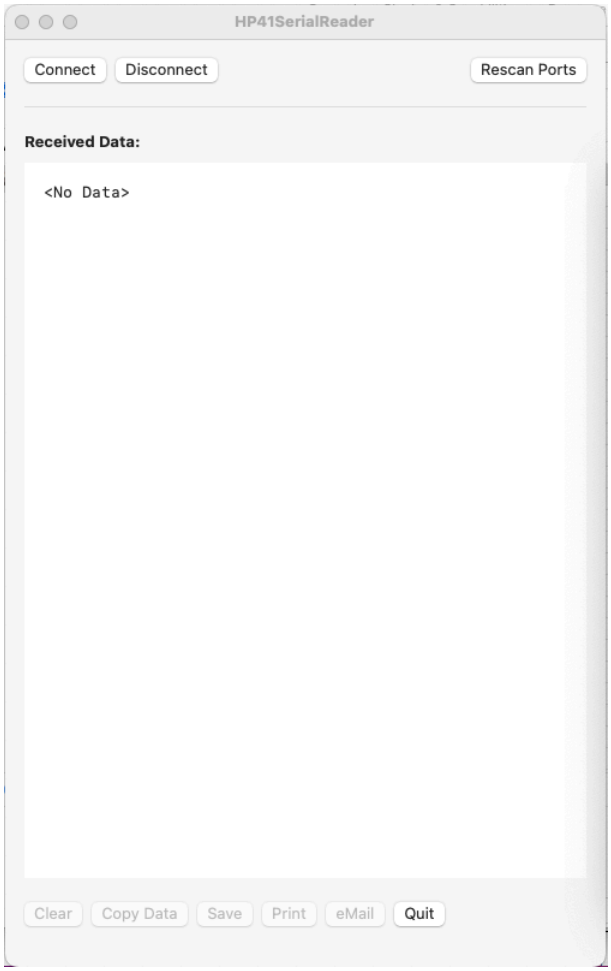
App Name:	HP41SerialReader
Version:	v3.31
Created By:	Jeff Rosengarden NOTE: Created with assistance from ChatGPT's AI engine
Date This Version:	May-23-2025
Mac Version:	Any Intel or Apple Silicon based Mac
MacOS Version:	Sequoia (v15) NOTE: Older MacOS version(s) might work but no guarantees!!
App Synopsis:	HP41SerialReader is an app that simulates an HP82143A printer when Diago Diaz's USB-41 interface is plugged into the HP41 at one end and plugged into one of your computer's USB Ports. Once connected the HP41 "sees" this app as an HP82143A printer and works exactly as if that printer was actually connected. You can send something to the printer, get distracted doing something else, and then at some unspecified time later you can send yet another something to the printer. As long as this app and the HP41 are connected via the USB-41 interface…..you have a "printer" connected to your HP41.

This app is extremely easy, and intuitive, to use. That being said the following are some basic instructions that might help out:

1. To execute the app simply double click on it like any normal, ordinary, Mac app.
2. When the app starts up you'll see the following (notice that the "Clear", "Copy Data", "Save", "Print" and "eMail" buttons are disabled. They will remain disabled until there is actual text in the "Received Data:" window):

(this Mac was running in "Light" mode)



2a: UI Interface Items:

Connect Button: Once the Mac and the HP41 are connected via the USB-41 interface pressing the Connect button puts the app into "listening" mode. Nothing visible will happen but the app is now ready to receive data from the HP41.
At this point it is basically functioning as an HP82143A printer that is attached to your HP41

NOTE: The **Connect** button will turn green if the connection is successful or the **Connect** button will turn red if the connection fails

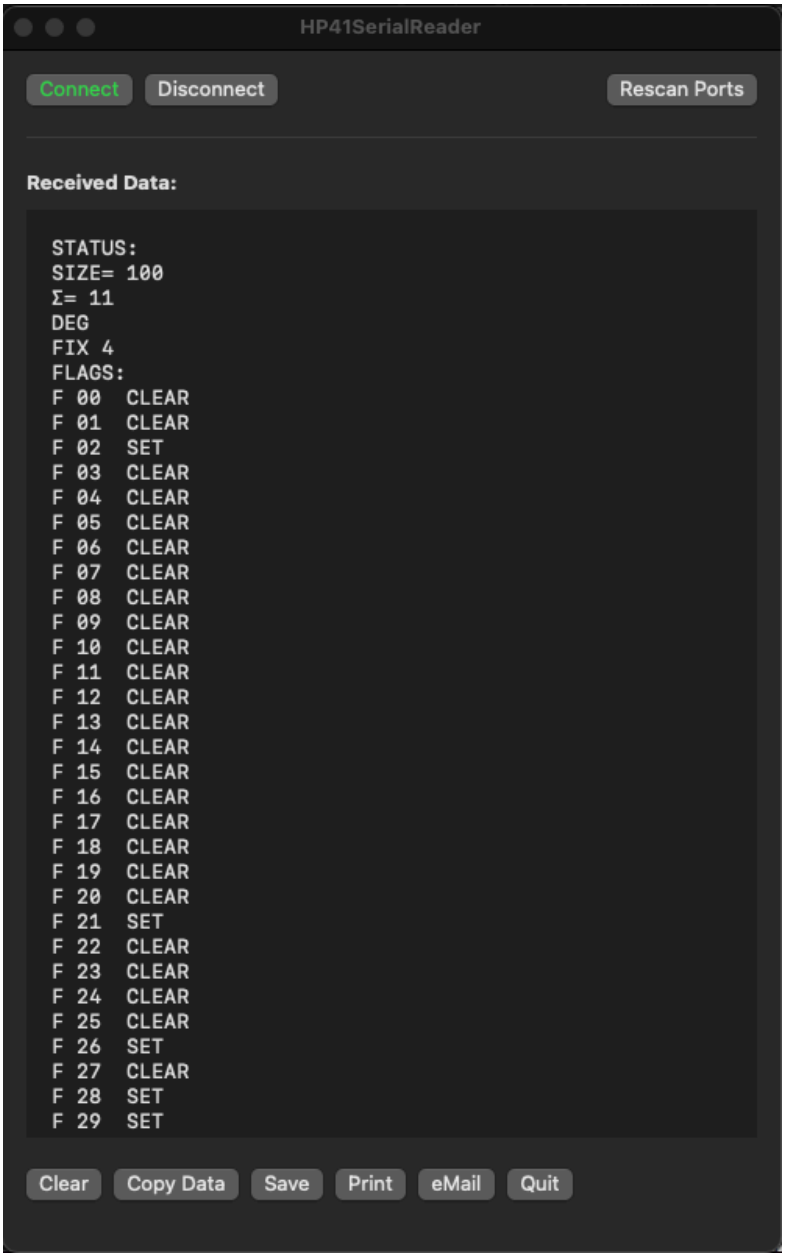
Disconnect Button: Pressing this button will close the serial port connection.
NOTE: There is no need to use the **Disconnect** button if you are quitting the app with the **Quit** button. The **Quit** button will close the serial port connection before it Quits the application.
(See **Quit** button, below)

The rest of the Application's main window is entirely devoted to communications with your HP41 and simulating an HP82143A printer.
Right below the "**Received Data**:" label:

Window: This is the main communication window. In the image (above) it currently states <No Data>. This will be replaced with any information sent from the HP41.

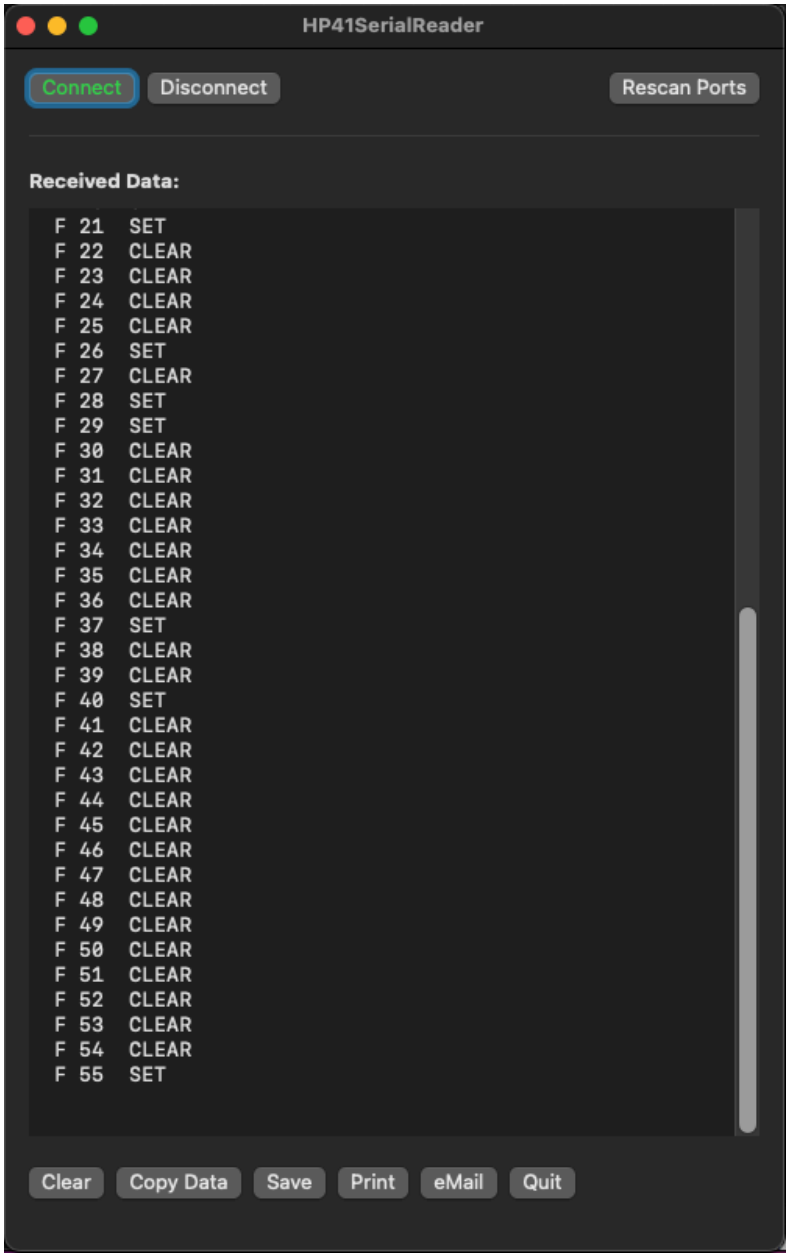
The image on the following page shows the HPSerialReader connected to an HP41CX showing a printout of the HP41's flag settings
(XEQ <alpha> PRFLAGS <alpha>)

Notice that the "Clear", "Copy Data", "Save", "Print" and "eMail" buttons are now active since there is text in the "Received Data:" window.
(This Mac was running in Dark mode)


HP41SerialReader
Connect
Disconnect
Rescan Ports
Received Data:
STATUS:
SIZE= 100
Σ= 11
DEG
FIX 4
FLAGS:
F 00 CLEAR
F 01 CLEAR
F 02 SET
F 03 CLEAR
F 04 CLEAR
F 05 CLEAR
F 06 CLEAR
F 07 CLEAR
F 08 CLEAR
F 09 CLEAR
F 10 CLEAR
F 11 CLEAR
F 12 CLEAR
F 13 CLEAR
F 14 CLEAR
F 15 CLEAR
F 16 CLEAR
F 17 CLEAR
F 18 CLEAR
F 19 CLEAR
F 20 CLEAR
F 21 SET
F 22 CLEAR
F 23 CLEAR
F 24 CLEAR
F 25 CLEAR
F 26 SET
F 27 CLEAR
F 28 SET
F 29 SET
Clear
Copy Data
Save
Print
eMail
Quit

Window: (continued):

The Window does have a vertical scroll bar that functions just like any normal document on a Mac that has more text than fits within the current vertical confines of the text window. To access the vertical scroll bar just click anywhere inside the window and “bounce” the text (move the text up or down with your mouse or touchpad. The text will move accordingly AND the vertical scroll bar will appear. The following image shows the same HP41 Flag setting printout but it has been scrolled to the bottom of the printout and you can now see the vertical scroll bar at the right of the Window.
(This Mac was running in Dark mode)



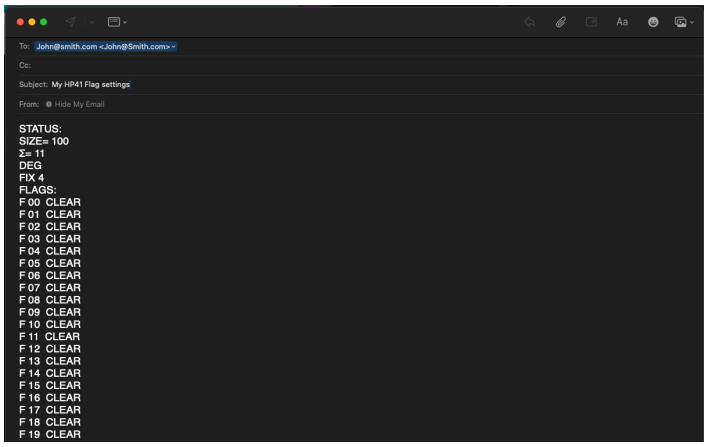
The buttons at the top and bottom of the application window are used to control the application as needed:

Clear:

This button will clear the Received Data window. This allows the printer to be ready for the next printout from the HP41. Pressing the CLEAR button is akin to “Advancing” the existing printout, on the HP82143A printer, and then “ripping” it off. *(This button is only active when there is text in the “Received (Data:” window)*

Copy Data:

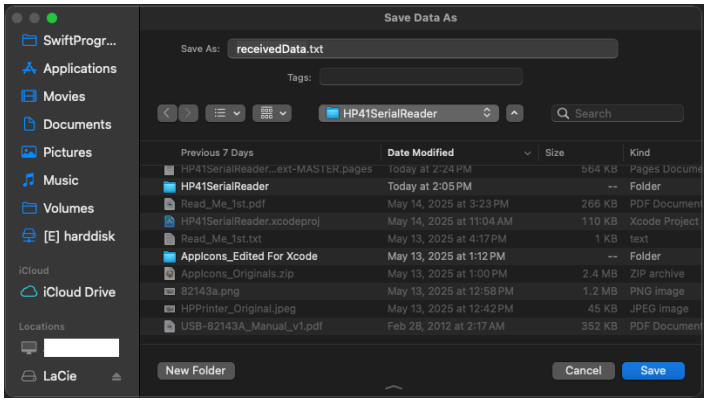
This button will copy any text currently in the Received Data window to the Mac’s clipboard. At this point you can now paste (CTRL-V) the printout anywhere desired. The following image shows the above HP41 Flag settings printout pasted into an email. (Only a portion of the email can be seen) *(This button is only active when there is text in the “Received (Data:” window)*



NOTE: This will copy ALL data in the “Received Data” window whether it is visible or not.

Save:

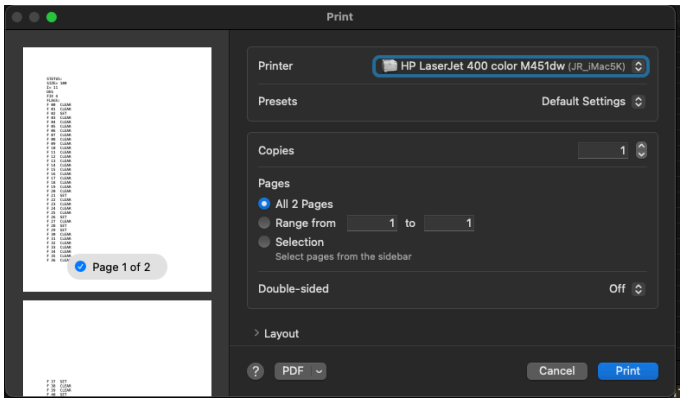
This button is only active if there is data in the “Received Data” window. When it is active you are able to save all the text in the “Received Data” window to a standard text file. Selecting the “Save” button will open up a standard Mac (OSx) “Save File” panel (as shown below). The user has full control of the selecting both the file name as well as the file save location.
(This button is only active when there is text in the “Received (Data:” window)



NOTE: This will save ALL data in the “Received Data” window whether it is visible or not.

Print:

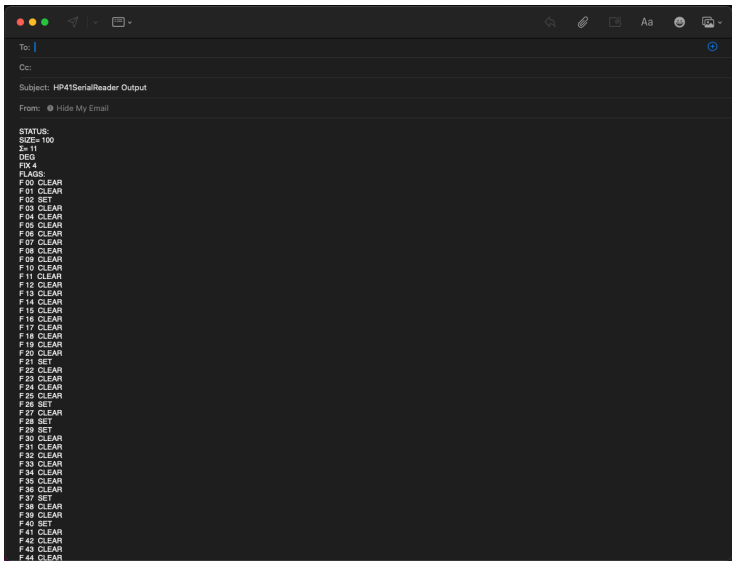
This button will open up a standard Mac Print dialog window allowing you to send all text currently contained in the “Received Data:” window to the printer of your choice with any/all desired printer settings.
(This button is only active when there is text in the “Received (Data:” window)



NOTE: This will print ALL data in the “Received Data” window

whether it is visible or not

eMail: This button will create an email message, using your default mail system, and populate the body of the eMail with the contents of the “Received Data:” window. You would then finish the creation of the email message. NOTE: The same functionality could be obtained with the “Copy Data” button and then after starting up a new eMail message you would simply Paste (CTRL-V) into the body of the eMail. The “eMail” button simply saves you a step.



Quit:

This button will close the serial port connection and quit the app.

Rescan Ports:

This button is EXTREMELY useful if you’re not sure which port on your Mac you have plugged the USB-41 interface into.

Basically this button forces the app to rescan your Mac’s serial ports and repopulate the “Serial Port” Mac picker in the app’s “Serial Port Configuration” section.

Here is how you can identify the serial port on your Mac that you have plugged the USB-41 interface into:

1. Plug the USB-41 interface into both your HP41 and your Mac.

2. Turn the HP41 on

3. Fire up the HPSerialReader app

4. Select the drop-down on the “Serial Port” selection in the

"Serial Port Configuration" section of the app.

5. Make note (or better yet…take a screen shot) of all the serial ports that appear in the drop down. ONE OF THESE PORTS IS THE PORT YOUR HP41 USB-41 INTERFACE IS PLUGGED INTO.

6. Next unplug the USB-41 interface from your Mac.

7. Next press the "Rescan Ports" button.

8 Select the drop-down on the "Serial Port" selection in the "Serial Port Configuration" section of the app.

9. Make note (or better yet…take a screen shot) of all the serial ports that appear in the drop down. The port that is missing (that HAD shown up in the ports in Step #5 (above) IS THE PORT YOU HAD YOUR HP41 USB-41 interface plugged into.

   YOU NOW KNOW WHICH PORT YOUR HP41 USB-41 INTERFACE IS PLUGGED INTO ON YOUR MAC!!!

10. Now plug the HP41 USB-41 interface back into your Mac's serial port.

11. Turn the HP41 OFF. Wait a second or two. Turn the HP41 ON.

12. Press the "Rescan Ports" button.

13. Select the drop-down on the "Serial Port" selection in the "Serial Port Configuration" section of the app and select your serial port.

NOTE: In Steps #1 thru #5 (above) the app already picked up the serial port that your HP41 USB-41 interface was plugged into. This is because the app, upon startup, will scan for all serial ports on your Mac and populate the "Serial Port" dropdown.

For this reason, once you know the serial port that you are using it always saves time to have the HP41 USB-41 plugged in to both the HP41 and the Mac BEFORE you start up the app.

3: Application Menu

Like any good Mac app there is an application menu that automatically appears in your Mac's menu bar upon startup.

The only menu items that need to be called out here are:

HP41SerialReader:

This pull down menu has the "**About HP41SerialReader**" When selected this menu choice will show some basic information regarding this application.

This pull down menu also has the standard **"Settings"** menu choice for setting of this applications settings. See "Settings" (below) for an explanation of this applications settings.

File:

This pull down menu has a "New Window" and "Close"

choices.

New Window: This will start up another instance of the HP41SerialReader app.

Close: This will close the currently active instance of the HP41SerialReader app

Help: This pull down menu has the "**HP41SerialReader Help**". When selected this menu choice will show you this Help document

The rest of the application menu choices function like any other Mac application menu. One interesting menu choices under "**View**" is "**Show Tab Bar**". When this menu choice is selected a standard Mac tab bar will appear at the top of the HP41SerialReader.

You can tell the tab bar is visible due to the little plus (+) button that shows at the far right of the tab bar. If you press this "+" button you will be starting up another instance of HP41SerialReader. This new instance appears in the tab bar. Every subsequent press of the "+" button will instantiate a new instance of HP41SerialReader with that new instance appearing in the tab bar. There is theoretically no limit to the number of instances you can start up.

NOTE: Even though you can start up multiple instances of the app…..only the primary (1st) instance will continue to receive data from the HP41. This is due to the fact that your serial port is connected to this 1st instance and all the other instances have a "Serial Port" failure occur if you try to press "Connect". This is not a visible error message…..it occurs "behind the scenes".

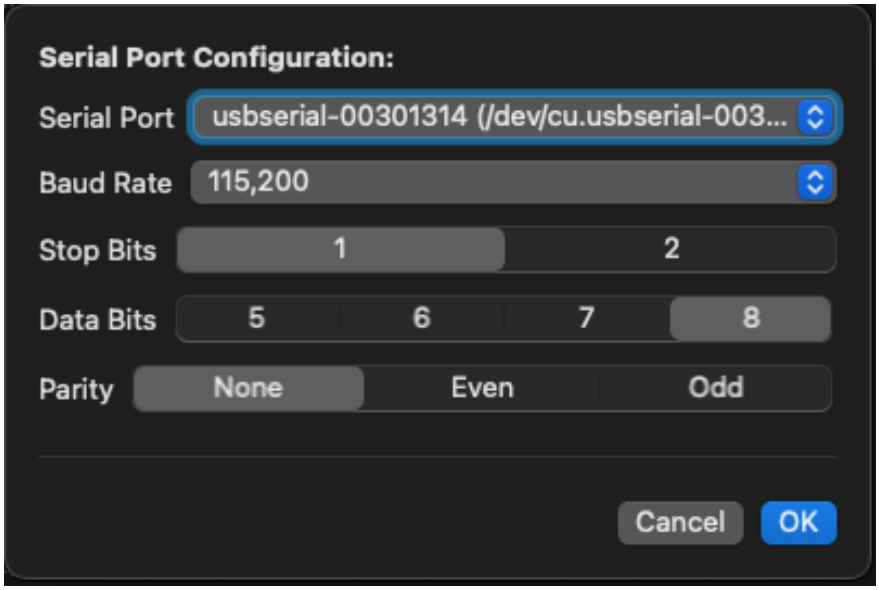
Now if you actually had 2 (or more) HP41's and each one was plugged into a different serial port on your Mac with it's own USB-41 interface…the multiple instances would all work properly when each instance is set to the serial port of a specific USB-41 plugged into your Mac. Pressing the "Connect" button within each instance would then start a communication session with each individual USB-41 interface. If only we all had multiple HP41's! :-)

4: Settings Menu

The application's settings menu allows you to set the serial port configuration as needed. The following explains the "Settings" menu panel:

The "Settings" panel is modal meaning that when you pull it up the main application panel will still be visible but will always be beneath the "Settings" panel. Nothing on the main application panel can be selected while the "Settings" panel is being displayed. The "Settings" panel can be moved around at will but will ALWAYS be on top (in front) of the main application panel which is relegated to the 'background' when the "Settings" panel is active.

Serial Port Configuration:



Configuration:

Cancel: Pressing this button will leave ALL serial port settings as they were, close the “Settings” window and return to the main application window.

OK: Pressing this button will change ALL serial port settings to the selections made, close the “Settings” window and return to the main application window.

Serial Port: This is a standard Mac “Picker” tool. When the app starts up your Mac is scanned for all serial ports. Selecting the drop-down button on the picker will show you all available serial ports
HOW TO TELL WHICH SERIAL PORT I’M USING?
(See “Rescan Ports” above for guidance)

Baud Rate: This is another standard Mac “Picker” tool. Selecting the drop-down button will let you select from the standard range of baud rates.
(DEFAULT IS SET TO A BAUD RATE OF 115200 which is what will be needed for communication with the USB-41 interface)

Stop BIts: Select the desired # of stop bits by clicking the desired choice.
(DEFAULT IS SET TO 1 STOP BIT which is what will be needed for communication with the USB-41 interface)

Data Bits: Select the desired # of data bits by clicking the desired choice.
(DEFAULT IS SET TO 8 DATA BITS which is what will be needed for communication with the USB-41 interface)

Parity: Select the desired parity by clicking the desired choice.

(DEFAULT IS SET TO NO PARITY which is what will be needed)
(for communication with the USB-41 interface)

Enjoy the application!! You now have a fully functional HP82143a Printer simulator that you can directly connect to your HP41 with Diego Diaz's HP-USB41 Interface…without having to mess around with Microsoft Windows!