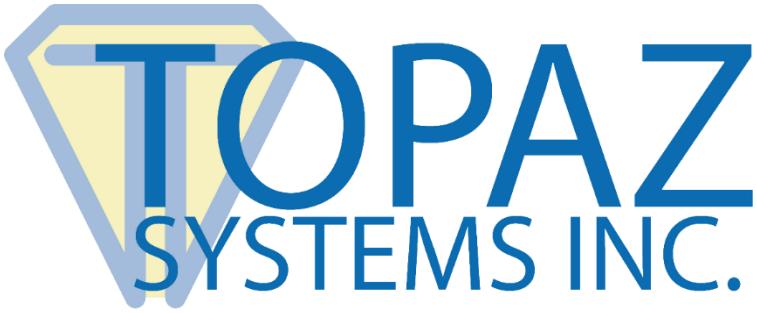


How-To Guide

SigPlus Demo LCD 1x5 Java

Table of Contents

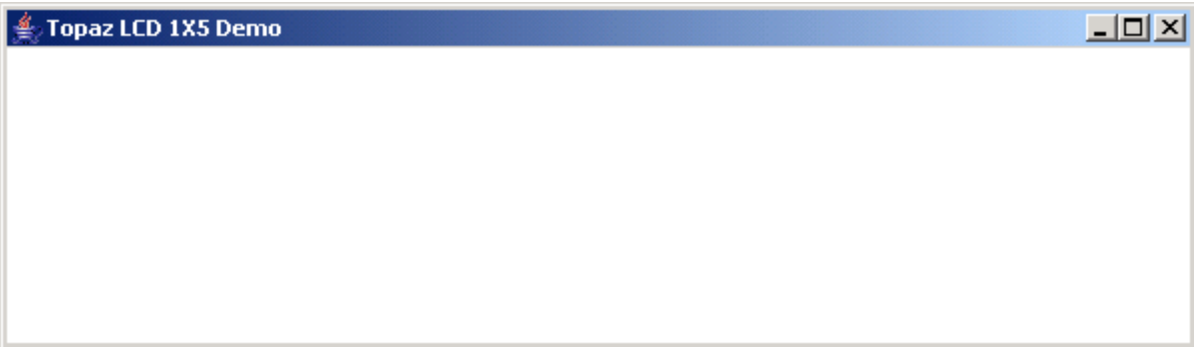
Overview

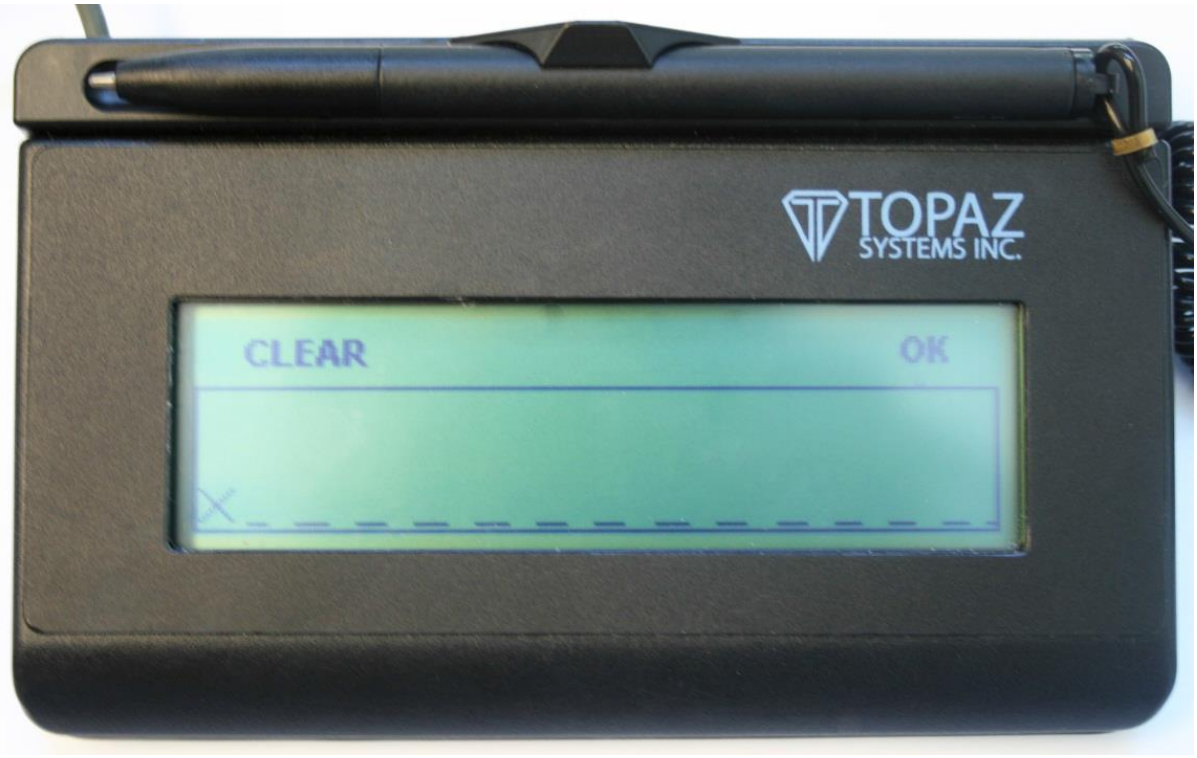
Welcome to the SigPlus Demo LCD 1x5 Guide. This will walk you through our demo "SigPlusDemoLCD1x5.java", available from the Topaz website.

Download at:
www.topazsystems.com/sigplusprojava.html

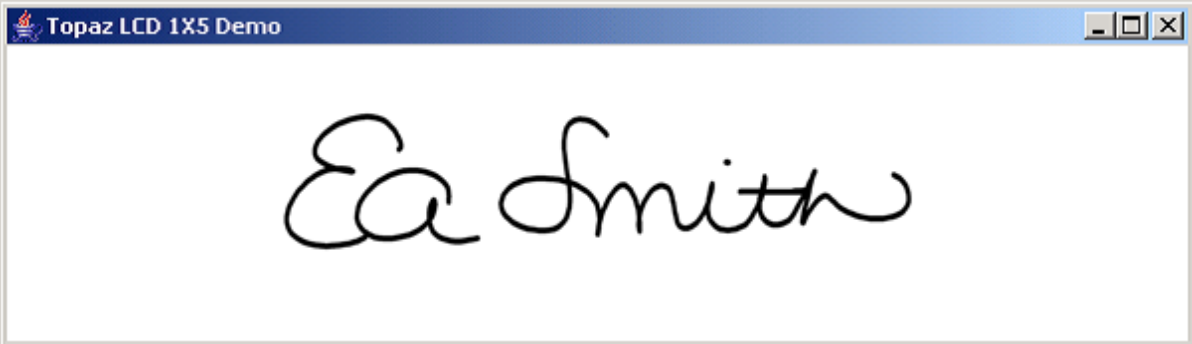
This demo shows the developer how to create an application that communicates information to an LCD, and how to add and manage hotspots on the LCD for user pen tapping. This demo is for use with an LCD 1x5 tablet. Begin by opening SigPlusDemoLCD1x5.java in a Java runtime environment.

The window below will appear on your monitor. Below you can also see what the interface on the pad looks like during this stage in the demo.

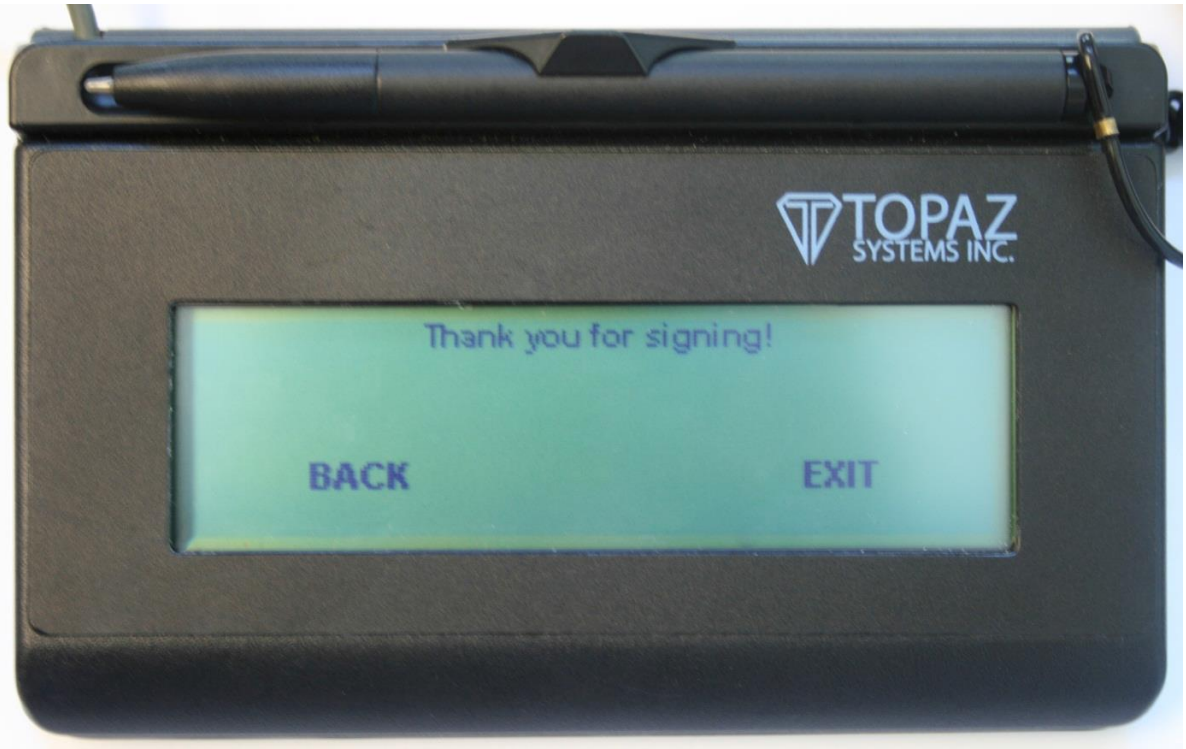




Sign on the dotted line on your tablet, and you will see the signature on the tablet, as well as on the “Topaz LCD 1x5 Demo” on your monitor (as shown below).



Press “OK” after you are done signing. Your tablet will now display the options “Back” and “Exit”. Click “Exit” to exit the application, or click “Back” to go back to the previous screen.



Because there are no user connection or tablet type options for the user to access when creating this kind of application, it is very important to set all tablet properties correctly in you code.

The Code

We will now look over the Java code used to control this application. The code below creates a form for the “SigPlusDemoLCD1x5”.

```
import java.awt.*;
import java.awt.event.*;
import java.beans.*;
import javax.comm.*;
import java.io.*;
import com.topaz.sigplus.*;

public class SigPlusDemoLCD1x5 extends Frame implements Runnable
        {
        SigPlus         sigObj = null;
        static final int    numImages = 4;
        Image[]         rawImages;

static final String fileBase = "C:\\SigPlusJava2_45\\lcd1x5demo\\";
Thread  eventThread;
int page;
boolean start;
String signature;

public static void main(String Args[])
        {
        SigPlusDemoLCD1x5 demo = new SigPlusDemoLCD1x5();
        }

public SigPlusDemoLCD1x5()
        {
        int i;
        String fileName;

        try
                {

                String drivername = "com.sun.comm.Win32Driver";
                        try
                                {
                                CommDriver driver = (CommDriver)
Class.forName(drivername).newInstance();
                driver.initialize();
                }
        catch (Throwable th)
                {
                /* Discard it */
                }
```

The code below initializes the com API. This is necessary even with HSB pads because Java expects to see the com initialized. The com driver class is only necessary while in Windows. It then uses the ClassLoader class to create a new instance of SigPlus.

```
ClassLoader cl = (com.topaz.sigplus.SigPlus.class).getClassLoader();
        sigObj = (SigPlus)Beans.instantiate(cl, "com.topaz.sigplus.SigPlus");

        setLayout( new GridLayout(1, 1));
        add(sigObj);
        pack();
        setTitle("Topaz LCD 1X5 Demo");

addWindowListener(new WindowAdapter()
        {
        public void windowClosing(WindowEvent we)
                {
                System.exit(0);
                }

        public void windowClosed(WindowEvent we)
                {
                System.exit(0);
                }
                        } );
```

There are three SigPlus event handlers in SigPlus that are currently unimplemented. These are not available for the developer to use.

```
sigObj.addSigPlusListener(new SigPlusListener()
        {
                public void handleTabletTimerEvent(SigPlusEvent0 evt)
                        {
                        }
                public void handleNewTabletData(SigPlusEvent0 evt)
                        {
                        }
                public void handleKeyPadData(SigPlusEvent0 evt)
                        {
                        }
                                });
```

The code below sets the tablet model, COM port, and adds a time and date stamp. SigPlus and the LCD are also set so that inking won't happen. Then several hotspots are added.

```
setSize(600, 175);
show();

sigObj.setTabletModel("SignatureGemLCD1X5");
        sigObj.setTabletComPort("HID1");
sigObj.setLCDCaptureMode(2);
        sigObj.setTabletState(1);
```

```
sigObj.setDisplayRotation(0);
sigObj.setDisplayJustifyMode(1);
sigObj.setDisplayJustifyX(50);
sigObj.setDisplayJustifyY(50);
//sigObj.setTimeStamp("August 16, 2002 14:12:00"); //Sets time stamp string
//sigObj.setDisplayTimeStamp(true); //Displays time stamp
//sigObj.setAnnotation("Topaz Java"); //Sets annotation string
//sigObj.setDisplayAnnotation(true); //Displays annotation

        sigObj.lcdSetWindow(0, 22, 240, 40);
        sigObj.keyPadSetSigWindow(1, 0, 22, 240, 40);

sigObj.keyPadAddHotSpot(0, 1, 195, 6, 19, 19);
        sigObj.keyPadAddHotSpot(1, 1, 10, 4, 40, 17);
        sigObj.keyPadAddHotSpot(2, 1, 28, 36, 32, 12);
        sigObj.keyPadAddHotSpot(3, 1, 168, 37, 30, 12);
```

Below the list of image files to put on the LCD is created.

```
MediaTracker mt = new MediaTracker(this);
rawImages = new Image[ numImages ];
String[] imageTitles =
        {
                "ThankYou",
                "Sign",
                "Ok",
                "Clear"
        };

        for(i = 0; i < numImages; i++)
        {
                fileName = fileBase + imageTitles[i] + ".jpg";
                rawImages[ i ] = Toolkit.getDefaultToolkit().getImage(fileName);
                mt.addImage(rawImages[ i ], i + 1);
        }
        try
        {
                mt.waitForAll();
        }
        catch(Exception e)
        {
                System.out.println("Error opening bitmap files");
        }
```

First, we clear the LCD and write out 1 image to the background memory of the pad (rawImage[6]), and then write 3 images to the foreground of the LCD. Images written to the foreground will immediately show up on the LCD. Images written to the background will show up only when LCD refresh is called with an initial argument of 2.

```
sigObj.lcdRefresh(0, 0, 0, 240, 128);

sigObj.lcdWriteImage (1, 2, 0, 0, 240, 53, rawImages[0]);
```

```
sigObj.lcdWriteImage (0, 2, 0, 20, 240, 44, rawImages[1]);
sigObj.lcdWriteImage (0, 2, 207, 4, 21, 11, rawImages[2]);
sigObj.lcdWriteImage (0, 2, 15, 4, 37, 11, rawImages[3]);
        sigObj.lcdSetWindow(0, 22, 240, 40);
        sigObj.keyPadSetSigWindow(1, 0, 22, 240, 40);
page=1;

eventThread = new Thread(this);
eventThread.start();
}
catch (Exception e)
{
return;
}
}
public void run()
{
try
        {
        while (true)
                {
                Thread.sleep(300);
```

Here is the Pulling Loop where hotspots are managed. HotSpot(0) opens the next page. HotSpot(1) clears the signature data. HotSpot(2) is on the next page and goes back to the previous page, while HotSpot(3) exits and resets the pad to default settings.

```
if(sigObj.keyPadQueryHotSpot(0) != 0 && page==1)
        {
                sigObj.keyPadClearSigWindow(1);
        sigObj.lcdRefresh(1, 210, 3, 14, 14);
                signature=sigObj.getSigString(); //pass signature to "signature" variable
        sigObj.clearTablet();
        sigObj.keyPadClearSigWindow(1);
                page=2;
                sigObj.lcdSetWindow(0, 0, 0, 0);
        sigObj.keyPadSetSigWindow(1, 0, 0, 0, 0);
                sigObj.lcdRefresh(2, 0, 0, 240, 64);
}
else if(sigObj.keyPadQueryHotSpot(1) != 0 && page==1)
{
        sigObj.keyPadClearSigWindow(1);
        sigObj.clearTablet();
                sigObj.lcdRefresh(1, 10, 0, 45, 17); sigObj.lcdRefresh(0, 0, 18, 240, 50);
                sigObj.lcdWriteImage(0, 2, 0, 20, 240, 44, rawImages[1]); sigObj.lcdRefresh(1, 10, 0, 45,
                17);
        sigObj.keyPadClearSigWindow(1);
}
else if(sigObj.keyPadQueryHotSpot(2) != 0 && page==2)
        {
                sigObj.keyPadClearSigWindow(1);
                sigObj.clearTablet();
                sigObj.lcdRefresh(1, 29, 38, 44, 19);
```

```
                    sigObj.keyPadClearSigWindow(1);
                        sigObj.lcdRefresh(0, 0, 0, 240, 64);
                        page = 1;
                    sigObj.keyPadSetSigWindow(1, 0, 22, 240, 40);
                        sigObj.lcdSetWindow(0, 22, 240, 40);
                    sigObj.lcdWriteImage (0, 2, 0, 20, 240, 44, rawImages[1]);
                    sigObj.lcdWriteImage (0, 2, 207, 4, 21, 11, rawImages[2]);
sigObj.lcdWriteImage (0, 2, 15, 4, 37, 11, rawImages[3]);
        sigObj.clearTablet();
}
else if(sigObj.keyPadQueryHotSpot(3) != 0 && page==2)
{
        sigObj.keyPadClearSigWindow(1);
        sigObj.clearTablet();
                sigObj.lcdRefresh(1, 182, 37, 30, 19);
        sigObj.keyPadClearSigWindow(1);
                sigObj.setTabletState(1);
                sigObj.setLCDCaptureMode(1);
                sigObj.lcdRefresh(0, 0, 0, 240, 64);
                sigObj.setTabletState(0);
                System.exit(0);
        }

        sigObj.keyPadClearSigWindow(1);
        }
                }
catch (InterruptedException e)
{
        }
}
}
```

Dependencies and Files Necessary to Run This Demo

Jar files must be included in the CLASSPATH

1. SigPlus2_xx.jar (at the creation of this document the current version was 2_45)
2. Comm.jar (This file will vary depending on OS, you will need the correct java com API for your OS.)

Additional Files

1. (Win) – Win32com.dll must reside in the System32 folder
2. (HSB in Win) – SigUsb.dll must reside in the System32 folder