

Network Video Recorder

Installation Manual

CSP-20SVR64

Before reading this manual



This manual contains basic instructions on installing and using Network Video Recorder.

Users who are using this product for the first time, as well as users with experience using comparable products, must read this manual carefully before use and heed to the warnings and precautions contained herein while using the product. Safety warnings and precautions contained in this manual are intended to promote proper use of the product and thereby prevent accidents and property damage and must be followed at all times.

Once you have read this manual, keep it at an easily accessible location for future reference.

- The manufacturer will not be held responsible for any product damage resulting from the use of unauthorized parts and accessories or from the user's failure to comply with the instructions contained in this manual.
- It is recommended that first-time users of Network Video Recorder and individuals who are not familiar with its use seek technical assistance from their retailer regarding product installation and use.
- If you need to disassemble the product for functionality expansion or repair purposes, you must contact your retailer and seek professional assistance.
- Both retailers and users should be aware that this product has been certified as being electromagnetically compatible for commercial use. If you have sold or purchased this product unintentionally, please replace with a consumer version.
- This equipment has the PFC (Power Factor Correction) circuit. For stable operation, use a sign-wave output UPS with an AVR(Automatic Voltage Regulator).

Safety Precautions


	CAUTION	
RISK OF ELECTRIC SHOCK DO NOT OPEN		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Symbol	Publication	Description
	IEC60417, No.5032	Alternating current

WARNING
Hazardous moving parts
Keep away from moving fan blades

AVERTISSEMENT
Pièces mobiles dangereuses
Se tenir éloigné des pales de ventilateurs mobiles

Important Safeguards

1. Read Instructions

All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Cleaning

Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

4. Attachments

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. Water and/or Moisture

Do not use this equipment near water or in contact with water.

6. Ventilation

Place this equipment only in an upright position. This equipment has an open-frame Switching Mode Power Supply (SMPS), which can cause a fire or electric shock if anything is inserted through the ventilation holes on the side of the equipment.

7. Accessories

Do not place this equipment on an unstable cart, stand or table. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.



This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

8. Power Sources

This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company. You may want to install a UPS (Uninterruptible Power Supply) system for safe operation in order to prevent damage caused by an unexpected power stoppage. Any questions concerning UPS, consult your UPS retailer.

This equipment should remain readily operable.

9. Power Cords

Operator or installer must remove power and TNT connections before handling the equipment.

10. Lightning

For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges.

11. Overloading

Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

12. Objects and Liquids

Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

13. Servicing

Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

14. Damage requiring Service

Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power-supply cord or the plug has been damaged.

B. If liquid is spilled, or objects have fallen into the equipment.

C. If the equipment has been exposed to rain or water.

D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.

E. If the equipment has been dropped, or the cabinet damaged.

F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

15. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

16. Safety Check

Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

17. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

18. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type. Replace only with the same or equivalent type. Dispose of used batteries according to the instructions. The battery shall not be exposed to excessive heat such as sunshine, fire or the like.

Avertissement: risque d'explosion en cas d'utilisation d'une batterie de type incorrect. Le remplacer uniquement par un type identique ou équivalent.

Mettre les batteries usées au rebut conformément aux instructions. La batterie ne doit pas être exposée à une source de chaleur excessive, telle que le soleil, le feu, ou analogue.

19. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

20. Elevated Operating Ambient Temperature

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

21. Reduced Air Flow

Installation of the equipment in the rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

22. Mechanical Loading

Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

23. Circuit Overloading

Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.



24. Reliable Earthing (Grounding)

Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

HDMI Port Precautions

- Use a certified cable marked with an HDMI logo when using HDMI. The screen may not display or a connection error may occur if you do not use a certified HDMI cable.
- It is recommended that you use the following HDMI cable type.
 - High-speed HDMI Cable
 - High-speed HDMI Cable with Ethernet

In-Text

Symbol	Type	Description
	Caution	Important information concerning a specific function.
	Note	Useful information concerning a specific function.

User's Caution Statement

Caution: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC Compliance Statement

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

WEEE (Waste Electrical & Electronic Equipment)

Correct Disposal of This Product

(Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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Contents of this manual are subject to change without prior notice.

The information in this manual is believed to be accurate as of the date of publication even though explanations of some functions may not be included. We are not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

The software included in this product contains some Open Sources. You may obtain the corresponding source code which we have to distribute according to the license policy. Go to Client Menu - About page for more information. This product includes software developed by the University of California, Berkeley and its contributors, and software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>). Also, this product includes cryptographic software written by Eric Young (eay@cryptsoft.com), and software written by Tim Hudson (tjh@cryptsoft.com).

Covered by one or more claims of the patents listed at patentlist.accessadvance.com.

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Part 1 – Introduction

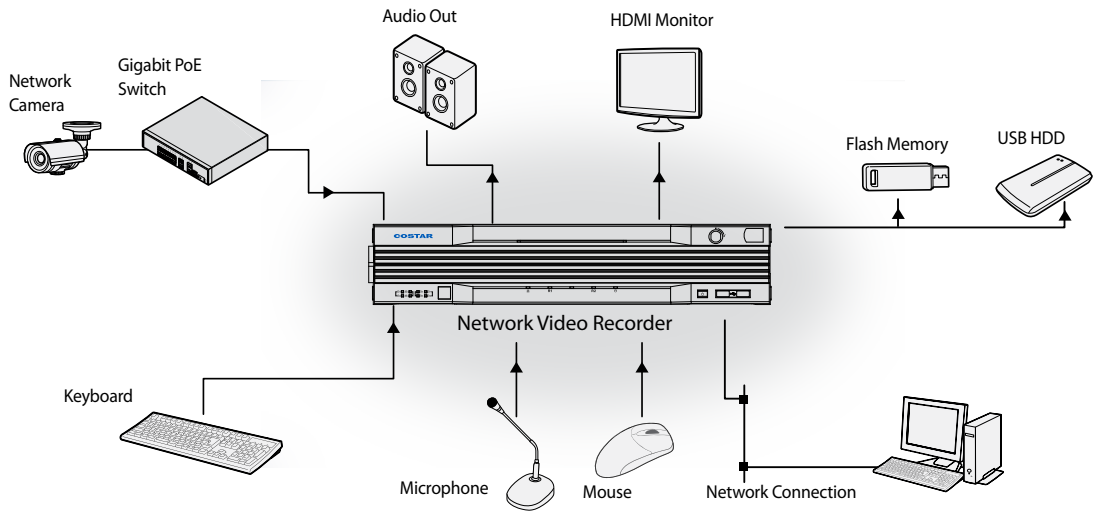
Product Features

This is a video recorder that supports surveillance, recording, and playback of video from network cameras (or video encoders).

This NVR (Network Video Recorder) unit offers the following features:

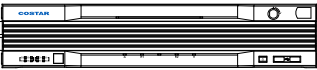
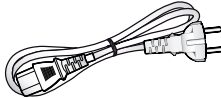
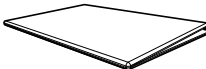


- UHD resolution support
- H.265 support codec
- 2 HDMI out ports
- 2 USB 2.0 port, 4 USB 3.0 port (for connecting peripherals, upgrading software, and saving recording data)
- 8 internal HotSpare SATA2 HDD bays and 3 eSATA ports
- Records the data efficiently (RAID 1,5,10)

Part 1 – Introduction



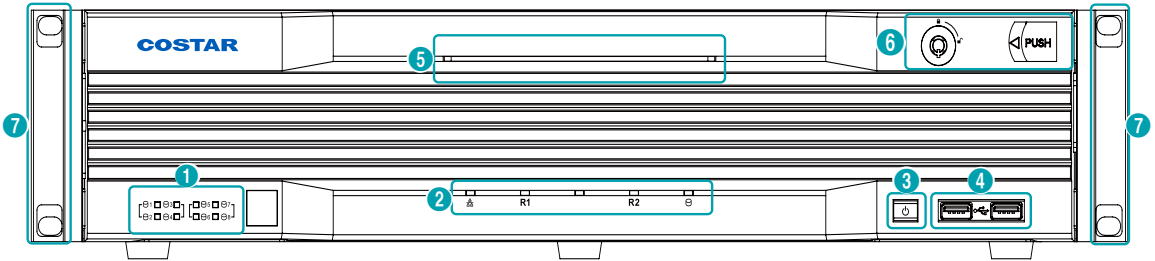
Accessories

Upon unpackaging the product, check the contents inside to ensure that all the following accessories are included.

		
<p>Network Video Recorder</p>	<p>Power Cable</p>	<p>Installation Manual</p>
		
<p>Optical USB Mouse</p>	<p>Keyboard</p>	

Overview

Front Panel



1	SATA LED	2	Status LEDs	3	Power Button	4	USB Ports
5	Power LED	6	Front Door Lock	7	Rack Mount Ears		

- Some buttons have more than one function.
- Remote control sensor is located on the left side of the front panel. Ensure that the sensor remains unobstructed at all times. If obstructed, the sensor might not be able to receive remote control signals.
- Placing a Wi-Fi, Bluetooth, or any other wireless communication device near the NVR may interfere with remote control signal transmission.
- Access various windows and menus using a USB mouse as you would on a personal computer.
- For easier system configuration, a USB mouse and keyboard is recommended.

① SATA LED

These LEDs indicate the status of HDD and RAID mode.

LED	Color	HDD Status
On	Green	SATA HDD Connection
Blinking	Green	Data Transmission
Blinking	Red	Rebuilding RAID SYSTEM
On	Green/Red	HDD / RAID Error
Off	-	No SATA HDD

② Status LEDs

- Network LED:** Lights up when the main unit is linked to an ethernet.
- R LED:** LED works as the following table according to the RAID configuration.

NON-RAID	Off
RAID 1 or RAID 10	Blinking
RAID 5	On
- SSD LED:** Lights up when the OS SSD is connected.

③ Power Button

Press to turn on the power of the NVR.

④ **USB Ports**

● **Storage Device Connection**

Connect an external USB hard drive or a USB flash memory device to one of the USB ports for use with the Clip Copy feature. The external storage device should be placed as close to the NVR as possible. It is recommended that you use a connection cable that is no longer than 180cm in length. Use the connection cable included with your external storage device to connect the device to one of NVR's USB ports. For more information on Clip Copy, refer to the **Clip Copy in the operation manual**.

● **Peripheral Device Connection**

Use the USB ports to connect peripherals such as a USB mouse and a keyboard to the NVR. You can also use a USB-to-serial converter and connect multiple text-in devices to the NVR at the same time.

⑤ **Power LED**

Lights up while the main unit is in operation.

⑥ **Front Door Lock**

By using enclosed door-lock key, front panel can be detachable to replace the HDD. For more information on how to replace the HDD, refer to the **Specifications on page 22**.

⑦ **Rack Mount Ears**

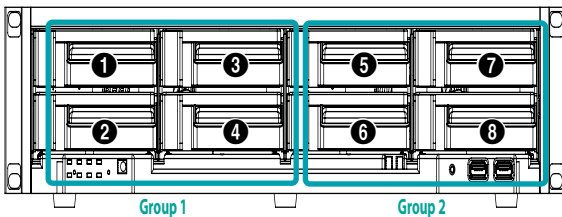
The ears can be used for rack mount.

Rack Installation Precautions

- End users must install the rack according to the rack installation manual.
- You must use only the screws that are provided in the rack or only screws with dimensions mentioned in the rack installation manual.
- When installing this NVR in the rack, it must be installed by a skilled person or an instructed person.

Port Number of HDD Drive

Refer to the following port number of HDD drive.



HDD Installation Precautions

Depending on the connection port, the HDDs are divided into two groups and they record video input individually as follows.

Group 1 (① ~ ④)	
HDD Port	Internal SATA Port 1, 2, 3, 4
	eSATA Port 1, 3

Group 2 (⑤ ~ ⑧)	
HDD Port	Internal SATA Port 5, 6, 7, 8
	eSATA Port 2, 4

- To reuse the HDD which was used as a RAID, low-level format the drive. Otherwise, it is recognized as a RAID error and the data of all the connected HDDs may be deleted.
- Make sure to turn off the power before you add, remove or replace the HDD.

RAID Configuration Precautions

The four types of RAID configuration supported are as follows.

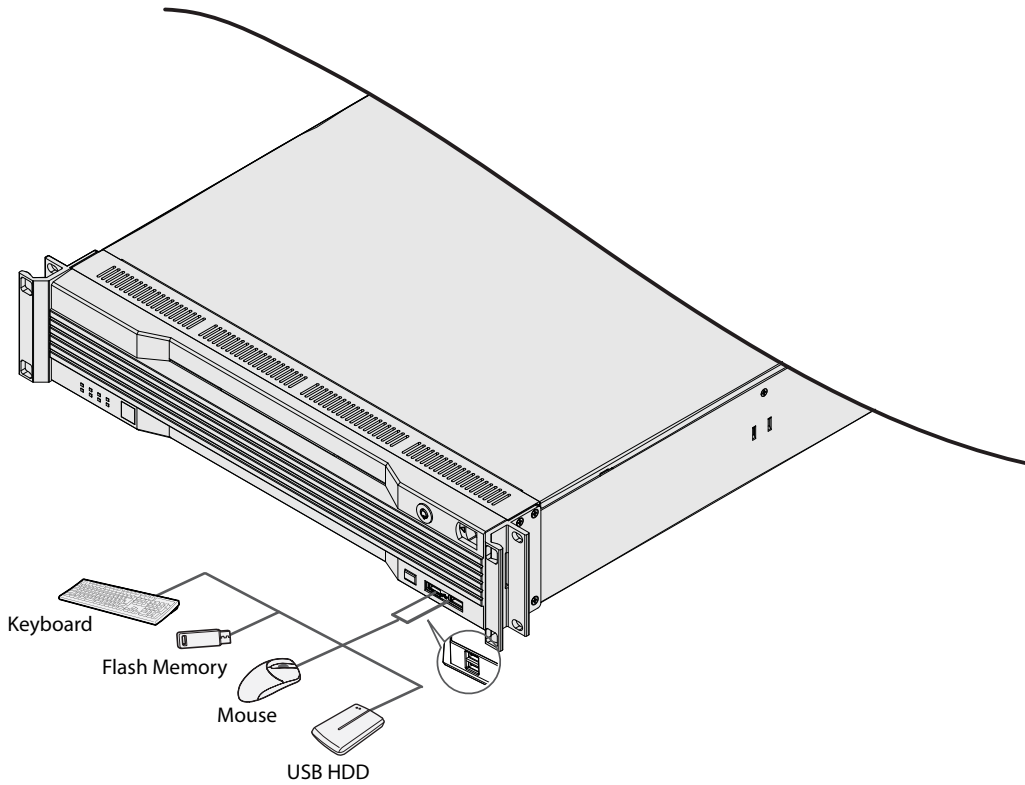
Configuration 1	*R1(1,2), R1(5,6)
	HDD connection to Internal SATA Port 1,2,5,6
Configuration 2	R1(1,2), R1(3,4), R1(5,6), R1(7,8)
	After setting Configuration 1 , add HDD to Internal SATA Port 3,4,7,8
Configuration 3	R5(1,2,3,4), R5(5,6,7,8)
Configuration 4	R10(1,2,3,4), R10(5,6,7,8)

* R1(1,2) means RAID 1, which is configured as the HDD connected to the Internal SATA port 1 and 2.



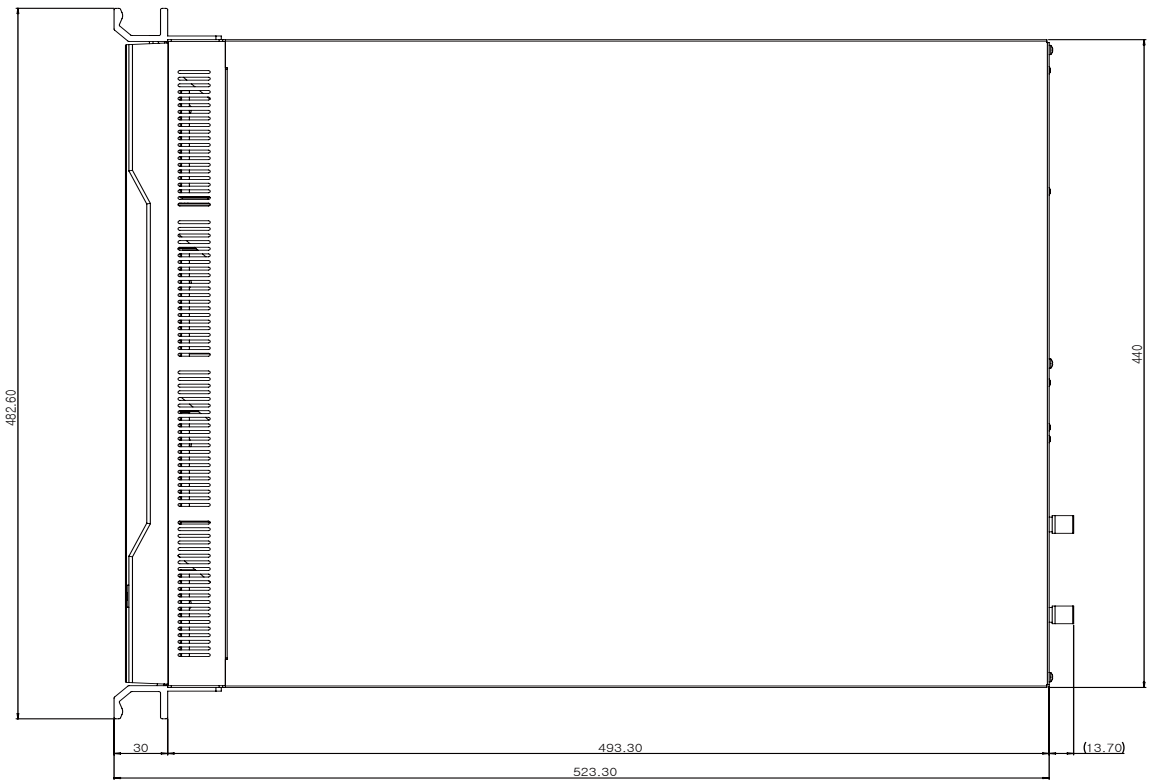
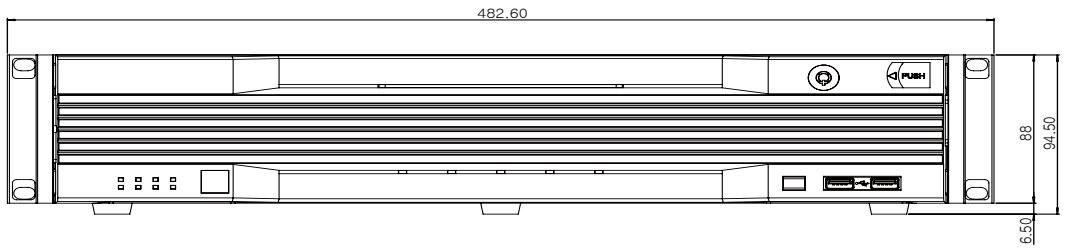
- When configuring RAID, you must use HDDs with the same capacity of the same model.
- While RAID is rebuilding due to degradation, do not remove a HDD to configure the RAID. If you remove it, the data of all the connected HDDs may be deleted.
- It is recommended that you utilize **Configuration 4**, which is the most superior in seek speed and stability.

Connections on the Front Panel



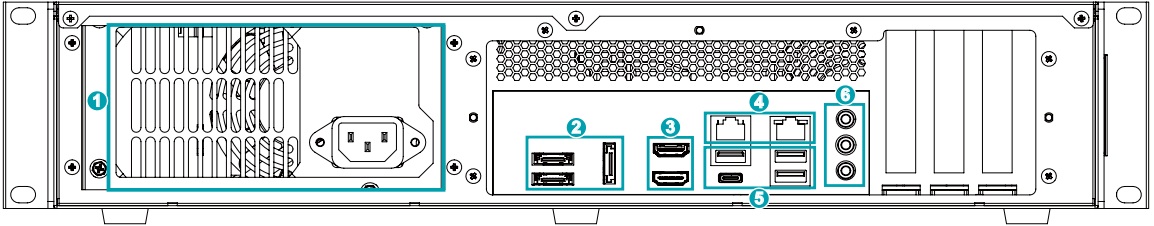
Dimensions

Unit : mm

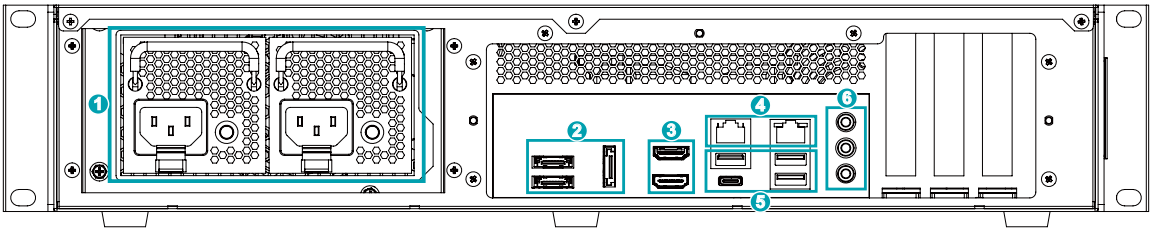


Rear Panel

Single Power



Dual Power (Redundant)



1	Power In Port	2	eSATA Ports	3	HDMI Ports
4	Network Ports	5	USB Ports	6	Audio Connection

The LED and Buzzer Control Rules of Redundant Power

Condition		Power Module #1		Power Module #2		Buzzer
AC Cord Included / Not Included		Green LED	Red LED	Green LED	Red LED	
Power Module #1	Power Module #2	Green LED	Red LED	Green LED	Red LED	
Mounted	Non-mounted	On	Off	Off	Blinking	On
Non-mounted	Mounted	Off	Blinking	On	Off	
Mounted		On	Off	On	Off	Off
		Off	Blink when an warning event occurs	Off	Blink when an warning event occurs	Off
		Off	On during a module failure	Off	On during a module failure	On

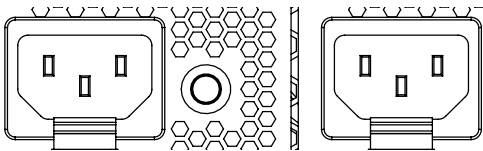
Rear Panel Connections

- ✓ Installing a device other than the compatible list does not guarantee normal operation.

Power Cable Connection

Connect the power cable to this port. This NVR does not feature a separate power on/off button and will turn on the moment power is supplied.

Buzzer rings when a single power cable is connected, and you can turn off the buzzer by pressing the Power LED on the rear panel (2 power cable connection recommended).



- ✓
 - Organize the power cable so that it will not cause people to trip over or become damaged from chairs, cabinets, desks, and other objects in the vicinity. Do not run the power cable underneath a rug or carpet.
 - The power cable is grounded. Do not modify the power plug even if your power outlet does not have a ground contact.
 - Do not connect multiple devices to a single power outlet.

eSATA Connection

Connect external hard drives to these ports.



Some hard disks may not function properly when mounted on to this product. Refer to the compatibility chart below before mounting any additional hard disk on to the product. Hard disk compatibility chart is subject to change without notice. Contact your retailer for the latest compatibility chart.

Storage	Manufacturer	Model
12TB	TOSHIBA	MG07ACA12TE

- ✓ Do not connect or disconnect an eSATA device while the NVR is powered on. To connect an eSATA device, first turn off the NVR and unplug the power cable. Connect the eSATA device and then power the eSATA device first and then NVR back on. To disconnect an eSATA device, first turn off the NVR and unplug the power cable. Turn off the eSATA device and then disconnect the eSATA connection cable.

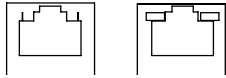
Monitor Connection

Connect to the **HDMI** ports.



- ✓
 - Use a certified cable marked with an HDMI logo when using HDMI. The screen may not display or a connection error may occur if you do not use a certified HDMI cable.
 - It is recommended that you use the following HDMI cable type.
 - High-speed HDMI Cable
 - High-speed HDMI Cable with Ethernet

RJ-45 Video/Network Connection



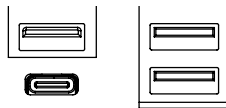
Connect network cameras or video encoders to the NVR using RJ-45 cable (Cat5, Cat5e, or Cat6). In addition to cameras or video encoders, you can connect external hubs (Optional: DH-2112PF, DH-2128PF, DH-2212PF) to form a network.

- Green LED on the right will turn on if connected to a 1000 BASE-T network. Orange LED on the left will then flash once a link has been established.

This NVR is capable of connecting to networks via an ethernet connector. Connect an RJ-45 cable (Cat5, Cat5e, or Cat6) to the NVR's network port.

- Connector directions may vary depending on the NVR model.
- Green LED on the right will begin to flash if connected a 1000 BASE-T network. Orange LED on the left will then flash once a link has been established.

USB Port



Support Super-speed USB 3.0 (5Gbps), High-Speed USB 3.0 (480Mbps) and Full Speed USB 2.0 (12Mbps) for transfer.

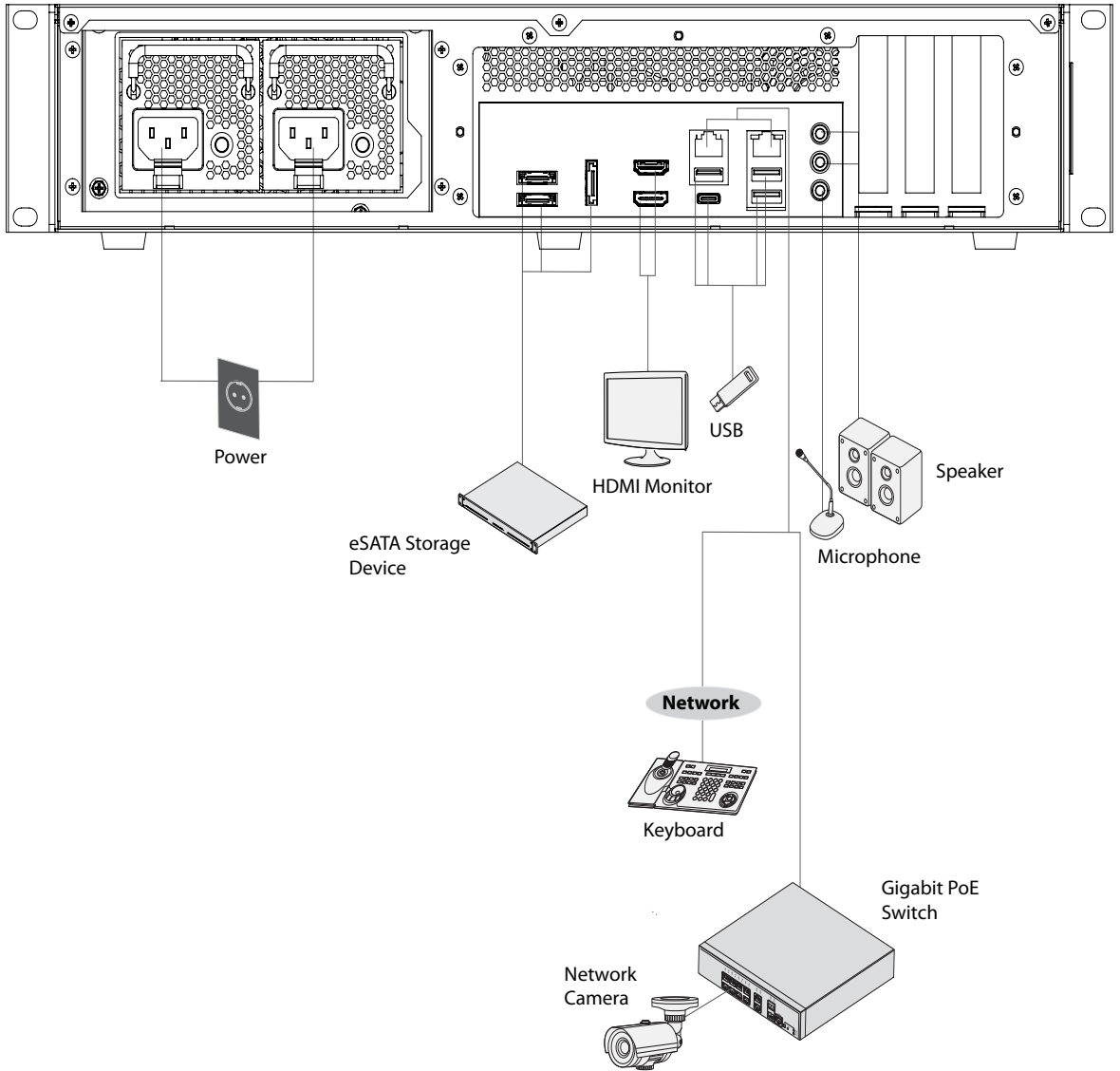
Audio Connection



Connect the audio device to the **AUDIO IN** port and speakers with a built-in amplifier to the **AUDIO OUT** port.

- Check your local laws and regulations on making audio recordings.

Connections on the Rear Panel



Part 2 - RAID Configuration

Introduction

This chapter explains how to use JMB39X HW RAID Manager to configure RAID and monitor the status of the disks connected on JMB39X hardware RAID controller.

Once JMB39X HW RAID Manager is started, the JMB39X HW RAID Manager GUI window will be opened and the application icon could also be found in the notification tray located at the bottom right hand corner of the screen.

When the user presses the **Basic Mode** button on the right side of the GUI window, there are three buttons to be chosen for navigating the corresponding basic pages. Those basic pages are **RAID and Disk Information** page, **Event Log Viewer** page and **Basic RAID Configuration** page. Users could simply do basic RAID configuration and browse all disks and RAID information as well as the event logs in this basic mode.



<RAID and Disk Information>

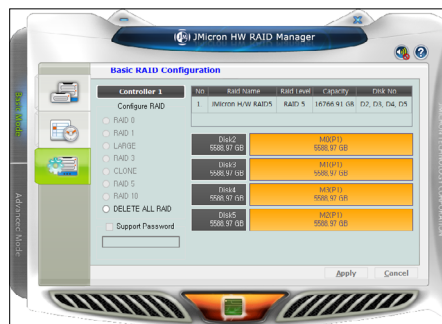


<Event Log Viewer>



<Basic RAID Configuration>

Besides, there are some buttons appearing on the upper part of the GUI window and they are provided for users to minimize the window, close the window, turnoff the buzzer (if the buzzer exists) and open the **About** window.



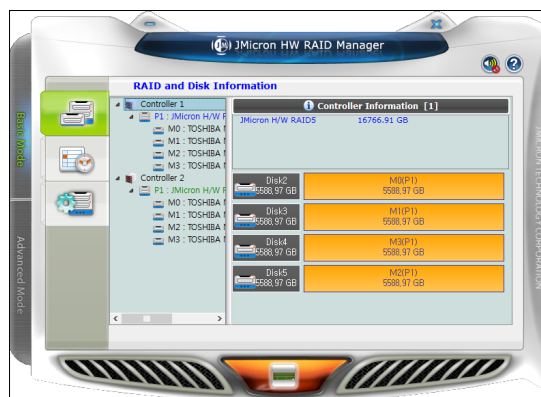
<Basic Mode>

Getting Started

RAID and Disk Information

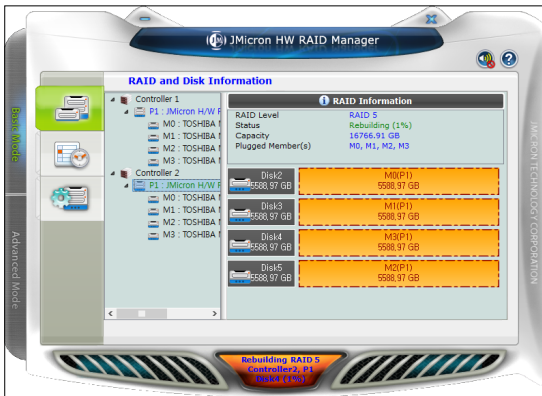
The left part is a tree which shows all controllers on this platform and their connected RAID and disks in a hierarchy view. When the user selects a tree item, the detail information of the selected item will be displayed in the right part. All the disk and RAID information will be updated in real-time and users could monitor the status easily.

Controller Information



If the user selects a controller item from the tree view, it will display the model name and capacity of the RAID and disks connected on the specified controller at the right top table and also display all connected disk charts at the right bottom area. For RAID member disks, the disk charts will be drawn with the different colors according to the different RAID.

RAID Information

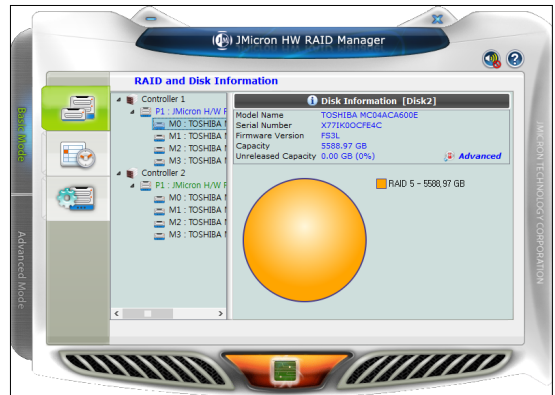


If the user selects a RAID item from the tree view, it will display the detail information of the specified RAID at the right top table and also display the RAID member disk charts at the right bottom area.

If the selected RAID is in rebuilding state, it will be highlighted with green color in the tree view. Also, the rebuilding animation will be played at the bottom left and right area. The rebuilding percentage is displayed at the bottom center area, too.

The user could simply click the **RAID Information** label to identify the member disks of the specified RAID with all disk LED flashings at the same time.

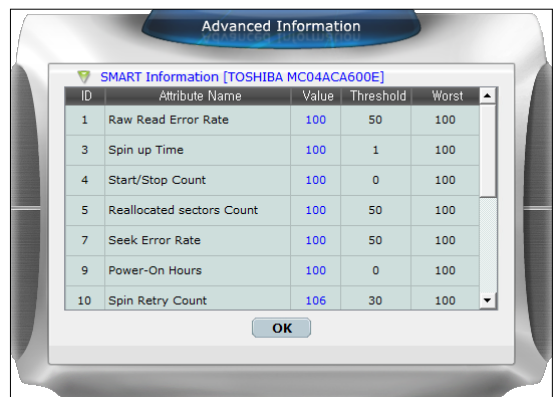
Disk Information



If the user selects a Disk item from the tree view, it will display the detail information of the specified disk at the right top table and also display the disk pie chart at the right bottom area.

If the selected disk is one member disk of the rebuilding RAID, the rebuilding animation will also be played at the bottom left and right area. The rebuilding percentage is displayed at the bottom center area, too.

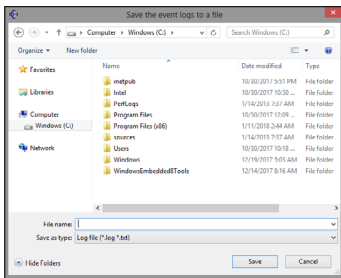
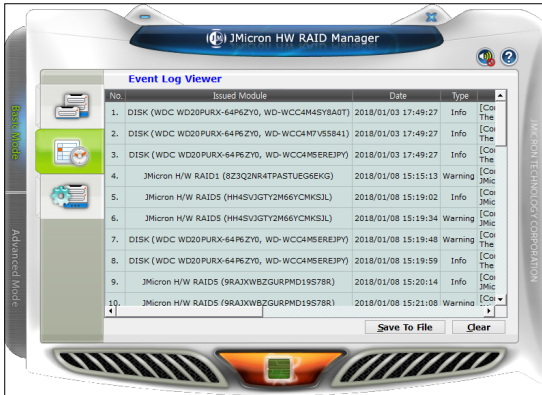
The user could simply click the **Disk Information** label to identify the specified RAID with the disk LED flashing.



If the disk is a RAID member disk, the application will show an **Advanced...** label at the right bottom corner of the table. The user could simply click it to browse the SMART information of the specified disk.

Event Log Viewer

JMicron HW RAID Manager will monitor the status of all connected disks and RAID and make records of the occurrence of the events. The user could browse all events through this event log viewer page.



- **Save to Profile:** Save the logs to a profile. Enter the profile name when a dialog pops up.
- **Clear:** Clear all the logs.

Basic RAID Configuration

JMicron HW RAID Manager provides users to do the basic RAID configuration to the connected disk.

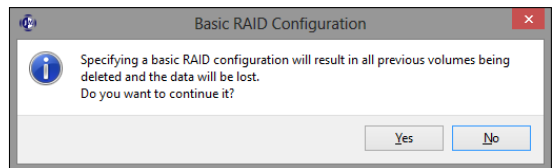


According to the number and capacity of the connected disks, JMicron HW RAID Manager will provide the available RAID type for users to select. When the user select his/her desired RAID type, JMicron HW RAID Manager will automatically select the available disks to build the RAID and calculate the RAID capacity. It will show the selected disks charts drawn in the cross pattern on the right.

Example) If the user selects RAID 10, JMicron HW RAID Manager will select four available disks to build RAID 10 starting from the lower Disk number. At the meanwhile, it will calculate the smallest disk size to build RAID and calculate the total capacity of the RAID.

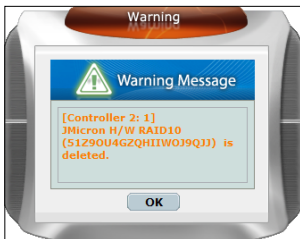
After selecting the RAID type and setting the password (optional), the user just need press the **Apply** button to apply the configuration or press **Cancel** button to restore to the original disk state.

If the user wants to delete the existing RAID, the user could select the **DELETE ALL RAID** button to delete the RAID and apply it.





When the user presses the **Apply** button, it will pop up a dialog to ask for the confirmation.



After the user confirms to apply the configuration, it will pop up another progress window to show the configuration status.

After the RAID configuration finishes, it will pop up a message dialog to tell that a RAID is newly created or a RAID has been deleted.



At last, the disk charts will be redrawn to reflect the result of the configuration. The newly created RAID will be shown with the gradient color. If the user deletes the RAID, the disk charts will be drawn in green color.

After the RAID configuration, restart the service to properly apply the changed storage.



Part 3 - Appendix

Troubleshooting

Problem	Solution
The main unit won't turn on.	<ul style="list-style-type: none"> ● Check the power cable connection status. ● Check the power outlet. ● Check the ATX power if the red LED is on or the buzzer rings. If the red LED is on or the buzzer rings, change the ATX power.
The monitor screen is not displayed.	<ul style="list-style-type: none"> ● Check the cable connection between the monitor and the product. ● Check if the mainboard makes the beep. If a certain beep sound rings and the monitor screen is not displayed, contact the manufacturer in case of the mainboard failure.

Specifications

These product specifications may change without prior notice.

VIDEO	
Video Inputs	RJ-45 (Network Camera)
Video Outputs	2 HDMI
Display Speed/Recording Speed	Max. 120ips @ Full HD / 1920ips @ Full HD (6Mbps)

* HDMI main outputs support dual output, and not triple output.

* Recording speed may be slowed down during the RAID rebuild process

* Installing SW other than the provided SW may degrade the product performance.

* Running the client on this product may affect the recording performance when monitoring more than 32 channels with resolution higher than FHD. It is strongly recommended to use Dynamic Multiple Stream. If it continues to have problems, change the number of cores used by the Client to fix them.

AUDIO	
Audio Inputs	1, "line in", 1 Vp-p
Audio Outputs	1, "line out"

CONNECTOR	
Audio Input / Output	1 AUX connector (3.5 Φ) / 1 AUX connector (3.5 Φ)
Ethernet Port	2 RJ-45 (1 Gbps Ethernet)
eSATA Port	3 eSATA
USB	USB 2.0: X2 (Front)-/ USB 3.0 TYPE-A: X3 (Back) / USB 3.0 TYPE-C: X1 (Back)

STORAGE	
Main Storage	SATA HDD (Max. 8)
Secondary Storage (Extension)	eSATA HDD
OS Storage	SSD

* SSD is suggested as a storage for OS, not for recording storage or Clip Copy bulk storage.

* Using RAID when saving VA metadata may cause recording loss.

GENERAL	
Unit Dimensions (W x H x D)	482.6mm x 88mm x 523.3mm (19"x3.5"x20.6")
Unit Weight	11.7kg (25.79lb)
Working Temperature	0°C to 40°C
Operating Humidity	0% ~ 90%
Power Input	Single Power Model: AC 100-240 V, 50/60Hz, 6.0-3.0A Dual Power Model: AC 100-240 V, 50/60Hz, 8.0-4.0A x2
Power Consumption	Single Power Model: AC 100-240V, 50/60Hz, 6.0-3.0A, 220W Dual Power Model: AC 100-240V, 50/60Hz, 8.0-4.0A, 120W x2
Approvals	FCC, UL**, CE, CB, PSE

** CAUTION: Risk of Explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions. This equipment is indoor use and all the communication wiring are limited to inside of the building.

Some hard disks may not function properly when mounted on to this product. Refer to the compatibility chart below before mounting any additional hard disk on to the product. Hard disk compatibility chart is subject to change without notice.



Contact your retailer for the latest compatibility chart.

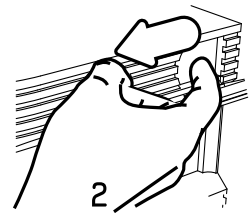
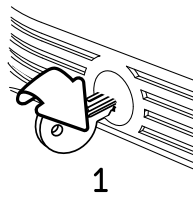
Storage	Manufacturer	Model	Note
4TB	TOSHIBA	MG08ADA400E	
6TB	TOSHIBA	MG08ADA600E	
10TB	Seagate	ST10000VE000	
12TB	TOSHIBA	MG07ACA12TE	

How to Open The Front Door



- 1 Insert the enclosed door-lock key and turn clockwise.
- 2 Press the door open button on the left side.
- 3 Front panel will be detached and you can replace the HDD.

DOOR OPEN



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