4 Channel Network Video Decoder User Guide

(V3.0)

2011-5
The aim of this handbook is to help user managing and using the series network decoders and decoder cards made by our company. In order to achieve highly performance of products, you may need to know basic network knowledge before reading this handbook. You can also find more information you need from online help. The explanation take the single channel device as sample to illustrate the decoder’s usage.

**The notice tag in this handbook**

  - **Caution!** — a potential danger of server damage.
  - **Important!** — an operation that will severely impaired the capability of server.
  - It is recommended do not use these operations unless you are quite understanding them.

**Intellectual property rights**

All products in this handbook have entire independent intellectual property rights. Any individuals or organizations are not allowed to infringe upon any products or reproduce documents of products made by our company.

**Support and service**

For any technical problems, please contact your local vendor. If your problem can not be solved immediately, the problem will be sent to our technical department to ensure it can be solved as soon as possible. You may also find your answer via following methods:

1) Download the latest version installation package to upgrade application by accessing our website.
2) Find answer from FAQ page in our website.
3) Contact technical support personnel via IM software.

**Detailed list**

After open the network video decoder packing, please carefully according to following form checkup appendix detailed list
### Packing detailed list

<table>
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<th>number</th>
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<td>1</td>
</tr>
<tr>
<td>4 channel</td>
<td></td>
</tr>
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<td>Power(including power line)</td>
<td>1</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>instruction</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td></td>
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<tr>
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<td>1</td>
</tr>
<tr>
<td>certificate</td>
<td>1</td>
</tr>
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1. Products overview

1.1. Main function

Network video decoder can smoothly integrate the standard H.264 bit stream into your current analog security system. Network video decoder converts digital image signal to quality analog signal through its advanced digital-analog conversion system using advanced decoding arithmetic (H.264), and then send analog signal to the monitor or video-wall.

Video decoder can smoothly integrate your analog system into the digital world, connect your monitor or video-wall with the IP-based network, enjoy the security and convenience providing by digital technology, achieving remote surveillance, control, and management.

1.2. Characteristic

Basic function:

- Supports PAL/NTSC complex video; performs a full D1 bit stream decoding
- Supports a group simulated video output, two group video frequency servers and four groups servers may choose the single picture decoding output or all pictures also output;
- Supports this company two group video frequency servers, four group video frequency servers and the network camera series (H.264) and so on the product decoding outputs the bank of television monitors;
- Supports two-way audio intercom, real-time transmission
- Embedded GUI. Easy and convenient operation way
- Connects with keyboard/matrix via RS485, network keyboard function
- Supports remote PTZ control
- Supports channel selection and programmable control channel inspection
- Supports SDK development and central management

1.3. Specification
## 4 Channel Network Video Decoder User Guide

<table>
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<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td><strong>Codec</strong></td>
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<td><strong>Resolutions</strong></td>
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<tr>
<td></td>
<td>QCIF(PAL: 176<em>144, NTSC: 176</em>120)</td>
</tr>
<tr>
<td><strong>Video out</strong></td>
<td>1 channel BNC (level: 1.0Vp-p, impedance: 75Ω)</td>
</tr>
<tr>
<td><strong>Frame rate</strong></td>
<td>PAL: 1—25 fps, NTSC: 1—30fps</td>
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<tr>
<td><strong>Bitstream type</strong></td>
<td>Video stream or complex stream</td>
</tr>
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<td><strong>Audio in</strong></td>
<td>1 channel BNC (line in, impedance: 600Ω)</td>
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<tr>
<td><strong>Audio out</strong></td>
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<td><strong>Audio compression type</strong></td>
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<td><strong>Network interface</strong></td>
<td>RJ45 10M/100M LAN, RS485</td>
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<td><strong>Alarm in</strong></td>
<td>2 channels on-off input</td>
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<td>2 channels on-off output</td>
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<td><strong>Power supply</strong></td>
<td>DC 12V</td>
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<td><strong>Power consumption</strong></td>
<td>Less than 3W</td>
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<tr>
<td><strong>Working temperature</strong></td>
<td>-10°C -- +50°C</td>
</tr>
<tr>
<td><strong>Working humidity</strong></td>
<td>10% -- 90%</td>
</tr>
</tbody>
</table>
2. Device panel description & Hardware installation

2.1. Device panel description

Front panel:

Each indicator light means: (from left to right in turn)

1. **PWR**: Power indicator. When the indicator lights up, it means the power is turned on.
2. **RUN**: Run indicator. When the indicator is flashing, it means the system is work well.
3. **LINK**: Network status (connected/disconnected) indicator. When the indicator lights up, it means the network is connected. When the indicator goes out, it means the network is disconnected or has problems.
4. **ACT**: Network (send/receive) indicator. When the indicator lights up and is flashing, it means current network is active and working well. When the indicator lights up but is not flashing, it means the network is connected but inactive. When the indicator goes out, it means network is disconnected or in other circumstances.
5. **HDD**: Hard disk run indicator.
6. **RST**: Reset button, it is used to restore factory default parameters of device, including IP address and user password.
7. **SIM**: Socket of SIM card, decoder not support.
8. **USB**: Socket of USB, decoder not support.

Back panel:
Interface description (from left to right in turn)

1. **VOUT:** video output, 1 channel video input, standard BNC connector Jack.
2. **ANT:** antenna interface (WIFI/3G antenna), decoder not support.
3. **GROUND:** ground wire.
4. **ON/OFF:** Power Switch button.
5. **AIN:** Audio input, 1 channel audio input, standard BNC connector Jack.
6. **MIC:** audio intercom input, connect with passive device
7. **AOUT:** Audio output, connect with active device.
8. **VGA:** VGA video out.
9. **NET:** standard network RJ45 port
10. **Alarm In:** Alarm in, decoder not support.
11. **COM1 NO1:** 1 channel alarm out.
12. **GND:** GND is common ground wire.
13. **+,-:** RS485 connection terminal+, -.
14. **+12V:** Output power(12V, 800mA).

**DC12V:** Power socket, please use proper adapter connect with 12V DC power supply.

### 2.2. Hardware installation

#### 2.1.1. Installation steps

1. Unpack the case and check if all things in the case are in good condition
2. Take out devices which will be installed
3. Connect devices with all cables (video signal input cable, audio signal input cable,
4. Take out adapter and connect it with power supply and devices

*Notice: connect video and audio cable, RS485 cable, and LAN cable and power supply in turn.*

### 2.2.2. Notice

Please carefully read this part. For any further enquiry please contact us.

1. Please check out all things in the case you received are accord with your list
2. Please read user handbook carefully before the installation
3. Please switch off all power supply of devices before the installation of 7000 series video decoder
4. Check the voltage of power supply to avoid device damage
5. Installation environment: please do not use device in high temperature or wet environment. Please keep device proper ventilated and horizontal, prevent the air intake from being foul.

### 2.3. Client software installation

Run setup on windows, double click your left mouse button, it will be an “Installation wizard” dialogue box, as following figure:

![Choose Setup Language](image)

*Figure 2-1 Choose installation language*

Choose language and click “Yes”, there will be a dialogue box:
Click “Next”, there will be a dialogue box:

To display your license agreement, replace the License.txt file currently located in the Language Independent\Operating System Independent folder of the Setup Files pane.

NOTE: The text in your license file should contain hard returns after lines with more than 1,024 characters.

Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install NVClient, you must accept this agreement.
Click “Yes”, there will be a dialogue box:

Choose installation folder, click “Next”, there will be a dialogue box:
Figure 2-5 Start to copy files

Click “Next”, move to the installation process:

![InstallShield Wizard](image)

NVClient Setup is performing the requested operations.

Installing
C:\Program Files\NetVideo\NVClient\v11.5.dll

57%

Figure 2-6 Start the installation

When the installation is finished, there will be a dialogue box:
Click “Finish” button, client software was installed into the system default directory and there will be a “NetView” program group on the “Start” → “Program” of the windows system.

3. Decoder configuration

Decoder default network parameter:

**IP Address**: 192.168.1.98  
**Subnet mask**: 255.255.255.0  
**Default gateway**: 192.168.1.1  
**DNS server**: 202.96.134.133
3.1. Decoder login

3.1.1. Login steps:

◆ **Step 1:** Increases one IP address which visits mutually with the decode: for example 192.168.1.99, steps as follow:

**If you are using the Windows 2000/XP operating system**

After login the OS, just click 【start】→【Control Panel】→【Network Connections】. now right click the 【Local Area Connection】 which connected your DVS, 【Properties】 item, select the 【General】 tab and look for 【Internet Protocol (TCP/IP)】 , double click the 【Internet Protocol (TCP/IP)】, spring the window as follow:

![Internet Protocol (TCP/IP) Properties](image)

Figure 3-1（Set the network parameter of computer）
Select “Use the following IP address”, input ip address 192.168.1.99 (Or identical webpage other not the IP address which conflicts with 192.168.1.98), Subnet mask 255.255.255.0, Default gateway 192.168.1.1. Then click OK and Waited for the system disposition finished.

If you are using the Windows Vista system

After login the OS, just click 【start】→【Network and Internet】→【Network Connections】 , now right click the 【Local Area Connection】 which connected your DVS, choose the 【Properties】 item, select the 【General】 tab and look for 【Internet Protocol (TCP/IP)】 , double click the 【Internet Protocol (TCP/IP)】 , spring the window as follow:

![Internet Protocol (TCP/IP) Properties](image)

Figure 3-2 (set the network parameter of the computer)
Select “Use the following IP address”, input IP address 192.168.1.99 (Or identical webpage other not the IP address which conflicts with 192.168.1.98), Subnet mask 255.255.255.0, Default gateway 192.168.1.1. Then click OK and Waited for the system disposition finished.

◆ **Step 2**: Run “NVClient” in the “Start”→”Program”→”NetView” menu, input username and password (default value is empty) to login the system.

◆ **Step 3**: Select “Login Server”, input username and password.

![Open Server](image)

**Figure 3-3**（Login window）

◆ **Step 4**: Input the username and password (default value are admin), click “Ok”, the decoder will become to the login successful status.

### 3.2. Decoder configuration

Enters the parameter Setting three methods:

**Method 1**: Select the decoder after login, select “Setting Configuration” with right key

**Method 2**: Select the decoder after login, click the button on the main menu to pop up the remote configuration window

**Method 3**: Select the decoder after login, press F5 key
3.2.1. Channel setting

Enters the parameter setting and select the Camera Setup, which encoder can connect the decoder in here you to have to connect.

Step in the Setting Configuration and select the Camera Setup, then you can set which encoder the decoder could connect.

![Remote configuration window](image)

Figure 3-9Remote configuration window

**Alone**

*Alone*: Only connects an encoder the image. If is the multi-channel video frequency encoder may choose the random channel decoding output also to be possible to choose an encoder all channels simultaneously to decode the output;
**Enable Auto Connect**: Auto connect to encoder;  

**Address**: input encoder domain address for the domain or the encoder IP address for the IP Add. 

**Port**: input the decoder port 

**Username, Password**: input the username and password for decoder login 

**Channel**: Which channel connects the encoder. If is the multi-channel network video frequency encoder may choose “all channels”, realization multi-channel video frequencies by picture division way output;  

After above parameter establishment correct, then clicks on [connection] the button to connect the corresponding encoder, if wants to separate the connection click [separation] then

**Cycle**

**Cycle**: May connect the multi-Taiwan encoder, according to establishment time-gap circulation cut decoding output; This company's decoder are most may support 16 group circulation decoding output, Steps:  

🔹 **Step 1**: Select [Cycle];  
🔹 **Step 2**: Double click [Info] (1—16), and clicked;  
🔹 **Step 3**: Choice Address in [Connect Info]: [Domain or IP Add];  
🔹 **Step 4**: Input the message [Server Add, Port, User Name, Password, Channel] of the DVS which needs to connect;  
🔹 **Step 5**: [Switch Times]. Input the time of the circulation show. The minimum value is 10S;  
🔹 **Step 6**: After the above establishment completes, clicks [Modify] ;  
🔹 **Step 7**: Continues to increase other circulation server address;  
🔹 **Step 8**: Click [Cycle Connect]. Ok, save to FLASH.
3.2.2. Alarm Output Setting

The DVS may carry on the linkage with the front end network video frequency encoder to alarm output

◆ **Step 1**: Sets at the network video encoder warning parameter, for example the warning type, the deploying troops for defense time and deploy troops for defense the region and so on

◆ **Step 2**: Connects the network video decoder to the alarm output device, like connection buzzer and so on;
◆ **Step 3**: Click 『Enable Alarm Link』;
◆ **Step 4**: According to the front alarm type, chooses the corresponding option, following shown in Figure 3-6
◆ **Step 5**: Click 『Save』

![Parameter Setting 192.168.1.98(8200)](image)

**Figure 3-6** （the decoder alarm output setting）

[Server Sensor State] Hand control four alarm output, tacitly approves does not hit cancels, hits cancels the expression the alarm output take-off.
3.2.3. Other Setting

![Parameter Setting 192.168.1.98(8200)](image)

Figure 3-7 (Decoder transparent transmission setting)

1) **COM (485)**

May set the transparent transmission function in here, the so-called transparent transmission is no matter passes on the data is any type bit combination, all must be able to transmit on the link. When passes on in the data a bit combination by chance is completely same with some control information, must take the suitable measure, causes the debit not to be able to take for such data is some kind of control information. This can
guarantee the data link layer the transmission is transparent. The transmitting end and the receiving end data length and the content are completely consistent, are equal to an invisible transmission line, the control device like simulate the keyboard to be possible to pass to meet on the encoder using the decoder transparent transmission function 485 control signals raping, the realization simulation keyboard positive governing rape the revolving goal.

**Application Intro**

Uses the transparent transmission function, may turn on the simulation keyboard; and existing simulation gating matrix realization interconnection; May provide the transparent channel for other factory control system

**Configuration steps:**

- **Step 1:** Recording needs the transparent transmission facility the baudrate, the parity check, the data position, stops informations and so on position;
- **Step 2:** Click [Enable Transparent Transmission]
- **Step 3:** Setting [Baud Rate, CRC, Stop]
- **Step 4:** Click [Save]

2) **Set the cushion frame of the decoder**

Set the decoder the cushion frame number, the cushion scope is 0 ~ 100, set 0 o'clock decoders the pictures to be possible with the encoder synchronization output, may adjust the high cushion frame number suitably in the network situation quite bad situation.

3.2.4. **System setting**

Click the system setup, the system configuration interface will be displayed:
Figure 3-8 (system setting)

1) Network Setting

In [Network Setup]:

- **IP Add**: IP address is the address of video decoder in the network, please enquire this value from your network administrator, invalid or address conflict will cause video server connection failed.
- **Mask, Gateway**: Please enquire your network administrator.
- **DNS**: Please enquire your network administrator. Where is this function mainly the decoder analysis domain name is needs to assign to be able to analyze is the
domain name analysis decodes its address, fills in according to the use network environment;

- **Port**: it is the listening port providing data services including video and audio stream service and setting service.

2) **Audio & System setting**

- **Language**: There are Chinese and English languages for selection, select a language and click “set” button, the decoder will display the corresponding language in the monitor output process.
- **Decoder audio output**: Clicking “√” on “□” in the “decoder audio output” means system will decode audio stream, otherwise the decoder will only decode video stream.
- **Output Channel X Audio**: Select the channel of the audio output.
- **Default**: Restore all parameters with factory settings except network settings and password.
- **Reboot**: click the Reboot button;
- **Save FLASH**: Click this button when you finished corresponding setting options to save setting into the flash.

3) **System Upgrade**

**Warning!** -- Please do not use this function except professionals.

**Danger!** -- Make sure the promotion time decoder network maintenance is smooth, maintains the power supply to be stable surely.

Click “browse” button to select the upgrade file, as following figure:
Figure 3-12 Select the upgrade file

The software version and description will be displayed:
Figure 3-13 After the upgrade file selection

Then click “Upgrade”, click “Ok” button in a pop-up box.

Figure 3-14 Start to upgrade

The system will start the upgrade process. A progress bar will show the real time upgrade progress.
5. Figure 0-1 Upgrading

6.

7. When the upgrade finished, there will be a status bar showing “Update success. The server will restart”. After the restart you can check if the system is the same version as your upgrade package.

4. Stream Matrix

4.1. Function intro

The Stream Matrix is composed by the network video decoder, each network video
decoder correspondence monitoring center video window, after in the video window picture cut the decoder output channel also can with the cut.

4.2. Setting the Stream Matrix

◆ **Step 1**: Click on the host contact surface button to spring locally establishes the contact surface, enters [Stream Matrix] the attribute page; Following shown in Figure 4-1:

![Local Setup](Image)

- **Step 2**: Click the Index, 1-36 number can be possible to elect;
- **Step 3**: According to the demand, pulls in the option menu in [Nvd Server] to
choose the decoder, and fills in the decoder the **[Port, User name, Password]**;

**Step 4:** The choice data obtains the way, respectively is the Get from Server and the central repeater way;

**Step 5:** Click **[Modify]**, Choose **[Apply, OK]**, Save;

After the establishment completes as shown in Figure 4-2:

![Stream Matrix setting](image)

Figure 4-2 (Stream Matrix setting)
5. Virtual Matrix

5.1. Function intro

Set the virtual matrix, may cause the channel of the network video encoder and the channel of the network video decoder corresponds, the realization cuts the function willfully.

5.2. Setting the Virtual Matrix

◆ Step 1: clicks on the host contact surface button $\text{Local Setup}$ to spring locally establishes the contact surface, enters [Virtual Matrix] the attribute page; Following shown in Figure 5-1:
Step 2: 5-1 saw from Figure renovates all encoders and the decoder under the Virtual Matrix, chooses first wants the encoder channel which connects through the decoder, then chooses the decoder channel again, following shown in Figure 5-2:
- **Step 3:** The click [**Connect**] springs this login encoder window, following shown in Figure 5-3:
Step 4: After the input user name and the password, [Connect state] that fence appears current is at the connection condition the encoder and the decoder sees the chart green frame, following shown in Figure 5-4:
Figure 5-4  (current connection state)

If wants to use this decoder to decode other encoder channel, presses down [Break] the key, separates currently is in the connection with this decoder the encoder connection, then the repetition above step carries on the establishment.

◆ **Step 5:** Click [OK], save the setting.
Appendix I: FAQ

1) unable through the IP address connection network video encoder
   ➢ Inspection network video encoder whether online, may through the PING order examination;
   ➢ Inspects information and so on IP address, port number, user name, password in the network video decoder connection information whether with network video encoder correspondence.

2) unable through the domain name connection network video encoder
   ➢ Inspection network video encoder dynamic domain name analysis serves whether begins using normally;
   ➢ Inspects informations and so on domain name, port number, user name, password in the network video decoder connection information whether with network video frequency encoder correspondence.

3) The decoder outputs on monitoring device non-picture output
   ➢ Inspects above two kind of situations;
   ➢ Inspection connection monitoring device and decoder video output electric cable whether damages, or the contact is not good;
   ➢ The decoder outputs on monitoring device non-picture output.
Appendix II: Network Video Decoder

Connection diagram