



USER MANUAL

SecuRED

Encrypted Magstripe Reader

JPOS Reference Guide

Windows

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SecuRED JPOS User Manual

Revision History

Revision	Date	Description	By
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1. Introduction

This document provides information for using JPOS Service Object (SO) for MSR readers.

2. System Requirements

This JPOS Service Object is for Windows XP, Windows Vista, Windows 7 and Windows 8.

3. Reference Document

1. Unified POS Retail Peripheral Architecture Version 1.13.1
2. International Standard for Implementation of Point Of Service Peripherals

4. Environment Build

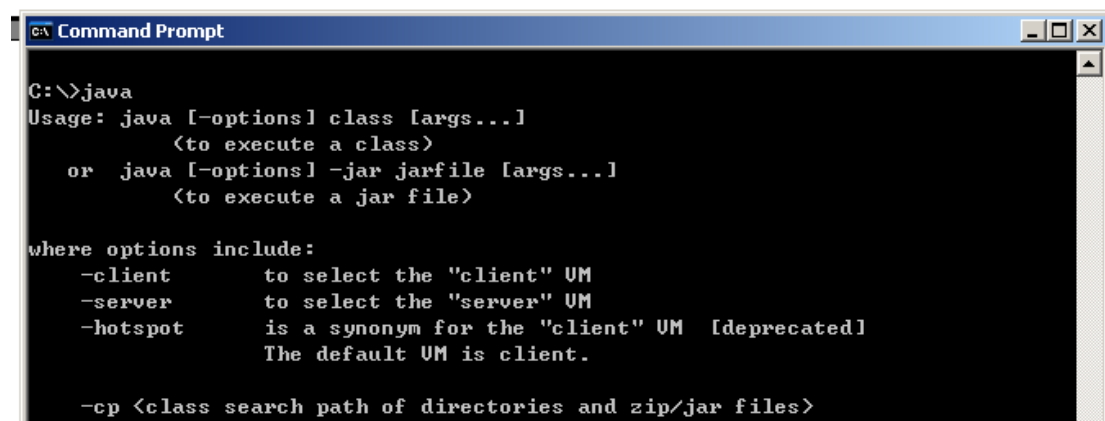
Install Sun JRE 1.5 or JDK 5.0, JRE 6 or JDK 6, JRE 7 or JDK 7:

Download the newest JRE 1.5 installation package from: <http://java.sun.com/j2se/1.5.0/download.jsp>, then click: [Download JDK 5.0 Update](#) and select a proper platform JDK version to download. Install the package and make sure the "java" command functions properly. There may be a need to add the JRE bin directory into the system environments variables by following steps:

For Microsoft Windows XP

1. Right click "My Computer" in the desktop
2. Select the "properties" menu item
3. Select "Advanced" tab
4. Click button "Environment Variables"
5. Select "Path" and insert the JRE bin directory.

When Java is working, following can be observed:



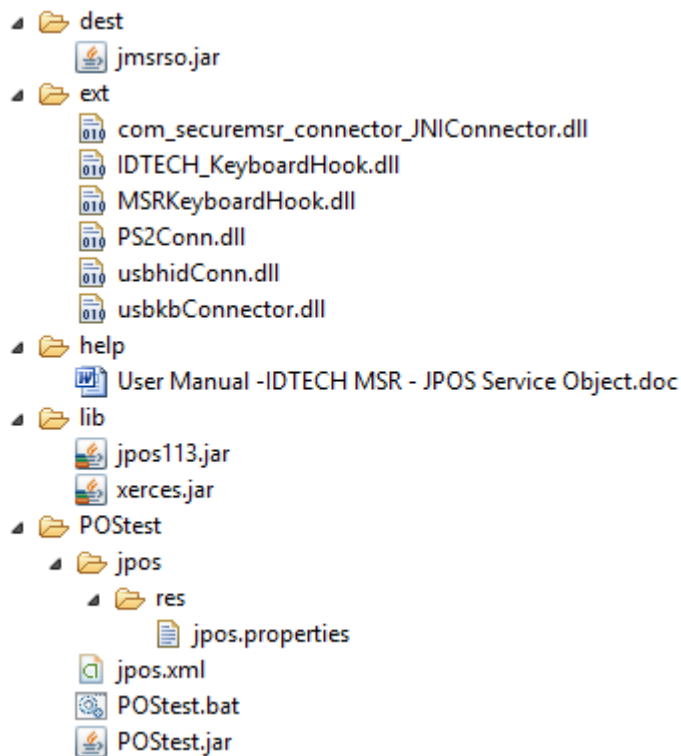
```
C:\>java
Usage: java [-options] class [args...]
        (to execute a class)
or java [-options] -jar jarfile [args...]
        (to execute a jar file)

where options include:
-client    to select the "client" VM
-server    to select the "server" VM
-hotspot   is a synonym for the "client" VM [deprecated]
The default VM is client.

-cp <class search path of directories and zip/jar files>
```

Enter DOS command shell, and enter java. It shows information about how to use.

FILELISTS:



jmsrso.jar - JPOS device service control for MSR

jpos.xml - jpos configure file

jpos.properties - jpos configure file, this specifies jpos.xml

com_securemsr_connector_JNIConnector.dll - JNI DLL

usbkbConnector.dll - extension DLL

kbhidConn.dll - wrap DLL to usbhid and kbhid

usbhidConn.dll - extension DLL to access usbhid

MSRKeyboardHook.dll - extension DLL

The .DLL should be located in the directory in the PATH environment specified. For example, if the current working directory is included in the PATH variable,

PATH=%PATH%;\

So, the DLLs can be moved to current directory.

Device Name: the jpos.xml the JPOS register file, which specify the device names.

There are several entries in this file, with entry name:

“defaultMSR”

“IDTECHSECURED_USBHID”

“IDTECHSECURED_USBKB”

“IDTECHSECUREMAG_USBHID”

“IDTECHSECUREMAG_USBKB”

“IDTECHMINIMAG_USBHID

“IDTECHMINIMAG_USBKB”

“IDTECHVALUEMAG_USBHID”

“IDTECHVALUEMAG_USBKB”

“IDTECHMSR_PS2KB”

“IDTECHMSR_RS232”

“IDTECHMSR_USBCDC”

“defaultMSR”

The entry is a copy of one of other entry as the default name for POSTest program.

“IDTECHSECURED_USBHID”,

The line: `<prop name="connector" type="String" value="usbhid/0acd/2810"/>` specifies the connector driver name, and the configuration value. 0acd is IDTECH Vendor ID; 2810 is the product IDs

jpos/res/jpos.properties

This file specify which configure file is used. By default, it specifies the “jpos.xml” as the one.

Add jmsrso.jar to your CLASSPATH or specify it in the javac / java command.

set CLASSPATH=%CLASSPATH%;yourDir\jmsrso.jar

For example: jmsrso.jar is placed in c:\so, it should set
CLASSPATH=%CLASSPATH%;c:\so\jmsrso.jar

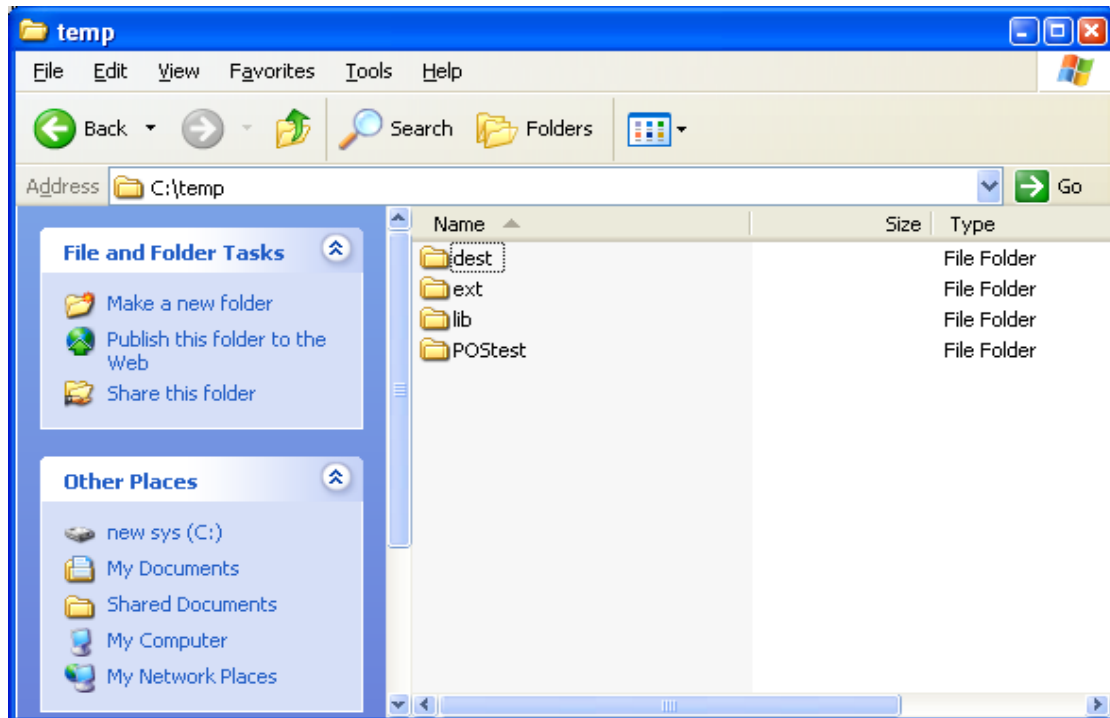
5. Run POSTest

It's the official recommended JPOS compatible test program. The release version includes the program or it can be gotten from <http://sourceforge.net/projects/postest/>

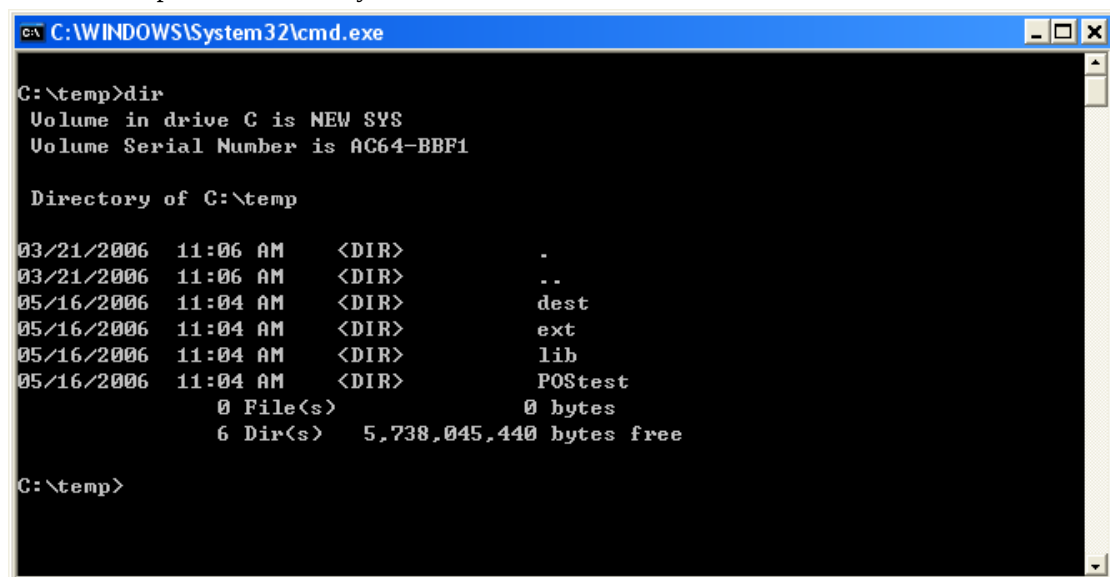
1. Unzip file to a directory. Such as

c:\temp

The Directory is like the following:



Enter "c:\temp"Postest directory under the DOS command shell



Then enter subdirectory "POSTest"

A screenshot of a Windows command prompt window titled "C:\WINDOWS\System32\cmd.exe". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). The command prompt shows the following text:

```
C:\temp>dir
Volume in drive C is NEW SYS
Volume Serial Number is AC64-BBF1

Directory of C:\temp

03/21/2006  11:06 AM  <DIR>          .
03/21/2006  11:06 AM  <DIR>          ..
05/16/2006  11:04 AM  <DIR>          dest
05/16/2006  11:04 AM  <DIR>          ext
05/16/2006  11:04 AM  <DIR>          lib
05/16/2006  11:04 AM  <DIR>          POSTest
               0 File(s)              0 bytes
               6 Dir(s)  5,738,045,440 bytes free

C:\temp>cd postest

C:\temp\POSTest>
```

2. To run POSTest just like following:

```

C:\WINDOWS\System32\cmd.exe

C:\temp>cd postest

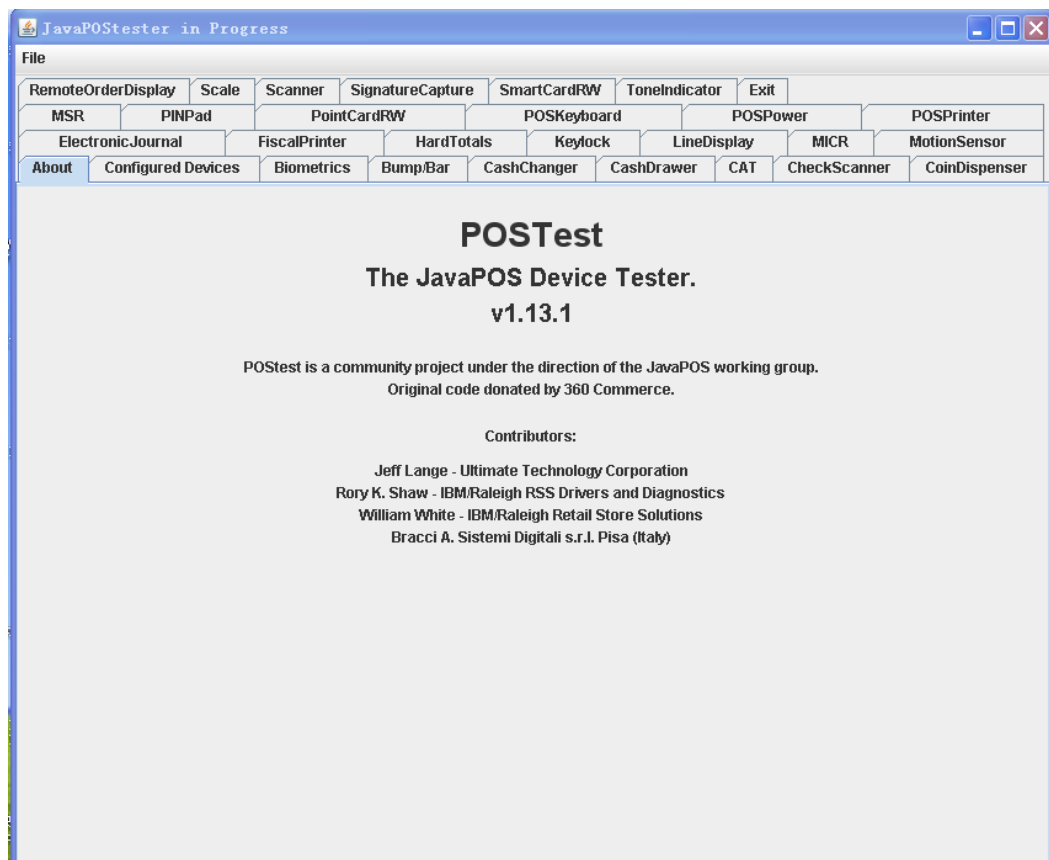
C:\temp\POSTest>dir
Volume in drive C is NEW SYS
Volume Serial Number is AC64-BBF1

Directory of C:\temp\POSTest

05/19/2006  08:53 AM  <DIR>          .
05/19/2006  08:53 AM  <DIR>          ..
05/16/2006  11:04 AM                761  jposps2.xml
05/16/2006  11:04 AM                799  jposserial.xml
05/16/2006  11:04 AM                774  jposusbhid.xml
05/16/2006  11:04 AM                773  jposusbkb.xml
05/16/2006  01:38 PM                186  POSTest.bat
05/16/2006  11:04 AM           322,874  POSTest.jar
05/16/2006  11:04 AM  <DIR>          jpos
05/16/2006  11:04 AM                128  vssver.scc
05/16/2006  11:04 AM                187  POSTest.bat.bak
               8 File(s)          326,482 bytes
               3 Dir(s)    5,738,045,440 bytes free

C:\temp\POSTest>postest
  
```

Then a POSTest program screen is shown.



3. Click "MSR" Tab

The screenshot shows the JavaPOS Tester application window. The title bar reads "JavaPOS Tester in Progress". The menu bar includes "File". The toolbar contains buttons for "RemoteOrderDisplay", "Scale", "Scanner", "SignatureCapture", "SmartCardRW", "ToneIndicator", and "Exit". The "MSR" tab is selected, showing a sub-toolbar with "PINPad", "PointCardRW", "POSKeyboard", "POSPower", and "POSPrinter". Below this, another row of buttons includes "ElectronicJournal", "FiscalPrinter", "HardTotals", "Keylock", "LineDisplay", "MICR", and "MotionSensor". A third row of buttons includes "About", "Configured Devices", "Biometrics", "Bump/Bar", "CashChanger", "CashDrawer", "CAT", "CheckScanner", and "CoinDispenser".

The main interface area has a "Logical name:" field set to "defaultMSR" and a status field "JPOS_S_CLOSED". Below these are buttons for "Open", "Claim", "Release", "Close", "Info", "Statistics", "Firmware", "O/C/E", and "EXIT".

On the left, there is a list of checkboxes for configuration options:

- ☐ Auto disable
- ☐ Data event enabled
- ☐ Device enabled
- ☐ Freeze events
- ☐ Decode data
- ☐ Parse decode data
- ☐ Transmit sentinels
- ☐ Per-track error reporting
- ☐ Track 1 enabled
- ☐ Track 2 enabled
- ☐ Track 3 enabled
- ☐ Track 4 enabled
- ☐ DeviceAuthenticated

 Below these are "Clear Input" and "Clear Input Properties" buttons.

The central area has three tabs: "MSR Reading" (selected), "Authentication", and "MSR Writing". Under "MSR Reading", there are input fields for:

- Track 1 Data:
- Track 2 Data:
- Track 3 Data:
- Track 4 Data:
- Track 1 Encrypted Data:
- Track 2 Encrypted Data:
- Track 3 Encrypted Data:
- Track 4 Encrypted Data:
- Additional Security Information:
- Account number:
- Expiration date:
- Title:
- First name:
- Middle initial:
- Surname:
- Suffix:
- Service Code:
- Track 1 discretionary data:
- Track 2 discretionary data:
- Data Count:

 A "Clear Fields" button is located at the bottom right of this section.

The logical name is the entry name in the jpos.xml file.

4. Click "Open" button, and "Claim", and three “beeps” should sound from the device.

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JavaPOS Tester in Progress

File

RemoteOrderDisplay Scale Scanner SignatureCapture SmartCardRW ToneIndicator Exit

MSR PINPad PointCardRW POSKeyboard POSPower POSPrinter

ElectronicJournal FiscalPrinter HardTotals Keylock LineDisplay MICR MotionSensor

About Configured Devices Biometrics Bump/Bar CashChanger CashDrawer CAT CheckScanner CoinDispenser

Logical name: defaultMSR JPOS_S_IDLE

Open Claim Release Close Info Statistics Firmware O/C/E EXIT

☐ Auto disable
☐ Data event enabled
☐ Device enabled
☐ Freeze events
☒ Decode data
☒ Parse decode data
☐ Transmit sentinels
☐ Per-track error reporting
☒ Track 1 enabled
☒ Track 2 enabled
☒ Track 3 enabled
☐ Track 4 enabled
☐ DeviceAuthenticated

Clear Input
Clear Input Properties

MSR Reading Authentication MSR Writing

Track 1 Data: 0
Track 2 Data: 0
Track 3 Data: 0
Track 4 Data: 0
Track 1 Encrypted Data: 0
Track 2 Encrypted Data: 0
Track 3 Encrypted Data: 0
Track 4 Encrypted Data: 0

Additional Security Information:
Account number:
Expiration date:
Title:
First name:
Middle initial:
Surname:
Suffix:
Service Code:
Track 1 discretionary data:
Track 2 discretionary data:
Data Count: 0

Clear Fields

5. Check choices "Data event enabled", "Device enabled"

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JavaPOS Tester in Progress

File

RemoteOrderDisplay Scale Scanner SignatureCapture SmartCardRW ToneIndicator Exit

MSR PINPad PointCardRW POSKeyboard POSPower POSPrinter

ElectronicJournal FiscalPrinter HardTotals Keylock LineDisplay MICR MotionSensor

About Configured Devices Biometrics Bump/Bar CashChanger CashDrawer CAT CheckScanner CoinDispenser

Logical name: defaultMSR JPOS_S_IDLE

Open Claim Release Close Info Statistics Firmware O/C/E EXIT

☐ Auto disable

☒ Data event enabled

☒ Device enabled

☐ Freeze events

☒ Decode data

☒ Parse decode data

☐ Transmit sentinels

☐ Per-track error reporting

☒ Track 1 enabled

☒ Track 2 enabled

☒ Track 3 enabled

☐ Track 4 enabled

☐ DeviceAuthenticated

Clear Input

Clear Input Properties

MSR Reading Authentication MSR Writing

Track 1 Data: 0

Track 2 Data: 0

Track 3 Data: 0

Track 4 Data: 0

Track 1 Encrypted Data: 0

Track 2 Encrypted Data: 0

Track 3 Encrypted Data: 0

Track 4 Encrypted Data: 0

Additional Security Information:

Account number:

Expiration date:

Title:

First name:

Middle initial:

Surname:

Suffix:

Service Code:

Track 1 discretionary data:

Track 2 discretionary data:

Data Count: 0

Clear Fields

6. Observe the text field and swipe a card.

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JavaPOSTester in Progress

File

RemoteOrderDisplay Scale Scanner SignatureCapture SmartCardRW ToneIndicator Exit

MSR PINPad PointCardRW POSKeyboard POSPower POSPrinter

ElectronicJournal FiscalPrinter HardTotals Keylock LineDisplay MICR MotionSensor

About Configured Devices Biometrics Bump/Bar CashChanger CashDrawer CAT CheckScanner CoinDispenser

Logical name: defaultMSR JPOS_S_IDLE

Open Claim Release Close Info Statistics Firmware O/C/E EXIT

☐ Auto disable

☐ Data event enabled

☒ Device enabled

☐ Freeze events

☒ Decode data

☒ Parse decode data

☐ Transmit sentinels

☐ Per-track error reporting

☒ Track 1 enabled

☒ Track 2 enabled

☒ Track 3 enabled

☐ Track 4 enabled

☐ DeviceAuthenticated

Clear Input

Clear Input Properties

MSR Reading Authentication MSR Writing

Track 1 Data: 9 107BIDT??

Track 2 Data: 14 20720123456789

Track 3 Data: 14 307B0123456789

Track 4 Data: 0

Track 1 Encrypted Data: 0

Track 2 Encrypted Data: 0

Track 3 Encrypted Data: 0

Track 4 Encrypted Data: 0

Additional Security Information:

Account number:

Expiration date:

Title:

First name:

Middle initial:

Surname:

Suffix:

Service Code:

Track 1 discretionary data:

Track 2 discretionary data:

Data Count: 0

Clear Fields

7. Click "Release" or "Close" to release or close the JPOS,

NOTE: This should be done to make sure the device returns to normal state.

8. Click "EXIT" to quit the program.

For more detail please check the <http://www.javapos.com> and the release help files.

6. A Sample for using MSR JPOS

The following code is the sample:

```
import jpos.*;
import jpos.config.*;
import jpos.config.simple.*;
import jpos.loader.*;
import jpos.loader.simple.*;
import jpos.profile.*;
import jpos.services.*;
import jpos.util.*;
import jpos.util.tracing.*;

public class YourClass{

    public static void main(String [] args){
        MSR msr=new MSR(); /*  new an instance */

        try{
            msr.open(TestConst.testdevicename);
        }catch(JposException e){
            System.err.print(e);
        }
        /**
         Do something here.
        */
        try{
            msr.close();
        }catch(JposException e){
            System.err.print(e);
        }
    }
}
```

Important Note:

If the reader has been authenticated, the application should cancel the authentication before close the POS. Otherwise, the reader will stay in the authentication state 120 seconds.