

Digital Video Recorder

Quick Start Guide

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About this Manual

This Manual is applicable to Turbo HD Digital Video Recorder (DVR).

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website.

Please use this user manual under the guidance of professionals.

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Legal Disclaimer

REGARDING TO THE PRODUCT WITH INTERNET ACCESS, THE USE OF PRODUCT SHALL BE WHOLLY AT YOUR OWN RISKS. OUR COMPANY SHALL NOT TAKE ANY RESPONSIBILITIES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, OUR COMPANY WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: 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 the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement



disposed of as
return this
equipment, or



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be unsorted municipal waste in the European Union. For proper recycling, product to your local supplier upon the purchase of equivalent new dispose of it at designated collection points. For more information see:

www.recyclethis.info



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see:




www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 NOTE	Provides additional information to emphasize or supplement important points of the main text.
 WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100 to 240 VAC, 12 VDC or 48 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Chapter 1 Rear Panel Interfaces Description

The rear panel interfaces vary with different models. Refer to Table 1-1 for the common interfaces description of rear panels.

Table 1-1 Common Interfaces Description of Rear Panels

Item	Description	Item	Description
VIDEO IN	BNC interface for Turbo HD and analog video input	VIDEO OUT	BNC connector for video output
AUDIO IN	RCA connector	AUDIO OUT	RCA connector
LINE IN	Connector for two-way audio input	USB Interface	Universal Serial Bus (USB) port for additional devices
VGA	DB15 connector for VGA output. Displays local video output and menu.	HDMI	HDMI video output connector
RS-485 Interface	Connector for RS-485 devices	RS-232 Interface	Connector for RS-232 devices
LAN	Connector for network	eSATA	Storage and expansion interface for record or backup
ALARM IN/OUT	Connector for alarm input/output	GND	Ground
Power Switch	Switch for turning on/off the device	Power Supply	100 to 240 VAC, 48 VDC, or 12 VDC for different models

Chapter 2 Installation and Connections

2.1 DVR Installation

During installation of the DVR:

- Use brackets for rack mounting.
- Ensure ample room for audio and video cables.
- When routing cables, ensure the bend radius of the cables are no less than five times of its diameter.
- Allow at least 2 cm (≈0.75 inch) of space among racks mounted devices.
- Ensure the DVR is grounded.
- Environmental temperature should be within the range of -10 °C to 55 °C (14 °F to 131 °F).
- Environmental humidity should be within the range of 10% to 90%.

2.2 HDD Installation

For DVR that has not been pre-installed HDD, it requires to install HDD for storage.

Before you start

- Ensure power is disconnected.
- Prepare a factory recommended HDD, and cross screwdriver.

2.2.1 Bracket Installation

Bracket installation is applicable when it requires to remove the device cover, and install HDD on the internal bracket.

Bracket installation is applicable when it requires to remove the device cover, and install HDD on the internal bracket.

Step 1 Unfasten screws on the back, and push the cover backwards to remove the cover. Refer to Figure 2-1.

Step 2 Fix the HDD on the bracket with screws. Refer to Figure 2-2.



NOTE

Please uninstall the upper layer bracket first before installing HDD on the lower layer bracket.

Step 3 Connect the data cable and power cable. Refer to Figure 2-3.



NOTE

You can repeat the steps above to install other HDDs.

Step 4 Reinstall the device cover and fasten screws.

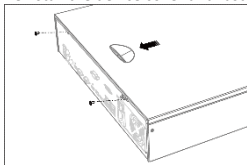


Figure 2-1 Remove Cover

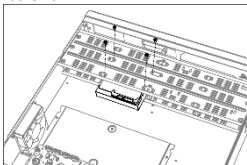


Figure 2-2 Fix HDD

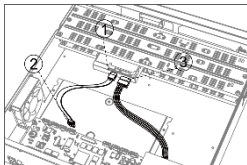


Figure 2-3 Connect Cable

2.2.2 Front Panel Plug-Pull Installation

Front panel plug-pull installation is applicable when it requires to open the device front panel with key.

Step 1 Fix mounting ears to HDD with screws. Refer to Figure 2-4.

Step 2 Use attached key to unlock the front panel, and press buttons on both sides to open the front panel.

Refer to Figure 2-5.

Step 3 Insert the HDD until it is firmly fixed. Refer to Figure 2-6



NOTE

You can repeat the steps above to install other HDDs.

Step 4 Close the front panel and lock it with key.

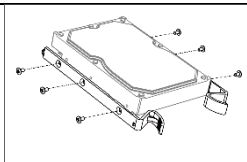


Figure 2-4 Fix Mounting Ear

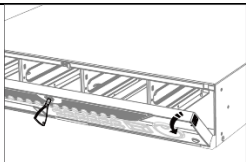


Figure 2-5 Open Front Panel

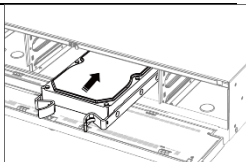


Figure 2-6 Insert HDD

2.2.3 Fix-on-Bottom Installation

Fix-on-bottom installation is applicable when it requires to install the HDD at the internal bottom.

Step 1 Unfasten screws on each panel to remove the device cover. Refer to Figure 2-7.

Step 2 Connect the data cable and power cable. Refer to Figure 2-8.

Step 3 Match HDD screw threads with the reserved holes on the device bottom, and fix HDD with screws. Refer to Figure 2-9.



NOTE

You can repeat the steps above to install other HDDs.

Step 4 Reinstall the device cover and fasten screws.

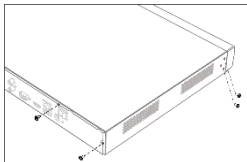


Figure 2-7 Remove Cover

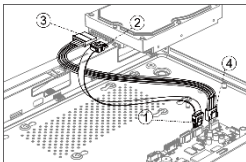


Figure 2-8 Connect Cable

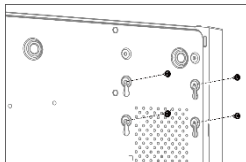


Figure 2-9 Fix HDD

2.3 RS-485 and Controller Connection

Use RS-485 interface to connect PTZ with DVR.

Before you start

Ensure both controller and DVR are grounded.

Step 1 Pull out the pluggable block at the RS-485 terminal block.

Step 2 Press and hold the orange part of the pluggable block, insert signal cables into slots.

Step 3 Release the orange part. Ensure signal cables are in tight.

Step 4 Connect A+ on PTZ to D+ on terminal block and B- on controller to D- on terminal block. Fasten stop screws.

Step 5 Plug pluggable block back into terminal block.

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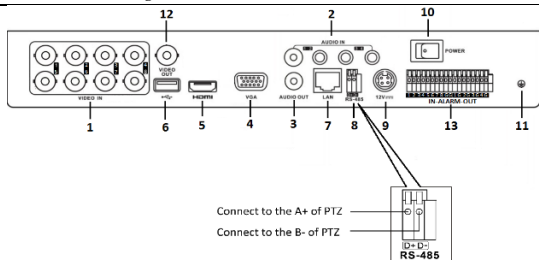


Figure 2-10 Controller Connection

Chapter 3 Menu Operation

3.1 Startup

Proper startup is crucial to expand the life of DVR. It is HIGHLY recommended to use an Uninterruptible Power Supply (UPS) with the device.

Step 1 Plug power supply into an electrical outlet.

Step 2 Press the power button (certain models may have power button on the front or rear panel). The device begins to start.

3.2 Activate Your Device

No operation is allowed before activation. For the first-time access, it requires to set an admin password for device activation. You can also activate the device via web browser, IP PORTAL or client software.

Step 1 Enter the same password in **Create New Password** and **Confirm New Password**.



WARNING

STRONG PASSWORD RECOMMENDED—We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

Step 2 Optionally, check **Reserved E-mail Settings**, **Export GUID**, or **Security Question Configuration** for password resetting in the future.

Step 3 Enter the password in **Create Channel Default Password** to activate the network camera(s) connected to the device.

Step 4 Click **OK** to save the password and activate the device.

admin

Create New Password

Confirm New Password

Reserved E-mail Settings ?

Export GUID ?

Security Question Configuration

Create Channel Default Password

Note: Valid password range [3-16]. You can use a combination of numbers, lowercase, uppercase and special character for your password with at least two kinds of them contained.

OK

Figure 3-1 Set Admin Password

What to do next:

- When you have enabled **Reserved E-mail Settings**, continue to set the reserved email for the future password resetting.
- When you have enabled **Export GUID**, continue to export the GUID file to the USB flash drive for the future password resetting.
- When you have enabled **Security Question Configuration**, continue to set the security questions for the future password resetting.

3.3 Set Unlock Pattern

For the Admin user, you can configure the unlock pattern for device login.

Step 1 Use mouse to draw a pattern among the 9 dots on the screen. Release the mouse when the pattern is done.



NOTE

- The pattern shall have 4 dots at least.
- Each dot can be connected for once only.

Step 2 Draw the same pattern again to confirm it.

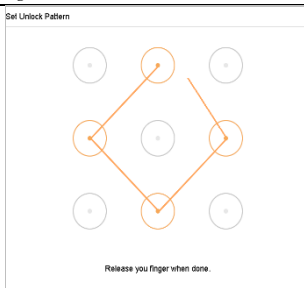


Figure 3-2 Draw the Unlock Pattern

3.4 User Login

You have to log in to the device before operating the menu and other functions.

Step 1 Select **User Name**.

Step 2 Enter password for the selected user.

Step 3 Click **OK** to log in.



NOTE

For the admin, if you have entered the wrong password for 7 times, the account will be locked for 60 seconds.

For the operator, if you have entered the wrong password for 5 times, the account will be locked for 60 seconds.

3.5 User Logout, Shutdown and Reboot

You can log out of the system, shut down, or reboot the device.

Step 1 Click  on the menu bar.

Step 2 Click **Logout**, **Shutdown**, or **Reboot** as your desire.

3.6 Configure Signal Input

For certain models, you can configure the analog and IP signal input types and enable 5 MP long distance transmission.

Step 1 Go to **Camera > Camera > Analog**.

Step 2 Set the analog signal input channels and types, and the connectable maximum IP camera number.

Disabling analog channel(s) would increase the connectable IP camera number.

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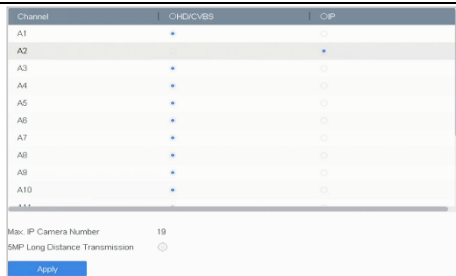


Figure 3-3 Signal Input Status



The interface of different models may vary.

Step 3 (Optional) You can enable **5 MP Long Distance Transmission** for the Turbo HD and AHD signal input.


- 1) Click .
- 2) Check the channel(s) to enable 5 MP long distance transmission.
- 3) Click **OK**.



Figure 3-4 5 MP Long Distance Transmission Settings

Step 4 Click **Apply** to save the settings.

3.7 Network Settings

3.7.1 Configure General Settings

You shall properly configure the network settings before you operate DVR over network.

Step 1 Go to **System > Network > TCP/IP**.

Step 2 Set the network general parameters.

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Step 3 Click **Apply** to save the settings.

The screenshot displays a network configuration interface with the following settings:

- Working Mode: Hot Fault-Tolerance
- Speed: 100Mbps
- NIC Type: 100M100M1000M Self-Adapt
- Enable DHCP:
- Enable Other DNS:
- IPv4 Address: 19.15.2.107
- Preferred DNS Server: [Empty]
- IPv4 Subnet Mask: 255.255.255.0
- Alternate DNS Server: [Empty]
- IPv4 Default Gateway: 19.15.2.254
- MAC Address: aa:14:37:aa:03:63
- MTU(Byte): 1500
- Max FEC: L4K1

An **Apply** button is located at the bottom of the configuration area.

Figure 3-5 Network Settings

3.7.2 Configure PT Cloud

PT Cloud provides mobile phone application and platform service to access and manage your connected devices, which enables you to get a convenient remote access to the surveillance system.

Step 1 Go to **System > Network > Advanced > Platform Access**.

Step 2 Check **Enable** to activate the function. Then the service terms will pop up.

- 1) Enter the verification code in **Verification Code**.
- 2) Scan the QR code to read the service terms and privacy statement.
- 3) Check **The PT Cloud service will require internet access. Please read Service Terms and Privacy Statement before enabling the service** if you agree the service terms and privacy statement.
- 4) Click **OK** to save the settings.



NOTE

- PT Cloud is disabled by default.
 - The verification code is empty by default. It must contain 6 to 12 letters or numbers, and it is case sensitive.
- Step 3 (Optional) Check **Custom** to enter the server address as your desire.
- Step 4 (Optional) Check **Enable Stream Encryption**, verification code is required for remote access and live view.

Step 5 Click **Apply**.

What to do next:

After configuration, you can access and manage your devices through LTS connect app or website.

3.8 Add IP Cameras

Before you can get live video or record the video files, you should add network cameras to the device.

Before you start

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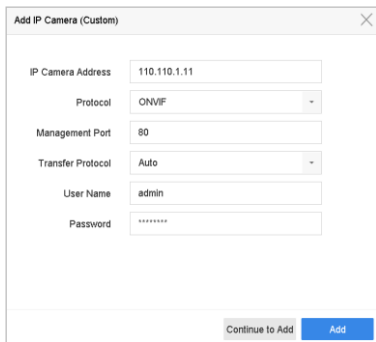
Ensure the network connection is valid and correct, and the IP camera to add has already been activated. Please refer to the *User Manual* for activating the inactive IP camera.

Step 1 Go to **Camera > IP Camera**.

Step 2 Click **Custom Add**.

Step 3 Enter IP address, protocol, management port, and other information of the IP camera.


Step 4 Click **Add**.



The screenshot shows a dialog box titled "Add IP Camera (Custom)". It contains several input fields and dropdown menus. The "IP Camera Address" field is filled with "110.110.1.11". The "Protocol" dropdown is set to "ONVIF". The "Management Port" field is filled with "80". The "Transfer Protocol" dropdown is set to "Auto". The "User Name" field is filled with "admin". The "Password" field is filled with asterisks. At the bottom right of the dialog, there are two buttons: "Continue to Add" and "Add".

Figure 3-6 Add IP Camera

3.9 Live View

Enter the live view mode ()

- You can select a window and double click a camera from the list to play the video from the camera in the selected window.
- Use the toolbar at the playing window bottom to achieve functions of capture, instant playback, audio on/off, digital zoom, live view strategy, show information and start/stop recording.

3.10 Recording Settings

Before you start

Make sure that the disk has already been installed. If not, please install a disk and initialize it. You may refer to the user manual for detailed information.

In the live view mode, select a connected camera window and click  at the toolbar to start recording.

3.11 Playback

The recorded video files and pictures on HDD can be played back. Refer to the user manual for details of each playback mode.

Step 1 Go to **Playback**.

Step 2 Check the channel(s) in the channel list.

Step 3 Double click a date on the calendar.

Step 4 (Optional) Use the toolbar in the bottom to control the playing progress.

Chapter 4 Accessing by Web Browser

You can get access to the device via web browser. The following web browsers are supported: Internet Explorer 6.0, Internet Explorer 7.0, Internet Explorer 8.0, Internet Explorer 9.0, Internet Explorer 10.0, Apple Safari, Mozilla Firefox, and Google Chrome. The supported resolutions include 1024*768 and above.

 **NOTE**

The use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact with your dealer or the nearest service center.

Step 1 Open web browser, enter the IP address of the device and then press **Enter**.

Step 2 Log in to the device.

- If the device has not been activated, activate the device first by setting the password for the admin user account.

 **WARNING**

STRONG PASSWORD RECOMMENDED—We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

- If the device is already activated, enter the user name and password to log in.

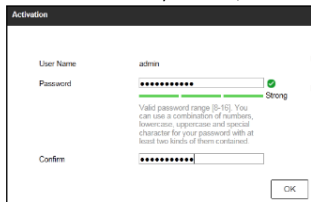


Figure 4-1 Activate the Device

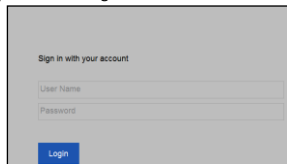


Figure 4-2 Login

Step 3 Follow the installation prompts to install the plug-in before viewing the live video and managing the device.

 **NOTE**

- You may have to close the web browser to finish the installation of the plug-in.
- After login, you can perform the operation and configuration of the device, including the live view, playback, log search, configuration, etc.