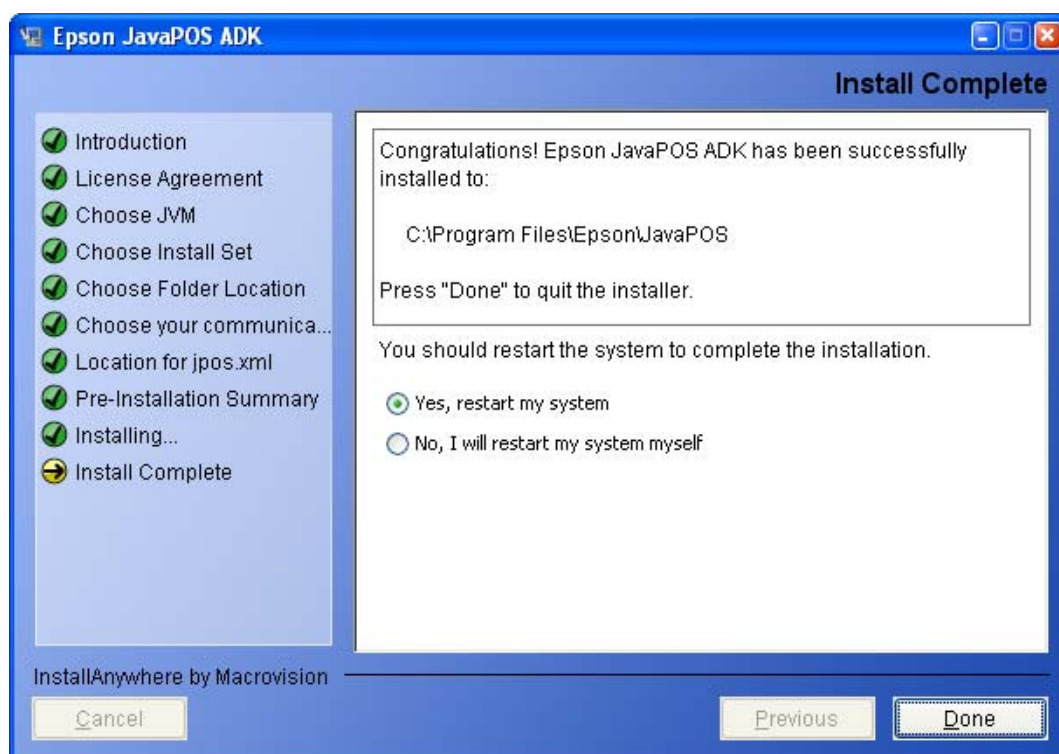
Installation starts, and progress is shown on the status bar.



When the installation is complete, the completion screen appears.

2.18 Completion

This completes the installation. Click Done to exit the installer.



If library files are renewed because of the installation, rebooting of system may be requested. This screen would then have options to select the rebooting options. Select "Yes, restart my system" and then click Done.

To restart the system later, select "No, I will restart my system myself" and click Done. After restarting the system, you can use EPSON JavaPOS ADK 1.13.15.

If there were any errors during the installation, a message will indicate the location of the error log (Epson_Installer_log.txt). It is created in the same folder from which the installer was launched. If the installer was run from a read-only medium like a CD-ROM, the log file will not be created.

After installing on Linux, there may be a "java.lang.NullPointerException" error with the "RPMspecFile" indicated in the installer log file (Details: "ERROR - There was a problem creating the RPM package. You may not be running as root or may not have installed RPM Builder correctly."). This is an RPM issue and does not affect the operation of the ADK.

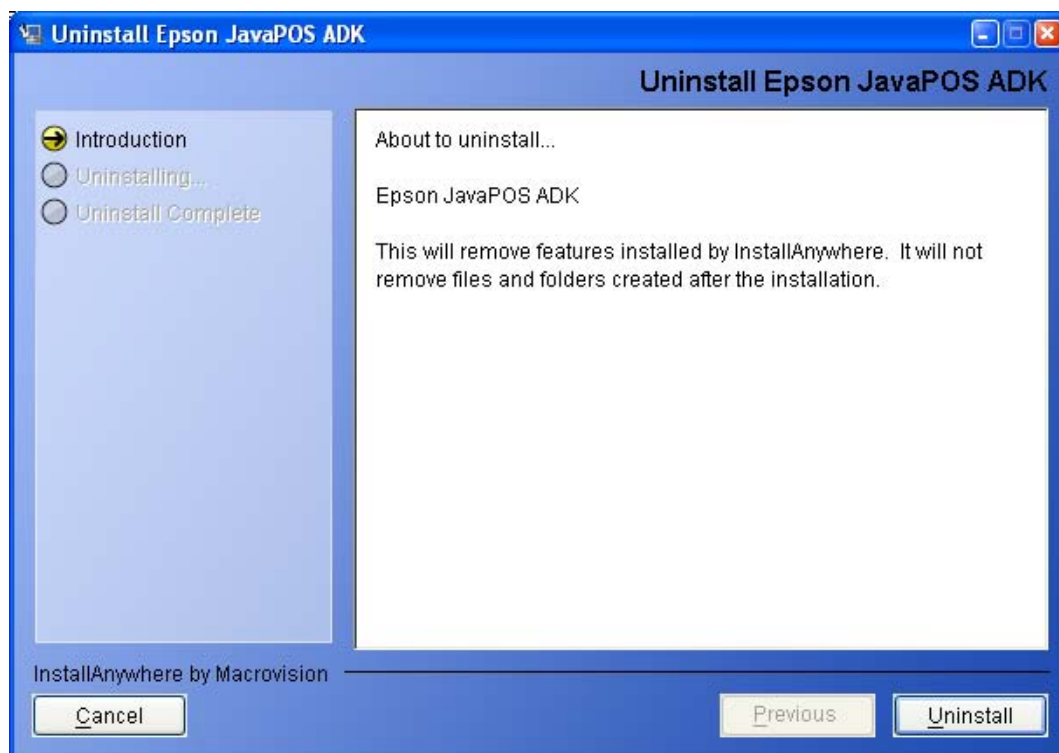
Chapter 3 Uninstalling

3.1 Changing Installed Items and Starting Uninstall

Double-click the Add or Remove Programs icon in Control Panel, and click Change or Remove for EPSON JavaPOS ADK 1.13.15.

3.2 Confirm uninstallation

Click Uninstall button to start uninstalling.

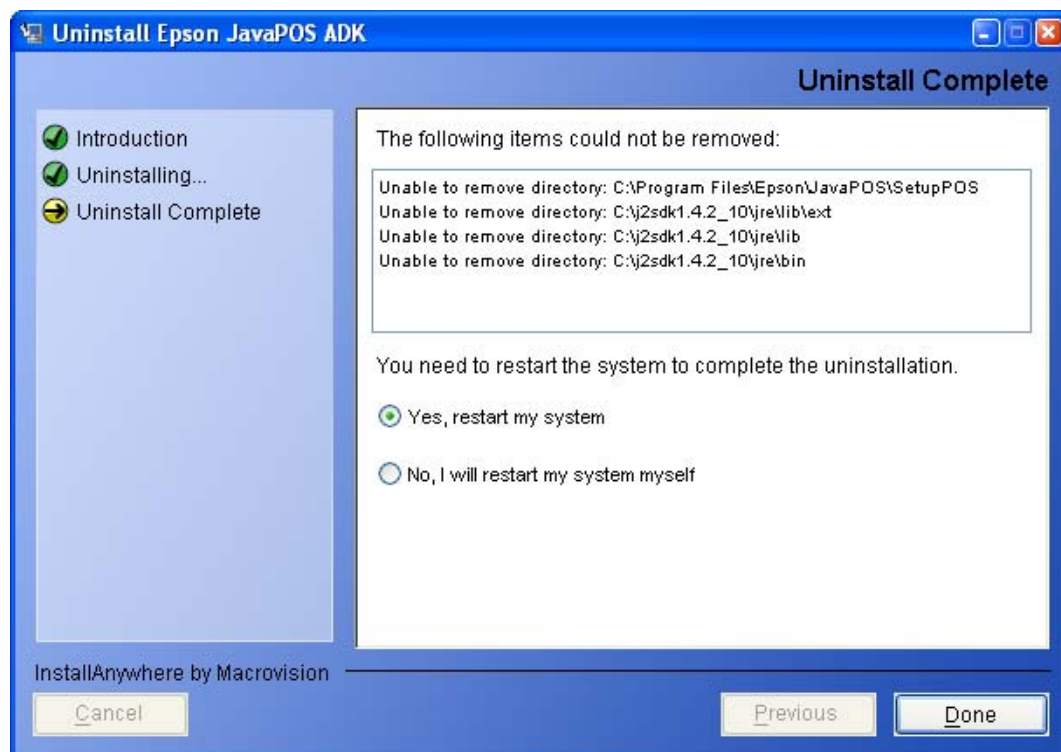


Once the uninstallation procedure is done, the summary screen appears.

This screen would then have options to select the rebooting options.

Select 'Yes, restart my system' and then click Done.

To restart the system later, select 'No, I will restart my system myself' and click Done.



3.3 Delete Electronic Journal data files

The uninstaller does not remove data files created for the Electronic Journal. If these files have been created, they must be deleted manually.

Chapter 4 Silent Installation/Uninstallation

4.1 Silent Installation Process

Silent installation involves the following steps.

1. Preparing Device Registration Information
2. Creating an Installation Script
3. Running Installation

4.2 Preparing Device Registration Information

Device registration information is required to perform a silent installation. Use the following procedure to collect the information.

1. Using SetupPOS, register the devices that will be used.
2. Use the information collection tool (CollectCopyInstallModules) to collect the device registration information. The tool is located in the installation destination folder.

Example :

For Windows:

```
<System Drive>:\ProgramFiles\EPSON\JavaPOS\  
CollectCopyInstallModules.bat
```

For Linux:

```
/opt/EpsonJavaPOS/  
CollectCopyInstallModules.sh
```

When you run the tool, a folder named EpsonCopyInstallModules is created in the same directory as the tool. The following files used in silent installation are stored in the folder.

For Windows:

```
jpos.xml  
pcs.properties  
jpos113.jar
```

SetModules.bat
For Linux:
jpos.xml
pcs.properties
jpos113.jar
SetModules.sh

4.3 Creating an Installation Script

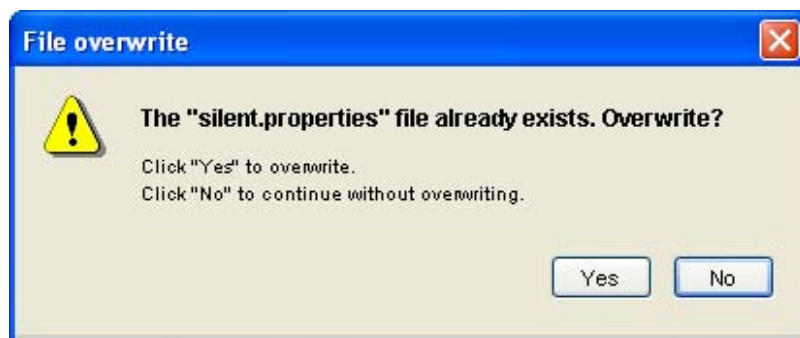
Run the installer.

On the Introduction screen, select 'Generate Silent Install' button.

Continue through the installation and customize the settings for the silent install.

Once the user clicks on the "Install" button on the Pre-installation summary screen, the installer checks to see if a silent.properties files has already been created.

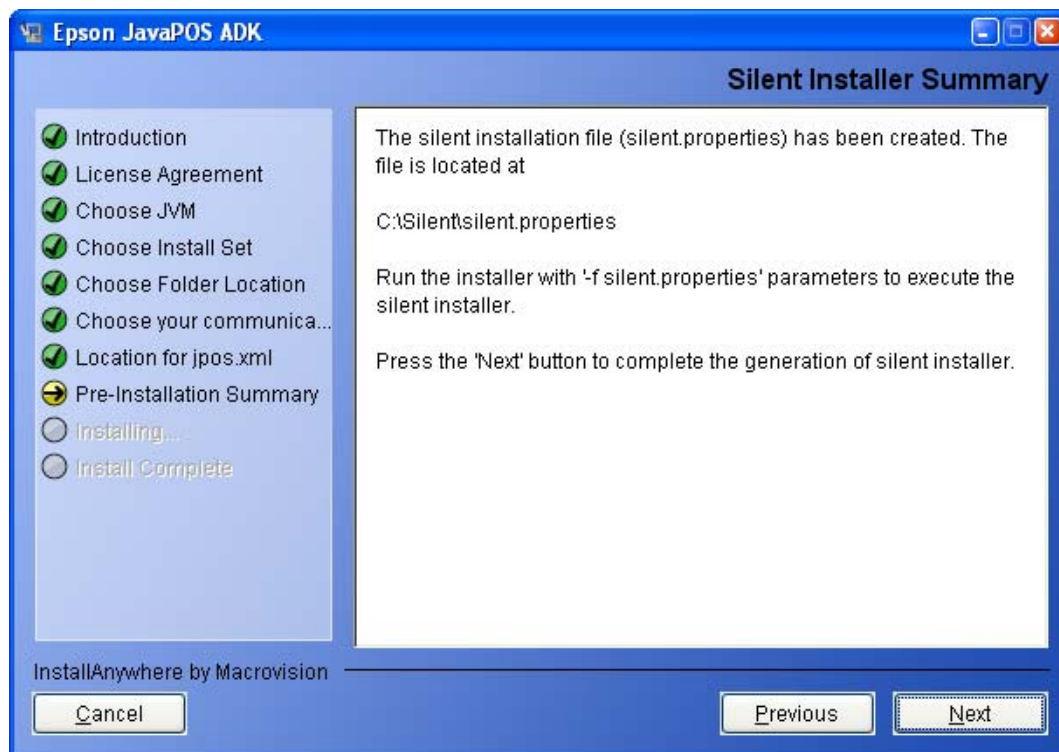
If a silent.properties files already exists in the target location, the following confirmation dialog is displayed.



Press "Yes" to overwrite the existing silent.properties files, or press "No" to keep the existing silent.properties file. A new silent.properties file cannot be generated unless the previous file is moved, deleted, or overwritten.

Note: On Chinese language Operating Systems, only the default installation folders are supported for silent installation.

After the Pre-installation summary screen, the Silent Installer Summary screen is displayed. This has the location for where the silent.properties file has been created.



4.4 Running Installation

1. Place the files stored in the EpsonCopyInstallModules folder described in "4.2 Preparing Device Registration Information" in the same location as the installer executable.
2. Using the command prompt, append “-f silent.properties” to the installer file and run it.

Example:

Epson_JavaPOS_ADK_113xx.exe -f silent.properties (for Windows)
./Epson_JavaPOS_ADK_113xx.bin -f silent.properties (for Linux)

3. Execute the file by typing:
SetModules.bat (for Windows)
./SetModules.sh (for Linux)

Note:

- If library files are renewed because of the silent installation, the system may be rebooted.

4.5 Running Uninstallation

Uninstallation runs silently if the installation was silent.

Example:

Uninstall from “Add or Remove Programs” (for Windows)
./Uninstaller_Epson_JavaPOS_ADK (for Linux)

Chapter 5 Forced Uninstall

5.1 Using the Forced Uninstall option

In some cases it may not be possible to reinstall the JavaPOS ADK. The Forced Uninstall option can be used to resolve this issue. To use this option, run the installer with the parameter "-DUNINSTALL=TRUE".

Example:

Epson_JavaPOS_ADK_113xx.exe -DUNINSTALL=TRUE (for Windows)

./Epson_JavaPOS_ADK_113xx.bin -DUNINSTALL=TRUE (for Linux)

When this is complete, run the installer again without this parameter to reinstall JavaPOS.

Force Uninstall option is not available on 64bit operating systems.

Chapter 6 Windows Information

6.1 Configuring environment variables

Some environment variables need to be set on Window for application development. Note that the exact procedure for setting these variables depends on the version of windows that is being used.

1. Select the “Control Panel” from the “Start” menu.
In the case of Windows 8/Windows 8.1, click Settings on the Charms Bar after the desktop is displayed.
2. Select “Performance and Maintenance” (Not necessary on Win2000).
3. Select “System”.
4. Select the “Advanced” tab.
5. Press the “Environment Variables” button.
6. Search for “Path” in “System variables”.
7. Select “Path” and press the “Edit” button. The “Edit System Variable” dialog is displayed.
8. Add the following path to the “Variable value:” field:
 <Your JRE install folder>/bin
 (e.g. “C:\Program Files\Java\jre6\bin”)
9. Press the “OK” button to close the “Edit System Variable” dialog.
10. Press the “OK” button to close the “Environment Variables” dialog.
11. Press the “OK” button to close the “System Properties” dialog.

If you open a new Command Prompt window, these settings will be applied. After the environment variables are set, the java version can be confirmed by typing the following in a Command Prompt window:

```
java -version
```

Chapter 7 Linux Information

7.1 Installing Java

The following instructions use Java SE Runtime Environment 1.6.0_26 as an example, although any runtime environment version 1.6.0_26 or higher can be installed for use with JavaPOS ADK. Users need only install the Java Runtime Environment (JRE), while developers should install the Java Development Environment (JDK). Unless otherwise noted, the following instructions assume the user is installing the JRE.

1. Login as root.
2. Download the `jre-6u26-linux-i586-rpm.bin` self-extracting file from Sun's java download website (<http://www.sun.com/java/>).
3. Make the file executable by opening a terminal window to the directory where it is saved, and typing:

```
chmod +x jre-6u26-linux-i586-rpm.bin
```
4. Execute the file by typing:

```
./jre-6u26-linux-i586-rpm.bin
```
5. Update the list of possible java alternatives that your system can use by typing:

```
update-alternatives --install /usr/bin/java java /usr/java/jre1.6.0_26/bin/java 300
```
6. Then type the following command to view the list of java executables that your system can use:

```
update-alternatives --config java
```
7. Type the number corresponding to the JRE 1.6.0_26 java executable and hit Enter.
8. To confirm that your system is using the JRE 1.6.0_26, type the following:

```
java -version
```

7.2 Configuring environment variables

Some environment variables need to be setup in order to run JavaPOS ADK properly. When following these steps, first login as the user that will be using the JavaPOS ADK.

SuSE

1. Create an environment variable settings file by typing the following at the terminal:

```
touch .bash_profile
```

2. Add the following environment variables to the file that is created:

```
JAVA_HOME=/usr/java/jre1.6.0_26
```

```
PATH=$JAVA_HOME/bin/:$PATH
```

```
export JAVA_HOME PATH
```

3. Save the file.
4. Type the following at the terminal in order to ensure these environment variables will be set at login:

```
source .bash_profile
```

5. These settings will take effect next time you login.
6. Logout and login again. Type the following command to confirm the java version:

```
java -version
```

Red Hat/CentOS

1. Type the following at the terminal to change to you home directory:

```
cd $HOME
```

2. Append the following lines to your “.bash_profile” file:

```
JAVA_HOME=/usr/java/jre1.6.0_26
```

```
PATH=$JAVA_HOME/bin/:$PATH
```

```
export JAVA_HOME PATH
```

3. Save the file.
4. These settings will take effect next time you login.
5. Logout and login again. Type the following command to confirm the java version:

```
java -version
```

7.3 Installing Java Advanced Imaging (JAI)

1. Download the JAI from the following website:

<http://www.oracle.com/technetwork/java/current-142188.html>

Users: Install the Java Runtime Environment (JRE) version.

Developers: Install the Java Development Environment (JDK) version.

2. Copy the JAI to your Java directory:

```
cp jai-1_1_3-lib-linux-i586-jre.bin /usr/java/jre1.6.0_26
```

3. Execute the JAI installer:

```
cd /usr/java/jre1.6.0_26
```

```
chmod +x jai-1_1_3-lib-linux-i586-jre.bin
```

```
./jai-1_1_3-lib-linux-i586-jre.bin
```

7.4 Installing libusb

In order to communicate with USB, please install libusb before installing JavaPOS.

1. Open a terminal in the folder containing libusb-1_0-0-1-1.0.8-4-1.i586.rpm.

2. Install the RPM by typing

```
rpm -i libusb-1_0-0-1-1.0.8-4-1.i586.rpm
```

7.5 Serial Settings

Settings for COM3 or higher

If you are planning to use port COM3 or higher, it is necessary to change the IRQ for the serial port driver. The IRQ for the COM port (e.g. "/dev/ttyS2" for COM3) needs to be set in the ".bash_profile" environment variables file. For example:

```
/bin/setserial /dev/ttyS2 irq 11
```

These settings won't take effect until the next time you login.

For reference, on the EPSON IM-series machines, COM3 (/dev/ttyS2) is IRQ 11, and COM4 (/dev/ttyS23) is IRQ 10.

User group settings

If the serial port will be used by any users other than root, the user group settings must be modified.

1. Edit the “uucp” and “lock” (Red Hat only) fields in the file “/etc/group”.

<Before>

uucp:x:14:

lock:x:54:

<After>

uucp:x:14:**jpos**

lock:x:54:**jpos**

Note: If there are already users (e.g. “guest”) registered in this file, add the “jpos” group with a comma (“,”) as follows:

<Before>

uucp:x:14:guest

lock:x:54:guest

<After>

uucp:x:14:guest,**jpos**

lock:x:54:guest,**jpos**

2. Restart the computer. After this the serial port will be useable.