

SERVER NETWORK VIDEO RECORDER

Quick Guide

XRP-4310DB4
XRP-4210B4



[Download Manual]

For more details about using the product, refer to the product's user manual.

Server Network Video Recorder

Quick Guide

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table of contents

OVERVIEW

4

- 4 Before Reading the User Manual
- 5 Inspecting Installation Environment
- 6 Composition of User Manual and Guidelines
- 7 Checking Components
- 8 Name and Function of Each Part

INSTALLING THE HDD

12

- 12 Cautions when installing a HDD
- 13 Installing the HDD

INSTALLING THE RACK

15

- 15 Rack installation requirements and reference dimensions
- 17 Precautions when selecting shelves
- 18 Precautions when using sliding shelves
- 19 How to install rack

RUNNING THE PRODUCT

20

- 20 Power
- 21 Setting Windows Password
- 23 Windows Auto Sign-in Settings
- 25 Creating a Logical Drive
- 34 Create Network Teaming
- 38 Starting SSM
- 39 Menu Introduction

overview

BEFORE READING THE USER MANUAL

Make sure to check the contents below before reading the User Manual.

- The copyright of this User Manual is held by the manufacturer.
- This User Manual cannot be reproduced without prior approval.
- The manufacturer is not responsible for any damage resulting from the use of non-standardized products or for the use of purposes other than those stated in the User Manual.
- If there is a need to open the case of the product and access the inside for repair, contact the place of purchase to receive professional assistance.
- Make sure that the point of connection of the product does not make contact with water or liquid.
- Do not apply excessive force or impact on the product.
- Do not forcibly pull the power cord.
- Do not discretely disassemble the product.
- Only use within the rated input/output range.
- Only use certified power cords.
- Always use grounded power plugs for products with grounded input.
- Do not expose internal batteries to excessive heat such as sunlight or fire. There is a risk of explosion if the wrong battery type is used. Only replace batteries of an identical or same type.
- Install in a location where the power plug can be easily manipulated. The power plug must be quickly unplugged in case of fire or malfunctions of the product.
- Always use plugs that have been grounded when plugging into a power socket. If not, there may be risks of electric shock (electrocution) or harm to the body.
- If the Windows OS has been shut down abnormally or when the power has been forcibly cut off, Windows 10 may restart in Recovery Mode during reboot. This is automatically activated when Windows OS detects disk errors or system file errors.
- In other words, Windows may enter Recovery Mode after an abnormal shutdown, and in such cases, a separate input from the user is required.
 - 1) Make sure to select System Shutdown in Windows for normal product shutdown.
 - 2) Click Continue for system reboot in cases of unexpected shutdown such as power outages.
 - 3) Please contact the company's customer service center when the system cannot be rebooted.

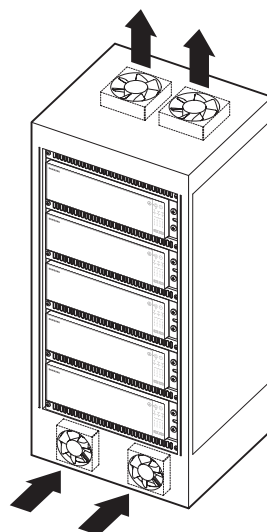
INSPECTING INSTALLATION ENVIRONMENT

This product is a top-notch security device that is equipped with a high-capacity HDD and other key circuit boards.

Note that an excessive internal temperature of the product may cause a system failure or a shortened product life. Keep in mind the following instructions before installing the product.

When mounting the product on a rack, comply with the following instructions.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If you pile up the products or other rack-mount devices as shown in figure 2, secure room for ventilation or install a vent.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation.
(Please fit a filter at the inlet to screen dust or foreign substances.)
6. It is recommended to keep the temperature inside the rack or around the product at 25°C.



overview

COMPOSITION OF USER MANUAL AND GUIDELINES

This User Manual is composed as follows.

- Quick Guide
- SSM User Manual
- Supplementary Manual to Link with Other Systems
- RAID Manual (English)



- The User Manual is in a PDF file format. The manual can be read by downloading and installing a free PDF viewer on the Internet.

This User Manual is the default setting for user guidance. The User Manual contains the following contents in sequential order.

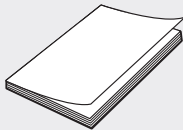
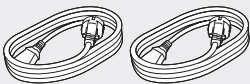
To apply with revision in a real operational environment, refer to the SSM User Manual and Equipment User Manual.

- Check Components
- Product Name and Function
- Hard Disk Installation Method
- How to Set Windows Password
- How to Create Logical Drive
- Running SSM and Initial Setting Guide



- The OS and operational software built in the product have been optimized for the hardware of this equipment.
- Do not discretely add or remove hardware, and do not install OS updates or other miscellaneous software.
- This may lead to risks of electrocution or cause significant issues in product performance.

CHECKING COMPONENTS

		
Server NVR	Mouse	Quick Guide
		
Power Cable (2 ea) (XRP-4310DB4)	Power Cable (1 ea) (XRP-4210B4)	Front Cover Lock Key
		
HDD Fixing Screw	Anti-slip Rubber Pad	Hard Disk Number Sticker

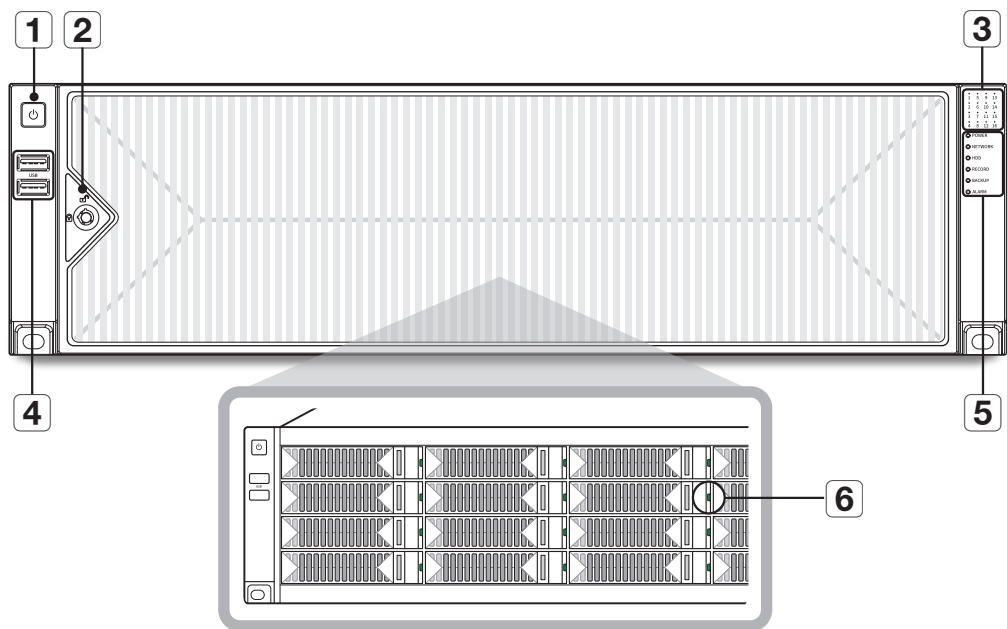


- Components may look different compared to the image.
- The type and quantity of components may differ depending on the model.
- Components excluding the NVR main body are considered as consumables and are not included in the warranty period.
- All manuals can be downloaded on the company website. (www.HanwhaVision.com).

overview

NAME AND FUNCTION OF EACH PART

NAME AND FUNCTION OF THE FRONT PANEL

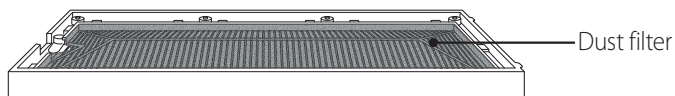


Name		Function description
1	Power	It is used to turn on the power.
2	Hard disk door lock key	A security device to restrict access to the hard disk. Use the key provided from purchase of product.
3	Hard disk location display	Displays the location where the hard disk is mounted.
4	USB	Used to connect USB type devices. (500 mA current restriction, USB 2.0)

Name		Function description
5	LED Lamp	POWER: Displays the ON/OFF status of power.
		NETWORK: Displays the network connection and data transfer status.
		HDD: Displays the operation status of the hard disk. - Flashing green light: Normal RAID operating - Yellow light: RAID is being Degraded or Rebuilt - Red light: RAID cannot be recovered due to hard disk failure
		RECORD: LED will light up when recording is in progress.
		BACKUP: LED will light up when the recorded video is being exported.
		ALARM: LED will light up in case of fan, RAID, or redundant power (XRP-4310DB4) failure.
6	Hard Disk Individual LED Lamp	You can check the operation status of each hard disk by opening the front cover of the recorder. - Green light: Hard disk mounted - Flashing green light: Normal RAID operating - Yellow light: RAID is being Degraded or Rebuilt - Red light: RAID cannot be recovered due to hard disk failure

FRONT DUST FILTER

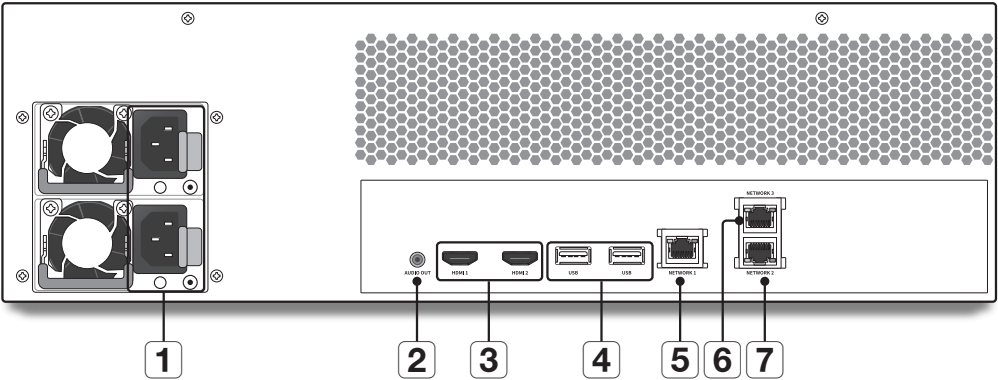
There is a dust filter mounted inside the front cover. Dust in the filter can cause airflow problems, which may increase the temperature of the recorder and hard disk. Clean the dust filter regularly.



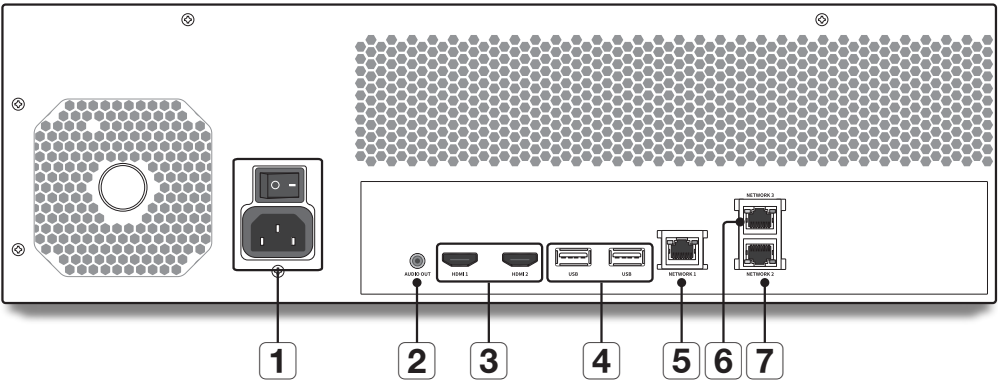
overview

NAME AND FUNCTION OF THE REAR PANEL

XRP-4310DB4



XRP-4210B4



Name		Function description
1	Power	A terminal to connect to power. (XRP-4310DB4) - Although the product will function normally even when only one power is connected due to power redundancy, it is recommended that each power is connected to separate sources for stability. - SMPS buzzer will sound when a problem occurs during operation.
	Power/ Power Switch	A terminal to connect to power and an on/off switch. (XRP-4210B4)
2	AUDIO OUT	An output terminal for audio signals.
3	HDMI 1, 2	An output terminal for HDMI videos. - HDMI 1: Primary monitor - HDMI 2: Secondary monitor
4	USB	Used to connect USB type devices. (USB 3.0 supported)
5	NETWORK 1	A port for receiving videos from cameras and connecting to a network or web viewer.
6	NETWORK 3	
7	NETWORK 2	



- When connecting the AC power cord or turning on the power switch, there may be a luminous (light) phenomenon inside the SMPS.
This phenomenon is the normal operation of the SMPS protection element.

installing the HDD

Make sure to unplug the power cord from the wall outlet to prevent possible electric shock, injury or product damage.

Please consult your provider for further information on HDD installation since improper installation or settings may damage the product.

- Number of HDDs supported : Max. 16 EA
- Make sure to unplug the power cord from the wall outlet before proceeding with the installation.



■ **Cautions for data loss (HDD care)**

Please pay attention so that the data inside the HDD is not damaged.

Before adding a HDD, please check the compatibility with this product.

HDD is vulnerable to malfunction due to its sensitive nature especially against shock when operating. Please ensure that the HDD is free from such shock.

We are not liable for any damage to the HDD incurred by user's carelessness or miss use.

■ **Cases might cause damage to HDD or recorded data**

To minimize the risk of data loss from a damaged HDD, please backup data as often as possible.

If exposed to shock when disassembling or installing, data stored in the hard disk may be damaged.

A sudden power failure or turning off the product while in HDD operation may damage the hard disk drive.

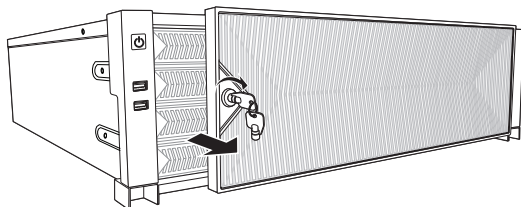
HDD or files stored inside may be damaged if the main body is moved or impacted during the HDD operation.

CAUTIONS WHEN INSTALLING A HDD

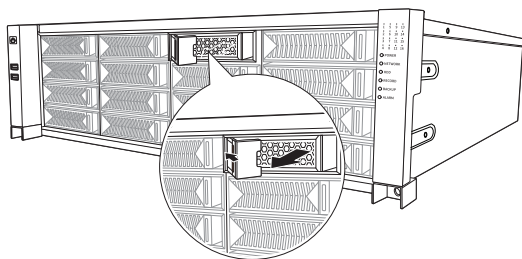
1. Do not apply excessive force to the HDD.
2. Pay attention so as not to lose the disassembly screws or accessories.
 - If the screws or accessories are not put together correctly, the product may breakdown or not operate properly.
3. Please check the HDD compatibility before adding a HDD.
 - Please contact your nearest dealer to obtain the list of compatible devices.
4. If you wish to replace or add an HDD, contact your dealer or our customer service first.
 - The front cover can only be opened through the product manager.

INSTALLING THE HDD

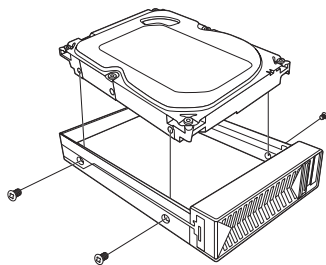
1. Use the front cover lock key to unlock the cover. Grab the front cover with both hands and pull it to the left to remove it.



2. Press the orange button on the hard disk bracket to the left and pull forward to separate the main body and the hard disk bracket.

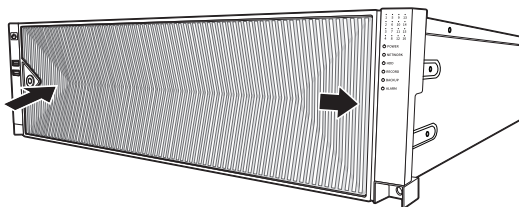


3. Mount a HDD in the HDD bracket and screw it in using the screws provided.



installing the HDD

4. Once the HDD is mounted in the bracket, push the bracket into the main body and close the front cover.
- Fit the front cover into the right notch of the main body, then press and close until you hear a 'click'.
 - Use the front cover lock key to lock the front cover so that it does not get separated.



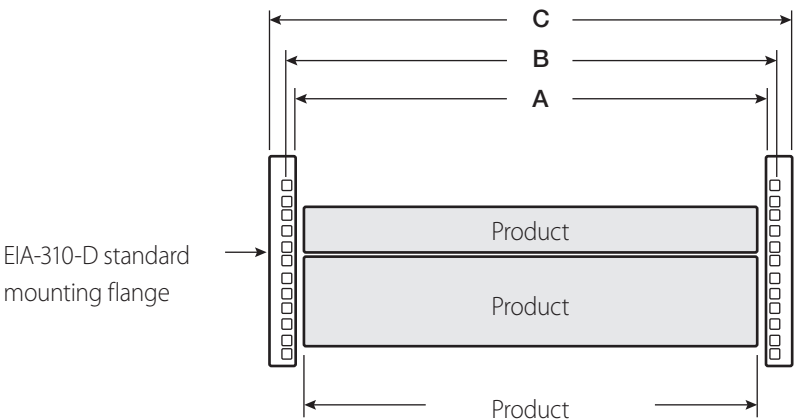
- If you are adding a new or previously used HDD to this product in addition to the HDD(s) originally installed, format the new HDD manually in the set before use.
- For replacement or installation of an additional HDD you must contact your dealer or our customer center.

installing the rack

RACK INSTALLATION REQUIREMENTS AND REFERENCE DIMENSIONS

Classification	Requirements
Rack type	19-inch rack of EIA-310-D standard
POST count	4
POST distance	Depth 800 mm

DIMENSIONS OF MOUNTING FLANGE



Notable dimensions

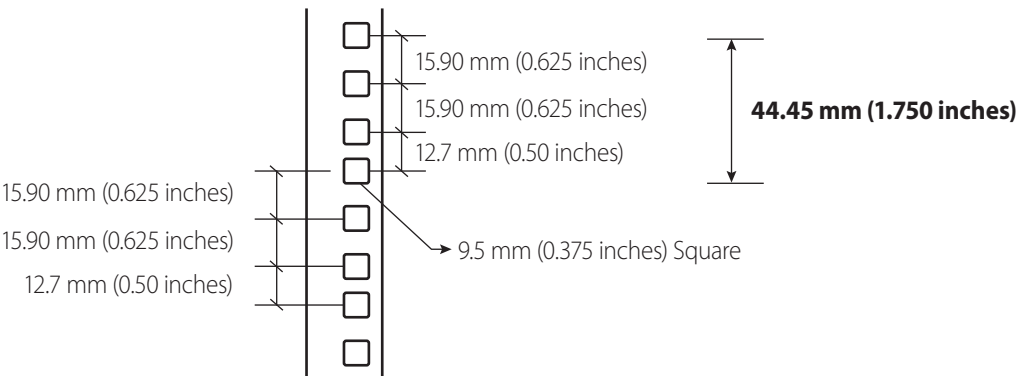
Index	Dimension
A	450 mm (17.717 inches) min.
B	465 mm (18.307 inches) nominal
C	483.4 mm (19.031 inches) min.

installing the rack

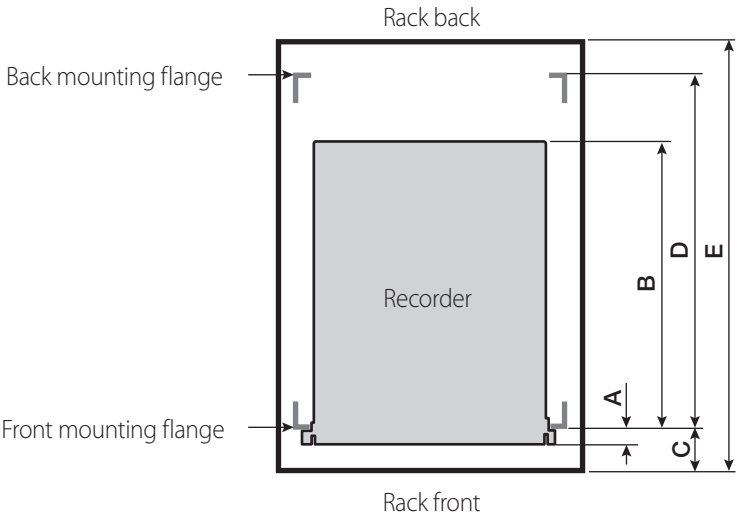
Flange mounting holes

EIA-310-D The standard mounting flange is composed of circular, square, and screw fastening holes.

Square mounting holes



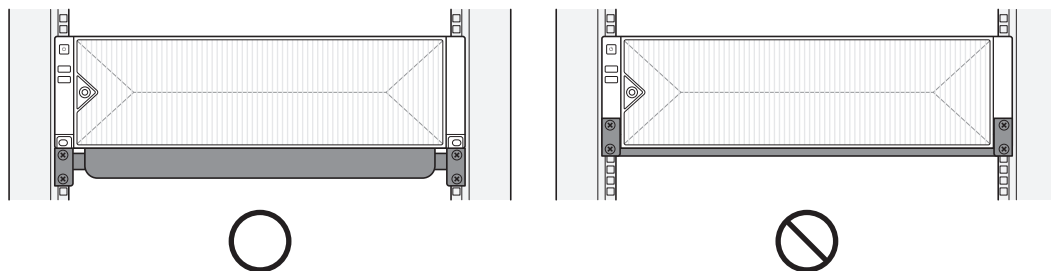
RECOMMENDED RACK DIMENSIONS



Index	Dimension	Description
A	28 mm	Recorder front dimension
B	560 mm	Recorder product dimension
C	51 mm	Offset distance between mounting flange and rack front
D	617~730 mm	Offset distance between mounting flanges
E	800 mm	Rack depth

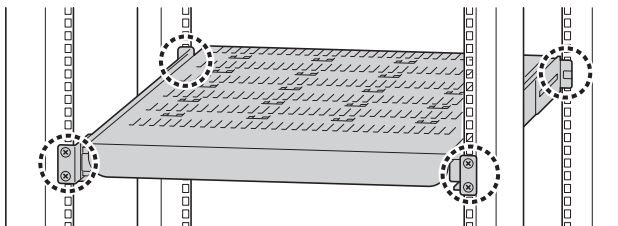
PRECAUTIONS WHEN SELECTING SHELVES

To prevent any problem while installing the recorder, make sure to select a structure where the bottom of the product is mounted.



For installation stability, fixed shelf dedicated to 19-inch rack that supports the load of at least 30 kg is recommended.

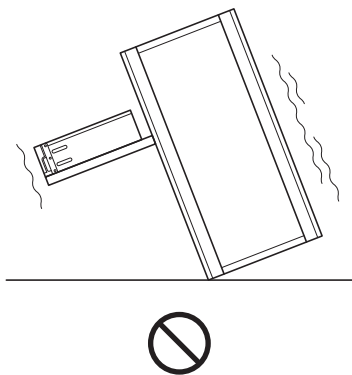
- A shelf needs to be secured with at least 4 screws.



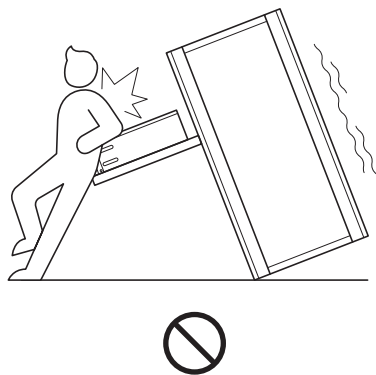
installing the rack

PRECAUTIONS WHEN USING SLIDING SHELVES

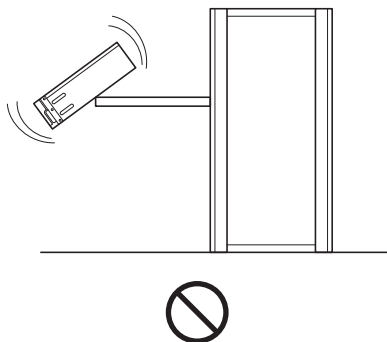
When removing a shelf, fix the rack to the ground so that it does not get toppled.



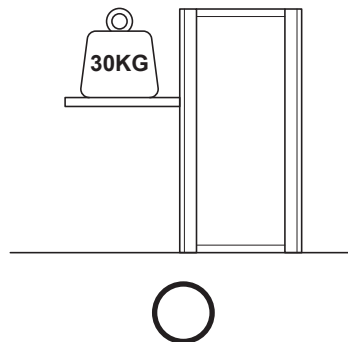
Avoid leaning on the installed product or place an object on it while its shelf is pulled out.



When sliding in/out the shelf, be careful not to drop the product.

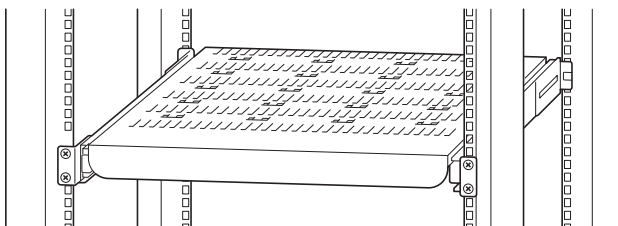


Use a shelf that supports the load of at least 30 kg while it is pulled out, and ensure that there is no deformation in the rail part while in use.



HOW TO INSTALL RACK

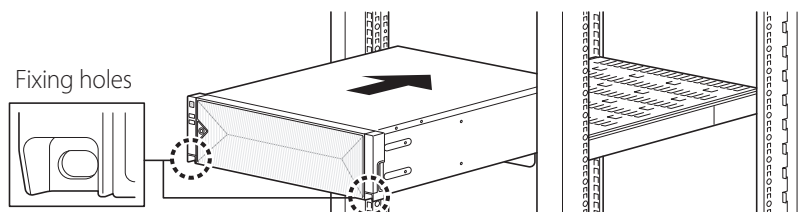
1. Mount the fixed or sliding shelf onto the 19-inch rack.
See the manual provided by the manufacturer for installing the fixed shelf.



2. Place the recorder on the shelf and push it until the left/right fixing holes of the recorder align with the mounting flange holes of the 19-inch rack.



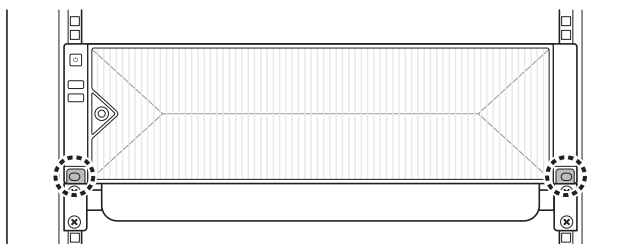
- Cage nuts must be assembled in the mounting flange holes of the 19-inch rack.



3. Insert the screws in the left/right fixing holes of the recorder to secure the recorder.



- Fixing nuts and cage nuts for the recorder are not shipped with the product. They are separately sold at the place where you purchased the shelf or rack.
(M6 nuts and cage nuts of head size equal to 12 mm or less are recommended.)



running the product

POWER

Connect the power cord to the back of the product and press the power button.

If the power does not turn on, check the following items.

1. Check that the power cable is properly connected and that it meets the power specifications.
 2. When using a multi-tab, check that the power of the multi-tab is turned on.
-
- 
 - If the power is properly connected but the product does not turn on when the power button is pressed, follow the procedure below.
 - When the power supply is unstable, this product may operate in a power protection mode in order to protect the product. This is a function similar to that of the fuse of a circuit breaker and is not a malfunction of the product.
 - Proceed with the following measures.
 - 3) Unplug all cables connected to the back of the product.
 - When using a multi-tab, turn off its power.
 - 4) Wait for 2 minutes with the cord removed.
 - The protective circuit will reset as the current charged in the internal power is discharged.
 - 5) Reconnect the power cable cord.
 - When using a multi-tab, turn on its power.
 - 6) Press the power button of the product.

SETTING WINDOWS PASSWORD

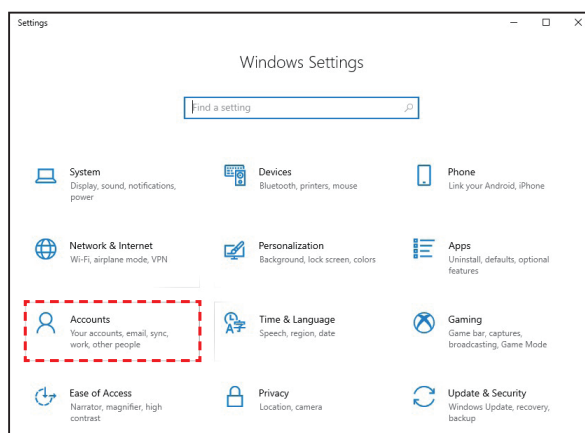
This section will explain how to set the Windows password.



- This product does not have a preset Windows password. Make sure to set the password for secure use.
- Safely store the Windows user name and password so that it is not forgotten.
- Change the password every 3 months for security.

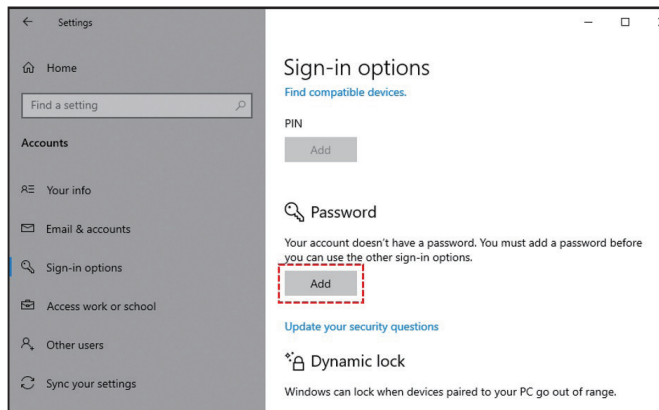
HOW TO SET WINDOWS PASSWORD

1. In the search bar at the bottom left of the desktop screen, search "Settings" and click run.
2. Select "Accounts" in "Windows Settings".

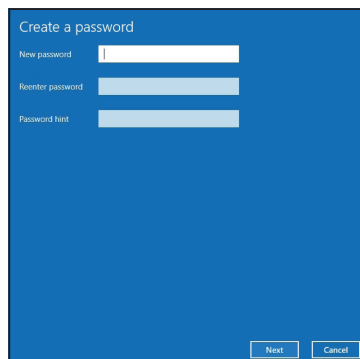


3. In the left menu, select "User Information" and check the user name.
4. In the left menu, select "Sign-in Options".

5. In "Sign-in Options", select "Add" under "Password".



6. In "Create a password", create a new password.



7. When the settings are complete, restart the PC and check that the new password has been applied.

WINDOWS AUTO SIGN-IN SETTINGS

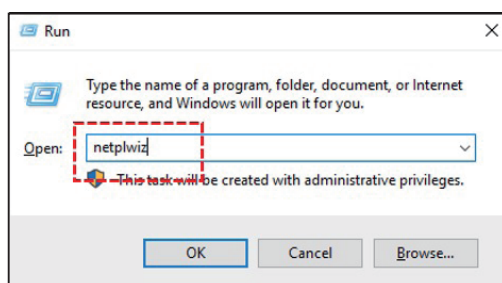
This section will explain the method of setting Windows auto sign-in during product startup.



- The use of Windows auto sign-in is not recommended due to its vulnerability in security.
- After setting this feature, safely store the Windows user name and password so that it is not forgotten.

HOW TO SET WINDOWS PASSWORD

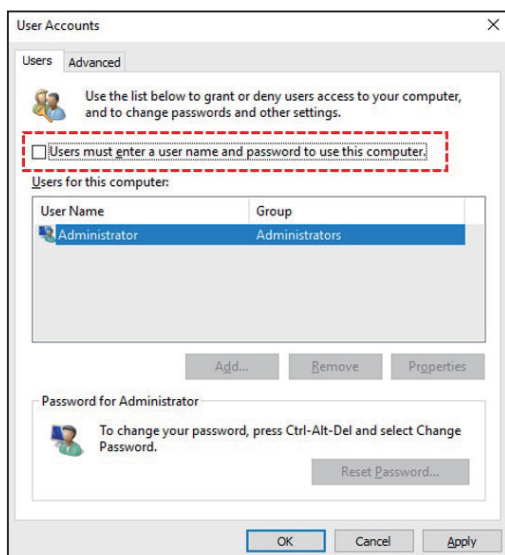
1. Press Windows key + R and enter netplwiz in the Run window.



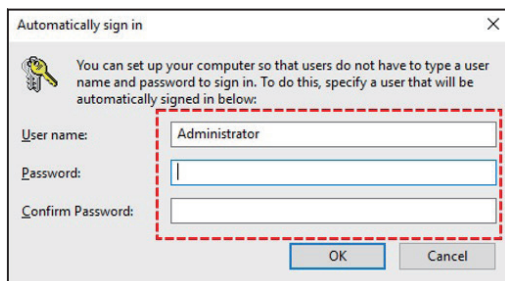
2. After selecting the account currently in use, uncheck the "Users must enter a user name and password to use this computer" box.

running the product

3. Click "Apply" then "OK".



4. Enter the user name and password and click "Apply".



5. When the settings are complete, restart the PC and check that the auto sign-in works.

CREATING A LOGICAL DRIVE

This section will explain how to configure a logical drive.



- Use a new disk for RAID configuration or replacement of a faulty disk.

1. Double click the SSM Service Manager icon on the Desktop to run.
2. After clicking the "Stop Service" button, check that the service status is Stopped.

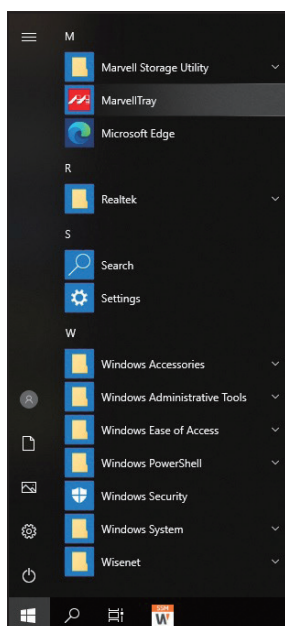


- If the service status is Running, select Stopped.

3. Run the "MarvellTray" program on the Desktop.



Or run via Start → All Programs → MSM (MegaRAID Storage Manager) → StartupUI.

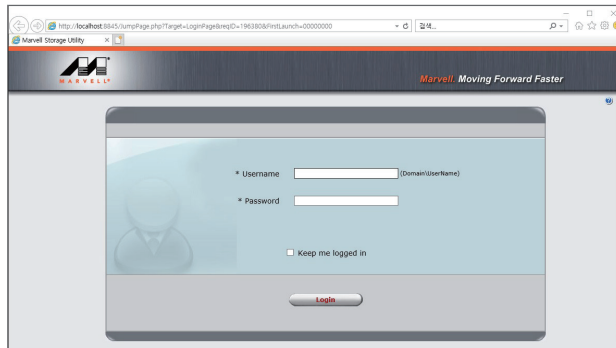


running the product

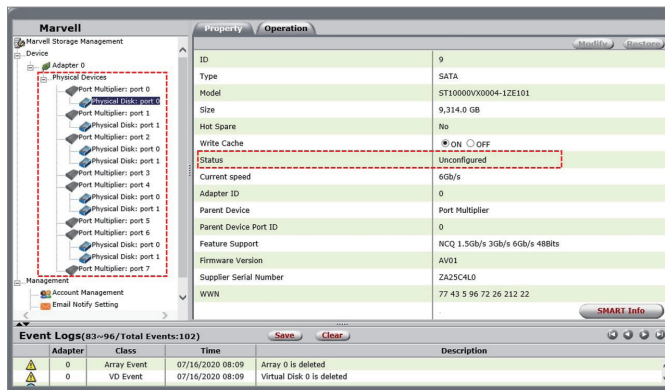
4. Enter the user name and password.
Use the Windows user name and password.



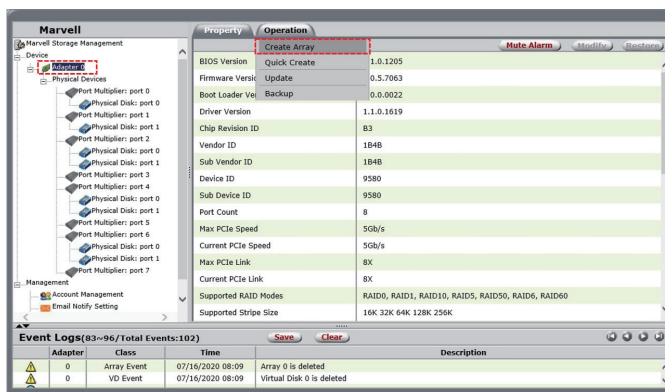
- The default product User name is "Administrator" and there is no password.



5. Check the number of mounted disks and their status in Physical Devices.
(Status is Unconfigured)



6. Click Adapter, and when the sub menu appears after positioning the mouse over Operation, select Create Array.

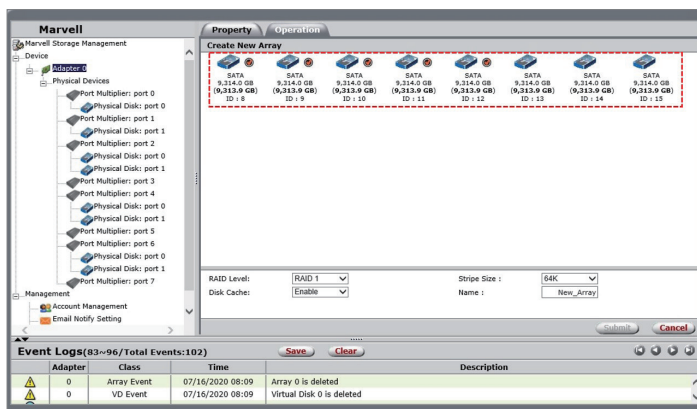


7. Select disk image for RAID configuration.

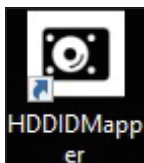
(A tick will appear to the right of the selected disk.)



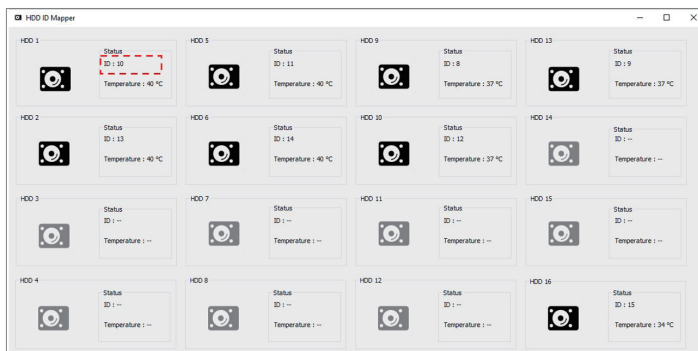
- When using RAID 5 or RAID 6, less than a maximum of 8 disks per Array is recommended for optimal product performance.
- Use the ID below the disk image to check the location in the HDD ID Mapper.



8. Run by clicking the HDD ID Mapper icon on the Desktop.



9. Check the HDD location and ID in the HDD ID Mapper.

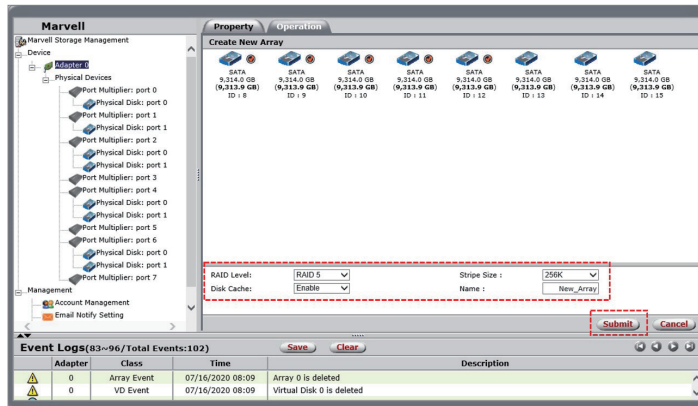


running the product

10. Select the RAID Level and Stripe Size and click Submit.



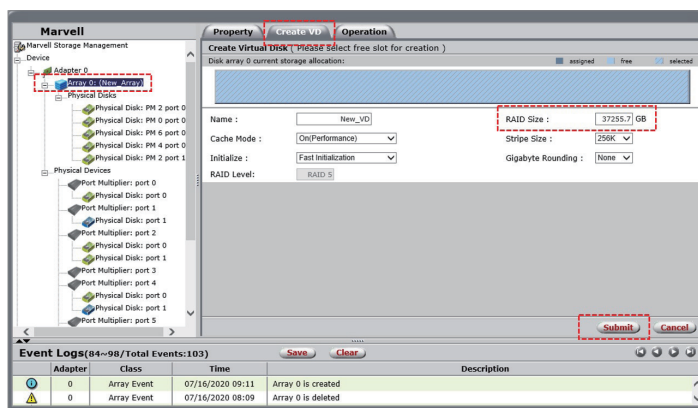
- RAID 5 is recommended for optimal product performance.
- Select 256K Stripe Size for optimal product performance.
- Select Enable for Disk Cache for optimal product performance.
- Playback is restricted to a maximum of 50 Mbps and 32 channels for RAID rebuild.
- There may be a decrease in backup performance for RAID rebuild.



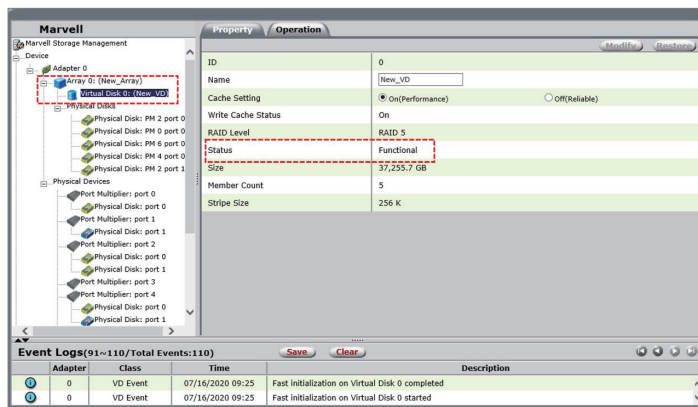
11. Click Array, select Create VD, and click Submit.



- Check the capacity in RAID Size. The capacity may differ depending on the RAID Level.



12. Select Virtual Disk under Array to check information. (Status is Functional)

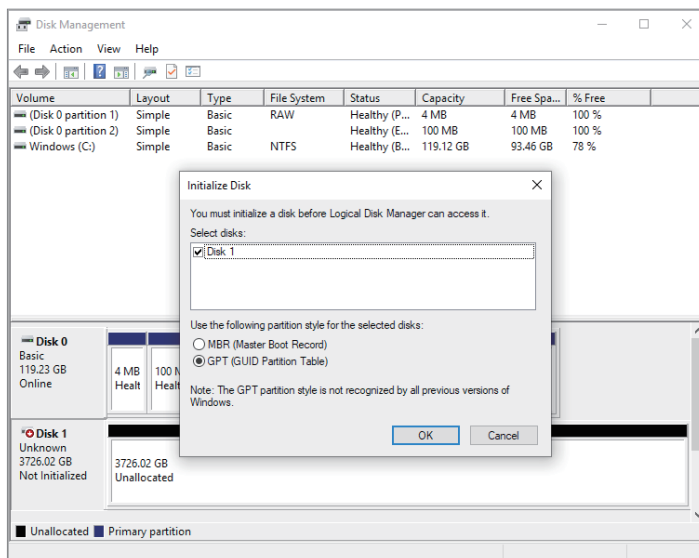


13. In Windows Disk Management, check the disks configured for RAID.



- It is recommended to complete the Virtual Disk configuration for all disks being used before checking.
- Disks that have not been configured for Virtual Disk will also be displayed in the Disk Management screen. For an optimal recording performance, create a new simple volume only for disks that have been configured for Virtual Disk.

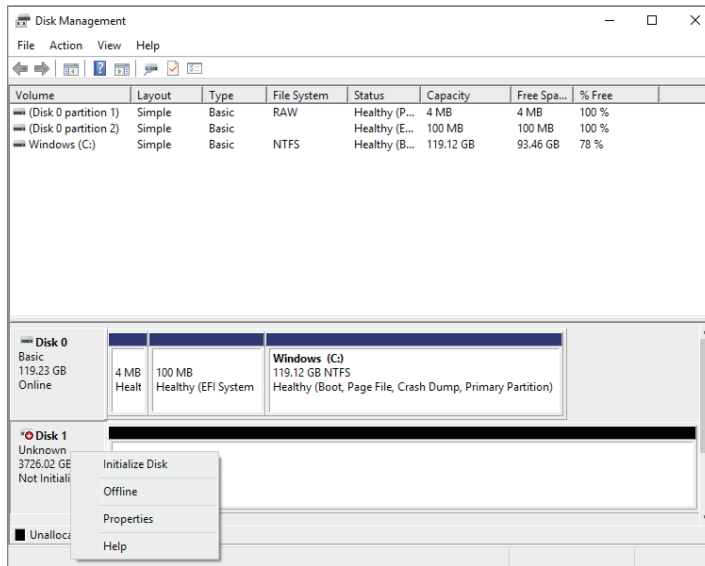
14. When you run Windows Disk Management, the Initialize Disk screen appears. Select GPT (GUID Partition Table) to initialize the disk at the Initialize Disk screen.



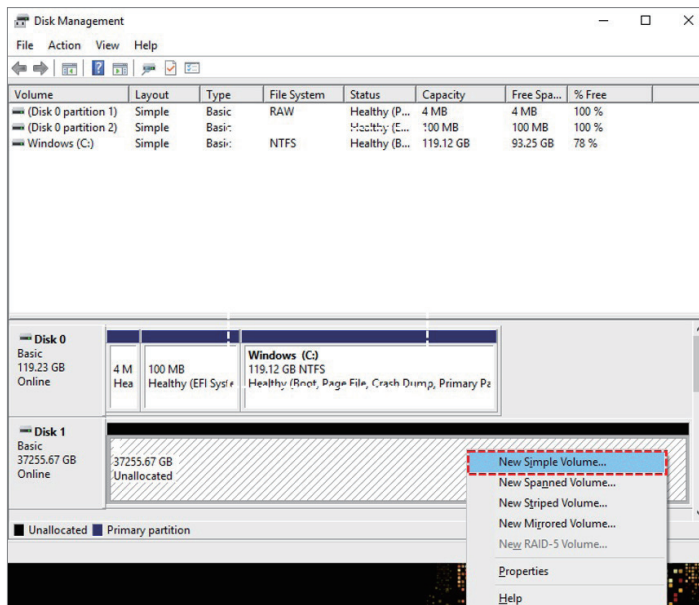
running the product



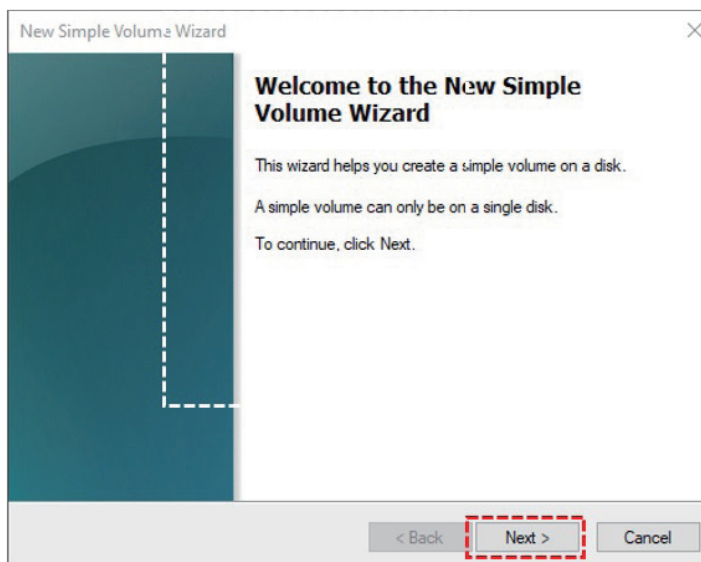
- If the Initialize Disk screen does not appear, right-click on the Disk 1 area and select Initialize Disk.



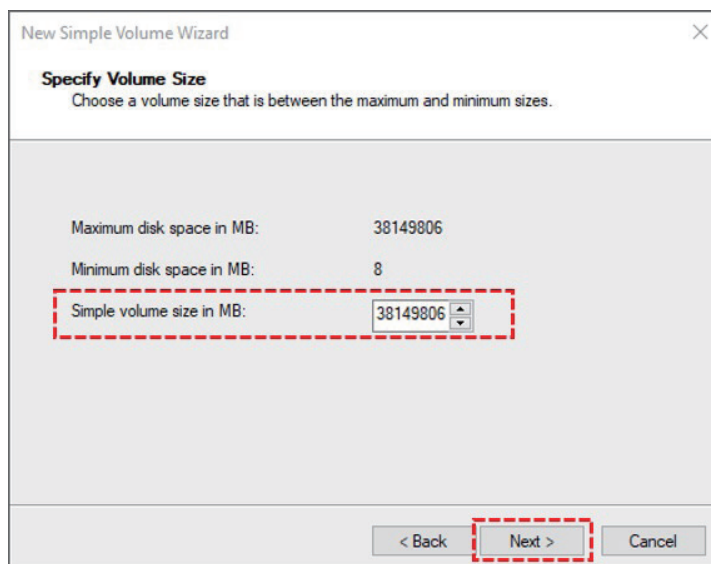
15. Right click on the partition that has not been allocated and select New Simple Volume.



16. Click Next in the New Simple Volume Wizard.

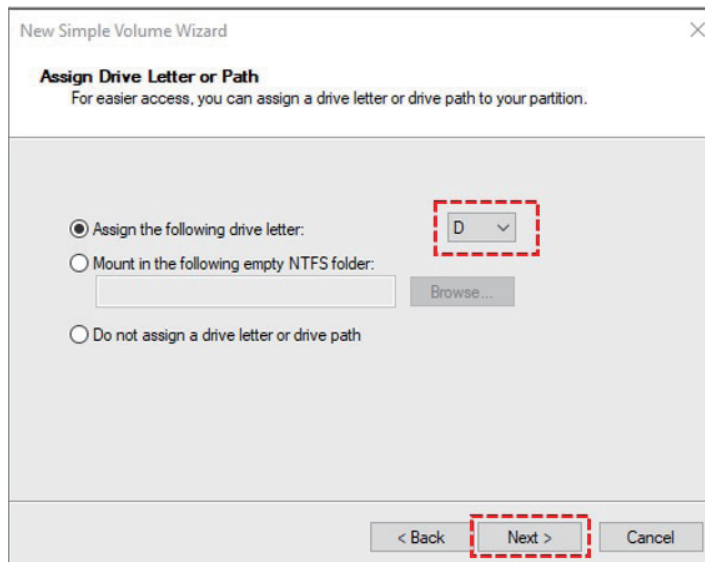


17. After checking the Simple Volume Size, click Next.
The Simple Volume Size may differ depending on the HDD capacity and RAID Level.



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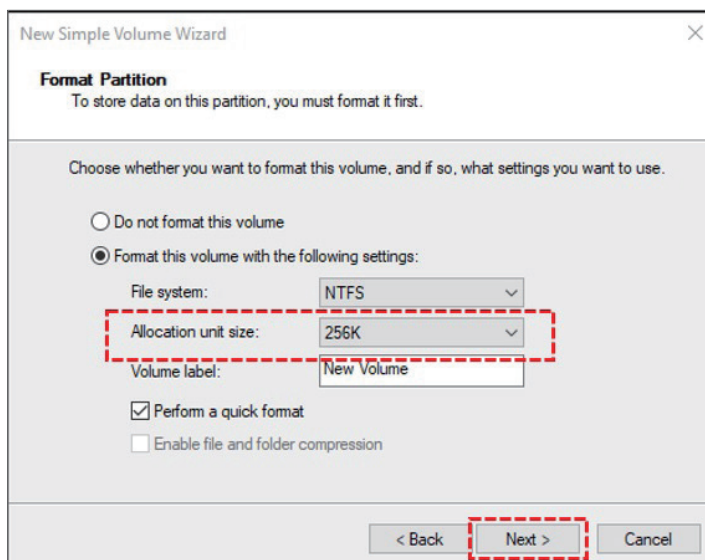
18. After checking the drive letter, click Next.



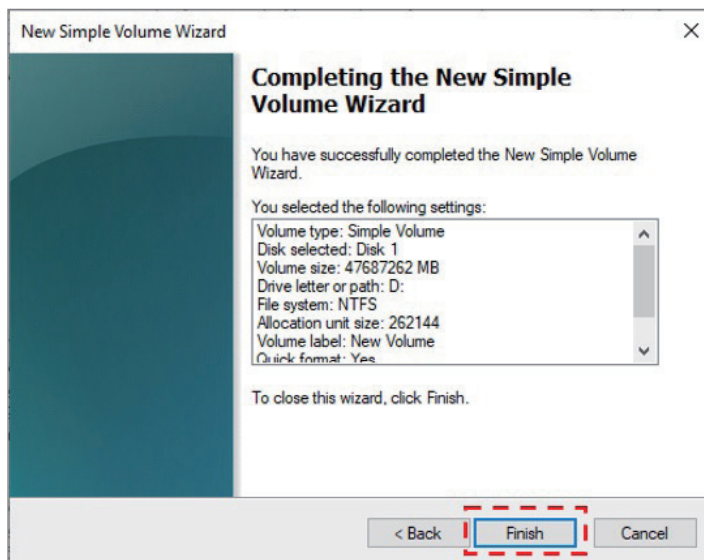
19. After changing the allocation unit size to 256K, click Next.



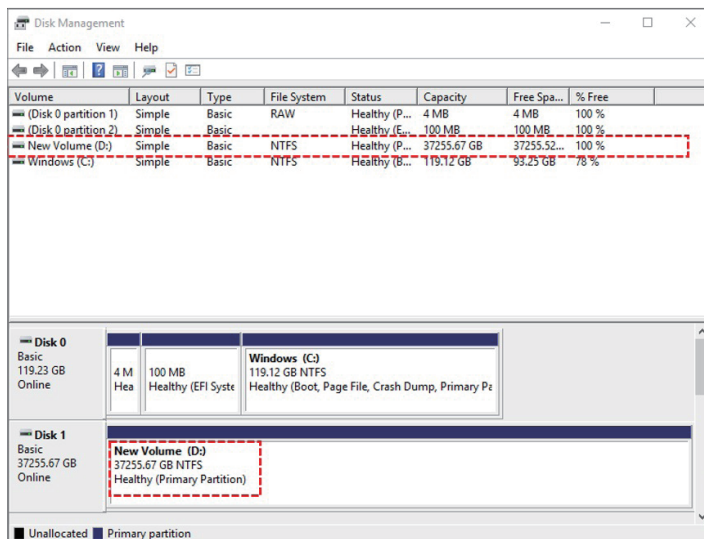
- Select 256K for the allocation unit size for optimal product performance.



20. Click Finish to complete the New Simple Volume Wizard.



21. Check that the disk is recognized normally.



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CREATE NETWORK TEAMING

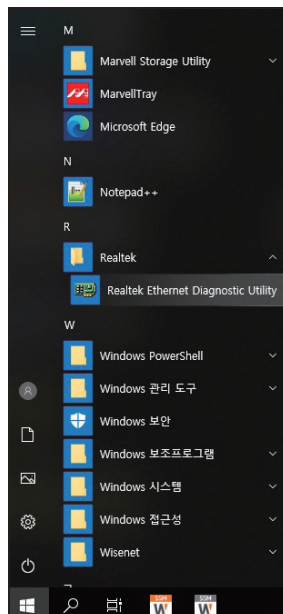
This section will explain how to configure Teaming to create network redundancy.



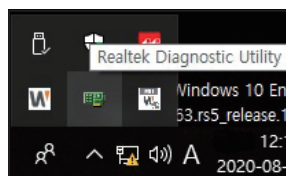
- The Teaming feature must be used with the switches below.

A. Cisco GEC support switch using PAgP protocol
B. Intel Link Aggregation support switch
C. IEEE 802.3ad support switch

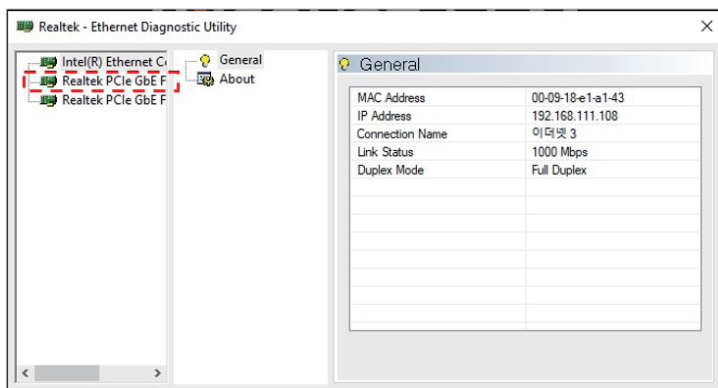
1. Connect the NETWORK 2 and NETWORK 3 ports to the network switch and LAN line, respectively.
2. Run Realtek Ethernet Diagnosis Utility via [Start] → All Programs → Realtek → Realtek Ethernet Diagnostic Utility



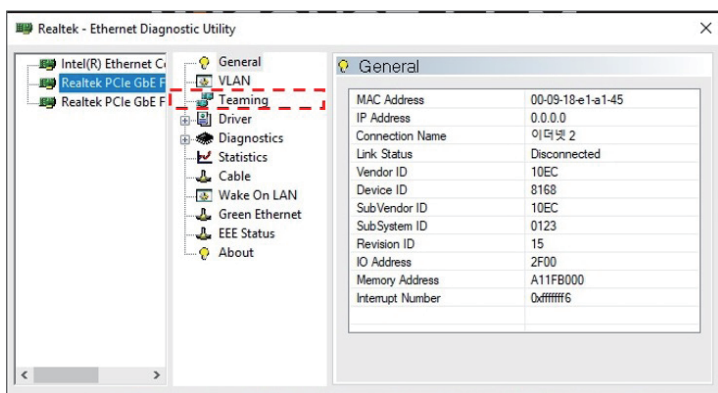
Or run via Task Bar → Show Hidden Icons → Realtek Ethernet Diagnostic Utility.



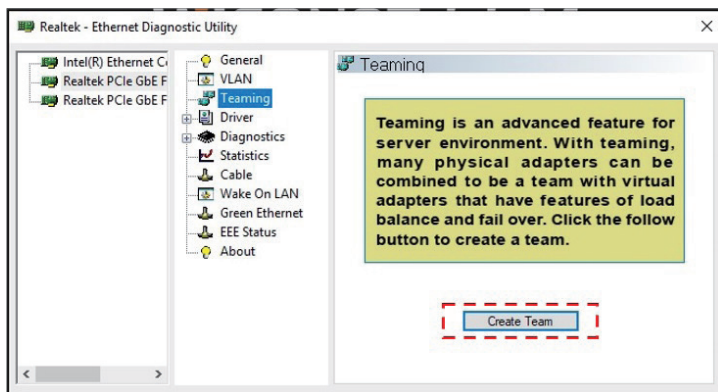
3. Select Realtek PCIe GbE Family Controller.



4. Select Teaming category.

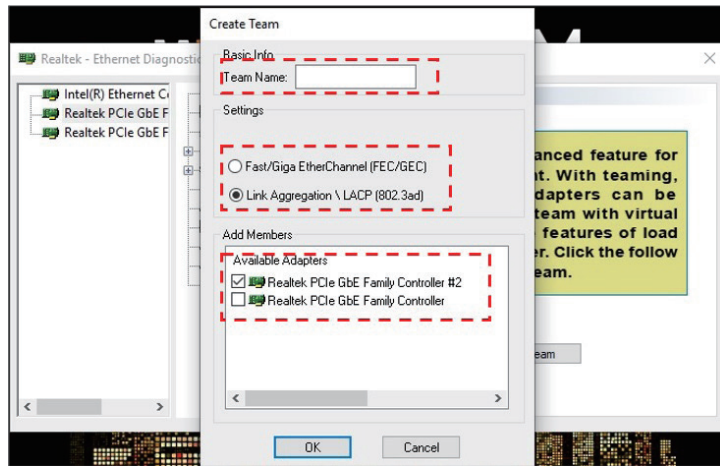


5. Click Create Team Category.

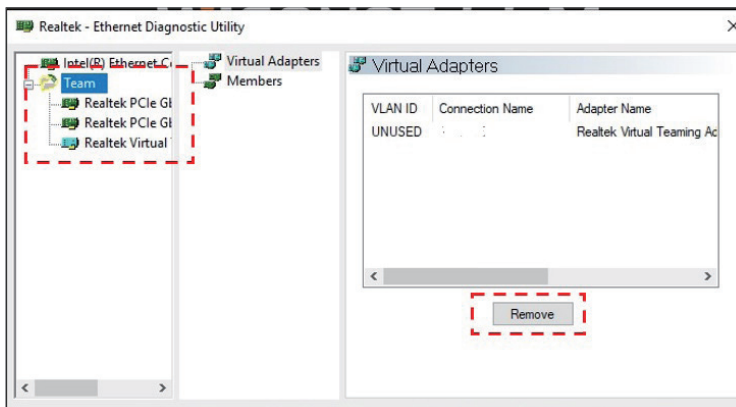


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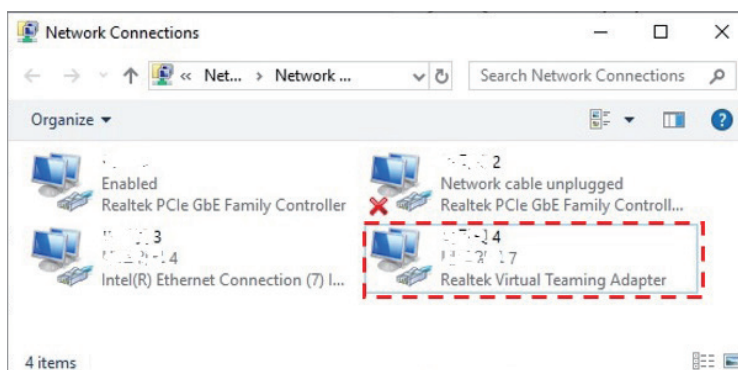
6. Set as shown below and select OK.
 - A. Enter the team name to use in the Team Name Category.
 - B. Select either Fast/Giga EtherChannel or Link Aggregation option according to use.
 - C. Select both of the two adapters.



7. Check that the Team has been configured.
 - To remove the Teaming configuration, click the Remove button.



8. Use by setting the IP of the Realtek Virtual Teaming Adapter.



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STARTING SSM

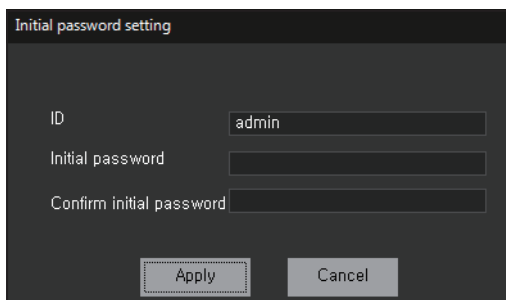
This section will explain how to start SSM.

For a detailed method of using SSM, refer to the additional manuals on the Desktop.

1. Double click the SSM Service Manager icon on the Desktop to run.
2. After clicking the "Start Service" button, check that the service status has changed to Started.
 - ! If the service status is already at Started, skip this process.
3. After selecting "Automatically Run SSM Service on Windows Startup", click Apply.
4. Double click the SSM Console Icon on the Desktop to run the program.
Or select [Start] → Wisenet → SSM Console.
5. Click Sign In at the sign-in screen.



6. Enter the default password in the Create Default Password window and click Apply.

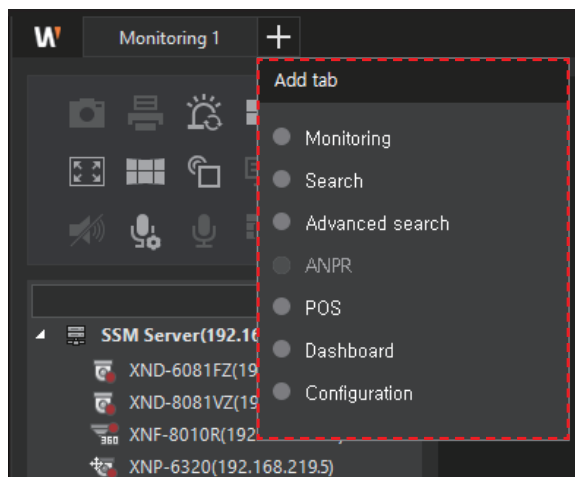


MENU INTRODUCTION

The menu of the SSM Console Client is composed of tabs.

The desired menu category can be selected by freely moving between tabs.

1. To open a menu page, click "+" at the top left of the program and select the desired menu.



2. The feature of each menu is as follows.

Registration of devices such as cameras can be managed at the Configuration Manager.

Monitoring	You can monitor a live camera feed and an event video in real time. You can also search or play the videos saved in the server and network storage devices.
Search	You can search and play the event logs that occurred on your devices. Also, by connecting to an AI camera, you can play videos or search for images in various conditions such as people, face, vehicle, vehicle number.
Advanced search	You can search the thumbnails created at the moment when a motion detection event occurred in the recorded video. You can also search for people passing through virtual lines set on the recorded video, or search for people who are intruding into or loitering within a specific area.
ANPR	By linking with ANPR camera, you can monitor videos in real time, and search or play any videos as you like. Also, you can register/delete vehicles, edit the registered vehicle information, and check the management history per vehicle. • ANPR menu is available for use after registering your ANPR license.

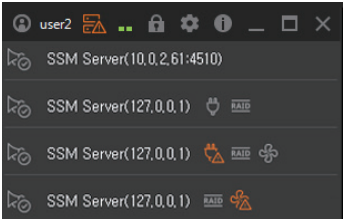
running the product

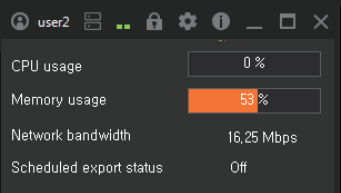
POS	You can monitor the data and the camera video of the POS device connected to the NVR in real time. You can also search for the saved POS data or play the video of the camera.
Dashboard	You can monitor the status of SSM Core Server system or the registered device.
Configuration	You can configure and manage the SSM Core Server system.

3. Refer to the SSM Manual on the Desktop to view the feature of each menu and detailed method of SSM use.

Additional features at the top right of the SSM Console.



	When you select Change Password from the list box, you can change the password of the logged-in user.
	When you select Logout from the list box, you can log out.
	You can see the ID of the logged-in user.
	You can check the fan, redundancy power supply system, and RAID status. If alarm is triggered due to a hardware problem, you can turn it off by clicking .  When an error occurs, and appear in turn; when the error is resolved, is displayed. OK state: RAID Error state: RAID

	You can check the performance of a computer that SSM Console Client is installed.   ▪ Operate below 60 - 70% CPU usage. ▪ Depending on operating conditions, CPU usage may differ to that displayed in the Task Manager. • CPU usage: Displays the CPU usage of the current PC. • Memory usage: Displays the memory usage of the current PC. • Network bandwidth: Displays the amount of network input/output data of the current PC. • Scheduled export status: Displays the scheduled export action status.
	You can set a screen lock. Once button is clicked, the mouse cursor will changed to a locked shape and will be set as locked. To undo the locked setting, click on the screen and enter the password to log in. From full screen mode, users can set or undo the screen locks by pressing Ctrl + L.
	You can set SSM Console Client.
	You can check the SSM Console Client information.
	You can minimize the SSM Console Client screen.
	You can maximize the SSM Console Client screen.
	You can exit SSM Console Client.

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