



# User Manual

NYX Decoder



Please read this instruction carefully before operating the unit and keep it for further reference

# Notes

- Please read this user manual carefully to ensure that you can use the device correctly and safely.
- There may be several technically incorrect places or printing errors in this manual. The updates will be added into the new version of this manual. The contents of this manual are subject to change without notice.
- This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using the same. Kindly remove the cables from the power source if the device is not to be used for a long period of time.
- Do not install this device near any heat sources such as radiators, heat registers, stoves or other devices that produce heat.
- Do not install this device near water. Clean only with a dry cloth.
- Do not block any ventilation openings and ensure proper ventilation around the machine.
- This machine is for indoor use only. Do not expose the machine in rain or moist environment. In case any solid or liquid get inside the machine's case, please turn off the device immediately and get it checked by a qualified technician.
- Do not try to repair the device by yourself without technical aid or approval.
- This manual is suitable for many models. All examples and pictures used in the manual are from one of the models for reference.

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# 1 Introduction

## 1.1 Summary

The decoder is a 4-channel professional decoder, which adopts high-performance SOC decoding chip. It not only supports multi-channel standard-definition and high-definition network videos decoded on TV wall independently (in device running mode), but also it can be managed in an integrated way by video surveillance management platform (in platform running mode). Therefore, this decoder can be widely used in banks, schools, intelligent buildings, transportation, environmental protection, supermarkets, gasoline stations, housing estates, factories, etc.

## 1.2 Features

### Decoding & Display

- 4\*HDMI output@1080P; HDMI1 supports 8K
- HDMI1, HDMI2 and HDMI3 support 4K
- Supports PS, RTP, TS, ES encapsulation formats (in platform running mode)
- Supports NTSC & PAL video formats
- H.265 HP/MP/BP and H.264 HP/MP/BP
- 4CH 16MP@30fps or 8CH 8MP@30fps or 12 CH 5MP@30fps or 20CH 3MP@30fps or 32CH 1080P@30fps or lower@30fps
- G.711A/G.711U audio compression

### Decoding Control

- Support live view and playback decoding
- 1/4/9/16/25/36/64 screen display mode
- Splicing, picture-in-picture, roaming
- View cameras or camera groups in sequence
- A&V streams can be acquired actively and passively
- A&V streams can be directly acquired from TVT IPC/DVR/NVR by SDK private protocol
- A&V streams can be acquired from NVMS platform or encoding devices by RTSP/RTP protocol
- A&V streams can be acquired from IPC by ONVIF protocol

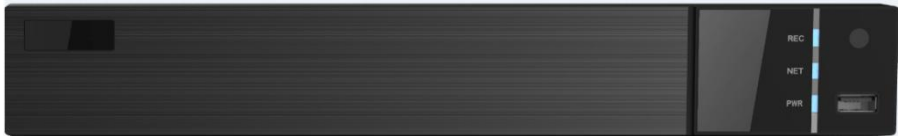
### Device Management

- Superior-subordinate management
- A maximum of 64 decoders can be manageable
- Access
- Provide HTTP API protocol to third-party platform
- Support platform running mode and device running mode


## Operation and Maintenance

- Support device search
- Support WEB client access, configuration and management
- Support time zone, time and date settings
- Support IP address, subnet mask and gateway settings
- Support data port and HTTP port settings
- Support data backup and restoration
- Support remote reboot and one-button reset
- Support online and U-disk upgrade
- Support dual gigabit Ethernet ports, load balancing

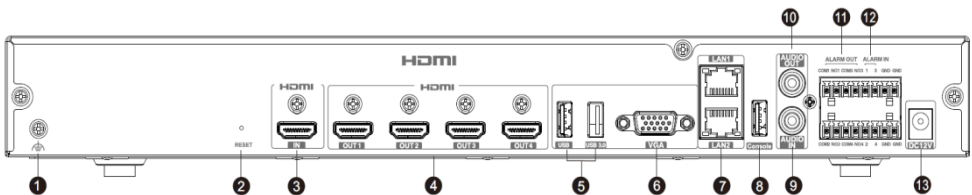
## 1.3 Front-panel Descriptions



Front panel

Name	Description
REC	Record indicator (unavailable)
NET	Network indicator. The light will go on when it is connected to network.
PWR	Power indicator. The light will go on when it is powered.
	USB interface

## 1.4 Rear-panel Descriptions



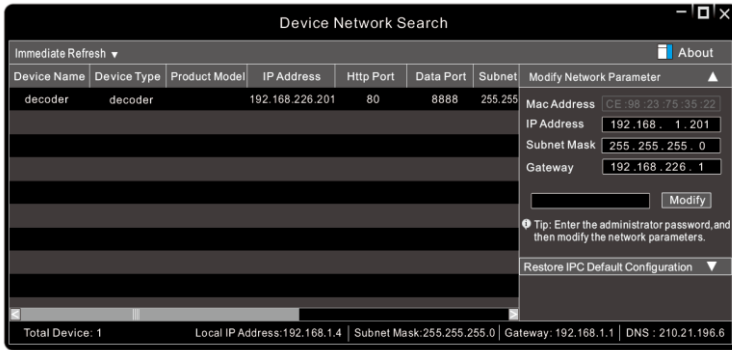
Rear panel

Number	Description
1	Ground
2	Reset: hold and press it for 5 seconds to restore to the factory default settings
3	1CH HDMI input
4	4 CH HDMI output
5	Connectors for USB storage devices
6	VGA output (1920×1080,1280×1024)
7	Gigabit Ethernet port×2
8	Serial port for test
9	Audio input (currently no function)
10	Audio output (monophonic)
11	4CH alarm output
12	4CH alarm input
13	DC12V power input

## 2 Login

The login settings are as follows.

1. Make sure the PC and decoder are connected to the LAN.
2. Get the IP-Tool from the supplier and then install it on your computer.
3. Run the IP-Tool. Then the decoder can be searched. If the decoder can't be searched, please check whether the PC and the device are connected to the network or not. Click the device to check its detail information as shown below.



4. Double click the decoder information in IP-Tool to open the web browser.
5. Read and agree the privacy statement. Then select the language as needed.
6. Activate the device. The default user name is **admin**. Set the password strength and password as needed. It is highly recommended to use the strong password for your account security.

### Device Activation

**User Account**

**New Password \***

**Confirm Password \***

**Password Strength \***

☐ Weak
 ☐ Medium
 ☒ Strong

Contains four types of uppercase letters, lowercase letters, numbers, and special characters, and the password length should not be less than 8 digit!

Activate


7. After you successfully activate the device, please enter the default username and password you set to log in.

## User Login

---

Username

Password



Login

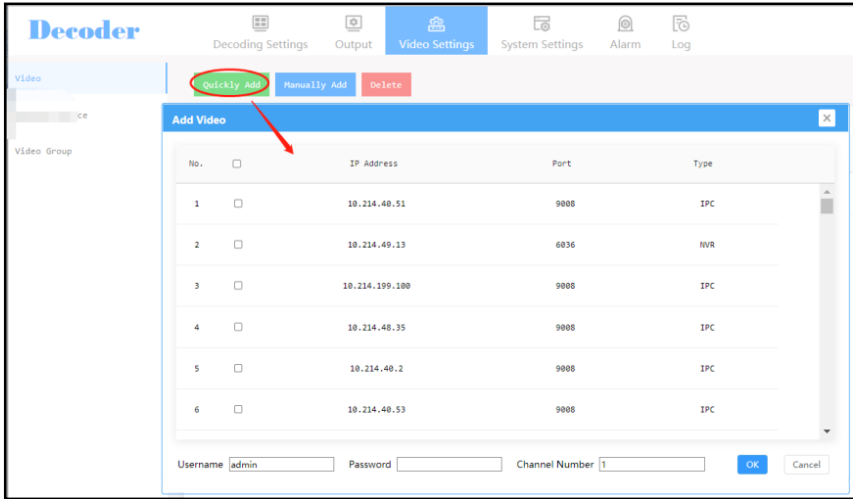


## 3 Device Configuration via Web

### 3.1 Video Settings

#### 3.1.1 Video Management

Go to Video Settings→Video. There is a local video output by default.



Videos can be quickly add or manually add through the above interface.

**Quickly Add:** Click [Quickly Add] to search video devices (like IPC, DVR, NVR, etc.) in the same local network. Select the desired video devices and then enter username, password and channel number of the devices. Then click [OK] to save the settings.

**Manually Add:** Click the “Manually Add” tab to add the video devices manually.

You can add IPC, NVR and DVR of our company or the video devices supporting ONVIF or RTSP protocol. Please select as needed. Then enter the corresponding IP address, port, channel number, username and password. After that, click [Add] to add.

**Note:** A maximum of 2048 devices can be added.

Name	Type	Channel Number	Username	Password	Delete
	IPC	9008	admin		

Cancel Add

**Modify the information of a video device:** Click behind the channel number to change the IP address, channel number, username and password.

No.	Name	IP Address	Port	Type	Channel Number	Edit	Delete
1	decoder_input	decoder_input	0				
2	10.214.40.51-9008	10.214.40.51	9008	IPC	1		

**Edit Video**

Name: 10.214.40.51-9008

IP Address: 10.214.40.51 : 9008

Channel Number: 1

Username: admin

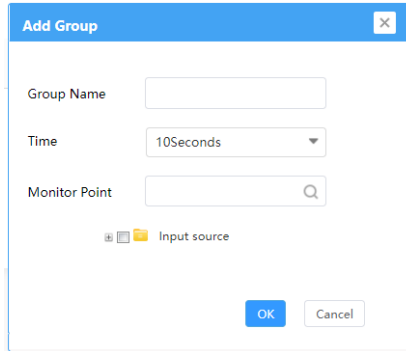
Password:

OK Cancel



**Delete videos:** Click to delete the added videos.

### 3.1.2 Video Group Settings

Go to Video Settings→Video Group. Then click “Add” to assign channels for the desired group. A maximum of 128 video groups can be created.



Enter the group name, select the dwell time and then check videos. After that, click [OK] to save the settings.

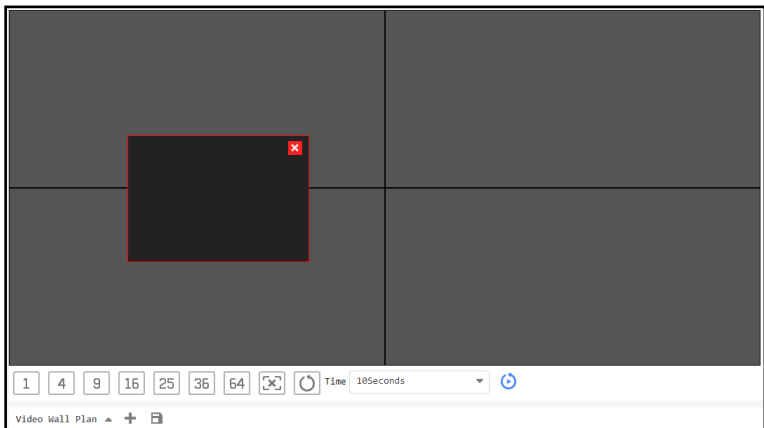
Click  to modify the added group; click  to delete the added group.

## 3.2 Decoding Settings

Please refer to Basic Settings for user permission setting.

### 3.2.1 Open Window

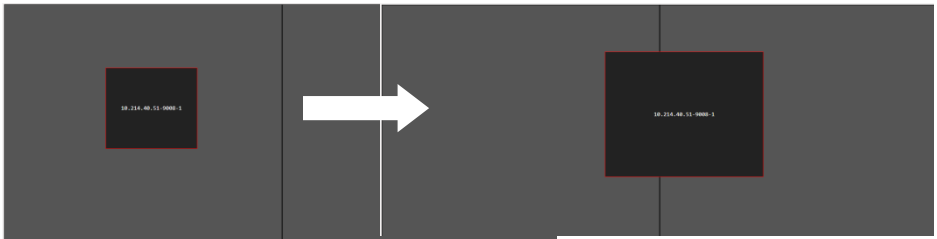
Go to the decoding settings interface. Press the right mouse button and drag on the output window to open a window.



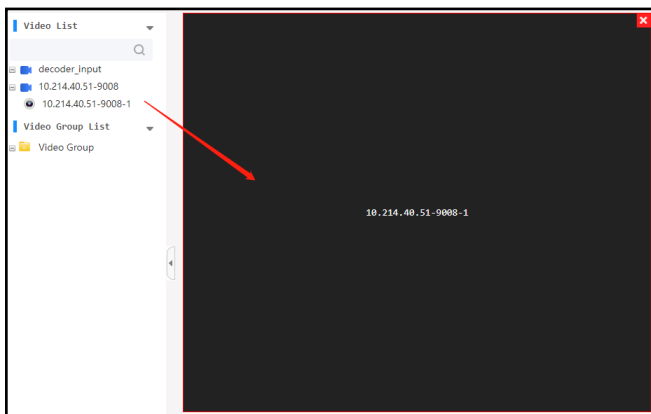
Drag a video to the drawn window to decode the video.




For the drawn window, you can drag it to anywhere and zoom in/out it as needed by dragging the four sides of the window.



Directly drag a video to the output window to create a window that fits to the output window by default.



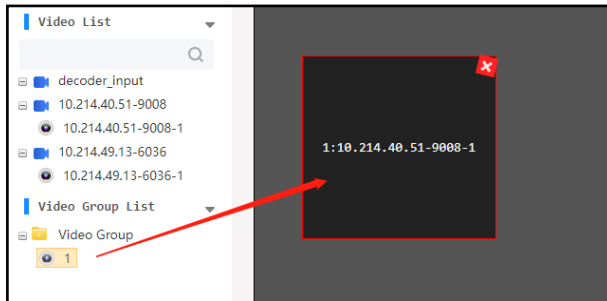
Click “” on the top right corner of the drawn window to delete it.

### 3.2.2 Decoding Operation

**Decoder Input:** Input the video source through HDMI IN interface in the real panel and then drag HDMI-IN1 to a window to bind the HDMI-IN1 and the monitor in the decoder settings interface as shown below.





**Video group view:** Drag a video group to a window and then videos in this group will be decoded in this window one by one according to the preset dwell time. (See Video Group Settings for details).




Button Description:


1 4 9 16 25 36 64 : 1/4/9/16/25/36/64 screen display mode

 : Clear all video display

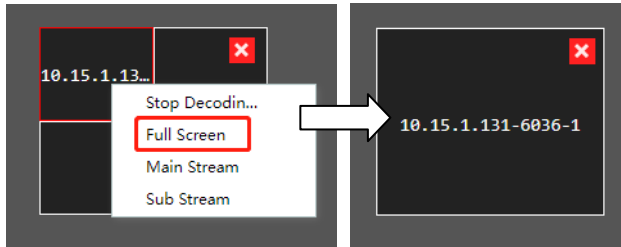
 : Save a plan

 : Create a plan

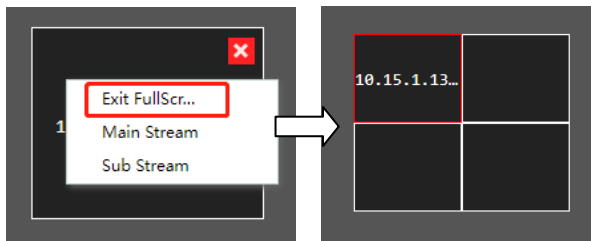
 : Refresh

 : Start auto-switch

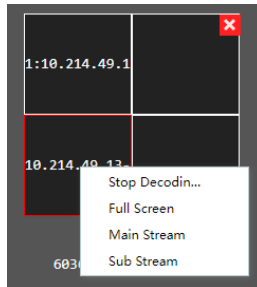
**Full Screen:** In multi-display mode, select a window which is decoding video and then right click on it to pop up a menu as shown below. Select “Full Screen” and then this window will display in full screen.



**Exit Full Screen:** Right click on the full screen window to select “Exit Full Screen” and then the window will restore to its original status.






**Main Stream/Sub Stream:** The main/sub stream can be switched by right clicking on the window which is decoding video.

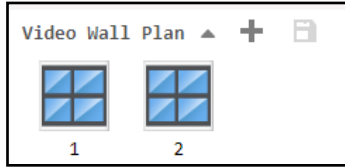



### 3.2.3 Plan Settings

**Plan settings:** There are two ways to set a plan.

- ① Drag videos to the left windows separately and then click  to save the plan.
- ② Click  to enter the plan name and then drag videos to the left windows separately. After that, click  to save the plan.

These saved plans will be listed on the plan list as shown below.




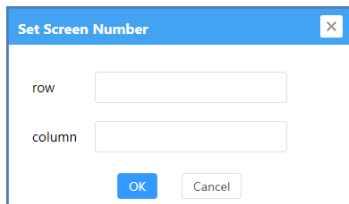
Click a plan to quickly call up this plan. Choose the time and then click  to view these plans in sequence.

### 3.3 Output Settings

Go to Output Settings→Output interface as shown below.



Drag the output in the right output list to the window so as to bind the output to the window. If the decoder is set as “Master” in the basic setting interface and many general decoders are added to this decoder, the output list will appear four or more than four outputs. Thus, users need to click “” to customize output layout as shown below.



Please enter the number of row and column displayed on the screen. The number ranges from 1 to 10.

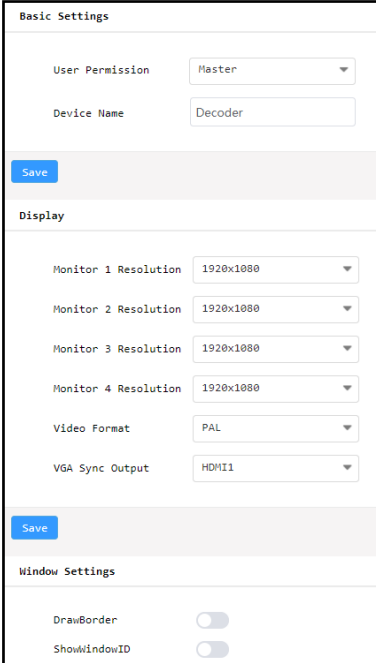
## 3.4 System Settings

### 3.4.1 Device Information

Go to System Settings→Device Information interface. In this interface, device information can be viewed here, like MAC address, device type, software version and so on.

### 3.4.2 Basic Information

In the basic settings interface, the user permission, device name, display and window settings can be set up.



The screenshot displays the 'Basic Settings' configuration window. It is organized into four main sections: 'User Permission' with a dropdown set to 'Master'; 'Device Name' with a text field containing 'Decoder'; a 'Display' section containing four 'Monitor X Resolution' dropdowns (all set to '1920x1080'), a 'Video Format' dropdown (set to 'PAL'), and a 'VGA Sync Output' dropdown (set to 'HDMI1'); and a 'Window Settings' section at the bottom with two toggle switches, 'DrawBorder' and 'ShowWindowID', both currently turned on. Each section is followed by a blue 'Save' button.

User Permission: “Master” or “General” can be selected.

Monitor 1/2/3/4 Resolution: Please select it as needed.

**Note:** When Monitor 1 is set to “7680 × 4320\_30fps” or “7680 × 4320\_60fps”, Monitor 2 is unavailable.

Video Format: Choose “PAL” or “NTSC” as needed.

VGA Sync Output: HDMI1, HDM2 or HDMI3 can be selected.

Draw Border: If “ON” is selected, a red box will flash on the decoding window once triggering alarms.

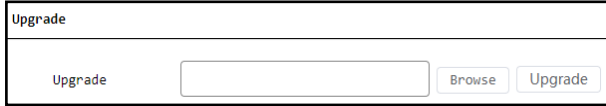
Show Window ID: If “ON” is selected, the window ID will appear on the decoding window.



### 3.4.3 System Maintenance

#### ➤ System Upgrade

To upgrade the decoder, please go to System Settings→System Maintenance interface.



Click [Browse] to select the path of the upgrade files and then click [Upgrade] to upgrade the decoder. Please do not disconnect the device when upgrading. And the device will reboot automatically after finishing upgrading.

#### ➤ Reboot Settings

The device can be restarted manually by clicking Device Settings→Reboot.

#### ➤ Reset Settings

You can restore the device to the factory default settings via Web.

1. Go to System Settings→System Maintenance→Reset.
2. Click “Reset” and then click “OK”.
3. After verifying your username and password, the device will automatically restore to the factory default settings.

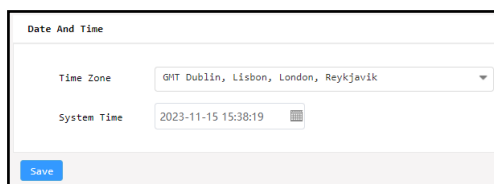
#### ➤ Backup Settings

**Backup Settings:** Click [Backup] to export the configuration file.

**Import Settings:** Click [Browse] to select the path of the files you want to import and then click [Recover].

### 3.4.4 Time Settings

Go to System Settings→Time. In this interface, time zone and the system time can be set up.



### 3.4.5 Network Settings

Click System Settings→Network to go to the network settings interface as shown below.

Network

IP Address

10.214.5.10

Subnet Mask

255.255.0.0

Gateway

10.214.0.1

Save

Port Settings

Data Port

8888

HTTP Port

80

Save

**IP Address:** It must be in the same local network segment as the IP address of the computer used to log in the web client.

**Subnet Mask:** The default value is 255.255.255.0.

**Gateway:** It must be the same with the gateway of the computer used to log in the web client.

**Data Port:** The default number is 8888. This port shall be used when you want to add this device to a surveillance platform (like NVMS).


**HTTP Port:** The default number is 80. It is recommended to change (for example: 81). This port is used to log in the Web client (for example: <http://192.168.1.201:81>).

### 3.4.6 Affiliation Settings

Go to Device Settings→Affiliation.

Searched Decoders							Refresh
No.	IP Address	Port	Subnet Mask	Gateway	Version		
1	10.214.40.249	8888	255.255.0.0	10.214.0.1	2.1.1.beta1	+	
2	10.214.11.176	8888	255.255.0.0	10.214.0.1	2.2.1	+	
3	10.214.40.203	8888	255.255.0.0	10.214.0.1	2.1.3	+	
4	10.214.40.252	8888	255.255.0.0	10.214.0.1	2.1.2	+	
Added Decoders							
AddAdd AllDelete All							
No.	IP Address	Port	Device ID	Status	Error Code	Edit	Delete
1	10.214.40.249	8888	admin	Connecting	0		

Click [Refresh] to automatically search the decoders in the same local network. When the decoder is set as “Master”, other searched decoders set as general decoders can be added into this master decoder and governed by it.

Click “+” to add the decoder. Click “Add All” to add all searched decoders. Click “” to delete the added decoder.

In this interface, you can view the status of the added decoder, including “online”, “offline”, etc.

**Note:** ① The added general decoders cannot add other general decoders.

② The master decoder cannot be added to other master decoders.

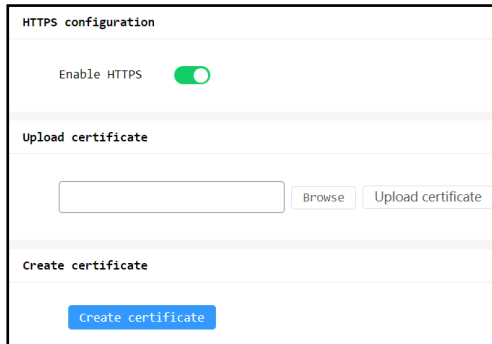
③ The added general decoder which is working cannot be added to other master decoders.

④ A maximum of 63 general decoders can be added and controlled by a master decoder.

### 3.4.7 HTTPS Configuration

HTTPS provides authentication of the web site and protects user privacy. There are two ways to enable HTTPS service.

Go to System Settings→HTTPS configuration interface as shown below.



#### A. Install a signed certificate

Enable HTTPS, click “Browse” to select the certificate you want to import and then click “Upload certificate” to upload the signed certificate.

#### B. Create a private certificate.

① Click “Create certificate”.

② Fill out the corresponding information in the creation box. Enter the country (only two letters available), state name, locality name, validity date, password and so on.

③ Click “OK”.

- ④ Click “Apply” to save the setting.

### 3.4.8 SSH Configuration

Go to System Settings→SSH Configuration. In this interface, you can enable system SSH service. This service is for test.

## 3.5 Alarm Settings

Go to System Settings→Alarm.

Name	Enable	Holding Time	Trigger Alarm Out
AlarmIn1	<input checked="" type="checkbox"/>	1Second	<a href="#">Config</a>
AlarmIn2	<input type="checkbox"/>	1Second	<a href="#">Config</a>
AlarmIn3	<input type="checkbox"/>	1Second	<a href="#">Config</a>
AlarmIn4	<input type="checkbox"/>	1Second	<a href="#">Config</a>

Apply

Alarm Input Setting:

- ① Enable an alarm input, set holding time and check “Config” to select the linkage output.

### Trigger Alarm Out

#### Selectable Alarm Out

- ☒ AlarmOut2
- ☐ AlarmOut3
- ☐ AlarmOut4

#### Selected Alarm Out

- ☐ AlarmOut1


>

<

OK

Cancel

17

- ② Check the desired output and click  to add. Then click “OK” to save the settings.
- ③ Click “Apply” to save the settings.

**Alarm Output Setting:** Select the holding time of the alarm output. Then click “Apply” to save the settings.

Name	Holding Time
AlarmOut1	1Second ▼
AlarmOut2	1Second ▼
AlarmOut3	1Second ▼
AlarmOut4	1Second ▼

**Alarm Test:** After setting sensor input and the corresponding output, use one end of the wire contact the GND interface of the decoder and use the other end of the wire to contact the alarm in interface of the decoder, the sensor output of the decoder will trigger alarms.

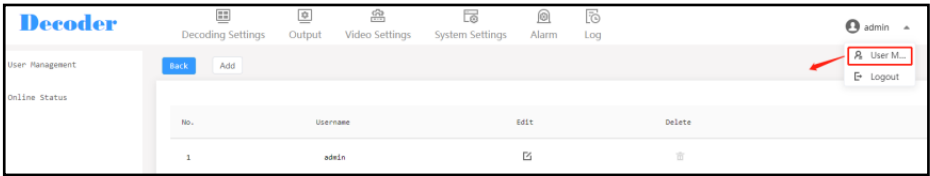
## 3.6 Log

In the log interface, you can check the log information of decoder in the set time, including record time and detailed information (username, operation type, IP address, etc.)

Decoder		
Decoding Settings	Output	Video Settings
System Settings	Alarm	Log
2022-11-22 00:00:00 - 2022-11-22 23:59:59		
No.	Log Time	Details
1	2022-11-22 15:49:56	[admin] login, addr:10.214.31.239
2	2022-11-22 15:48:36	[admin] timeout logout, addr:10.214.31.239
3	2022-11-22 15:42:50	[admin] login, addr:10.214.31.239


## 3.7 User Settings

On the top right corner of the interface, click ▼ beside “admin” and then a dropdown list will appear. Click “User Management” to enter the user management interface.



**Username:** The default username is “admin”.

**Current Password:** The default password is “123456”.

It is necessary for you to set your new password here if this is your first login. Click  to change the password. Next time, you can use your new password to log in.

Click [Add] to add a new user as needed.

**Online Status:** You can view the online user of the decoder and its IP address.

**Logout:** Click “Logout” to return to the login interface.

## 4 Connect to Platform

Only when the decoder is set to master user permission, can it be connected by a surveillance platform. Here we will introduce how to connect to NVMS as an example.

- ① Switch the decoder user permission to “Master” and then add the general decoders as needed (See [Affiliation Settings](#) for details).
- ② Network configuration. Go to System Settings→Network interface.

The screenshot shows a configuration window with two sections. The top section, titled 'Network', contains three input fields: 'IP Address' with the value '10.214.5.10', 'Subnet Mask' with '255.255.0.0', and 'Gateway' with '10.214.0.1'. Below these fields is a blue 'Save' button. The bottom section, titled 'Port Settings', contains two input fields: 'Data Port' with '8888' and 'HTTP Port' with '80'. Below these fields is another blue 'Save' button.

Network	
IP Address	10.214.5.10
Subnet Mask	255.255.0.0
Gateway	10.214.0.1
<button>Save</button>	
Port Settings	
Data Port	8888
HTTP Port	80
<button>Save</button>	

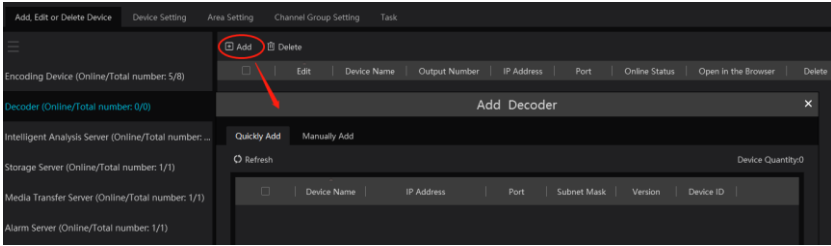
**IP Address:** It must be in the same local network segment as the IP address of the authentication/management server.

**Subnet Mask:** The default value is 255.255.255.0.

**Gateway:** It must be the same with the gateway of the authentication/management server.

**Data Port:** The default number is 8888. This port shall be used when you want to add this device to a surveillance platform (like NVMS).

- ③ Log in the monitor client of the NVMS platform system and then go to the “Add, Edit or Delete Device” interface to add decoders as shown below.



- ④ In the above interface, select “Decoder” and then click [Add] to add decoders.
- ⑤ Go to TV Wall Management interface. Add a TV wall and then bind the decoder to it. Then check the connection status of the decoder. If the decoder is added successfully, the online status will appear. (See NVMS user manual for more details).