



ZEB Network Video Recorder

ZEB-16CHVS6TA8M NVR



User Manual

www.zebronics.com

Hello Zebee! Please read the following instructions carefully in order to use the product optimally.

Safety Instruction :

- 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.
- Firmly connect the plug to the power socket. Do not connect several devices to one power adapter. Power off the device before connecting and disconnecting accessories and peripherals.
- Shock hazard! Disconnect all power sources before maintenance.
- The equipment must be connected to an earthed mains socket-outlet.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- indicates hazardous live and the external wiring connected to the terminals requires installation by an instructed person.
- Never place the equipment in an unstable location. The equipment may fall, causing serious personal injury or death.

- Input voltage should meet the SELV (Safety Extra Low Voltage) and the LPS (Limited Power Source) according to the IEC62368.
- High touch current! Connect to earth before connecting to the power supply.
- 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.
- Use the device in conjunction with an UPS, and use factory recommended HDD if possible.
- This product contains a coin/button cell battery. If the battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- This equipment is not suitable for use in locations where children are likely to be present.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).

- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries according to the instructions.
- Keep body parts away from fan blades and motors. Disconnect the power source during servicing.
- Keep body parts away from motors. Disconnect the power source during servicing.
- Preventive and Cautionary Tips Before connecting and operating your device, please be advised of the following tips.
 - The device is designed for indoor use only. Install it in a well-ventilated, dust-free environment without liquids.
 - Ensure recorder is properly secured to a rack or shelf. Major shocks or jolts to the recorder as a result of dropping it may cause damage to the sensitive electronics within the recorder.

- The equipment shall not be exposed to dripping or splashing and that no objects filled with liquids shall be placed on the equipment, such as vases.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc. The openings shall never be blocked by placing the equipment on a bed, sofa, rug or other similar surface.
- For certain models, ensure correct wiring of the terminals for connection to an AC mains supply.
- For certain models, the equipment has been designed, when required, modified for connection to an IT power distribution system.
- identifies the battery holder itself and identifies the positioning of the cell(s) inside the battery holder.
- + identifies the positive terminal(s) of equipment which is used with, or generates direct current. + identifies the negative terminal(s) of equipment which is used with, or generates direct current.

- Keep a minimum 200 mm (7.87 inch) distance around the equipment for sufficient ventilation.
- For certain models, ensure correct wiring of the terminals for connection to an AC mains supply.
- Use only power supplies listed in the user manual or user instruction.
- The USB port of the equipment is used for connecting to a mouse, keyboard, USB flash drive only.
- Use only power supplies listed in the user manual or user instruction.
- Do not touch the sharp edges or corners.
- When the device is running above 45 °C (113 °F), or its HDD temperature in S.M.A.R.T. exceeds the stated value, please ensure the device is running in a cool environment, or replace HDD(s) to make the HDD temperature in S.M.A.R.T. below the stated value.

Specifications :

Operating System	: Embedded LINUX
Video Input	: 16 Channel IP
Total Bandwidth	: 80 Mbps
Video Output	: 1 x HDMI, 1 x VGA
Audio Input	: IPC Composite Stream Network Audio Input
Audio Output	: Support HDMI audio output, audio output (3.5mm jack)
External Ports	: RJ45 - 10/100/1000 port, USB - 2 x USB 2.0 Ports
Display Resolution	: 3840×2160, 1920×1080,1440×900, 1280×1024,1280×800, 1024×768
Display Split	: Support multi-screen split;1/2/4/6/8/9/ 10/16 screen real-time preview
Privacy Masking	: Yes
Video Compression	: H.265/H.264 decoding format
Recording Resolution	: Support 720P/960P/ 1080P/3MP/ 4MP/5MP/4K

Record Mode	: Support timing recording, alarm recording, timing and alarm recording.
Storage	: 1 x SATA Storage devices with upto 6TB compatibility
Network Protocols	: onvif,slink,i9,rtsp
CMS software	
Compatibility	: Yes
Win 10 and higher compatibility	: Yes
Multiple browser compatibility	: Yes
Motion Detection notification	: Yes
Alerts via p2p connected devices	: Yes
Smart Phone	
Compatibility	: Yes using apps
Power Input	: DC 12V, 2A (External Adapter)
Working	
Temperature	: -10°C to 55°C
Body Type	: Metal
Physical Parameter	
Product Dimension (W x D x H)	: 25.5 x 21.5 x 4.1 cm
Net. Weight	: 679 g

Package Contents :

Recorder	:1U
Power Adapter	:1U
Mouse	:1U
Hard Disk Mounting Kit	:1U
QR Code User Guide	:1U

Installation Guide

1.1 HDD Installation

Installation Preparation:

A Phillips screwdriver is required. This series of network digital video recorders can be installed in the case of multiple hard disks, hard disk capacity is unlimited.

HDD Installation Procedure:

3.1 HDD Installation Step: 1234

1. Open the chassis covered by unscrewing the on the side of the NVR case



2. Connect HDD SATA cable and screws
Power cable



3. Secure the hard disk to the hard disk screw holes on the baseplate.

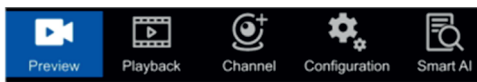
4. Cover the NVR cover and fasten the cover with screws.

2.Login System :

After the device is powered on and the preview screen is displayed, the device is in full-screen mode by default. You can click the login button at the bottom of the screen (hover at the bottom), enter the user name and password (default user name: admin, password: 123456), and click OK to log in to the device.

3.Menu Operation :

After login, follow the toolbar on the upper side of the interface to set the related parameters



4.How to Connect IPC to IVR :

Before configuring an IVR, you need to know how to connect all IVR channels to the IPC screen.

This product supports multiple versions of ONVIF protocol and is compatible with mainstream IPC brands in the market



Before IPC connects to an IVR, ensure that the IP address and the IVR IP address are on the same LAN, and the primary and substreams must be adjusted to the recommended values. Otherwise, IPC may not be found, image access is unavailable, images are not smooth, and picture quality is poor. (Currently, MAC address binding is implemented for added cameras. No matter how the IP address and network segment are changed behind these cameras, as long as they can be searched by IVR, IVR can adapt to cross-network segment graph, only slink,i9 protocol is supported).

Connect the IVR to the LAN switch. After the IVR is powered on, click the icon to go to the Network Management page. Set the IVR IP address, subnet mask, and gateway on the basic parameter page. After the configuration is saved, go to the network diagnosis page, run the ping test, select the device NIC, enter the destination PC, ping through, indicating that the device and the PC are on the LAN.

Then, left-click the icon again to enter the channel connection interface, as shown below:



The IVR is automatically added by default. It automatically searches for all IVRs on the LAN and adds them to the channel list. If you want to manually add, you can manually search IPC and click Add All to add it to the channel list. For details, see the channel connection module description.

5.P/T Control Interface :

Select the channel to be configured, click the arrow key to turn the head, and set the zoom and zoom of the focal length, focus and aperture; Set the speed of the head. The following page explains the detailed setting methods of preset, cruise, and trajectory functions:



5.1 Preset setting and Pick-up :

- Select the channel, turn the camera to the required position through the direction button controlled by the PTZ, then select a preset number from the drop-down list of "preset ", set the preset number, and click "Set".
- User can also pick up and clear Preset in this interface

5.2. Cruise setting, pickup and delete :

- Cruise setting and pick up (need front-end speed dome to support)
- Select a track number from the "track" drop-down list, and click the "Set" button to start recording, and then perform a series of direction operations. Click the "Set" button again to stop recording the track, and the track is successfully remembered.
- Select a track number from the Track drop-down list and click the pick up button to pick up the cruise.
- Switch Channel
- Select one channel and drag it to another. By default, all configurations are interchanged.

6.Video Playback :

Enter the video playback interface. By default, IVR selects the maximum number of playback channels supported by the device and the date of the day to automatically query the recording, as shown below :

Note: Some large-capacity IVR need to manually click the query button. For details, please check the actual IVR device interface.

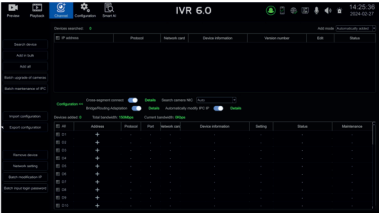


- Video query channel selection: default selection of the maximum playback paths supported by the device. Users can add or remove query channels based on actual needs.
- Video query date selection: default selection of the current date. Users can select the needed video recording date based on actual requirement. If a date has a blue background in the calendar table, it indicates that there is a recording for that day. If not, it indicates that there is no recording for that day.

- Video type selection: default selection of all types. Users can select regular recordings or alarm event recordings based on actual circumstances. The progress bar color and interface labeling correspond to different alarm events.
- Video playback: default playback of the IVRretrieved video starts from zero hour of the day. Users can click the left mouse button or scroll the mouse wheel to zoom in and select the needed time point for playback by clicking on the timeline.

7. Channel Connection :

The channel connection interface is used to add cameras searched in the network to the video recorder, as shown below :



Add mode: there are two modes: manual adding and automatic adding. Automatically add: the recorder automatically adds the searched camera to the list, supporting ONVIF, SLINK, and I9 protocols;

Manually add : you need to manually click to search for devices, and then select the corresponding camera to add to the list.

The cameras added in the above two methods are bound to the MAC address. No matter how the IP or network segment of these cameras is changed later, as long as they can still be searched by the recorder, the recorder can adaptively export pictures across network segments.

- Search device: used to search for cameras connected to the network. The default search time is 20 seconds.
- Batch add: check the cameras to be added and click Batch Add to add the selected cameras to the device list.
- Add all: add all the searched cameras to the device list

Add a multi-channel splicing camera: after searching for the camera in the channel, add it to the channel list, select the "+" sign in the channel list, enter the same IP, port, protocol, select the channel, network card, network type, user name, and password, just Onvif protocol support.



8. Recording Plan

Recording plan: the default is "scheduled recording + alarm recording" mode. Users can set scheduled recording and alarm recording, scheduled recording, alarm recording, and stop recording according to actual needs.

- Scheduled recording + alarm recording: within the set scheduled recording time period, or an alarm triggers recording, the current channel system will perform recording operations;
- Timing recording: only within the set scheduled recording time period, the current channel system will perform recording operations
- Alarm recording: if the channel is configured to trigger the alarm recording function, the current channel system will perform recording operation;
- Stop recording: stop recording on the current channel
- Set event recording time:

Click the "Go to Settings" button for motion detection, alarm input, smart configuration, etc. to quickly enter the corresponding event configuration interface. After checking the video linkage method in the "Linkage Method" of the event, the corresponding alarm is actually triggered linkage recording.

- Note: linkage recording is enabled by default for alarm events, and users can configure it according to actual needs
- Pre-recording time: the recording time before the alarm event starts can be configured;
- Recording delay: the recording time after the alarm event ends can be configured;

Note: the pre-recording time and recording delay time are only for alarm recording;

- Set scheduled recording time period: After clicking "Edit", you can configure any recording time period.
- Network disconnection supplementary recording: after enabling this function, the video data recorded on the IPC's SD card during the abnormal period can be downloaded to the local hard disk. It requires IPC to be inserted into the SD card to support it, and it is only supported by private protocols;

- Set scheduled recording time period: After clicking "Edit", you can configure any recording time period.
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9.Disk Format:

Format: click the hard disk that needs to be formatted, and then click the **Format** button (Note: when the status is "Requires Formatting", the corresponding hard disk must be formatted before the hard disk can continue recording. In addition, please do not have other operations during the formatting process);

After the configuration is completed, follow the interface prompts to enter the "Disk Format" interface, check the hard disk that needs to be formatted and format it;

10. Alarm Management:

- Motion Detection

1.Enable: This function requires IPC support. After checking, the motion detection function can be turned on;

2.Sensitivity: Users can set the sensitivity of motion detection trigger according to actual needs;

3.Area settings: Press and hold the left mouse button on the screen and drag to the area that needs to be detected. The red grid area that appears is the selected area for motion detection;

4.Clear all: clear the detection area with one click;

5.Full screen frame: You can set the full screen as the detection area with one click;

6.Camera light alarm: The IPC light linkage can be configured. When the alarm is triggered, the IPC light flashes and alarms;

7.Camera sound alarm: The IPC voice alarm can be configured. When the alarm is triggered, the IPC voice alarm will occur;

8.Arming time: You can configure the arming time that needs to trigger the alarm. The default is to arm all day long;

Note: This function is supported by some devices, and the details are subject to the actual device;

11. Network Protocol:


11.1 Mobile phone monitoring

This page is the configuration interface for mobile phone monitoring, which can enable or disable the P2P service, as shown below.



- Protocol name: P2P protocol name
- Enable: Turn on this service to connect to the device with your mobile phone
- Alarm push: Only when this function is turned on can the mobile app receive alarm information;
- Activation status: displays the status of the device registered to the server;
- Connection status: Displays the status of whether the current device is added to the app. Online means it is connected, and offline means it is not connected.

11.2.P2P Interface Function.

APP :  After clicking, the APP download QR code and device ID QR code will be displayed, as shown below:



Click "Details" to jump to the P2P service interface, you can view its version information.

If the App has been bound, you can click the unbind button on the interface and enter the device login password to remove the device from the mobile APP.

Network Information : 🌐 After clicking, it will automatically detect the network connection status, and display the detailed information about the device network, you can diagnose and set the network, as shown in the figure below:



12.Password retrieval:

Used to set the method for the user to retrieve the password after forgetting it. user can choose to scan the QR code on the mobile APP or retrieve the password by email. (Both methods require the user to bind the video recorder to the App before retrieving the password, and only admin users support password retrieval)

Pattern unlocking: The pattern unlocking method can be set for the admin user or other newly added users. After pattern unlocking is enabled, you can choose two password methods to log in on the device login interface, and the pattern password method is used by default.

Pattern unlocking on or off: Admin users can enable or disable pattern unlocking when modifying users, and other users can enable or disable pattern unlocking when creating or modifying users;

13. NVR Upgrade:

This page can upgrade the device, which is divided into online upgrade and USB upgrade:
Online upgrade: Click the detection button. After detecting the new version, click Upgrade and wait for the device upgrade to complete.

After the upgrade is completed, the device will automatically restart;

Note: The device needs to be connected to the external network to detect the new version;

USB upgrade: This method needs to put the upgrade file with the update suffix into the USB flash drive in advance, and connect it to the device through the USB interface of the device. Click the Browse button and select the upgrade file, then click Upgrade. According to the upgrade progress of the device interface, wait for the device to be upgraded. Completed, the device will automatically restart after the upgrade is completed.

Note: During the upgrade process, please do not perform any operations on the local and remote ends to avoid irreparable errors!

14. NVR Maintenance:

Export configuration: After the device is connected to the USB flash drive, the device configuration can be exported to the USB flash drive; **Import configuration:** After the device is connected to the U disk with the configuration file, click Import Configuration to import the configuration files of other devices or this device into the device. The imported configuration needs to be restarted to take effect;

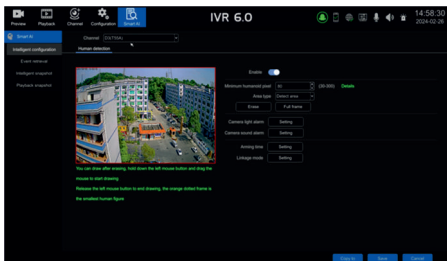
Note: Importing configurations only supports importing configurations of the same layout and version;

Factory Restore: Supports restoring the device to factory configuration. You can select a single configuration, multiple configurations or all configurations to restore as needed. You need to restart the device to take effect;

15. AI Configuration:

In this mode, the intelligence supported by the IPC is automatically obtained according to the connected channel IPC, as shown in the figure below. The current IPC channel only supports humanoid detection. The following is a detailed introduction to the usage instructions of the intelligent A1.

15.1. Human Detection:



- This intelligence requires front-end IPC support and supports the detection of static and dynamic humanoids with humanoid pixels in the screen.
- Enable: You can enable or disable the humanoid detection function.
- Set the detection area: click the mouse on the channel screen, hold down the left mouse button and drag the mouse to start drawing the specified area, release the left mouse button to end the drawing; when there is a detection area in the screen that needs to be redrawn, it needs to be erased first and then drawn;
- Minimum human pixels: The range is 30-300. Only when the proportion of the target in the video is greater than this proportion, it will participate in the detection. It is recommended to set the detected humanoid size range as accurately as possible according to the actual scene when using it, so as to speed up the detection and reduce false detections.
- Erase: Erase the detection area frame with one click.
- Full screen frame: Click to automatically set the detection area to full screen.

- For camera light alarm, camera sound alarm, arming time, and linkage mode usage, please refer to the description of the motion detection module;

15.2 Intelligent Search:

All intelligent alarm events can be retrieved based on channel, event type, and time period. The interface is as shown in the figure below.



Both ordinary events and smart events can click the recording button to play the video, and the recording duration before and after the playback event can be set by yourself;

16. NVR Web Page Operation Guide:

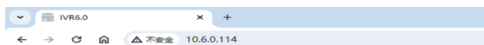
16.1. Network Connection

- Confirm that the NVR is correctly connected to the network;

- Set the IP address, subnet mask and gateway for the computer host and IVR respectively. If there is no routing device in the network, please assign an IP address on the same network segment. If there is a routing device in the network, the corresponding gateway and subnet mask need to be set. For the network settings of the network digital video recorder, see [Advanced Configuration] > [Network Management];
- Please make sure the IP address is set correctly. After the IP address is set, you can use the system's built-in ping tool to check whether the NVR has been correctly connected to the network

16.2. ActiveX Installation and User Login

After the NVR is correctly connected to the network, you can log in and access the NVR through 360 Secure Browser (extreme speed mode), Google Chrome, Firefox, Microsoft Edge and other Google-based browsers by entering the IP address of the IVR in the address bar



- Click the link to download and install the Web plug-in IVR Web Plugin Setup according to the interface prompts and run the installation; (Note: Some computers may have anti-virus software misidentify the plug-in as a virus interception. During the download and installation process, ensure that the plug-in is not intercepted.)

Please click here to download and install IVRWebPlugin.

- After the plug-in is installed, enter the user name, password, and click OK to log in to the web interface, as shown below.



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