This product may be used as a component in many types of systems allowing them to communicate wirelessly with other products such as PC-cards, laptops, handheld computers, mobile phones etc.

**SPECIFICATIONS**

**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, DTR, RTS

**RS-232 Interface:**
- D-SUB 9 Pin Female

**Standard:**
- Bluetooth Specification Version 1.1

**Frequency:**
- 2.400~ 2.4835 GHz

**Hopping:**
- 1600/Sec, 1 MHz Channel Space

**Modulation:**
- GFSK, 1 Mbps, 0.5 BT Gaussian

**Tx. Power:**
- Max 20 /Typical 16 dBm (Class 1)

**Rx. Sensitivity:**
- -84 dBm

**Antenna Interface:**
- SMA Female

**Antenna Gain Power:**
- Max 2 dbi

**Power Supply:**
- +5 ~ +12 Vdc

**Current Consumption:**
- Max 110 Ma

---

**RS-232 INTERFACE**

![RS-232 Interface Diagram]

**Signals**

- **Pin#** | **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
- 5       | GND      | N/A          | Sign Ground
- 6       | DIR      | Output       | Data Terminal Ready
- 7       | CTS      | Input        | Clear to Send
- 8       | RIS      | Output       | Request to Send
- 9       | Vcc      | Input        | Power Supply

---

**FACTORY SETTINGS**

The following is the factory settings of COM port.
You can change the factory settings of the COM port with commands. In this case, you have to remember the changed factory settings.

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

The default hardware configuration is for using CTS.

---

**STATUS LED**

There are two LED’s
- **OPR (Red):** When supplied with power, it is turned on or flashing.
- **LNK (Green):** When a wireless link is on, it is on. If in the configuration mode, it will be flashing every second.

---

**RESET BUTTON**

The Reset button has the following functions.
- Enter/Exit the configuration mode
- Restore the factory settings
- Disconnect and reconnect a wireless connection

---

**ENTERING THE 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 flash every second. And the COM port will be restored to the factory settings.

---

**EXITING THE 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.

---

**RE-CONNECTION**

When the LNK LED is on, you can push the RST button to disconnect and reconnect a wireless link.
If you push the RST button, the COM port of HPS-120 will be stored the factory settings.

---

**POWER SUPPLY**

You can supply power to the HPS-120 as follows:
- Use an AC/DC converter (Output Power: +5 ~ +12 Vdc / 300 mA)
- Use a USB cable
- Supply power via the 9th pin of the D-Sub 9-pin connector

---

**INSTALLATION**

1. Attached the antennae
2. Plug the unit into the COM port(s)
3. Power on
4. Adjust configuration (if necessary)

---

**USAGE**

You can change the configuration using Hyper Terminal.
Hyper Terminal Settings:
- **Baud Rate:** 9600 bps / Data Bit: 8 / Parity Bit: None / Stop Bit: 1 / Flow Control: None / Emulation: VT100

**STARTING CONFIGURATION**

1. Plug into a COM port on the PC
2. Power on the PC
3. Open Hyper Terminal and set it up.
4. Push the RST button. If you enter the configuration mode successfully, the LNK LED will be flashing.
5. Press the <Enter> key, 5 seconds later.
6. Change the configuration with commands, if necessary.

---

**COMMANDS AND USAGE REVIEW**

If you are in the configuration mode, type “?<ENTER>” for a listing of commands. If you want to know the usage of a command, type “?[command]<ENTER>” All commands and parameters are case sensitive. Do not use the <Backspace> key.

---

**AFTER CONFIGURATION**

After finishing the configuration, you have to execute a command “X” to apply the changes.
<table>
<thead>
<tr>
<th>Item</th>
<th>Syntax</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Connecting address</td>
<td>Addr&lt;CR&gt;</td>
<td>Set a remote device address for a wireless connection</td>
<td>A local and remote device, Addr always needs to be different.</td>
</tr>
<tr>
<td>2. Baud rate</td>
<td>BR&lt;CR&gt;</td>
<td>Change the baud rate</td>
<td>BR: Baud Rate (BR) 0-1200, 1-2400, 2-4800, 3-9600, 4-19200, 5-38400, 6-57600, 7-115200</td>
</tr>
<tr>
<td>3. COM port</td>
<td>CCOMPort&lt;CR&gt;</td>
<td>Change a required serial port</td>
<td>COMPort: 1~7 Only used in connection mode 2.</td>
</tr>
<tr>
<td>4. PIN code</td>
<td>PNP&lt;CR&gt;</td>
<td>Authentication Off, 1st Press&lt;Enter&gt;&lt;Cr&gt;</td>
<td>PIN code is used in connection mode 2.</td>
</tr>
<tr>
<td>5. Flow control</td>
<td>FC&lt;CR&gt;</td>
<td>Set the flow control</td>
<td>FC - 0: None 1: Hardware 2: DTR/DSR</td>
</tr>
<tr>
<td>6. Search timer</td>
<td>T&lt;CR&gt;</td>
<td>Set a search timeout.</td>
<td>TO: timeout: ASCII 0-999</td>
</tr>
<tr>
<td>7. Max number of search</td>
<td>N&lt;CR&gt;</td>
<td>Set the max number of search</td>
<td>NO ASCII 0-999</td>
</tr>
<tr>
<td>8. Search device</td>
<td>S&lt;CR&gt;</td>
<td>Execute searching devices</td>
<td>TO: ASCII 0-999</td>
</tr>
<tr>
<td>9. Discovery mode</td>
<td>DIS&lt;CR&gt;</td>
<td>Set the discovery mode</td>
<td>B: Enable D: Disable</td>
</tr>
<tr>
<td>10. Low Power Mode</td>
<td>LOW&lt;CR&gt;</td>
<td>Set the low power mode</td>
<td>B: Enable D: Disable</td>
</tr>
<tr>
<td>11. Connection mode</td>
<td>M&lt;CR&gt;</td>
<td>Set a connection mode</td>
<td>Mode 0: 3’ Mode 0 &amp; 2: Required a remote address. Mode 2: Required a serial port</td>
</tr>
<tr>
<td>12. Friendly name</td>
<td>FName&lt;CR&gt;</td>
<td>Set a friendly name up to 11 characters</td>
<td></td>
</tr>
<tr>
<td>13. Party Bit</td>
<td>PB&lt;CR&gt;</td>
<td>Set the party bit</td>
<td>D: (option) Change a factory setting</td>
</tr>
<tr>
<td>14. Connection timeout</td>
<td>T&lt;CR&gt;</td>
<td>Set the connection timeout.</td>
<td>TO: ASCII 0-999</td>
</tr>
<tr>
<td>15. Stop Bit</td>
<td>STB&lt;CR&gt;</td>
<td>Set the stop bit.</td>
<td>D: (option) Change a factory setting</td>
</tr>
<tr>
<td>16. Connect</td>
<td>CON&lt;CR&gt;</td>
<td>Try to make a connection.</td>
<td>TO: ASCII 0-999</td>
</tr>
<tr>
<td>17. Cancel</td>
<td>C&lt;CR&gt;</td>
<td>Cancel a command.</td>
<td>You can find out a software version.</td>
</tr>
<tr>
<td>18. View</td>
<td>V&lt;CR&gt;</td>
<td>Display the device information</td>
<td>You can find out a software version.</td>
</tr>
<tr>
<td>19. CUO</td>
<td>CUO&lt;CR&gt;</td>
<td>Set the class of device.</td>
<td>CUO: 6 Max in ASCII</td>
</tr>
<tr>
<td>20. Exit</td>
<td>X&lt;CR&gt;</td>
<td>Apply changes.</td>
<td>Rebooting</td>
</tr>
<tr>
<td>22. Usage</td>
<td>U&lt;CR&gt;</td>
<td>Display the command list or usage.</td>
<td>C: Command</td>
</tr>
</tbody>
</table>

1. If you push the RST button, the COM port will be set to the factory settings.
2. If you change the friendly name, you have to remember it.
3. If you change the factory setting for baud rate, you have to remember it.
4. This is a flow control that will be passed over the air.
5. PIN code is used in connection mode 2.