User Manual

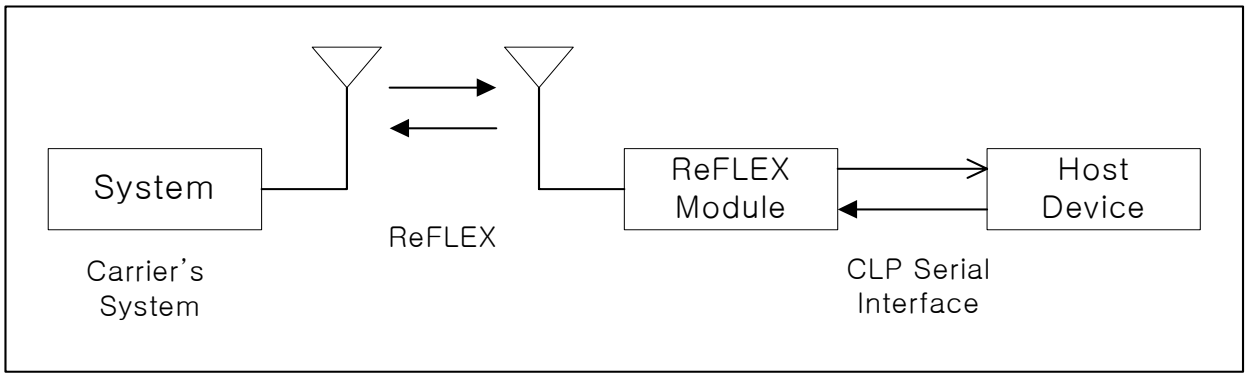
The ReFLEX Module

(ATM 300)

Content

1. Description

- System Block Diagram



< Figure 1> ReFLEX system Block Diagram

- ReFLEX : The communication protocol between Carrier's system and ReFLEX device or module through ReFLEX network.

- CLP Serial Interface : It is communication Linking Protocol (CLP), it enable the wire communication between ReFLEx device or module and Host device through the Serial Interface.

● Message receiving and sending

The Message receiving and sending is possible by pc program (HSM8800 v1.3) which support the CLP serial interface even thought there is no Host device.

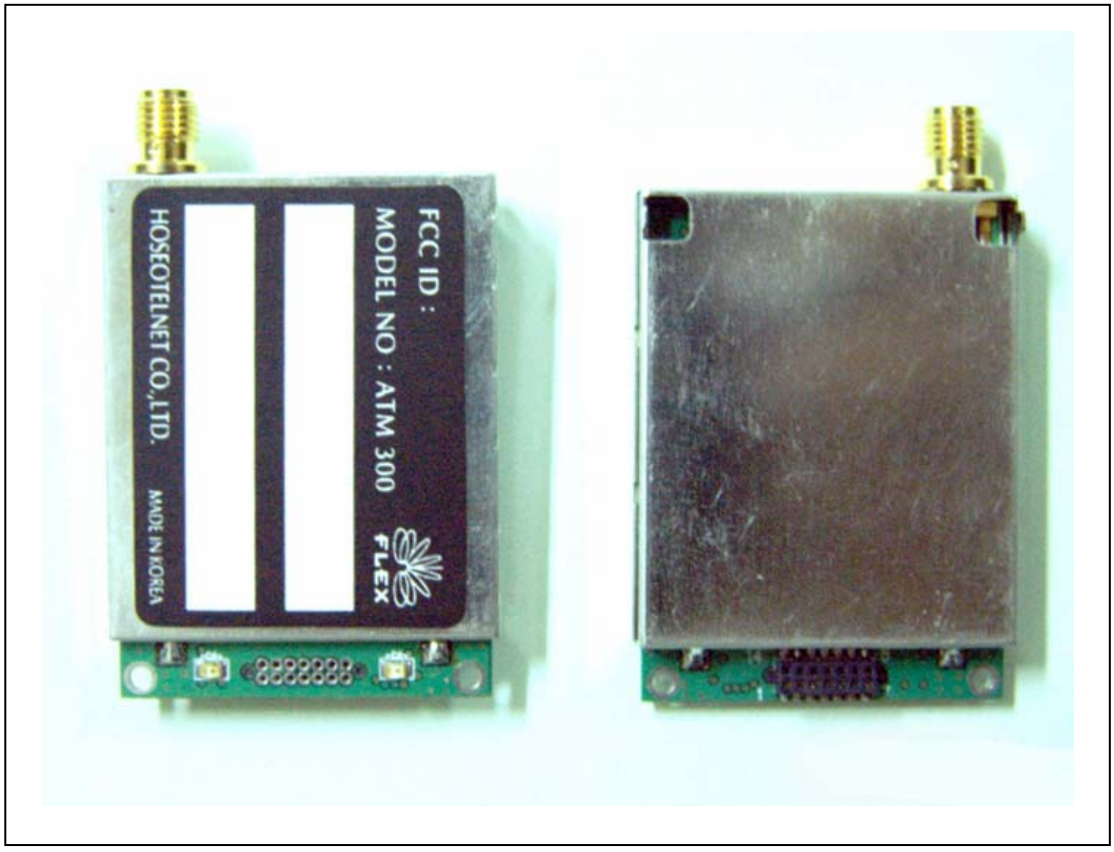
Refer to CLP reference manual for more information for serial interface of Communication Linking Protocol (CLP).

● Configure the ReFLEX Module

The configuration of ReFLEX Module will be done by PC based program (PPS).

2. Outline and Function

2.1 ReFLEX Module Outline



< Figure 2 > ReFLEX Module

The interface between ReFLEX Module and Host Device will be done by 14 pin connector.

2.2 Description of 14 pin connector

1	8
2	9
3	10
4	11
5	12
6	13
7	14

< Figure 3 > 14 pin connector

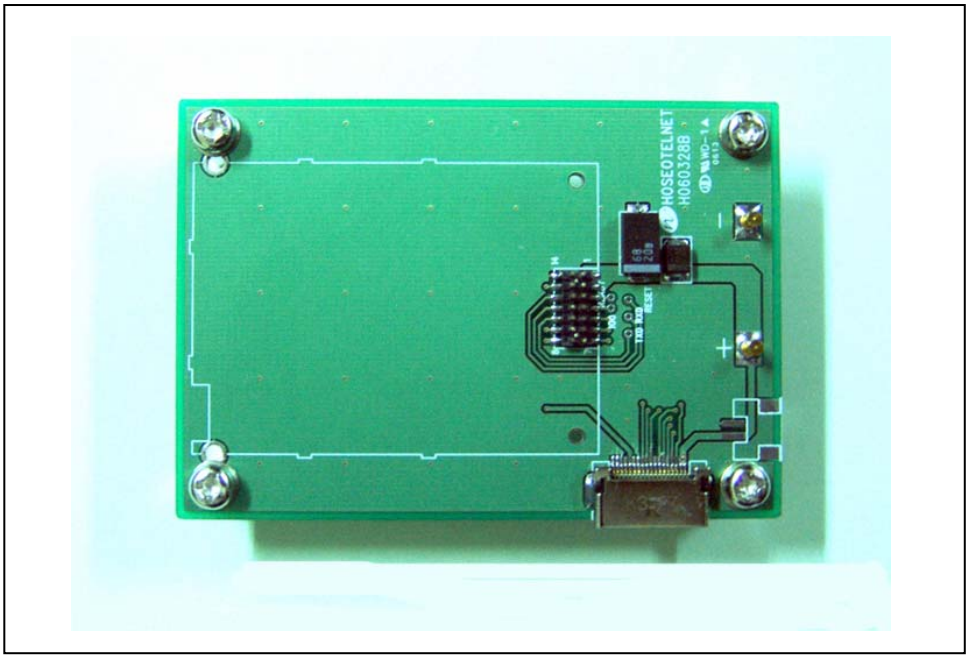
2.3 Pin Configuration

PIN	Name	Type	Description
1	VCC_Tx		4V~10V, 3A, PA Voltage
2	VCC_Main		4V~10V,200mA, Controller Voltage
3	GPIO0		CMOS, General Purpose I/O
4	GPIO1		CMOS, General Purpose I/O
5	SI0		Reserved, NC
6	SO0		Reserved, NC
7	SCK0		Reserved, NC
8	VCC		Reserved, NC
9	GND		Signal Ground
10	Tx_Data		UART Output
11	Rx_Data		UART Input
12	Enable		Module Enable
13	VPP		Reserved, NC
14	GND		Signal Ground

*Note :CMOS Level 3V

< Table 1> Pin description

2.4 Sub Board & Data Link Cable



< Figure 4 > Sub Board

1) Sub Board :

The sub board will supply the power to module and it will be used for parameter setting (PPS) and data receiving and sending by PC. If you apply the DC 4-10V to power terminal, then module will be activated.

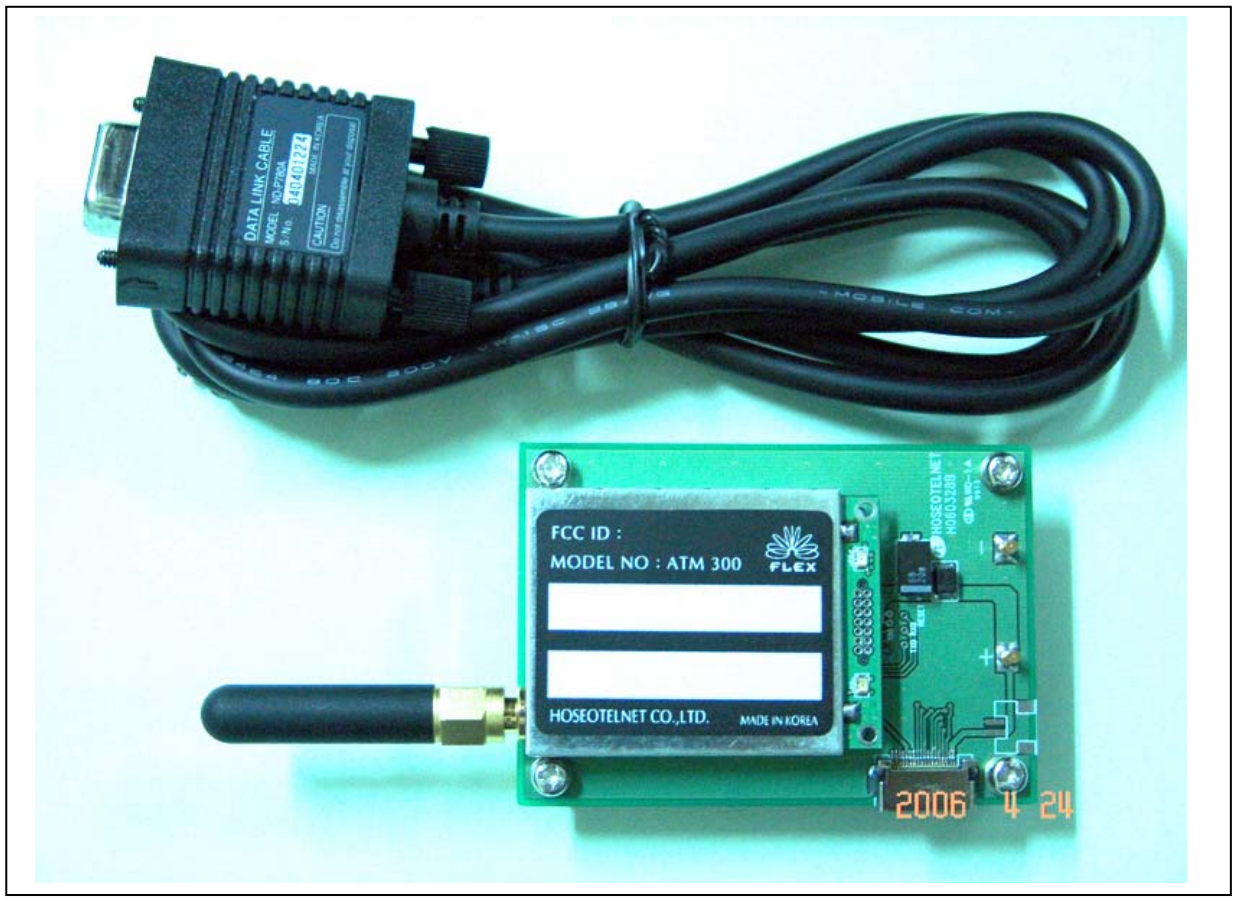
The communication with PC will be able to by specific data link cable which supplied by module supplier.

< Figure 5 > Data Link Cable

2) Data Link Cable :

It will be used for communication between ReFLEX Module and PC through Sub Board. The data link cable, which is being supplied by ATM300 supplier, incorporated the RS232C converter, then you can communicate with PC without additional peripherals.

2.5 Package



< Figure 6 > Package

● Pre caution for Module(ATM 300) interface

The serial communication default speed is being set as 9600BPS, if you can change it CLP command.

- Module (ATM 300) has a power save mode function, then you must wake up the module whenever you are to use it. The wake up time is 20ms, and if you are to wake up the module, send the CLP command 0x19.
- After the reset, the module will not goes to power save mode for 60 seconds, then you can do the parameter setting during that time by PPS program.

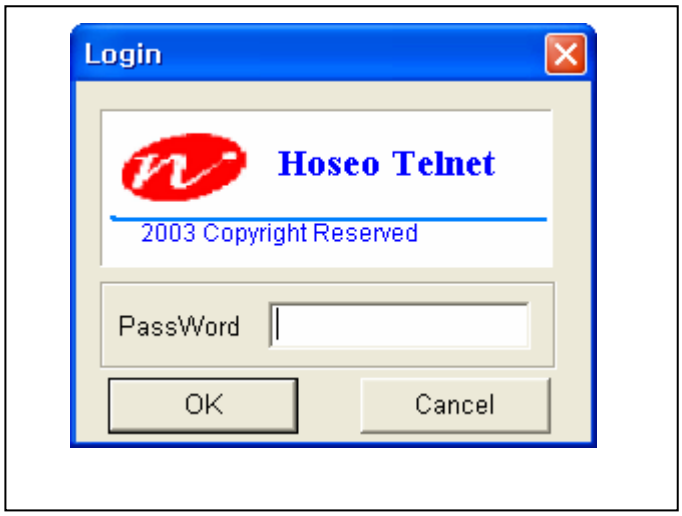
● Module Operation Description

- If you apply the power, the LED will be On and Off.
- 'P' LED will be "ON" when the Module synchronized to network.
- 'T' LED will be "ON" when Module is transmitting a data..
- LED can be disabled by command.

3. Configure the ReFLEX Module – PPS –

Please refer to PPS manual for more details.

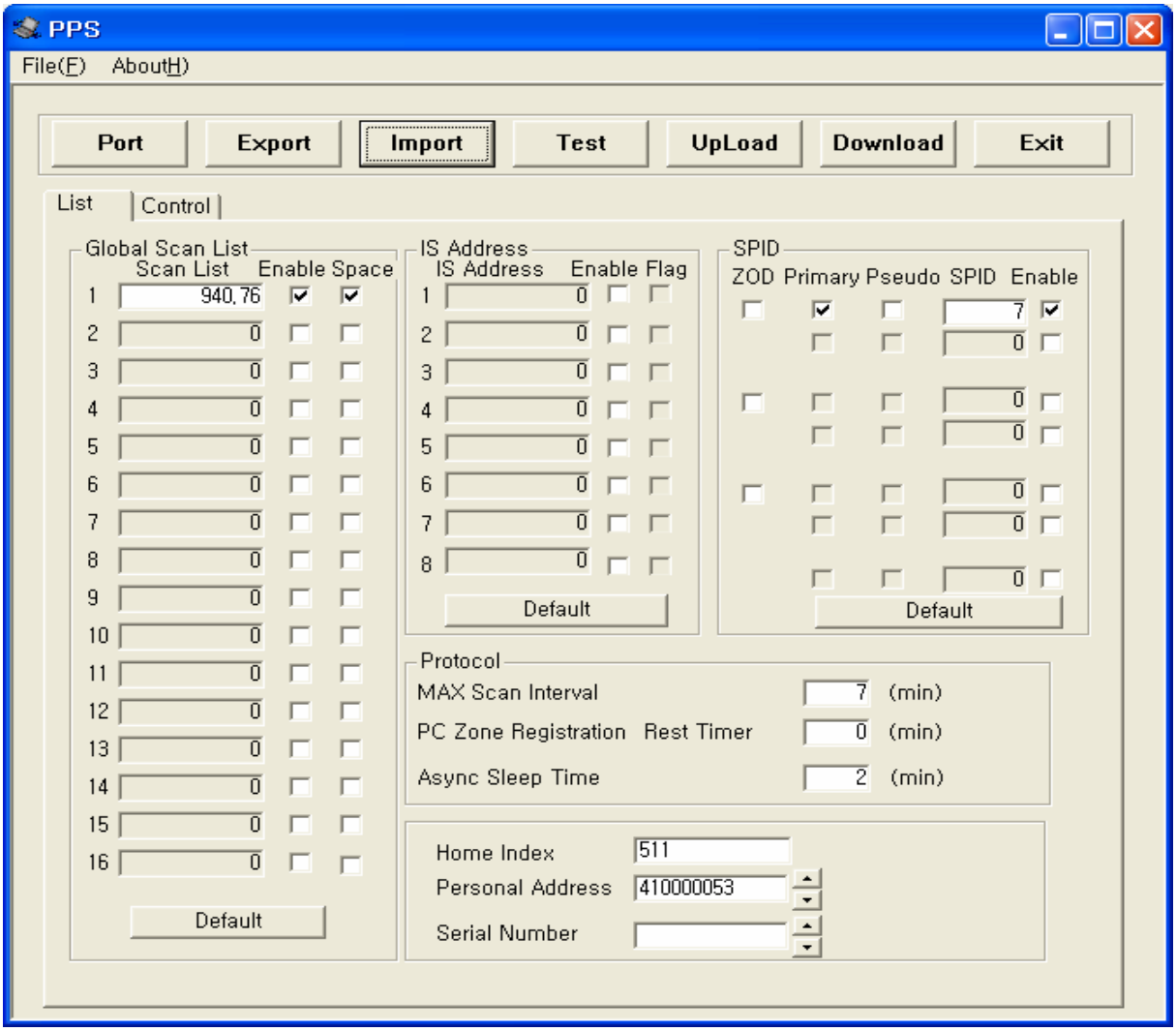
3.1 Login



< Figure 7 > Login

Key in the default password ‘HSTMAST’.

3.2 List

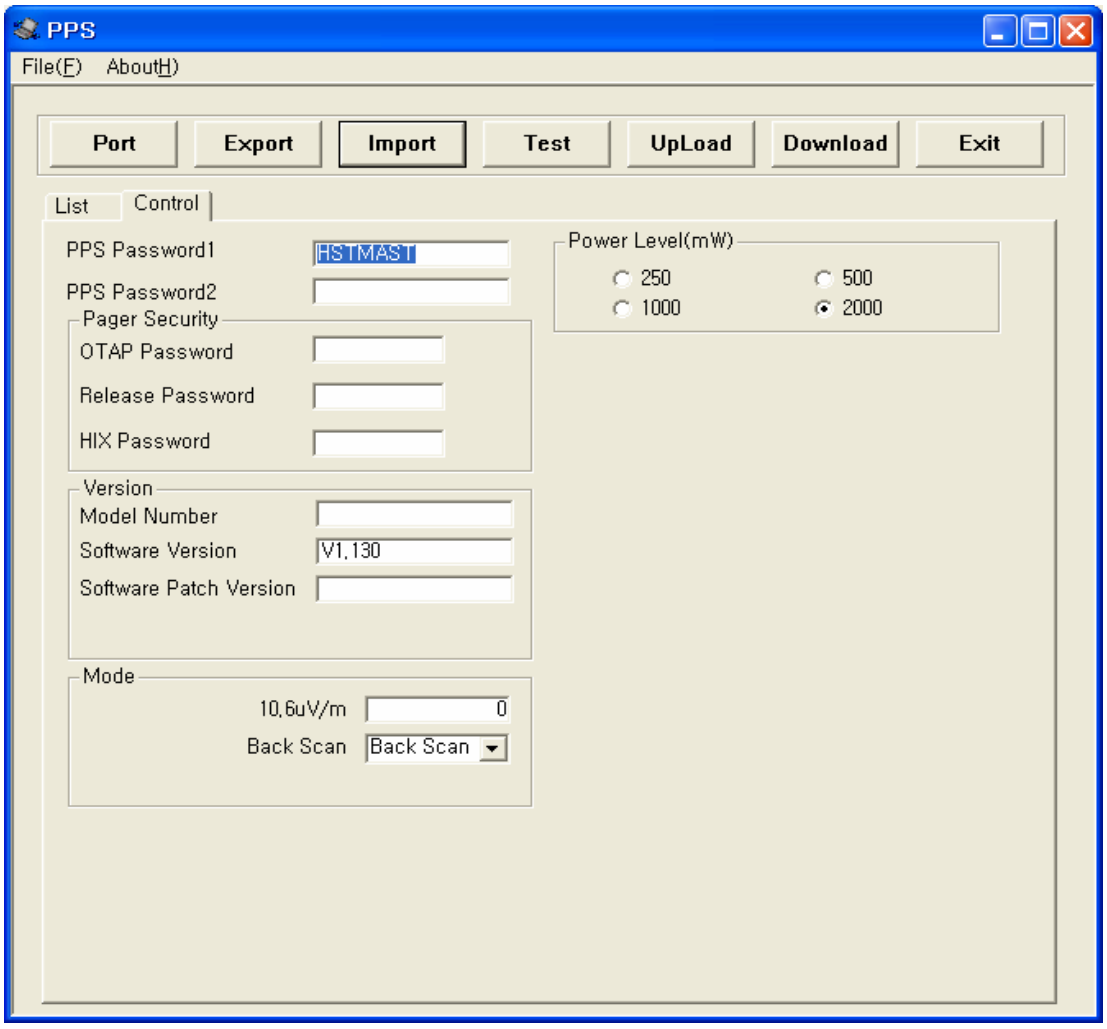


< Figure 8 > List

- Global Scan List : Rx frequency setting(if Space is set Spacing is 10KHz)
- IS Address : Information Service address
- SPID : Service Provide ID
- Personal Address : Cap code
- Else : refer to PPS user's guide

- Menu Description
  - ① Export : Store the PPS Parameter file.
  - ② Import : Reading the PPS Parameter file.
  - ③ Download : Download the data to ReFLEX Module.
  - ④ Personal Address : Put in the ReFLEX Module MSN.

3.3 Control



< Figure 9 > Control

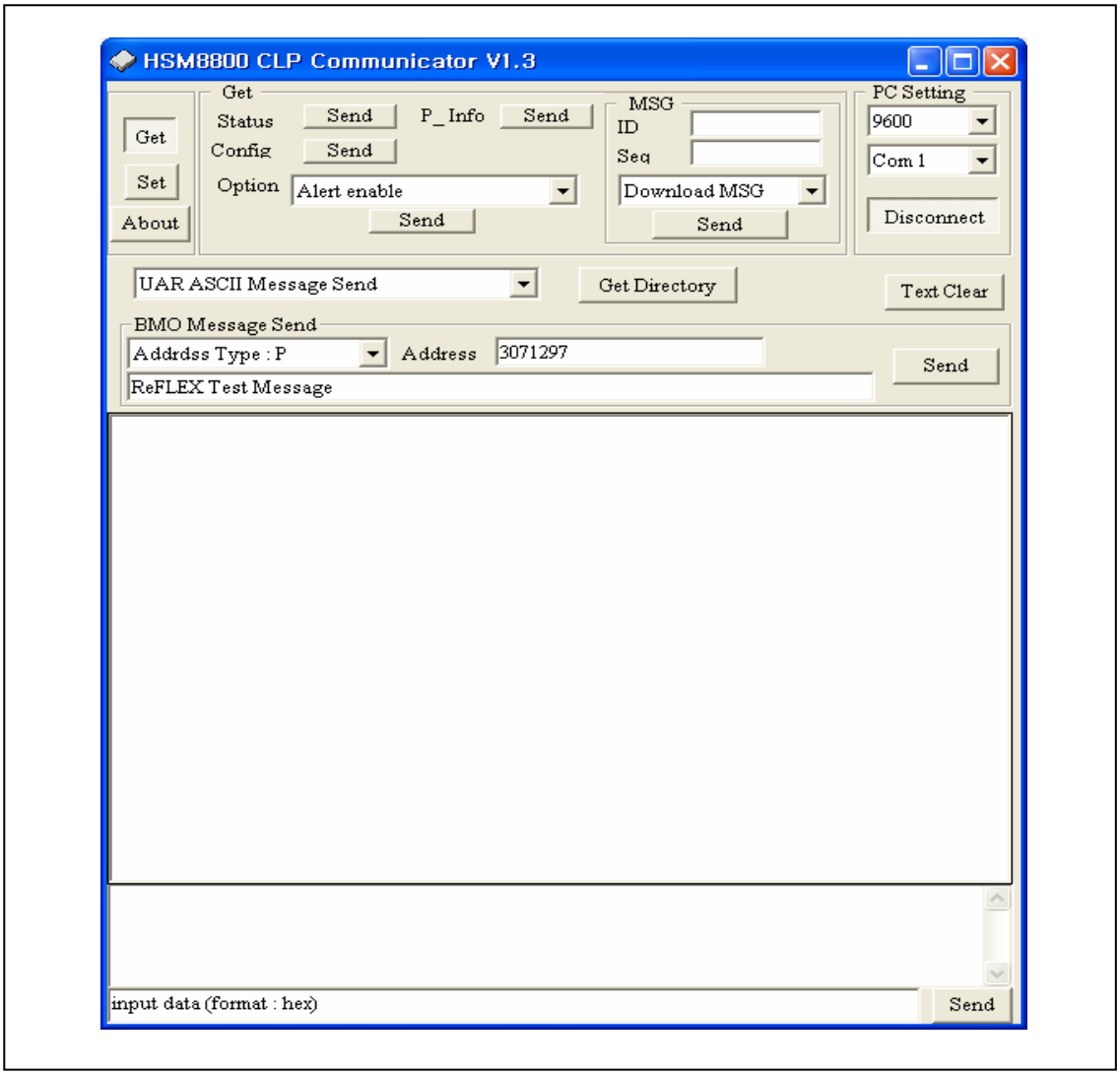
- Power Level(mW) : RF Power Output
- PPS password : PPS login password

4. Message Sending and Receiving

If there is no Host device, you can send and receive the message through PC.

The firmware, HSM8800 make you to sending and receiving the message, and you can also check the functionality of ATM300.

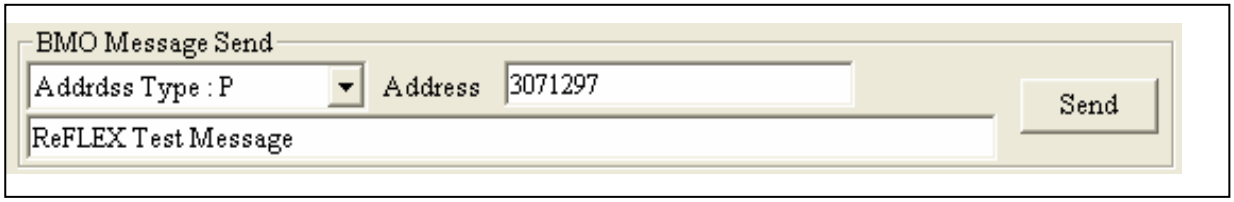
4.1 HSM8800



< Figure 10 > HSM8800 CLP Communicator v1.3

4.1.1 Message Sending

Sending the message to destination..



< Figure 11 > BMO Message Send

① Address Type : There are two(2) address type “P” and “E”

Address Type	Description
P	Send the message using PIN number of ReFLEX Module. (Ex. : 3071297)
E	Sending the message using email address. (Ex. : hjino5@hoseo.or.kr)

< Table2 > Address Type

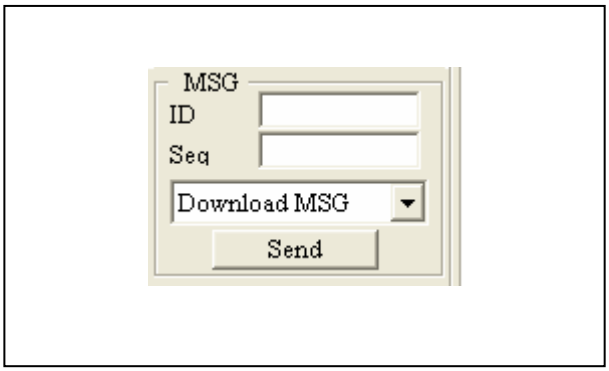
② Address : key in the address of receiving part.

③ ReFLEX Test Message: key in the sending message.

④ Send : Click the “Send” button to send the message..

4.1.2 Message receiving

Download the received message on ReFLEX Module.



< Figure 12 > Download MSG

① Click the “Send” button to download the received message.

HOW TO SET ReFLEX TWO WAY RADIO MODULE.

- Check the power source , 4~10V and 3A
- Soldering the Shield Case to Ground
- Connect the 50 ohm antenna to SMA connector of module
  *Do not operate the module without Antenna
- Apply the power and Interface

*Remark
- Do not change the trimmer set on case
- Do not open the shield case, In this case a warranty conditions will be invalid.

"CAUTION : Exposure to Radio Frequency Radiation.
Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit. The minimum separation distance of 20cm from the antenna to the body of user required."