

# **FB100AS**

## **Quick Guide**

# Features of FB100AS



## \* Before Getting Started...

- ◆ **Bluetooth is an international standard specification for near-distance /low-electricity/ high-reliability/low-price wireless communication**
- ◆ **Bluetooth uses the internationally permitted 2.4GHz ISM band(Industrial,Scientific,Medical).**
- ◆ **Bluetooth uses a 1Mbps ~ 3Mbps wireless transmission speed**
- ◆ **Bluetooth consists of Master/Slave configuration as the relation between Master and Servant and one bluetooth device can be connected to Maximum 7 devices on the basis of ACL.**  
**(ACL : Asynchronous Connectionless)**
- ◆ **Bluetooth guarantees a stable wireless connection even in much noise environment by using Frequency Hopping Method.**

## \* FB100AS Feature



< FB100AS is >

- Bluetooth Specification 2.0 Support
- UART communication speed control possible (2400bps ~ 230400bps) by using Dip Switch
- Master/Slave setup possible by using Dip Switch
- Supports AT command and AT command based control available
- Connects smoothly with Bluetooth PDA, Bluetooth USB Dongle etc
- Stable data transmission & reception
- Maximum 1:7 communication available

< “FB100AS Quick Guide”...>

1. Consists of eight **chapters in total**.
2. Even though it is divided into eight chapters, **in some chapters it uses the setup values that were used in previous chapters**.
3. In other words, the progressive method of this “FB100AS Quick Guide” **guides the user in order from the start**.
4. Thus, if you read this guide for the first time, you need to proceed chapter by chapter in order to correctly understand its meaning.
5. It is better for a user to understand the overall functions of the FB100AS first and migrate to subsequent chapters to refer to the functions necessary for each chapter.

**< Index >**

**[0] Product Content & Installation**

**[1] Hyper Terminal Setup**

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**[6] Disconnect**

**[7] Re-connect**

**[0] Product Content  
&  
Installation**

# 1. FB100AS Content

(1) Product Content in One Set of FB100AS - **FB100AS-Type** (1 Set)



< Product Content in One Set >

FB100AS

Antenna (4 dBi Gain)

USB Power Cable

## (2) Configuration Using 2 Sets

- “FB100AS Quick Guide” uses two devices for explanation purpose.



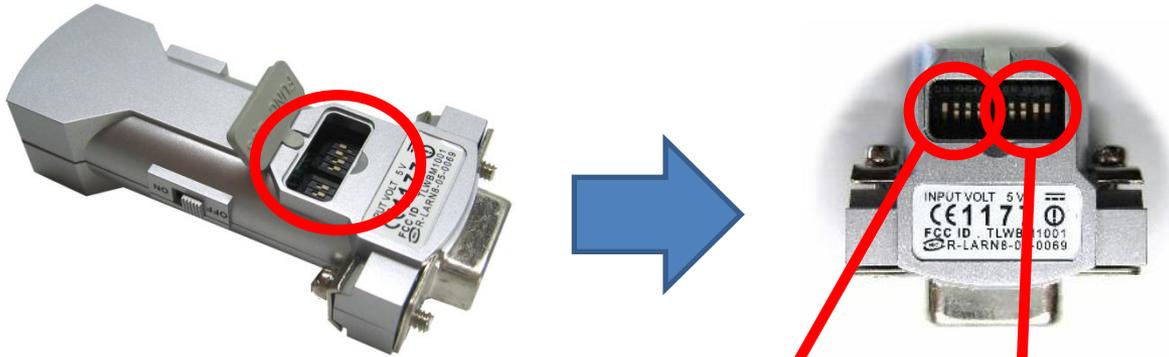
1 set for master setup



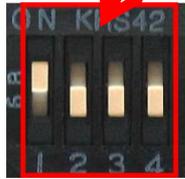
1 set for Slave setup

## 2. **Checking Items** Before FB100AS Operation

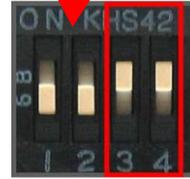
### (1) Dip Switch Setup



- Dip Switch Number#1 ON. (Basic Setup Agenda)
- Dip Switch Number#2,3,4 OFF.



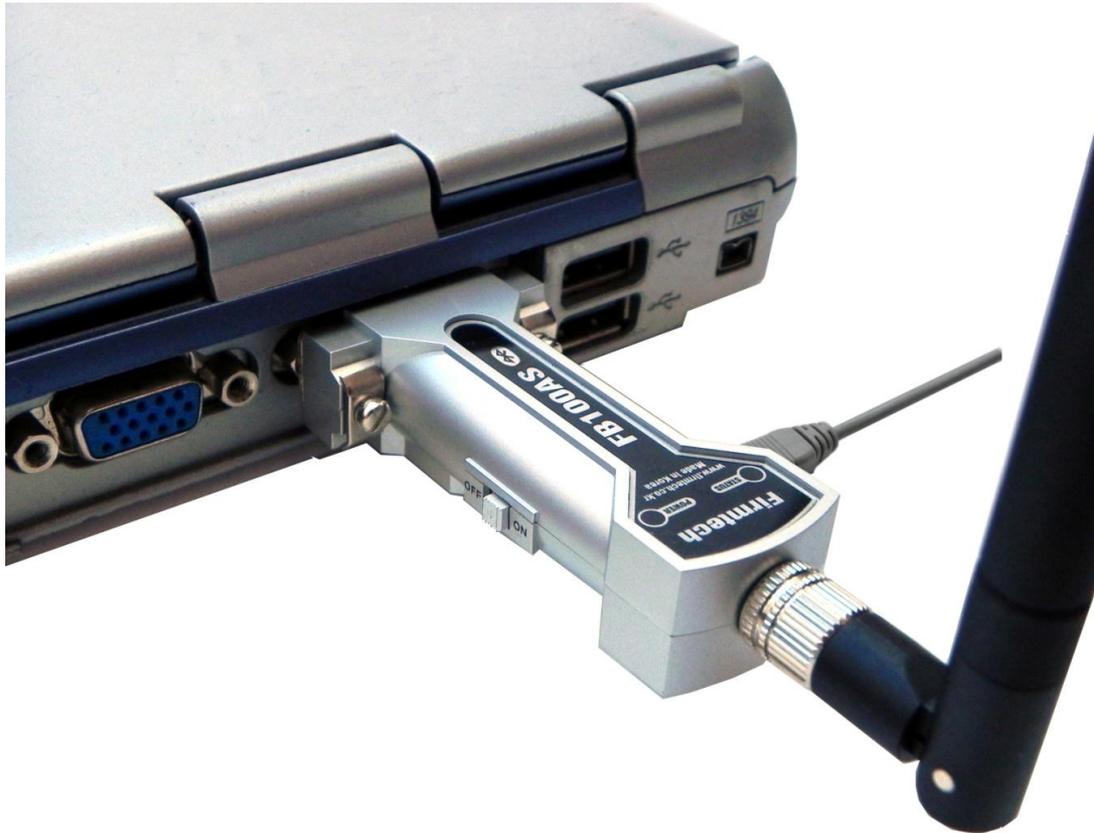
- Dip Switch Number#3,4 ON. (Basic Setup Agenda)
- UART communication speed setup to 9600bps.



**For even more details of Dip Switch, please refer to user manual.**

### 3. Product Installation

(1) FB100AS + Antenna + USB Power Cable + PC



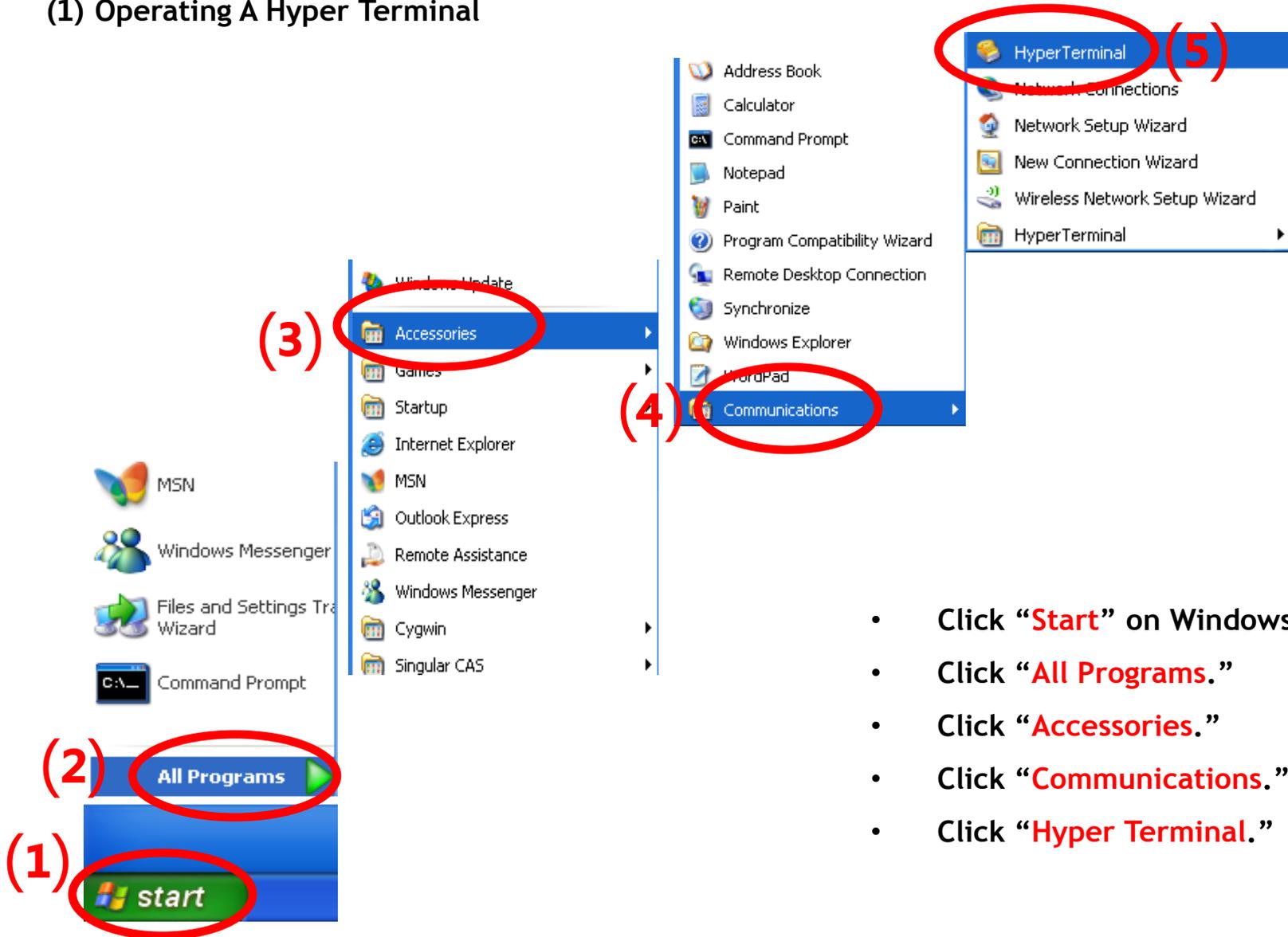
- Connect two FB100AS to a PC.
- In this "FB100AS Quick Guide" two FB100AS are connected to one PC for convenient explanation.

# [1] Setup of Hyper Terminal

Checking received data & operation status by using hyper terminals.

# 1. Serial Communication Program(Hyper Terminal) Execution & Setup

## (1) Operating A Hyper Terminal



- Click **“Start”** on Windows Start menu.
- Click **“All Programs.”**
- Click **“Accessories.”**
- Click **“Communications.”**
- Click **“Hyper Terminal.”**

## (2) Setup of hyper terminal - Name setting



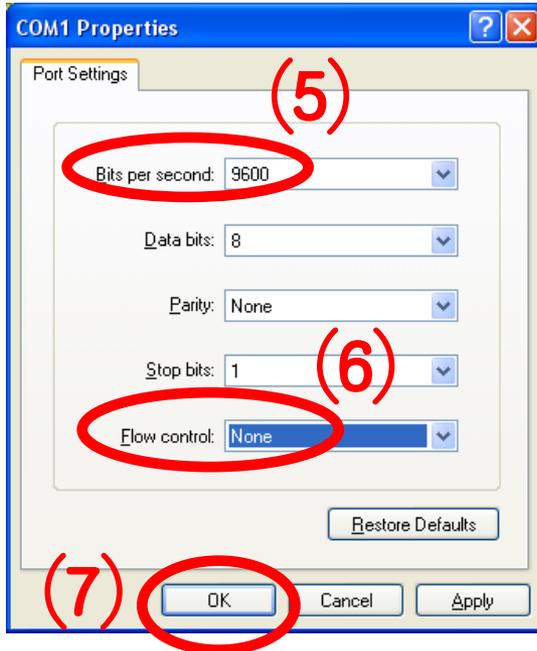
- Set up the hyper terminal connected to FB100AS to be set up to **Master**.
- Enter “Master” as a name.
- Click “OK” and proceed to the next step.

## (3) Setup of hyper terminal - Port setting



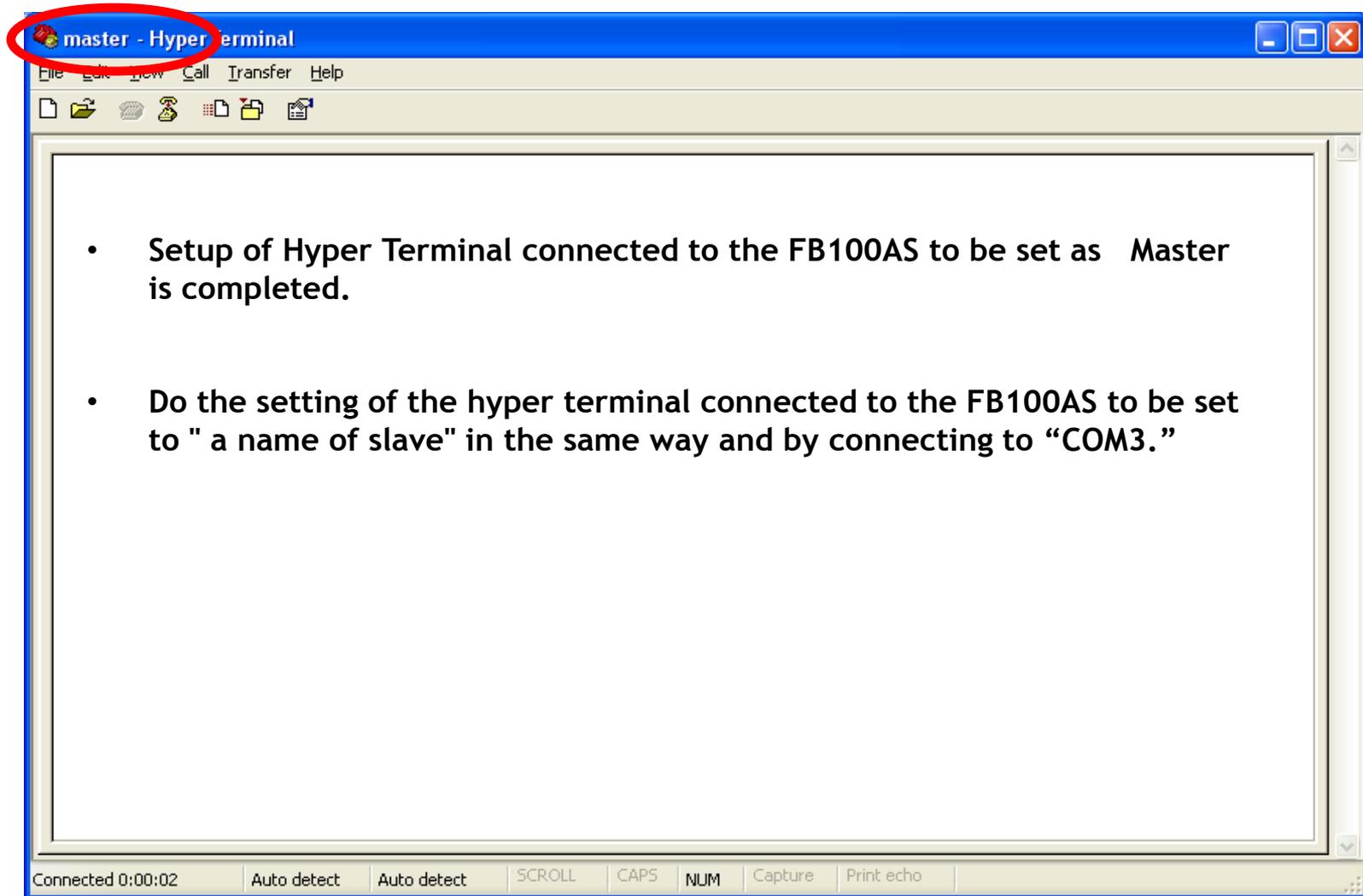
- Select a "port" to be connected to FB100AS set up to **Master**. (Assumed here as ‘COM1’)
- Click “OK” and proceed to the next step.

#### (4) Setup of Hyper Terminal – Communication Speed, etc.



- Select “9600” for “Bits per Second(B)”.
- Select “None” for “Flow Control(F)”
- No change for other items.
- Click “OK.”

## (5) Setup of Hyper Terminal- Finish



**[2] Operating FB100AS**

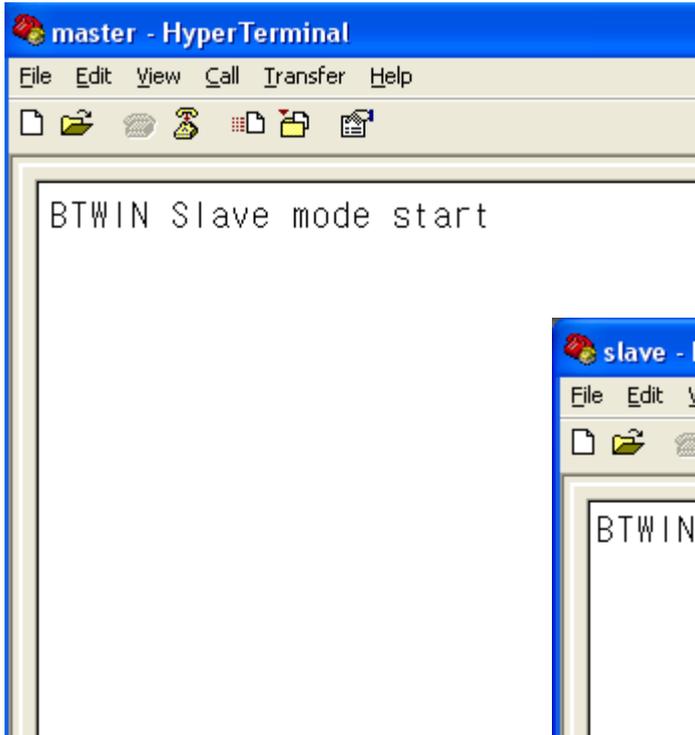
# 1. Operating the FB100AS

## (1) FB100AS Power-Supply ON

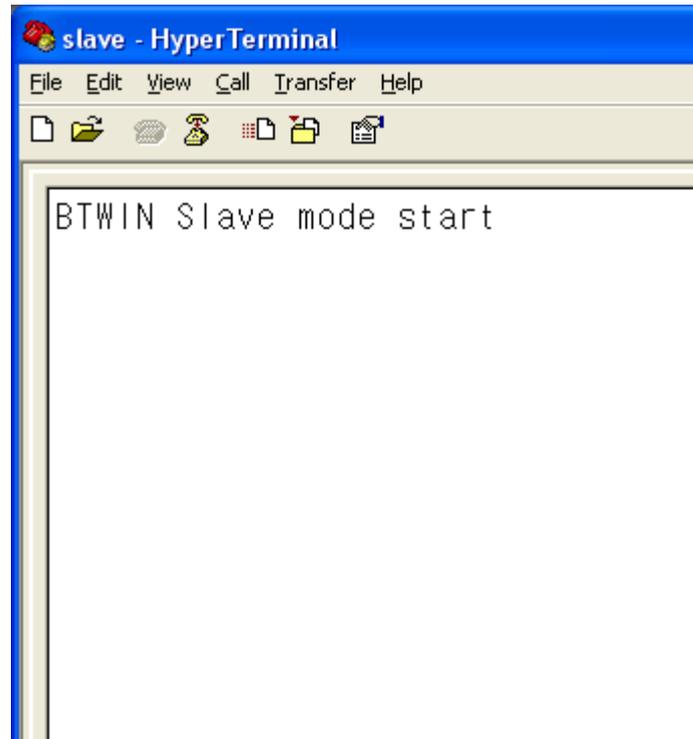


- Press ON of Power-Switch

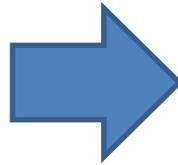
## (2) Hyper Terminal Output Screen



- Turn on the power switches of all two FB100AS.
- You can see “BTWIN Slave mode start” displayed on the screen.
- Turn off the power switches of all devices.



\* FB100AS LED



- Status LED is displayed a green light if FB100AS is on Operation Mode(Operation).



- Status LED is displayed a red light if FB100AS is on configuration Mode(Setup).



- Power LED is displayed a red light if FB100AS power supply is ON.

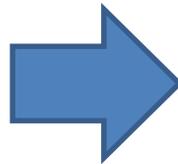


**\* FB100AS Restart**



- **FB100AS should be restarted when FB100AS does not operate normally nor any words is displayed on hyper terminal.**
- **Restart the FB100AS by cycle-power(off and then on) of FB100AS power switch.**
- **Confirm communication-speed & other connection items etc.**

**\*POWER LED & Status LED Condition Operated Normally**



- Status LED is blink a green.



- Power LED is ON a red.

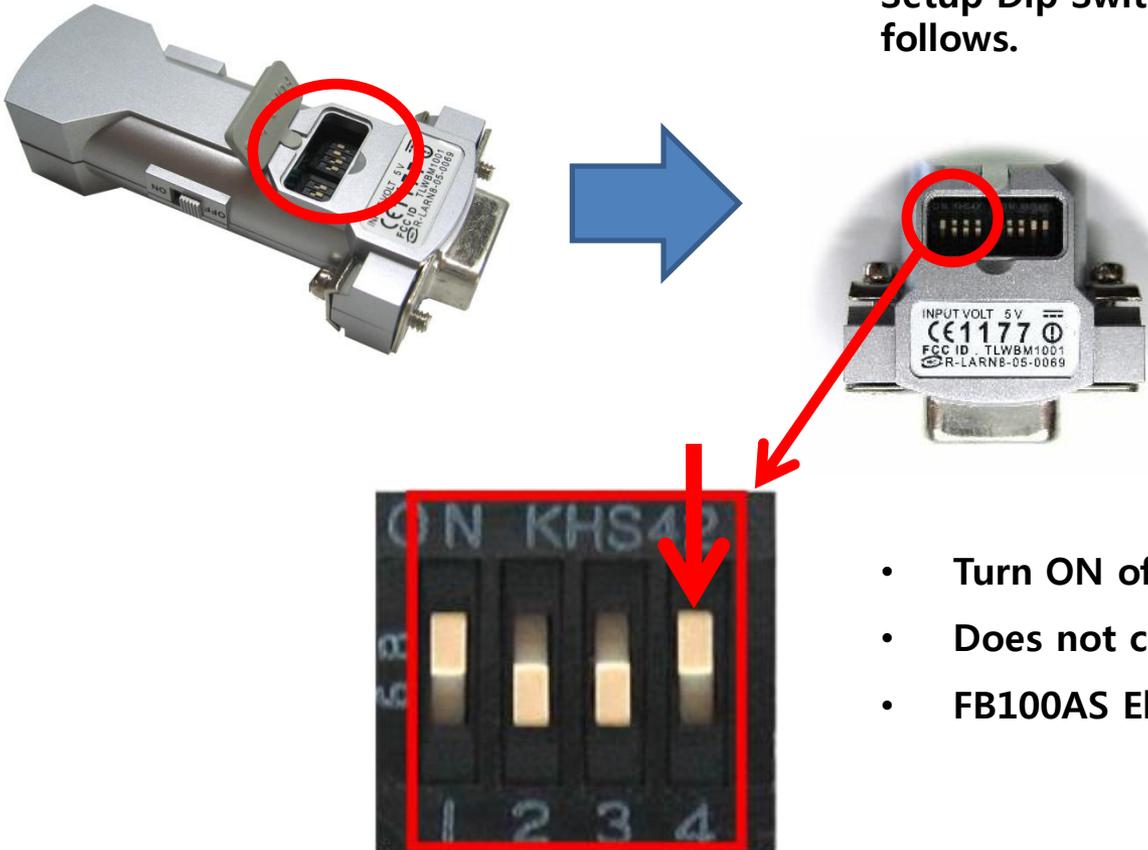


\* Factory Reset Progress – Environment Setup Entry by using Dip Switch

Instructions Quick Guide is based on factory reset value.

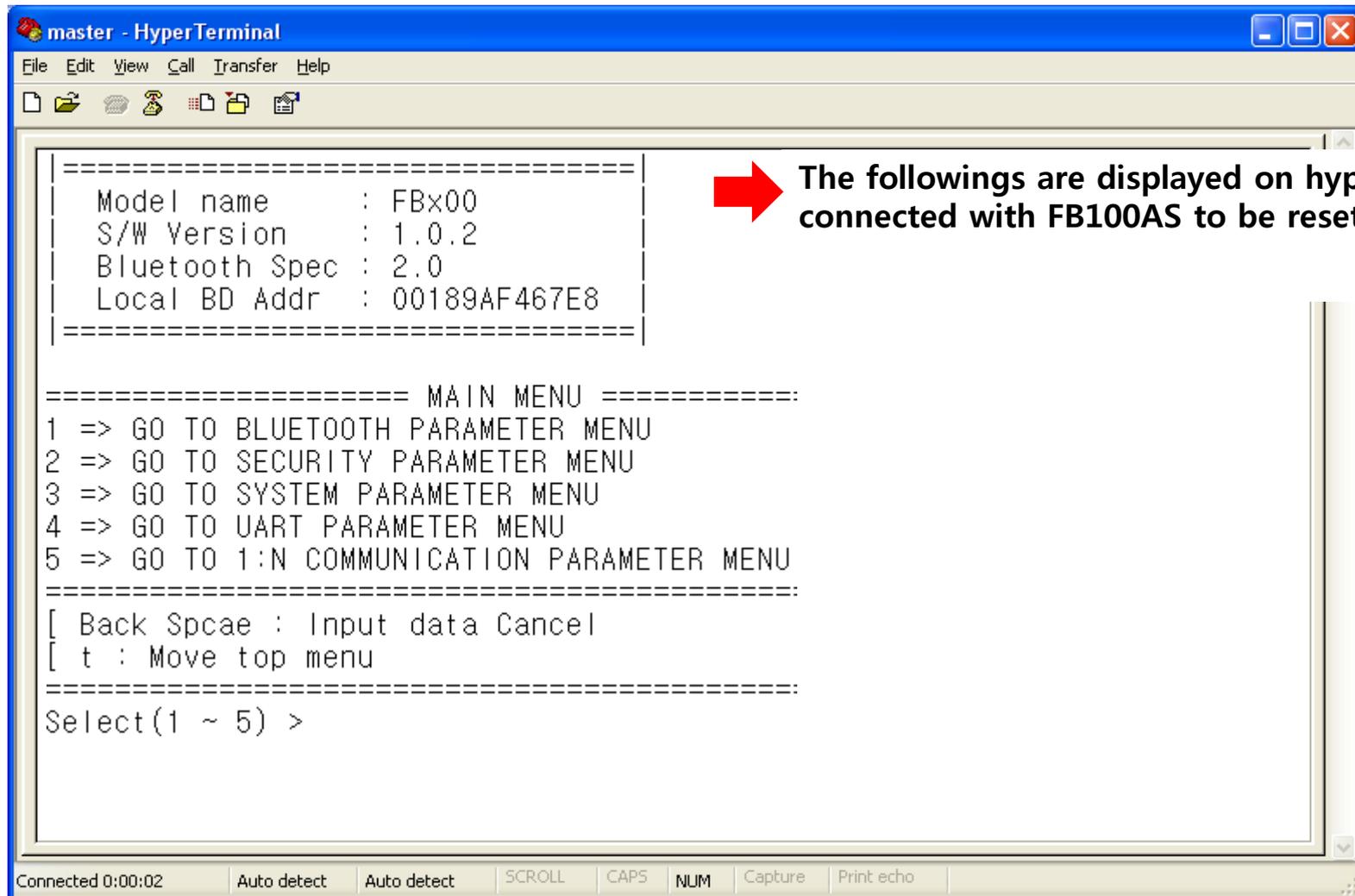
If it is already used or in customized setting, go to factory reset process as follows.

Setup Dip Switch of FB100AS **to be reset** as follows.



- Turn ON of Dip Switch#4.
- Does not care for other Dip Switch condition.
- FB100AS Electricity Power ON

## \* Factory Reset Progress – Environment Setup Menu Confirmation



```
master - HyperTerminal
File Edit View Call Transfer Help
[Icons]

=====
| Model name       : FBx00
| S/W Version     : 1.0.2
| Bluetooth Spec  : 2.0
| Local BD Addr   : 00189AF467E8
|=====

===== MAIN MENU =====
1 => GO TO BLUETOOTH PARAMETER MENU
2 => GO TO SECURITY PARAMETER MENU
3 => GO TO SYSTEM PARAMETER MENU
4 => GO TO UART PARAMETER MENU
5 => GO TO 1:N COMMUNICATION PARAMETER MENU
=====

[ Back Spcae : Input data Cancel
[ t : Move top menu
=====

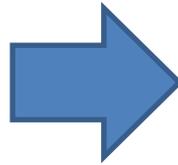
Select(1 ~ 5) >

Connected 0:00:02  Auto detect  Auto detect  SCROLL  CAPS  NUM  Capture  Print echo
```



The followings are displayed on hyper terminal connected with FB100AS to be reset.

\* Power LED & Status LED Condition Entered into Environment Setup Mode



- Status LED is blink a red.



- Power LED is ON a red.



## \* Factory Reset Progress – Reset Progress by Reset Switch

Progress the followings after an environment setup message output is made on the hyper terminal connected with FB100AS **to be reset**.

Confirm "RESET" of a side "FB100AS".



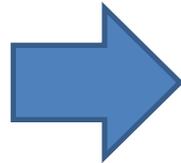
```
master - HyperTerminal
File Edit View Call Transfer Help
[Icons]
-----
Model name   : FBx00
S/W Version  : 1.0.2
Bluetooth Spec : 2.0
Local BD Addr : 00189AF467E8
-----
===== MAIN MENU =====
1 => GO TO BLUETOOTH PARAMETER MENU
2 => GO TO SECURITY PARAMETER MENU
3 => GO TO SYSTEM PARAMETER MENU
4 => GO TO UART PARAMETER MENU
5 => GO TO 1:N COMMUNICATION PARAMETER MENU
-----
[ Back Spcae : Input data Cancel
[ t : Move top menu
-----
Select(1 ~ 5) >
```

- Press a Reset Switch in hole by using tweezers.
- FB100AS was reset if environment setup message output is made from hyper terminal.
- **Reset Switch is operated only on environment setup-condition.**

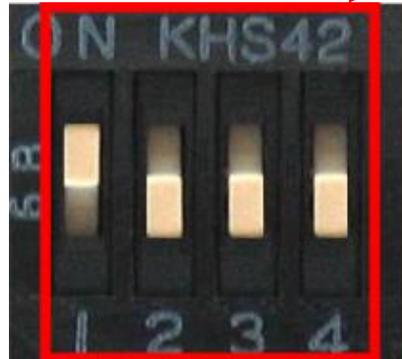
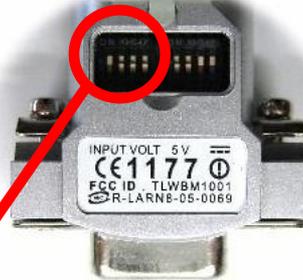
# **[3] Master & Slave Setup**

# 1. Slave Setup Progress By using Dip Switch

## (1) FB100AS **slave** Setup



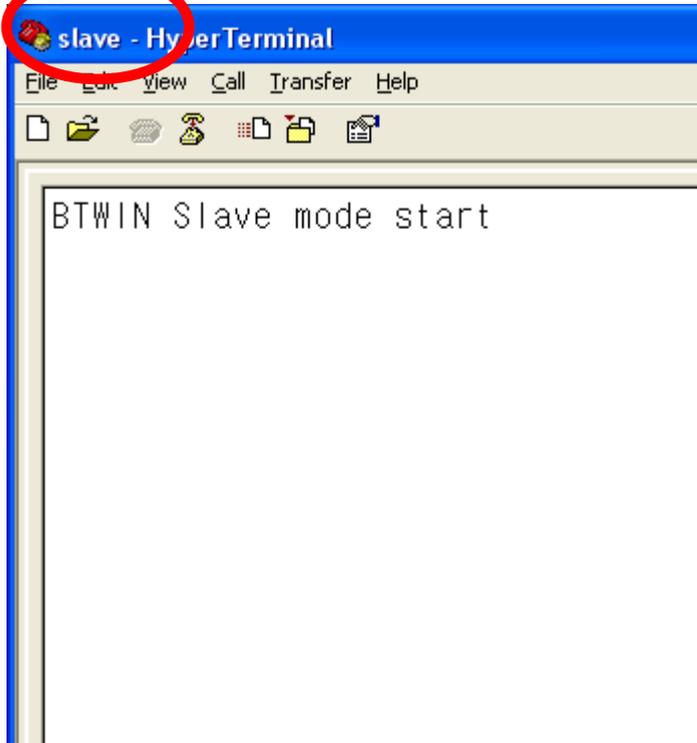
Dip Switch setup to be slave of FB200AS is setup as follows.



- Press ON of Dip Switch Number#1. (Basic setup agendas).
- Press OFF of Dip Switch Number#2,3,4.
- FB100AS electricity power ON.

In case of factory reset value, slave is basically setup(No need to be changed here).

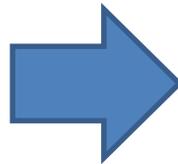
## (2) Hyper Terminal Confirmation



The following outputs are made from the hyper terminal connected to the FB100AS **set up to slave**.

- “BTWIN Slave mode start” output is made from the FB100AS.
- Slave setup is finished.
- **In case of factory reset value, slave is basically setup(No need to be changed here).**
- **FB100AS Slave scans at the same time of operating and can be connected with master.**
- **Connected immediately if device of FB100AS located close is operated.**

\* LED Condition Operated By Slave



- Status LED is blink a green.

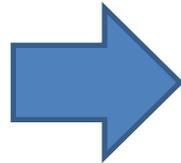


- Power LED is ON a red.

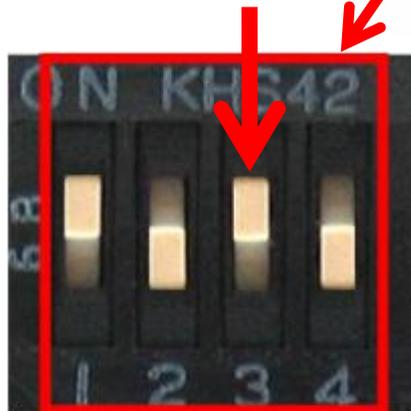


## 2. Master Setup Progress By using Dip Switch

### (1) FB100AS **master** Setup

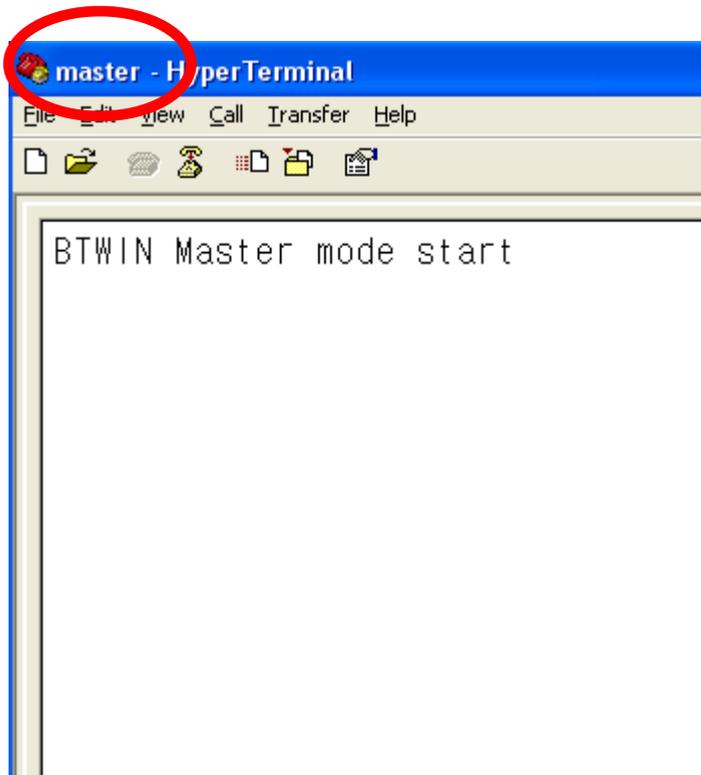


Dip Switch **setup to be master** of FB100AS is setup as follows.



- Press ON of Dip Switch Number#1.(Basic setup agendas).
- Press ON of Dip Switch Number#3.
- Press OFF of Dip Switch Number#2,4.
- FB100AS electricity power ON.

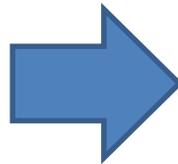
## (2) Hyper Terminal Confirmation



The following outputs are made from the hyper terminal connected to the FB100AS **set up to master.**

- "BTWIN Slave mode start" output is made from the FB100AS.
- **Master** setup is finished.
- **FB100AS Master is being connected at the same time of operating.**
- **Connected immediately if device of FB100AS located close is operated.**

\* Status LED Condition Operated By Master



- Status LED is blink a green.



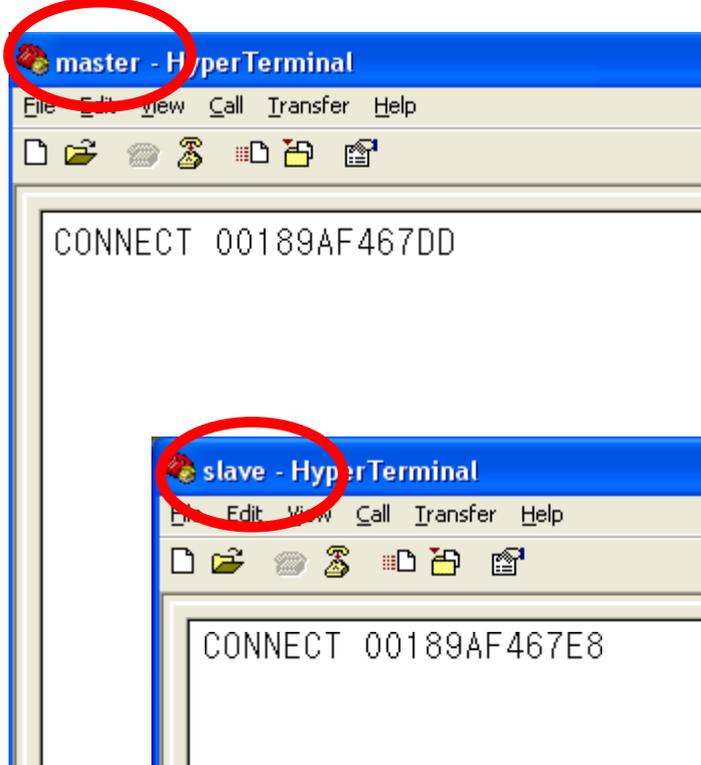
- Power LED is ON a red.



**[4] Connect**

# 1. Auto Connect

## (1) Master & Slave Auto Connect



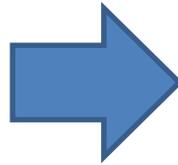
Enter the following on the hyper terminal connected to the FB100AS **set up to master.**

- "CONNECT 00189AF467DD" output is made from the FB100AS.
- Bluetooth Address displays the connection with "00189AF467DD"device.

Enter the following on the hyper terminal connected to the FB100AS **set up to slave.**

- "CONNECT 00189AF467E8" output is made from the FB100AS.
- Bluetooth Address displays the connection with "00189AF467E8"device.

\* Status LED Condition Connected



- Status LED is ON a green.



- Power LED is ON a red.

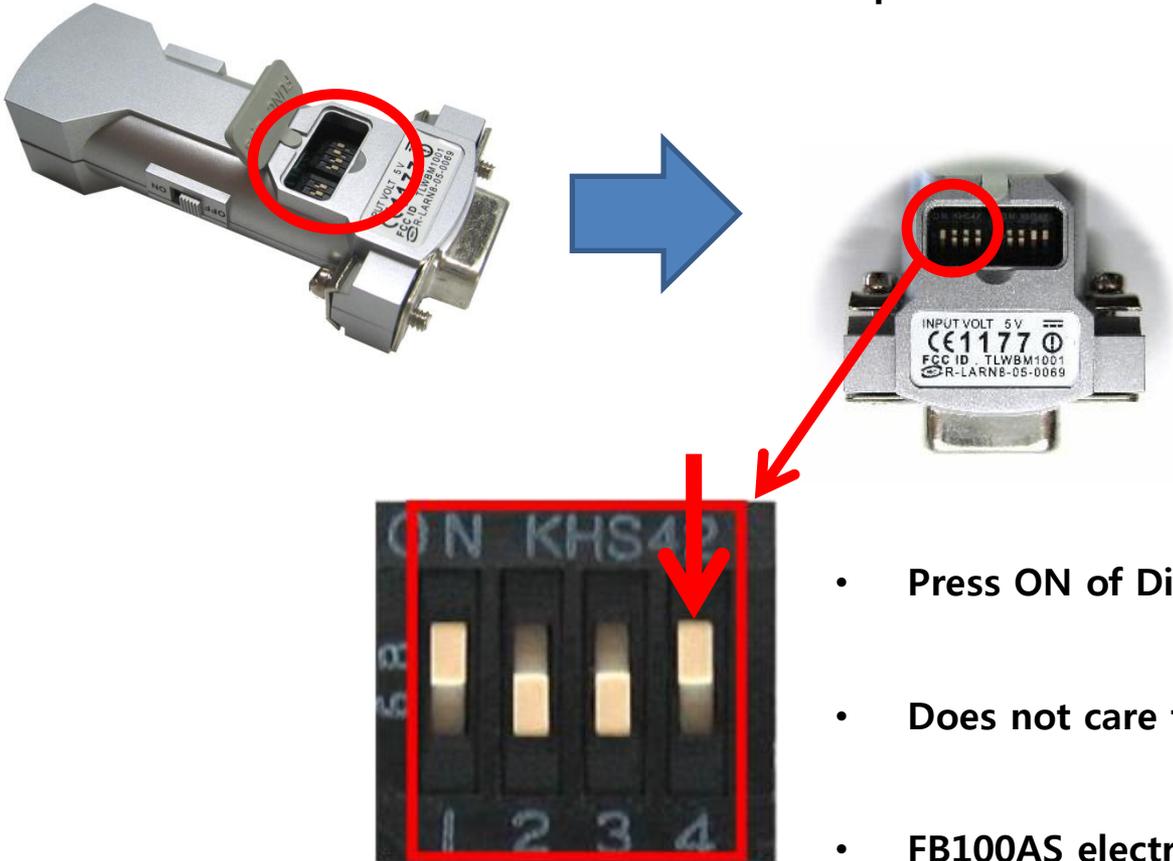


## \* Factory Reset

- Should be connected automatically if FB100AS is setup into Master & Slave
- FB100AS is connected with the first connected device. That is, is connected only with Master and Slave device trying to be connected previously.
- Should reset FB100AS if Master or Slave is connected with new device again.
- Should be progressed again from the start after all FB100AS reset, if the connection of FB100AS Master & Slave is not progressed for a certain time.
- In case of many surrounding devices of Bluetooth, FB100AS Master devices can take many times to be connected with FB100AS Slave. In this case, the connection had better be progressed after OFF of other Bluetooth device power-supply except for FB100AS Slave.

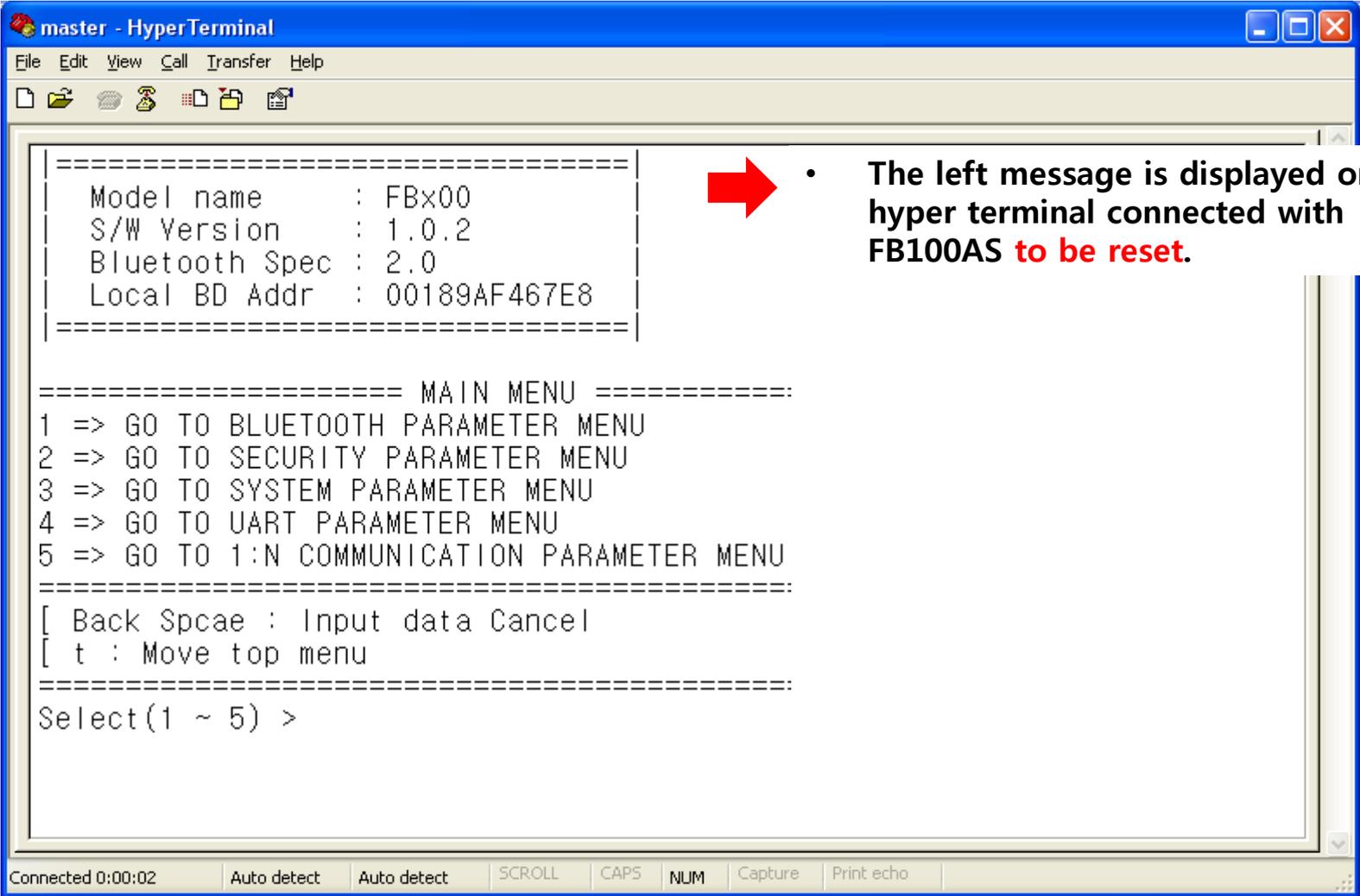
**\* Environment Setup Entry by using Dip Switch**

Dip Switch **to be reset** of FB100AS is setup as follows.



- Press ON of Dip Switch Number#4.
- Does not care for other Dip Switch Condition.
- FB100AS electricity power ON.

## \* Environment Setup Menu Confirmation



The screenshot shows a HyperTerminal window titled "master - HyperTerminal". The window contains the following text:

```
=====
| Model name       : FBx00
| S/W Version     : 1.0.2
| Bluetooth Spec  : 2.0
| Local BD Addr   : 00189AF467E8
|=====

===== MAIN MENU =====
1 => GO TO BLUETOOTH PARAMETER MENU
2 => GO TO SECURITY PARAMETER MENU
3 => GO TO SYSTEM PARAMETER MENU
4 => GO TO UART PARAMETER MENU
5 => GO TO 1:N COMMUNICATION PARAMETER MENU
=====

[ Back Spcae : Input data Cancel
[ t : Move top menu
=====

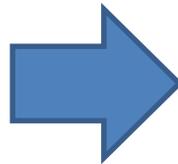
Select(1 ~ 5) >
```

A red arrow points from the first menu item to the explanatory text on the right.

- The left message is displayed on hyper terminal connected with FB100AS **to be reset**.

At the bottom of the window, there is a status bar with the following information: Connected 0:00:02, Auto detect, Auto detect, SCROLL, CAPS, NUM, Capture, Print echo.

\* LED Condition Entried by Environment Setup



- Status LED is blink a red.



- Power LED is ON a red.



## \* Reset Progress by Reset Switch



Progress the followings after an environment setup message output is made on the hyper terminal connected with FB100AS **to be reset.**

Confirm "RESET" of a side "FB100AS".



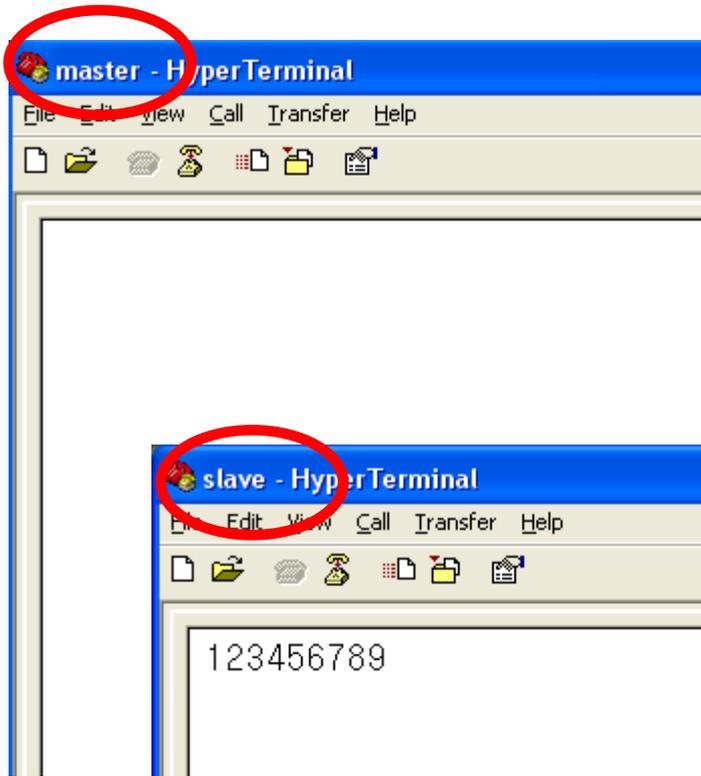
```
master - HyperTerminal
File Edit View Call Transfer Help
[Icons]
-----
Model name   : FBx00
S/W Version  : 1.0.2
Bluetooth Spec : 2.0
Local BD Addr : 00189AF467E8
-----
===== MAIN MENU =====
1 => GO TO BLUETOOTH PARAMETER MENU
2 => GO TO SECURITY PARAMETER MENU
3 => GO TO SYSTEM PARAMETER MENU
4 => GO TO UART PARAMETER MENU
5 => GO TO 1:N COMMUNICATION PARAMETER MENU
-----
[ Back Spcae : Input data Cancel
[ t : Move top menu
-----
Select(1 ~ 5) >
```

- Press a Reset Switch in hole by using tweezers.
- FB100AS was reset if environment setup message output is made from hyper terminal.
- **Reset Switch is operated only on environment setup-condition.**

# **[5] Serial Data Transmission**

# 1. Serial Data Transmission

## (2) Serial Data Transmission From Master=> Received By slave



Enter the followings on the hyper terminal connected to FB100AS **setup to be master**.

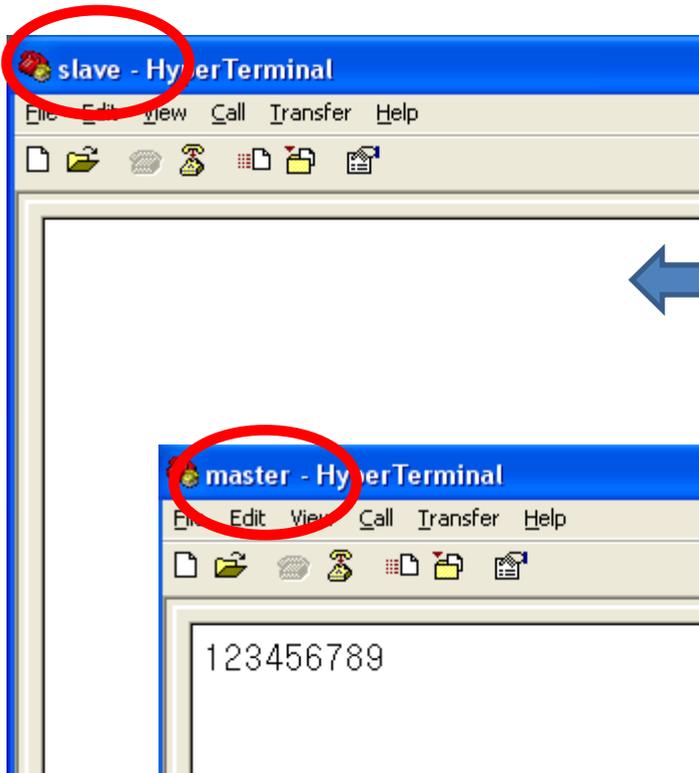
- After entering "123456789" on the hyper-terminal, press enter-key.

- **Entered data is not shown on the hyper-terminal.**

Displays the followings on the hyper terminal connected to FB100AS **setup to be slave**.

- "123456789" is shown on the hyper terminal.

## (2) Serial Data Transmission From slave=> Received By master



Enter the followings on the hyper terminal connected to FB100AS **setup to be slave.**

- After entering "123456789" on the hyper-terminal, press enter-key.
- **Entered data is not shown on the hyper-terminal.**

Displays the followings on the hyper terminal connected to FB100AS **setup to be master.**

- "123456789" is shown on the hyper terminal.

**[6] Disconnect**

## (1) Disconnect Method

- FB100AS Master & Slave are disconnected automatically after a certain time if one side of FB100AS electricity power is OFF.



**[7] Re-connect**

## (1) Reconnect Method

- Reconnected automatically again if electricity power of FB100AS device is ON ,in case of previously connected FB100AS Master & Slave.



**For even more details, please refer to FB100AS user manual.**