

GENOVATION

**KeyDriver
User Guide**

**Revision B
July 2006**

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Genovation Incorporated
Marketing Department
Customer License and Warranty
17741 Mitchell, North
Irvine, CA 92614 USA

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If you require technical support or if you wish to make suggestions about the product, don't hesitate to contact us. We can be reached Monday through Friday from 7:30 AM to 11:00 AM and from 11:30 AM to 4:00 PM Pacific Time. If the customer support lines are busy or after hours, leave a message or send a FAX or E-MAIL and a representative will respond typically within 24 hours.

VOICE NUMBER: (949) 833-3355 ext. 112
FAX NUMBER: (949) 833-0322
EMAIL: support@genovation.com
WEB: <http://www.genovation.com>

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1: KeyDriver Installation

What It Does

Genovation KeyDriver accepts input from a computer's COM port (RS-232 or Virtual COM Port using USB or Ethernet) and processes the incoming ASCII key values in a manner of your choosing:

- You may select to simply convert the incoming keystrokes to equivalent PC keystrokes. This makes an attached keypad work like a PC number pad or keyboard. You can select any key translation you wish.
- You may select to convert incoming key data into long PC-side macros. This makes an attached keypad act as a string generator for entering frequently used text values.
- You may select to convert incoming key data into application launches. This makes an attached keypad act like a hot-key generator.

In addition to these obvious uses, you may also create batch files and/or applications of your own to extend the functionality of your attached keypad or other device (E.g. barcode scanner).

What's Included

The KeyDriver CD or electronic archive should include the following items:

- This user guide in Adobe PDF format
- KeyDriver installation software (Setup.exe)

This product is designed to work with computers running Microsoft Windows 98se/ME/2000/XP operating systems.

Install Software

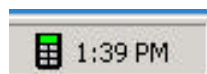
Insert the CD into the target computer's CD drive. If the Installation program does not start immediately, navigate to the CD using Explorer and run Setup.exe. You should see the following screen:



Click on **Next** as required and choose the path you would like to use for storing the PC applications. Click **Install** and **Next** to copy the files to your computer from the CD. The following files will be installed on your computer:

File	Description
KeyDriver.pdf	This document.
KeyDriver.exe	The COM port – to – keystroke utility application.
Connected.ico	Tray icon indicating the selected COM port is open.
Disconnected.ico	Tray icon indicating the selected COM port is not open.
Micropad623.kdf	Properties file that allows the Genovation Micropad 623 to be used as a PC Numpad/Pinpad.
Micropad633.kdf	Properties file that allows the Genovation Micropad 633 to be used as a PC Numpad/Pinpad
MiniTerm9xx.kdf	Properties file that allows the Genovation MiniTerm (any) to be used as a PC Numpad/Pinpad.

The Setup procedure will create an item in the Startup folder that automatically starts KeyDriver every time you start your computer. When the KeyDriver application is running, you will see an icon in the system tray.



Install Hardware

Plug in your intended hardware. KeyDriver is designed to primarily support Genovation's MiniTerm 9xx family, but it can also be used with the Micropad 623, 633* and other serial devices.

The default communications word format is 9600 baud, 8 data bits, no parity and 1 stop bit. If your device does not support that format you can edit your KDF file with Notepad later on to change KeyDriver to fit your hardware. Look for these key values in your KDF file:

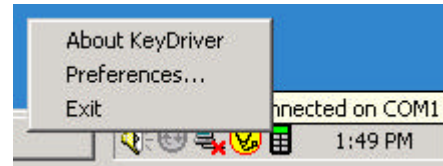
```
[Com Port Configuration]
ComPort=10
BaudRate=19200
DataBits=8
StopBits=1
Parity=None
```

* The MicroPad 633 needs to be configured at the factory to operate in serial mode.

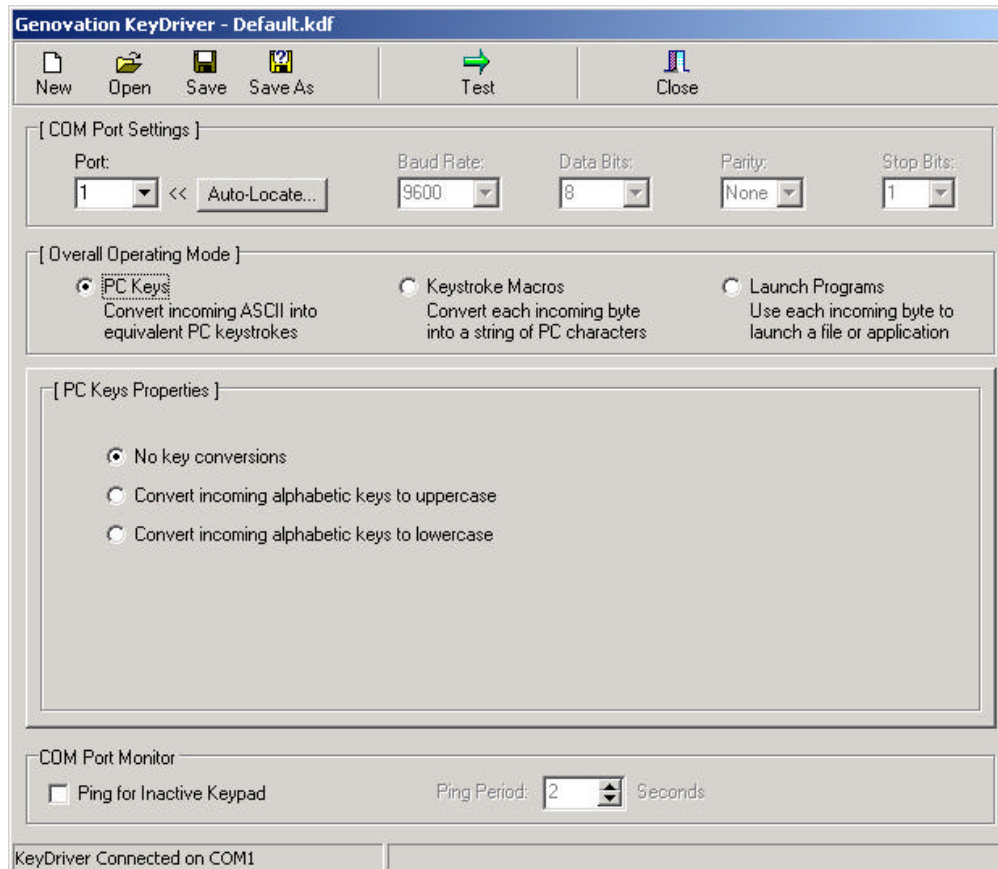
2: Quick Start Guide

The Preferences Panel

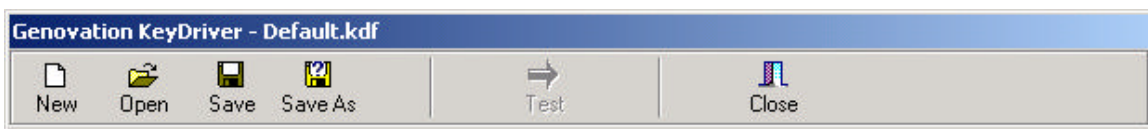
With KeyDriver running, right-click on the icon located in the system tray and select **Preferences...** from the context menu.



You should then see the following:

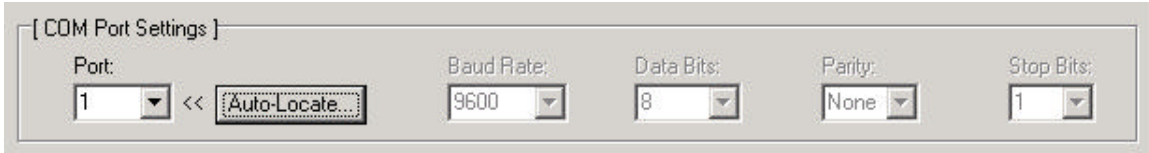


The top row of buttons is used to load and save your preferences. The top line shows the file name of your KDF file.



The **Close** button minimizes the Preferences panel but does not exit the application. To exit the application you must click on **Exit** from the System Tray (context) menu.

The next group of controls shows you the COM port settings used by KeyDriver.



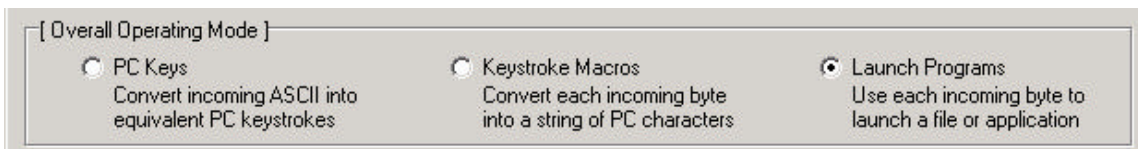
You may select the COM port manually using the drop-down list, Auto-Locate the COM port if you are using a MiniTerm, or manually enter the data in the KDF file using Notepad as described on the previous page and later on in this document.

Please note the KeyDriver is always “live”. Once you select a COM port, KeyDriver will attempt to open it. You can check the status bar at the bottom of the panel or hover your mouse over the icon in the System Tray to see what the current connection status is. This status indicates only whether or not the COM port is open. It does not imply conversations between KeyDriver and the attached keypad device.

IMPORTANT: If you are using a Virtual COM Port, the port you choose may be tied to the USB jack on your PC, so if you remove your keypad make sure to re-plug it into the same USB jack.

Operating Modes

KeyDriver operates in one of three modes.



- 1. PC Keys** In this mode any single incoming ASCII byte in the range 00h to 7Fh is converted into the equivalent PC keystrokes including necessary Shift or Ctrl keys (for the low order ASCII values). Caps Lock and Shift on the local keyboard may affect the result. More than one character per key is available on keypad models that support level shift.
- 2. Macros** In this mode any single incoming ASCII byte in the range 00h to 7Fh is converted into a PC string of keystrokes of your choice. Each key on your keypad can be used to recall a different string and keypads that support multiple levels can have more than one string per key.

3. Launch Programs In this mode any single incoming ASCII byte in the range 00h to 7Fh is used to launch a program of your choice on the PC. The program executable can be launched with or without command line parameters. As with the other modes, keypads that support multiple levels can provide multiple functions per key.

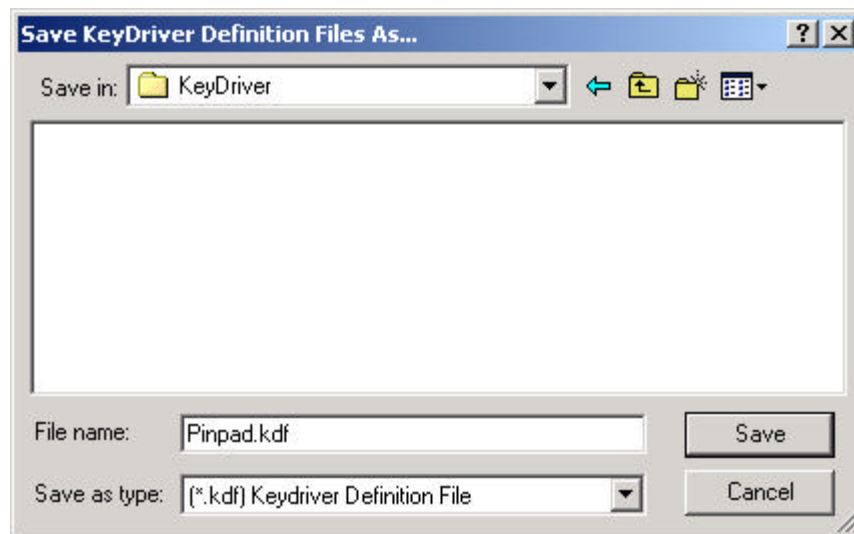
The next chapter covers these topics in greater detail.

3: Using KeyDriver

Test Your Hardware

Before using the advanced functions of KeyDriver you should check for basic functionality with your intended hardware. You will need to know the COM port number that your keypad or device is connected to. If you are using a Genovation MiniTerm 9xx device you can use the **AutoLocate** button to find it for you. Note that the AutoLocate operation can take a while. Once you have determined your COM port, run the KeyDriver application and open the Preferences panel if you have not done so already.

Name your KDF file by clicking on the **Save As** button and picking a meaningful filename.



If your device uses 9600 baud, 8 data bits, no parity and one stop bit and it is within the range of COM 1 to 10, you may skip the procedure below for manually editing the COM Port Settings.

Manually Editing the COM Port Settings

After saving your KDF file as shown above, Exit the KeyDriver application (not just Close, but Exit). Using Notepad, open the KDF file that you just created. At the top of this file you should see the COM port settings:

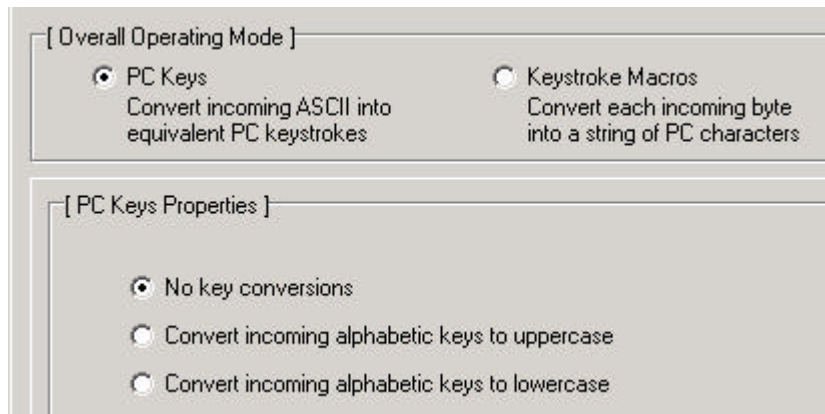
```
[Com Port Configuration]
ComPort=1
BaudRate=9600
DataBits=8
StopBits=1
Parity=None
```

Modify the settings to suit your attached hardware.

- * ComPort can be anything from 1 to 255.
- * BaudRate is expressed in data-bits-per-second format (do NOT use . or **k** or **baud**). The maximum value is 115200.
- * DataBits may be 7 or 8.
- * StopBits may be 1 or 2.
- * Parity may be one of None, Odd, Even, Mark or Space.

Do not insert additional spaces or in any other way modify this file. Restart the KeyDriver application and again open the Preferences panel to make sure your settings are OK.

For the purposes of this test, we will leave the Operating Mode as PC Keys. Verify that you see the following:



If your settings are different, change them to match the figure above and click **Save**. Minimize KeyDriver by clicking on the **Close** button.

Launch the Windows Notepad application.

Press some keys on your keypad and verify that there is data showing up in Notepad. *In order for the data to be visible, this activity assumes that your keypad or attached device is outputting readable ASCII data (something in the range of 21h to 7Eh).*

Once you have verified that KeyDriver is receiving data from your keypad or other attached device you can proceed to configure KeyDriver to your needs.

IMPORTANT: In the discussions that follow it is recommended that the attached keypad generate one byte per key press. If you are using a Genovation MiniTerm this is called True Terminal mode.

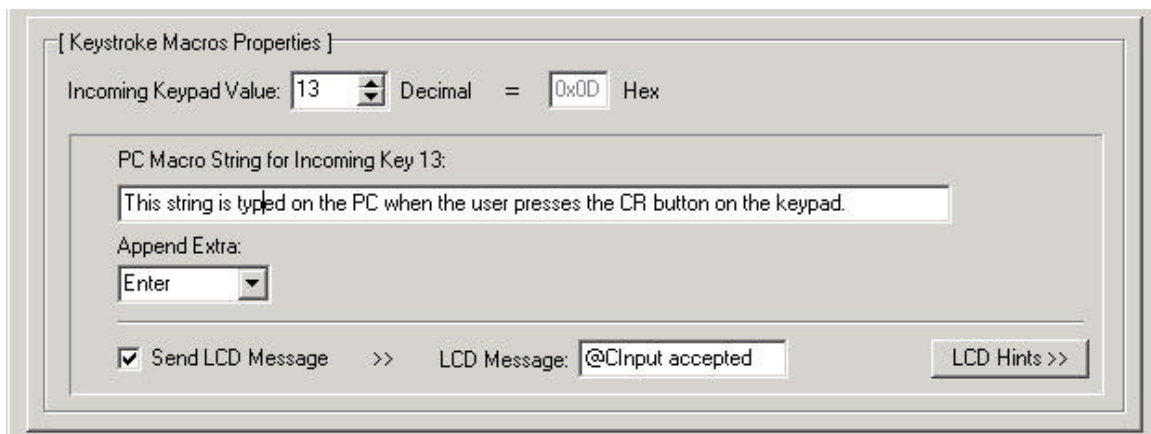
Using PC Keys Mode

PC Keys mode is the simplest mode. Once you have selected this mode you have only one decision to make. PC Keys can convert the alphabetic characters so that they all assume the same case (upper or lower).

- No key conversions does not modify your data in any way other than to translate incoming ASCII into PC keystrokes, complete with Shift and Ctrl as needed. Beware that your local shift keys and caps lock state will affect data coming in over the COM port too.
- Convert incoming alphabetic keys to uppercase. This is similar to turning on caps lock function for all incoming alphabetic COM port data.
- Convert incoming alphabetic keys to lowercase. This mode removes the caps state from incoming alphabetic data.

Using Keystroke Macros Mode

In this mode you can associate a string of text with each incoming ASCII byte (key). Even though your keypad has only a few keys, KeyDriver supports 128 keys. When configuring KeyDriver, you must first select the incoming ASCII byte, then fill in the data you want typed when that byte is received.



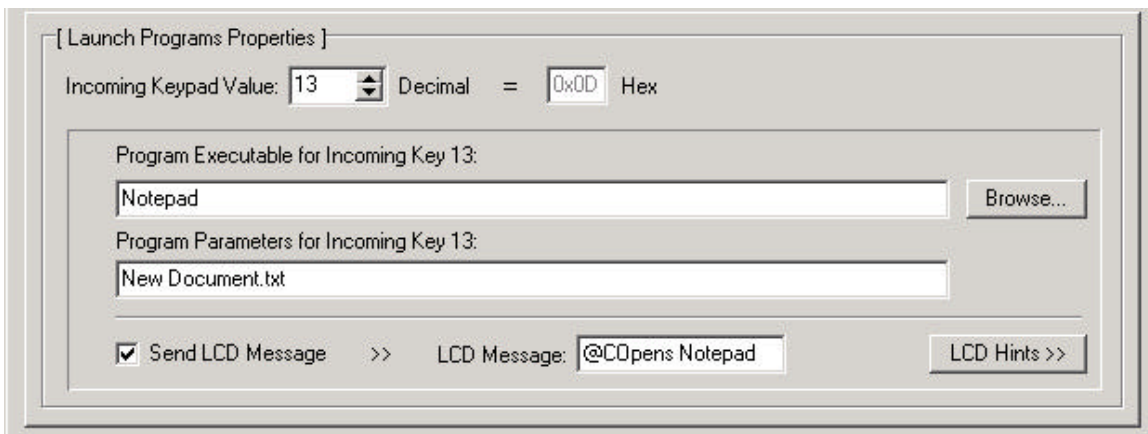
To select an incoming ASCII byte (key), place the decimal value for it in the box shown above marked **Incoming Keypad Value**. For every value you place in that box, a fresh set of actions is available. These actions can include:

- A PC macro string that can be empty or up to 128 characters long.
- Append Extra. A terminating key that is typed after the above macro string. The available terminating keys are: None, Backspace, CapsLock, End, Enter, Escape, Delete, Down, Home, Insert, Left, NumLock, PageDown, PageUp, Right, Space, Tab, Up, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, Keypad 0, Keypad, Keypad 2, Keypad 3, Keypad 4, Keypad 5, Keypad 6, Keypad 7, Keypad 8, Keypad 9,
- A message to print on the Liquid Crystal Display (LCD) of the MiniTerm. Place your LCD message in the provided box and click **Send LCD Message** to enable it. It is recommended that you precede your message with the MiniTerm clear-screen command @C. *Consult the MiniTerm User Guide for full details.* The **LCD Hints** button is just a quick reference guide for some common LCD related MiniTerm commands. Recall that the MiniTerm LCD is 16 characters wide. The commands do not use up any of these 16 characters. An example string might be @CThank You! @Bz. The LCD is cleared (cursor returns “home”), the message Thank You! is printed and a beep is then heard.

Repeat the above procedure for each key on your keypad.

Using Launch Programs Mode

In this mode you can launch a program with each incoming ASCII byte (key). Even though your keypad has only a few keys, KeyDriver supports 128 keys. When configuring KeyDriver, you must first select the incoming ASCII byte, then fill in the information regarding the program you want launched when that byte is received.



To select an incoming ASCII byte (key), place the decimal value for it in the box shown above marked **Incoming Keypad Value**. For every value you place in

that box, a fresh program launch panel is available. The items in the program launch panel are:

- The name of the program to launch (the executable) that can include a path if necessary. You can enter the filename manually or click **Browse** to find it. You do not need to use quotes.
- Optional command line parameters to pass to the executable. This might include a document name or set of operating conditions.
- A message to print on the Liquid Crystal Display (LCD) of the MiniTerm. Place your LCD message in the provided box and click **Send LCD Message** to enable it. It is recommended that you precede your message with the MiniTerm clear-screen command @C. *Consult the MiniTerm User Guide for full details.* The **LCD Hints** button is just a quick reference guide for some common LCD related MiniTerm commands. Recall that the MiniTerm LCD is 16 characters wide. The commands do not use up any of these 16 characters. An example string might be @CThank You! @Bz. The LCD is cleared (cursor returns “home”), the message Thank You! is printed and a beep is then heard.

Repeat the above procedure for each key on your keypad.

COM Port Monitor (MiniTerm only)

This advanced MiniTerm-only function is not recommended for use until you have sorted out all of the other issues with your installation. Its purpose is to detect MiniTerms that have been unplugged or possibly suffered failure due to ESD, EMI or other system anomalies. The COM Port Monitor “pings” the keypad every few seconds (an adjustment you make using the Ping Period control). If the MiniTerm does not respond, the application closes and reopens the COM port thus resetting the keypad.