



NDS3218A 8 in 1 MPEG4 AVC/H.264 HD Encoder

User's Manual

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NMS Version: 2.2.5

SW: 0.17F

HW: 0.8

Chengdu Dexin Digital Technology Co., Ltd.

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Chapter 1 Product Introduction

1.1 Outline

The DEXIN NDS3218A 8-in-1 MPEG-4 AVC/H.264 HD encoder is our newest professional HD audio & video encoding and multiplexing device with powerful functionality. It is equipped with 8 HDMI channels input supporting MPEG-4 AVC/H.264 High Profile code format & main Profile code format and 1 ASI input. It can multiplex the ASI input TS and the 8 encoded SPTS to generate a MPTS output with the inserted PSI/SI information. In conclusion, its high integration and cost-effective design make this device widely used in variety of digital distribution systems such as CATV digital head-end, satellite and terrestrial digital TV, etc.

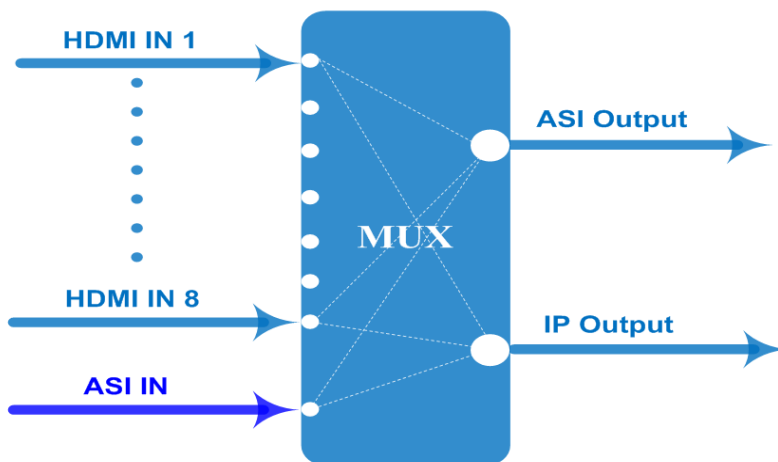
1.2 Main Features

- Support 8 HDMI channels input & 1 ASI Input
- Support H.264/AVC high profile level 4.0 video encoding
- Support MPEG1 Layer 2 (HE-AAC (V2) or LC-AAC optional) audio encoding
- Support PSI/SI editing and inserting
- Support VBR or CBR video bitrate mode
- Support 720P, 1080I, 1080P HD video format
- Support ASI output MPTS or 8 SPTS
- Support IP Output MPTS and 8 SPTS
- Support IP null packet filter
- Support PID filter and transparent transport
- Real-time output bit-rate monitoring
- Update device through NMS port
- Support LCD / keyboard operating, and network management (SNMP)

1.3 Specifications

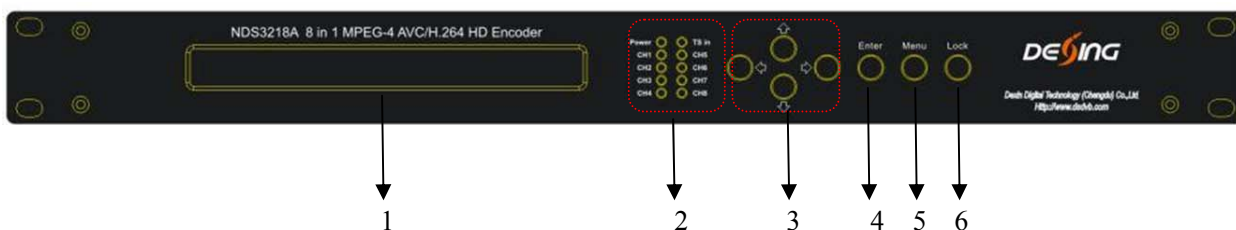
Input	8 HDMI inputs	
	1 ASI input, BNC interface	
Video	Resolution	1920×1080_60P, 1920×1080_50P
		1920×1080_60i, 1920×1080_50i
		1280×720_60P, 1280×720_50P
		720x576_50i, 720x480_59.95i
	Encoding	MPEG-4 AVC/H.264 high profile level 4.0
	Bit-rate	0.8Mbps~19Mbps (each channel)
	Rate Control	CBR/VBR
	GOP Structure	IBBP
Advanced Pretreatment	De-interlacing, Noise Reduction, Sharpening	
Audio	Encoding	MPEG-1 Layer II, HE-AAC (V2), LC-AAC
	Sampling rate	48KHz
	Resolution	24 bit
	Bit-rate	64Kbps~384Kbps each channel
Multiplexing	1 ASI input multiplexed with local 8 channels of TS	
Stream output	2*ASI output, BNC interface	
	MPTS and 8 SPTS over UDP, 1000 Base-T Ethernet interface (UDP unicast / multicast)	
System function	LCD/keyboard operating, NMS supporting	
	Chinese-English control interface	
	Ethernet software & hardware upgrade	
Miscellaneous	Dimension (W× L× H)	440mm×410mm×44.5mm
	Approx weight	4kg
	Temperature	0~45℃(work), -20~80℃ (Storage)
	Power	AC 100V-220V±10%, 50/60Hz
	Consumption	25W

1.4 Principle Chart



1.5 Appearance and Illustration

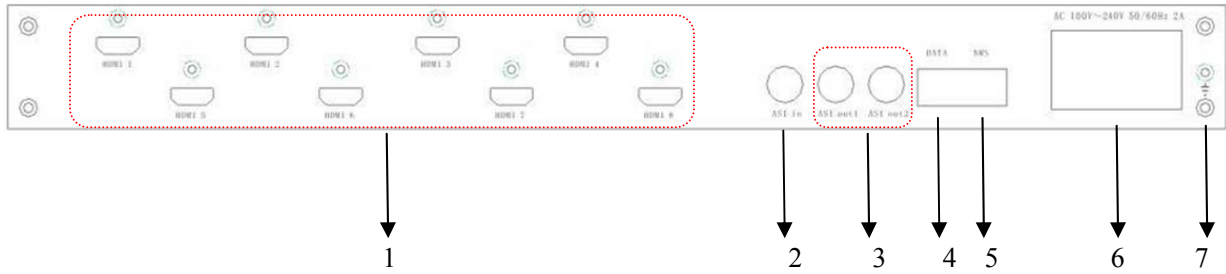
Front Panel Illustration:



Indicate area: All indicators will light on when the device is on the current working state.

1	LCD Screen	
2	Indicators	Power Indicator
		TS In: Input Lock Indicator
		CH1-CH8: When the program has been multiplexed, the indicator will be on.
3	UP/ DOWN, LEFT/RIGHT Keys	
4	Enter Key	
5	Menu Key	
6	Lock Key	

Rear Panel Illustration:



1	8 * HDMI Input Ports
2	ASI Input Port
3	2 * ASI Output Ports
4	Data Port (for IP Signal Output)
5	NMS (Network Management Port)
6	Power Switch and socket
7	Grounding Pole

Chapter 2 Installation Guide

2.1 Acquisition Check

When users open the package of the device, it is necessary to check items according to packing list. Normally it should include the following items:

- NDS3218A 8 in 1 MPEG-4 AVC/H.264 HD Encoder
- User's Manual
- HDMI Cable
- ASI Cable
- Power Cord

If any item is missing or mismatching with the list above, please contact local dealer.

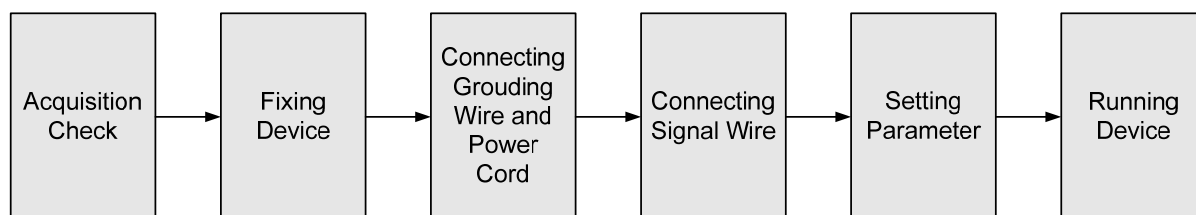
2.2 Installation Preparation

When users install device, please follow the below steps. The details of installation will be described at the rest part of this chapter. Users can also refer rear panel chart during the installation.

The main content of this chapter including:

- Checking the possible device missing or damage during the transportation
- Preparing relevant environment for installation
- Installing Encoder
- Connecting signal cables
- Connecting communication port (if it is necessary)

2.2.1 Device's Installation Flow Chart is Illustrated as following:



2.2.2 Environment Requirement

Item	Requirement
Machine Hall Space	When user installs machine frame array in one machine hall, the distance between 2 rows of machine frames should be 1.2~1.5m and the distance against wall should be no less than 0.8m.
Machine Hall Floor	Electric Isolation, Dust Free Volume resistivity of ground anti-static material: $1 \times 10^7 \sim 1 \times 10^{10} \Omega$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/m ²)
Environment Temperature	5~40°C(sustainable), 0~45°C(short time), installing air-conditioning is recommended
Relative Temperature	20%~80% sustainable 10%~90% short time
Pressure	86~105KPa
Door & Window	Installing rubber strip for sealing door-gaps and dual level glasses for window
Wall	It can be covered with wallpaper, or brightness less paint.
Fire Protection	Fire alarm system and extinguisher
Power	Requiring device power, air-conditioning power and lighting power are independent to each other. Device power requires AC power 220V 50Hz. Please carefully check before running.

2.2.3 Grounding Requirement

- All function modules' good grounding designs are the basis of reliability and stability of devices. Also, they are the most important guarantee of lightning arresting and interference rejection. Therefore, the system must follow this rule.
- Coaxial cable's outer conductor and isolation layer should keep proper electric conducting with the metal housing of device.
- Grounding conductor must adopt copper conductor in order to reduce high frequency impedance, and the grounding wire must be as thick and short as possible.
- Users should make sure the 2 ends of grounding wire well electric conducted and be antirust.

- It is prohibited to use any other device as part of grounding electric circuit
- The area of the conduction between grounding wire and device's frame should be no less than 25mm².

2.2.4 Frame Grounding

All the machine frames should be connected with protective copper strip. The grounding wire should be as short as possible and avoid circling. The area of the conduction between grounding wire and grounding strip should be no less than 25mm².

2.2.5 Device Grounding

Connecting the device's grounding rod to frame's grounding pole with copper wire.

2.3 Wire's Connection

The grounding wire conductive screw is located at the right end of rear panel, and the power switch, fuse, power supply socket is just beside, whose order goes like this, power switch is on the left, power supply socket is on the right and the fuse is just between them.

- Connecting Power Cord

User can insert one end into power supply socket, while insert the other end to AC power.

- Connecting Grounding Wire

When the device solely connects to protective ground, it should adopt independent way, say, share the same ground with other devices. When the device adopts united way, the grounding resistance should be smaller than 1Ω.

⚠ Caution:

Before connecting power cord to NDS3218A 8 in 1 MPEG-4 AVC/H.264 HD Encoder, user should set the power switch to "OFF".

2.4 Signal Cable Connection

The signal connections include the connection of input signal cable and the connection of output signal cable. The details are as follows:

2.4.1 HDMI input cable illustration:



2.4.2 ASI output cable illustration:



2.4.3 Network Cable illustration (CAT5):



2.4.4 HDMI input interface connection

User can firstly find the HDMI interface on the device according to the connector mark described on the rear panel illustration, and then connect the HDMI cable (in the accessories). One end is connected to the head-end equipment while the other end to the encoder's HDMI input port. The encoder's HDMI input port (HDMI1...HDMI8) and its connection are illustrated as follows:



2.4.5 ASI output interface connection

User can firstly find the ASI output interface on the device according to the connector mark described on the rear panel illustration, and then connect the ASI cable (in the accessories). One end is connected to the encoder's ASI out connector (ASI1, ASI2) while the other end to the TS stream multiplexer or modulator's ASI input port. The encoder's ASI output interface and its connection are illustrated as follow:



2.4.6 IP Output Interface connection

Users can firstly find the DATA interface on the device according to the connector mark described on the rear panel illustration, and then connect the network (CAT5). One end of the network cable is connected to the encoder's DATA output connector, while the other end to the TS stream multiplexer IP input port or other device which can input IP signal. The encoder's DATA connection is illustrated as follows:



2.4.7 NMS Connection

Users can firstly find the NMS interface on the device according to the connector mark described on the rear panel illustration, and then connect the network (CAT5). One end of the

network cable is connected to the encoder's NMS connector, while the other end to the computer or the PC. The encoder's NMS connection is illustrated as follows:



Chapter 3 Operation

NDS3218A 8 in 1 MPEG-4 AVC/H.264 HD Encoder's front panel is user operating interface. Before operating, user can decide whether directly use the default setting or customize the input and output parameters setting. The detail operations go as follows:

Keyboard Function Description:

ENTER: Activating the parameters which need modifications, or confirming the change after modification.

MENU: To cancel presently entered value, resume previous setting and return to previous menu.

LEFT/RIGHT: To move the “▶” to choose or set the parameters.

UP/DOWN: To modify activated parameter or page up/down when parameter is inactivated.

LOCK: To Lock the screen / cancel the lock state. After pressing lock key, the system will question the users to save present setting or not. If not, the LCD will display the current configuration state.

At the “Factory Configuration” page, user can press “**ENTER**” key to restore the factory default configuration.

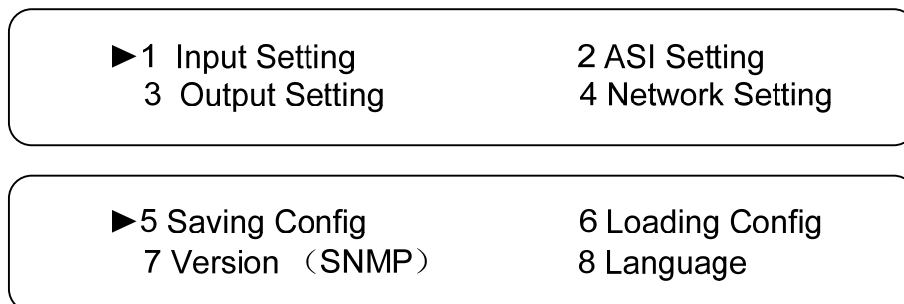
3.1 Initializing

After powering on the device, it will take a few seconds to initialize the system, and then the LCD will show the device name and output real-time bit-rate in the first row, while the 8 channels' respective input video resolution, frame rate and real-time encoding bit-rate in the second row in turn. It shows as below:

8 in 1 Encoder	65.958 Mbps
1 480I 60 08.235M	2 480I 60 08.241M

3.2 General Setting

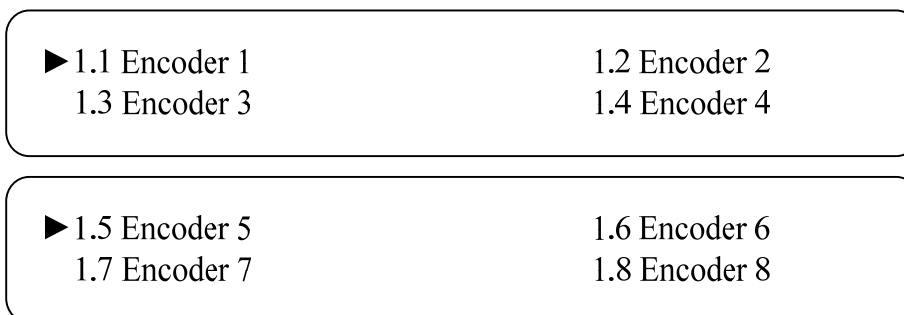
By pressing LOCK key, users can enter in the main menu and set the input and output parameters in the following editing interfaces, the LCD will display the following pages:



The option with “▶” is the current selection, users can press the ENTER key to enter the specified submenu to modify the device parameter.

3.2.1 Input Setting

Under this menu, users can enter the corresponding encoding channel to set the relevant audio and video input parameters, and select programs to multiplex. The LCD will display 8 submenus which from Encoding Channel 1 to Encoding Channel 8. The setting principle is the same for Encoding Channel 1-8, so here this manual just takes one channel as the example to explain. After pressing the enter key, the LCD will display the following pages:



After users enter the submenu, the interface will turn into the following pages, and then users can enter the corresponding interface to modify the parameters.



3.2.1.1 Video Setting

▶ 1.1.1.1 Bitrate	1.1.1.2 BitrateMod
1.1.1.3 Profile	1.1.1.4 Level

➤ **Bitrate**

By press “Enter” key, user can modify relevant parameter of encoding rate (adjustable range: 0.8M~19M), the specific steps are displayed as follows:

1.1.1.1 Bitrate
8.000Mbps

➤ **Bitrate Mode**

User can choose CBR & VBR at this menu. CBR (Constant Bit-rate) means that the bit-rate will be a constant value. VBR (Variable Bit-rate) means that the bit-rate will always change along with the video scene changing.

1.1.1.2 BitrateMod	01/01
[CBR]	VBR

➤ **Profile**

User can select the configuration of H.264 profile at this menu. There are H.264 High Profile code format and main Profile code format.

1.1.1.3 Profile	01/01
[HIGH]	MAIN

➤ **Level**

User can select the H.264 level at this menu. The option with bracket is the current choice.

1.1.1.4 Level	01/03
[1.2] 1.3 2.0 2.1	

1.1.1.4 Level	02/03
[2.2] 3.0 3.1 3.2	

1.1.1.4 Level	03/03
[4.0] 4.1 4.2	

3.2.1.2 Audio Setting

1.1.2.1 Bit Rate	1.1.2.2 Format
------------------	----------------

➤ Audio Bit Rate Setting

User can set the input audio bit-rate by pressing the enter key to enter the main editing interface. And there are: 64Kbps, 96Kbps, 112Kbps, 128Kbps, 160Kbps, 192Kbps, 224Kbps, 256 Kbps, 320Kbps, and 384Kbps. After the modification, users can press enter key again to take the modification into effect. The LCD will display the following pages:

1.1.2.1 Bit-rate	01/03
64 Kbps 96Kbps 112Kbps	[128Kbps]

1.1.2.1 Bit-rate	02/03
160 Kbps 192Kbps 224Kbps	[256Kbps]

1.1.2.1 Bit-rate	03/03
320 Kbps 384Kbps	

➤ Audio Format Setting

AAC: Advanced Audio Coding

Users can set the input audio format in this interface, and the 3 options are MPEG1 Layer II, LC-AAC, and HE-AAC. When users enter the main editing menu, the LCD will display the following page:

1.1.2.2 Format	01/02
[MPEG1-Layer II]	LC-AAC

1.1.2.2 Format [HE-AAC]	02/02
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3.2.1.3 System Settings

▶ 1.1.3.1 Prog Number	1.1.3.2 Video PID
1.1.3.3 Audio PID	1.1.3.4 PMT PID

▶ 1.1.3.5 PCR PID	1.1.3.6 IP Enable
1.1.3.7 Out Address	1.1.3.8 Out Port

▶ 1.1.3.9 Null PKT

Under this interface, users can set the corresponding system parameters, after the modification, users can press enter key to take the modification into effect.

➤ Program Number Setting

Users can set the program number by pressing ENTER to enter this submenu. The LCD will display as below:

1.1.3.1 Program Number 0x0101

➤ Video/Audio/PMT/PCR PID Settings

Users can set these parameters by pressing ENTER to enter these submenus. The LCD will display the following pages, and the maximum PID number cannot exceed 0x1fff.

1.1.3.2 Video PID 0x0101

1.1.3.3 Audio PID 0x0102

1.1.3.4 PMT PID
0x0100

1.1.3.5 PCR PID
0x0101

➤ **IP Enable**

1.1.3.6 IP Enable 01/01
YES [NO]

➤ **Out Address/Out Port Setting**

User can modify the out address and out port in below interfaces.

1.1.3.7 Out Address
224.002.002.002

1.1.3.8 Out Port
1002

➤ **Null Packet**

1.1.3.9 Null Packet 01/01
YES [NO]

Users can choose YES (filter the null packet) or NO (don't filter null packet) to decide whether to filter the null packet or not.

3.2.1.4 Program Mux Setting

Users can decide whether to open the multiplexing function of the device.

➤ **Channel Mux**

Under this interface, users can decide whether to multiplex the channel encoding stream. **YES** means that the device multiplexes the encoding stream into the MPTS, while **NO** means that the output program is SPTS. The LCD will display the following pages after pressing enter key.

1.1.4.1 Channel Mux [YES]	01/01 NO
-------------------------------	-------------

3.2.2 ASI Setting

Users can check the ASI input program amount in this interface, and the LCD will display the following page. Prog: 006 represents the input program is 6 and Out:003 represents 3 of the 6 programs have been multiplexed.

▶ 2.1 Parse ASI Prog	
2.1 Parse ASI Prog	Prog: 006 Out: 003
▶ 001 HK1 <u>√</u>	002 HK2 <u>X</u>

3.2.3 Output Setting

By press the enter key in the main editing interface, use can set the device output parameter. The device will display the following page after users pressing the enter key.

▶ 3.1 IP Out Enable	3.2 IP Out Address
3.3 IP Out Port	3.4 Trans Stream ID
▶ 3.5 Output Stream	3.6 ASI Output
3.7 UTC Time Config	3.8 Null PKT
▶ 3.9 TS Package Num	

3.2.3.1 IP Out Enable

This is the new function of this encoder, user can decide whether to open the IP output function by press the ENTER key in this menu, and the operating interface will show the following page:

▶ 3.1 IP out Enable
[YES] NO

3.2.3.2 IP Out Address

If users enable the IP output function, then users can set the device IP output address in this interface. After users press the ENTER key, the operating interface will display the following page:

▶ 3.2 IP Out Address
224.002.002.002

3.2.3.3 IP Out Port

In this menu, users can set the encoder IP output port number by press the ENTER key to enter the main editing interface.

▶ 3.3 IP Out Port
01001

3.2.3.4 Trans Stream ID

Users can set the device TS ID in this interface after pressing the ENTER key to enter the main editing page.

▶ 3.4 Trans Stream ID
00000

3.2.3.5 Output Stream

Users can modify the bit rate of output stream in this interface after pressing the ENTER key to enter the main editing page.

3.5 Output Stream
040.000 Mbps

3.2.3.6 ASI Output

Users can set the ASI output in this interface under this menu, and there are 9 options: MPTS, Channel 1-8.

3.6 ASI Output	01/03
[MPTS] Channel 1 Channel 2 Channel 3	

3.2.3.7 UTC Time

UTC refers to Universal Time Coordinated. User can enter this menu to set the time as needed and it will then generate the TDT table and show in the user's STB.

3.7 UTC Time Configuration
2012-01-29 15:45:03

3.2.3.8 Null Packet

3.8 Null Packet	01/01
YES [NO]	

3.2.3.9 TS Package Num

User can set the amount of TS packages by entering into below interface.

3.9 TS Package Num	01/02
1 2 3 [4]	

3.9 TS Package Num	02/02
[5] 6 7	

3.2.4 Network Setting

Users can set the network parameters by pressing the enter key, and the LCD will display the following interfaces.

4.1 IP Address
192.168.005.018

4.2 Subnet Mask
255.255.255.000

4.3 Gateway
192.168.002.001

4.4 Console Address
192.168.002.211

The MAC address is read-only in the keyboard operation interface, so users can just check the physical address under this interface, and the modification must be done in the network updating tools.

4.5 MAC Address
201012345679

NOTE: The MAC address is unique, and cannot be modified. When the MAC address is ffffffff, users must modify the address through special software, otherwise, the IP output data will be filter out when the IP stream passes through the router.

3.2.5 Saving Configuration

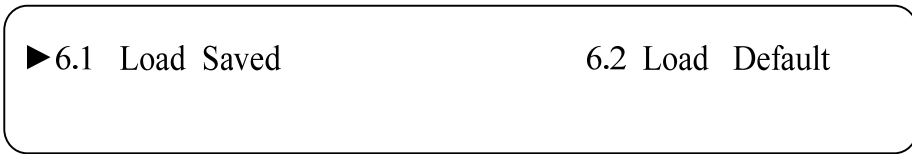
Users can save the modification by pressing the enter key, and it will display the following interface when user press the enter key.

5 Saving Config 01/01
YES [NO]

3.2.6 Loading Configuration

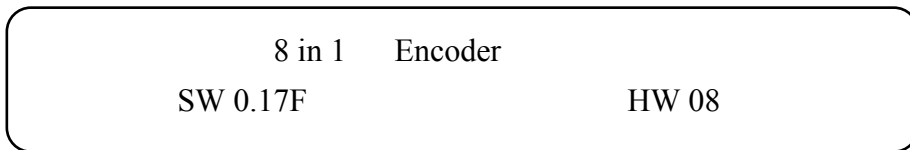
In this interface, users can select the modified configuration and the factory defaulted

configuration. Users can enter the corresponding menu to select the configuration. The LCD will display the following interfaces:



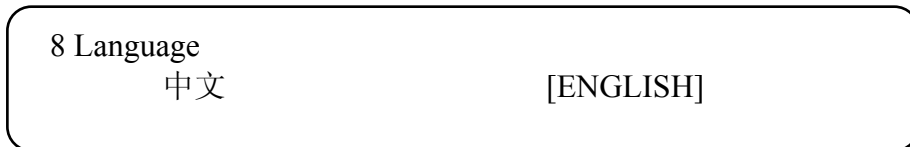
3.2.7 Version

Users can check the device software version and hardware version, and the LCD will display the following interface when users press the ENTER key.



3.2.8 Language

User can select the needed language under this submenu:




Chapter 4 SNMP Operation

Network Management System

SNMP Network management system is applied to digital TV equipment operation, control and management and parameters setting, etc. It centralizes digital TV equipment through network.

4.1 Installation

The software doesn't need special installation. User can just open the folder SnmpNMS x.xy.z

to find the icon  and double click it to pop up the login interface.

4.2 Software Operation

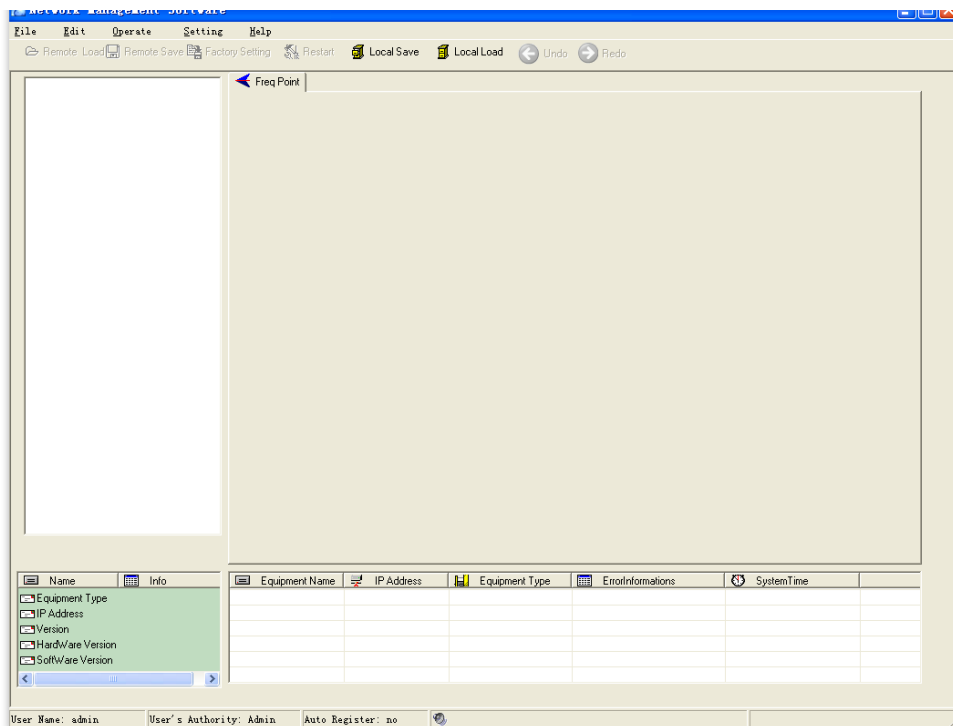
4.2.1 Login Interface

A login interface will pop up firstly when the software is running and give user prompts to input user name and password (The default user name is **admin** and no password. User can add users and passwords as needed. Details please refer to 4.4.3 in 4.4 Other Settings.). The menu shows as follows:



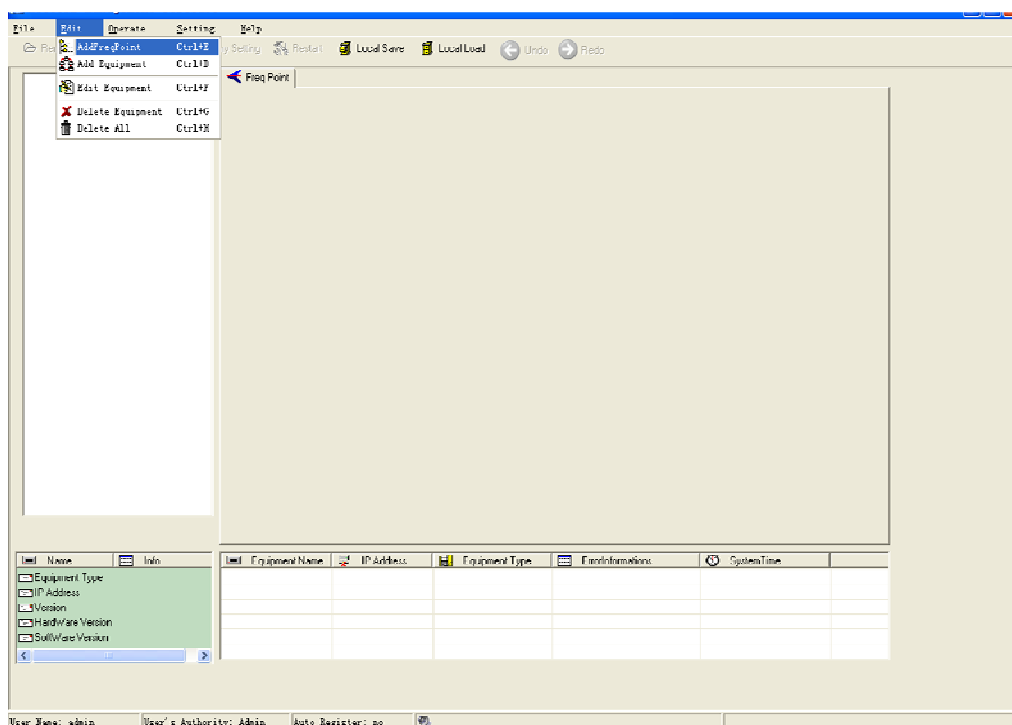
User can login the NMS by pressing **OK** key after inputting user name. Upon the inputs, the software will verify them with database record automatically and the main interface will appear.

4.2.2 Main Interface

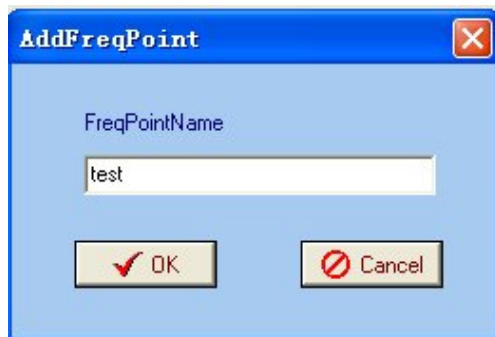


User can create a device node tree in the left column by adding, modifying and deleting the device node. This software provides a powerful node operation function, and the user can edit various parameters in the device tree for management and classification.

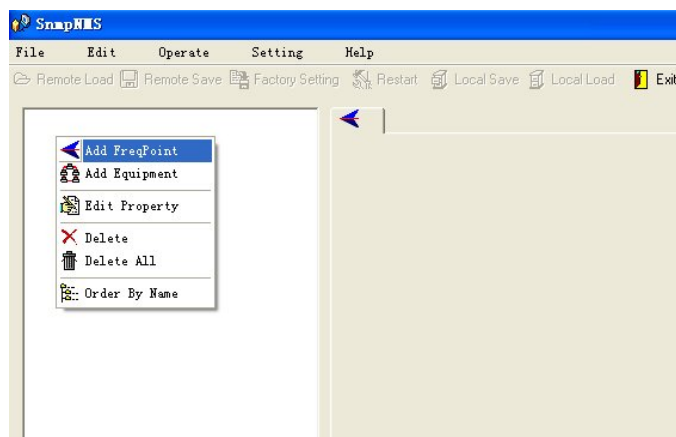
4.2.3 Adding Frequency Point



The Add Freq Point dialog box pops up when the user clicks the Add Freq Point item in the Edit pull down menu on the menu row. The device will confirm the given frequency while user clicks **OK**.

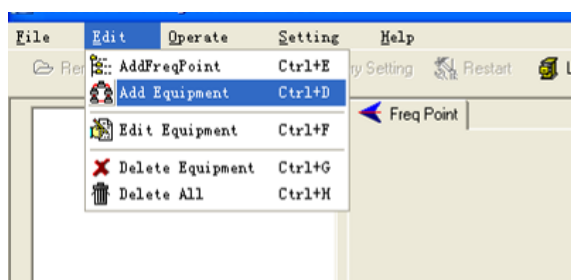


User can also click right mouse key to pop up the short-cut menu in device tree or in the left blank column, then the corresponding dialog box will pop up by choosing **Add Main Freq Point**. The device will confirm the given frequency while user clicks **OK**.

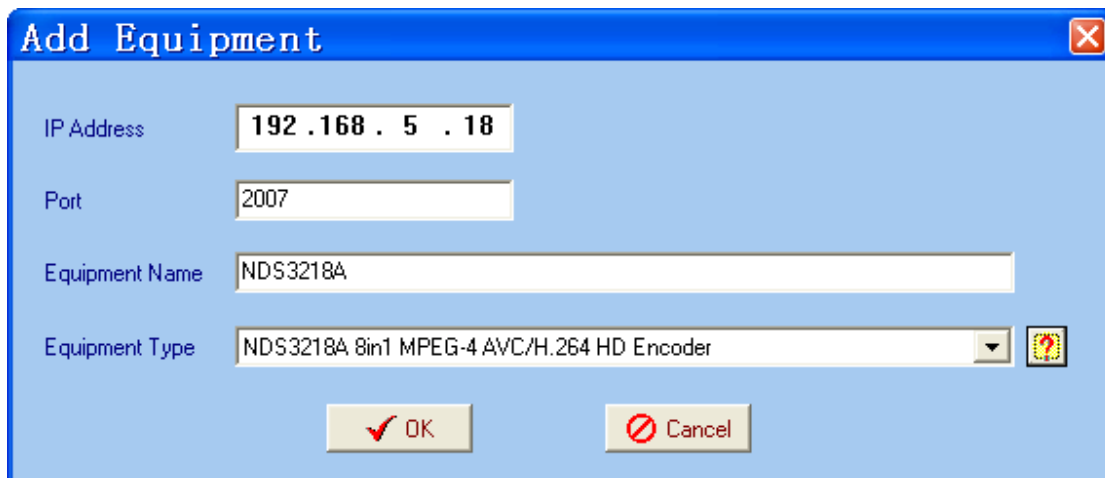


4.2.4 Adding Equipment under Given Frequency Point

User should choose the frequency point in advance, and then the dialog box of Add Equipment will pop up when user clicks “Add Equipment” item in the Edit pull down menu on the menu row.



4.2.5 Edit Equipment Interface



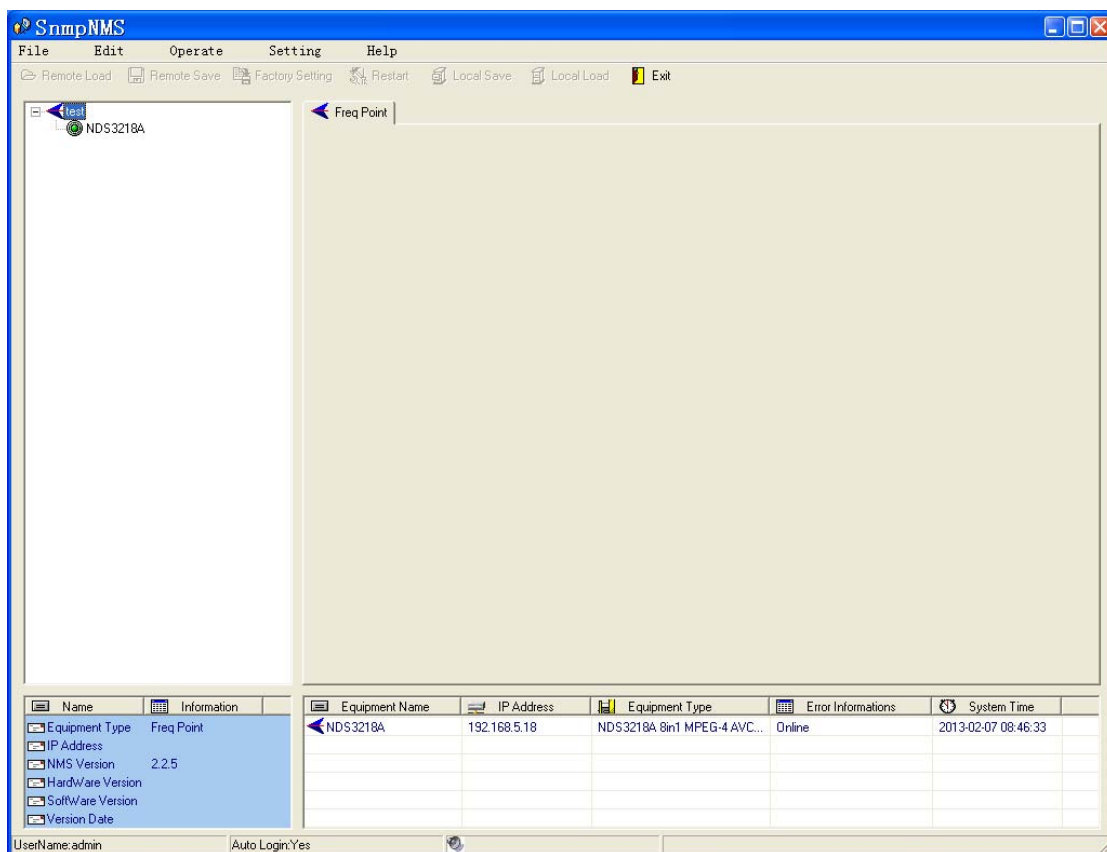
User should follow the steps as below:

- Inputting the device IP Address
- Inputting the port
- Inputting the Equipment Name
- Choosing the connected equipment type in drop down list of “Equipment Type” by clicking the “▼” Or Click “?” to auto search the type of device.

NOTE:

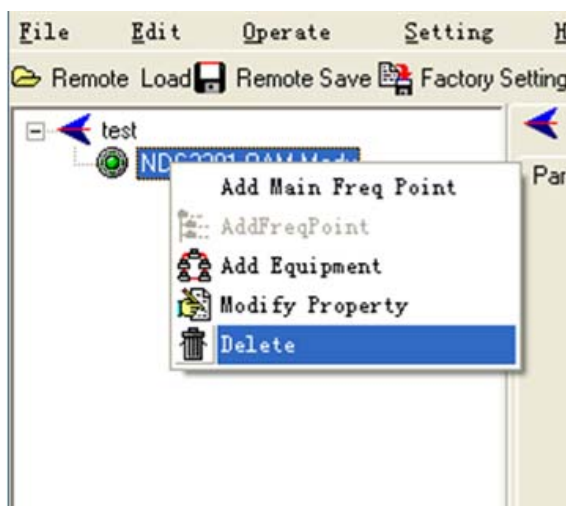
1. The default IP of NDS3218A Encoder is 192.168.0.136, also you can check its IP address in the front panel of device in case the IP changed unexpected.
2. The PC IP address and device IP address should be in the same network. For example the Device IP is 192.168.2.136, sub mask is 255.255.255.0. So the PC IP address should be 192.168.2.X (1<X<255), sub mask is 255.255.255.0. User can use ping command to confirm these two are in same network or not.

Click OK, it will appear as below:

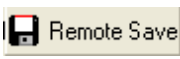


4.2.6 Delete Equipment

User can choose the equipment to be deleted in the left column, and then click the “delete” item in the pull down menu which appears by clicking the right mouse key.

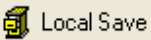


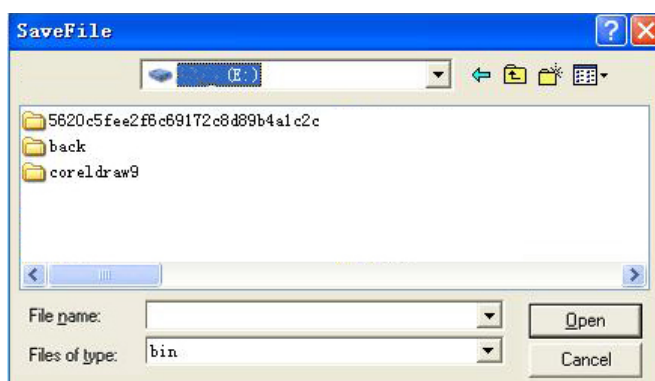
4.2.7 Save Configuration

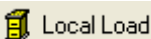
After finishing all the parameters setting, user can click  Remote Save button on the toolbar to

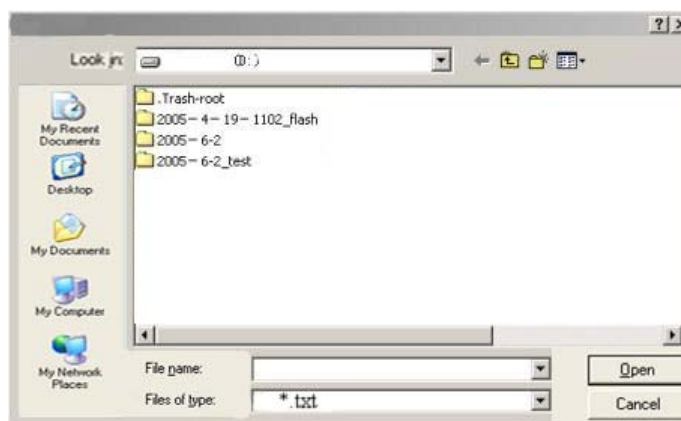
save the modifications to the device's flash, while user can also reload the saved parameters from device's flash and refresh the device's parameters setting according to the loaded values

by clicking 

Alternatively, user can also click the  button on the toolbar to popup the “save file” dialog box, which gives prompts to save all the device's parameters as binary files in the computer's hard disk.



Similarly, user can choose to click the  button on the toolbar to popup the read file dialog box, to read the stored binary file and set the device's parameters according to the loaded binary files.






4.3 NDS3218A 8 in 1 MPEG-4 AVC/ H.264 HD Encoder

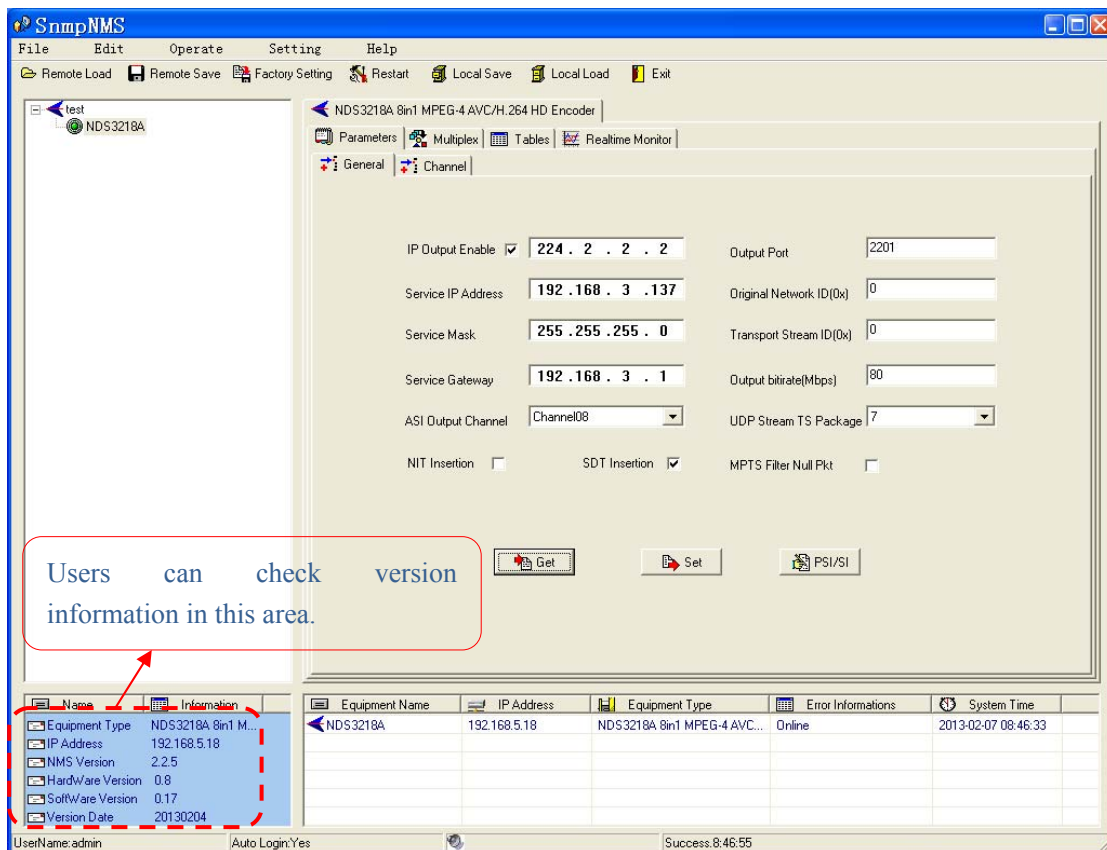
Operation

User can choose the encoder in the device tree; the procedure will display the encoder interface in operating area. The interface is mainly composed of encoding video parameters, audio parameters and the encoding system parameters, output parameters and etc.

4.3.1 Parameters Setting

Users can click Equipment Name on the node tree and enter in the Parameter interface by clicking  Parameters and  General or  Channel to configure the parameters.

4.3.1.1 General Parameters



Set: to make the current parameters shown in the SNMP software activate.

Get: to read the current device's activating parameters and show them on SNMP software.

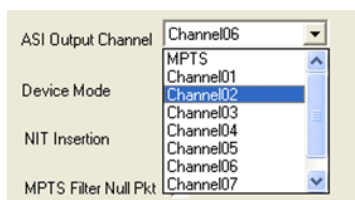
➤ **IP Out Enable**


Check the checkbox with “√”, then the IP output is enabled, otherwise it is not. Users can decide whether to open the IP output function or not. Users can modify the IP address here as well.

➤ **IP Out Address/Service IP Address/Service Mask/Service Gateway**

Users can set the address by modifying the value in these four fields.

➤ **ASI Output Channel**



This device supports 1 MPTS (Multiple Programs Transport Stream) and 8 SPTS (Single Programs Transport Stream) output. User can click  to trigger a pull-down list to select the output type.

➤ **Output Port**

To set the output port by modifying the value in this field.

➤ **Original Network ID**

This 16-bit field gives the label identifying the network ID of the originating delivery system. The value ranges from 0 to 0xFFFF.

➤ **Transport Stream ID**

This is a 16-bit field which serves as a label for identification of this TS from any other multiplex within the delivery system. The value ranges from 0 to 0xFFFF.

➤ **Output Bit Rate (Mbps)**

This includes the effective bit-rate of encoding channel 1-8, the effective bit-rate from ASI input and the bit-rate of stuffed null packets.

➤ **UDP Stream TS Package**



Users can set the amount of TS packages here.

➤ **NIT Insertion**

In this field, users can decide whether to effect the NIT (Network Information Table) insertion function.

➤ **SDT Insertion**

In this field, users can decide whether to effect the SDT insertion function.

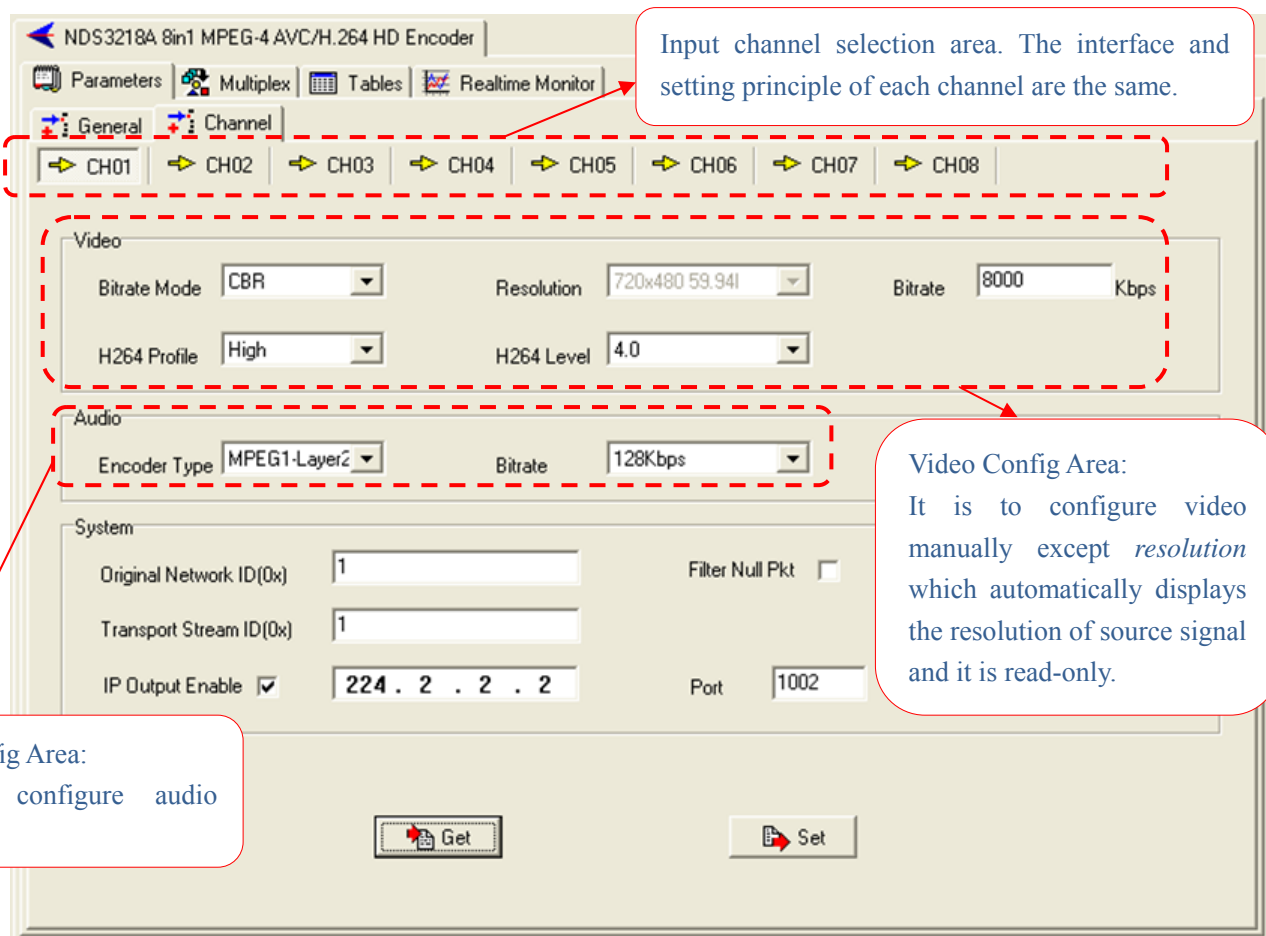
➤ **MPTS Filter Null Packet**



If this function is effected, then the null packets in IP output stream will be filtered.

➤ **PSI/SI Editor**

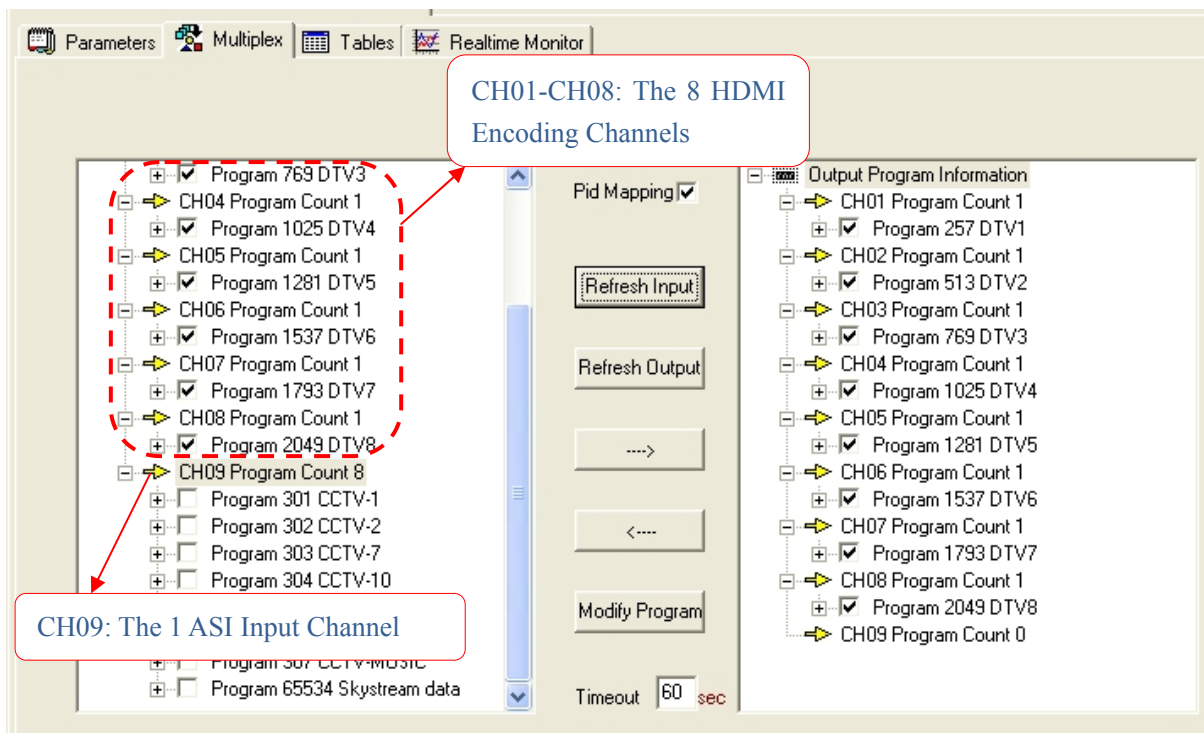
This button will trigger the PSI/SI Editor for some users' advanced usage. For more detail, please refer to the manual of PSI/SI.

4.3.1.2 Video Parameters (Parameters->Channel->CH0X)



If any parameter is modified, it is supposed to click **Set**  to make the modified parameters activate and click **Get**  to read and effect the current device's activating parameters.

4.3.2 Multiplexing



The programs in the left column represent all input programs and which port they come from, while the programs in the right column represent the output programs and from which port they are from. User can parse the programs of each channel and multiplex those programs to the output. Moreover, user can modify the output programs' Program Name, PMT, PCR, video, audio PID.

Pid Mapping : Check this box the set the PID Mapping

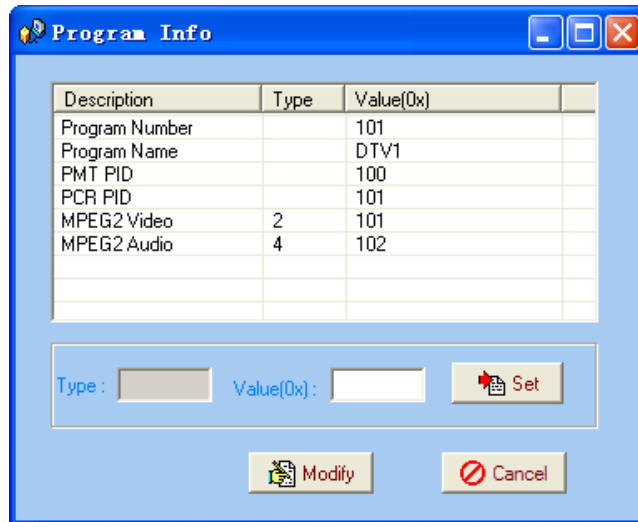
Refresh Input : To refresh the inputting terminal and get the inputting information

Refresh Out : To refresh the outputting terminal and get the outputting information

----> : Multiplex the input programs to the output channels after selecting the target program with . The system will automatically allot the program to the relevant output channel.

<---- : Cancel the multiplexed programs.

Modify Program : To modify the output programs' Program Name, PMT, PCR, video, or audio PID as needed. To modify program information, user can select the target program in output part first and click this button to pop up a dialog box as below:



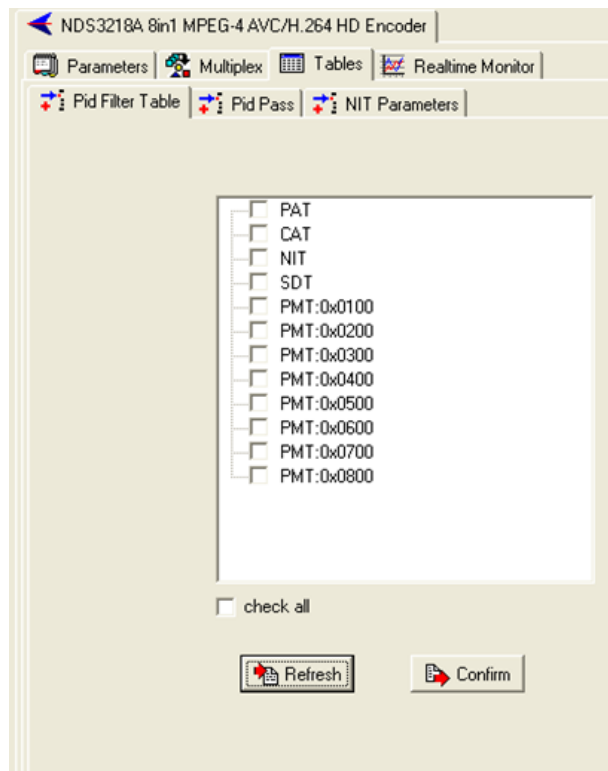
Select the target item and input the new value in the box below, then click and

to effect the modification.

Timeout sec : The parsing overtime value

4.3.3 Tables

4.3.3.1 PID Filter Table



Users can operate PID filter in this table by checking the check boxes of corresponding items and click CONFIRM to effect.

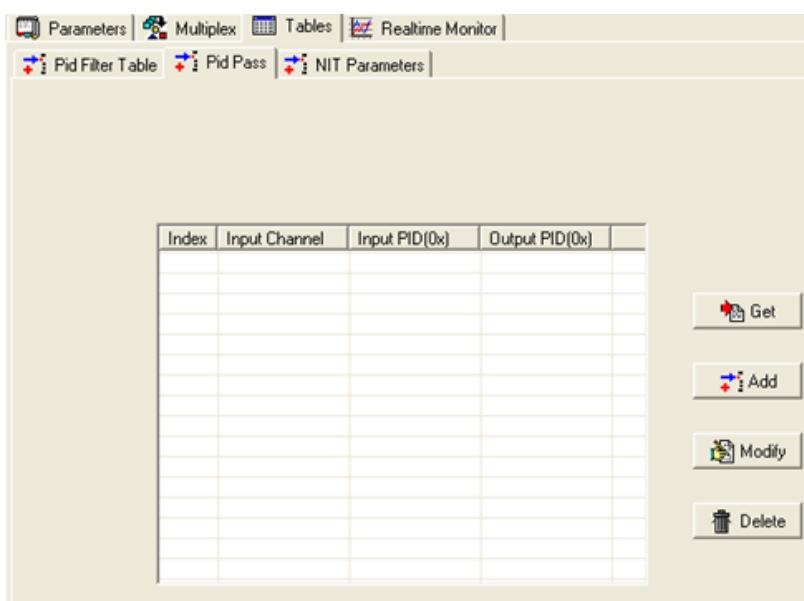
Refresh: getting PID filter table from the device

Setting: submitting the PID filter table to the device

Check All: selecting all the selections of the list

After user selects one PID in the table, then the corresponding output PSI/SI table will not be sent to the output stream.

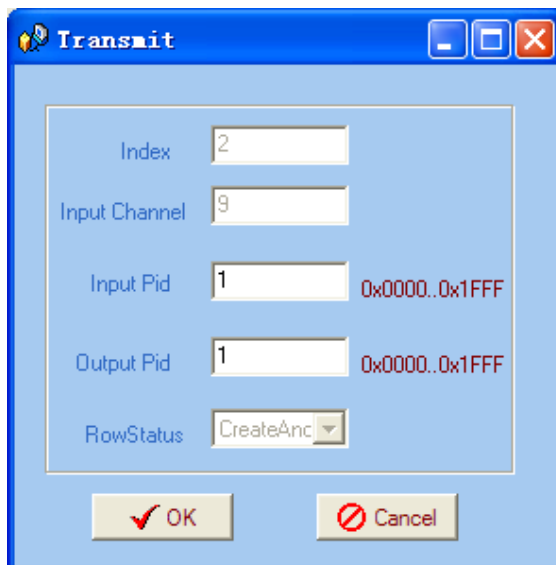
4.3.3.2 PID Pass



User can decide to bypass the inputting PID as needed in this interface.

In some occasions, there are some PIDs which won't belong to any program, such as EPG, NIT tables, and so on, but user just wants to pass them through the multiplexing module without changing anything. This is the main purpose of this function.

The display will show as below when user clicks “Add” button.



Input PID and Output PID

The Old (Input) PID is the PID number in the TS from given Port. The correspondent New (output) PID number could be same as input PID number while it could be different if a PID remapping is needed.

Modify the data as needed and click OK to confirm. The PID then will be bypassed and listed in the table as below.

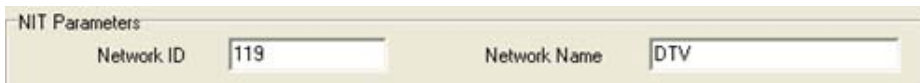
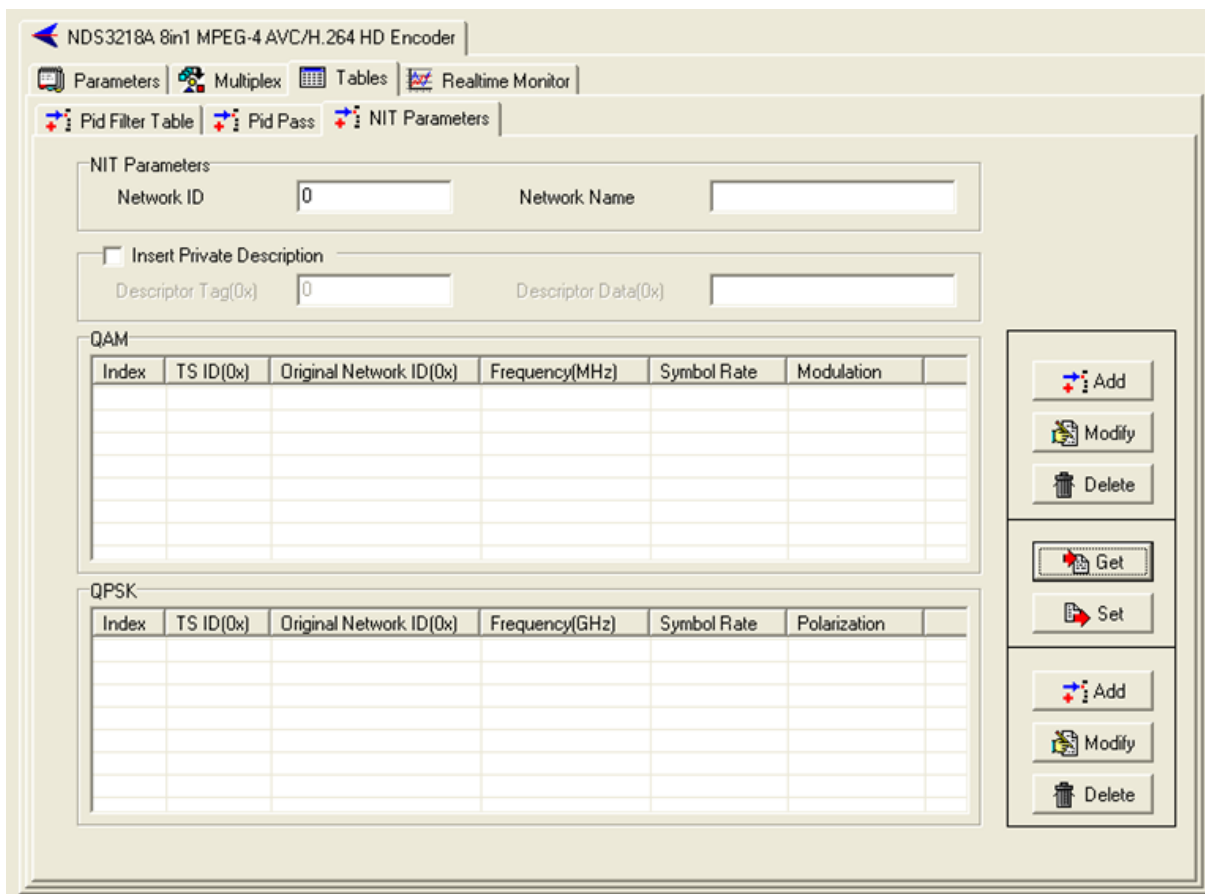
Index	Input Channel	Input PID(0x)	Output PID(0x)
1	9	101	101

User can also modify or delete the added PID through the corresponding buttons at right.

4.3.3.3 NIT Parameters

NIT: Network Information Table.

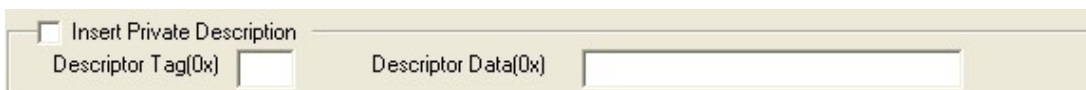
NIT table is a very important table for describing the network and TS. Users can set the parameters of the output NIT table.



Network ID : The parameter describes the output TS's network ID

Network Name : The parameter describes the output TS's network name.


Insertion private description

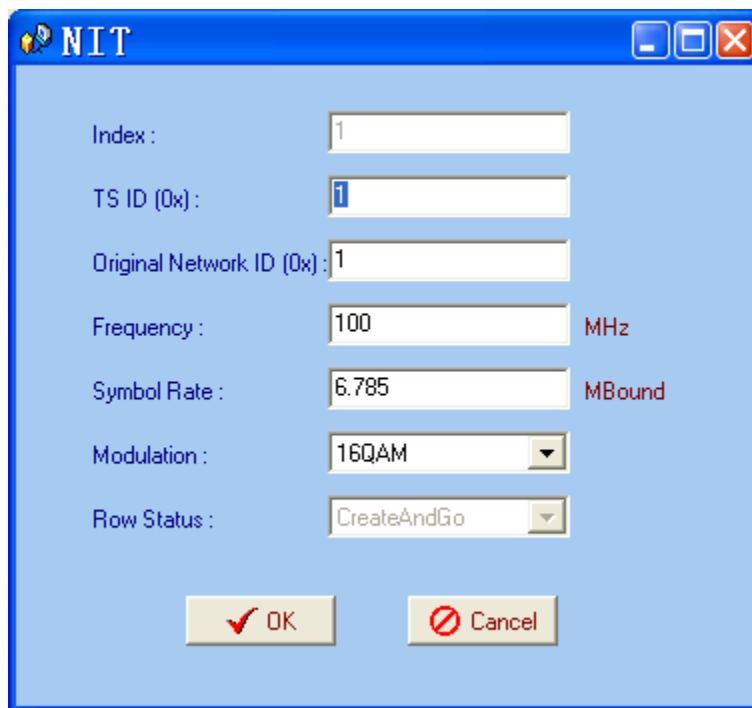


Insert Private Description : This checkbox will allow user to insert the private descriptor into the output TS. The private descriptor includes two parts. One is descriptor tag, and the other is descriptor information.

Descriptor Tag(0x) : The Descriptor Tag is an 8-bit field which identifies each descriptor.


Descriptor Data(0x) : The Descriptor Data is the detailed information of the private description.


: Users can add the cable transmission descriptor in this Add button, and it will pop up the following dialogue box, say, the added descriptor is apply for the DVB-C network.




The interface will show as below after the NIT parameters being added:

QAM						
Index	TS ID(0x)	Original Network ID(0x)	Frequency(MHz)	Symbol Rate	Modulation	
1	1	1	100	6.785	16QAM	

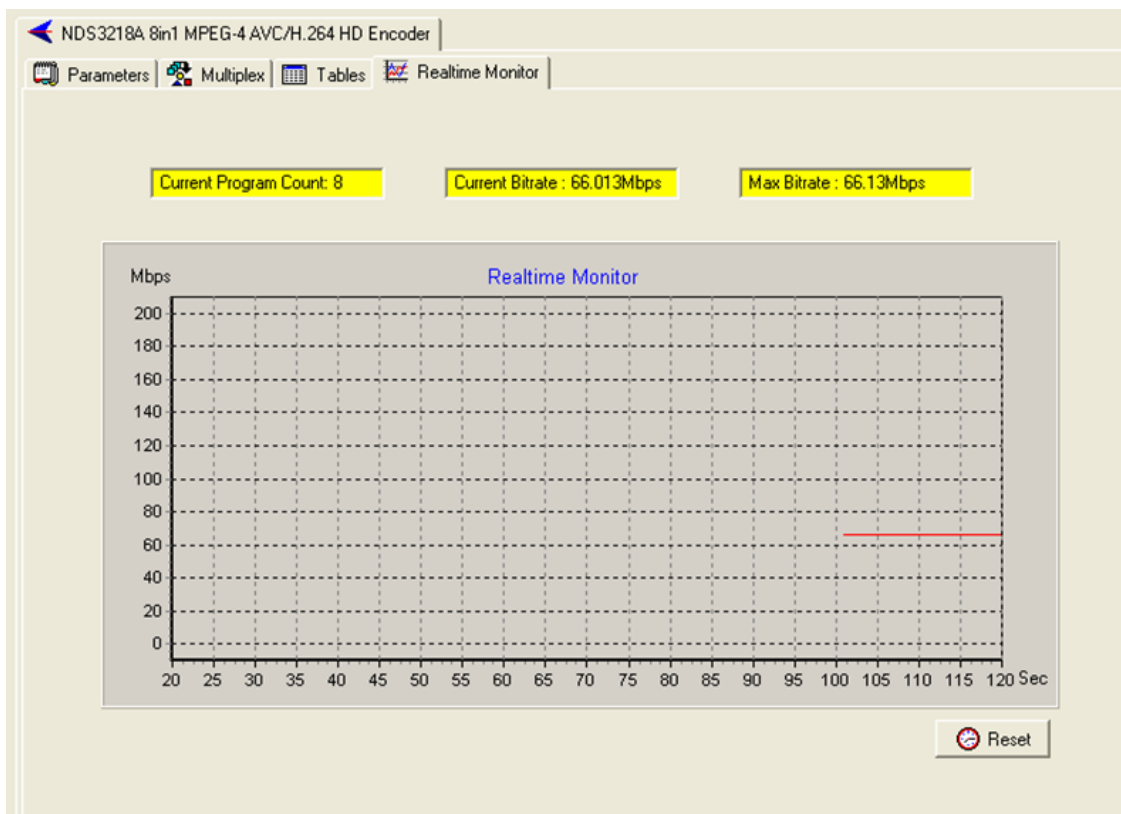
: The “Modify” button will trigger a modify window and allow user to modify the selected items in the NIT.

: The “Delete” button will remove the selected items in the NIT.

: The set “Button” will send the NIT to the chosen output Port.

4.3.4 Real-time Monitor

There will be a real-time bit rate chart generating in the monitor for users to check the bit rate information.

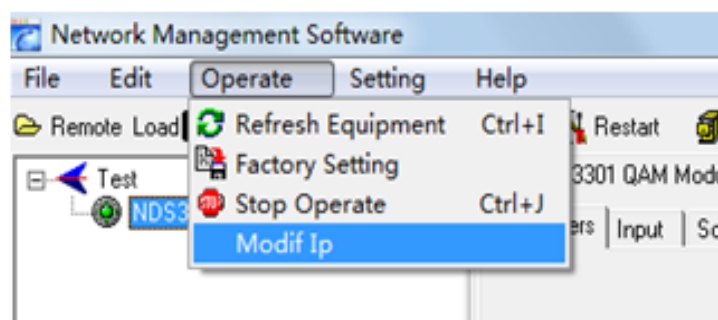


4.4 Other Settings

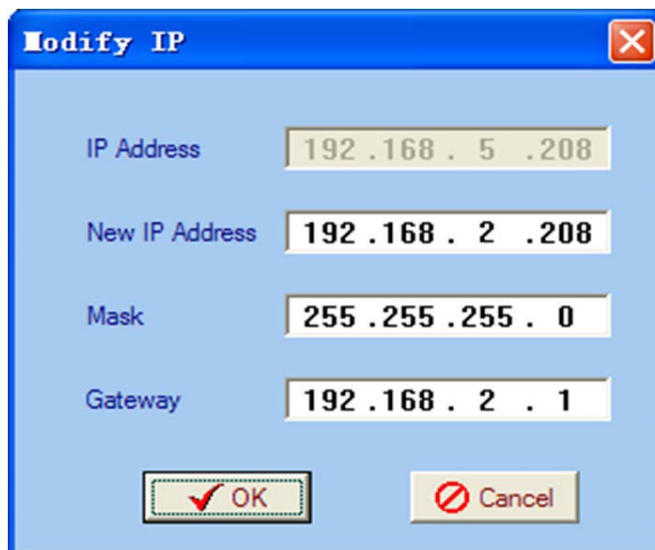
4.4.1 Difference between Set and Remote Save

In many cases during the configuration of parameters in NMS, users save the modified configuration by clicking “Set”, in which way the configuration can only be saved temporarily and will restore the last saved configuration if the device reboots. To save the configuration permanently, it is required to operate through “Remote Save” on the toolbar explained in 4.2.7. This is the difference between “Set” and “Remote Save”.

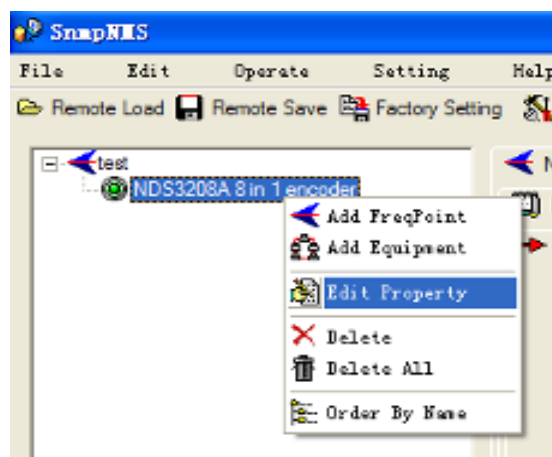
4.4.2 IP Modification



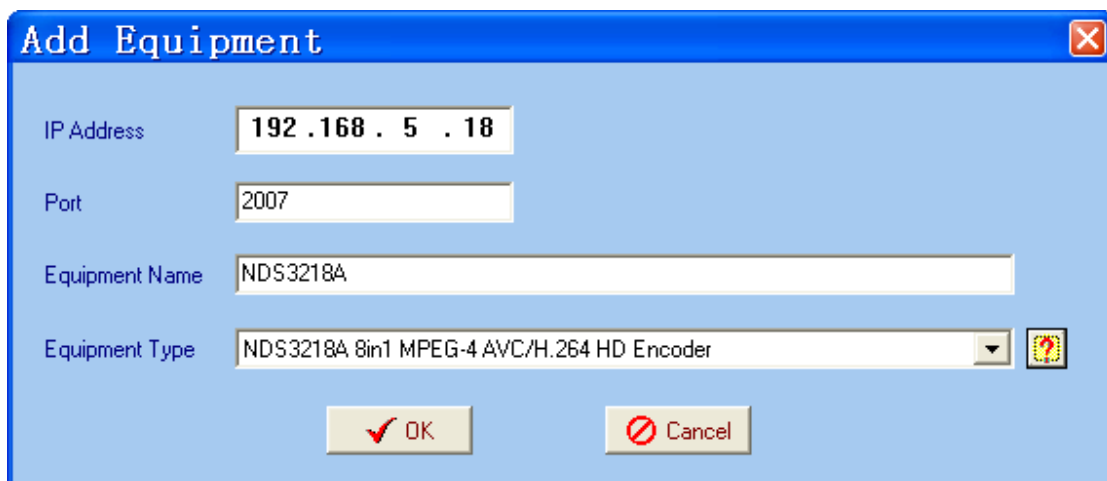
Users can click **Operate** and select **Modify IP** in the drop-down list, and a dialog box presents itself as shown below. Users input the new NMS IP Address for the device and click OK button to confirm.




Users can then note the indicator light turns red, which signifies the equipment has disconnected. Users then can refer to below prompts to edit the property by inputting the new IP to re-connect the equipment.



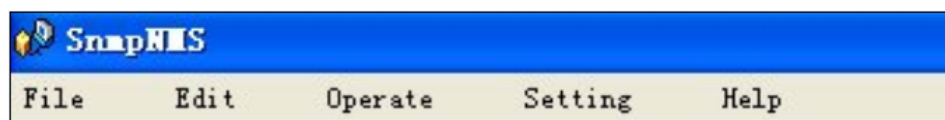
Input the new IP Address in the box and click OK button, then the device will be connected again.

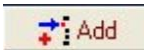



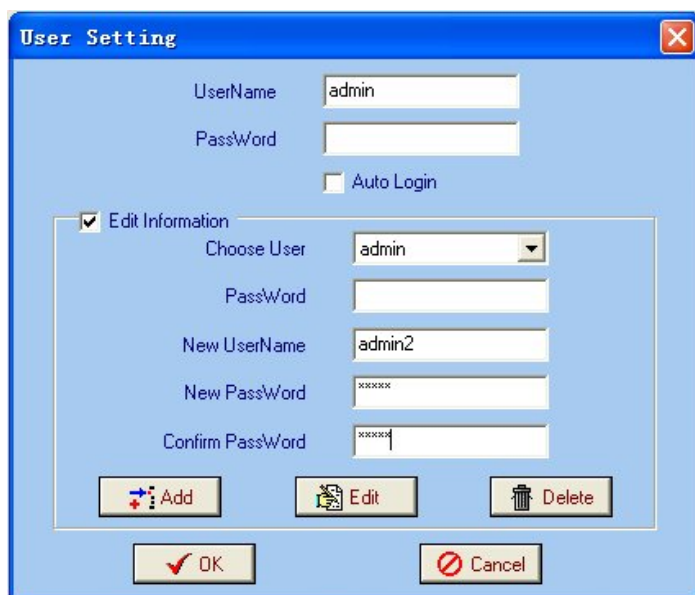
After finishing all the parameters setting, user should click  Remote Save button on the toolbar to save the modifications to the device's flash.

4.4.3 User Add

When logging in, user will note that the default user name is **admin** and no password. User can add users and passwords as needed.



User clicking “Setting” in the menu bar and selecting “User Setting” in the pull-down list, the below dialog box will pop out as shown below. Select the “Edit Information” by marking the check box with “√”, user can input the new username and new password as prompts below. It is required to click  to add the new user and then click  to save the new setting.



The image shows a 'User Setting' dialog box with a blue title bar and a close button (X) in the top right corner. The dialog contains the following fields and controls:

- UserName:** A text input field containing 'admin'.
- PassWord:** A text input field, currently empty.
- Auto Login:** A checkbox that is currently unchecked.
- Edit Information:** A section with a checked checkbox. It contains:
 - Choose User:** A dropdown menu with 'admin' selected.
 - PassWord:** A text input field, currently empty.
 - New UserName:** A text input field containing 'admin2'.
 - New PassWord:** A text input field containing 'xxxxxx'.
 - Confirm PassWord:** A text input field containing 'xxxxxx'.
- Buttons:** Three buttons are located below the 'Edit Information' section: 'Add' (with a plus icon), 'Edit' (with a pencil icon), and 'Delete' (with a trash can icon).
- Final Buttons:** Two buttons are at the bottom: 'OK' (with a checkmark icon) and 'Cancel' (with a red circle and slash icon).

Chapter 5 Troubleshooting

DEXIN's ISO9001 quality assurance system has been approved by CQC organization. For guarantee the products' quality, reliability and stability. All DEXIN products have been passed the testing and inspection before ship out factory. The testing and inspection scheme already covers all the Optical, Electronic and Mechanical criteria which have been published by DEXIN. To prevent potential hazard, please strictly follow the operation conditions.

Prevention Measure

- Installing the device at the place in which environment temperature between 0 to 45 °C
- Making sure good ventilation for the heat-sink on the rear panel and other heat-sink bores if necessary
- Checking the input AC within the power supply working range and the connection is correct before switching on device
- Checking the RF output level varies within tolerant range if it is necessary
- Checking all signal cables have been properly connected
- Frequently switching on/off device is prohibited; the interval between every switching on/off must greater than 10 seconds.

Conditions need to unplug power cord

- Power cord or socket damaged.
- Any liquid flowed into device.
- Any stuff causes circuit short
- Device in damp environment
- Device was suffered from physical damage
- Longtime idle.
- After switching on and restoring to factory setting, device still cannot work properly.
- Maintenance needed

Chapter 6 Packing list

- NDS3218A 8 in 1 MPEG-4 AVC/H.264 HD Encoder 1pcs
- User's manual 1pcs
- HDMI cable 8pcs
- ASI cable 1pcs
- Power cord 1pcs