

## Using Linux and Mac Software

**Linux:** Linux users will probably have `minicom`, `picocom` or `seyon` installed. The **screen** command can also be used, if present. There are a lot of free, open source terminal emulation programs available that can be installed and used on your system.

**Mac:** Numerous choices also exist for Mac users. The simplest for Mac users is **screen**, a command normally installed with Mac OS X. Other choices include simple serial terminal emulation programs such as `picocom`, `minicom`, `iTerm`, `zTerm` and others.

To use the screen command (Mac or Linux):

- 1.) Open a Terminal window.
- 2.) Determine the name of the serial port you're using to connect your ID-O-Matic. This will likely be `/dev/ttyS0` or something similar – different operating systems and distributions will use different naming conventions.
- 3.) Type the command: **screen /dev/ttyxxx 9600** (use the name of the serial port you found in Step 2).
- 4.) Hit ENTER twice; you should see the first set up item from the ID-O-Matic. Continue through the setup, changing whatever items you wish. New settings are automatically saved.
- 5.) To exit the screen program, type Ctrl-A followed by a backslash (\).

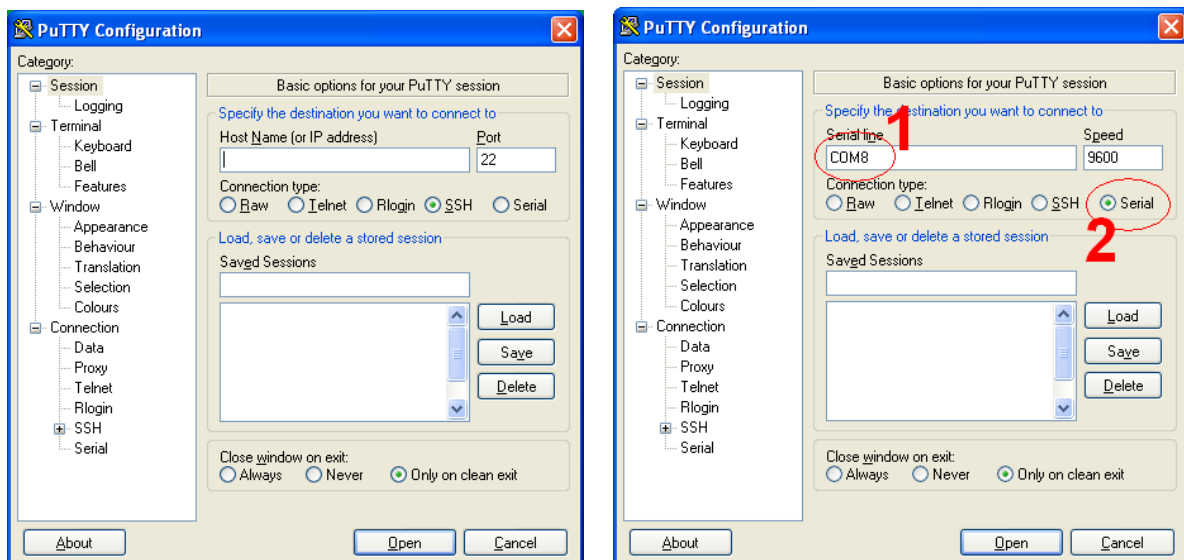
## Using Windows

As with Linux and Mac OS, you'll need to first determine the COM port number to use with Windows.

Many PCs have only one serial port, named COM1. Some have more than one. If you're using a USB to serial converter, it can show up with different COM port numbers depending on which port it's plugged into. You can use the Windows Device Manager to see what serial ports are available on your system.

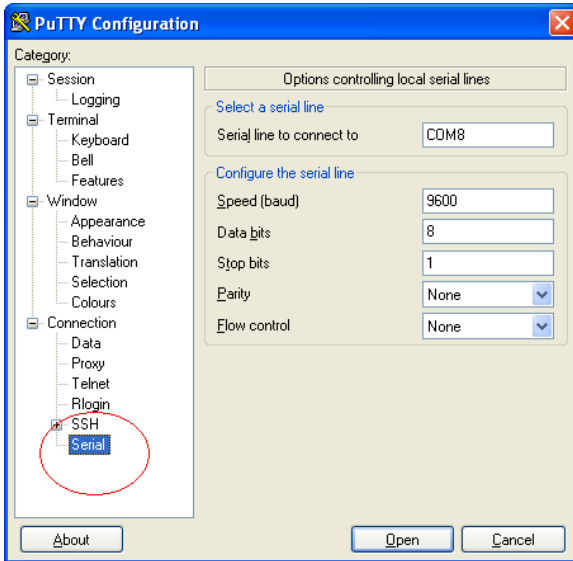
## Setting up PuTTY

Now that we know the COM port number, we can set up our terminal program accordingly. The free program PuTTY is available for download from [www.putty.org](http://www.putty.org); it's easy to use and works well. There is no special install process; the program has a single executable file that can be run by itself. You can also use Windows Hyperterminal if you have it, or under Linux you can use Minicom. The example below uses PuTTY.

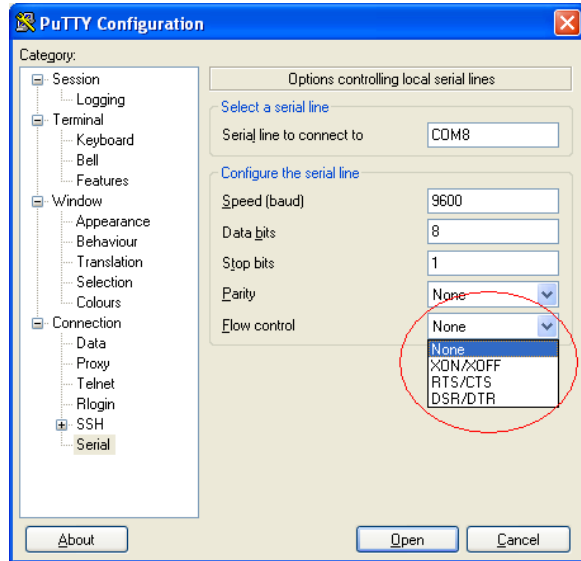


Open the PuTTY program. This will be the first screen you see.

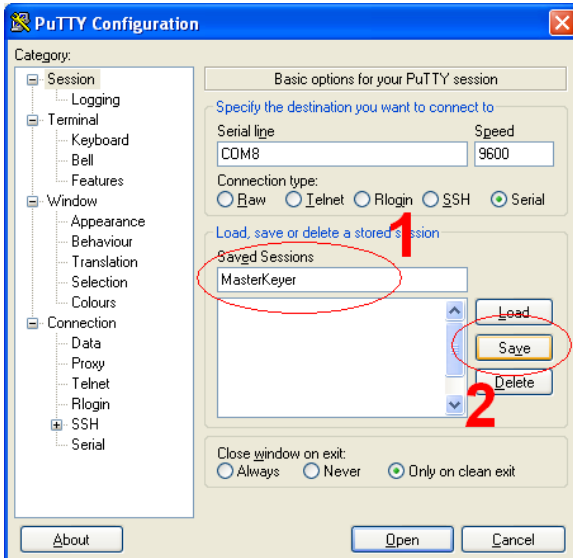
Type the COM port name (COM8 in this example). Click the **Serial** radio button.



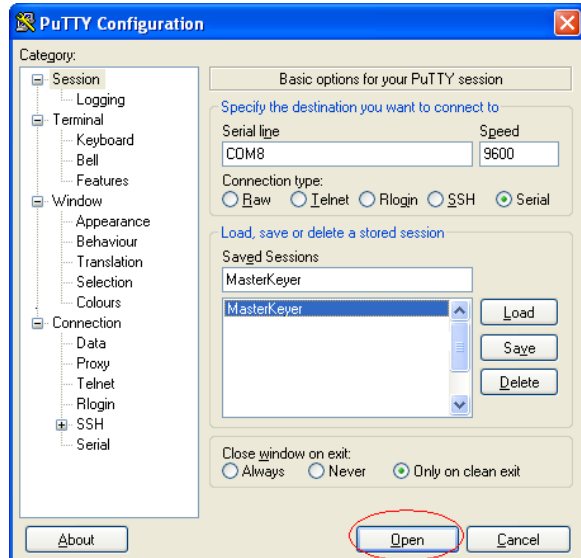
Select the **Serial** category...



Change **Flow control** to “None”



Click the “**Session**” category. Type a name for this connection – “ID-O-Matic” is a good choice (I re-used an older screen image here). Click **Save**.



Now you can double-click the session name, or select it and click **Open**.

## Setting up Hyperterminal

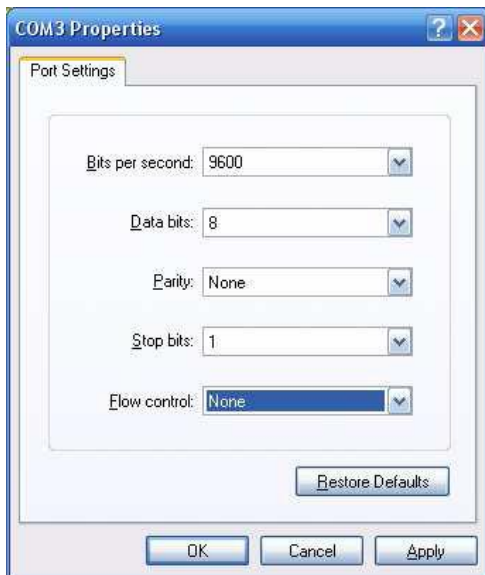
I highly recommend using PuTTY for serial terminal emulation. If you prefer (or if you must), you can use Windows Hyperterminal to communicate with your ID-O-Matic. Hyperterminal has some limitations and bugs, but here is how to set it up if necessary.



After starting Hyperterminal, type a name for this connection (ID-O-Matic would be a good choice). Select any icon you like.



Select the COM port number assigned to your ID-O-Matic.



Modify the port settings for flow control = NONE. Since this is a USB connection, the bits per second setting does not matter.

Click the “Call” icon (looks like a telephone). You should now be able to communicate with your ID-O-Matic.

## Troubleshooting

If you are having trouble communicating with your ID-O-Matic, there are a few simple troubleshooting steps you can use to find and correct the problem.

The first step is to make sure your computer, serial port, cable and settings are correct. To do this we'll perform a simple *loopback* test:

1. Set up your serial communication program as specified in the previous pages.
2. Connect your serial port cable to the 9-pin serial connector on your computer. If you're using a USB to serial adapter, plug it into your computer. Do not connect the ID-O-Matic yet.
3. Using a short piece of wire or some similar tool, connect pins 2 and 3 of the serial connector.
4. Open your communication program and start the connection to the ID-O-Matic.
5. Type anything into the terminal window. You should see whatever you type echoed back to the screen. If you don't see characters on the screen, you have a problem with your serial port, cable, or communication program that needs to be fixed before you'll be able to connect to the ID-O-Matic.

Once you have successfully been able to complete the loopback test, it's time to test the ID-O-Matic.

1. Connect the ID-O-Matic to your serial cable and apply power. If you already have the communication program open, you should see the ID-O-Matic copyright and firmware version notice on your screen.
2. Hit the ENTER key twice. You should see the ID-O-Matic respond with "ID Time (600):" on the screen.
3. Enter your setup parameters. The settings will automatically be saved after the last item is entered, and you'll see the copyright and firmware message again.
4. You can now close your terminal program and disconnect the ID-O-Matic.

If you don't see the firmware notice, or if hitting the ENTER key has no effect, it's time to do a more in-depth loopback test. This will test the entire serial communication circuit of the ID-O-Matic board. Follow the flow chart on the following page to determine the most likely cause of the problem.

