



Promi-MSP™

Quick Installation Guide

Version 1.0

For Wireless Multi-Serial Communications,
based on Bluetooth Technology

by Bluetooth

Enabling Wireless Serial Communications

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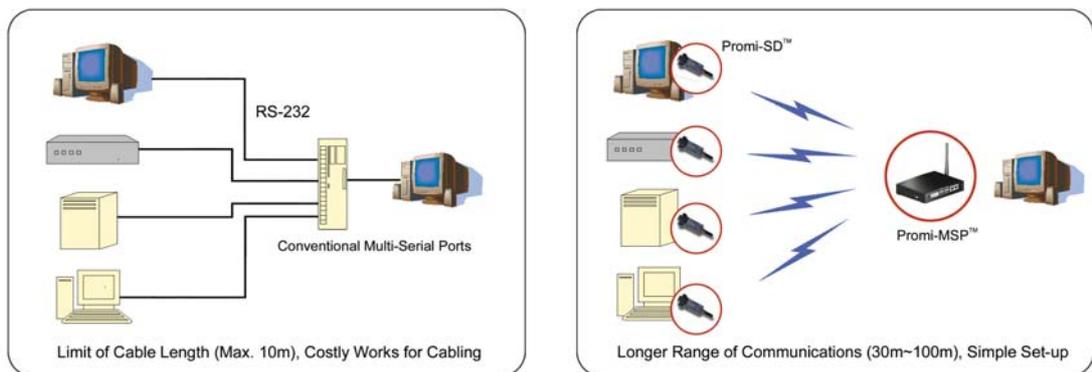
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1. About Promi-MSP™

Promi-MSP™ is a Bluetooth-wireless multiple serial communications port for up to 35 devices; an option to conventional multi-serial ports. Wireless Promi-MSP™ results in dramatic installation cost and time savings and fretless application.

With Promi-SD™ installed at RS-232 interfaced terminals, Promi-MSP™ affords dependable convenience for a variety of serial communications environments.

Refer to the figure 1.1. below:



<Fig. 1.1>

Promi-MSP™ is a wireless multi-serial Bluetooth technology-based server. Bluetooth Serial Port Profiles (SPP) assure standardized, secure and scaleable serial communications. Promi-MSP™ identification of data, per each additional unique Bluetooth SPP enabled device address, prevents data jam.

Bluetooth's 2.4GHz frequency-hopping system voids RF interference from sources such as Wireless LAN. Increased communications security is possible via optional user set-up authentication.

Promi-MSP™ transmits data from each Bluetooth terminal to PC via TCP/IP Ethernet. TCP/IP PCs also respond to each Bluetooth terminal wirelessly via Promi-MSP™.

Without changing non-TCP/IP serial communications software Promi-MSP™ is accessible via installation of the COM port redirector program. More information is in Appendix 4.1.

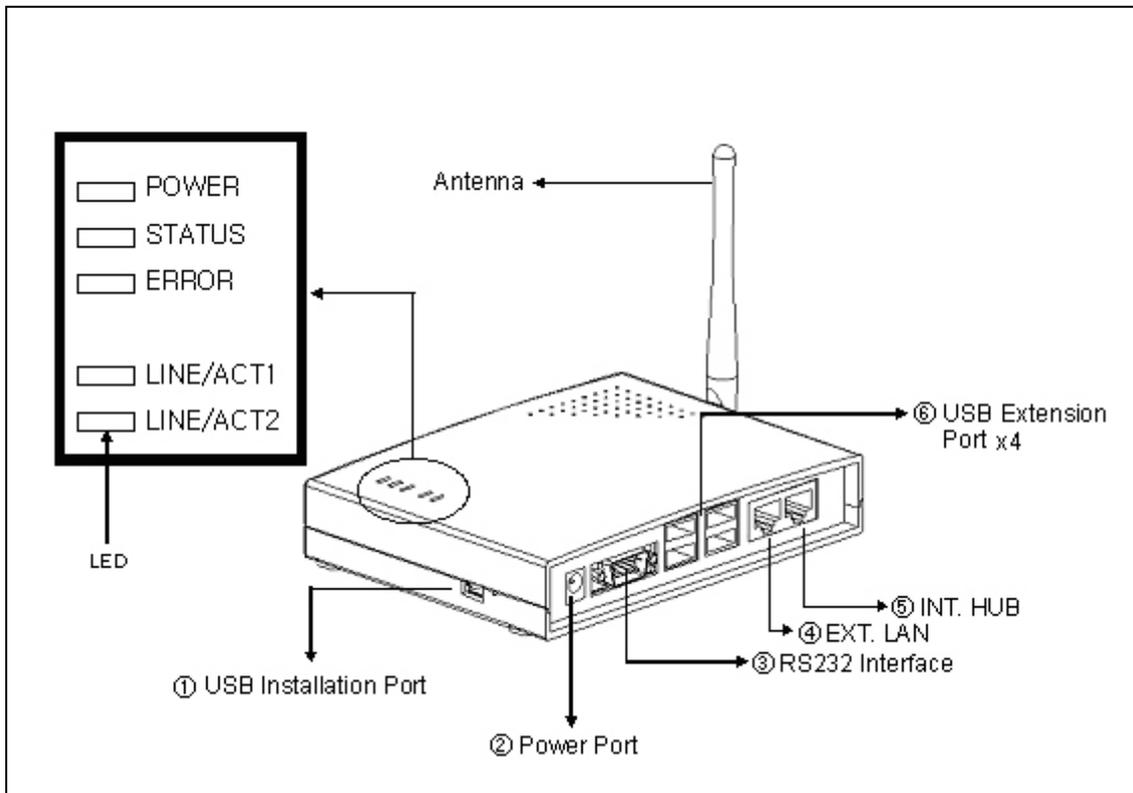
<Table 1.1> Promi-MSP™

Model	Hardware Interface	Specifications
Promi-MSP 101	LAN 10/100 x1, RS232C x1 Built-in Bluetooth (Max. 7 Bluetooth links)	Coverage: 10m~100m Data rate: Max. 723 Kbps COM port Redirector supported <ul style="list-style-type: none"> • VirtualCOM and Serial/IP Supported Networks HTTP /FTP /Telnet /IP sharing/DHCP client/PPP server/PPP tunneling/SNMP v1/v2/v3
Promi-MSP 102	LAN 10/100 x2, RS232C x1 Built-in Bluetooth (Max. 7 Bluetooth links)	
Promi-MSP 103	LAN 10/100 x2, RS232C x1, Built-in Bluetooth 4 USB A-type ports (Max. 35 Bluetooth links)	

One Promi-MSP™ set includes:

Hardware	Quantity
Promi-MSP™	1
Power Adapter	1
Antenna	1
RS232 cable	1
VirtualCOM & Manual in CD	1
Anchor Support	1 Set

1.1 External View



<Fig. 1.2> Promi-MSP 103, external view

① USB Installation Port:

USB port available for Promi-MSP network configuration from 2003/3rd Quarter.

② Power Port: For Power Adapter connection

③ RS232 Interface marked “|0|0|”:

For Promi-MSP network configuration via RS232 serial cable - One RS232 serial cable, both ends female DSUB interfaces, is provided with Promi-MSP. In this version this port is NOT to be used for connection to Host PC for any serial communication.

④ RJ45 marked EXT.: For connection to Host PC or HUB devices. For connection to PC, use a Cross cable; for connection to HUB, use 1:1 Ethernet cable.

⑤ RJ45 marked INT.: For HUB port connection to additional Promi-MSP™

⑥ USB Extension Port x4: For extending multi-connection beyond 7 devices. A USB extension module adds 7 more connection options; a maximum of 35 connections via 4 USB extension ports.

4 ports X 7: 28 connections + Default 7 = 35 max. connections.

***NOTE: Differences in external view/functions**

- **Promi-MSP101:** Can NOT use no. ⑤ RJ 45 for HUB and ⑥ USB extension ports.
Max. 7 connections only.
- **Promi-MSP102:** Can NOT use no. ⑥ USB extension ports.
Max. 7 connections only.
- **Promi-MSP103:** Same as in Fig. 1.2, All functions available; 1~35 connection options.

1.2 LED indicators

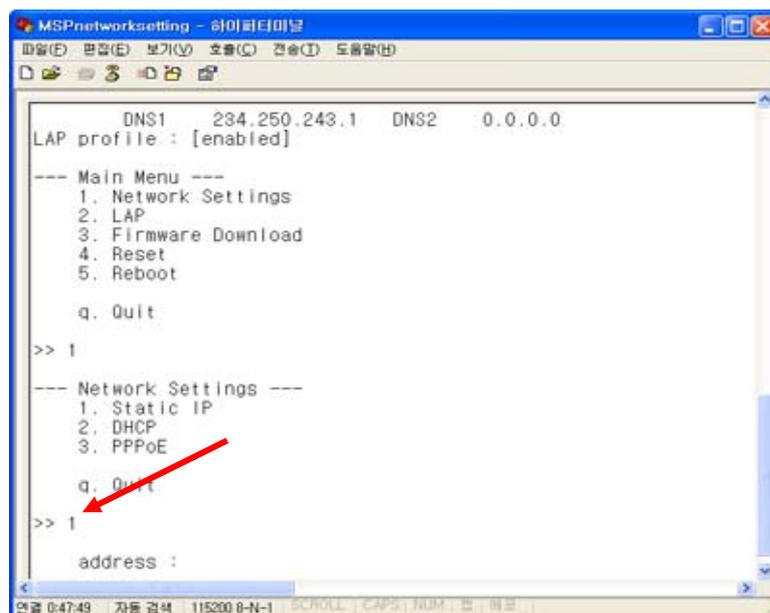
- POWER: POWER ON/OFF Status
- STATUS: Promi-MSP™ Status
- ERROR: Error Event Status
- LINE/ACT1, LINE/ACT2: RF45 connections Status

STATUS LED	ERROR LED	Description
ON	OFF	Normal
OFF	ON	Internal Bluetooth module operation malfunction
ON	Blinking	LAN connection Error (Connecting to ADSL or waiting for DHCP server response)
Flashing	Flashing	Upgrading Firmware <u>DO NOT turn off Promi-MSP during firmware update</u> ; turning off Promi-MSP during firmware update may impair operability

2. Installation

2.1 Network Settings

- (1) Promi-MSP™ power-up; 'POWER' and 'STATUS' LEDs display green
- (2) Promi-MSP™ network configuration: connect Promi-MSP™ to PC via RS232 cable
- (3) Connect Promi-MSP™ to PC via Ethernet; use Crossed Ethernet cable when connecting directly to Host PC
- (4) Open HyperTerminal
- (5) Set PC COM port;
Baud rate 115200 / 8 Data bit / non-parity / 1 stop bit / no hardware flow control
- (6) Press Enter key; **the following information is displayed on HyperTerminal screen**; If Promi-MSP™ prompts Login ID/password, default values are:
Login: admin
Password: 11111
- (7) Default Promi-MSP™ IP address factory setting is 192.168.1.10. Revise to user appropriate networking environment IP address
- (8) To revise Network Settings, click main menu Number. Enter "1" as displayed below.



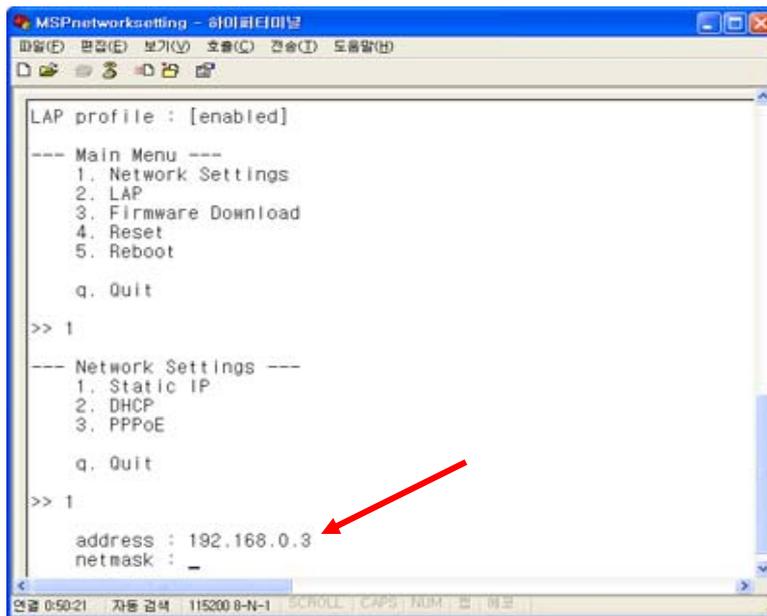
- (9) Network Settings sub menu is displayed.

Description:

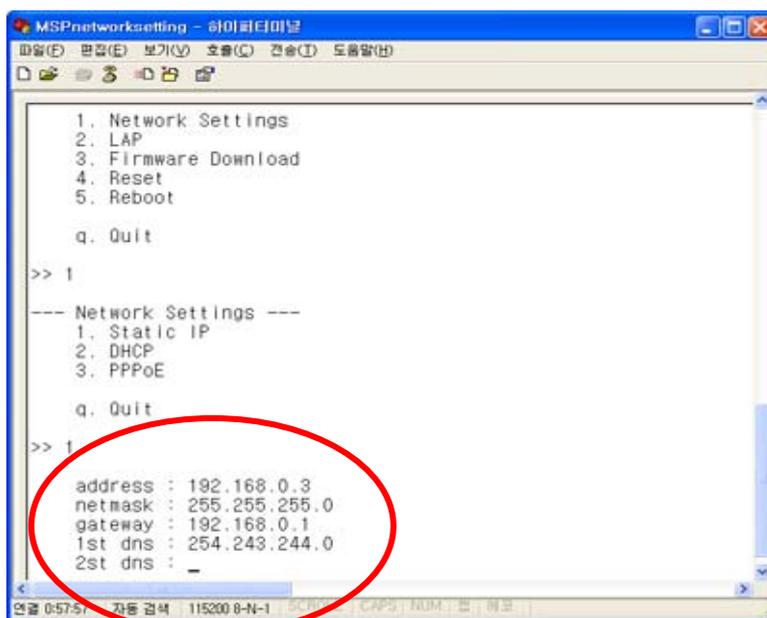
1. Static IP: For Assigning Promi-MSP™ a static IP
2. DHCP: For Assigning Promi-MSP™ a DHCP IP
3. PPPoE: For assigning Promi-MSP™ a PPPoE IP

(10) If No. 1, Static IP, is selected, the following is displayed on screen:

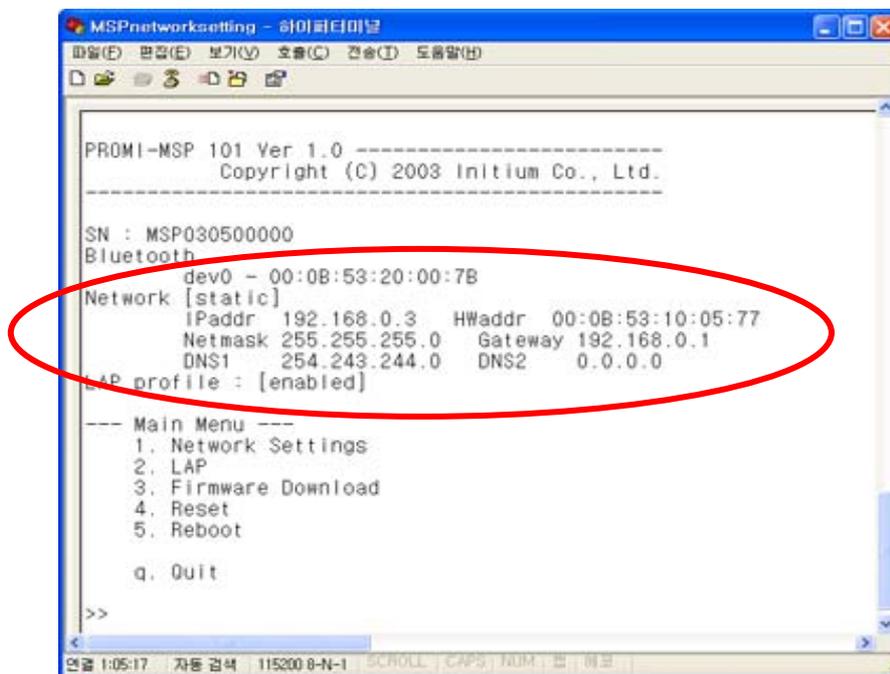
(11) Enter user Static IP address. In the example below, 192.168.0.3 is entered for the Promi-MSP™ IP address. Enter the user network appropriate IP address.



(12) Please enter your Netmask/Gateway/DNS information, as in below for example:



- (13) Press Enter; Promi-MSP™ will prompt reboot request. Enter 'Y' [Yes]; press Enter to reboot Promi-MSP™ to apply the revised Network Settings.
- (14) Enter Login ID and Password. Default ID: admin, Password: 11111
- (15) Revised Network settings are displayed



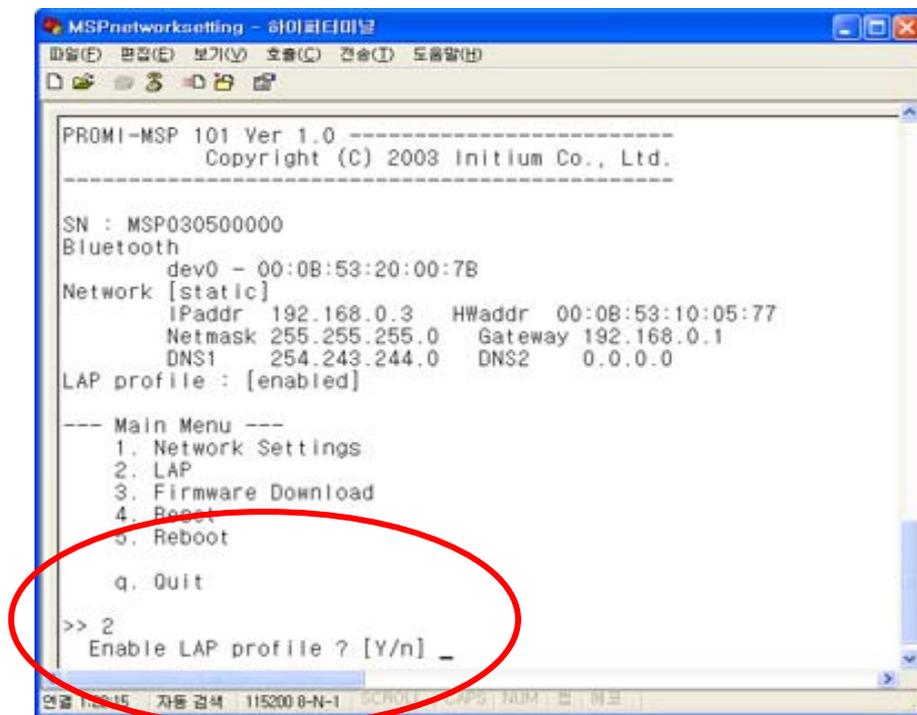
<An example: Revised Network Settings>

- (16) Networking configuration is complete. The preceding example shows static IP assignment to Promi-MSP™. User selects static, DHCP or PPPoE IP as needed.

2.2 LAN Access Profile

Promi-MSP™ 1.1 supports LAN Access Profile for Bluetooth networking Access Point. By direction connection of Promi-MSP™ to ADSL, the internet is accessible via Bluetooth.

Select menu 2. LAP by entering '2'; Promi-MSP™ prompts for LAP profile enable/disable. Select 'Y' [Yes] to enable or 'N' [No] to disable LAP profile.



2.3 Firmware Download

Promi-MSP ver.1.1 enables user firmware upgrade. The INITIUM customer support team offers available firmware upgrades via Xmodem user download; menu no. 3. Firmware Download.

During Firmware download, STATUS and ERROR LEDs flash. DO NOT TURN OFF Promi-MSP™ during firmware download. Turning off Promi-MSP™

during firmware download may result in operation malfunction.

2.4 Reset/Reboot/Quit

Entering no. 4, Promi-MSP™ RESET, in the main menu, restores all factory Default value settings.

REBOOT restarts Promi-MSP™ for new configuration application.

QUIT instantly aborts current processing.

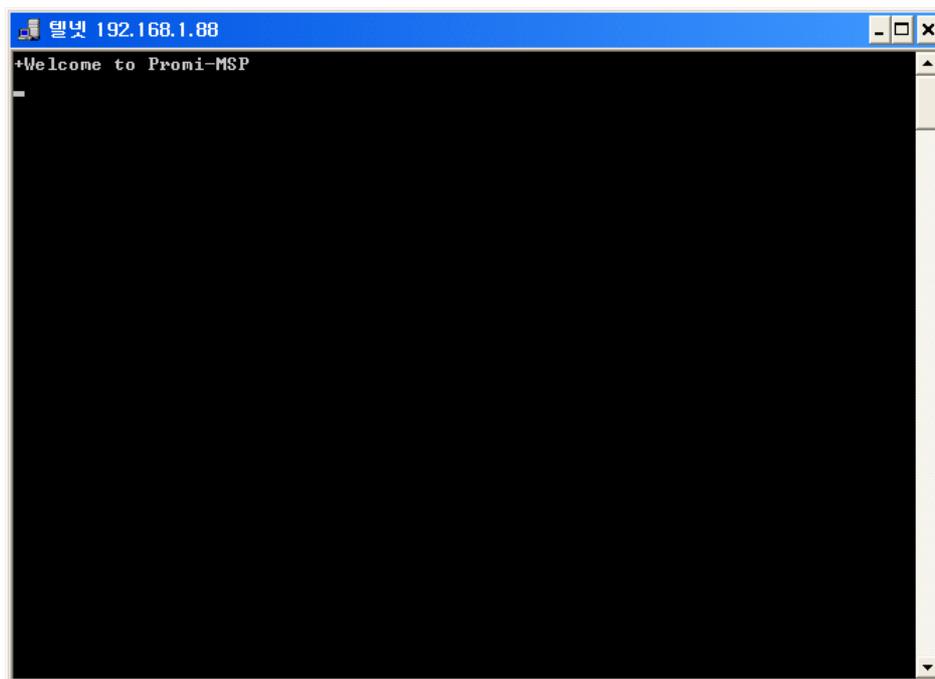
3. Configuration

Promi-MSP™ configuration access is available via:

1. Telnet: Direct access of Promi-MSP using Telnet. Configuration via Commands.
2. Configuration software: GUI interface for easier access/configuration.
*This software will be available from July of 2003.
3. Web browser: Remote access via Web, anytime/anywhere.

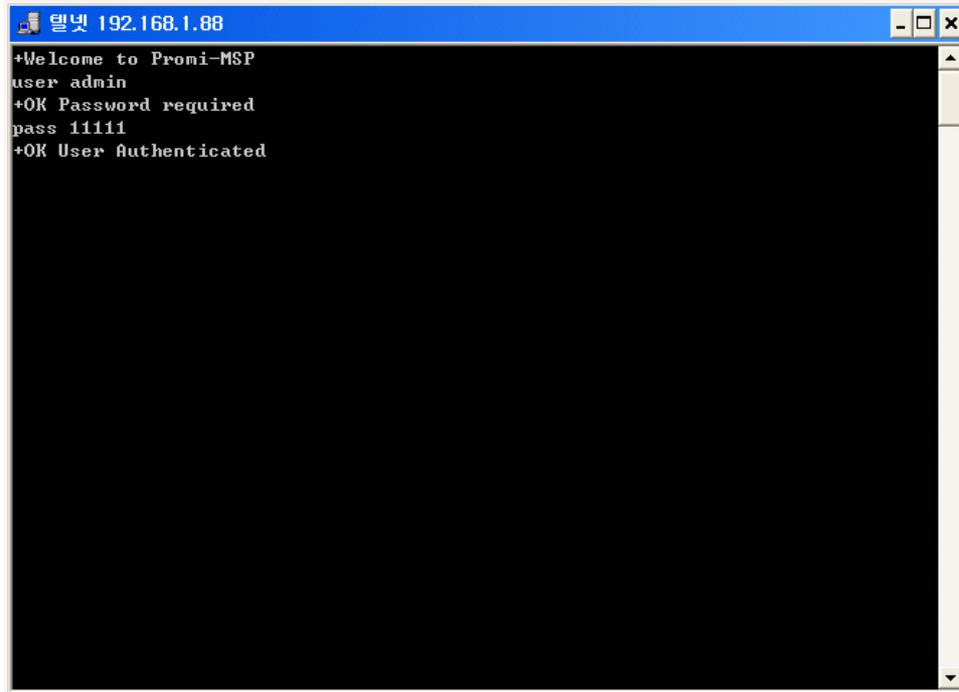
3.1 Configuration via Telnet

Users may directly access Promi-MSP via Telnet after users assign an IP to Promi-MSP in installation in Chapter 2. Default control port number is 2525.



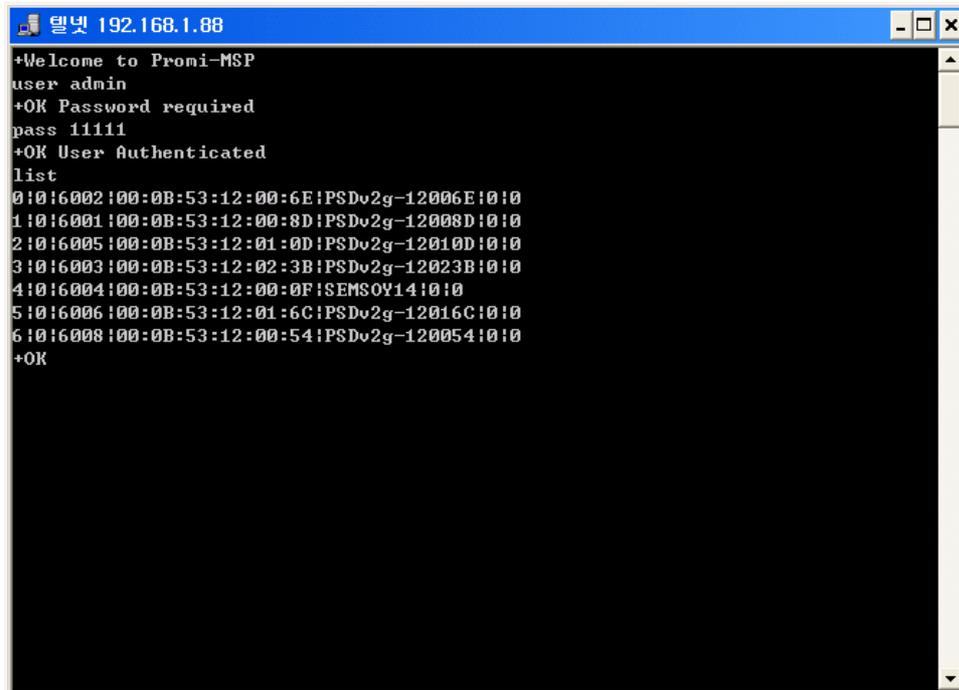
- 1) Log on to Promi-MSP using following default ID/password.
user admin
pass 11111

Then you can find "Welcome to Promi-MSP" message.



```
윈도우 192.168.1.88
+Welcome to Promi-MSP
user admin
+OK Password required
pass 11111
+OK User Authenticated
```

- 2) You can see OK responses from Promi-MSP as in above.
- 3) For an example, to see current list connected to Promi-MSP, enter LIST command.



```
윈도우 192.168.1.88
+Welcome to Promi-MSP
user admin
+OK Password required
pass 11111
+OK User Authenticated
list
0!0!6002!00:0B:53:12:00:6E!PSDv2g-12006E!0!0
1!0!6001!00:0B:53:12:00:8D!PSDv2g-12008D!0!0
2!0!6005!00:0B:53:12:01:0D!PSDv2g-12010D!0!0
3!0!6003!00:0B:53:12:02:3B!PSDv2g-12023B!0!0
4!0!6004!00:0B:53:12:00:0F!SEMSOY14!0!0
5!0!6006!00:0B:53:12:01:6C!PSDv2g-12016C!0!0
6!0!6008!00:0B:53:12:00:54!PSDv2g-120054!0!0
+OK
```

- 4) To see current Mode of Promi-MSP™, enter MODE command.

```
telnet 192.168.1.88
+Welcome to Promi-MSP
user admin
+OK Password required
pass 11111
+OK User Authenticated
list
0!0!6002!00:0B:53:12:00:6E!PSDv2g-12006E!0!0
1!0!6001!00:0B:53:12:00:8D!PSDv2g-12008D!0!0
2!0!6005!00:0B:53:12:01:0D!PSDv2g-12010D!0!0
3!0!6003!00:0B:53:12:02:3B!PSDv2g-12023B!0!0
4!0!6004!00:0B:53:12:00:0F!SEMSOY14!0!0
5!0!6006!00:0B:53:12:01:6C!PSDv2g-12016C!0!0
6!0!6008!00:0B:53:12:00:54!PSDv2g-120054!0!0
+OK
mode
+OK Server Mode
T
-ERR Unknown command
mode
+OK Server Mode
-
```

5) STAT command will show current status of Promi-MSP™.

```
telnet 192.168.1.88
+Welcome to Promi-MSP
user admin
+OK Password required
pass 11111
+OK User Authenticated
list
0!0!6002!00:0B:53:12:00:6E!PSDv2g-12006E!0!0
1!0!6001!00:0B:53:12:00:8D!PSDv2g-12008D!0!0
2!0!6005!00:0B:53:12:01:0D!PSDv2g-12010D!0!0
3!0!6003!00:0B:53:12:02:3B!PSDv2g-12023B!0!0
4!0!6004!00:0B:53:12:00:0F!SEMSOY14!0!0
5!0!6006!00:0B:53:12:01:6C!PSDv2g-12016C!0!0
6!0!6008!00:0B:53:12:00:54!PSDv2g-120054!0!0
+OK
mode
+OK Server Mode
T
-ERR Unknown command
mode
+OK Server Mode
stat
0!00:0B:53:20:00:63!85563!275054!0!0
+OK
-
```

[Full Commands Sets can be found from Chapter 3.1.1 to Chapter 3.1.4.](#)

3.1.1 Mode Configuration

Server/Client/Vertex Mode

MODE:

MODE [server|client|vertex]

Default MODE displays current MODE type.

1. Server Mode

- PORT, BIND, RELE

PORT

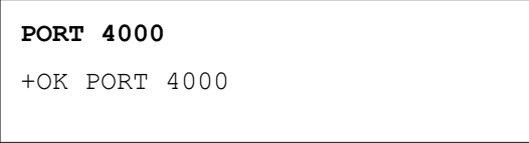
PORT [port no.]

port no : 1025 ~ 65534

In Server mode, Promi-MSP™ is Server; the Host PC is Client. Promi-MSP™, by default, assigns the number 5000 to the Host PC TCP port. The starting port number may be changed via the PORT command as explained below.

Default PORT displays current starting port number.

<Fig. 1.1> Starting PORT number entry



```
PORT 4000
+OK PORT 4000
```

BIND

BIND [bdaddr|name] [port no.]

Response: Index|Bluetooth device name|BD address|port no.

A static Port no. may be assigned to a designated Bluetooth device via BIND command. In Fig. 1.2 a Bluetooth device, designated IGSDv1b-8A, is assigned to Promi-MSP™ via port number 8000.

Entering a parameter in BIND command prompts a bound devices

list display.

```
BIND IGSDv1b-8A 8000  
+OK  
BIND  
0 | IGSDv1b-8A | | 8000  
+OK
```

<Fig 1.3> Bind port with user-friendly name entry for Promi-SD™

A BD address is optional to a user-friendly named.

For BD address, enter:

```
BIND 00:05:BD:03:80:00 8000  
+OK  
BIND  
0 | IGSDv1b-8A | | 8000  
+OK
```

<Fig 1.3> Bind port with BD address entry for Promi-SD™

RELE

RELE <port no.>

To release a bound port, enter RELE command.

```
RELE 8000  
+OK  
BIND  
+OK
```

<Fig 1.4> Releasing port 8000

2. Client Mode

SERV

SERV <aaaa.bbbb.cccc.dddd:port no.> [udp]

When Promi-MSP™ is in client mode, enter SERV command to register the IP address and port no. of Host PC to connect. Default SERV displays current Host server. In UDP option Promi-MSP™ and Host Server void TCP communicate.

Promi-MSP™ connects to Host server via TCP when Bluetooth devices are present. All Bluetooth device data sent to Promi-MSP™ is forwarded to the Host server via TCP.

Firstly, enter the server IP and port no., secondly, change MODE to Client as shown below.

```
SERV 192.168.1.58:3131
+OK
MODE CLIENT
+OK Client Mode
```

<Fig. 2.1> Entry changing MODE to Client

REPT

In Client mode, in the event of TCP connect failure users may configure Promi-MSP™/Host PC connect retry frequency. Frequency is in milliseconds. Entering 0 [zero] obtains retry abort.

PSIST

In Client mode, in the event of TCP disconnect, Promi-MSP™ automatically attempts Host PC reconnect when PSIST is set to ON.

3. Vertex Mode

VERTEX

VERTEX [port no.] [maximum no. of Host Servers]

Default VERTEX mode displays current status.

Promi-MSP™ Vertex Mode avails Wireless RS485 multidrop service when assigned at this site.

Port for use and maximum number of wireless multidrop Host Servers are assigned at this site

```
VERTEX  
+OK PORT 3000 MAX 1  
VERTEX 4500 2  
+OK PORT 4500 MAX 2  
MODE VERTEX  
+OK Vertex Mode
```

<Fig 3.1> VERTEX MODE

3.1.2 Control Commands

*Control Commands: [HELP/PASS/QUIT/LIST/CTRL/MAXDT/RSET/STAT/VER](#)

<p>HELP HELP command displays all control commands available.</p> <p>PASS PASS <admin-password> [new password] For entering or revising password.</p> <p>QUIT For disconnecting the control port.</p> <p>LIST Current Promi-MSP™ connected Bluetooth device list Response: Index No. of USB extension modules Port no. BDaddress DeviceName DataAmountTransmitted DataAmountReceived</p> <p>Ex) LIST 0 0 5000 00:0B:53:00:00:8A IGSDv1b 0 0</p> <p>STAT Displays current Bluetooth device status dev_id bdaddr tx_byte rx_byte tx_err rx_err</p>	<p>CTRL CTRL [port no.] Control port default value is '2525'. CTRL command assigns new control port number. Revised control port no. is applied after Promi-MSP™ restart. Default CTRL displays current control port number value.</p> <p>MAXDT MAXDT <1~35> Assigns maximum Bluetooth devices connectable to Promi-MSP™. Default value is 7. Each additional USB extension module equals 7 Promi-MSP™ connectable Bluetooth devices.</p> <p>RSET For initialization value Reset. Following RSET command Promi-MSP™ requires power off/on reboot. Ex)RSET +OK Turn Off and On AP.</p> <p>VER Displays Promi-MSP™ version</p>
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3.1.3 Frame Buffering Commands

*Frame Buffering Commands: **BUFF/HEAD/TAIL**

Fig 2.1 shows buffer frame assignment. HEAD command assigns frame header. For example, enter HEAD 0x01 when a frame heads with SOH(0x01). TAIL command assigns frame tail. If a frame tail is EOT(0x04), enter TAIL 0x04.

For variable data, like CRC information, wild-card “?” may be entered. For example, if a frame is configured as <SOH> ... <data> ... <CRC-16-high> <CRC-16-low> <EOT>, enter HEAD 0x01 and TAIL ?? 0x04.

Entering TAIL data activates the Frame Buffering function.

```
buff
+OK buffering off
head 0x01
+OK length 1
tail 0x04
```

<Fig. 2.1> Frame Buffering

As in <Fig 2.1>, users may configure the frames to buffer. HEAD command is to configure the beginning part of a frame. If a frame starts with SOH(0x01), configure HEAD 0x01.

TAIL command is to configure the ending part of a frame. If a frame ends with EOT(0x04), TAIL 0x04.

For variable data like CRC information, wild-card “?” can be used. For example, if a frame is configured as <SOH> ... <data> ... <CRC-16-high> <CRC-16-low> <EOT>, set HEAD 0x01 and TAIL ?? 0x04.

Users MUST enter TAIL information if users want to use Frame Buffering function.

3.1.4 Bluetooth Commands

***Bluetooth Commands: BTNAME/PIN/SECU/PAIR/LKEY/SCAN**

<p>BTNAME BTNAME <bluetooth name></p> <p>BTNAME command audits or revises Promi-MSP™ Device Names detectable by other Bluetooth devices.</p> <p>Default BTNAME displays current value.</p> <p>PIN PIN <pin code></p> <p>PIN command revises the Bluetooth PIN code. Max.: 16 bytes, ASCII code only.</p> <p>Ex) pin 0000 +OK</p> <p>SECU SECU <low high></p> <p>SECU command revises the security level. Low obtains no security; High obtains Enabling Security. Default SECU displays current security level.</p>	<p>PAIR PAIR <on off></p> <p>For Pairing mode enable/disable. In High security levels, when Pairing mode is set to off, only Bluetooth devices sharing Link Key (see LKEY command) connect with Promi-MSP™ (non-pairable mode)</p> <p>LKEY For auditing currently paired Bluetooth devices sharing Promi-MSP™. LinkKey.</p> <p>SCAN SCAN [inquiry] [page] [noscan]</p> <p>For Promi-MSP™ SCAN mode assignment. INQUIRY set to ON activates search mode. PAGE set to ON activates connect mode. Default SCAN displays current status. Ex) scan +OK inquiry page</p>
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3.2 Configuration via Web interface

Promi-MSP™ configuration access is available via Telnet or Web browser.

INITIUM provides Web user interface to expedite Promi-MSP™ configure/manage and current status check functions. To access Promi-MSP™ via Web interface, open user web browser and enter the Promi-MSP™ IP address in the address area.

Here is shown the 192.168.0.3 address assigned to Promi-MSP™ in the preceding configuration example.

Enter the default ID: admin, Password: 11111.

Basic Setting	
MSP name	Promi-MSP
Max DT	7
Discoverable	<input checked="" type="checkbox"/>
Connectable	<input checked="" type="checkbox"/>
Pairable	<input checked="" type="checkbox"/>
Control port	2525

Buffering	
Buffering	on <input checked="" type="radio"/> off <input type="radio"/>
Header	0x01 0x61 [] [] [] [] [] [] [] []
Trailer	0x62 ? 0x03 [] [] [] [] [] [] [] []

Security	
Pin code	1234
Security	Low

Apply Cancel

3.2.1 MSP Configuration

- **Basic Setting**

- (1) MSP name: For user Promi-MSP name revision
- (2) Max DT: For configuring the maximum number of Bluetooth devices connectable to Promi-MSP™. Default maximum is 7.

- (3) Discoverable: When checked, Promi-MSP™ is in INQUIRY mode, discovering in-range Bluetooth devices.
- (4) Connectable: When checked, Promi-MSP™ is in PAGE mode, connecting to Bluetooth devices.
- (5) Pairable: For Pairing mode enable/disable. When in need of high security, set Pairable option to UNCHECKED, enabling High Security. When this option is NOT checked, other Bluetooth devices, except those previously connected to Promi-MSP™, cannot connect to Promi-MSP™, even via PIN code.
- (6) Control port: For control port number entry. Default value is 2525.

- **Buffering**

(1) Buffering: For Buffering function enable/disable

*** Firstly set Header and Trailer, secondly turn on Buffering option.**

(2) Header: For buffer frame header entry. Enter alphabet or HexaCode;

(3) Trailer: For buffer frame trailer entry. Enter alphabet or HexaCode.

- **Security**

(1) Pin code: For Bluetooth Pin code entry

(2) Security: For security level entry

3.2.2 Mode Configuration

Promi-MSP™ accesses 3 types of operation modes. Select according to user requirement and applications.

The screenshot shows the Promi-MSP Mode Configuration interface. It features a sidebar on the left with navigation options: MSP Configuration, MODE Configuration, IP Assignment, Network Setting, Status, User/Pass, Restore Factory Setting, and About. The main content area is divided into three sections: Server MODE, Client MODE, and Vertex MODE. The Server MODE section includes a radio button for 'Server mode', a 'Base port' field set to 5000, a list of connected devices (currently showing 'IGSDv1b-AC 5003' with a 'List' link), and input fields for 'bdaddr/btname' and 'port.no.' with 'Add', 'Delete', and 'Clear' buttons. The Client MODE section includes a radio button for 'Client mode', 'IP' (192.168.1.30) and 'port' (4000) fields, and two checked checkboxes: 'Try to connect to server every 5 ms' and 're-connect automatically if link is lost.'. The Vertex MODE section includes a radio button for 'Vertex mode', a 'Vertex port' field set to 3000, and a checkbox for 'Allow TCP connections to vertex port.' which is currently unchecked. At the bottom of the configuration area are 'Apply' and 'Cancel' buttons.

- **Server Mode**

- (1) Base port: For Promi-MSP™ Server mode default port configuration
- (2) List: For assessment of currently connected Bluetooth devices
- (3) Bdaddr/btname: Enter address or preferred name of Bluetooth device/s to BIND.
- (4) Port no.: Enter a specific port no. to assign to the Bluetooth device selected in no. (3).
- (5) BIND buttons: Add/Delete/Clear

To delete more than one device from the bound list, press Shift or Ctrl key while using the computer mouse.

- **Client Mode**

In Client Mode, Promi-MSP™ operates as client; Host PC becomes a server.

(1) IP: For network Host Server IP address entry

(2) Port: For Server Host port no. entry

(3) Try to connect to server every ms:

When Promi-MSP™ fails to open a data channel connecting to Host, enter the connection retry frequency. Entering 0 [zero] obtains retry abort.

(4) re-connect automatically if link is lost.

For Host connect retry, if failed. Retry frequency is set in the preceding function.

- **Vertex Mode**

Promi-MSP™ Vertex Mode avails Wireless RS485 multidrop service when assigned at this site.

(1) Vertex port: For Promi-MSP™ Vertex port no. entry.

(2) Allow TCP connections to vertex port:

For entering the number of Hosts connectable to Promi-MSP™.

3.2.3 IP Assignment

The screenshot shows the 'IP Assign' configuration page. On the left is a navigation menu with the following items: MSP Configuration, MODE Configuration, IP Assignment (highlighted), Network Setting, Status, User/Pass, Restore Factory Setting, and About. The main content area is titled 'IP Assign' and contains the following fields:

Number of IP	25
Start IP	192 . 168 . 2 . 100
Netmask	255 . 255 . 255 . 0

At the bottom of the form are two buttons: 'Apply' and 'Cancel'.

Promi-MSP™ LAP service use renders assignable IP numbers for LAN access service Bluetooth devices configuration. Set IP address and subnet mask Start number; Promi-MSP™ automatically assigns IP to connected Bluetooth devices.

3.2.4 Network Setting

The screenshot shows the 'Network Setting' configuration page. On the left is a navigation menu with the following items: MSP Configuration, MODE Configuration, IP Assignment, Network Setting (highlighted), Status, User/Pass, Restore Factory Setting, and About. The main content area is titled 'Network Setting' and contains the following fields:

<input type="checkbox"/> use DHCP	
IP address	192 . 168 . 1 . 10
Network mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
DNS	168 . 126 . 63 . 1
	168 . 126 . 63 . 2
MAC	00 : 3f : 8e : 55 : 0c : a1
<input type="checkbox"/> use ADSL	
user	
pass	

At the bottom of the form are three buttons: 'Apply', 'Cancel', and 'Reboot'.

For user Promi-MSP™ network setting.

- (1) use DHCP: When checked, Promi-MSP™ receives IP address from DHCP server.

- (2) IP address/Network mask/Gateway/DNS: Enter appropriate data to assign static IP address for Promi-MSP™.
- (3) MAC: Displays MAC Promi-MSP™ address; non-user entry
- (4) [] use ADSL: Select this option when ADSL networking
- (5) User/Pass: Enter ID/password data for ADSL login.

3.2.5 Status

For user Promi-MSP™ connection status examination; connection data revises every 10 seconds. Clicking Reload button updates data.

Line	Dev	Name	BDaddr	Port	Rx	Tx
0	0	IGSDv1b-AC	00:0B:53:00:04:AC	5001	0	0
1	0	IGSDv1b-8A	00:0B:53:00:00:99	5002	0	0

Reload

3.2.6 Restore Factory Setting

To reset to Promi-MSP™ default factory settings, click the 'Restore' button.



4. Appendix

4.1 COM port redirection

***NOTE: INITIUM provides VirtualCOM™ cost-free bundled with Promi-MSP™. Serial/IP™ requires additional cost.**

4.1.1 Virtual COM

Serial applications, communicating with devices directly through serial lines, need to communicate with serial Servers through networks. The HelloDevice VirtualCOM program enables this necessity.

To support this environment, HelloDevice VirtualCOM must enable virtual COM port creation, connection of serial application to the virtual COM port, transmission of data from the serial application to the virtual COM port, transmission to the Serial Device Server through network and data reception from the Serial Device Server through network and virtual serial port.

Devices can be connected to the existing serial application with minimal, or no, application modifications.

If serial application is developed, considering a very short response time-out (e.g. 50ms) when communicating with devices directly through serial lines, the application should be modified reflecting the transfer time delay in the network environment (e.g. 500ms). Ethernet does not guarantee data transfer speed, though it is usually much faster than the serial-line.

Running

HelloDevice VirtualCOM program runs automatically at system start-up.

If system fails to run HelloDevice VirtualCOM at start-up or if the HelloDevice VirtualCOM is closed by selecting [Exit] menu at the tray, run the HelloDevice

VirtualCOM manually by clicking short-cut [HelloDevice VirtualCOM / Run HelloDevice VirtualCOM].



[Short-cut]

Run the HelloDevice VirtualCOM program so the serial application opens the virtual COM port and communicates with the serial server.

Closing

Click the right mouse button on the HelloDevice VirtualCOM tray icon in the tray at the task bar.

Select [Exit] from the tray icon menu; the HelloDevice VirtualCOM program will close.



[HelloDevice VirtualCOM Tray Icon Menu]

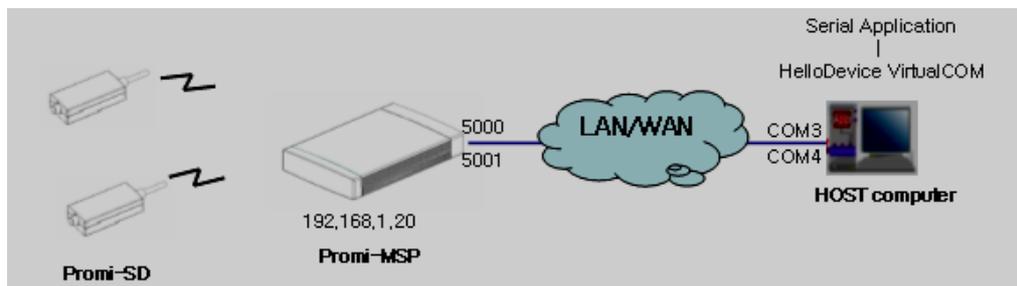


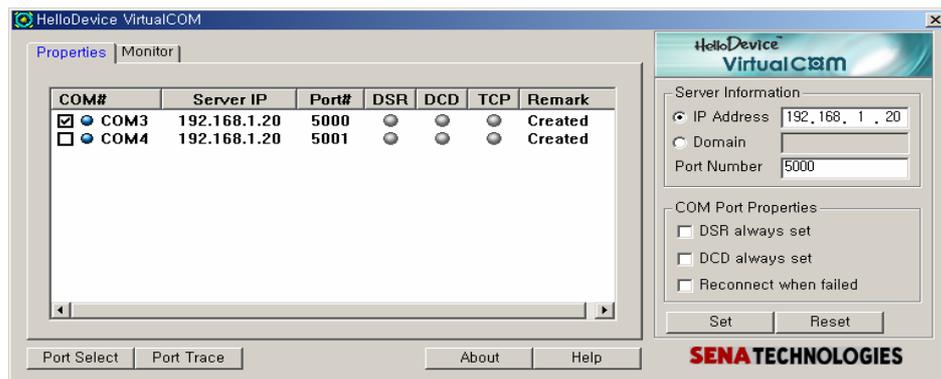
Fig. Relationship between VirtualCOM™ and Promi-MSP™

Activating HelloDevice VirtualCOM Window

If the HelloDevice VirtualCOM is closed, [activate it](#).

- COM port, displaying [Not Connected serial App.] in the [remark] column, can be deleted.
- COM port, displaying [Connected serial App.] at [remark] column, cannot be deleted; it is already connected to a serial application.

Click [OK] button. Accordingly, COM ports are selected or deleted.



[HelloDevice VirtualCOM window after selecting / deleting COM port]

Setting the Properties of Virtual COM Port

Check the COM port to set properties.

Select [IP Address] or [Domain] option.

Enter the IP address or domain name.

Set the COM Port Properties options. COM port displaying [Not Set Server] in the [Remark] column requires setting.

- [DSR always set] option: DSR pin is set as high during communication.
- [DCD always set] option: DCD pin is set as high during communication.
- [Reconnect when failed] option: In serial Server connection failure, the HelloDevice VirtualCOM attempts connection.

Click [Set] button to create the virtual COM port.

- Windows 9X series: [Reboot] dialog opens. Virtual COM port is created after system rebooting. When intending to create more than one port, it is better to click [Reboot Now] button at [Reboot] dialog on clicking [Set] button after setting the last virtual COM port to create. This helps avoid rebooting when the virtual COM port is set.

- Window NT series: By clicking [Set] button, the virtual COM port is created.
- To change properties of the virtual COM port, set properties and click the [Set] button. Properties are set without rebooting Windows 9X or Windows NT series.

Monitoring Virtual COM Port

[TD] indicates that the serial application is sending data to the serial server.

[RD] indicates that the serial server is sending data to the serial application.

The [DTR][DSR][RTS][CTS][DCD] and [RI] column displays the status of each pin.

[Connected] at [Status] column indicates that the network is connected.

[Disconnected] at [Status] column indicates that the network is disconnected.

Tracing Virtual COM Port

Select a COM port to trace.

Open [HelloDevice VirtualCOM Tracer] window by clicking [Port Trace] button from the HelloDevice VirtualCOM window.

***CAUTION**

VirtualCOM operates in background mode. Operation status may be audited from the Windows tray. EXIT VirtualCOM during Serial Com. Program operation may damage the Host system. First close the serial communication program when desiring VirtualCOM EXIT.

4.1.2 Serial/IP

Serial/IP is a serial port emulator enabling unmodified user TCP/IP socket communications Host Serial application program use.

Users may download a 30day-trial version from <http://www.tacticalsoftware.com> after filling out simple forms for testing. INITIUM provides licensed Serial/IP programs to customers purchasing Promi-MSP™. The trial version Serial/IP does not require Serial Number for installation.

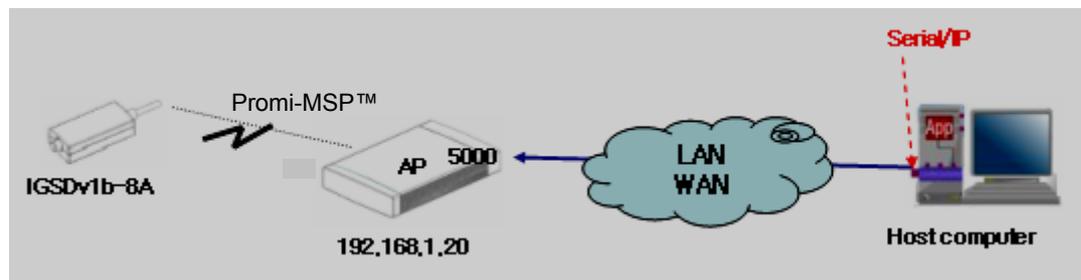


Fig. 4.1. Relationship between Serial/IP and Promi-MSP™

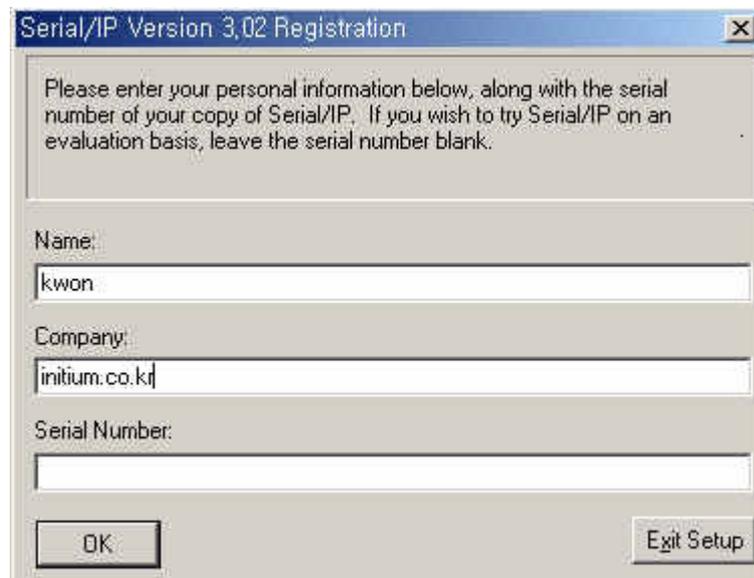


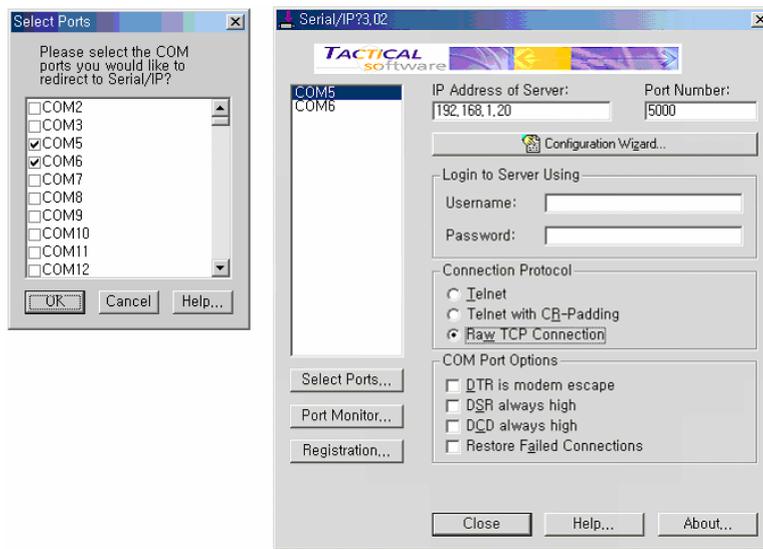
Fig. 4.2. Installation of Serial/IP

- (1) Right mouse clicking the Serial/IP icon on the right side of the Windows Tray activates "Configure...", "Trace Window...", and "Port Monitor..." menu display.



Fig. 4.3. Windows Tray after installation of Serial/IP

- (2) Click “Configure...” menu, and select the Virtual COM port to redirect to Serial/IP as in the left picture in Fig. 4.4 below. Enter IP address and Port number as in the right picture in Fig. 4.4 below.



- (3) Click “Configuration Wizard” button to connect to Promi-MSP™.
- (4) Promi-MSP™ is ready for use without revising Serial Port Applications.

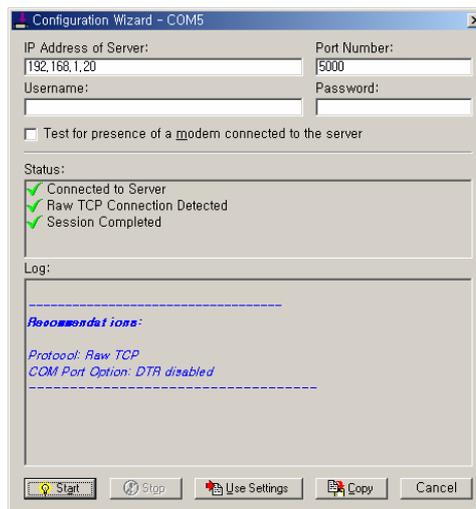


Fig. 4.5. Connection Configuration

4.2 Discovery Protocol

UDP Broadcast on 9097 port

Magic Number (4 bytes)

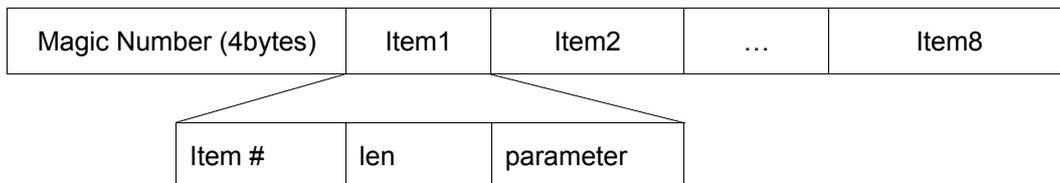
Searching

FA	05	21	EA
----	----	----	----

Response

FA	05	21	EF
----	----	----	----

Format



Item list

Item #	length	Parameter	Example
0x01	Var.	Product Name	PROMI-MSP
0x02	Var.	Model Code	101
0x03	Var.	Product Serial Number	MSP030403287
0x04	4	IP Address	C0 A8 01 0A
0x05	2	Control port (big endian)	09 DD
0x06	6	MAC address	00 0B 52 10 00 36
0x07	Var.	Bluetooth Friendly Name	Promi-MSP
0x08	6	Bluetooth Address	21 04 00 52 0B 00

<An Example>

	0	8	16	24	32
	Magic1 (=FAh)	Magic2 (=05h)	Magic3 (=21h)	Magic4 (=EFh)	
	Item1(=01h)	Len1(=09h)	P	R	
	O	M	I	-	
	M	S	P	Item2(=02h)	
	Len2(=03h)	1	0	1	
	Item3(=03h)	Len3(=0Ch)	M	S	
	P	0	3	0	
	4	0	3	2	
	8	7	Item4(=04h)	Len4(=04h)	
Version 1.3	C0h	A8h	01h	0Ah	
	...				