FURUNO

INSTRUCTION MANUAL

VDR MAINTENANCE VIEWER

Model VR-7000/VR-7000S

This manual is solely for use by the installer of this equipment.
Under no circumstances shall this manual be released to the user.

This manual contains no password data. Obtain password data from FURUNO before beginning the installation.

FURUNO ELECTRIC CO., LTD.

www.furuno.com

FURUNO ELECTRIC CO., LTD.

9-52 Ashihara-cho,
Nishinomiya, 662-8580, JAPAN

・FURUNO Authorized Distributor/Dealer

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FOREWORD

Introduction

This manual describes the procedures to follow after installing the VR-7000/7000S. The outline of the setup is as below.

Step 1: Network setting on PC and VDR
Step 2: Software setting
Step 3: Backup data setting
Step 4: Software configuration from file data
Step 5: Media management
Step 6: Other functions

After setting up, save a backup copy of the configuration data to both a recording media and the PC that has the VDR Maintenance Viewer.

Parts and equipment needed

- PC with Internet Explorer® 6.0 or higher
- LAN cable (supplied)

Trademarks

- Windows and Internet Explorer are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- All other brand and product names are registered trademarks, trademarks of their respective holders.

About this manual

The screenshots shown in this manual were taken on a Windows®7 PC. The displays you see on your PC may be different if your OS is different.

Notes on usage

VDR Maintenance Viewer software with program versions earlier than those listed below cannot be installed on the same PC.

- VDR Maintenance Viewer for VR-3000/S: Version 1.41
- VDR Maintenance Viewer for VR-7000/S: Version 1.04

Uninstall software except for the above-mentioned program versions. Confirm that software versions are compatible before installing new VDR Maintenance Viewer software. Where VDR Maintenance Viewer for VR-3000/S and VR-7000/S are installed on the same PC, to use VDR Maintenance Viewer for VR-7000/S after using VDR Maintenance Viewer for VR-7000/S, restart the PC before starting VDR Maintenance Viewer for VR-7000/S. A restart is not required when using VDR Maintenance Viewer for VR-7000/S after using VDR Maintenance Viewer for VR-3000/S.

Open Source Software

This product includes software to be licensed under the BSD, Apache, GPLv2 + Classpath Exception and others. For details about the term of use for these software, see the OSS license list on the supplied program CD (directory: \OSS_LicenseList\viewer).

Reverse engineering

Reverse engineering (disassemble, decompile) of the software of this equipment is strictly prohibited.

Record of modifications made in this manual

Manual Version	Date of Modification	Software Program No.	Reason for Revision
A	July 2014	2450105-01	1st printing
B	May 2015	2450105-01.04	Software update
C	April 2016	2450105-01.06	Software update
D	November 2016	2450105-01.10	Software update
E	August 2017	2450105-01.20	Software update
F	August 2018	2450105-01.30	Software update
G	July 2019	2450105-01.40	Software update
H	October 2020	2450105-01.61	Software update
J	July 2021	2450105-01.63	Software update
K	March 2022	2450105-01.64	Software update
L	July 2023	2450105-01.65	Software update
M	November 2024	2450105-01.66	Software update

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1. INSTALLATION

The VDR Maintenance Viewer is a software program for setting and maintenance of the VDR. Install the VDR Maintenance Viewer in a PC using the accessory CD.

This chapter provides the description for the installable PC and how to install the program and set the PC.

1.1 Installable PC

The VDR Maintenance Viewer is compatible with the OS (Operating System) shown below. The OS language should be English or Japanese. The VDR Maintenance Viewer may not operate properly on a PC with other OS and language.

- Windows®11 (64 bit)
- Windows®10 (64 bit)
- Windows®8.1 (64 bit)
- Windows®7 (32 bit)

Required specifications for replay PC

- CPU: Pentium 350 MHz (or equivalent) or higher
- RAM: Minimum 1 GB
- HDD: Minimum 250 GB
- Screen resolution: XGA or higher (More than SXGA (1280x1024) recommended)
- CD-ROM drive (internal or external)
- LAN port
- USB port (2.0 compatible)
- DirectX®9.0c or higher
- Java®
  If there is no Java® in the PC, run the installer file included in the program CD to install the Java® program.
  File name: OpenJDK8U-jre_x86-32_windows_hotspot_8u362b09.msi
- Microsoft® Visual C++® 2005 SP1 (x86) or later

Note: Before you connect a PC to the VDR, set the IP address and subnet mask on the PC (see section 1.2).

1.2 How to Install the VDR Maintenance Viewer/ Java® and Set Up the PC

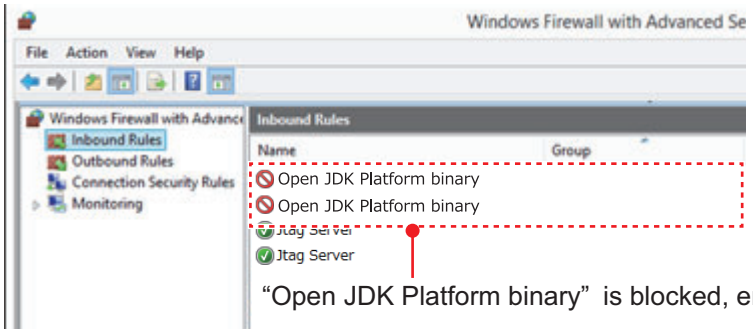
The software program for the VDR Maintenance Viewer and Java® are included in the program CD. Install the software, then set the IP address and subnet mask of the PC.

Note: The program CD has installation programs for three versions of the VDR Maintenance Viewer. Select the VDR Maintenance Viewer program version according to the VDR program version.

VDR program version	Compatible VDR Maintenance Viewer program version
ver. 01.66 or later	ver. 01.66 or later
ver. 01.20 to 01.65	ver. 01.65
ver. 01.10 or earlier	ver. 01.10

Firewall software block setting

Confirm that “Open JDK Platform binary” is not blocked by the Firewall. If blocked, enable “Open JDK Platform binary”. When “Open JDK Platform binary” is blocked, the VDR Maintenance Viewer cannot connect with the VDR.



To confirm the firewall settings, open the [Windows Firewall with Advanced Security] dialog box as follows:

- **Windows®7**: [Start] button > [Control Panel] > [Windows Firewall] > [Advanced settings] > [Inbound Rules]
- **Windows®8.1**: Open the desktop > Move the mouse pointer to the bottom right edge of the screen > [Settings] > [Control Panel] > [System and Security] > [Windows Firewall] > [Advanced settings] > [Inbound Rules]
- **Windows®10/Windows®11**: [Start] button > [All Apps] > [Windows System] > [Control Panel] > [System and Security] > [Windows Firewall] > [Advanced settings] > [Inbound Rules]

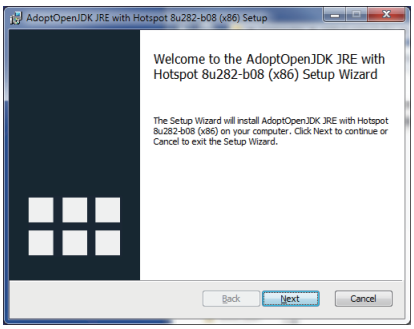
1.2.1 How to install the VDR Maintenance Viewer

1. Insert the supplied program CD into the CD drive.
2. Run "view.exe" on the program CD to show the [Setup-VR-7000] dialog box.
3. Click the [Next] button.
4. Confirm that the install location is “C:\Program Files(x86)*\FURUNO” then click the [Next] button. *: Folder name for 64 bit. “Program Files” for 32 bit.
5. Click the [Yes] button.

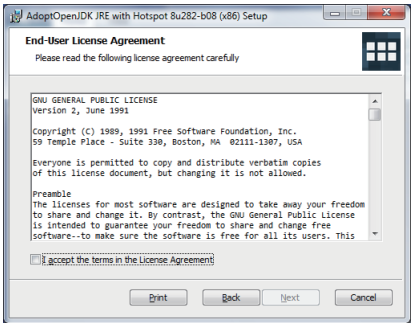
6. Click the [Next] and [Install] buttons to install the software.
7. After the installation is completed, the message “Yes, restart computer now” is checked. Click the [Finish] button to complete the installation and restart the PC.

1.2.2 How to install the Java®

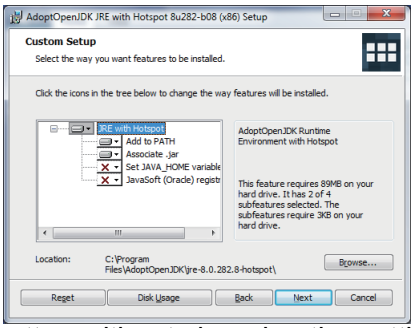
1. Insert the supplied program CD into the CD drive.
2. Run "OpenJDK8U-jre_x86-32_windows_hotspot_8u362b09.msi" on the program CD to show the installation wizard.
   Note: If the security warning message appears after double-clicking the installer file, click the [Run] button.



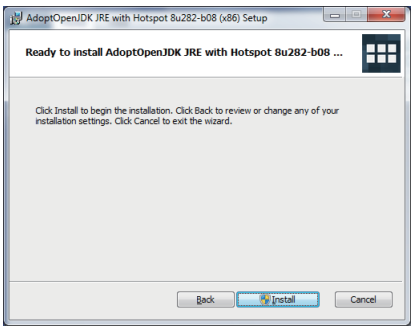
3. Click the [Next] button.



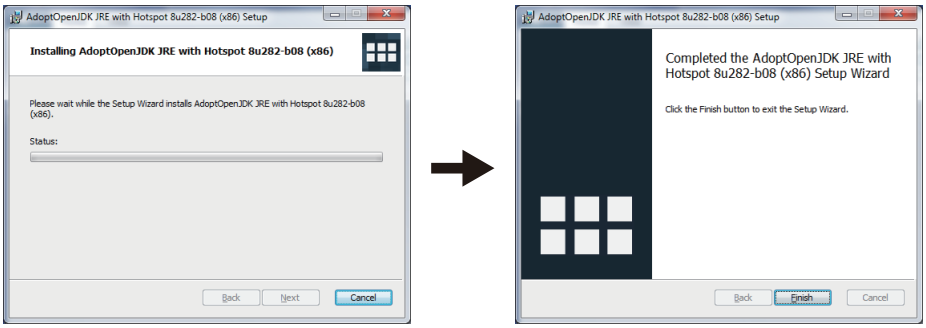
4. Check the checkbox for [I accept the terms in the License Agreement], then click the [Next] button.



5. Click the [Next] button without changing the settings.



6. Click the [Install] button.
   The progress bar is shown during the installation. After the installation is completed, the confirmation message appears.



7. Click the [Finish] button.

1.2.3 How to set the IP address and subnet mask

Windows®7

1. Click the [Start] button then click [Control Panel].
2. In the search box, type adapter.
3. Under [Network and Sharing Center], click [View network connections].
4. Right click the connection to change, and then click [Properties].
5. Click the [Networking] tab. Under [This connection uses the following items], click [Internet Protocol Version 4 (TCP/IP v4)] then click [Properties].
6. Click the [Use the following IP address] button.
7. Enter the IP address and subnet mask of the PC.
   IP address: 172.31.16.201 or 172.31.16.202
   Subnet mask: 255.255.0.0
   Note: The IP address of the VR-7000/7000S is 172.31.16.200.
8. Click the [OK] button and then click the [Close] button.
9. Restart the PC.

Windows®8.1

1. Move the mouse cursor to the bottom or top right corner of the screen and select the cog icon for [Settings].
2. Select [Control Panel].
3. In the [Control Panel] window, click the [View by] drop down menu, then select [Large icons] or [Small icons].
4. Select [Network and Sharing Center].
5. Select [Change adapter settings].
6. Right click on your connected network and select [Properties].
7. Select [Internet Protocol Version 4 (TCP/IP v4)] then click [Properties].
8. Click the [Use the following IP address] button.
9. Enter the IP address and subnet mask of the PC.
   IP address: 172.31.16.201 or 172.31.16.202
   Subnet mask: 255.255.0.0
   Note: The IP address of the VR-7000/7000S is 172.31.16.200.

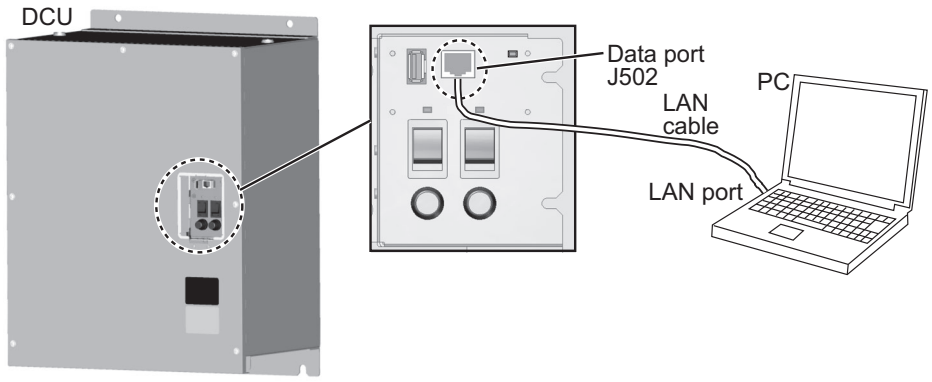
10. Click the [OK] button and then click the [Close] button.
11. Restart the PC.

Windows®10/Windows®11

1. Click [Start] button > [All Apps] > [Windows System] > [Control Panel].
2. In the [Control Panel] window, click the [View by] drop down menu, then select [Large icons] or [Small icons].
3. Select [Network and Sharing Center].
4. Select [Change adapter settings].
5. Right click on your connected network and select [Properties].
6. Select [Internet Protocol Version 4 (TCP/IP v4)] then click [Properties].
7. Click the [Use the following IP address] button.
8. Enter the IP address and subnet mask of the PC.
   IP address: 172.31.16.201 or 172.31.16.202
   Subnet mask: 255.255.0.0
   Note: The IP address of the VR-7000/7000S is 172.31.16.200.
9. Click the [OK] button and then click it again on the next screen.
10. Restart the PC.

1.3 How to Connect a PC to the VR-7000/7000S

Open the door on the cover of the DCU. Connect the LAN cable (supplied) between the DATA port J502 in the DCU and the LAN port on the PC.



1.4 How to Start the VDR Maintenance Viewer

Select the VDR Maintenance Viewer program version according to the VDR program version. When the VDR Maintenance Viewer program version is not compatible with the VDR program version, VDR Maintenance Viewer does not work properly.

- When the VDR program version is “01.66” or later:
  Use the latest version of the VDR Maintenance Viewer ([VR-7000 VDR Maintenance Viewer (xx.xx)] (xx.xx: 01.66 or later)).
- When the VDR program version is “01.20” to “01.65”:
  Use the VDR Maintenance Viewer version 01.65 ([VR-7000 VDR Maintenance Viewer (01.65)]).

- When the VDR program version is “01.10” or earlier:
  Use the VDR Maintenance Viewer version 01.10 ([VR-7000 VDR Maintenance Viewer OLD (01.10)]).

How to start the latest version of the VDR Maintenance Viewer

- **Windows®7**: [Start] button > [All Programs] > [VR-7000] > [VR-7000 VDR Maintenance Viewer (××.××)] (××.××: 01.66 or later)
- **Windows®8.1**: [Start] screen > Right click a blank part of screen, then select [All Apps] > click “VR-7000” > [VR-7000 VDR Maintenance Viewer (××.××)] (××.××: 01.66 or later)
- **Windows®10/Windows®11**: [Start] menu > [All Apps] > [VR-7000] > [VR-7000 VDR Maintenance Viewer (××.××)] (××.××: 01.66 or later)

How to start the VDR Maintenance Viewer version 01.65

- **Windows®7**: [Start] button > [All Programs] > [VR-7000 Previous Version] > [VR-7000 VDR Maintenance Viewer (01.65)]
- **Windows®8.1**: [Start] screen > Right click a blank part of screen, then select [All Apps] > click [VR-7000 Previous Version] > [VR-7000 VDR Maintenance Viewer (01.65)]
- **Windows®10/Windows®11**: [Start] menu > [All Apps] > [VR-7000 Previous Version] > [VR-7000 VDR Maintenance Viewer (01.65)]

How to start the VDR Maintenance Viewer version 01.10

- **Windows®7**: [Start] button > [All Programs] > [VR-7000 Legacy Version] > [VR-7000 VDR Maintenance Viewer OLD (01.10)]
- **Windows®8.1**: [Start] screen > Right click a blank part of screen, then select [All Apps] > click [VR-7000 Legacy Version] > [VR-7000 VDR Maintenance Viewer OLD (01.10)]
- **Windows®10/Windows®11**: [Start] menu > [All Apps] > [VR-7000 Legacy Version] > [VR-7000 VDR Maintenance Viewer OLD (01.10)]

Note: If the PC requests a restart while the VDR Maintenance Viewer is starting up, restart the PC.

1.5 How to Uninstall the VDR Maintenance Viewer

Login as the administrator to uninstall the VDR Maintenance Viewer.

Windows®7

1. Click [Start] button > [Control Panel] > [Programs] > [Programs and Features].
2. Select “VR-7000” then click [Uninstall].
3. Delete the VR-7000 folder saved in the [My Computer] > [Local Disk (C:)] > [Program Files\FURUNO] folder.

Windows®8.1

1. Hover the cursor in the bottom-left corner of the screen until a small image of the Start Screen appears, then right-click on the icon to open the [Start Context] menu. Select [Programs and Features] menu then [Select Programs and Features].
2. Select “VR-7000” then click [Uninstall].
3. Delete the VR-7000 folder saved in the [My Computer] > [Local Disk (C:)] > [Program Files (x86)\FURUNO] folder.

Windows®10/Windows®11

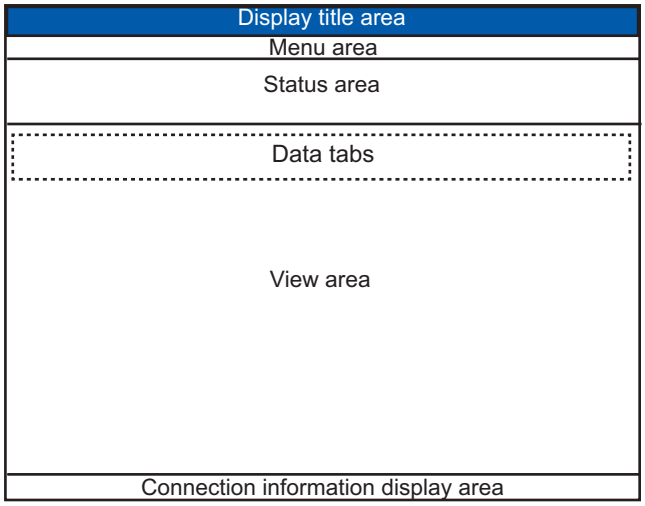
1. Click on the icon in the bottom-left corner of the screen, then select the [Settings] menu. Click the [System] menu then the [Apps & features].
2. Select “VR-7000” then click [Uninstall].
3. Delete the VR-7000 folder saved in the [My Computer] > [Local Disk (C:)] > [Program Files(x86)\FURUNO] folder.

1.6 Display Configuration

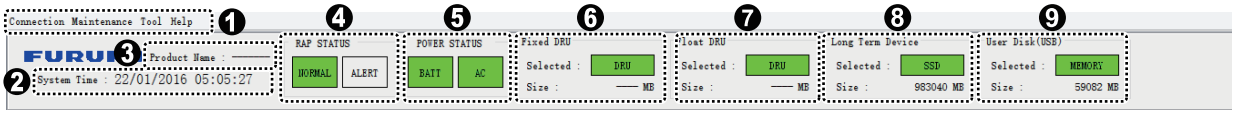
Configuration overview

The display is divided into five areas: Display title area, Menu area, Status area, View area, and Connection information display area.

Display title area: The application name appears here.
Menu area: The system menu.
Status area: Shows common data (logo, time at server, etc.). The time at the server is updated at regular intervals.
View area: Select the data to show with the data tabs.
Connection information display area: Server status is displayed



Menu area, status area



No.	Item	Description
Menu area		
1	Menu	**[Connection]**: Login, Logout, Exit functions. **[Maintenance]**: VDR configuration management, Software management, Password management, Record comparison, Software history management, Easy setup, Equipment management. **[Tool]**: PC_RAP, Status monitor, VDR error list, Sentence information upload, Media management, Exchange check, Special Setting Enable, Long Term Device Down Convert, Reboot. **[Help]**: Displays the program version information.
Status area		
2	System Time	System time and date
3	Product Name	Display VR-7000 or VR-7000S.
4	RAP STATUS	**[NORMAL]**: Lights green when there are no unacknowledged or unrectified alerts. **[ALERT]**: Lights or flashes red for unacknowledged or unrectified alert. Alert status and lamp state and color: **Unacknowledged alert**: Flashes red. **Unacknowledged but rectified alert**: Flashes red. **Unrectified alert**: Lights red.
5	POWER STATUS	**[BATT]**: Battery status. **[AC]**: AC power status. For either indicator: Light on (Green): Power on, Light off: Power off

No.	Item	Description
6	Fixed DRU	The status of the fixed DRU appears in the [Selected] field: - DRU(green): Normal - DRU(red): Error - NO DRU(red): No fixed DRU detected. - NO DRU(gray): No fixed DRU connected (VR-7000S only). The capacity of the fixed DRU appears in the [Size] field.
7	Float DRU	The status of the float-free DRU appears in the [Selected] field: - DRU(green): Normal - DRU(red): Error - NO DRU(red): No float-free DRU detected. - NO DRU(gray): No float-free DRU connected (VR-7000S only). The capacity of the float-free DRU appears in the [Size] field.
8	Long Term Device	The status of the long term device appears in the [Selected] field: - SSD(green): Normal - SSD(red): Error - NO SSD(red): No Long Term Device detected. The capacity of the long term device appears in the [Size] field.
9	User Disk (USB)	The status of the user disk appears in the [Selected] field: - MEMORY(green): Normal - MEMORY(red): Error - NO MEMORY(red): No User Disk (USB) detected. - NO MEMORY(gray): No User Disk (USB) connected (VR-7000S only). The capacity of the user disk appears in the [Size] field.

Note: The [Size] indication in items 6 through 9 is the capacity of each item, not the remaining capacity.

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2. SOFTWARE CONFIGURATION

Disconnect the Remote Alert Panel and CAM (AMS) until the software configuration is completed, otherwise the audio alarm for no radar video will sound.

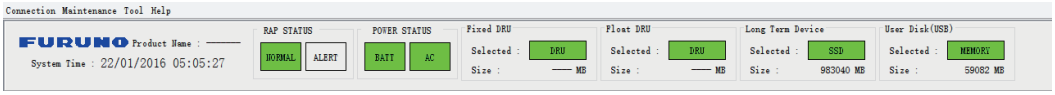
The outline of the setup is as below.

1. Download the configuration data from the VDR into the VDR Maintenance Viewer (see section 2.1).
2. Set the items in each tab, referring to the descriptions in section 2.2 onwards in this chapter.
3. Upload the configuration data to the VDR (see section 2.25).
4. Backup the configuration data to the DRU (Fixed, Float), Long Term Device and the recording media (see section 2.25).

2.1 How to Configure the VR-7000/7000S with the VDR Maintenance Viewer

1. Connect the PC and DRU to the DCU.
2. Turn on the VDR and wait approx. four minutes.
3. Start the VDR Maintenance Viewer.
4. Enter the IP address 172.31.16.200 in the [Maintenance Login] dialog box.
5. Generate the one-time password (response code) from the challenge code on the screen and enter the password correctly, then click the [Login] button.
   Note 1: Do not release the password to unauthorized personnel.
   Note 2: If one of the following messages appears, after clicking the [Login] button, refer to the table below to rectify the error. If not rectified, contact your dealer.

Message	Remedy
[AUTHENTICATION] Failed!! [arguments error]	The VDR Maintenance Viewer program version is not compatible with the VDR program version. Check the VDR program version ([VDR Version]) on the [System Monitor] window from the RAP, then use the appropriate VDR Maintenance Viewer version.
[AUTHENTICATION] Failed!! [Internal error occurred [code:-1]]	
[AUTHENTICATION] Failed!! [Error occurred during connecting]	

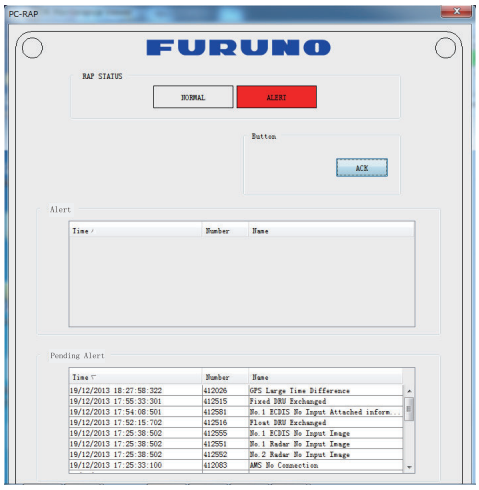


If the connection is successful, the following information appears in the status area. The Product Name the size of the Fixed DRU and Float are displayed upon completion of the setting of the file in step 8.

- System Time
- RAP Status
- Power Status
- Fixed DRU
- Float-free DRU
- Long Term Device
- User Disk (USB)

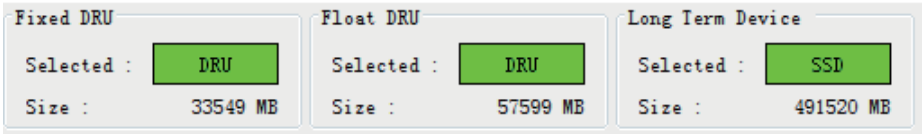
If an error message appears, the IP address or password may be wrong, or the cable between the PC and the VDR is not correctly connected.

6. Select [PC_RAP] from the [Tool] menu.



Check the indications in the [Alert] window. When an alert is displayed, the corresponding sensor data is not being received correctly. Solve the reason for the error before going to the next step. Refer to the VDR Operator's Manual for descriptions of individual error codes.

7. Click the [X] button at the top right corner to close the [PC_RAP] dialog box.
8. From the menu, select [Maintenance] > [VDR Config Management] > [Download]. Click the [OK] button twice then the [Close] button.
9. Check the memory size* of the DRUs and Long Term Device, which appears in the respective [Size] field. If the memory size display shows "****MB" (data read error) restart the VDR. If the size still does not appear, check that the DRU and Long Term Device are correctly connected.
   *The value shown is the capacity, not the remaining capacity.
   Example of acceptable memory size displays:



Fixed DRU Float-free DRU Long Term Device

On most tabs there is an [Information] window on the left and a [Setting] window on the right. Select the channel to set in the [Information] window by selecting it with the cursor, and then set it in the [Setting] window. The results of the updated settings appear in the [Information] window. After setting each channel, click the [Set] button to finish.

After all items have been set, upload the configuration data to the VDR and backup the data to the DRU (Fixed, Float), Long Term Device and the recording media (see section 2.25).

Note: The configuration data must be uploaded in order to apply the configuration changes.

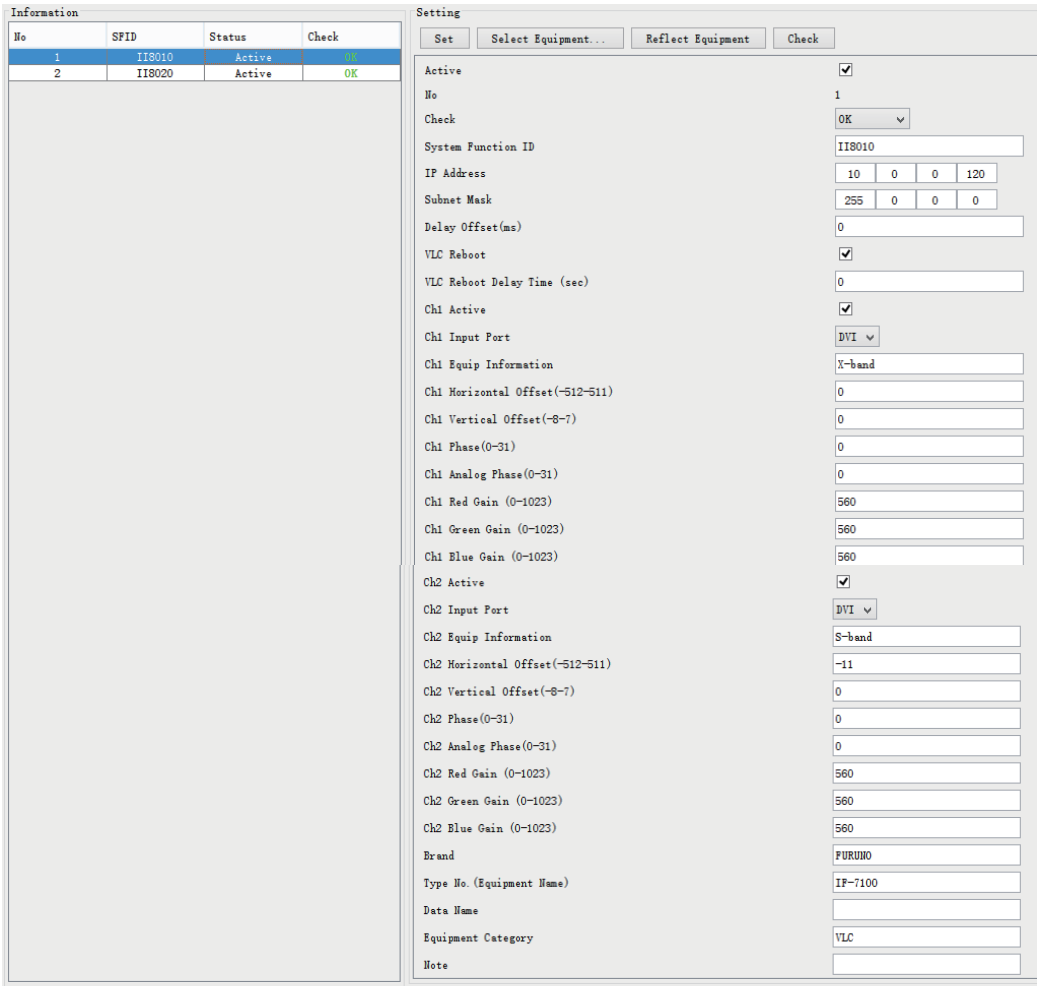
2.2 Radar/ECDIS Signal

Setup up for radar/ECDIS image recording as shown below.

Radar/ECDIS input settings

Note: When using the [Select Equipment] button, do not apply the settings of VLC1 to VLC2 or vice versa. Wrong settings, for example, the IP address, SFID and other settings of the VLC1 are applied to VLC2, will cause misoperation.

1. Click the [VLC] (Video LAN Converter) tab.



2. Select a channel from the [Information] window.
3. Check [Active] to record the radar or ECDIS.
4. Set the [System Function ID]. Keep the default setting.
5. Enter the radar(s) VLC IP address and subnet mask. Keep the default settings.
   No.1 VLC
   IP address: 10.0.0.120, subnet mask: 255.0.0.0
   No.2 VLC
   IP address: 10.0.0.130, subnet mask: 255.0.0.0
6. Check [Ch1 Active], [Ch2 Active] to activate respective channel.
7. Set the image output type (DVI or RGB) at [Ch1 Input Port] or [Ch2 Input Port] as applicable.
8. If required, set the horizontal and vertical offsets of the radar from the conning position, in the [Ch1 Horizontal Offset(-512-511)] and [Vertical Offset(-8-7)] fields.
9. [Red Gain(0-1023)], [Green Gain(0-1023)] and [Blue Gain(0-1023)] adjust respective gain; however, adjustment is not necessary.
10. Set “Ch2” items referring to descriptions for the same items of “Ch1”.

11. Enter brand of equipment at [Brand].
12. Enter equipment name at [Type No.]
13. Enter data name at [Data Name].
14. Enter equipment category at [Equipment Category].
15. If necessary enter remarks in the [Note] field.
16. Click the [Set] button to confirm all channel settings.
17. Click the [Check] button in the [Setting] window to confirm radar status, which is then shown as [OK] or [NG] in the [Check] column in the [Information] window.

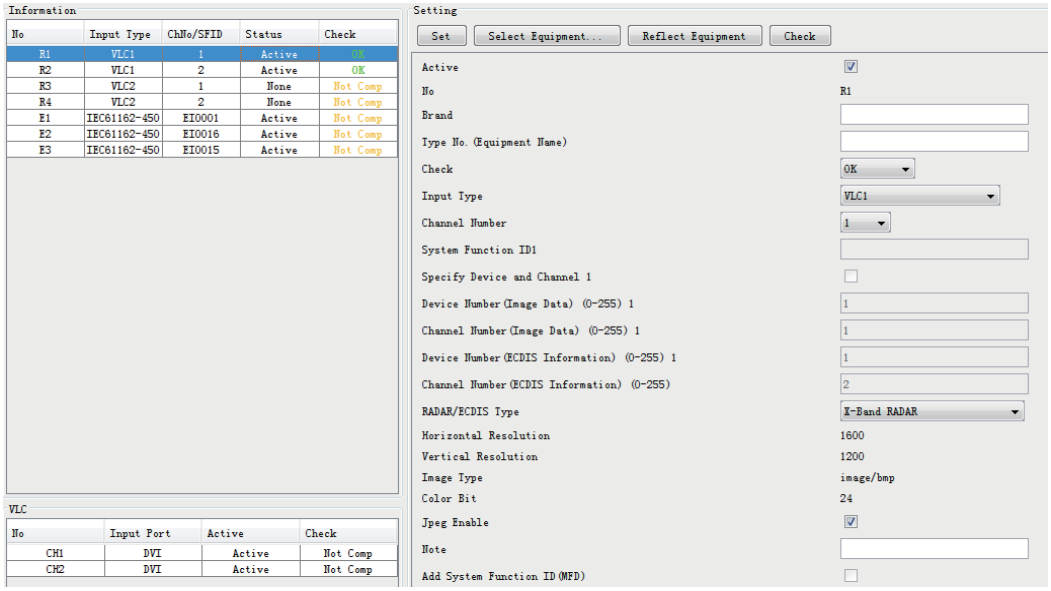
Image interface settings

Note 1: After completing the settings, do the following to check for proper image input.

- Open the Event log and checking that the message "video (PNG) bit depth unsupported" is not displayed.
- Playback data to check that the data was correctly recorded.

Note 2: The buttons [Select Equipment] and [Reflect Equipment] are inoperative in this set up.

1. Click the [Image Interface] tab.

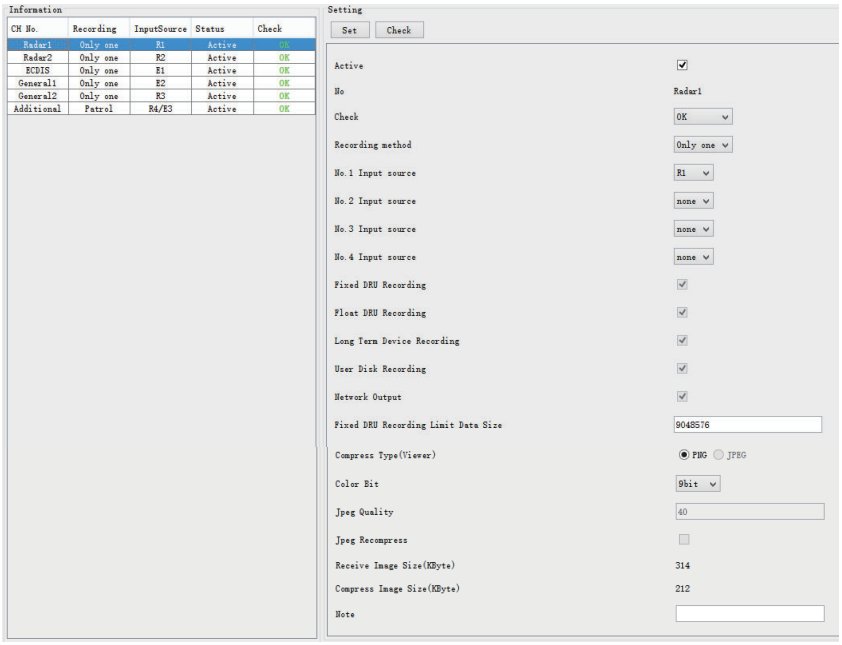


2. Check [Active] to make the radar or ECDIS active.
3. Enter the brand name of the radar or ECDIS in the [Brand] field.
4. Enter the type no. (model no.) in the [Type No.] field.
5. Select the input type from the drop-down list in the [Input Type] field, referring to the following:
   Video via VLC: Select [VLC1] or [VLC2].
   Video and text via LAN: Select [IEC61162-450].
   Video via VLC, text via LAN: Select [VLC1+ECDIS Information] or [VLC2+ECDIS Information]).
6. Do one of the following according to the selection made at step 7.
   [VLC1], **[VLC2]**, **[VLC1+ECDIS Information]**, **[VLC2+ECDIS Information]**: Enter channel number in the [Channel Number] field.
   [IEC61162-450]: Enter the system function identifier in the [System Function ID] field. Set the SFID of the radar/ECDIS input.

7. Select RADAR/ ECDIS at the [RADAR/ECDIS Type] field.
8. [Horizontal Resolution], [Vertical Resolution], [Image Type] and [Color Bit] cannot be changed.
9. Check [Jpeg Enable] to receive JPEG images from connected equipment.
10. Enter remarks in the [Note] field.
11. Click the [Check] button in the [Setting] window to confirm radar status, which is then shown as [OK] or [NG] in the [Check] column in the [Information] window.

How to set up to record radar/ECDIS image

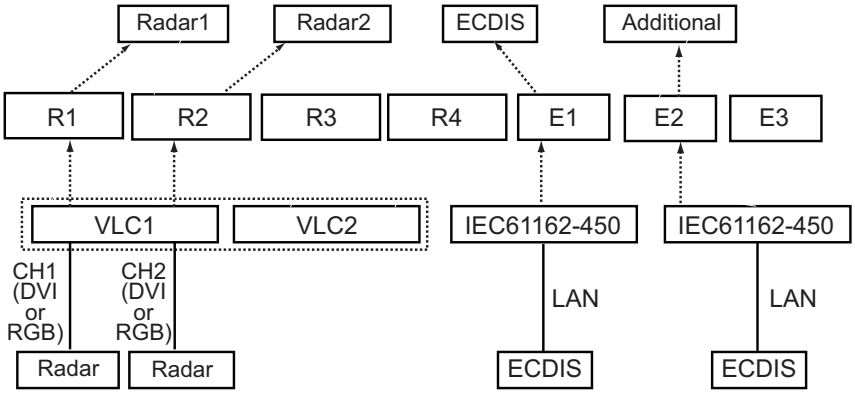
1. Click the [Image Record Setting] tab.
2. Select a radar channel from the [Information] window. For example, click the [CH No.1] field to open the corresponding setup.



3. Check [Active] to make the radar (or ECDIS) active.
4. Select the recording method, [Only one], [Patrol] or [Backup].
   - [Only one]: Records the input source having the youngest number in case of multiple sources.
   - [Patrol]: Records all input sources cyclically.
   - [Backup]: Records by input source priority - No.1 the highest, No.4 the lowest. For example if No.1, No.2, and No.3 input sources are present and the No.1 input source is lost, the No.2 input source is recorded. And if the No.2 input source is lost, the No.3 input source is recorded.
5. Select the input source for each of No. 1 to No. 4. The choices are [R1], [R2], [R3], [R4], [E1], [E2], and [E3]. (R=Radar, E=ECDIS)
6. [Fixed DRU Recording Limit Data Size] is set at the factory, and cannot be changed.
7. Select [PNG] or [JPEG] at [Compress Type].
8. Select the color bit to use, with [Color Bit]. The choices are [6 bit], [9 bit], [12 bit], [15 bit], [18 bit], [21 bit], and [24 bit].
9. Enter remarks in the [Note] field if required.

10. Click the [Set] button to finish.
11. To record settings to the database, open the [Image Interface] tab, then click the [Reflect Equipment] button in the [Setting] window.
12. Click the [Check] button in the [Setting] window to check the radar. The results appear in the [Check] column of the [Information] window.

Recording scheme:



2.3 Serial Signal

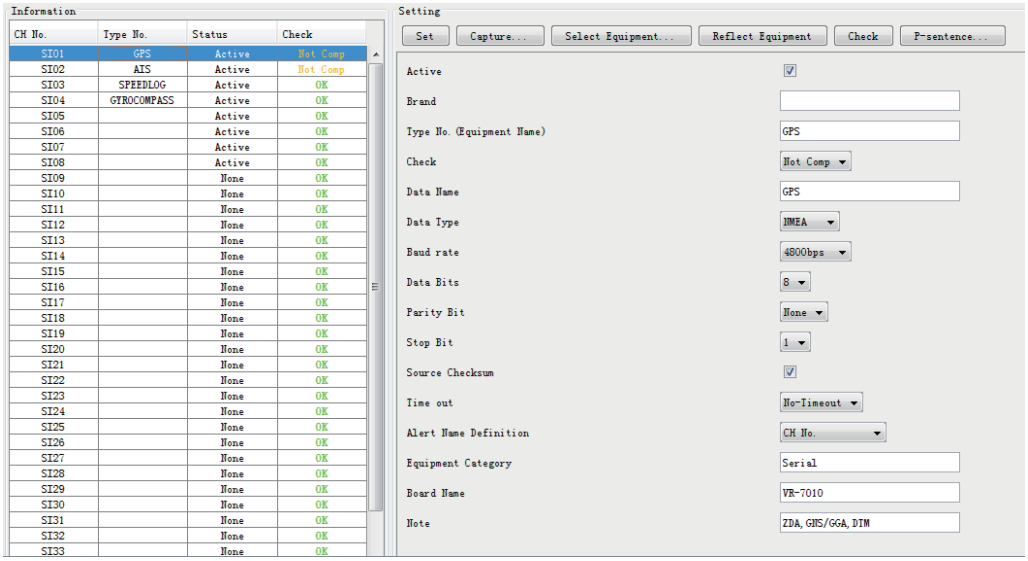
The serial signals (RS-422 signals) are received at the terminal board (SI01-SI08) and the IF-8530 (SI09-SI16). This channel is not only for NMEA but also binary and ASCII data. A total of 16 serial signals can be connected to the DCU and IF-8530. For serial data input via Sensor Adapter MC-3000S or IEC61162-450 via LAN, see section 2.18.

IF-8530 presence	DCU	IF-8530
Yes	SI01 - SI08	SI09 - SI16
No	SI01 - SI08	-

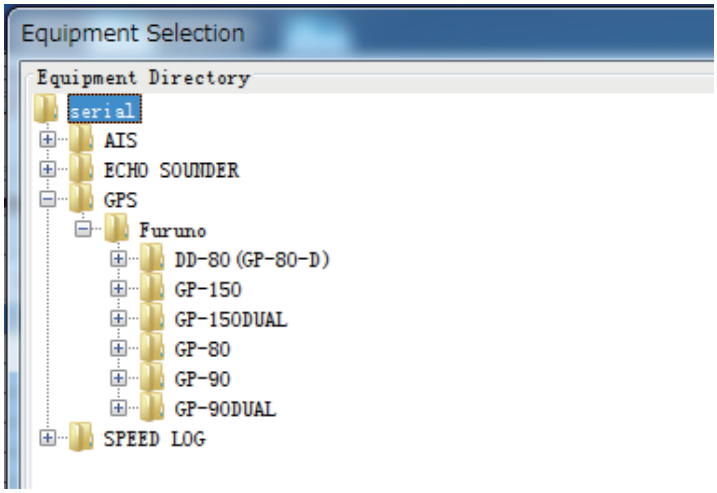
How to set the serial channels

Note: Do not set SI17 or higher.

1. Click the [Serial] tab.
2. Select a channel from the [Information] window.



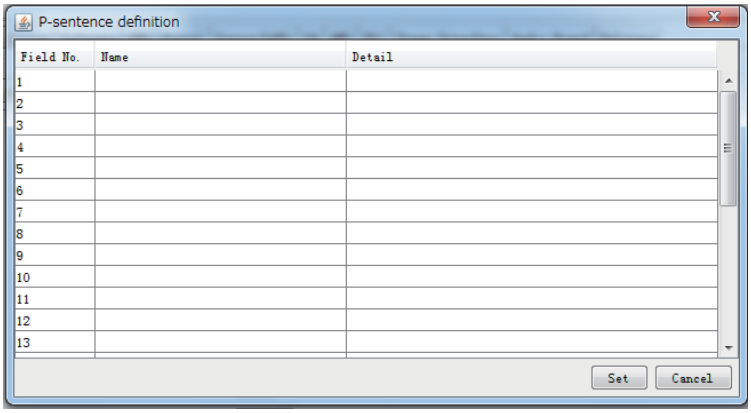
3. Click the [Select Equipment] button in the [Setting] window.



4. Select the unit that is connected to the selected channel and click the [OK] button.
5. Set items as needed in the [Setting] window.
6. After finishing the settings for one channel, click the [Set] button.
   Note: Be sure to do this before moving to another channel.
7. Repeat steps 2-6 to set each channel.

Description of the buttons in the Setting window

[Set]: Save edited data.
[Capture]: Opens the [Serial] window to check if serial data is received. If not received, lower the baud rate.
[Select Equipment]: Select equipment settings (saved to the database) to reflect in channel.
[Reflect Equipment]: Save the equipment setting data to the database.
[Check]: Check all channels. The results are shown as [OK] or [NG] (No Good), in the [Information] window.
[P-sentence]: Show the [P-sentence definition] dialog box.



- **[Field No.]**: Show the field no.
- **[Name]**: Set the name of the P-sentence.
- **[Detail]**: Set the details of the P-sentence.
- **[Set]** button: Reflect settings to the server.
- **[Cancel]** button: Restore settings to previous state.

Description of the items in the Setting window

[Active]: Check to make channel active.

[Brand]*: Enter brand name.

[Type No. (Equipment Name)]*: Set type no. (equipment name).

[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.

[Data Name]*: Enter data name.

[Data Type]: Enter data type.

[Baud Rate]: Set baud rate (Available for SI01 to SI08).

[Data Bits]: Set number of bits (Available for SI01 to SI08).

[Parity Bit]: Set parity bit (Available for SI01 to SI08).

[Stop Bit]: Set stop bit (Available for SI01 to SI08).

[Source Checksum]: Tick box to check for checksum in sentence.

[Time out]: Set the timeout value of the connected equipment. When communication with the connected equipment is interrupted or lost for longer than the time set here, the communication error occurs on the remote alarm panel. The timeout settings must be higher than the transmission rate of the connected equipment.
Note: Be sure to set the timeout settings for all serial channels. If the timeout setting is not adjusted, the serial communication error alert does not occur when serial connected equipment is disconnected.

[Alert Name Definition]: Select the alert display format for the serial communication error.

- [CH No.]: The alert 412301 “No No.01 Serial Connection” to 412316”No No.016 Serial Connection” occurs when the serial communication error occurs. You can find the channel number at which the error occurred by checking the alert name.
- [Equipment Name]: The alert 412801 “No XXX” to 412816 “No XXX” occurs when the serial communication error occurs. “XXX” changes according to the equipment name entered to [Type No. (Equipment Name)].You can find the equipment name at which the error occurred by checking the alert name.

[Equipment Category]*: Set equipment category.

[Board Name]*: Board name.

[Note]: Enter remarks. (Entry optional.)

*: Enter these items for easy identification of equipment.

2.4 Analog Signal

Analog signals are input via Sensor Adapter MC-3010A or the Junction Box IF-8530. The channel number depends on connected equipment. See the table below.

Channels are assigned according absence or presence of IF-8530. The number of IF-8530 units is set on [System] tab.

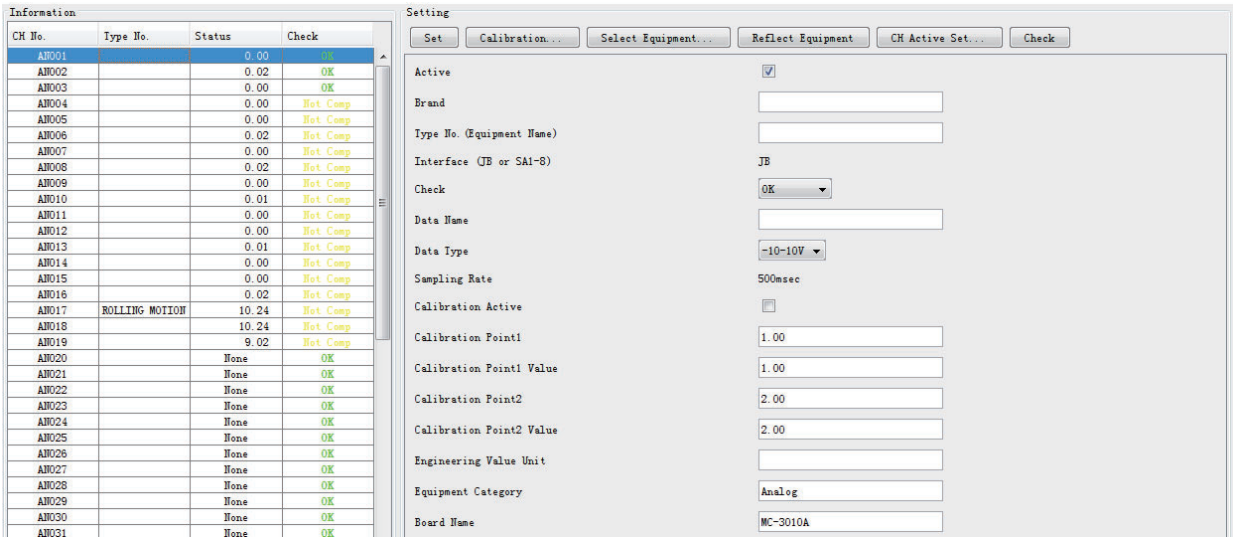
A total of 120 analog signals can be connected to the sensor adapter and IF-8530.

IF-8530 presence	IF-8530	Sensor Adapters
Yes	AN001 - AN016	AN017 - AN120(CH001 - CH104)
No	-	AN001 - AN120(CH001 - CH120)

Receivable signal: -10 V to +10 V, 0 V to +10 V, 4mA to 20 mA.
Set the signal level of each channel accordingly.

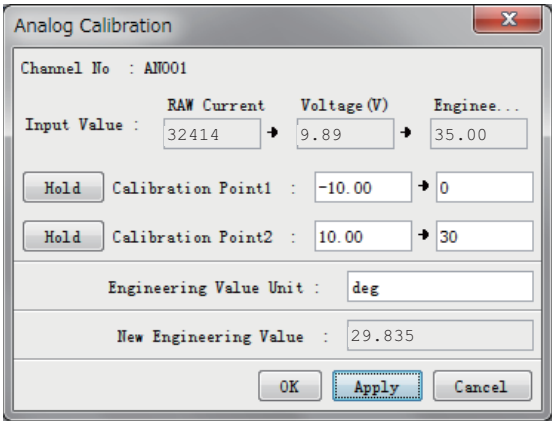
How to set the analog channels

1. Click the [Analog] tab.
2. Select a channel from the [Information] window. Set detailed information of the selected channel in the [Setting] window.



Note: In the default setting, there is no preset data when the [Select Equipment] button is clicked. In the case that the setup was completed on another ship and saved using the [Reflect Equipment] button, import the data by clicking the [Select Equipment] button and choosing the saved data.

3. Calibrate the Analog signal as follows:



   1) Click the [Calibration] button in the [Setting] window.
   2) Enter the voltage (or current) value for [Calibration Point 1], and the corresponding engineering value in the left and right fields.
   3) Enter values for [Calibration Point 2].
   4) Enter unit for the values in [Engineering Value Unit].
      In the illustration on the preceding page, the [Engineering Value Unit] is set to degrees (deg). The [Calibration Point 1] is -10V, corresponding to 0 degrees, and [Calibration Point 2] is 10V corresponding to 30 degrees. This is set corresponding to the connected analog sensor.
      Click the [Apply] button to apply values. When this is done, the [New Engineering Value] of 29.835 deg, corresponding to the input voltage of 9.89V, is displayed at the bottom of the dialog box. Whenever the input value is changed this value also changes. Check that the [New Engineering Value] is within an appropriate range.
      Another method of entry is to observe the [Voltage] (or [Current]) field on the top line and click the [Hold] button of Point1 when an appropriate value is displayed. Do this again for Point2. Click the [OK] Button.
4. Click the [Set] button to finish. Be sure to do this before moving another to channel.
5. Repeat steps 1-4 to set up all channels.
6. Click the [Check] button to perform an inspection on all channels. The results are shown in the [Information] window as [OK] or [NG] (No Good).

Description of items in the Settings window

[CH Active Set] button: Click to show the [CH Active Setting] dialog box. Collective setting is done from this box.
[Active]: Put check in check box to make channel active.
[Brand]*: Enter brand name.
[Type No. (Equipment Name)]*: Set type no. (equipment name).
[Interface (JB or SA1-8)]: Type of Interface, Junction Box or Sensor Adapter.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Data Name]*: Enter data name.
[Data Type]: Analog Data type (0~10V, -10~10v, 4~20mV)
[Sampling Rate]: Display sampling rate.
[Calibration Active]: Disable and enable analog calibration.
[Calibration Point 1]#: Enter calibration point 1.
[Calibration Point 1 Value]#: Enter calibration point 1 value.
[Calibration Point 2]#: Enter calibration point 2.
[Calibration Point 2 Value]#: Enter calibration point 2 value.
[Engineering Value Unit]#: Enter engineering value unit.

[Equipment Category]*: Set equipment category.
[Board Name]*: Enter board names where channels are present.
[Note]: Enter remarks. (Entry optional.)

*: Enter these items for easy identification of equipment.
#: For #-marked fields, the values set in the [Analog Calibration] dialog box are displayed.

2.5 Digital Signal

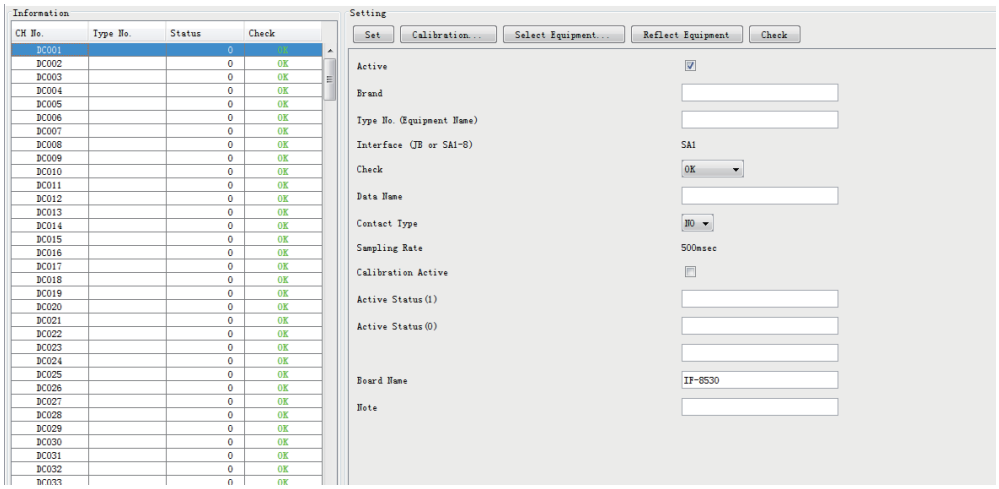
Digital signals are input via Sensor Adapter MC-3020D or the Junction Box IF-8530. The channel number depends on connected equipment. See the table below.

Channels are assigned according absence or presence of IF-8530 units. The number of IF-8530 units is set on [System] tab. A total of 640 digital signals can be input to the sensor adapter and IF-8530.

IF-8530 presence	IF-8530 CH	Sensor Adapters
Yes	DC001 - DC064	DC065 - DC640(CH001 - CH576)
No	-	DC001 - DC640(CH001 - CH640)

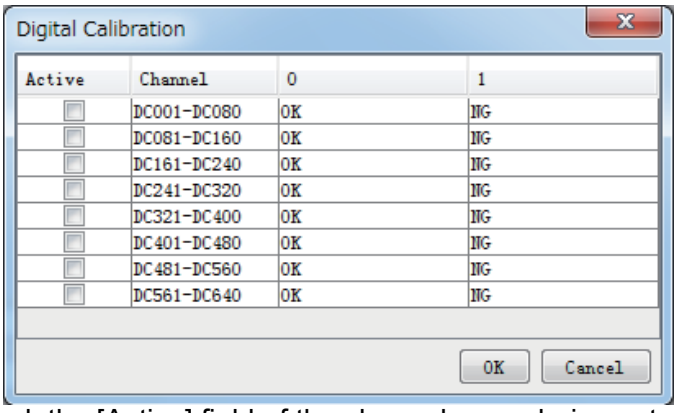
How to set the digital channels

1. Click the [Digital] tab.
2. Select a channel from the [Information] window. Set up the digital signal from the [Setting] window, referring to the descriptions in this section.



Note: In the default setting, there is no preset data when the [Select Equipment] button is clicked. In the case that the setup was completed on another ship and saved using the [Reflect Equipment] button, import the data by clicking the [Select Equipment] button and the choosing the saved data.

3. Do the following to set the digital signal to each 80 channel group:
   1) Click the [Calibration] button in the [Setting] window.



   2) Check the [Active] field of the channel group being set.
   3) Enter the status in columns 0 and 1 of that group.
   4) Click the [OK] Button.
4. Click the [Set] button.
   Note: Be sure to click the [Set] button before setting other channels.
5. Repeat steps 2 to 4 to set up other channels.
6. Click the [Check] button to perform an inspection on all channels. The results are shown in the [Information] window as [OK] or [NG] (No Good).

Description of the items in the Setting window

[CH Active Set] button: Click to show the [CH Active Setting] dialog box. Collective setting is done from this box.
[Active]: Put check in check box to make channel active.
[Brand]*: Enter brand name.
[Type No. (Equipment Name)]*: Set type no. (equipment name).
[Interface (JB or SA1-8)]: Type of Interface, Junction Box or Sensor Adapter.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Data Name]*: Enter and display data name.
[Contact Type]: Set contact type. [NO]: normal open, [NC]: normal close
[Sampling Rate]: Display sampling rate.
[Calibration Active]: Disable or enable digital calibration.
[Active Status (1)]*: Set status display when (1) is active.
[Active Status (0)]*: Set status display when (0) is active.
[Equipment Category]*: Set equipment category.
[Board Name]*: Enter board names where channels are present.
[Note]: Enter remarks. (Entry optional.)

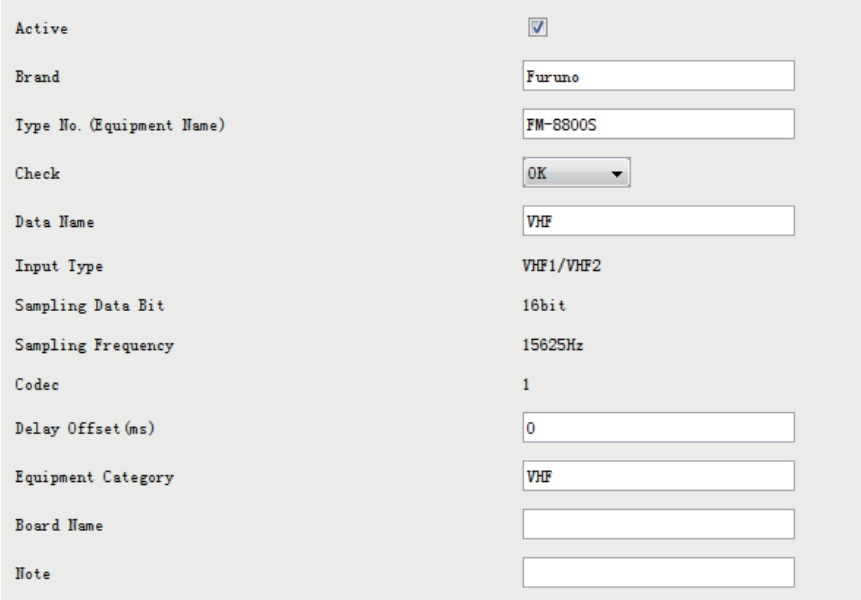
*: Enter these items for easy identification of equipment.

2.6 Audio Signal

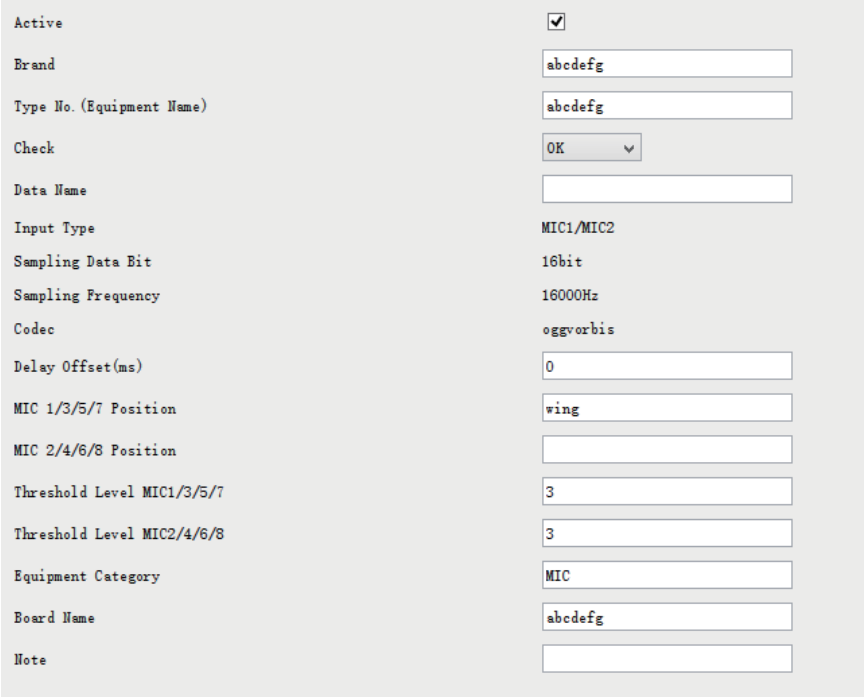
Microphone and VHF audio settings are done in the [Audio] tab.

How to set the audio channels

1. Click the [Audio] tab.
2. Select a channel from the [Information] window. If you selected No.1, the [VHF1/VHF2] setting window appears. For No.2 - No.5, the [MIC] setting window appears.

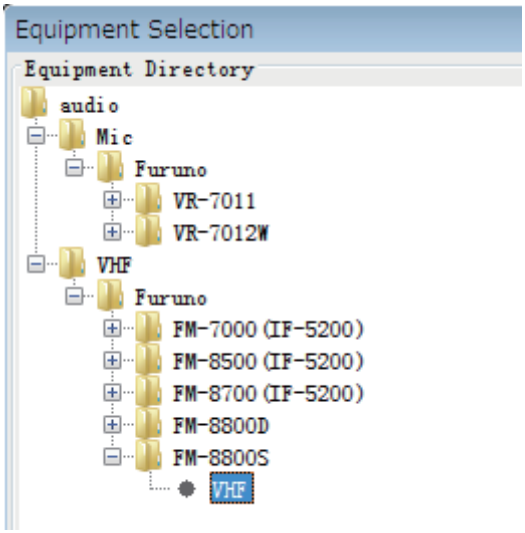


[VHF] setting window



[MIC] setting window

3. Click [Select Equipment] from the [Setting] window.

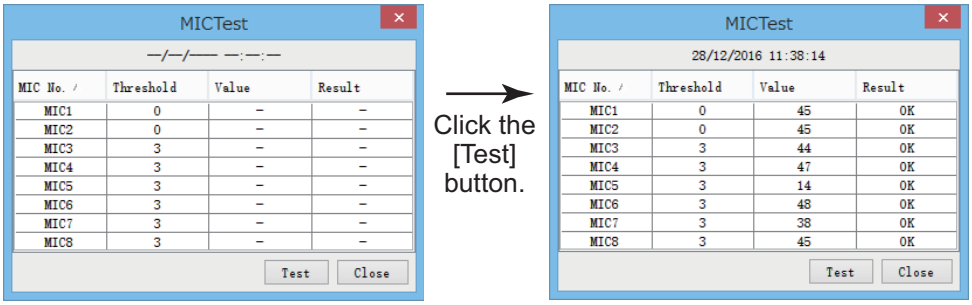


4. Click the connected device in the selected channel. The setting contents are displayed in the [Information] and [Setting] windows.
5. If required, update the contents in the [Setting] window, referring to the descriptions in this section.
6. Click the [Set] button.
   Note: Be sure to click the [Set] button before moving to another channel.
7. Repeat steps 2-6 to set up other channels.

MIC test

Do the MIC test to check if the audio signal is clear and its level appropriate.

1. Click the [MIC Test] button in the [Setting] window.
2. Click the [Test] button in the [MIC Test] dialog box.

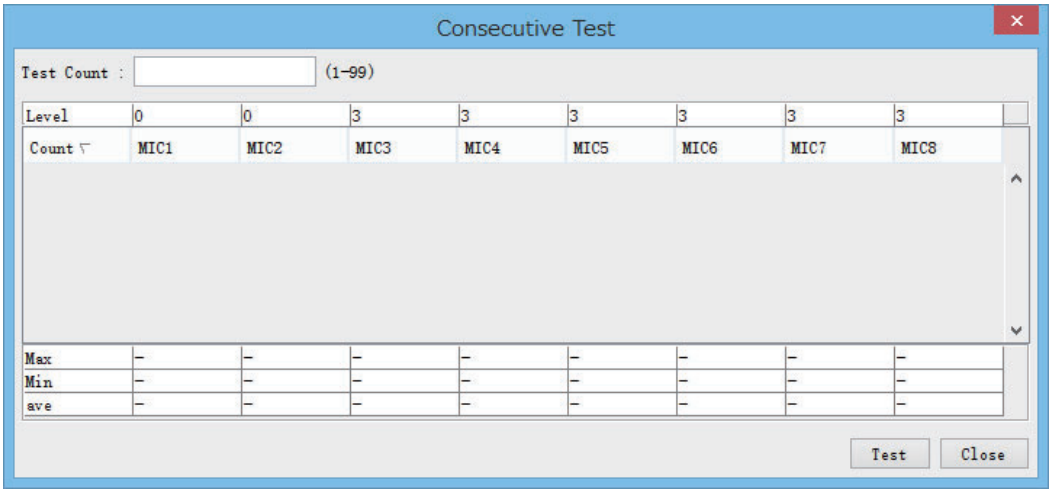


3. Click the [Close] button to close the dialog box.

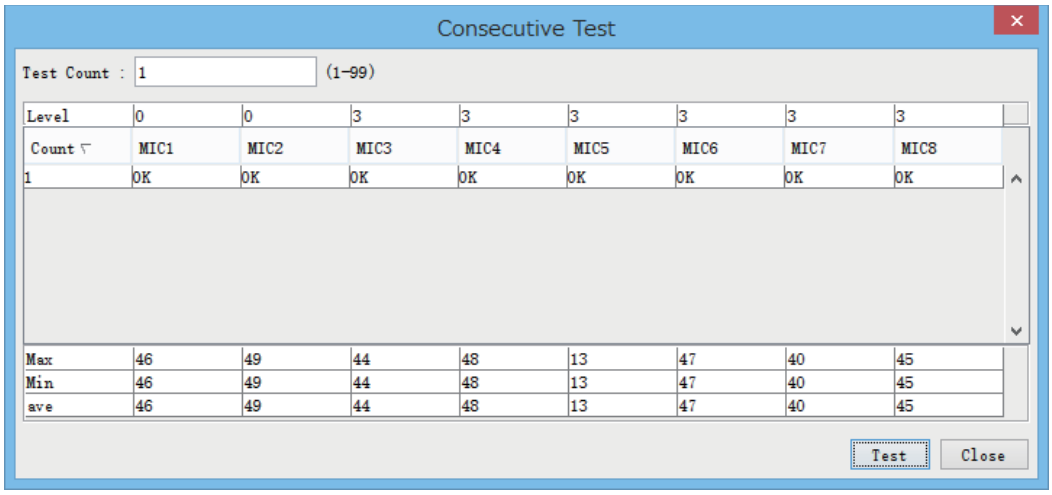
Continuous MIC test

Run the continuous MIC test to test the MIC.

1. Click the [Continuous MIC Test] button in the [Setting] window.
2. Set up how many times to do the [Continuous MIC Test] at [Test Count] and click the [Test] button.



Click the [Test] button.



3. Click the [Close] button to close the dialog box.

Description of the items in the Setting window, VHF dialog box

[Active]: Put check in check box to make channel active.
[Brand]*: Enter and display brand name.
[Type No.]*: Set type no. (equipment name).
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Data Name]*: Enter data name.
[Input Type]: Enter input type.
[Sampling Data Bit]: Displays sampling data bit rate.
[Sampling Frequency]: Displays sampling frequency.
[Codec]: Set audio codec type.
[Delay Offset]: Enter amount of delay to apply to audio signal.

[Equipment Category]*: Set equipment category.
[Board Name]*: Enter board names where channels are present.
[Note]: Enter remarks. (Entry optional.)
*: Enter these items for easy identification of equipment.

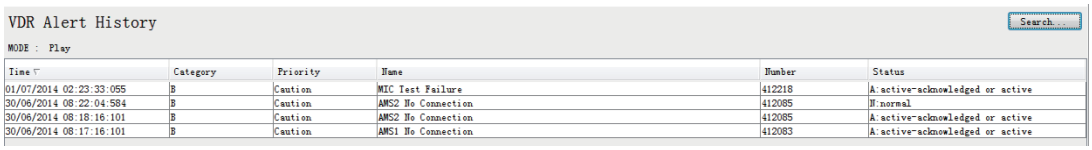
Description of the items in the Setting window, MIC dialog box

The [MIC] dialog box is similar to the [VHF] dialog box. Only the different items are described below.

[MIC 1/3/5/7 Position]*: Show the position odd-numbered MICs.
[MIC 2/4/6/8 Position]*: Show the position of even-numbered MICs.
[Threshold Level MIC 1/3/5/7]: Set the MIC test threshold level for odd-numbered MICs.
[Threshold Level MIC 2/4/6/8]: Set the MIC test threshold level for even-numbered MICs.
*1: Enter these items for easy identification of equipment. Also, these items used for displaying the installation position on the Live Player V5. It is recommended that the number of characters is 13 or less. If the number of characters is too much, the Live Player V5 cannot show the full text for the MIC position.
*2: Two microphones can be connected to one channel. If only one is connected, set the threshold level of the unconnected microphone to zero (0), to prevent NG (No Good) at the MIC test.

2.7 Alerts

Alert status is provided in the [Alert] tab.

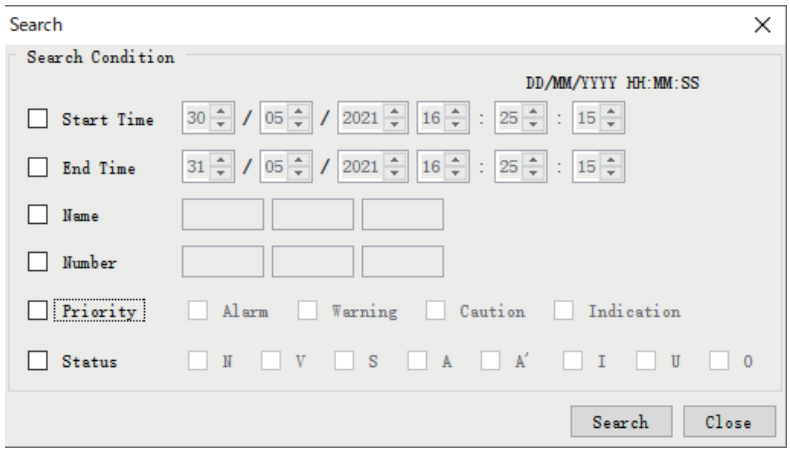


The [Alert] tab shows the following information about alerts. The list can be sorted by time, category or name. Click respective column title to sort.

[Time]: Time of alert
[Category]: Alert category
[Priority]: Priority of the alert ([Alarm], [Warning], [Caution])
[Name]: Name of alert
[Number]: Alert number
[Status]: Alert status

Alert search

1. Click the [Search] button above the [Alert] tab to show the [Search] dialog box.



2. Add a checkmark to any desired search items (multiple items can be selected).

   [Start Time]: Set start time to search.
   [End Time]: Set end time to search.
   [Name]*: Enter name of alert to search.
   [Number]: Display information for alert number entered.
   [Priority]: Select alert priority to search (Alarm, Warning, Caution, Indication).
   [Status]: Select alert status to search. N, Normal state; V, active - unacknowledged; S, active - silenced; A, active - acknowledged; A', active; I, indication; U, rectified - unacknowledged; O, active - responsibility transferred
   * Can be used for wild card search.

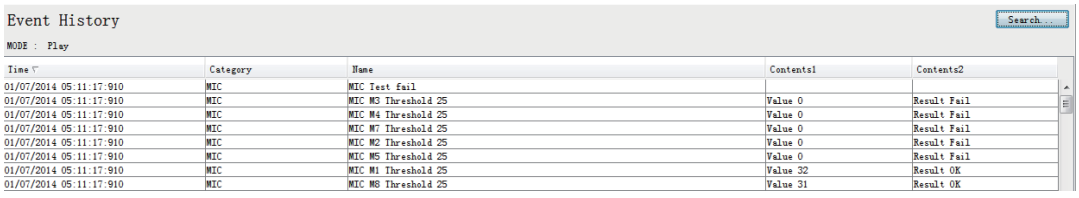
3. Input search data for the checked items.
4. Click the [Search] button.

Close the [Search] box to cancel a search.

Note: The mode changes from [Play] to [Search] when doing a search.

2.8 Event

The [Event] tab stores the time, category, name and contents of events recorded by the VDR.



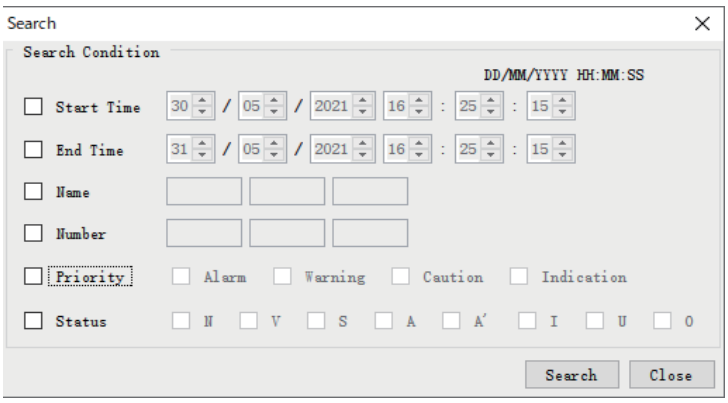
Note: You can sort the items in ascending order (△), descending order (▽) and initialization order (no symbol).

[Time]: Time an event occurred.
[Category]: Category of an event
[Name]: Name of an event
[Contents1]: Display data associated with log.
[Contents2]: Display data associated with log.

Event search

Do the following to search events:

1. Click the [Search] button on the upper right of the [Event] tab.



2. In the dialog box, add a checkmark to desired search items. Multiple items can be checked.

   [Start Time]: Display name of event generated after a certain time.
   [End Time]: Display name of event generated before a certain time.
   [Name]*: Display event names entered.
   * Can be used for wild card search.

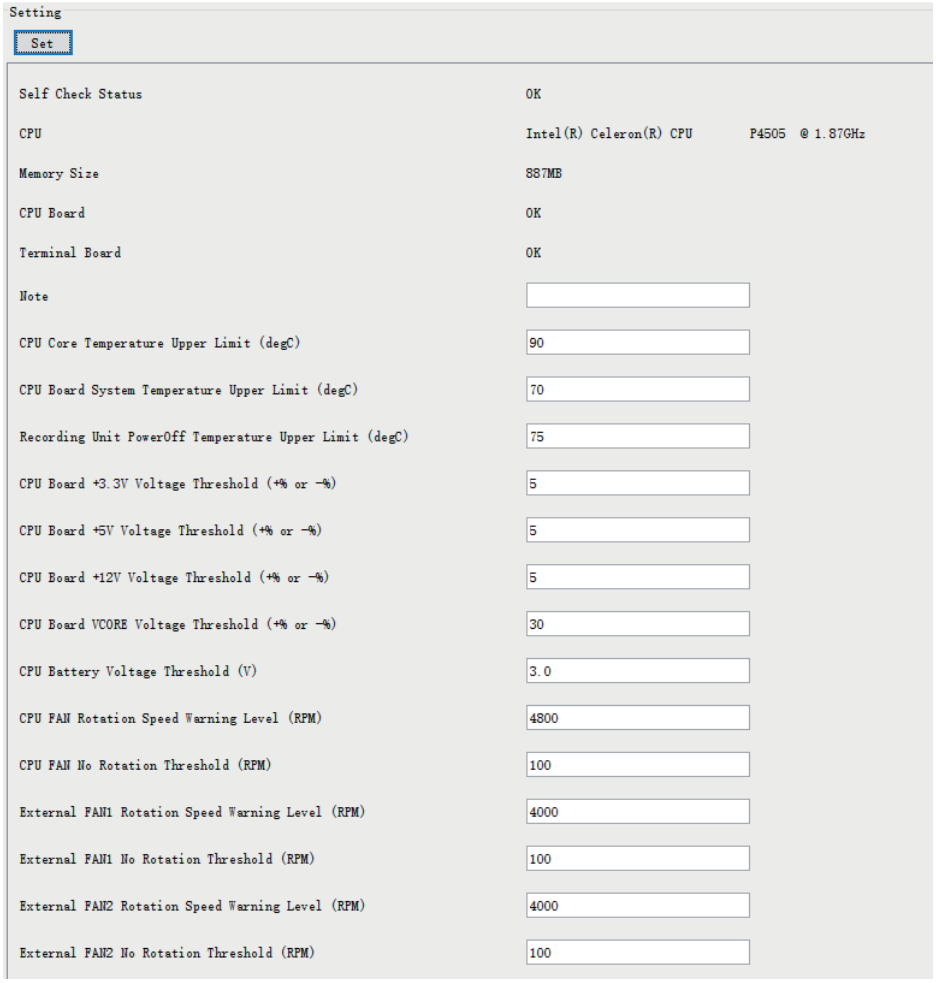
   Enter information about the checked event to search in the character input box.

3. Click the [Search] button.

Note: The mode changes from [Play] to [Search] when doing a search.

2.9 Hardware

The [Hardware] tab provides information about the system hardware. [Note] is the only item that can be edited.



Description of the items in the Setting window

[Self Check Status]: Display status of self check.
[CPU]: Display information about the CPU.
[Memory Size]: Display memory size.
[CPU Board]: Display status of CPU board.
[Terminal Board]: Display status of Terminal board.
[Note]: Enter and display remarks. (Entry is optional.)
[CPU Core Temperature Upper Limit]: CPU core upper temperature limit.
[CPU Board System Temperature Upper Limit]: CPU board system upper temperature limit.
[Recording Unit Power Off Temperature Upper Limit]: The recording unit is powered off and recording is stopped when the temperature of the unit exceeds this setting.
[CPU Board +3.3V Voltage Threshold]: Voltage threshold for +3.3 voltage.
[CPU Board +5V Voltage Threshold]: Voltage threshold for +5 voltage.
[CPU Board +12V Voltage Threshold]: Voltage threshold for +12 voltage.
[CPU Board VCORE Voltage Threshold]: Voltage threshold for VCORE voltage.
[CPU Battery Voltage Threshold]: Keep the default setting.
[CPU FAN Rotation Speed Warning Level]: Speed warning level for CPU fan rotation.
[CPU FAN No Rotation Threshold]: Threshold for no CPU fan rotation.

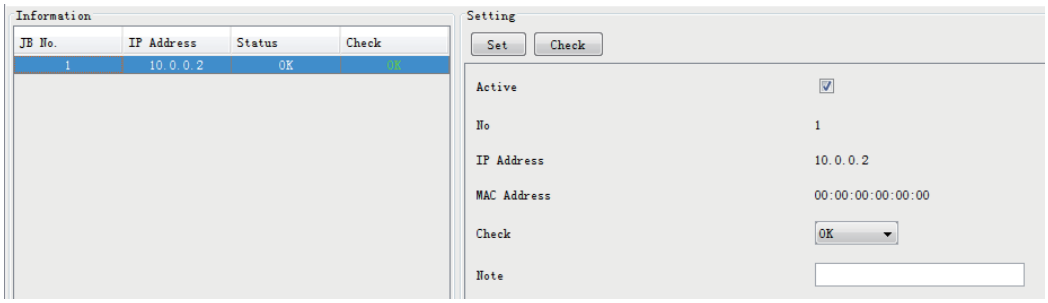
[External FAN1 Rotation Speed Warning Level]: Speed warning level for external fan1 rotation.
[External FAN1 No Rotation Threshold]: Threshold for no external fan1 rotation.
[External FAN2 Rotation Speed Warning Level]: Speed warning level for external fan2 rotation.
[External FAN2 No Rotation Threshold]: Threshold for no external fan2 rotation.

2.10 JB (IF-8530)

Connect the Junction Box (IF-8530) to the DCU before turning on the system. The [JB] tab functions to set up the junction box.

How to set up the Junction Box (IF-8530)

1. Click the [JB] tab.
2. Select a Junction Box (IF-8530) from the [Information] window.



3. Set up the Junction Box (IF-8530) from the [Setting] window.
4. Click the [Set] button. (Be sure to do this before moving to another channel).
5. Click the [Check] button to perform an inspection on all channels. In the [Information] window check column, either [OK] or [NG] (No Good) is displayed.

Description of the items in the Setting window

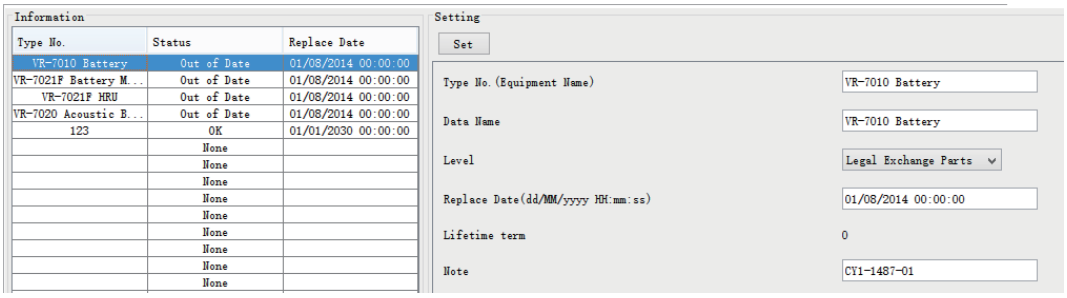
[Active]: Put check in check box to make channel active.
[No]: Display Junction Box number.
[IP Address]: Display IP address of Junction Box, acquired by VDR.
[MAC Address]: Display MAC address of Junction Box, acquired by VDR.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Note]: Enter remarks. (Entry optional.)

2.11 Lifetime

The [Lifetime] tab controls consumable parts.

How to control consumable parts

1. Click the [Lifetime] tab.
2. Select a [Type No.] from the [Information] window. Set up the chosen type no. from the [Setting] window.



3. Click the [Set] button.

Note: Be sure to click the [Set] button before moving to set up a different type.

Description of the items in the Setting window

[Type No.]*: Enter and display type no.
[Data Name]*: Enter and display data name.
[Level]*: Set replacement level, [Legal Exchange Parts] or [Normal Exchange Parts].
[Replace Date]: Enter and display recommended day of replacement.
[Lifetime Term]: The time difference between the replace date and the VDR system date.
[Note]: Show, enter remarks. (Entry optional.)

The [Status] column of the [Information] window shows the following:
[OK]: The recommended date of replacement shown in the [Replace Date] box in the [Information] window has not passed.
[Out of Date]: The date of replacement has passed.
[None]: The date of replacement has not been set.

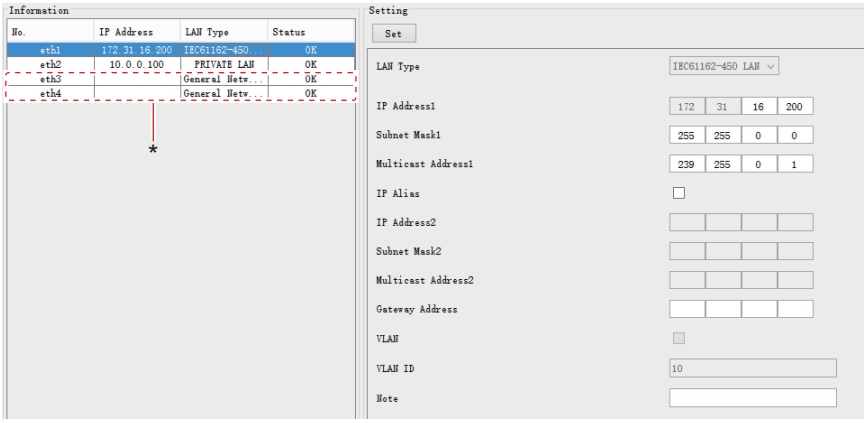
*: Enter these items for easy identification of equipment.

2.12 Network

The [Network] tab sets the system network.

How to set the system network

1. Click the [Network] tab.
2. Select a network from the [Information] window. Set up the network from the [Setting] window.



*: Shown only when the CPU board in the DCU is “ADP-216-01”.

3. Click the [Set] button.
   Note 1: Be sure to click the [Set] button before setting up a different network.
   Note 2: After setting the system network, reboot the VDR to apply the settings.

Description of the items in the Setting window

[LAN Type]: Show LAN type - [PRIVATE LAN], [IEC61162-450 LAN], [General Network1] or [General Network2].
Note: [General Network1] and [General Network2] are used for connecting to an external network other than the VDR private network and IEC61162-450 network. To connect to an external network, be sure to activate the [Port Filtering] setting.

[IP Address1]: Set the primary IP address.

[Subnet Mask1]: Set the primary subnet mask.
Note: [Subnet Mask1] is adjustable only when [LAN Type] is [PRIVATE LAN]. If you changed the setting, be sure to enter “0” in the No.4 octet field.

[Multicast Address1]: Set live player multicast address. For details "How to set multicast address" on page 2-23.

[IP Alias][*1]: Put check in check box to make the secondary IP address active with the IP alias.

[IP Address2][*1]: Set the secondary IP address.

[Subnet Mask2][*1]: Set the secondary subnet mask.

[Multicast Address2][*1]: Set live player multicast address. For details "How to set multicast address" on page 2-23.

[Gateway Address]: Set gateway address.

[Port Filtering]*2: Put a check in the check box to connect to an external network. When the check box is checked, the VDR can only be accessed from an external network by using Live Player V5. Note that the VDR Maintenance Viewer can not access the VDR from an external network.
Note: VDR data is sent correctly regardless of the port filtering setting.

[VLAN][*3]: Put check in check box to use the VLAN (Virtual LAN) function. The VLAN setting is applied to the secondary IP address when [LAN Type] is set to [IEC61162-450 LAN].
Note: To apply the VLAN setting, the DCU must be connected with a network HUB that is compatible with the VLAN function. Also, it is required to setup the HUB. For details of the HUB settings, contact the FURUNO Service Center.

[VLAN ID][*3]: Shows the VLAN ID. You cannot edit the VLAN ID.
[Note]: Enter remarks. (Entry optional.)

[*1]: Not appears when [LAN Type] is set to [General Network1] and [General Network2].
[*2]: Appears when [LAN Type] is set to [General Network1] and [General Network2].
[*3]: Appears when [LAN Type] is set to [IEC61162-450 LAN].

How to set multicast address

Note 1: If you do not know the connection point for the J502, contact your dealer.

Note 2: This setting is necessary to get video and audio in multicast live playback mode by the Live Player V5. In case of the unicast* live playback mode, the Live Player V5 can playback video and audio regardless of muticast address settings.
*: The unicast live playback mode is available with the VDR Maintenance Viewer version 1.30 or later. When the software version is 01.20 or earlier, only the multicast live playback mode is available.

- Port J502 (DATA) of DCU is connected to port J17
  Secondary IP address at IEC61162-450 is not used:
  Use the following default settings:
  [Multicast Address1] at IEC61162-450: 239.255.0.1
  [Multicast Address2] at IEC61162-450: Leave blank.
  [Multicast Address1] at PRIVATE LAN: Leave blank.
  [Multicast Address2] at PRIVATE LAN: Leave blank.
- Secondary IP address at IEC61162-450 is connected to Live Player V5:
  Set as follows:
  [Multicast Address1] at IEC61162-450: Leave blank.
  [Multicast Address2] at IEC61162-450: 239.255.0.1
  [Multicast Address1] at PRIVATE LAN: Leave blank.
  [Multicast Address2] at PRIVATE LAN: Leave blank.
- Port J502 (DATA) of DCU is connected to port J26
  Secondary IP address at PRIVATE LAN is not used:
  Set as follows:
  [Multicast Address1] at IEC61162-450: Leave blank.
  [Multicast Address2] at IEC61162-450: Leave blank.
  [Multicast Address1] at PRIVATE LAN: 239.255.0.1
  [Multicast Address2] at PRIVATE LAN: Leave blank.
- Secondary IP adress at PRIVATE LAN is connected to Live Player V5:
  Set as follows:
  [Multicast Address1] at IEC61162-450: Leave blank.
  [Multicast Address2] at IEC61162-450: Leave blank.
  [Multicast Address1] at PRIVATE LAN: Leave blank.
  [Multicast Address2] at PRIVATE LAN: 239.255.0.1

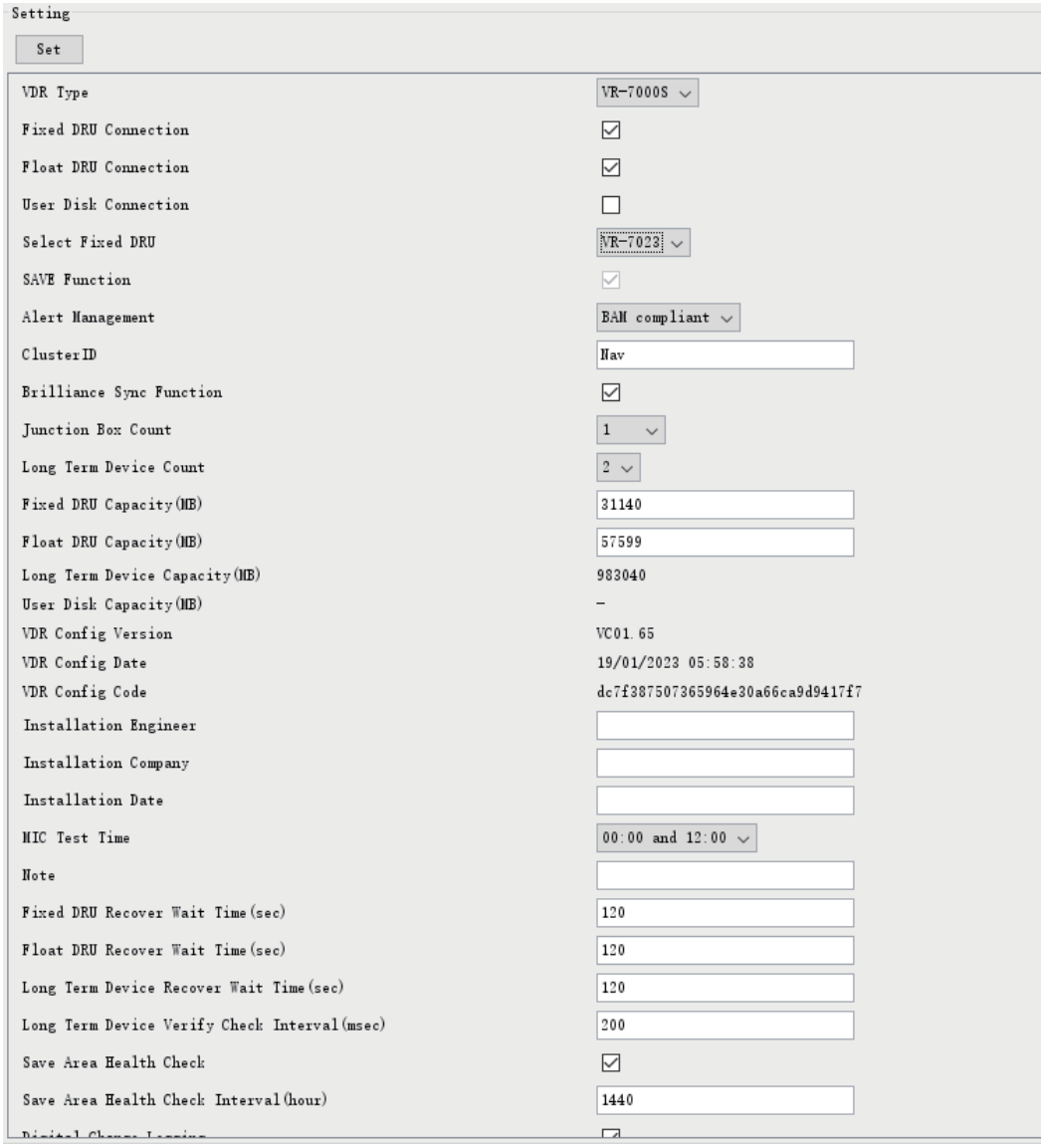
- The Live Player V5 is connected to port J41:
  Set as follows:
  [Multicast Address1]/[Multicast Address2] at IEC61162-450: Leave blank.
  [Multicast Address1]/[Multicast Address2] at PRIVATE LAN: Leave blank.
  [Multicast Address] at General Network1: 239.255.0.1
  [Multicast Address] at General Network1: Leave blank.
- The Live Player V5 is connected to port J42:
  Set as follows:
  [Multicast Address1]/[Multicast Address2] at IEC61162-450: Leave blank.
  [Multicast Address1]/[Multicast Address2] at PRIVATE LAN: Leave blank.
  [Multicast Address] at General Network1: Leave blank.
  [Multicast Address] at General Network1: 239.255.0.1

2.13 System

The [System] tab sets system related functions.

How to set system related functions

1. Click the [System] tab.
2. Set the items in the [Setting] window.



3. Click the [Set] button.

Note: Be sure to click the [Set] button before moving to a different tab.

Description of the items in the Setting window

[VDR Type]: Select VR-7000 or VR-7000S.
[Fixed DRU Connection]: When using VR-7000, both [Fixed DRU Connection] and [Float DRU Connection] are checked. The setting cannot be changed. When using VR-7000S, check either [Fixed DRU Connection] or [Float DRU Connection].
[Float DRU Connection]: When using VR-7000, both [Fixed DRU Connection] and [Float DRU Connection] are checked. The setting cannot be changed. When using VR-7000S, check either [Fixed DRU Connection] or [Float DRU Connection].

[User Disk Connection]: Check to record the navigational information to User Disk (USB flush memory).

[Select Fixed DRU]: Select the type of the fixed DRU to be connected (VR-7020/VR-7023).

[SAVE Function]: If you select VR-7000S in [VDR Type], this item is automatically checked. When selecting VR-7000, it is not used.

[Alert Management]: Select the alert mode. Normally, select [BAM compliant]. If the alert mode is changed, the setting on the RAP is also required. For details of the RAP setting, see the installation manual (IME-44850).

[Cluster ID]: Keep the default setting.

[Brilliance Sync Function]: Check to enable the brilliance sharing function. The setting on the RAP is also required to enable the function. For details of the RAP setting, see the installation manual (IME-44850).

[Junction Box Count]: Number of junction boxes connected.

[Long Term Device Count]: Enter total number of long term devices in the system.

[Fixed DRU Capacity]: Enter the capacity of fixed DRU. Enter the following value according to the setting of [Select Fixed DRU].

- For VR-7020: 33549
- For VR-7023: 31140

[Float DRU Capacity]: Display the capacity of float-free DRU. Setting cannot be changed.

[Long Term Device Capacity]: Display the capacity of Long Term Device.

[User Disk Capacity]: Display the capacity of User Disk.

[VDR Config Version]: VDR setting version.

[VDR Config Date]: Date of VDR configuration.

[VDR Config Code]: Display VDR configuration code.

[Installation Engineer]: Name of the installer.

[Installation Company]: Name of the company that installed the system.

[Installation Date]: Date of the installation.

[MIC Test Time]: Select the time to do the MIC test.

[Note]: Enter remarks. (Entry optional.)

[Fixed DRU Recover Wait Time]: The number of seconds (60-600) to wait before turning the power to the fixed DRU on or off after a reset, when abnormal writing is encountered. Attempt to recover is abandoned if not successful within 10 minutes. Setting cannot be changed.

[Float DRU Recover Wait Time]: Same process as [Fixed DRU Recover Wait Time]. Setting cannot be changed.

[Long Term Device Recover Wait Time]: Same process as [Fixed DRU Recover Wait Time]. Setting cannot be changed.

[Long Term Device Verify Check Interval]: The time to wait between recording and verification. Cannot be changed.

[Save Area Health Check]: Keep the default setting.

[Save Area Health Check Interval(hour)]: Keep the default setting.

[Digital Change Logging]: Keep the default setting.

[Live Player Max Connection Count]: Number of times the Live Player has been connected.

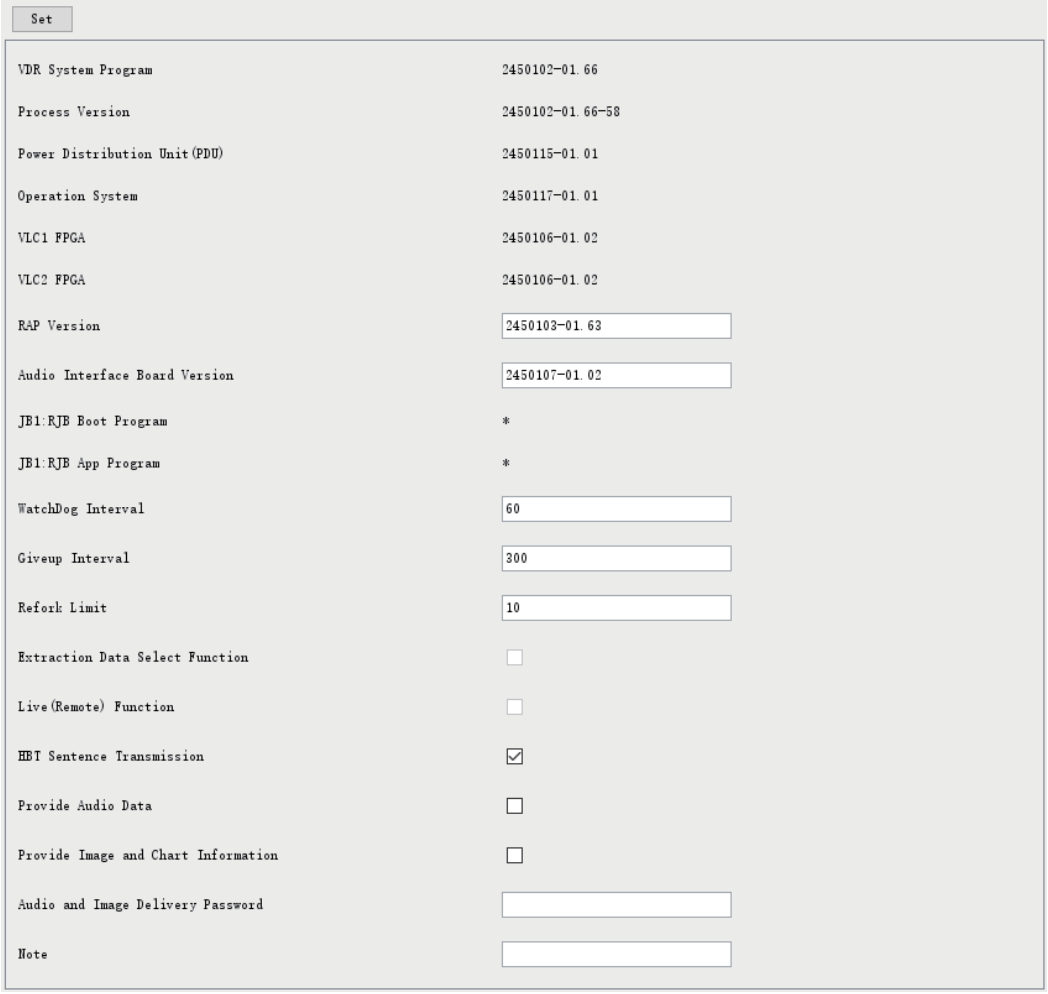
[Alert Sentence Output Enable]: No use. Setting cannot be changed.

2.14 Software

The [Software] tab sets and display software-related operations.

How to set up software related operations

1. Click the [Software] tab.
2. Set up the chosen Item from the [Setting] window.



3. Click the [Set] button.

Description of the items in the Setting window

[VDR System Program]: VDR system program no.
[Process Version]: Processor version no.
[Power Distribution Unit(PDU)]: Power Distribution Unit version no.
[Operation System]: Program no. of operation system.
[VLC1 FPGA]: Display the VLC1 FPGA version no.
[VLC2 FPGA]: Display the VLC2 FPGA version no.
[RAP Version]: Display RAP version no.
[Audio Interface Board Version]: Enter the version no. of the audio interface board.
[JB1: RJB Boot Program]: Display the no. of the RJB Boot program for Junction Boxes.
[JB1: RJB App Program]: Display the no. of the RJB App program for Junction Boxes.
[WatchDog Interval]: Cannot be changed - use the default value (60).
[Giveup Interval]: Cannot be changed - use the default value (300).
[Refork Limit]: Cannot be changed - use the default value (10).

[Extraction Data Select Function]: For use only with the remote playback function. For details, see chapter 9. Normally, this checkbox is grayed out.

[Live (Remote) Function]: For use only with activate the remote playback function. For details, see chapter 9. Normally, this checkbox is grayed out.

[HBT Sentence Transmission]: Check the box to output the HBT sentence from the VDR. Keep the checkbox checked unless it is required to stop the HBT sentence output.

[Provide Audio Data]: Check the checkbox to input the audio data from the external equipment.

[Provide Image and Chart Information]: Check the checkbox to input the image and chart information from the external equipment.

[Audio and Image Delivery Password]: Set the password to access to the VDR, to extract audio and image data from the external equipment.

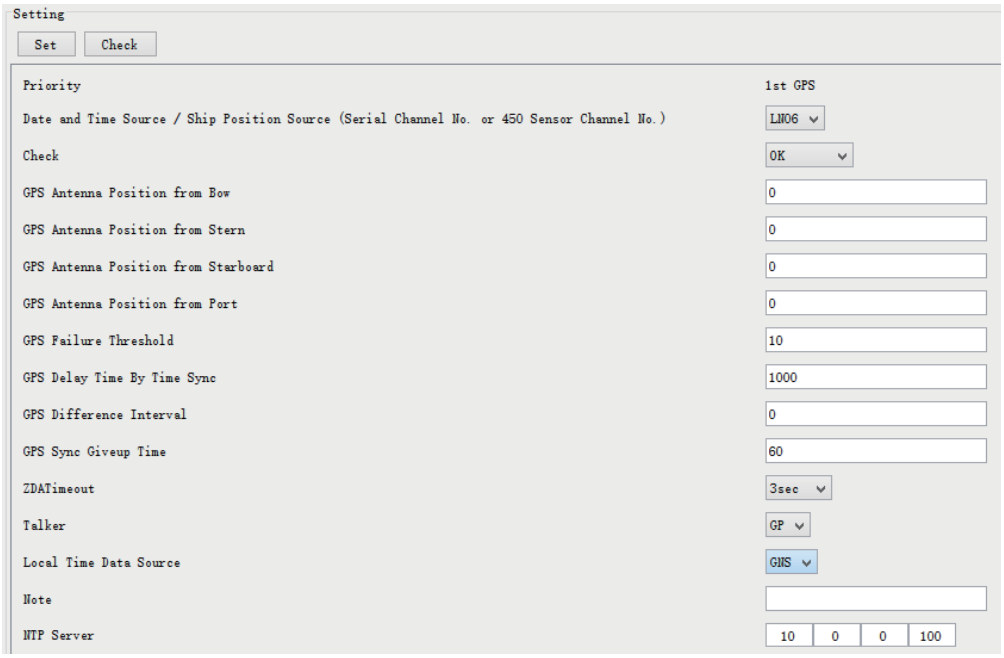
[Note]: Enter remarks. (Entry optional.)

2.15 GPS

The [GPS] tab sets up the GPS navigator.

How to set up the GPS navigator

1. Click the [GPS] tab.
2. Select a channel from the [Information] window. Set up the items in the [Setting] window.



3. Click the [Set] button.
4. Repeat steps 2-3 to set up each Channel.
5. Click the [Check] button to perform an inspection on all channels. The results are shown in the [Information] window as [OK] or [NG] (No Good).

Description of the items in the Setting window

[Priority]: Display priority order.

[Date and Time Source/Ship Position Source]: Set the GPS source channel (serial channel number for ZDA sentence).

[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.

[GPS Antenna Position From Bow]: Enter the position of GPS antenna from bow.

[GPS Antenna Position From Stern]: Enter the position of GPS antenna from stern.

[GPS Antenna Position From Starboard]: Enter the position of GPS antenna from starboard.

[GPS Antenna Position From Port]: Enter the position of GPS antenna from port.

[GPS Failure Threshold]: If the system receives the GPS time within the time set, the system synchronizes with the time. If the GPS time is not received, the alert 412026 is generated.

[GPS Delay Time by Time Sync]: Enter the minimum time delay for time synchronization.Time synchronization is started only in the time set here.

[GPS Difference Interval]: The time set here is added to the GPS time to synchronize the system time. Leave at the default value of 0.

[GPS Sync Giveup Time]: If the ZDA is input within the set time limit, the system restarts synchronizing. If not input within the time limit, the system restarts without synchronization.

[ZDA Timeout]: Enter the value (seconds) for ZDA timeout (alert 412234) from GPS.

[Talker]: Select a talker for sentence input from GPS equipment.

[Local Time Data Source]: Select the sentence that is used for calculating the local time on Live Player V5 (GNS, GGA, GLL, RMA or RMC).

[Note]: Enter remarks. (Entry optional.)

[NTP Server]: Synchronize the time of a computer client or server to another server or reference time source. Setting cannot be changed.

2.16 Vessel

The [Vessel] tab sets and displays own ship's information, such as name and IMO number.

How to set up ship's information

1. Click the [Vessel] tab. Set up the items in the [Setting] window.

2. Click the [Set] button.
3. From the Maintenance menu, click [VDR Config Management] and then [Upload].
4. Click the [Write] buttons to save data to the DRU, Long Term Device, recording media.

Description of the items in the Setting window

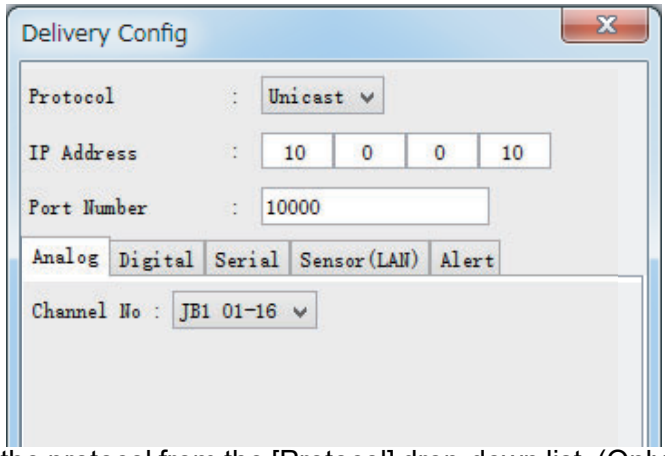
[Vessel Name]: Enter the name of vessel.
[Vessel IMO Number]: Enter the IMO number of vessel.
[Vessel MMSI Number]: Enter the MMSI number of vessel.
[Vessel Flag]: Enter the flag of vessel.
[Approval of Authority]: Enter the name of the approving authority.
[Note]: Enter remarks. (Entry optional.)

2.17 Delivery

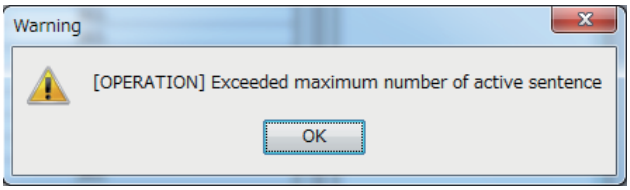
The [Delivery] tab functions to send data from the VDR to a PC via LAN.

How to send data from VDR to PC

1. Click the [Delivery] tab.
2. Click the [Add] button to show the [Delivery Config] dialog box.



3. Select the protocol from the [Protocol] drop-down list. (Only [Unicast] is available.)
4. Enter the IP address in the [IP Address] input box.
5. Enter the port number in the [Port Number] input box.
6. Click the tab ([Analog], [Digital], [Serial], [Sensor (LAN)] or [Alert]) of the data to send.
7. Select the channel of the data to send.
8. If [Serial] or [Sensor (LAN)] was selected at step 6, select applicable data sentence from the [Inactive] window. Click the right arrow to move the data sentence to the [Active] window. When you select “ALL”, all sentences that the DCU can output are registered.
   Note: A maximum of five sentences can be registered. If you try to register six or more sentences, following message arrears.



9. Click the [OK] button to close the [Delivery Config] dialog box.
   The settings are listed in a table in the [Delivery Config] dialog box.
   Note: A maximum of 128 rows can be listed in the [Delivery Config] dialog box.

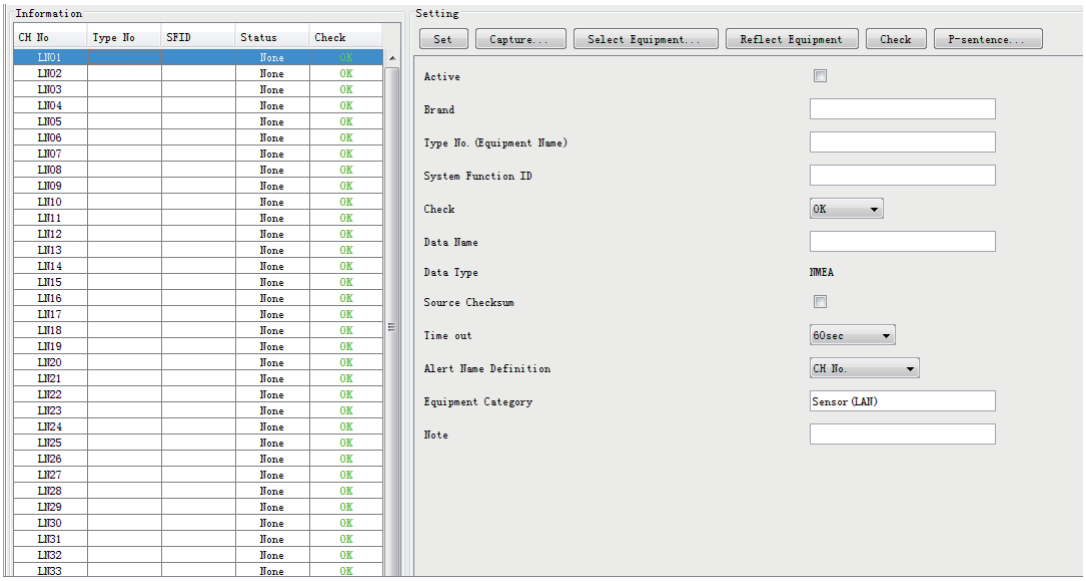
10. Check the checkbox in the [Active] column, and then click the [Set] button.
    Note: A maximum of 64 checkboxes can be checked.

Description of the buttons in the Setting window

[Set]: Save edited settings.
[Add]: Create new delivery settings.
[Modify]: Modify selected delivery settings.
[Delete]: Delete selected delivery settings.

2.18 Sensor (LAN)

The [Sensor (LAN)] tab sets up sensors connected via LAN and serial data input via sensor adapter. A total of 64 serial signal channels (IEC 61162-450) can be fed via the Sensor LAN.



Description of the items in the Information window

[CH No.]: Channel No.
[Type No.]: Type of device.
[SFID]: System Function ID.
[Status]: Status of device, [Active], [Fail], or [None].
[Check]: Results of check, [OK], [NG] (No Good), or [Not Comp] (Not Checked).

Description of the items in the Setting window

[Set] button: Reflect settings to server.
[Capture] button: Opens the [Sensor (LAN)] window to check if data is received. If not received, lower the baud rate.
[Select Equipment] button: Select equipment settings (saved to the database) to reflect in channel.
[Reflect Equipment] button: Save the equipment setting data to the database.
[Check] button: Check all channels. The results are shown as [OK] or [NG] (No Good), in the [Information] window.
[P-sentence] button: Show the [P-sentence definition] dialog box. (See "Description of the buttons in the Setting window" on page 2-7 for usage.)

[Active]: Check to make device active.

[Brand]: Enter the brand name of device.

[Type No]: Type of device; for example, GPS.

[System Function ID]: Enter SFID (System Function ID); for example, GP0001. (Do not set multiple SFIDs.)

[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.

[Data Name]: Input name of data.

[Data Type]: Fixed at [NMEA].

[Source Checksum]: Tick box to check for checksum in sentence.

[Time Out]: Set the timeout. The choices are [5 s], [10 s], [20 s], [30 s], [60 s], [120 s], [180 s], and [No-Timeout].

[Alert Name Definition]: Select the alert display format for the serial communication error.

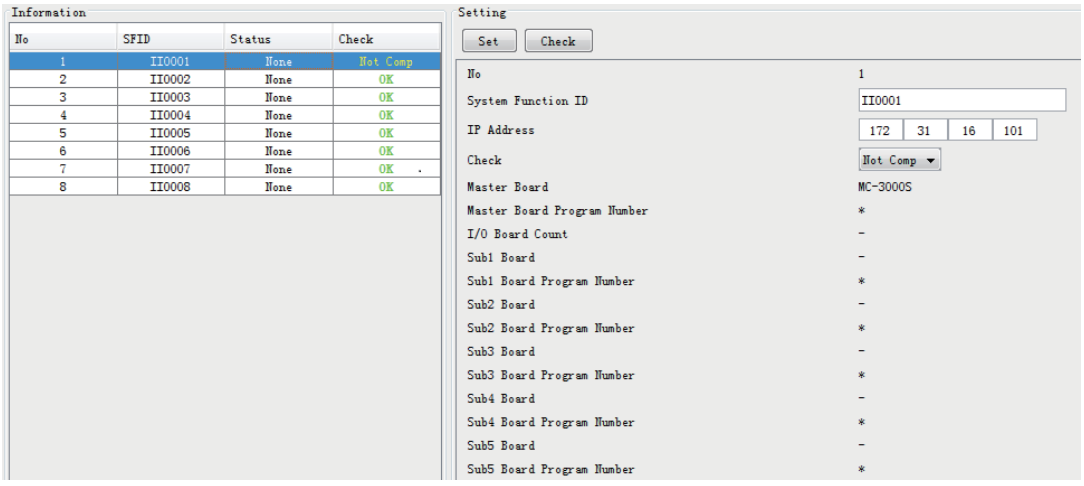
- [CH No.]: The alert 412317 “No No.01 Serial(LAN) Connection” to 412380 “No No.64 Serial(LAN) Connection” occurs when the serial communication error occurs. You can find the channel number that communication error occurs, by checking the alert name.
- [Equipment Name]: The alert 412817 “No XXX” to 412880 “No XXX” occurs when the serial communication error occurs. “XXX” changes according to the equipment name entered to [Type No. (Equipment Name)].You can find the equipment name that communication error occurs, by checking the alert name.

[Equipment Category]: Enter the equipment category.

[Note]: Enter remarks. (Entry optional.)

2.19 SA (Sensor Adapter)

The [SA] tab sets up the sensor adapters.



Description of the items in the Information window

[No.]: No. of adapter.

[SFID]: Enter SFID (System Function ID); for example, II0001.

[Status]: Status of device, [Active], [Fail] or [None].

[Check]: Results of check, [OK], [NG] (No Good), or [Not Comp] (Not Checked)

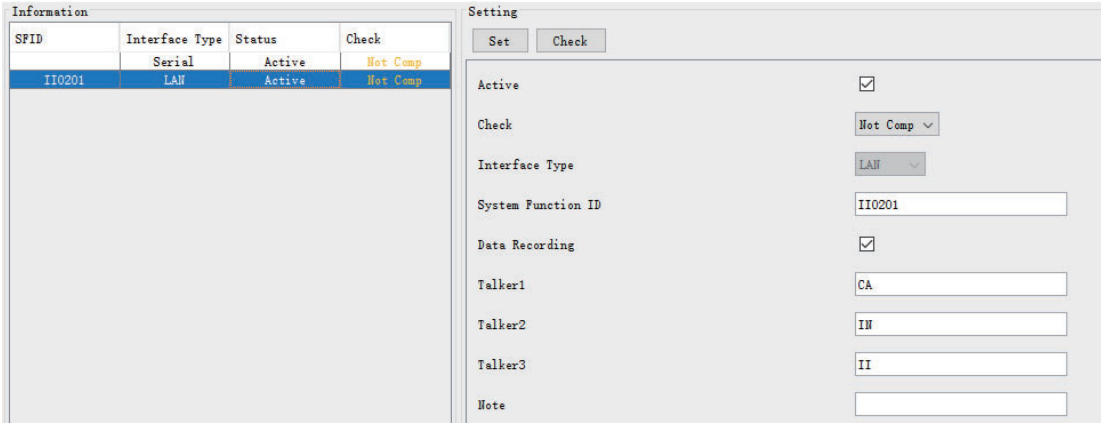
Description of the items in the Setting window

[Set] button: Reflect settings to server.

[Check] button: Check device.
[Active]: Check to make active.
[No.]: Sensor adapter no.
[System Function ID]: SFID of sensor adapter. (Do not set multiple SFIDs.)
[IP Address]: IP address of sensor adapter.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Master Board]: Name of Master board.
[Master Board Program No.]: Set data type, [NMEA], [ASCII], or [Binary].
[I/O Board Count]: Show number of sub boards.
[Sub1 Board]: Classification of Sub 1 board.
[Sub1 Board Program Number]: Program no.of Sub1 board.(Content of Sub Boards 2-13 same as those for Sub Board 1.)
[Note]: Enter remarks. (Entry optional.)

2.20 CAM (AMS)

The [CAM (AMS)] tab sets up the Central Alert Management System (Alert Management System).



Description of the items in the Information window

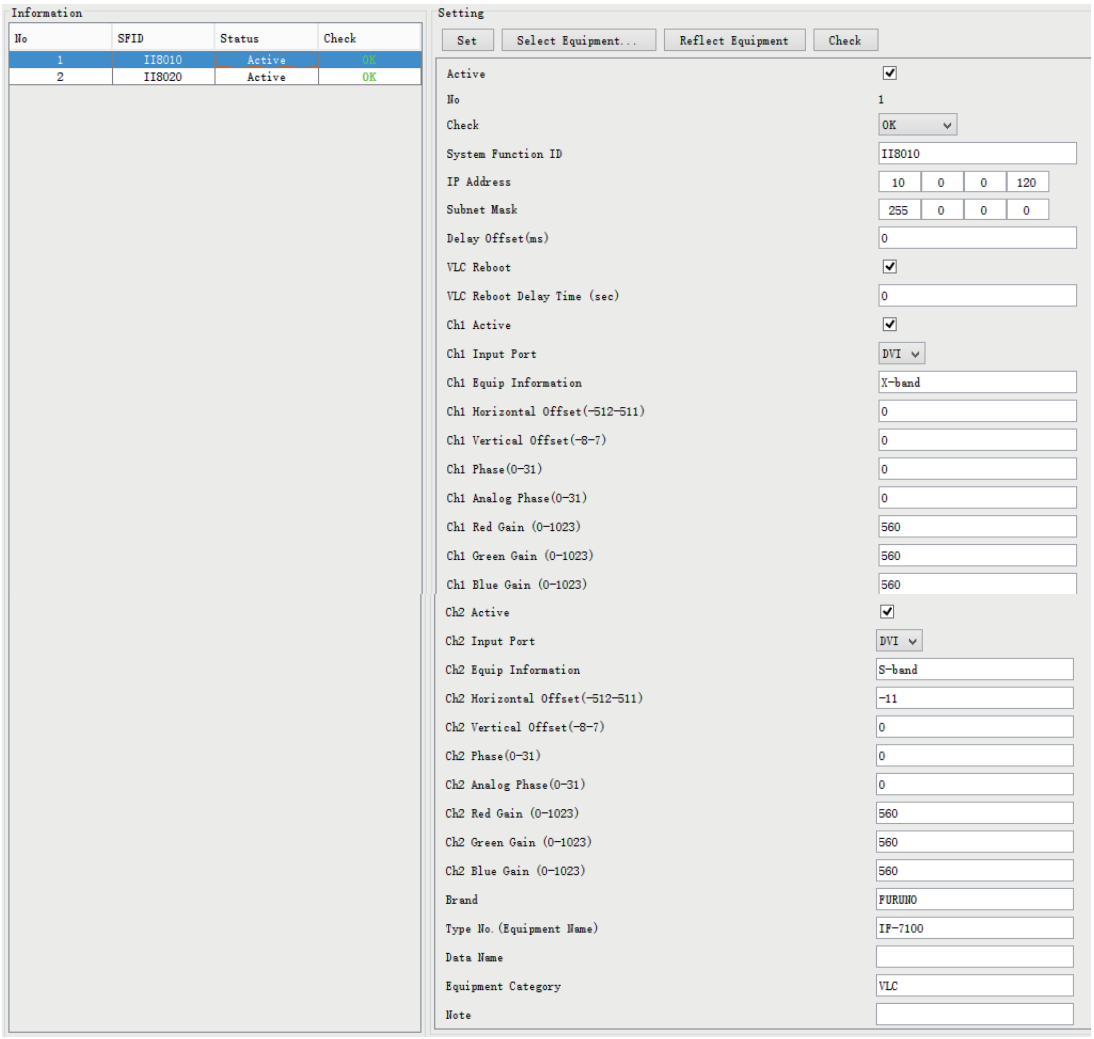
[SFID]: Show CAM (AMS) SFID (System Function ID); for example, II0001.
[Interface Type]: Show Interface type, [Serial] or [LAN].
[Status]: Status of recording received from CAM (AMS), [Recording], [Fail], or [None].
[Check]: Show check results, [OK], [NG] (No Good), or [Not Comp] (Not Checked)

Description of the items in the Setting window

[Set] button: Reflect settings to server.
[Check] button: Check device.
[Active]: Check to make active.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Interface Type]: Set the interface type, [Serial] or [LAN].
[System Function ID]: Set the SFID no. of the CAM (AMS). (Do not set multiple SFIDs.)
[Data Recording]: Check to save recording received from CAM (AMS).
[Talker 1] to **[Talker 3]**: Keep the default setting.
[Note]: Enter remarks. (Entry optional.)

2.21 VLC

The [VLC] tab sets up the Video LAN Converter.



Description of the items in the Information window

[No.]: VLC no.
[SFID]: VLC System Function ID.
[Status]: Status of device, [Active], [Fail], or [None].
[Check]: Results of check, [OK], [NG] (No Good), or [Not Comp] (Not Checked)

Description of the items in the Setting window

[Set] button: Reflect settings to server.
[Select Equipment] button: Select the equipment that is connected witg the VLC.
Note: When using the [Select Equipment] button, do not apply the settings of VLC1 to VLC2 or vice versa. Wrong settings, for example, the IP address, SFID and other settings of the VLC1 are applied to VLC2, will cause malfunction.

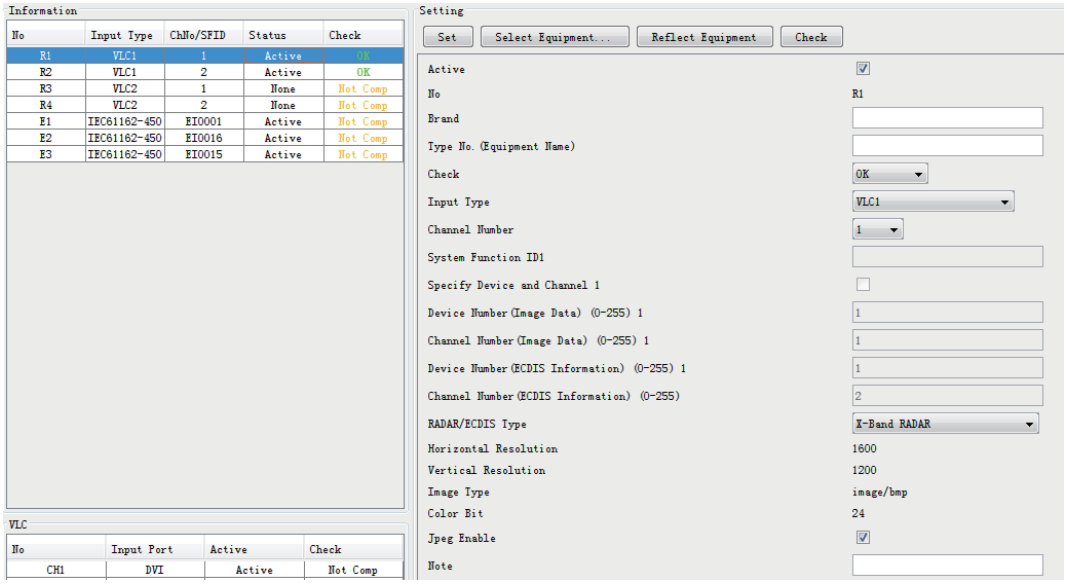
[Reflect Equipment] button: Save the equipment setting data to the database.
[Check] button: Check device.
[Active]: Check to make device active.
[No.]: VLC no.

[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[System Function ID]: VLC SFID (System Function ID) of VLC. Setting cannot be changed.
[IP Address]: IP address of VLC. Setting cannot be changed.
[Subnet Mask]: Subnet mask of VLC. Setting cannot be changed.
[Delay Offset]: No use.
[VLC Reboot]: Keep the default setting.
[VLC Reboot Delay Time (sec)]: Keep the default setting.
[Ch1 Active]: Check to make channel 1 active.
[Ch1 Input Port]: Select CH1 input port type, [DVI], or [RGB].
[Ch1 Equip Information]: Set CH1 radar type (X-band, S-band, etc.).
[Ch1 Horizontal Offset (512-511)]: Enter horizontal offset for CH1.
[Ch1 Vertical Offset(-8-7]: Enter vertical offset for CH1.
[Ch1 Phase(0-31)]: Set CH1 phase. Keep the default setting.
[Ch1 Analog Phase(0-31)]: Set CH1 analog phase. Keep the default setting.
[Red Gain(0-1023)], **[Green Gain(0-1023)]**, **[Blue Gain(0-1023)]**: Adjust respective gain. Keep the default setting.

Set “Ch2” items referring to corresponding “Ch1” items.
[Brand]: Set brand of equipment.
[Type No]. Set type no. (model) of equipment.
[Data Name]: Enter data name.
[Equipment Category]: Enter equipment category.
[Note]: Enter remarks. (Entry optional.)

2.22 Image Interface

The [Image Interface] tab sets up the image interface.



Description of the items in the Information window

[No.]: Image interface no.
[Input Type]: Input type, [None], [IEC61162], [IEC61162-450], [VLC1], [VLC2].
[CH No/SFID]: Channel number/SFID.

[Status]: Status of image interface, [Active], [Fail], [None].
[Check]: Results of check, [OK], [NG] (No Good), [Not Comp] (Not Checked).

Description of the items in the Setting window

Note: The settings for the Ch1 and Ch2 items (set with the [Select Equipment] button) must not be same.

[Set] button: Reflect settings to server.
[Select Equipment] button. Select a radar or ECDIS model.
[Reflect Equipment] button: Record settings to the database.
[Check] button: Check device.
[Active]: Check to make device active.
[No.]: Image interface no. Same as [No.] in the [Information] window.
[Brand]: Brand of device.
[Type No]: Name of equipment.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Input Type]: Set input type. The choices are [None], [IEC61162-450], [VLC1], [VLC2], [VLC1+ECDIS Information], [VLC2+ECDIS Information].
[Channel Number]: Select input channel number, [None], [1], [2]. Set if [Input Type] is other than [IEC61162-450].
[System Function ID1]: Set SFID of input equipment (radar, ECDIS, etc.) when [Input Type] is [IEC61162-450], [VLC1+ECDIS Information], or [VLC2+ECDIS Information]. Do not enter multiple SFIDs for VLC or Audio board.
[Specify Device and Channel 1]: Check the box to specify the device and channel number of the input equipment to be used for data recording.
[Device Number (Image Data) (0-255) 1]*1: Enter the device number of the equipment that inputs the image data.
[Channel Number (Image Data) (0-255) 1]*1: Enter the channel number of the equipment that inputs the image data.
[Device Number (ECDIS Information) (0-255) 1]*1: Enter the device number of the equipment that inputs the ECDIS information.
[Channel Number (ECDIS Information) (0-255) 1]*1: Enter the channel number of the equipment that inputs the ECDIS information.
[RADAR/ECDIS Type]: Select the radar or ECDIS type.
[Horizontal Resolution]: Display horizontal resolution of acquired image.
[Vertical Resolution]: Display vertical resolution of acquired image.
[Image Type]: Display the type of acquired image.
[Color Bit]: Display color bit of acquired image.
[Jpeg Enable]: Check the box to send JPEG images to connected equipment.
[Note]: Enter remarks. (Entry optional.)
[Add System Function ID(MFD)]*2: Check the box to receive multiple image data, via a single MFD, using multiple SFIDs.
[System Function ID2]*2 to [System Function ID5]*2: Set SFID of the equipment from which the image is output. These settings are available when [Add System Function ID(MFD)] is activated.
[Specify Device and Channel 2]*1 to [Specify Device and Channel 5]*1: Check the box to specify the device and channel number of the equipment whose data will be input for recording.
[Device Number (Image Data) (0-255) 2]*1 to [Device Number (Image Data) (0-255) 5]*1: Enter the device number of the equipment to be used for image data input.

[Channel Number (Image Data) (0-255) 2]*1 to [Channel Number (Image Data) (0-255) 5]*1: Enter the channel number of the equipment that inputs the image data.

[Device Number (ECDIS Information) (0-255) 2]*1 to [Device Number (ECDIS Information) (0-255) 5]*1: Enter the device number of the equipment that inputs the ECDIS information.

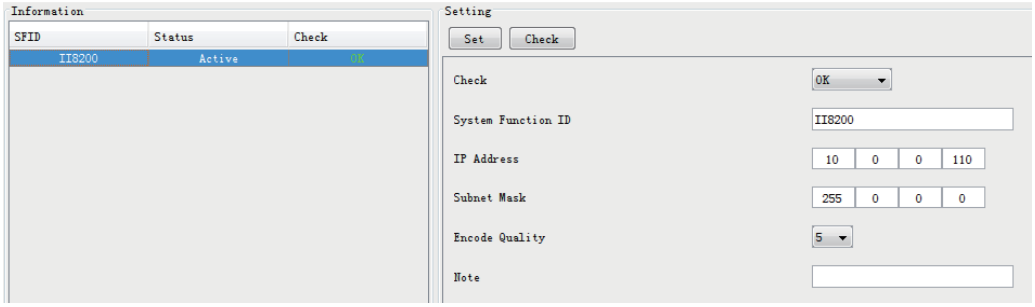
[Channel Number (ECDIS Information) (0-255) 2]*1 to [Channel Number (ECDIS Information) (0-255) 5]*1: Enter the channel number of the equipment that inputs the ECDIS information.

*1: Activated when the [Specify Device and Channel] checkbox is checked.

*2: Not used for a FURUNO equipment.

2.23 Audio Board

The [Audio Board] tab sets up the Audio I/F board.



Description of the items in the Information window

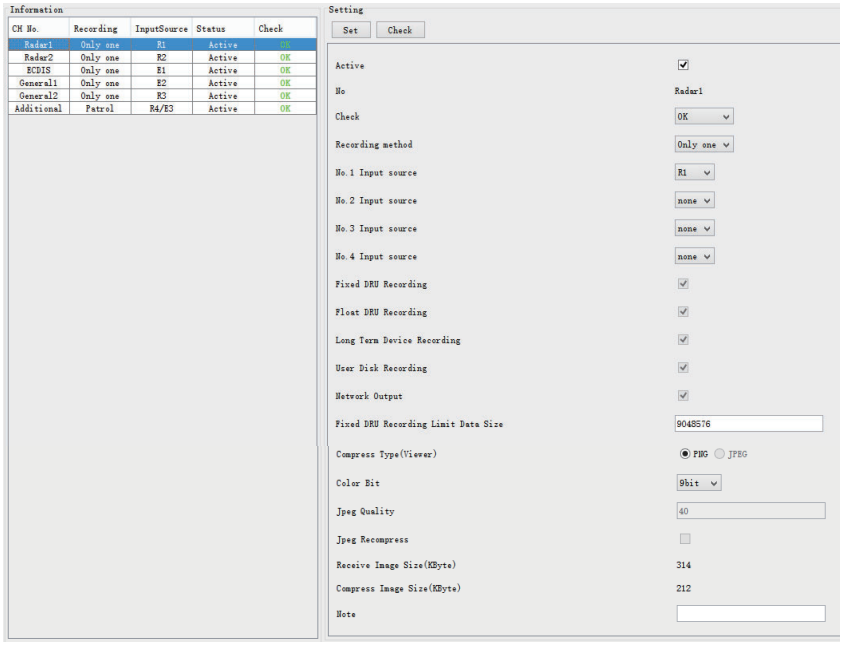
[SFID]: Input SFID (System Function ID); for example, II0001.
[Status]: Status of Audio I/F board, [OK] or [Fail].
[Check]: Results of check, [OK], [NG] (No Good), or [Not Comp] (Not Checked)

Description of the items in the Setting window

[Set] button: Reflect any changes made.
[Check] button: Check settings. [OK], [NG] or [Not Comp] (Not Completed) appears.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[System Function ID]: SFID of Audio I/F Board. Also can be set with DIP SW. Do not change the setting.
[IP Address]: Display IP address. Do not change the setting.
[Subnet Mask]: Display subnet mask. Do not change the setting.
[Encode Quality]: Set the compression rate (5 - 10) for audio data. The larger the figure the better the quality but also the larger the data. Do not change the setting.
[Note]: Enter and display remarks. (Entry is optional.)

2.24 Image Record Setting

The [Image Record Setting] tab sets up the radar/ECDIS recording image.



Description of the items in the Information window

[CH No.]: Channel No.
[Recording]: Show recording method, [Only one], [Patrol] or [Backup].
[Input Source]: Show input source.
[Status]: Status of image interface, [Active], [Fail], [None].
[Check]: Results of check, [OK], [NG] (No Good), [Not Comp] (Not Checked).

Description of the items in the Setting window

[Set] button: Reflect settings to server.
[Check] button: Check device.
[Active]: Check to make device active.
[No.]: Image interface no.
[Check]: Show check result. Same as [Check] in the [Information] window. Do not change the setting.
[Recording method]: Select recording method. The choices are [Only one], [Patrol] or [Backup]. [Only one] records the input source having the youngest number in case of multiple sources. [Patrol] records all input sources cyclically. [Backup] records by input source priority - No.1 the highest, No.4 the lowest.
[Input Source]: Select the input source for each of No. 1 to No. 4. The choices are [R1], [R2], [R3], [R4], [E1], [E2], and [E3]. (R=Radar, E=ECDIS)
[Fixed DRU Recording]: No use.
[Float DRU Recording]: No use.
[Long Term Device Recording]: No use.
[User Disk Recording]: No use.
[Network Output]: No use.
[Fixed DRU Recording Limit Data Size]: Keep the default setting.
[Compress Type]: Select [PNG] or [JPEG]. When receiving data other than PNG 24 bit color, select [JPEG]. If you select [PNG], you cannot record data.

[Color Bit]: Select color bit to use, with [Color Bit]. The choices are [6 bit], [9 bit], [12 bit], [15 bit], [18 bit], [21 bit], and [24 bit].

[Jpeg Quality]: Keep the default setting.

[JpegRecompress]: Check to re-compress the JPEG data received in the VR-7000/7000S setting. When you use this item, make sure [Jpeg Enable] is active in the [Image Interface] tab and select [JPEG] in [Compress Type] of the [Image Record Setting] tab.

[Receive Image Size]: Show image data size in reception.

[Compress Image Size]: Show image data size in compression.

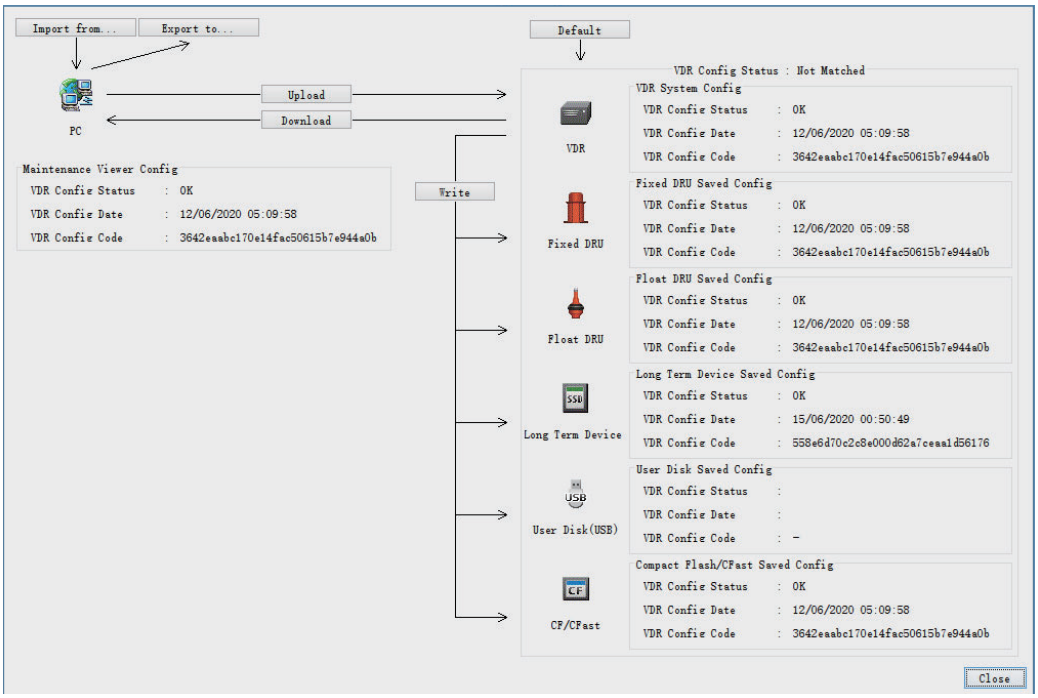
[Note]: Enter remarks. (Entry optional.)

2.25 How to Upload the Configuration Data

After all items have been set, upload the configuration data to the VDR and backup the data to the DRU (Fixed, Float), Long Term Device and the recording media as follows:

Note: The configuration data be uploaded in order to apply the configuration changes to the VDR.

1. Click [VDR Config Management] in the [Maintenance] menu.



2. Click the [Upload] button to send all inputted data to the memory of the VDR.
3. Click the [Write] button to send data to the Fixed DRU, Float DRU, Long Term Device, and recording media.
4. The message "VDR will be rebooted. Continue?" appears, click the [OK] button to continue. You are then logged out of the VDR Maintenance Viewer. The reboot takes several minutes.

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3. HOW TO BACK UP CONFIGURATION DATA

This chapter shows you how to back up configuration data to various storage media.

3.1 How to Back up Configuration Data to the Recording Media

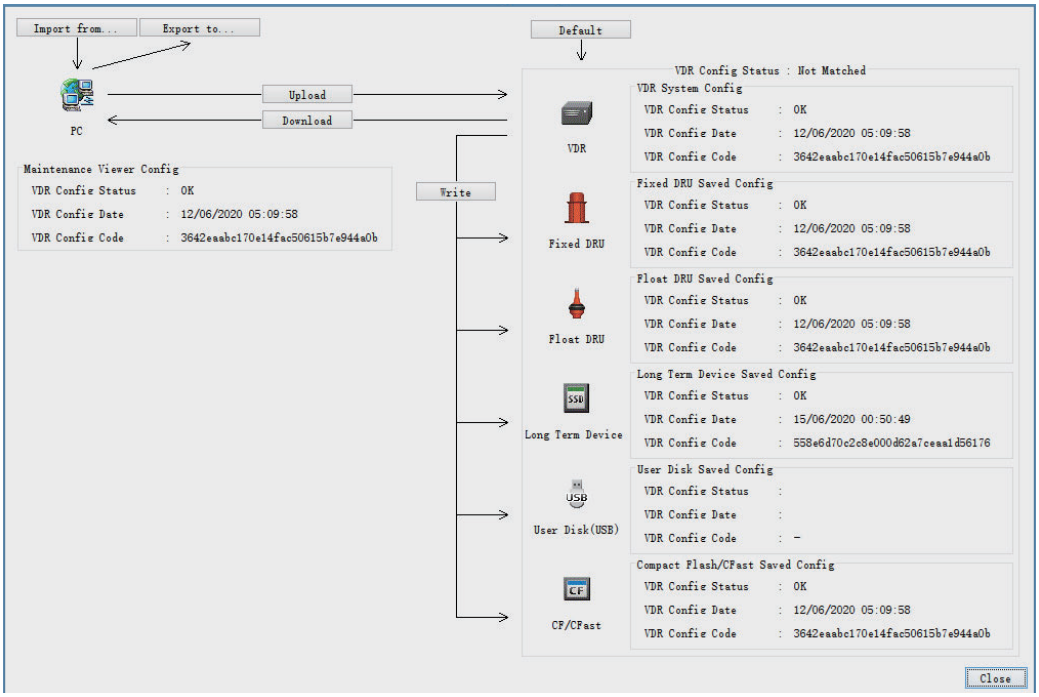
Back up data to the recording media after setting the VDR. Configuration data is created on the recording media as a Configure.dat file. Writing is simultaneously done to the recording media, User Disk, Fixed DRU, Float DRU, and Long Term Device.

Note: When the error shown below occurs during the downloading or uploading of configuration data, check the connection of the DRU (Fixed, Float), Long Term Device, User Disk and recording media, and then upload or download the configuration data again.
- [CONN] Download failed.
- [CONN] Could not upload config file.

If error re-occurs, re-install the VDR Maintenance Viewer.

How to backup data to the recording media

1. Set up parameters on the tabs, referring to Chapter 2.
2. Click the [Maintenance] menu.
3. Select [VDR Config Management].



4. Click the [Upload] button.
5. A confirmation window appears; click the [OK] button to start uploading to the VDR.

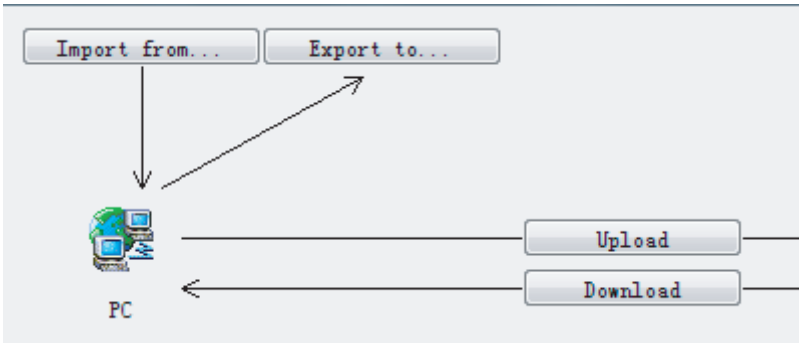
6. Click the [Write] button.
7. The message "VDR will be rebooted. Continue?" appears. Click the [OK] button to continue. You are then logged out of the VDR Maintenance Viewer. The reboot takes several minutes.
8. Open the [VDR Config Management] dialog box and check that the PC, VDR, DRU (Fixed, Float), Long Term Device, User Disk and recording media share the same VDR config code.

3.2 How to Back up Configuration Data to a PC

Configuration data saved to the PC can be shared with other vessels. For future service ease, it is recommended to backup configuration data to the PC and have the data on board the vessel. Also, it is recommended to upload this data to the FURUNO SMS (Service Management System). If data cannot be uploaded to the FURUNO SMS, contact the FURUNO Service Center.

How to back up configuration data to a PC

1. Set up parameters on the tabs, referring to Chapter 2.
2. Click the [Maintenance] menu.
3. Select [VDR Config Management].



4. Click the [Export to] button.
5. A confirmation window appears; click the [OK] button.
6. Select where to save the data, enter file name, then click the [Save] button.
7. Confirm that the backup file is in the location selected.

3.3 How to Restore the Default Settings

The procedure below shows how to restore default setting data to the DRU (Fixed, Float), Long Term Device, recording media and VDR Maintenance Viewer.

1. Connect the PC to the DCU.
2. Turn on the VDR and wait four minutes.
3. Open the VDR Maintenance Viewer on the PC.
4. Enter the applicable IP address (172.31.16.200) in the IP address box in the [Maintenance Login] dialog box.
5. Generate the one-time password (response code) from the challenge code on the screen and enter the password correctly, then click the [Login] button.
6. Select [Maintenance], [VDR Config Management] and [Default].
7. Click the [Upload] button.
8. Click the [Write] button.

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4. HOW TO UPLOAD CONFIG-URATION DATA FROM A PC

The procedure below shows how to upload configuration data from the PC to the VR-7000/7000S.

1. Click the [Maintenance] menu.
2. Select [VDR Config Management] to open the dialog box shown below.

3. Click the [Import from] button.
4. The [Open] dialog box appears. Select configuration data, and then click the [Open] button.
5. Click the [Upload] button to upload data to the VR-7000/7000S.
6. Click the [Write] button.
7. The message "VDR will be rebooted. Continue?" appears click the [OK] button to continue. You are then logged out of the VDR Maintenance Viewer. The reboot takes several minutes.

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5. MEDIA MANAGEMENT

The media management feature deletes data from recording media; initializes the system, etc.

Note 1: Do not use the Live Player when initializing or creating a medium.

Note 2: Remove USB flash memory except USB flash memory for use of User Disk from the USB port before doing any procedure in this section.

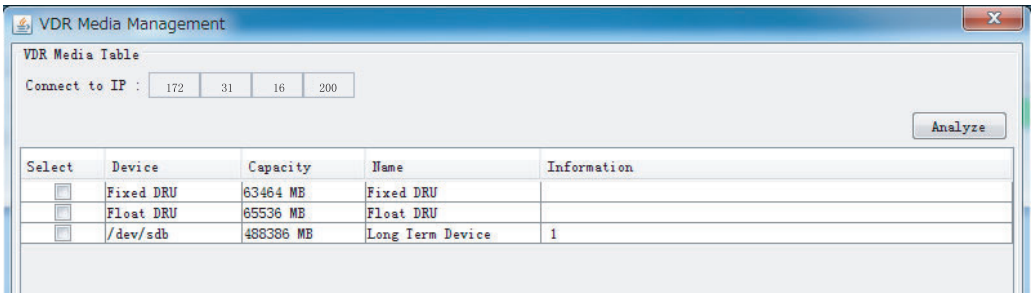
5.1 Initialization of DRU, Long Term Device, User Disk

This section shows how to delete data from the DRU (Fixed, Float), Long Term Device, User Disk.

Note: Initialization deletes all VDR setting data. Before doing the initialization, save the VDR setting data.

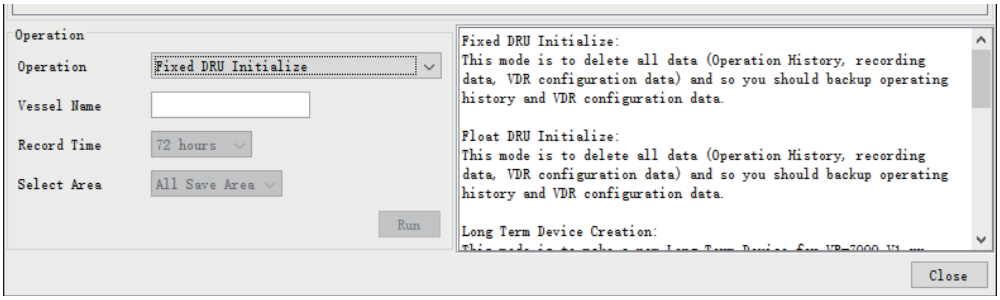
How to delete data from a DRU, Long Term Device or User Disk

1. Connect the LAN cable between the LAN port on the PC and J502 (DATA) in the DCU.
2. Open the [Tool] menu.
3. Select [Media Management] to open the [VDR Media Management] dialog box.
4. Check that the IP address shown in [Connect to IP] is the same as the IP address access point.
5. Click the [Analyze] button. A list of recording media connected to the VDR appears.



6. Put a checkmark in the checkbox in the [Select] column for the Fixed DRU, Float DRU or Long Term Device, User Disk.
   Only one device can be initialized at a time. However, if two Long Term Devices are treated as one device, they can be initialized simultaneously.)
   Note: If there are two SSDs in a Long Term Device, the two SSDs are shown. Check all Long Term Devices shown.
7. Select [Fixed DRU Initialize], [Float DRU Initialize], [Long Term Device Initialize], [User Disk Initialize] or [Long Term Device Save Area Release] from the

[Operation] drop-down list in the [Operation] window. Be sure the media selected matches the one selected at step 6.
When selecting [Long Term Device Save Area Release], select the save area to delete the data from the [Select Area] drop-down list.



8. Click the [Run] button.

5.2 Creation of Long Term Device

The Creation feature initializes the Long Term Device. To do the creation with a DRU, connect the DRU to the PC with a LAN cable. A special tool is required to do the creation.

Note 1: Initialization deletes all VDR setting data. Before doing the initialization, save the VDR setting data.

Note 2: If creation fails, try again. If creation fails again, request service to repair/replace the Long Term Device.

1. Do steps 1-4 in section 5.1. To format the Long Term Device, place a checkmark in the [Select] column of the listed record media in the [Name] column of the [VDR Media Management] dialog box.
2. From the [Operation] drop-down list in the [Operation] window, select [Long Term Device Creation].
3. Press the [Run] Button.

5.3 Creation of User Disk

The Creation feature initializes the USB flash memory to use it as User Disk.

Note 1: Make the [User Disk Connection] setting active (See section 2.13), and then restart the VDR. If the setting is inactive, the User Disk is not shown.

Note 2: Initialization deletes all data in the USB flash memory. Before doing the initialization, save the data in the USB flash memory.

Note 3: If creation fails or User Disk does not appear in a list of recording media, try again. If creation fails again, request service to repair/replace the USB flash memory.

Note 4: When using several User Disks, initialize the all USB flash memories in advance to make them active.

1. Do steps 1-4 in section 5.1. To format the User Disk, place a checkmark in the [Select] column of the listed record media in the [Name] column of the [VDR Media Management] dialog box.
2. From the [Operation] drop-down list in the [Operation] window, select [User Disk Creation].
3. From the drop-down list in the [Record Time] window, select a recording time to capacity of the USB flash memory (About 50GB is required for 72 hours).
4. Press the [Run] Button.

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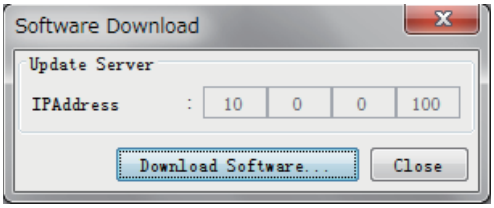
6. OTHER FUNCTIONS

6.1 Software Management

The software download feature downloads VDR system software to the PC.

6.1.1 How to download software

1. Click the [Maintenance] menu.
2. From the [Software Management] menu, click [Software Download] to show the [Software Download] dialog box.



3. Click the [Download Software] button.
4. The confirmation window appears; click the [OK] button.

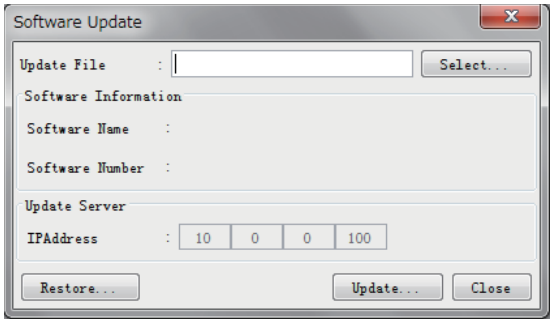
The [Software Backup Execute] window shows the results of the download. The software file, vdr.tar, is downloaded to C:\Program Files\VDR Viewer\Viewer\Backup (32 bit) or C:\Program Files(x86)\VDR Viewer\Viewer\Backup (64 bit).

6.1.2 How to update software

Note 1: Do not update the file downloaded at section 6.1.1.

Note 2: Be sure to upload the correct file.

1. Click the [Maintenance] menu.
2. From the [Software Management] menu, click [Software Upload] to show the [Software Update] dialog box.



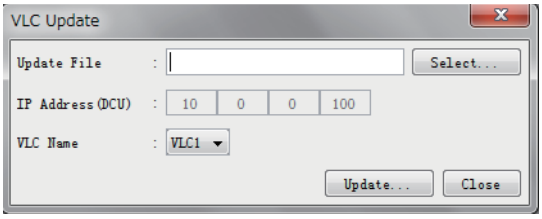
3. Click the [Select] button to show the [Open] dialog box.
4. Select the update file (vdr.tar) then click the [Open] button.
5. Check that the displayed software information is correct.
6. Click the [Update] button.

After the updating is completed, the VDR is automatically restarted.

Note: If an update is not satisfactory, you can revert to the previous software version. Click the [Restore] button on the [Software Upload] dialog box to restore the previous software version. This feature is available after updating the software.

6.1.3 How to update VLC

1. Click the [Maintenance] menu.
2. From the [Software Management] menu, click [VLC Upload] to show the [VLC Update] dialog box.

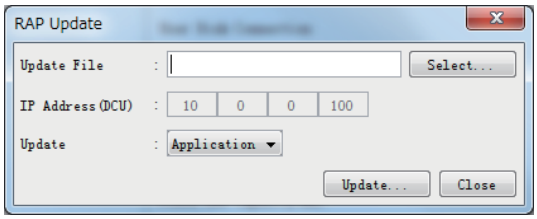


3. Click the [Select] button to show the [Open] dialog box.
4. Select the update file then click the [Open] button.
5. Check that the displayed software information is correct.
6. From the drop-down list in the [VLC Name] field, select a VLC for update.
7. Click the [Update] button.

After the updating is completed, the VDR is automatically restarted.

6.1.4 How to update RAP

1. Click the [Maintenance] menu.
2. From the [Software Management] menu, click [RAP Upload] to show the [RAP Update] dialog box.



3. Click the [Select] button to show the [Open] dialog box.
4. Select the update file then click the [Open] button.
5. Check that the displayed software information is correct.
6. From the drop-down list in the [Update] field, select a program to be updated ([Application] or [Booter)].
   It takes approx. seven minutes to update the application program. The boot program takes approx. two minutes to update.
7. Click the [Update] button.

After the updating is completed, the RAP and DCU are automatically restarted.

Note: If the updating fails, the error message appears appx. 20 minutes later. In this case check the connection between the DCU and RAP, then retry the updating.

6.2 Audio Password

The audio password set at the Live Player can be removed to enable audio access without a password.

1. Click the [Maintenance] menu.
2. Select [Change Audio Password] from [Password Management] to show the [Change Audio Password] dialog box.
3. The confirmation window appears; click the [OK] button.

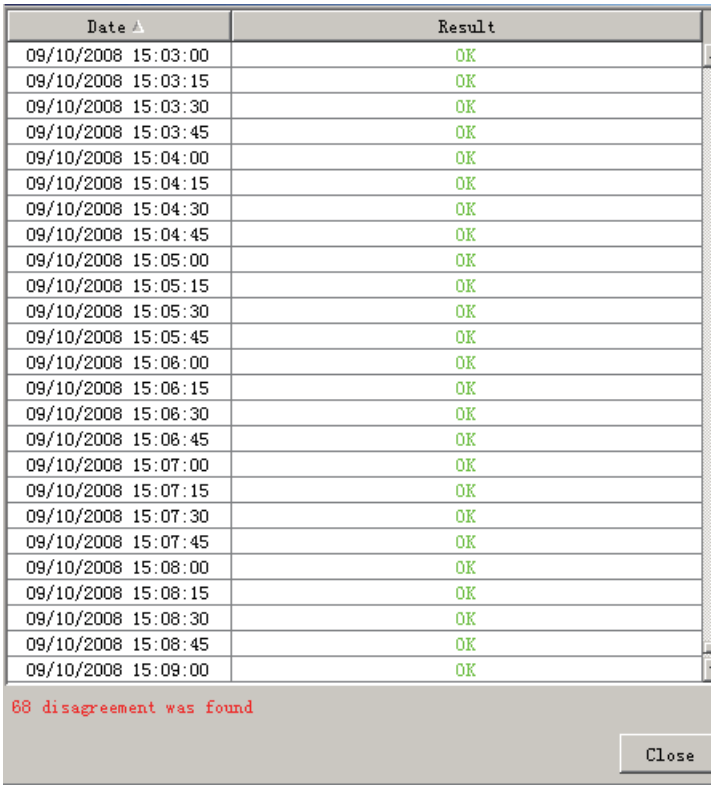
6.3 Record Comparison

The integrity of the DRU and Long Term Device recordings can be compared.

Note: This function is used by the R&D engineer for debugging.

1. Click the [Maintenance] menu.
2. Select [Record Comparison] to show the [Record Comparison] window.

The results are updated every 15 seconds.



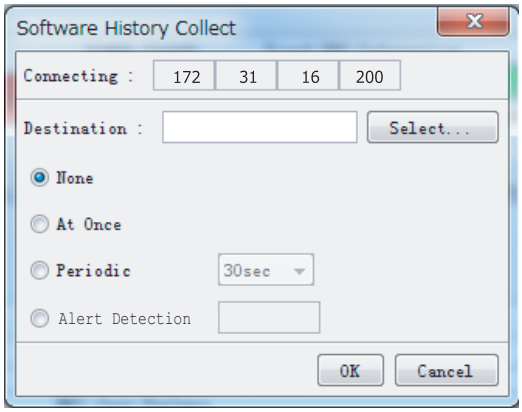
6.4 Software History

This section shows you to save and configure software history (communications record).

6.4.1 How to save software history

Note: If error occurs while saving the software history, restart the VDR Maintenance Viewer.

1. Click the [Maintenance] menu.
2. Select [Software History Management] followed by [Software History Collect] to show the [Software History Collect] dialog box.

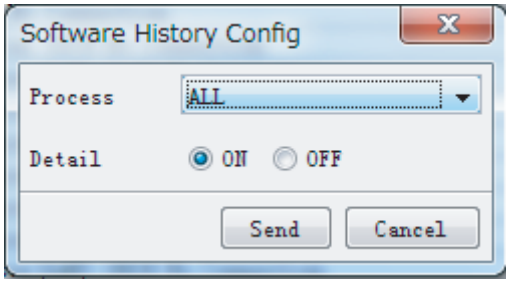


3. Click the [Select] button to show the [Open] dialog box.
4. Select where to save the data then click the [Open] button.
5. Select desired save condition then click the [OK] button.
   [None]: No saving.
   [At Once]: Save the software history manually. Saving begins as soon as the [OK] button is clicked.
   [Periodic]: For debugging. Do not use otherwise. The intervals are 30 sec., 60 sec., 120 sec., and 60 min.
   [Alert Detection]: For debugging. Do not use otherwise. Software history is saved when the specified alert is released. Enter alert number.

6.4.2 How to configure the software communications record

This function is for debugging. Do not do this procedure unless required. Malfunction can result.

1. Click the [Maintenance] menu.
2. Select [Software History Config].
3. Set the following:
   [Process]: Select the type of communications record to save. [ALL] saves all communications records.
   [Detail]: Show or hide detailed information.
4. Click the [Send] button.

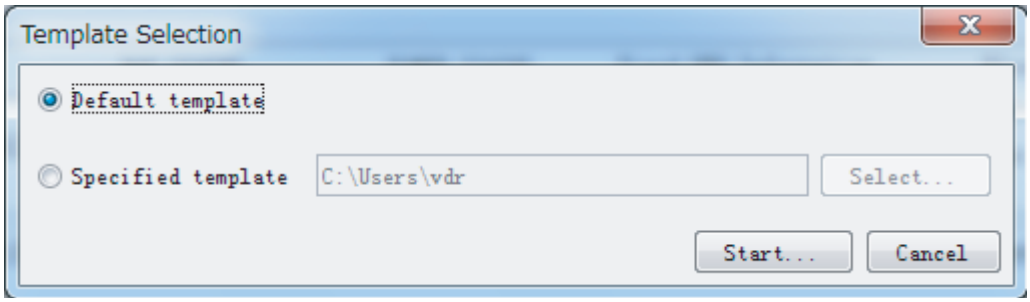


6.5 Easy Setup

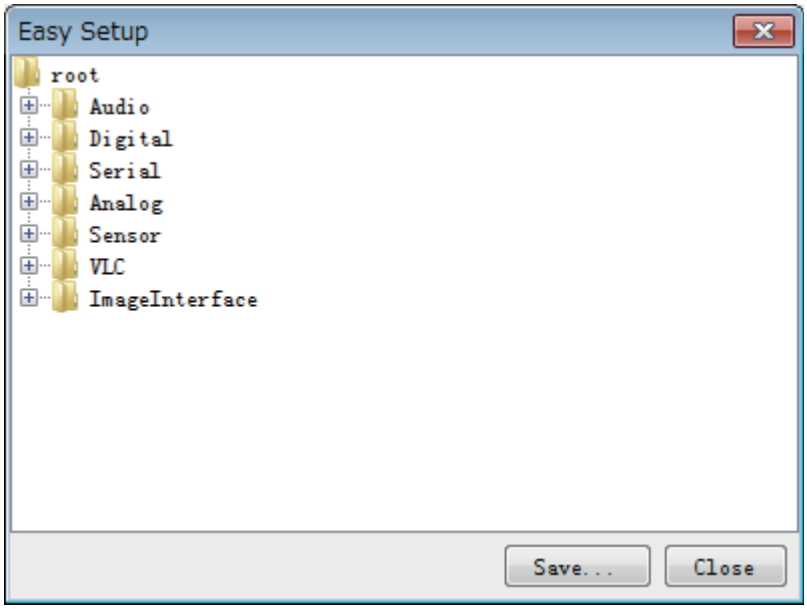
This feature sets equipment settings in batch and creates a data file of those settings.

6.5.1 Default template: The default template is created with the settings entered at installation

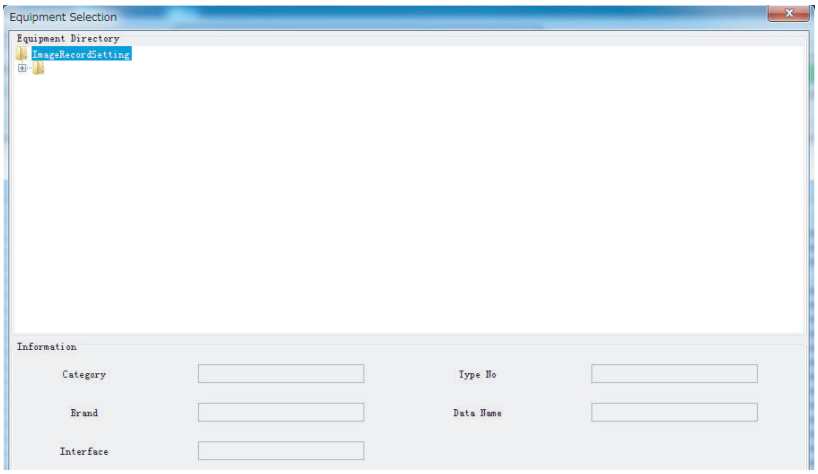
1. Click the [Maintenance] menu.
2. Select [Easy Setup] to show the [Template Selection] dialog box.



3. Select [Default template].
4. Click the [Start] button to show the [Easy Setup] dialog box.



5. Right click the channels ([Audio], [Digital], [Serial], [Analog], [Sensor], [VLC], [ImageInterface]), then select [Edit] to show the [Equipment Selection] dialog box.



6. From the [Equipment Directory] dialog box, select equipment connected to the selected channel, and then click the [OK] button.
7. Repeat steps 5 and 6 to select equipment settings for each channel.
8. Click the [Save] button in the [Easy Setup] dialog box to show the [Save] window.
9. Select where to save the file and enter file name.
10. Click the [Save] button.

6.5.2 Specific template: Use a file already created

1. Click the [Maintenance] menu.
2. Select [Easy Setup] to show the [Template Selection] dialog box.
3. Check [Specified Template].
4. Click the [Select] button, and then select the file to edit.
5. Click the [Start] button to show the [Easy Setup] dialog box.
6. Right click the channels ([Audio], [Digital], [Serial], [Analog], [Sensor], [VLC], [ImageInterface]), then select [Edit] to show the [Equipment Selection] dialog box.
7. From the [Equipment Directory] dialog box, select equipment connected to the selected channel, and then click the [OK] button.
8. Repeat steps 6 and 7 to select equipment settings for each channel.
9. Click the [Save] button in the [Easy Setup] dialog box to show the [Save] window.
10. Select where to save the file and enter file name.
11. Click the [Save] button.

6.6 Equipment Management

This feature controls the import and export of equipment settings.

6.6.1 How to import a data file

Import data files of equipment settings created in [Easy Setup], etc. to the VDR.

1. Click the [Maintenance] menu.
2. Select [Import] from [Equipment Management] to show the [Open] dialog box.
3. Select the data file to import and click [Open].

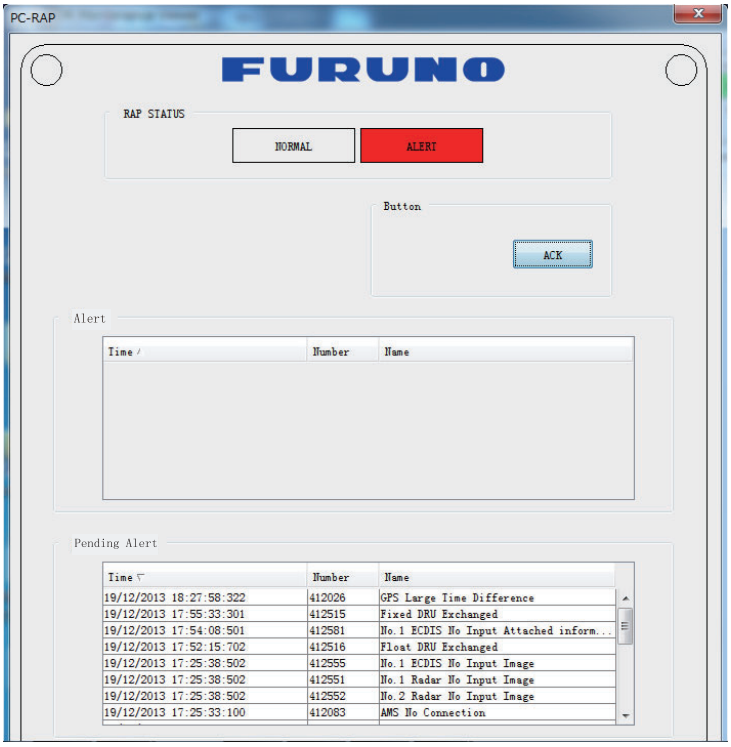
6.6.2 How to export a data file

Export data files of equipment settings from the VDR to a PC.

1. Click the [Maintenance] menu.
2. Select [Export] from [Equipment Management] to show the [Save] dialog box.
3. Enter file name.
4. Click the [Save] button.

6.7 PC_RAP

This feature enables the same operation of the RAP (Remote Alarm Panel) from a PC. Select [PC_RAP] from the [Tool] menu to show the [PC_RAP] dialog box.



ACK button

Silences the audio alarm.

RAP STATUS lamps

Display RAP status.
[NORMAL]: Lights green where there is neither unacknowledged nor unrectified alert.
[ALERT]: Flashes red for unacknowledged alert. Lights red for unrectified alert.

Alert window

List of unacknowledged alerts.
[Time]: Time alert was generated.
[Number]: Alert number.
[Name]: Alert name.

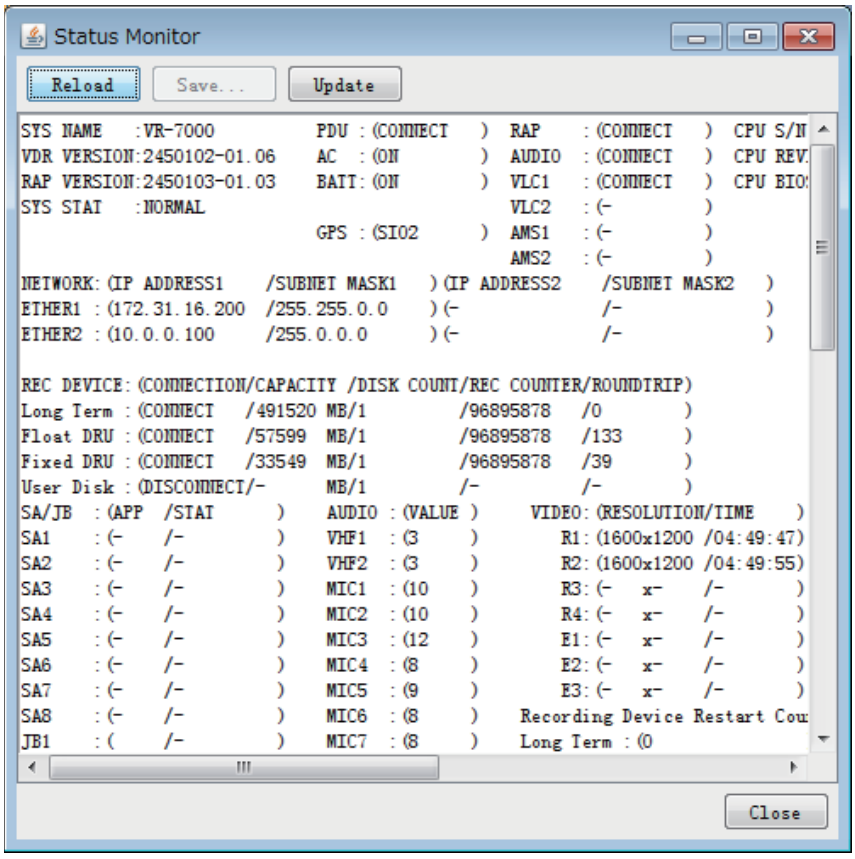
Pending Alert window

List of acknowledged alerts that have not been rectified.
[Time]: Time alert was generated.
[Number]: Alert number.
[Name]: Alert name.

6.8 Other

6.8.1 Status Monitor window

The [Status Monitor] provides comprehensive data about the status of the VDR. From the menu bar, click [Tool] > [Status Monitor] to show the [Status Monitor] window.

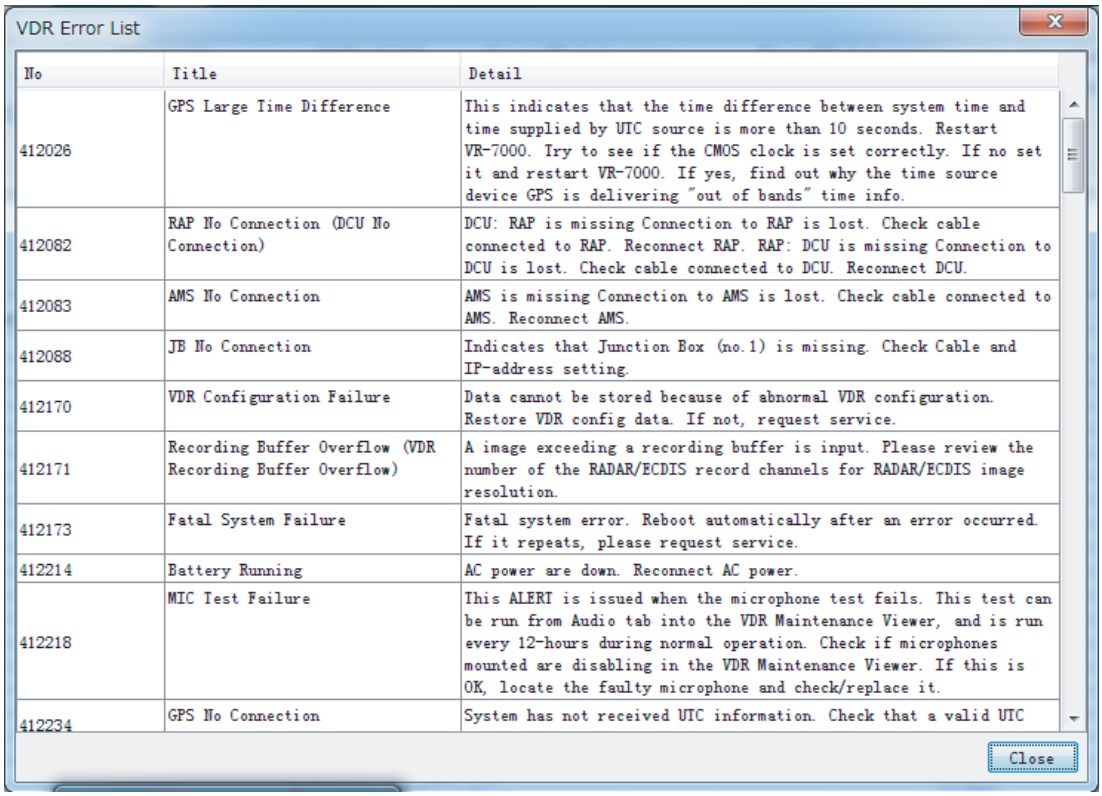


Description of the buttons in the Status Monitor window

[Reload]: Activate or deactivate automatic refreshing of the [Status Monitor] window. When automatic refreshing is activated, the information on the window is refreshed every five seconds and the [Reload] button is highlighted in blue.
[Save]: The contents of the [Status Monitor] can be saved as a text file. Available when the [Reload] button is off.
[Update]: Update (refresh) the [Status Monitor] window. This button does not work when the [Reload] button is on.
[Close]: Close the [Status Monitor] window.

6.8.2 VDR Error List

This feature compiles all the errors shown on the RAP for easy reference. Access from [Menu] > [Tool] > [VDR Error List].



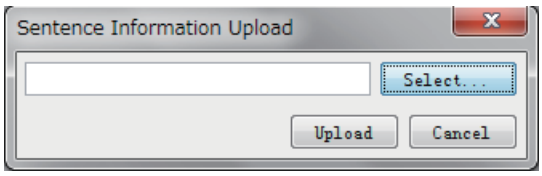
The VDR error list contains the following information:
[No.]: Error number.
[Title]: Name of error.
[Detail]: Display details about an error.

6.8.3 Sentence Information Upload

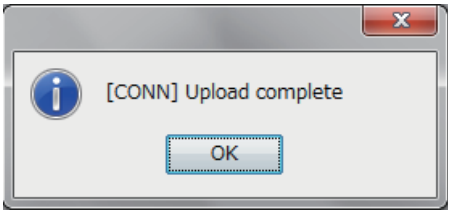
You can upload the sentence information to the DCU. Sentence information must be in PDF file format to use this function. The maximum file size is “2 MB” and the only one file can be uploaded.

Do the following procedure to upload the sentence information:

1. Access [Menu] > [Tool] > [Sentence Information Upload].



2. Click the [Select...] button.
3. Select a PDF file to be uploaded.
4. Click the [Upload] button.
   The following message appears after completing the file upload.



5. Click the [OK] button.

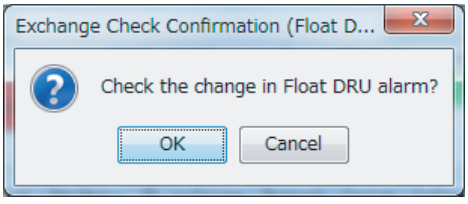
You can open the sentence information file from the Live Player V5. For how to open the sentence information, see the Live Player V5 Operator’s Manual (OME-44851).

Note: An application for viewing the PDF file should be installed your PC to open the sentence information.

6.8.4 Exchange Check

This feature removes the alerts generated when replacing the DRU (Fixed, Float) or Long Term Device.

Access [Menu] > [Tool] > [Exchange Check], select [Float DRU], [Fixed DRU] or [Long Term Device], and click [OK].



6.8.5 Reboot

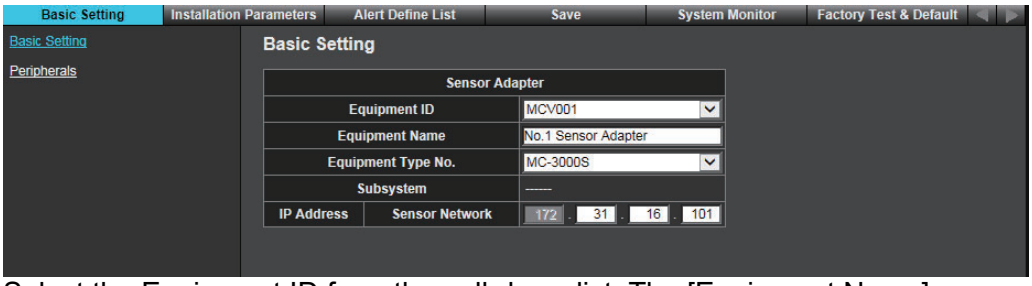
You can reboot the VDR from the VDR Maintenance Viewer. To reboot the VDR, select [Reboot] from the [Tool] menu.

7. SETTING FOR SENSOR ADAPTER

7.1 How to Set the Equipment ID

The default Equipment ID of the sensor adapter is “MCV016“. Set the individual Equipment ID before connecting to the network.

1. Set the IP address and subnet mask of the PC as shown below.
   IP address: 172.31.16.201 (or 172.31.16.202)
   Subnet mask: 255.255.0.0
2. Connect the laptop PC to the sensor adapter with the LAN cable.
3. Activate the web browser on the PC and enter the default IP address of the sensor adapter: “172.31.17.108“.
4. Access the [Common Installation Setting] menu and click [Basic Setting] on the tab bar.



5. Select the Equipment ID from the pull-down list. The [Equipment Name], [Equipment Type No.] and [IP Address] are automatically entered according to the Equipment ID.
   Setting range: “MCV001” to “MCV016”
6. Click the box of [Serial No.] to enter the serial no. of the sensor adapter (example: xxxxxx).
7. After entering the setting, click [Save] on the info bar. The system is rebooted automatically to save the configuration.
   If you want to discard the entry, click [Discard Changes].

Enter the other settings after setting the equipment ID, referring to the following sections. When the processor unit (EC-3000) is connected in the same network, access the [Common Installation Setting] menu from the EC-3000 and adjust the sensor adapter settings. When the EC-3000 is not connected, access the [Common Installation Setting] menu from the sensor adapter

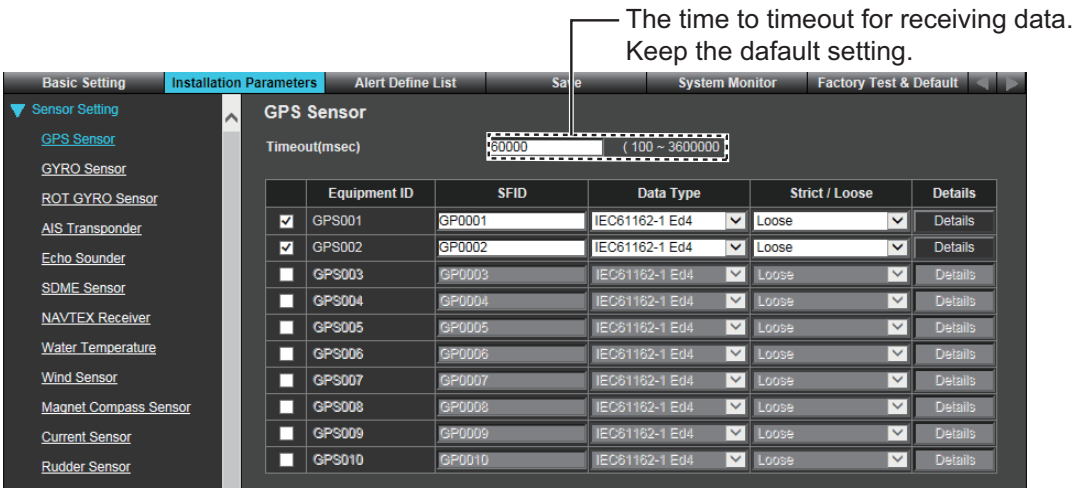
This manual provides the instructions when you access the [Common Installation Setting] menu from the sensor adapter. To access the [Common Installation Setting] menu from the EC-3000, see the Instruction Manual supplied with the EC-3000.

7.2 [Installation Parameters] Menu

The [Installation Parameters] menu sets the signals and input data of the sensors. First, select the sensor data at the [Sensor Setting] window. Then select the sensor from which the units obtain the sensor data.

7.2.1 Sensor setting

1. Access the [Common Installation Setting] menu and click [Installation Parameters] on the tab bar.
2. Click [Sensor Setting] on the menu bar, then sensor category.



3. Check applicable check boxes according to the number of sensors connected.
4. Set the following items for the sensors activated at step 3.

Item	Remarks
SFID	Keep the default setting. Do not use the "AI" prefix (AIS excluded) or the "II" prefix.
DATA Type	Sets the RX sentence data format. Setting options: [IEC 61162-1 Ed3], [IEC 61162-1 Ed4], [IEC 61162-1 Ed5], [ASCII], [BINARY], [MODBUS], [PSU]. Do not select [ASCII] or [BINARY].
Strict/Loose	Sets the integrity of sentence data. [Strict]: Confirm the validity of checksum, then receive sentence. [Loose]: Receive sentence regardless of checksum validity.
Details	When the default setting of [Type No.] is different from the type no. of the connected equipment, enter the type no. of the connected equipment. For other setting options ([Sensor Name], [System Alert ID], and [Subsystem]), keep the default setting.

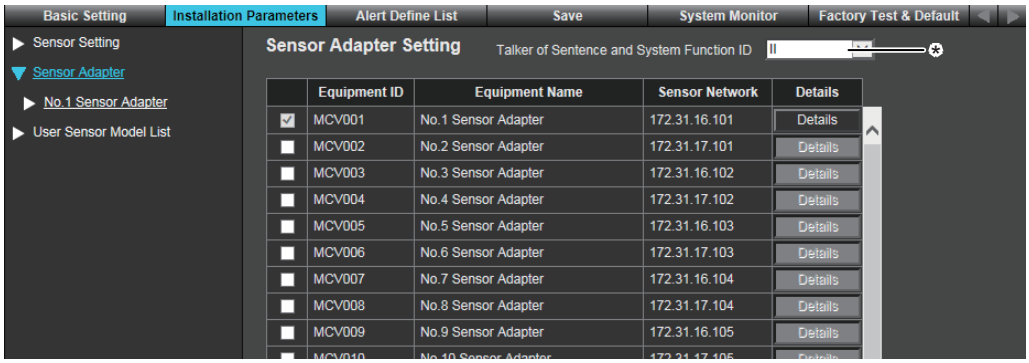
5. Set other sensors in a similar manner.
   Note: Set only the sensors connected to the sensor adapter.

7.2.2 Sensor adapter configuration

A maximum of eight sensor adapters (MC-3000S) can be connected to the VR-7000/7000S sensor network. One MC-3000S can be connected with a maximum of ten additional units (MC-3010A or MC-3020D). However, the maximum number of MC-3010A units that can be connected to one MC-3000S is five.

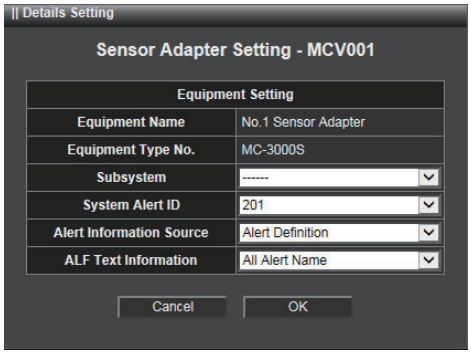
Note: When you access the [Common Installation Setting] menu from the sensor adapter, you cannot adjust the analog and digital input settings for MC-3010A and MC-3020D. To adjust the analog and digital input settings, access the [Common Installation Setting] menu from the EC-3000.

1. Access the [Common Installation Setting] menu and click [Installation Parameters] on the tab bar.
2. Click [Sensor Adapter] on the menu bar.



*: Select the talker ID for sentences output from the Sensor Adapter (II or SI). Normally, keep the default setting ("II"). Select "SI", only when the talker ID must be changed.

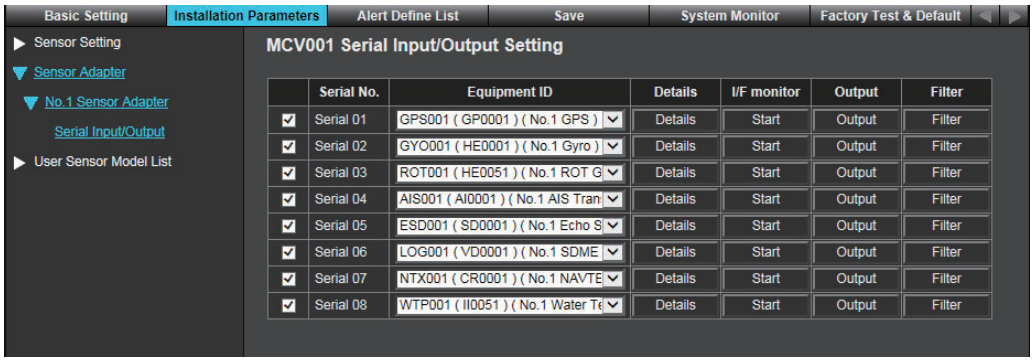
3. Check the check box(es) corresponding to the Equipment ID set in [Basic Setting].
4. Click the [Details] button and set the items referring to the following table.



Item	Remarks
[Subsystem]	When sharing sensor data: Set the value. Setting range: “A” to “Z”. To not share the sensor data: Keep the default setting (“---”).
[System Alert ID]	The identification number that assigned in the system is shown in this field. Do not change the setting.
[Alert Information Source]	Set the source of alert definition to show on the display when the alert message is received in an ALF sentence. • [Alert Definition]: Show the alert definition registered to the processor unit. • [Alert Sentence]: Show the alert definition included in the ALF sentence.

Item	Remarks
[ALF Text Information]	Select the type of the 2/2 packet text information of ALF sentence. • [All Alert Name]: Select this item if all alert text is included in the 2/2 packet of the ALF sentence. The text information for the 2/2 packet of the ALF sentence is shown as the alert name in the alert list/log. • [Remaining Alert Name]: Select this item if the alert text is divided in 1/2 and 2/2 packets of the ALF sentence. The text information for both the 1/2 and 2/2 packets of the ALF sentence is shown as the alert name in the alert list/log. • [Decision Support]: Select this item if the alert details information (Decision Support) is included in the 2/2 packet of the ALF sentence. The text information for the 2/2 packet of the ALF sentence is shown as the alert details in the alert list/log.

5. Click [No.× Sensor Adapter] on the menu bar (No.×: No.1 to No.16).
6. Click [Serial Input/Output].



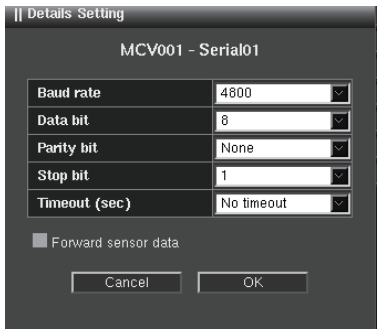
There are eight serial ports on the sensor adapter. "Serial 01" to "Serial 04" can input at 38,400 bps for the AIS and Gyro.
The connector no. on the MC-3000S board and the corresponding serial port no. are shown below.

Connector No.	Serial Port No.	Connector No.	Serial Port No.
J4	Serial 01	J8	Serial 05
J5	Serial 02		Serial 06
J6	Serial 03	J9	Serial 07
J7	Serial 04		Serial 08

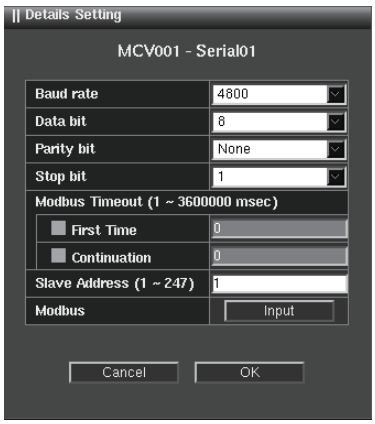
7. Set the items referring to the table shown below.

Item	Remarks
Equipment ID	Select the Equipment ID from the pull-down list. The pull-down list options change according to the setting at [Sensor Setting].

<table>
<tr><th>Item</th><th>Remarks</th></tr>
<tr><td>Details</td><td>Opens the [Details Setting] dialog box and sets the serial communication format. Setting items on the [Details Setting] dialog box changes according to the [Data Type] setting (see section 7.2.1).

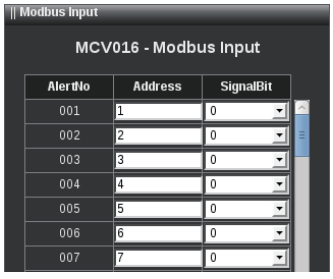
 

[Data Type] = other than [MODBUS]

[Data Type] = [MODBUS]

• [Baud rate]: Sets the baud rate. For high-speed signal input (such as AIS and Gyro) or TTD output, set the baud rate as 38,400 bps The available serial ports with communication in 38,400 bps are [Serial 01] to [Serial 04].
• [Data bit]: Sets the number of the data bit.
• [Parity bit]: Select [Odd] or [Even] for the parity bit. The parity bit is used in parity error checking to find errors during data transmission. For no parity bit, select [None].
• [Stop bit]: Sets the stop bit (last data bit location).
• [Timeout (sec)]: When the data is not input during the time set here, timeout alert occurs.
• [First Time]: Activate the checkbox to adjust the setting. Adjust timeout for detecting the first signal.
• [Continuation]: Activate the checkbox to adjust the setting. Adjust timeout for detecting the signal lost.
• [Slave Address]: Sets the slave address for Modbus communication.
• [Input] button: Sets the address and the signal bit for each alert on the [Modbus Input] window. The contents on the [Modbus Input] window depends on the alert definition settings.
• [Forward sensor data]: Check the checkbox to forward data input from the serial port to the sensor adapter. Normally keep the default setting (unchecked).

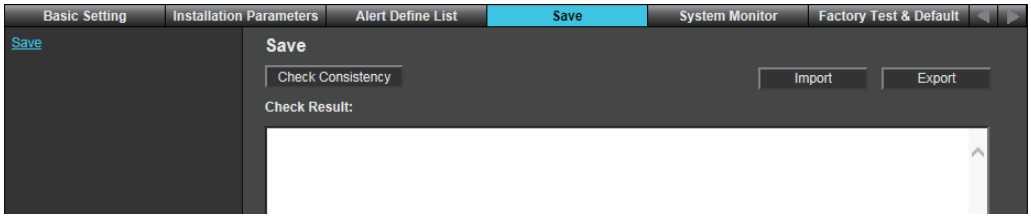
 
</td></tr>
<tr><td>I/F monitor</td><td>Click [Start] to monitor the input signal sentences from the interface.</td></tr>
<tr><td>Output</td><td>No use.</td></tr>
<tr><td>Filter</td><td>Activates or deactivates the input sentence filter.</td></tr>
</table>

8. Perform a consistency check and save the configuration data on the [Save] menu.

7.3 [Save] Menu

After completing the setting on the [Installation Parameters] menu, perform a consistency check and save the configuration data on the [Save] menu.

1. Access the [Common Installation Setting] menu and click [Save] on the tab bar.



2. Click [Consistency Check] to confirm the consistency of the setting.
   When the consistency check is completed, the result of the check is shown.
   If an inconsistency is detected, an error message appears. You can not save the configuration until the inconsistency is corrected. Check the settings and correct the inconsistency, then perform the consistency check again.
3. When the message "Check consistency completed, you can save data. Please push the "Save" button" is shown, click [Save] in the info bar.
4. Click [OK] to save the configuration.
5. Several confirmation messages appear. Click the [OK] button to save the configuration data.

7.4 How to Save the Log File

The log file of the sensor adapter can be saved to a medium (PC, USB memory, etc.). The log file is used to check the status of the sensor adapter.

1. Connect the PC to the sensor adapter with the LAN cable.
2. Activate the web browser and enter the following address in the address bar.
   “http://172.31.xx.xxx/cgi-bin/logall.cgi“
   “172.31.xx.xxx“ is the IP address of the sensor adapter where to save the log file.
3. After entering the address, the window to save the log file appears. Save the log file to the PC.

7.5 How to Update the Firmware (MC-3000S)

This section shows you how to update the firmware program of the sensor adapter MC-3000S.

Preparation

- PC that has a LAN port
  Windows®7 is recommended. Disable the firewall and set the IP address and sub-net mask of the PC as shown below.
  IP address: 172.31.16.201 or 172.31.16.202
  Subnet mask: 255.255.0.0
- LAN cable
- Binary file for update

2450080-xxxxxxxx_mc_cs_boot.bin	Boot program
2450081-xxxxxxxx_mc_cs_mainpg.bin	Main program
2450082-xxxxxxxx_mc_cs_maint.bin	Maintenance program
2450084-xxxxxxxx_mc_io_mainpg.bin	Main program (analog, digital input, and digital output board)

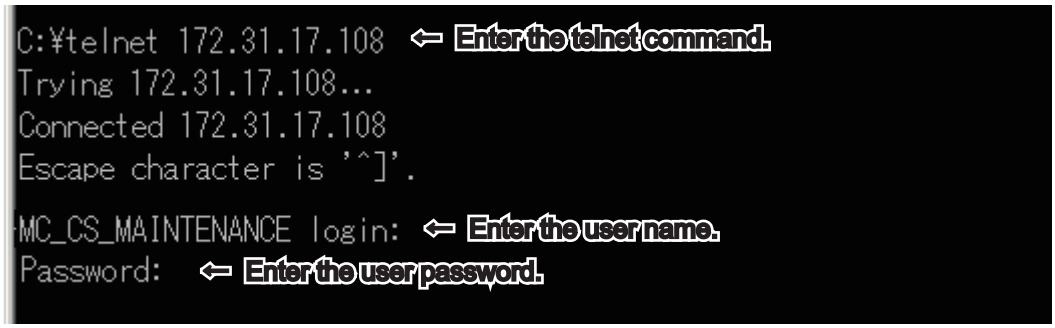
(xxxxxxxx: program version)

7.5.1 How to activate the maintenance program

1. Turn off all sensor adapters.
2. Connect the applicable MC-3000S to the PC with the LAN cable.
3. Turn on the No. 6 of the DIP-SW (S10) on the MC-CS board (24P0114).
4. Turn on the sensor adapter MC-3000S.
5. The maintenance program activates after about 30 seconds. At this time, the IP address of MC-3000S is changed to “172.31.17.108“.
   Confirm that the LED (CR 74) on the MC-CS board lights 3 times and goes off for a while repeatedly.

7.5.2 How to confirm the firmware program version

1. Activate the maintenance program of the sensor adapter MC-3000S.
2. Activate the command prompt of Windows®.
3. Enter “telnet 172.31.17.108“ on the command prompt.
4. Enter the user name and password correctly.



5. Enter “/usr/sbin/version“ on the command prompt to confirm the program version. The program version is shown on the command prompt.

Note: The image shown above is an example. The program version number may be different.

6. After confirming the program version, enter “exit“ to finish the telnet command.

7.5.3 How to update the firmware program

1. Delete the version number from the firmware binary file name.

Example : 2450081-01010088_mc_cs_mainpg.bin

Program number Version number

Delete the version number from the file name.

Example : 2450081_mc_cs_mainpg.bin

2. Activate the maintenance program of the sensor adapter MC-3000S.
3. Activate the command prompt of Windows®.
4. Change the current directory to the directory where the firmware binary program is saved.

   In the example shown below, binary file is saved at C:¥update.

```
C:  ⇦ The command to change the current drive
cd ¥update  ⇦ The command to change the current directory
```

Note: Change the current directory to the one where the binary file is saved.

5. Enter "ftp 172.31.17.108" on the command prompt.
   Confirm that “220-MC3000_CS_MAINTENANCE“ is shown.
6. Enter the user name and password.

```
ftp 172.31.17.108 ⇦ Enter the ftp command.
Connected to 172.31.17.108.
220- MC3000_CS_MAINTENANCE ⇦ Confirm that this massage appears.
220 MC_CS_MAINTENANCE FTP server (Version 6.4/OpenBSD/Linux-ftpd-0.17) ready.
Name (172.31.17.108:tanaka-toshihisa): ⇦ Enter the user name.
331 Password required for root.
Password : ⇦ Enter the password.
```

7. After the login, enter “dir“.
   The file names that are saved in the sensor adapter are displayed. Confirm that the file names shown below are shown on the display.

```
Name (172.31.17.108:tanaka-toshihisa): ⇦ Enter the user name.
331 Password required for root.
Password : ⇦ Enter the password.
230 User root logged in.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> dir ⇦ Enter “dir” .
200 PORT command successful.
150 Opening ASCII mode data connection for ‘/bin/ls’ .
crw-r--r--    1 root    root    90,    2 Sep 30  2011 2450080_mc_cs_boot.bin
crw-r--r--    1 root    root    90,    4 Sep 30  2011 2450081_mc_cs_mainpg.bin
crw-r--r--    1 root    root    90,    6 Sep 30  2011 2450082_mc_cs_maint.bin
crw-r--r--    1 root    root    90,   12 Sep 30  2011 2450084_mc_io_mainpg.bin
drwr-xr-x     2 root    root          0 Sep 30  2011 backup
226 Transfer complete                          Check these file names.
ftp>
```

8. Enter “bin“, and then enter “hash“.
9. Enter the command to transfer the firmware program.
   Example: put 24500810_mc_cs_mainpg.bin
10. When you transfer other program, enter the command to transfer the program.
11. Enter “bye“ to finish updating the firmware program.

```
ftp> bin  ⇦ Enter necessarily.
200 Type set to I.
ftp> hash ⇦ Enter necessarily.
Hash mark printing on (1024 bytes/hash mark).
ftp> put 2450081_mc_cs_mainpg.bin ⇦ The command to transfer the firmware program.
local: 2450081_mc_cs_mainpg.bin remote: 2450081_mc_cs_mainpg.bin
200 PORT command successful.
150 Opening BINARY mode data connection for '2450081_mc_cs_mainpg.bin'.
################################
…
################################
226 Transfer complete.
10888576 bytes sent in 87.84 secs (121.1 kB/s)
ftp> bye ⇦ The command to finish the ftp command.
221 Goodbye
```

12. Confirm the firmware program version (see section 7.5.2.).

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8. SETTING FOR HUB-3000

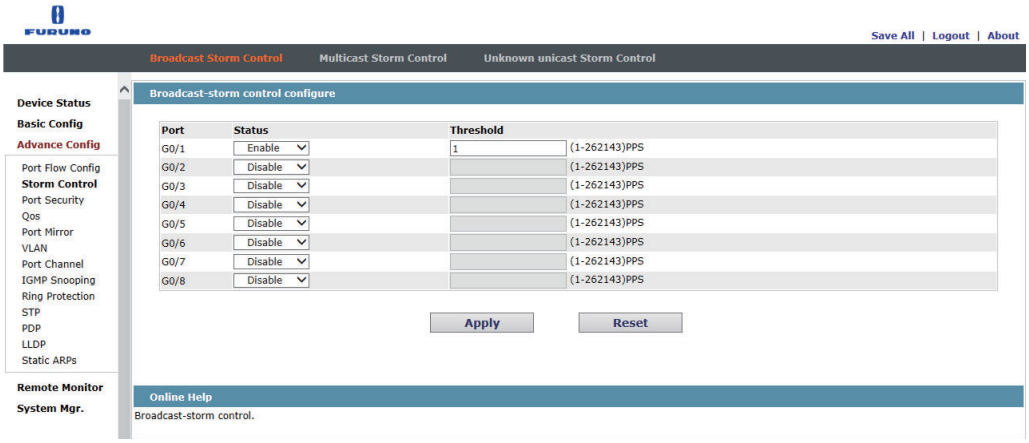
This chapter provides for the description for how to set the Intelligent Hub HUB-3000.

When using Live Player V5 from a PC that is connected to the network on board, make [IP Alias] active in the [Network] tab of VDR Maintenance Viewer, and then set the HUB-3000.

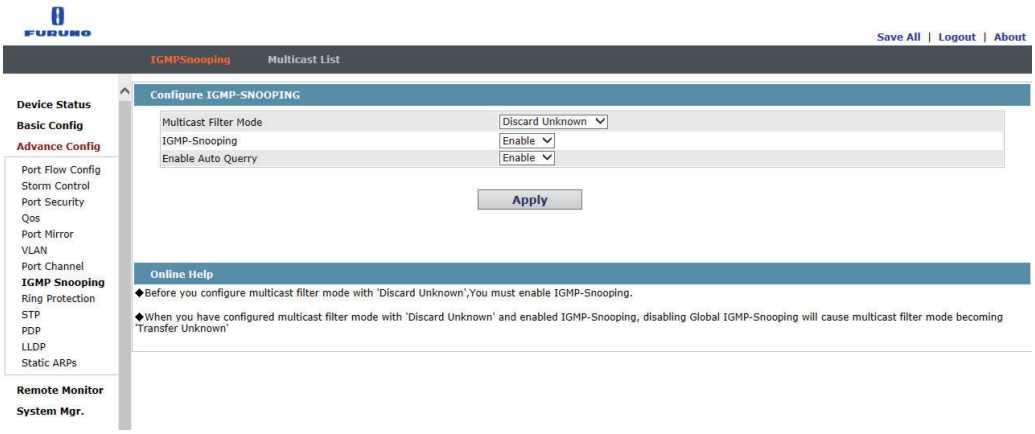
Note: Depending on your vessel's network configuration, the procedure outlined below may differ.

8.1 How to Setup the HUB-3000

1. Connect the LAN cable between the PC and the HUB-3000.
2. Open Internet Explorer® on the PC.
3. Enter the URL (http://192.168.0.1).
4. Click [Advance Config] and [Storm Control].
5. Set as shown in the following figure, and click the [Apply] button.



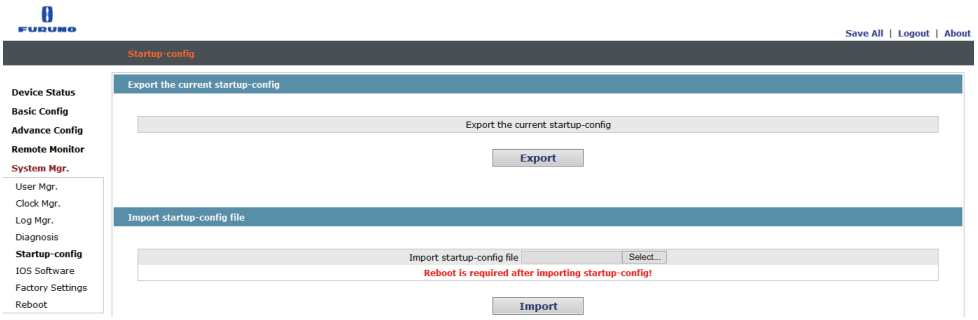
6. Click [IGMP Snooping].
7. Set as shown in the following figure, then click the [Apply] and [Save ALL] buttons.



8.2 How to Export the Configuration File

To export the HUB-3000 configuration file, do as follows:

1. Connect the LAN cable between the PC and the HUB-3000.
2. Open Internet Explorer® on the PC.
3. Enter the URL (http://192.168.0.1).
4. Click [System Mgr.] and [Startup-config].

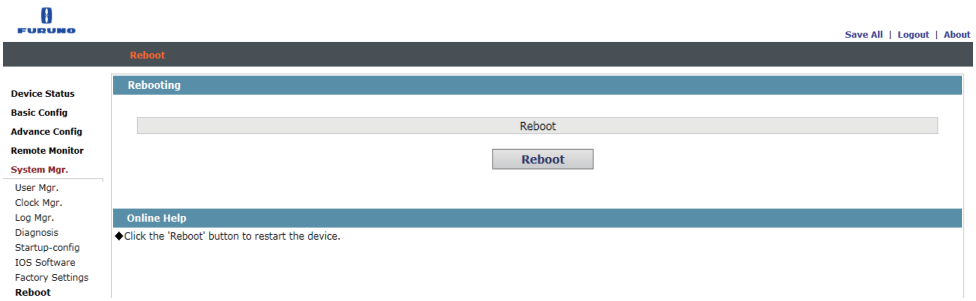


5. Click the [Export] button.
   The file destination dialog box appears.
6. Specify the file destination, then click the [Export] button to export the configuration file.

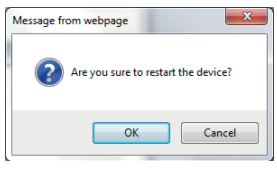
8.3 How to Import the Configuration File

To import the HUB-3000 configuration file, do as follows:

1. Connect the LAN cable between the PC and the HUB-3000.
2. Open Internet Explorer® on the PC.
3. Enter the URL (http://192.168.0.1).
4. Click [System Mgr.] and [Startup-config].
5. Click the [Select...] button.
   The file select dialog box appears.
6. Select the configuration file to be imported on the file selection dialog box.
7. Click the [Import] button to start importing the configuration file.
8. Click [Reboot] to open the [Reboot] menu.



9. Click the [Reboot] button.
   A confirmation massage as shown in the figure to the right appears.



10. Click the [OK] button to restart the HUB-3000 and apply the settings.

9. REMOTE PLAYBACK SETTING (LAND-SHIP COMMUNICATION)

You can replay or extract the data from the PC on the shore by connecting the PC to the on-board VDR through the satellite link.

Operate the Live Player V5 to use the remote playback function. For how to use the remote playback function, see the Live Player V5 operator's manual (OME-44851).

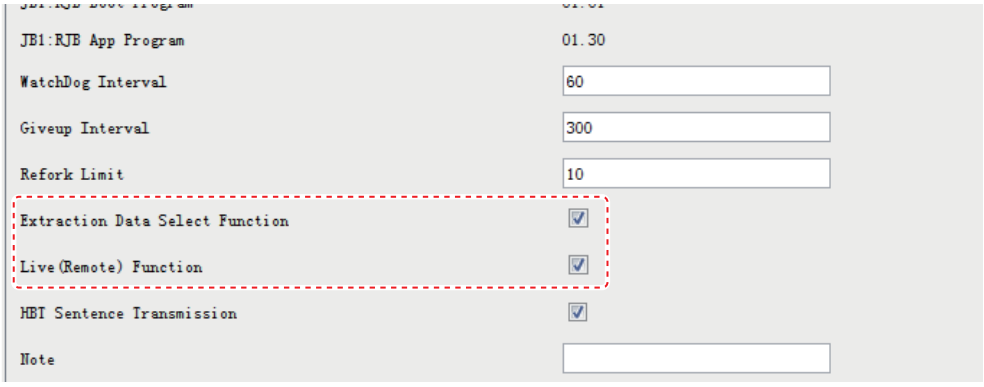
This chapter explains how to activate the remote playback setting.

Note: Both of the VDR and Live Player V5 program versions must be "01.30" or later, to use the remote playback function.

9.1 How to Activate the Remote Playback Function

Activate the remote playback function as follows:

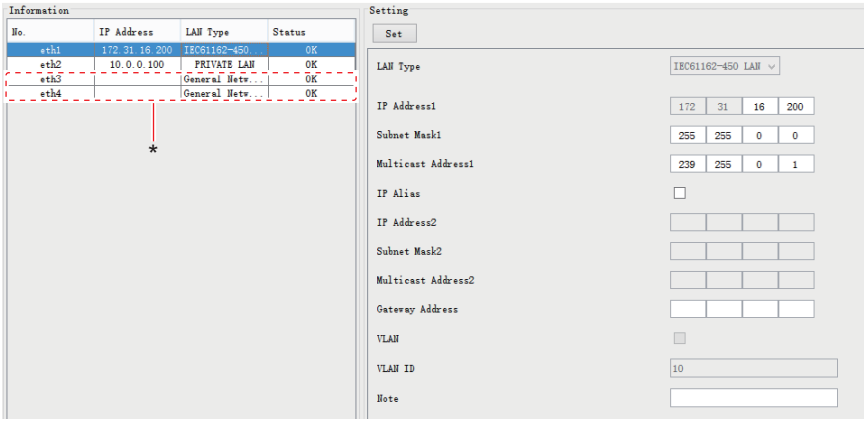
1. Download the VDR configuration data to the VDR Maintenance Viewer (PC), referring to the section 2.1.
2. Select [Tool] → [Special Setting Enable] → [ON].
3. Enter the password then click the [OK] button.
   Note: Contact the FURUNO Service Center to get the password.
4. Click the [Software] tab.
5. Check the checkbox for both of [Extraction Data Select Function] and [Live (Remote) Function].



6. Click the [Set] button.
7. Upload the configuration data to the VDR, referring to the section 2.25.

9.2 Network Settings

1. Download the VDR configuration data to the VDR Maintenance Viewer (PC), referring to the section 2.1.
2. Click the [Network] tab.



*: Shown only when the CPU board in the DCU is “ADP-216-01”.

3. Click the network whose [LAN Type] is [PRIVATE LAN] in the [Information] area.
4. Change [Subnet Mask1] from "255.0.0.0" to "255.255.0.0".
   Note: When you use the IF-8530, the IF-8530 software version must be “01.30” or later.
5. Click the [Set] button.
6. Click the network that can access the satellite link in the [Information] area. When you connect to the satellite link, it is recommended to use the network whose [LAN Type] is [General Network1] or [General Network2].
7. Set [IP Address2]*, [Subnet Mask2]* and [Gateway Address] as follows:
   - [IP Address2]*: Enter the IP address for VDR that is specified by a customer.
   - [Subnet Mask2]*: Enter the IP subnet mask for VDR that is specified by a customer.
   - [Gateway Address]: Enter the IP address of a route or gateway that can access the satellite link.

   *: When [LAN Type] is set to [General Network1] or [General Network2], [IP Address] and [Subnet Mask] must be set.

   Note 1: To access the satellite link, get the information about the IP address, subnet mask, gateway address from a customer.

   Note 2: IP address must be different from the network segment used by the VDR. You cannot use “10.0.0.1-255” and “172.31.1-255.1-255”.
8. Click the [Set] button.
9. Upload the configuration data to the VDR, referring to the section 2.25.

10. IEC61162-450 NETWORK SETTINGS

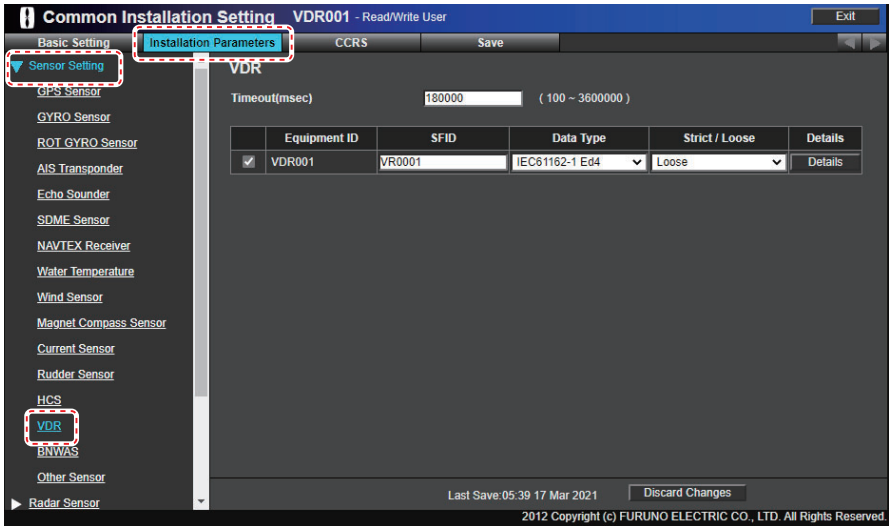
10.1 How to Change the System Function ID

To change the system function ID (SFID) of the VDR, do as follows:

NOTICE

If you change the IEC61162-450 network settings, the VDR may not work properly. Keep the default settings, unless otherwise specifically directed.

1. Connect the PC to the VDR with the LAN cable.
2. Activate the web browser and enter the following address in the address bar.
   “http://172.31.16.200“
   When entering the IP address on the address bar, your are asked to enter ID and password.
   Note: The IP address of the PC must be the same as the network segment of the VDR (example: “172.31.16.201”).
3. Generate the one-time password (response code) from the challenge code on the screen and enter the password correctly, then click [Login].
   The [Common Installation Setting] menu appears.
4. Click the [Installation Parameters] tab on the tab bar.
5. Click [VDR] of [Sensor Setting] on the menu bar.



6. Check the checkbox [VDR001] to change the SFID.
7. Change the SFID.
8. Click the [Save] tab on the tab bar.

VR0001
Change this number.
Do NOT change this text.

9. Click the [Consistency Check] button to confirm the consistency of the setting.
   When the consistency check is completed, the confirmation message appears.
10. Click the [Save] button, then click the [OK] button.
11. Reboot the VDR to apply the setting.

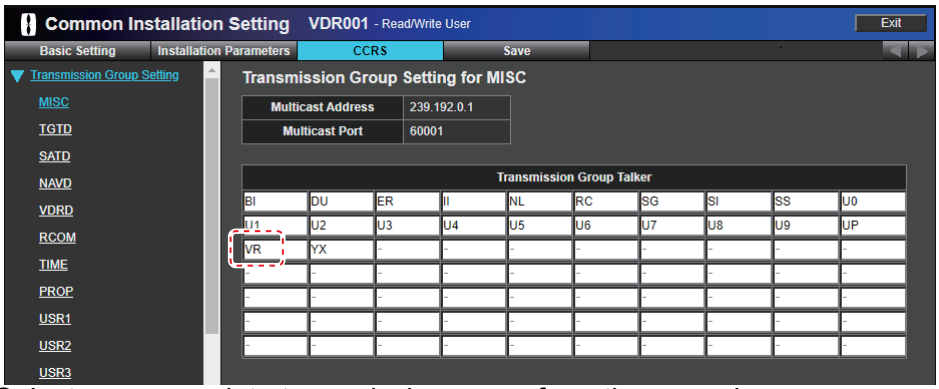
10.2 How to Change the Transmission Group

To change the Transmission Group of the VDR, do as follows:

NOTICE

If you change the IEC61162-450 network settings, the VDR may not work properly. Keep the default settings, unless otherwise specifically directed.

1. Connect the PC to the VDR with the LAN cable.
2. Activate the web browser and enter the following address in the address bar.
   "http://172.31.16.200"
   When entering the IP address on the address bar, your are asked to enter ID and password.
   Note: The IP address of the PC must be the same as the network segment of the VDR (example: "172.31.16.201").
3. Generate the one-time password (response code) from the challenge code on the screen and enter the password correctly, then click [Login].
   The [Common Installation Setting] menu appears.
4. Click the [CCRS] tab on the tab bar.
5. Select the transmission group that the VDR belongs to from the menu bar (default transmission group: MISC).
6. Delete the "VR" from the [Transmission Group Talker] table.



7. Select an appropriate transmission group from the menu bar.
8. Enter "VR" to the [Transmission Group Talker] table.
9. Click the [Save] tab on the tab bar.
10. Click the [Consistency Check] button to confirm the consistency of the setting.
    When the consistency check is completed, the confirmation message appears.
11. Click the [Save] button, then click the [OK] button.
12. Reboot the VDR to apply the setting.

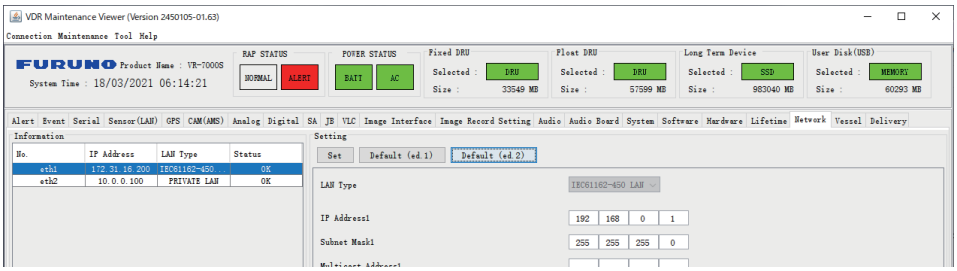
10.3 How to Restore the Settings for IEC61162-450 Ed.2

To restore the VDR to the settings for IEC61162-450 Ed.2, do as follows:

NOTICE

If you change the IEC61162-450 network settings, the VDR may not work properly. Keep the default settings, unless otherwise specifically directed.

1. Download the configuration data from the VDR into the VDR Maintenance Viewer (see section 2.1).
2. Click the [Network] tab.



3. Click the [Default (ed.2)] button to restore the VDR to the settings for IEC61162-450 Ed.2. The setting is as follows:
   - IP address: 192.168.0.1
   - Subnet mask: 255.255.255.0
4. Select [eth1] from the [Information] window.
5. Upload the configuration data to the VDR (see section 2.25).

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APPX. 1 MENU TREE

Menu bar

- Connection
  - Login
  - Logout
  - Exit
- Maintenance
  - VDR Config Management
  - Software Management (Software Download, Software Upload, VLC Update, RAP Update)
  - Password Management (Change Audio Password)
  - Record Comparison
  - Software History Management (Software History Collect, Software History Config)
  - Easy Setup
  - Equipment Management (Import, Export)
- Tool
  - PC_RAP
  - Status Monitor
  - VDR Error List
  - Sentence Information Upload
  - Media Management
  - Exchange Check (Float DRU, Fixed DRU, Long Term Device)
  - Special Setting Enable
  - Long Term Device Down Convert
  - Reboot
- Help
  - About

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