KENWOOD

NXR-1700
NXR-1800

Basic Configuration

Version:	2.20
Last Updated:	May 27, 2024
Language:	English
Type:	E

CONTENTS

OUTLINE

About This Manual

This document describes the Web Tool and the installation method to the rack of the NXR-1700/ NXR-1800 repeater.

Item	Specifications	How to Verify
Market Code	E	Printed on the label of the product.
Firmware Version of the Repeater	2.20.00	Can be viewed in the Repeater Information dialog box of KPG-D7.
Version of KPG-D7	V 2.20	Can be viewed in the **About** dialog box of KPG-D7.

Note

- When connecting to a PC via IP, we have confirmed in advance that when using a specific USB-LAN adapter, communication will fail due to the influence of the USB-LAN adapter side.
  If the LED on the left side of the LAN connector of the NXR-1700/ NXR-1800 does not light up, it is assumed that the USB-LAN adapter corresponds to this.
  We have also confirmed that communication can be performed normally via the HUB. If communication seems to be failing, we recommend connecting via HUB.

How to Read the In-depth Manual

The In-depth Manual has the following sections:

NXR-1700/ NXR-1800 Basic Configuration (this document)

Describes the functions of the Web Tool and the rack mount of NXR-1700/ NXR-1800.

NXR-1700/ NXR-1800 Function Reference (FUNC)

Describes the functions for Analog Conventional, DMR Conventional, and NXDN Conventional, etc. for NXR-1700/ NXR-1800.

About Notations

The following notations are used in this manual:

[ ]

The characters in [ ] indicate the name of the operating portion of each device and the name of the key of the PC.

“ ” (Double Quotation Mark)

The characters in “ ” indicate the name of the options, buttons, and menus shown on KPG-D7, or the LCD display of the repeater.

Bold Letters

The characters in bold letters indicate the name of the windows, tabs, checkboxes in KPG-D7 and functions assigned to the keys of the repeater.

[ ] + [ ]

This notation is used for describing functions activated by pressing 2 keys on the computer keyboard at the same time. For example, in order to input capital A into a PC, capital A is described as [Shift] + [a], which indicates that the [a] key must be pressed while pressing and holding the [Shift] key.

About the Notation of the Supported Models

This manual describes the supported models according to the following rules:

Model Name	Band	Type	Frequency (RX/ TX)
NXR-1700	VHF	E	136 MHz to 174 MHz
NXR-1800	UHF	E	450 MHz to 520 MHz
		E2	400 MHz to 470 MHz

Abbreviations Used in this Document

The following abbreviations are used in this in-depth manual. Refer to the abbreviation table below.

Abbreviation	Full Spelling or Meaning
AIS	Application Interface Specification (DMR Application Interface)
AUX	Auxiliary
BER	Bit Error Rate
CC	Color Code
Ch	Channel
CSR	Certificate Signing Request
CW	Continuous Wave
deg	degree(s)
DQT	Digital Quiet Talk
DSCP	Differentiated Services Code Point
FPU	Field Programming Unit
GID	Group ID
HPA	High Power Amplifier
HSB	Hot Standby
ICMP	Internet Control Message Protocol
I/O	Input/Output
IPRCI	IP Remote Control Interface
NTP	Network Time Protocol
PF	Programmable Function
QoS	Quality of Service
QT	Quiet Talk
RSSI	Received Signal Strength Indication
RX	Reception, Receiver
SIP	Session Initiation Protocol
SNMP	Simple Network Management Protocol
SSL	Secure Sockets Layer
TCXO	Temperature Compensated Crystal Oscillator
TLS	Transport Layer Security
TOT	Time-out Timer
TX	Transmission, Transmitter
UID	Unit ID
VLI	Voice Logging Interface
VSWR	Voltage Standing Wave Ratio

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About Options to Use the Functions Described in This Document

To use the functions described in this document, the following KENWOOD optional accessories need to be prepared on your own as necessary:

Model Name	Description
KWD-NX10DC	License/ DMR CONVENTIONAL
KWD-NX10NC	License/ NXDN CONVENTIONAL
KWD-NX10MS	License/ CONVENTIONAL IP NETWORK
KWD-NX10VR	License/ VOTING REPEATER
KWD-NX10SP	License/ SIP PHONE
KAS-20C/ KAS-20S	PC App/ AVL & DISPATCH SOFTWARE (CLIENT/ SERVER)
KPG-180AP	PC App/ OTAP MANAGER SOFTWARE
KPT-300LMC	PC App/ LICENSE MANAGEMENT CLIENT
KPG-D7	FPU

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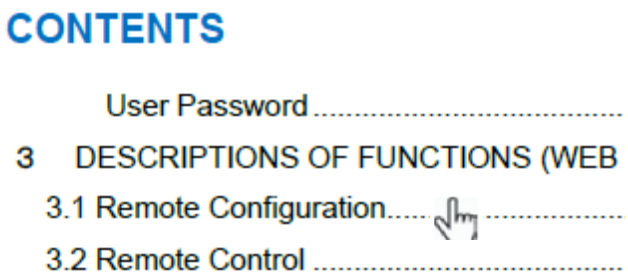
For your convenience of reading through this document using Adobe Acrobat or Adobe Reader, a link to a corresponding item is pasted in the Contents page, Index page, the lower part of each page and in the context.

Clicking the portion where a link is pasted enables a jump to the corresponding page.

Placing a pointer over the portion where a link is pasted changes the shape of the pointer to a hand ( ).

CONTENTS

Clicking a title in the Contents page allows a jump to the corresponding page.

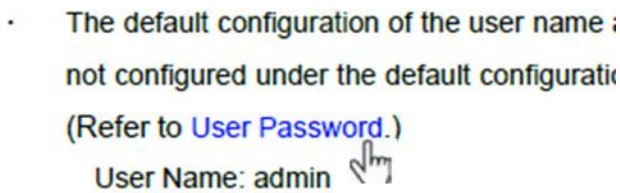


INDEX

Clicking a function name, a title or a page number in the Index pages allows a jump to the corresponding page.

Blue Characters in the Main Text

Clicking a portion with blue characters in the main context allows a jump to the corresponding page.



Return to the Previous Page

To return to the previous page, click the “Previous Page” button on your Adobe Acrobat or Adobe Reader, or press the **[<]** key while pressing and holding the **[Alt]** key on the keyboard.

Search the Text

The text in this document can be searched using the search function of your Adobe Acrobat or Adobe Reader.

Revision History

Date	Description
2022.10.28	1) Changed the version information in “About This Manual”. 2) Added the description for rebooting to “Service” of Table 2-19. 3) Added “Reboot” to “Service” of Table 2-20. 4) Added “Service (Reboot)” to Table 3-2. 5) Changed the display of Table 3-3 “Configuration Information” from Unprogramming to Unprogrammed (a specification change). 6) Changed the version number from 1.00 to 1.02.
2023.07.06	1) Changed the version information in “About This Manual”. 2) Added NXR-1800. 3) Added the description of the configuration of the password when logging in to the Web Tool. 4) Added the Language icon. 5) Added the descriptions of Communication Log and System Log to Log. 6) Added the descriptions of Own IP Setting and QoS to IP Configuration. 7) Added the description of Multi Loader to Security. 8) Changed the version number from 1.02 to 2.00
2023.12.14	1) Changed the version information in “About This Manual”. 2) Added the description of Last Used By and Last Used On to User Information. 3) Added the note related to RF Link and Voting to Communication Log. 4) Added the configuration items related to Voting to Call Monitor. 5) Changed the version number from 2.00 to 2.10
2024.05.27	1) Changed the version information in “About This Manual”. 2) Added the note to the description of Channel Name in Home of 2.2 Various Functions (Edit). 3) Deleted TX Frequency Data Error from Table 2-20 Status Monitor Display. 4) Added the Channel Data Blank error in Remote Monitor. 5) Added and corrected the notes in Remote Control. 6) Changed the version number from 2.10 to 2.20

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The accessories are attached to the repeater prior to the installation to the rack.

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The basic screen layout of the Web Tool is confirmed.

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<tr><td>Knowing the Descriptions of the Web Tool Functions

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1 OVERVIEW EXPLANATION

1.1 Overview Explanation of the Web Tool

The Web Tool is a web interface to execute the configuration (in part), monitoring, and operation of the repeater. A user can access the repeater from the web browser of a client PC. The following are the recommended web browsers and versions:

Table 1-1 Recommended Web Browsers and Versions

Web Browser	Version (or Later)
Google Chrome	89
Microsoft Edge	89

1 Connect a PC and the repeater by an IP connection.

2 Open a web browser, and access the Web Tool by entering the IP address of the repeater as a URL.
(http://192.168.0.1 (when the IP address of the repeater is 192.168.0.1))

3 By accessing the Web Tool, the Login screen is displayed.

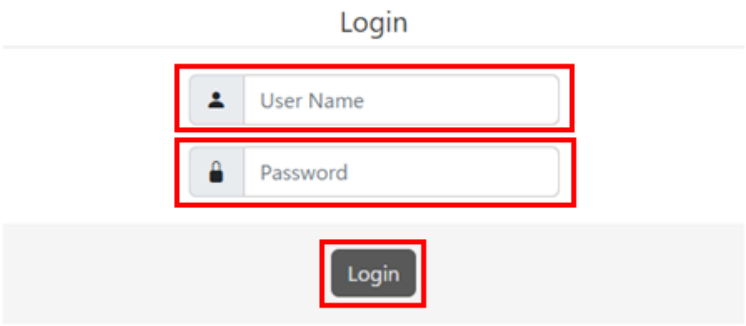


Figure 1-1 Login

When the admin password is not configured such as during access for the first time, the screen prompting for the configuration of the password is displayed by entering only User Name as admin and clicking the “Login” button. Refer to **User Password** about the screen prompting for the configuration of a password. When the password is configured in User Password, the state where the Web Tool is logged in occurs. From next time onwards, logging in is done by entering the configured password in the login screen (Figure 1-1).

4 Click the “Login” button after entering the user name and password notified by an administrator.

5 By entering the correct user name and password, the Home screen of the Web Tool is displayed.

Note

- The following IP addresses are preconfigured in the repeater before factory shipment:

  IP Address: 192.168.0.1

  Subnet Mask: 255.255.255.0

  Default Gateway: 192.168.0.254

- The following are the default configurations for the user name and password of the Web Tool. Configure a password after logging in to the Web Tool because the password is not configured in the default configuration. (Refer to User Password.)

  User Name: admin

  Password: (Configured by a user when logging in to the Web Tool for the first time)

1.2 Basic Screen Layout

The basic screen layout of the Web Tool is as follows:

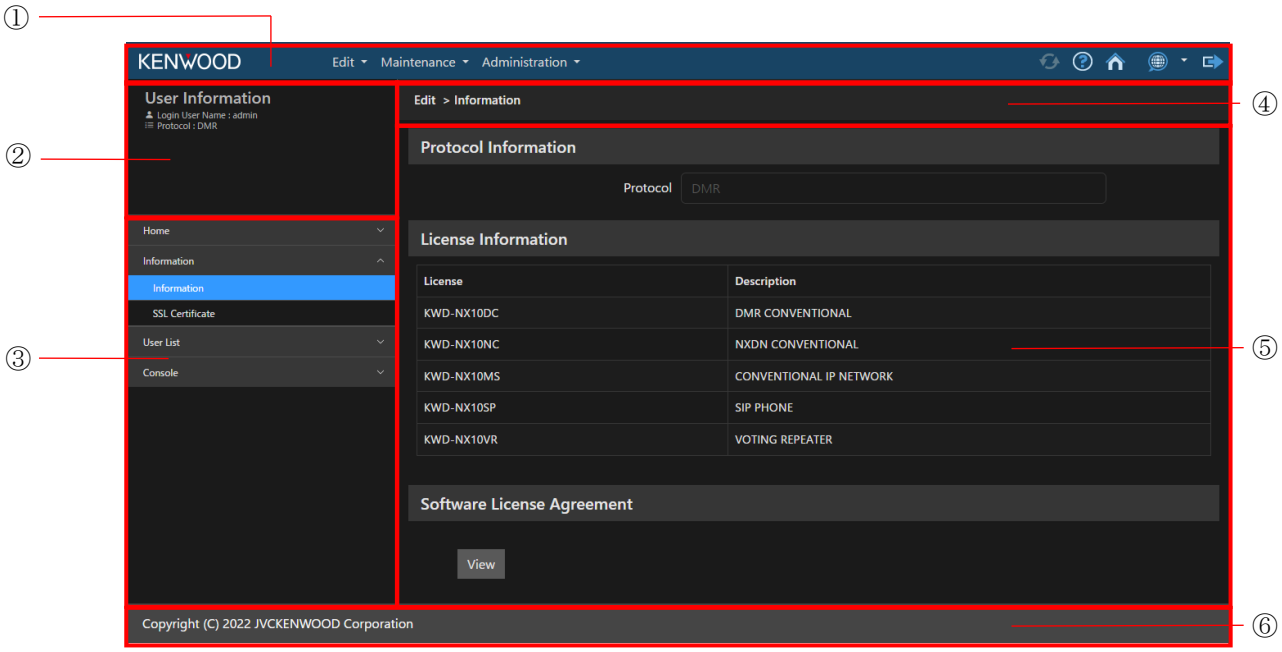


Figure 1-2 Basic Screen Layout of Web Tool (Screen Sample)

Table 1-2 Basic Screen Layout

No.	Name	Function
①	Header	This field is commonly displayed in every page. Links to main configuration menus, etc. are displayed.
②	User information	Login information and update information of each configuration page are displayed.
③	Navigation	Links to detailed menus related to the displayed page are displayed.
④	Main window	The hierarchy is displayed sequentially from the top page to the displayed page.
⑤	Main text	This field displays the main text of each page.
⑥	Footer	This field is commonly displayed in every page. The copyrights appear.

User Information

In User Information, the login information and the updated information of each configuration screen are displayed.

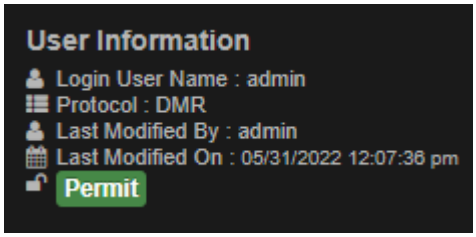


Figure 1-3 User Information Screen (Example)

Table 1-3 User Information

Name	Description
Login User Name	The name of a logged-in user is displayed.
Protocol	The protocol selected by using the FPU is displayed.
Created By	The name of the user to save the current screen configuration is displayed by using the “Add” button.
Created On	The time when the current screen configuration is saved is displayed by using the “Add” button.
Last Modified By	The name of the latest user to edit and save the current screen is displayed.
Last Modified On	The latest time of when the current screen is edited and saved is displayed.
Last Used By	The name of the latest user to download the log for the current screen is displayed by using the “Download” button.
Last Used On	The latest time of when the log for the current screen is downloaded is displayed by using the “Download” button.
Record Status	The update status of the current screen is displayed, and the following statuses are indicated: ・ Editing is available. ・ Edited by a logged-in user ・ Edited by a user other than a logged-in user

Login User Name

The user name of a user logged in to the Web Tool is displayed.

The repeater permits the login of a maximum of 4 users (at the same time). Additionally, while logged in, if logging in as the same user is attempted from another browser or another PC, a warning of already being logged in is made, and the logging in cannot be done. A warning is also made related to access if the acceptable maximum number of logins is exceeded, and the logging in cannot be done.

Note

- Forcible logging out occurs according to the configuration in **Operation Timeout Timer** if the Web Tool is left without operation while being logged in.
- In the case of a monitor page, a user is not logged out even if the Web Tool is left without operation while being logged in.
- On a page other than a monitor page, an ID is locked until the time configured in **Operation Timeout Timer** elapses if the communication with a browser is interrupted for a certain amount of time while being logged in. For this reason, the logging in cannot be done by using the same user ID.
- If forcible logging out occurs by the Web Tool, the data not updated and waiting to be saved is automatically updated.
- Forcible logging out occurs if a firmware update, IP change, writing of FPU data, switching of Hot Standby statuses, and program restart, etc. occur.

Configuration using Web Tool

- Configuring **Operation Timeout Timer** (Maintenance > Setting > Timer > Auto Logout > Operation Timeout Timer)

Protocol

The Protocol configured for the logged-in repeater is displayed.

Protocol displays that the operation mode of the repeater is one of DMR Mode, NXDN Mode, and Analog Mode according to the configuration in **Product Information** of the FPU.

Last Modified By

Last Modified By displays the user name of the user who last edited the configuration data.

Last Modified On

Last Modified On displays the date and time of when the configuration data is last edited.

Note

- The display format follows the configuration in **Date Format** and **Time Format**.

Created By

Created By displays the user name of the user who first created the configuration data.

Note

- **Created By** is displayed in the edit screen of Administrators > User List only.

Created On

The date and time of when the configuration data is first created is displayed.

Note

- The display format follows the configuration in **Date Format** and **Time Format**.
- **Created On** is displayed in the edit screen of Administrators > User List only.

Last Used By

Last Used By displays the name of the user who last downloaded the log.

Last Used On

Last Used On displays the time when the log was last downloaded.

Record Status

Record Status displays the update status for each page which can be edited.

Record Status is displayed in the edit screen. For the configuration to migrate to the edit screen by “Edit”, **Record Status** can be displayed by clicking the “Edit” button.

All users can edit data on the page which displays this icon.

Only a user who is editing can edit data on the page which displays this icon.

Header

Each function of the header is described.

Figure 1-4 Header (Screen Sample)

The following are the various functions included in the header:

- Menu
- Update
- Help
- Home
- Language
- Logout

Menu

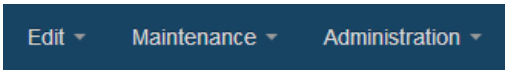


Figure 1-5 Menu (Screen Sample)

Menu is the main configuration menu commonly displayed on all pages. Because each menu is linked to various pages, clicking each menu allows a migration from the current page to the target page.

Table 1-4 Menu (Header)

Name	Description
Edit	Edit is the entrance to view and edit the following functions: ・ Home: To confirm the configuration and status of the repeater ・ Information: The confirmation of the unique information of the repeater and the functions authorized by the license ・ User List: To restrict access to the repeater (digital only) ・ Console: To display the list of consoles connected to the repeater
Maintenance	Maintenance is the entrance to view and edit the following functions: ・ Log: The internal information of the repeater ・ Monitor: To confirm the status of the repeater (remote) ・ Remote Control: To remotely control the repeater ・ System: The configurations and confirmation of the repeater ・ Setting: The display formats of the year, month, and day, and the time ・ Field Support: The operation information of the repeater (for failure analysis)
Administration	Administration is the entrance to view and edit the following functions: ・ Administrators: The list of the users who configure and operate the repeater

Clicking the menu displayed at the top of the page allows a migration to the corresponding page.

Update

Figure 1-6 Update

Update reflects the data saved by clicking Save in anything other than the **Maintenance** menu and **Administration** menu to the repeater.

Clicking the “Update” button displayed at the upper right of each page reflects to the repeater the data saved as configuration items which require updates.
If the writing of FPU data is executed after the page for which Save has been executed or the already saved page is displayed, clicking the “Update” button fails, and the changes added to the page are not saved. If a page which can be changed by using the FPU is displayed, the data changed by the FPU can be reflected on the page.

If the writing of FPU data is executed while Update is executed, although Update is executed normally, the changes by the FPU overwrite the update afterwards. If a page which can be changed by using the FPU is displayed, the data updated by the FPU can be reflected when a new page is displayed.

Help

Figure 1-7 Help

Help displays the help text for the function of the displayed page.
The search for an intended item from the contents of the help text is also available.
Clicking “Help” at the upper right of each page displays the help text for the function of the displayed page in a new window. A table of contents is displayed at the left of the help screen, and migration occurs to the help text of a topic by selecting the topic.

Home

Figure 1-8 Home

Home is the function to migrate from the current page to the Home screen by clicking the “Home” button displayed at the upper right of each page.
Refer to Home for details of the Home screen.

Language

Figure 1-9 Language

Language is the function to switch the Web Tool notation to the selected language by selecting the desired language. By clicking the “Language” switch button displayed at the upper right (the part framed in red), a pulldown list for switching languages is displayed.
The language configuration selected in **Language** is retained for each user. The language which can be selected is one language from among English, Spanish, French, German, Italian, and Dutch.

Logout

Figure 1-10 Logout

Logout is used to close the Web Tool.
Clicking the “Logout” button displayed at the upper right of each page completes the logging out. Execute from the login operation when the Web Tool is used again.

Navigation

A detailed menu for the menu item selected by the header or navigation is displayed. Clicking the menu displayed at the left of each page allows a migration to the selected page. Because each menu is linked to various pages, migration from the current page to the target page is enabled.

Main Window

The hierarchy is displayed lined up sequentially from the top page to the currently displayed page.
The position for which page is currently displayed can be grasped.

Footer

The copyrights are displayed. The copyrights are displayed at the position of the lower left of the screen.

1.3 Basic Operation Keys

“Cancel” button

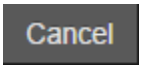


Figure 1-11 Cancel Button

Clicking the “Cancel” button discards the changes added to the displayed page and restores the previously saved state. Depending on the configuration item, a warning is displayed for confirmation on whether a change can be discarded.

“Save” button

Figure 1-12 Save Button

The changes added to the displayed page are saved or written to the repeater.
In the Maintenance menu and Administration menu, clicking the “Save” button saves and reflects the data in the repeater. In this case, clicking the “Update” button is not required.
In the Edit menu, although the changes added to the displayed page are saved by clicking the “Save” button, clicking the “Update” button is required to reflect in the repeater.

Clicking the “Save” button without entering the required entry items causes an entry error and Save cannot be done.

If the writing of FPU data is executed after the page is displayed, clicking the “Save” button fails, and the changes added to the page are discarded. If a page which can be changed by using the FPU is displayed, the changes made by the FPU are reflected on the page.
If the writing of FPU data is executed while Save is executed, although Save is executed normally, the changes by the FPU overwrite the update afterwards. If a page which can be changed by using the FPU is displayed, the changes made by the FPU are reflected when the page is next displayed (reflection does not occur instantaneously).

“Back” button

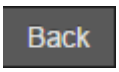


Figure 1-13 Back Button

Clicking the “Back” button discards the changes added to the displayed page and restores the previous page.

“Add” button

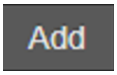


Figure 1-14 Add Button

Clicking the “Add” button adds the corresponding item.

“Delete” button

Figure 1-15 Delete Button

Clicking the “Delete” button deletes the corresponding item. A warning is displayed for confirmation on whether a deletion can be executed.

“Execute” button

Figure 1-16 Execute Button

Clicking the “Execute” button executes the function corresponding to the button.

Page Access Bar

Figure 1-17 Example of Page Access Bar

Page Access Bar allows a jump between pages in the configuration list which extends over multiple pages.
Page Access Bar is a key for an easy jump between pages in the configuration list which extends over multiple pages.
A maximum of 5 pages from the current page can be directly indicated by using the “|<<” key, “<” key, “>” key, and “>>|” key.
The displayed page number is displayed at the center. For example, if there are 10 pages in total, pages 3 to 8 are displayed at the center, page 1 is displayed to the far left, and page 10 is displayed to the far right.

Table 1-5 Page Access Bar

Key	Description
“|<<”	Allows a jump to the first page among the pages of the displayed configuration list.
“<”	Allows a jump to the previous page among the pages of the displayed configuration list.
“>”	Allows a jump to the next page among the pages of the displayed configuration list.
“>>|”	Allows a jump to the last page among the pages of the displayed configuration list.
“(page number)”	Allows a jump to the selected page number among the pages of the displayed configuration list.

2 DESCRIPTIONS OF CONFIGURATION ITEMS

2.1 Configuration Items

Configuration of Time

The time of the repeater can be configured by using **Time Setting**, which is a Web Tool function of the repeater. The time configured in the repeater is used when recording a log such as a communication log. For the **Time Adjustment** function by using the FPU to take effect, the data needs to be written with **Time Adjustment** enabled.

Table 2-1 Time Setting

Configuration	Description
NTP	The NTP Client and NTP Server functions can be configured for the repeater. The clock (the time) of the repeater can be matched according to the configuration.
Manual	If the repeater does not behave as an NTP Client, the clock (the time) can be matched manually.

If “NTP” is configured in **Time Setting**, a different repeater in the system or an external NTP server can be specified. The following indicates the repeater behavior when Time Adjustment is executed from the FPU:

Table 2-2 Repeater Behavior When Time Adjustment Is Executed

Status	NTP Master	NTP Member
Time Adjustment is executed by using the FPU.	The repeater follows the configuration of Time Adjustment.	The repeater follows the configuration of Time Setting (NTP Server).

Configuration by the FPU

The repeater supports the reading of data and writing of data from the FPU via an IP.

The following items can be configured via the FPU:

Table 2-3 Items Which Can Be Configured by Using the FPU

Item	Remark
Channel Information	-
Optional Features	-
Protocol Options	-
Function Port	-
Multiple Encode/Decode Table	-
User List	-
Conventional IP Network	-
Site Group Table	-
IP Interface	-
Console List	-
SIP Phone	-
Voice Logger	-
SNMP Settings	-
Test Frequency	-
Embedded Message	-
Embedded Message with Password	-

Note

- The delivery behavior by a Conventional IP Network is stopped if the IP address of the own site configured for the Conventional IP Network and the IP address configured in the repeater itself are different.
- The User List and Console List can also be configured from the Web Tool.
- For the User List and Console List configured by using the FPU to take effect, the configuration of Overwrite needs to be enabled when the data is written.

Configuration by Using the Web Tool

The following items can be configured via the Web Tool:

Table 2-4 Items Which Can Be Configured by Using the Web Tool

Item	Remark
User List	Refer to **User List**.
Console List	Refer to **Console List**.
Time Setting	Refer to **Time Setting**.
Own IP Setting	Refer to **IP Configuration**.
QoS	Refer to **IP Configuration**.
Hot Standby	Refer to **Hot Standby**.
Security	Refer to **Security**.
Formats	Refer to **Formats**.
Timer	Refer to **Timer**.
Administration	Refer to **Administration**.

To use the redundancy function by the main and sub repeaters, **Hot Standby** needs to be enabled. Main Repeater or Sub Repeater is configured for Hot Standby Mode if **Hot Standby** is enabled, and the configuration of Virtual IP Address is also done in either case (refer to Hot Standby). The behavior classifications of the physical IP address and Virtual IP Address when Hot Standby is enabled are shown below:

Table 2-5 Behavior Classifications of the Physical IP Address/ Virtual IP Address

Behavior	PIP (Physical IP Address)	VIP (Virtual IP Address)
Web Tool	✔	–
FPU	✔	–
IP Conventional	–	✔
VLI	–	✔
IPRCI	–	✔
NXIP	–	✔
AIS	–	✔
SIP Phone	–	✔
SNMP	✔	–
Hot Standby communication	✔	–
Multi Loader	✔	–

Note

- As FPU data, the IP address configured via the Web Tool for the repeater itself is available for viewing only.

2.2 Various Functions (Edit)

Home

Home is the function to confirm the configuration and status of the repeater.

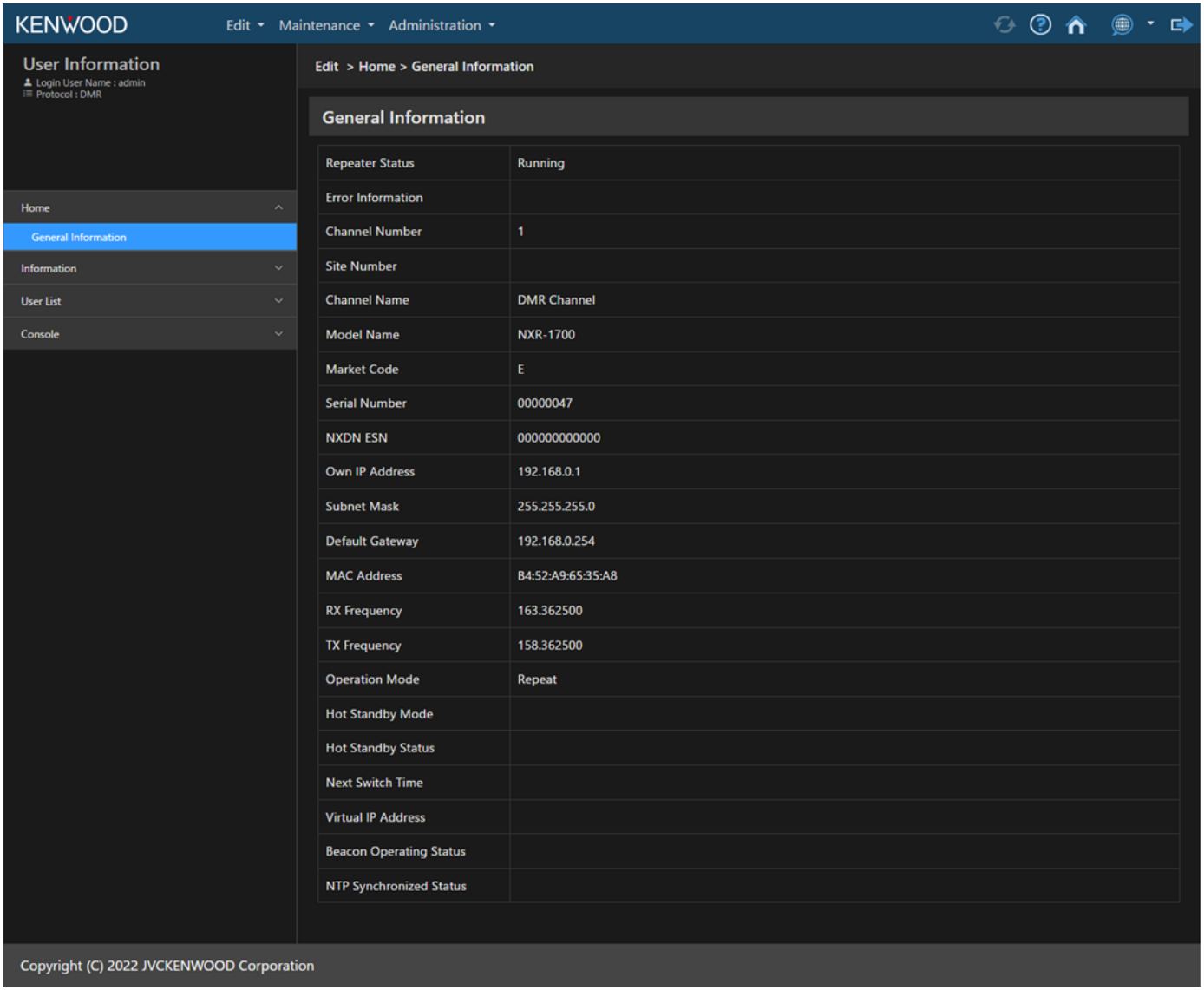


Figure 2-1 Home

Table 2-6 Home

Function	Description
Repeater Status	In Repeater Status, the operational status of the repeater is displayed. In Repeater Status, the display changes according to the status of the software that is open.
Error Information	In Error Information, the status of an error that occurred in the repeater is displayed. In Error Information, multiple errors can be displayed at the same time, and the errors are displayed in order by the lowest error number.
Channel Number	In Channel Number, the number of the selected channel is displayed.
Site Number	In Site Number, the number of the site configured for the selected channel is displayed.

Function	Description
Channel Name	In Channel Name, the name configured for the selected channel is displayed. **Note** ・ The repeater displays “Channel nn” (nn: 1 to 32 in Channel Number) in Channel Name for the channel with blank or only a space configured in **Channel Name**.
Model Name	In Model Name, the model name of the repeater is displayed.
Market Code	In Market Code, the market code of the repeater is displayed.
Serial Number	In Serial Number, the serial number assigned to the repeater is displayed.
NXDN ESN	In NXDN ESN, the NXDN ESN assigned to the repeater is displayed.
Own IP Address	In Own IP Address, the physical IP address configured for the repeater is displayed.
Subnet Mask	In Subnet Mask, the subnet mask for the physical IP address configured for the repeater is displayed.
Default Gateway	In Default Gateway, the default gateway for the physical IP address configured for the repeater is displayed.
MAC Address	In MAC Address, the MAC address assigned to the repeater is displayed.
RX Frequency	In RX Frequency, the receive frequency of the selected channel is displayed.
TX Frequency	In TX Frequency, the transmit frequency of the selected channel is displayed.
Operation Mode	In Operation Mode, the Operation Mode of the selected channel is displayed.
Hot Standby Mode	In Hot Standby Mode, the assignment information of Hot Standby configured for the repeater is displayed.
Hot Standby Status	In Hot Standby Status, the Hot Standby status of the repeater is displayed.
Next Switch Time	In Next Switch Time, the next date and time on which the Hot Standby status switches is displayed.
Virtual IP Address	In Virtual IP Address, the virtual IP address enabled while Hot Standby is active is displayed.
Beacon Operating Status	In Beacon Operating Status, the status of the Host Repeater is displayed. (Not displayed if Beacon is disabled.)
NTP Synchronized Status	In NTP Synchronized Status, the status of the synchronization of an NTP Client with an NTP Server is displayed. (Not displayed if “OFF” is configured in Valid for an NTP Client.)

If a channel change of the repeater occurs, the information related to the channel is tracked and refreshed.

Information

In Information, the unique information of the repeater and the function authorized by the license can be confirmed.

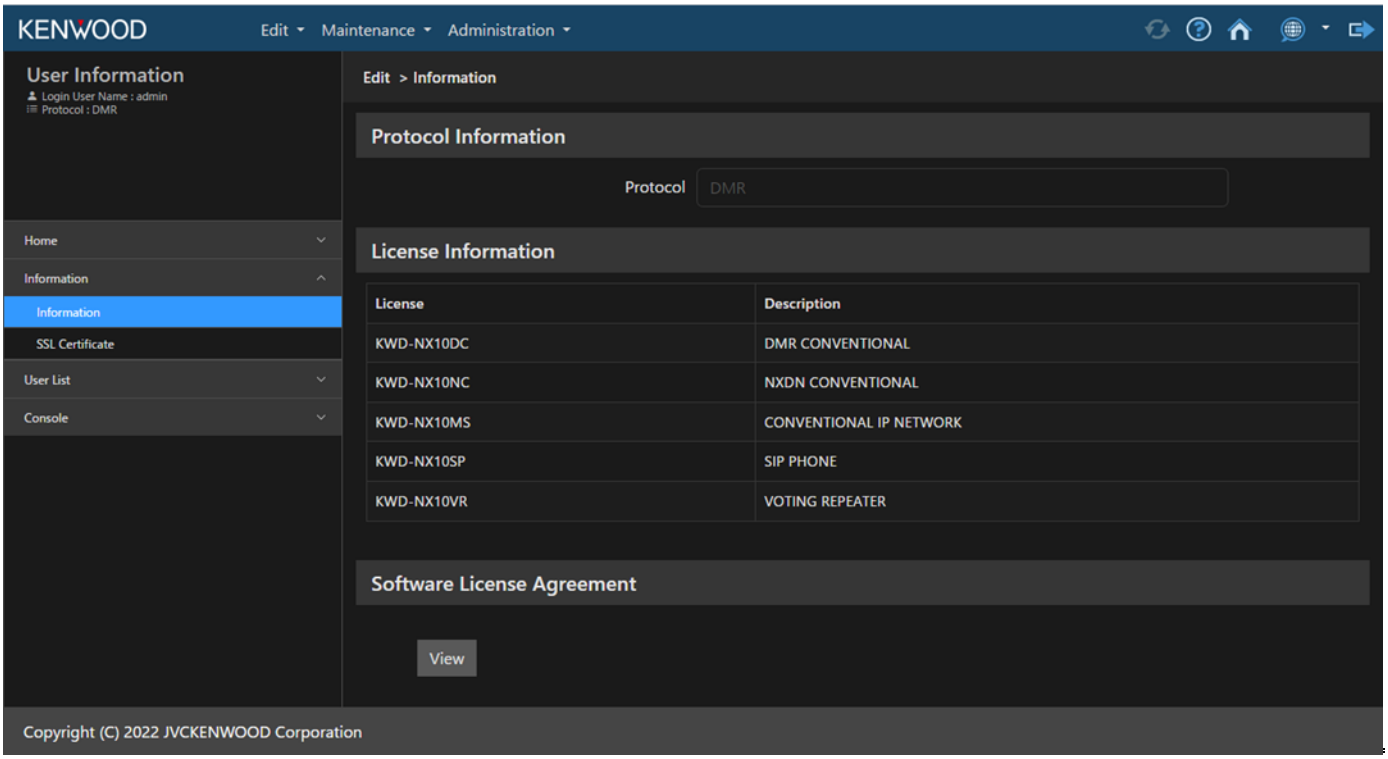


Figure 2-2 Information

Table 2-7 Information

Function	Description
Protocol Information	In Protocol Information, the protocol assigned to the logged in repeater is displayed. In Protocol, the function mode selected by using the FPU is displayed.
License Information	In License Information, the function authorized by the license is displayed. In License, the name of the function authorized by the license is displayed. In Description, the description of the function authorized by the license is displayed.
Software License Agreement	In Software License Agreement, the license articles related to the repeater are displayed. “View” button The license agreement of the repeater, the license articles of the OSS used by the repeater, and the important announcements regarding the software related to the repeater are displayed by clicking the “View” button.

SSL Certificate

SSL Certificate is the function to display the information of a server certificate registered in the repeater.

If Self-Signed Certificate is executed, the serial number of the repeater is displayed as the Common Name.

If a server certificate is uploaded to the repeater by using CA Certificate Install and **Apply CA Certificate** is enabled, the content of the uploaded server certificate is displayed.

If Self-Signed Certificate has never been executed, the information is not displayed.

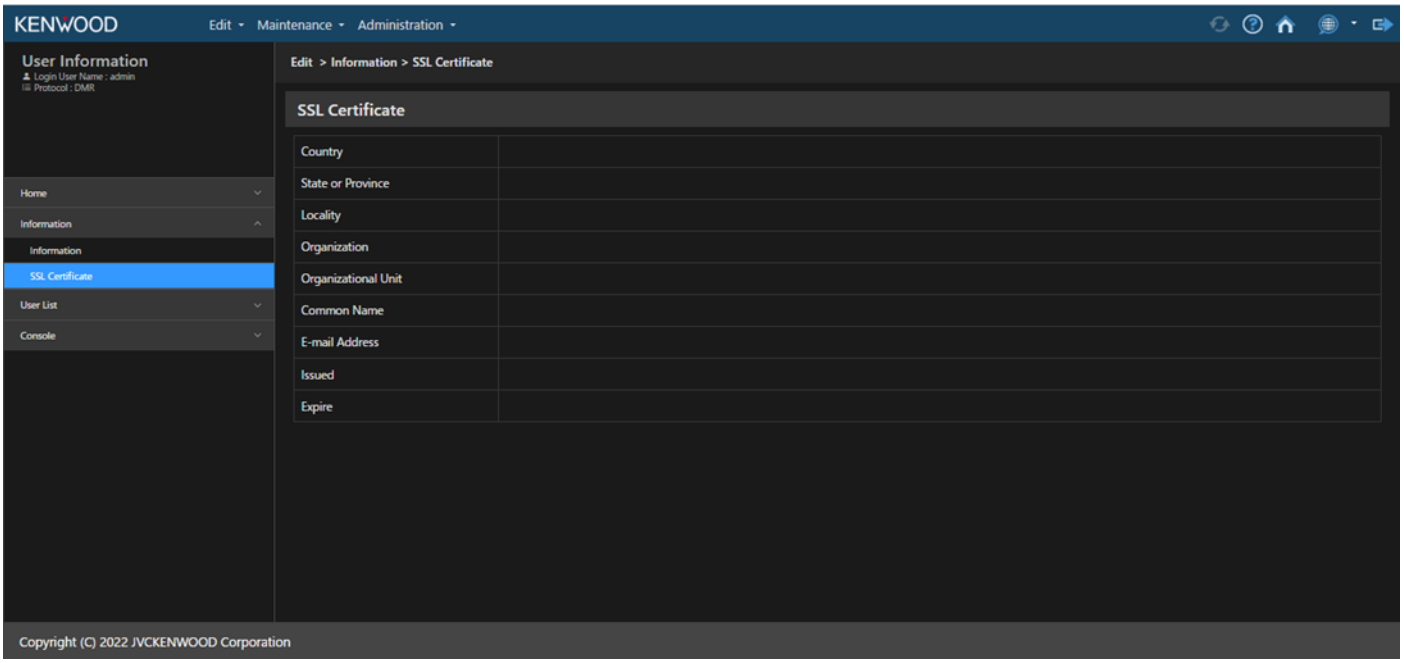


Figure 2-3 SSL Certificate

The following is the information specified by the user in the request (Certificate Signing Request) issued for acquiring a server certificate from the certificate authority:

Table 2-8 SSL Certificate

Function	Description
Country	Normally, the location (country name) of the site administration organization is specified.
State or Province	Normally, the location (state name or prefecture name) of the site administration organization is specified.
Locality	Normally, the location (city name) of the site administration organization is specified.
Organization	Normally, the site administration organization name is specified.
Organizational Unit	Normally, the department name, etc. of the site administration organization is specified.
Common Name	Normally, the URL domain name notified to a site visitor is specified.
E-mail Address	Normally, the email address of the site administration organization is specified.
Issued	The issued date of the applied server certificate is displayed.
Expire	The expiration date of the applied server certificate is displayed.

User List

GID List

GID List displays the list of the GIDs permitted for communication via the repeater.

In GID List, the GIDs permitted for the repeater can be confirmed by a list, and each GID can be edited by using each button for “Add”, “Delete”, and “Edit”. GID is an ID that indicates a group for making a communication, and a Group Call becomes available by using a GID.

In GID List, the following items are displayed:

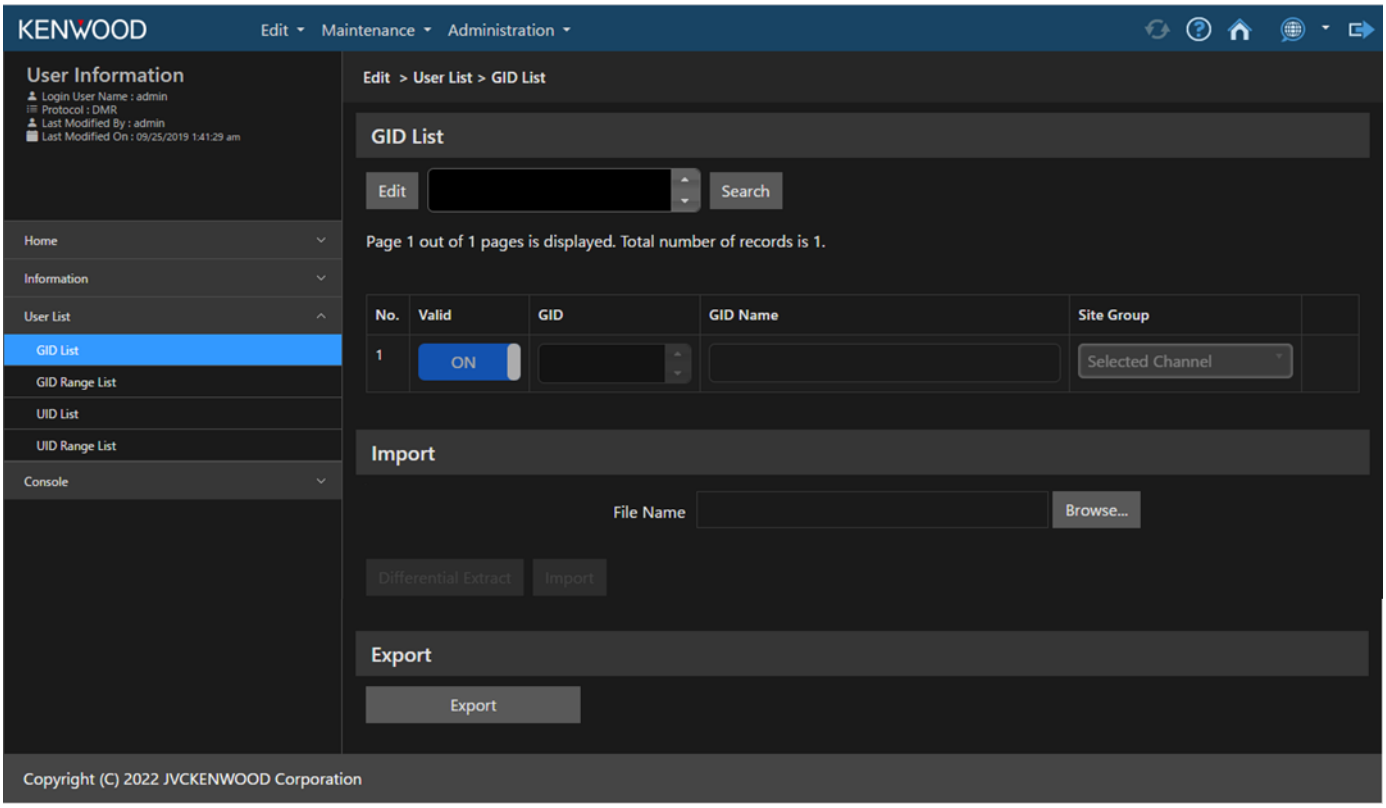


Figure 2-4 GID List

Table 2-9 GID List

Function	Description
No.	No. displays the order of the GID.
Valid	Valid is the function to select the availability of a GID. To temporarily suspend the use of a specific GID, the use of a specific GID can be temporarily suspended without deleting the configuration of the GID if Valid is disabled. “ON” The repeater is permitted to use a GID. A Group Call can be made by a GID permitted for a Console, the transceiver, or a SIP Phone. “OFF” The repeater is prohibited from using a GID. A Group Call cannot be made by a GID prohibited for a Console, the transceiver, or a SIP Phone.

Function	Description
GID	GID displays a configured GID. In GID, a GID to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use a GID with “ON” configured in Valid only. A Group Call cannot be made from a subscriber unit using a GID not registered in GID List. Even if a GID is registered, if Registration from a Console is not executed for the repeater by the GID, voice calls and data communication from the Console cannot be done by using the GID. For GID, a redundant value cannot be configured in GID List.
GID Name	GID Name displays the name of a GID configured in GID List. In GID Name, the name of the configured GID can be arbitrarily configured for each GID. By configuring GID Name, the identification or management of a GID can be easily done.
Site Group	Site Group displays the Site Group assigned to a GID. Site Group can specify the delivery area of an Intersite Call for a GID. When a Group Call is made for a GID, Intersite Call transmission occurs according to the configuration in Site Group. To use a Site Group Table for the delivery area, the Site Group Table is selected from the Site Group Table numbers registered by using the FPU.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.
File Name	File Name displays the file name of a CSV file for which Import or Differential Extract is done.
“Edit” button	Clicking the “Edit” button switches GID List to an edit screen, and the addition and editing of a GID on GID List can be done. In an edit screen, the “Add” button, “Save” button, “Cancel” button, and “Delete” button can be operated.
“Add” button	A GID can be added by clicking the “Add” button. The “Add” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Save” button	The content of GID List that is edited can be saved by clicking the “Save” button. The “Save” button is displayed by clicking the “Edit” button to switch to an edit screen. If migrating to another menu screen without a click of the “Save” button after changes are made in an edit screen, a warning appears regarding the migration without saving the changes.

Function	Description
“Cancel” button	The “Cancel” button is to discard the changes added to the displayed page and restores the Save state of before the changes. The “Cancel” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Delete” button	A GID can be deleted by clicking the “Delete” button. The “Delete” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Search” button	GID List is searched based on the number of a GID by clicking the “Search” button. The GID for which the search result and a GID fully match is displayed.
“Browse...” button	The “Browse...” button is to select the GID List file for executing Import or Differential Extract.
“Differential Extract” button	The “Differential Extract” button is to output as a CSV file the data contents (additions, edits, deletions) to be applied after the execution of Import.
“Import” button	The “Import” button is to execute the import of information related to the GID List.
“Export” button	The “Export” button is to execute Export of the GID List information.

GID Range List

In GID Range List, GID Range permitted for the repeater can be confirmed by a list, and each GID Range can be edited by using the “Add” button, “Delete” button, and “Edit” button. In GID Range List, the following items are displayed:

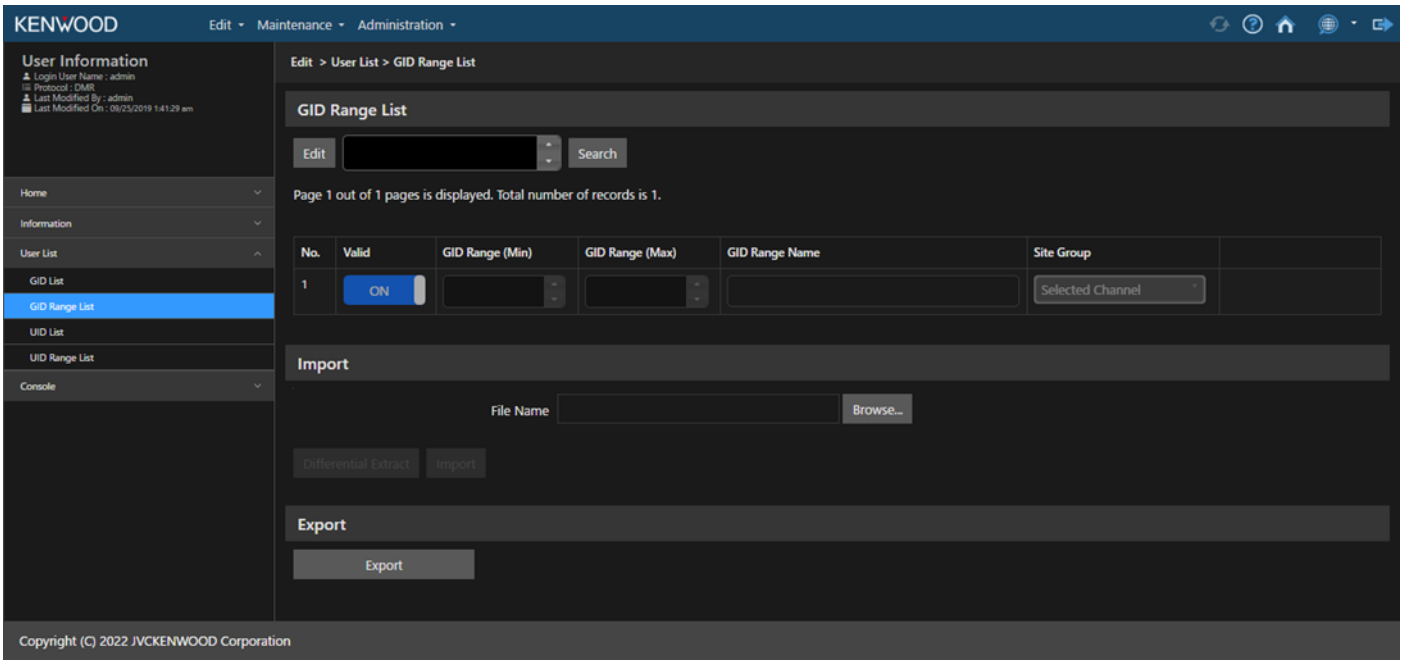


Figure 2-5 GID Range List

Table 2-10 GID Range List

Function	Description
No.	No. displays the order of the GID.
Valid	Valid is the function to select the availability of a GID Range. To temporarily suspend the use of a specific GID Range, the use of a specific GID Range can be temporarily suspended without deleting the configuration of the GID Range if Valid is disabled. “ON” The repeater is permitted to use a GID Range. A Group Call can be made by a GID within a GID Range permitted for a Console, the transceiver, or a SIP Phone. “OFF” The repeater is prohibited from using a GID Range. A Group Call cannot be made by a GID within a GID Range prohibited for a Console, the transceiver, or a SIP Phone.

Function	Description
GID Range (Min)	GID Range (Min) displays the lower limit of the configured GID Range. In GID Range (Min), the lower limit of a GID Range to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use GID Range with “ON” configured in Valid only. A Group Call cannot be made from a subscriber unit using a GID not included in GID Range. Even if a GID is included in GID Range, if Registration from a Console is not executed for the repeater by the GID, voice calls and data communication from the Console cannot be done by using the GID. For GID Range, a redundant value cannot be configured in GID Range List.
GID Range (Max)	GID Range (Max) displays the upper limit of a configured GID Range. In GID Range (Max), the upper limit of a GID Range to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use GID Range with “ON” configured in Valid only. A Group Call cannot be made from a subscriber unit using a GID not included in GID Range. Even if a GID is included in GID Range, if Registration from a Console is not executed for the repeater by the GID, voice calls and data communication from the Console cannot be done by using the GID. For GID Range, a redundant value cannot be configured in GID Range List.
GID Range Name	GID Range Name displays the name of a GID Range configured in GID Range List. In GID Range Name, the name of a GID Range can be arbitrarily configured. By configuring GID Range Name, the identification or management of a GID Range can be easily done.
Site Group	Site Group can specify the delivery area of an Intersite Call for a GID Range. When a Group Call is made for a GID within a GID Range, Intersite Call transmission occurs according to the configuration in Site Group. To use a Site Group Table for the delivery area, the Site Group Table is selected from the Site Group Table numbers registered by using the FPU.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.
File Name	File Name displays the file name of a CSV file for which Import or Differential Extract is done.

Function	Description
“Edit” button	Clicking the “Edit” button switches GID Range List to an edit screen, and the addition and editing of a GID Range on GID Range List can be done. In an edit screen, the “Add” button, “Save” button, “Cancel” button, and “Delete” button can be operated.
“Cancel” button	The “Cancel” button is to discard the changes added to the displayed page and restores the Save state of before the changes. The “Cancel” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Save” button	The content of GID Range List that is edited can be saved by clicking the “Save” button. The “Save” button is displayed by clicking the “Edit” button to switch to an edit screen. If migrating to another menu screen without a click of the “Save” button after changes are made in an edit screen, a warning appears regarding the migration without saving the changes.
“Delete” button	A GID Range can be deleted by clicking the “Delete” button. The “Delete” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Add” button	A GID Range can be added by clicking the “Add” button. The “Add” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Search” button	GID Range List is searched based on the number of a GID by clicking the “Search” button. The GID Range for which the search result and a GID fully match is displayed.
“Browse...” button	The “Browse...” button is to select the GID Range List file for executing Import or Differential Extract.
“Differential Extract” button	The “Differential Extract” button is to output as a CSV file the data contents (additions, edits, deletions) to be applied after the execution of Import.
“Import” button	The “Import” button is to execute the import of information related to the GID Range List.
“Export” button	The “Export” button is to execute Export of the GID Range List information.

UID List

UID List displays the list of UIDs permitted for communication via the repeater.

In UID List, the UIDs permitted for the repeater can be confirmed by a list, and each UID can be edited by using each button for “Add”, “Delete”, and “Edit”. UID is an ID that indicates an individual for making a communication, and an Individual Call becomes available by using a UID.

In UID List, the following items are displayed:

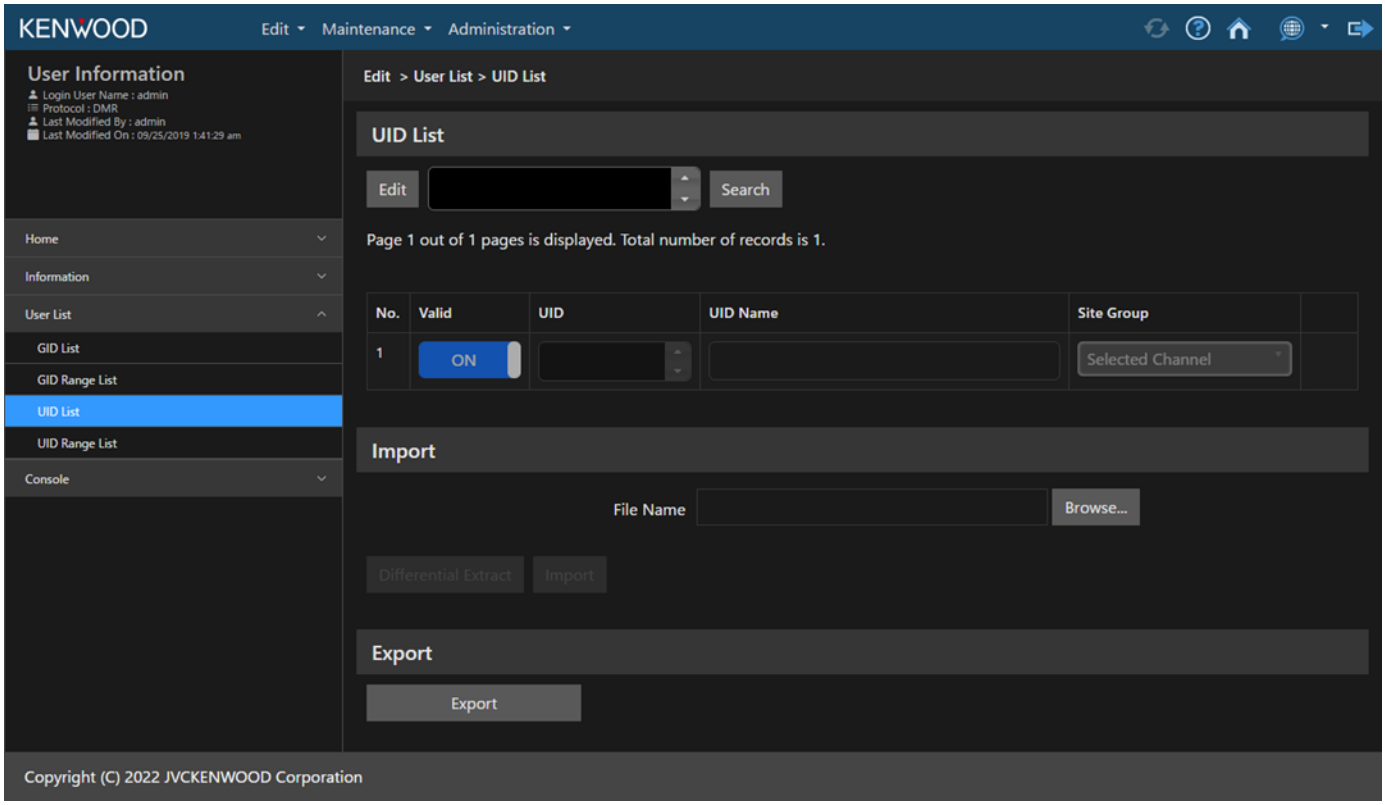


Figure 2-6 UID List

Table 2-11 UID List

Function	Description
No.	No. displays the order of the UID.
Valid	Valid is the function to select the availability of a UID. To temporarily suspend the use of a specific UID, the use of a specific UID can be temporarily suspended without deleting the configuration of the UID if Valid is disabled. “ON” The repeater is permitted to use a UID. Communication can be performed by a Console or the transceiver of the permitted UID. “OFF” The repeater is prohibited from using a UID. Communication cannot be performed by a Console or the transceiver of the prohibited UID.

Function	Description
UID	UID displays a configured UID. In UID, a UID to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use a UID with “ON” configured in Valid only. Communication from the transceiver or a Console of a UID not permitted in the UID List cannot be performed. For a UID, a redundant value cannot be configured in UID List.
UID Name	UID Name displays the name of a UID configured in UID List. In UID Name, the name of the configured UID can be arbitrarily configured for each UID. By configuring UID Name, the identification or management of a UID can be easily done.
Site Group	Site Group displays the Site Group assigned to a UID. Site Group can specify the delivery area of an Intersite Call for a UID. When an Individual Call is made for a UID, Intersite Call transmission occurs according to the configuration in Site Group. To use a Site Group Table for the delivery area, the Site Group Table is selected from the Site Group Table numbers registered by using the FPU.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.
File Name	File Name displays the file name of a CSV file for which Import or Differential Extract is done.
“Edit” button	Clicking the “Edit” button switches UID List to an edit screen, and the addition and editing of a UID on UID List can be done. In an edit screen, the “Add” button, “Save” button, “Cancel” button, and “Delete” button can be operated.
“Cancel” button	The “Cancel” button is to discard the changes added to the displayed page and restores the Save state of before the changes. The “Cancel” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Save” button	The content of UID List that is edited can be saved by clicking the “Save” button. The “Save” button is displayed by clicking the “Edit” button to switch to an edit screen. If migrating to another menu screen without a click of the “Save” button after changes are made in an edit screen, a warning appears regarding the migration without saving the changes.
“Delete” button	A UID can be deleted by clicking the “Delete” button. The “Delete” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Add” button	A UID can be added by clicking the “Add” button. The “Add” button is displayed by clicking the “Edit” button to switch to an edit screen.

Function	Description
“Search” button	UID List is searched based on the number of a UID by clicking the “Search” button. The UID for which the search result and a UID fully match is displayed.
“Browse...” button	The “Browse...” button is to select the UID List file for executing Import or Differential Extract.
“Differential Extract” button	The “Differential Extract” button is to output as a CSV file the data contents (additions, edits, deletions) to be applied after the execution of Import.
“Import” button	The “Import” button is to execute the import of information related to the UID List.
“Export” button	The “Export” button is to execute Export of the UID List information.

UID Range List

In UID Range List, UID Range permitted for the repeater can be confirmed by a list, and each UID Range can be edited by using the “Add” button, “Delete” button, and “Edit” button. In UID Range List, the following items are displayed:

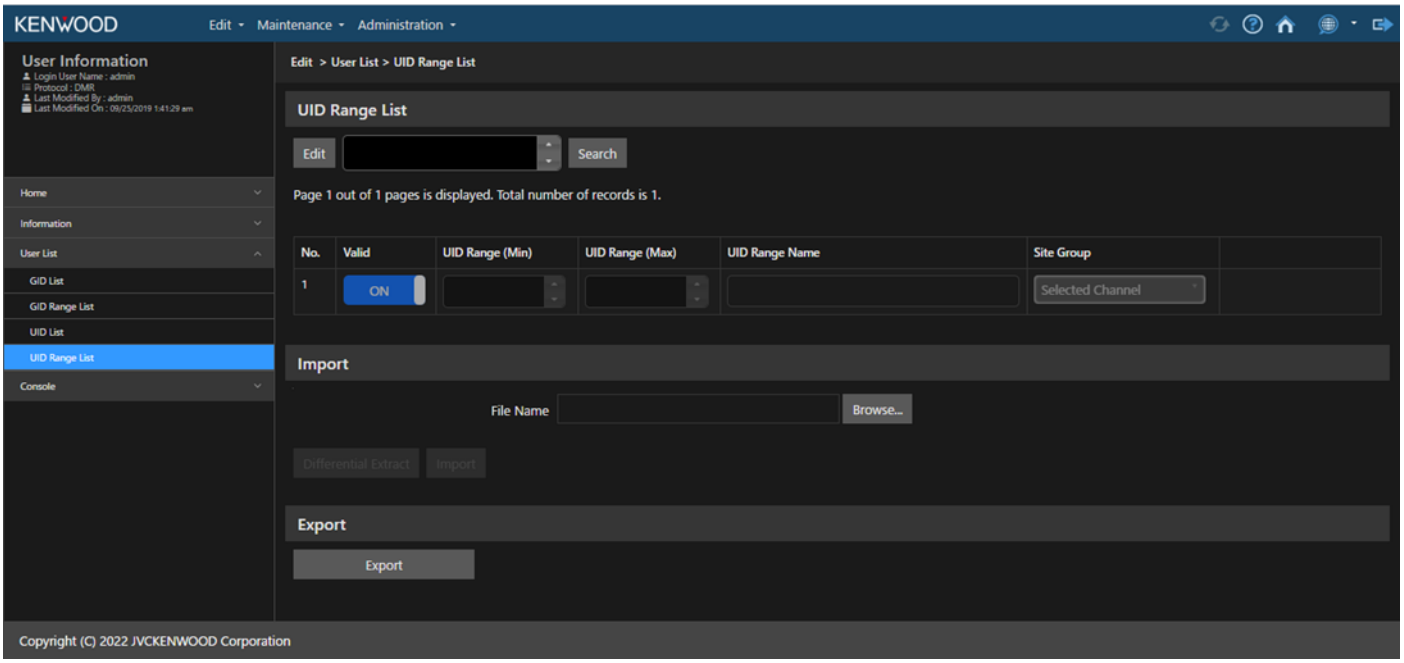


Figure 2-7 UID Range List

Table 2-12 UID Range List

Function	Description
No.	No. displays the order of the UID.
Valid	Valid is the function to select the availability of a UID Range. To temporarily suspend the use of a specific UID Range, the use of a specific UID Range can be temporarily suspended without deleting the configuration of the UID Range if Valid is disabled. “ON” The repeater is permitted to use a UID Range. A Console or the transceiver within the range of the permitted UID Range can perform communication. “OFF” The repeater is prohibited from using a UID Range. A Console or the transceiver within the range of the prohibited UID Range cannot perform communication.

Function	Description
UID Range (Min)	UID Range (Min) displays the lower limit of a configured UID Range. In UID Range (Min), the lower limit of a UID Range to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use UID Range with “ON” configured in Valid only. The transmission to the repeater cannot be executed from a UID not included in UID Range or with “OFF” configured in Valid. For UID Range, a redundant value cannot be configured in UID Range List.
UID Range (Max)	UID Range (Max) displays the upper limit of a configured UID Range. In UID Range (Max), the upper limit of a UID Range to be used for the transceiver, a Console, and a SIP Phone can be registered and edited. The repeater is permitted to use UID Range with “ON” configured in Valid only. The transmission to the repeater cannot be executed from a UID not included in UID Range or with “OFF” configured in Valid. For UID Range, a redundant value cannot be configured in UID Range List.
UID Range Name	UID Range Name displays the name of a UID Range configured in UID Range List. In UID Range Name, the name of a UID Range can be arbitrarily configured. By configuring UID Range Name, the identification or management of a UID Range can be easily done.
Site Group	Site Group can specify the delivery area of an Intersite Call for a UID Range. When an Individual Call is made for a UID within a UID Range, Intersite Call transmission occurs according to the configuration in Site Group. To use a Site Group Table for the delivery area, the Site Group Table is selected from the Site Group Table numbers registered by using the FPU.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.
File Name	File Name displays the file name of a CSV file for which Import or Differential Extract is done.
“Edit” button	The “Edit” button allows the configuration of a UID Range to be edited. Clicking the “Edit” button switches UID Range List to an edit screen, and the addition and editing of a UID Range on UID Range List can be done. In an edit screen, the “Add” button, “Save” button, “Cancel” button, and “Delete” button can be operated.

Function	Description
“Cancel” button	The “Cancel” button is to discard the changes added to the displayed page and restores the Save state of before the changes. The “Cancel” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Save” button	The content of UID Range List that is edited can be saved by clicking the “Save” button. The “Save” button is displayed by clicking the “Edit” button to switch to an edit screen. If migrating to another menu screen without a click of the “Save” button after changes are made in an edit screen, a warning appears regarding the migration without saving the changes.
“Delete” button	A UID Range can be deleted by clicking the “Delete” button. The “Delete” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Add” button	A UID Range can be added by clicking the “Add” button. The “Add” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Search” button	UID Range List is searched based on the number of a UID by clicking the “Search” button. The UID Range for which the search result and a UID fully match is displayed.
“Browse...” button	The “Browse...” button is to select the UID Range List file for executing Import or Differential Extract.
“Differential Extract” button	The “Differential Extract” button is to output as a CSV file the data contents (additions, edits, deletions) to be applied after the execution of Import.
“Import” button	The “Import” button is to execute the import of information related to the UID Range List.
“Export” button	The “Export” button is to execute Export of the UID Range List information.

Console List

This displays the list of the Consoles connected to the repeater. In Console List, the list of Consoles connected to the repeater can be confirmed, and each Console can be edited by using Add/Delete/Edit. In Console List, the following items are displayed:

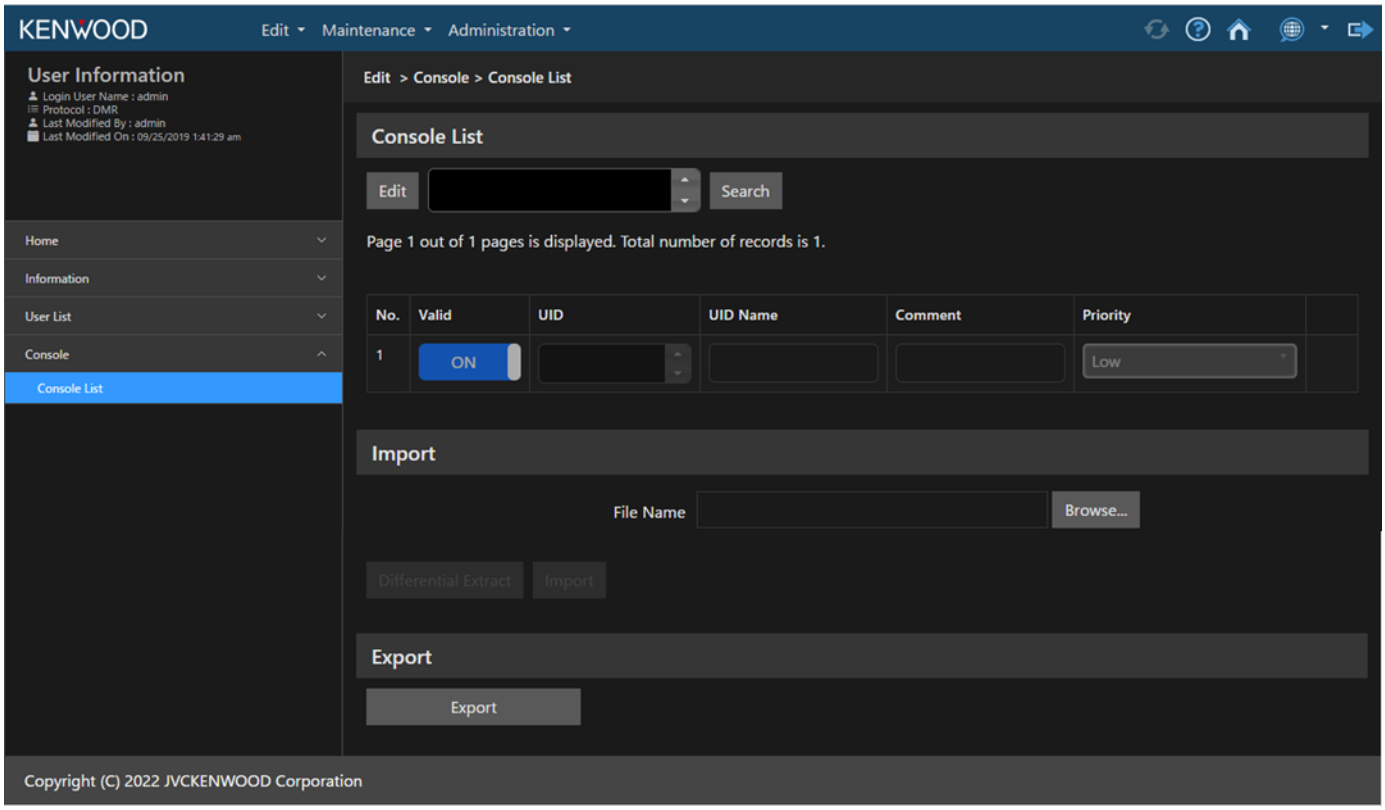


Figure 2-8 Console List

Table 2-13 Console List

Function	Description
No.	The order of Console List is displayed.
Valid	**Valid** is the function to select the availability of a configured Console. To temporarily suspend the use of a specific Console, the temporary suspension of the use of a specific Console can be realized without deleting the configuration of the Console by disabling **Valid**. "ON" The repeater is permitted to use a Console. "OFF" The repeater is prohibited from using a Console.
UID	The repeater is permitted to use a Console for which a UID is assigned only. For UID, a redundant value cannot be configured. Even if a UID is registered, if Registration from a Console UID is not executed for the repeater, voice calls and data communication cannot be done by using the Console UID. **UID** displays the UID configured for a Console.

Function	Description
UID Name	**UID Name** is the name indicating a UID assigned to a Console. In **UID Name**, the desired name can be configured. **UID Name** is configured for the identification and management of a Console by using a name. **UID Name** configured for each Console can be confirmed in a list of Console List.
Comment	**Comment** is the function to enter a desired text string for easily confirming a registered Console in the Web Tool.
Priority	**Priority** is the function to display the transmission priority configured in a Console. Refer to Priority for details.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.
“Edit” button	Clicking the “Edit” button switches Console List to an edit screen, and the addition and editing of a Console on Console List can be done. In an edit screen, the “Add” button, “Save” button, “Cancel” button, and “Delete” button can be operated.
“Cancel” button	The “Cancel” button is to discard the changes added to the displayed page and restores the Save state of before the changes. The “Cancel” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Save” button	The content of Console List that is edited can be saved by clicking the “Save” button. The “Save” button is displayed by clicking the “Edit” button to switch to an edit screen. If migrating to another menu screen without a click of the “Save” button after changes are made in an edit screen, a warning appears regarding the migration without saving the changes.
“Delete” button	A Console can be deleted by clicking the “Delete” button. The “Delete” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Add” button	A Console can be added by clicking the “Add” button. The “Add” button is displayed by clicking the “Edit” button to switch to an edit screen.
“Search” button	Console List is searched based on the number of a UID by clicking the “Search” button. The Console List for which the search result and a UID fully match is displayed.
“Browse...” button	The “Browse...” button is to select the Console List file for executing Import or Differential Extract.
“Differential Extract” button	The “Differential Extract” button is to output as a CSV file the data contents (additions, edits, deletions) to be applied after the execution of Import.
“Import” button	The “Import” button is to execute the import of information related to the Console List.
“Export” button	The “Export” button is to execute Export of the Console List information.

Priority

In **Priority**, the priority order of each Console for using the Conventional repeater is configured.
If the repeater is being used for transmission from another Console having a lower priority while a Console having a higher priority executes voice communication and data transmission, the Console having a higher priority is reserved as the next user of the repeater. When the transmission by a Console having a lower priority ends, the repeater disconnects the communication and switches to the transmission from the reserved Console without entering Hangtimer/ Hold Timer. If transmission from a specific Console needs to be prioritized, this function enables transmission from the Console as much as possible. The following are behaviors depending on the **Priority** configuration if another Console is transmitting when a Console makes a call request:

Table 2-14 Repeater Behavior Depending on Priority

Priority of the Console Making a Call Request	Repeater Behavior
When higher than that of the transmitting Console	The repeater accepts the call request from the Console, and the use of the repeater is reserved. The repeater switches to the transmission by the reserved Console after the transmission by the transmitting Console ends.
When lower than that of the transmitting Console, or when the same	The repeater rejects the call request from the Console, and the communication by the transmitting Console continues.

This function determines the Console to use the repeater by the priority order of the Consoles. The behavior when a Console makes a call request while the repeater is in use by another PTT control follows the configuration in **PTT Priority**.
If a call request is reserved from another Console having a higher priority while a Console is sending data, the repeater switches to transmission from the reserved Console, when the data communication is completed to the end.
The Priority behavior of each Console behaves only when a communication where the combination of the Signaling, ID, and Call Type differs from that of the communication already occurring on the repeater.
For a communication where the combination of the Signaling, ID, and Call Type is the same as that of the communication already occurring on the repeater, the repeater rejects the call request from a Console regardless of the priority order.

2.3 Maintenance Functions (Maintenance)

Log

Communication Log

Communication Log is the record of a voice call or data communication that occurs in a system. Refer to the Function Reference for details of the function. The Web Tool screen and button names, etc. are described here:

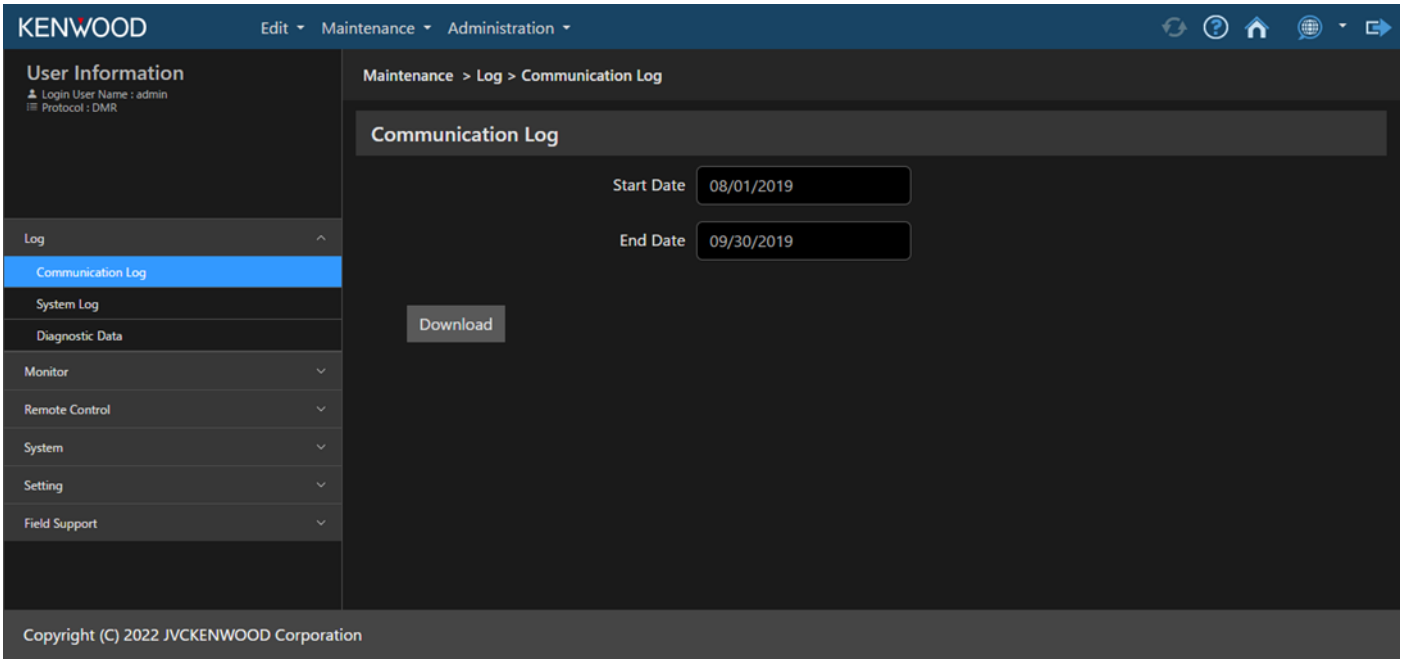


Figure 2-9 Communication Log

Table 2-15 Start Date/ End Date (Communication Log)

Function	Description
Start Date	In Start Date and End Date, the year, month, and day to start acquiring Communication Log and the year, month, and day to finish acquiring can be entered. Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, Communication Log of the period to be acquired can be downloaded.
End Date	
“Download” button	Clicking the “Download” button downloads Communication Log to a PC. By downloading a Communication Log, the contents of the record of a voice call or data communication that occurs in a system can be confirmed. While Communication Log is being downloaded, the progress status is displayed. The downloading of Communication Log can be stopped by clicking the “Cancel” button.

The display format of the year, month, and day follows the configuration in **Date Format**.

If a year, month, and day later than **End Date** is entered in **Start Date**, the “Download” button cannot be clicked, and the download cannot be executed.

Note

- Communication Log is recorded on the repeater when a channel with one of “Repeat”, “RF Link”, or “Voting Repeater” configured in **Operation Mode** is selected.

System Log

System Log is the record of changes in the status of the repeater, user operations, etc.

Refer to the Function Reference for details of the function. The Web Tool screen and button names, etc. are described here:

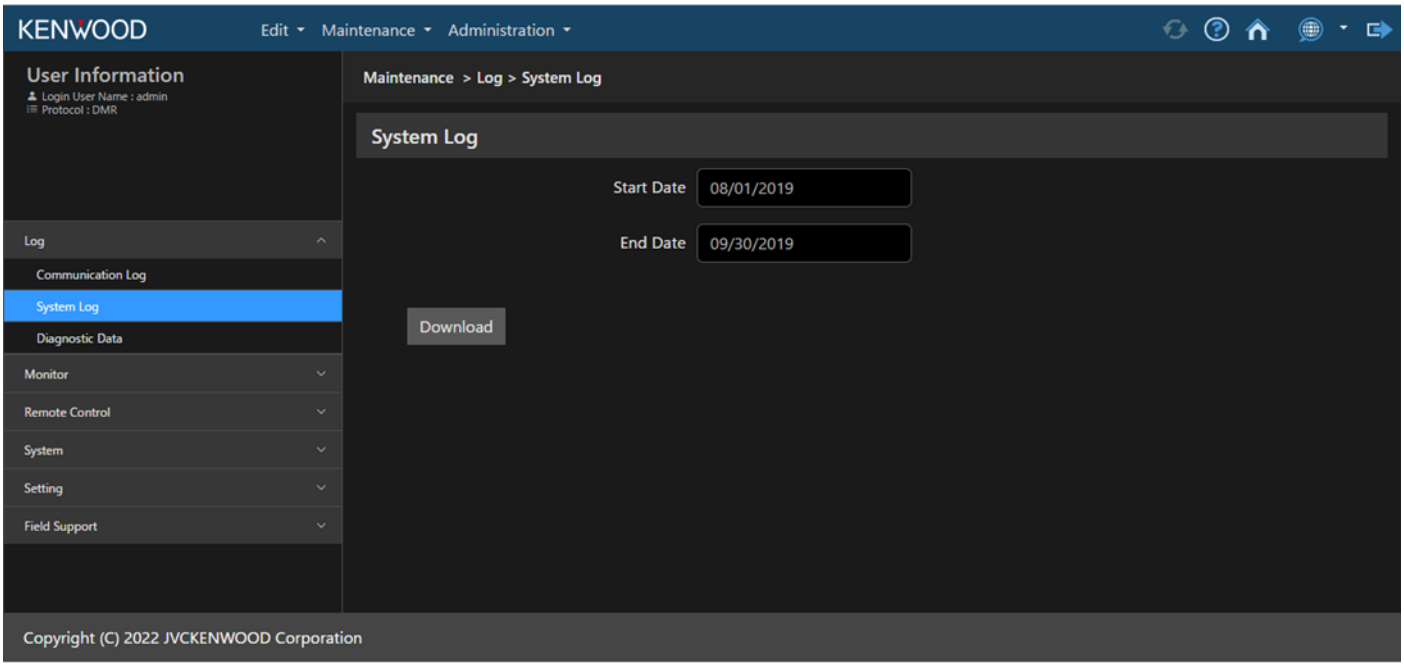


Figure 2-10 System Log

Table 2-16 Start Date/ End Date (System Log)

Function	Description
Start Date	In Start Date and End Date, the year, month, and day to start acquiring System Log and the year, month, and day to finish acquiring can be entered. Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, System Log of the period to be acquired can be downloaded.
End Date	
“Download” button	Clicking the “Download” button downloads System Log to a PC. By downloading a System Log, the recorded contents of changes in the status of the repeater, user operations, etc. can be confirmed. While System Log is being downloaded, the progress status is displayed. The downloading of System Log can be stopped by clicking the “Cancel” button.

The display format of the year, month, and day follows the configuration in **Date Format**.

If a year, month, and day later than **End Date** is specified in **Start Date**, the “Download” button cannot be clicked, and the download cannot be executed.

Diagnostic Data

Diagnostic Data is the record of the internal information (various logs, etc.) of the repeater. Refer to the Function Reference for details of the function. The Web Tool screen and button names, etc. are described here:

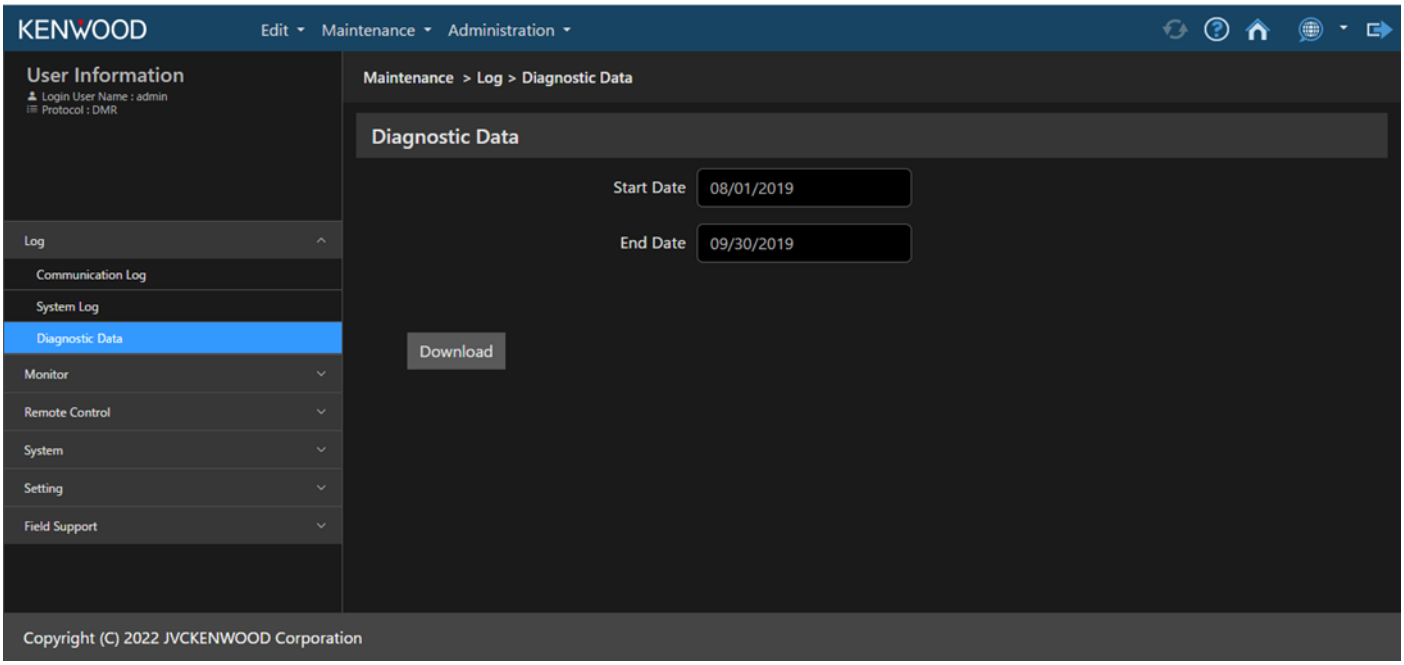


Figure 2-11 Diagnostic Data

Table 2-17 Start Date/ End Date (Diagnostic Data)

Function	Description
Start Date	In Start Date and End Date, the year, month, and day to start acquiring Diagnostic Data and the year, month, and day to finish acquiring can be entered. Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, Diagnostic Data of the period to be acquired can be downloaded.
End Date	
“Download” button	Clicking the “Download” button downloads Diagnostic Data to a PC. The contents of internal information (various logs, etc.) of the repeater can be confirmed by downloading Diagnostic Data. While Diagnostic Data is being downloaded, the progress status is displayed. The downloading of Diagnostic Data can be stopped by clicking the “Cancel” button.

The display format of the year, month, and day follows the configuration in **Date Format**.

If a year, month, and day later than **End Date** is specified in **Start Date**, the “Download” button cannot be clicked, and the download cannot be executed.

Monitor

Call Monitor

Call Monitor is the function to monitor the communication in a system in real time.

By **Call Monitor**, the type, caller and destination IDs, etc. of the call that is occurring in a system that includes the repeater can be confirmed.

In **Call Monitor**, Voice Call, Phone Call and Long Data Call can be monitored. Also, the Voice Call, Phone Call and Long Data Call in communication are displayed. The monitor display turns off after the communication ends.

When **Call Monitor** is performed on a channel with “Voting Repeater” configured in **Operation Mode**, the items of **Selected Voting Receiver** and **RSSI** are displayed in the Call Monitor screen.

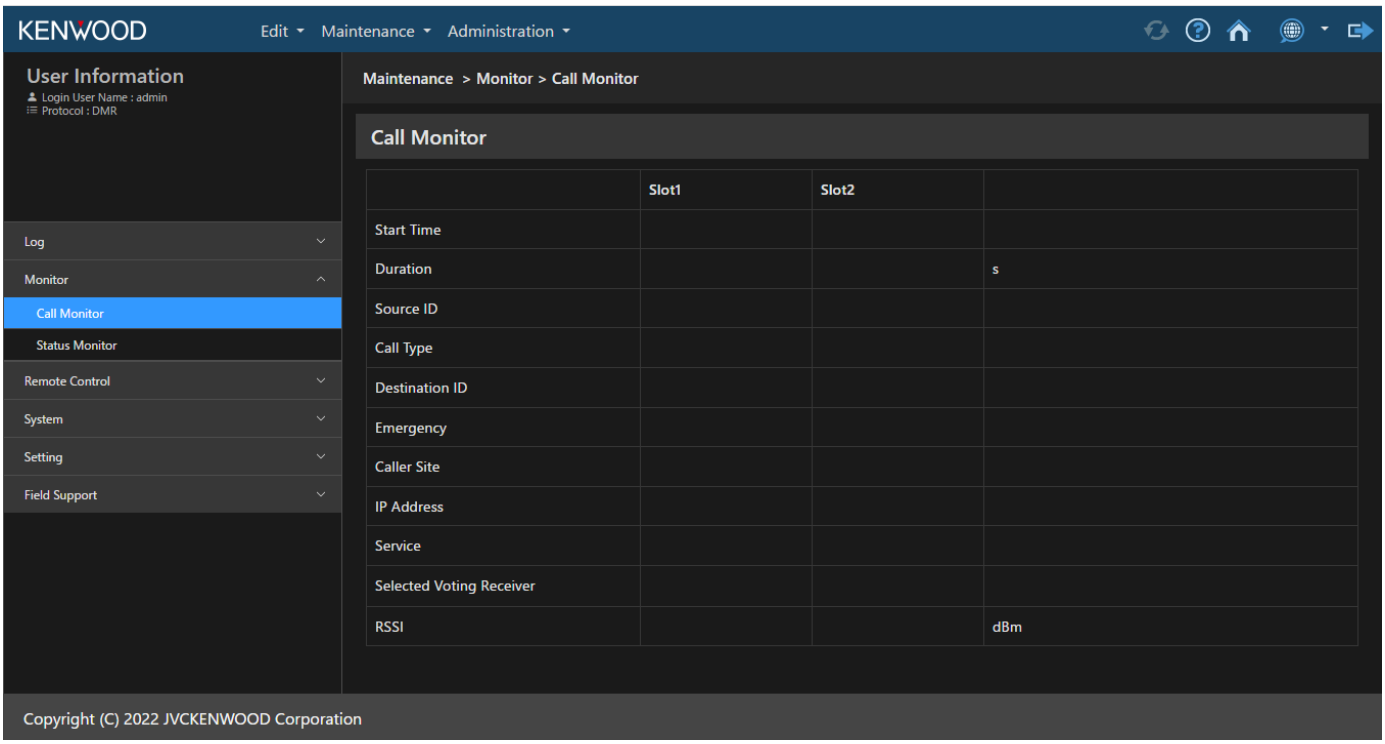


Figure 2-12 Call Monitor (DMR)

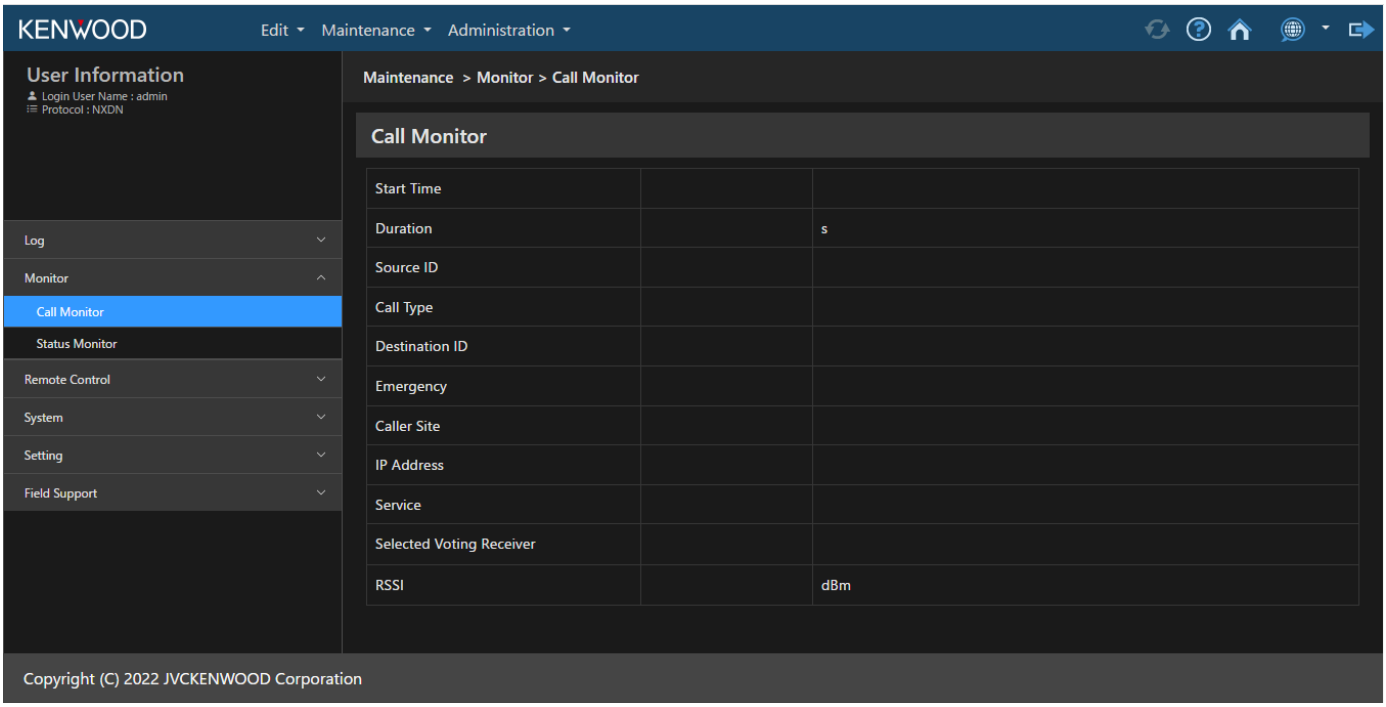


Figure 2-13 Call Monitor (NXDN, Analog)

Table 2-18 Call Monitor

Function	Description
Start Time	Displays the start time of the communication.
Duration	Displays the duration from the start of the communication up to the present.
Source ID	Displays the caller ID.
Call Type	Displays the call type.
Destination ID	Displays the destination ID.
Emergency	Displays that the communication is in Emergency mode.
Caller Site	Displays the caller site.
IP Address	Displays the IP address of the caller site.
Service	Displays the communication type.
Selected Voting Receiver	Displays the IP address of the currently accessed Voting Receiver.
RSSI	Displays the signal strength level of the communication being received by the currently accessed Voting Receiver.

Status Monitor

Status Monitor is the function to monitor the status of the repeater in real time. By **Status Monitor**, the receive status, transmit status, hardware status, error status, Function Port status, etc. of the repeater can be confirmed.

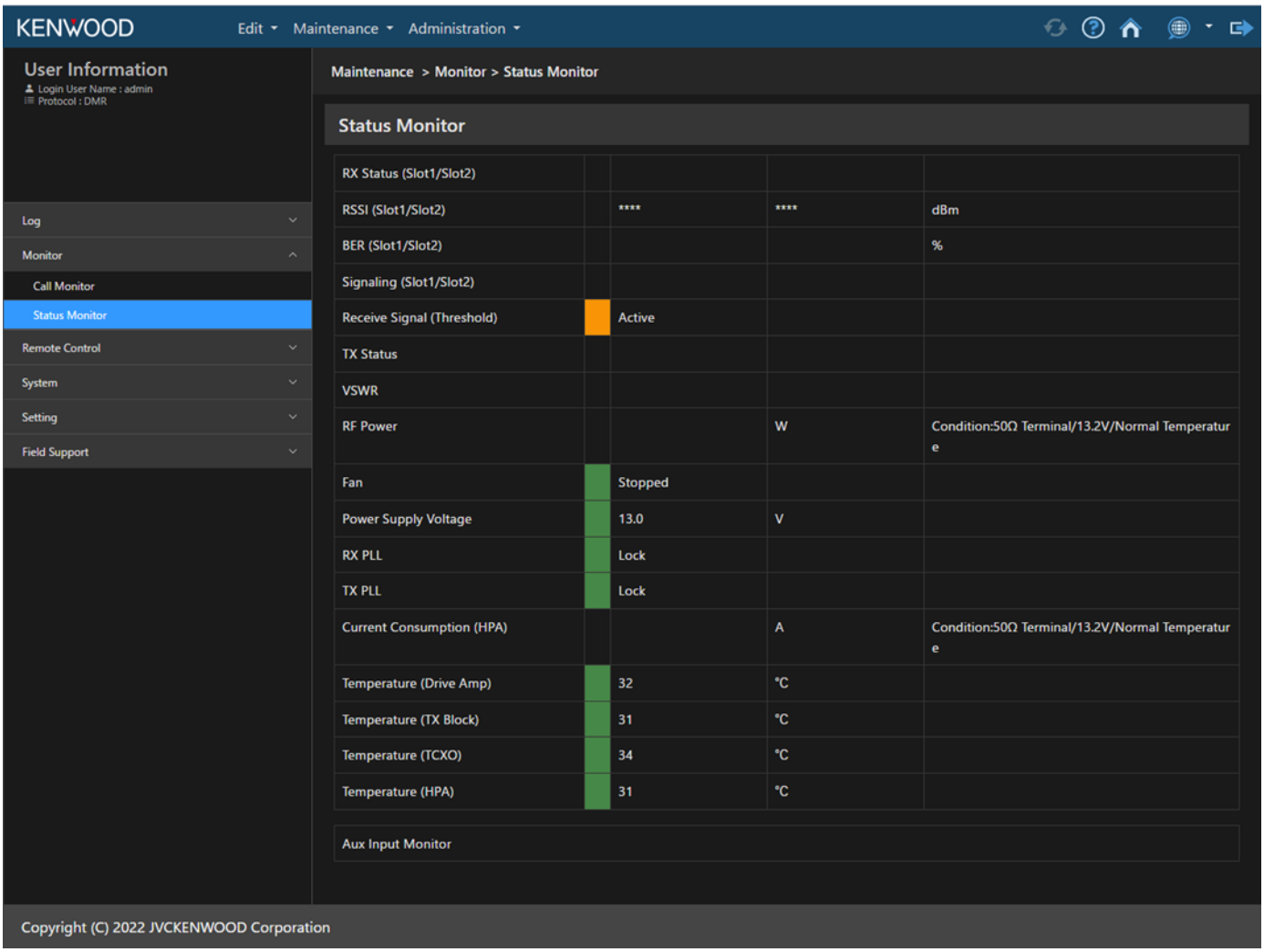


Figure 2-14 Status Monitor (DMR)

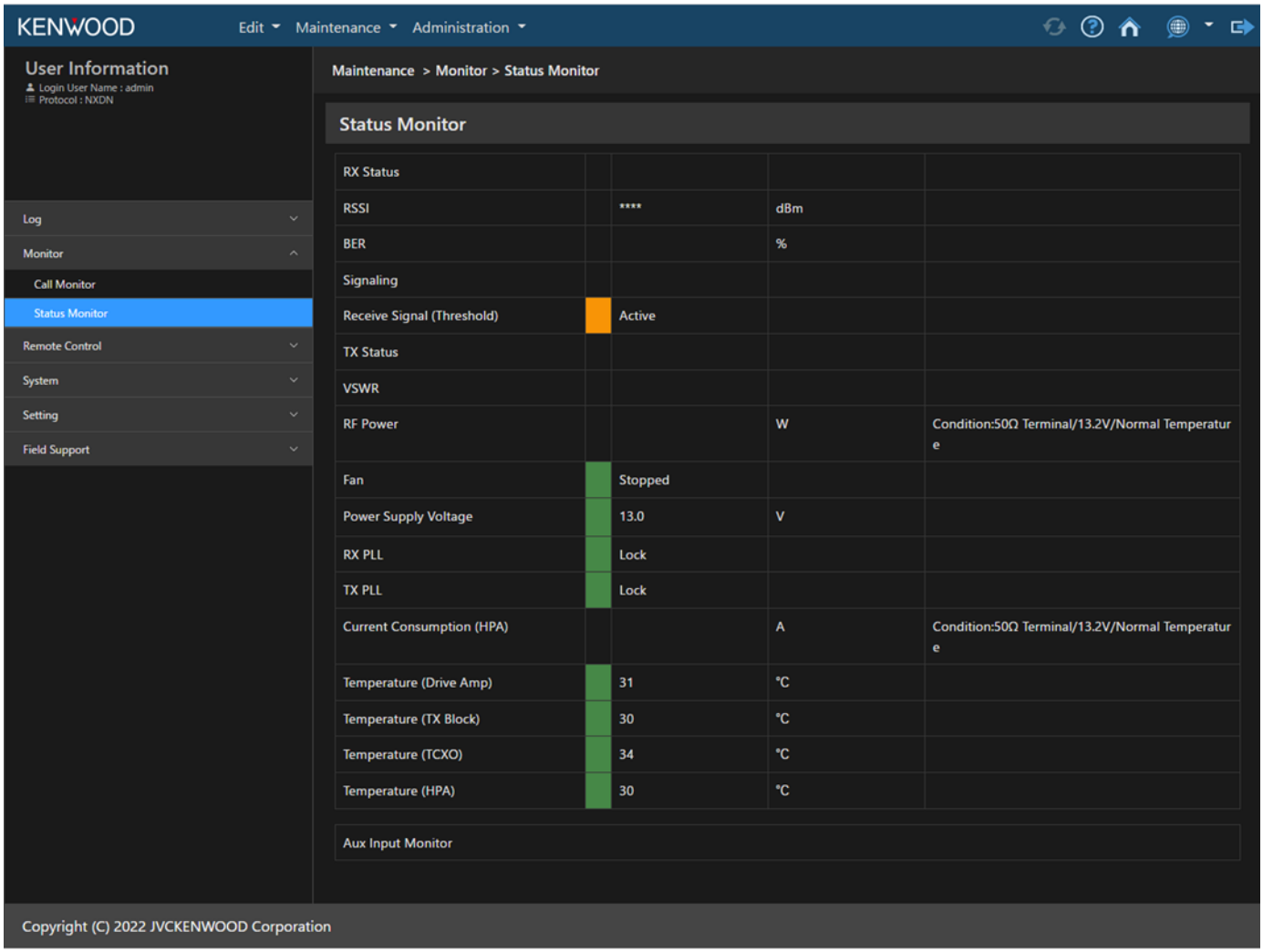


Figure 2-15 Status Monitor (NXDN, Analog)

Table 2-19 Status Monitor

Function	Description
RX Status	Displays the receive status of the repeater.
RSSI	Displays the receive strength level of the repeater.
BER	Displays the BER.
Signaling	Displays the Signaling matching status.
Receive Signal (Threshold)	Displays as to whether the threshold value of the receive sensitivity configured by using the FPU is exceeded.
TX Status	Displays the transmit status of the repeater.
VSWR	Displays the reflected wave strength during transmission.
RF Power	Displays the status of Forward Power.
Fan	Displays the status of Fan.
Power Supply Voltage	Displays the status of the power supply voltage.

Function	Description
RX PLL	Displays the Lock status of the receive PLL.
TX PLL	Displays the Lock status of the transmit PLL.
Current Consumption (HPA)	Displays the status of the HPA current consumption.
Temperature (Drive Amp)	Displays the temperature of Drive Amp.
Temperature (TX Block)	Displays the temperature of TX Block.
Temperature (TCXO)	Displays the temperature of TCXO.
Temperature (HPA)	Displays the temperature of HPA.
AUX Input Monitor	Displays the status of the Function Port to which AUX Input Monitor is assigned.

The background color and displayed text string of each item are as follows:

Table 2-20 Status Monitor Display

Function	When Normal		When Normal (Change)		When an Error		Remark
	Background Color	Text	Background Color	Text	Background Color	Text	
RX Status *	Default	Blank	Green	Receiving	-	-	-
RSSI *	Default	The RSSI value	-	The RSSI value	-	-	-
BER *	Default	Blank	-	The BER value	-	-	-
Signaling *	Default	Blank	Green	Correct	Yellow	Incorrect	-
Receive Signal (Threshold)	Yellow	Active	Green	Inactive	Yellow	Active	-
TX Status	Default	Blank	Green	Transmitting	-	-	-
VSWR	Default	Blank	Green	Normal or Error	Red	Normal or Error	VSWR Error Detection
RF Power	Default	Blank	Green	The value for RF Power	Red	The value for RF Power	RF Power Down Detect
Fan	Green	Spinning/ Stopped	-	-	Red	Error	Fan Lock Detection
Power Supply Voltage	Green	The Power Supply Voltage value	-	-	Yellow /Red	The Power Supply Voltage value	Power Supply Lower Limit / Power Supply Voltage
RX PLL	Green	Lock	-	-	Red	Unlock	RX PLL Unlock
TX PLL	Green	Lock	-	-	Red	Unlock	TX PLL Unlock
Current Consumption (HPA)	Default	Blank	Green	The Current Consumption value	Red	The Current Consumption value	Current Consumption (HPA) Error
Temperature (Drive Amp)	Green	Temperature	Green	Temperature	Red	Temperature	Temperature (Drive Amp) Error
Temperature (TX Block)	Green	Temperature	Green	Temperature	Red	Temperature	Temperature (TX Block) Error
Temperature (TCXO)	Green	Temperature	Green	Temperature	Red	Temperature	Temperature (TCXO) Error
Temperature (HPA)	Green	Temperature	Green	Temperature	Red	Temperature	Temperature (HPA) Error

Function	When Normal		When Normal (Change)		When an Error		Remark
	Background Color	Text	Background Color	Text	Background Color	Text	
AUX Input Monitor	Default	The Port number	Green	The Port number	-	-	A maximum of 9 ports

* For RX Status, RSSI, BER, and Signaling, the status is displayed for each slot in DMR mode. In this case, the same status is displayed for both slot 1 and slot 2 when a signal of anything other than DMR is being received.

System

Remote Control

Remote Control is the function to remotely control the repeater.

This function can be used to remotely control the repeater in the case that the repeater is located in a place where the repeater cannot directly be operated, such as when the repeater is operated in the repeater system.

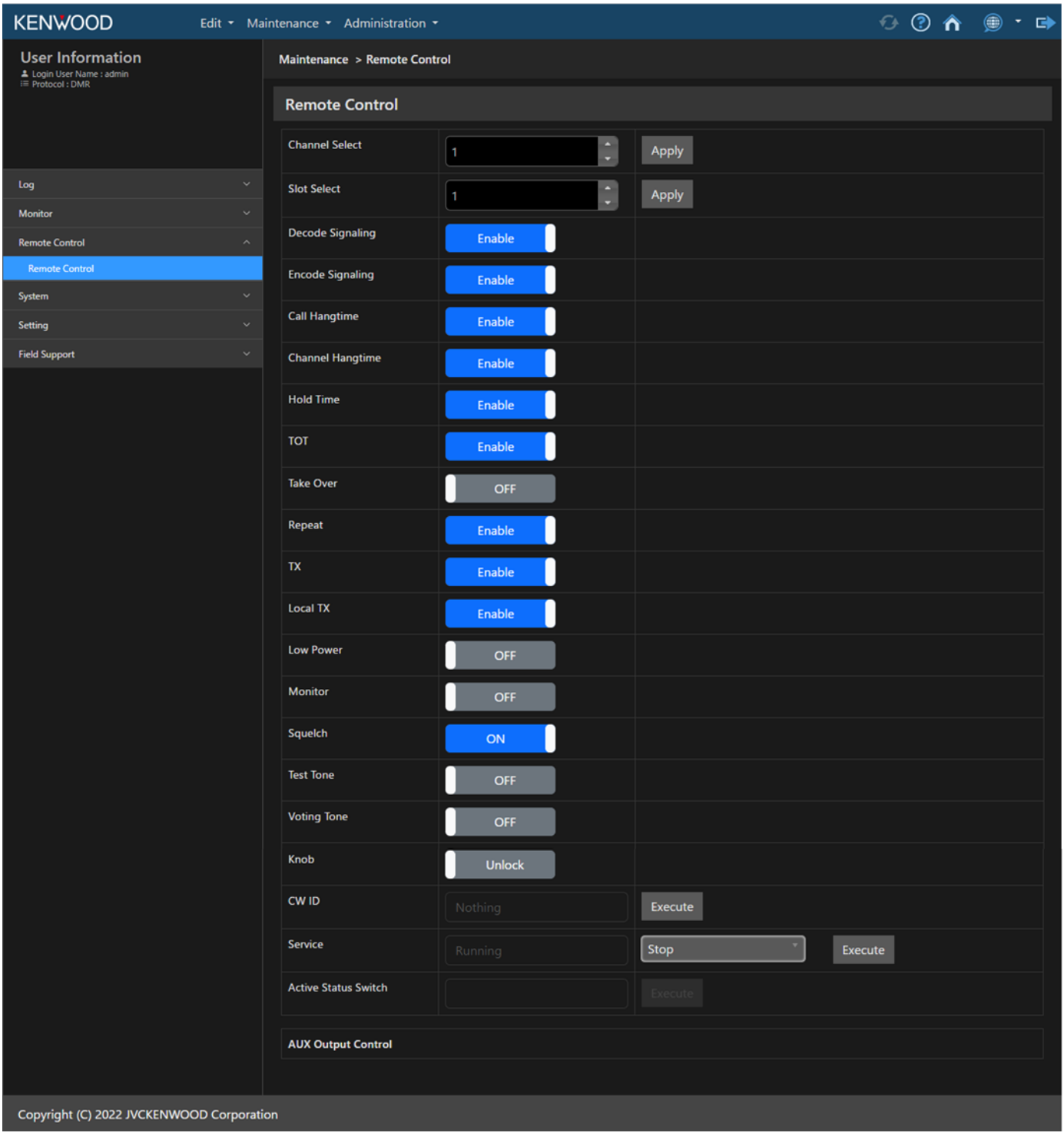


Figure 2-16 Remote Control

Table 2-21 Remote Control

Function Name	Description
Channel Select	The channel of the repeater can be changed according to the configuration by the FPU.
Slot Select	The slot of the repeater to be used in DMR mode can be switched.
Decode Signaling	Decode Signaling can be toggled between enabled and disabled.
Encode Signaling	Encode Signaling can be toggled between enabled and disabled.
Call Hangtime	Call Hangtime can be toggled between enabled and disabled.
Channel Hangtime	Channel Hangtime can be toggled between enabled and disabled.
Hold Time	Hold Time can be toggled between enabled and disabled.
TOT	TOT can be toggled between enabled and disabled.
Take Over	The Take Over function can be enabled by specifying “ON”.
Repeat	The repeat behavior can be toggled between enabled and disabled.
TX	The transmit function of the repeater can be toggled between enabled and disabled.
Local TX	The PTT control (Test PTT) by using the Knob can be toggled between enabled and disabled.
Low Power	The transmit power for the selected channel can be changed to “Low” by specifying “ON”.
Monitor	The Monitor function can be enabled by specifying “ON”.
Squelch	The Squelch function can be disabled by specifying “OFF”.
Test Tone	A Test Tone can be sent by specifying “ON”.
Voting Tone	A Voting Pilot Tone can be sent by specifying “ON”.
Knob	Operation of the Knob can be disabled by specifying “Lock”.
CW ID	Transmission of a CW ID can be executed by clicking the “Execute” button. However, this function cannot be executed while the repeater is sending a CW ID.
Service	Behavior of the repeater can be stopped, started, restarted, and rebooted by clicking the “Execute” button.
Active Status Switch	For the Hot Standby function, the active and standby state of the main repeater can be switched. **Active Status Switch** can be configured when Hot Standby Status is active or on standby.
AUX Output Control	“ON” and “OFF” of a port assigned by the configuration by the FPU can be operated.

In **Remote Control**, the following operations can be done:

Table 2-22 Range and Status Upon Activation of Remote Control

Function	Range	Upon Activation
Channel Select *2	Depends on the FPU configuration	Selected CH
Slot Select *3	1 or 2	Depends on the FPU configuration
Decode Signaling	Enable or Disable	Enable
Encode Signaling	Enable or Disable	Enable
Call Hangtime	Enable or Disable	Enable
Channel Hangtime	Enable or Disable	Enable
Hold Time	Enable or Disable	Enable
TOT	Enable or Disable	Enable
Take Over	OFF or ON	OFF
Repeat *1	Enable or Disable	Enable
TX *1	Enable or Disable	Enable
Local TX	Enable or Disable	Enable
Low Power	OFF or ON	OFF
Monitor	OFF or ON	OFF
Squelch	OFF or ON	ON
Test Tone	OFF or ON	OFF
Voting Tone *1	OFF or ON	OFF
Knob	Unlock or Lock	Depends on the FPU configuration
CW ID	Execute button	Not executed
Service	Execute button (Stop, Start, Restart, Reboot)	Not executed, with Stop displayed
Active Status Switch	Execute button	Not executed
AUX Output Control	OFF or ON	OFF

*1 If a function that can be operated by Remote Control is assigned to AUX Input and the assigned function is enabled, control from the Web Tool and OLED display Menu cannot be executed.

2 If Channel Select is assigned to AUX Input/Output 1 to AUX Input/Output 5 by using the FPU, Channel Select cannot be controlled from the Web Tool and OLED display Menu. However, if “ON” is configured in **Take Over, Channel Select can be controlled from the Web Tool and OLED display Menu.

*3 If “Ch Data Blank” is displayed as a repeater error, Slot Select cannot be controlled from the Web Tool and OLED display Menu.

Firmware Update

Firmware Update is the function to confirm the firmware that is currently used on the repeater, and to update the firmware.

If the firmware is updated by using **Firmware Update**, the repeater stops behaving, and the firmware is overwritten.

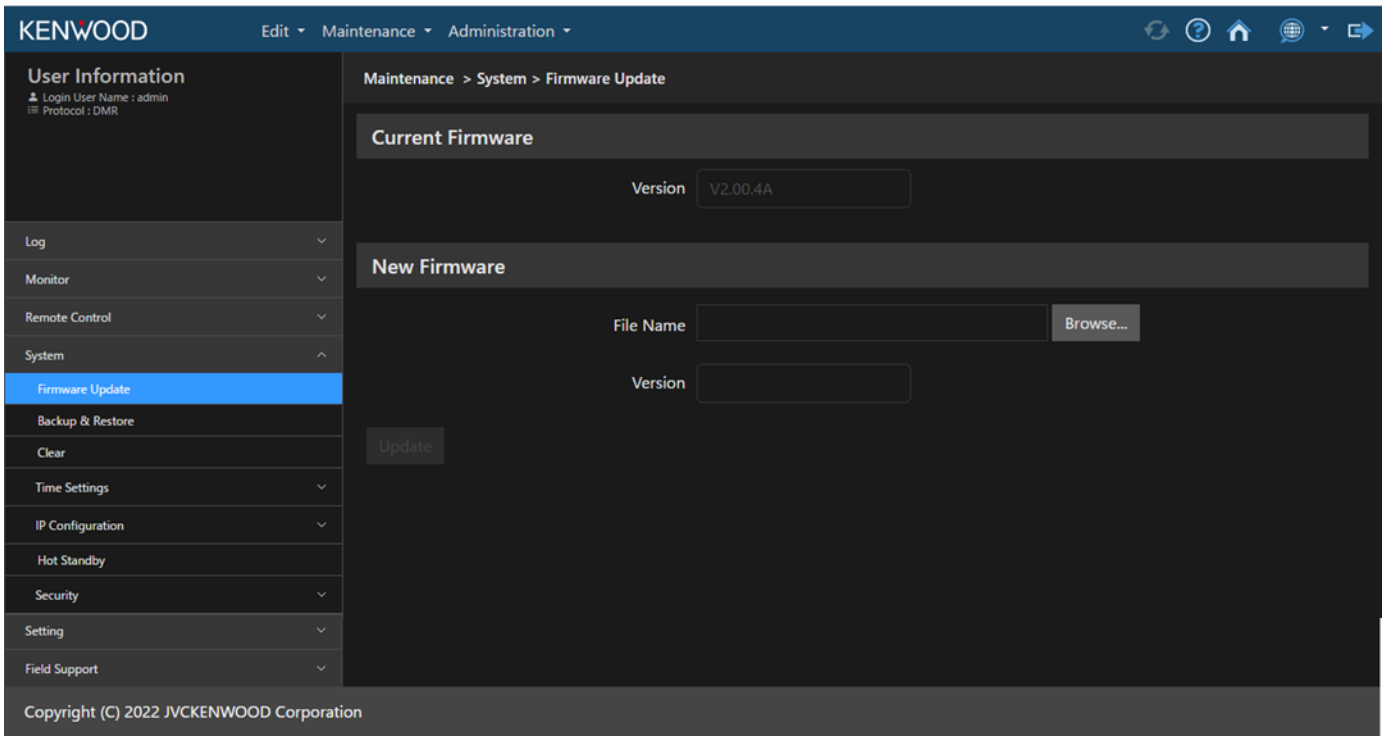


Figure 2-17 Firmware Update

In the Firmware Update screen, the following operations can be executed:

Table 2-23 Firmware Update (Current)

Function	Description
Version	The version of the firmware currently installed on the repeater is displayed. Version is the function to confirm the firmware currently used by the repeater.

Table 2-24 Firmware Update (New)

Function	Description
File Name	**File Name** is the function to display the file name of the firmware to write. The file name of the firmware selected by using the “Browse...” button is displayed. By using this function, the overwriting of the firmware can be executed after File Name is confirmed.
Version	**Version** is the function to display the version of the firmware to write. The version of the firmware selected by using the “Browse...” button is displayed. By using this function, the overwriting of the firmware can be executed after Version is confirmed.
“Browse...” button	The “Browse...” button is the function to select the file of the firmware to write. When the file of the firmware to write is selected by clicking the “Browse...” button, the file name and version of the selected firmware are displayed.

Function	Description
“Update” button	The overwriting of the firmware on the repeater is executed. The “Update” button is the function to write the firmware to the repeater. Clicking the “Update” button writes the selected firmware to the repeater. If the “Update” button is executed, the other users of the Web Tool that are logged in are forcibly logged out. When the writing of the firmware succeeds, the repeater restarts, and the displayed contents of New Firmware are updated. **Note** ・ If the firmware is selected by using the “Browse...” button, the “Update” button changes from the inactive state to the active state.

Backup & Restore

Backup & Restore is the function to read the data configured by using the Web Tool from the repeater and save the data as a file. By saving configuration data, the configuration data can be restored when unforeseen circumstances occur, such as the hardware malfunction of the repeater and the incorrect editing of the configuration data by a user.

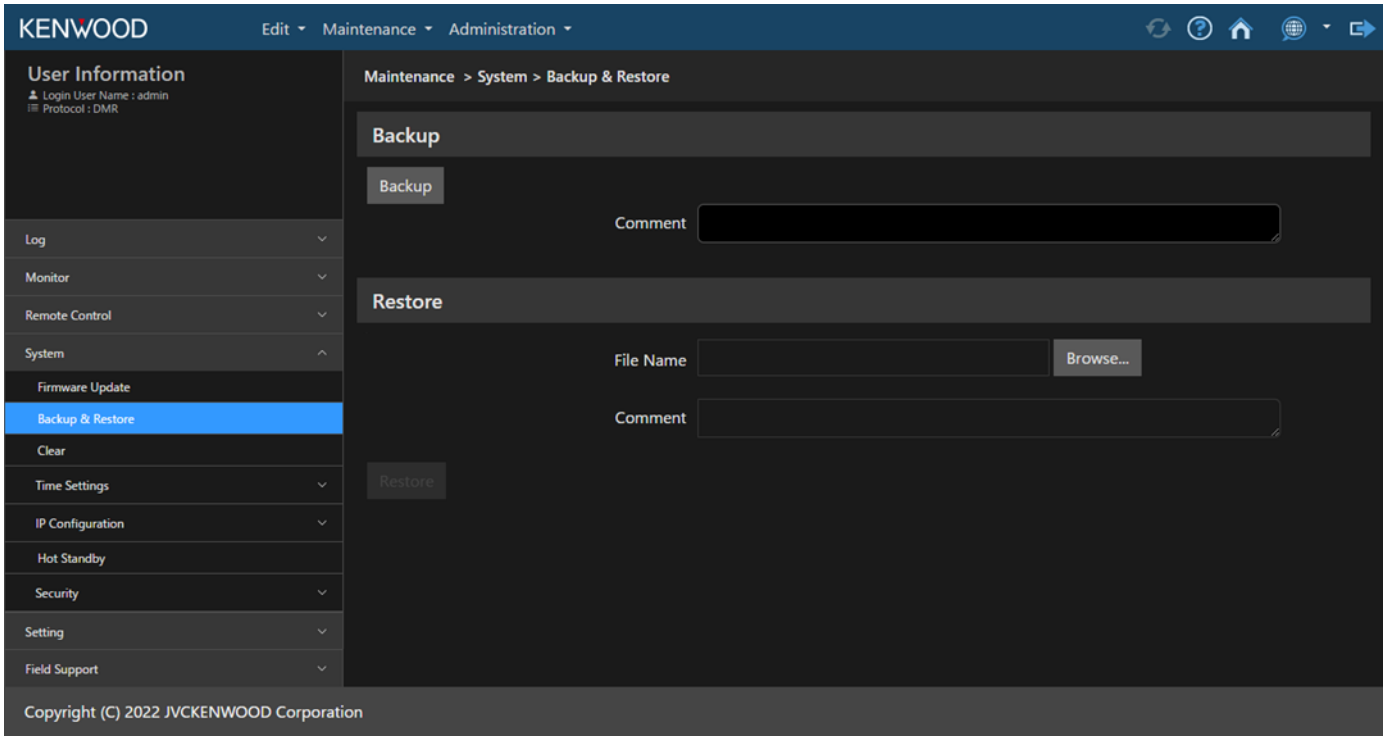


Figure 2-18 Backup & Restore

In the Backup & Restore screen, the following operations can be executed:

Table 2-25 Backup & Restore

Function 1	Function 2	Description
Backup	-	The other users of the Web Tool that are logged in are forcibly logged out when **Backup** is executed. The save targets of Backup are the configuration items of the Web Tool. However, the following items are not targets for saving: ・ The information recorded in the repeater (various logs, etc.) ・ NTP Client/ NTP Server configuration ・ IP configuration (IP Configuration) ・ HTTP over SSL configuration ・ Access Key configuration ・ Field Support configuration (Packet Capture/ Syslog)
Backup	“Backup” button	The configuration can be saved as a file after the configuration from the repeater is read by clicking the “Backup” button. This file is the backup file used during a restoration, and the configuration data cannot be confirmed from the file.

Function 1	Function 2	Description
	Comment	**Comment** is the function to add a comment such as a description of the contents when the configuration data of the repeater is saved as a file. The entered comment is saved in the backup file, and can be confirmed when configuration data is restored by using Restore. The comment to be displayed when configuration data is restored by using Restore is entered.
Restore	-	**Restore** is the function to write the configuration data file to the repeater. Configuration data can be restored by using a previously saved backup file. Click the “Restore” button after the file name and comment of a backup file are confirmed. Clicking the “Restore” button writes the configurations in the backup file to the repeater. The other users of the Web Tool that are logged in are forcibly logged out when Restore is executed. The “Restore” button is activated by selecting a configuration data file by using the “Browse…” button. **Note** ・ The data configured by using the Web Tool is overwritten if Restore is executed (refer to Configuration by Using the Web Tool).
Restore	File Name	**File Name** is the function to display the file name of a backup file. The file name of the configuration data to be restored can be confirmed before Restore is executed. In File Name, the file name of the backup file selected by using the “Browse…” button is displayed.
	“Browse...” button	The “Browse...” button is the function to select the backup file to be restored to the repeater. When the backup file to write is selected by clicking the “Browse...” button, the file name and comment of the selected backup file are displayed.
	Comment	**Comment** is the function to display the comment added to a backup file. The comment added to the configuration data to be restored can be confirmed before Restore is executed. In Comment, the comment added to the backup file selected by using the “Browse…” button is displayed.

Clear

The “Clear” button is the function to delete all of the ID List Information and log information saved on the repeater.

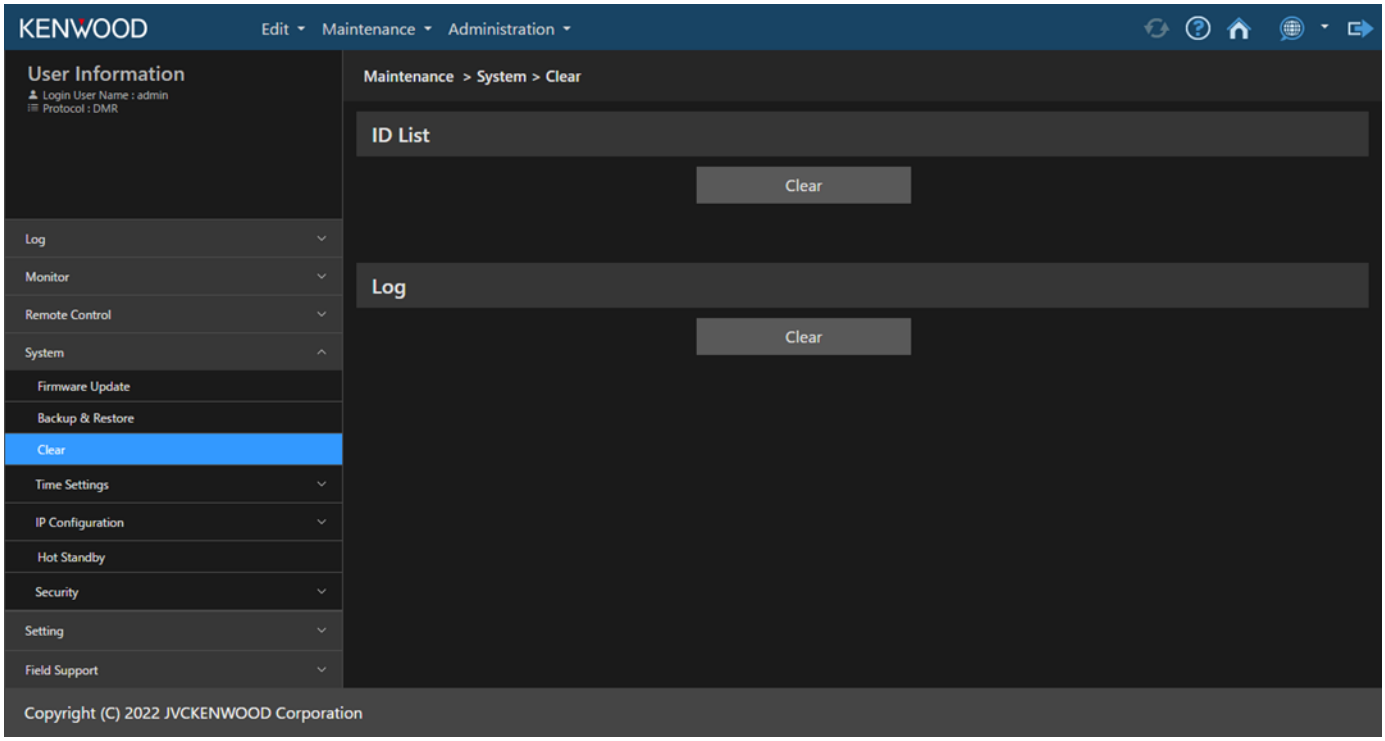


Figure 2-19 Clear

Time Settings

Time Settings is the function to configure the configurations related to the time for the repeater.

By configuring the NTP server to be used, the time can be automatically matched.

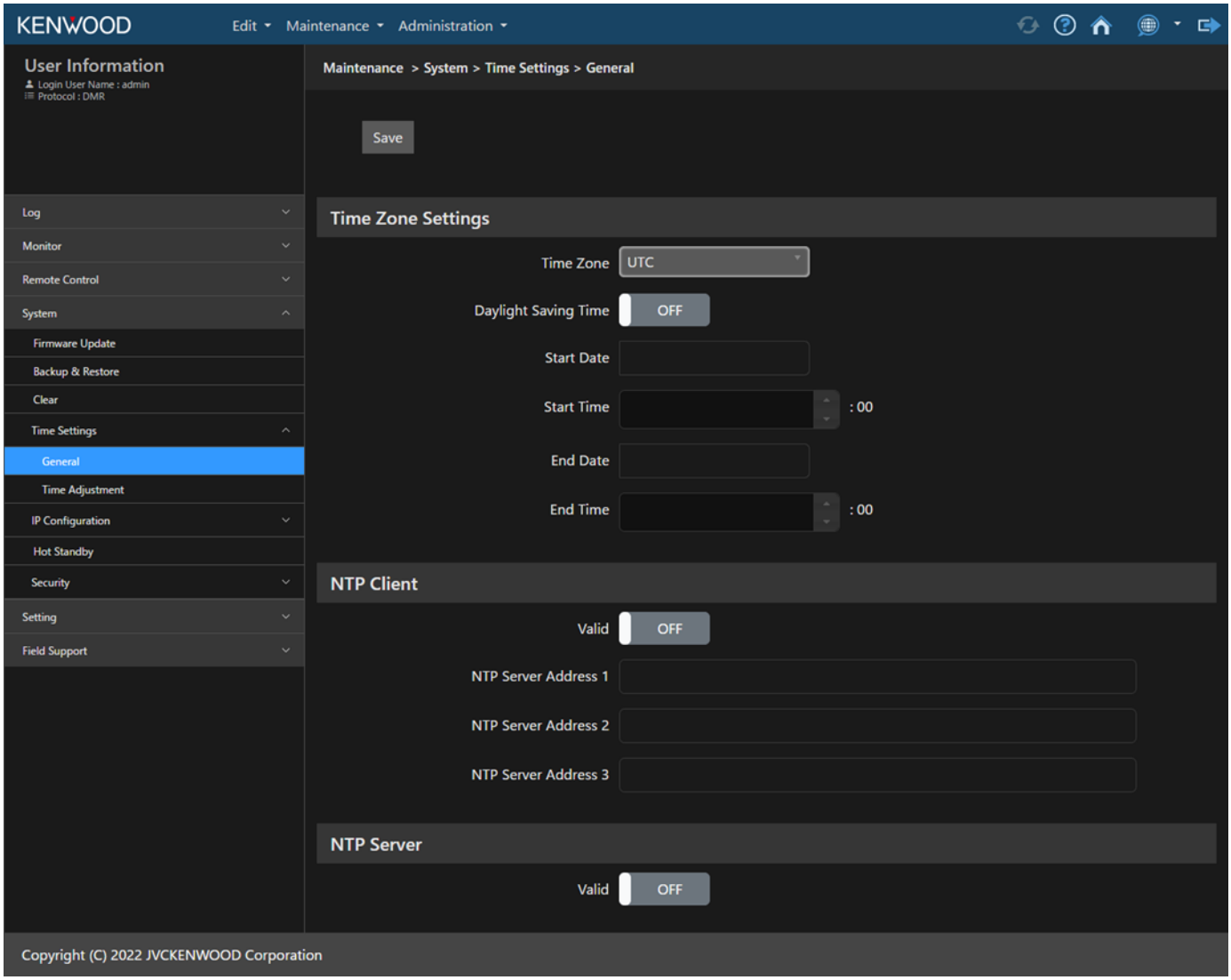


Figure 2-20 Time Settings > General

In the screen for Time Settings > General, the following operations can be executed:

Table 2-26 Time Settings > General

Function 1	Function 2	Description
“Save” button	-	The configurations related to the time are written to the repeater.
Time Zone Settings	Time Zone	The difference to UTC is configured. Time Zone is the function to configure the time difference between UTC and local time. The available range of configuration in Time Zone is from -12 hours to +13 hours for the difference to UTC.

Function 1	Function 2	Description
	Daylight Saving Time	Daylight Saving Time is the function to configure whether Daylight Saving Time (summer time) is used. "OFF" Daylight Saving Time is not configured. "ON" Daylight Saving Time is configured. Configure the start date and time and the end date and time of Daylight Saving Time in Start Date/ Start Time/ End Date/ End Time.
Time Zone Settings	Start Date/ Start Time	Start Date and Start Time are the functions to configure the start date and time of Daylight Saving Time. If Daylight Saving Time is enabled, the start date and time of Daylight Saving Time can be configured. Daylight Saving Time starts on the specified date and time. "Start Date" The start month and day of Daylight Saving Time is configured. Clicking the month and day in Start Date displays the calendar, and the start month and day can be selected. "Start Time" The start time of Daylight Saving Time is configured.
	End Date/ End Time	End Date and End Time are the functions to configure the end date and time of Daylight Saving Time. If Daylight Saving Time is enabled, the end date and time of Daylight Saving Time can be configured. Daylight Saving Time ends on the specified date and time. "End Date" The end month and day of Daylight Saving Time is configured. Clicking the month and day in End Date displays the calendar, and the end month and day can be selected. "End Time" The end time of Daylight Saving Time is configured.
NTP Client	Valid	Whether to use an NTP server can be configured. By using an NTP server, the time is acquired from the NTP server and the time can be automatically matched. "OFF" An NTP server cannot be used. "ON" The time in the repeater is automatically updated by acquiring the time from an NTP server. Configure an NTP server in NTP Server Address.

Function 1	Function 2	Description
	NTP Server Address	NTP Server Address is the function to configure the address (the IP address or name) of an NTP server. If Synchronize NTP Server is enabled, the addresses (the IP addresses or names) of a maximum 3 NTP servers can be configured.
NTP Server	Valid	Whether to behave as an NTP server can be configured. "OFF" Does not behave as an NTP server. "ON" Behaves as an NTP server.

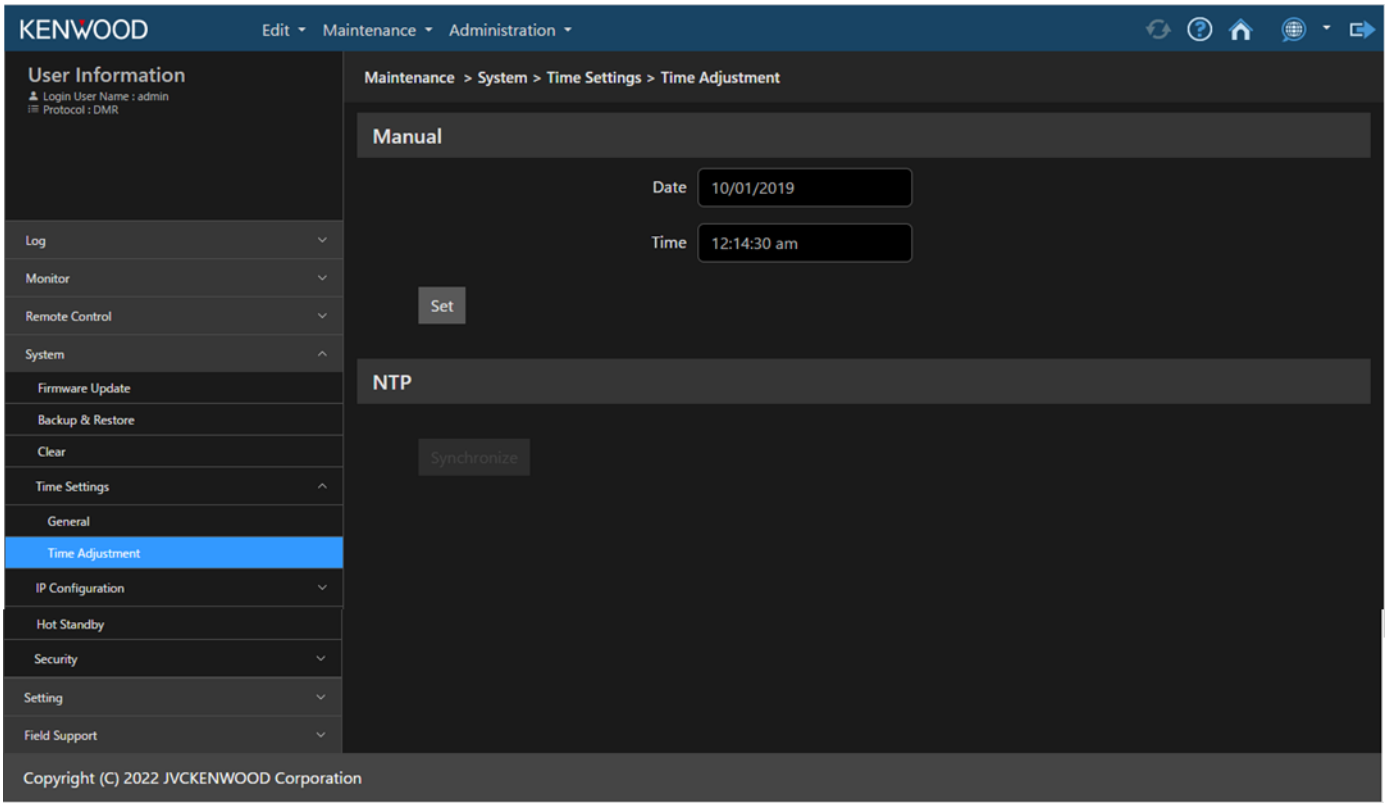


Figure 2-21 Time Settings > Time Adjustment

In the screen for Time Settings > Time Adjustment, the following operations can be executed:

Table 2-27 Time Settings > Time Adjustment

Function 1	Function 2	Description
Manual	Date	Date is the function to manually configure the current date. Clicking the year, month, and day in Date displays the calendar, and the current date can be selected. The manually configured date is configured to the repeater by clicking the “Set” button.
	Time	Time is the function to manually configure the current time. The manually configured time is configured to the repeater by clicking the “Set” button.
	“Set” button	The manually configured date and time is configured to the repeater. Clicking the “Set” button configures to the repeater the date and time configured in Date/ Time. The “Set” button is enabled if NTP Client is disabled.
NTP	“Synchronize” button	The time in the repeater is automatically updated by acquiring the time from the configured NTP server. Clicking the “Synchronize” button acquires the time from the NTP server, and the time in the repeater is updated. The “Synchronize” button is enabled if **NTP Client** is enabled.

IP Configuration

IP Configuration has the following two functions:

- Own IP Setting
- QoS

About Own IP Setting

In **Own IP Setting**, the IP address of the repeater can be confirmed and changed.

In **Own IP Setting**, changing the configuration of the IP address of the repeater switches the IP address.

Changing the IP address restarts the repeater. Also, by changing the IP address, the Web Tool login screen appears so as to reconnect to the changed IP address.

In addition, the **QoS** configuration can be done for the packets to be sent by the repeater. If DSCP is enabled in **QoS**, the repeater restarts.

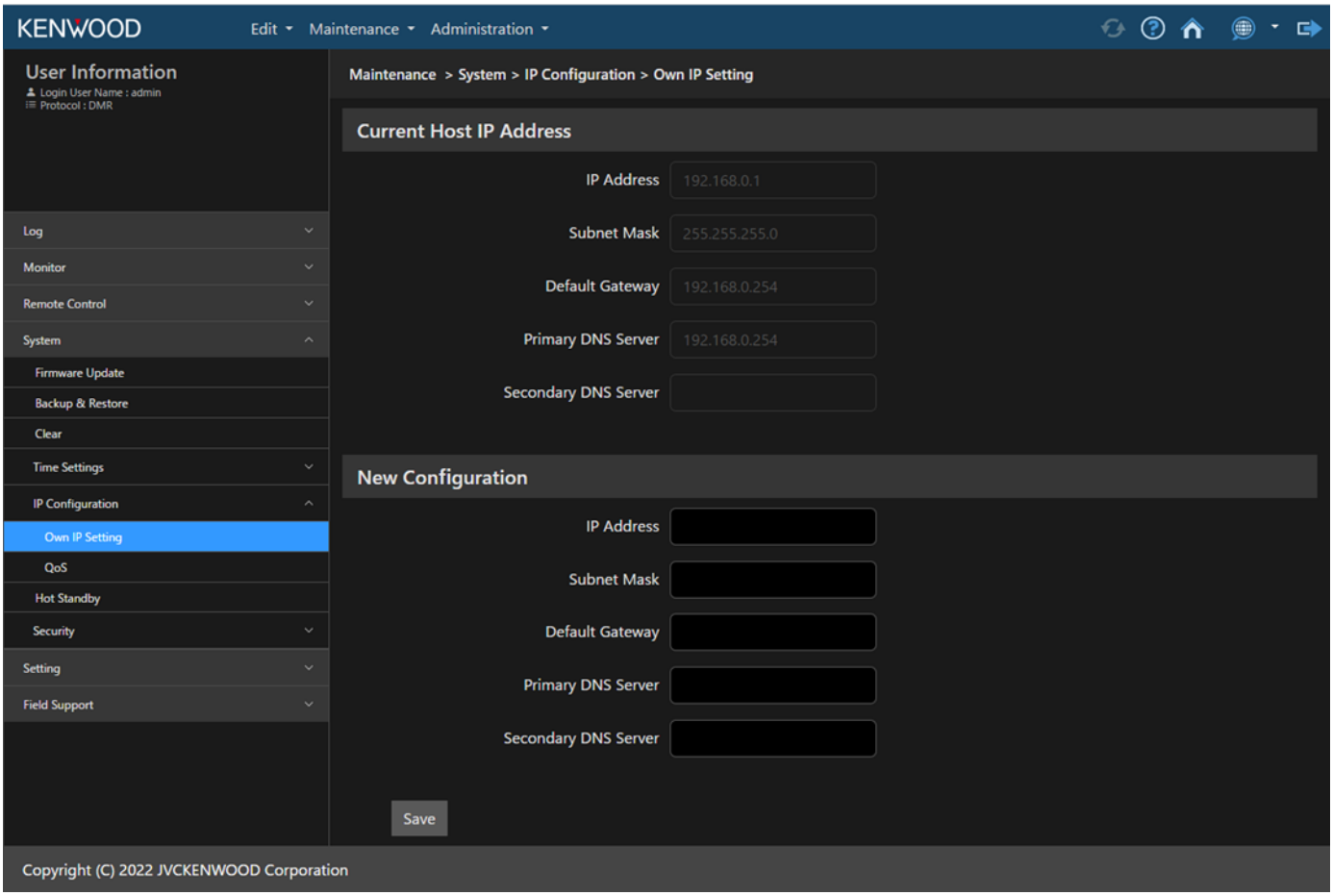


Figure 2-22 IP Configuration > Own IP Setting

In the **Own IP Setting** screen, the following operations can be executed:

Table 2-28 Own IP Setting

Function 1	Function 2	Description
Current Host IP Address	IP Address	IP Address is the function to confirm the IP address currently configured for the repeater. The IP address configured for the repeater is displayed.

Function 1	Function 2	Description
	Subnet Mask	Subnet Mask is the function to confirm the subnet mask currently configured for the repeater. The subnet mask currently configured for the repeater is displayed.
	Default Gateway	Default Gateway is the function to confirm the default gateway currently configured for the repeater. The default gateway configured for the repeater is displayed.
	Primary DNS Server	Primary DNS Server is the function to confirm the primary DNS server currently configured for the repeater. The primary DNS server currently configured for the repeater is displayed.
	Secondary DNS Server	Secondary DNS Server is the function to confirm the secondary DNS server currently configured for the repeater. The secondary DNS server currently configured for the repeater is displayed.
New Configuration	IP Address	IP Address is the function that can configure the IP address to be configured for the repeater. The IP address to be configured for the repeater is entered. When an IP address is configured, also configure Subnet Mask and Default Gateway.
	Subnet Mask	Subnet Mask is the function that can configure the subnet mask to be configured for the repeater. The subnet mask to be configured for the repeater is entered.
	Default Gateway	Default Gateway is the function that can configure the default gateway to be configured for the repeater. The default gateway to be configured for the repeater is entered.
	Primary DNS Server	Primary DNS Server is the function that can configure the primary DNS server to be configured for the repeater. The primary DNS server to be configured for the repeater is entered.
	Secondary DNS Server	Secondary DNS Server is the function that can configure the secondary DNS server to be configured for the repeater. The Secondary DNS server to be configured for the repeater is entered.
	“Save” button	Clicking the “Save” button changes the IP address of the repeater.

About QoS

QoS is the function to control the IP packet priority.

By configuring a DSCP value for the packets to be sent by the repeater, the packets including the packets to be sent by the repeater can be prioritized for a switch or router in the network.

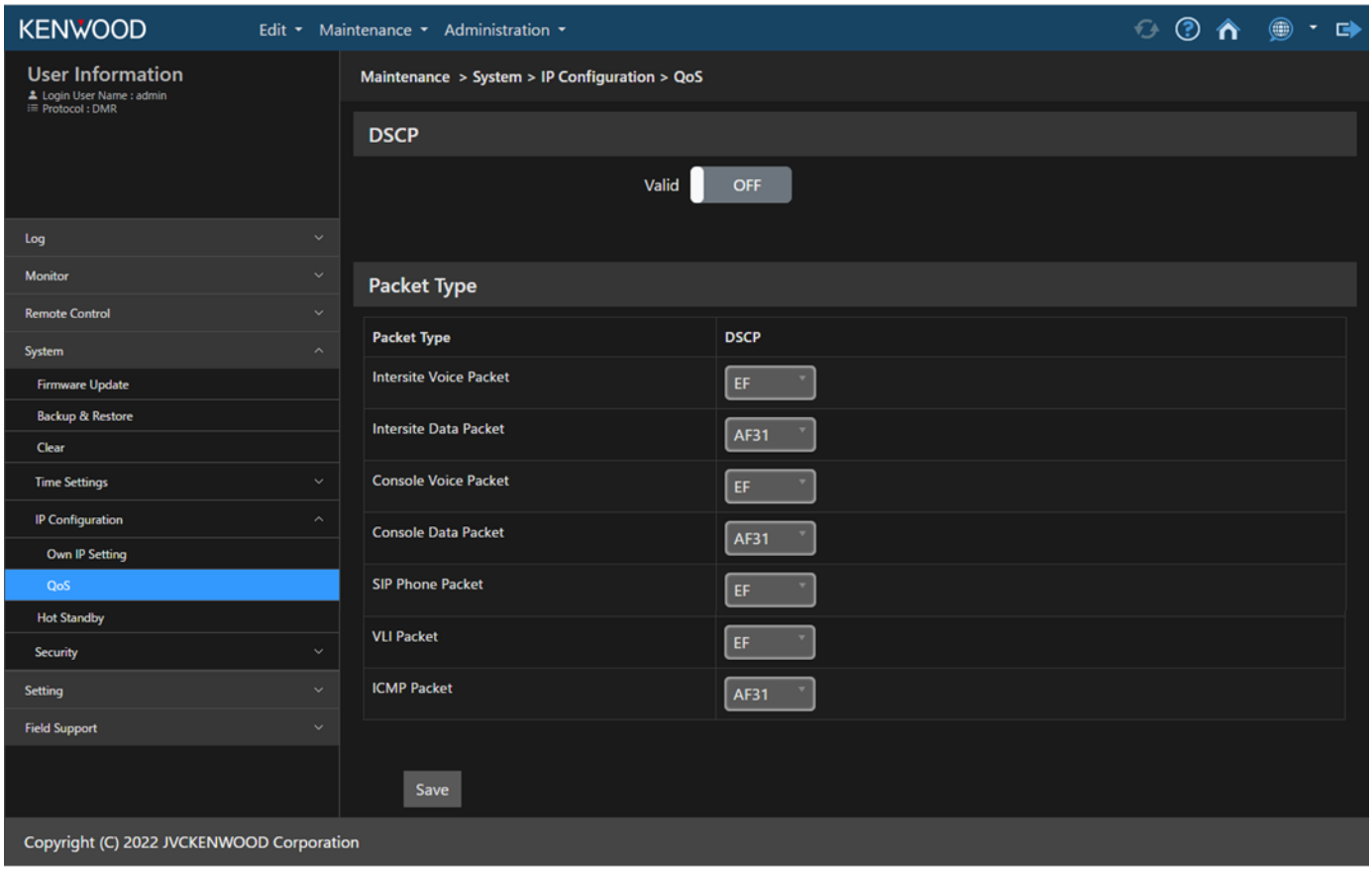


Figure 2-23 IP Configuration > QoS

In the QoS screen, the following operations can be executed:

Table 2-29 QoS

Function 1	Function 2	Description
DSCP	Valid	Valid is the function to configure whether to use the DSCP function. "OFF" If "OFF" is configured in **Valid**, the DSCP function is disabled. "ON" If "ON" is configured in **Valid,** the DSCP function is enabled and the repeater restarts.
Packet Type	Intersite Voice Packet	Configures a DSCP value for packets of voice communication between sites. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: EF

Function 1	Function 2	Description
	Intersite Data Packet	Configures a DSCP value for packets of data communication between sites. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: AF31
	Console Voice Packet	Configures a DSCP value for packets of voice communication addressed to a Console. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: EF
	Console Data Packet	Configures a DSCP value for packets of data communication addressed to a Console. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: AF31
	SIP Phone Packet	Configures a DSCP value for packets of voice communication addressed to a SIP Phone. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: EF
	VLI Packet	Configures a DSCP value for packets of voice communication addressed to a Voice Logger. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: EF
	ICMP Packet	Configures a DSCP value for ICMP packets. One of CS0 to CS7, AF11 to AF43, and EF is selected. ・ Default configuration: AF31
	“Save” button	Clicking the “Save” button changes the QoS of the repeater.

Table 2-30 DSCP

PHB (Per Hop Behavior)		DSCP Value (Binary Number)	DSCP Value (Decimal Number)
CS (Class Selector)	CS0	000 000	0
	CS1	001 000	8
	CS2	010 000	16
	CS3	011 000	24
	CS4	100 000	32
	CS5	101 000	40
	CS6	110 000	48
	CS7	111 000	56
AF (Assured Forwarding)	AF11	001 010	10
	AF12	001 100	12
	AF13	001 110	14
	AF21	010 010	18
	AF22	010 100	20
	AF23	010 110	22
	AF31	011 010	26
	AF32	011 100	28
	AF33	011 110	30
	AF41	100 010	34
	AF42	100 100	36
	AF43	100 110	38
EF (Expedited Forwarding)		101 110	46

Table 2-31 PHB

Each Item of PHB	Description
CS (Class Selector)	Regarding CS, the backward compatibility to IP Precedence is the meaning. For example, CS5 where the DSCP value is 40 has the same meaning as IP Precedence 5.
AF (Assured Forwarding)	Regarding AF, the class for assured forwarding is indicated. This item consists of 4 levels of priority (first 3 bits: 001, 010, 011, 100), and the highest priority is 100.
EF (Expedited Forwarding)	Regarding EF, the class for emergency forwarding is indicated. EF where the DSCP value is 46 is normally assigned to the voice traffic to be processed with the highest priority.

Hot Standby

In **Hot Standby**, the configuration related to the Hot Standby function can be configured to be enabled or disabled, and the Virtual IP Address of the repeater can be confirmed and changed.

If **Hot Standby** is enabled, the specified Virtual IP Address is enabled.

Virtual IP Address is enabled for the services of the communications between sites, the Console, the VLI, and the SIP Phone, and cannot be used for the FPU and Web Tool (refer to Configuration by Using the Web Tool). Changing the Virtual IP Address restarts the repeater.

If **Hot Standby** is disabled, the values configured in **IP Configuration** are also enabled for the above services.

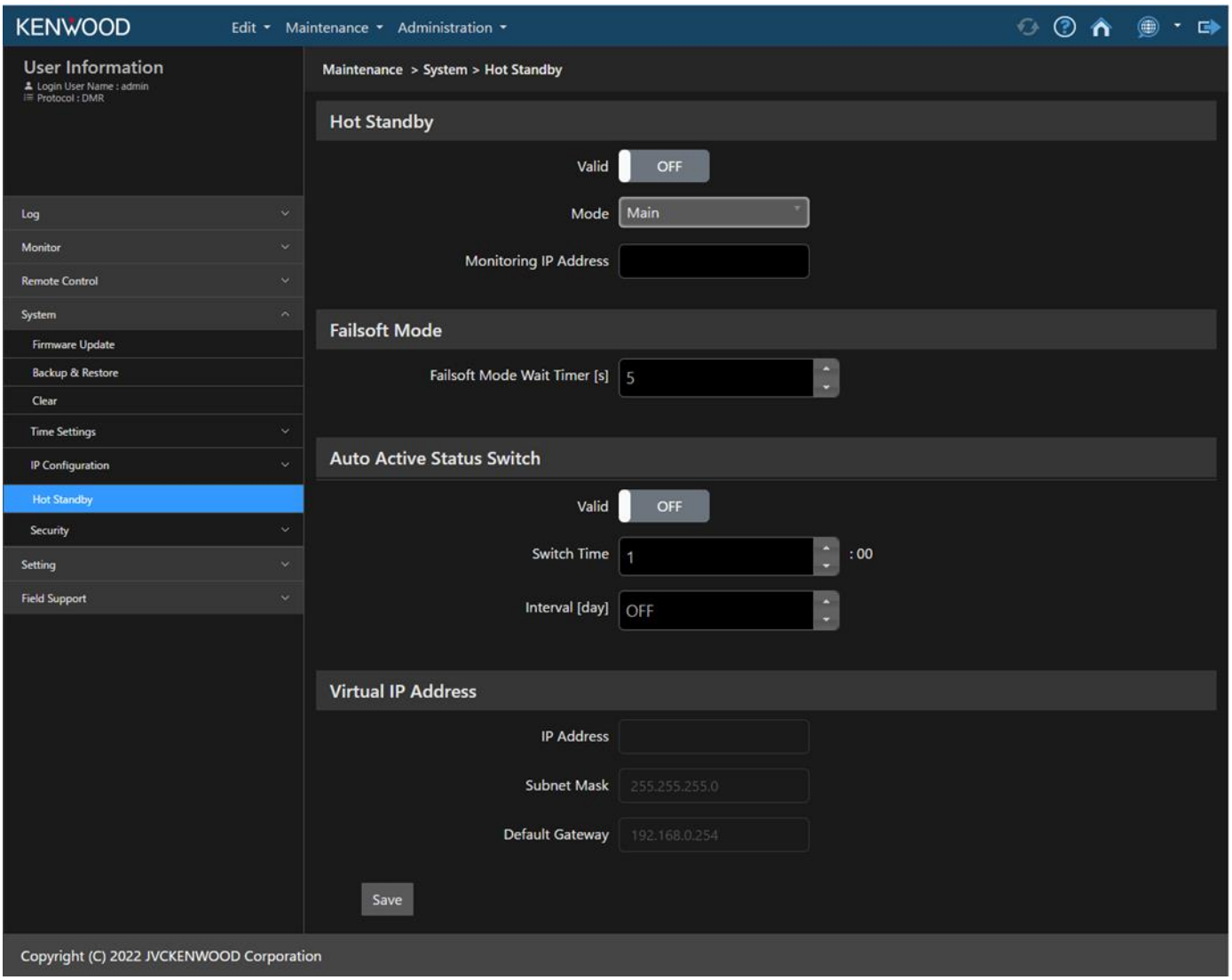


Figure 2-24 Hot Standby

The following operations can be executed in the **Hot Standby** screen:

Table 2-32 Hot Standby

Function 1	Function 2	Description
Hot Standby	Valid	Whether to use the Hot Standby function can be configured. "OFF" The Hot Standby function is disabled. "ON" The Hot Standby function is enabled.
	Mode	The assignment of a Main or Sub role in the Hot Standby function is configured. "Main" Behaves as the Main Repeater. "Sub" Behaves as the Sub Repeater.
	Monitoring IP Address	An IP Address of the Sub Repeater is configured for the Main Repeater, and an IP Address of the Main Repeater is configured for the Sub Repeater. In the Hot Standby function, the Main Repeater and Sub Repeater determine the synchronization status by confirming communication with each other by using the IP Address configured in Monitoring IP Address.
Failsoft Mode	Failsoft Mode Wait Timer	To use this function, the same value needs to be configured for the Main Repeater and Sub Repeater. If communication with the repeater for which Monitoring IP Address is configured cannot be confirmed before the configured period has elapsed, a repeater which is different from the unresponsive repeater starts to migrate to Failsoft Mode. By configuring a longer value for this timer, the repeater status is not changed such as due to instantaneous interruption of network devices, such as the Switch, and downtime during status transitions can be avoided.
Auto Active Status Switch	Valid	In **Valid**, whether to use the **Auto Active Status Switch** function is configured. "OFF" The **Auto Active Status Switch** function is disabled. "ON" The **Auto Active Status Switch** function is enabled.

Function 1	Function 2	Description
		Auto Active Status Switch can be configured only for the Main Repeater in the active state.
	Switch Time	In **Switch Time**, the automatic switch time of the Main Repeater in the active state is configured.
	Interval	In **Interval**, the interval (in days) based on Switch Time is configured for the automatic switch of the Main Repeater in the active state.
Virtual IP Address	IP Address	IP Address is the function that can configure the Virtual IP Address to be configured for the repeater. In IP Address, the Virtual IP Address to be configured or changed for the repeater is entered. If the Virtual IP Address is already configured, the value configured as the Virtual IP Address is displayed in IP Address. In IP Address, the value configured in IP Address of IP Configuration cannot be configured.
	Subnet Mask	Subnet Mask is the function to confirm the subnet mask currently configured for the repeater. In Subnet Mask, the subnet mask currently configured for the repeater is displayed.
	Default Gateway	Default Gateway is the function to confirm the default gateway currently configured for the repeater. In Default Gateway, the default gateway currently configured for the repeater is displayed.
	“Save” button	Clicking the “Save” button saves the changes of various configurations.

Note

- The Virtual IP Address configured in Main Repeater and Sub Repeater needs to be the same to use the Hot Standby function.

Security

In **Security**, the authentication related to security, etc. can be configured.

- HTTP over SSL
- Multi Loader

HTTP over SSL

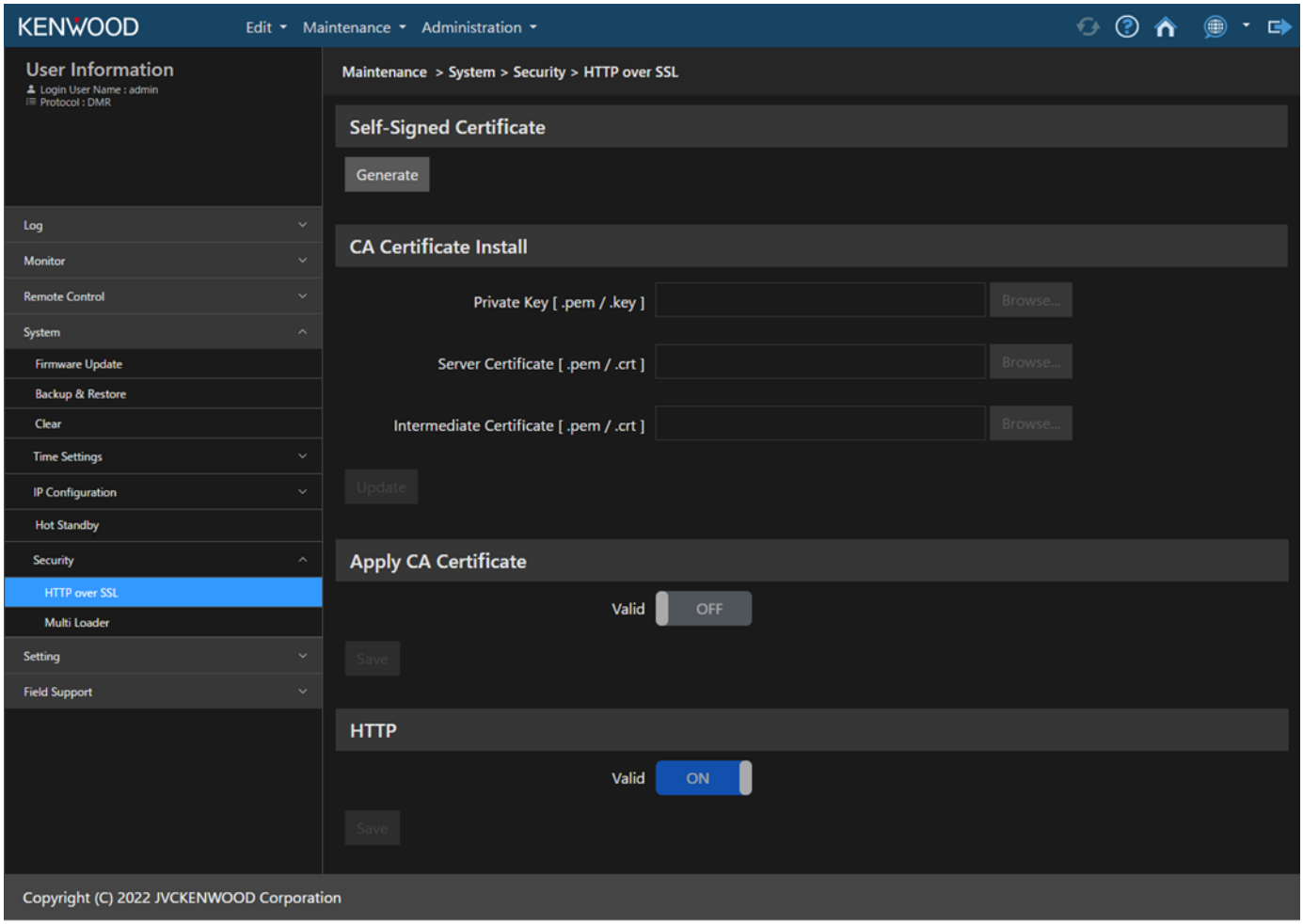


Figure 2-25 Security > HTTP over SSL

In **HTTP over SSL**, the issuance of self-signed certificates to enable HTTPS communication and appliance of certificates issued by trusted certificate authorities are enabled. After HTTPS communication is enabled, HTTP communication can be disabled to improve security.

After applying the self-signed certificate, when the HTTPS connection occurs, the private key and server certificate issued by the external certificate authority are applied.

If the change from HTTPS communication to HTTP communication is required after HTTPS connection occurs, HTTP communication can be restored.

In the **HTTP over SSL** screen, the following operations can be executed:

Table 2-33 HTTP over SSL

Function 1	Function 2	Description
Self-Signed Certificate	“Generate” button	Clicking the “Generate” button issues and applies a self-signed certificate at the date and time configured for the repeater. HTTPS communication with browsers is enabled by issuing the server certificate (self-signed certificate) on the repeater itself. However, because the certificate is not a trusted certificate, ignoring a browser warning and continuing communication are needed. Even if the certificate expires after application, HTTPS communication itself can be accessed because it is authenticated by a self-signed certificate. Clicking the “Generate” button issues and applies a self-signed certificate at the date and time configured for the repeater.
CA Certificate Install	Private Key	Private Key is the function to select the private key which is generated when CSR is issued. However, a passphrase to a private key is not supported. The server certificate to be installed separately can be matched by using the private key used by the external certificate authority to issue the server certificate. Clicking the “Browse...” button displays the file name of the selected private key. **CA Certificate Install** is deactivated and is not displayed during access to HTTP.
	Server Certificate	Server Certificate is the function that can select the server certificate issued by the external certificate authority. Clicking the “Browse...” button displays the file name of the selected server certificate. The repeater can install the server certificate issued by the external certificate authority.
	Intermediate Certificate	Intermediate Certificate is the function that can select the intermediate CA certificate issued by the external certificate authority. Clicking the “Browse...” button displays the file name of the selected intermediate CA certificate. Depending on the certificate authority that issues the server certificate, in addition to the pair of the private key and the server

Function 1	Function 2	Description
		certificate, the intermediate CA certificate that indicates that the certificate authority is trusted may be required. If the intermediate CA certificate is issued together with the server certificate by the certificate authority, installation on the repeater is required.
	“Update” button	Clicking the “Update” button installs the files such as the certificates selected by the “Browse...” button to the repeater. Selecting the Private Key and Server Certificate activates the “Update” button.
Apply CA Certificate	Valid	**Apply CA Certificate** is the function to enable the SSL certificate by the file such as the certificate updated by CA Certificate Install. The content of the certificate can be confirmed in SSL Certificate. **Valid** applies to the repeater an externally issued certificate that is registered in **CA Certificate Install**. “OFF” The CA Certificate function is disabled. “ON” The CA Certificate function is enabled.
HTTP	Valid	In HTTP, whether to disable HTTP communication is selected. In **Valid**, whether to use HTTP communication can be configured. “OFF” HTTP communication is disabled. “ON” HTTP communication is enabled. HTTP communication cannot be disabled unless at least a self-signed certificate is applied.
	“Save” button	Clicking the “Save” button applies the configurations in **Apply CA Certificate** and in **HTTP** to the repeater.

Multi Loader

Multi Loader is the application for writing the firmware to the repeater via an IP network. The **Multi Loader** runs on Windows.

By using the Multi Loader, writing the firmware to multiple repeaters can be performed collectively.

Multi Loader is registered in the MultiLoader folder when a file for KPG-D7 version 2.00 or later is decompressed.

Refer to the Function Reference for details of the Multi Loader.

In **Multi Loader**, the functions of the New Access Key/ New Access Key (Confirm) and the “Save” button can be used.

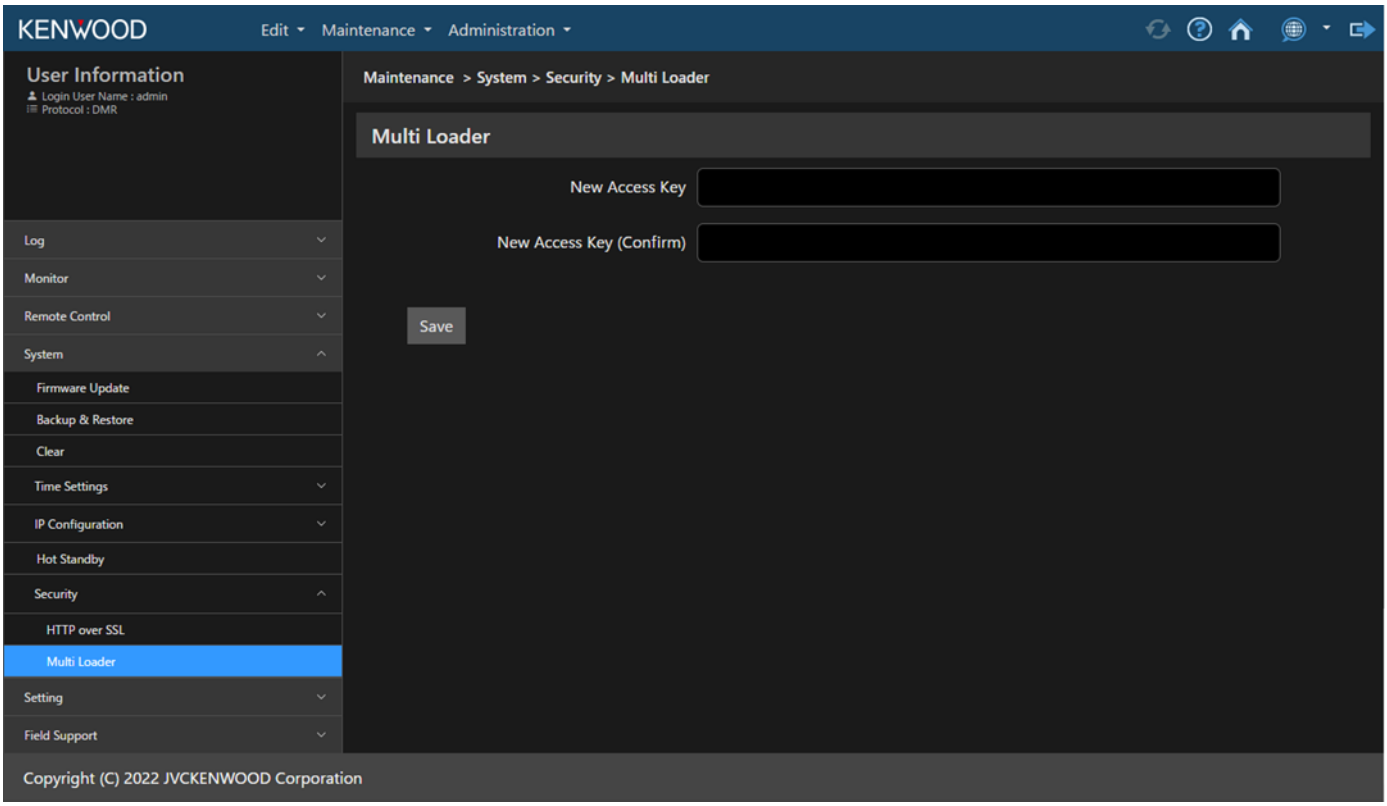


Figure 2-26 Security > Multi Loader

Table 2-34 Multi Loader

Function Name	Description
New Access Key	**New Access Key** is the function that can configure a new access key for authentication which is used when firmware update is performed on the repeater by using the Multi Loader. Enter a new access key in **New Access Key**.
New Access Key (Confirm)	In **New Access Key (Confirm)**, whether the new access key is correct is verified by reentering the new access key. Reenter the new access key in **New Access Key (Confirm)**.

Function Name	Description
“Save” button	By clicking the “Save” button, the access key entered in **New Access Key** can be saved on the repeater. If the access key is left blank, the access key cannot be saved even if the “Save” button is clicked.

Note

- Access Key can be configured only with the HTTPS connection.

Setting

The functions of the following items can be used in **Setting**:

- Formats
- Timer

Formats

Formats is the function to switch the formats of the year, month, and day, time, and decimal point displayed in the Web Tool. Each display switches to the formats configured in **Formats**.

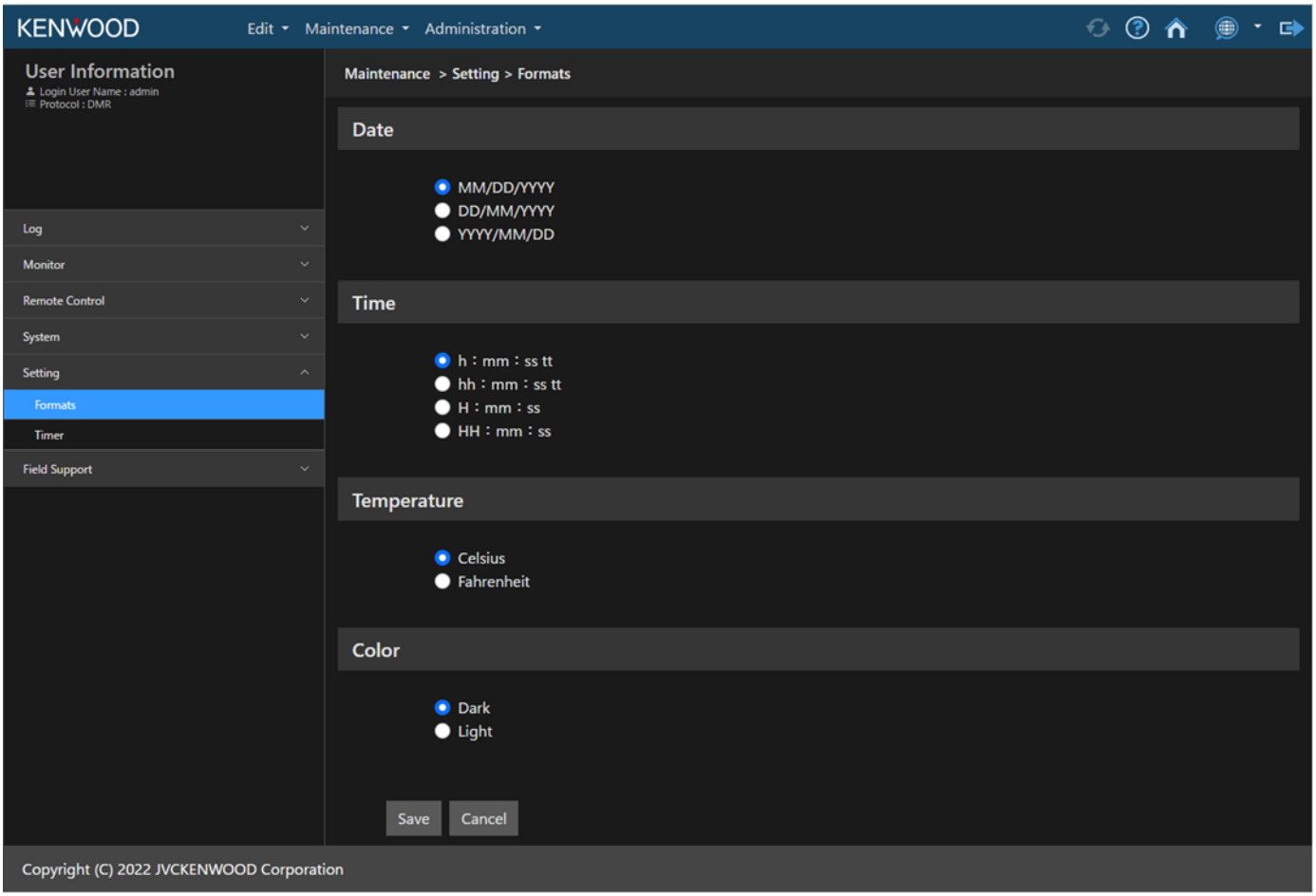


Figure 2-27 Setting > Formats

In the Formats screen, the following functions can be operated:

Table 2-35 Formats

Function	Description
Date	**Date** is the function that can select the format of the year, month, and day displayed in the Web Tool.

Function	Description
	The year, month, and day is displayed in the configured display format from among the following: ・ MM/DD/YYYY ・ DD/MM/YYYY ・ YYYY/MM/DD Each character in the display format indicates the following: ・ YYYY: year ・ MM: month ・ DD: day
Time	**Time** is the function that can select the format of the time displayed in the Web Tool. The time is displayed in the configured display format from among the following: ・ h:mm:ss tt ・ hh:mm:ss tt ・ H:mm:ss ・ HH:mm:ss Each character in the display format indicates the following: ・ H: hour (24-hour clock) ・ HH: 0-padded 2-digit hour (24-hour clock) ・ h: hour (12-hour clock) ・ hh: 0-padded 2-digit hour (12-hour clock) ・ mm: minute ・ ss: second ・ tt: am or pm
Temperature	**Temperature** is the function that can select the format of the temperature displayed in the Web Tool. The temperature is displayed in the configured display format from among the following: ・ Celsius ・ Fahrenheit Each character in the display format indicates the following: ・ Celsius: ℃ ・ Fahrenheit: ℉
Color	**Color** is the function that can select the color tone displayed in the Web Tool. The color tone is selected from among the following: ・ Dark ・ Light The selected color tone is as follows: ・ Dark: Displays the Web Tool screen in a dark tone. ・ Light: Displays the Web Tool screen in a bright tone.
“Save” button	Clicking the “Save” button changes the display formats of year, month, and day, time, and decimal point.

Function	Description
“Cancel” button	Clicking the “Cancel” button cancels the changes of the display formats of year, month, and day, time, and decimal point.

Timer

Timer is the function to configure the logout time of when the Web Tool is not operated. When the Web Tool is not operated, the Web Tool is logged out after the time configured in **Timer** has elapsed.

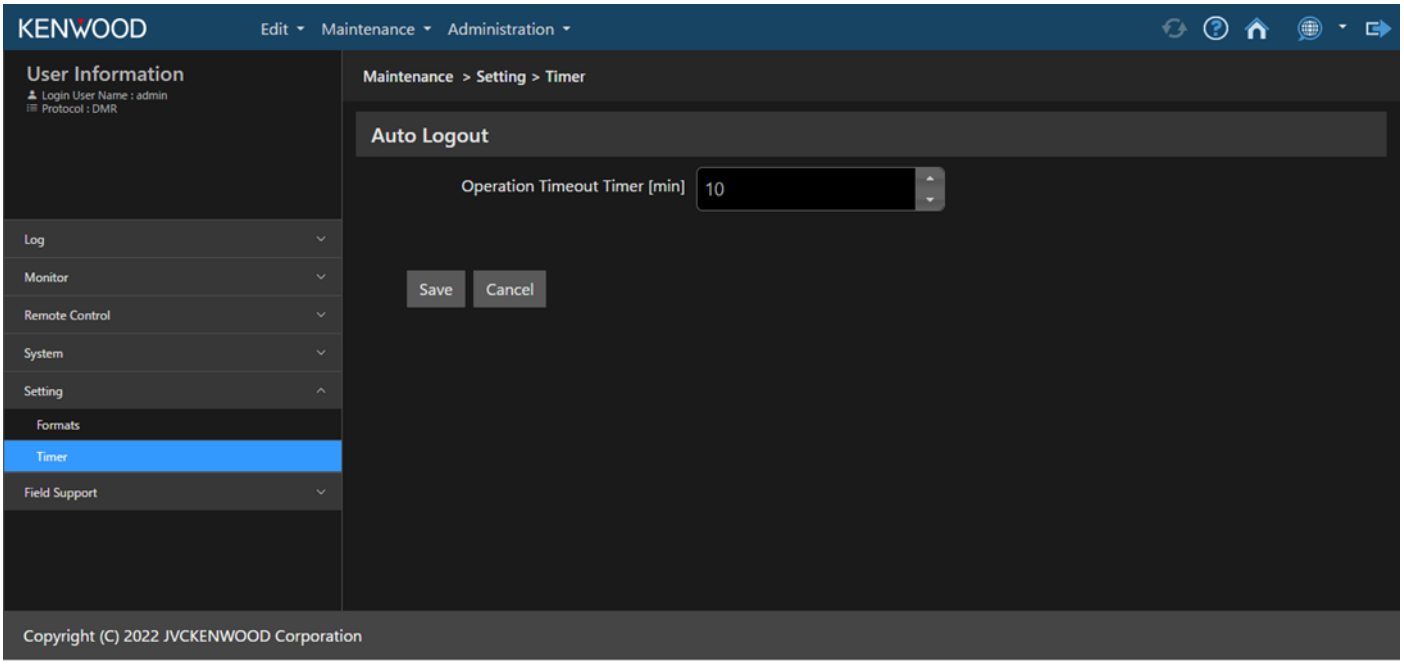


Figure 2-28 Setting > Timer

In the **Timer** screen, the following functions can be operated:

Table 2-36 Timer

Function	Description
Operation Timeout Timer	The logout time used by the Web Tool is configured. If no operation is performed during the specified time, the Web Tool is logged out automatically. “Off” and between 1 min to 10 min in steps of 1 min can be configured. Operation Timeout Timer is disabled on the monitor screen.
“Save” button	Clicking the “Save” button changes the value in Timer.
“Cancel” button	Clicking the “Cancel” button cancels the change of the value in Timer.

Field Support

Field Support is the function to acquire the various information intended for problem analysis in the event of failure. The acquired information is used by the designers. A user can acquire (Download) the information by Field Support; however, a user cannot confirm the contents.

Field Support includes Packet Capture, Core Dump, and Syslog. Various information is accumulated as a file.

Field Support stores a file in a dedicated area (Field Support area).

The latest 10 files in Core Dump are retained. If the number of files exceeds 10, the old file is deleted.

Packet Capture

Packet Capture is the function to capture the packets transmitted and received by the repeater.

This function is intended for problem analysis in the event of a failure, and the acquired information is used by the designer.

A user can acquire the captured packets; however, a user cannot confirm the contents.

If **Packet Capture** is enabled, the repeater saves packet communication with the external devices and packet communication internal to the repeater in a file.

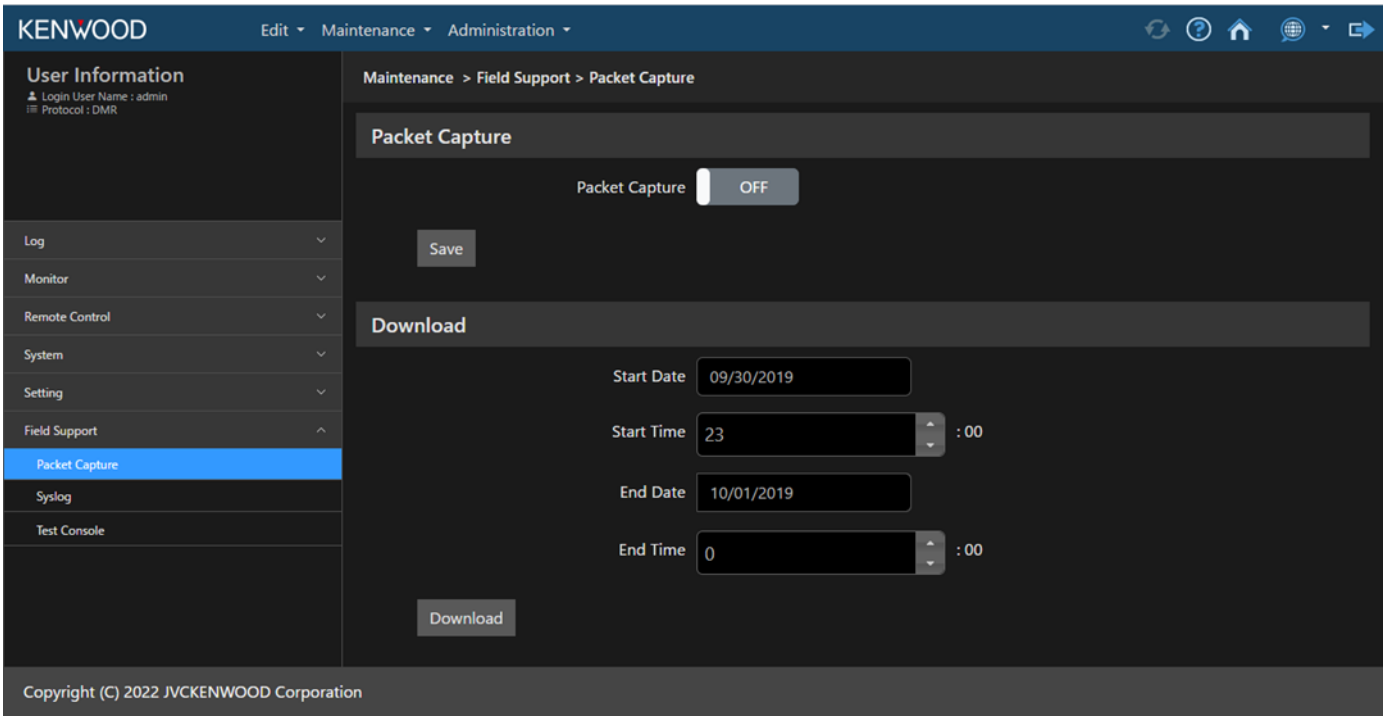


Figure 2-29 Field Support > Packet Capture

In the **Packet Capture** screen, the following operations can be executed:

Table 2-37 Packet Capture

Function	Description
Packet Capture	**Packet Capture** is the function to configure whether to record the content of packet communication. "OFF" The repeater does not record packet communication. "ON" The repeater saves packet communication with the external devices and packet communication internal to the repeater in a file. Packet capture continues even if the repeater is restarted or rebooted.
Start Date	In **Start Date**, the start date for acquiring the captured packets is configured.
Start Time	In **Start Time**, the start time for acquiring the captured packets is configured.
End Date	In **End Date**, the end date for acquiring the captured packets is configured.
End Time	In **End Time**, the end time for acquiring the captured packets is configured.
"Download" button	Clicking the "Download" button enables acquiring the captured packets during the period specified by Start Date/ Start Time/ End Date/ End Time. The acquired file is saved in a PC. The progress status is displayed while the packets are being acquired. Acquiring the packets can be canceled by clicking the "Cancel" button.

Note

- The display formats of Start Date/ Start Time and End Date/ End Time are the same as the display formats of **Date** and **Time** in **Table 2-35 Formats**.
- If the same date and time is specified in Start Date/ Start Time and End Date/ End Time, the "Download" button cannot be executed.
- If a date and time that is later than End Date/ End Time is specified in Start Date/ Start Time, the "Download" button cannot be executed.
- If Start Date/ Start Time or End Date/ End Time is not entered, the "Download" button cannot be executed.

Core Dump

Core Dump is the function to output a core file when a process terminates abnormally.
This function is intended for problem analysis in the event of a failure, and the acquired information is used by the designer.
A user can acquire a core file; however, a user cannot confirm the contents.

Core Dump is always enabled. The configuration is not in the Web Tool, and the Web Tool cannot disable Core Dump. The generated core file can be acquired by the “Download” button of Diagnostic Data. Clicking the “Download” button acquires all the core files that exist at that time (a maximum of 10 files).

Syslog

Syslog is the function to output a log message for the debugging from the process of the repeater.
This function is intended for problem analysis in the event of a failure, and the acquired information is used by the designer.
A user can acquire a log message; however, a user cannot confirm the contents.

If **Syslog** is enabled, the corresponding process of the repeater outputs a log message to a file. The output log message file can be acquired by the “Download” button of Diagnostic Data. The log message file of within the period configured in Start Date/ End Date of Diagnostic Data can be acquired.

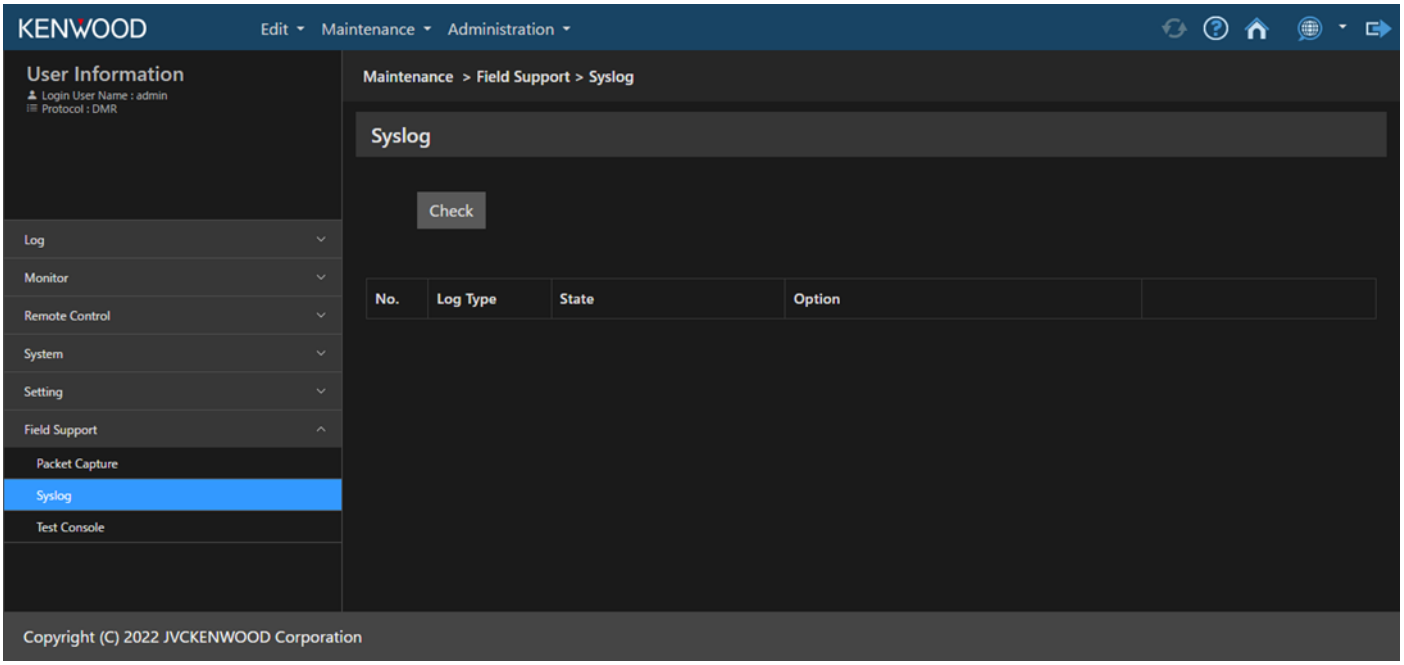


Figure 2-30 Field Support > Syslog

In the **Syslog** screen, the following operations can be executed:

Table 2-38 Syslog

Function	Description
“Check” button	The “Check” button is the function to confirm the current status of **Syslog**. Clicking the “Check” button displays the current status of the **Syslog** function for each log type.
Log Type	**Log Type** indicates the type of message that is output by the **Syslog** function. The repeater enables or disables log output for each Log Type. Clicking the “Check” button displays the type of the log message.
State	**State** indicates the enabled or disabled state of the log message output. “OFF” The repeater does not output the log message. “ON” The repeater outputs the log message for the corresponding Log Type. A log message continues to be output even if the repeater is restarted or rebooted. Clicking the “Check” button displays the output status of the log message for each Log Type. After clicking the “Check” button, the “ON”/”OFF” of **State** can be changed. Changing the “ON”/”OFF” of **State** is reflected in the repeater by clicking the “Change” button.
Option	**Option** is an option for the log message output. It is used to adjust the amount of message output and to further categorize the output than **Log Type** when a log message is output. If the **Syslog** function is enabled, the repeater outputs a log message according to the configuration in **Option**. Clicking the “Check” button displays the option of the corresponding Log Type. **Option** can only be configured when **State** is “ON”.
“Change” button	The “Change” button is the function to enable or disable the **Syslog** function. By clicking the “Change” button, the repeater changes the **Syslog** function to be enabled or disabled. Clicking the “Change” button reflects “ON”/“OFF” of **State** and the changes in **Option**.

Note

- Enabling the **Syslog** function may cause the repeater to behave slowly. If this is not useful, reduce the output of log messages or disable the **Syslog** function.

Test Console

Test Console is the software used by a field engineer to conduct test voice communications.

This repeater supports the test console download function in the Web Tool.

Click the “Download” button to download the test console. Refer to the Function Reference for details.

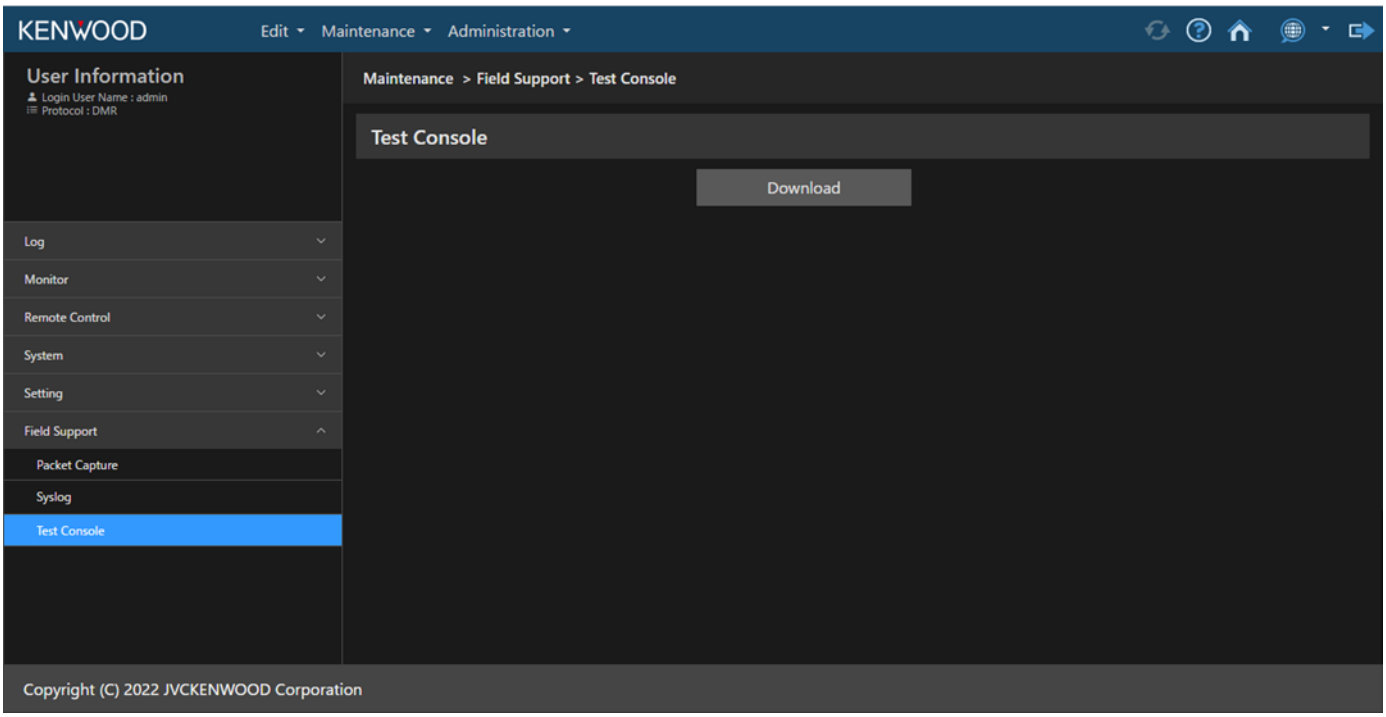


Figure 2-31 Test Console

2.4 User Management Function (Administration)

User List

In **User List**, a user who configures and operates the repeater on the Web Tool is displayed on a list.

Also, a user can be added, edited, and deleted.

A user registered in User List can configure and monitor the repeater, and execute Remote Control for the repeater in the Web Tool.

In User List, a user with “admin” configured as User Name is initially registered. This user is called admin.

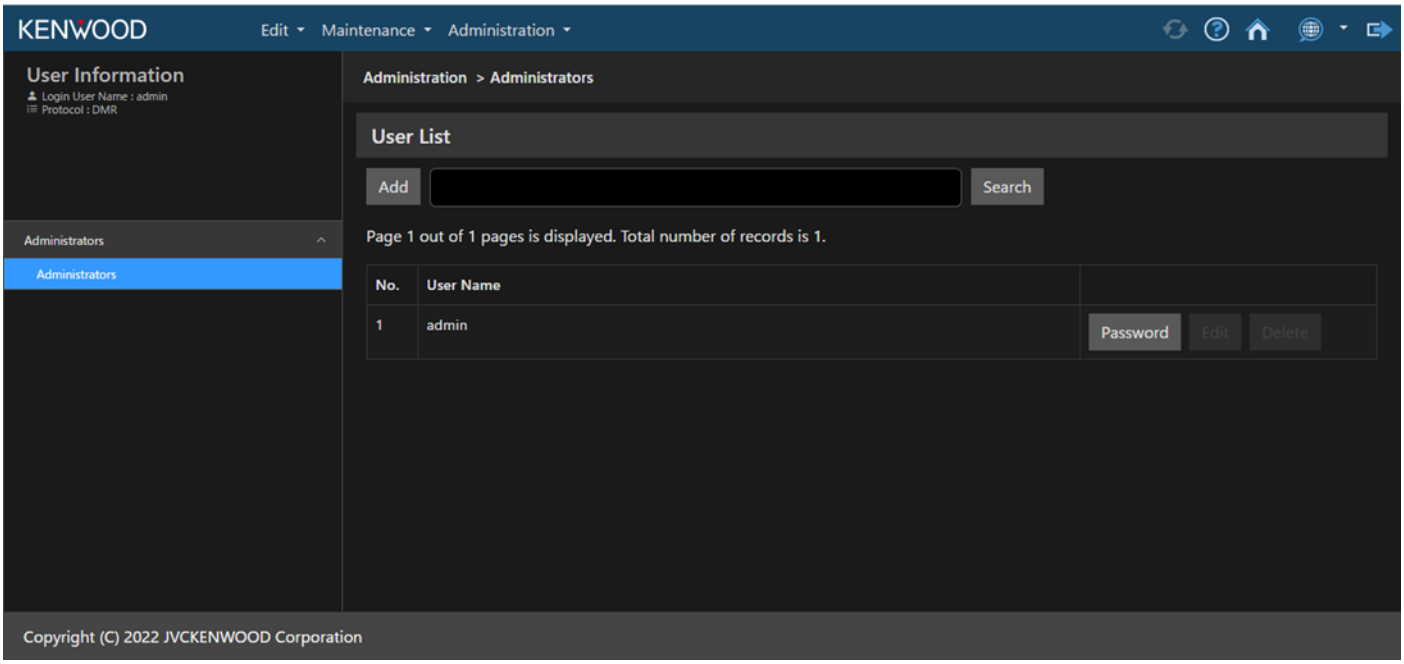


Figure 2-32 Administrators > User List

In the **User List** screen, the following operations can be executed:

Table 2-39 User List

Function	Description
No.	The number for the user is displayed.
User Name	The name of the user is displayed.
“Add” button	Admin can add a user.
“Search” button	A user using the repeater can search by entering a User Name, etc. Clicking the “Search” button shows the result of the text string entered as the search target.
“Page Access Bar” key	This is the key for easily moving to another page of a configuration list spanning multiple pages.
“Password” button	Admin can change the login password for all users. A user other than admin can only change the own login password.
“Edit” button	Admin can edit the user information of all users. A user other than admin can only change the own user information.
“Delete” button	Admin can delete the user information. However, admin themselves cannot be deleted.

User

User is the function to register detailed user information. Click the “Add” button in the User List screen to register detailed user information.

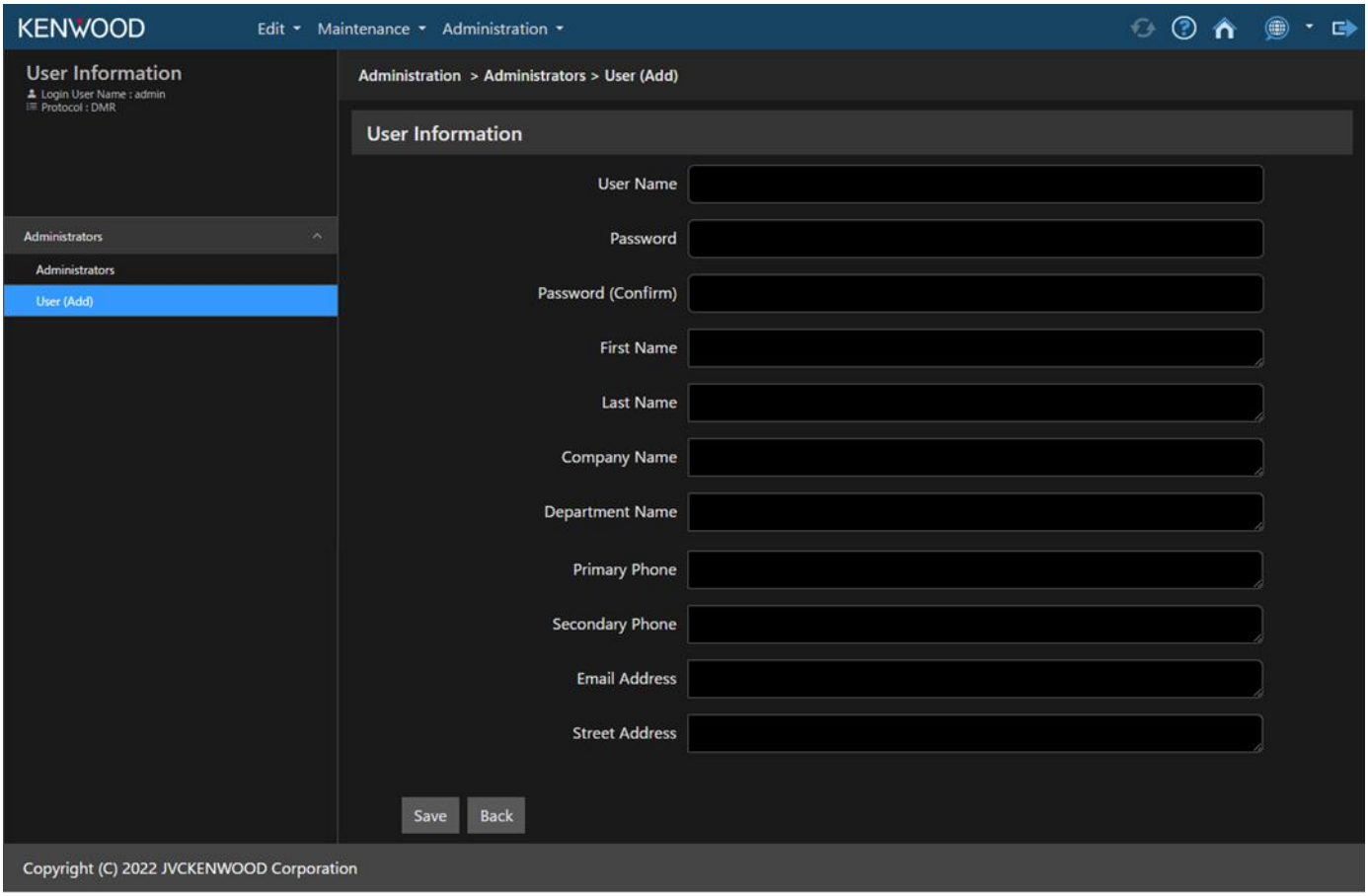


Figure 2-33 User (Add)

In the **User** screen, the following operations can be executed:

Table 2-40 User (Add)

Function	Description
User Name	Configured by entering the name of a user who configures and operates the repeater. However, the same user name cannot be redundantly configured.
Password	In Password, the password of the user is entered. A password is configured when a user is added. If the password is left blank, the password cannot be saved. The entered password is marked with asterisks (*) and masked to make it unreadable.
Password (Confirm)	In Password (Confirm), whether the new password is correct is verified by reentering the new password of the user. The entered password is marked with asterisks (*) and masked to make it unreadable.
First Name	Configured by entering the first name of a user who configures and operates the repeater.

Function	Description
Last Name	Configured by entering the last name of a user who configures and operates the repeater.
Company Name	Configured by entering the company name of a user who configures and operates the repeater.
Department Name	Configured by entering the name of the department to which a user who configures and operates the repeater belongs.
Primary Phone	Configured by entering the primary phone number of a user who configures and operates the repeater.
Secondary Phone	Configured by entering the secondary phone number of a user who configures and operates the repeater.
Email Address	Configured by entering the email address of a user who configures and operates the repeater.
Street Address	Configured by entering the street address of a user who configures and operates the repeater. The field can also be used for remarks.

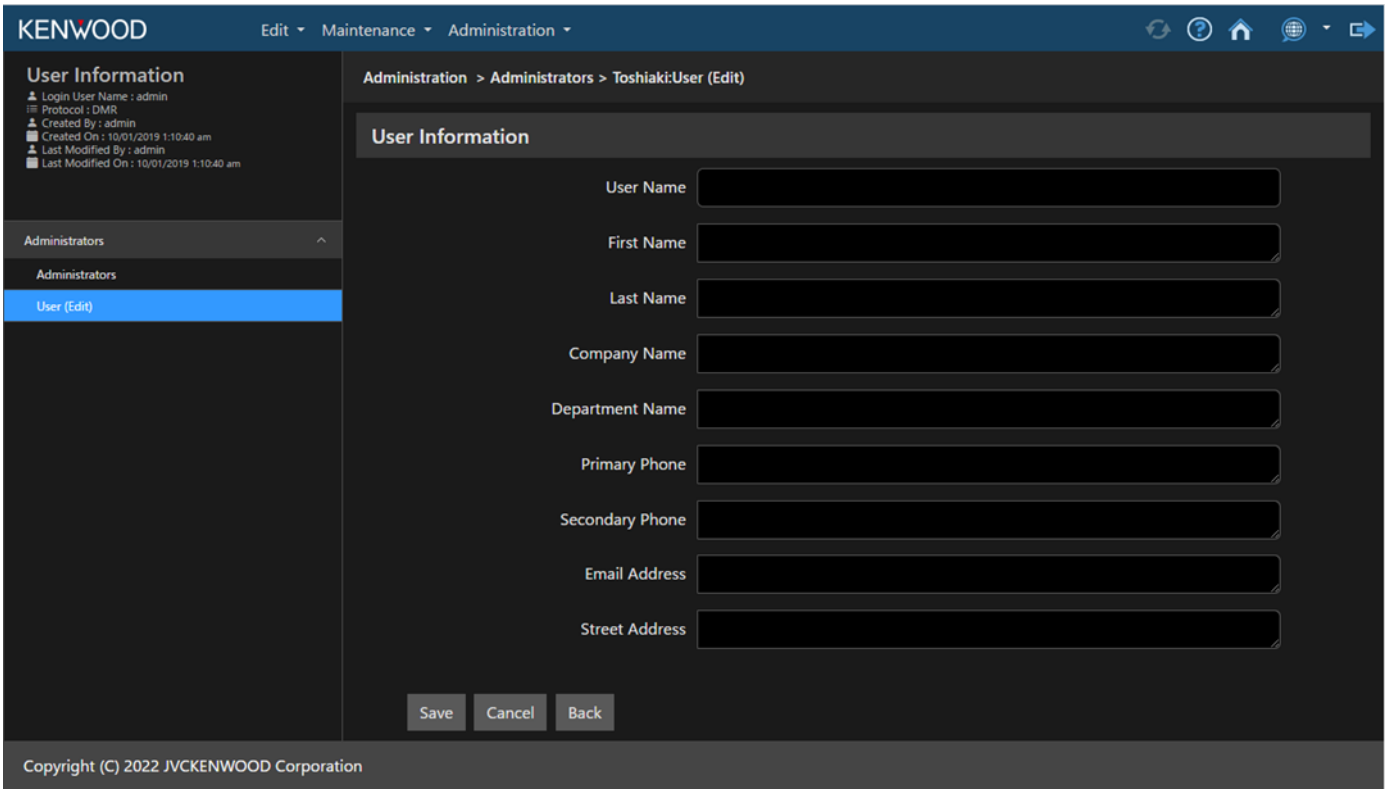


Figure 2-34 User (Edit)

User is the function to register detailed user information. Click the “Edit” button in the User List screen to register detailed user information.

Table 2-41 User (Edit)

Function	Description
User Name	Configured by entering the name of a user who configures and operates the repeater. However, the same user name cannot be redundantly configured.
First Name	Configured by entering the first name of a user who configures and operates the repeater.
Last Name	Configured by entering the last name of a user who configures and operates the repeater.
Company Name	Configured by entering the company name of a user who configures and operates the repeater.
Department Name	Configured by entering the name of the department to which a user who configures and operates the repeater belongs.
Primary Phone	Configured by entering the primary phone number of a user who configures and operates the repeater.
Secondary Phone	Configured by entering the secondary phone number of a user who configures and operates the repeater.
Email Address	Configured by entering the email address of a user who configures and operates the repeater.

Function	Description
Street Address	Configured by entering the street address of a user who configures and operates the repeater. The field can also be used for remarks.

User Password

User Password is the function to change the password for a user using the Web Tool. Click the “Password” button in the User List screen to change the password for a user.

Only the logged-in user can change the password.

In addition, admin can change the password for all users.

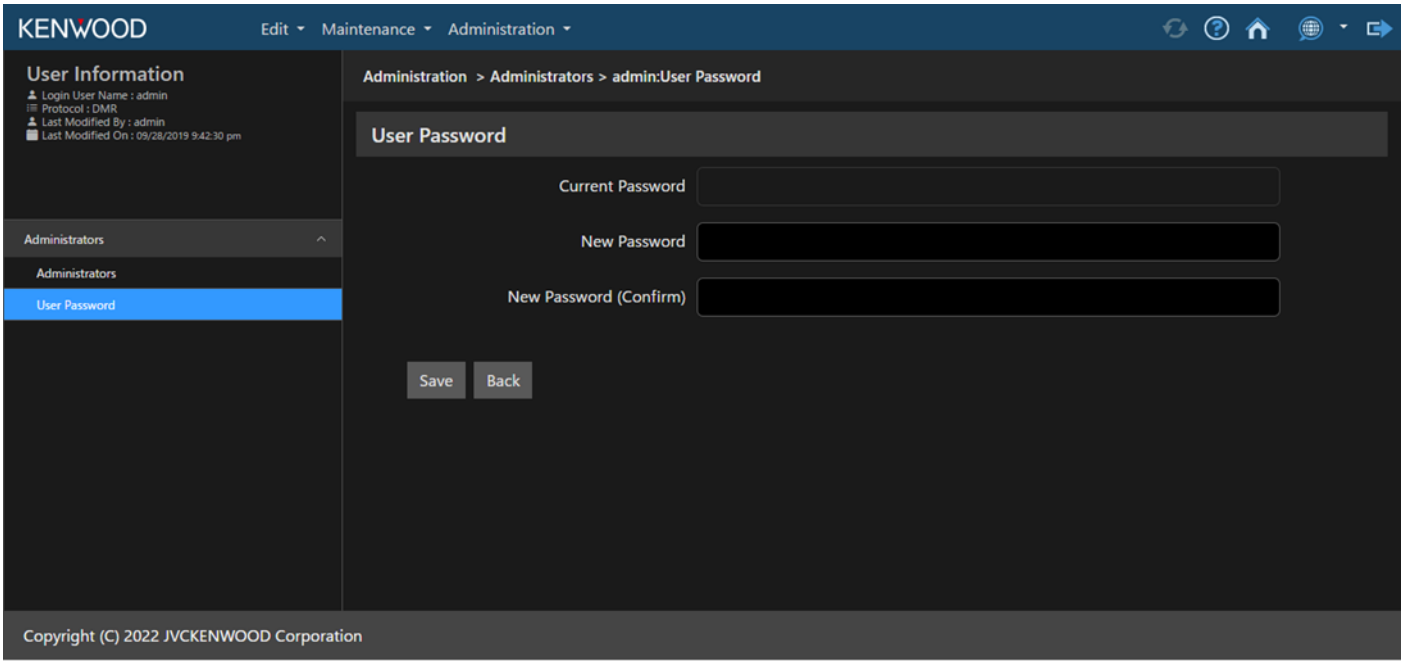


Figure 2-35 User Password

In the **User Password** screen, the following operations can be executed:

Table 2-42 User Password

Function	Description
Current Password	In **Current Password**, the current password of the user is entered. The entered password is marked with asterisks (*) and masked to make it unreadable.
New Password	In **New Password**, the new password of the user is entered. If the password is left blank, the password cannot be saved. The entered password is marked with asterisks (*) and masked to make it unreadable.
New Password (Confirm)	In **New Password (Confirm)**, whether the new password is correct is verified by reentering the new password of the user. The entered password is marked with asterisks (*) and masked to make it unreadable.
“Save” button	Clicking the “Save” button changes the password to the entered password.
“Back” button	Clicking the “Back” button migrates to the User List screen.

3 DESCRIPTIONS OF FUNCTIONS (WEB TOOL)

3.1 Remote Configuration

The repeater supports the Remote Configuration function via the Web. In Remote Configuration, the repeater is configured remotely. The supported ranges are as follows:

Table 3-1 Remote Configuration

Function	Remark
IP Configuration	An IP address can be changed on the logged-in repeater.
User List	A GID, UID, GID Range, and UID Range which are allowed to be used can be configured.
Console List	A console ID which is allowed to be used can be configured.
Hot Standby	The configuration related to the Hot Standby function and the configuration for Virtual IP Address can be done.
Security	The configuration related to HTTPS communication can be done, and HTTP communication can be disabled.
Time Setting	Configuration by NTP or manual operation can be done.

3.2 Remote Control

The repeater supports the Remote Control function via the Web. In Remote Control, the repeater is configured remotely. The supported ranges are as follows:

Table 3-2 Remote Control

Function	Remark
Channel Select	Enter the desired channel number and click the confirm button.
Slot Select	Enter the desired slot number and click the confirm button.
CW ID	Clicking the button sends the CW ID. Refer to CW ID in the Function Reference for details of the function.
Decode Signaling Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Decode Signaling Disable in the Function Reference for details of the function.
Encode Signaling Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Encode Signaling Disable in the Function Reference for details of the function.
Call Hangtime Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Call Hangtime in the Function Reference for details of the function.
Channel Hangtime Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Channel Hangtime (Mixed Channel) and Channel Hangtime (DMR Channel) in the Function Reference for details of the function.
Hold Time Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Repeater Hold Time in the Function Reference for details of the function.
Local TX Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Local TX Disable in the Function Reference for details of the function.

Function	Remark
Low Power On/Off	The toggle behavior occurs by clicking the button. Refer to Transmit Power in the Function Reference for details of the function.
Monitor On/Off	The toggle behavior occurs by clicking the button. Refer to Monitor in the Function Reference for details of the function.
AUX Output Control	The toggle behavior occurs by clicking the button. Refer to AUX Output in the Function Reference for details of the function.
Repeat Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Repeat Disable in the Function Reference for details of the function.
Squelch On/Off	The toggle behavior occurs by clicking the button. Refer to Squelch in the Function Reference for details of the function.
Take Over On/Off	The toggle behavior occurs by clicking the button. Refer to Take Over in the Function Reference for details of the function.
Test Tone On/Off	The toggle behavior occurs by clicking the button. Refer to Test Tone in the Function Reference for details of the function.
TOT Enable/Disable	The toggle behavior occurs by clicking the button. Refer to Time-out Timer in the Function Reference for details of the function.
TX Enable/Disable	The toggle behavior occurs by clicking the button. Refer to TX Disable in the Function Reference for details of the function.
Voting Tone On/Off	The toggle behavior occurs by clicking the button. Refer to Voting Pilot Tone in the Function Reference for details of the function.
Knob Lock/Unlock	The toggle behavior occurs by clicking the button. Enabling Knob Lock displays “Knob Lock” on the OLED display. If the Menu display screen is displayed at this time, the Normal display screen appears.
Service (Stop)	Clicking the button stops the software of the repeater.
Service (Start)	Clicking the button starts the behavior of the repeater software.
Service (Restart)	After the repeater software stops, clicking the button starts the behavior.
Service (Reboot)	Pressing the button makes the repeater reset the hardware level, and then the repeater restarts and starts the behavior.
Active Status Switch	The active state of Hot Standby can be switched.

Note

- If Channel Select is assigned to AUX Input/Output 1 to AUX Input/Output 5 by using the FPU, Channel Select cannot be controlled from the Web Tool and OLED display Menu. However, if “ON” is configured in **Take Over**, Channel Select can be controlled from the Web Tool and OLED display Menu.
  Refer to the Function Reference for details of **Channel Select** for assigning to AUX Input/Output 1 to AUX Input/Output 5 by using the FPU.

3.3 Remote Monitor

The repeater supports the Remote Monitor function via the Web. In Remote Monitor, the repeater status is confirmed remotely. The supported ranges are as follows:

Table 3-3 Remote Monitor

Type	Error Display	Function	Remark
General Information	-	Channel Name	The Channel Name configured for the repeater
	-	Model Name	The model name
	-	Market Code	The market code
	-	Serial Number	The serial number
	-	NXDN ESN	NXDN ESN
	-	Own IP Address	IP Address, Subnet Mask, Default Gateway
	-	MAC Address	The MAC address
	-	License Information	The license information
	-	Firmware Version	The firmware version
	-	Frequency	The frequency configured for the repeater is always displayed.
	-	Operation Mode	Operation Mode
	-	Hot standby Mode	The Main Repeater/ Sub Repeater
	-	Virtual IP Address	The IP address for the service when Hot Standby is enabled
Communication Information	-	Call State	Monitoring a call in real time
System Information	-	Hot standby Status	HSB Active/ HSB Standby/ HSB Failsoft
	-	Next Switch Time	The scheduled switch time of the active state
	-	Repeater Status	Run/ Standby/ Processing
	Targeted	Hot Standby Connection	Interruption of communication between the Main Repeater and Sub Repeater
	Targeted	Beacon Sync	Interruption of communication between the master repeater and member repeater
	-	Beacon Operating Status	The Host Repeater status
	-	NTP Synchronized Status	The status of the synchronization of an NTP Client with an NTP Server
RF Information	-	RX Status *	The receive status
	-	RSSI *	The RSSI value
	-	BER *	The BER display
	-	Receive Signal (Threshold)	The RSSI voltage threshold

Type	Error Display	Function	Remark
	-	Signaling *	Matching/Not matching
	-	TX Status	The transmit status
	Targeted	VSWR Error Detection	The error detection for the reflected wave strength during transmission
	Targeted	RF Power Down Detect	Decrease in transmit power output The threshold is adjusted in PC Tuning Mode.
Configuration Information	Targeted	Unprogrammed	When none of the channels have been configured
	Targeted	Channel Data Blank	When the selected channel has not been configured
	Targeted	TX Frequency Data Blank	PTT detection on the channel for which a transmit frequency is not configured
	Targeted	ESN Blank	When the ESN is not written
	Targeted	Feature Error	When a software option function not permitted for the repeater is permitted in the FPU configuration
HW Information	Targeted	Fan Error Detection	When an error of the fan is detected
	Targeted	Power Supply Voltage Error	When an error has occurred with the power supply voltage The threshold is configured in FPU.
	Targeted	RX PLL Unlock	When an unlocked RX PLL is detected
	Targeted	TX PLL Unlock	When an unlocked TX PLL is detected
	Targeted	Current Consumption (HPA) Error	When an error in the HPA current consumption is detected
	Targeted	Temperature (Drive Amp) Error	When an error in the Drive Amp temperature is detected
	Targeted	Temperature (TX Block) Error	When an error in the TX Block temperature is detected
	Targeted	Temperature (TCXO) Error	When an error in the TCXO ambient temperature is detected
	Targeted	Temperature (HPA) Error	When an error in the HPA temperature is detected
Function Port Information	-	AUX Input Monitor	-

* For RX Status, RSSI, BER, and Signaling, the status is displayed for each Slot in DMR Mode. In this case, the same status is displayed for both Slot 1 and Slot 2 when a signal of anything other than DMR is being received.

3.4 Upload/ Download

The repeater supports the file upload and file download functions via the Web. The supported ranges are as follows:

Table 3-4 Upload/ Download

Function	Remark
Firmware Update	Clicking the “Update” button after selecting the firmware executes Firmware Update.
Communication Log Download	Clicking the “Download” button after specifying the acquisition period and target executes the download of the log.
System Log Download	Clicking the “Download” button after specifying the acquisition period and target executes the download of the log.
Diagnostic Data Download	Clicking the “Download” button after specifying the acquisition period and target executes the download of the log.
ID Import/Export	For the data exported in the CSV format, the data can be edited, deleted, added, and imported in the local environment.
Test Console Download	Clicking the “Download” button executes the download of the test console package stored in the repeater. The test console itself and its associated libraries, etc. require manual installation.
Packet Capture	Whether to enable or disable the packet capture tool (tcpdump) is selected. In addition, a file can be downloaded in the dat format by specifying the date and time.
Syslog	Whether to enable or disable debug output is selected. The output debug information is included in Diagnostic Data.

3.5 Clear

The repeater supports the data deletion function via the Web. The supported ranges are as follows:

Table 3-5 Clear

Function	Remark
Log Clear	Clicking the “Clear” button clears Communication Log and System Log information stored in the repeater.
ID Clear	Clicking the “Clear” button clears all ID List information stored in the repeater.

Note

- Refer to the Function Reference for deletion of the data configured in FPU.

3.6 Login User Management

The repeater supports the Login User Management function via the Web and can assign a password to each logged-in user.

Table 3-6 Login User Management

Function	Remark
Login User List	**Login User List** is the function to register multiple user accounts.
Login User	**Login User** is the function to register the user account to log in.
Login Password	**Login Password** is the function to register the password of the user account to log in.

3.7 License

The unique information of the repeater and the function authorized by the license can be confirmed, and the license authentication can be performed. Because the license file used for license authentication is supplied and managed by JVCKENWOOD Corporation, the charge for the software and unauthorized use of the license file can be prevented.

The licenses handled by the repeater are as shown in the table below and are generated by License Management Client (KPT-300LMC).

Table 3-7 License

License	Description
KWD-NX10DC	DMR CONVENTIONAL
KWD-NX10NC	NXDN CONVENTIONAL
KWD-NX10MS	CONVENTIONAL IP NETWORK
KWD-NX10VR	VOTING REPEATER
KWD-NX10SP	SIP PHONE

License Information

In the Web Tool screen, the following operations related to **License Information** can be performed.

Table 3-8 License Information

Item	Description
License	**License** is the function to display the name of the function authorized by the license.
Description	**Description** is the function to display the description of the function authorized by the license.

Note

- To execute license authentication, KPT-300LMC (Ver. 1.30 or later) is used. Refer to KPT-300LMC Basic Operations for details.

3.8 Import & Export

Import & Export is the function to import and export the each ID information (UID, GID, UID Range, GID Range) in User List and the ID information (Console ID) in Console List on the Web Tool. The each ID information (UID, GID, UID Range, GID Range) in User List and the ID information (Console ID) in Console List can be registered by editing and importing the CSV file which is output by export. In addition, the import file is separate for each ID of UID, GID, UID Range, GID Range, and Console, and the same applies for export output.

Table 3-9 Import & Export

Configuration	Description
File Name	**File Name** is the file name of a CSV file to execute Import or Differential Extract. The CSV file name selected by using the “Browse...” button is displayed. After confirming the file name that appears, Import or Differential Extract can be executed. File Name has the following five types: ・ UID List: The CSV file name for editing UID in User List ・ GID List: The CSV file name for editing GID in User List ・ UID Range List: The CSV file name for editing UID Range in User List ・ GID Range List: The CSV file name for editing GID Range in User List ・ Console List: The CSV file name for editing Console ID in Console List
“Browse...” button	The “Browse...” button is the function to select a CSV file to execute Import or Differential Extract. The CSV files which can be selected by the “Browse...” button are the following five types: ・ UID List: The CSV file that is output by exporting UID List ・ GID List: The CSV file that is output by exporting GID List ・ UID Range List: The CSV file that is output by exporting UID Range List ・ GID Range List: The CSV file that is output by exporting GID Range List ・ Console List: The CSV file that is output by exporting Console List
“Differential Extract” button	The “Differential Extract” button is the function to read a CSV file to be imported and to output as a CSV file the data contents to be reflected after the execution of import. Before the execution of import, the data contents (addition, edit, deletion) to be reflected can be confirmed. Clicking the respective “Differential Extract” button downloads as a CSV file the data contents to be reflected after the execution of import. Only data that has been added, changed, or deleted is recorded in the CSV file to be output. The default file name is “DifferentialExtract_(the file name of the imported file).csv”. If the content of data cannot be imported, the content of the error is downloaded as a text file. The text file displays the line number where the error occurred and its content. The default file name is “ImportError_(the file name of the imported file).txt”. **Note** ・ The CSV file of a different list cannot be imported. For example, the CSV file that is exported from UID List cannot be read by the “Differential Extract” button (GID List).

Configuration	Description
	・ The CSV file in the function mode that is not the same as the operated function mode cannot be imported even if the list matches. For example, the CSV file that is output during operation in NXDN Mode cannot be read during operation in DMR Mode. ・ The CSV file cannot be imported if a Site Group not configured in the FPU is configured in the CSV file of UID List, GID List, UID Range List, or GID Range List.
“Import” button	“Import” is the function to read the CSV file that was output by export and to reflect the configuration contents (UID List, GID List, UID Range List, GID Range List, Console List) to the Web Tool. Clicking the “Import” button reflects the configuration contents of the CSV file to the Web Tool. If the content of data cannot be imported, the content of the error is downloaded as a text file. The text file displays the line number where the error occurred and its content. The default file name is “ImportError_(the file name of the imported file).txt”. **Note** ・ The CSV file of a different list cannot be imported. For example, the CSV file that is exported from UID List cannot be read to “Import (GID List)”. ・ The CSV file in the function mode that is not the same as the operated function mode cannot be imported even if the list matches. For example, the CSV file that is output during operation in NXDN Mode cannot be read during operation in DMR Mode. ・ The CSV file cannot be imported if a Site Group not configured in the FPU is configured in the CSV file of UID List, GID List, UID Range List, or GID Range List. ・ Updating is not performed automatically when the import is completed. Updating needs to be performed as any other Web Tool configuration is changed.
“Export” button	Clicking the “Export” button exports the ID information for UID, GID, UID Range, GID Range, and Console. The “Export” button is the function to output as a CSV file the ID information data for UID, GID, UID Range, GID Range, and Console configured by using the Web Tool. The ID information for UID, GID, UID Range, GID Range, and Console can be added, edited, and deleted by editing the CSV file which is output by export. Clicking each “Export” button outputs as a CSV file the data for UID List, GID List, UID Range List, GID Range List, and Console List configured by using the Web Tool. The default file name is “NXR1700_id_export_yyyy-mm-dd.csv”. The configurations which are output for each export are as follows: ・ UID List: User List > UID List > UID, UID Name, Site Group, Valid ・ GID List: User List > GID List > GID, GID Name, Site Group, Valid ・ UID Range List: User List > UID Range List > UID Range (Min), UID Range (Max), UID Range Name, Site Group, Valid ・ GID Range List: User List > GID Range List > GID Range (Min), GID Range (Max), GID Range Name, Site Group, Valid ・ Console List: Console > Console List > UID, UID Name, Valid, Comment, Priority

Note

- Export outputs UID List, GID List, UID Range List, GID Range List, and Console List in the operated function mode as a CSV file. Export can be performed for each UID List, GID List, UID Range List, GID Range List, or Console List, and a separate CSV file is output. Also, a CSV file is assigned an identifier of the mode in operation.
- Import can be performed for each UID List, GID List, UID Range List, GID Range List, or Console List, and the CSV file which is output by export is read and the configuration contents are reflected in the Web Tool.
- Import can only read the CSV file exported in the same mode as the function mode in operation and with the same language configuration as the currently selected language.
- The ID information for UID, GID, UID Range, GID Range, and Console can be registered at once by editing and importing the CSV file which is output by export.

The differential information (the total number of additions, deletions, and changes) that can be extracted at one time by Differential Extract and the number of changes that can be made at one time by import (the total number of additions, deletions, and changes) are as follows:

- Includes the configuration items, etc. of each CSV file.

Table 3-10 Import & Export (Differential Extract)

Function	Target	Item	The Number of Items
Import & Export	UID List	UID	1000 items
		UID Name	
		Site Group	
		Valid	
	UID Range List	UID Range (Min)	64 items
		UID Range (Max)	
		UID Range Name	
		Site Group	
		Valid	
	GID List	GID	1000 items
		GID Name	
		Site Group	
		Valid	
	GID Range List	GID Range (Min)	64 items
		GID Range (Max)	
		GID Range Name	
		Site Group	
		Valid	
	Console List	UID	10 items
		UID Name	
		Valid	
		Comment	
		Priority	

4 RACK MOUNT

4.1 Installation Preparation

For attaching a single repeater

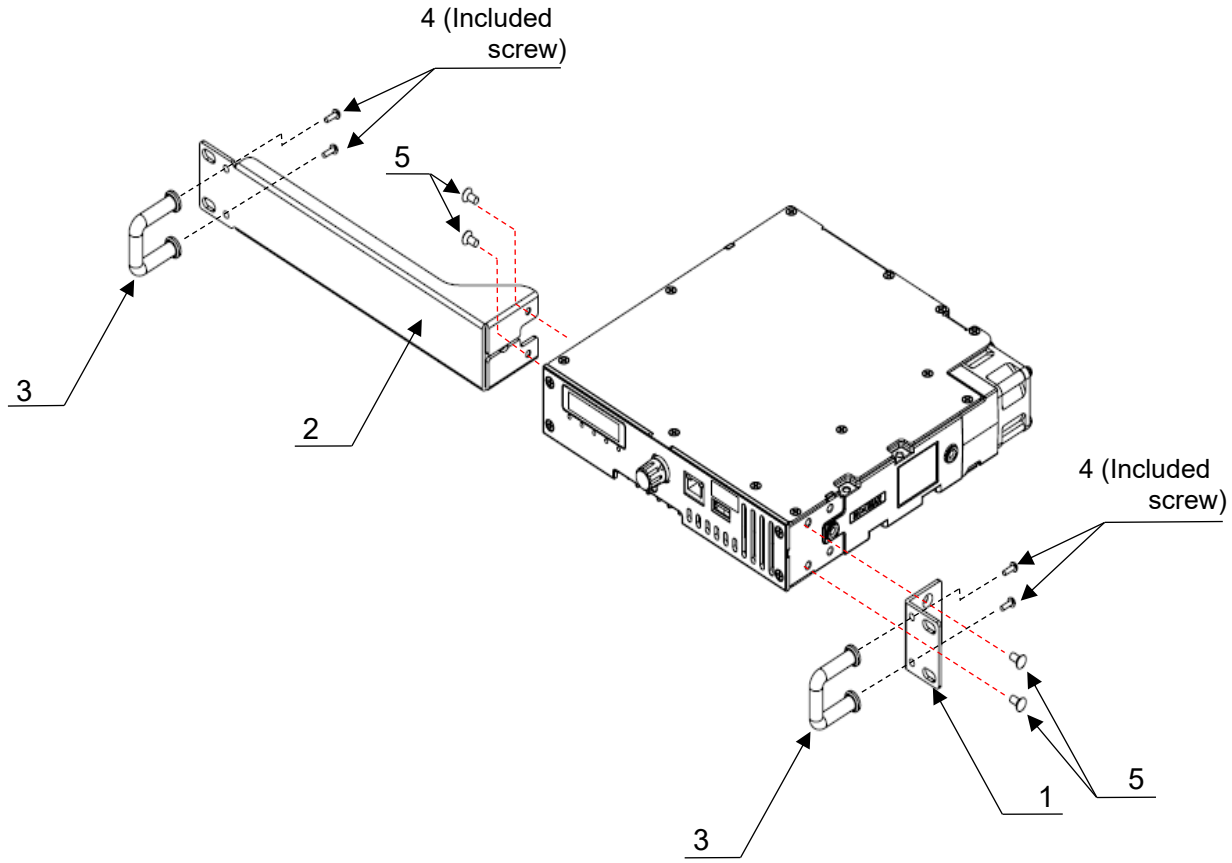


Figure 4-1 Overview for the Attachment of the Supplied Accessories to the Repeater (Single Repeater)

Procedure related to attachment (in the case of a single repeater)

1 Confirm that the supplied accessories required for the attachment to the repeater are accounted for.

The quantities in Table 4-1 indicate the quantities required for the attachment.

Table 4-1 Parts Required for the Attachment of the Repeater

No.	Part Name	Quantity	Remark
1	Bracket	1	Short type
2	Bracket	1	Long type
3	Handle	1 set	2 pcs
4	-	4	Included screw for No. 3
5	Flat Head Machine Screw	4	For Bracket

2 Ready the tool.

The tool required for the attachment of the supplied accessories (an M4 screwdriver) is readied.

3 Attach the Handle to the Bracket.

Use the screws included with the Handle for attachment.

4 Attach the Bracket assembly assembled in step 3 to the repeater.

Note

- In the case of a single repeater, attachment to both the right side and left side is available. Although attachment is to the right side in the current illustration, the attachment can be to the left side of the body by turning “Bracket (Long type, Short type)” by 180 degrees in the opposite direction.

For attaching 2 repeaters

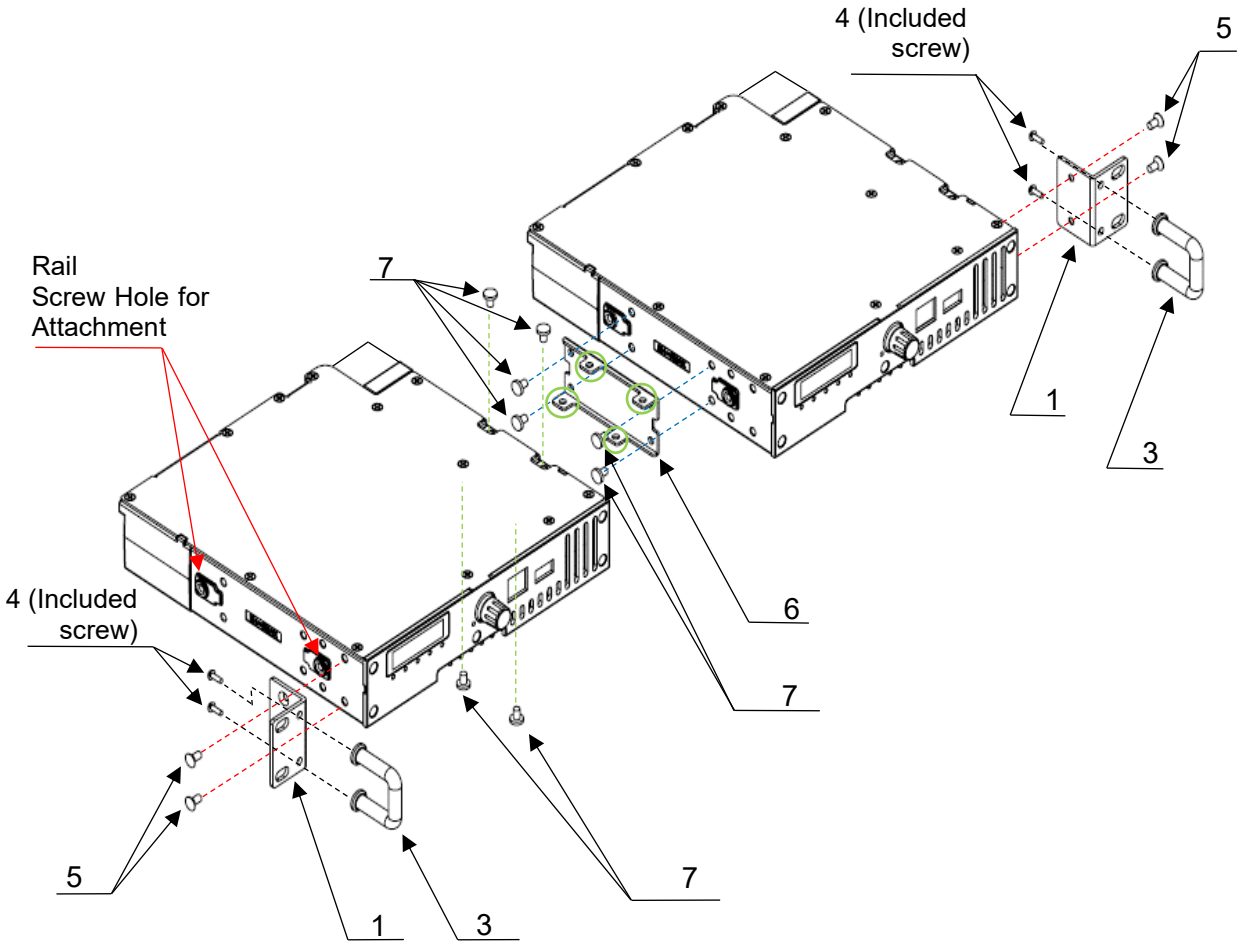


Figure 4-2 Overview for the Attachment of the Supplied Accessories to the Repeater (2 Repeaters)

Procedure related to attachment (in the case of 2 repeaters)

1 Confirm that the supplied accessories required for the attachment to the repeater are accounted for.

The quantities in Table 4-2 indicate the quantities required for the attachment.

Table 4-2 Parts Required for the Attachment of the Repeater

No.	Part Name	Quantity	Remark
1	Bracket	2	Short type
3	Handle	1 set	2 pcs
4	-	4	Included screw for No. 3
5	Flat Head Machine Screw	4	For Bracket
6	Reinforcing Hardware	1	For connect set
7	Bind Head Machine Screw	8	For Reinforcing Hardware

2 Ready the tool.

The tool required for the attachment of the supplied accessories (an M4 screwdriver) is readied.

3 Attach the Handle to the Bracket.

Use the screws included with the Handle for attachment.

4 Attach Reinforcing Hardware to the repeater.

When this part is attached to the repeater (the one on the right from the front), the part is fixed by screws from the sideways direction of the repeater.

5 Attach the other repeater to the assembly assembled in step 4.

The assembly is fixed by screws from the upward and downward directions of the repeater (the one on the left from the front).

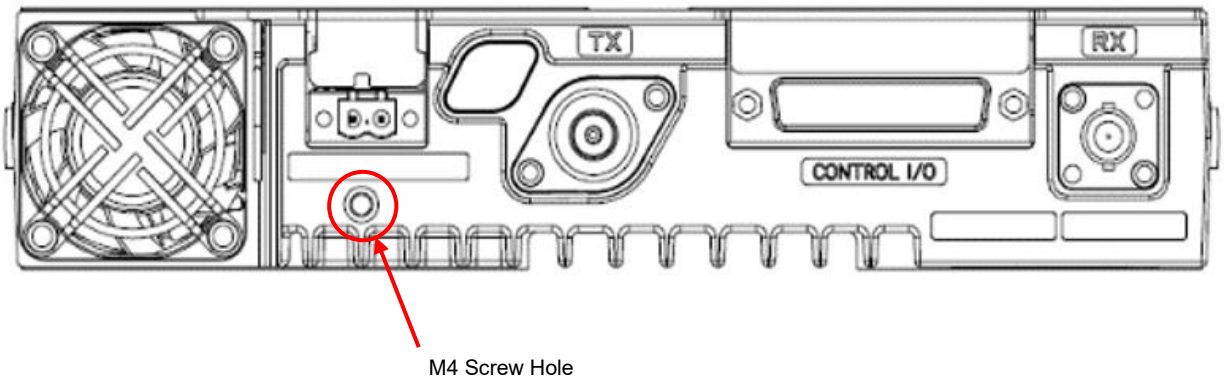
6 Attach the Bracket assembly assembled in step 3 to the repeater.

4.2 Installation Method

Attach the assembly of attachments attached to the repeater according to the description in the rack manual (Figure 4-1 or Figure 4-2) to the rack.

Note

- When attaching to the rack, follow the description in the manual of the rack for attachment.
- Use M4 x 8 for the screws to fix the side of the repeater to the rail of the rack. Do not use screws which exceed 8 mm in length. If screws which exceed 8 mm in length are used, the screws touch the internal board of the repeater, and the repeater can fail.
- When attaching 2 repeaters, the usage after the attachment of the rails to the repeaters (both sides of the assembly) is recommended. Refer to Figure 4-2 for the rail of the rack and the positions of the screw holes for the attachment of the repeaters.
- To fasten a ground wire to the rear of the repeater after the repeater is attached to the rack, use the M4 screw hole of the diagram below. Use M4 x 8 for a screw to fix the ground wire.



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