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BT-430 Dongle

The [BT-430 Dongle](#) is a USB 2.0 interface and Bluetooth 5 Low Energy standard communication interface that provides USB to Bluetooth functionality for robot control, as the updated replacement to the [BT-410 Dongle](#).

In other words, by attaching the [BT-430 Dongle](#) to a PC and pairing it with a BLE-supported controller or [BT-410 SLAVE module](#), data can be exchanged between the PC and [BT-410 SLAVE module](#). (Refer to the respective component's description page for how to attach each component.)

1. Controllers and Wireless Modules Compatible with BT-430 Dongle

- RB-100
- [CM-151](#)
- [RB-86 / RB-88](#)
- [BT-410 SLAVE Module](#)

2. Wireless Modules Not Compatible with BT-430 Dongle

- [BT-410 MASTER Module](#)
- BT-210 MASTER Module
- BT-210 SLAVE Module
- BT-100/110A
- ZIG-100/110A

1. 1. Usage Example



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2. Specifications

Item	Details
Weight	6.6g
Size	50.5mm x 20mm x 10.5mm
Bluetooth Specification	Bluetooth 5
Effective Communication Range	10M
Frequency Band	2.4GHz ISM Band
Bandwidth	MAX 702.8kbps
Operating Voltage	5.0V
Current Consumption	20mA (Max)
Operating Temperature	0°C ~ 40°C
Antenna	PCB Pattern Antenna
Interface	USB 2.0 Full Speed
Sensitivity	-81dBm (Typical)
Transmission Power	-6 ~ 4dBm (Class 2)

3. Compatibility

Work possible with combinations of BT-430 Dongle and BLE-supported controllers or BT-410 SLAVE module

Product	R-Block	R-Motion	FW Recovery/Update	Entry R+ Manager 2.0	R+ Scratch	Task 2.0 Download	Task 2.0 Download	R+ Motion 2.0 Download
RB-100	✓	✓	X	✓	X	X	X	X
CM-151	✓	X	✓	✓	✓	✓	✓	✓
RB-86 / RB-88	✓	X	X	✓	X	X	X	X
CM-50	X	X	✓	X	✓	✓	✓	X
CM-150	X	X	✓	X	✓	✓	✓	X
CM-200	X	X	✓	X	✓	✓	✓	✓
CM-530	X	X	✓	X	X	✓	✓	✓
OpenCM9.04	X	X	✓	X	X	✓	✓	✓

4. Communication Modes

The BT-430 Dongle can establish reliable 1:1 communication through pairing.

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4. 1. 1:1 Communication

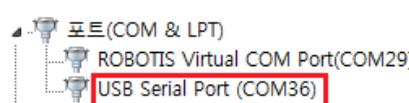
- When connected to a powered-on PC's USB port, the blue LED blinks, and when it successfully pairs with a BLE-supported controller or BT-410 SLAVE module, the blue LED remains lit.
- Automatic Pairing Method:** When the blue LED of BT-430 Dongle blinks (not paired), if you bring the BT-410 SLAVE module close (within 10cm), it will automatically pair. (Afterward, pairing is possible even from a longer distance.)

5. BT-430 Dongle Setting

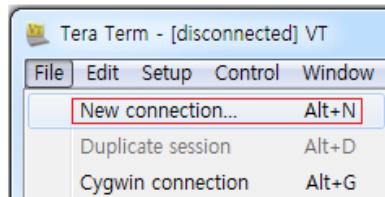
- Resettable System
- Configurable SLAVE Address
- Enable/Disable Auto-Pairing Feature

5. 1. Setup

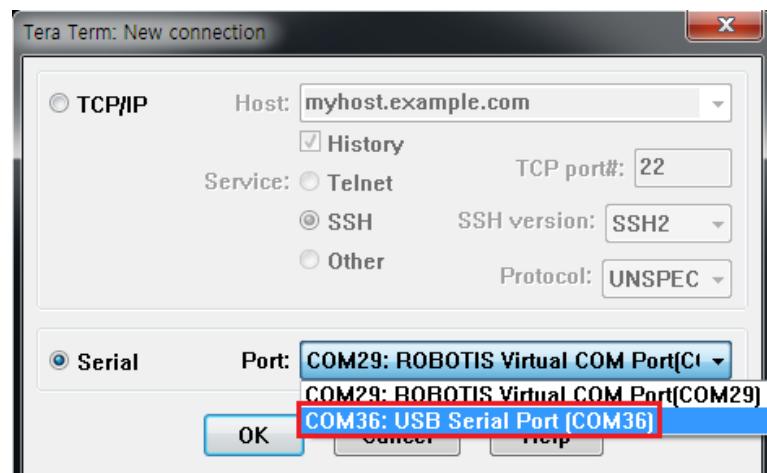
- Connect the BT-430 Dongle to your PC and install the driver, then check the COM port number.
 - [Download] [Tera Term](#)



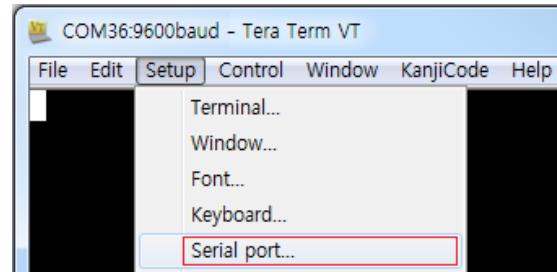
- Run the Tera Term terminal program, click File > New Connection.



- Select the COM port number for the BT-430 Dongle.



- Enter the Serial Port Configuration Window.

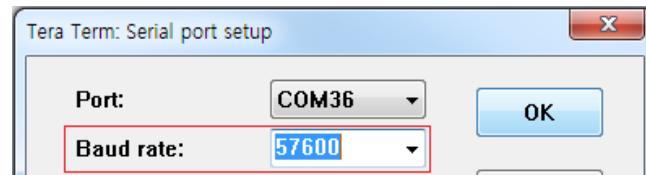


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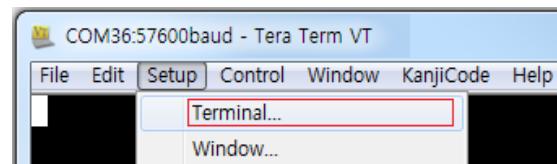
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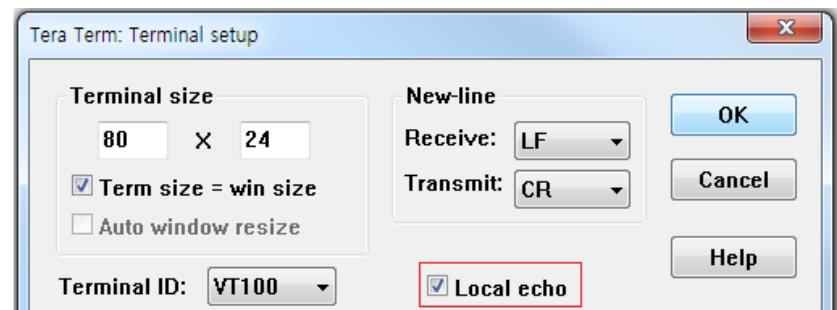
4. Set the communication speed to 57600.



5. Enter the Terminal Configuration Window.

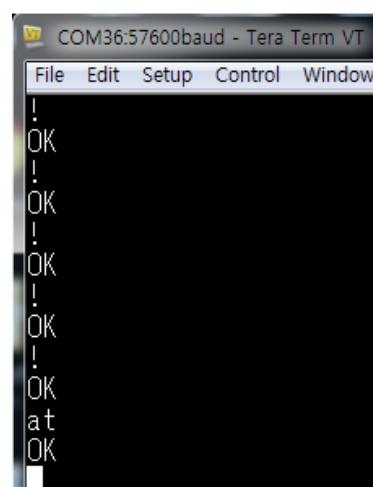


6. Activate the Local Echo feature.

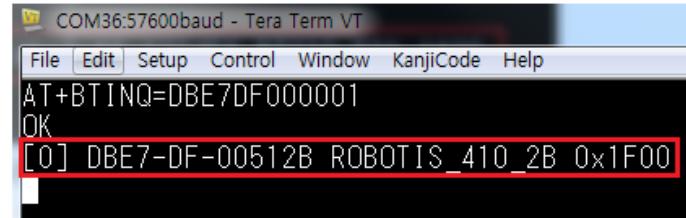


7. Enter `!` as shown below in the terminal to enter command mode.

Here, if `OK` continues to appear after entering `AT`, it means that the BT-430 Dongle has successfully connected, and you can now configure it.



8. Enter `AT+BTINQ=DBE7DF000001` and press Enter to search for devices with MAC addresses greater than or equal to `DBE7DF000001` among nearby BLE devices.



```
File Edit Setup Control Window KanjiCode Help
AT+BTINQ=DBE7DF000001
OK
[0] DBE7-DF-00512B ROBOTIS_410_2B 0x1F00
```

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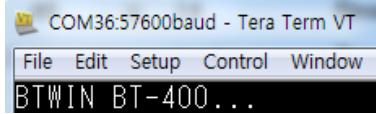
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9. Device connection is done by searching for nearby devices with the AT+BTINQ command, and then pairing with the displayed Bluetooth address (12 digits in hexadecimal) without dashes. For example, if you enter `AT+BTINQ=DBE7DF000001` and press Enter, it will attempt to connect to the listed BLE device.

6. AT Commands

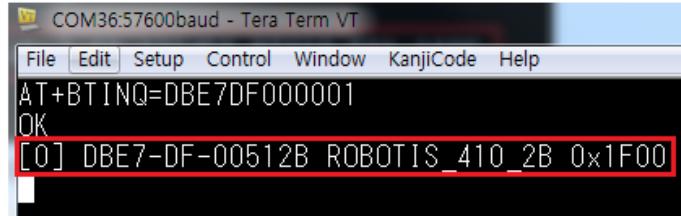
You can change the settings of the BT-430 Dongle using AT commands in the terminal as follows.

1. Restart the system: Enter `ATZ` and press Enter to restart the BT-430 Dongle. If you have made any changes to the settings, they will persist across restarts.



```
File Edit Setup Control Window
ATZ
BTWIN BT-400...
```

2. Device Discovery: Enter `AT+BTINQ=DBE7DF000001` as shown below and press Enter to search for devices with MAC addresses greater than or equal to DBE7DF000001 among nearby BLE devices.



```
File Edit Setup Control Window KanjiCode Help
AT+BTINQ=DBE7DF000001
OK
[0] DBE7-DF-00512B ROBOTIS_410_2B 0x1F00
```

3. Automatic Pairing: Unpaired BT-430 SLAVE modules will automatically pair when brought close to the BT-430 Dongle (within about 10cm).
4. Disable Automatic Pairing: Enter `AT+BTAUTOPAIR=0` and press ENTER.

`AT+BTAUTOPAIR=0`

A success message will be displayed after a few seconds.

`AUTO PAIR DISABLED!`
OK

5. Enable Automatic Pairing:
Enter `AT+BTAUTOPAIR=1` and press ENTER.

`AT+BTAUTOPAIR=1`

A success message will be displayed after a few seconds.

`AUTO PAIR ENABLED!`
OK

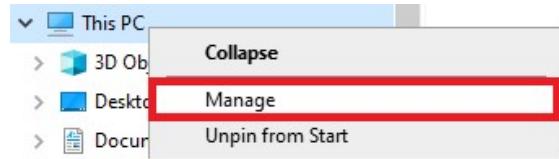
7. Check Driver

To check if the BT-430 Dongle driver is correctly installed on your PC, follow these steps:

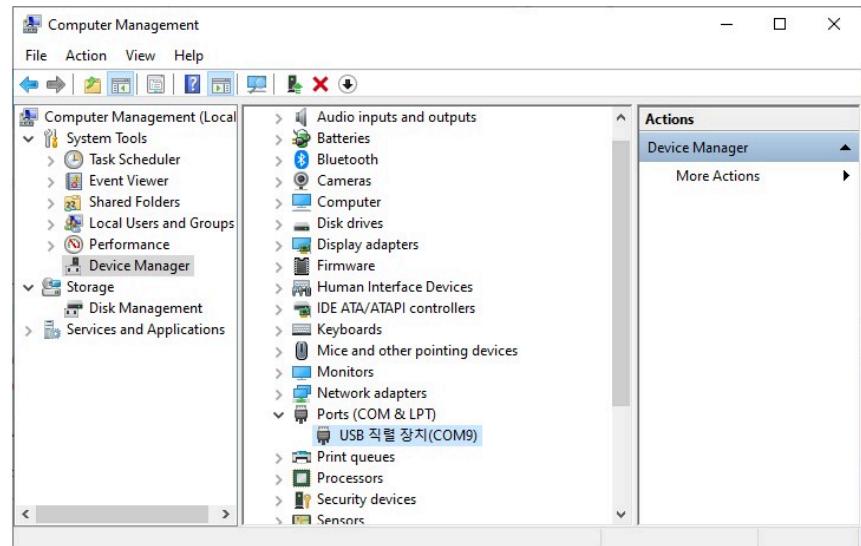
1. Connect the BT-430 Dongle to a USB port on your PC.



2. Right-click on "My Computer" and select "Manage" from the popup menu.



3. In the "Device Manager" under "Ports (COM & LPT)," check for "USB Serial Port (COMx)." (The COM port number may vary depending on your system.)



8. Install Driver Manually

Note: If you install RoboPlus, the driver for the BT-430 Dongle will be installed automatically. If you choose not to install RoboPlus and need to install the driver manually, or if the driver did not install correctly when RoboPlus was installed, follow these steps.

1. Connect the device to your PC. If the driver is not installed the BT-430 will be displayed as an "Unknown Device" when checked in Device Manager.



2. Download and extract the driver to your PC.
 - o [Download Link](#)



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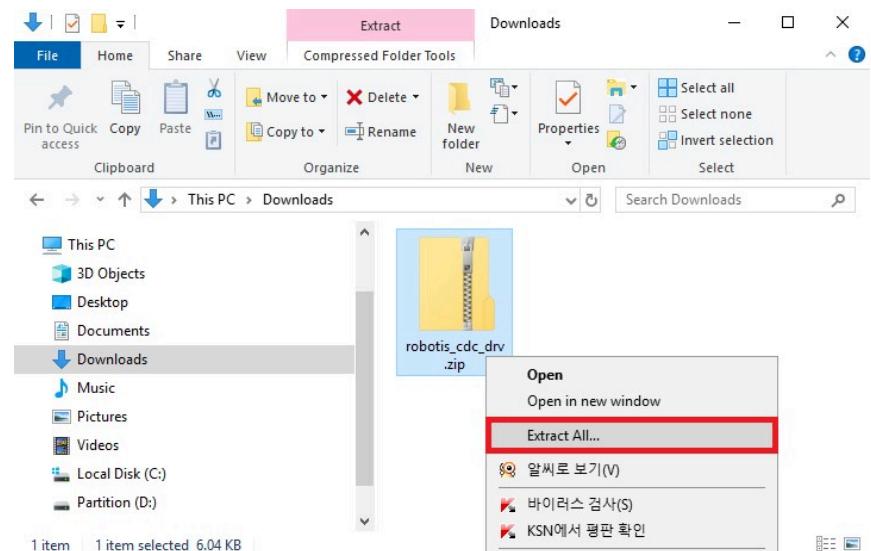
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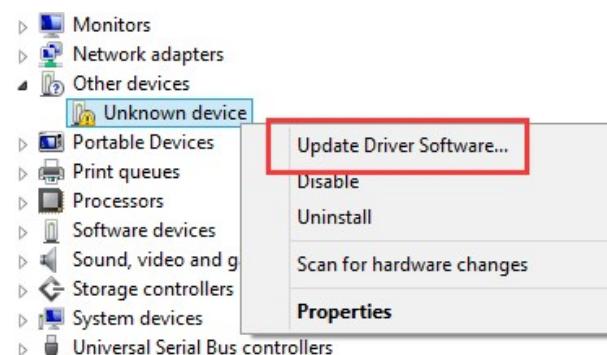
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3. Start the driver installation for the USB device through the Device Manager.



4. Choose to search for the driver on your PC.

How do you want to search for drivers?

→ Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ Browse my computer for driver software
Locate and install driver software manually.

5. Enter the path to the downloaded driver and click "Next" to install the driver.

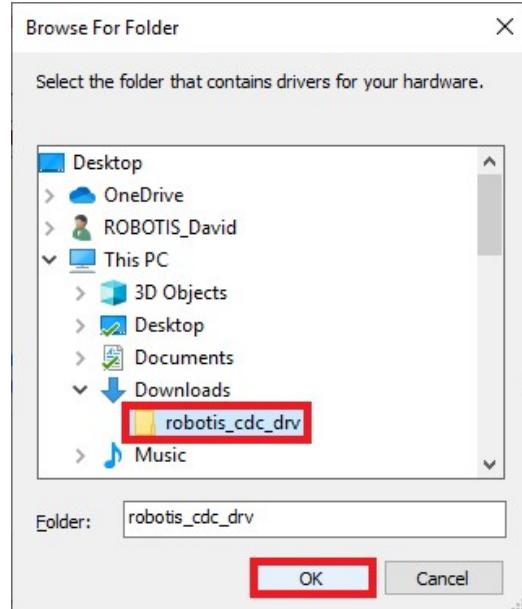
Browse for drivers on your computer

Search for drivers in this location:

 Browse...

Include subfolders

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Browse for drivers on your computer

Search for drivers in this location:

Include subfolders

→ Let me pick from a list of available drivers on my computer
This list will show available drivers compatible with the device, and all drivers in the same category as the device.

9. References

9. 1. Certifications

Please inquire us for information regarding unlisted certifications.

- KC

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FCC Information

This device complies with part 15 of the FCC Results. Operation is subject to the following two conditions :

- (1) This Device may not cause harmful interface, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correct the interference by one or more of the following measures:

- 1.1. Reorient or relocate the receiving antenna.
- 1.2. Increase the separation between the equipment and receiver.
- 1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
- 1.4. Consult the dealer or experienced radio/TV technician for help.

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

"CAUTION : Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.