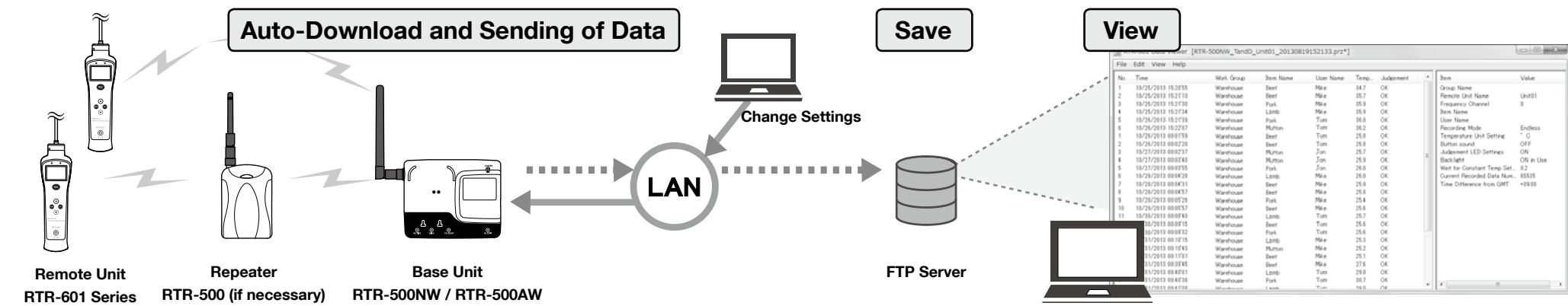# RTR-500NW/500AW Introductory Manual
for Use with RTR-601 Series

T&D

What can the RTR-500NW/500AW do?

RTR-500NW and RTR-500AW are Base Units equipped with a LAN interface. They can be set up to periodically download recorded data from Remote Units (RTR-601 Series) and automatically send data to an FTP server.
Recorded data stored in the server can be viewed anytime and anywhere on a PC.

Auto-Download and Sending of Data

Save

View

Change Settings

LAN

FTP Server

Remote Unit
RTR-601 Series

Repeater
RTR-500 (if necessary)

Base Unit
RTR-500NW / RTR-500AW

T&D CORPORATION

http://www.tandd.com

Terms to be Used

Base Unit	RTR-500NW, RTR-500AW
Remote Unit	RTR-601 Series (RTR-601-110 / 601-130 / 601-E10 / 601-E30)
	RTR-601 Series is also referred to as simply "RTR-601" in this document.
Repeater	RTR-500
Recorded Data	Measurements stored in the Remote Unit

Getting Ready

⚠ **Do not connect the Base Unit to your computer until the software has been installed.**

STEP 1 — Installing "RTR-500W for Windows"

1. Start Windows and login using a User Account with Administrator (Computer Administration) rights.

2. Insert the attached CD-ROM in the CD/DVD drive.

3. The [Install Program] window will appear.

> **If the [Auto Play] window appears:**
> Click [Run start.exe].
>
> **If the [Install Program] window does not appear automatically:**
> Double click [start.exe] in the CD/DVD drive.

4. Select "Install RTR-500W for Windows" and click [Execute] to start the installation.

5. Follow the directions as they appear to complete the installation.

> If a window appears such as the one below during installation, click [Install].
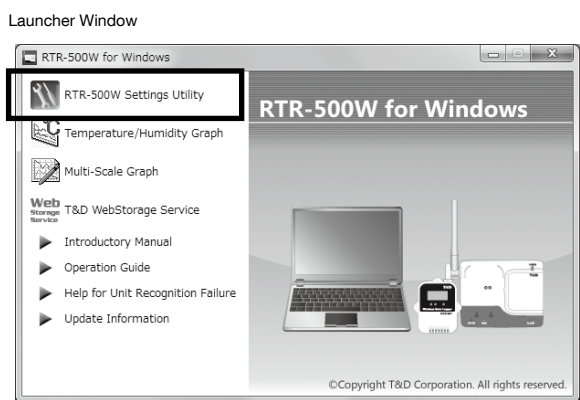
6. After installation is completed, "RTR-500W for Windows" will appear in the Windows Start Screen or Start Menu.

STEP 2 — Installing "RTR-500W for Windows (for RTR-601)"

1. Download and install "RTR-500W for Windows (for RTR-601)" from T&D Website.
   - HOME > Support > Downloads > Software
   - After installation is completed, you will see "RTR-500W for Windows" and "RTR-500W for Windows (for RTR-601)" in the Windows Start Screen or Start Menu.
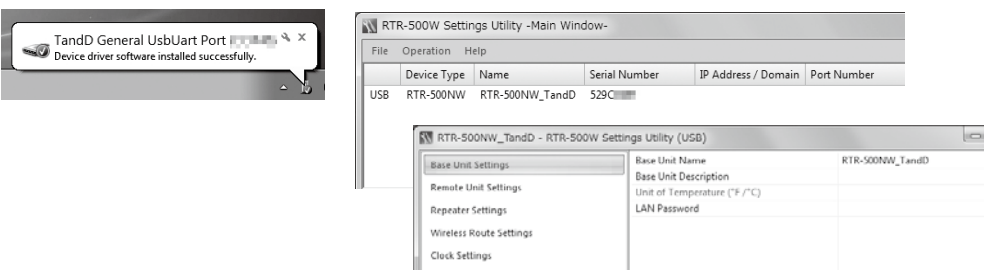
STEP 3 — Connecting the Base Unit to a PC

1. Open "RTR-500W for Windows" from the Start Screen or Start Menu.

2. In the displayed launcher window, click and open the "RTR-500W Settings Utility".

Launcher Window

RTR-500W for Windows

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3. Connect the Base Unit with the supplied USB cable to your computer. The USB driver installation will start automatically.
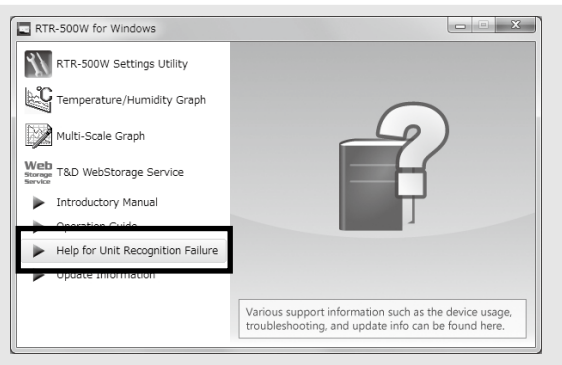   - It is not necessary to connect the LAN cable or AC adaptor at this point.

4. After the USB driver installation is completed, the Base Unit settings window will open automatically.

> **If the above settings window does not appear automatically:**
> The USB driver installation may not have been installed correctly. Please see [Help for Unit Recognition Failure] and check the USB driver.
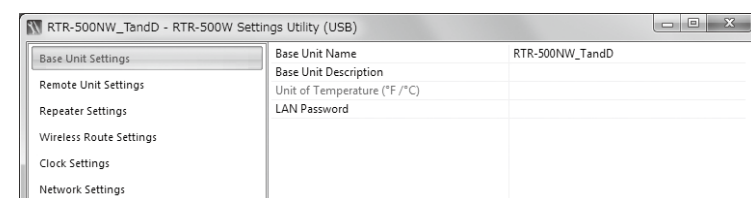

Before Using

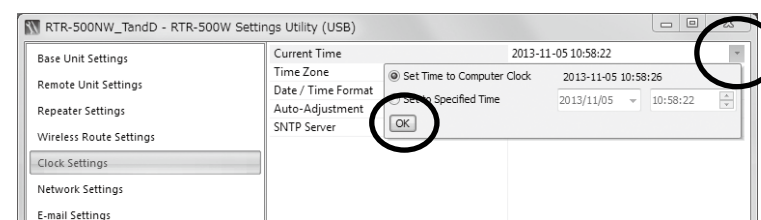### STEP 1 — Making Initial Settings via "RTR-500W for Windows"

■ Basic Settings

1. By opening "RTR-500W Settings Utility", the settings window will automatically open.

2. Enter the following information in the [Base Unit Settings] window, and click [Apply].

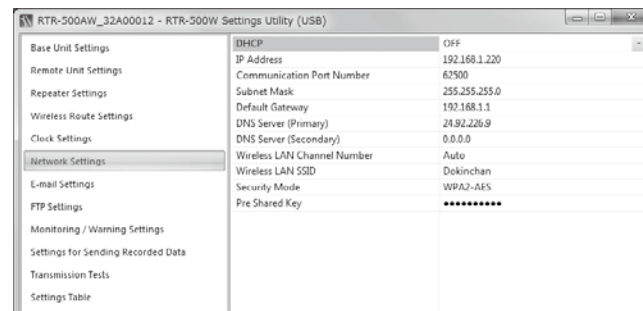| Base Unit Name	Assign a unique name for each Base Unit.
LAN Password	Enter the password here for connecting to a Base Unit via a network.

3. Click [Clock Settings] in the settings window.

4. Set the desired setting in the Current Time column.
   Check the contents of your selections and click [Apply].

■ Network Settings

1. Click [Network Settings] in the settings window.

2. Make settings for DHCP.
   Normally, there is no need to change the network settings. If you wish to use a static IP address, for example in a corporate network, set [DHCP] to "OFF" and enter the IP address and other necessary information for each device.

3. If you are using an RTR-500AW, make sure to enter the following settings in conjunction with the wireless LAN access point being used.
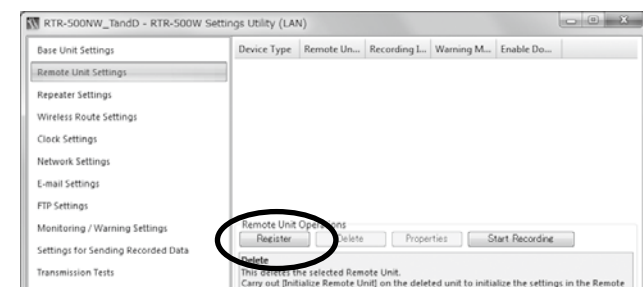   * The MAC address of the RTR-500AW can be found under [Settings Table] > [Base Unit Settings] > [MAC address].

4. Click [Apply].
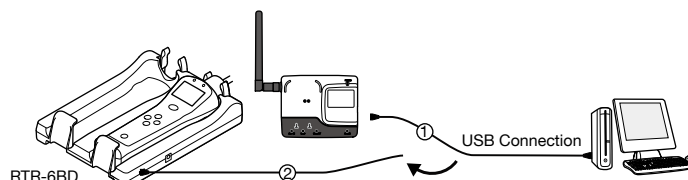
Initial Settings of RTR-500NW/500AW

Base Unit Name	RTR-500NW_<Serial Number> or RTR-500AW_<Serial Number>
LAN Password	password
Network Settings	DHCP: ON
Communication Port Number	62500

STEP 2 — Registering a Remote Unit via "RTR-500W for Windows"

1. Click [Remote Unit Settings] in the settings window.
   With both the target Remote Unit and Battery Charge Dock nearby, click [Register].

2. When the [Connect a Remote Unit] dialog box appears, unplug the USB cable from the Base Unit (1) and plug it into the Battery Charge Dock* (2).

RTR-6BD

USB Connection

* The Battery Charge Dock (RTR-6BD) needs to be purchased separately.

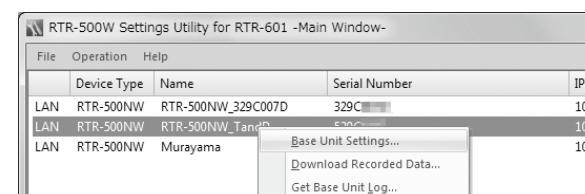> **If the screen does not change after connecting the Remote Unit:**
> The USB driver installation may not have been installed correctly. Please see [Help for Unit Recognition Failure] in RTR-500W for Windows, and check the USB driver.

3. The [Remote Unit Registration] window will appear. Enter the desired Remote Unit Name and click [Register].

4. After registering your Remote Unit, reconnect the USB cable to the Base Unit.

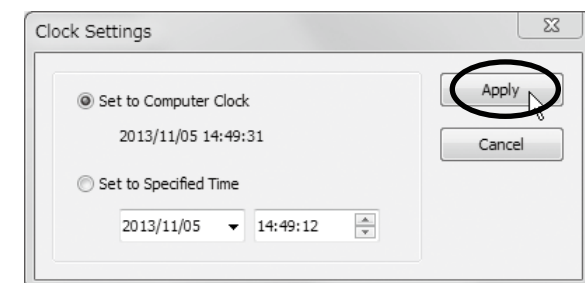5. If you wish to register other Remote Units, repeat procedures *1* to *4*.

STEP 3 — Making Remote Unit Settings via "RTR-500W for Windows (for RTR-601)"

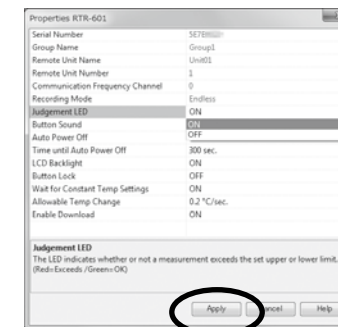#### ■ Remote Unit Clock and Operational Settings

1. From the Start Screen or Start Menu, open "RTR-500W for Windows (for RTR-601)" > "RTR-500W Settings Utility for RTR-601".

2. In the main window, right click the target Base Unit in the device list, and select [Base Unit Settings] in the pop-up menu.

3. To make or change clock settings, select the target Remote Unit, click [Clock Settings] and make settings.

4. To make or change operational settings, select the target Remote Unit, click [Properties], make settings and click [Apply].

> By setting [Enable Download] to ON here, the Base Unit will automatically download recorded data from the Remote Unit and send via FTP or E-mail to a designated address at the set interval.
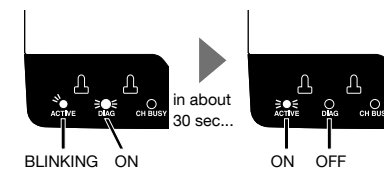
5. Make settings for other Remote Units by repeating procedures *3* and *4*.

> After completing the above, Remote Units are ready to start recording. Remote Unit Settings can also be changed or added later via LAN.

STEP 4 — Installing a Base Unit

⚠ If the target Base Unit is connected to a PC, disconnect the USB cable.

1. (For RTR-500NW Only) Connect a LAN cable to the Base Unit.

2. Connect the supplied AC adaptor.

in about 30 sec...

BLINKING   ON   ON   OFF

> If the DIAG LED remains on or continues blinking, some settings have not been completed or are invalid. For details, please see [**Tips** LED Lamp Display] printed on the back side of this paper.

3. Deploy Remote Unit(s), checking their signal strength.
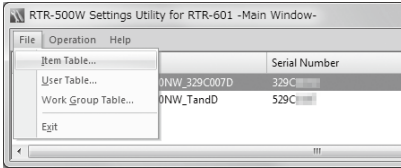   The wireless communication range, if unobstructed and direct, is about 50 meters.

   - To check the signal strength, see [**Tips** How to Check the Wireless Signal Strength].
   - By using a Repeater, it is possible to extend the wireless communication range. For details, see [**Tips** Extending Wireless Communication Range with Repeater(s)].

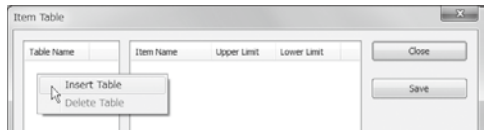### ■ Preparing Item and User Tables for Work Groups

Item and User Tables cannot be sent directly to Remote Units, and are only used in creating Work Group Tables.

1. From the Start Screen or Start Menu, open "RTR-500W for Windows (for RTR-601)" > "RTR-500W Settings Utility for RTR-601".

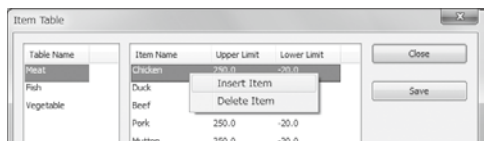**2.** Select the target Base Unit in the main window, and go to [File] > [Item Table] or [User Table].

Item Table	You can create multiple tables and register up to 63 items to be measured in each table. Upper and lower limits can also be set for each item here.
User Table	You can create multiple tables and register up to 62 users in each table.

3. Right click in the left side box, and select [Insert Table] in the pop-up menu.

4. To make or edit the item list for the inserted table, right click in the right side box and select from the [Insert Item] or [Delete Item] options.

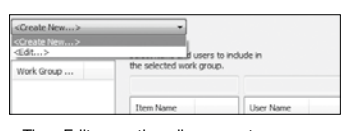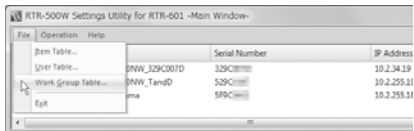If you don't need to set upper and lower limits, leave them as they are.

5. Click [Save].

• If you accidentally delete a table, close the window without saving and re-open it to recover the previously saved settings.

6. Follow the same steps to make a User Table.
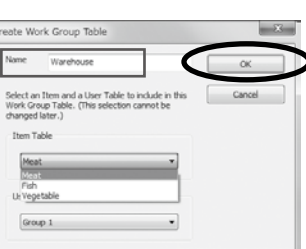
■ Creating and Sending Work Group Tables

Using the above Item and User Tables, it is now possible to create and send Work Group Tables.

1. From the [File] menu, select [Work Group Table] to open the Work Group Table window. To make a new Work Group Table, select the <Create New...> option from the drop-down list.
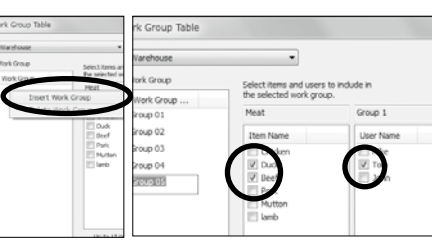
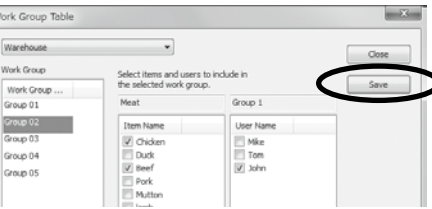The <Edit...> option allows you to rename or delete a Work Group Table.

2. In the displayed window, enter a desired name for the Work Group Table and select the Item Table and User Table to be used.
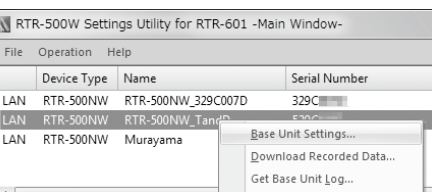Click [OK] and the new Work Group Table will be added to the drop-down list.

3. Right click in the left side "Work Group" box and select [Insert Work Group]. Check the Items and Users to register to that group. In one Work Group Table, you can create multiple Work Groups and register the selected Items and Users for each group.
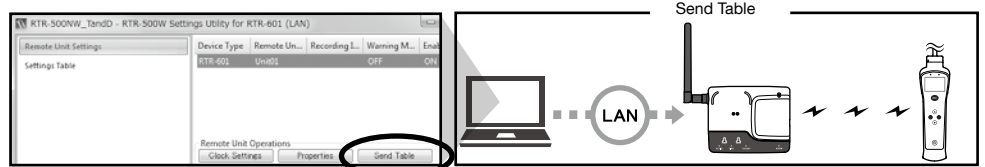
4. After completing desired settings for the target Work Group Table, click [Save].
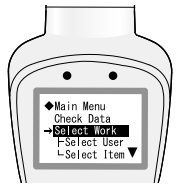
5. Next, in the main window right click the target Base Unit in the device list. Select [Base Unit Settings] in the pop-up menu.

6. Select the target Remote Unit from the right hand list and click [Send Table].

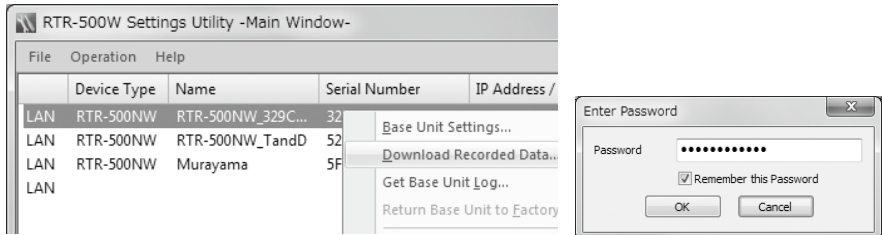### Selecting the User and Item on the Remote Unit:

Go to RTR-601 MENU > [Select Work] > [Select User] > [Select Item]

• For each Work Group found under [Select Work], only those Users and Items registered to each group will be displayed and can be selected.
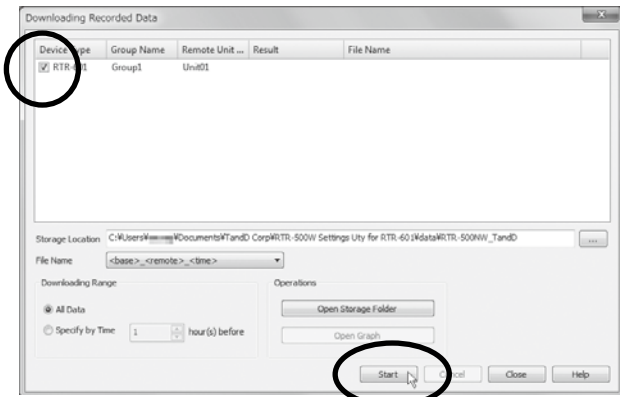
■ Downloading Recorded Data Manually

1. From the [Operation] menu, select [Search Network].
In a few seconds, the registered Base Units will appear in the list.

2. Right click on the target Base Unit, and select [Download Recorded Data] in the pop-up menu.
Enter the LAN password and click [OK].

3. The [Downloading Recorded Data] window will appear.
Place a check mark next to the target Remote Unit, and click [Start] to start downloading.

• More than one data reading needs to be recorded in the Remote Unit.

4. Downloaded data will be saved as a recorded data file in the specified storage folder.

■ Viewing Recorded Data via "DataViewer"

Both data sent by the Base Unit via FTP/E-mail and data manually downloaded to a PC are saved as .prz files. To view these data files, use the DataViewer application.
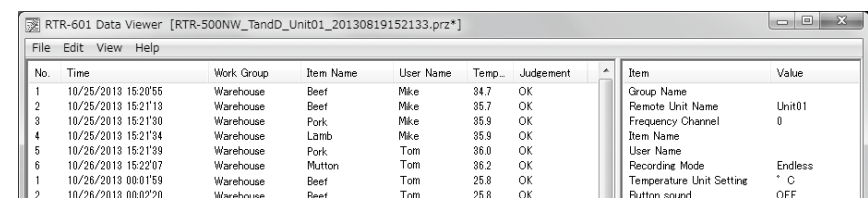
Storage Location of Recorded Data
Recorded data will be saved in the default folder under the Documents folder as shown in the example below.
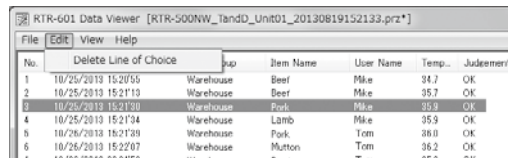Example:
C:\Users\(Login User Name)\Documents\TandD Corp\RTR-500W Settings Uty for RTR-601

1. From the Start Screen or Start Menu, open "RTR-500W for Windows (for RTR-601)" > "DataViewer".

2. In the [File] menu, click [Open] and then open the selected file from the storage location.

Deleting Selected Data

In the opened data table, select unnecessary data (using the [Ctrl] or [Shift] key to select several sets of data), and go to [Edit] > [Delete Line of Choice].
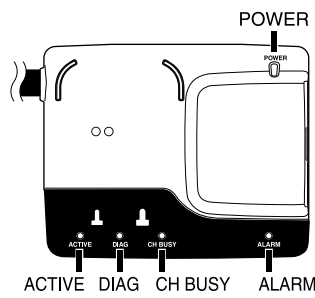
Uploading Additional Data Files

It is possible to add new data files to the already uploaded file(s) and view several sets of data in one table. To save the file after editing, go to [File] > [Save as]. The new file will be saved in .puw format.

Saving Data as Text File

It is possible to convert recorded data to text format which can be read by common spreadsheet software. When the data table is open, go to [File] > [Save Data in Text File].

• Text files are saved in .txt format.
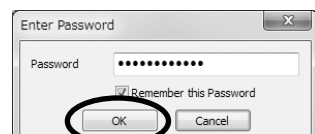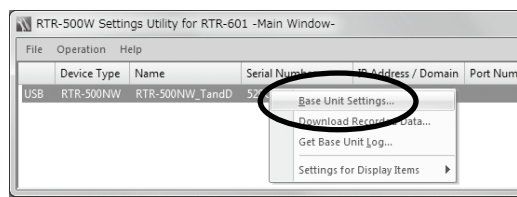• The .puw file can be read by DataViewer but the .txt file cannot.
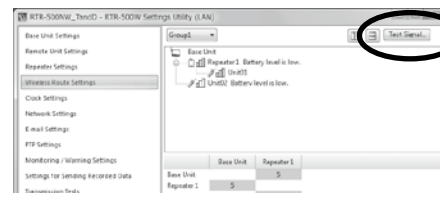

Tips LED Lamp Display

POWER

ACTIVE DIAG CH BUSY ALARM

LED Status		Description
● ON ◉ BLINKING ○ OFF		
● ACTIVE		• Network communication available • UConnected via USB
◉ ACTIVE		• Network communication in progress (wireless communication with Remote Unit) • USB communication in progress
● DIAG		• Initializing after power turned ON • FTP or E-mail transmission failed
○ ACTIVE	◉ DIAG	• Clock Settings not completed • Clock settings have been reset (power failure and so on) • No Remote Units have been registered • FTP or E-mail settings have not been properly made • No Settings for autonomic operations such as monitoring have been made
◉ ACTIVE	◉ DIAG	• Failed to connect to wireless LAN access point (only RTR-500AW) • IP address cannot be received from DHCP server
● ALARM		• A measurement has exceeded the set upper or lower limit • A Remote Unit wireless error has occurred • The contact input is ON • There is trouble in the Remote Unit (battery level is low, a sensor connection is poor, etc…)

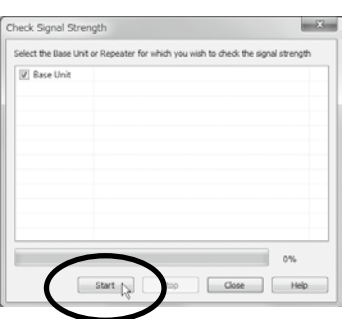### Tips How to Check the Wireless Signal Strength

1. To check the wireless signal strength between the Base Unit and Remote Unit, use RTR-500W Settings Utility.

2. Click the [Operations] menu > [Network Search].
In a few seconds, the Base Unit set in (i) of **Before Using** will appear in the address list.

3. Right click the target Base Unit, and select [Base Unit Settings] in the pop-up menu.
Enter the LAN password and click [OK].

4. Open [Wireless Route Settings] and click [Test Signal Strength].

5. Click [Start] to begin the signal check.
After the test has been completed, click [Close] to see the results.

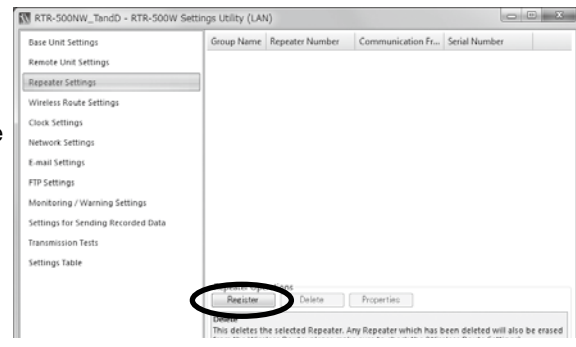|		
		Communication is stable.
		Communication is unstable. If communication errors repeatedly occur, reposition the Remote Unit or add a Repeater (RTR-500).
		If no antenna mark appears a communication error has occurred. Try to reposition the Remote Unit or add a Repeater (RTR-500).

• For details about checking the signal strength, refer to [RTR-500W Settings Utility Help] > [How to Use] > [Basic Settings] > [7.Deploying the Units] > [Check Wireless Signal Strength].

Tips Extending Wireless Communication Range with Repeater(s)

If you wish to increase the wireless communication range or increase the stability of communication between a Base Unit and Remote Unit(s), you can add Repeater(s) and make the necessary wireless route settings.
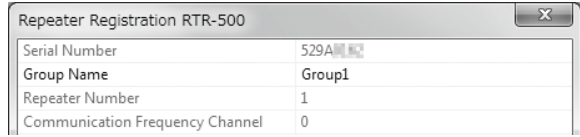
■ Adding a Repeater

1. In the RTR-500W Settings Utility, open the [Repeater Settings] menu.

2. Click [Register]. With a USB cable connect the RTR-500 you wish to register as a Repeater to your computer.
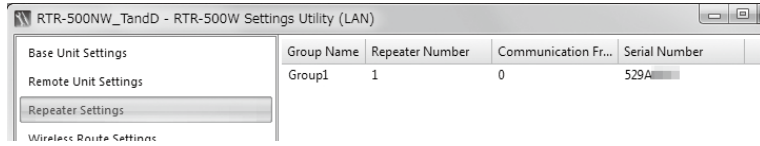
• When connecting a device for the first time, the USB driver installation will start automatically.

3. The [Repeater Registration] window will appear, wherein you can select the Group Name to which you wish to add the Repeater and make any necessary name changes.

4. After having completed all entries, click [Register].
The settings will be sent to the Repeater and the registered Repeater will appear in the Repeater Registration List.
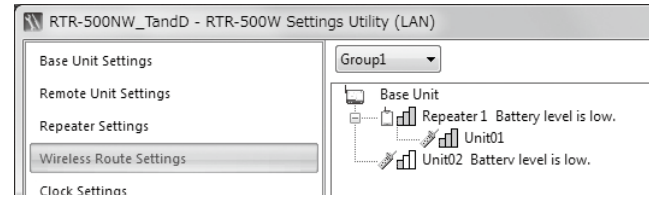
5. Place the Remote Unit(s) and Repeater(s) in their actual positions.

6. Select the [Wireless Route Settings] Menu and confirm the wireless communication route for the Base Unit - Remote Unit(s).
Perform the signal strength test to confirm that communication is possible between the Base Unit, Repeater and Remote Unit.

■ Wireless Route Settings

It is possible to make changes to the route of wireless communication taking into consideration the actual locations of and signal strength between the registered Remote Units and Repeaters.

1. In the RTR-500W Settings Utility, open the [Wireless Route Settings] Menu.

2. The Wireless Route can be changed by dragging and dropping the Remote Unit and Repeater icons.

3. Click [Apply].
Perform the signal strength test to confirm the signal strength between the Base Unit, Repeater and Remote Unit.

• Do not connect more than one Repeater (RTR-500) to your computer at one time.
• After changing the wireless route, make sure to once again test signal strength.
• It is not possible to move Remote Units or Repeaters to a different group's wireless route. If you wish to move a unit to another group, you must first initialize that unit or delete it from the group it belongs to and re-register it to the new group.
• For details, refer to [RTR-500W Settings Utility Help] > [How to Use] > [Advanced Settings] > [Wireless Route Settings].

[?] Help for Unit Recognition Failure and Other Info

Help for Unit Recognition Failure:
When the connected USB device is not recognized (and the screen does not change in ② of **Before Using**), information on how to check and reinstall the USB driver can be found here.

Update Information:
Information about software and firmware updates can be found here.

RTR-500W for Windows