HPS-120 HandyPort-Serial

Wireless Solutions in your Hand

User's Manual

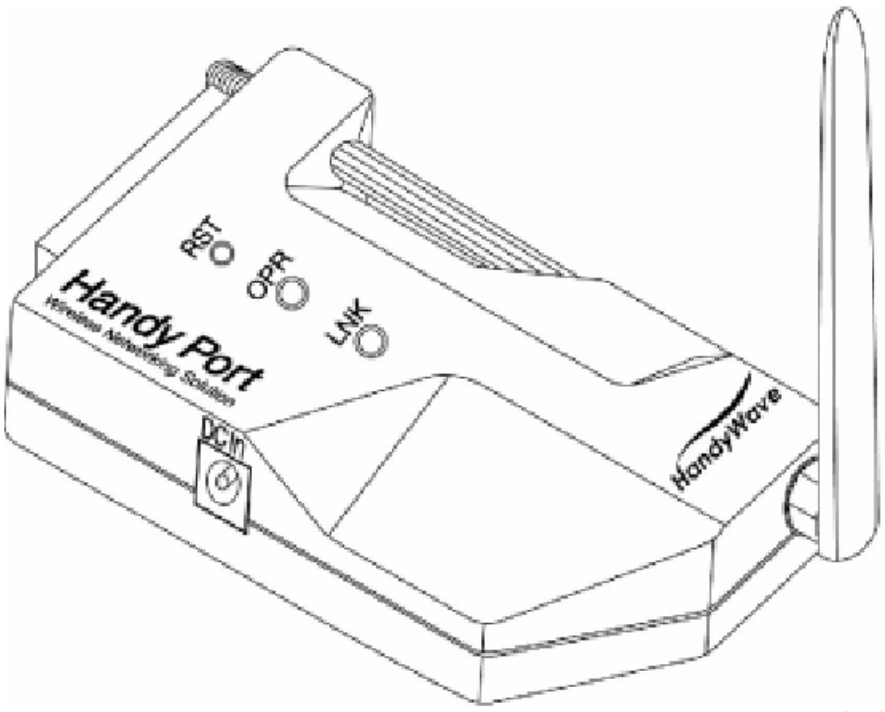

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Table of Contents

1. INTRODUCTION 3

1.1. FEATURES 3

1.2. PACKAGE 3

2. SPECIFICATIONS 4

2.1. GENERAL 4

2.2. RS-232 INTERFACE 5

2.2.1. Pin-out 5

2.2.2. Signals 5

2.3. FACTORY SETTING 5

2.4. DISPLAY STATUS 6

2.5. RESET BUTTON 6

2.5.1. Enter Configuration Mode 6

2.5.2. Exit Configuration Mode 6

2.5.3. Re-connection 6

3. HARDWARE INSTALLATION 7

3.1. HARDWARE DESCRIPTION 7

3.2. POWER SUPPLY 7

3.3. INSTALL PROCEDURE 7

4. USAGE 8

4.1. HYPER TERMINAL SETTINGS 8

4.2. CONFIGURATION 8

4.2.1. Start Configuration 8

4.2.2. Usage Printing 8

4.2.3. After Configuration 8

4.3. COMMAND SET 9

4.3.1. Command List for Local Device 9

4.3.2. Command List for Remote Device 10

HandyPort-Serial - 120

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-120 2 EA
- Antenna 2 EA
- A USB Cable for Power Supply
- A Manual

HandyPort-Serial-120

2. Specifications

2.1. General

Baud Rate	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	DCD, TxD, RxD, GND, CTS/DSR(Remark1), DTR, RTS
RS-232 Interface	D_SUB 9 Pin Female
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	+5 ~ +12Vdc
Current Consumption	Max. 110mA
Operation Temperature	-20 ~ 75 °C
Size	35mm (W) x 65mm (D) x 16mm (H)

Remark1) The default hardware configuration is for using CTS. If you want to use DSR, please contact us.

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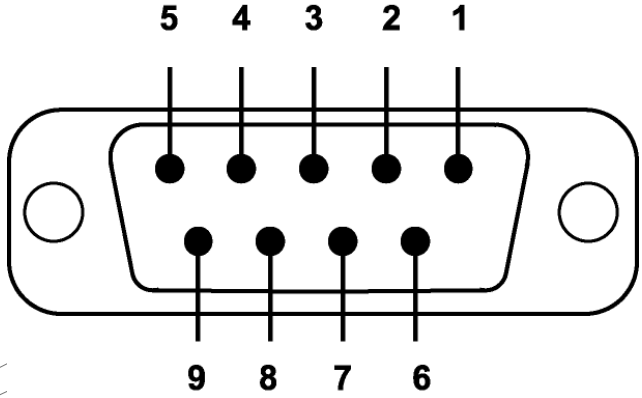
2.2. RS-232 Interface

2.2.1. Pin-out



2.2.2. Signals

Pin Number	Signal	Direction	Description
1	DCD	Output	Data Carrier Detect
2	TxD	Output	Transmitted Data
3	RxD	Input	Received Data
4	DSR	N/A (Input)	Option: Data Set Ready(Remark1)
5	GND	N/A	Signal Ground
6	DTR	Output	Data Terminal Ready
7	CTS	Input	Clear to Send(Remark1)
8	RTS	Output	Request to Send
9	Vcc	Input	Power Supply

Remark1) The default hardware configuration is for using CTS. If you want to use DSR, please contact us.

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

Handy Original - 120

2.4. Display Status

The following is status LED information.

- OPR (Red): When HPS-120 is powered on, it is turned on or flashing.
- LNK (Green): When a wireless link is on, it is turned on. If HPS-120 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-120 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.

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If you push the RST button, the COM port of HPS-120 will be stored the factory setting.

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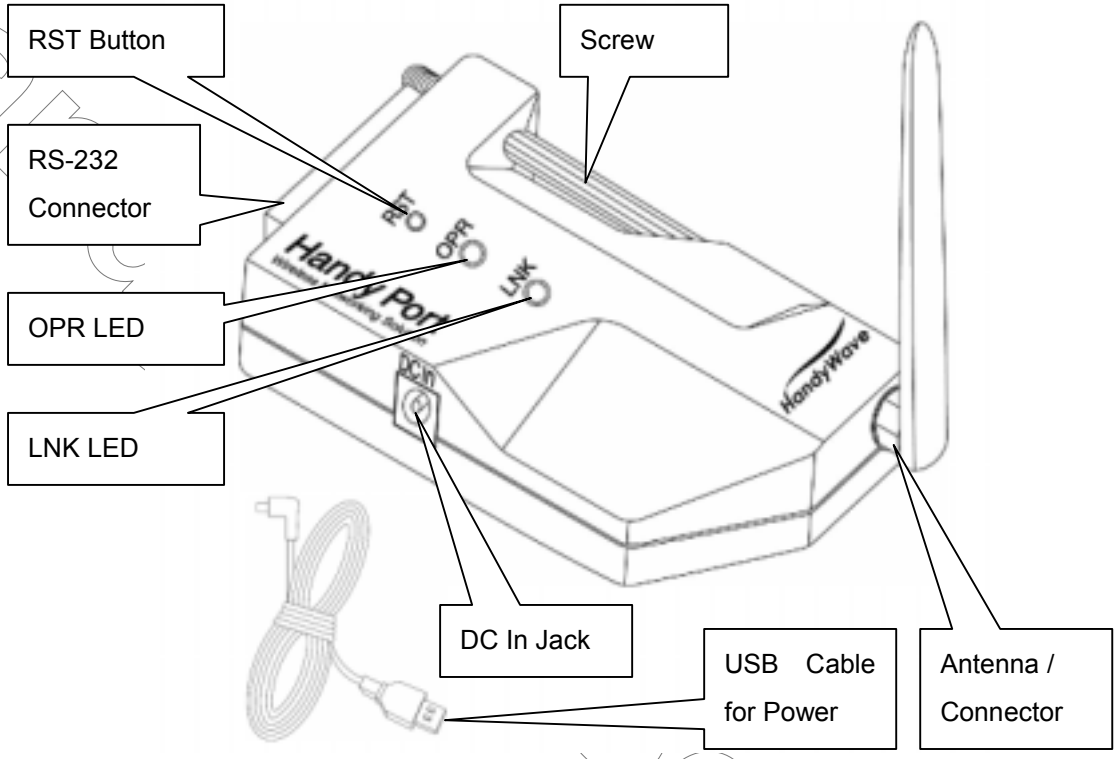
3. Hardware Installation

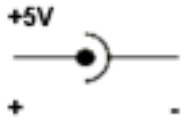
3.1. Hardware Description



3.2. Power Supply

You can supply power to the HPS-120 as follows:

Use an AC/DC converter (Output Power: +5 ~ +12Vdc / 300mA).



Use a provided USB cable.

You can supply power via 9th pin of D_SUB 9 Pin connector.

3.3. Install Procedure

Step 1: Assemble a provided antenna to HPS-120 body.

Step 2: Plug a HPS-120 into the COM port of device.

Step 3: Power on.

Step 4: Configure the HPS-120, if necessary.

Handy Serial - 120

4. Usage

You can change the configuration of HPS-120 using Hyper Terminal.

4.1. Hyper Terminal Settings

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

4.2. Configuration

4.2.1. Start Configuration

Step 1: Plug a HPS-120 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-120. 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-120 with commands, if necessary.

4.2.2. 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>.

4.2.3. After Configuration

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

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4.3. Command Set

4.3.1. Command List for Local Device

Item	Syntax	Description	Remarks
1. Connecting address	AAddr<Enter>	Set a remote device address for a wireless connection.	A local and remote BD_ADDR always need to be difference.
2. Baud rate	BBaud 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	CCOM Port	This is only valid in connection mode 2.	
4. PIN code	EPIN<Enter>	Authentication Off: Type <Enter> Authentication On: Type up to 11 characters	Paired adapters should have a same PIN code.
5. Flow control	FFlow Control	Set the Flow control.	0: None, 1: Hardware, 2: DTR/DSR, 3: Hardware & DTR/DSR
6. Connection mode	Mmode	Set a connection mode	0: 1:1 Mode, 1: WAIT Mode, 2: REGISTER and CONNECT Mode
7. Friendly name	Nname<Enter>	Set a friendly name up to 11 characters.	
8. Command for the remote	O	Enter configuration mode for the remote.	
9. Parity Bit	Pparity	Set the parity bit.	0: None, 1: Odd 2: Even
10. Stop Bit	Sstop	Set the stop bit.	0: 1 Stop, 1: 2 Stop
11. View	V	Display configuration information	
12. Exit	X	Apply changes.	
13. Usage	?	Print the usage.	

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If you push the RST button, the COM port of HPS-120 will be stored the factory setting.

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4.3.2. 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 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	AAddr<Enter>	Set a connecting address for remote device.	
2. Baud rate	BBaud Rate	Change the baud rate for the remote.	
3. COM port	CCOM Port	This is only valid in mode 2.	
4. PIN code	EPIN<Enter>	Authentication Off: Type <Enter> Authentication On: Type up to 11 characters	Paired adapters should have a same PIN code.
5. Flow control	FFlow Control	Set the Flow control for remote.	
6. Connection mode	MMode	Set a connection mode for remote.	
7. Friendly name	NName<Enter>	Set a friendly name up to 11 characters for remote.	
8. Parity Bit	PParity	Set the parity bit.	0: None, 1: Odd 2: Even
9. Stop Bit	SStop	Set the stop bit.	0: 1 Stop, 1: 2 Stop
10 View	V	Display configuration information for remote	
11. Exit	X	Save changes and return to main menu.	
12. Usage	?	Print the usage.	

Remarks1: To configure a remote device via over-the-air, a local device must be able to 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: Once 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.

Handy Original 120