



Digital Video Recorder

Quick Guide

TR-3108

TR-3116

Safety Precautions

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.

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. Dispose of used batteries according to the instructions.

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).

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 |
| | IEC60417, No.5031 | Direct current |

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.

This product contains software built partially on open-source content. Codes for the corresponding open-source content are available for download. For more information, refer to the software CD (OpenSourceGuide\OpenSourceGuide.pdf) or the open source guide accompanying this document.

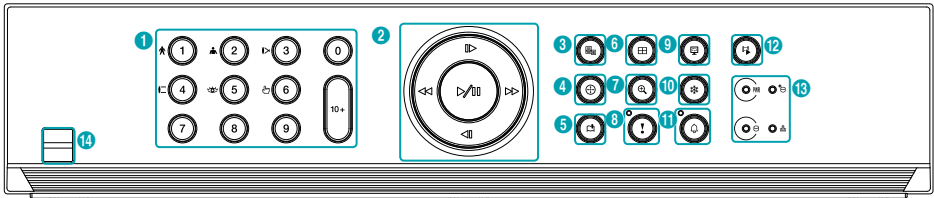
Accessories

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

| Item | | |
|---|-------------------|-------------------|
| Digital Video Recorder | Power Cable | Quick Guide |
| Manual and IDIS Center Program CD | Optical USB Mouse | IR Remote Control |
| Assembly Screws for Adding Hard Disk Drives | Rack-mount Kit | SATA2 Cables |

Overview

Front Panel

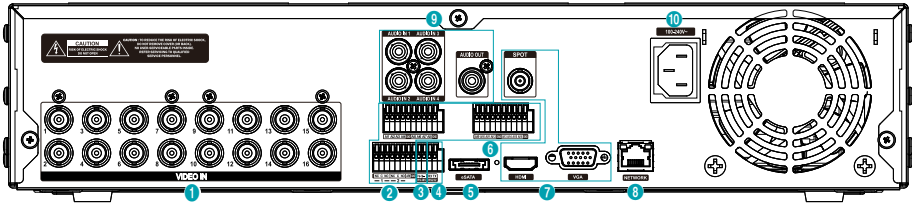


| | | | | | | | |
|----|-----------------|----|------------------------------------|----|--------------|----|------------------------|
| 1 | Camera Buttons | 2 | Arrow and Playback Control Buttons | 3 | Menu Button | 4 | PTZ Button |
| 5 | Bookmark Button | 6 | Layout Button | 7 | Zoom Button | 8 | Panic Recording Button |
| 9 | Monitor Button | 10 | Freeze Button | 11 | Alarm Button | 12 | Search Mode Button |
| 13 | LEDs | 14 | USB Ports | | | | |



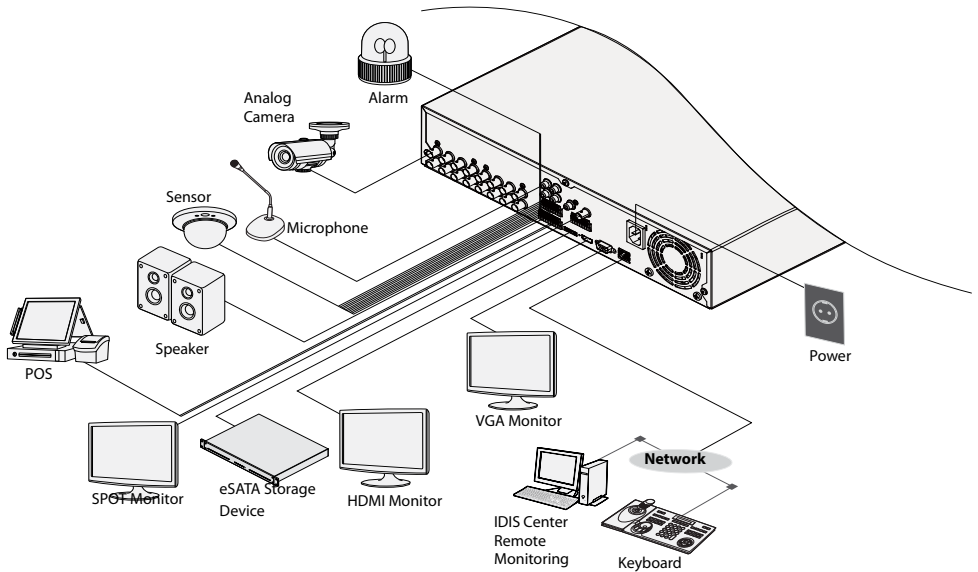
- For more details on front panel buttons, refer to the manual.
- This document covers the 8- and 16-channel digital video recorders. The DVRs are identical except for the number of cameras and alarms that can be connected and the number of cameras that can be displayed. For simplicity, the illustrations and descriptions in this document refer to the 16-channel model.

Rear Panel

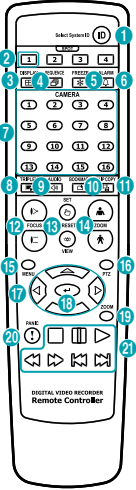


| | | | | | | | |
|---|----------------|----|------------------------|---|-----------------------------|---|--------------|
| 1 | Video In Ports | 2 | Alarm Connection Ports | 3 | RS485 Port | 4 | RS232 Port |
| 5 | eSATA Port | 6 | Factory Reset Button | 7 | SPOT / HDMI / VGA Out Ports | 8 | Network Port |
| 9 | Audio Ports | 10 | Power In Port | | | | |

Connections on the Rear Panel



Remote Control



| | | | |
|----|--------------------------------|----|-------------------------------|
| 1 | ID Button | 2 | Spot Button |
| 3 | Display Button | 4 | Sequence Button |
| 5 | Freeze Button | 6 | Alarm Button |
| 7 | Camera Buttons | 8 | Triplex Button |
| 9 | Audio Buttons | 10 | Bookmark Button |
| 11 | Clip copy Button | 12 | Focus near/far Buttons |
| 13 | Preset set/view Buttons | 14 | Zoom in/out Buttons |
| 15 | Menu Button | 16 | PTZ Button |
| 17 | Arrow Buttons | 18 | Enter Button |
| 19 | Zoom Button | 20 | Panic Button |
| 21 | Playback Buttons | | |




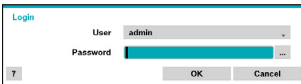
For more details on remote control buttons, refer to the manual.

Getting Started

Login


Configuring the DVR's settings and accessing its searching and other functions require an authorized user login.


- 1 Bring up the Live menu and either press the **Setup** button on the remote control or click on  (Log in) using the mouse.




- 2 Select a user, enter the password, and then select **OK**.



If you do not know the password, click the  button for guidance.

- There is no default password for the admin account. Select **admin** and then **OK** without entering a password to log in.
- Leaving the admin account unassigned with a password poses a security risk. Please assign a password at your earliest convenience. A warning message will continue to be displayed until a password is assigned.
- Click on the  button next to the password field using the mouse. This will bring up a virtual keyboard you can use to assign a password.

- 3 To log out, bring up the Live menu and click on  (Log out) using the mouse.

Setup Wizard

- ✓ To use Wizard, go to **System** menu > **General** and select **Wizard**.
- For more details on Setup Wizard, refer to the manual.

1 Select the desired Setup Wizard option and click **Next**.



Quick Setup Wizard

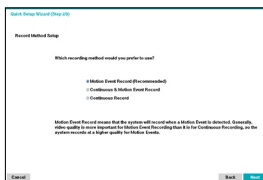
• Start the Quick Setup Wizard

• Date/Time Setup

The new date and time settings will only be applied after clicking **Next**.



• Record Method Setup



• Record Video Quality Setup

Higher recording quality uses up more disk space.



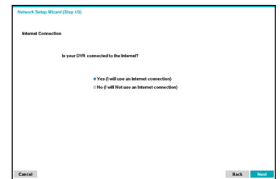
• Finish the Quick Setup Wizard

Network Setup Wizard

- ✓ After exiting from Quick Wizard, you can click **Go to Network Setup** and set up the network with Network Wizard.

• Start the Network Setup Wizard

• Internet Connection



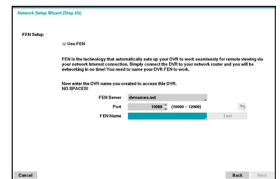
• LAN Setup

This test must be performed before proceeding to the next step.



• FEN Setup

Enter the DVR name registered on the FEN server in the **FEN Name** field, and click the **Check** to check its availability.



• Finish the Network Setup Wizard

Basic Feature

Live Mode

Once Camera Registration is complete, the system will enter Live Mode.

Press the **Setup** button while in Live mode to bring up the Live menu on the top of the screen. Press **Setup** once more to hide the menu. Use the Arrow buttons on the front panel of the DVR or the remote control to select the menu options.

Video Display Area

Left-click on the video display area to toggle between split screen and single screen modes.

Drag the camera screens around to rearrange them.





Video Recording

Records the live video.

Refer to the manual for more information.

Panic Recording

Select **Live** or **Search** menu's Panic Recording  icon or press the **Panic Recording** button on the front panel or the remote control to commence panic recording on all registered cameras.

To stop Panic Recording, select the Panic Recording  icon or press the **Panic Recording** button again. If the **Panic Recording Time** option under **Record Setup > General** has been configured, Panic Recording will automatically terminate after the specified duration of time has elapsed.



- Panic Recording takes place irrespective of any recording schedule set up by the user.
- Panic Recording ips, Quality, Resolution from **Record Setup - General** applies to all Panic Recording videos.



Panic Recording will not take place if recording mode is not set to **Recycle** and the HDD has reached 100% of its capacity.

Audio Recording

If the Record Audio option under **Record Setup > General** has been enabled the camera will record audio along with video.




Check your local laws and regulations on making audio recordings.

Video Recording Playback

You can play back video recordings by using a mouse or remote control.

All Channel Playback

- 1 Press the **Menu** button while in Live mode.
- 2 Select the Search Mode  icon and then select **All Channel**.
- 3 The selected search mode will be initiated.

IDIS Web

IDIS Web is a program that allows you to view and search video from remote locations over the Internet and can be accessed on a regular web browser such as Internet Explorer.

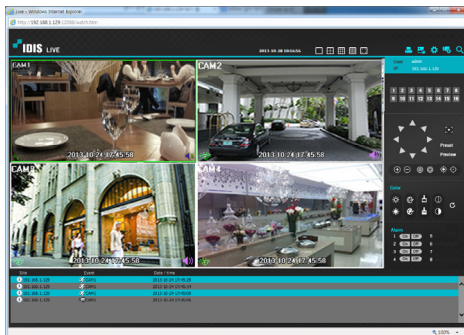
System requirements for running IDIS Web are as follows:

| | Recommended |
|--------------------------|--|
| OS | Microsoft® Windows® XP (Service Pack 3), Microsoft® Windows® Vista (Service Pack 1), Microsoft® Windows® 7 (Home Premium, Professional, Ultimate) or Microsoft® Windows® 8 (Pro, Enterprise) |
| CPU | Intel Pentium IV 2.4GHz or above (Core 2 Duo E4600 recommended) |
| RAM | 1GB or more |
| VGA | 128MB or more (1280x1024, 24bpp or above) |
| Internet Explorer | Ver. 7.0 or above (32-Bit) |

- IDIS Web only works with Microsoft Internet Explorer and will NOT work with other browsers.
- IDIS Web does not work in Microsoft® Windows® 8 metro UI.

Setup IDIS Web

- 1 Launch Internet Explorer and then enter the following information in the address bar.
 - <http://IP Address:Port Number> (DVR system's IP address and IDIS Web port number configured under Network > General (Default Value: 12088))
 - Or <http://fen.idisglobal.com/FEN Name> (FEN Name: DVR name configured on the FEN server)
 - Or <http://web.idisglobal.com> (will be prompted to enter DVR's IP address or FEN name registered to the FEN server upon login)
- Contact your network administrator for the IP address of the DVR you wish to connect to and the IDIS Web port number.
- 2 When prompted with the IDIS Web login window, select **LIVE-PORT** or **PLAY-PORT** as the desired mode. Enter the ID and password and click **LOGIN** to sign in using the selected mode. If connecting by entering <http://web.idisglobal.com>, enter the DVR's IP address in the Device Address field. Selecting the Use FEN option on the login window allows you to enter the DVR name registered to the FEN server instead of its IP address. You will be prompted to enter the FEN server's address and port number under Setup.



IDIS Center Program

System Requirements

| | Recommended | Minimum |
|------------|---|--|
| OS | Microsoft® Windows® 7 x86 (64bit) (Home Premium, Professional, Ultimate) Microsoft® Windows® 8 (pro, Enterprise) | Microsoft® Windows® XP Home SP3 |
| CPU | Intel Core™ i5-2550 3.30GHz or better | Intel Core™ 2 Duo E7200 2.53GHz or better |
| RAM | 2GB or more | 1.5GB or more |
| VGA | ATI Radeon™ HD 3650 or NVIDIA GeForce 8400GS or better (1280x1024, 32bpp or better), multiple monitors | ATI Radeon™ HD 2400 or NVIDIA GeForce FX5500 or better (1024x768, 24bpp or better) |
| HDD | 6GB or more of available space | 1GB or more of available space |
| LAN | Gigabit Ethernet or better | 10/100 Mbps Ethernet or better |



- IDIS Center program runs on 32-bit OS.
- On 64-bit versions of Microsoft® Windows® Vista or later, IDIS Center installs and runs in 32-bit compatibility mode.

Installation

Prior to installing the software, click on to the Windows **Start** menu, open Control Panel, click on **Power Management**, and set options for **Turn off monitor** and **Turn off hard disks** as **Never**.

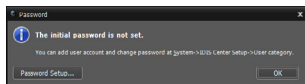
- 1 Please enter the software installation CD into the PC.
- 2 Browse to the **Setup** folder in the CD and run **setup.exe**.
 - On **Microsoft® Windows® Vista** or **User Account Control** window may pop-up. Click **Allow** and follow the instructions in the installation window to proceed with the installation.
- 3 When the installation window appears, click **Next**.
- 4 Select an installation path for the program, and click **Next**.
- 5 When the install confirmation window appears, click **Next**.
 - NET Framework and Visual C++ Runtime Libraries will be installed automatically, and it may take a few minutes. If NET Framework and Visual C++ Runtime Libraries are already installed on the system, this step will be skipped automatically.
- 6 When the Installation Completed window appears, click **Close** and finish the installation.

Start Program

When IDIS Center software is installed, **IDIS Center** and **IDIS Center Run as administrator** shortcut icons will be created on the desktop. Run IDIS Center software by double-clicking on **IDIS Center** or **IDIS Center Run as administrator** shortcut icon. If a removable eSATA HDD or SD (SDHC) memory card are connected to the IDIS Center system, you must double-click on **IDIS Center Run as administrator**.

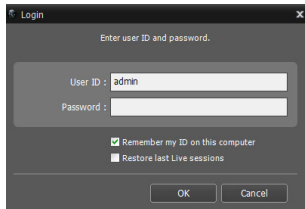
Login

This program does not have a password set by default. Leaving the admin account unassigned with a password poses a security risk. Please assign a password at your earliest convenience.



Once the program is running, you must login.

Enter a User ID and Password.

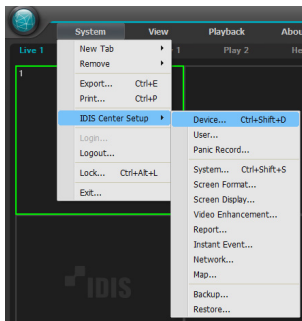


- **Remember my ID on this computer:** Remembers the ID used to login.
 - **Restore last Live sessions:** Restores the previous Live session on the current Live panel.
- Default User ID is "admin" without a password.
- You can change User ID and Password in the User menu.

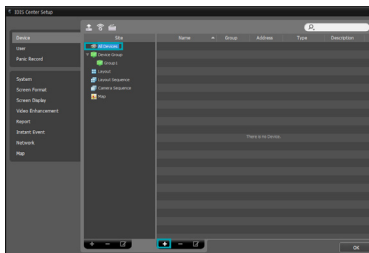
Device Registration

To use the functions provided by IDIS Center, you must first register a device and add the device to a device group.

- 1 Select **System > IDIS Center Setup > Device** in the menu at the top of the screen.

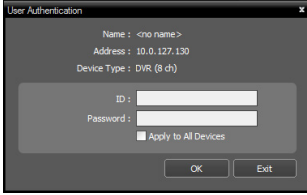


- 2 On the **Site** panel, click on **All Devices**, then click on the **+** button at the bottom of the Site List panel on the right. A **Device Scan** window will appear on the screen.

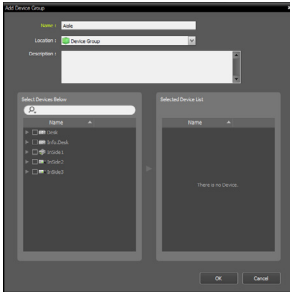


- 3 After selecting a scan mode, click on **Start Scan** button and the scan results will be displayed on the list.
- 4 Click **Add Devices** at the bottom of the **Device Scan** window.

- 5 When user authentication window appears, enter the User ID and Password set up on each device, and then select OK for remote access.



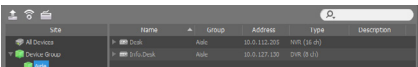
- 6 Click **Device Group** on the **Sites** panel and click **+** at the bottom. **Add Device Group** window will appear.



- **Name:** Enter a name for the device group.
- **Location:** Select an location for the subject device group.

When you select a device from the device List on the left, it will be added to the **Selected Device List** on the right. Click **OK** to register the device group.

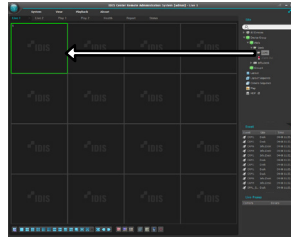
- 7 Make sure that the device has been added to the device group correctly. Click **Device Group** on the **Sites** panel and click on **+** next to **Device Group**. When you click on a registered device group, a list of devices added the selected device group will be displayed on the right.



To modify a device group that has been registered, select a device group and click **+** on the bottom of the **Sites** panel. **Modify Device Group** window will appear. You can modify the selected device group from this window.

Live Video Mode

- 1 In the Site List, make sure that the device has been added to the device group.
- 2 In the panel tabs, click the **Live** tab. In the **Site** list, select a zone you wish to connect to. Then, drag & drop the selected site on the Live screen using your mouse. The live video of the selected site will be displayed on the screen.



Recorded Video Playback

- 1 In the **Site** List, make sure that the device has been added to the device group.
- 2 In the panel tabs, click on the **Play** tab. In the **Site** list, select a site you wish to connect to. Then, drag & drop the selected site on the playback screen using your mouse. The recorded video of the selected site will be displayed on the screen.

IDIS Mobile



This service requires heavy data traffic, and using a Wi-Fi connection is recommended. Using wireless internet (3G, LTE) may result in excessive data charges.

Android OS device

- 1 Open the **Play Store**(Google Play) on your Android device.
- 2 In **Play Store** (Google Play), enter **IDIS Mobile** in the search field.
- 3 Install IDIS Mobile program and open it.
- 4 The start-up menu appears when pressing the Menu button on your mobile device.
- 5 Register the device by pressing **Add Remote Host** and entering the device (analog camera) information.

- **Description:** Enter a name of the device to be used in IDIS Mobile.
- **Use FEN:** Select the check box. Deselect the checkbox if FEN is not enabled on the device. If the device is using an additional FEN server, press **Settings** in the start-up menu and enter the FEN server information. (Default site: fen.idisglobal.com, Default port number: 10088). For more details, contact your FEN server administrator.

- **Address, Monitoring Port, Search Port, Audio Port:** Enter the FEN name used to register the device to FEN. If FEN feature is not enabled on the device, deselect **FEN** checkbox and enter the device's IP address. For port number, using the default value is recommended.
- **User ID, Password:** Enter the User ID and Password used to login to the device. (Default value of User ID: **admin**, No default value of password)

iOS device

- 1 Open the **App Store** on your device.
- 2 Enter **IDIS Mobile** in the search field of the **App Store**.
- 3 Install **IDIS Mobile** program and open it.
- 4 Register the device by pressing + button and entering the device (DVR) information.

- **General:** Enter a name of the device to be used in **IDIS Mobile** app.
- **Connection Info:** Turn **FEN ON** and enter the FEN name used to register the device to the FEN. If FEN feature is not enabled on the device, turn **FEN OFF** and enter the device's IP address. For port number, using the default value is recommended.
- **Login Info:** Enter the User ID and Password used to login to the device. (Default value of User ID: **admin**, No default value of password).

Specifications

These product specifications may change without prior notice.

| General | |
|---|------------------------------------|
| Exterior Dimensions (W x H x D) | 430mm x 88mm x 413mm |
| Weight (Main Unit) | 6.0kg |
| Working Temperature / Operating Humidity | 0°C – 40°C / 0% – 90% |
| Power | 100 to 240 V~, 1.6 - 0.8A, 50/60Hz |
| Power Consumption | Max. 80W |
| Certifications | FCC, CE, UL*, CB |

*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.

| Video | |
|------------------------------|--|
| Video In | Composite or HD-TVI : 8 or 16 inputs, 1 Vp-p, auto-terminating, 75 Ohms |
| Monitor Out | HDMI: 1 HDMI VGA: 1 VGA SPOT***: 1 BNC, 1 Vp-p, 75 Ohms |
| Video Resolution | HDMI: 1920x1080, 1440x900, 1280x1024 VGA: 1920x1080, 1440x900, 1280x1024 Composite (SPOT): 720x480 (NTSC), 720x576 (PAL) |
| Recording Speed (IPS) | Real-time: 240ips @ 1280x720 (8-ch Model) 480ips @ 1280x720 (16-ch Model) |
| Playback Speed (IPS) | Full Duplex: 120ips @ 1280x720 |

**Video of 1920x1080 resolution will be displayed with maximum 10 ips when in multi-view formats on a Spot monitor.

| I/O | |
|-----------------------------|---|
| Alarm In | 8 or 16 TTL, NC/NO programmable, 2.4V (NC) or 0.3V (NO) threshold, 5VDC |
| Alarm Out | 2 relay outputs, NC/NO programmable, 2A@125VAC, 1A@30VDC |
| Alarm Reset In | 1 TTL, terminal block |
| Internal Buzzer | 78dB at 10cm |
| Network Connection | 10Mbps/100Mbps/1Gbps Ethernet |
| Audio In / Audio Out | 4 lines, RCA + 1 HDMI / 1 line, RCA + 1 HDMI |
| Text In | POS Interface, ATM Interface |

| Connectors | |
|-------------------------------|---|
| Video In | Composite or HD-TVI : 8 or 16 inputs, 1 Vp-p, auto-terminating, 75 Ohms |
| Monitor Out | HDMI: 1 HDMI VGA: 1 VGA SPOT: 1 BNC, 1 Vp-p, 75 Ohms |
| Audio In / Audio Out | 4 RCA connectors / 1 RCA connector |
| Alarm | Terminal blocks |
| Ethernet Port | 1 RJ-45 |
| eSATA Port | eSATA |
| RS232 Serial Port | Terminal blocks |
| RS485 Serial Port | Terminal blocks |
| IR Remote Control Port | Remote Control |
| USB Ports | 2 x USB 2.0 |

| Storage | |
|--------------------------|--|
| Primary Storage | SATA hard disk drive (up to 4) |
| Secondary Storage | eSATA hard disk drive (RAID) USB hard disk drive or flash drive |



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