Delcom Foot Ctrl Software

Version 0.2
June 22, 2006

Contents

1.0   Introduction
This document describes the operation of the footctrl software. The footctrl software allows the USB foot switch to emulate a mouse button, a keyboard entry or to start external programs. Mouse buttons left, center or right can be emulated. Keyboard mode allows up to 256 keyboard keys, including all special keys (eg CTRL ATL etc.). Up to two external program events can be programmed. Both foot switch press and release can be programmed independently.

2.0   Requirements
2.1   Environment
The footctrl software works with following operating systems:
Windows ME
Windows 2000
Windows XP
Windows 2003

2.2   Foot Switches
The footctrl software works with the following Delcom USB foot switches:
803600 – Delcom USB Foot Switch
803650 – Delcom USB HID Foot Switch
803684 – Delcom USB Dual Foot Switch
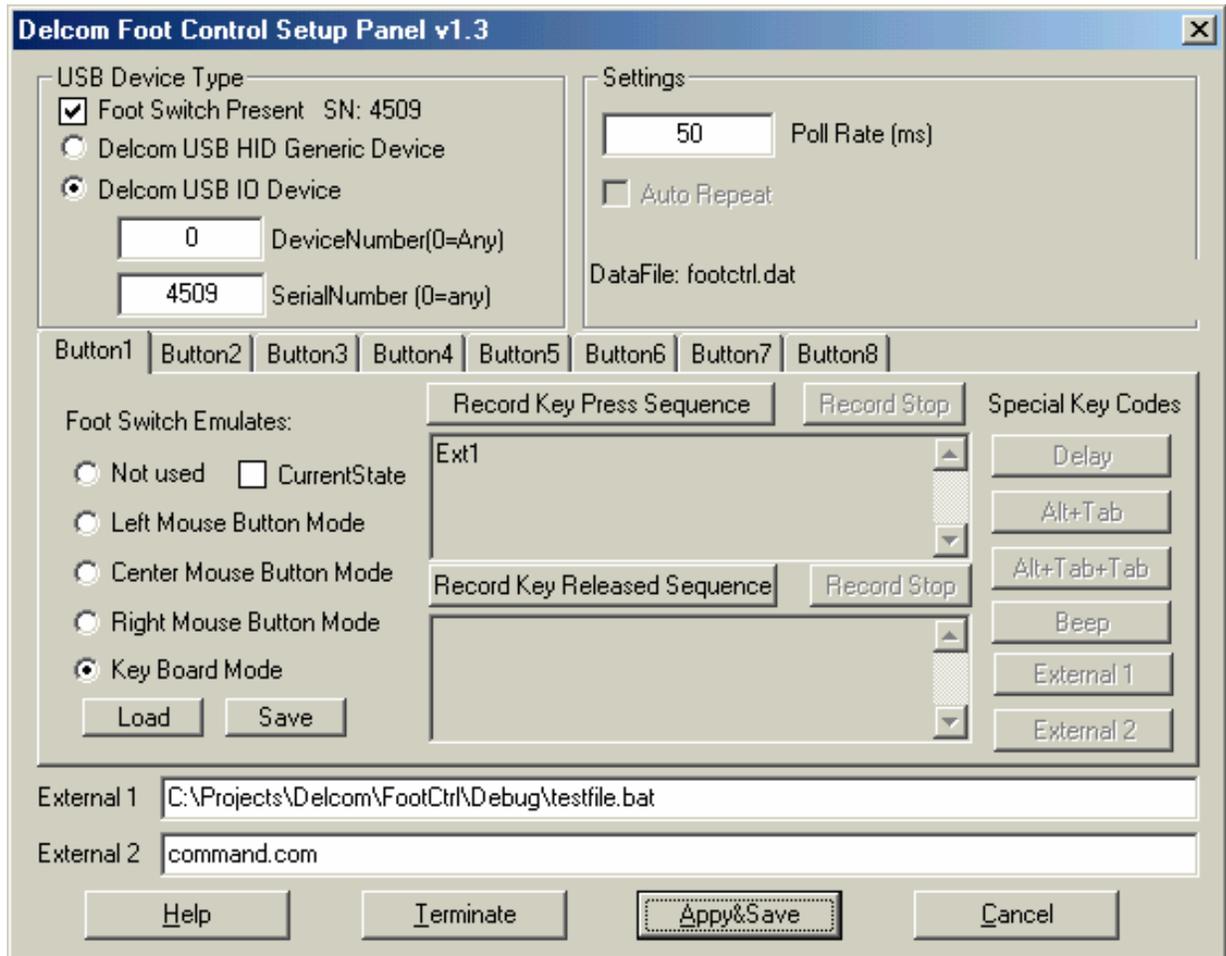
3.0   Quick Start
Install one of the compatible Delcom USB foot switches and run the footctrl software. The first time the program runs it will ask you to select which foot switch type you have. Choose either the Delcom HID or Delcom IO type foot switch. Press the Apply&Save button. When you press the Apply&Save button the current settings are saved and a connection to the Delcom USB footswitch is established. If the connection to the foot switch is successful the 'Foot Switch Present' check box is checked. Otherwise an error message is displayed.

With the 'Foot Switch Present' check box checked, press the foot switch and verify the 'Current State' check box toggles with the pressing of the foot switch.

Now you are ready to configure the event that your footswitch button will produce. To do this choose either; Mouse Mode (left, center, right) or Keyboard Mode. See section 4.0 below for more information.

Once you have configured the foot switch you must press 'Apply&Save for your setting to be applied and saved. Then click cancel to close the Setup dialog window. After the settings have been saved, future program loading will silently load the program with out displaying the setup dialog. To display the setup dialog click on the footctrl icon in the task bar at the bottom of your computer screen.

4.0 General Setup Description

USB Device Type – This section configure the USB Foot Switch type. There are two types of USB devices; there are Delcom USB HID and Delcom USB IO. Basically the two types tell the footctrl software which USB driver to use.

> **Delcom USB HID Type** – This settings tells the footctrl software to use the USB HID type drivers. Using this setting the software will try and open the first matching Delcom USB HID type footswitch found.

> **Delcom USB IO Type** – This settings tells the footctrl software to use the Delcom USB IO type drivers. Using this setting the software will try and open the first matching (assuming DeviceNumber and SerialNumber fields are zero) Delcom USB IO type footswitch found. If the DeviceNumber or SerialNumber fields are non-zero the software will try and connect to the specific foot switch whose Device Number or Serial Number a match.

SerialNumber – This setting tells the footctrl software to use the foot switch with a specific serial number. A serial number of zero tells the software to use any serial number. Default is zero.

DeviceNumber – This setting tells the footctrl software to use the foot switch indicated by it's device number. The device number is a non-zero number representing the USB port number. e.g. If there are two foot switches installed on a computer, one foot switch will be on port 1 and the other on port 2. Which foot switch gets what number port is governed by the USB Host enumeration order. A device number of zero tells the software to use the first device found. Default is zero.

Settings – This section allows the user to change the polling rate of the software and indicates which data file the software is using.

PollRate – The poll rate is the period in milliseconds at which the software polls the footswitch device. Increasing this number will cause the period to increase and the poll rate to slow down. Too slow and the software may miss foot switch presses. Decreasing this number will cause the period to decrease and the poll rate to speed up. Too fast and the software many read one foot switch press as two events due to switch bounce noise. Units are in milliseconds and the default value is 50ms, minimum is 10.

DataFile – This field is a read only field and indicates to the user which data file the program is using. The default data file is footctrl.dat. This can be changed by passing a filename as a command line argument to the program.
Example: footctrl mydata.dat

Button Tab Area – This area allows the user to configure the event the foot switch buttons will start. Up to 8 buttons can be configured per footswitch. For single button foot switches configure 'Button1'. For dual foot switches configure 'Button1' and 'Button2'. When make any changes to the Setup panel always remember to press 'Apply&Save' so that your changes are saved.

Not Used – When selected, this check box will cause the button press to have no function. Use this setting to disable a button.

CurrentState – This read only check box indicates the current state of the button. When the button is pressed this box is checked. This is useful for testing.

Left Mouse Button Mode – When selected, this check box will cause the button to emulate a LEFT mouse button.

Center Mouse Button Mode – When selected, this check box will cause the button to emulate a CENTER mouse button.

Right Mouse Button Mode – When selected, this check box will cause the button to emulate a RIGHT mouse button.

Key Board Mode – When selected, this check box will cause the button to emulate a Key Board Entry. To program keyboard entries, first click on the 'Record Key Press Sequence' button. Then using the keyboard enter the key board sequence you what. When done click on the 'Record Stop' button. Both button press and depress can be programmed independently. As well as all keyboard entries, special key codes can be enter during the recording phase. To uses the Special Key codes, click on the special key code button while in record mode.

Load – This button allows the user to import a keyboard entry previous saved with the save button.

Save – This button allows the user to save the current keyboard entry. This is use full when the keyboard entry gets complicated and need is to changed often. The Save and Load buttons are used to import and export the keyboard sequence. The current keyboard entry is stored in the configuration data file.

Record Key Press Sequence – This button places the program in record mode, to record the key PRESS sequence. All keyboard entries made and special key codes pressed after this button will be recorded. Press the 'Record Stop' to terminate the recording.

Record Key Release Sequence – This button places the program in record mode, to record the key RELEASE sequence. All keyboard entries made and special key codes pressed after this button will be recorded. Press the 'Record Stop' to terminate the recording.

Record Stop – This button will stop the keyboard record mode.

Special Key Codes – These are special key boards codes or events that are not available from the keyboard.

Delay – This button will add a delay of 100ms to you keyboard entry. This is use full when a program should wait a while before continuing with the keyboard entry. For example when changing between two applications using the Alt+Tab code, you should insert a few delays before continuing. This gives Windows a chance to switch to the new application, redrawn the window and set focus to it. With out the delays the next key entry might be sent to the current application.

Alt+Tab – This button will send the Alt+Tab key code. The Alt+Tab key code switches the current application focus to the next present application. When using this code you will probably need a few 'Delay' codes after it.

Alt+Tab+Tab – This button will send the Alt+Tab+Tab key code. The Alt+Tab+Tab key code switches the current application focus to the second present application. When using this code you will probably need a few 'Delay' codes after it

Beep – This button will sound the system beeper. This code is use full of testing and/or audio feed back.

External 1 – This button will cause the button action to run the External 1 command string. See External 1 edit box description below.

External 2 – This button will cause the button action to run the External 2 command string. See External 2 edit box description below.

External 1 Edit Box– This edit field allows the user to enter any valid command string that can be passed to the system.

External 2 Edit Box– This edit field allows the user to enter any valid command string that can be passed to the system.

You can place any valid system command string in the External Edit Buttons. You should first test the command string by running them under the system command prompt. If the full path is not given the desired program must be in the directory the footctrl program was run or in one of the PATH search directories. Note when passing parameters to an external program you may need to place the program name in quotes and the parameters unquoted, see example below. Below are a few examples.
Notepad   // opens the windows notepad
Command.com   // opens the windows command prompt
C:\mydir\Mytest.bat   // runs the mytest.bat file
"C:\Program Files\Internet Explorer\IEXPLORE.EXE" http://www.delcom-eng.com   // opens the www.delcom.com website

Help – Displays the help and version dialog box.

Terminate – Terminates the footctrl program.

Apply&Save – Saves the setup parameters and opens a connection to the USB device. You must press this button for your changes to become effective.

Cancel – Closes the Setup Dialog box but leaves the program running. To redisplay the Setup dialog box, click on the footctrl icon on the task bar.

5.0 Advanced Topics

5.1 Auto Load
If you want the footctrl program to start automatically when windows is started, place a shortcut to the footctrl program or copy the program and data file to the windows start up directory. Note the data file must be in the same directory as the footctrl.exe file.

5.2 Command Line Options
The footctrl program currently only has one command line option and that option is to pass the data file name. This option allows the user to specific which data file to use. The data file contains all the settings and parameters. This is useful for starting the footctrl program in different modes. For example you could have set up a data file named domouseleft.dat that emulates the left mouse button. If you started the program with 'footctrl domouseleft.dat' the footctrl program will use the domouseleft.dat. If no data file name is passed or the default footctrl.dat is missing when the footctrl is started then a data file named footctrl.dat is automatically generated.

If the data file name is passed to the footctrl program and it does not exist, the program will automatically generate it.

5.3 Multi Foot Switch Setup Description
It is possible to run more than one footctrl program and foot switch. To do this you will need two or more Delcom USB foot switches of the Delcom USB IO type.
You will have to run a copy of the footctrl software for each foot switch. By default the footctrl software uses the footctrl.dat file when the footctrl is loaded. In order to have two or more footctrl program running with different settings you will need to tell the footctrl program to use a different data file for each foot swtich. To do this you must pass the data file name as a command parameter when starting the program.

For example to setup more than one foot switch first configure each footswitch separately. To do this start the footctrl program with a unique data file name for each footswitch, configure it, test it and save your settings. Then call the footctrl program with each unique data file. For example if you have configured two foot switches with data files FS1.dat and FS2.dat. Then start the two footctrl programs with:
Footctrl FS1.dat
Footctrl FS2.dat

Note that is best to use the DeviceNumber or SerialNumber parameters when configuring the device. This makes sure you talk to the correct foot switch.

6.0   Trouble Shooting

6.1 Foot switch not present – Check the 'Foot Switch Present' check if it's not checked, open the windows device manager and see if windows see the device.

6.2 Foot switch present, but current state not active – Check that you have the correct button tab selected.

6.3 Missing foot button presses – Decrease the poll rate.

6.4 Multiple foot button presses – Increase the poll rate.

6.5 Corrupted Data File – Delete the data file. If the data file is missing the footctrl program will automatically recreate the data file.

6.6 Program does not start with the correct saved settings. – Make sure the *.dat file is in the same directory that the program is run from. Make sure you have copied the whole program to the startup directory and have not just made a short cut to it.

7.0   Release Notes

1.0   Initial release.

1.1   Changed code to allow key release to be recorded separately in the key release buffer.

1.2   Changed code to display all pressed and released keys in the key board mode. Key presses are in upper case and key release are in lower case. Except for numbers and other non-case symbols, which are displayed as is for both pressed and released states. Defaulted poll rate to 50ms.

1.3   Added External Event support. Added devicenum and serial number selection to Delcom USB IO type. Added command line data file option.

1.4   Fixed problem with CTRL key not releasing.

Latest software and documentation can be found at:
http://www.delcom-eng.com/productdetails.asp?productnum=890600