# User Manual



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@1080P; HDMI1 and HDMI3 support 4K
- 4\*VGA output, 4\*BNC output
- Support PS, RTP, TS, ES package format (in platform running mode)
- Support NTSC&PAL video format
- H.265 HP/MP/BP and H.264 HP/MP/BP
- 8CH 8MP/5MP@30fps or 16CH 4MP/3MP or 32CH 1080P@30fps or 64CH 720P@30fps or 128 CH D1 or lower @30fps
- G.711A/G.711U
- 1 CH audio input; 4 CH audio output
- 1 CH talkback

### **Decoding Control**

- Support live view and playback decoding
- 1/4/9/16/25/36 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

1

- 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

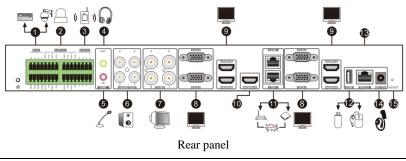
## **1.3 Front-panel Descriptions**



#### 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 Real-panel Descriptions**



Number	Description
1	RS485 interfaces (currently no function)
2	8CH alarm output (currently no function); Relay output. Connect to external alarms.
3	8CH alarm input (currently no function)
4	Connector for audio output (used for two-way talk)
5	Connector for audio input (used for two-way talk)
6	Audio output ×4
7	CVBS output ×4
8	VGA output ×4 (1920×1080,1280×1024)
9	HDMI output × 4 (HDIM1/HDMI3: 3840×2160, 1920×1080,1280×1024; HDMI2/HDMI4: 1920×1080,1280×1024)
10	HDMI input × 1
11	Gigabit Ethernet port×2
12	Connector for external USB devices (like USB mouse)
13	RS232 serial port
14	DC12V power input
15	Reset

# 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.

Device Network Search									
Immediate Refresh 🔻 🧻 About									
Device Name	Device Type	Product Model	IP Address	Http Port	Data Port	Subnet	Modify Network Parameter	<b></b>	
decoder	decoder		192.168.226.201	80	8888	255.255	Mac Address CE :98 :23		
							IP Address 192.168.	1.201	
							Subnet Mask 255.255	255.0	
							Gateway 192.168	226.1	
								Modify	
							Tip: Enter the administrator then modify the network part		
							· · ·		
							Restore IPC Default Configu	iration V	
<						Þ			
Total Device		Local IP A	ddress:192.168.1.	4 Subnet Ma	ask:255.255.2	55.0 Ga	teway: 192.168.1.1 DNS : 2	210.21.196.6	

(4) Modify the IP address. Click the information of the decoder listed in the above table to show the network information. Modify the IP address and gateway of the decoder and make sure its network address is in the same local network segment as the computer's. Please modify the IP address of your device according to the practical situation.

Double click the decoder information in IP-Tool or directly enter IP address in the web browser to access. Here we take IE client for example.

Username	
admin	
Password	
•••••	
Rember Passwor	d

Username: The default username is admin.

**Password**: The default password is 123456.

Enter the default username and password and then click [Login].

# **3** Device Configuration via Web

## 3.1 Video Settings

## 3.1.1 Video Management

Go to Video Settings  $\rightarrow$  Video. There is a local video output by default.

Decoder	Decod	ing Settings Output	Cideo Settings	System Settings	Alarm Log		
Video	Quickly	Add Manually Add	Velete				
ce	Add Video						×
Video Group	No. 🗆	IP Ac	dress	Port		Туре	
	1 🗆	10.21	4.40.51	9008		IPC	Î
	2 🗆	10.21	1.49.13	6036		NVR	
	3	10.214	199.100	9008		IPC	
	4 🗆	10.21	4.48.35	9008		IPC	
	5 🗆	10.21	4.40.2	9008		IPC	
	6 🗆	10.21	4.40.53	9008		IPC	
	Username adn	nin Passv	rord	Channel Number	1	ОК	Cancel

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.

Ma	nually Add							×
	Name		Туре		Channel Number	Username	Password	Delete
		IPC 🔻	0.0.0.0	9008	1	admin		Ť
								_
							Cancel	Add

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

No.		Name	IP Address	Port	Туре	Channel Number	Edit	Delete
1		decoder_imput	decoder_input	0		0		
2	8	10.214.40.51-9008	10.214.40.51	9008	Tec	1		亩
				Edit Video		×		
				Name	10.214.40.51-9008			
				IP Address	10.214.40.51	: 9008		
				Channel Number	1			
				Username	admin			
				Password				
					ОК	Cancel		

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

## 3.1.2 Video Group Settings

Go to Video Settings  $\rightarrow$  Video Group. Then click  $\bigcirc$  to assign channels for the desired group.

HD Decoder User Manual

Add Group			×
Group Name			
Time	10Seconds		•
Monitor Point			Q
± 🕅 🗎	Input source		
		ОК	Cancel

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

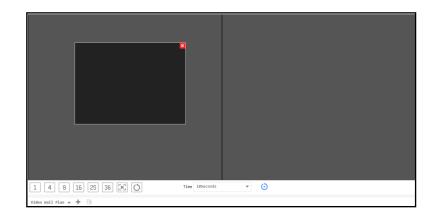
Click 🔟 to modify the added group; click		to delete the added group.
--	--	----------------------------

## 3.2 Decoding Settings

Please refer to Basic Settings for user permission setting.

## 3.2.1 Open Window

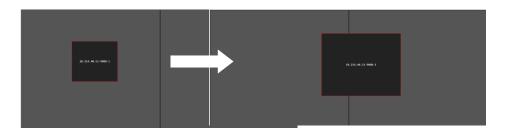
Go to the decoding settings interface. Press the right mouse button and drag on the output window to open a window.



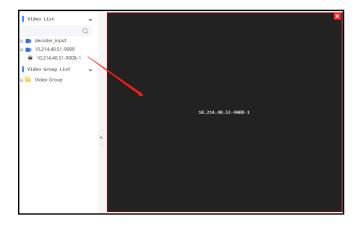
Drag a video to the drawn window to decode the video.



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.



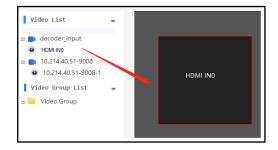
Directly drag a video to the output window to create a window that fits to the output window by default.



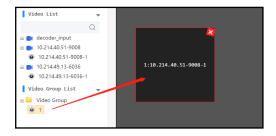
Click "**X**" on the top right corner of the drawn window to delete it.

## 3.2.2 Decoding Operation

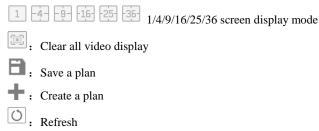
**Decoder Input:** Input the video source through HDMI IN interface in the real panel and then drag HDMI-IN0 to a window to bind the HDMI-IN0 and the monitor in the decoder settings interface as shown below.



**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).

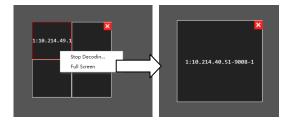


#### Button Description:



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

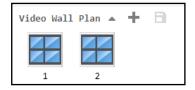
Plan settings: There are two ways to set a plan.

(1) Drag videos to the left windows separately and then click  $\square$  to save the plan.

② Click + to enter the plan name and then drag videos to the left windows separately. After that,

click **b** 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 b to view these plans in sequence.

## 3.3 Output Settings

Go to Output Settings $\rightarrow$ Output interface as shown below.

Decoder	Decoding Settings	Output	Kideo Settings	System Settings	<u>@</u> Alarm	E Log		🙆 admin 🔹
outputs	Video Wall							
<ul> <li>HDMI3</li> </ul>		HDMD	( <b>0</b>				HOMI1	
		HOM	12				HOME3	
	ī							

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 two or more than two outputs. Thus, users need to click " III" to customize output layout as shown below.

Set Screen	Number		×
row			
column			
	ОК	Cancel	

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  $\rightarrow$  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.

Basic Settings		
User Permission	Master	-
Device Name	Decoder	
Save		
Display		
Monitor 1 Resolution	1920x1080	Ŧ
Monitor 2 Resolution	1920x1080	*
Monitor 3 Resolution	3840x2160	*
Monitor 4 Resolution	1280x1024	•
Video Format	PAL	*
Save		
Window Settings		
DrawBorder ShowWindowTD		

User Permission: "Master" or "General" can be selected.

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

Video Format: Choose "PAL" or "NTSC" as needed.

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  $\rightarrow$  System Maintenance interface.

Upgrade	
Upgrade	Browse Upgrade

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 $\rightarrow$ Reboot.

#### Reset Settings

The system can be restored to the default settings by clicking [Reset] in the following interface (Device Settings  $\rightarrow$  Reset).

#### 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  $\rightarrow$  Time. In this interface, time zone and the system time can be set up.

Date And Time		
Time Zone	GMT+08 Beijing, Hong Kong, Shanghai, Taipei	Ŧ
System Time	2022-11-22 11:56:40	
Save		

### 3.4.5 Network Settings

Click System Settings  $\rightarrow$  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: <u>http://192.168.1.201:81</u>).

## 3.4.6 Affiliation Settings

Go to Device Settings  $\rightarrow$  Affiliation.

Searched Decoders	Refresh							
NO.	IP Address	Port	Subnet Hask	Gateway	Version			
1	10.214.48.249	8888	255.255.0.0	10.214.0.1	2.2.1.beta1		+	
2	10.214.11.176	8888	255.255.0.0	10.214.0.1	2.2.1		+	
3	10.214.40.253	8888	255.255.0.0	10.214.0.1	2.1.3		+	
4	10.214.48.252	0000	255.255.0.0	10.214.0.1	2.1.2		+	
Added Decoders	Add Add All Del	lete All						
NO.	IP Address	Port	Device ID	Status	Error Code	Edit	Delete	
1	10.214.48.249	8888	admin	Connecting	a	ß	古	

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 " a " 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  $\rightarrow$  HTTPS configuration interface as shown below.

HTTPS configuration
Enable HTTPS
Upload certificate
Browse Upload certificate
Create certificate
Create certificate

#### 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.

## 3.5 Alarm Settings

Go to System Settings  $\rightarrow$  Alarm.

Alarm In	Name	Enable	Holding Time	Trigger Alarm Out
Alarm Out	Alernini		1Second v	Config
	Alarmini		15econd v	Config
	Alarmin3		1Second v	Config
	Alernin4		1Second v	Config
	Alarmins		1Second v	Config
	Alarminó		1Second v	Config
	Alernin7		1Second v	Config
	Alarmins		15econd v	Config
	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		Selected Alarr	n Out
AlarmOut2		🗆 AlarmOut1	
🗆 AlarmOut3			
AlarmOut4			
□ AlarmOut5			
AlarmOut6	Č	)	
AlarmOut7	<		
AlarmOut8			
		ок	Cancel

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.

Alarm In		
Alarm Out	Nane	Holding Time
	AlarmOutl	5Seconds 💌
	Alarativt2	10Seconds 👻
	Alarrifort3	2Seconds 👻
	Alarridut4	20Seconds 👻
	AlarriOvt5	1Minute 👻
	Alarw0ut6	2Minutes 💌
	Alarsfut7	5Seconds 👻
	Alarworts	105econds 👻
	Apply	

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	<b>⊉</b> Output	Video Settings	System Settings	<u>@</u> Alarm	Fo Log		
2022-11-22 00:00:00 - 2022-11-22 23:59:	59							
No.	Log Tim	•					Details	
1	2022-11-22 1	5:49:56				[a	dmin] login, addr:10.214.31.239	
2	2022-11-22 15:48:36					[admin]	timeout logout, addr:10.214.31.2	239
3	2022-11-22 1	5:42:50				[a	dmin] login, addr:10.214.31.239	

## 3.7 User Settings

On the top right corner of the interface, click  $\bullet$  beside "admin" and then a dropdown list will appear. Click "User Management" to enter the user management interface.

Decoder	Decoding Settings	Output Video	Settings System Set	🔘 ttings Alarm	E Log		🕒 admin 🔺
User Management	Back Add						R User M E Logout
Online Status							
	No.	Username		Edit		Delete	
	1	admin		Ľ		亩	

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 <u>Affiliation Settings</u> for details).

② Network configuration. Go to System Settings → Network interface.

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 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.

Add, Edit or Delete Device Devi									
Ξ	(								
Encoding Device (Online/Total num	iber: 5/8)								
Decoder (Online/Total number: 0/0)					Add	Decode			
Intelligent Analysis Server (Online/T		Quickly Ad	id Manua	ily Add					
Storage Server (Online/Total number: 1/1)								Device Quantit	
Media Transfer Server (Online/Total									
Alarm Server (Online/Total number:									

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).

Create TV Wall										
🚯 Basic Layout Config 🚽 😔 Bind Decoder										
Decoder Output		HDMI0	HDMI1							
Add Decode										
🗆 🔷 Dece 🛱 H	der út DMIO 🥑									
G, H										
В, Н	DMIZ 🥑									
В, Н										
📾 Decode										
📾 Decode										
🖨 1102D										
fi 123										
				Prev	vious Cancel Finish					