



# Digital Video Recorder

Installation Manual

***TR-1508***

# Before reading this manual

This manual contains basic instructions on installing and using Digital Video Recorder, an IDIS product. 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 Digital 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.

## Safety Precautions

	<b>CAUTION</b>	
RISK OF ELECTRIC SHOCK DO NOT OPEN		
<b>CAUTION:</b> 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
	<b>IEC60417, No.5032</b>	Alternating current
	<b>IEC60417, No.5031</b>	Direct current

## 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 be 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.

### 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 an HDMI. The screen may not appear 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
	<b>Caution</b>	Important information concerning a specific function.
	<b>Note</b>	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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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 System Setup - 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](http://patentlist.accessadvance.com).

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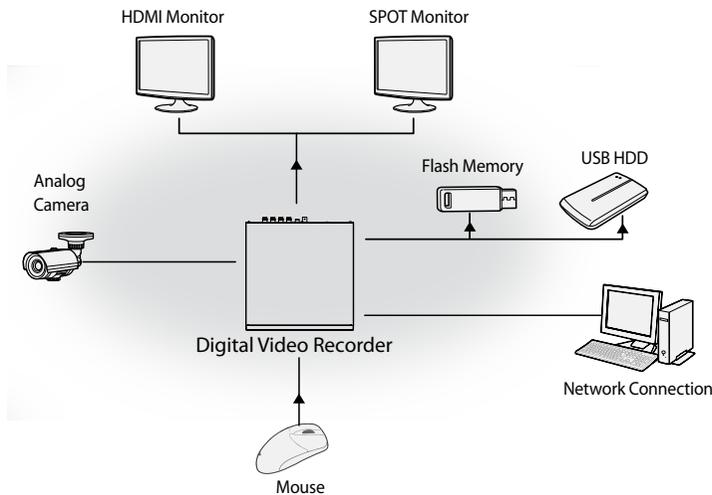
# Part 1 – Introduction

## Product Features

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

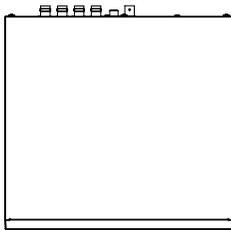
This DVR (Digital Video Recorder) unit offers the following features:

- Real-time 4 channel network surveillance
- Supports up to Full HD 120ips video recording
- HDMI out (1), CVBS out (1) ports
- Fast and easy search feature (Time-Lapse, Event log, Motion)
- Simultaneously survey, record, play back, and transmit data in real-time
- Graphic User Interface(GUI) and multilingual
- Multiple recording modes (Schedule, Event, Pre-Event, and Panic)
- 2 x USB 2.0 (for connecting peripherals, upgrading software, and saving recording data)
- 1 internal SATA2 HDD bay
- Self-diagnosis and automated system event alerts (industry standard S.M.A.R.T. protocol for HDD status alerts)

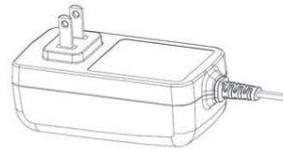


## Accessories

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



Digital Video Recorder



Adapter



Optical USB Mouse

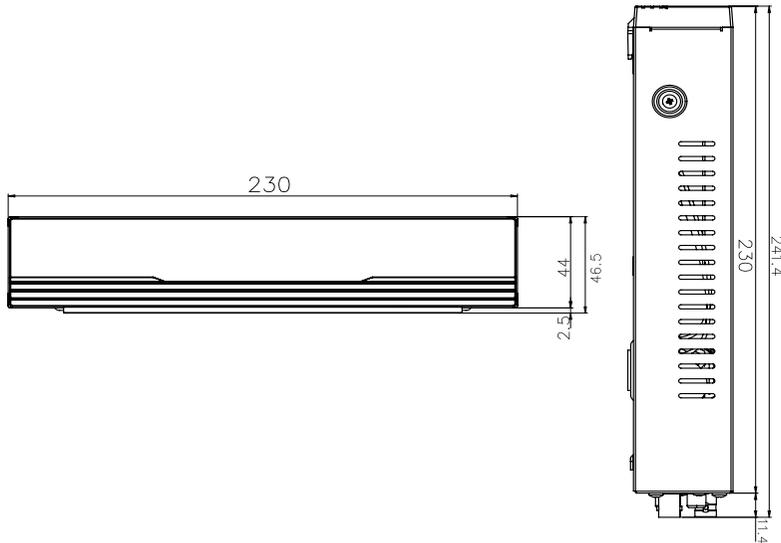


Quick Guide

## Overview

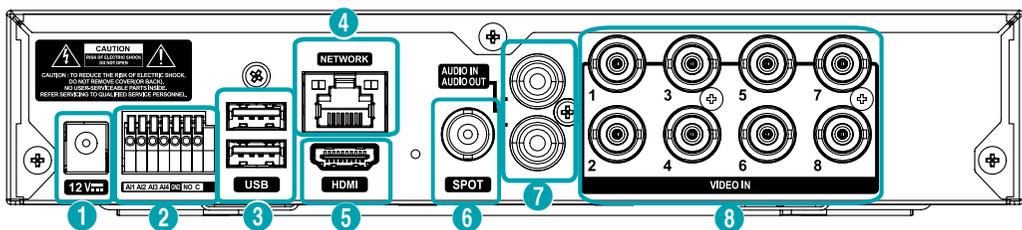
### Front Panel and Dimensions

(Unit: mm)



- Access various windows and menus using a USB mouse as you would on a personal computer.
- The IDIS logo should be positioned correctly when fixing the product to the wall.

### Rear Panel



1	Power In Port	2	Alarm Port	3	USB Port
4	Network Port	5	HDMI Out Port	6	SPOT Out Port
7	Audio Port	8	Video In Port		

## Rear Panel Connections

### Power Cable Connection

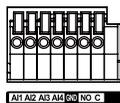


This DVR does not feature a separate power on/off button and will turn on the moment power is supplied. Connect the connector(12V) of adapter to the DVR and then connect the AC power cable of adapter to the power outlet.

- 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.
- Do not connect multiple devices to a single power outlet.

### Alarm Connection

Connect alarm connectors to these ports.



- Press down on the button and insert the cable into the opening. Release the button and then pull on the cable slightly to ensure it is held securely in place. To disconnect the cable, press down on the button again and pull the cable out.

#### • Alarm In 1 through 4

This DVR is capable of responding to event signals from external alarm in devices. Connect mechanical or electrical switches to AI 1 through 4 and the GND (ground) connector. In order to be recognized by the DVR, the signal from an alarm in device must be more than 3.0V (Normally Closed) or less than 0.3V (Normally Open) and maintained for at least 0.5 seconds. The alarm in voltage range is 0V to 5V. For more information on alarm in setup, refer to the **Alarm-In in the operation manual**.

#### • GND (Ground)

Connect alarm in or out's ground cable to the GND connector.

- All connectors marked "GND" are common connectors.

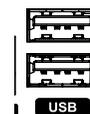
#### • NO (Relay Alarm Outputs)

This DVR is capable of activating/deactivating buzzers, lights, and other external devices. Connect the device to the C and NO (Normally Open) connectors. NO is a relay output which sinks 1A@125VAC and 1A@30VDC. For more information on alarm out setup, refer to the **Alarm-Out in the operation manual**.

#### • Connector Arrangement

<b>AI1 through AI4</b>	Alarm In 1 through 4
<b>GND</b>	Ground
<b>NO</b>	Normally Open Relay Alarm Out
<b>C</b>	Relay Common

### USB Port



● **Storage Device Connection**

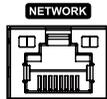
Connect an external USB hard drive or a USB flash memory device to one of the USB ports for use with the Clip Copy feature. The external storage device should be placed as close to the DVR as possible. It is recommended that you use a connection cable that is no longer than 180cm in length. Use the connection cable included with your external storage device to connect the device to one of DVR's USB ports. For more information 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 to the DVR. You can also use a USB-to-serial converter and connect multiple text-in devices to the DVR at the same time.

- For USB flash memory devices, the DVR supports the FAT32 file format only.

Network Connection



This DVR is capable of connecting to networks via an ethernet connector. Connect an RJ-45 cable (Cat5, Cat5e, or Cat6) to the DVR's network port. It's possible to operate and upgrade the DVR remotely over a network. Fore more information on ethernet connection setup, refer to **Network Setup in the operation manual.**

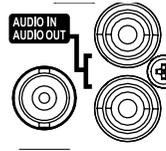
- Green LED on the right will begin to turn on if connected a 100Mbps network. The LED will turn off if connected a 10Mbps network. Orange LED on the left will flash once when a link has been established.

Monitor Connection

Connect to the **HDMI, SPOT OUT** port.



Audio Connection



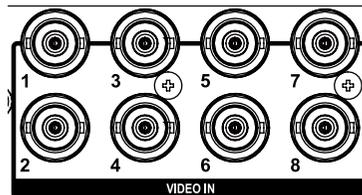
Connect the audio device to the **AUDIO IN** port and speakers with a built-in amplifier to the **AUDIO OUT** port. Use the **AUDIO OUT** port to listen to audio from analog cameras.

Use the **AUDIO IN** port to establish two-way communication with cameras.

- This DVR does not feature a built-in audio amplifier unit and therefore requires the user to purchase a speaker system with a built-in amplifier separately. It's possible to connect an amplified audio source to the DVR, but microphones that do not have a built-in amplifier will not function properly if connected to the DVR directly. If this is the case, connect the microphone to the DVR via a pre-amp.
- Check your local laws and regulations on making audio recordings.

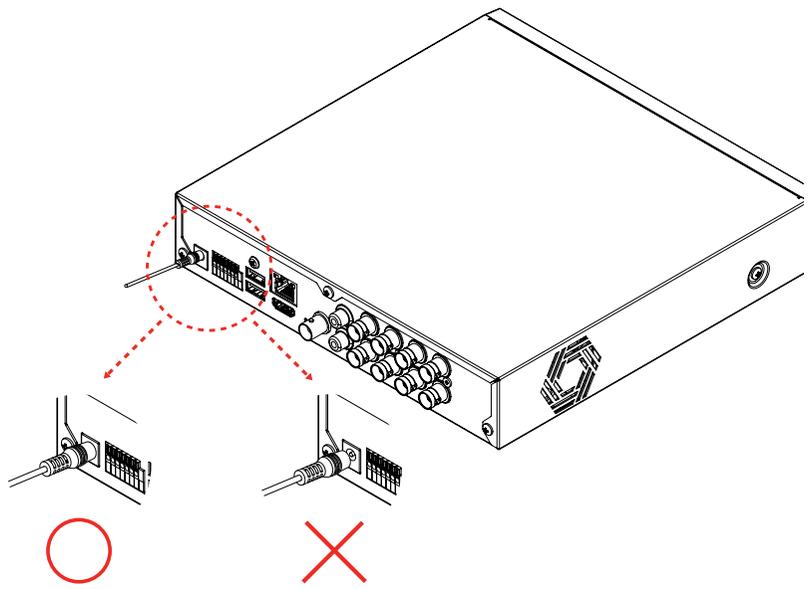
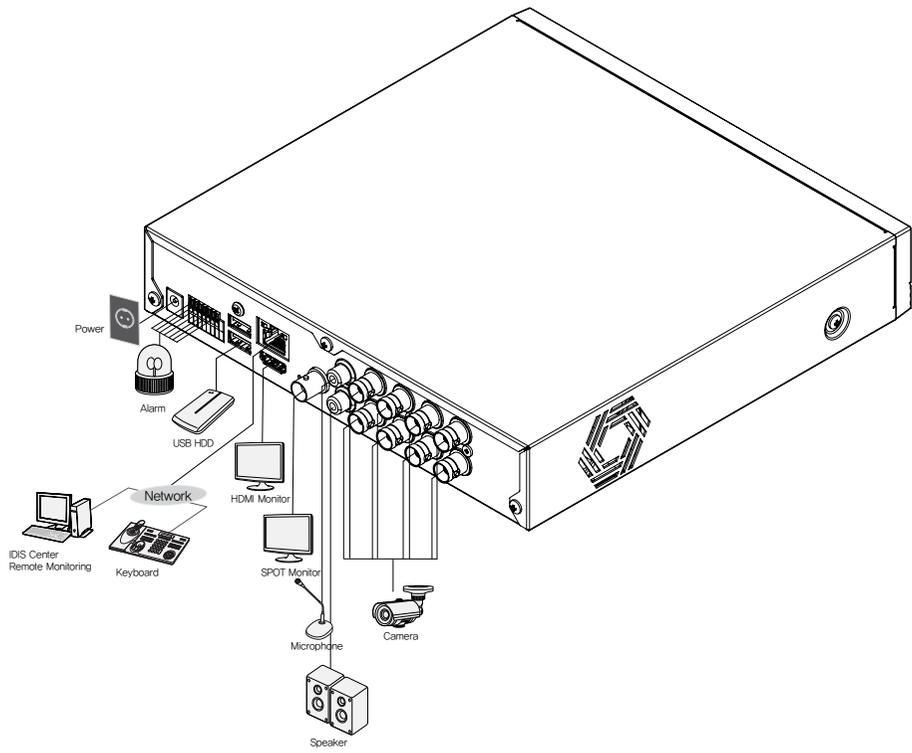
Video Connection

• **Video In Port**



Connect the coaxial cables from the video sources to the composite Video In connectors or BNC connectors.

Connections on the Rear Panel



## Part 2 - Appendix

### System Log Types

Boot Up	Panic On
System Shutdown	Panic Off
Restart	Clear All Data
Upgrade Success	Clear Disk
Upgrade Error	Format Disk
Power Failure	Disk Full
Time Changed	Disk Config Change
Time Zone Change	Disk 'No.' : 'serial number'
Time Sync.	Disk 'No.' : Removed
Time Sync. Failed	Auto Deletion
Disk Bad	Search Begin
Login	Search End
Logout	Clip-Copy Begin
Setup Begin	Clip-Copy End
Setup End	Clip-Copy Cancel
Remote Setup Change	Clip-Copy Failure
Remote Setup Failure	Clip Copy User
Setup Import	Clip-Copy Begin
Setup Import Failure	Clip-Copy Finished
Setup Export	Clip Copy Duration of Video
Setup Export Failure	Clip Copy Camera
Setup Export Canceled	Callback Failed
Schedule On	Factory Reset
Schedule Off	

## Error Code Types

Upgrade Error Codes			
No.	Type	No.	Type
0	Unknown Error	301	Remote Network Error
1	Incorrect File Version	302	No Remote Upgrade Permission
2	Incorrect OS Version	303	Remote Upgrade File Save Failure
3	Incorrect Software Version	304	Remote Upgrade Cancelled by User
4	Incorrect Kernel Version	400	USB Storage Device Mount Failure
100	Storage Device Mount Failure	401	USB Storage Device File Read Failure
101	File Not Found	402	USB Storage Device File Copy Failure
102	File Decompression Failure	403	USB Device Not Connected
103	LILO Execution Failure	404	USB Storage Device in Use
104	Reboot Failure	405	Unsupported File System
105	Improper File	500	Clip Copy in Progress: Upgrade Not Available
300	Remote Connection Failure		

Clip Copy Error Codes			
No.	Type	No.	Type
0	Unknown Error	12	Disk Error
1	Device Error	13	Clip Player Execution File Not Found
2	Device Connection Failure	14	Clip Player Execution File Access Failure
4	Incorrect Media	15	Clip Player Execution File Save Failure
5	File Name Taken	16	Image Generation Failure
6	Insufficient Space	19	Device Connection Failure
7	Temporary File Generation Failure	20	Device in Use
8	Disk Access Failure	21	Unsupported File System
9	Disk Format Failure	22	Data Validation Failure
10	Database Changed	23	Data Not Found
11	Save Failure		

## Troubleshooting

Problem	Solution
The main unit won't turn on.	<ul style="list-style-type: none"> <li>• Check the power cable connection status.</li> <li>• Check the power outlet.</li> </ul>
Unable to display Live video.	<ul style="list-style-type: none"> <li>• Check the camera's video cable connection status.</li> <li>• Check the monitor's video cable connection status.</li> <li>• Check the camera's power setting.</li> <li>• Check the camera lens settings.</li> </ul>
DVR stopped working in the middle of a recording.	<ul style="list-style-type: none"> <li>• Hard disk may be full. Delete video recordings to free up space.</li> <li>• Set the DVR to Recycle mode. For more information, refer to the <b><u>General in the operation manual</u></b>.</li> </ul>
 icon is shown, but video is not being recorded.	If the Pre-Event is enabled, the  and  icons appears when recording is not in progress, or the  and  icons appear when an event occurs and recording is in progress. For more information, refer to the <b><u>Schedule in the operation manual</u></b> .

## Specifications

These product specifications may change without prior notice.

General	
<b>Exterior Dimensions (W x H x D)</b>	9" x 1.8" x 9.5"(230mm x 46.5mm x 241.4mm)
<b>Weight (Main Unit)</b>	1.65kg (with 4TB HDD)
<b>Working Temperature</b>	0°C – 40°C
<b>Operating Humidity</b>	0% – 90%
<b>Power Input</b>	US: ADAPTER (INPUT: 100~240V AC, 50/60Hz, 1.0A / OUTPUT: 12V DC, 3A) EU: ADAPTER (INPUT: 100~240V AC, 50/60Hz, 1.2A / OUTPUT: 12V DC, 3A)
<b>Power Consumption</b>	12V $\overline{\text{---}}$ , 1.1A, 13.2W (with 4TB HDD)
<b>Certifications</b>	US: FCC EU: CE

Video	
<b>Video In</b>	Composite or HD-TVI : 8 BNC, 1 Vp-p, auto-terminating, 75 Ohms
<b>Monitor Out</b>	1 HDMI, 1 CVBS
<b>Video Resolution</b>	HDMI: 1920x1080, 1280x1024 CVBS: 720x480 (NTSC), 720x576 (PAL)
<b>Recording Speed (IPS)</b>	Real-time: 240 ips @ Full HD
<b>Playback Speed (IPS)</b>	Full Duplex: 240 ips @ Full HD

I/O	
<b>Alarm In</b>	4 TTL, NC/NO programmable, 3.0V (NC) or 0.3V (NO) threshold, 5V DC
<b>Alarm Out</b>	1 relay output, terminal blocks, NO programmable, 1A@125V AC, 1A@30V DC
<b>Internal Buzzer</b>	78dB at 10cm
<b>Network Connection</b>	10Mbps/100Mbps Ethernet

<b>Connectors</b>	
<b>Video In</b>	Composite or HD-TVI : 8 BNC , 1 Vp-p, auto-terminating, 75 Ohms
<b>Monitor Out</b>	1 HDMI, 1 CVBS
<b>Audio In/Audio Out</b>	1 RCA connector / 1 RCA connector
<b>Alarm</b>	Terminal blocks
<b>Ethernet Port</b>	1 RJ-45
<b>USB Ports</b>	2 x USB 2.0

<b>Storage</b>	
<b>Primary Storage</b>	SATA hard disk drive
<b>Clip Copy Device</b>	USB Storage Device (USB HDD, USB Memory, etc.)



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.

<b>Storage</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Note</b>
2.0TB	Western Digital	WD20PURZ-85AKKY0	
4.0TB	Western Digital	WD40PURZ-85AKKY0	



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