USER MANUAL

MiniMag Readers
Models IDMB
USB-HID KB, USB-HID,
RS232/USBCDC, or PS/2

JPOS SERVICE OBJECT
REFERENCE

80066512-001-B
05/31/2007
Version 1.9.16

ID TECH SOFTWARE LICENSE AGREEMENT

7.   LICENSOR DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT, WITH RESPECT TO THE SOFTWARE AND ANY ACCOMPANYING WRITTEN MATERIALS. This limited warranty gives you specific legal rights. You may have others, which vary from state to state.

8.   LICENSOR'S ENTIRE LIABILITY AND YOUR EXCLUSIVE REMEDY SHALL BE REPLACEMENT OF THE SOFTWARE THAT DOES NOT MEET LICENSOR'S LIMITED WARRANTY. Any replacement Software will be warranted for the remainder of the original warranty period or 30 days, whichever is longer.

9.   This Limited Warranty is void if failure of the Software has resulted from modification, accident, abuse, or misapplication.

10.   IN NO EVENT WILL LICENSOR BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY LOSS OF PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OR INABILITY TO USE THE SOFTWARE. Because some states do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply you.

11.   This Agreement is governed by the laws of the state of California.

12. For any questions concerning this Agreement or to contact Licensor for any reason, please write: International Technologies & Systems Corporation, 10721 Walker Street, Cypress, CA 90630 or call (714) 761-6368.

13.   U.S. Government Restricted Rights. The Software and documentation are provided with Restricted Rights. Use, duplication, or disclosure by the Government is subject to restrictions set forth in subparagraph (c)(1) of The Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1)(ii) and (2) of Commercial Computer Software - Restricted Rights at 48 CFR 52.227-19, as applicable. Supplier is ID TECH, 10721 Walker Street, Cypress, CA 90630.

Revision History

Revision Date	Description
02/20/06	Initial Draft
02/28/06	Add USB HID connector support
03/01/06	General edits
05/17/06	Add RS232/USBCDC connector support
06/21/06	General edit
02/23/07	Supporting JRE 1.4
05/31/07	Up-dated Version 1.9.16

Table of Contents

Introduction

This document provides information for using JPOS Service Object (SO) for MiniMag readers with model number IDMB.   Visit the ID TECH website at http://www.idtechproducts.com for additional information on readers.

System Requirements:

This JPOS SO program is for Windows 98, Windows 2000 and Windows XP.

Reference Document:

1. Unified POS Retail Peripheral Architecture Version 1.9 RC1 December 1, 2004
2. International Standard for Implementation of Point Of Service Peripherals

Environment Build

Install JRE 1.4, 1.5 or JDK 5.0:

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 MS Windows 2K/XP
    1. right click "My Computer" in the desktop
    2. select the "properties" menu item
    3. select "Advanced" tab
    4. click button "Environment Variables"
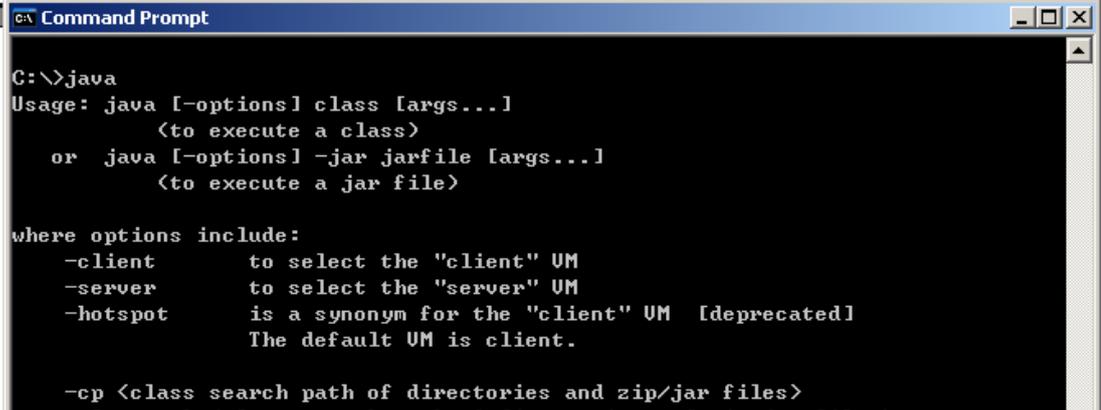   5. select "Path" and insert the JRE bin directory.
For MS Window 98
    Add a line into to "Autoexec.bat" in the system directory:
    PATH=%PATH%;JRE or JDK Bin Dir
    Then reboot the system.

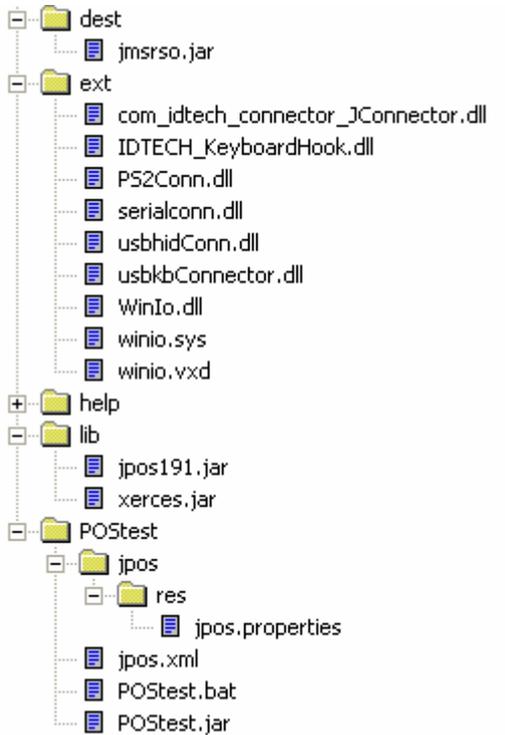When Java is working, following can be observed:

```
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:

```
dest
    jmsrso.jar
ext
    com_idtech_connector_JConnector.dll
    IDTECH_KeyboardHook.dll
    PS2Conn.dll
    serialconn.dll
    usbhidConn.dll
    usbkbConnector.dll
    WinIo.dll
    winio.sys
    winio.vxd
help
lib
    jpos191.jar
    xerces.jar
POStest
    jpos
        res
            jpos.properties
    jpos.xml
    POStest.bat
    POStest.jar
```

jmsrso.jar	JPOS device service control for Minimag II
jpos.xml	jpos configure file
jpos.properties	jpos configure file, this specifies jpos.xml
com_idtech_connector_JConnector.dll	JNI DLL extension
usbkbConnector.dll	extension DLL
PS2Conn.dll	Extension DLL for PS2 access
usbhidConn.dll	extension DLL to access usbhid
SerialConn.dll	extension DLL to access serial port or USB/CDC
IDTECH_KeyboardHook.dll	extension DLL
WinIO.dll	Extension DLL for PS2 access
WinIO.sys	Extension for PS2 access for Windows XP/2000
WinIO.vxd	Extension for PS2 access for Windows98

1. 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.

> **NOTE On Windows 98**
> WinIO.dll, WinIO.sys, WinIO.vxd should be placed in the same directory, and add the directory to environment PATH variable in file autoexec.bat at Windows directory. For Example the directory the WinIO.xxx located is c:\jpos\ext\, a line as following should add to file autoexec.bat
> `set PATH=c:\jpos\ext;%PATH%`
> then reboot the Windows 98

Device Name: the jpos.xml the JPOS register file, that specifiy the device names.

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

- `"defaultMSR"`
- `"IDTECH_MMII_USBKB"`
- `"IDTECH_MMII_USBHID"`
- `"IDTECH_MMII_RS232"`
- `"IDTECH_MMII_PS2"`
- `"IDTECH_MMII_USBCDC"`

"defaultMSR"

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

"IDTECH_MMII_USBKB",

The line: `<creation factoryClass="com.idtech.jpos.IDTJposServiceInstanceFactory" serviceClass="com.idtech.MinimagService" />` specifies the factory class and service class in this implementation.

The line: `<prop name="connector" type="String" value="usbkb/0acd/0520" />` specifies the connector driver name, and the configuration value. 0ACD is the ID TECH Vendor ID; 0520 is the product ID.

"IDTECH_MMII_USBHID",

<prop name="connector" type="String" value="usbhid/0acd/0500"/>, 0ACD is the ID TECH Vendor ID; 0500 is the product ID.

"IDTECH_MMII_RS232", "IDTECH_MMII_USBCDC"

This tow entries are same but the name. An additional COM port is presented if the USB CDC driver is installed.

The line:<prop name="connector" type="String" value="COM1/baud=9600/parity=N/data=8/stop=1"/> specify the serial port parameters. "COM1" stand for the port number. "baud=9600/parity=N/data=8/stop=1" means the serial port settings: baud rate 9600, none parity check, data bits are 8 bits, stop bits are 1 bit.

"IDTECH_MMII_PS2",

<prop name="connector" type="String" value="ps2"/>

"ps2" is the all parameter.

2. jpos/res/jpos.properties

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

3. 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
```
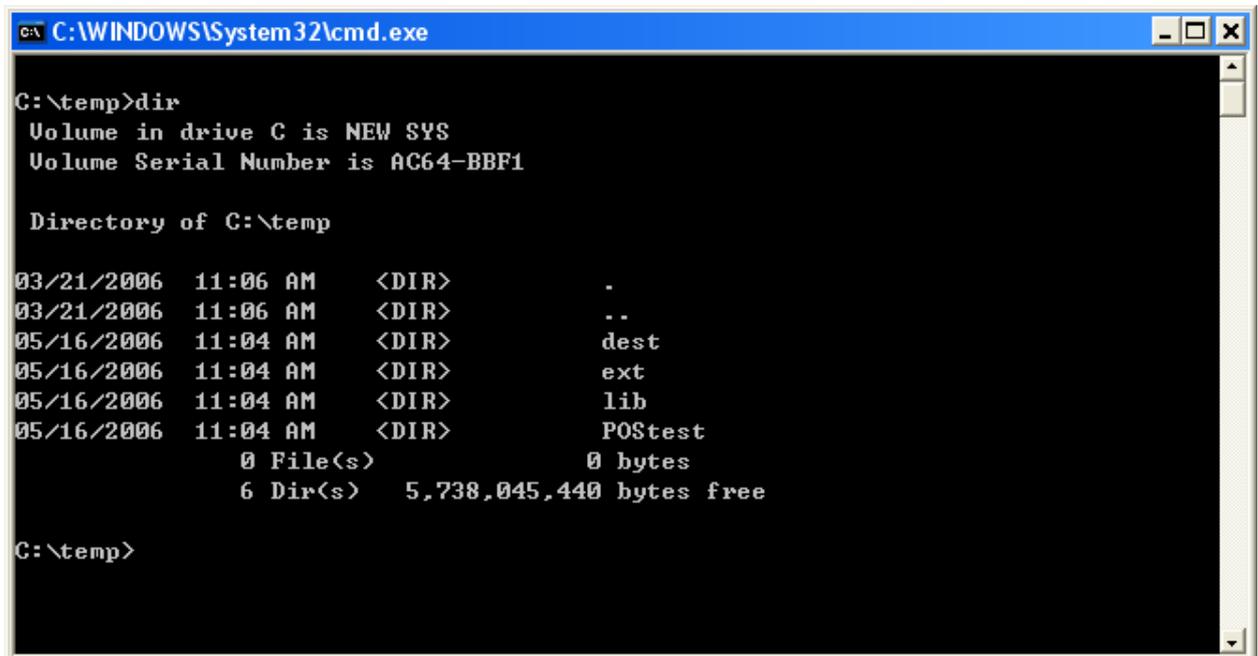
Run POSTest

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 "JPOS ServiceControl v01.000.zip" to a directory. Such as
     c:\temp
The Directory is like the following:
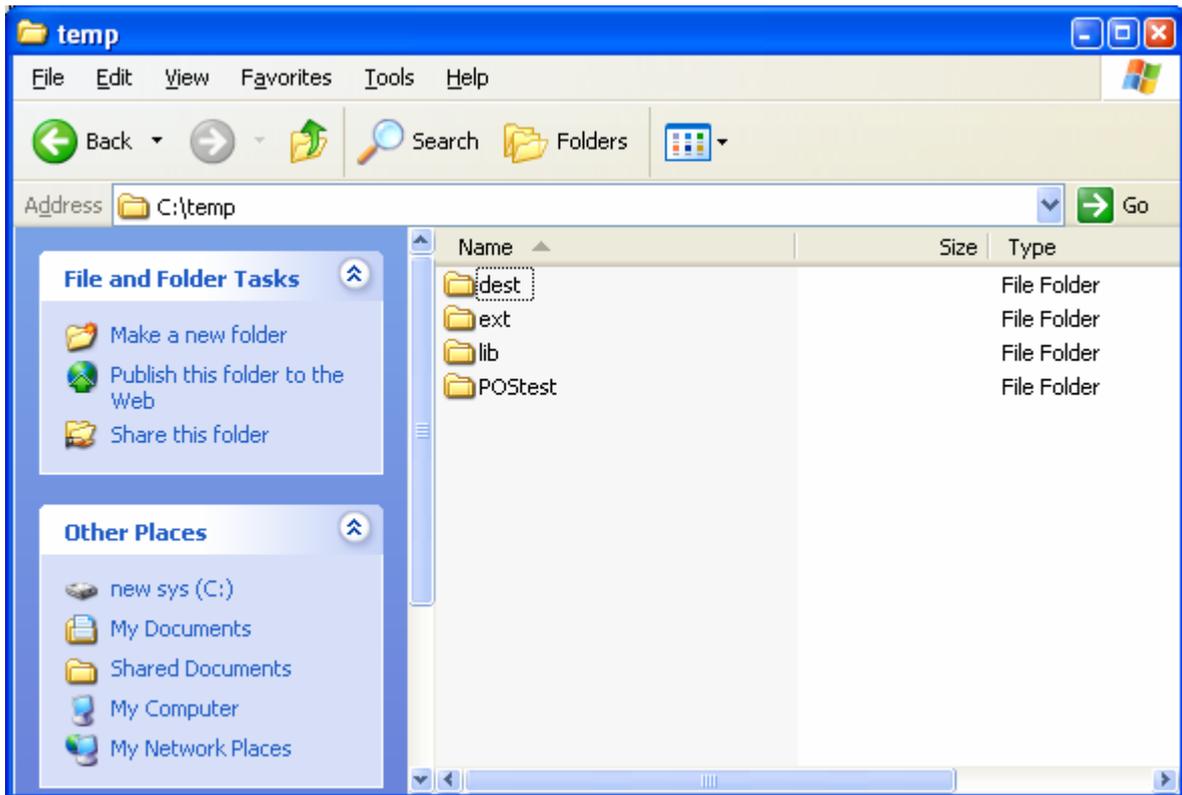
Enter "c:\temp"Postest directory under the DOS command shell
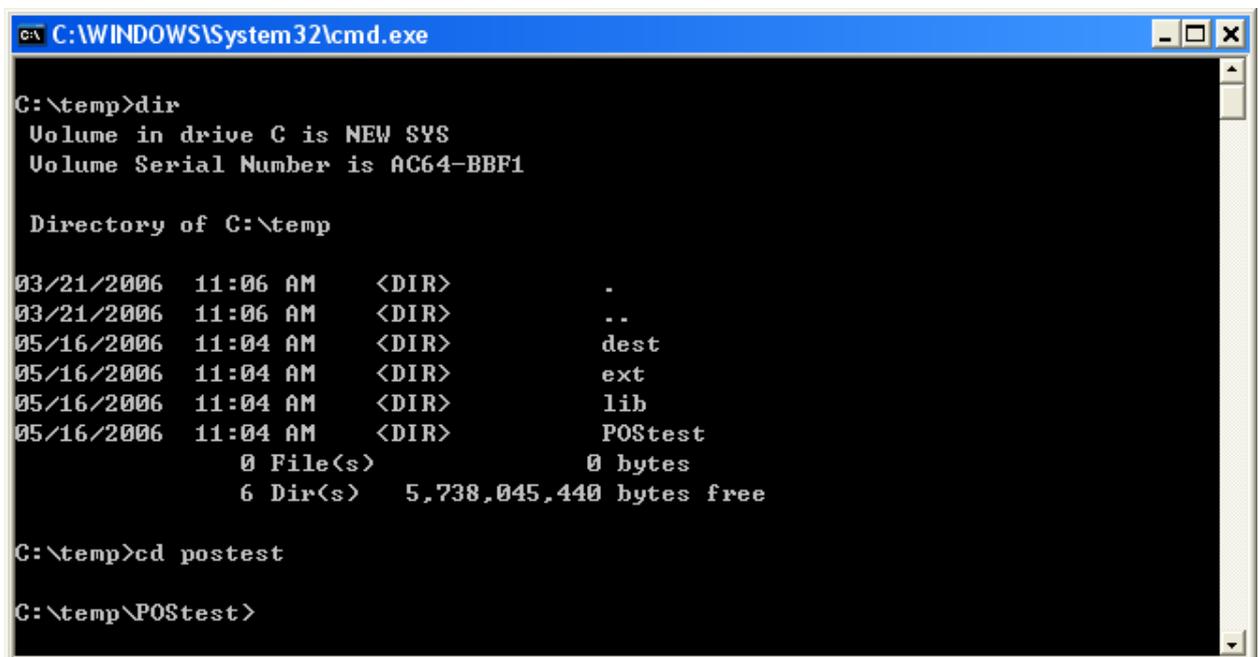
```
C:\WINDOWS\System32\cmd.exe

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>
```

Then enter subdirctory "POStest"

```
C:\WINDOWS\System32\cmd.exe

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:
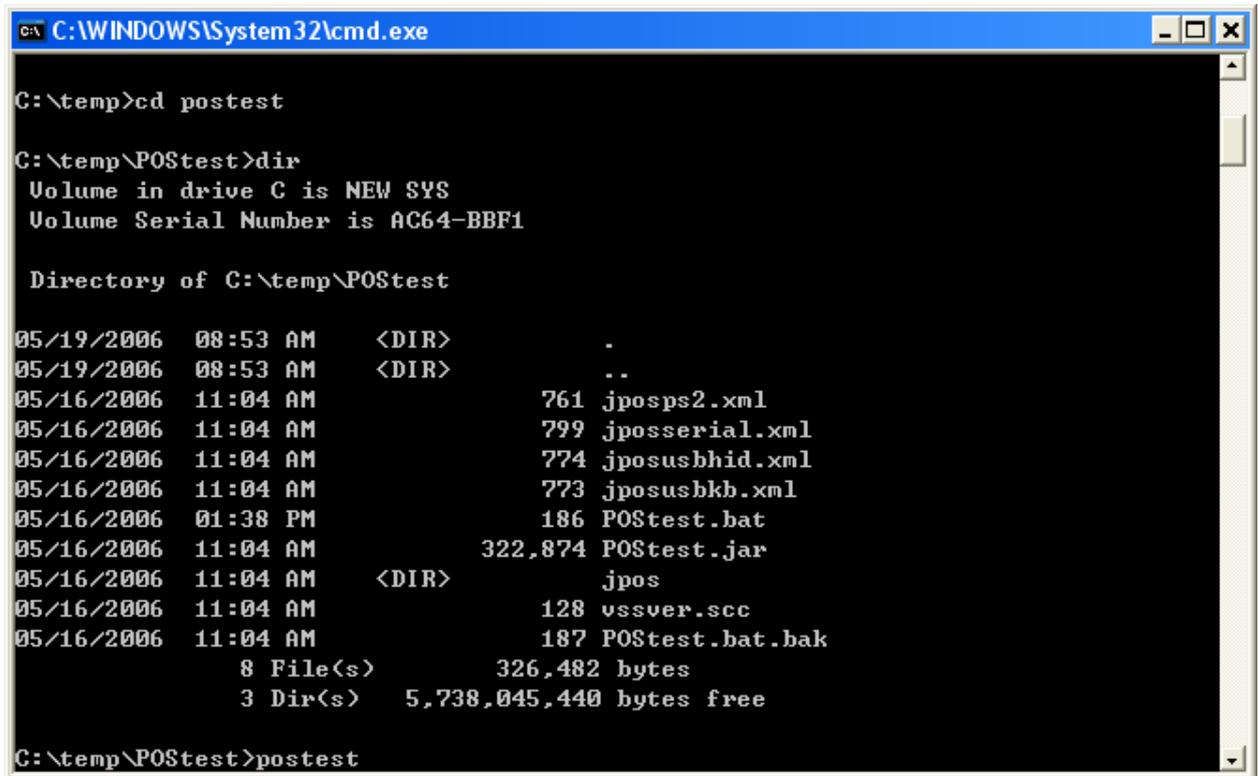
```
C:\temp>cd postest

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
```
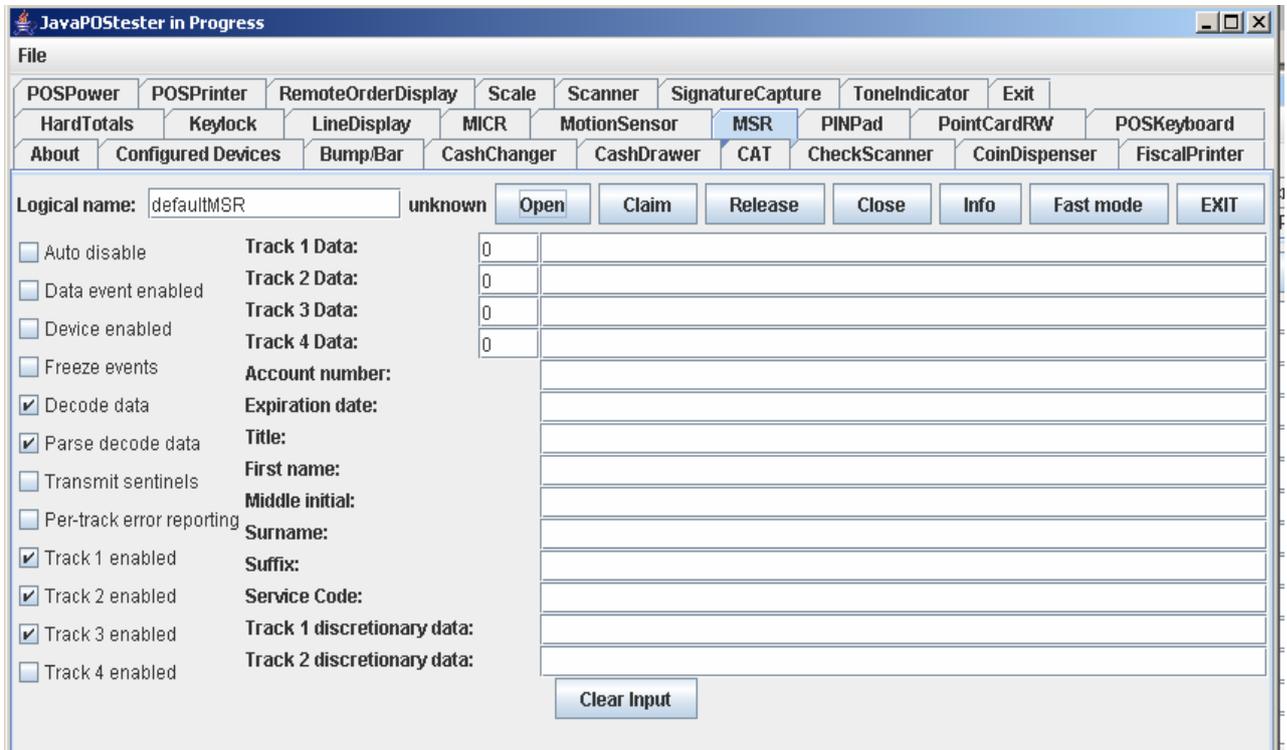
Then a POStester program screen is shown.

3. Click "MSR" Tab

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.

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

6. Observe the text field and swipe a card.

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.

A Sample for using MSR JPOS

The following code is the sample:

```java
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);
        }
    }
}
```