

# Wireless Studio

## User's Guide Version 5.2x

Before using this software, please read this manual thoroughly and retain it for future reference.

DWR-R01D/R02D/R02DN/R03D

**DWX**  
DIGITAL WIRELESS

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# Using This User's Guide

This guide describes how to use the Wireless Studio software supplied with the DWR-R01D, DWR-R02D, DWR-R02DN, and DWR-R03D Digital Wireless Receivers. (These four models are herein referred to collectively as the “receivers.”)

To fully understand this guide, read it in conjunction with the Operating Instructions supplied with the receivers.

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## Notations Used in This User's Guide

- Clicking a menu or button and then selecting a sub-menu is expressed as follows: Select [Menu (or button)] > [Sub-menu name].  
**Example:** Select [File] menu > [Open].
- Holding down one key on the keyboard while pressing another is indicated by a “+” sign between the two keys.  
**Example:** Press Ctrl + P.

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## About the Window Displays in This User's Guide

The window displays that appear in this guide may differ from those on your PC, due to differences in the operating system being used.

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# Features

The Wireless Studio software allows you monitor and control a digital wireless system via a network. The digital wireless system can be accessed from up to six computers.

### Note

Up to three computers can be connected at the same time when using DWR-R03D software version earlier than v1.10.

Wireless Studio has the following features.

### Device monitoring

The software includes a status viewer for monitoring the operation statuses of the receivers, RMU-01 Remote Control Units, and transmitters.

The status viewer allows you to monitor a list of information that is identical to the information that appears on the initial display of the receiver.

The simple status viewer is also available for efficient monitoring of transmitter operation statuses.

The simple status viewer narrows down the information displayed for each receiver channel to a certain few items, such as the RF meter, QL meter, and alerts, providing a more simplified view.

In addition, the BC-DWX Viewer is available for monitoring and controlling battery chargers.

The BC-DWX Viewer allows you to monitor the charging statuses of the batteries in each charger and configure the charge mode.

### Channel plan selection function

Select a channel plan that is suitable for your signal environment to ensure stable operations.

[Channel Plan Adviser] allows you to select a channel plan while taking into account factors such as other TV broadcast waves (that you researched beforehand), frequencies used by other wireless devices in the area, and frequencies detected via the channel scan.

### Error logging function

The software automatically saves log files of problems that occur during operation. You can review the error histories at a later time by using a text editor to view the stored log files.

### Device control function

The software allows you to control the receivers and the transmitters that are paired with the receivers. Control operations are performed from the [Property] window and the [Property List] tab.

The [Property] window allows you to control a single receiver and its paired transmitter while viewing their operation statuses.

The [Property List] tab allows you to display the settings of multiple receivers and transmitters in a list, and perform fast control operations such as applying the same settings to all the devices simultaneously.

### Recalling stored settings and monitoring information

Information such as the setting values of devices and the arrangement of devices in the status viewer can be saved as a file.

You can recall such information in Wireless Studio at a later time by loading these stored files.

The setting values recalled in Wireless Studio can be applied to all the devices.

### Pairing-assist function

The software includes a pairing wizard to assist in pairing, an operation that is necessary to enable remote control of transmitters via wireless remote control.

### Save and analyze functions for signal environment timelines

The [RF Chart Grapher] function allows you to monitor and save the signal environment and alert information on a timeline, and the [RF Chart Analyzer] function allows you to reference the files saved with the [RF Chart Grapher].

### Save and analyze functions for all frequency band signal environments

The [Spectrum Analyzer] function allows you to use the receivers to perform scanning. The scanning results are displayed as a graph, allowing you to visually confirm the existence of interference on frequency bands. The scanning results can be saved as a file which can be used when comparing scanning results.

# Preparing the Software and Devices

## System Requirements

A computer that meets the following requirements is required to run Wireless Studio.

Item	Requirements
OS	Windows 7 (32-bit/64-bit), Windows 8 (32-bit/64-bit), or Windows 10 (32-bit/64-bit)
CPU/RAM	The recommended specifications differ depending on the number of digital wireless receivers connected.
Graphics card	Video memory of 128 MB or higher is recommended
Disk space	1 GB or more
Monitor	1024 × 768 dots or more recommended
Other	English display support 100Base-TX LAN card CD-ROM drive

## Recommended specifications

The recommended specifications for the computer based on the number of displays and the number of connected digital wireless receivers are as follows.

Refer to this when preparing the computer to be used.

### When using one display

- When up to 24 digital wireless receivers are connected  
CPU: Pentium Dual-Core CPU 2.40 GHz or higher  
RAM: 2 GB or higher
- When up to 32 digital wireless receivers are connected  
CPU: Pentium Dual-Core CPU 2.60 GHz or higher  
RAM: 2 GB or higher
- When up to 41 digital wireless receivers are connected  
CPU: Pentium Dual-Core CPU 2.60 GHz or higher  
RAM: 2 GB or higher

### When using two displays

- When up to 24 digital wireless receivers are connected  
CPU: Pentium Dual-Core CPU 2.60 GHz or higher  
RAM: 2 GB or higher
- When up to 32 digital wireless receivers are connected  
CPU: Pentium Dual-Core CPU 2.60 GHz or higher  
RAM: 2 GB or higher
- When up to 41 digital wireless receivers are connected  
CPU: Core i5 2.67 GHz or higher  
RAM: 4 GB or higher

## Recommended power settings

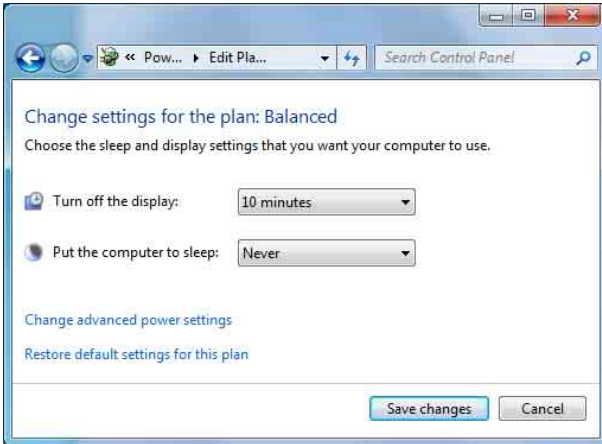
We recommend disabling sleep mode as follows on the computer that will run Wireless Studio.

Doing so prevents interruptions in monitoring resulting from network disconnections between Wireless Studio and the digital wireless system caused by the computer entering sleep mode.

*For details on how to configure power settings, refer to the operating instructions for your computer and operating system.*

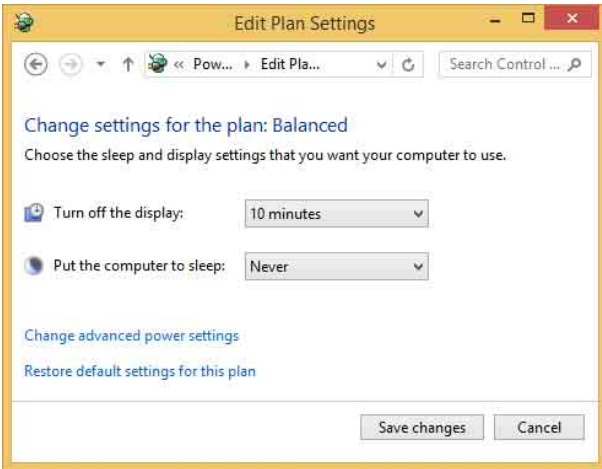
### For Windows 7

Set [Put the computer to sleep] to [Never].



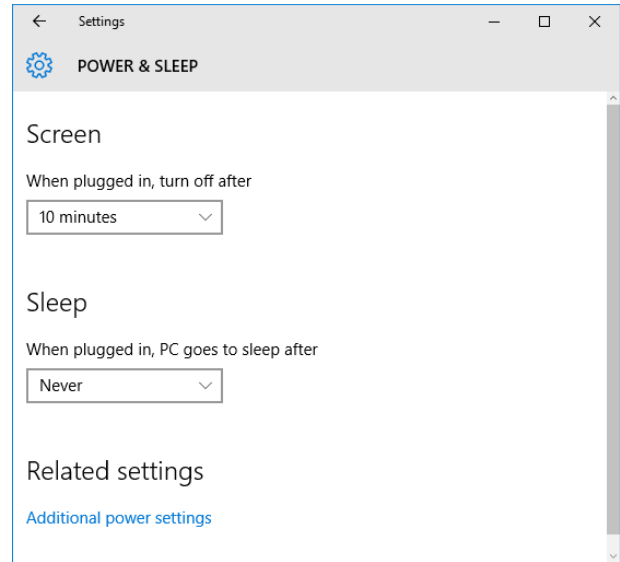
### For Windows 8

Set [Put the computer to sleep] to [Never].



### For Windows 10

Set [Sleep] to [Never].



### Recommended display settings

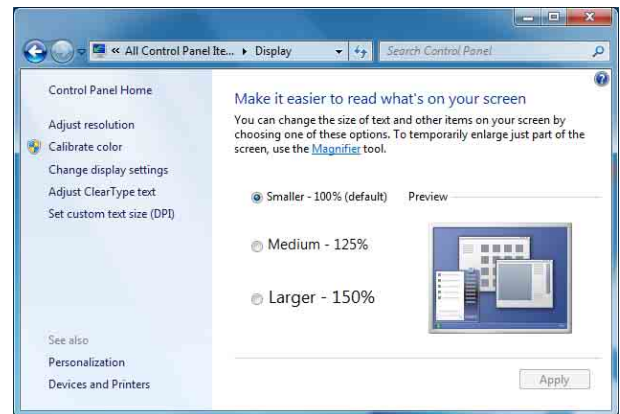
We recommend configuring display settings as follows on the computer that will run Wireless Studio.

Running the software under other display settings may result in distorted screen displays.

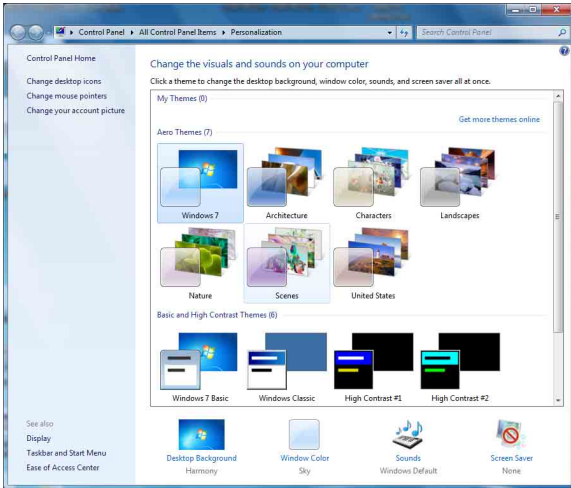
*For details on how to configure display settings, refer to the operating instructions for your computer and operating system.*

### For Windows 7

Select [Smaller - 100%] or [Larger - 150%].

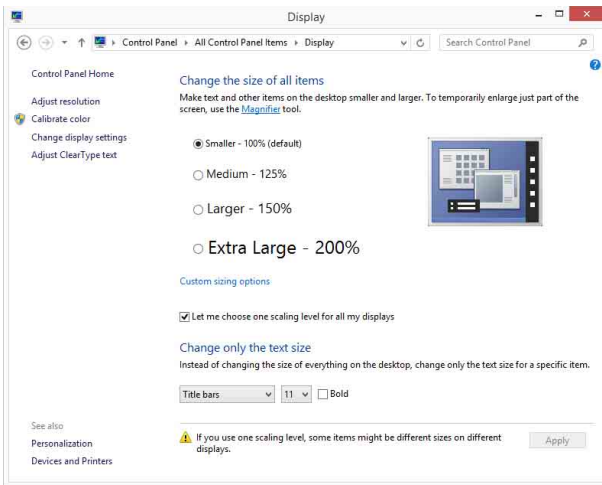


Select from [Aero Themes] for the theme.

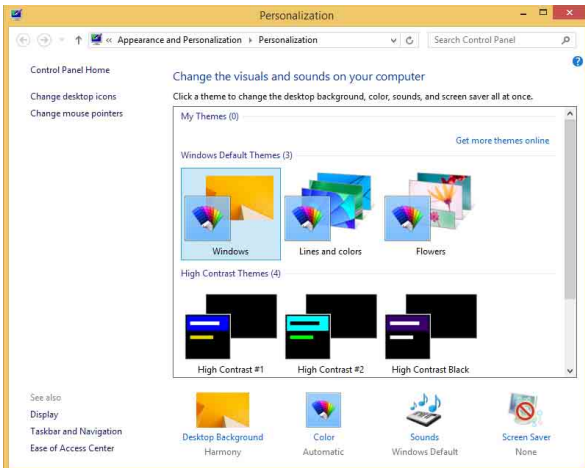


**For Windows 8**

Select [Smaller - 100%] or [Larger - 150%].

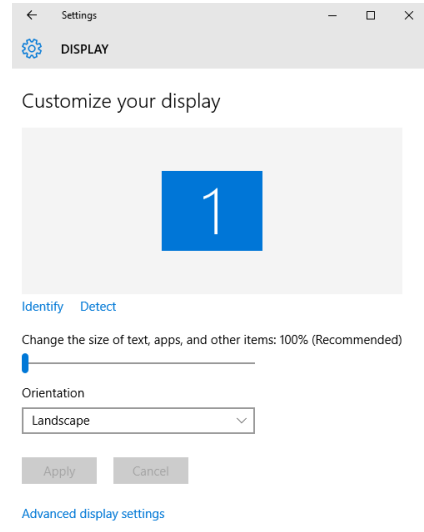


Select from [Windows Default Themes] for the theme.

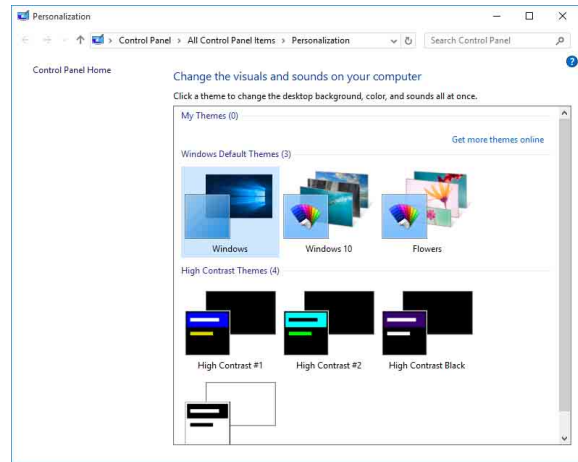


**For Windows 10**

Select [100%], [125%], or [150%].



Select from [Windows Default Themes] for the theme.



**Installing the Software**

**Notes**

- If the older version of Wireless Studio is already installed in the PC, uninstall it (see page 8).
- Quit all applications before installing the software.
- Be sure to log in as the administrator.
- Before installing the software, perform Windows Update to update to the latest operating system.

**Notes on installation**

The installation procedure below describes the operation on the PC that runs Windows 7. Note that the procedure may vary according to the operating system.

- 1 Download the installer for the latest version of Wireless Studio from the following URL.

<http://www.sony.jp/pro-audio>

- 2 Extract the downloaded compressed file, and double-click “setup.exe.”

InstallShield Wizard starts.

- 3 Select the language, and click [OK].

The [Welcome to the InstallShield Wizard for Wireless Studio] screen appears.

- When an older version of Wireless Studio is already installed:  
Uninstallation of the older version is not necessary.
- When reinstalling Wireless Studio 5:  
Uninstall the existing instance of Wireless Studio 5 before reinstalling.

*For details on uninstallation, see “To uninstall the software” on page 8.*

#### **If .NET Framework 4.6.1 is not installed**

If .NET Framework 4.6.1 is not installed, an installation dialog box will appear. Follow its instructions, and perform installation.

- 4 Click [Next].
- 5 Read the user agreement for the software, select [I accept the terms in the license agreement], and click [Next].

- 6 Click [Next].

The [Choose an area] screen appears.

- 7 Select your region, and click [Next].

- 8 Confirm the installation location, and change it if necessary.

To change the location, click [Change...] and specify the installation location in the dialog box that appears.

- 9 Click [Next].

- 10 Click [Install].

Installation starts.

When the necessary files are copied to the hard disk, the [InstallShield Wizard Completed] screen appears.

- 11 Click [Finish].

## **To uninstall the software**

### **Note**

The uninstallation procedure below describes the operation on the PC that runs Windows 7. Note that the procedure may vary according to the operating system.

Click and select [Add or Remove Programs] in the Windows Control Panel, then select [Wireless Studio] from the list, and then delete it.

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## **Setting Up the Network**

Configure the network connection settings for the receivers, RMU-01, battery chargers, and computer.

### **IP addresses and subnet masks**

- If you are not using a standard network line connection, configure the following private address. Configure values that are unique within the network for the “\*” value.  
IP Address: 192.168.0.\*  
Subnet Mask: 255.255.255.0 (fixed length)
- If you are using a standard line connection, consult your network administrator.

### **Receiver network settings**

Make settings on the front panel of the receiver.

*For details on making the settings, refer to the Operating Instructions supplied with the receiver.*

### **RMU-01 network settings**

Make settings by using the Setting Tool software supplied with the RMU-01.

*For details on making the settings, refer to the User’s Guide supplied with the RMU-01 Setting Tool.*

### **Battery charger network settings**

Make settings by using the BC-DWX Setting Tool software.

You can download BC-DWX Setting Tool from the following website.

<http://www.sony.jp/pro-audio>

*For details, refer to the User’s Guide for BC-DWX Setting Tool.*

### **PC network settings**

The following procedure explains the setting operations using the Windows 7 operating system.

*For details on how to make network settings with other operating systems, refer to the help of the operating system that you use.*

- 1 Select [Start] > [Control Panel] > [Network and Internet].

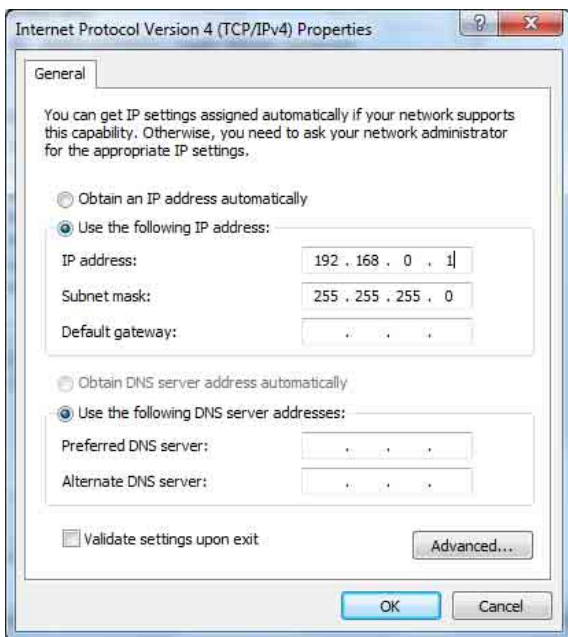


- 2 Click [Network and Sharing Center].
- 3 Click [Change adapter settings].
- 4 Right-click the local area connection icon and then click [Properties].

The properties window of the local area connection appears.

- 5 Double-click [Internet Protocol Version 4 (TCP/IPv4)].

The internet protocol (TCP/IP) properties window appears.



- 6 Click [Use the following IP address], and then enter the IP address in the IP address field.

#### Note

Make sure not to use an IP address that is already assigned to another device on the network.

- 7 Enter the subnet mask into the subnet mask field.

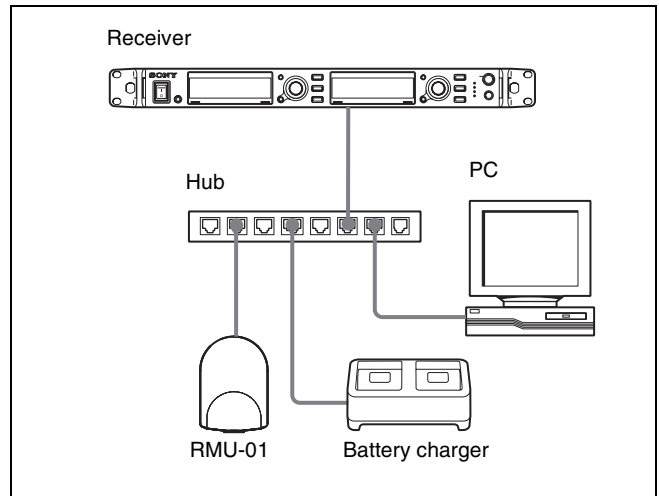
#### Note

If you configure a value other than “255 255 255 0,” the search for the receiver on the network will take a long time.

- 8 Click [OK] to close the internet protocol (TCP/IP) properties window.

- 9 Click [Close] to close the local area connection properties window.

## Connecting to the Network



Use straight LAN cables to connect the receivers, RMU-01, battery chargers, and computer via a hub. When the network connection is correctly made, the LED on the LAN connector area at the rear of the receiver lights up green.

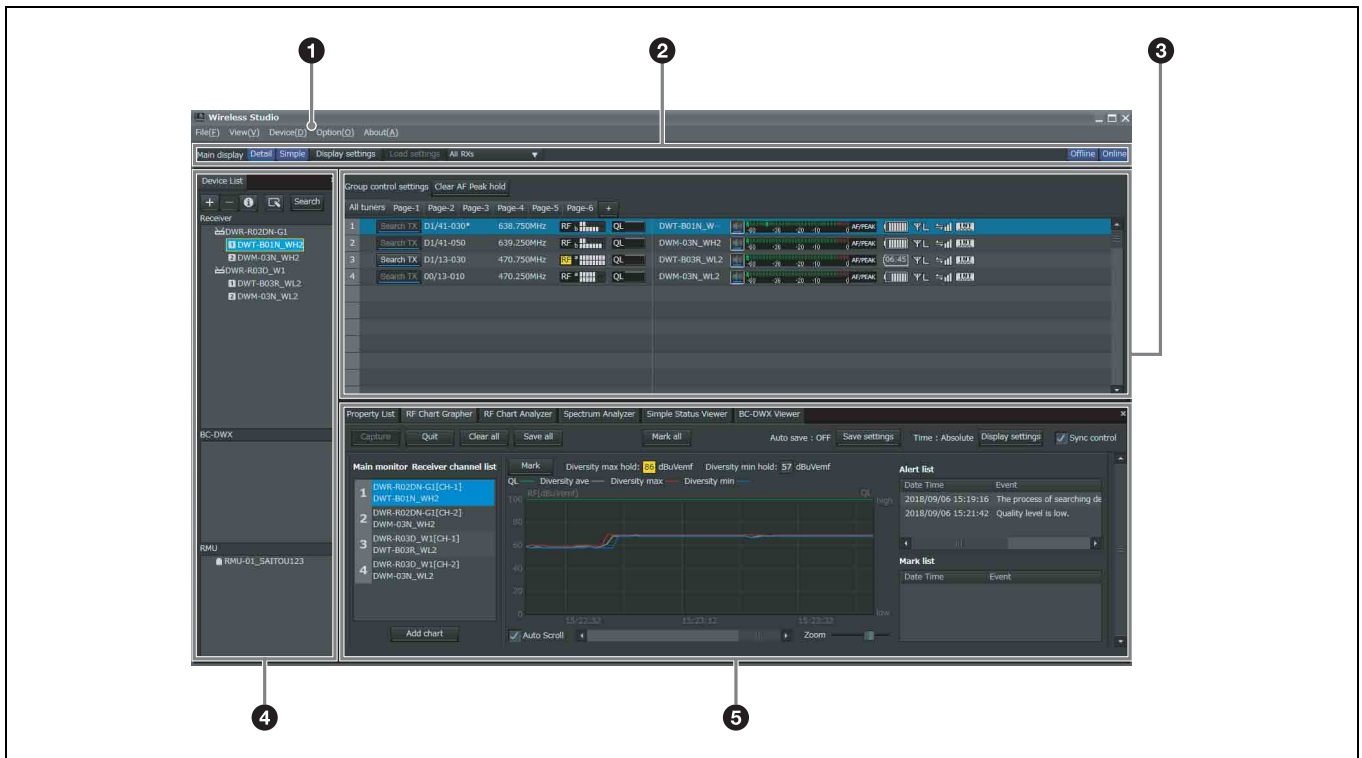
Connect the devices required for system operation to the rear panel of the receiver.

*For details on connecting devices, refer to the Operating Instructions supplied with the receiver.*

#### Notes

- If the LED on the LAN connector area at the rear of the receiver does not light up green, check the connection.
- For connections, use a category 5 or superior LAN cable with a maximum length of 100 m (330 ft). If the connection requires a total cable length exceeding 100 m (330 ft), use a hub between the PC and the device.
- Use the cross cables when directly connecting the PC and the devices.
- Do not touch the LAN connector directly with your hands. The transfer of static electricity may result in malfunction of the unit. As static electricity can discharge from your body and clothes, be sure to remove any static electricity before connecting or disconnecting the LAN cable.

# Parts Identification



## 1 Menus

Click on a menu to display the commands in that menu.

For details, see “Menus” on page 12.

## 2 Toolbar

The following settings are available on the toolbar.

**Main display:** Selects the display mode for the main window.

When [Detail] is selected, the status viewer is displayed in the main window. This allows detailed status monitoring of each channel.

When [Simple] is selected, the simple status viewer is displayed in the main window. This allows basic status monitoring of each channel. The display size for each channel’s information can also be changed.

### Note

When [Main display] is set to [Simple], the following operations cannot be performed.

- Registering receiver channels to pages other than the [All tuners] page.
- Changing the display positions of receiver channels in pages other than the [All tuners] page.
- Adding, deleting, or renaming pages.

For details, see “Changing the display mode of the main window” on page 23.

**Display settings:** Opens the [Display settings] window.

Use this to specify whether to display certain setting items and buttons.

For details, see “[Display settings] Window” on page 56.

**Load settings:** Executes the selected function ([All Rxs], [All Rxs and Tx], or [Select Rxs and Tx]).

**All Rxs:** Applies the settings to all digital wireless receivers.

**All Rxs and Tx:** Applies the settings to all digital wireless receivers and transmitters.

**Select Rxs and Tx:** Applies the settings to the selected digital wireless receivers and transmitters.

**Offline / Online:** Switches between online mode and offline mode.

## 3 Main window

When [Main display] is set to [Detail] or [Simple], the status viewer or the simple status viewer is displayed, respectively. Information obtained from the receivers is displayed, regardless of the display mode. This allows you to monitor signal reception, audio levels, and other status information for the receivers.

For details, see “Main Window” on page 28.

The following settings are also available.

**Group control settings:** Changes the setting of each respective button for all the receiver channels displayed in the status viewer at one time.

#### Note

This does not appear under factory default settings.

**All muting:** Enables audio output muting for all the receiver channels displayed in the status viewer.

**All unmuting:** Disables audio output muting for all the receiver channels displayed in the status viewer.

**Clear AF Peak hold:** Releases the hold status of the AF level meters that appear in the status viewer.

*For details, see “[Other settings] Window” on page 59.*

You can select whether to display or hide [All muting], [All unmuting], and [Clear AF Peak hold] in the [Display settings] window.

*For details, see “[Display settings] Window” on page 56.*

#### 4 [Device List] window

Lists the receivers, RMU-01 units, and battery chargers that exist on the network.

The devices in the list can be registered to the status viewer for monitoring, or controlled by opening their [Property] windows.

*For details, see “[Device List] Window” on page 25.*

#### 5 Sub window

Consists of the following tabs:

##### [Message Log] tab

Displays warnings and error messages that occurred for devices. The warnings and error messages that appear here are automatically saved as log files.

*For details, see “[Message Log] Tab” on page 31.*

##### [Property List] tab

Displays a list of setting values for multiple receivers and transmitters. The devices displayed here are those that are registered to the pages displayed in the status viewer. You can control the receivers and transmitters by selecting the cells in the list and modifying the settings.

*For details, see “[Property List] Tab” on page 32.*

##### [RF Chart Grapher] tab

Records the signal reception status obtained from the receivers and up to 24 hours worth of warnings related to the reception status.

*For details, see “[RF Chart Grapher] Tab” on page 34.*

##### [RF Chart Analyzer] tab

Allows you to view the information saved in the RF Chart Grapher tab.

*For details, see “[RF Chart Analyzer] Tab” on page 39.*

##### [Spectrum Analyzer] tab

Allows you to confirm the signal reception status of the used frequency bands obtained from the receivers.

*For details, see “[Spectrum Analyzer] Tab” on page 39.*

##### [Simple Status Viewer] tab

Allows you to narrow down the receiver channel information registered to each status viewer page to a certain few items, such as the RF meter, QL meter, and alerts, and display only those items.

*For details, see “[Simple Status Viewer] Tab” on page 42.*

##### [BC-DWX Viewer] tab

Allows you to monitor the charging statuses of the battery chargers on the network and control the charge mode.

*For details, see “[BC-DWX Viewer] Tab” on page 44.*

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# Menus

## [File] menu

This menu allows you to load existing setting files and save settings.

The [File] menu has the following commands.

### Notes

- The [New], [Open], and [Save] commands can only be used in offline mode.
- Setting files created in Wireless Studio 2.01 or later can be used in Wireless Studio 5.1x.
- If you open a settings file created using Wireless Studio 3.02 or earlier in Wireless Studio 5.1x or later, all the transmitter settings are restored to the DWT-B01 default values. Reconfigure the settings before applying the settings to the transmitters.

**New:** Creates a new settings file.

**Open:** Opens a setting file.

**Save:** Saves the current settings to a setting file that is already open by overwriting the contents of the file. For setting files that are still unnamed, this command can be used in the same way as the [Save as] command to add a name to a setting file before saving it.

**Save as:** Adds a name to the current settings and saves them to a setting file (file extension: dwl3).

**Exit:** Exits the Wireless Studio software.

## [View] menu

This menu allows you to show or hide each window, and restore the size and layout of each window to their default state from immediately after installation.

The [View] menu has the following commands:

**Default Size and Layout:** Restores the size and layout of windows to their default state from immediately after installation.

**Device List:** Shows or hides the [Device List].

**Status Viewer:** Shows or hides the status viewer.

**Message Log:** Shows or hides the [Message Log] tab of the sub window.

**Property List:** Shows or hides the [Property List] tab of the sub window.

**RF Chart Grapher:** Shows or hides the [RF Chart Grapher] tab of the sub window.

**RF Chart Analyzer:** Shows or hides the [RF Chart Analyzer] tab of the sub window.

**Spectrum Analyzer:** Shows or hides the [Spectrum Analyzer] tab of the sub window.

**Simple Status Viewer:** Shows or hides the [Simple Status Viewer] tab of the sub window.

**BC-DWX Viewer:** Shows or hides the [BC-DWX Viewer] tab of the sub window.

## [Device] menu

This menu allows you to make network connection settings for each device.

The [Device] menu has the following commands:

**Online monitoring and control:** Switches between online mode and offline mode. The system is in online mode when the check mark appears next to the command, and offline mode when the check mark is cleared.

**Load settings:** Applies the setting values configured in Wireless Studio to the receivers and transmitters (available in offline mode only).

*For details, see “Using Settings Files” on page 20.*

**Add a new device:** Opens the [Add a new device] window. Use this when entering IP addresses to add devices to the device window manually.

*For details, see “Manually adding a receiver/battery charger/RMU-01 to the [Device List] window” on page 26.*

**Search devices:** Automatically detects the digital wireless receivers, RMU-01 units, and battery chargers on the same subnet (available in online mode only).

**Omit IP address list:** Opens the [Omit IP address list] window (available in offline mode only).

*For details, see “[Omit IP address list] Window” on page 54.*

**Setting lock:** Opens the [Setting lock] window. Use this to disable or enable the modification of receiver and transmitter settings from Wireless Studio.

*For details, see “[Setting lock] Window” on page 55.*

**Pairing wizard:** Opens the [Pairing Wizard] dialog box. Use this to pair receiver channels and transmitters.

*For details, see “Pairing Receiver Channels and Transmitters” on page 17.*

**Channel Plan Adviser:** Opens the [Channel Plan Adviser] window. Use this to select channel plans using [Channel Plan Adviser].

*For details, see “Selecting Channel Plans” on page 15 and “[Channel Plan Adviser] Window” on page 49.*

## [Option] menu

The [Option] menu has the following commands:

**Receiver CH Label settings:** Opens the [Receiver CH Label settings] window. Use this to configure labels for each receiver channel.

For details, see “[Receiver CH Label settings] Window” on page 55.

**GP/CH Display settings:** Opens the [GP/CH display setting] window. Use this to configure the settings for the groups and channels displayed on Wireless Studio.

For details, see “[GP/CH display setting] Window” on page 55.

**Display settings:** Opens the [Display settings] window. Use this to specify whether to display certain setting items and buttons.

For details, see “[Display settings] Window” on page 56.

**Other settings:** Opens the [Other settings] window. Configure the peak level hold condition of the AF/PEAK level meter and the reception level units.

For details, see “[Other settings] Window” on page 59.

**Network settings:** Opens the [Network settings] window. Displays the network settings of the receivers, battery chargers, and RMU-01 units on the network.

For details, see “[Network settings] Window” on page 59.

**Startup settings:** Opens the [Startup settings] window. Use this to configure startup operations for Wireless Studio.

For details, see “[Startup settings] Window” on page 60.

**Region setting:** Opens the [Region setting] window. Use this when you want to use a receiver model from a region other than the region selected during Wireless Studio installation.

For details, see “[Region setting] Window” on page 60.

## [About] menu

The [About] menu has the following commands:

**Link to Message Log:** Opens the folder in which log files for warnings and error messages are stored. Messages that appear in the [Message Log] tab of the sub window are automatically saved as log files.

**System version information:** Opens the [System version information] window. Displays the versions of the receivers, battery chargers, and RMU-01 units on the network, and the transmitter versions received from the transmitters by the receivers.

**Version information:** Indicates the version of the Wireless Studio software.

# Basic Operations

Wireless Studio operates in one of two modes, online mode and offline mode.

## Online mode

Online mode is used to enable real-time communication between the receivers, battery chargers, and RMU-01 units via the network, and allow monitoring and control of the devices.

### Device Detection and Monitoring (page 14)

Locate the receivers, battery chargers, and RMU-01 units on the network, and enable monitoring for these devices. This operation is necessary for the pairing and device control operations that follow.



### Selecting Channel Plans (page 15)

Scan the signal environment using the channel scan function of the receiver, and view the results while selecting the channel plan.



### Pairing Receiver Channels and Transmitters (page 17)

Pairing is necessary to enable control of the transmitters via wireless remote control. Use the pairing wizard in Wireless Studio to pair receivers and transmitters.



### Controlling Devices (page 18)

Perform device controls from the [Property] window and the [Property List] tab of the sub window.



### Recording the Signal Environment during Operation (page 20)

Record the signal levels and changes in QL for each receiver. Warnings related to signal reception and QL will also be recorded.

## Offline mode

Offline mode is used for settings file operations (saving, recalling, etc.), and applying the settings displayed in Wireless Studio to all devices simultaneously.

### Using Settings Files (page 20)

Setting values for receivers and transmitters can be saved as files. You can recall previously used setting values by opening a stored settings file and applying it to the devices.

# Device Detection and Monitoring

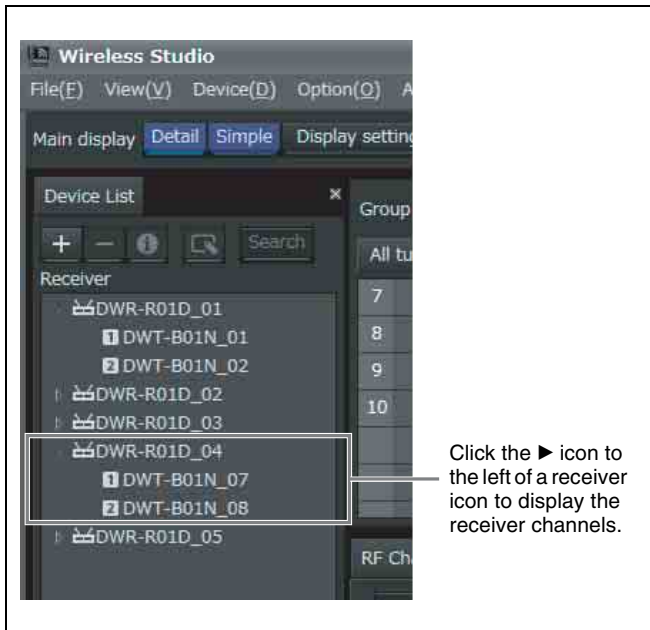
- 1 Select [Start] > [All Programs] > [Sony] > [Digital Wireless Microphone System] > [Wireless Studio] to start up the software.
- 2 Place a check mark next to [Online monitoring and control] in the [Device] menu.

The system enters online mode, and the receivers, battery chargers, and RMU-01 units are automatically detected and added to the [Device List] window. Receivers that are added to the device list are automatically registered to the [All tuners] page of the status viewer where they can then be monitored.

For more information on window contents, see “Status Viewer and Meter Icons” on page 28.

**Note**

The Windows firewall or your security software’s firewall may prevent devices from being detected automatically. If the devices are not detected automatically, disable the firewall settings.



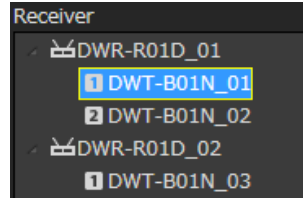
**To monitor a particular set of receiver channels**

Display a page in the status viewer other than the [All tuners] page, and register receiver channels manually to monitor only the receiver channels that you select. You can view the receiver channel that is selected in the device list in the status viewer by dropping it in the status viewer via your mouse.

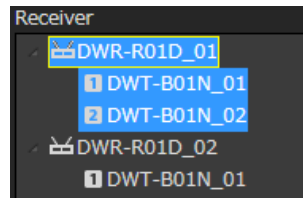


The following methods are available for selecting receiver channels.

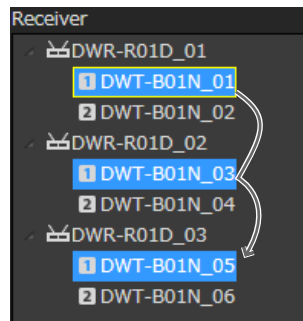
- When you click a single receiver channel, that receiver channel is selected.



- When you click a receiver, the two receiver channels that are built into that receiver are selected.



- When you click receiver channels while holding down the Shift key or Ctrl key, all of the clicked receiver channels are selected.



**Note**

When [Main display] is set to [Simple] and the simple status viewer is displayed for the main window, receiver channels cannot be registered to pages other than the [All tuners] page.

## If Problems Occur during Monitoring

See the following table to remedy the problem.

Problem	Cause	Remedy
The receiver is not recognized.	The host name or IP address is already assigned to another device.	Check the host name or IP address settings.
It takes long until the receiver is recognized.	If the network has a PC that is connected to a broadband router or the Internet, it may take several minutes to recognize the receiver.	Construct a separate network apart from the one containing the PC with the broadband router or the Internet connection.
In the dialog box indicating the receiver detection results, an abnormal value appears in the IP address field.	If your PC is equipped with or connected to a modem or ISDN router, the Wireless Studio software may not function properly when you start it up when either of the conditions described below exist. This is because the PC will attempt to detect device through the modem or router. <ul style="list-style-type: none"> <li>The receiver is turned off.</li> <li>The LAN cable is disconnected.</li> </ul>	Turn on the receiver and make sure the LAN cable is connected.
The receiver is not detected automatically.	The Windows firewall or your security software's firewall may prevent devices from being detected automatically.	Disable the firewall settings on the computer.
The "Wireless Studio detected version unmatch with DWR-R01D. Please update the firmware of DWR-R01D to ver.1.20 or later" message appears, and monitoring is disabled.	Wireless Studio Ver. 3.0 or later supports Ver. 1.20 or later of the DWR-R01D firmware.	Update the firmware of the receivers. For details, contact your Sony dealer.

## Selecting Channel Plans

To ensure stable operations, select a channel plan that is suitable for your signal environment. In Wireless Studio, you can ensure more stable operations by performing the procedure found in [Channel Plan Adviser] to select channel plans.

The following modes are available in [Channel Plan Adviser].

**Basic mode:** This mode allows you to select a channel plan that avoids signal interferences detected by the receiver's channel scan function.

**Advanced mode:** In addition to performing channel scan as in basic mode, this mode allows you to select a channel plan while taking into account frequencies that are being used by known TV broadcasts or other wireless devices.

*For details, see "[Channel Plan Adviser] Window" on page 49.*

This section describes how to select channel plans using the simpler basic mode.

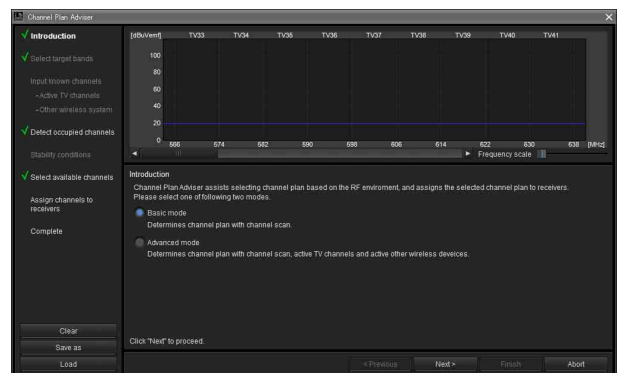
*For details on selecting channel plans using advanced mode, see "Selecting the channel plan" on page 51.*

- 1 Place a check mark next to [Online monitoring and control] in the [Device] menu.

The system enters online mode, and the receivers are automatically detected and added to the [Device List] window.

- 2 Select [Device] menu > [Channel Plan Adviser].

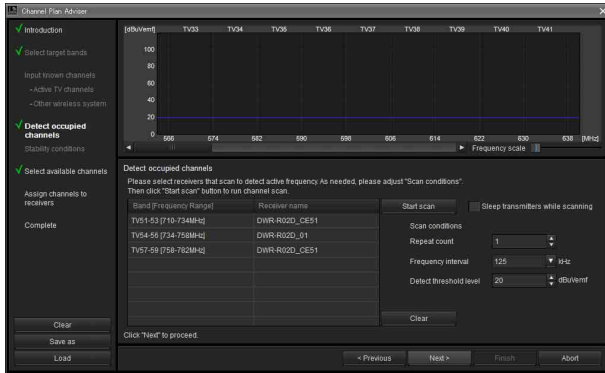
The following screen appears, and [Channel Plan Adviser] starts.





### 3 Select [Basic mode], and click [Next >].

The following screen appears.



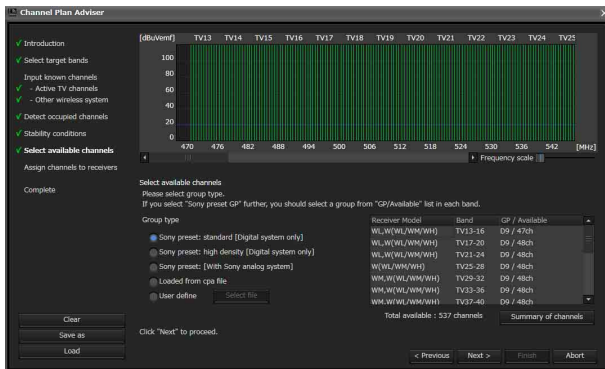
The receivers for which channel scan will be performed will be displayed here for each frequency band.

### 4 Click [Start scan].

Channel scan is performed, and the results are plotted on the frequency spectrum display in the upper part of the screen.

### 5 Click [Next >].

The following screen appears.



Candidate channel plans and the number of receivers that can use the channel plans at the same time will be displayed here for each frequency band.

### 6 Select the [Group type] to use for each frequency band.

Select the group type based on the device configuration.

**Sony preset: standard [Digital system only]:** Select this when only Sony digital wireless systems are used (up to 48-ch channel plans are supported).

**Sony preset: high density [Digital system only]:** Select this when only Sony digital wireless systems are used (up to 64-ch channel plans are supported).

**Sony preset GP [With Sony analog system]:** Select this when the configuration also includes Sony analog wireless systems.

**Loaded from cpa file:** Select this to use channel plans that were selected during previous uses of [Channel Plan Adviser].

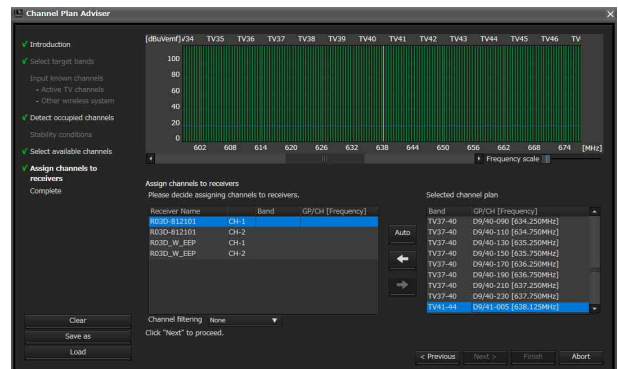
**User define:** Select this to use user defined channel plans.

### Note

The recommended channel plan when “Sony preset: high density [Digital system only]” is selected cannot be assigned to the DWR-R01D, DWR-R02D, or DWR-R02DN.

### 7 Click [Next >].

The following screen appears.



The selected channel plan is assigned to the receivers here.

When [Receiver’s band block] or [Receiver’s band] is selected in [Channel filtering], a channel plan is extracted according to the [BAND BLOCK] or [BAND] setting of the digital wireless receiver. This allows you to assign a channel plan without changing the [BAND BLOCK] or [BAND] setting of the digital wireless receiver.

*For details on the [Channel filtering] setting, see “Extracting a channel plan” on page 53.*

### 8 Click [Auto].

The channel plan is assigned automatically.

### Note

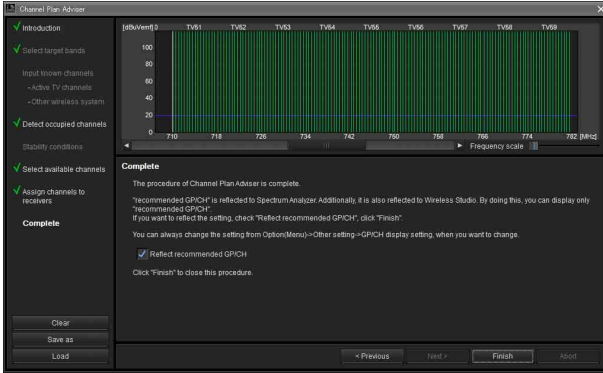
You can also assign channels one at a time by selecting the receiver and frequency, and clicking the ← button.

### 9 Click [Next >].

Configuration of the assigned channel plan starts for the receivers.

If the receivers are already paired with transmitters, the configuration is also sent to the transmitters. The following screen appears.





**10** If necessary, enable or disable [Reflect recommended GP/CH], and then click [Finish].

[Channel Plan Adviser] closes.

If the [Reflect recommended GP/CH] checkbox is selected, only the groups and channels recommended by [Channel Plan Adviser] will be selectable on Wireless Studio. The groups and channels recommended by [Channel Plan Adviser] will be displayed in the [Spectrum Analyzer] tab of the sub window.

## Pairing Receiver Channels and Transmitters

To enable remote control of transmitters via wireless remote control, each receiver channel must be paired with a transmitter.

By using the pairing wizard in Wireless Studio to perform this operation, you can perform pairing for multiple channels with ease.

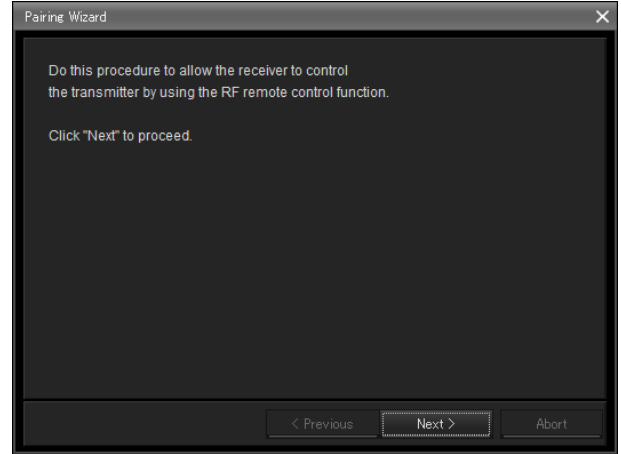
Perform pairing with the pairing wizard as follows.

**1** Place a check mark next to [Online monitoring and control] in the Device menu.

The system enters online mode, and the receivers, battery chargers, and RMU-01 units are automatically detected and added to the device list window.

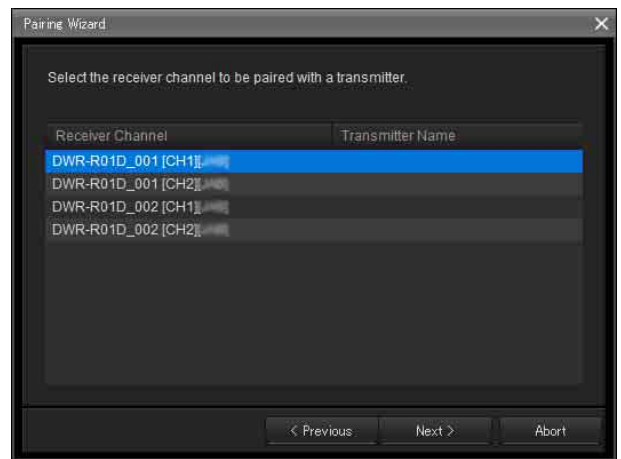
**2** Select [Device] menu > [Pairing wizard].

The following screen appears, and the pairing wizard starts.



**3** Click [Next >].

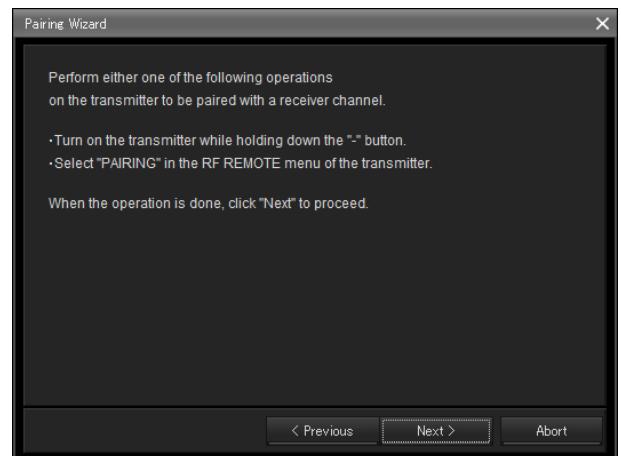
The following screen appears.



The receiver channels for all the receivers that appear in the device list appear here.

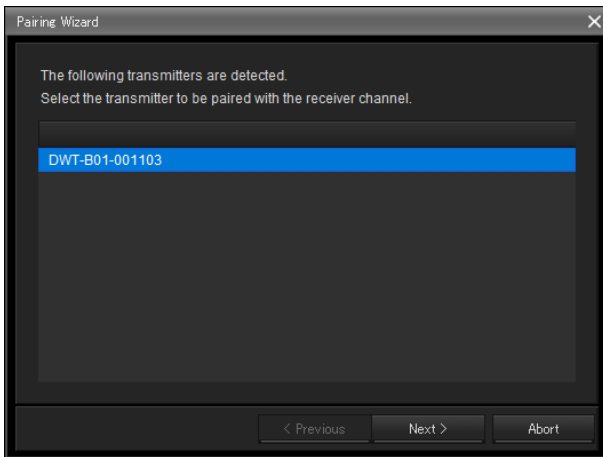
**4** Select the receiver channel for pairing, and click [Next >].

The following screen appears.



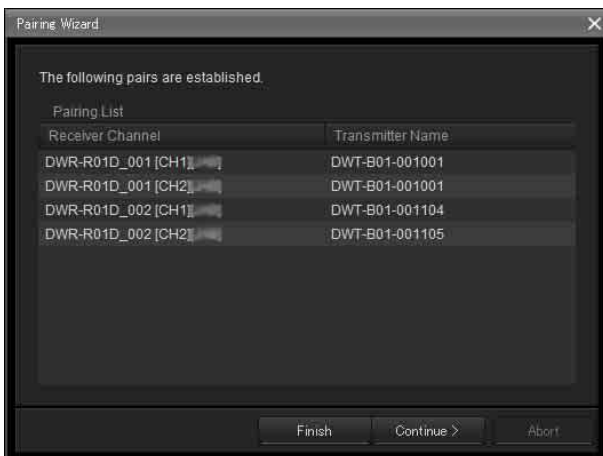
- Operate the transmitter for pairing to set it to pairing mode, and click [Next >].

When the transmitter is detected, the following screen appears.



- Select the transmitter for pairing, and click [Next >].

Information regarding remote control is exchanged between the receiver and the transmitter. When the information exchange is complete, the following screen appears.



The names of receiver channels and transmitters that have already been paired appear here.

The [Transmitter Name] column to the right of the receiver channels will be blank for receivers that have not yet been paired.

If receiver channels that have not yet been paired exist, click [Continue] and pair the channels by repeating the above procedure from step 3.

- When all necessary pairings are complete, click [Finish].

The wizard closes.

The receiver channels and transmitters are now paired, and remote control via wireless remote control is enabled.

## Controlling Devices

You can control devices from the [Property] window and the [Property List] tab of the sub window in Wireless Studio.

The [Property] window displays information about the selected receiver. You can configure settings in the [Property] window while viewing the meter icons in the upper part of the window.

The [Property List] tab of the sub window displays a list of settings for the receiver channels and transmitters displayed in the status viewer. You can configure settings for multiple receiver channels and transmitters simultaneously in the [Property List] tab.

### Controlling devices from the [Property] window

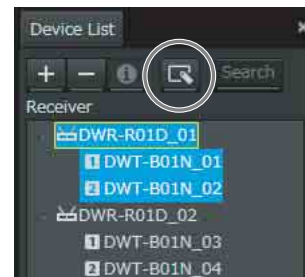
Perform the following to control devices from the [Property] window.

- Place a check mark next to [Online monitoring and control] in the [Device] menu.

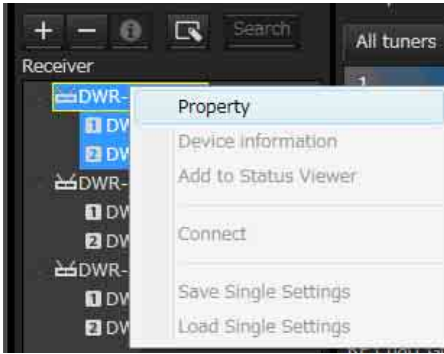
The system enters online mode, and the receivers are automatically detected and added to the device list window.

- Perform one of the following to open the [Property] window.

- Select a receiver or receiver channel in the device list, and click the [Property] window button in the upper part of the device list window.



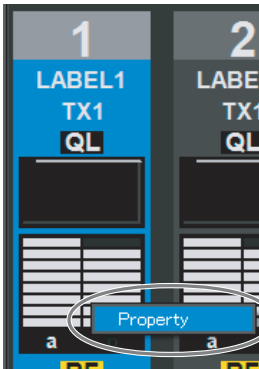
- Right-click a receiver or receiver channel in the device list, and select [Property] in the context menu that appears.



- Right-click the meter icons that appear in the status viewer, and select [Property] in the context menu that appears.



- Right-click the meter icons that appear in the simple status viewer, and select [Property] in the context menu that appears.



- 3 Configure the settings in the [Property] window.

Changes to the settings are sent to receiver channels and transmitters immediately and applied.



For details on the settings in the [Property] window, see “[Property] Window” on page 45.

## Controlling devices from the [Property List] tab of the sub window

Perform the following to control devices from the [Property List] tab of the sub window.

- 1 Place a check mark next to [Online monitoring and control] in the [Device] menu.

The system enters online mode, and the receivers are automatically detected and added to the device list window.

- 2 Click the [Property List] tab in the sub window.

The [Property List] tab appears.

Receiver channels that are registered to the status viewer appear in the [Property List] tab.

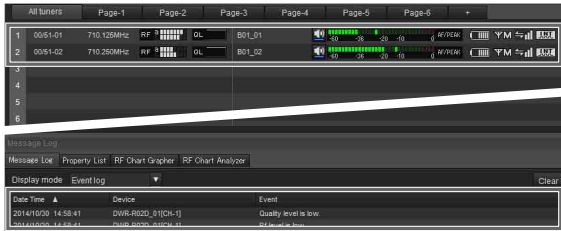
If the receiver channel for which you want to configure settings does not appear in the [Property List] tab, display the page on which the receiver channel is registered in the status viewer, or register the receiver channel to the status viewer.

For details on changing the page displayed in the status viewer, see “Status Viewer and Meter Icons” on page 28.

For details on how to register receiver channels to the status viewer, see “To monitor a particular set of receiver channels” on page 14.

- Click a cell displayed in the list of setting values in the [Property List] tab, and configure the setting.

Changes to the settings are sent to receivers and transmitters immediately and applied.



For details on the settings in the [Property List] tab and how to change them, see “[Property List] Tab” on page 32.

## Recording the Signal Environment during Operation

You can use the [RF Chart Grapher] in Wireless Studio to record information on the signal environment and any alerts that occurred during operation. This allows you to determine the cause-and-effect relationship between the signal environment and specific alerts.

This section describes the process between starting the signal environment monitoring and saving.

For further details on operations, see “[RF Chart Grapher] Tab” on page 34.

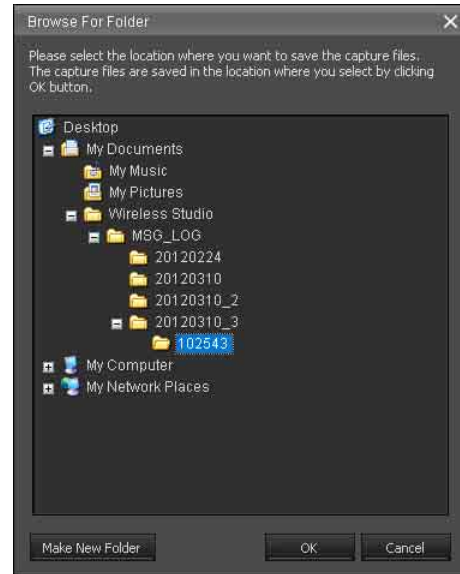
- Place a check mark next to [Online monitoring and control] in the [Device] menu.

The system enters online mode, the receivers are automatically detected and added to the device list window, and monitoring of the signal environment starts.



- When you are finished with operations, click [Save all] to save the acquired RF and QL data.

The following dialog box appears.



- Select the folder in which you want to save the data, and click [OK].

The RF and QL data for all the receiver channels is saved under the selected folder.

You can display the saved data in the [RF Chart Analyzer].

For details on the [RF Chart Analyzer], see “[RF Chart Analyzer] Tab” on page 39.

## Using Settings Files

Wireless Studio allows you to save device settings as files. By recalling the settings stored in a file and applying them to devices using the [Load settings] function, you can reuse previously configured settings.

After recalling settings from a file, you can also edit the setting values in Wireless Studio without connecting to the devices on the network. You can create new system configurations that are based on previous setting environments by applying the settings edited in Wireless Studio to the devices.

The following items are stored in a settings file.

- Setting values for each device that appears in the device list.
- Positions of meter icons registered in the status viewer.
- Omit IP address list settings

## Saving the settings as files

- Remove the check mark next to [Online monitoring and control] in the [Device] menu.

The system enters offline mode.

- 2 Select [File] menu > [Save as].

The current configurations are saved as a settings file.

**Note**

When saving transmitter settings, make sure that the transmitters are active and that signals are received properly. If the information is not received properly from a transmitter, the factory default settings of that transmitter will be saved.

## Opening files and editing settings

- 1 Remove the check mark next to [Online monitoring and control] in the [Device] menu.

The system enters offline mode.

- 2 Select [File] menu > [Open].

- 3 Select the previously saved file, and click [OK].

The information stored in the file is displayed on the Wireless Studio screen.

- 4 Edit the setting values.

Settings values can be edited in the [Property] window or the [Property List] tab of the sub window.

*For details on changing the settings, see “[Property List] Tab” on page 32 and “[Property] Window” on page 45.*

When you are finished editing, save the settings to a file if necessary.

**Note**

You can change the [Receiver Model] and [Transmitter Type] settings when editing settings in offline mode. However, if you specify a setting that differs from the actual setting of the device, an inconsistency will occur when you apply the setting using the [Load settings] function. The cells for these [Receiver Model] and [Transmitter Type] settings will be displayed in yellow. Make sure to use the actual model name and type of the device when changing the [Receiver Model] and [Transmitter Type] settings.

## Opening files and applying settings

- 1 Remove the check mark next to [Online monitoring and control] in the [Device] menu.

The system enters offline mode.

- 2 Select [File] menu > [Open].

- 3 Select the previously saved file, and click [OK].

The information stored in the file is displayed on the Wireless Studio screen.

Edit the settings here if necessary.

- 4 Select [All Receiver’s settings], [All Receiver’s and All Transmitter’s settings], or [Select Receiver’s and Transmitter’s settings] from [Device] menu > [Load settings].

The settings are applied to the devices. The devices to which the settings are applied will depend on the option you selected.

**If [All Receiver’s settings] is selected**

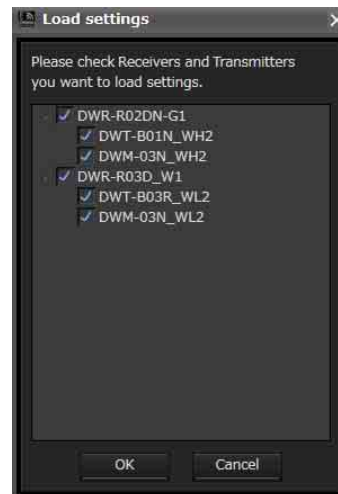
The settings are applied to all the receivers that appear in the device list.

**If [All Receiver’s and All Transmitter’s settings] is selected**

The settings are applied to all the receivers that appear in the device list and their paired transmitters.

**If [Select Receiver’s and Transmitter’s settings] is selected**

The [Load settings] window. The settings are applied to the digital wireless receivers and transmitters selected in the [Load settings] window.



If for some reason the stored values could not be applied to a setting item, the cell for that item will be displayed in yellow in the [Property List] tab. In such cases, make sure to check the status and setting values of the devices.

**Notes**

- The following conditions must be met for the settings to be applied to the receivers.
  - The IP addresses of the receivers that appear in the device list must be the actual IP addresses of the units.
  - The [Receiver Model] settings must be the actual models of the receivers.



- The following conditions must be met for the settings to be applied to the transmitters.
  - The transmitters are paired.
  - The [Transmitter Type] settings must be the actual types of the paired transmitters.
  - The transmitters are within the wireless remote control service area.

## Using individual settings files for individual devices

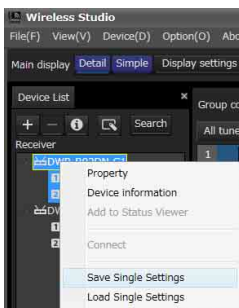
Wireless Studio allows you to save individual settings files for individual devices. You can recall previous settings by loading settings that were previously saved to a file and applying them to a device.

### Note

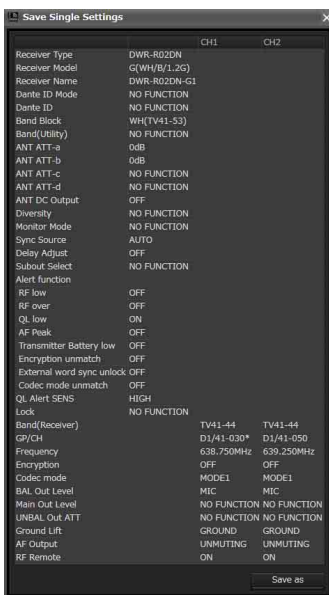
Only the setting values of a device are stored to the file.

### To save the individual settings of a device to a file

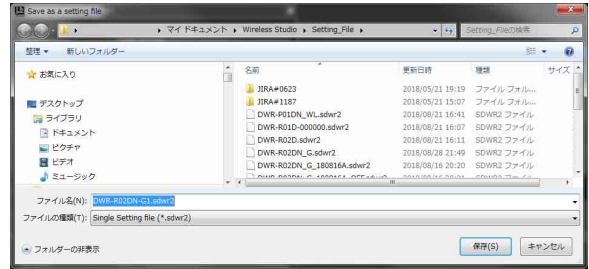
- 1 Right-click the device for which you want to save settings in the device list, and select [Save Single Settings] in the context menu that appears.



- 2 Click the [Save as] button in the [Save Single Settings] window that appears.



- 3 Enter a file name in the file save dialog box that appears, and click the [Save] button.

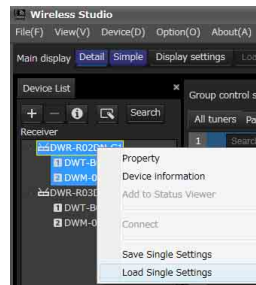


### Note

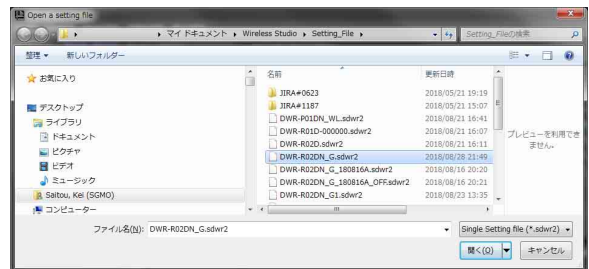
When saving transmitter settings, make sure that the transmitter is turned on and that the signals can be received properly. If the information from the transmitter is not received properly, the factory default settings of that transmitter will be saved.

### To open a previously saved individual settings file and apply its settings

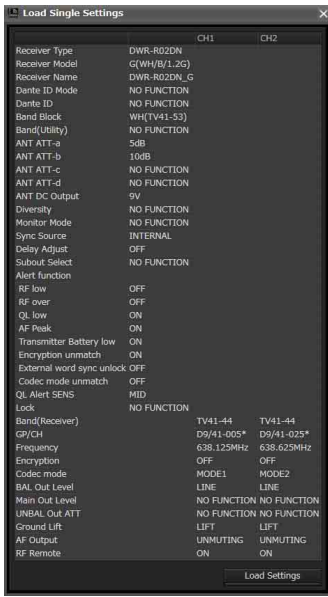
- 1 Right-click the device to which you want to apply the settings in the device list, and select [Load Single Settings] in the context menu that appears.



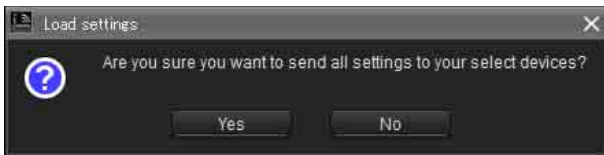
- 2 Select the individual settings file and click the [Open] button in the file selection dialog box that appears.



- Verify the content of the selected individual setting file and click the [Load Settings] button in the [Load Single Settings] window that appears.



- Click [Yes] in the confirmation dialog box for applying the settings to the device.



The settings saved to the individual settings file are applied to the device.

Settings that could not be applied to the device for whatever reason will appear in yellow in the [Property List] tab, so be sure to check the device's status and settings.

## Customizing the Screen Display

### Changing the display mode of the main window

You can change the display mode for the main window via the [Main display] setting on the toolbar.

**Detail:** Displays the status viewer in the main window. When [Detail] is selected, you can view the status viewer and simple status viewer at the same time by selecting the [Simple Status Viewer] tab in the sub window. In addition, as each tab of the sub window can be displayed in a window that is separate from Wireless Studio, you can display Wireless Studio on your main monitor and display the separated simple status viewer on a different monitor.

For details on separating sub-window tabs, see “To separate a sub-window tab from Wireless Studio” on page 24.

**Simple:** Displays the simple status viewer in the main window. This mode is ideal for basic monitoring on a single monitor, as the simple status viewer cannot be separated from Wireless Studio (which is possible when [Detail] is selected).

#### Note

When you switch from [Detail] to [Simple], the screen layout of Wireless Studio is stored and only the main window switches to simple display mode. When you switch from [Simple] to [Detail], the main window switches to detailed display mode and the stored screen layout is restored. As a result, if you change the screen layout of Wireless Studio during simple display mode, the changes will not be reflected when you switch back to detailed display mode.

### Displaying the sub-window tabs in different locations

#### To display a sub-window tab in the main window

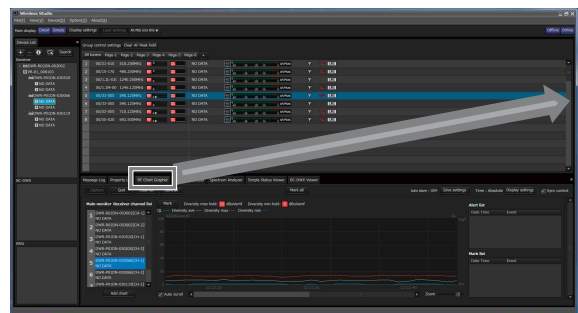
You can move individual sub-window tabs to the left, right, or below the status viewer in the main window. This section describes how to moving the [RF Chart Grapher] tab to the right of the status viewer.

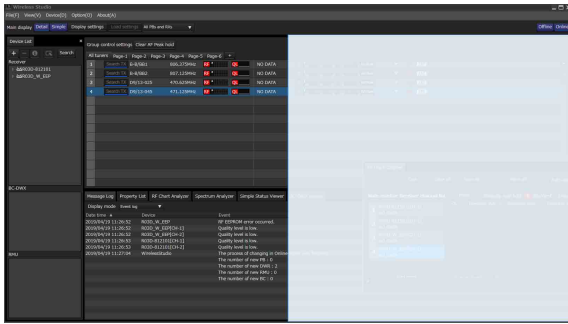
- Select a sub-window tab, and drag it near the status viewer.

An icon appears.

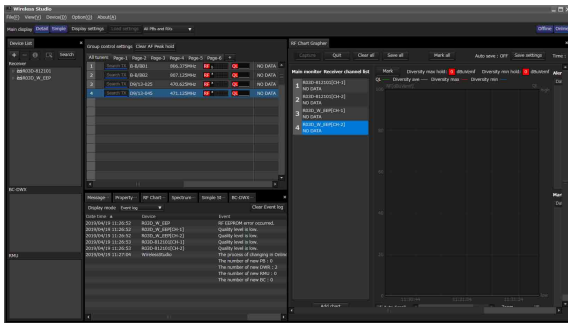
#### Note

Do not release the mouse button.





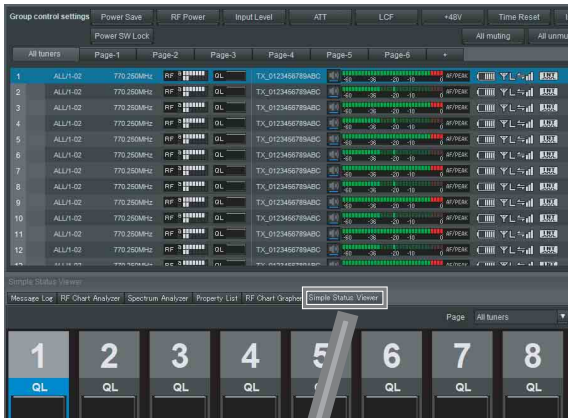
**2** Drop the tab on one of the buttons that appear on the icon.



**To separate a sub-window tab from Wireless Studio**

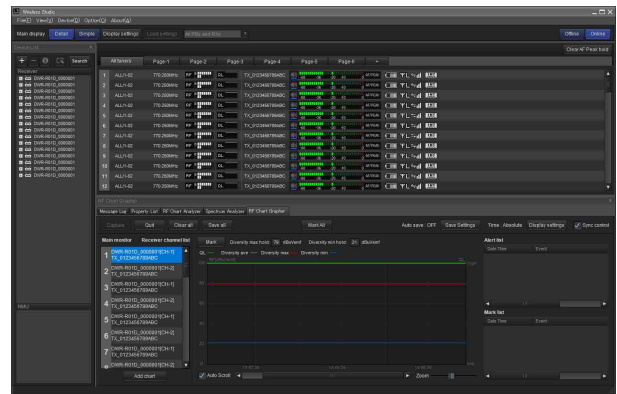
You can display individual sub-window tabs in a window that is separate from Wireless Studio.

To separate a tab, select the sub-window tab, and then drag and drop it outside of the Wireless Studio window.



By dragging and dropping the [Simple Status Viewer] tab within the screen of a second monitor and maximizing its display, you can monitor Wireless Studio on your first monitor and monitor the simple status viewer on your second monitor at the same time.

- First monitor



- Second monitor



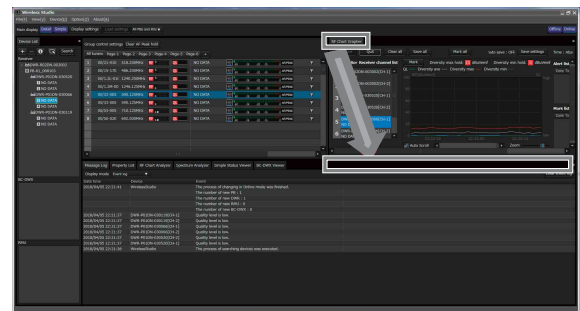
**To return a tab to the sub window**

- 1** Select the tab in the main window or the separated tab, and drag it near the sub window.

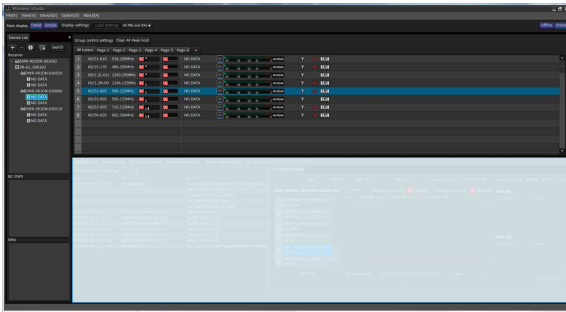
An icon appears.

**Note**

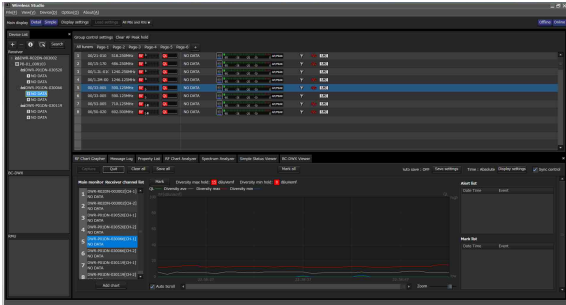
Do not release the mouse button.







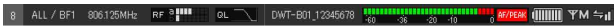
- Drop the tab onto the displayed icon.  
The tab returns to the sub window.



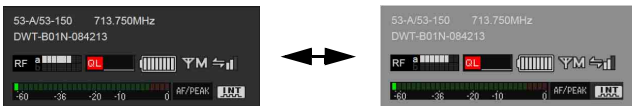
## Behavior of Wireless Studio when SEARCH RX is Executed

When the SEARCH RX function is executed on transmitters equipped with that function, the receiver channels on Wireless Studio will blink.

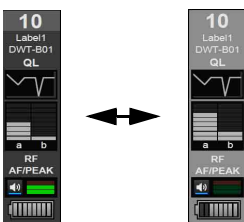
### Meter icons in the status viewer



### Meter icons in the [Property] window

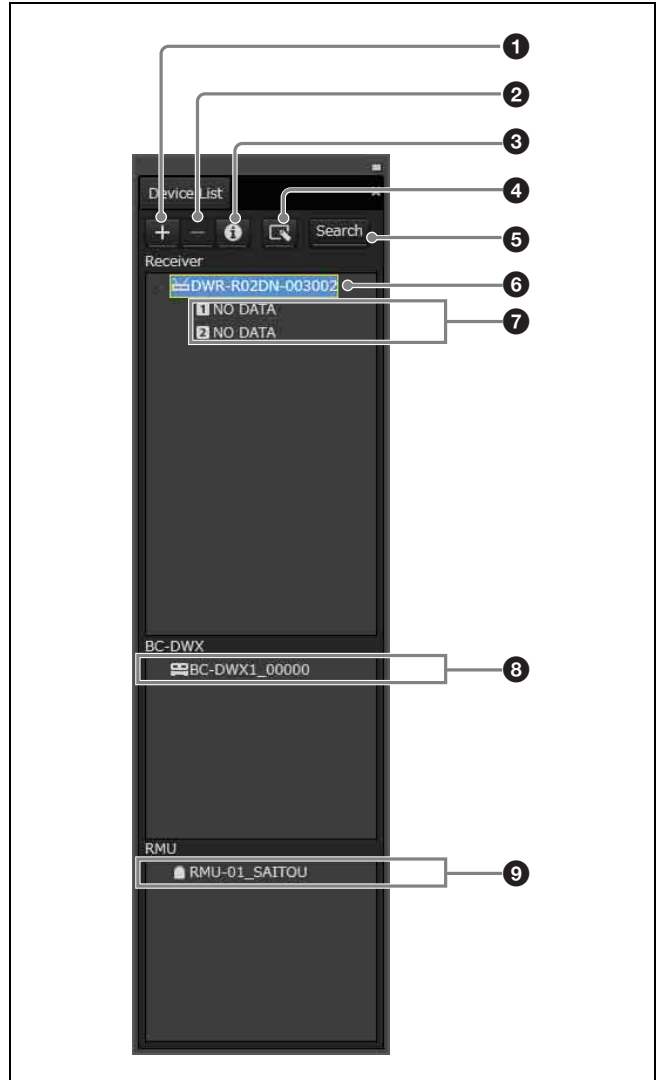


### Simple status viewer



## [Device List] Window

This window lists in a table all of the receivers, battery chargers, and RMU-01 units on the network and two receiver channels of each receiver as operating channel information. It also displays icons that indicate the status of each device.



- [+] (add) button**  
Opens the [Add a new device] window. Add a device to the device list by specifying its type and IP address.

For details, see “Manually adding a receiver/battery charger/RMU-01 to the [Device List] window” on page 26.

- [-] (delete) button**  
Deletes the selected device or receiver channel from the list (available in offline mode only).

### 3 Device information button

Opens the [Device information] window. This allows you to view device type and IP address information for devices selected in the list.

*For details, see “Confirming the device types and IP addresses of devices registered in the [Device List] window” on page 26.*

### 4 Property button

Opens the [Property] window. Use this to check or modify the settings for the currently selected receiver or the transmitter that is paired with that receiver.

*For details, see “[Property] Window” on page 45.*

### 5 [Search] (automatic detection) button

Automatically detects and adds to the list receivers, RMU-01 units, and battery chargers on the same subnet (available in online mode only).

### 6 Receiver display

Indicates receiver names obtained from receivers on the network that were added to the device list.

### 7 Receiver channel display

Indicates the receiver channels of the receivers and transmitter names obtained by metadata received from the transmitter.

### 8 Battery charger display



Indicates battery charger names obtained from battery chargers on the network that were added to the device list.





### 9 RMU display

Indicates the name of the remote controlled units obtained from RMU-01 units on the network that were added to the device list.

## Icons used to indicate status

The following icons are displayed to indicate the status of the receivers, RMU-01 units, and battery chargers on the network.

Device	Icon	Meaning
Receiver		Operating normally
		No communication with receiver. If operating in online mode, the receiver may be turned off, IP addresses may be overlapping, a network connection error may have occurred, etc. Check the status of each device. This icon also appears in offline mode.

Device	Icon	Meaning
RMU-01		Operating normally
		No communication with RMU-01. If operating in online mode, the RMU-01 may be turned off, IP addresses may be overlapping, a network connection error may have occurred, etc. Check the status of each device. This icon also appears in offline mode.
Battery charger		Operating normally
		No communication with battery charger. If operating in online mode, the battery charger may be turned off, IP addresses may be overlapping, a network connection error may have occurred, etc. Check the status of each device. This icon also appears in offline mode.

## Confirming the device types and IP addresses of devices registered in the [Device List] window

Display the [Device information] window using one of the following methods.

- Select a device in the device list, and click the device information button in the upper part of the [Device List] window.
- Right-click a device in the device list, and select [Device information] in the context menu that appears.



## Manually adding a receiver/battery charger/RMU-01 to the [Device List] window

Display the [Add a new device] window using one of the following methods.

- Click the [+] button in the upper part of the [Device List] window.
- Select [Device] menu > [Add a new device].

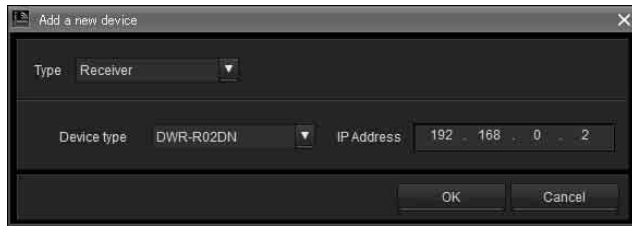
After entering the following items in the window that appears, click [OK] to close the window.

The receiver/battery charger/RMU-01 unit is added to the device list window.

**Type:** Selects the type (Receiver, RMU, BC-DWX) of the device to add to the [Device List] window. The options

available for [Device type] vary depending on the selected type.

Type	Device type
Receiver	DWR-R01D
	DWR-R02D
	DWR-R02DN
	DWR-R03D
RMU	RMU-01
BC-DWX	BC-DWX1



**Device type:** Selects the model to add to the [Device List] window.

**IP Address:** Enter the IP address of the receiver/battery charger/RMU-01 to be added.

#### **To cancel the addition of a receiver/battery charger/RMU-01 unit**

Click [Cancel].

### **Context window**

Right-click on a node in the [Device List] window to display the context window.

**Property:** Displays the [Property] window for the selected device.

*For details on the [Property] window, see “[Property] Window” on page 45.*

**Device information:** Displays information about the selected device.

*For more information on the contents, see “Confirming the device types and IP addresses of devices registered in the [Device List] window” on page 26.*

**Add to Status Viewer:** Adds the selected receiver channel to the status viewer in the main window.

When you right-click a receiver, the receiver channel for that receiver is added to the status viewer.

**Connect:** Reconnects to receivers, battery chargers, and RMU-01 units for which communication with Wireless Studio has been interrupted.

**Save Single Settings:** Saves the settings of the selected device to a file.

*For details, see “To save the individual settings of a device to a file” on page 22.*

**Load Single Settings:** Loads settings that are saved to a file to the selected device.

*For details, see “To open a previously saved individual settings file and apply its settings” on page 22.*

# Main Window

The status viewer is displayed in the main window.

## Status Viewer and Meter Icons

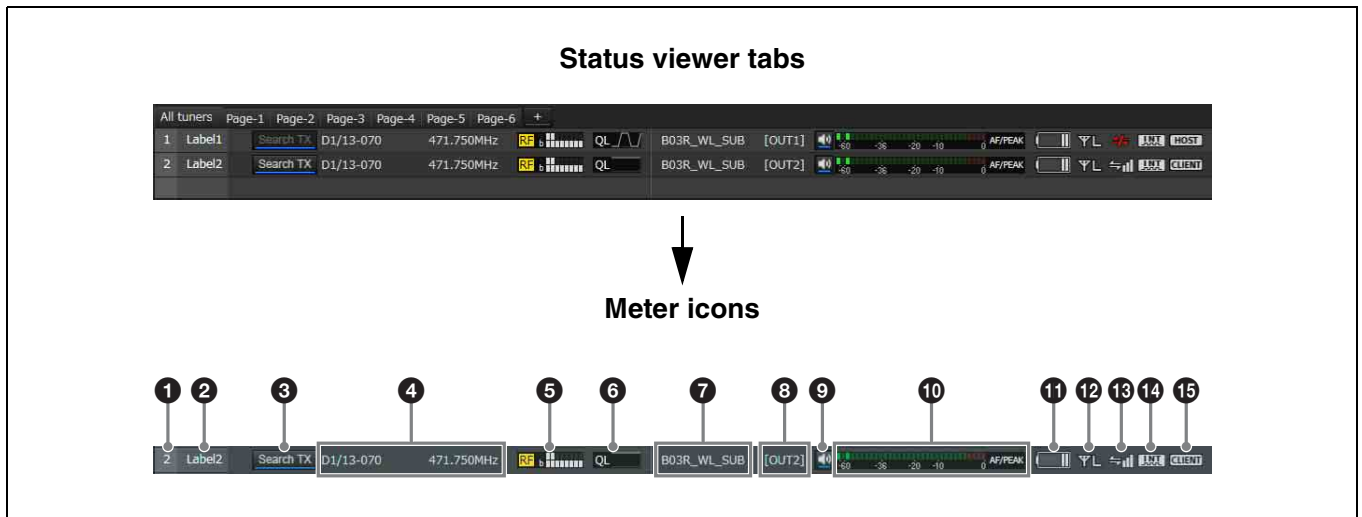
The status viewer displays meter icons that allow you to monitor the status of receiver channels. The information indicated by each receiver channel meter icon is identical to the initial display of the receiver.

A total of seven pages, the [All tuners] page and [Page-1] to [Page-6], are available in the status viewer by default when you first start up Wireless Studio. You can change the page that is displayed by using the tabs in the upper part of the status viewer.

The [All tuners] page allows you to monitor the status of all receiver channels, as all the channels displayed in the device list are automatically registered to this page.

[Page-1] to [Page-6] allow you to customize. Up to 82 receiver channels can be registered to each page, and you can choose which receiver channels to monitor from the device list and arrange them in any order.

A red meter icon appears for devices that are or may be experiencing operational trouble.



### 1 Number

Displays the receiver channel number.

### 2 Label

Displays the label configured in the [Receiver CH Label settings] window.

### 3 Search TX

Makes the screens for transmitters that are paired with the receiver blink.

### Notes

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- This function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and digital wireless transmitters (such as the DWT-B03R). In addition, when using an RMU-01

for Cross Remote connection, the RMU-01 must be version 1.27 or later.

### 4 Reception channel information

Indicates the group, channel and frequency information for the receiving signal.

### 5 RF (radio wave) level meter/diversity indication

Indicates the radio wave input level according to eight levels. The number of segments that light up depends on the input level. The diversity selection result appears on the left side of the level meter.

“RF” on the left side of the level meter lights up red when the level drops.

When the RF input level is high, “RF” lights up yellow.

When you are configuring channels at equal intervals during digital multi-channel operations, we recommend

adjusting receiver and antenna settings so that “RF” does not light yellow.

### 6 QL (signal quality level) meter

Indicates the quality of the received data in a meter. This meter allows you to monitor quality deterioration of received signals caused by reduced RF signal reception sensitivity that may occur when the receiver is too far from the transmitter or when there is signal interference. “QL” on the left side of the graph lights up red when the audio data quality is low.

### 7 Transmitter name

Indicates the name of the transmitter according to the meta data that the receiver receives from that transmitter.

### 8 Output channel display


Displays the audio output destination of the receiver. In normal operation, channel 1 is output from OUT 1, and channel 2 is output from OUT 2. When the OUTPUT SWAP setting is enabled, channel 1 is output from OUT 2, and channel 2 is output from OUT 1. The settings are also highlighted on the display.


#### Note

OUTPUT SWAP is available only on the DWR-R03D version 1.20 or later.

### 9 Audio output control/indicator

Indicates the status of audio output for the receiver channel. Clicking the icon toggles the status of audio output.

: Audio output is enabled. Clicking the icon will enable muting of the audio output.

: Audio output muting is enabled. Clicking the icon will disable muting of the audio output.

#### Note

This setting can only be changed if the [Individual muting/unmuting] checkbox is selected in the [Display settings] window.

*For details, see “[Display settings] Window” on page 56.*

### 10 AF/PEAK (audio input/peak) level meter/indicator

Indicates the level of audio signal input to the transmitter according to 32 levels. When a signal exceeding the peak audio level is input, “AF/PEAK” appears to the right of the level meter.

### 11 Battery condition display

The display varies depending on the transmitter model.

- When receiving radio waves from models other than the DWT-B03R digital wireless transmitter, this indicates the remaining battery charge of the transmitter in 8 levels based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.

- When receiving radio waves from the DWT-B03R digital wireless transmitter, this functions according to the BATTERY REMAIN setting of the transmitter.  
**When set to ICON:** Indicates the remaining battery charge of the transmitter in 8 levels based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.  
**When set to PERCENT:** Indicates the remaining battery charge of the transmitter as a percentage based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.  
**When set to TIME:** Indicates the remaining operating time of the transmitter based on metadata received by the receiver from the transmitter.






### 12 RF transmission power display

Indicates the transmission power setting of the transmitter based on metadata received from the transmitter.

- H:** Transmission power is 50 mW, 25 mW, or 10 mW
- M:** Transmission power is 10 mW
- L:** Transmission power is 1 mW or 2 mW

### 13 Wireless remote control condition display

Indicates the communication status of the paired transmitter according to four levels.

- : Good transmission
- : Somewhat good transmission
- : Somewhat poor transmission
- : Poor transmission
-  (red indication): Unable to communicate with paired transmitter

#### Note

This icon does not appear when the RF REMOTE function on the receiver is turned off.

### 14 Digital output synchronization display

Indicates the synchronization status of the output signal from the DIGITAL OUT connector of the receiver.

- INT:** The output signal is synchronized to the internal clock.
- EXT:** The output signal is synchronized to the signal input from the WORD SYNC IN connector.

### 15 Auto Frequency change status display

Displays the status of the receiver’s AUTO FREQ CHANGE setting.

- HOST:** Displayed when the receiver is operating as the HOST. It scans the RF spectrum for a good frequency for use by a CLIENT.
- CLIENT:** Displayed when the receiver finds the HOST and is operating as a CLIENT. Depending on the RF environment of the transmitter, the frequency automatically switches to the viable frequency detected by the HOST.

The display flashes if the HOST cannot be found.

### Note

This function is available only on the DWR-R03D version 1.20 or later.

## Operating the pages in the status viewer

You can add, delete, and rename pages in the status viewer.

### Notes

- The same name cannot be used for more than one page.
- Page names must consist of alphanumeric characters only.
- Be careful when deleting pages, as deleted pages cannot be restored.
- The [All tuners] page cannot be renamed or deleted.

### To add a status viewer page

Click the [+] tab at the far right in the upper part of the status viewer. You can also right-click within a tab and select [Add a new page] in the context menu that appears. After you enter a name and click [OK] in the dialog box that appears, the new page is added.

### To rename a status viewer page

Click a tab in the upper part of the status viewer to display the page you want to rename.

Right-click within the tab and select [Change name of <page name>] in the context menu that appears.

After you enter a new name and click [OK] in the dialog box that appears, the page is renamed.

### To delete a status viewer page

Click a tab in the upper part of the status viewer to display the page you want to delete.

Right-click within the tab and select [Delete <page name>] in the context menu that appears to delete the page.

## Receiver Channel Numbering

Each receiver channel is numbered from 1 to 82 in the status viewer display.

In Wireless Studio version 4.2 and earlier, the numbering displayed in each page of the status viewer was independent and not related to each other.

In version 4.3x and later, if the same receiver channel is registered to multiple pages, it will be assigned the same number in each page.

For example, if receiver channel A is registered to [Page-1], the number assigned to receiver channel A in the [All tuners] page will also appear on [Page-1].

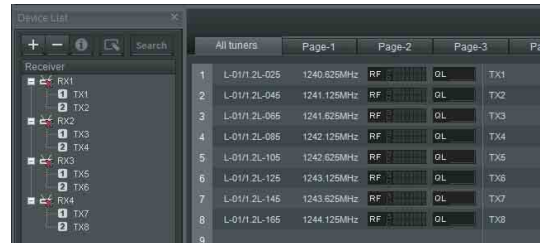
This allows you to manage receiver channels by their numbers.

### Example: When receiver channels 5 to 8 are registered to [Page-1]

When monitoring four receivers, each receiver channel will be numbered from 1 to 8.

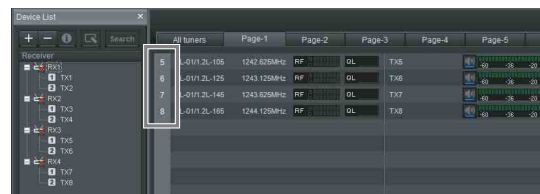
### Note

The numbers will not appear on [Page-1] to [Page-6] until you display the receiver channels.

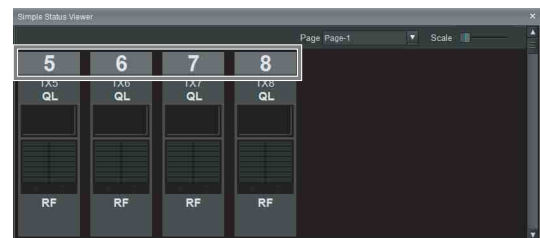


When you register a receiver channel to [Page-1], it will be assigned the same number as on the [All tuners] page.

*For details on registering receiver channels to [Page-1] to [Page-6], see “To monitor a particular set of receiver channels” on page 14.*



The same number will also appear in the [Simple Status Viewer] tab of the sub window.





# Sub Window

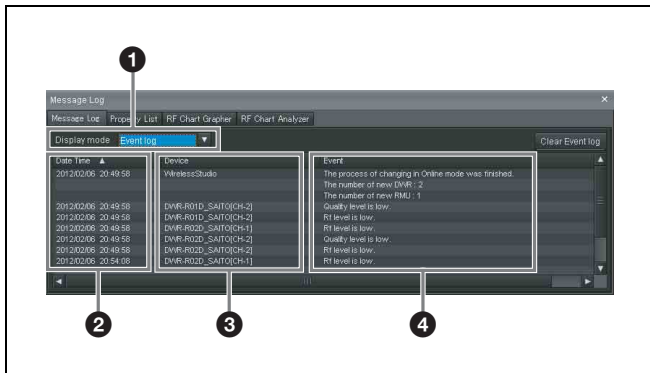
The sub window consists of the [Message Log] tab, [Property List] tab, [RF Chart Grapher] tab, [RF Chart Analyzer] tab, [Spectrum Analyzer] tab, [Simple Status Viewer] tab, and [BC-DWX Viewer] tab.

## [Message Log] Tab

The [Message Log] tab displays a list of warnings and error messages. There are two display modes available, and you can switch between the modes depending on what you want to display.

If there are items for which the lighting of the ALERT indicator has been disabled on a receiver, the corresponding warning messages will not be displayed. To display these warning messages, change the lighting conditions for the ALERT indicator in the alert function settings of the [Property] window.

For details, see “[Property] Window” on page 45.



### ① [Display mode]

Switches the display mode of the message log.

**Event log:** This mode displays a list of warnings, error messages, and other event messages that have occurred since operation was started. The messages displayed will be recorded as a log file. Log recording begins from the time online mode is entered, and the recording is automatically stored as a csv-format file.

To view a stored log, select [Start] > [My Documents] > [Wireless Studio] and open the log file using a text editor.

**Unsolved problems:** This mode displays a list of warnings and errors that are currently occurring.

### ② [Date Time]

Displays the date and time at which the warning, error, or event occurred.

### ③ [Device]

Displays the device and channel on which the warning, error, or event occurred.

### ④ [Event]

Displays the contents of each message.

The functions unique to each mode are as follows.

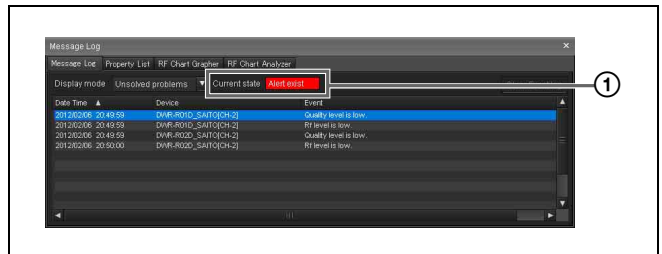
## [Event log] mode



### ① [Clear Event log]

Deletes the warnings, error messages, and other event messages that are currently displayed.

## [Unsolved problems] mode



### ① [Current state]

Indicates in real time whether warnings or error messages exist.

**Alert exist:** At least one warning or error message currently exists.

**No problem:** No warning or error message currently exists.

## Error messages

The following table shows the error messages that are displayed.

Message	Meaning
Word sync is lost synchronization.	No input can be detected at the WORD SYNC IN connector.
PLL is out of order.	PLL malfunction.
Cooling fan is out of order.	The cooling fan is out of order.
Left channel of headphone output is over load.	There has been an overload in the headphone output.
Right channel of headphone output is over load.	
Both channels of headphone output are over load.	

Message	Meaning
ANT DC OUT terminal is over current.	There has been a current overload at the ANTENNA a/b IN connector.
Transmitter's battery level is low.	The transmitter's battery is weak.
Receiver cannot decrypt the encrypted signal.	Encrypted transmission settings on the receiver and the transmitter do not match.
RF level is excessive.	The signal reception level is excessively high.
RF level is low.	The signal reception level has dropped.
Quality level is low.	The quality of received audio data is deteriorated.
Audio signal is reached clipping level.	The audio input level on the transmitter is excessive.
Communication time-out occurred.	The number of retries has exceeded the limit and a timeout error has occurred.
CPU EEPROM error occurred.	A CPU EEPROM error has occurred.
RF EEPROM error occurred.	An RF circuit EEPROM error has occurred.
Receiver's codec mode is mismatched with Transmitter's codec mode.	The codec modes of the transmitter and receiver do not match.

## Other event messages

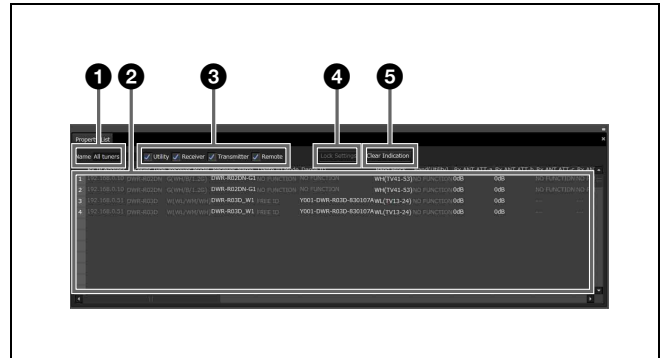
The messages that appear are as follows.

Message	Meaning
Communication was enabled.	Recovered from a communication timeout.
The process of loading settings was finished.	Loading of settings is complete.
The process of loading settings was failed.	Loading of settings has failed.
The process of changing in Online mode was finished.	Transition into online mode is complete.
The process of changing in Online mode was failed.	Transition into online mode has failed.
The process of changing in Offline mode was finished.	Transition into offline mode is complete.
The process of searching devices was finished.	Search processing is complete.
The number of new DWR: XX	XX number of DWR units have been newly detected.
The number of new RMU: XX	XX number of RMU units have been newly detected.

Message	Meaning
The number of new BC:XX	XX number of BC units have been newly detected.
Battery charger detected low temperature.	The battery charger detected an abnormal temperature (low temperature).
Battery charger detected high temperature.	The battery charger detected an abnormal temperature (high temperature).
Battery charger detected overvoltage.	The battery charger detected an overvoltage condition.
Charging error occurred.	A charging error occurred.
Wireless Studio detected region error.	A receiver for a different region was detected.

## [Property List] Tab

This tab displays a list of settings for the receiver channels displayed in the status viewer. When you change the page displayed in the status viewer, this change is also reflected in the settings displayed in the [Property List] tab. You can change setting values in the [Property List] tab by selecting the cells. By selecting multiple cells, you can change the setting values for multiple receiver channels as a group.



### 1 [Name] field

Displays the name of the page currently displayed in the status viewer.

### 2 Settings list

Displays a list of settings for the device displayed in the status viewer.

You can change setting values by selecting the cells in the list. When you click a cell and select a value from the list of options that appears, the setting value is applied to the respective receivers and transmitters.

Cells displayed in yellow indicate that the wireless remote control signal strength is low or that setting values failed to be applied for the respective receiver channels. In such cases, try configuring the settings again. When the settings are successfully configured, the cell will change from yellow to the standard color. You can also clear the yellow indications by clicking the [Clear Indication] button.



You can also select multiple cells using any of the following methods. When multiple cells are selected, the setting values for the selected receiver channels can be changed simultaneously.

- Click and drag over the cells.
- Click the cells one at a time while holding down the Ctrl key.
- Click two cells that are not neighboring while holding down the Shift key.

### 3 Displayed setting items checkboxes

Select whether to display or hide setting items in the [Property] window by category.

For details on the [Property] window, see “[Property] Window” on page 45.

**Utility:** Select this to display the [Utility] tab in the [Property] window.

**Receiver:** Select this to display the [Receiver] menu in the tabs for channels 1 and 2 in the [Property] window.

**Transmitter:** Select this to display the [Transmitter] menu in the tabs for channels 1 and 2 in the [Property] window.

**Remote:** Select this to display the [Remote] menu in the tabs for channels 1 and 2 in the [Property] window.

### 4 [Unlock Settings] / [Lock Settings] button

When setting modification is disabled due to the [Setting lock] function, click this button and enter the password to temporarily enable setting modification.

Click the button again to relock settings.

For details on the [Setting lock] function, see “[Setting lock] Window” on page 55.

### 5 [Clear Indication] button

Clears the yellow indications that appear when setting values for receivers and transmitters fail to be applied. Use this when the indications are no longer necessary.

## Changing settings for multiple receiver channels as a group

1 Select the GP/CH item for multiple receiver channels in the [Property List] tab.

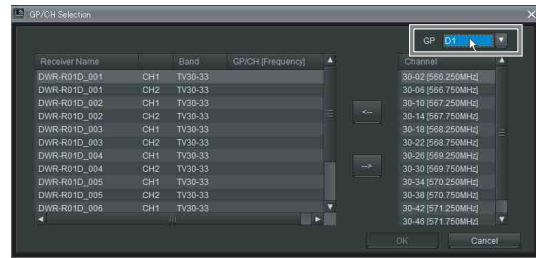
[...] appears for the cells.

2 Click [...].

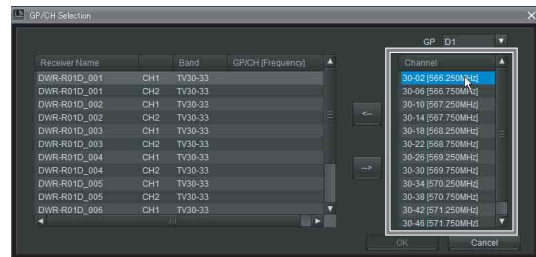
The [GP/CH Selection] dialog box appears.



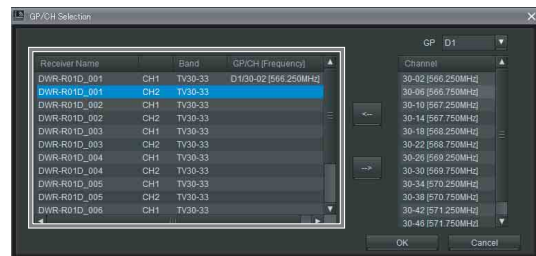
3 Select a frequency group under [GP] in the upper-right part of the [GP/CH Selection] dialog box.



A list of frequency channels that belong to the selected frequency group appears under the [Channel] column.



4 Select the receiver channel for which you want to change settings from the receiver channel list in the left part of the [GP/CH Selection] dialog box.



5 Select the frequency channel that you want to assign to the selected receiver channel from the [Channel] column, and click [←].

The group and channel are assigned to the receiver channel.

To cancel group and channel assignments, click [→].

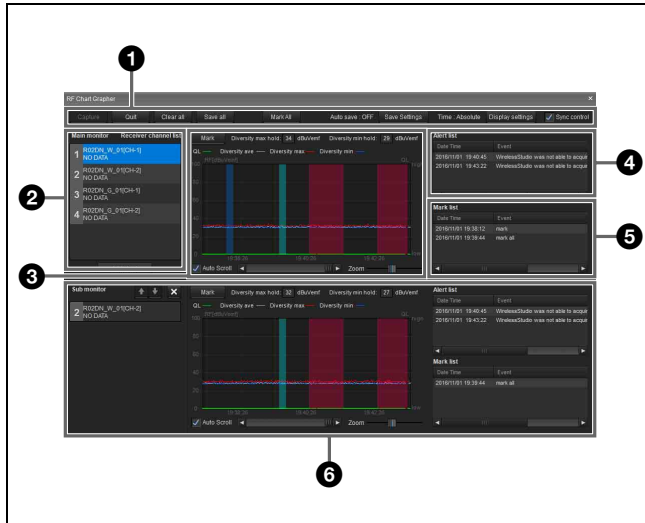
6 Repeat steps 4 to 5 to assign frequency channels to other receiver channels, and click [OK].

The changed settings are applied.

## [RF Chart Grapher] Tab

You can use the [RF Chart Grapher] in Wireless Studio to record information on the signal environment and any alerts that occurred during operation. This allows you to determine the cause-and-effect relationship between the signal environment and specific alerts.

By specifying a receiver channel as a sub monitor channel, you can view graphs for multiple receiver channels simultaneously on a single screen.



### 1 Control items

**Capture:** Starts acquisition and graph display of RF and QL data for all receiver channels displayed in the receiver channel list.

**Quit:** Stops acquisition and graph display of RF and QL data for all receiver channels displayed in the receiver channel list.

**Clear all:** Clears the RF and QL data acquired for all receiver channels displayed in the receiver channel list and clears the graph display.

**Save all:** Saves the RF and QL data acquired for all receiver channels displayed in the receiver channel list to a file.

**Mark all:** Allows you to add memos to the graphs of all the receiver channels displayed in the receiver channel list.

*For details, see “Mark function” on page 37.*

**Auto save:** Indicates whether the signal environment status obtained via the [RF Chart Grapher] for each receiver channel is automatically saved.

**Save settings:** Click this button to open the [Save settings] screen. You can configure the timing for automatic saving and the save destination in the [Save settings] screen.

*For details, see “[Save settings] screen” on page 37.*

**Time:** Indicates the display mode of time information.

**Display settings:** Click this button to open the [Display Settings] screen. The [Display Settings] screen allows you to configure display settings for RF level, alert, QL, and time.

*For details, see “[Display Settings] screen ([RF Chart Grapher], [RF Chart Analyzer])” on page 36.*

**Sync control:** Select this checkbox to sync the scrolling and zoom controls for the graphs of all the displayed receiver channels.

### 2 Main monitor area

**Receiver channel list:** Displays a list of receiver channels. The information of the receiver channel selected here is displayed in the graph display area, alert list, and mark list.

**Add chart:** Click this button to specify the receiver channel selected in the receiver channel list as a sub monitor channel.

### 3 Graph display area

Displays the monitoring results for the signal environment selected in the receiver channel list as a graph.

**Mark:** Allows you to insert memos into the graph.

*For details, see “Mark function” on page 37.*

**Diversity max hold:** Displays the maximum diversity value for the RF data displayed in the graph.

**Diversity min hold:** Displays the minimum diversity value for the RF data displayed in the graph.

**Auto Scroll:** Select this checkbox to scroll the graph automatically to always display the most recent data.

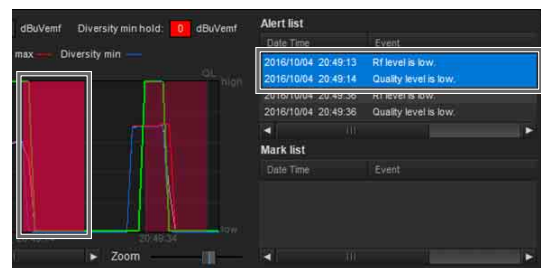
**Zoom:** Zoom in or zoom out on the graph.

**Scroll bar:** Scrolls across the time axis.

### 4 Alert list

Displays problems that occurred during signal environment monitoring.

When a problem occurs, a portion of the graph display area will be displayed in red. When you click the red portion, the corresponding portion in the alert list will be highlighted.



The messages that appear in [RF Chart Grapher] are as follows.

If there are items for which the lighting of the ALERT indicator has been disabled on a receiver, the corresponding warning messages will not be displayed. To

display these warning messages, change the lighting conditions for the ALERT indicator in the alert function settings of the [Property] window.

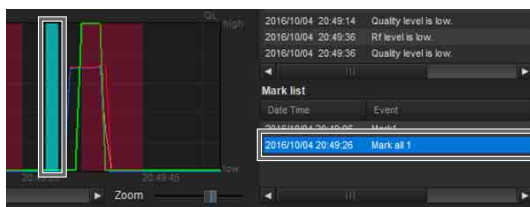
For details, see “[Property] Window” on page 45.

Message	Meaning
Rf level is excessive.	The signal reception level is excessively high.
Rf level is low.	The signal reception level has dropped.
Quality level is low.	The quality of received audio data is deteriorated.
Communication time-out occurred.	The number of retries has exceeded the limit and a timeout error has occurred.
The process of searching devices was executed.	Search processing is complete.
WirelessStudio was not able to acquire data before updating graph.	RF data and QL data could not be acquired within the graph update cycle. <b>Note</b> Data is updated every second in [RF Chart Grapher]. However, if the processing load on the PC is high or if network communication is heavy, the data may not be acquired.

### 5 Mark list

Displays the memos added during signal environment monitoring.

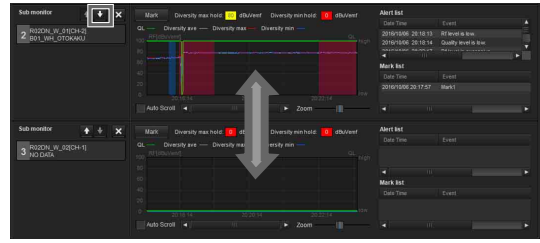
When a memo is added to the graph, a portion of the graph display area will be displayed in blue or green. When you click the blue or green portion, the corresponding portion in the mark list will be highlighted.



### 6 Sub monitor area

Displays the name and various information of the receiver channel specified in the main monitor area.

**↑ and ↓ buttons:** When multiple receiver channels are specified as sub monitor channels, pressing these buttons switches the display position of the current sub monitor with that of the sub monitor immediately above or below. The display position cannot be switched with that of the main monitor.



**x button:** Closes the sub monitor.

### Note

The functions of the other areas are identical to those of the alert list and mark list.

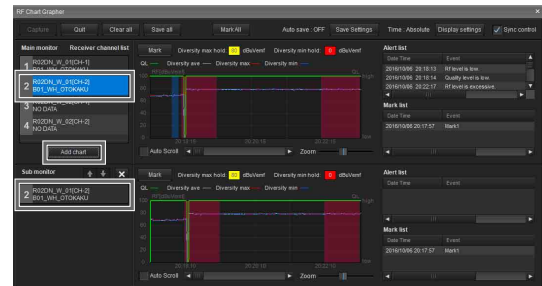
## Displaying multiple receiver channels simultaneously

By specifying receiver channels as sub monitor channels, you can view multiple receiver channels simultaneously. Up to 11 sub monitor receiver channels can be specified.

### To specify using the [Add chart] button

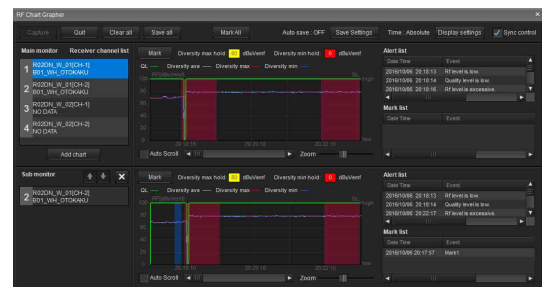
- 1 Select the receiver channel you want to specify as a sub monitor channel in the main monitor area's receiver channel list, and click the [Add chart] button.

The selected receiver channel is displayed in a sub monitor.



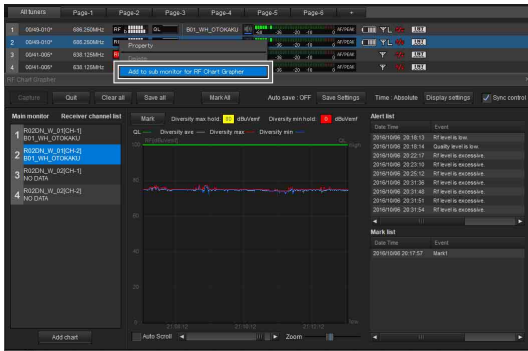
- 2 Select a different receiver channel in the main monitor area's receiver channel list.

The information of the selected receiver channel is displayed in the right side of the main monitor area.



## To specify using the status viewer and simple status viewer

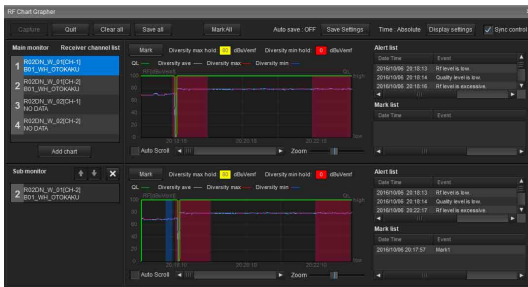
- 1 Right-click a receiver channel in the status viewer, and select [Add to sub monitor for RF Chart Grapher] in the context menu that appears.



The selected receiver channel is displayed in a sub monitor.

- 2 Select a different receiver channel in the main monitor area's receiver channel list.

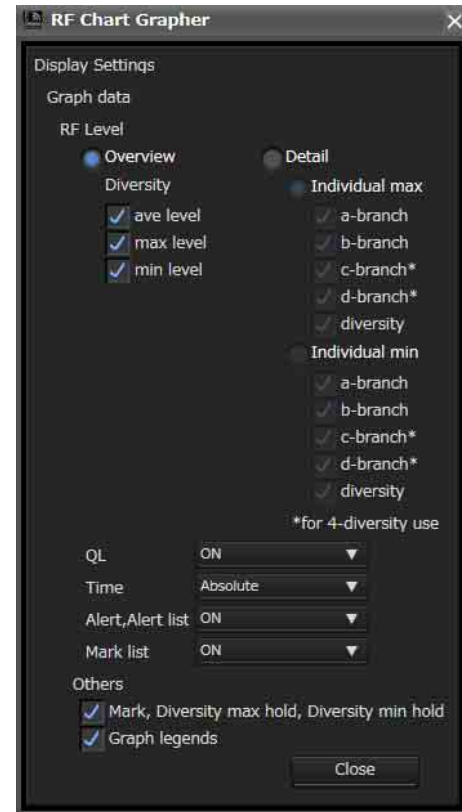
The information of the selected receiver channel is displayed in the right side of the main monitor area.



## [Display Settings] screen ([RF Chart Grapher], [RF Chart Analyzer])

As both excessively high and excessively low RF levels can result in audio loss, appropriate levels must be maintained. You can switch between RF level displays in the [RF Chart Grapher] screen to monitor whether proper RF levels are maintained.

You can also configure how alert, mark, QL, and time information are displayed on the graph as well as how the [Mark] button, RF information, and graph legend are displayed.



### [RF Level]

Specify the method of RF level monitoring.

**Overview:** Monitors the RF level for the selection made under [Diversity]. This display mode allows you to monitor excessively high and low RF levels. You can specify what to monitor by selecting or clearing the [ave level], [max level], and [min level] checkboxes.

**Detail:** Monitors RF levels by antenna. This allows a more detailed monitoring of RF levels when compared to [Overview] mode. The [Individual max] display mode is used for monitoring excessively high RF levels. The [Individual min] display mode is used for monitoring excessively low RF levels. For either display mode, you can specify what to monitor by selecting or clearing the [a-branch], [b-branch], and [diversity] checkboxes. In addition, when using a DWR-R03D and DIVERSITY is set to 4-ANTENNA, you can monitor the RF levels for [c-branch] and [d-branch].

### QL

Shows or hides QL information in the graph display area.

### Time

Specifies the display mode for time axis in the graph display area.

**Absolute:** Displays the time.

**Relative:** Displays the amount of time that has elapsed from the display start time.

### Alert, Alert list

Shows or hides alert information in the graph display area, and shows or hides the alert list.



## Mark list

Shows or hides the mark list.

## Mark, Diversity max hold, Diversity min hold

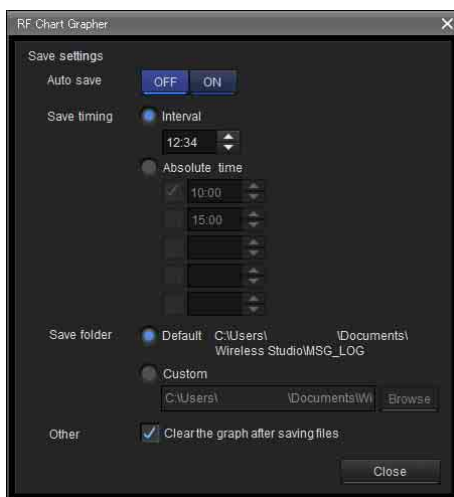
Shows or hides the [Mark] button, diversity max hold, and diversity min hold in the graph display area. When you specify to hide, the graph's vertical size will increase accordingly.

## Graph legends

Shows or hides the graph legends. When you specify to hide, the graph's vertical size will increase accordingly.

## [Save settings] screen

You can automatically save the signal environment status obtained via the [RF Chart Grapher] for each receiver channel to a file.



## [Auto save]

Selects whether to save automatically. When this is set to [ON], automatic saving will be performed according to the configurations of the following settings. In addition, automatic saving will be performed when exiting Wireless Studio.

## [Save timing]

Specifies the timing for automatic saving.

**Interval:** Specify the interval at which to perform automatic saving. You can specify an interval from 1 minute (00:01) to 24 hours (24:00) in minutes.

**Absolute time:** Specify specific times at which to perform automatic saving. You can specify up to five times from 00:00 to 23:59 in minutes. Each specified time can be enabled by selecting the checkbox to the left of the respective field.

## Note

When entering values using a keyboard, enter a 4-digit value, and press the Enter key to apply it.

If you enter 3 digits or less and apply the value, the following will occur.

- When “123” is entered, “01:23” will be configured.

- When “12” is entered, “00:12” will be configured.
- When “1” is entered, “00:01” will be configured.

## [Save folder]

Specifies the save destination for automatic saving.

**Default:** Creates a folder named with the time (HHMMSS) in the default path of Wireless Studio, and saves the signal environment status for all the receiver channels to a file inside the folder.

**Custom:** Creates a folder named with the time (HHMMSS) in a location that you specify, and saves the signal environment status for all the receiver channels to a file inside the folder. Click the [Browse] button to specify the save location.

## [Other]

**Clear the graph after saving files:** Select this checkbox to clear the graph after saving files.

## Mark function

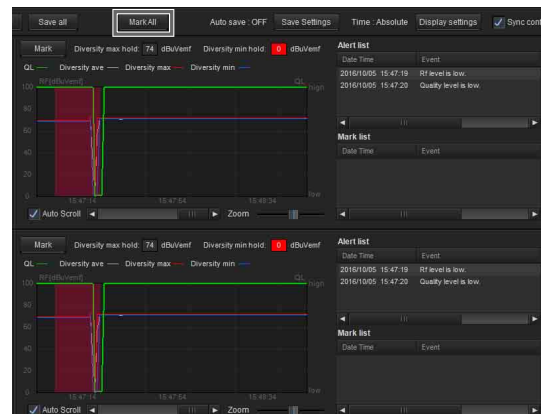
In addition to displaying alerts that occur during signal environment monitoring, you can also insert memos within the graph in the [RF Chart Grapher].

You can add the same memos to all receiver channels or add memos to specific receiver channels individually.

Green marks are displayed in the graph display area for memos added to all receiver channels, while blue marks are displayed for individually added memos.

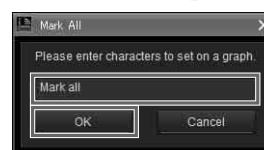
## To add the same memo to all receiver channels

- 1 Click the [Mark all] button at the top of the [RF Chart Grapher].

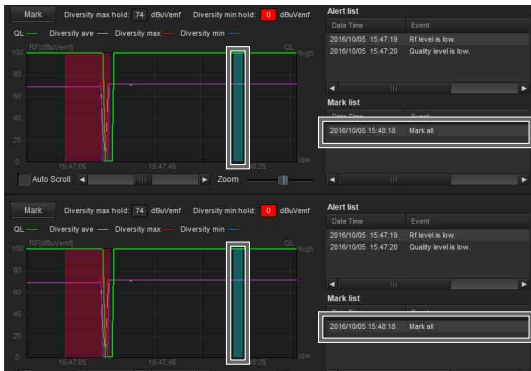


- 2 Enter the content of the memo in the dialog box that appears, and click the [OK] button.

You can enter up to 64 alphanumeric characters.

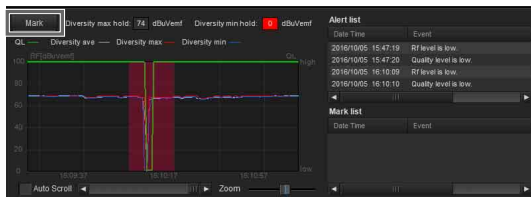


Green marks appear in the graph display area of each receiver channel, and the memo information is reflected in the mark list.



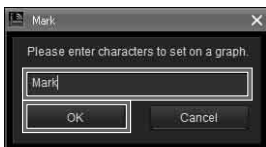
### To add a memo to a specific receiver channel individually

- 1 Click the [Mark] button in the graph display area of the receiver channel for which you want to add the memo.

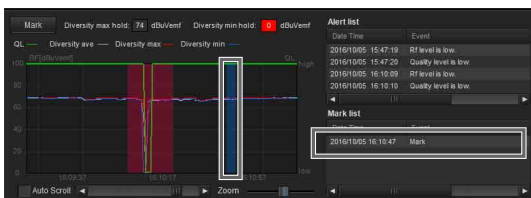


- 2 Enter the content of the memo in the dialog box that appears, and click the [OK] button.

You can enter up to 64 alphanumeric characters.



A blue mark appears in the graph display area of the respective receiver channel, and the memo information is reflected in the mark list.



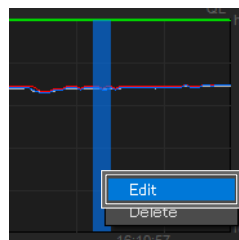
### To view memo content

Place the mouse cursor on a green or blue mark to display the content of the memo as a tooltip.

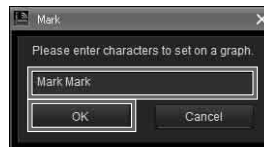


### To edit memo content

- 1 Right-click the mark in the graph of the memo you want to edit, and select [Edit] in the context menu that appears.



- 2 Edit the content of the memo in the dialog box that appears, and click the [OK] button.

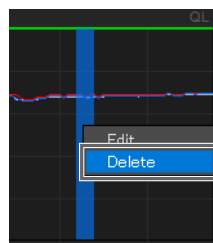


### Note

When you edit the content of a memo with a green mark, the edited content will be applied to same memos that appear for the other receiver channels.

### To delete memos

- 1 Right-click the mark in the graph of the memo you want to delete, and select [Delete] in the context menu that appears to delete the memo.

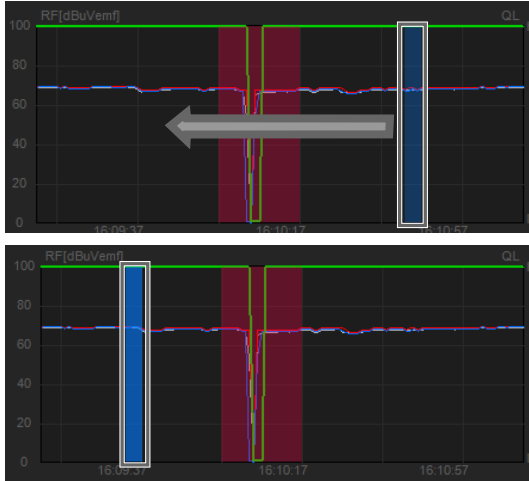


## Note

When you delete a memo with a green mark, the same memos that appear for the other receiver channels will also be deleted.

## To move memos

Drag the mark in the graph of the memo you want to move to your desired position.

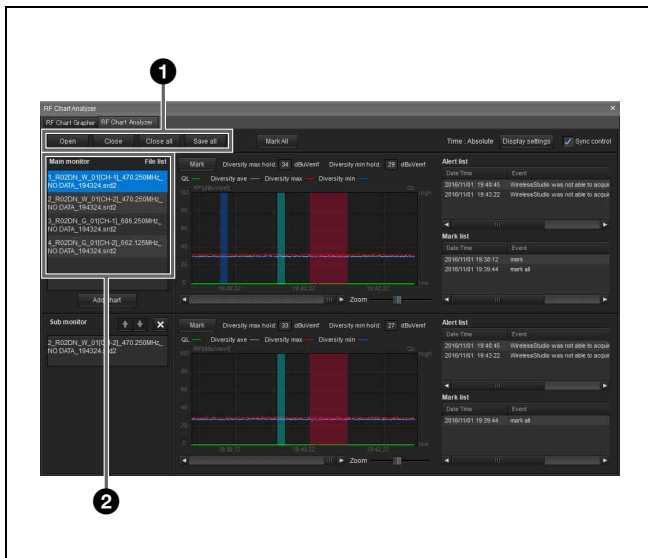


## Note

When you move a memo with a green mark, the same memos that appear for the other receiver channels will also be moved.

## [RF Chart Analyzer] Tab

In the [RF Chart Analyzer] tab, you can view the contents of files recorded with the [RF Chart Grapher]. This allows you to analyze the results of signal environment monitoring. You can also use the mark function to add memos to the monitoring results.



## 1 Control items

**Open:** Registers the file to the file list. Only files created using the [RF Chart Grapher] can be registered to the file list.

**Save as:** Saves the information of the file selected in the file list.

**Close:** Deletes the file selected in the file list from the file list.

**Close all:** Deletes all the files registered to the file list from the file list.

## 2 Main monitor area

**File list:** Displays the list of loaded files. The information of the file selected here is displayed in the graph display area, alert list, and mark list.

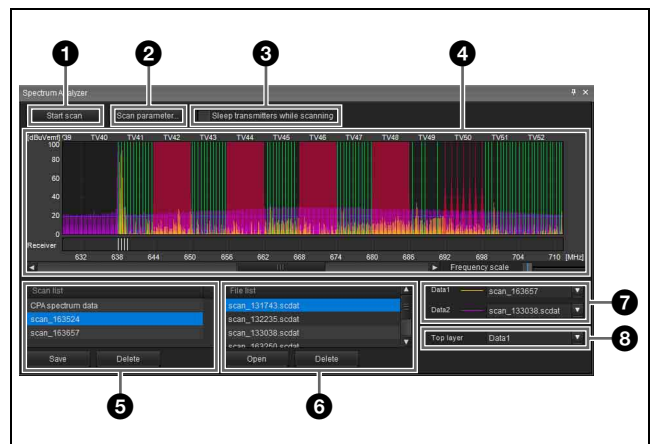
## Note

The other items function identically to those in the [RF Chart Grapher] tab. However, the [Auto save] and [Auto Scroll] functions do not exist in the [RF Chart Analyzer] tab.

For details, see “[RF Chart Grapher] Tab” on page 34.

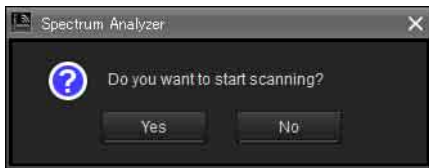
## [Spectrum Analyzer] Tab

The [Spectrum Analyzer] tab allows you to perform a spectrum scan of a specified frequency band using the receivers. This allows you to visually confirm the existence of interference on the frequency bands in use. In addition, if you configure the optimal groups and channels using [Channel Plan Adviser] beforehand, the [Channel Plan Adviser] settings can be applied to [Spectrum Analyzer]. This allows you to visually confirm the existence of interference on the groups and channels recommended by [Channel Plan Adviser].



### 1 [Start scan] / [Stop scan] button

When you click the [Start scan] button, a confirmation dialog box appears.



When you click the [Yes] button here, scanning starts and the button name changes to [Stop scan].

When you click the [Stop scan] button, scanning stops and the button name changes to [Start scan].

### 2 [Scan parameter...] button

Allows you to select and configure detailed settings for the receiver that will perform scanning.

For details, see “[Scan parameter] window” on page 40.

### 3 [Sleep transmitters while scanning] checkbox

If this is selected, any transmitters that can be controlled remotely will automatically be set to sleep mode before scanning starts.

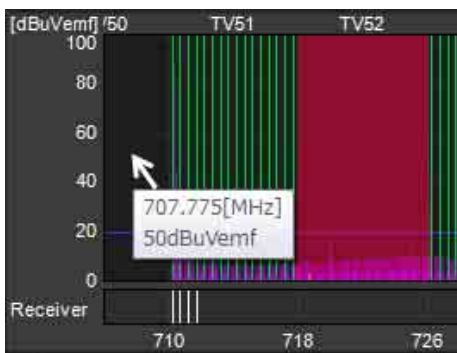
### 4 Frequency spectrum display area

Many of the items and functions displayed here are identical to those of [Channel Plan Adviser].

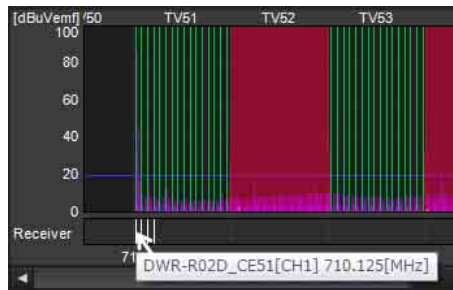
For details, see “[Channel Plan Adviser] Window” on page 49.

However, the following functions are unique to [Spectrum Analyzer].

When you place the mouse cursor on the graph, the frequency and electric field strength is displayed.



The frequencies configured for the receivers are displayed as white lines in the receiver area. When you place the mouse cursor on a white line, the receiver name, channel number, and frequency are displayed.



### 5 [Scan list]

Displays scanning results in a list after scanning is complete.

**Save button:** Saves the scanning result selected in the scan list as a file.

**Delete button:** Deletes the scanning result selected in the scan list from the list.

### 6 [File list]

When you open a scanning results file, the scanning results stored in the file are added to the list.

**Open button:** Displays the dialog box for selecting scanning results files. The scanning results stored in the file selected here are added to the file list.

**Delete button:** Deletes the scanning result selected in the file list from the list.

### 7 Data items

Select the scanning results to display in the frequency spectrum display area in [Data1] and [Data2].

You can select from [new spectrum], the scanning results in the scan list and file list, and [Do not display]. When [new spectrum] is selected, the most recent scanning results are displayed. When [Do not display] is selected, scanning results are not displayed.

### 8 [Top layer]

Select the scanning results that will be displayed on the top layer of the graph.

## [Scan parameter] window

This appears when you click the [Scan parameter...] button in [Spectrum Analyzer].





## 1 Target receiver selection

Allows you to select the receivers that will perform scanning for each frequency band. Scanning will not be performed for frequency bands for which [Do not scan] is selected.

When the [Reflect recommended GP/CH] checkbox is selected in the [Channel Plan Adviser] window and you apply the settings to the [Spectrum Analyzer] tab, the receivers that will perform scanning will be selected automatically.

In such cases, if multiple receivers that correspond to a frequency band exist, the receiver with the earliest IP address will be selected. However, if a DWR-R02DN is included, it will be selected regardless of its IP address.

Scanning is performed on CH1 of each receiver. The operations will vary depending on the model of the receiver.

### DWR-R01D/R02D

To receive the transmitter signal on CH2, configure the same band setting as that for CH1 scanning. If different bands are selected for CH1 and CH2, audio interruption will occur on CH2.

### DWR-R02DN

To receive the transmitter signal on CH2, configure the same band block setting as that for CH1 scanning. If different band blocks are selected for CH1 and CH2, audio interruption will occur on CH2.

- Example for North American models:  
To prevent audio interruption when the frequency band setting for CH2 is set to TV14-17, set the frequency band that will be used for CH1 scanning to a band that belongs to band block U14(TV14-25) (TV14-17, TV18-21, or TV22-25).

Band block	Band
U14(TV14-25)	TV14-17
	TV18-21
	TV22-25
U30(TV30-41)	TV30-33
	TV34-36
	TV38-41
U42(TV42-51)	TV42-45
	TV46-49
	TV50-51

- Example for European models:  
To prevent audio interruption when the frequency band setting for CH2 is set to TV21-23, set the frequency band that will be used for CH1 scanning to a band that belongs to band block CE21(TV21-29) (TV21-23, TV24-26, or TV27-29).

Band block	Band
CE21(TV21-29)	TV21-23
	TV24-26
	TV27-29
CE33(TV33-40)	TV33-35
	TV36-37
	TV38-40
CE42(TV42-50)	TV42-44
	TV45-47
	TV48-50

### DWR-R03D

To receive the transmitter signal on CH2, configure the same band block setting as that for CH1 scanning. If different band blocks are selected for CH1 and CH2, audio interruption will occur on CH2.

- Example for North American models:  
To prevent audio interruption when the frequency band setting for CH2 is set to TV14-17, set the frequency band that will be used for CH1 scanning to a band that belongs to band block TV14-25 (TV14-17, TV18-21, or TV22-25).

Band block	Band
TV14-25	TV14-17
	TV18-21
	TV22-25
TV26-38	TV26-29
	TV30-33
	TV34-36
	TV38

- Example for European models:  
To prevent audio interruption when the frequency band setting for CH2 is set to TV21-23, set the frequency band that will be used for CH1 scanning to a band that belongs to band block TV21-29 (TV21-23, TV24-26, or TV27-29).

Band block	Band
TV21-29	TV21-23
	TV24-26
	TV27-29
TV30-41	TV30-32
	TV33-35
	TV36-37
	TV38
	TV38-40
	TV41

Band block	Band
TV42-51	TV42-44
	TV45-47
	TV48-50
	TV51

## ② Scan count setting

**Continuous scan:** After scanning starts, it is performed continuously until the [Stop scan] button is clicked.

**Specified count scan:** After scanning starts, scanning is performed the number of times specified in [Repeat count].

## ③ Other settings

**Frequency Interval:** Select from 125 kHz or 25 kHz as the interval at which to scan.

### [Peak hold]

Select whether to hold and display scanning result values for each frequency.

**ON:** The highest RF level of a set of scanning sessions (during [Continuous scan] or when [Repeat count] is set to 2 or higher for [Specified count scan]) is displayed in the graph.

**OFF:** The most recent RF level of a set of scanning sessions (during [Continuous scan] or when [Repeat count] is set to 2 or higher for [Specified count scan]) is displayed in the graph.

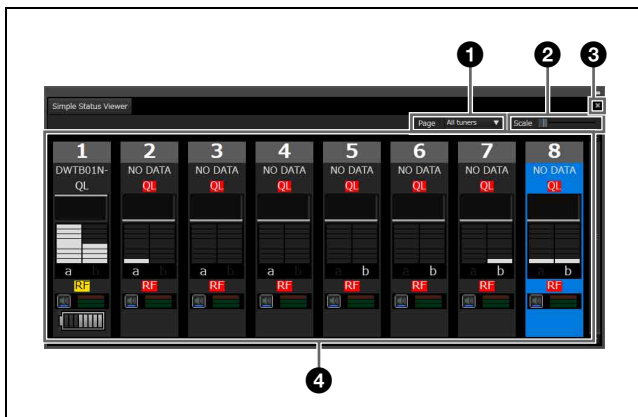
## ④ Close button

Closes the [Scan parameter] window.

## [Simple Status Viewer] Tab

The [Simple Status Viewer] tab allows you to narrow down the information registered to each page of the status viewer to a certain few items, such as the RF meter, QL meter, and alerts, and display only those items for easier monitoring.

By reducing the number of items displayed, the display area for each channel is increased, making the simplified status viewer ideal for systems with fewer channels to manage.



## ① [Page]

Select the status viewer page.

The content registered to the selected page will appear in the status display area.

## ② [Scale]

Switch the display size (small, medium, large) of the information items displayed for each receiver channel in the status display area.

When displaying the simple status viewer in full screen on a monitor with 1366×768 resolution, the numbers of receiver channels that can be displayed simultaneously are as follows.

**Small:** 24

**Medium:** 12

**Large:** 6

## ③ Maximize / restore button

Displays the simple status viewer in full screen window size, or returns it to normal size.

- Simple status viewer in normal window size



Click the button to maximize the window size.

- Simple status viewer in maximum window size



Click the button to return the window to the size before maximization.

### Note

The maximize / restore button only appears when the [Simple Status Viewer] tab is separated from Wireless Studio.

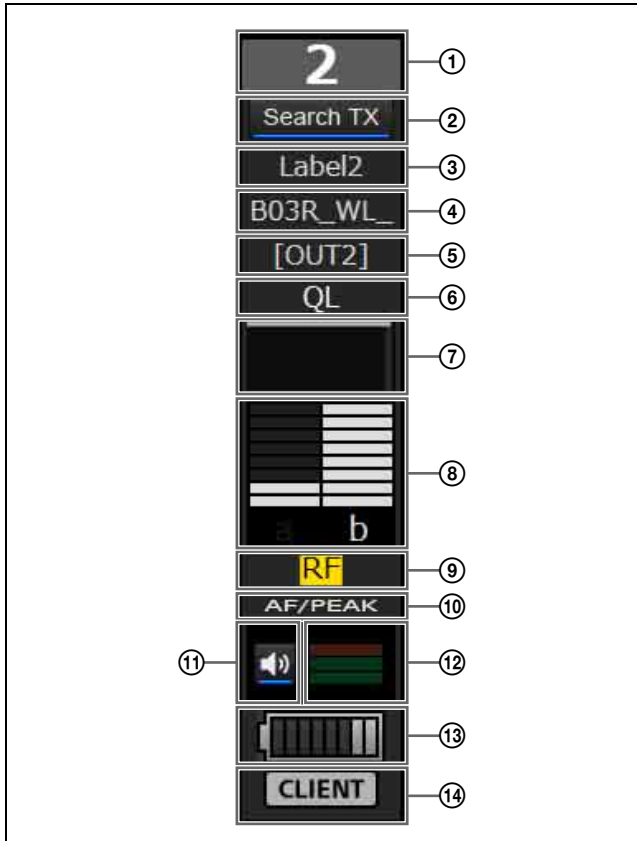
*For details on separating the [Simple Status Viewer] tab from Wireless Studio, see “To separate a sub-window tab from Wireless Studio” on page 24.*

## ④ Status display area

Displays information on each receiver channel.

You can select whether to display or hide each information item in the [Display settings] window.

*For details, see “[Display settings] Window” on page 56.*



**① Number**

Displays the receiver channel number.

**② Search TX**

Makes the screens for transmitters that are paired with the receiver blink.

**Notes**

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- This function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and digital wireless transmitters (such as the DWT-B03R). In addition, when using an RMU-01 for Cross Remote connection, the RMU-01 must be version 1.27 or later.

**③ Label**

Displays the label configured in the [Receiver CH Label settings] window.

**④ Transmitter name**

Displays the name of the transmitter.

**⑤ Output channel display**

Displays the audio output destination of the receiver. In normal operation, channel 1 is output from OUT 1, and channel 2 is output from OUT 2.

When the OUTPUT SWAP setting is enabled, channel 1 is output from OUT 2, and channel 2 is output from OUT 1. The settings are also highlighted on the display.

**Note**

OUTPUT SWAP is available only on the DWR-R03D version 1.20 or later.

**⑥ QL (signal quality level) alert**

Lights red when the quality of the received data decreases.

**⑦ QL (signal quality level) meter**

Indicates the quality of the received data in a meter.

**⑧ RF (radio wave) level meter**

Indicates the radio wave input level according to eight levels.

**⑨ RF (radio wave) level alert**

Lights red when the radio wave input level decreases. When the radio wave input level is high, this lights yellow.


**⑩ AF/PEAK (audio input/peak) alert**

Lights red when the level of audio signal input to the transmitter exceeds the transmitter's maximum input level setting.

**⑪ Audio output control/indicator**

Indicates the status of audio output for the receiver channel. Clicking the icon toggles the status of audio output.

: Audio output is enabled. Clicking the icon will enable muting of the audio output.

: Audio output muting is enabled. Clicking the icon will disable muting of the audio output.

**Note**

This setting can only be changed if the [Individual muting/unmuting] checkbox is selected in the [Display settings] window.

*For details, see "[Display settings] Window" on page 56.*

**⑫ AF level meter**

Indicates the level of the audio signal input to the transmitter according to four levels.

The way the meter lights will vary depending on the input level setting of the transmitter.

- When the INPUT LEVEL settings of the transmitter is MIC level

**Unlit:** The input level of the audio signal is less than -36 dBFs.

**1 bar lit:** The input level of the audio signal is -36 dBFs or more and less than -20 dBFs.

**2 bars lit:** The input level of the audio signal is -20 dBFs or more and less than -3 dBFs.

**3 bars lit:** The input level of the audio signal is -3 dBFs or more.

- When the INPUT LEVEL settings of the transmitter is LINE level

**Unlit:** The input level of the audio signal is less than -20 dBFs.

**1 bar lit:** The input level of the audio signal is -20 dBFs or more and less than -10 dBFs.

**2 bars lit:** The input level of the audio signal is -10 dBFs or more and less than -3 dBFs.

**3 bars lit:** The input level of the audio signal is -3 dBFs or more.

### ⑬ Battery condition display

Indicates the transmitter's battery condition.

The display varies depending on the transmitter model.

- When receiving radio waves from models other than the DWT-B03R digital wireless transmitter, this indicates the remaining battery charge of the transmitter in 8 levels based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.

- When receiving radio waves from the DWT-B03R digital wireless transmitter, this functions according to the BATTERY REMAIN setting of the transmitter.

**When set to ICON:** Indicates the remaining battery charge of the transmitter in 8 levels based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.

**When set to PERCENT:** Indicates the remaining battery charge of the transmitter as a percentage based on metadata received by the receiver from the transmitter. When the remaining charge is low, the battery icon turns red.

**When set to TIME:** Indicates the remaining operating time of the transmitter based on metadata received by the receiver from the transmitter.

### ⑭ Auto Frequency change status display

Displays the status of the receiver's AUTO FREQ CHANGE setting.

**HOST:** Displayed when the receiver is operating as the HOST. It scans the RF spectrum for a good frequency for use by a CLIENT.

**CLIENT:** Displayed when the receiver finds the HOST and is operating as a CLIENT. Depending on the RF environment of the transmitter, the frequency automatically switches to the viable frequency detected by the HOST.

The display flashes if the HOST cannot be found.

#### Note

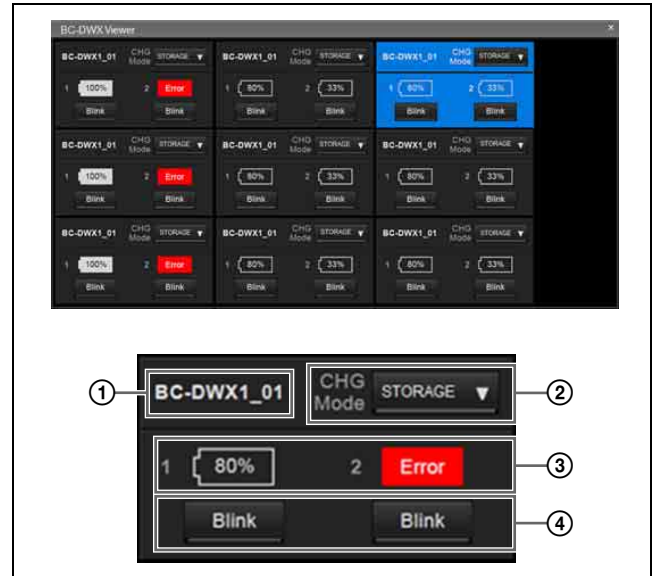
This function is available only on the DWR-R03D version 1.20 or later.

## [BC-DWX Viewer] Tab

The [BC-DWX Viewer] tab displays BC-DWX1 battery chargers detected by Wireless Studio (sorted by IP address) and allows you to monitor and control each BC-DWX1.

**Monitoring:** Display the charge statuses of batteries and error occurrences.

**Control:** Switch the charge mode and enables indicators for identifying BC-DWX1 units.



#### ① Name

Displays the name of the battery charger.

#### ② CHG Mode

Allows you to configure the charge mode.

#### ③ Slot number and remaining batter indicator / error display

Displays the statuses of slots 1 and 2 as follows.

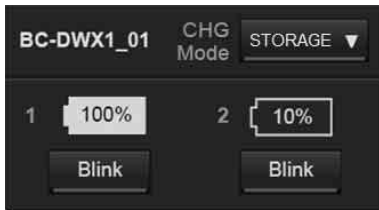
- When batteries are inserted
  - When no error has occurred: Remaining battery indicator
  - When an error or warning has occurred: Error or warning icon
- When batteries are not inserted
  - No Battery

#### ④ [Blink] button

Enables indicators for identifying each slot.

## Display example for the [BC-DWX Viewer] tab

The following is displayed when the battery charge is 100%.



The display is highlighted as follows when a battery charger is selected in the [Device List] or [BC-DWX Viewer].



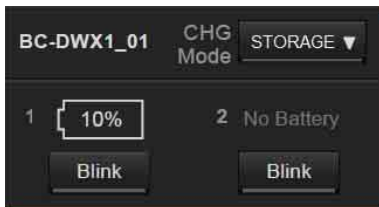
The following is displayed when an error or warning occurs.



**Error:** Overvoltage or charging error detected

**Warning:** Abnormal temperature (high or low) detected

“No Battery” is displayed when a battery is not inserted.



## Setup Windows

Wireless Studio includes the following setup windows:

- [Property] window
- [Channel Plan Adviser] window
- [Omit IP address list] window
- [Setting lock] window
- [Receiver CH Label settings] window
- [GP/CH display setting] window
- [Display settings] window
- [Other settings] window
- [Network settings] window
- [Startup settings] window
- [Region setting] window

### [Property] Window

This window allows you to view and change settings for receivers and their paired transmitters.



#### 1 [Unlock Settings] / [Lock Settings] button

When setting modification is disabled due to the [Setting lock] function, click this button and enter the password to temporarily enable setting modification.

Close the [Property] window or click the button again to relock settings.

For details on the [Setting lock] function, see “[Setting lock] Window” on page 55.

## 2 Meter icons

This function identically to the meter icons in the status viewer.

## 3 Property tabs

These consist of the [Utility] tab and tabs for channels 1 and 2.

For details on the setting items in each tab, see “[Utility] tab” on page 46 and “Channel tabs 1/2” on page 47.

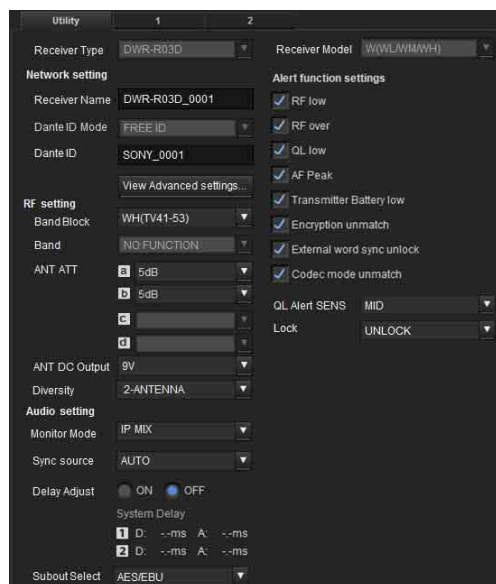
## 4 [Close] button

Closes the [Property] window.

## [Utility] tab

Displays setting items that are equivalent to those in the UTILITY menu of the receiver.

For details on each setting item, refer to the Operating Instructions supplied with the receiver.



**Receiver Type:** In online mode, this displays the device information acquired from the receiver and cannot be changed. The device information can be changed in offline mode.

**Receiver Model:** In online mode, this displays the frequency band acquired from the receiver and cannot be changed. The frequency band can be changed in offline mode. Specify a frequency band that corresponds to the actual device.

**Receiver Name:** Sets a name for the receiver.

**Dante ID Mode:** Displays the receiver’s Dante ID mode.

## Note

This function is not supported on the DWR-R01D, DWR-R02D and DWR-R02DN.

**Dante ID:** Specifies the receiver’s Dante ID.

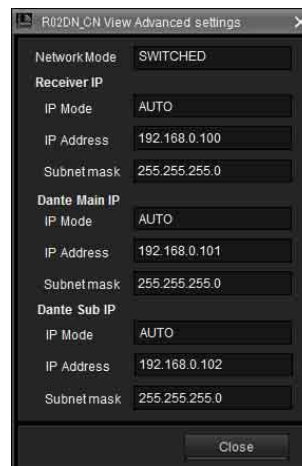
## Note

This function is not supported on the DWR-R01D, DWR-R02D and DWR-R02DN.

**View Advanced setting...:** Displays the receiver’s network settings. Click the button to display the following screen.

## Note

This function is not supported on the DWR-R01D, DWR-R02D and DWR-R02DN.



**Network Mode:** Specifies the receiver’s network mode.

**[Receiver IP]**

**IP Mode:** Specifies the receiver unit’s IP mode.

**IP Address:** Specifies the receiver unit’s IP address.

**Subnetmask:** Specifies the receiver unit’s subnet mask.

**[Dante Main IP]**

**IP Mode:** Specifies the IP mode for the receiver’s Dante Main IP.

**IP Address:** Specifies the IP address for the receiver’s Dante Main IP.

**Subnetmask:** Specifies the subnet mask for the receiver’s Dante Main IP.

**[Dante Sub IP]**

**IP Mode:** Specifies the IP mode for the receiver’s Dante Sub IP.

**IP Address:** Specifies the IP address for the receiver’s Dante Sub IP.

**Subnetmask:** Specifies the subnet mask for the receiver’s Dante Sub IP.

**Band Block:** Selects the frequency band to use (the largest is 72 MHz).

## Note

This function is not supported by the DWR-R01D and DWR-R02D.



**Band:** Selects the frequency band to use.

**ANT ATT:** Sets the attenuator for the receiver's antenna input.

**ANT DC Output:** Sets the DC power supply for the antennas connected to the receiver's ANTENNA a/b IN connectors.

**Diversity:** Specifies the receiver's diversity setting.

#### Notes

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- Some screen displays will change depending on the [Diversity] setting. *For details, see "Effects of the Diversity Setting on Wireless Studio Displays" on page 60.*

**Monitor Mode:** Specifies the receiver's headphone monitor setting.

#### Note

This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.

**Sync Source:** Sets the sync signal source for the receiver.

**Delay Adjust:** Selects whether to correct differences in audio delay time that may occur between receiver channels 1 and 2.

**Alert function settings:** Specifies the conditions under which to light the ALERT indicator on the receiver. You can select the following conditions as triggers for lighting the ALERT indicator.

- RF low (RF level too low)
- RF over (RF level too high)
- QL low (QL too low)
- AF Peak (audio output level too high)
- Transmitter Battery low (remaining battery on transmitter is low)
- Encryption unmatched (password or encryption key for the encrypted communication function does not match)
- External word sync unlock (external word clock signal not synchronized)
- Code mode unmatched (codec modes of transmitters and receivers do not match)

#### Note

If lighting of the ALERT indicator is disabled for an item, warning messages will not be displayed in the alert list under the [Message Log] tab and [RF Chart Grapher] tab of Wireless Studio for that item. In addition, such items will not be recorded in the log file.

**QL Alert SENS:** Specifies the level at which the quality of the received signal is determined to be low. If the quality of the received signal drops below the level specified here, the ALERT indicator of the digital wireless receiver lights.

#### Note

The QL Alert SENS function is available for the following receiver versions.

DWR-R01D: Version 1.29 or later

DWR-R02D: Version 1.09 or later

DWR-R02DN: Version 1.14 or later

DWR-R03D: Version 1.00 or later

**Lock:** Sets the receiver's setting lock function.

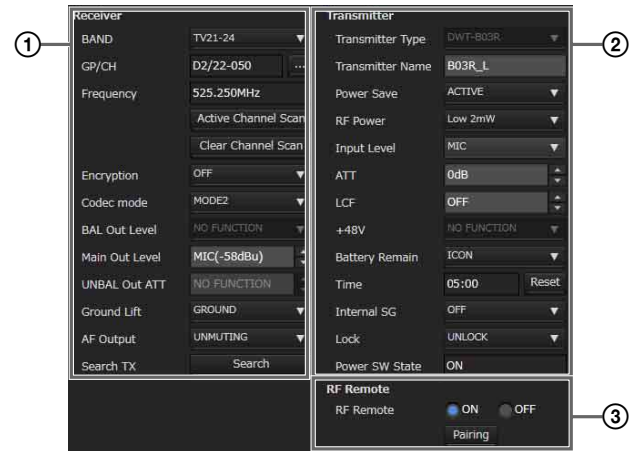
#### Note

This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.

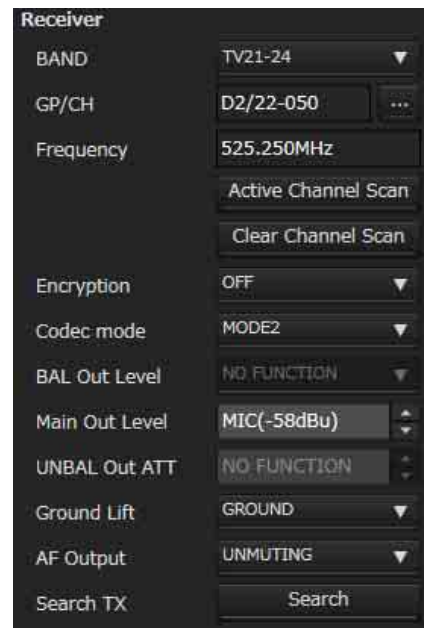
## Channel tabs 1/2

Displays setting items that are equivalent to those in the RECEIVER, TRANSMITTER, and RF REMOTE menus of the receiver.

*For details on the setting items in each menu, refer to the Operating Instructions supplied with the receiver.*



### ① [Receiver] menu



**BAND:** Specifies the frequency band to use.



**Note**

This function is not supported by the DWR-R01D and DWR-R02D.

**GP/CH:** Displays the frequency group and channel configured for the receiver channel.

**Frequency:** Displays the frequency configured for the receiver channel.

...: Press this button to display the [Group/Channel Setting] dialog box. You can select the reception frequency from the channel plan configured for the receiver in the [Group/Channel Setting] dialog box.

**Active Channel Scan:** Press this button to execute the receiver's active channel scan function. You can select the channel for receiving from the detected channels.

**Clear Channel Scan:** Press this button to execute the receiver's clear channel scan function. You can select the channel for receiving from the detected channels.

**Encryption:** Configure settings for the receiver's encrypted communication function.

**Codec mode:** Configure settings for the receiver's codec mode.

**Note**

This function is not supported by the DWR-R01D and DWR-R02D.

**BAL Out Level:** Configure settings for the receiver's analog audio output level.

**Note**

This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.

**Main Out Level:** Adjusts the receiver's main out level.

**Note**

This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.

**UNBAL Out ATT:** Configure attenuator settings for the UNBALANCED OUTPUT 1/2 connector.

**Note**

This function is not supported on the DWR-R01D.

**Ground Lift:** Configure whether to connect the GROUND (XLR 1 pin) of the BALANCED OUTPUT 1/2 connector to a chassis GROUND. You can avoid hum, buzz, and other noise caused by GROUND LOOP by selecting [LIFT] to lift GROUND (XLR 1 pin) from the chassis GROUND.

**Note**

This function is not supported on the DWR-R01D.

**AF Output:** Controls the audio output for the receiver channel. When [MUTING] is selected, audio output muting will be enabled for the respective receiver channel. While muting is enabled, the "muting" indicator on the AF/PEAK level meter will blink red. When [UNMUTING] is selected, audio output muting will be disabled for the respective receiver channel.

**Note**

This function is available under the following conditions.

**DWR-R01D:** Version 1.26 or later

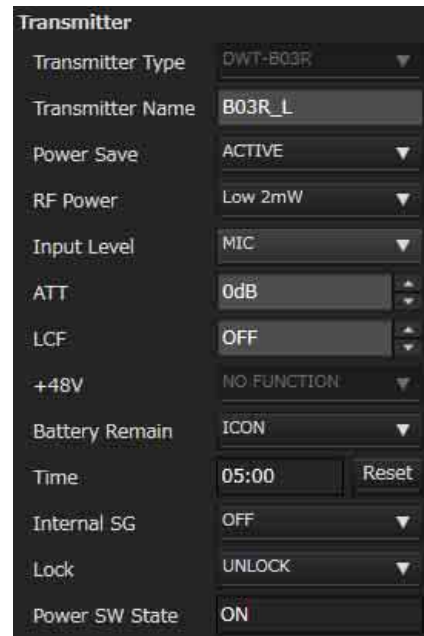
**DWR-R02D:** Version 1.06 or later

**Search TX:** Makes the screens for transmitters that are paired with the receiver blink.

**Notes**

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- This function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and digital wireless transmitters (such as the DWT-B03R). In addition, when using an RMU-01 for Cross Remote connection, the RMU-01 must be version 1.27 or later.

## ② [Transmitter] menu



**Transmitter Type:** In online mode, this setting cannot be changed. Specify the model of the transmitter paired with the receiver in offline mode.

**Transmitter Name:** Sets the name for the transmitter.

**Power save:** Configure settings for the transmitter's power-saving function.

**RF Power:** Configure settings for the transmitter's transmitted power.

**Notes**

- If the maximum transmission power setting of the transmitter is changed, execute pairing. It may not be possible to set the transmission power using the wireless remote control function.
- On 3rd-generation or later digital wireless transmitters (such as the DWT-B03R), [RF Power] cannot be set to a

value higher than 10 mW when [Band] is set to TV38 (North American models only).

- Input Level:** Displays the transmitter's audio input level.
- ATT:** Sets the attenuator for the transmitter. You can only change this setting when [Input Level] is set to [MIC].
- LCF:** Configure settings for the transmitter's low-cut filter.
- +48V:** Configure settings for the transmitter's +48 V power supply.
- Battery Remain:** Switches the transmitter's battery display.

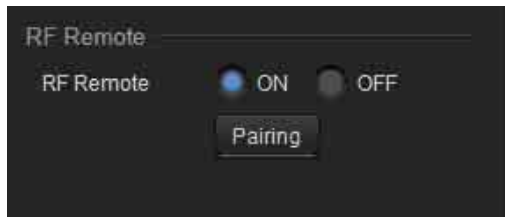
**Notes**

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- This function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and the DWT-B03R. In addition, when using an RMU-01 for Cross Remote connection, the RMU-01 must be version 1.27 or later.
- Time:** Displays the total usage time for the transmitter. Clicking the [Reset] button clears the total usage time.
- Internal SG:** Specifies whether to generate internal signals on the transmitter.
- Lock:** Sets the transmitter's POWER switch lock and setting lock functions.

**Notes**

- The setting lock function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- The setting lock function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and digital wireless transmitters (such as the DWT-B03R). In addition, when using an RMU-01 for Cross Remote connection, the RMU-01 must be version 1.27 or later.
- Power SW State:** Displays the status of the POWER switch on the transmitter. This setting cannot be changed.

③ [RF Remote] menu



- RF Remote:** Configure settings for the wireless remote control function.
- Pairing:** Press this button to start pairing receiver channels to transmitters.

## [Channel Plan Adviser] Window

This window allows you to enter signal environment information and use the receiver's channel scan function to select a channel plan that is suitable for the signal environment.

The signal environment information entered and the signals detected with the channel scan are displayed in the spectrum graph in the upper part of the screen. This allows you to select the channel plan while viewing signal usage in the spectrum graph.

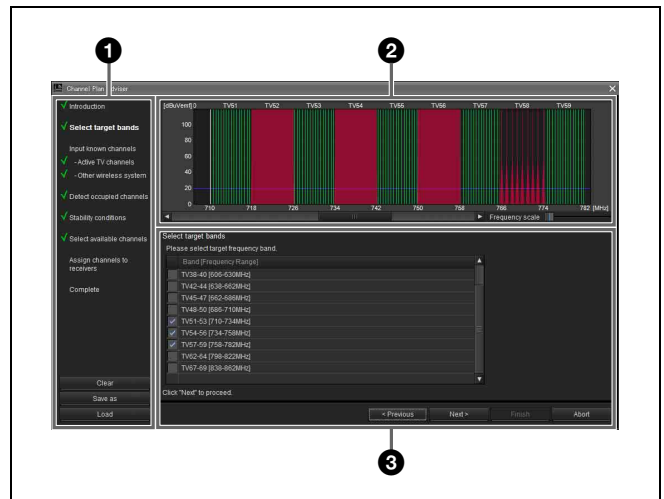
The following modes are available in [Channel Plan Adviser].

**Basic mode:** This mode allows you to select a channel plan that avoids signal interferences detected by the receiver's channel scan function. This is a simplified method that omits information entry other than the channel scan.

**Advanced mode:** In addition to performing channel scan as in basic mode, this mode allows you to enter various information you obtained beforehand to select an appropriate channel plan. You can enter the following information.

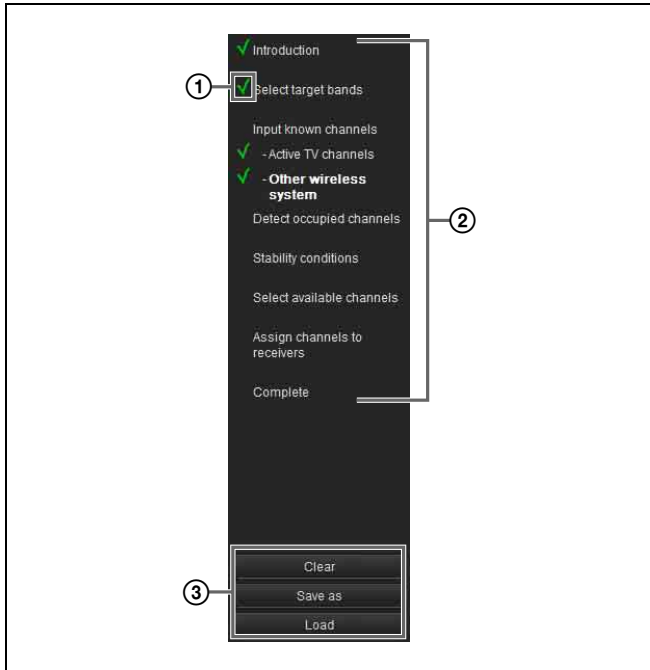
- Interference resulting from TV broadcasts
- Interference resulting from other wireless devices
- Interference detected by the channel scan
- The amount of frequency clearance to leave between interference when selecting the channel plan

*For details on selecting channel plans using basic mode, see "Selecting Channel Plans" on page 15.*



① Contents area

Displays the steps to perform when using [Channel Plan Adviser] and allows you to save or load a work file.



### ① Completion mark

Displays a check mark for completed steps. This allows you to view your progress and check for missed steps.

### ② Procedure items

Displays the list of steps to perform in [Channel Plan Adviser].

The items also act as shortcuts to each step, so you can click an item to jump directly to the target step operation. Certain steps are omitted in basic mode. These omitted steps cannot be selected.

### ③ Save and load work files

When you click the [Clear] button, the [Channel Plan Adviser] configurations will be cleared. The configurations that were applied to the [Spectrum Analyzer] will also be cleared at the same time.

When you click the [Save as] button, the file save dialog box appears.

This allows you to save your progress and the information you entered to a file.

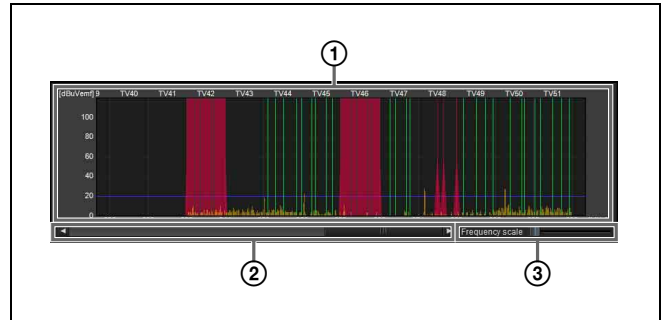
When you click the [Load] button, the file load dialog box appears.

This allows you to load a previously saved file from which to continue the channel plan selection process.

*For details on work files, see “Work files” on page 54.*

### ② Frequency spectrum display area

Displays the information entered for each step on a frequency spectrum graph.



### ① Frequency spectrum

Displays the information entered for each step in a graph. TV broadcast waves and interference from other wireless devices are displayed in red.

Interference detected with the channel scan function is displayed in yellow.

The threshold value for determining interference is displayed as a blue line.

The usable channels in the selected channel plan are displayed in green. Channels that are unusable due to interference or other reasons are displayed in dark green.

### ② Display range scroll bar

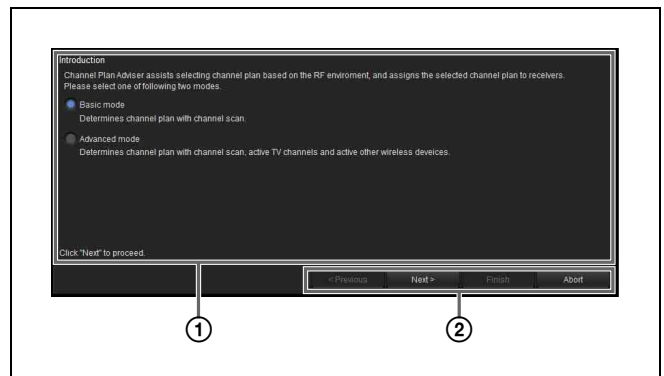
Scrolls through the frequency range display.

### ③ Display scale

Changes the scale of the frequency display.

### ③ Wizard area

Information necessary for channel selection is entered here according to the step that is displayed.



### ① Information entry area

Enter information according to the content displayed.

### ② Operation buttons

**Previous:** Go back to the previous step.

**Next:** Go to the next step.

**Finish:** Complete the procedure, and close [Channel Plan Adviser].

**Abort:** Discard any operation progress, and close [Channel Plan Adviser].

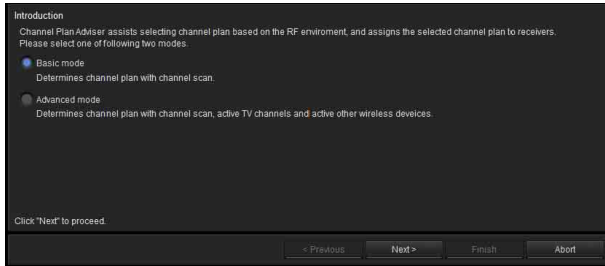
## Selecting the channel plan

The section describes how to select channel plans using the advanced mode.

For details on selecting channel plans using basic mode, see “Selecting Channel Plans” on page 15.

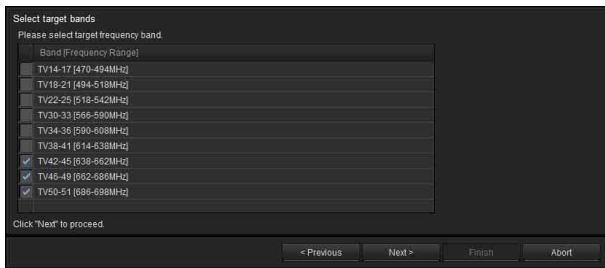
- 1 Select [Advanced mode], and click [Next >].

You can select whether to select the channel plan using basic or advanced mode here.



- 2 Select the frequency bands, and click [Next >].

Select the frequency bands from which you will select the channel plan.

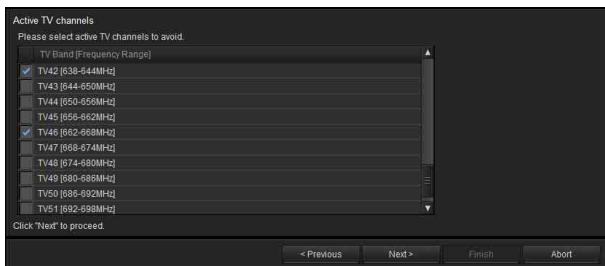


The frequency bands that appear are identical to those that can be selected for the receiver’s BAND setting. In the steps that follow, the channel plan can only be selected from the bands selected here.

- 3 Specify any TV channels, and click [Next >].

You can specify TV channels by placing check marks in the list.

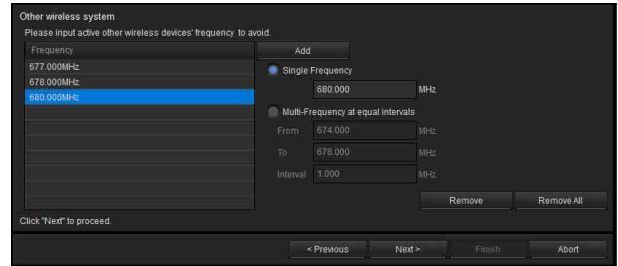
The specified TV channels will be plotted in the frequency spectrum display area.



The TV broadcast waves selected here will be classified as interference, and the respective frequencies will be removed from the candidates available during channel plan selection.

- 4 Specify any frequencies used by other wireless devices, and click [Next >].

Specify the frequencies assigned to other wireless devices being used in the same area.



The frequencies selected here will be classified as interference and removed from the candidates available during channel plan selection. The specified frequencies will be plotted in the frequency spectrum display area.

### To add frequencies

Enter the frequency (MHz), and click the [Add] button.

You can use one of the following methods to add frequencies.

**Single Frequency:** Adds the frequency entered in the text box.

**Multi-Frequency at equal intervals:** Adds all the frequencies between the frequencies entered for [From] and [To] at the interval specified in [Interval].

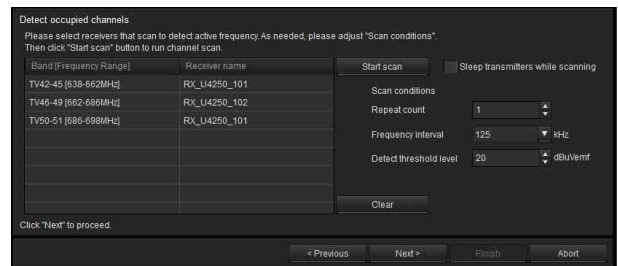
### To remove frequencies

**Remove:** Removes the frequency selected in the list.

**Remove All:** Removes all the frequencies in the list.

- 5 Perform channel scan, and click [Next >].

Frequencies that are likely to be interference are detected by the receiver’s channel scan function. The detected frequencies will be plotted in the frequency spectrum display area.



### To specify the receiver that will perform the scan

Select the receiver that will perform the frequency band scan.

If you select [Do not scan] instead of a receiver, channel scan will not be performed for that frequency band.

## To adjust scan conditions

**Repeat count:** Specify the number of times to repeat the scan. You can specify a number from 1 to 10.

**Frequency Interval:** Specify the frequency interval. You can specify an interval of 125 kHz or 25 kHz.

**Detect threshold Level:** Specify an RF level to use as a threshold for determining interference. You can specify a level from 5 to 30 dBuVemf in 1 dB steps.

### Note

Receiver models manufactured for use in Japan cannot perform scanning at 25 kHz intervals in the following bands.

- FPU-1CH to FPU-4CH
- B BAND

## To start scanning

Click [Start scan].

Scanning starts. When scanning is complete, the results of the previous scan will be removed and updated with the new results.

If the [Sleep transmitters while scanning] checkbox is selected, any transmitters that can be controlled remotely will be automatically set to sleep mode during the scan.

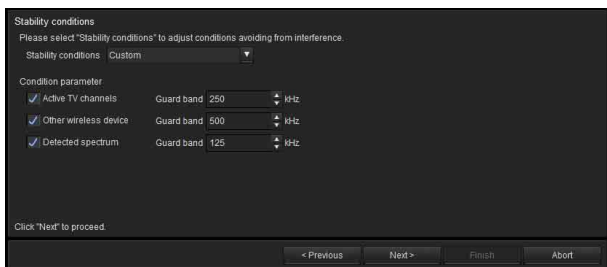
## To clear scan results

Click [Clear].

The scan results up to this point will be cleared.

- 6** Specify conditions for avoiding interference, and click [Next >].

Specify the amount of frequency clearance to leave between each type of interference when selecting the channel plan.



Select a value for [Stability condition] to specify the condition setting.

## To specify a preset condition

Select one of the three preset condition settings: [Stable], [Standard], and [More Frequency].

**Stable:** Selects the channel plan while leaving a wide frequency clearance between interference. Although this condition setting ensures high stability, it also limits the number of channels available for selection.

**Standard:** Selects the channel plan while leaving standard frequency clearance.

**More Frequency:** Selects the channel plan while leaving a small frequency clearance between interference.

## To customize the condition

Select [Custom].

When you place a check mark next to an item, the respective frequency will be classified as interference and that frequency will not be a candidate during channel plan selection.

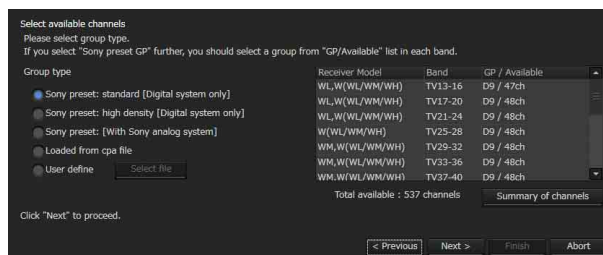
When classifying as interference, specify the amount of clearance to leave above and below the respective frequency.

**Active TV Channels:** Treats specified TV broadcasts as interference and avoids them.

**Other wireless device:** Treats other wireless devices as interference and avoids them.

**Detected spectrum:** Treats signals detected via channel scan as interference and avoids them.

- 7** Select the channel plan.



Select a channel plan for each frequency band based on the information entered up to this point.

## Specifying a channel plan type

Select the [Group type] based on the device configuration.

**Sony preset: standard [Digital system only]:** Select this when only Sony digital wireless systems are used. Channel plans are listed with preset channel plans suited for digital wireless systems prioritized.

**Sony preset: high density [Digital system only]:** Select this when only Sony digital wireless systems are used with more channels than the “Sony preset: standard [Digital system only]” setting.

**Sony preset GP [With Sony analog system]:** Select this when the configuration also includes Sony analog wireless systems.

Select from preset channel plan candidates that can be used with mixed configurations that include analog wireless systems.

**Loaded from cpa file:** Load a work file, and use a channel plan that is saved to that work file.

*For details on work files, see “Work files” on page 54.*

**User define:** Click [Select file], and specify a user defined frequency list.



For details on user defined frequency lists, see “User defined files” on page 54.

**Note**

The recommended channel plan when “Sony preset: high density [Digital system only]” is selected cannot be assigned to the DWR-R01D, DWR-R02D, or DWR-R02DN.

**Specifying channel plans for each frequency band**

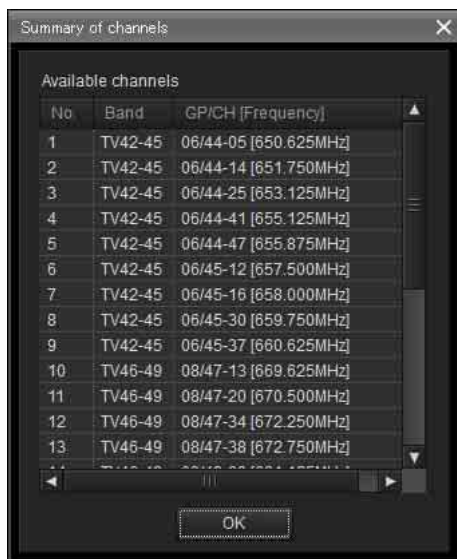
Of the channel plans selected with the [Group type] setting, frequencies that may experience interference are excluded and only the channel numbers that can be used are displayed for each frequency band.

If there are multiple channel plan candidates, select the channel plan you want to use for each frequency band.

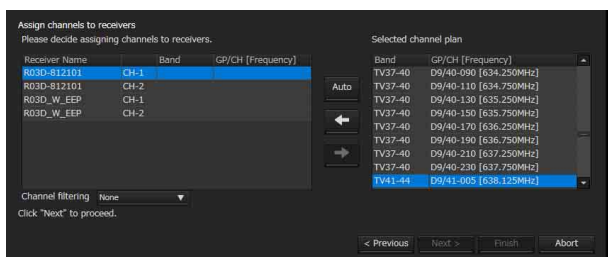
**Viewing the current frequency list**

Click [Summary of channels].

The frequencies available for use in the selected channel plan are listed for each frequency band.



8 Assign the selected channel plan to the receiver.



**Extracting a channel plan**

You can extract a channel plan using the [Channel filtering] setting. This allows you to assign a channel plan without changing the [BAND BLOCK] or [BAND] setting of the digital wireless receiver.

**None:** All usable channel plans can be assigned.

**Receiver’s band block:** Extract only the channel plan matching the [BAND BLOCK] setting of the selected receiver channel from among the usable channel plans.

**Receiver’s band:** Extract only the channel plan matching the [BAND] setting of the selected receiver channel from among the usable channel plans.

**Note**

[Channel filtering] is supported in Wireless Studio version 5.22 or later.

**Automatic assignment**

Click [Auto].

Starting with the lowest-frequency plans in the channel plan list, the frequencies are automatically assigned to the receiver’s receiver channels.

**Individual assignment**

Select a receiver channel from the receiver channel list, and then select the frequency you want to assign in the channel plan list.

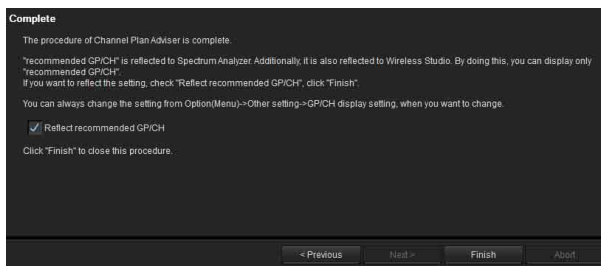
Click the ← button to assign the frequency to the receiver channel.

**To cancel an assignment**

Select the respective receiver channel in the receiver channel list, and click the → button to cancel the assignment.

9 When you finish assignments for all the receiver channels, click [Next >].

The frequency assignment settings are sent to the receiver.



10 If necessary, enable or disable [Reflect recommended GP/CH], and then click [Finish].

[Channel Plan Adviser] closes.

If the [Reflect recommended GP/CH] checkbox is selected, only the groups and channels recommended by [Channel Plan Adviser] will be selectable on Wireless Studio. The groups and channels recommended by [Channel Plan Adviser] will be displayed in the [Spectrum Analyzer] tab of the sub window. In addition, the receivers that will perform scanning for the frequency band selected in step 2 will be selected automatically in the [Scan parameter] window.



For details, see “Target receiver selection” in the “[Scan parameter] window” section on page 40.

**Note**

The [Reflect recommended GP/CH] setting can be changed at any time in the [GP/CH display setting] window.

For details, see “[GP/CH display setting] Window” on page 55.

## Work files

In [Channel Plan Adviser], you can save the information entered for each step to a work file (.cpa) and load the work file whenever necessary.

The following is saved to a work file.

- Target frequency bands (entered in step 2 of “Selecting the channel plan”)
- TV Channels (entered in step 3 of “Selecting the channel plan”)
- Frequencies used by other wireless devices (entered in step 4 of “Selecting the channel plan”)
- Channel scan conditions and scan results (entered in step 5 of “Selecting the channel plan”)
- Conditions for avoiding interference (entered in step 6 of “Selecting the channel plan”)
- Selected channel plan (entered in step 7 of “Selecting the channel plan”)

For details, see “Selecting the channel plan” on page 51.

## User defined files

You can use a frequency list from a user defined file (.chplan) to specify a user defined channel plan.

Load the user defined file in [Channel Plan Adviser], and determine frequencies while referring to the signal environment information from scan results, etc.

### To create user defined files

Use a text editor such as Notepad to create the file. Be sure to specify “.chplan” as the file extension.

Define one frequency per row.

**Note**

When the “#” sign is entered, text that is entered after the “#” in that row will be considered comments.

**Example:** When defining a 12-ch plan that connects group D1 of TV42-45 (US Model) for simultaneous operation.

```
# User define Channel Plan
# TV42-45 / D1 Group
638.250 # 42-02
638.750 # 42-06
639.250 # 42-10
```

```
639.750 # 42-14
640.250 # 42-18
640.750 # 42-22
641.250 # 42-26
641.750 # 42-30
642.250 # 42-34
642.750 # 42-38
643.250 # 42-42
643.750 # 42-46
```

**Note**

Only the frequencies indicated in the frequency list supplied with the receiver can be used.

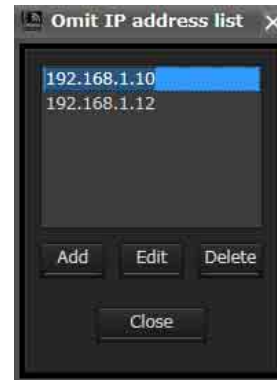
## [Omit IP address list] Window

When you register an IP address in this list, the IP address is excluded from automatic detection and will not appear in the device list window.

Use this function when multiple systems are connected on the same subnet, and you do not want to display the devices from other systems.

To display the [Omit IP address list] window, select [Device] menu > [Omit IP address list].

The [Omit IP address list] command can only be used in offline mode.



### Adding an IP address to the list for exclusion from automatic detection

Click [Add], enter the IP address you wish to exclude from detection, and then click [Close].

### Changing an IP address on the list

Click the IP address you wish to change, click [Edit], make the desired changes, and then click [Close].

### Removing an IP address from the list

Click the IP address you wish to delete, click [Delete], and then click [Close].

## [Setting lock] Window

You can prohibit the modification of receiver and transmitter settings from Wireless Studio. An administrator password must be configured to use this function.

When setting modification is prohibited (i.e., locked), you can temporarily enable setting changes by clicking the lock release buttons in the [Property] window, and then entering the administrator password.



### Locking settings

- 1 Select the [Setting lock] checkbox.
- 2 Enter the same password in the [Administrator Password] and [Confirm Password] fields.
- 3 Click [OK].

### Releasing the settings lock

- 1 Enter the configured password in the [Administrator Password] field.
- 2 Clear the [Setting lock] checkbox.
- 3 Click [OK].

### Changing the administrator password

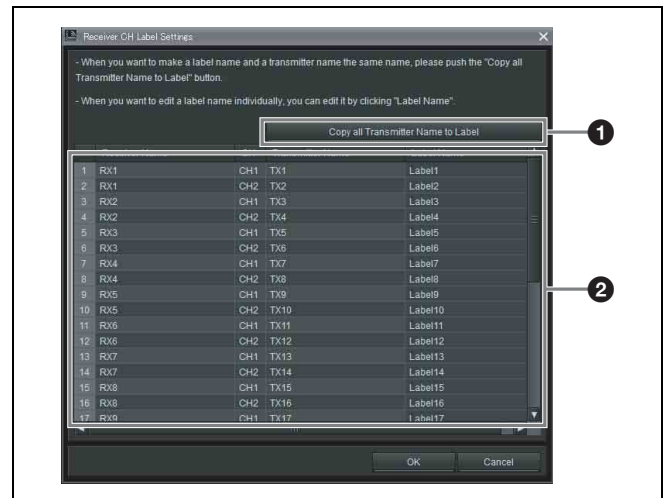
- 1 Enter the configured password in the [Administrator Password] field.
- 2 Enter the new password in the [Administrator Password] and [Confirm Password] fields.
- 3 Click [OK].

## [Receiver CH Label settings] Window

The [Receiver CH Label settings] window allows you to configure a label for each receiver channel. This makes channel identification easier in situations where a transmitter's frequency cannot be received, for example.

### Note

The [Receiver Name] and [Transmitter Name] settings cannot be changed in this window. To change these settings, use the [Property] window.



### 1 [Copy all Transmitter Name to Label]

Copies transmitter names to the labels of the corresponding receiver channels.

### 2 Setting item list

**Receiver Name:** Displays the receiver's name.

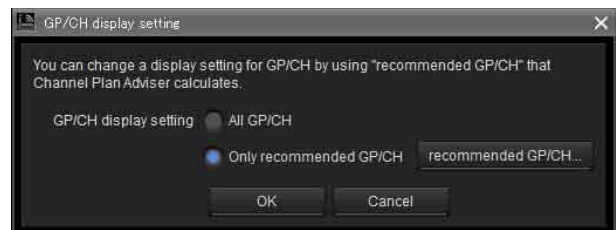
**CH:** Displays the receiver's channel information.

**Transmitter Name:** Displays the name of the transmitter that is communicating with the receiver.

**Label Name:** Allows you to set a name for each receiver channel. To set a name, enter the name and press the Enter key.

## [GP/CH display setting] Window

This window allows you to configure display settings for Wireless Studio groups and channels.



## [GP/CH display setting]

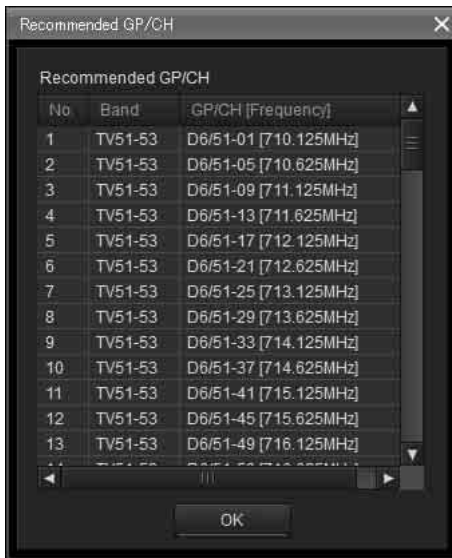
**All GP/CH:** All groups and channels will be displayed as candidates when configuring groups and channels. [All GP/CH] is selected under factory default settings.

**Only recommended GP/CH:** Only the recommended groups and channels as determined by the [Channel Plan Adviser] will be displayed as candidates when configuring groups and channels. When the [Reflect recommended GP/CH] checkbox is selected in the last screen of the [Channel Plan Adviser] before closing it, this setting changes to [Only recommended GP/CH].

For details, see “[Channel Plan Adviser] Window” on page 49.

## [recommended GP/CH...] button

Displays the recommended groups and channels as determined by the [Channel Plan Adviser] in a separate window. Only the groups and channels displayed here will be displayed as candidates when configuring groups and channels.

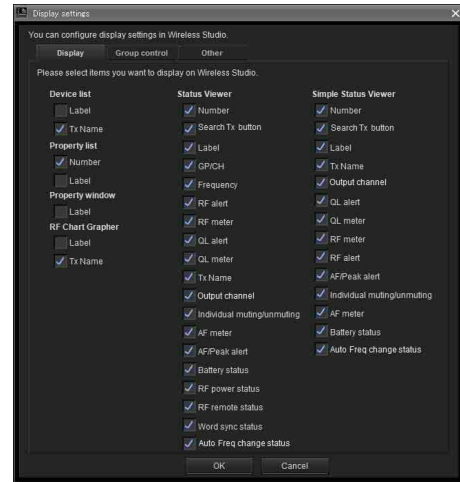


## [Display settings] Window

Use this to specify whether to display certain setting items and buttons. When you select the checkboxes of the items in each tab and click the [OK] button, the corresponding items and buttons will be displayed.

### [Display] tab

This tab allows you to specify whether to display certain items in the [Device List] window, status viewer, [Simple Status Viewer] tab, etc.



**Number:** Select whether to display the receiver channel number.

**Search Tx button:** Select whether to display the button that makes the screens for transmitters that are paired with the receiver blink.

### Notes

- This function is not supported on the DWR-R01D, DWR-R02D, and DWR-R02DN.
- This function is only available on combinations of 3rd generation or later digital wireless receivers (such as the DWR-R03D) and digital wireless transmitters (such as the DWT-B03R). In addition, when using an RMU-01 for Cross Remote connection, the RMU-01 must be version 1.27 or later.

**Label:** Select whether to display the label configured in the [Receiver CH Label settings] window.

**GP/CH:** Select whether to display the group/channel settings for reception channels.

**Frequency:** Select whether to display the reception channel frequency.

**RF alert:** Select whether to display an alert when the radio wave input level decreases or becomes too high.

**RF meter:** Select whether to display a meter that indicates the radio wave input level.

**QL alert:** Select whether to display an alert when the quality of the received data decreases.

**QL meter:** Select whether to display a meter that indicates the quality of the received data.

**Tx Name:** Select whether to display the name of the transmitter.

**Output channel:** Sets whether to display the audio output destination of the receiver.

**Individual muting/unmuting:** Select whether to display the audio output status for receiver channels.

**AF meter:** Select whether to display a meter that indicates the audio level.

**AF/Peak alert:** Select whether to display AF/PEAK (audio input/peak) alerts.

**Battery status:** Select whether to display the transmitter's battery condition.

**RF power status:** Select whether to display the transmitter's transmitted power.

**RF remote status:** Select whether to display the transmitter's wireless remote control condition.

**Word sync status:** Select whether to display the sync status of the signal output from the receiver's DIGITAL OUT connector.

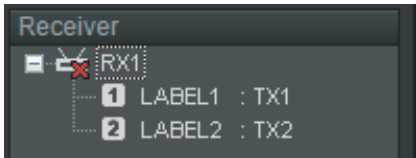
**Auto Freq change status:** Sets whether to display the status of the AUTO FREQ CHANGE setting of the receiver.

**Note**

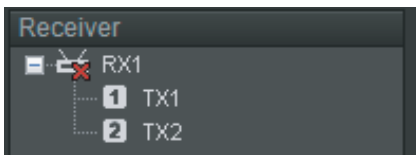
This function is available only on the DWR-R03D version 1.20 or later.

**Display example for the [Device List] window**

- Both Label and Tx Name displayed



- Only Tx Name displayed (factory default setting)



- Only Label displayed

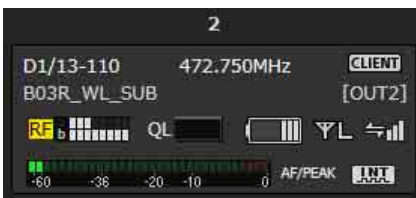


**Display example for the [Property] window**

- Label displayed

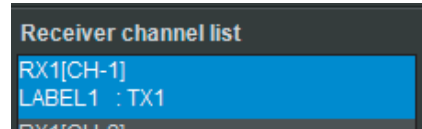


- Label not displayed (factory default setting)

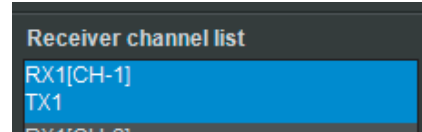


**Display example for the [RF Chart Grapher] tab**

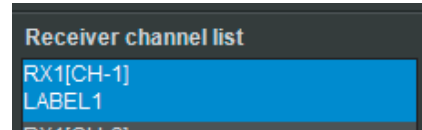
- Both Label and Tx Name displayed



- Only Tx Name displayed (factory default setting)



- Only Label displayed



**Display example for the status viewer**

- All items displayed



- All items except Label displayed



- All items except Tx Name displayed



**Display example for the [Simple Status Viewer] tab**

- All items displayed



- All items except Label and Tx Name displayed



- All items except QL alert, RF alert, and AF/Peak alert displayed

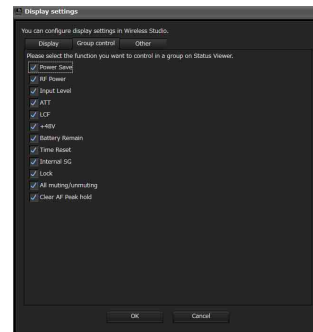


- All items except Label, Tx Name, AF/Peak alert, and Individual muting/unmuting displayed



### [Group control] tab

This tab allows you to specify whether to display or hide the buttons that allow changing of receiver channel transmitter settings in groups or the shortcut buttons for [All muting], [All unmuting], and [Clear AF Peak hold], for example, at the top of the status viewer. Only [Clear AF Peak hold] will be displayed under factory default settings.



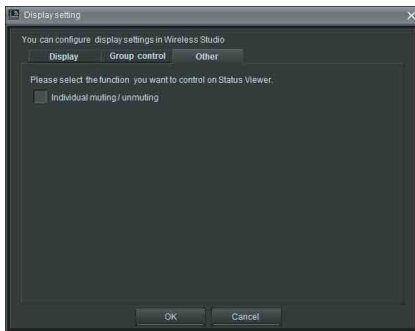
When you click a group control setting button at the top of the status viewer and select a setting value from the drop-down menu, the settings for all the receiver channels displayed in the status viewer will change.





## [Other] tab

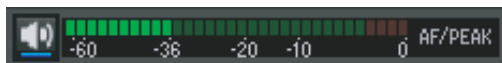
This tab allows you to enable or disable audio output control. It is disabled under factory default settings. When the checkbox is selected, you can enable or disable audio output by clicking the audio output control / indicators for each receiver channel in the status viewer.



- Checkbox cleared

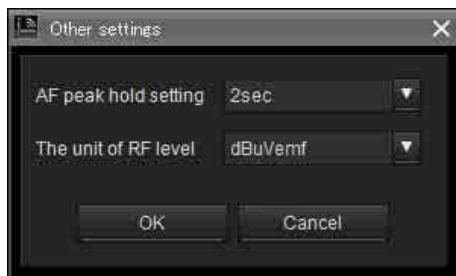


- Checkbox selected



## [Other settings] Window

The [Other settings] window allows you to configure the peak level hold condition of the AF level meter that appears in the status viewer and switch the unit display for the RF level.



### [AF peak hold setting]

Configures hold settings for the peak levels of the AF level meters that appear in the status viewer.

**2sec:** Holds for 2 second.

**HOLD:** Hold is maintained until it is released.

### [The unit of RF level]

Selects the units (dBuVemf or dBm) for the RF level that appears in the [RF Chart Grapher] tab and the [Channel Plan Adviser] window.

## Releasing the hold status

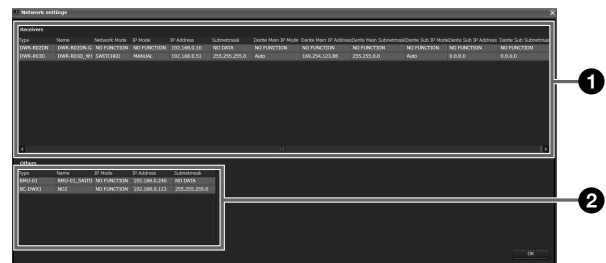
Peak levels that are being held can be released in the main page of Wireless Studio.



Clicking [Clear AF Peak hold] in the status viewer releases the hold status of the peak levels for all the receiver channels displayed.

## [Network settings] Window

This windows displays the network settings of the receivers, battery chargers, and RMU-01 units on the network.



### 1 Receivers list

Displays the values of the receiver's network settings.

**Type:** Displays the receiver's type.

**Name:** Displays the value of the receiver's RECEIVER NAME setting.

**Network mode:** Displays the value of the receiver's NETWORK MODE setting.

**IP Mode:** Displays the value of the receiver's IP MODE setting.

**IP Address:** Displays the value of the receiver's ADDRESS setting.

**Subnetmask:** Displays the value of the receiver's SUBNETMASK setting.

**Dante Main IP Mode:** Displays the value of the receiver's DANTE MAIN IP MODE setting.

**Dante Main IP Address:** Displays the value of the receiver's DANTE MAIN IP ADDRESS setting.

**Dante Main Subnetmask:** Displays the value of the receiver's DANTE MAIN SUBNETMASK setting.

**Dante Sub IP Mode:** Displays the value of the receiver's DANTE SUB IP MODE setting.

**Dante Sub IP Address:** Displays the value of the receiver's DANTE SUB IP ADDRESS setting.

**Dante Sub Subnetmask:** Displays the value of the receiver's DANTE SUB SUBNETMASK setting.

### Note

“NO FUNCTION” is displayed for the following items for receivers other than the DWR-R03D.

- Network Mode
- IP Mode
- Subnet Mask



- Dante Main IP Mode
- Dante Main IP Address
- Dante Main Subnetmask
- Dante Sub IP Mode
- Dante Sub IP Address
- Dante Sub Subnetmask

## ② Others list

Displays the network settings of battery chargers and RMU-01 units.

**Type:** Displays the type of device.

**Name:** Displays the value of the NAME setting of the device.

**IP Mode:** Displays the value of the IP MODE setting of the device.

### Note

“NO FUNCTION” is displayed for battery chargers and RMU-01 units.

**IP Address:** Displays the value of the IP ADDRESS setting of the device.

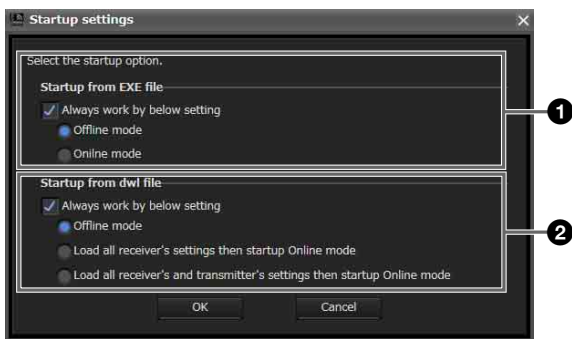
**Subnetmask:** Displays the value of the SUBNETMASK setting of the device.

### Note

“NO DATA” is displayed for RMU-01 units.

## [Startup settings] Window

You can configure startup settings in the [Startup settings] window.



### ① [Startup from EXE file] setting

Specify the startup mode used when starting Wireless Studio from the start menu.

Select the [Always work by below setting] checkbox to always start Wireless Studio using the specified mode.

**Offline mode:** Start Wireless Studio in offline mode.

**Online mode:** Start Wireless Studio in online mode.

### ② [Startup from dwl file] setting

Specify the startup mode used when you start Wireless Studio by double-clicking a settings file (.dwl2 or .dwl3).

Select the [Always work by below setting] checkbox to always start Wireless Studio using the specified mode.

**Offline mode:** Start Wireless Studio in offline mode.

**Load all receiver's settings then startup Online mode:** Apply the settings of the settings file to the receivers, and then start Wireless Studio in online mode.

**Load all receiver's and transmitter's settings then startup Online mode:** Apply the settings of the settings file to the receivers and transmitters, and then start Wireless Studio in online mode.

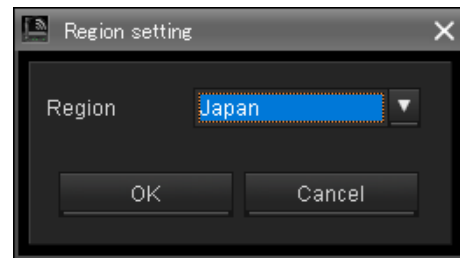
*For details on settings files, see “Using Settings Files” on page 20.*

## [Region setting] Window

In the [Region setting] window, you can change the region setting that was selected during installation of Wireless Studio.

### Notes

- The [Region setting] window can only be opened when Wireless Studio is running in offline mode.
- Restart Wireless Studio to apply changes to the region setting.



### [Region]

Select the region in which Wireless Studio will be used.

**Japan:** Select this for use in Japan.

**North America:** Select this for use in North America.

**Europe:** Select this for use in Europe.

**China:** Select this for use in China.

## Effects of the Diversity Setting on Wireless Studio Displays

Whenever you switch between the 2-ANTENNA and 4-ANTENNA options for the [Diversity] setting in the receiver's [Property] window, the displays in Wireless Studio will change as follows.

### Status viewer

When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, “1” and “2” will be consolidated as “1” and the RF level meters will display 4 lines.

When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, “1” splits into “1” and “2” and the RF level meters will display 2 lines for each.



Switching to 4-ANTENNA ↓      ↑ Switching to 2-ANTENNA



**[Simple Status Viewer] tab**

When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, the display for “2” disappears and the RF level meters will display 4 lines. When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, the display for “2” reappears and the RF level meters will display 2 lines each.



Switching to 4-ANTENNA ↓      ↑ Switching to 2-ANTENNA



**[Property] window**

When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, the display and tab for “2” disappear and the RF level meters will display 4 lines. When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, the display and tab for “2” reappear and the RF level meters will display 2 lines each.



Switching to 4-ANTENNA ↓

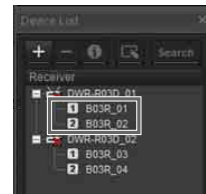
↑ Switching to 2-ANTENNA



**[Device list] window**

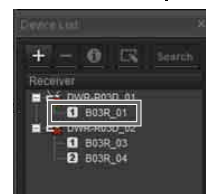
When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, the display for “2” disappears.

When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, the display for “2” reappears.



Switching to 4-ANTENNA ↓

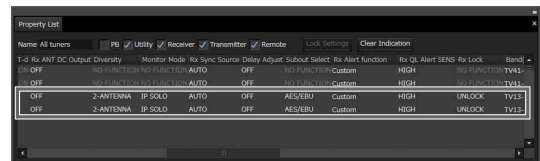
↑ Switching to 2-ANTENNA



**[Property List] tab**

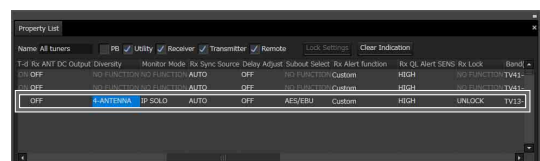
When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, the display and tab for “2” disappears.

When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, the display and tab for “2” reappears.



Switching to 4-ANTENNA ↓

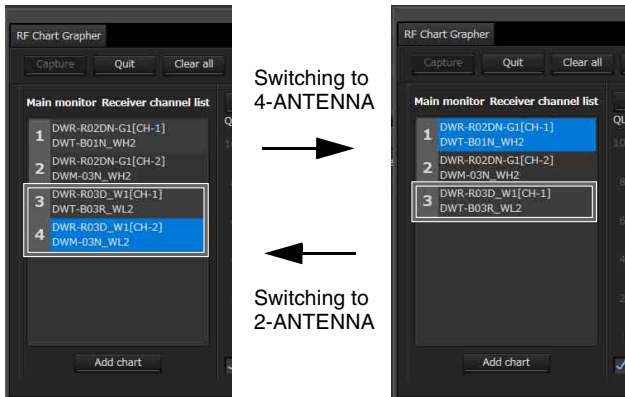
↑ Switching to 2-ANTENNA



### [RF Chart Grapher] tab

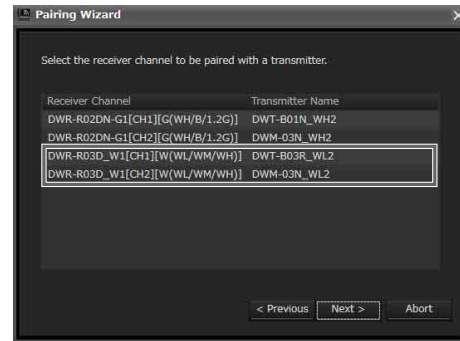
When you change the [Diversity] setting to 4-ANTENNA for receiver channels 1 and 2, the display for “2” disappears.

When you change the [Diversity] setting to 2-ANTENNA for receiver channels 1 and 2, the display for “2” reappears.

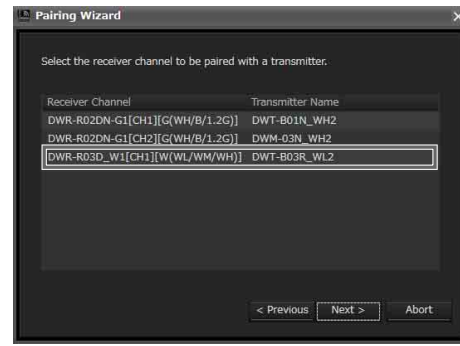


### [Pairing wizard] window

If the [Pairing wizard] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 2-ANTENNA, both 1 and 2 are displayed.

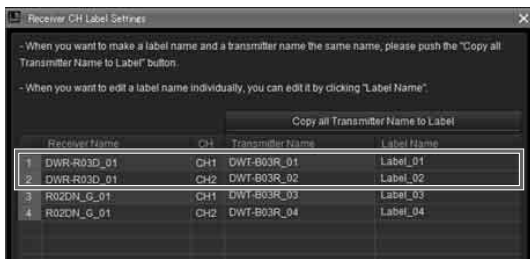


If the [Pairing wizard] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 4-ANTENNA, only 1 is displayed.

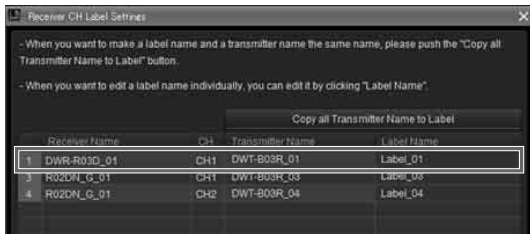


### [Receiver CH Label settings] window

If the [Receiver CH Label settings] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 2-ANTENNA, both 1 and 2 are displayed.

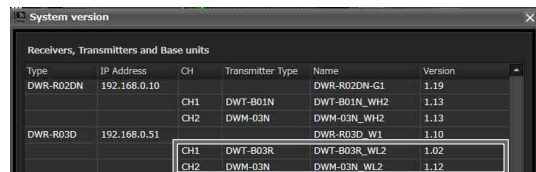


If the [Receiver CH Label settings] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 4-ANTENNA, only 1 is displayed.



### [System version information] window

If the [System version information] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 2-ANTENNA, both 1 and 2 are displayed.



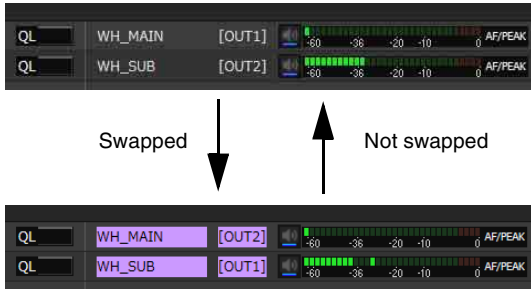
If the [System version information] window is opened when the [Diversity] setting of receiver channels 1 and 2 is 4-ANTENNA, only 1 is displayed.



# About the Wireless Studio Display when OUTPUT SWAP is Enabled

Whenever you enable the OUTPUT SWAP setting of the receiver to swap channels, the displays in Wireless Studio will change as follows.

## Status Viewer



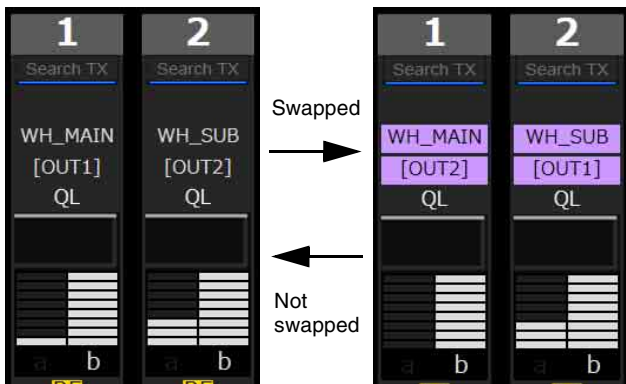
## About the swap color

As individual receiver channels are swapped, the display color is assigned in the following order.

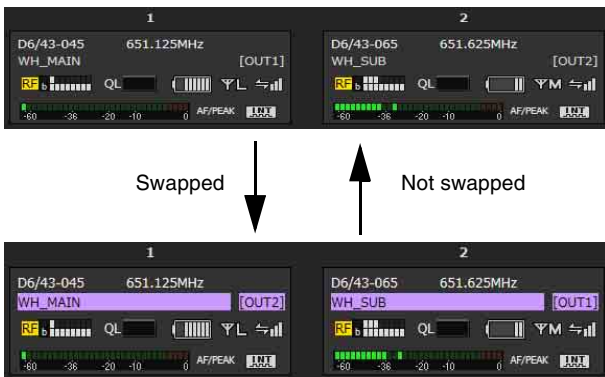
If nine or more units have channels in the swapped state, the color assignments are repeated starting from color 1.

- 1 Simba\_sub
- 2 Nala\_sub
- 3 Mufasa\_sub
- 4 Timon\_sub
- 5 Pumbaa\_sub
- 6 Rafiki\_sub
- 7 Scar\_sub
- 8 Shenzi\_sub

## [Simple Status Viewer] tab



## [Property] window



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# Open Source Software

Wireless Studio uses the following open source software.

## Appendix A-1 LIST OF OPEN SOURCE SOFTWARE AND APPLICABLE LICENSE

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### **MVVM Light**

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laurent@galasoft.ch

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