



AT188N Plus USER GUIDE



ATID Co.,Ltd
Ver 0.2

Contents

BEFORE THE BEGINNING	4
PRODUCT OVERVIEW	4
KEY FEATURES	5
PRODUCT SPECIFICATIONS	6
CONFIGURATION OF THE PRODUCT	7
1. PRODUCT COMPONENTS	7
2. PRODUCT APPEARANCE - FRONT.....	8
3. PRODUCT APPEARANCE – BACK, LEFT/RIGHT	9
4. PRODUCT APPEARANCE – TOP, BOTTOM.....	9
5. THE PURPOSE AND FUNCTION OF THE BUTTONS.....	10
SCREEN CONFIGURATION.....	11
1. STATUS DISPLAY AREA.....	11
2. MESSAGE DISPLAY AREA	11
SELECTION OF OPERATION MODE	12
1. SCAN MODE	12
2. SCAN SETTING MODE.....	12
3. DEVICE SETTING MODE	13
POWER ON, OFF	14
1. POWER ON.....	14
2. POWER OFF.....	14
BARCODE, RFID TAG DATA CAPTURE.....	15
1. BARCODE DATA CAPTURE.....	15
2. RFID TAG DATA CAPTURE.....	15
SCAN SETTING MODE	16
1. SCAN DATA	16
2. VIEW DATA.....	16
3. UPLOAD DATA.....	16
4. ERASE DATA	16
5. DATA SPASE	16
6. COMM & MODE.....	17
7. BTH PAIRING	17
8. POWER DOWN.....	18

DEVICE SETTING MODE – SETUP PARAM	19
1. '1. BARCODE'	19
2. '2. UHF RFID'	19
3. '3. COMM & MODE'	21
4. '4. DATA'	23
5. '5. SYSTEM'	25
6. '6. DEFAULT'	27
7. '7. EXIT'	27
USING BATCH PROCESSING MODE	28
1. DATA TRANSMISSION METHOD SETTING	28
2. TRANSMISSION OF STORED DATA	29
USING THE ANDROID DEMO APPLICATION	33
WINDOWS HOST BLUETOOTH CONNECTION SETTINGS	34
1. WINDOWS 7 PLATFORM	34
2. WINDOWS 10 PLATFORM	37
USING THE WINDOWS HOST DEMO APPLICATION	40
USING THE IOS HOST DEMO APPLICATION	41
FIRMWARE UPDATE	42
1. FIRMWARE UPDATE PREPARATION	42
2. FIRMWARE UPDATE PROCEDURE	42
SDK (SOFTWARE DEVELOPMENT KIT)	45
PRODUCT WARRANTY	46
1. AT188N PLUS PRODUCT DETAILS	46
2. SDK DOWNLOAD	46
3. WARRANTY AND TECHNICAL SUPPORT	46
4. CERTIFICATIONS	46

Before the Beginning

The objective of user guide is to pass the basic contents related with **AT188N Plus**' maintenance and smooth uses. User guide inclusive of text, images, logos, product name may not be distributed, modified, displayed, reproduced (in whole or in part) without the prior written permission of **ATID Co.,Ltd.** Furthermore, the described contents in this document are subject to change without notice for improving or maintaining the product and we inform the user that some material can be different with the described contents due to the firmware changes of product.

Ownership of text, images, logos, product name in user guide is included in writer and some parts of text, images, logos, product name in the user guide were borrowed for user`s understanding at random. if there is a legal restriction such as a copyright law, it will be redistributed after adjustment.

Product Overview

AT188N Plus is a compact Barcode / RFID reader that can be held in one hand. This product basically satisfies the basic performance of an industrial product that can be used without any problem even in a waterproof/dustproof over IP65 and drop test of 1.5m. It is a product that can be used as a data collector in various fields such as medicine management, inventory management, logistics, Delivery tracking, production management and access control.

This product can collect 1D/2D barcode and UHF RFID Tag information from one device. The collected data can be sent to the Host device via Bluetooth or USB transfer in a Realtime / Batch / Interactive manner. SDK is supported for easy processing of collected data on host devices with Windows, Android, and iOS.



Key Features

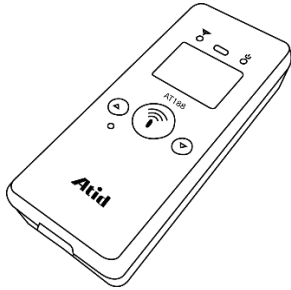
- 1) Compact size barcode/RFID reader.
- 2) It is a sturdy industrial product that meets IP65 and 1.5m drop standards.
- 3) Zebra (formerly Motorola)'s SE4710 barcode engine is adopted, enabling fast and accurate barcode data collection.
- 4) PHYCHIPS RFID Module is applied to read/write UHF RFID Tag.
- 5) Three modes are available: Batch Process, Realtime Process, and Interactive Process.
- 6) Using a USB cable, it can be connected to a PC and charged.
- 7) Even if user doesn't have an adapter for charging, user can use a regular smartphone charger to charge it.
- 8) The 1.3 inch OLED screen allows user to immediately check the collected data.
- 9) Battery replacement is simple, and if the user runs out of battery during use, the battery can be replaced.

Product Specifications

Performance		
Processor	ARM7 Core	
Supported Platforms	Windows, Android, iOS (BLE Only)	
Internal Storage	1Mbyte Flash Memory	
Physical Characteristics		
Dimensions (W x L x H)	115 x 50 x 35 mm	
Weight	160g (With Battery & UHF Option)	
Power	1,100mAh Lithium-Ion Battery	
Display	1.3 inch OLED Display	
USB Interface	1 USB Port / USB Type-C	
Notification	LED Indicator, Buzzer, Vibrator	
Data Collection		
RFID UHF	Protocol	EPC GEN2, ISO/IEC 18000-6C
	Reading Range	~ 1m (Depending on environment and tag type)
	Writing Range	~ 0.5m
	RF Output	FCC / CE : 0.5W (MAX) JAPAN : 0.2W (MAX)
	Frequency Range	US / FCC : 902MHz ~ 928MHz EU / CE : 865MHz ~ 868MHz JAPAN : 920MHz ~ 923MHz
	Antenna	Circular Antenna / 1.6 dBic
	Barcode	2D Engine (Support to read 1D & 2D Barcode)
Communication		
Bluetooth	BT V2.1+EDR / BLE V4.1	
WLAN	-	
User Environment		
Operating Temp	-20°C to 50°C	
Storage Temp	-30°C to 70°C	
Charging Temp	0°C to 45°C	
Humidity	5~95% (non-condensing, +25°C)	
Drop Spec	1.5m	
Sealing	IP65	

Configuration of the product

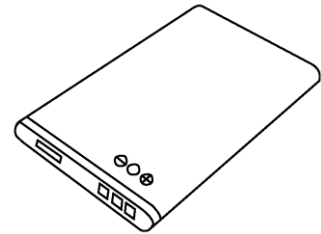
1. Product Components



AT188N Plus



USB Type-C Cable



Battery

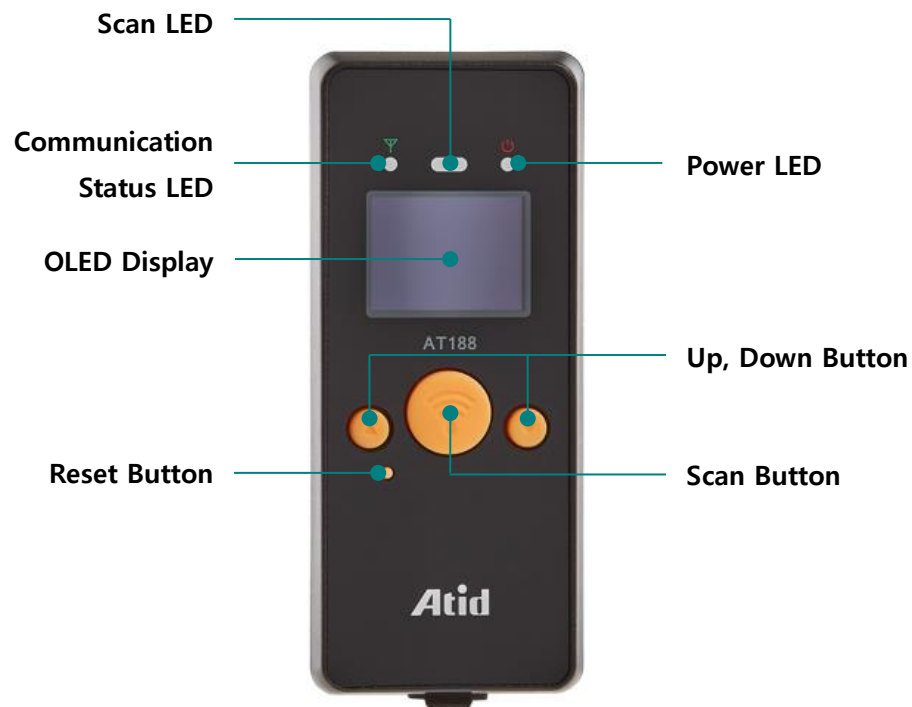


Hand Strap or Neck Strap



Charging Adaptor (Option)

2. Product Appearance - Front



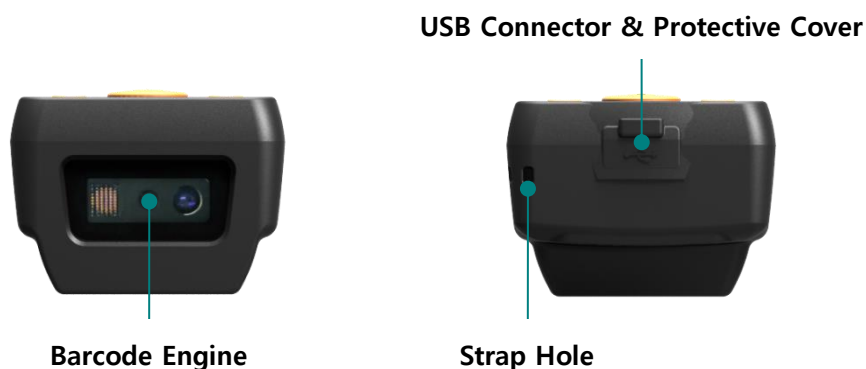
- 1) **Scan LED** : When the barcode or RFID tag information is recognized, the blue LED is turned on-off.
- 2) **Communication Status LED** : Displays the connection status of Bluetooth and USB.
- 3) **Power LED** : Displays the charging status. (Red : charging, Green : fully charged)
- 4) **OLED Display** : Displays the current status of the product and collected data.
- 5) **Up, Down Button** : Moves items such as menu selection or calls the setting menu.
- 6) **Scan Button** : It is used to 'Scan' or select a menu.
- 7) **Reset Button** : Rebooting the product.

3. Product Appearance – Back, Left/Right



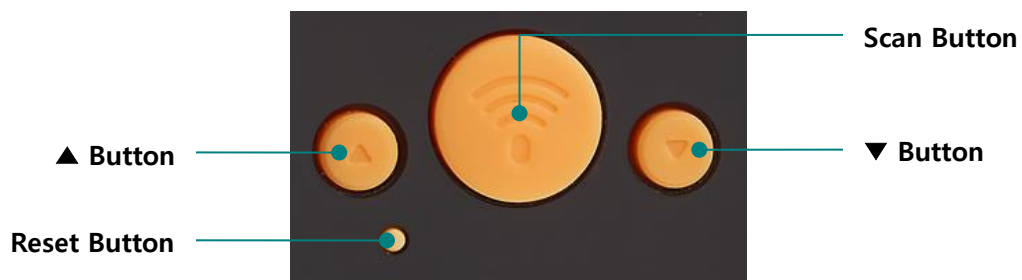
- 1) **RFID Antenna** : HF or UHF RFID antenna is built-in, and radio waves are emitted through this part when tag data is recognized.
- 2) **Battery Cover** : After removing the cover, the battery can be replaced.
- 3) **Battery Cover Lock** : Secure the battery cover to prevent the battery from coming off.

4. Product Appearance – Top, Bottom



- 1) **Barcode Engine** : This is where the barcode engine is built. 1D or 2D modules are optional. This part is very important for barcode data recognition, so be careful not to get contaminated or damaged.
- 2) **USB Connector & Protective Cover** : When user opens the cover covered by the protective cover, the USB Type-C connector is located. User can charge the product by connecting a USB cable or charging adapter to the USB port, or transfer data stored in the product to a PC. When using or storing the product, close the protective cover to protect the product.
- 3) **Strap Hole** : User can enhance the portability of the product by connecting a hand strap or neck strap.

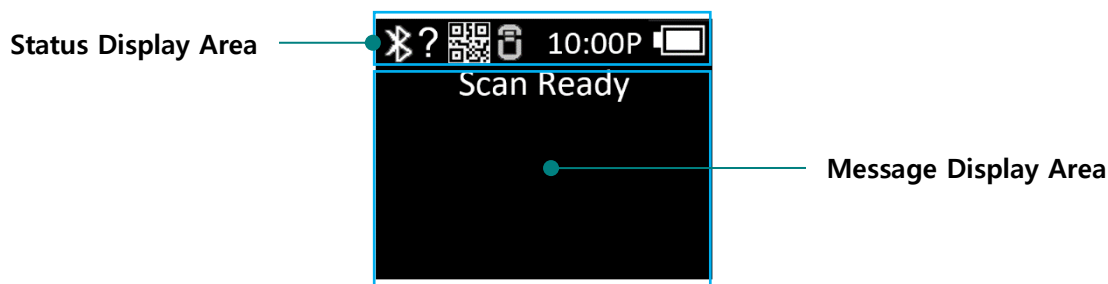
5. The purpose and function of the buttons



- 1) **▲ Button** : Scrolls the screen upwards or allows user to select the next item. Each short press on the 'Scan Ready' screen switches between Barcode and RFID functions.
- 2) **Scan Button** : Collects Barcode or RFID tag data, or serves as a decision button to enter the menu of the currently selected item.
- 3) **▼ Button** : Scrolls the screen downwards, or allows you to select the next item. Long press to power off.
- 4) **Reset Button** : Rebooting the product.









Screen Configuration

This product displays various contents, such as displaying the current status and read data of the product through a small OLED screen. The screen is largely divided into a 'Status Display Area' and a 'Message (data) Display Area'.



1. Status Display Area

Displays the operation setting status of the product, the current time, and the remaining battery level information.

- 1) **Display of ,  Connection Mode** : Displays USB () connection mode or Bluetooth () connection mode.
- 2) **?, H, S, L** : Displays the connection status with the Host.
 - No Connection : ?
 - Connected by HID Mode : H
 - Connected by Serial Mode : S
 - Connected by BLE Mode : L
- 3) ,  Displays Scanner Mode and the activation status of Barcode () and FID () functions through Icon. (Light state : ON, Dark state : OFF)
- 4) **10:00P** : Displays the time set in the device. (It may be different from the current time. User can reset it in the System Preferences menu.)
- 5)  **Battery Status** : Display the current battery level in 4 levels through icon. ()

2. Message Display Area

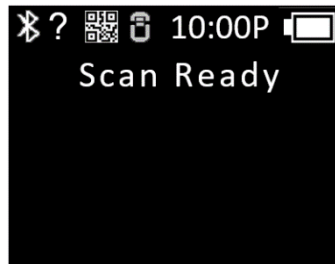
Displays captured the Barcode and RFID tag information and the quantity of currently recognized data.

Selection of Operation Mode

This product provides a function to read basic Barcode and RFID tag data after turning on the power without connecting to the host device.

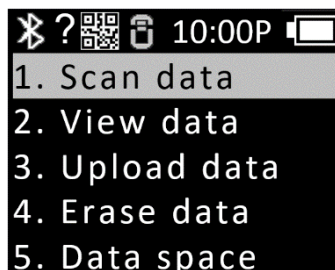
1. Scan Mode

This is the first screen user will see when user turns on the product, and it is a mode where user can check the read barcode and RFID tag data in real time or connect to the host device.



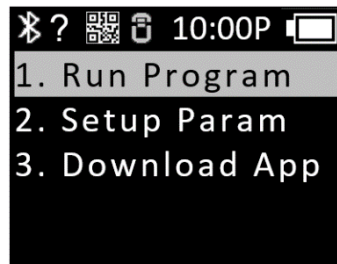
2. Scan Setting Mode

- 1) This is a mode in which the user can check the Barcode or RFID tag information read, manage the storage memory, and select the communication mode.
- 2) In 'Scan Mode', press '▲ Button' for 2 seconds to enter.

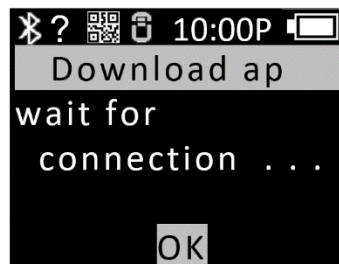


3. Device Setting Mode

- 1) Set all functions related to product operation or change the set contents. User can mainly change the reader operation mode setting, communication mode setting, and system setting.
- 2) If user turns on the power while pressing the '▲ Button' in the power off state, user can enter this mode.



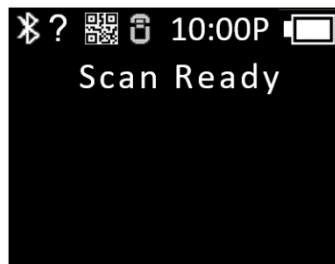
- 1) Each menu is as follows.
 - **Run Program** : Completes setting and returns to scan mode.
 - **Setup Param** : User can change the system settings.
 - **Download App** : Activate the device's USB interface and enter Firmware Download mode..



Power ON, OFF

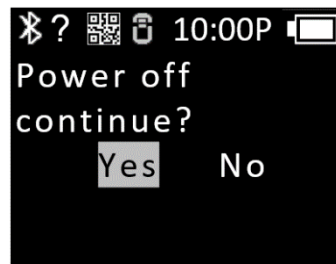
1. Power ON

- 1) Press and hold the 'Scan Button' in the center of the product for about 2 seconds.
- 2) 'Booting...' message is displayed on the screen and then When the 'Wait...' message is displayed, release the 'Scan Button'.
- 3) When the 'Scan Ready' message is displayed, it means the Barcode or RFID tag data is ready to be read.




2. Power OFF

- 1) In the 'Scan Ready' state, press and hold the '▼ Button' for about 2 seconds.
- 2) Select 'Yes' using the '▲ Button' or '▼ Button' and then press the 'Scan Button' to turn off the power.
- 3) If select 'No', it will return to scan mode again.




Barcode, RFID Tag Data Capture

1. Barcode Data Capture

- 1) With the product powered on, press the '▲ Button' briefly to brighten the barcode icon () to switch to Barcode recognition mode. (Light state: ON, Dark state: OFF)
- 2) When the 'Scan Ready' message is displayed, the barcode can be recognized by pressing the 'Scan Button'.



2. RFID Tag Data Capture

- 1) When the product is powered on, press the '▲ Button' briefly to brighten the RFID icon () to switch to the RFID tag data recognition mode. (Light state: ON, Dark state: OFF)
- 2) When the 'Scan Ready' message is displayed, you can read the RFID Tag data by pressing the 'Scan Button'.



Scan Setting Mode

The scan setting mode can be entered by pressing the '▲ Button' for 2 seconds in the scan mode. It consists of a total of 8 menus, and the contents of each item are as follows.

1. Scan Data

After completing the setting, return to Barcode or RFID tag data scanning mode.

2. View Data

- 1) When set to 'Batch Process Mode', it shows the data stored in the internal memo.
- 2) User can check the next or previous item by using the '▲ Button' or '▼ Button'.
- 3) Press the 'Scan Button' to return to the scan setting menu selection screen.

3. Upload Data

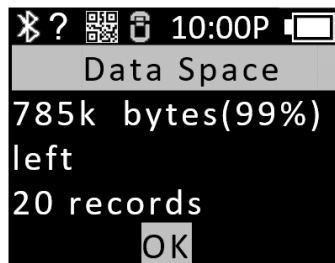
- 1) Transmits all data stored in the internal storage to the host device via USB or Bluetooth.
- 2) If you want to upload, select 'Yes'.
- 3) Data in memory remains after transfer.

4. Erase Data

- 1) Deletes all data stored in the internal storage.
- 2) If you want to delete, select 'Yes'.

5. Data space

- 1) Shows the usage of internal storage.
- 2) Press the 'Scan Button' to return to the scan setting mode menu selection screen.



6. Comm & Mode

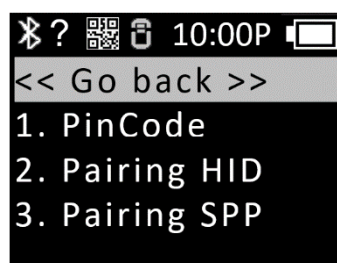
Select the communication method and data transmission method between **AT188N Plus** and the host device. ' * ' indicates the currently set item.



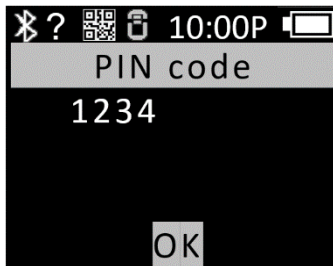
- 1) **Realtime – BTH** : Transmits recognized data in raw data format to the host device through Bluetooth in real time.
- 2) **Realtime – USB** : Transmits recognized data in raw data format to the host device through USB in real time.
- 3) **Batch – BTH** : The recognized data is stored in the internal storage and then sent to the host device in batches via Bluetooth.
- 4) **Batch – USB** : The recognized data is saved in the internal storage and then sent to the host device in batches via USB.
- 5) **Interactive – BTH** : Transmits recognized data to host device according to ATID Protocol through Bluetooth. In the host device, it is linked with the application developed with ATID SDK. (Android, Windows, iOS)
- 6) **Interactive – USB** : Transmits recognized data to host device according to ATID Protocol through USB. In the host device, it is linked with the application developed with ATID SDK. (Windows).

7. Bth Pairing

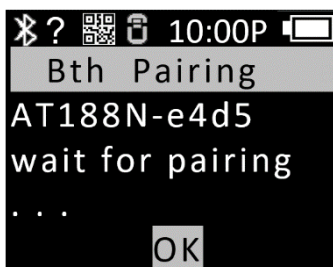
When the connection mode is Bluetooth, it provides a function for pairing with the host device.



- 1) '1. PinCode' : Check the 'PinCode' required for pairing.



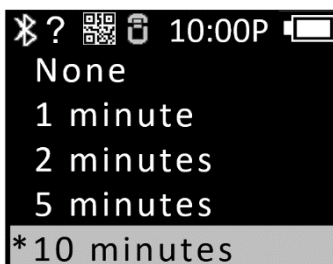
- 2) '2. Pairing HID' : HID connection method exposes the product name to the host device and waits for pairing to be completed.



- 3) '3. Pairing SPP' : The product name is exposed to the host device through the SPP connection method, and it waits for pairing to be completed.

8. Power down

- 1) User can select the time to automatically turn off the power when the device is left unused for a while.
- 2) The settable time can be selected from among '1 min, 2 min, 5 min, 10 min, 30 min, 60 min, 120 min, None'.
- 3) After the set time has elapsed from the time the screen is turned off, the power is automatically turned off.
- 4) '*' is displayed in front of the currently applied setting value in the menu.

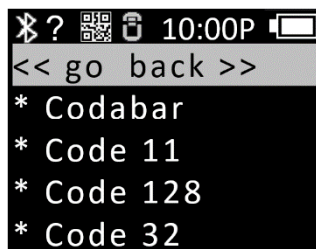


Device Setting Mode – Setup Param

User can enter the device setting mode by pressing the '▲ button' and 'Scan button' at the same time when the power of the device is turned off. Among the activated menus, '2. Setup Param' to enter the device setting menu. There are total of 7 selectable menus. Each menu is as follows.

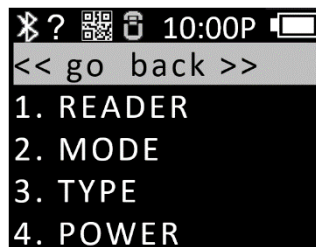
1. '1. Barcode'

- 1) User can select whether to recognize the Barcode Symbol supported by the barcode module.
- 2) Depending on the type of barcode module and supported functions, the items that can be set are changed.
- 3) Enabled Symbol items are marked with ' * '.



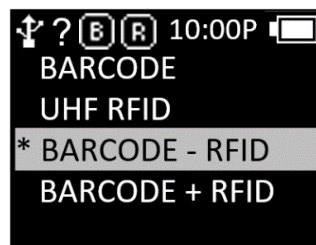
2. '2. UHF RFID'

Set the operation mode for Barcode and UHF RFID functions. It also sets the basic functions of the UHF RFID module. Each menu has submenus.



- 1) READER

Set barcode and RFID operation mode according to scan button input.

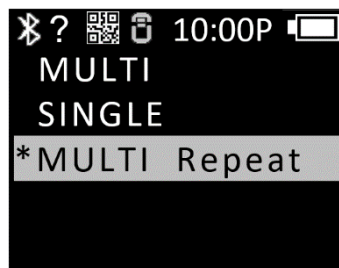


- **BARCODE** : It is set to barcode-only mode, and when the 'Scan Button' is pressed, only the barcode operates.
- **UHF RFID** : It is set to RFID-only mode, and when the 'Scan Button' is pressed, UHF RFID operates.

- **BARCORDE – RFID** : This is a mode where barcode and RFID can be selected on the 'Scan Ready' screen. To switch between the two modes, press the '▲ Button' in the 'Scan Ready' state. The currently set mode is indicated by an icon in the status display area.
- **BARCORDE + RFID** : When the 'Scan Button' is pressed, barcode and RFID tag data are simultaneously recognized.


2) Mode

Set the Report Mode of RFID. It sets the way to process the read data. User can set whether to operate continuously or whether to double check.

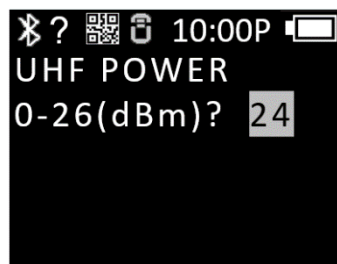


- **MULTI** : Recognizes all surrounding tags, but recognizes the same tag only once.
- **SINGLE** : When one RFID tag data is recognized, operation is stopped.
- **MULTI Repeat** : Recognizes all surrounding RFID tag data and duplicates even the same RFID tag.

3) **TYPE** : Set 6C and 6B among UHF RFID standards.

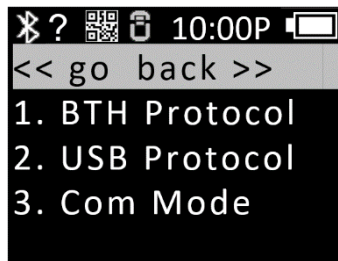
 **AT188N Plus only supports 6C tag reading function.**

4) **POWER** : Adjust the radio wave output strength of the RFID module

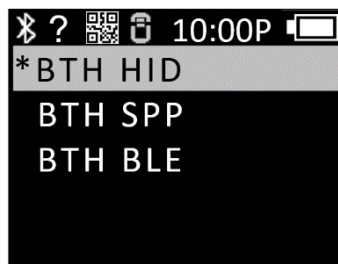


3. '3. Comm & Mode'

AT188N Plus can be connected to the host device via Bluetooth or USB. In the 'Comm & Mode' menu, set the data communication method (Protocol) with the host device.



- 1) **BTH Protocol** : Select the communication method to use when connecting via Bluetooth. Move to the option user wants to select and press the 'Scan Button' to set.

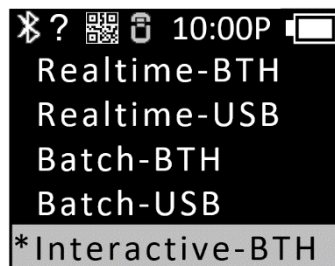


- **BTH HID** : HID (Human Interface Device) is connected to the host device, and the data to be transmitted is transmitted as if typing with the keyboard where the cursor is currently located. Depending on the keyboard language setting of the host device, the data recognized by the actual device and the data displayed at the current cursor position may appear differently, so be careful when using it.
- **BTH SPP** : Connected using Bluetooth SPP (Serial Port Profile), and transmitted data is transmitted to the Serial Port (COM Port) of the host device. In order to utilize the data transmitted from the host device, a separate application must be developed using the ATID SDK.
- **BTH BLE** : Connects to the host device through BLE (Bluetooth Low Energy) and can be used in the iOS environment. Compared to the existing Bluetooth, the recognition distance is shorter, but the power efficiency is high. In order to utilize the data transmitted from the host device, a separate application must be developed using the ATID SDK.

- 2) **USB Protocol** : This is the communication protocol to use when connecting with the host device

via USB. Only Windows platforms are supported.

- **USB HID** : HID (Human Interface Device) is connected to the host device, and the transmitted data is transmitted as if typing on the keyboard where the cursor is currently located. Depending on the keyboard language setting of the host device, the data recognized by the actual device and the data displayed at the current cursor position may appear differently, so be careful when using it.
 - **USB VCP** : It is connected to the host device through the VCP (Virtual Com Port) provided by USB, and the transmitted data is transmitted to the COM port of the host device. In order to utilize the transmitted data at the host device, a separate application must be developed using the ATID SDK.
- 3) **Com Mode** : Set communication method and data transmission method between **AT188N Plus** and host device. The currently applied setting is preceded by a ' * '. Move to the option you want to select and press the 'Scan button' to set it.



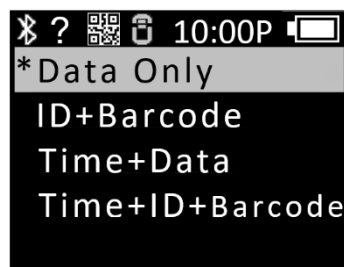
- **Realtime – BTH** : Transmits recognized data in raw data format to the host device through Bluetooth in real time.
- **Realtime – USB** : Transmits recognized data in raw data format to the host device through USB in real time.
- **Batch – BTH** : The recognized data is stored in the internal storage and then sent to the host device in batches via Bluetooth.
- **Batch – USB** : The recognized data is saved in the internal storage and then sent to the host device in batches via USB.
- **Interactive – BTH** : Transmits recognized data to host device according to ATID Protocol through Bluetooth. In the host device, it is linked with the application developed with ATID SDK. (Android, Windows, iOS)
- **Interactive – USB** : Transmits recognized data to host device according to ATID Protocol through USB. In the host device, it is linked with the application developed with ATID SDK. (Windows).

4. '4. Data'


The contents of this mode are explained based on what happens when the Barcode is recognized. When RFID Tag data is recognized, the behavior may not be the same.



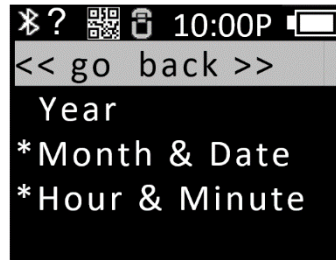
- 1) '1. Record' : After recognizing the barcode data, decide whether to use the time to attach or 'Barcode Type ID' when saving or transmitting the data. The currently applied setting is preceded by a '*'. Move to the option you want to select and press the 'Scan button' to set.



- **Data Only** : Transmits or saves only recognized data..
- **ID+Barcode** : Saves or transmits barcode ID and recognized barcode data together.
- **Time+Barcode** : Saves or transmits time data and recognized data together.
- **Time+ID+Barcode** : Saves or transmits time data, barcode ID and recognized data together.

 Barcode ID is output only when reading Barcode Data.

- 2) **'2. Time format'** : If it is set to store or transmit the time with the recognized barcode data, set the data format for the time. The currently applied setting is preceded by a ' * '. Move to the option you want to select and press the 'Scan Button' to set.



- **Year** : Set whether to use year data for time data. (YYYY)
 - **Month & Date** : Set whether to use month/day for time data. (MMDD)
 - **Hour & Minute** : Set whether to use hour/minute for time data. (HHMM)
- 3) **'3. Quantity'** : Set whether to input the quantity of barcode data. The Quantity setting works only in the barcode function, and the quantity can be entered immediately after reading the barcode. The quantity can be entered from 1 to 9999, and other barcodes cannot be read until the quantity of the corresponding barcode is entered. The currently applied setting is preceded by a ' * '. Move to the option you want to select and press the 'Scan button' to set it.
- 4) **'4. Numbering'** : When barcode data is recognized or RFID tag data is recognized, the number of recognized data recognition sequence number is included in front of the recognized data and stored or transmitted. When internal storage is clear, it starts over at 1.
- 5) **'5. Terminator'** : When sending data to the host device in HID mode, select which character to attach to the end of the data. Move to the option you want to select and press the 'Scan button' to set it. The currently applied setting is preceded by a ' * '.
- **LF <0x0a>** : Recognized data is output and the cursor moves to the next line.
 - **CR <0x0d>** : Recognized data is output and a space as much as 'Space' is appended to the end of the data.
 - **CRLF <0x0d+0x0a>** : Recognized data is output and the cursor moves to the next line after 'Space' is added to the end of the data.
 - **Tab <0x09>** : Recognized data is output and a space as much as 'Tab' is appended to the end of the data.
 - **Space <0x20>** : A space as much as 'Space' is appended to the end of the recognized data.
 - **SemiColon <0x3B>** : Recognized data is output and ' ; ' is attached.
 - **None** : Outputs data continuously without attaching anything to the end of the data.

- 6) **'6. UHF Report'** : When transmitting UHF RFID Tag data, select whether to send only EPC data or both EPC data and PC data.
- 7) **'7. Discriminate'** : Select whether to use an identification number when transmitting data to the host device. It does not apply in 'Interactive Mode'.
- 8) **'8. Input ID'** : Enter the identification number to be used. It can be set from 1 to 999 and works only when 'Discriminate Mode' is set.

5. '5. System'

Set functions such as time, buzzer, vibrator, screen, and Scan LED.

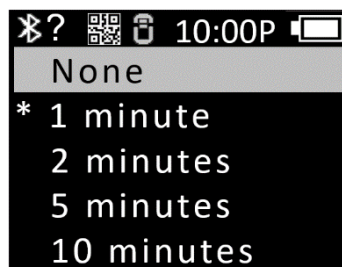


- 1) **Clock** : Set the current time of this unit. The set time can be used with Barcode or RFID tag information.



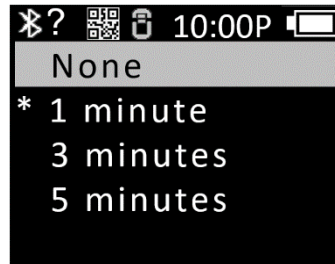
Time data may have time difference, so please reset it periodically.

- 2) **Power down** : When the device is not used for a while, user can select the time when the power is automatically turned off when left unused. The currently applied setting is preceded by a '*'. Move to the option you want to select and press the 'Scan button' to set it.




- User can select a set value from '1 min, 2 min, 5 min, 10 min, 30 min, 60 min, 120 min, None'.
- Power is automatically turned off after a set time from the time the screen is turned off.

- 3) **Display** : Set the amount of time to temporarily turn off the screen to save battery. When the set time arrives, the screen turns off automatically.



- 4) **HID language** : When connected in HID mode, set the language type. You can select from 'UNIVERSAL', 'FRENCH', 'UK', and 'US'. The keyboard layout is changed according to the set option.
- 5) **Scan button** : After the product is powered on, select the default action for the 'Scan button' among RFID and barcode functions.
- 6) **Notification** : Set the action when a button is pressed or in an Alert situation.
- **'1. Button notify'**: Set whether to operate Beep, Vibrate, and Light when the button is pressed.
 - If move to the option user wants to apply and press the "Scan button", the setting will be set with '*' attached.
 - Multiple options can be set.
 - **'2. Alert notify'** : Set whether to operate Beep, Vibrate, and Light in alert situations such as booting, scan success, or connection / failure with the host.
 - If move to the option user wants to apply and press the "Scan button", the setting will be set with '*' attached.
 - Multiple options can be set.
 - The operating time may vary depending on the situation.
 - **'3. Button mode'** : Select the duration of Button notify among 'None', 'Short' and 'Long'.
 - **None** : There is no response when the button is pressed.
 - **Short** : When set, the set notify option operates for 0.3 seconds.
 - **Long** : The set notify option continues until the button is released.

- 
- 7) **F/W version** : Displays the firmware version installed in this product. User can change the firmware to improve the product's functions or change the basic operation. For details on firmware, please contact the seller or manufacturer.

6. '6. Default'

Returns all settings to factory defaults.

7. '7. Exit'

Exit System Setup.

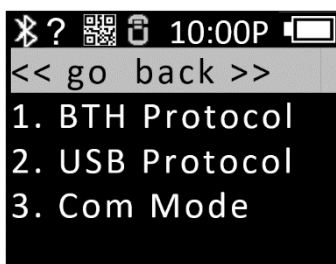
- 1) **Save & Exit** : Saves the changed settings and exits the system settings.
- 2) **No save & Exit** : Exits the system settings without saving the changed settings.

Using Batch Processing Mode

If AT188N Plus is set to 'Batch Processing Mode', data can be saved in the internal storage of the device without connecting to the host. The stored data can be transmitted to the host device through USB or Bluetooth communication.

1. Data Transmission Method Setting

- 1) Enter 'Device Setting Mode'.
- 2) Enter '3. Comm & Mode' Menu.



- 3) Depending on the interface to be used for data transmission, set '1. BTH Protocol' or '2. Set the transmission method of 'USB Protocol'.
 - BTH Protocol : Select Bluetooth that is the data transmission method to transmit the data stored in the Host.
 - BTH HID : Transmits data to the Host as 'HID' method through Bluetooth.
 - BTH SPP : Transmits data to the Host as 'SPP' method through Bluetooth. In this case, data transmission is possible only when there is a program that is capable of COM Port communication in the Host.
 - BTH BLE : Direct data transmission to the host is not possible through 'BLE'.



If data transmission via BLE is required, transmission is only possible using the Demo App.

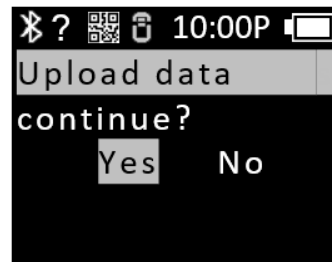
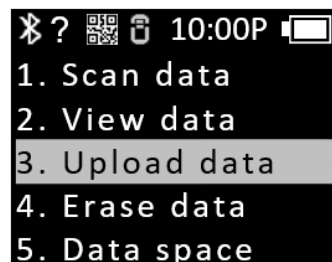
- USB Protocol : Select USB Interface that is the data transmission method to transmit the data stored in the Host.
 - USB HID : Transmits data to the Host as 'HID' method through USB Interface.
 - USB VCP : It is transmitted stored data to the host by serial communication method through the USB interface. In this case, data transmission is possible only if there is a program capable of COM port communication in the host.
- 4) Enter the '3. Com Mode' menu and select 'Batch-BTH' or 'Batch-USB' depending on the interface to be used for data transmission.

2. Transmission of stored data

Batch processing mode can be set in various combinations as shown below to transmit data to the host.

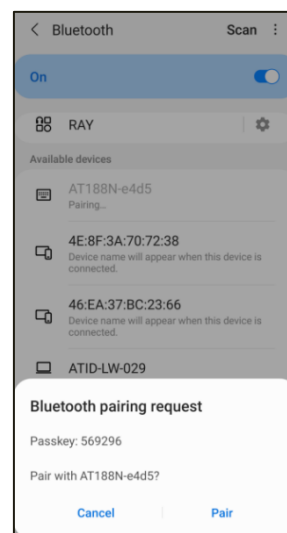
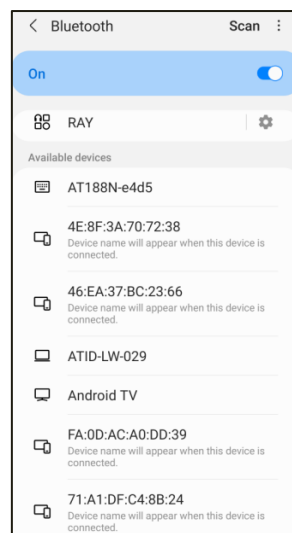
3. Com Mode	Host	Protocol
Batch-BTH	Android	BTH-HID
		BTH SPP
	Windows	BTH-HID
		BTH-SPP
Batch-USB	Windows	USB-HID
		USB-VCP

- 1) **Example #1** : Data transmission method when setting 'Batch-BTH' , Android Host, 'BTH-HID'.
- Reading Barcode or RFID Tags under batch processing mode. The read data is displayed on the **AT188N Plus** screen.
 - In 'Scan Mode', press '**▲** Button' for 2 seconds to enter 'Scan Setting Mode'.
 - Select '2. Upload Data' menu.



User must proceed to the next step without pressing 'YES'.

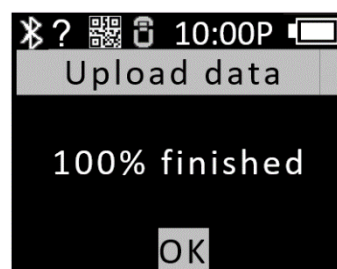
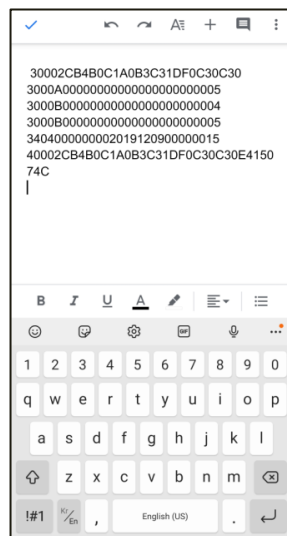
- Search for '**AT188N-XXXX**' in Bluetooth Device Scan Menu of Android Host and register it.



- Place the cursor on the App that user wants to transfer the stored data.



- Enter 'Yes' in the 'Upload data continue?' message of the device.
- As transmission % is displayed on the device screen, the data stored in the Host is transmitted. When transmission is complete, the message '100% finished' is displayed on the device.

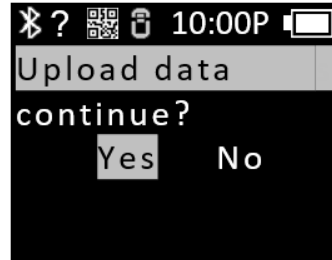
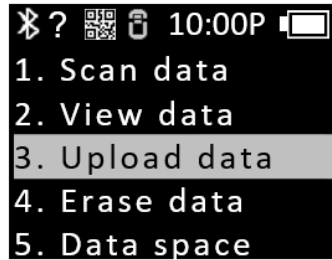


- If input 'OK' after the transmission is complete, the connection with the host is disconnected and return to the 'Scan Setting Mode' menu.

2) **Example #2** : Data transmission method when setting 'Batch-USB' , Windows Host, 'USB-VCP'.

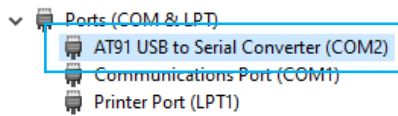
- Reading Barcode or RFID Tags under batch processing mode. The read data is displayed on the **AT188N Plus** screen.
- In 'Scan Mode', press '**▲** Button' for 2 seconds to enter 'Scan Setting Mode'.

- Select '2. Upload Data' menu.



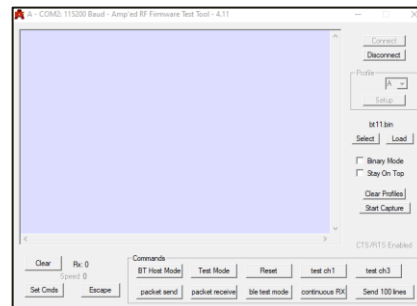
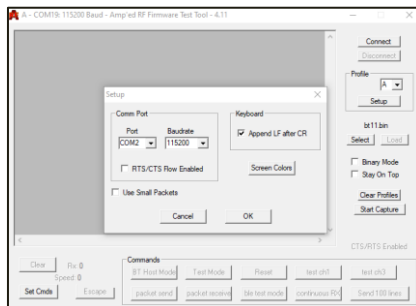
! User must proceed to the next step without pressing 'YES'.

- Connect to Windows Host with USB cable. The COM Port information assigned to Device Manager in Control Panel is displayed.

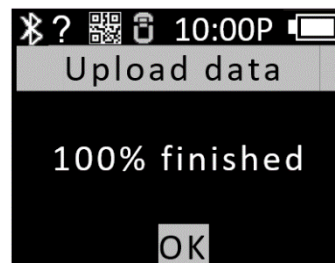
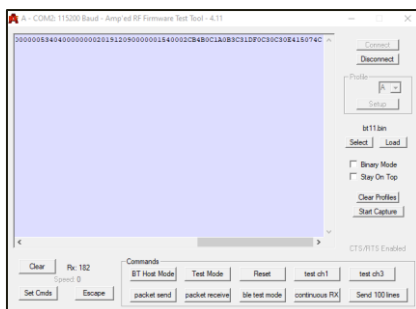


! The assigned COM port number varies depending on the host situation.

- Set the assigned COM port number to the app that user wants to transmit, and place the cursor.



- Enter 'Yes' in the 'Upload data continue?' message of the device.
- As the % of transmitted data is displayed on the device screen, the data stored in the Host is transmitted. When transmission is complete, the message '100% finished' is displayed on the device.

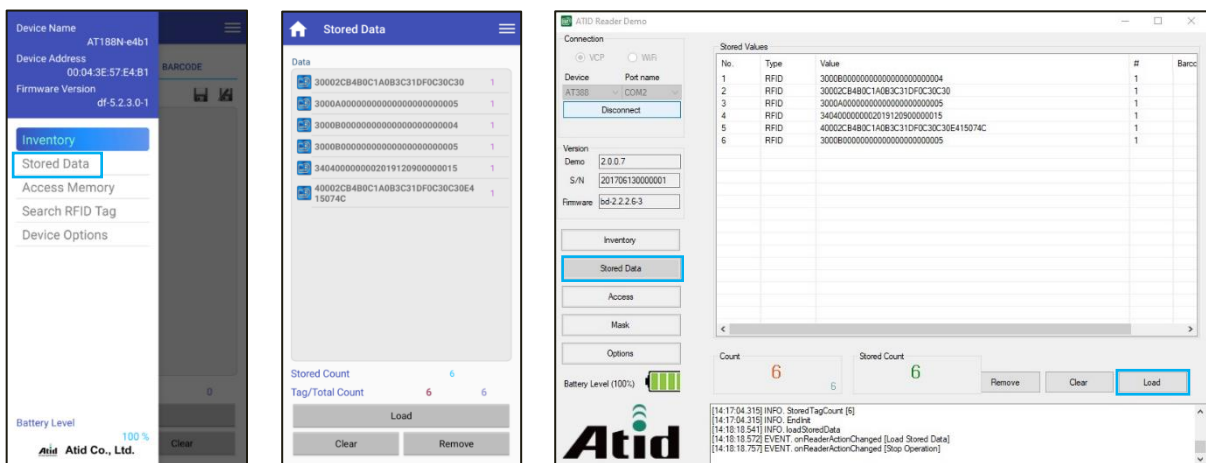


! Unlike 'HID' mode, since there is no terminator, data is output continuously without line breaks.

- If input 'OK' after the transmission is complete, the connection with the host is disconnected and return to the 'Scan Setting Mode' menu.

3) Transmission Stored Data using Demo App

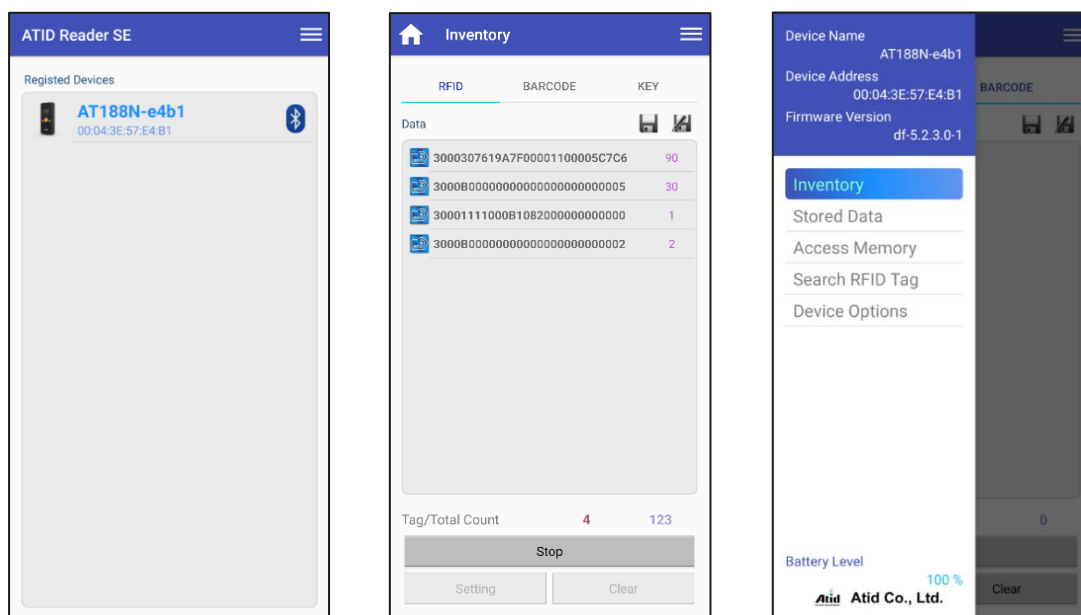
- Set the device '3. '3. Set the Com Mode' to 'Batch-BT' or 'Batch-USB' to collect data.
- When data collection is complete, set '3. Com Mode' to 'Interactive-BTH' or 'Interactive-USB' and, depending on the Host connection interface, set 'BTH Protocol' to 'BTH SPP' and 'USB Protocol' to 'USB VCP'.
- Connect the Demo App and click the 'Stored Data' menu. If user press the 'Load' button in the 'Stored Data' menu, the saved data is transferred to the Demo App.



For details on how to use the Android demo application, refer to the 'ATID Reader Demo Guide' document included in the SDK.

Using the Android Demo Application


- 1) In order to transmit/receive data to/from the **AT188N Plus** with the Android platform device, select '3. Comm & Mode' → '1. BTH Protocol' should be set to 'BTH SPP', and '3. Comm & Mode' → '3. Com mode' must be set to 'Interactive-BTH'.
- 2) User can download the demo app through 'Google App Store' or install it on the host device by using the installation file included in the SDK.



For details on how to use the Android demo application, refer to the 'ATID Reader Demo Guide for Andorid' document included in the SDK.

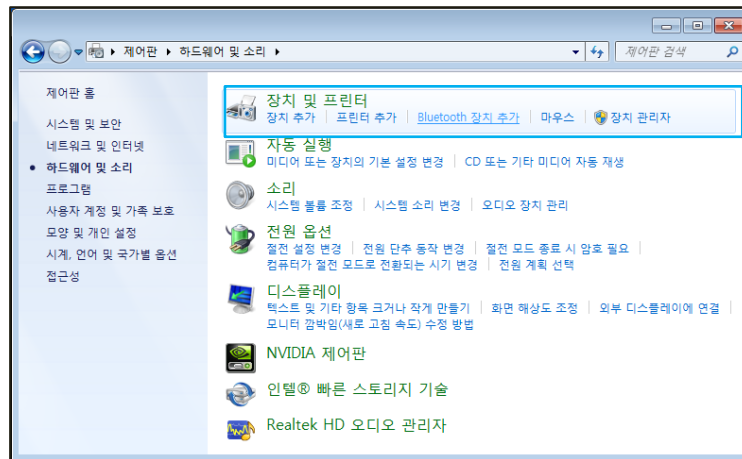
Windows Host Bluetooth Connection Settings

The AT188N Plus requires a PC with built-in Bluetooth functionality or a dedicated Bluetooth dongle to transmit/receive data from Windows platform devices using Bluetooth. This chapter describes how to connect Bluetooth to Windows 7 and Windows 10, the typical Windows platforms.

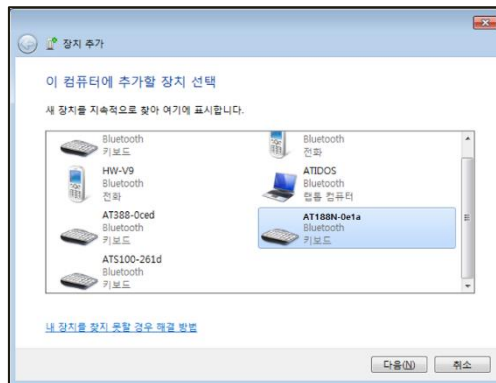
- For details related to the Bluetooth function of the host device, please check with the place of purchase of the PC or the person in charge of product installation.
- In this chapter, it is assumed that the Bluetooth-related driver is installed normally.
-  For any problems that occur during the use of the product or during the installation process, please contact the dealer or manufacturer where you purchased the product.
- If the Bluetooth driver is not installed normally, or if a special driver supported separately by Windows 7 and Windows 10 OS is used, the contents of this manual may not match.

1. Windows 7 Platform

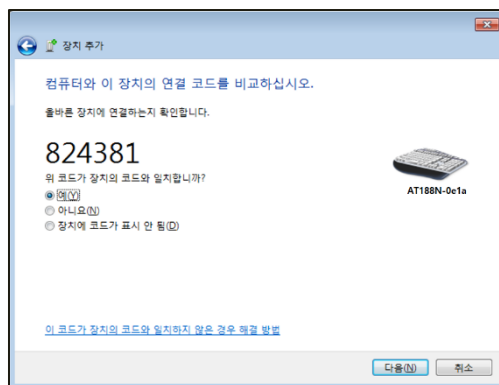
- 1) After entering the Device Setting Mode, set the system to '5. Network Setup → 2. Host Paring → 3. BTH Pairing'.
- 2) Select 'Start → Control Panel → Hardware and Sound → Devices and Printers → Add Bluetooth Device'.



- 3) The Bluetooth device is automatically searched. After selecting the 'AT188N-XXXX' that you want to connect to, press 'Next (N)' to proceed with adding a device.



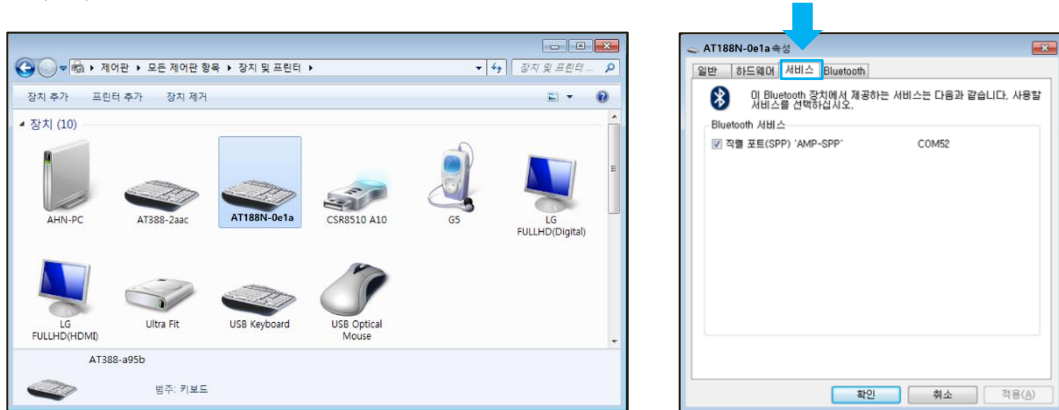
- 4) When the connection code confirmation window is displayed, click 'Next (N)' to proceed. The connection code does not need to be specially changed.



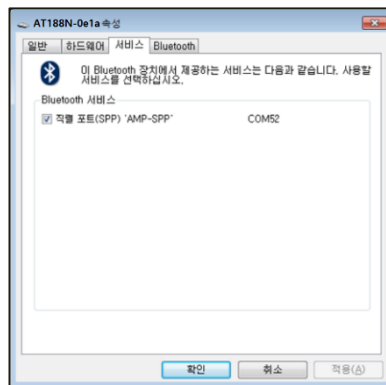
- 5) After a while, Windows7 will automatically search for the driver and proceed with the installation, and the screen will display a message Add device complete.



- 6) Double-click the newly added 'AT188N-XXXX' in 'Control Panel → Devices and Printers' to display its properties, and then move to the 'Service' tab.



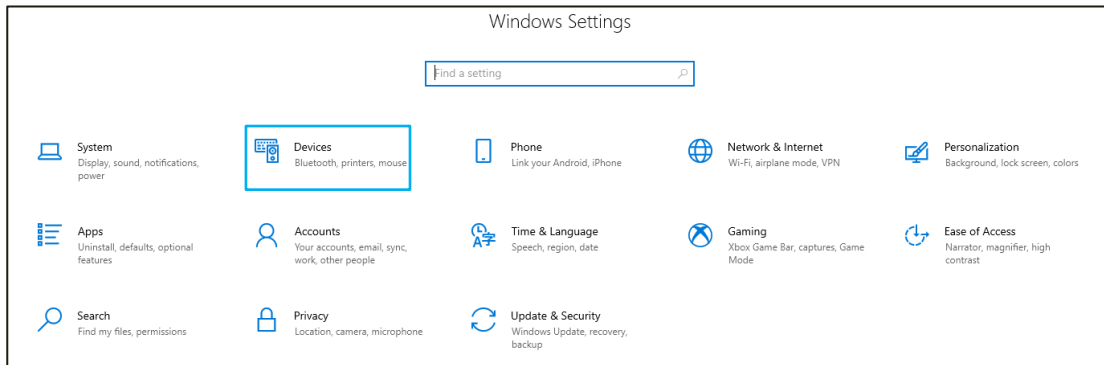
- 7) After checking all the services that appear in the Bluetooth service, click the OK button to finish adding services and adding Bluetooth devices. From this menu, user can find the COM port information assigned to the Bluetooth device.



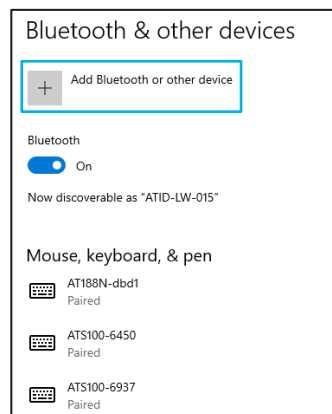
- 8) After that, exit the **AT188N Plus** setup menu and set it to the desired operation mode before using it.

2. Windows 10 Platform

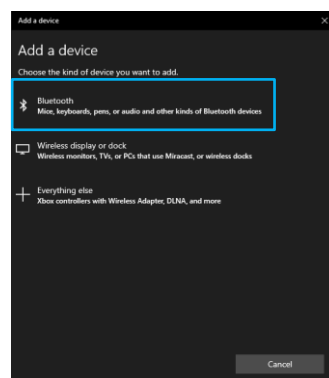
- 1) After entering the Device Setting Mode of **AT188N Plus**, move to '5. Network Setup → 2. Host Pairing → 3. BTH Pairing'.
- 2) Enter the Windows Settings menu through '  Start →  Settings' of Windows.
- 3) Select 'Device' menu in Windows settings.



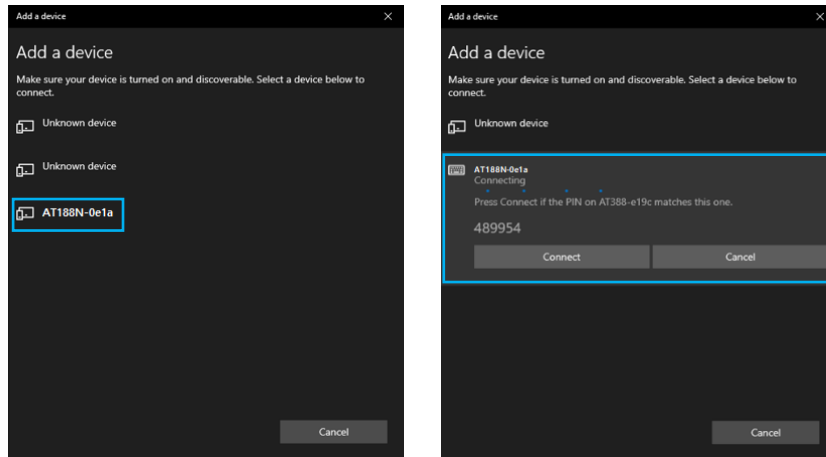
- 4) Check that the Bluetooth function is turned on. If it is off, turn on the Bluetooth function.
- 5) Select 'Add Bluetooth or other device' menu.




- 6) Select the device type to add as Bluetooth. When selected, it starts searching for nearby Bluetooth devices that are requesting pairing.

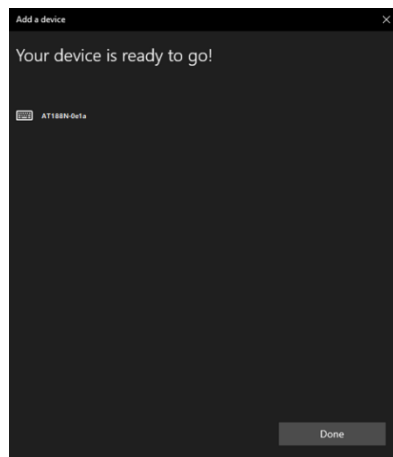


- 7) If you click the device you want to connect to among the found Bluetooth devices, the pairing information screen of the target device is activated. After checking that it matches information of the screen of **AT188N Plus**, if it matches, click the 'Connect' button.



 The 4 digits after the device name to be searched are the last 4 digits of the Bluetooth Module MAC Address. This 4 digit value is entered as a different value for all devices.

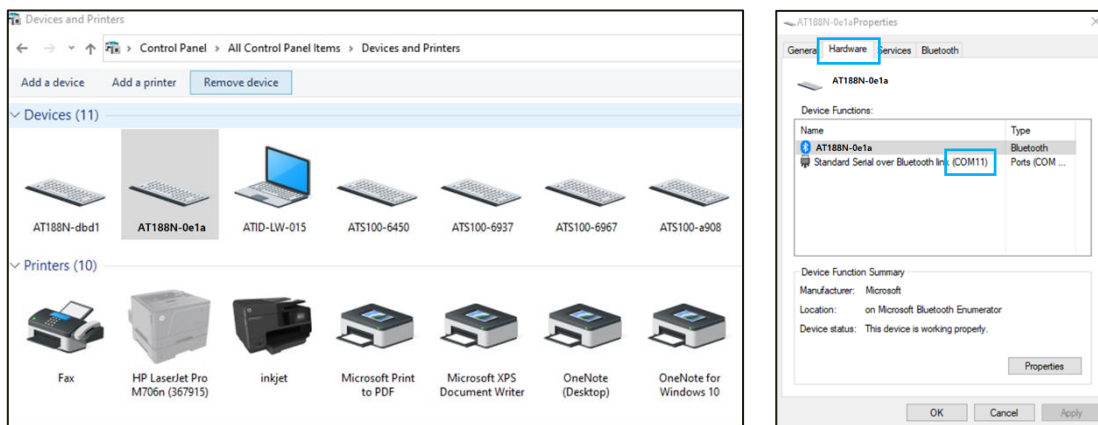
- 8) When pairing is completed normally, 'Your device is ready to go!' message is displayed. Click the Done button to complete the pairing process.



- 9) When the device is added successfully, the device will be registered with the message 'Paired'.



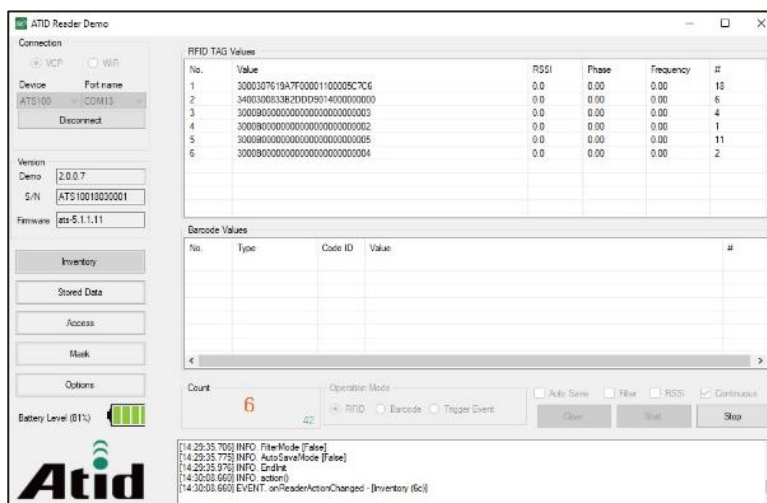
The COM Port information assigned to the device can be checked in the 'Hardware' tab of the 'Properties' of the connected device in 'Devices and Printers' of the control panel.



- 10) After confirming that the **AT188N Plus** and the host device are connected, exit the Device Setting Menu and set the desired operation mode before use.

Using the Windows Host Demo Application

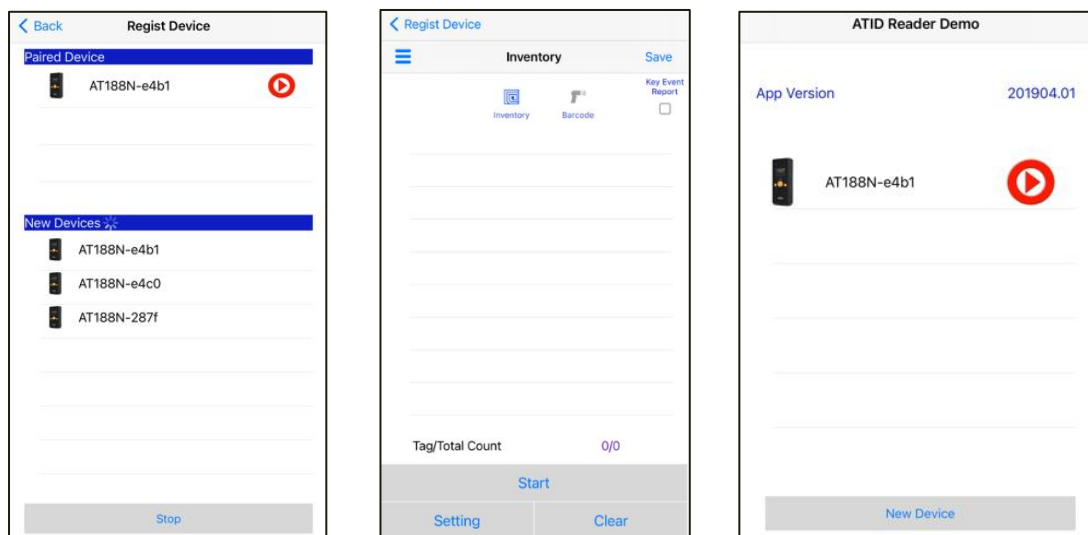
- 1) To connect **AT188N Plus** and Windows Host device, connect via Bluetooth or USB.
- 2) According to the connection method, '3. Comm & Mode' → '3. Com mode' must be set to 'Interactive-XXX'.
- 3) User can install the demo app included in the SDK on the host device.




For details on how to use the Windows demo application, refer to the 'ATID Reader Demo Guide for Windows' document included in the SDK.

Using the iOS Host Demo Application

- 1) In order to transmit/receive data to/from the **AT188N Plus** with the iOS platform device, select '3. Comm & Mode' → '1. BTH Protocol' must be set to 'BTH BLE', and '3. Comm & Mode' → '3. Com mode' must be set to 'Interactive-BTH'.
- 2) User can download the demo app through the 'App Store'.



-  The demo application is available from iOS version 10.2 or later.
- For details on how to use the demo app, refer to the '[ATID Reader Demo Guide for iOS](#)' document included in the SDK.

Firmware Update

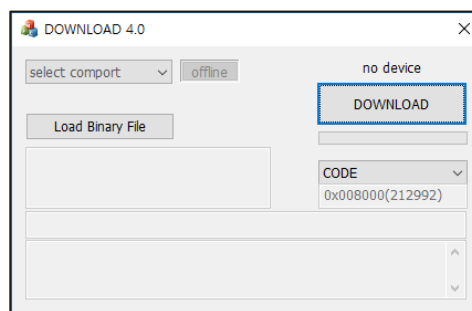
This product may be updated in the future to enhance its functionality and performance. If there is a problem during Firmware's update operation, the product may not be recoverable. So if you don't have knowledge of software and hardware, please contact your place of purchase or manufacturer for updates.

1. Firmware Update Preparation

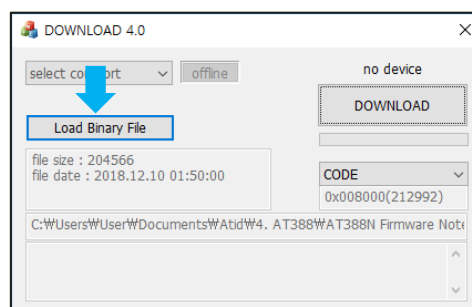
- 1) PC with Windows 7 or higher version (USB 2.0 Port)
- 2) AT188N Plus
- 3) Micro USB Cable
- 4) Firmware File (xxx.bin)
- 5) Firmware Update Tool (Available from reseller or manufacturer if required)

2. Firmware Update Procedure

- 1) Save the firmware file in a specific folder on your PC.
- 2) Execute the firmware update program.



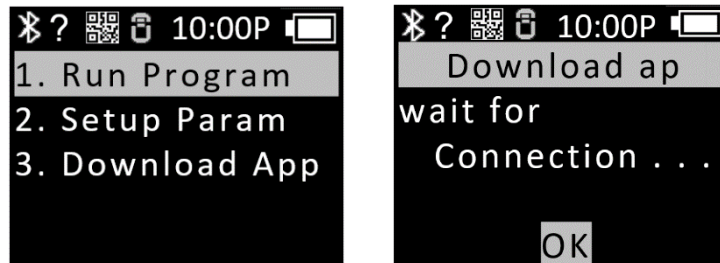
- 3) After clicking the 'Load Binary File' button, designate the folder where the firmware file was previously saved.



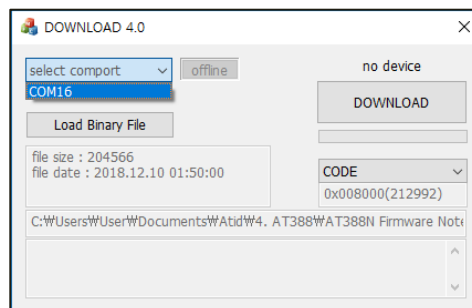
- 4) Connect **AT188N Plus** to PC using USB Cable.



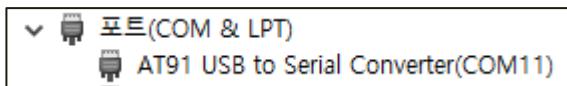
- 5) Enter '3. Download App' from 'Device Setting Menu'.



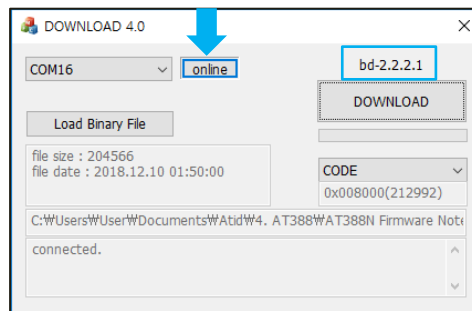
- 6) Click the 'select comport' button of Firmware Download Tool. Then, select the COM Port assigned to **AT188N Plus** connected to your PC.



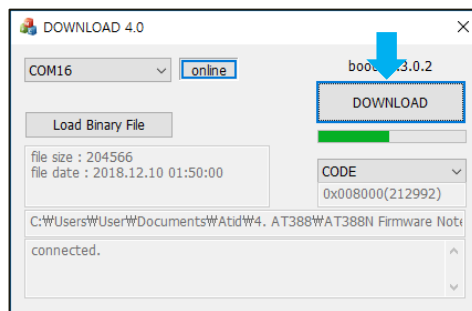
- COM Port is assigned a different number depending on the PC situation.
- Control Panel 'Device Manager → Ports (COM & LPT)' Please check the COM Port number assigned to 'AT91 USB to Serial Converter' before entering.



- 7) Click the 'offline' button to attempt to connect to the device. When connected normally, the button changes to 'online' and displays the current firmware version.



- 8) Click the 'DOWNLOAD' button to start the firmware update.



- If the update is interrupted while the update is in progress, the device may become unusable.
- The update may fail due to external factors. In this case, please try again.

- 9) After a while, the product will automatically restart when the download is complete.

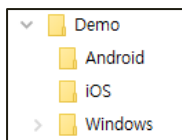
SDK (Software Development Kit)

When the device operates in interactive mode, a separate program must be developed by referring to the SDK provided by ATID in order to utilize the data transmitted from the host device. ATID Bluetooth Reader SDK supports three platforms: Android, Windows, and iOS.

Platform	Development Tool	Development Language
Android	Andorid Studio	Java
Windows	Visual Studio	.NET Framework (C#), UWP (C#)
iOS	XCODE	Objective-C
SDK Package Configuration	Details	
Demo	Demo Application	
Doc	Development documents such as user guides / manuals, programmer guides, demo guides, etc.	
Lib	Library for application development	
Sample	Sample Code	
USB Drive for Windows	Windows USB Driver of ATID Bluetooth Reader	



Each folder is composed of subfolders for each platform as shown below.



Product Warranty

1. AT188N Plus Product Details

For more information on product details **AT188N Plus**, please visit the address below.

<http://www.atid1.com>

2. SDK Download

If you need an **AT188 Plus** SDK, please contact us or the place of purchase.

3. Warranty and Technical Support

All **ATID** products can be repaired free of charge for one year based on the product manufacturing date. However, in principle, any defects caused by customer carelessness in use shall be repaired even during the free repair period.

For warranty, technical support and inquiries on this product, please contact the distributor or **ATID**.

4. Certifications

This product is KC, FCC, CE and TELEC certified, but we are not responsible for any issues arising during use outside of the certified area.

For details, please contact the distributor or **ATID**.

ATID

Address : #1402, 83, Gasan Digital-1ro, Geumcheon-gu, Seoul, Republic of Korea (Zip code. 08589)
Phone : +82-2-544-1436
Fax : +82-2-859-0045
Homepage : www.atid1.com
Email : inquiry@atid1.com

The contents of the user manual are subject to change without notice for product specifications change or improvement.