

PICO Plug User Manual

1. Introduction

The PICO Plug is an universal Bluetooth adapter for peripheral devices with parallel or serial interface. With factory settings the PICO Plug can only act as a Bluetooth Slave device. This concludes that the PICO Plug will not initiate Bluetooth connections to other devices. A connection must always be initiated by a remote device which wants to use the peripheral connected to the PICO Plug.

If you operate the PICO Plug on a PC, it is possible to configure it to act as a Bluetooth Master device. The configuration program which comes with the PICO Plug enables you to set up the required parameters to operate the PICO Plug in Bluetooth Master mode.

The PICO Plug automatically detects the type of device it is connected to (e.g. a modem, a printer or a PC serial port) and will activate the appropriate Bluetooth services.

2. Operation Mode

The PICO Plug uses a two colour LED to signal its operation mode:

Yellow blinking: The PICO Plug is connected to a power source but not connected to any other device. In this mode other Bluetooth devices can see the PICO Plug but it is not possible to establish a connection.

Yellow: The PICO Plug is ready to be connected by other devices.

Green: A Bluetooth connection exists.

Green blinking: Data is transferred over the Bluetooth link.

Red: Some unrecoverable error has occurred. The PICO Plug must be powered off and on to make it operational.

3. Installation of the PICO Plug Configuration Software

To install the PICO Plug Configuration software insert the CD which comes with the PICO Plug into your CD-ROM drive and follow the installation instructions. If the CD does not start automatically select *RUN* from the Start Menu and type

d:\setup

where "d:" is the drive letter of your CD-ROM drive.

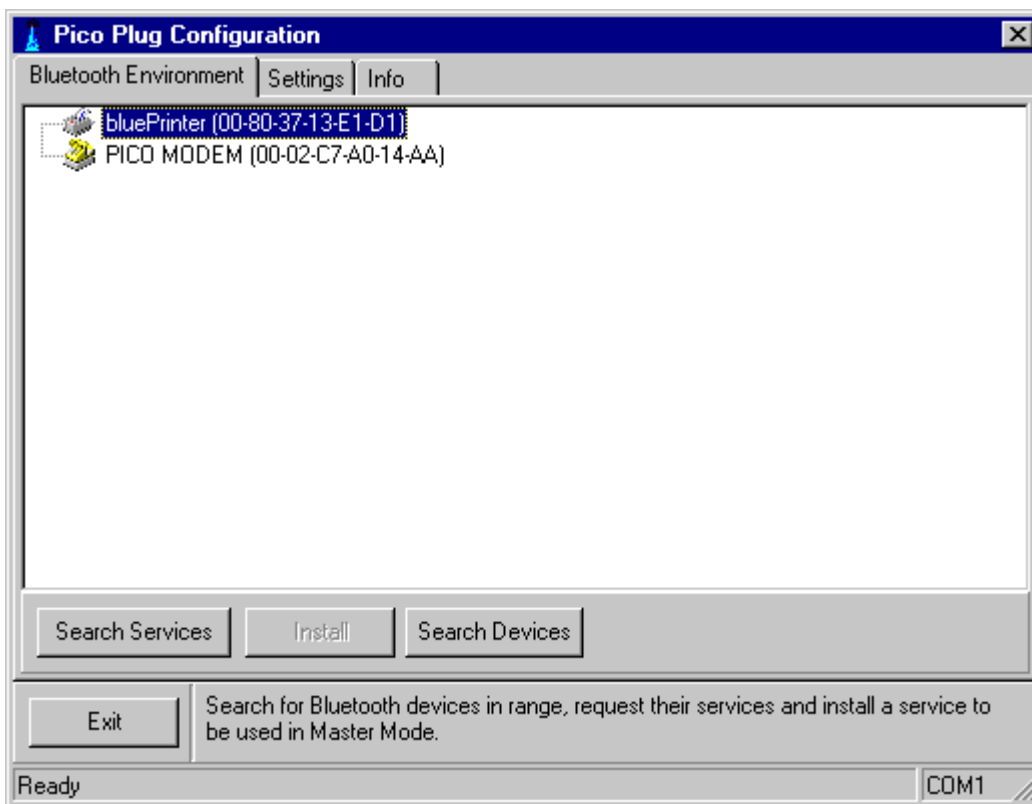
If you have downloaded the software from the internet follow the installation instructions given there.

4. Configuration

After successful installation there will be three new entries in the Start Menu under *Programs PICO Plug*.

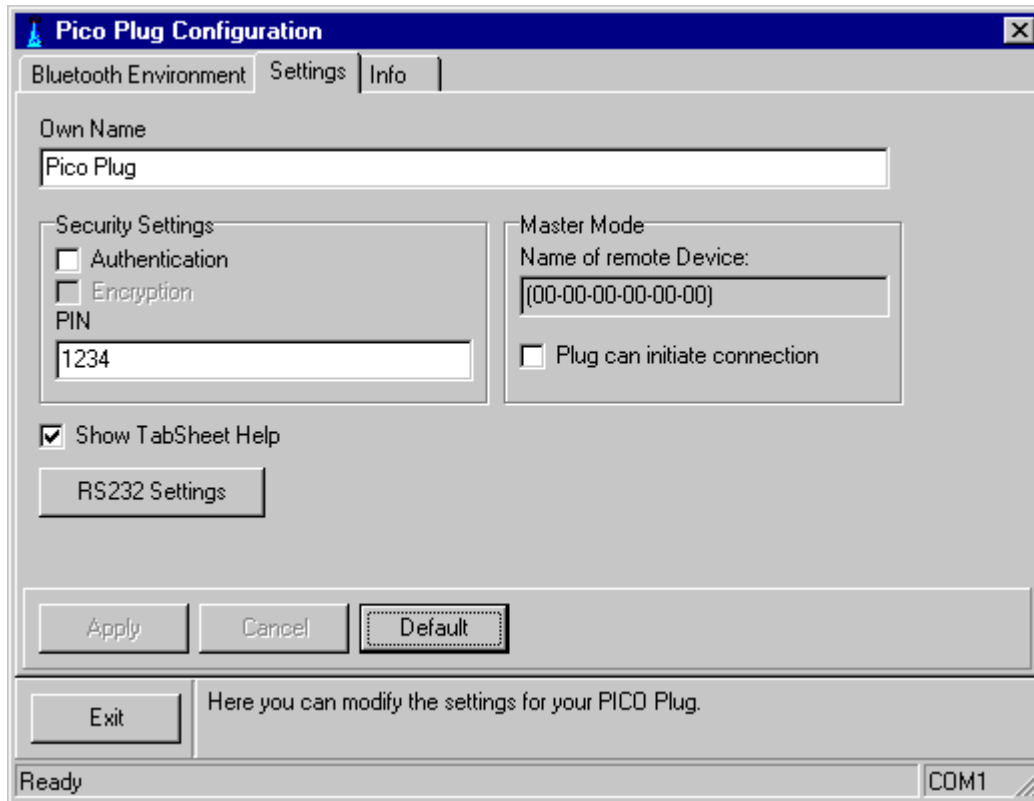


Before starting the configuration program you must connect the PICO Plug to one of your computer serial ports and connect the power supply. When the program starts it searches for a PICO Plug connected to a serial port (either COM 1 or COM 2).



The *Bluetooth Environment* tab sheet will be displayed. In the status line the currently active operation and the serial port used to communicate with the PICO Plug will be displayed (COM1 in this example). Then, the software will search for Bluetooth devices within range. You can also ask for the services they offer. This is only required if you want to use the PICO Plug as a Bluetooth Master (see section *Operation in Master Mode*).

If you only want to check or modify the settings of your PICO Plug go to the tab sheet *Settings*.



Under own name you can modify the Bluetooth device name which is displayed on a remote device that inquires your PICO Plug.

Under *Security Settings* you can select if your PICO Plug requires authentication when a remote device establishes a connection. When this option is enabled a pairing procedure will be initiated the first time a remote device connects to your PICO Plug. For the pairing procedure the PIN code (1234 in this example) must be known. Additionally, you may enable encryption to force encrypted data transfer for Bluetooth connections. This option is only available when authentication is enabled.

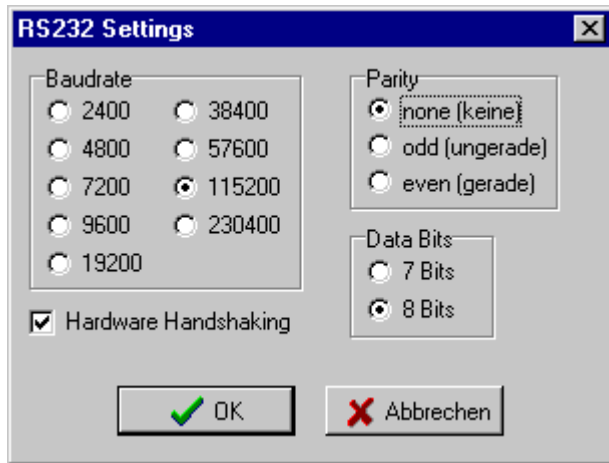
The *Master Mode* parameters are set when you install a remote device. You should not enable *Plug can act as Master* if you have not installed a remote device. If there is no installed remote device it may happen that your PICO plug tries to establish a connection to a non-existing device or service and is not connectable from other devices any more.

The *Name of remote device* is only displayed if the installed device is in range. If not, only its Bluetooth address will be displayed.

For further information how to set up master mode operation please refer to section *Operation in Master Mode*.

If you click on the *Default* button all settings will be reset to factory settings.

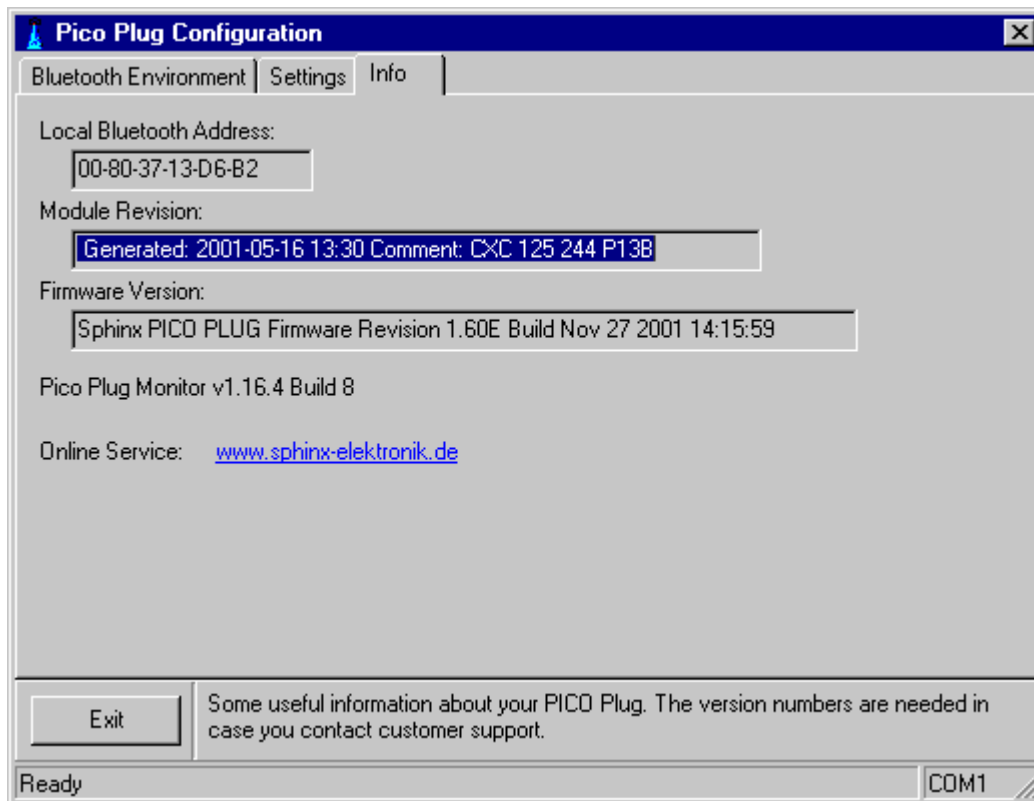
Under *RS232 Settings* you can modify the default settings for the PICO Plug serial port. Usually this is not required. The factory settings are chosen to support a wide variety of devices and ensure an optimal data transmission.



Important:

Any changes made here only come into effect if you click the *Apply* button before exiting the configuration program.

On the third tab sheet *Info* you can find some additional information about your PICO Plug.



The *Local Bluetooth Address* can be useful if another device is unable to discover the name of your PICO Plug. In this case your PICO Plug can always be identified by its Bluetooth Address. The *Module Revision* and *Firmware Version* information may be needed if you encounter any problems and have to contact customer service.

Hint:

On some PCs the serial ports are disabled when power management is activated. If this is the case the PICO Plug LED will blink yellow even if connected to a PC. Usually the port is enabled when it is opened by an application (like the configuration program) and everything will function normally. However, if you encounter problems when using the configuration program on such a system it may be necessary to disable power management for the serial ports.

5. Using the PICO Plug with a Printer

Simply connect the PICO Plug to your printer's parallel port and connect the power supply. No special configuration is necessary.

6. Using the PICO Plug with a Modem

Just connect the serial port of your PICO Plug with the modem.

Hint:

Usually modems have female connectors like the PICO Plug. Because of that you will need a gender changer with male jacks on both sides. Such parts are available in most computer stores.

7. Using the PICO Plug on a PC

As a Bluetooth slave you usually can use the PICO Plug without any additional configuration of the serial port on your PC. For example you can use it with the Direct Cable Connection or RAS services to access your computer from another computer (e.g. from a Laptop equipped with a Bluetooth PC-Card).

For such an application you have to make sure that the port settings used by the communication program match the port settings of your PICO Plug. To verify the port settings you can open the Windows Control Panel (Start->Settings->Control Panel) and double click on System. In the System Properties dialog select the tab sheet *Device Manager*.

Then, go to Modem and select the modem that matches the port you are using with your PICO plug (e.g. Serial Cable on COM1). Click on *Properties* to view the modem settings. In the properties dialog select the tab sheet *Modem*. Verify the Maximum Speed setting which should be set to 115200. Make sure that the speed setting on the remote computer you are using to connect to your PICO Plug is the same.

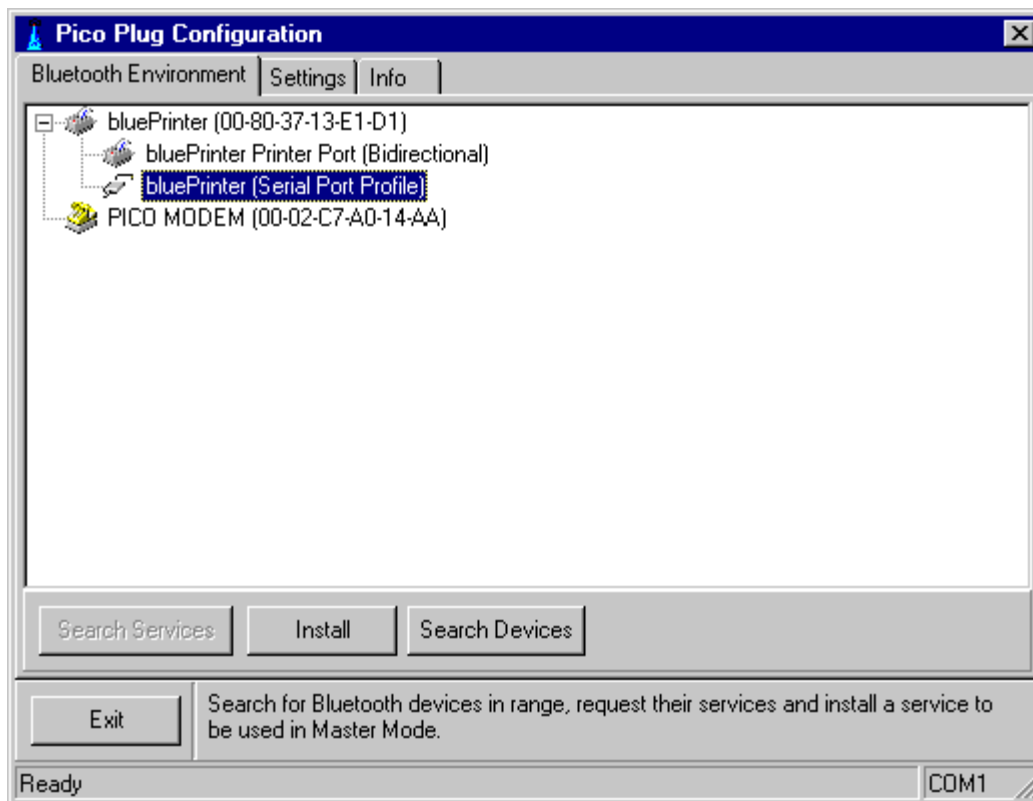
8. Operation in Master Mode

If you like to use your PICO Plug as a Bluetooth Master device which can connect to other devices you have to configure it first. Please be aware that the PICO Plug can only be configured for one single remote device.

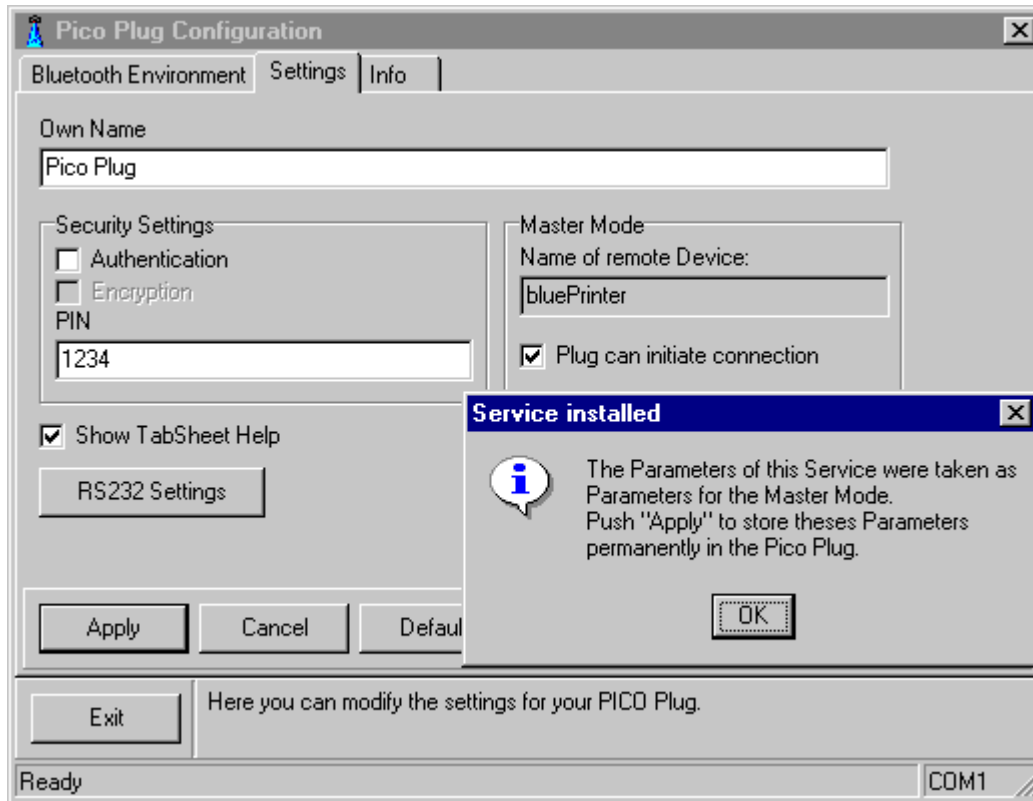
To configure the Bluetooth Master mode go to the tab sheet *Bluetooth Environment*. If the device you want to configure is not displayed click on *Search Devices*.

If, for example, you want to configure your PICO Plug to connect to the remote device bluePrinter when it has data to send, mark that device and click on *Search Services*.

The available services on this device will be inquired and displayed.



Now mark the service you want to use on the remote device and click on *Install*. The configuration program will change to the *Settings* tab sheet and the parameters for this service will be set.



To store the new settings in your PICO Plug click on *Apply*.

Any time the PICO Plug receives data on the serial port it will try to connect to the service just installed and transfer the data received.

The connection, once established, will be held until the PICO Plug detects a serial port close (technical speaking: a DTR drop) or the PC is turned off.

You can use the PICO Plug to connect to a modem (which may be a mobile phone, too), a printer, or another PC. Any necessary software drivers are installed as usual, as when the remote device is connected through a cable.

Important: Make sure that the serial port settings on your PC match the PICO Plug settings.

9. Serial Port Settings

The PICO Plug will use the serial port settings that a remote Bluetooth device requests during connection set up. When the remote Bluetooth device does not request specific settings it will use the default settings, which can be modified with the configuration program (see section *Configuration*). These settings will also be used when the PICO Plug operates as a Bluetooth Master (see section *Operation in Master Mode*). The factory settings for the serial port parameters are:

Bits per Second: 115200
Data Bits: 8
Parity: none
Stop Bits: 1
Flow Control: Hardware (RTS/CTS)