

HPS-110

HandyPort-Serial

Wireless Solutions in your Hand

User's Manual



HandyWave

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1. Introduction

Thank you for purchasing a HandyPort-Serial. The HandyPort-Serial can be used as a component in many types of systems allowing them to communicate wirelessly with other Bluetooth products such as PC-cards, laptops, handheld computers, mobile phones and other HandyPort-Serial. The HandyPort-Serial is a suitable component in new products as well as in existing products.

1.1. Features

- Supports Bluetooth Serial Port Profile and Generic Access Profile
- No need of external host and software
- Easy of installation and use
- Supports configuration of the local device
- Supports configuration of the remote device via Over-the-Air
- Easy of maintenance
- Supports up to 100 meter (Line of Sight)

1.2. Package

- HPS-110 2 EA
- Antenna 2 EA

2. Specifications

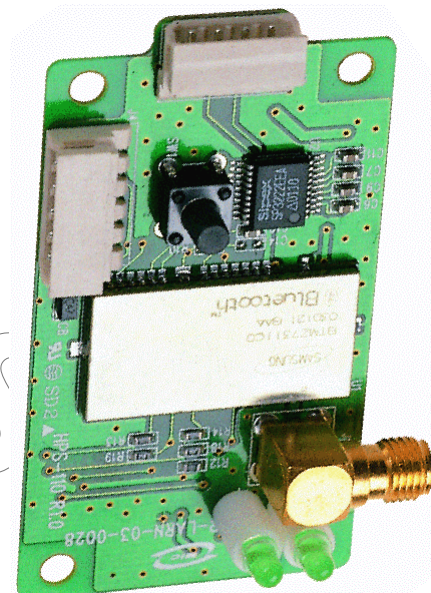
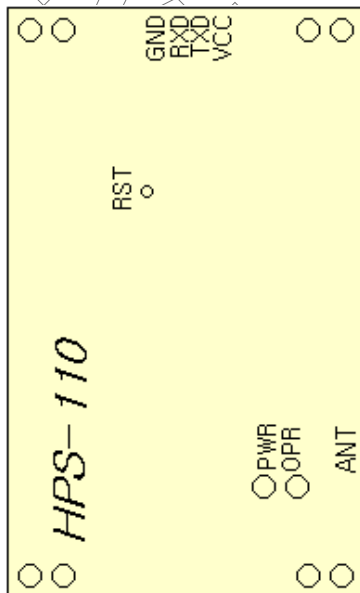
2.1. General

| | |
|-----------------------|---|
| Baud Rate | <ul style="list-style-type: none">● Up to 115.2kbps (Recommend above 2.4kbps)● Supports 1.2/2.4/4.8/9.6/19.2/38.4/57.6/115.2kbps |
| Coverage | Up to 100 M |
| Connection | Point -to -Point |
| Signal | TxD, RxD, GND |
| RS -232 Interface | 2.5mm Wire to Board Connector Angle Type 4 Pin Male |
| Standard | Bluetooth Specification Version 1.1 |
| Frequency | 2.400 ~ 2.4835GHz |
| Hopping | 1,600/Sec, 1MHz Channel Space |
| Modulation | GFSK, 1Mbps, 0.5BT Gaussian |
| Tx. Power | Max 20 / Typical 16dBm (Class 1) |
| Rx. Sensitivity | -84dBm |
| Antenna Interface | SMA Female |
| Antenna Gain | Max. 2dBi |
| Power Supply | +3.3 ~ 16VDC |
| Current Consumption | Max. 110mA |
| Operation Temperature | -20 ~ 75 °C |
| Size | 36.5mm (W) x 69mm (D) x 12mm (H) |

2.2. Interface

2.2.1. Notation

- PWR: Power LED
- OPR: Link LED
- ANT: Antenna Connector (SMA Female)
- RST: Reset Button
- GND: Signal Ground
- RXD: RS -232 Received Data
- TXD: RS -232 Transmitted Data
- VCC: System Power



2.2.2. RS-232 Signals

| Pin Number | Notation | Direction | Description |
|------------|----------|-----------|--------------------------|
| 1 | VCC | Input | Vcc 3.3V ~ 16V |
| 2 | TxD | Output | RS -232 Transmitted Data |
| 3 | RxD | Input | RS -232 Received Data |
| 4 | GND | N/A | Signal Ground |

2.3. Factory Setting

The following is the factory setting of COM port.

- Baud rate: 9600 bps
- Data Bit: 8 bit
- Parity Bit: No parity
- Stop Bit: 1 stop bit
- Flow control: None

2.4. Display Status

The following is status LED information.

- PWR (Green): It is an indication of power on/off status.
- LNK (Green): When a wireless link is on, it is turned on. If HPS-110 is in the configuration mode, it will be flashing every second.

2.5. Reset Button

The RST button has the following functions.

- Enter / Exit the configuration mode
- Restore the factory settings
- Disconnect and reconnect a wireless connection.

2.5.1. Enter Configuration Mode

When the LNK LED is OFF, push the RST button. When the LNK LED is ON, you have to push the RST button twice to enter the configuration mode. If you enter the configuration mode successfully, LNK LED will be flashing every second. And HPS-110 COM port will be stored the factory settings.

2.5.2. Exit Configuration Mode

You can have two options to exit the configuration mode.

Exit the configuration mode by software: Type "X".

Exit the configuration mode by the RST button: Push the RST button.

2.5.3. Re-connection

When the LNK LED is on, you can push the RST button to disconnect and reconnect a wireless link.

Warning!

If you push the RST button, the COM port of HPS-110 will be stored the factory setting.

3. Usage

3.1. Hardware Installation

Step 1: Assemble a provided antenna to HPS -110 body.

Step 2: Plug a HPS -110 into the COM port of device.

Step 3: Power on.

Step 4: Configure the HPS -110, if necessary.

3.2. Hyper Terminal Settings

Baud Rate: 9600 bps / Data Bit: 8 / Parity Bit: None / Stop Bit: 1 / Flow Control: None /
Emulation: VT100

3.3. Configuration

3.3.1. Start Configuration

Step 1: Plug a HPS -110 into a COM port of PC. And Power it on.

Step 2: Open a Hyper Terminal and set it up.

Step 3: Push the RST button on HPS -110. If you enter the configuration mode successfully, LNK LED will be flashing every second.

Step 4: Hit the <Enter> key, 5 second later.

Step 5: Change the configuration of HPS -110 with commands, if necessary.

3.3.2. Usage Printing

If you are in the configuration mode, type “?” key. You will see the usage. All commands and parameters are case sensitive. And you cannot use a <Backspace>.

3.3.3. After Configuration

After finishing the configuration, you have to execute a command “X” to apply changes.

3.4. Command Set

3.4.1. Command List for Local Device

| Item | Syntax | Description | Remarks |
|---------------------------|----------------------|---|---|
| 1. Connecting address | <u>A</u> Addr<Enter> | Set a remote device address for a wireless connection. | A local and remote BD_ADDR always need to be difference. |
| 2. Baud rate | <u>B</u> Baud Rate | Change the baud rate | Baud Rate - 0: 1200, 1: 2400, 2: 4800, 3: 9600, 4: 19200, 5: 38400, 6: 57600, 7: 115200 |
| 3. COM port | <u>C</u> COM Port | This is only valid in connection mode 2. | |
| 4. PIN code | <u>E</u> PIN<Enter> | Authentication Off: Type <Enter> Authentication On: Type up to 11 characters | Paired adapters should have a same PIN code. |
| 5. Connection mode | <u>M</u> mode | Set a connection mode | 0: 1:1 Mode, 1: WAIT Mode, 2: REGISTER and CONNECT Mode |
| 6. Friendly name | <u>N</u> name<Enter> | Set a friendly name up to 11 characters. | |
| 7. Command for the remote | <u>O</u> | Enter configuration mode for the remote. | |
| 8. Parity Bit | <u>P</u> parity | Set the parity bit. | 0: None, 1: Odd 2: Even |
| 9. Stop Bit | <u>S</u> stop | Set the stop bit. | 0: 1 Stop, 1: 2 Stop |
| 10. View | <u>V</u> | Display configuration information | |
| 11. Exit | <u>X</u> | Apply changes. | |
| 12. Usage | <u>?</u> | Print the usage. | |

Warning!

If you push the RST button, the COM port of HPS -110 will be stored the factory setting.

3.4.2. Command List for Remote Device

To change the configuration for a remote device via over-the-air, firstly you have to use a command “O” at the local device. The following are a procedure for changing configuration of remote device via over-the-air.

- Configure a remote device at the local device.
- Save changes at the local device.
- Make a wireless connection between the local device and remote device (automatically).
- Send changes from the local device to the remote device (automatically).
- Apply changes at the remote device and reboot (automatically).

| Item | Syntax | Description | Remarks |
|-----------------------|----------------------|---|--|
| 1. Connecting address | <u>A</u> Addr<Enter> | Set a connecting address for remote device. | |
| 2. Baud rate | <u>B</u> Baud Rate | Change the baud rate for the remote. | |
| 3. COM port | <u>C</u> COM Port | This is only valid in mode 2. | |
| 4. PIN code | <u>E</u> PIN<Enter> | Authentication Off: Type <Enter> Authentication On: Type up to 11 characters | Paired adapters should have a same PIN code. |
| 5. Connection mode | <u>M</u> Mode | Set a connection mode for remote. | |
| 6. Friendly name | <u>N</u> Name<Enter> | Set a friendly name up to 11 characters for remote. | |
| 7. Parity Bit | <u>P</u> Parity | Set the parity bit. | 0: None, 1: Odd 2: Even |
| 8. Stop Bit | <u>S</u> Stop | Set the stop bit. | 0: 1 Stop, 1: 2 Stop |
| 9 View | <u>V</u> | Display configuration information for remote | |
| 10. Exit | <u>X</u> | Save changes and return to main menu. | |
| 11. Usage | <u>?</u> | Print the usage. | |

Remarks1: To configure a remote device via over-the-air, a local device can make a connection to the remote device.

Remarks2: You can change a PIN code for the remote and local device as follows:

Change a PIN for remote at the local -> Apply it. -> Change a PIN for local and apply it.

Remarks3: One you change a connecting address, and connection mode for the remote, the local device won't be able to make a connection to the remote device.