Atid
All that Identification

AT388 USER GUIDE

ATID Co.,Ltd
Ver 1.2

Contents

Before the Beginning

The objective of user guide is to pass the basic contents related with AT388`s 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.

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Product Overview

AT388 is a Barcode/RFID reader product. This product meets the basic performance of industrial products that can be used in waterproof/dustproof/dustproof and 1.5m drop tests above IP65 and as a data collector in various fields, including medication management, inventory management, logistics delivery/tracking, production and access control.

This product can collect 1D/2D barcode and UHF RFID tag data with one device, and the collected data can be transmitted to the host device through Bluetooth or USB transmission method in Realtime/Batch/Interactive method. SDK is supported so that the collected data can be easily processed by host devices equipped with Windows, Android, and iOS.

Key Features

1) AT388 is a strong industrial product that meets IP65 and 1.5m drop standards.
2) AT388 comes with Honeywell high performance Barcode Engine N4680.
3) The Impinj's high performance R2000 Module is equipped, allowing the UHF RFID Tag to be read/write at high speed.
4) Supports 3 Operation modes : Realtime / Batch / Interactive.
5) User can connect to PC through Micro USB and charge it at the same time as transfer data.
6) Even if user doesn't have a charging adapter, user can charge device using a regular smartphone charger.
7) 18650 type Li-ion battery was applied, which is widely used in the market.
8) User can check the captured data immediately through the 1.3 inch OLED Display.
9) The battery can be easily replaced. If the battery runs low during use, the battery can be replaced.

Product Specifications

Performance		
Processor		ARM7 Core
Supported Platforms		Windows, Android, iOS (BLE Only)
Internal Storage		1M byte Flash Memory
Physical Characteristics		
Dimensions (W x L x H)		50 x 164 x 30 (54) mm
Weight		210g (Reader Only, without Battery)
Power		3,200mAh Lithium-Ion Battery (Rechargeable, 18650)
Display		1.3 inch OLED Diaplay
USB Interface		1 USB Port / Micro USB
Notification		LED Indicator, Buzzer, Vibrator
Data Collection		
RFID (UHF)	Protocol	EPC GEN2, ISO/IEC 18000-6C
	Reading Range	~ 6m (Depending on environment and tag type)
	Writing Range	~ 0.5m
	RF Ouput	1W (MAX)
	Frequency Range	US / FCC : 902MHz ~ 928MHz EU / CE : 865MHz ~ 868MHz KR / KC : 917MHz ~ 921MHz JP / TELEC : 916MHz ~ 921MHz (1W) : 916MHz ~ 924MHz (0.25W / Optional)
	Antenna	Circular Antenna / 1dBi
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

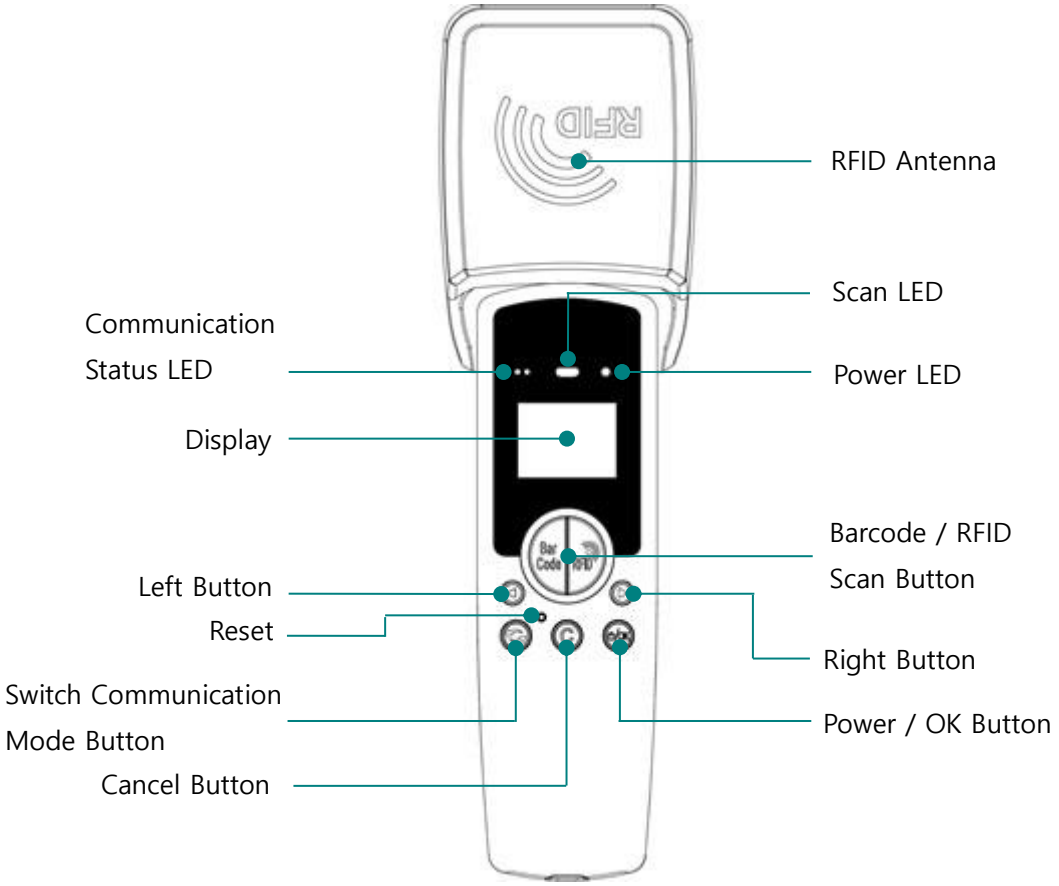
AT388

Micro USB Cable

Battery

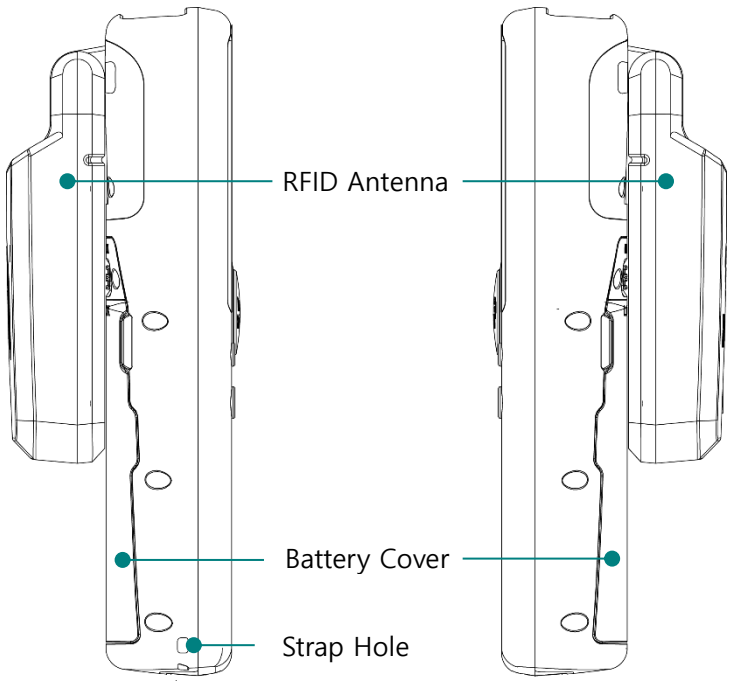
Hand Strap

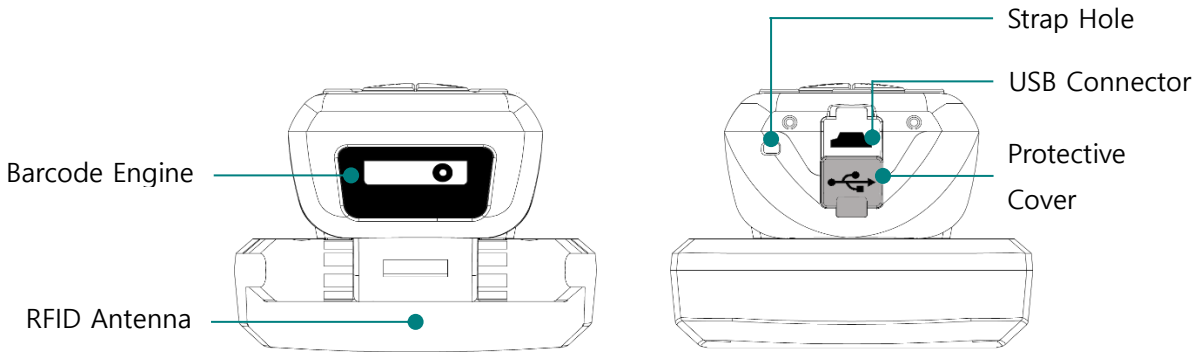
2. Product Appearance - Front



1) **Scan LED** : When the barcode or RFID tag information is recognized, the blue LED is turned on-off.
2) **Barcode / RFID Scan Button** : Press the Barcode and RFID scan button to perform the function of each button.
3) **Communication Status LED** : Displays the connection status of Bluetooth and USB.
4) **Power LED** : Displays the charging status. (Red : charging, Green : fully charged).
5) **Display** : Displays the current status of the product and collected data.
6) **Left / Right Button** : Moves items such as menu selection or calls the setting menu.
7) **Communication Mode Switching Button :** Switches the USB and Bluetooth modes by this button.
8) **Reset Button** : Rebooting the product.
9) **Cancel Button** : Cancel or Call the upper menu.
10) **RFID Antenna :** Circular type RFID antenna. 180° tilt structure is applied.

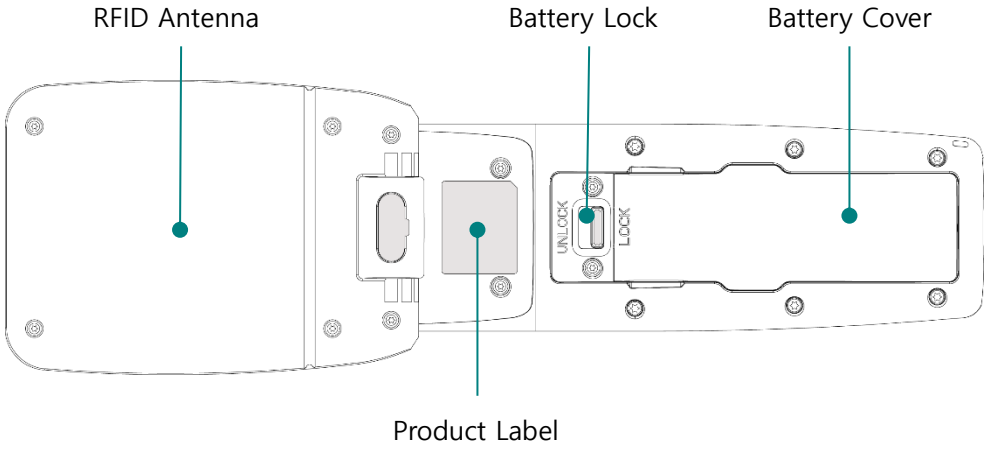
3. Product Appearance – Left / Right , Top / Bottom





1) **Barcode Engine :** Barcode engine that can recognize barcode data is located.
2) **USB Connector :** For charging and data transfer, it can be connected to a PC or a charger by connecting a Micro USB.
3) **Strap Hole :** A neck strap or hand strap included with the product can be connected.
4) **Protective Cover** : When the USB port is not in use, a protective cover is used to protect it from external contamination.

4. Product Appearance – Back



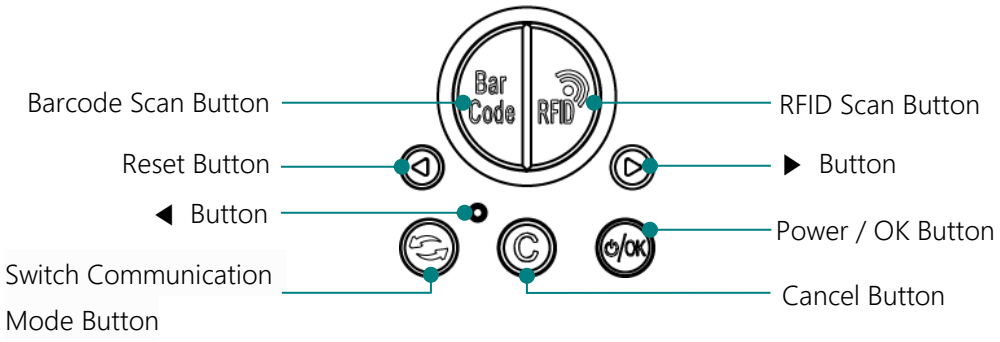
1) **Battery Cover** : A cover to protect the battery. Removing the cover exposes the battery.

2) **Battery Lock** : A structure for fixing the battery cover. Put the battery lock in the 'LOCK' position to fix the battery cover, and put it in the 'UNLOCK' position to open the battery cover.

3) **Product Label** : A label is attached on here that showing the input voltage and certification information, etc, and the manufacturing serial number.

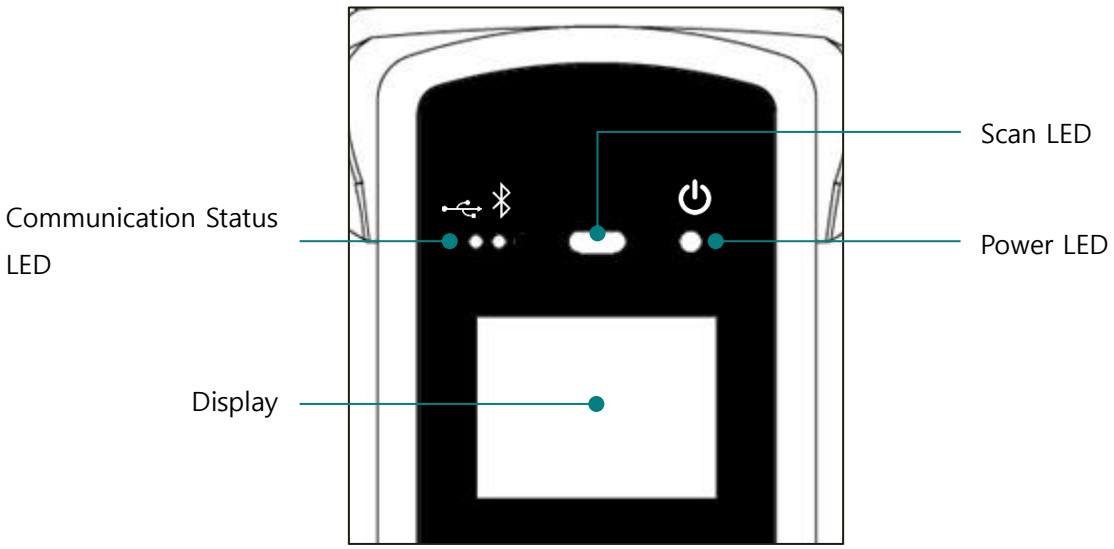
Operation of the product

1. The purpose and function of the buttons



1) **Barcode Scan Button** : When the button is pressed, the barcode is scanned.
2) **RFID Scan Button** : When the button is pressed, the RFID Tag is scanned.
3) **◀ Button** : Scrolls the screen upwards or selects the previous item. Press and hold to display the settings menu.
4) **▶ Button** : Scrolls the screen downwards or selects the next item.
5) **Reset Button** : Rebooting the product.
6) **Communication mode switching button** : Switches the communication mode to USB or Bluetooth.
7) **Cancel Button** : Cancels the current selection in the Settings menu and returns to the previous step.
8) **Power / OK Button** : Press and hold for 1 second or longer to turn the power on/off, or select a specific item.

2. Configuration and Operation of LED



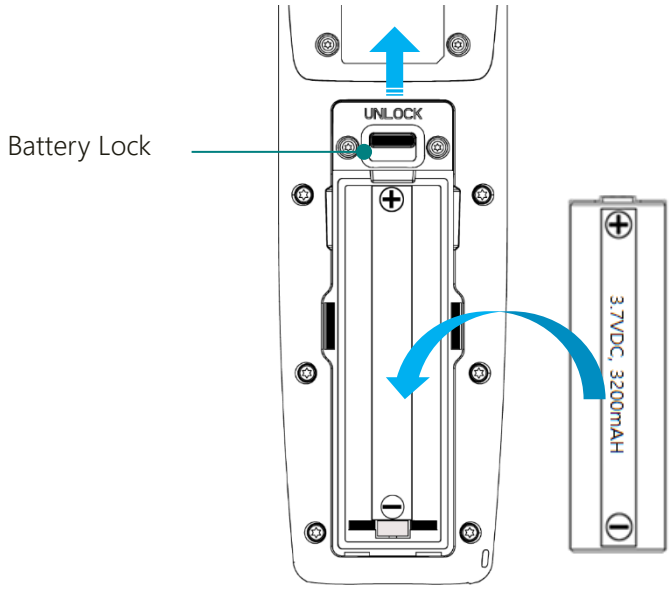
1) **Communication Status LED** : Displays the communication method currently being used. Each time the communication switch button is pressed, USB( ) and Bluetooth( ) two modes are switched, and each LED operates as follows according to the connection status with the host device.

- Blinks LED quickly : Indicates that waiting to connect to the Host device..
- Blinks LED slowly : Indicates that the Host device is connected in the current communication mode.
- When LED off : No attempt to connect to the Host device.

2) **Scan LED** : The blue LED turns on when recognizing Barcode or RFID information according to the setting.

3) **Power LED** : The red LED turns on when the product starts charging. Conversely, when the battery is low and flashes when charging is required. The green LED turns on when charging is complete.

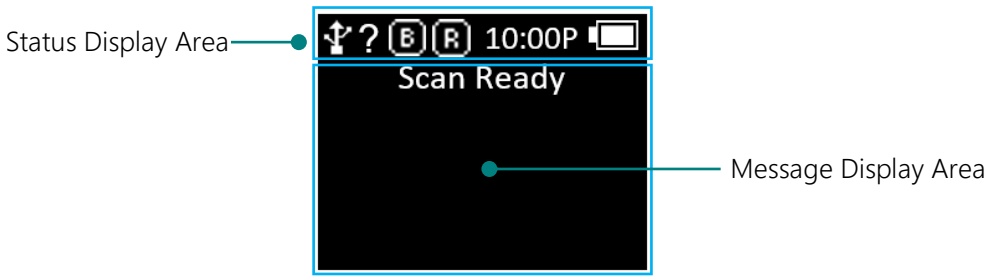
3. Battery Replacement



1) Push up the battery lock on the back of the product to the UNLOCK position.
2) Remove the battery cover.
3) Remove the installed battery and insert a new battery into the battery slot with the + and - polarities aligned.
4) After assembling the battery cover again, move the battery LOCK to the LOCK position to fix the battery so that it does not come off.

Screen Configuration

AT388 displays various contents such as displaying the current status of the product and read data through a small OLED screen. The screen is divided into a status display section and a message display section.



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) B , R : Displays Scanner Mode and the activation status of Barcode (B) and RFID (R) 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

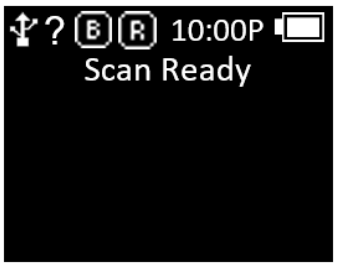
Displays captured the barcode and RFID tag information and the quantity of currently recognized data.

Selection of Operation Mode

AT388 operates in three modes: scan mode, scan setting mode, and Device setting mode.

1) Scan Mode

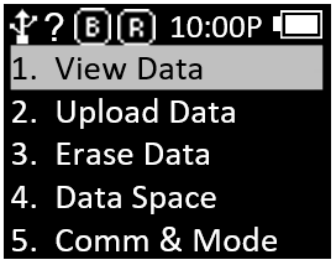
This is the first screen user can see when user turns on the product, and it is a mode in which user can check the read barcode and RFID tag in real time or connect with a host device.



2) Scan Setting Mode

1) In this mode, the user can check the read barcode or RFID tag information, manage the storage memory, and select the communication mode.

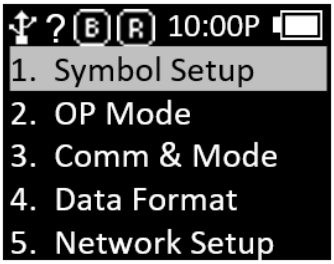
2) In 'Scan Mode', press the '◀ button' for 2 seconds to enter.



3) Device Setting Mode

1) Set all functions related to product operation or change the set contents. The user can mainly change the reader operation mode setting, communication mode setting, and system setting.

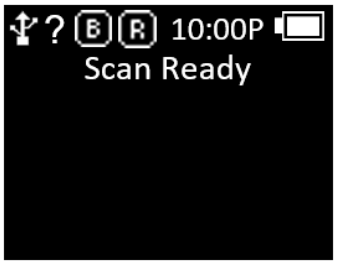
2) In the power off state, press the '◀ Button' and turn on the power by pressing Button to enter.



Power ON, OFF

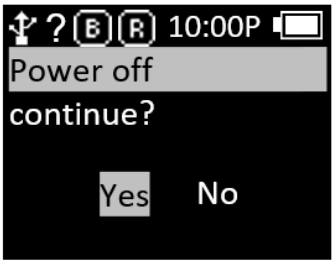
1. Power ON

1) Press and hold the ⏻/OK button for about 2 seconds.
2) After 'Booting....' message is displayed on the screen, the scan screen is displayed after a while.
3) After 'Scan Ready' message is displayed on the screen, user can start to read Barcode data or RFID Tag data.



2. Power OFF

1) After the AT388 boots normally, press and hold the ⏻/OK Button for about 2 seconds to display a message to confirm whether the power is off.
2) Select 'YES' using '◀ button' or '▶ button' and press ⏻/OK Button to turn off the power.
3) Select 'No' to return to the previous operation mode.



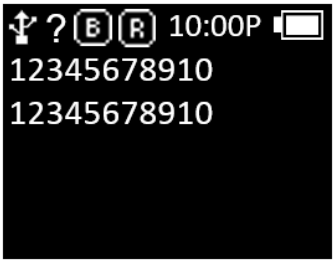
Barcode, RFID Tag Data Capture

1. Barcode Data Capture

1) Select the mode to use while the product is powered on.

For details on the mode, refer to the 'OP Mode' item in the 'Device Setting Mode' menu.

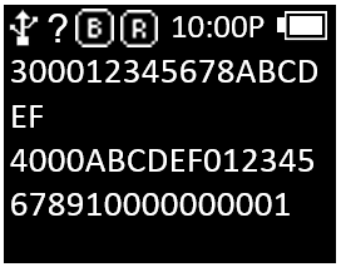
2) When the 'Scan Ready' message is displayed, user can capture the Barcode Data by pressing the 'Barcode Scan' Button.



2. RFID Tag Data Capture

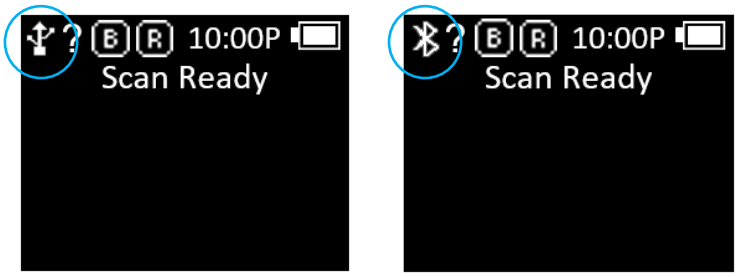
1) Select the mode to use while the product is powered on.

2) When the 'Scan Ready' message is displayed, user can capture the RFID Tag Data by pressing the 'RFID Scan' Button.



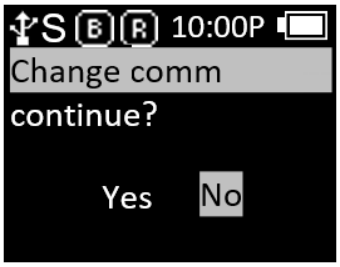
Switch Host Communication Mode

1) Select the required mode with the product powered on.
2) With the 'Scan Ready' message displayed, each time the Button is pressed, it switches to the order 'USB Mode' and 'Bluetooth Mode'.
3) When the mode is switched, the icon on the status display displays the currently set mode.



- The '?' sign changes to 'H', 'S', and 'L' when connected to the actual parent device.
- Refer to page 15 for 'H, S, and L status'.

4) Pressing the Button while connected to the Host will prompt user to switch communication.



Scan Setting Mode

The Scan Setting mode allows the menu to enter the Scan Mode by pressing the '◀ button' for 2 seconds. There are a total of five menus, and each item is as follows.

1. View Data

The ability to check data stored in internal memory in batch processing mode. User can check the following or previous items with the '◀ button' or the '▶ button'.

2. Upload Data

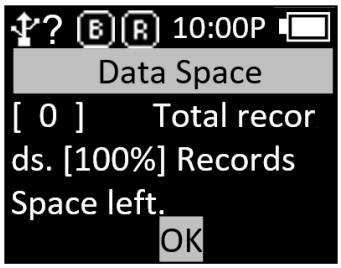
In batch processing mode, data stored in internal storage is transferred to USB, Bluetooth communication ports on the host device.

3. Erase Data

This function completely deletes the data stored in the internal storage. Data once erased cannot be recovered.

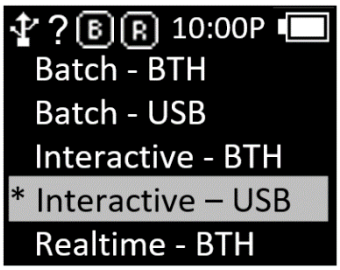
4. Data Space

This is a function to check the usage of internal storage.



5. Comm & Mode

Select the communication method and data transmission method between the AT388 and the host device. '*' indicates the currently set item.



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

Device Setting Mode

User can enter Device Setting Mode by pressing '◀ button' and Button at the same time when the power of the device is turned off. It consists of a total of 11 menus, and the contents of each item are as follows.

1. Symbol Setup

User can choose whether to recognize Barcode Symbols supported by Barcode Engine. Depending on the Barcode Engine, the items that can be set may change. Enabled items are marked with '*'. When the

Button is pressed on the item to be set, '*' is displayed. Conversely, if user press the Button on an item marked with '*', the '*' mark disappears and the symbol is disabled.

2. OP Mode

It sets the operation mode of Barcode and RFID features. Also, it sets basic functions of RFID module.

1) READER

It sets the operation mode according to Barcode, RFID scan Button input. The basic setting is that if User press the Barcode Scan Button, the barcode function works, and if user press the RFID Scan Button, the RFID works.

- BARCODE : It is set to Barcode-only mode, and the barcode is operated even when the RFID Scan Button is pressed.
- UHF RFID : It is set to RFID-only mode, and UHF RFID works even if user press the Barcode Scan Button.
- BARCORDE – RFID : When the Barcode Scan Button is pressed, the barcode is activated, and when the RFID Scan Button is pressed, the RFID is activated.
- BARCORDE + RFID : When the any Button is pressed, device capture Barcode and RFID together at the same time.

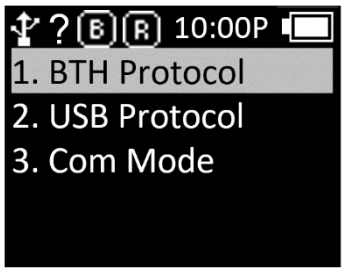
2) Report Mode

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 : Captures all surrounding tags, but recognizes the same tag only once.
- SINGLE : Stops operation when one RFID tag is recognized.
- MULTI Repeat : Recognizes all nearby RFID tags and duplicates even the same RFID tag.

3. Comm & Mode

AT388 can be connected to the host device through Bluetooth or USB. User can make detailed connection settings in this menu.



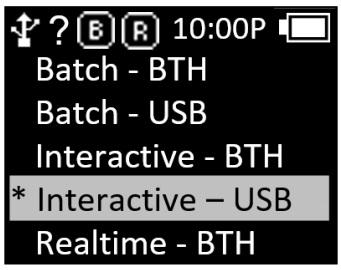
1) BTH Protocol : This is the communication protocol to use when connecting with the host device via Bluetooth.

- BTH HID : Connected through the HID (Human Interface Device), and input data to be transmitted at the cursor location according to the input through the keyboard. Users should pay attention to using this mode because the actual read data may be displayed differently depending on the data at the cursor location and the keyboard language setting of the Host.
- BTH SPP : It is connected through the Bluetooth Classic SPP (Serial Port Profile) to host device. In order to utilize the data transmitted from the host, a separate program should be developed referring to the SDK provided by ATID.
- BTH BLE : It is connected through Bluetooth Low Energy Serial Profile to host device. In order to utilize the data transmitted from the host, a separate program should be developed referring to the SDK provided by ATID.

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 : It is connected to the host device through HID (Human Interface 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.
- 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 data transmitted from the host device, a separate application must be developed using the ATID SDK.

3) Com Mode : Select the communication method and data transmission method between the AT388 and the Host device. '*' indicates the currently set item.



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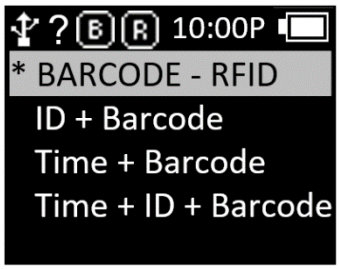
4. Data Format

This is the menu to set the format in which the captured data is output.

- The contents of this mode are explained based on what happens when the Barcode Data is recognized.
- When the RFID Tag Data is recognized, the operation may not be the same.
- Some functions are not applied in 'Interactive Mode'.

1) **Record :** After reading the Barcode Data, the user can decide to use the Barcode Type ID or Time to add when saving or sending data.



- **Barcode Only** : Only Barcode Data is saved or transmitted.
- **ID+Barcode** : Stores or transmits the ID of Barcode and Barcode Data.
- **Time+Barcode** : Time data and Barcode data are saved or transmitted.
- **Time+ID+BarcodeMode** : Time data, Barcode ID and Reading Barcode data are stored or transmitted.

2) **Time Format** : Set the time format of Barcode Data. '1. Record' setting, the Time item must be selected for this function to be applied.

- **Year** : Set whether to use year data for time data. (YYYY)
- **Month & Date** : Set whether to use month/day data for time data. (MMDD)
- **Hour & Minute** : Set whether to use hour/minute data for time data. (HHMM)

3) **Quantity** : Set whether to input the quantity of read barcode data. The Quantity setting works only

with the Barcode reading, and user can enter the quantity 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 set items are marked with '*'.

4) Numbering : When the Barcode Data is captured, the number of recognized Barcode Data is displayed on the screen including the sequence number in front of the Barcode Data. When user clear the memory, it starts over from 1.

5) Terminator : This is a function to set the delimiter to be added to the end of the data when transmitting captured data in HID mode to the host device connected to the AT388. It can be set among LF, CR, CR & LF, tab, space, semicolon, and None.

- 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 ';' at the end of the data. It sticks.
- None : Outputs data continuously without attaching anything to the end of the data.

6) UHF Report (UHF only) : Set whether to transmit PC (Protocol Control) data when transmitting UHF RFID Tag Data.

7) BARCODE IDs (Barcode only) : Set the ID format of Barcode Data. User can select either SYMBOL ID or AIM ID. The 'ID' item must be selected in 'Device Setting Mode → 4. Data Format → 1. Recode' for this function to be applied.

8) ASCII29 Setup : This is a function to change 'ASCII 29' included in Barcode Data to 'ASCII 126' and display it on the screen or transmit it to the host device.

9) User Memory : If this option is set, data in the User Memory area of Tag can be read in HID mode.

- User Inv Mode : Determines whether to use User Memory Data Reading option.
- User Offset : Set the starting point for User Memory Data Reading. (Default : 2 (word))
- User Length : Set the length of data when reading User Memory Data. (Default : 9 (word))

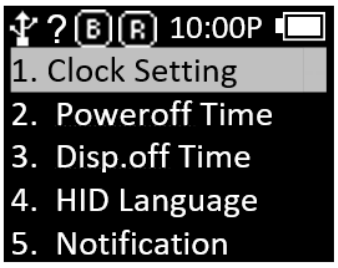
5. Network Setup

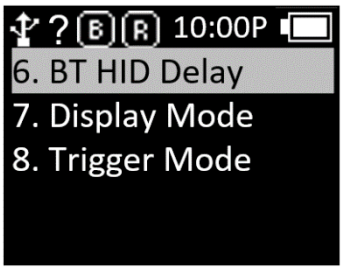
Set information related to Bluetooth wireless connection.

1) Host Pairing : When using Bluetooth connection mode, it provides a function for pairing with the Host device.
   - '1. BTH Pairing' : Changes to standby for pairing with the Host device through Bluetooth and exchanges information related to pairing. The device identification name required for pairing is also displayed.

6. System Setup

Set the time, buzzer, vibrator, display, etc. options of AT388.

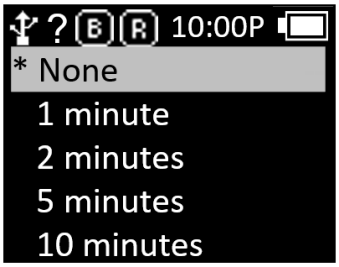




1) Clock Setting : This is a menu to set the current time of AT388. The specified time can be used with Barcode Label Data.

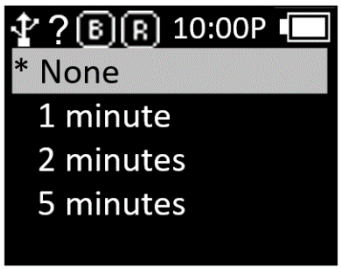
Please set the time regularly as time errors can occur.

2) Poweroff Time : User can set the time to automatically turn off the power when not in use.



- User can select the time from 1 minute, 2 minutes, 5 minutes, 10 minutes, 30 minutes, 60 minutes, 120 minutes and None.
- After the display is turned off, the device automatically turns off after a specified period of time.
- '*' is displayed in front of the currently set time.

3) Disp.off Time : To save battery, user can set a time to turn off the display among 1 minute, 3 minutes, 5 minutes, or None, and the display will automatically turn off according to the specified time.



4) HID Language : When connected in HID mode, set the keyboard language type. User can choose from 'UNIVERSAL', 'FRENCH', 'UK' and 'US'.

5) Notification : Set the action when a button is pressed or in an Alert situation.

- Button Notify : Set whether to operate 'Beep', 'Vibrate', and 'Light' when the button is pressed.
- Alert Notify : Set whether to operate 'Beep', 'Vibrate', and 'Light' in Alert situations such as booting, scan success, or connection/failure with Remote. The operating time may vary depending on the situation.
- Button Mode : Select the duration of Button Notify from 'None', 'Short', or 'Long'. If set to None, there is no reaction when the button is pressed, and if set to 'Short', it operates for 0.3 seconds. When set to 'Long', it continues to operate until the button is released.
- Bar NR Alert : Set the Barcode Engine reading failure alert among 'No Alert', 'Two short Alt', and 'One long Alt'. It works only when 'Alert Notify → Beep' Option is enabled.

6) BT HID Delay : Set the delay time when transmitting data to the Host device in Bluetooth HID Mode. User can select from 3ms, 10ms, 20ms, 30ms, 40ms, 50ms, and 60ms. If there is a problem with data transmission in Bluetooth HID Mode, please set the Delay longer.

7) Display Mode : Set the data format of UHF Tag Data. The format transmitted to screen and Host device are changed. If the communication mode is Interactive Mode or the UHF RFID Data Report setting is set to 'PC+EPC', it may not operate normally.

8) Trigger Mode : It sets the method of stopping operation of Barcode or RFID Data Reading Feature.

- STD Start Stop : Pressing the Barcode or RIFD Scan Button activates the function, and releasing the button stops the function.
- C Button Stop : If user press the Barcode or RIFD Scan Button, the corresponding function operates, and if user press the © Button, the corresponding function stops..

9) Button Hold : In scan mode, determine whether to use adjusting RF power level option by ◀, ▶ button.

7. Config Setup

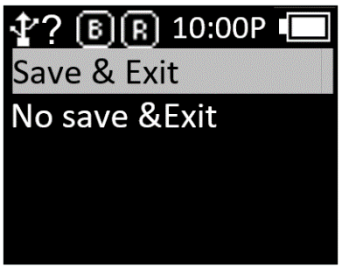
In this mode, the connection mode is changed so that it is connected through a PC and a USB VCP (Virtual Serial Port). For the dedicated setting program for PC, please refer to the separately distributed manual.

8. Factory Reset

Returns all settings to factory defaults.

9. Exit

1) Exit system setup.
2) If user selects 'Exit' menu, it goes to the menu asking whether to save as shown below. User has to select 'Save & Exit' if user want to save changed settings.



10. F/W Version

Displays the firmware version updated in this product. Users can change the firmware to improve the product's functions or change the default operation. For details on firmware, please contact the reseller or manufacturer.

11. Download FW

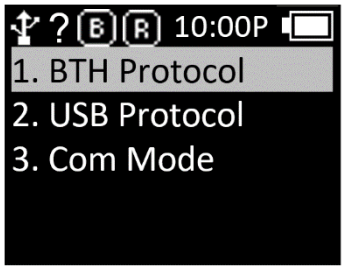
This function is used to update the firmware of the product. For details, please refer to 'Firmware Update' Chapter.

Using Batch Processing Mode

If AT388 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.

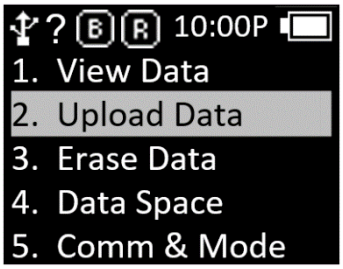
4) Enter the '3. Com Mode' menu and select 'Batch-BTH' or 'Batch-USB' depending on the interface to be used for data transmission.

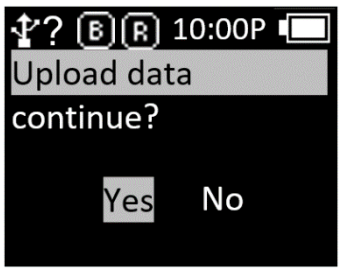
2. Transmission of stored data

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

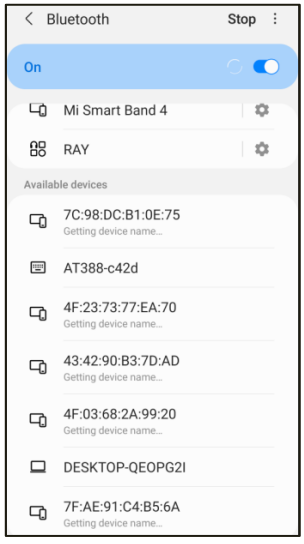
1) **Example #1** : Data transmission method when setting 'Batch-BTH' , Android Host, 'BTH-HID'.
   - Reading Barcode or RFID Tags under batch processing mode. The read data is displayed on the **AT388** screen.
   - In 'Scan Mode', press '◀ Button' for 2 seconds to enter 'Scan Setting Mode'.
   - Select '2. Upload Data' menu.

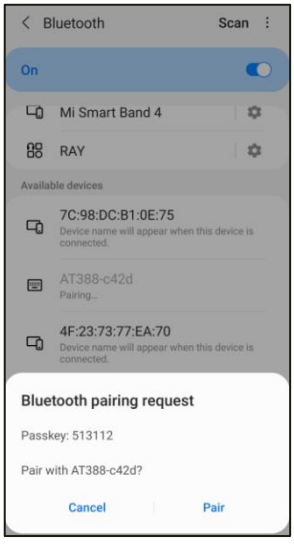




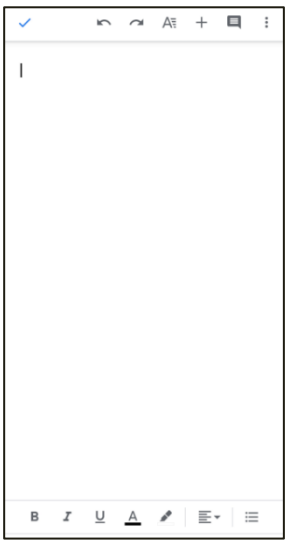
User must proceed to the next step without pressing 'YES'.

   - Search for '**AT388-XXXX'** in Bluetooth Device Scan Menu of Android Host and register it.

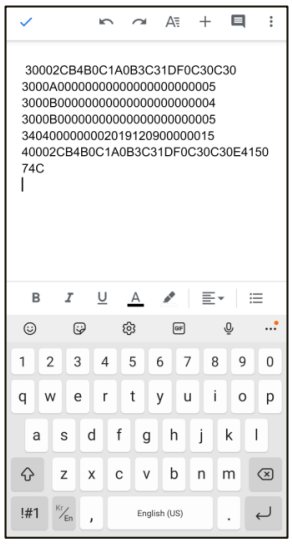


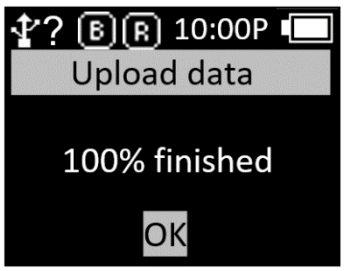


- Place the cursor on the App that user wants to transfer the stored data.



- 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.



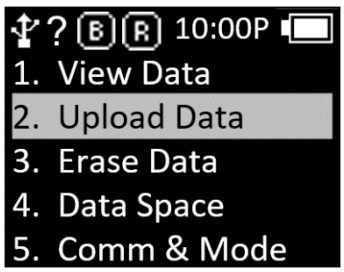


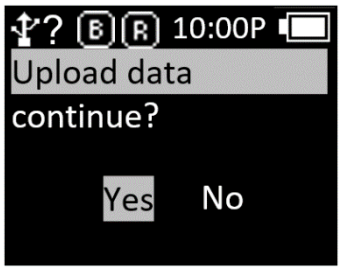
- If input 'OK' after the transmission is complete, the connection with the host is disconnected and return to the 'Scan Setting Mode' menu.

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 **AT388** screen.
- In 'Scan Mode', press '◀ Button' for 2 seconds to enter 'Scan Setting Mode'.

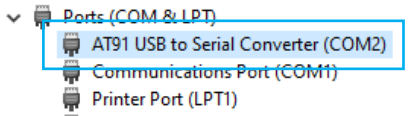
- Select '2. Upload Data' menu.





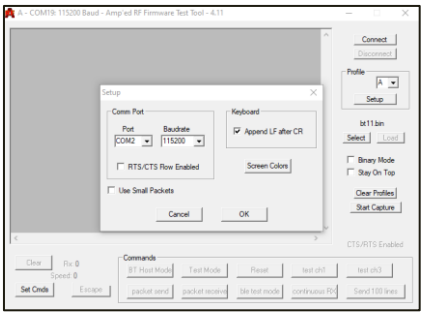
User must proceed to the next step without pressing 'YES'.

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

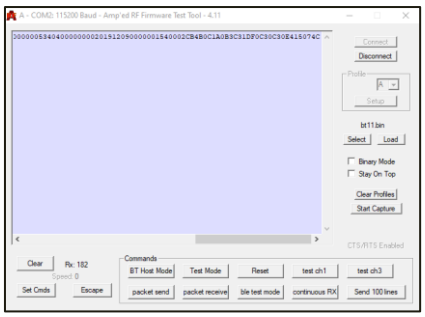


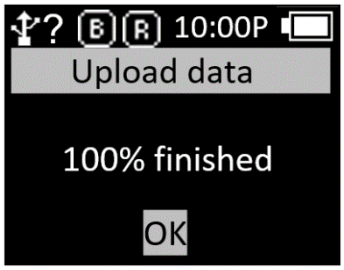
The assigned COM port number varies depending on the host situation.

- 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.



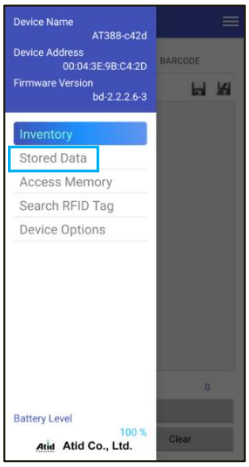


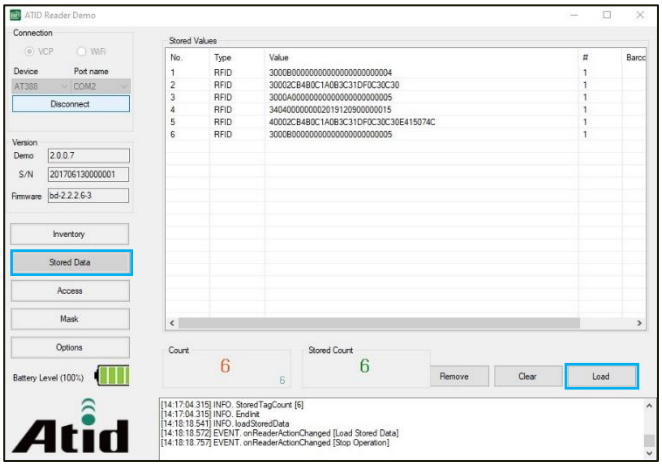
Unlike 'HID' mode, since there is no terminator, data is output continuously without line breaks.

- 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.

Host Connection Mode Setting by Scanning Barcode

1. Function Description

User can easily change the connection mode with the Host device simply by reading the special barcode. User can switch between Bluetooth data communication mode (SPP, HID, BLE), USB data communication mode (VCP, HID) and Batch mode simply by reading each barcode. Default barcode can change the AT388 setting to the default.

This setting mode is supported from firmware version 'bd-2.2.2.9'.

2. Description of special barcode functions

Function	Description	Barcode
Default	Initialize the settings of the device.	Factory Default
Host BT SPP	Set the host connection mode with the host device to 'BTH-SPP' and 'Interactive-BTH'.	Host BT SPP
Host BT HID	Set the host connection mode with the host device to 'BTH-HID' and 'Realtime-BTH'. Set AT388 to BT HID mode.	Host BT HID
Host BLE	Set the host connection mode with the host device to 'BTH-BLE' and 'Interactive-BTH'. Set AT388 to BLE mode.	Host BLE
Host USB VCP	Set the host connection mode with the host device to 'USB-VCP' and 'Interactive-USB'.	Host USB VCP
Host USB HID	Set the host connection mode with the host device to 'USB-HID' and 'Realtime-USB'. Set AT388 to USB HID mode.	Host USB HID
Batch Mode	Set AT388 to 'Batch Mode'.	Batch Mode

3. AT388 Special Barcodes

Factory Default

Host BT SPP

Host BT HID

Host BLE

Host USB VCP

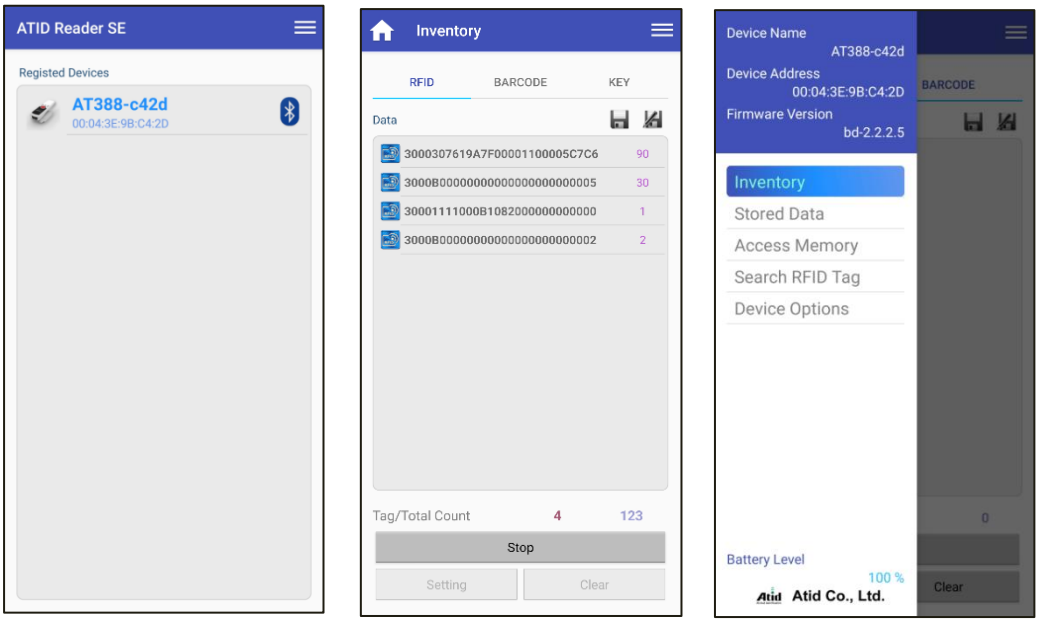
Host USB HID

Batch Mode

Using Android Demo Application

1) In order to transmit/receive data to/from the AT388 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.



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

Bluetooth Connection Settings

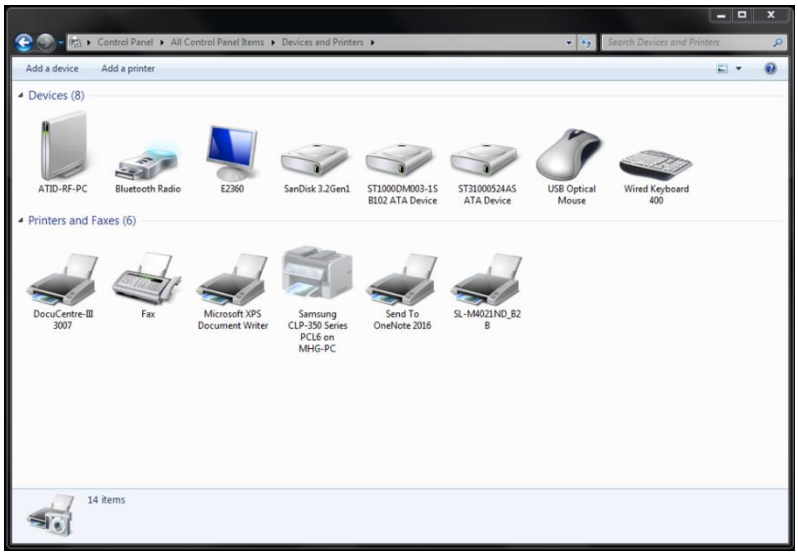
To send/receive data with a Windows platform device using Bluetooth, the AT388 requires a PC with built-in Bluetooth functionality or a dedicated Bluetooth dongle. This chapter describes the Bluetooth connection method for Windows 7 and Windows 10, which are representative Windows platforms.

- 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.

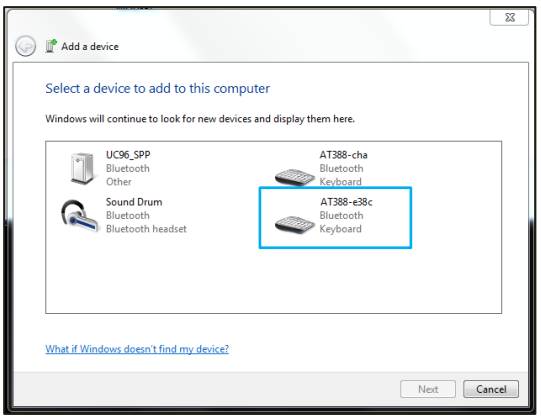
- In this chapter, it is assumed that the Bluetooth-related driver is installed normally.
- For any problems that occur while using the product or during the installation process, please contact the reseller or manufacturer where you purchased the product.
- If the Bluetooth driver is not installed normally, or if you use a special driver that is separately supported by Windows 7 and Windows 10 OS, the contents of this manual may not match each other.

1. Windows 7 Platform

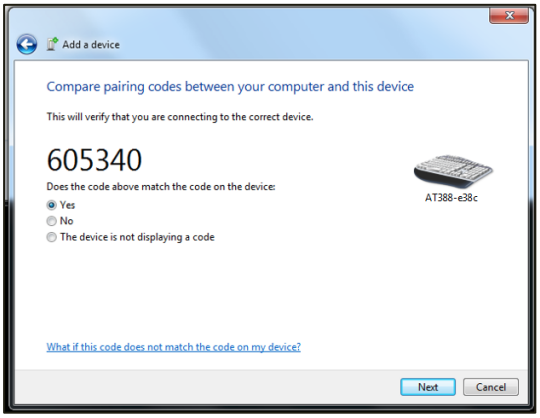
1) After entering the Device Setting Mode, set the system to '5. Network Setup → 2. Host Paring → 3. BTH Pairing'.
2) Select 'Start → Control Panel → Devices and Printers → 'Add a Device'.



3) The Bluetooth device is automatically searched. After selecting the 'AT388-XXXX' that you want to connect to, press 'Next' to proceed with adding a device.

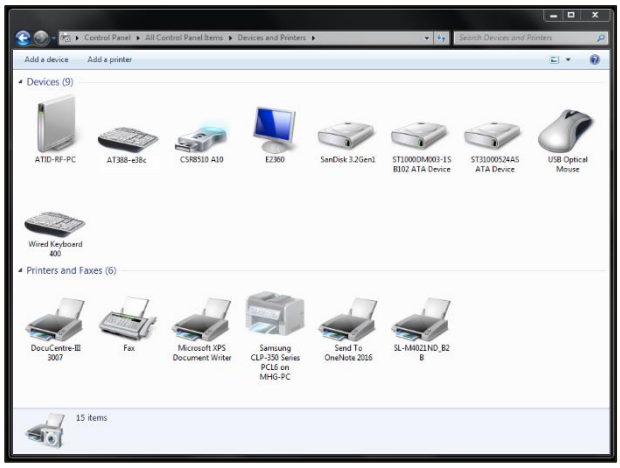


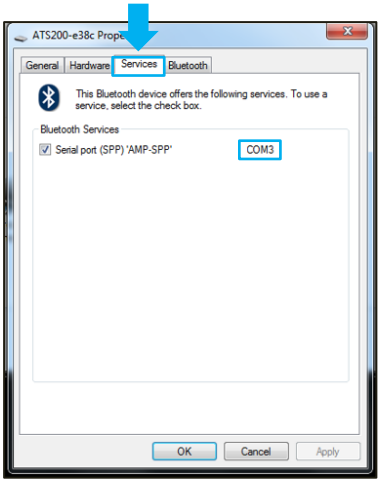
4) When the connection code confirmation window is displayed, click 'Next' to proceed. The connection code does not need to be specially changed.



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 'AT388-XXXX' in 'Control Panel → Devices and Printers' to display its properties, and then move to the 'Service' tab.



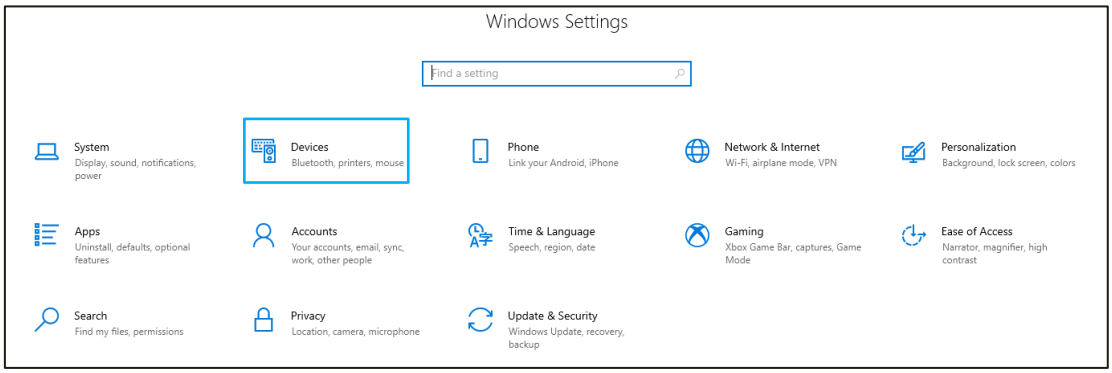


7) After checking all the services that appear in the Bluetooth service, click the OK button to finish adding services and adding Bluetooth devices. From this menu, user can find the COM port information assigned to the Bluetooth device.

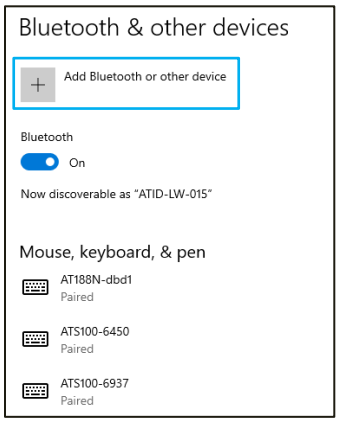
8) After that, exit the AT388 setup menu and set it to the desired operation mode before using it.

2. Windows 10 Platform

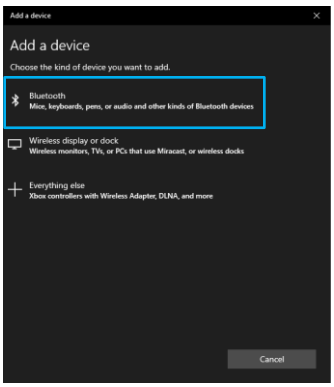
1) After entering the Device Setting Mode of **AT388**, move to '5. Network Setup → 2. Host Paring → 3. BTH Pairing'.
2) Enter the Windows Settings menu through ' Start → Settings' of Windows.
3) Select 'Device' menu in Windows settings.



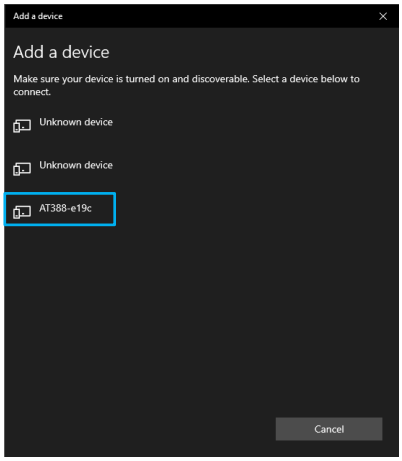
4) Check that the Bluetooth function is turned on. If it is off, turn on the Bluetooth function.
5) Select 'Add Bluetooth or other device' menu.

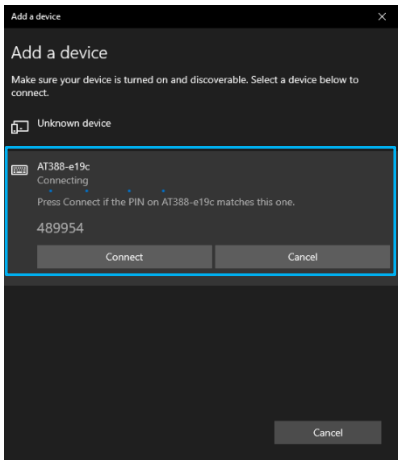


6) Select the device type to add as Bluetooth. When selected, it starts searching for nearby Bluetooth devices that are requesting pairing.



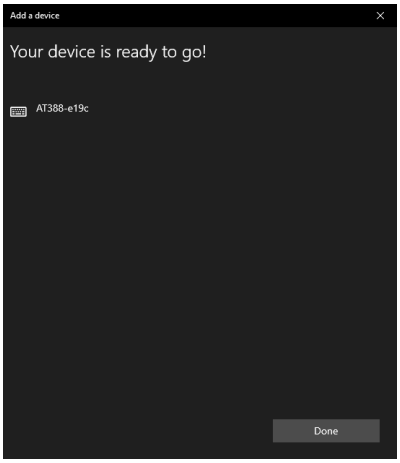
7) If you click the device you want to connect to among the found Bluetooth devices, the pairing information screen of the target device is activated. After checking that it matches information of the screen of AT388, if it matches, click the 'Connect' button.



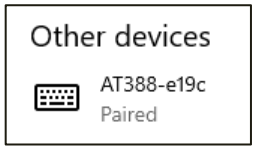


The 4 digits after the device name to be searched are the last 4 digits of the Bluetooth Module MAC Address. This 4 digit value is entered as a different value for all devices.

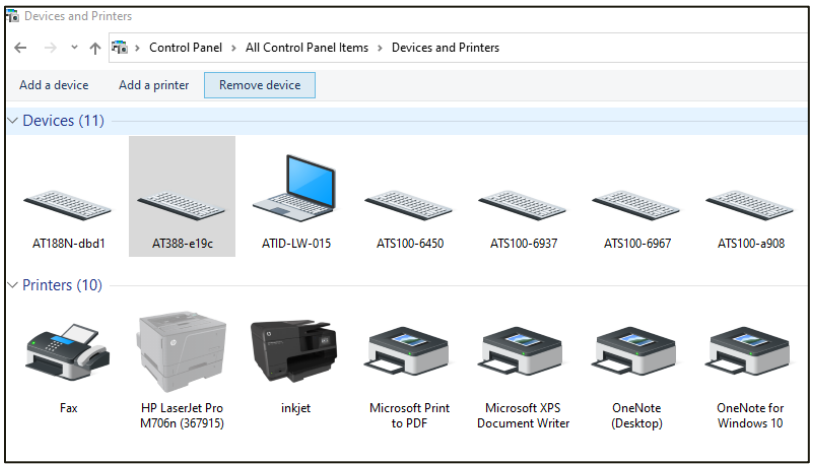
8) When pairing is completed normally, 'Your device is ready to go!' message is displayed. Click the Done button to complete the pairing process.

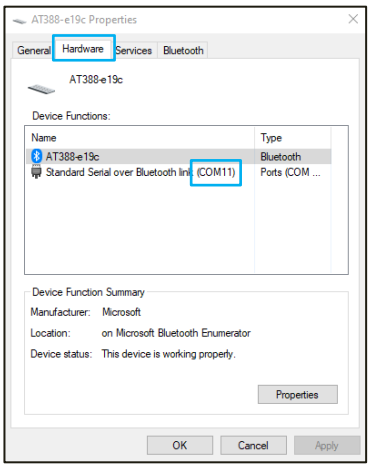


9) When the device is added successfully, the device will be registered with the message 'Paired'.



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.

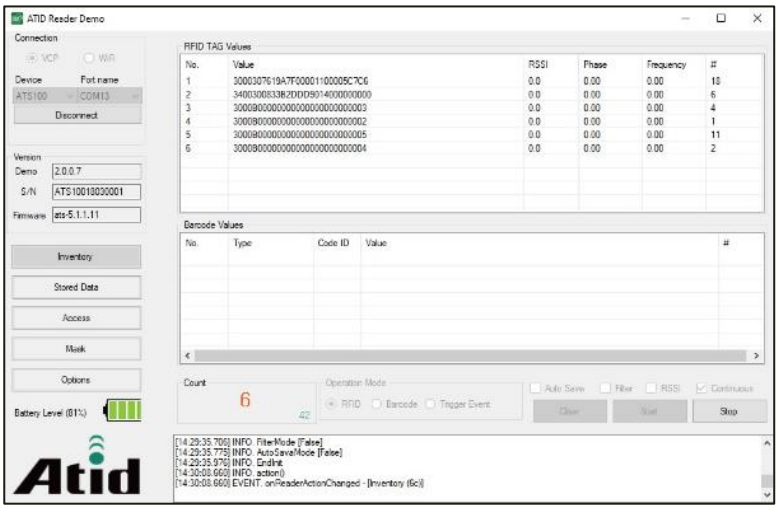




10) After confirming that the AT388 and the host device are connected, exit the Device Setting Menu and set the desired operation mode before use.

Using Windows Host Demo Application

1) To connect AT388 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.

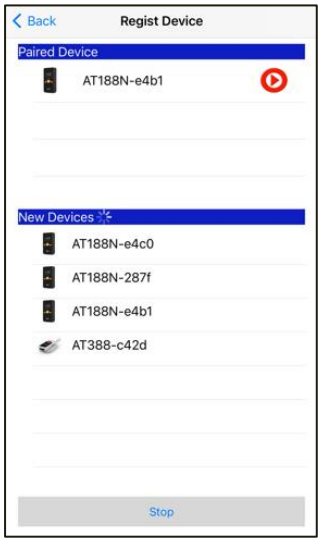


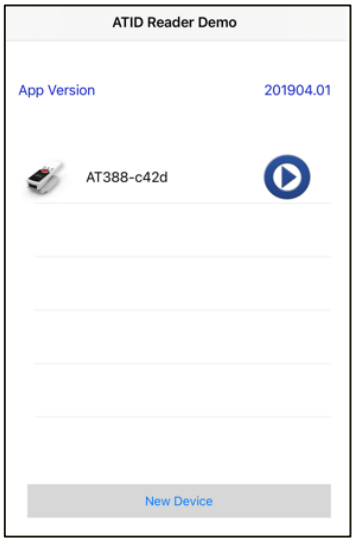
For details on how to use the Windows demo application, refer to the 'ATID Reader Demo Guide for Windows' document included in the SDK.

Using iOS Host Demo Application

1) In order to 'transmit/receive' data 'to/from' the AT388 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

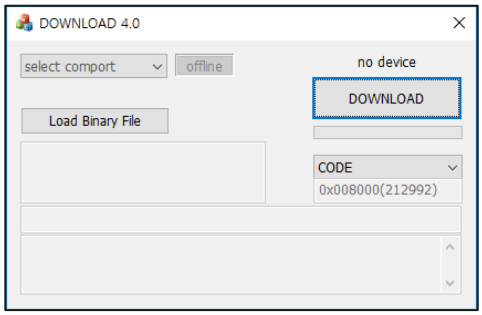
This product may be updated in the future to enhance its functionality and performance. If there is a problem during Firmware's update operation, the product may not be recoverable. So, if you don't have knowledge of software and hardware, please contact your place of purchase or manufacturer for updates.

1. Firmware Update Preparation

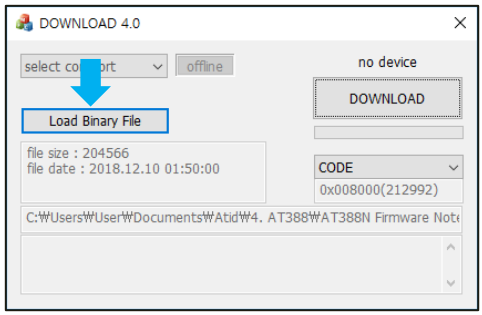
1) PC with Windows 7 or higher version (USB 2.0 Port)
2) AT388
3) Micro USB Cable
4) Firmware File (xxxx.bin)
5) Firmware Update Tool (Available from reseller or manufacturer if required)

2. Firmware Update Procedure

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



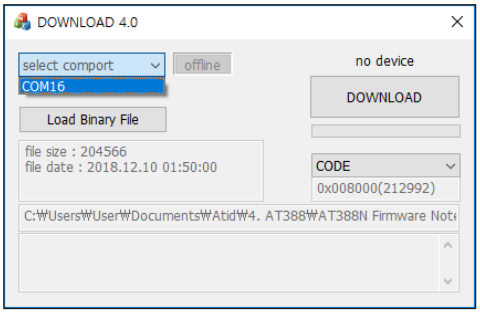
3) After clicking the 'Load Binary File' button, designate the folder where the firmware file was previously saved.



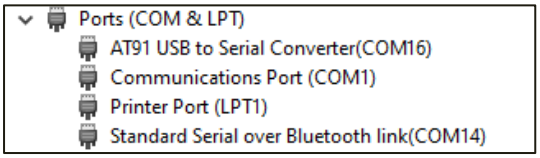
4) Connect **AT388** to PC using USB Cable.

5) Enter '11. Download FW' from 'Device Setting Menu'.

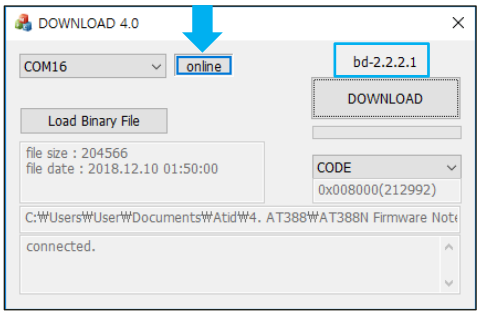
6) Click the 'select comport' button of Firmware Download Tool. Then, select the COM Port assigned to **AT388** connected to your PC.



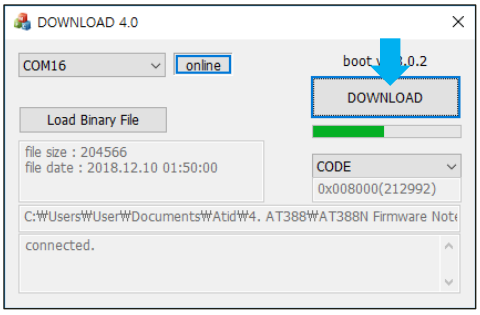
- COM Port is assigned a different number depending on the PC situation.
- Control Panel 'Device Manager → Ports (COM & LPT)' Please check the COM Port number assigned to 'AT91 USB to Serial Converter' before entering.



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.



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

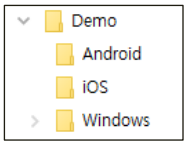
SDK (Software Development Kit)

When the device operates in interactive mode, a separate program must be developed by referring to the SDK provided by **ATID Co.,Ldt.** 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. AT388 Product Details

For more information on product details AT388, please visit the homepage below.

http://www.atid1.com

2. SDK Download

If you need an AT388 SDK, please contact us or the place of purchase.

3. Warranty and Technical Support

All ATID Co.,Ldt. 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 Co.,Ldt.

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 Co.,Ltd.

ATID Co.,Ltd.

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