

Guide to Connecting SPP Devices to Microsoft Windows PCs

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Native Microsoft Bluetooth Software

Under Windows XP with Service Pack 2 or later, Microsoft provides its own Bluetooth software that is compatible with most Bluetooth modules. The following are directions for connecting to a Bluetooth SPP device:

1. Look for the “Bluetooth Devices” icon in the system tray. (If this icon does not appear, go to the Windows Control Panel, double-click the “Bluetooth Devices” icon, select the “Options” tab, check “Show the Bluetooth icon in the notification area”, and click “OK”.)
2. Right click the icon and select “Add a Bluetooth device”. This will bring up the Add Bluetooth Device Wizard.
3. Check “My device is set up and ready to be found” and click “Next”.
4. Highlight the appropriate device from the list and click “Next”.
5. Select “Use the passkey found in the documentation” and fill in the passkey configured into the remote device. Click “Next”.
6. You should get the “Completing the Add Bluetooth Device Wizard” screen. This screen will list an Outgoing COM Port and an Incoming COM Port. Note these COM ports for later use. Click “Finish”.

These two COM ports have different uses:

- The outgoing COM port is used where the PC initiates the connection to the remote device. When a program opens this port, the software makes an SPP connection to the remote device.
- The incoming COM port is used where the remote device initiates the connection to the PC. When a program opens this port, it waits for the remote device to initiate a connection.

In both cases, once the connection is established, a write to the port transmits bytes and a read from the port receives bytes.

You may add another SPP device by repeating the steps above. Each device will have its own pair of COM ports.

To remove a device, use the following procedure. (This will operate faster if the Bluetooth device is powered up and in range.)

1. Right-click the “Bluetooth Devices” icon in the system tray and select “Show Bluetooth devices”.
2. Select the device and click “Remove”.
3. Click “OK”.

You may list the configured COM ports as follows:

1. Right-click the “Bluetooth Devices” icon in the system tray and select “Show Bluetooth devices”.

2. Select the “COM Ports” tab.

As of this writing, there seems to be a bug in the Microsoft software that sometimes one of the COM ports is not released and is lost. This seems to occur less often if the device is powered up and in range when it is removed.

Also, as of this writing, there is a Microsoft bug that if the device has security turned off and you specify “Don’t use a passkey”, the device will be added but you will never be able to connect. To avoid this, always specify the passkey.

Final note: if the device loses its pairing information (linkkey) or its security settings change, you will not be able to connect to it. In this case, you must remove and re-add the device.

Widcomm Bluetooth Software

This Bluetooth software, produced by Widcomm Corporation (which was acquired by Broadcom Corporation), is included with many Bluetooth radio devices for PCs.

The following are directions for setting up outbound connections to Bluetooth SPP devices.

1. Double-click either the Bluetooth icon in the system tray or the “My Bluetooth Places” icon on the desktop.
2. Go to the “Bluetooth” pull-down menu, select “Advanced Configuration” and then select the “Client Applications” tab.
3. You need to have one Bluetooth Serial Port entry for each device you want the PC to connect to simultaneously. To add one, click “Add COM port”. Check or uncheck the “Secure connection” check box as desired (checked means that the PC will require a passkey and force encryption) and click OK. When you have the desired number of ports, click OK.
4. Under Bluetooth tasks, click “View devices in range” (on some systems, this may be in the main window).
5. If the desired device does not appear, press F5.
6. Right click the desired device and select “Explore”.
7. Right-click the desired service and select “Connect Bluetooth Serial Port”. (In either step 6 or 7, you may see a “Bluetooth PIN Code Request” popup or balloon. Click the balloon (if there is one) to get the popup, enter the passkey and click OK.)
8. The PC will connect to the remote device and then give a popup showing the effective COM port.
9. If you need to set up additional devices, without disconnecting the already-connected devices, click the Back button and repeat steps 5 through 8. (Note that if you disconnect the present devices, the new device may replace an existing device on its COM port.)

10. You may now, if you wish, disconnect the devices by right-clicking the device icon and selecting “Disconnect ...”. The devices will keep their port associations until replaced.

With these outbound COM ports, when a program opens the COM port, the system automatically makes a connection to the remote device. Once established, a write to the COM port sends bytes and reads receive bytes.

You may determine the associated COM port for a remote device by going to the service icon (follow steps 1 through 6 above) and then right-click the icon and select properties. Note however, that devices not assigned a COM port will still show one and there is no way to tell if this is a valid association or not.

Note that if the remote device loses its pairing information (linkkey) or its security settings change, the next time you try to connect (by opening the COM port), you will get the “Bluetooth PIN Code Request” popup again.

Toshiba Bluetooth Software

This Bluetooth software from Toshiba is being packaged with many newer Bluetooth radio devices for PCs.

The following are directions for setting up outbound connections to Bluetooth SPP devices.

1. Right click the “Bluetooth Manager” icon in the system tray and select “Add a new connection”.
2. Select “Custom mode” and click Next.
3. Select the desired remote device and click Next.
4. If the “Bluetooth Security” popup appears, enter the passkey.
5. Select the desired SPP service and click Next.
6. Uncheck “Use default COM port”, select the desired COM port number, make sure “Auto Connect” is selected, and click Next. (Note: in the current release of Toshiba software, a warning pops up when unchecking “Use default COM port”. This can be safely ignored, just click OK.)
7. Click Next twice and click Finish.
8. To add an additional device, click “New Connection” and repeat steps 2 through 7.
9. When done, close the “Bluetooth Settings” window.

With these outbound COM ports (with “Auto Connect” checked), when a program opens the COM port, the system automatically makes a connection to the remote device. Once established, a write to the COM port sends bytes and reads receive bytes.

To remove a device or check what COM port is associated with a device, right-click the “Bluetooth Manager” icon and select “Bluetooth Settings”. Select the desired device and either click Delete to remove the device or click Detail to see the associated COM port.

Note that if the remote device loses its pairing information (linkkey) or its security settings change, the next time you try to connect (by opening the COM port), you will get the “Bluetooth Security” popup again.