

Digital Encoder & Transcoder

Quick Installation Guide

1. Installation Instruction

1.1 Mounting unit to a 19" rack

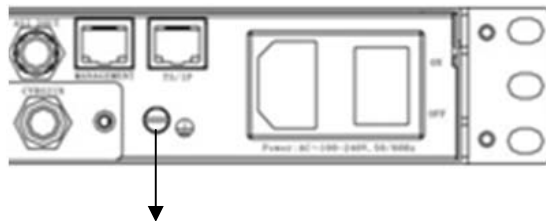


ATTENTION When selecting the installation site, try to comply with the following:

- **Protective Ground** - The protective ground lead of the building's electrical installation should comply with national and local requirements.
- **Environmental Condition** - The installation site should be dry, clean, and ventilated. Do not use this equipment where it could be at risk of contact with water.



WARNING To avoid electric shock, make sure the rack has been correctly grounded before switching on the device.



PIC-1.1-1

PIC-1.1-1 Grounding Jackscrew (must be connected to the rack housing)

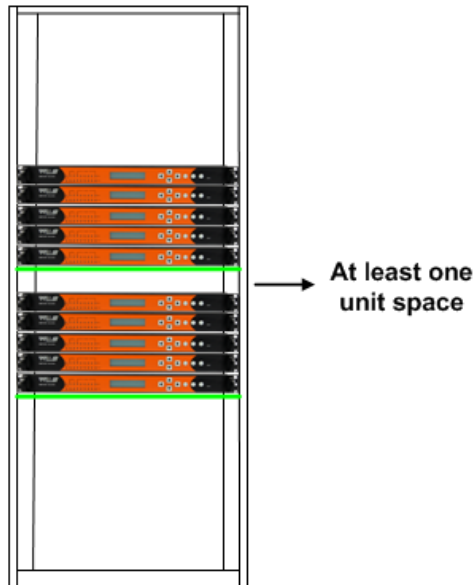
To mount the unit to a 19"/42U rack, please perform the following steps:

1. Make sure the mounted rack surface is stable and can support the size and weight of this equipment.
2. For single unit mounting, use an "L" shape slide (not included in the package) to support holding the unit if necessary, and fastened with appropriate screws to each side of the chassis' rails.



L-shape slide

3. For group pile up (no space between each unit), the unit should be placed on a flat holding bracket. No more than 5 units for each group, and leave at least one unit space between each group to ensure good air ventilation.



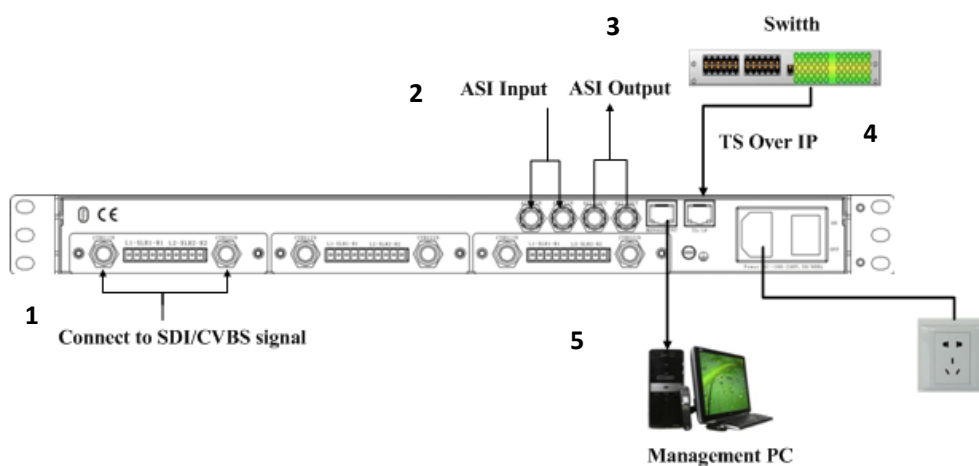
PIC-1.1-2

1.2 Wiring Connection



ATTENTION Before setting up the connection, please turn off the equipment and all other connected external devices. The equipment and all connected external devices are required grounded. Turn on the devices only after the wiring connection is completed. Otherwise the device may be damaged.

Follow the below connection diagram to set up cable connection:



PIC-1.1-3

- Set up cable connection for input signal: either the SDI/CVBS input (area 1), ASI input (area 2) or TS/IP input (area 4)

- Set up cable connection for output signal: either through ASI (area 3) or TS/IP (area 4)
- Set up connection for network management control: shown in area 5.



TIPS In order to ensure a smooth communication between the management PC and the equipment, please separate the connection of management port and TS/IP output port to different switch. The switch with management port connected should be without large data processing.



TIPS The TS/IP port can work for input and output simultaneously. User only needs to connect one RJ45 cable to the TS/IP port of the device.

1.3 Power Connection



ATTENTION Connect this equipment only to the power sources that are identified on the equipment-rating label normally located close to the power inlet connector(s). Always pull on the plug or the connector to disconnect a cable. Never pull on the cable itself.



TIPS To protect your valuable interests and services, equipping a UPS (Uninterrupted Power Supply) and an AVR (Automated Voltage Regulator) to the system is highly recommended.

2. Operation Instructions

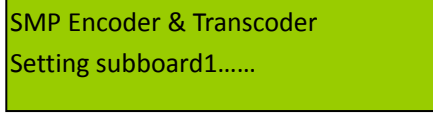
2.1 Powering Up & Initializations



REMARKS Before powering-up the device, make sure that all cables are correctly connected (refer to chapter 1.2). The device is correctly connected to the power inlet and grounded.

Switch on the equipment through the back power switch, the unit is powered up and start the initialization.

The LCD screen is lighted up, and display information as following:



SMP Encoder & Transcoder
Setting subboard1.....

The initialization takes about 20 seconds to complete.



TIPS If the unit fails to initialize and hangs at the “booting” stage, switching off the device and then powering up again may help. If the device still fails to initialize, please contact your service representative for help.

2.2 Network Connection Setup

2.2.1 Navigation Keys Operation Instruction



TIPS Use the 6 navigation keys on front panel: Up / Down / Left / Right / Menu / Ok to enter the configuration menu.

- Enter “Menu”:
 - Press “**MENU**” button to enter main menu.

- Exit Menu/Back to parent Menu
 - Upon completion of configuration settings, press “**MENU**” button until you go back to the Parent Menu.
 - You can also go back to Parent Menu directly by pressing “**ESC**” button once.

- Enter Sub-Menu

- Press **MENU** button to enter main menu.
- Select a sub-menu by pressing arrow **UP** and arrow **DOWN** button.
- Press **OK** button on the selected sub-menu.

- **To change parameter**
 - Step 1: Enter main menu by pressing **MENU** button.
 - Step 2: Scroll sub-menu by pressing arrow **UP** and arrow **DOWN** button, and press **OK** button to change the selected sub-menu.
 - Step 3: To change parameter settings, press arrow **RIGHT** and arrow **LEFT** button to move the cursor in which change must be made.
 - Press arrow **UP** button and arrow **DOWN** to input / select an appropriate setting, then press **OK** button to save.

2.2.2 Check Out and Change the Default IP Address

- Step 1: check out the IP on the LCD screen.
- Step 2: use the button on the front panel to change the IP, gateway and subnet mask.
The gateway should be the same as the management PC's. The subnet mask should be the same as the management PC's s. The IP and the server's IP should be in the same section.
- Step 3: reboot the device to take effect.
- Step 4: ping the new IP on PC to check whether the SMP260 can connect to the management PC.

2.2.3 Configuration through NMS



REMARKS

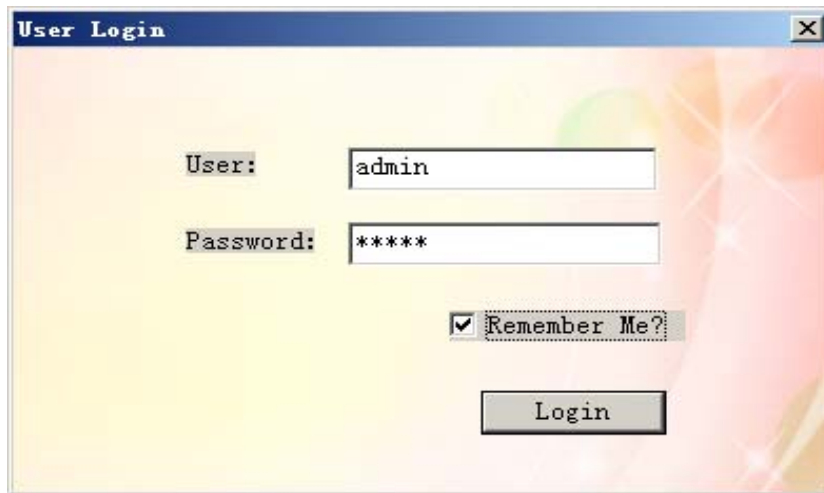
Accessing the equipment through NMS can be very convenient for remote configuration of the equipment. Relative to the front panel settings, NMS operation can provide a more user-friendly man-machine interface, and less limits in space. For quick installation, NMS operation is highly recommended. In this installation guide, operation instruction is based on NMS style. For front panel operation, please refer to product user manual.

- Install the NMS Tool
 - Unpack the accessory CD, and put it on a PC CD/DVD driver;

- Copy the NMS program on the CD to any folder of the management PC;
- Use mouse to double click the NMS icon and run the NMS program.



- First Time Log On
 - For first time log on, User Name and Password are required. Default User Name and Password are “admin”.



PIC-2.2-1

- Choose “Remember Me” if user wants to directly log on the NMS without inputting the user name and password.
- Select “Login” to log on the device.



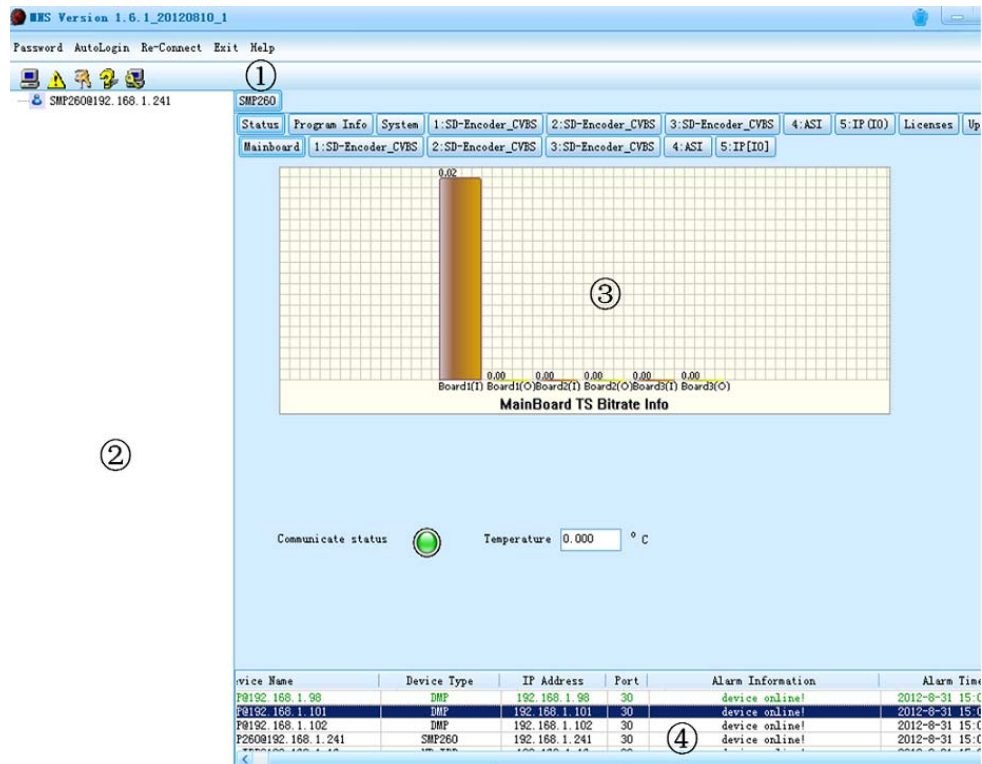
TIPS

Possible reasons for unsuccessful log on:

- IP address/ network mask/gateway don't match with the management PC's
- User name/password is wrong
- Wrong NMS version

- Main Interface Introduction

After successful log on, the following screen will display:



Pic-2.2-2

The interface can be divided into four areas according to its functionality.

- (1) Toolbar. It includes shortcut to change password and save setting etc.
- (2) Equipment list. If more than a piece of equipment is connected to the NMS, the equipment will be listed in this area by its IP address.
- (3) Parameter setting and configuration area. The parameters of the equipment are shown and configured here by selecting different tabs. This is the main operation area of the NMS.
- (4) Event information window.

2.3 Quick Configuration on Key Parameters

2.3.1 Check "Status" tab

"Status" tab: by selecting this item, the NMS displays the current system operation data status of the equipment. User can switch between tab under the "Status" to check the current working status of the equipment

① Different colors of histogram indicate different meaning:

Orange: the total input bit rate;

Blue: the effective input bit rate;

Yellow: the total output bit rate;

Green: the effective output bit rate;

Red: alarm indicator, it means the actual output bit rate (it's proportional to the amount of the programs you transfer from input port to output port in 'Program Info') is more than the output bit rate of some channel you set in sub-board.

② Communicate Status indicates the communication status between NMS and the equipment.

Green: the communication is normal. All the parameters in NMS are updated according to the equipment synchronously.

Red: the communication is abnormal. The parameters in NMS may be not updated in time. You need check the network connection and restart the NMS.

2.3.2 Configure parameters of signal input modules

- Encoding Source Setup

Pic-2.3-1

For encoding module quick setup, following are the key parameters that need to change to meet with the application need:

| Parameters | Description |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Channel | Select a channel to configure its parameters. Settings work separately for each channel. The whole page setup will take effect only to the corresponding channel. |
| Video Source | To select the correct video input source. |
| Audio Source | To select the correct audio input source. |
| Encode Mode | Select CBR or VBR for the encoding mode. |
| Video Max Encode Rate | To set the Max encode rate for VBR mode. |
| Video Min Encode Rate | To set the Min encode rate for VBR mode. Note: the min encode rate must be smaller than the max encode rate. |
| Video Encode Rate | To set the encode rate for both VBR mode and VBR mode. The range is 2000 ~ 15000 Kbps. Note: The values of the video encode rate should be between |

| | |
|-------------------|------------------------------------------------------------------------------------------------------------------------|
| | the max encode rate and the mix encode rate in CBR mode. |
| Audio Encode Rate | To choose the encoding bitrate for the audio. |
| Audio Mode | To select the audio mode |
| Frame Rate | To select correct frame rate according to the input source. The frame rate should be the same as that of input source. |
| GOP Size | To edit the GOP size |



REMARKS

(1) There are four different encoder modules for the device: SDI/CVBS module (MPEG-2 SD), CVBS module(MPEG-2 SD), SDI/CVBS module (H.264 SD/HD) and HDMI module (H.264 SD/HD).

(2)The input parameters configuration of the four encoder modules are similar.

- TS/IP IN

IP module-Input

The "Input" setting menu is to set the IP input function for receiving multicast/unicast IP stream.

Pic-2.3-2

| Parameters | Description |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| ChannelSelect | In this 'ChannelSelect', user can select a channel to configure its parameters. |
| Enable | On: enable the IP receiving function. Off: disable the IP receiving function. Note: this parameter setting applies to all channels. |
| Channel configuration | |
| EnableChannel | Enable or disable corresponding input channel |
| SourceIPAddress | Set the IP address of the multicast/unicast that are going to receive |
| SourcePort | Set port of multicast/unicast |
| Protocol | Select UDP/RTP for multicast/unicast |
| ColPortMatching | If the output IP stream quality looks not as good as the input stream, user can select to 'Enable' these two options then to enable the FEC function. |
| RowPortMatching | |

| | |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------|
| FEC Parameter | The bigger values it is, the stronger capabilities it has to correct the data mistakes. But the FECL and FECD should be less than 100. |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------|

IP module-Output

The “Output” setting menu is to set the IP output function for transmitting multicast/unicast IP stream.

Pic-2.3-3

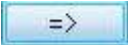
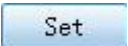
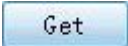
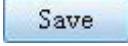
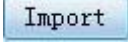
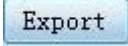
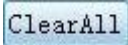
Following are the key parameters that need to change to meet with the application need in first time setup:

| Parameters | Description |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| ChannelSelect | In this 'ChannelSelect', user can select a channel to configure its transmitting parameters. |
| Enable | On: enable the IP transmission function. Off: disable the IP transmission function. Note: this parameter setting applies to all channels. |
| Channel configuration | |
| EnableChannel | Enable or disable corresponding output channel |
| SourcePort | Set port of multicast/unicast |

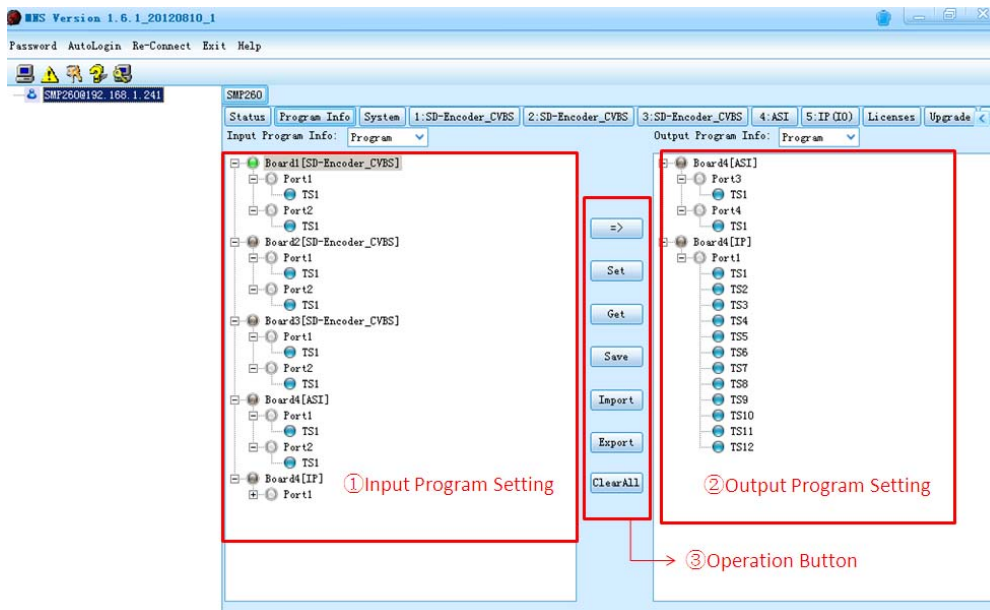
| | |
|-------------------|------------------------------------------|
| DestIPAddress | Set IP address of the multicast/unicast. |
| Protocol | Select UDP/RTP for multicast/unicast |
| EncapNumTSPackets | Rang 1~7. (Num 7 is recommended) |

2.3.3 Program IN/OUT configuration in “Program Info” tab

Operation Buttons

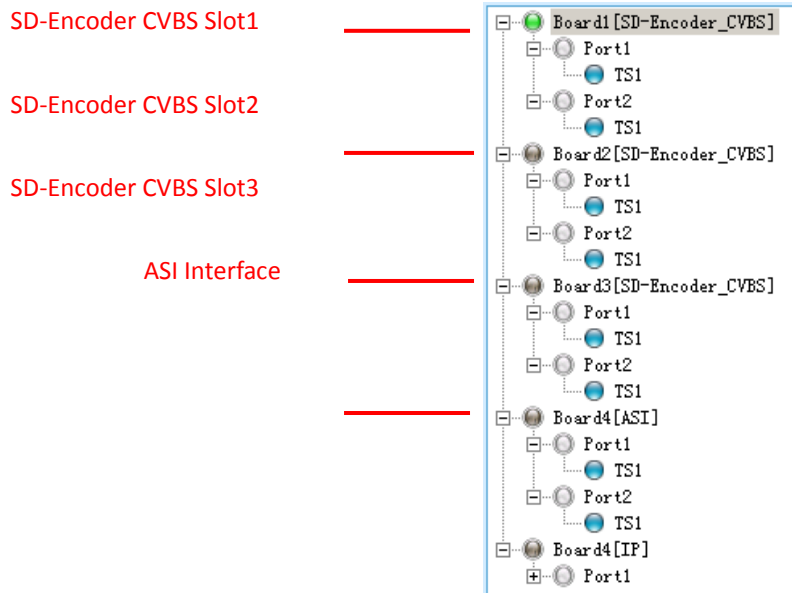
- a)  Transfer button: to transfer the selected stream/PID from the input program window to the output program window.
- b)  Set button: to apply the changes to the NMS. The setting will lose if the NMS is close or the equipment is powered off.
- c)  To obtain/refresh the current parameters status of the equipment mainboard.
- d)  To save the configuration. The saved data can be kept after NMS is closed or the equipment power off.
- e)  Import a configuration file.
- f)  Export the current settings of the equipment and save as a configuration file.
- g)  To eliminate all the settings in the input and output window.

Input program configuration



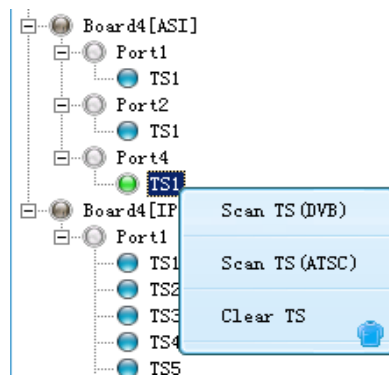
Pic-2.3-4

① Input Program Configuration: The “Input Program Configuration” is on the left side of the “Program Info” window. It displays all the inserted modules information and the received input streams.

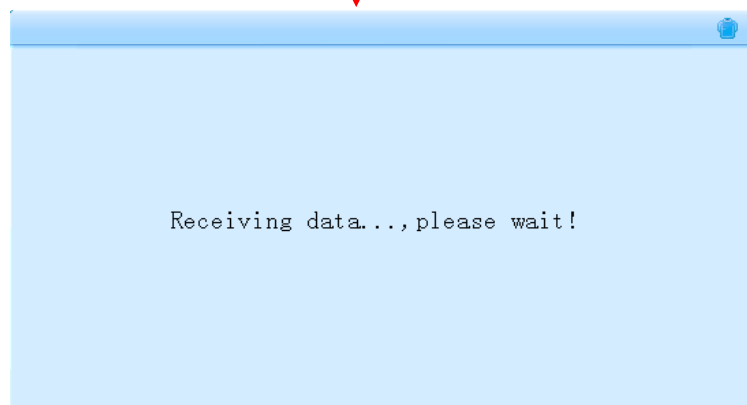


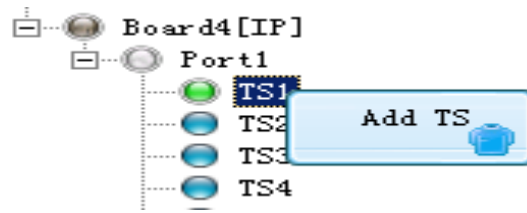
Pic-2.3-5

- a) Board1~4 represents the corresponding slots of the equipment. If the slot is inserted with a card module, the corresponding Board No. will be displayed on the “Input Program Configuration” window, and the name of the inserted module will be displayed after the Board No.
- b) For empty slot, no Board No. will be displayed.
- c) Port No.: represents each physical port of the inserted module.
- d) Scan the input TS: after the parameters of the inserted module are properly configured, select one port which is connected with input stream, and then click the mouse right button and select “Scan TS” menu. All the input stream of that port will be scanned and displayed.



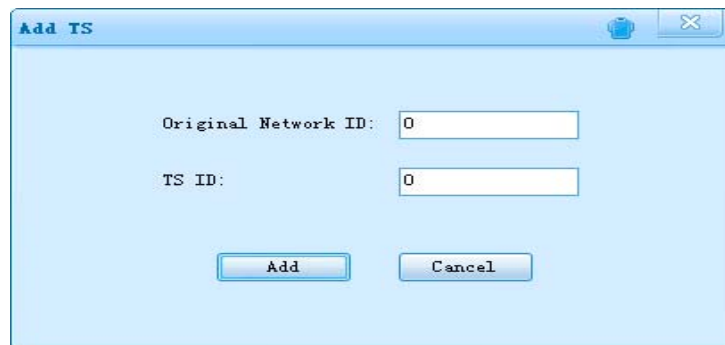
Scan the port that is fed with input stream





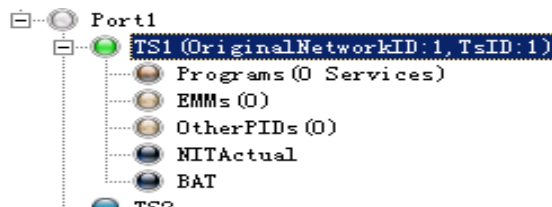
Pic-2.3-8

- Input the “Original Network ID” and “TS ID” for the channel, and click the “Add” button.



Pic-2.3-9

The input “Original Network ID” and “TS ID” will be assigned to the selected output TS (channel).



Pic-2.3-10

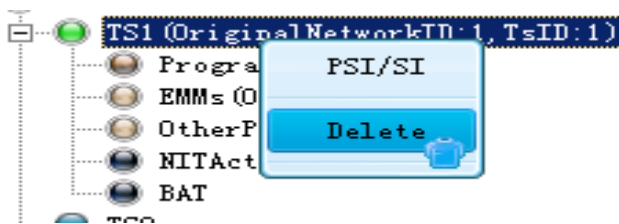
To change the “Original Network ID” and “TS ID”, use the left mouse button to click the TS (channel) name when it is being selected. Then the TS (channel) name will be in editable status.



Pic-2.3-11

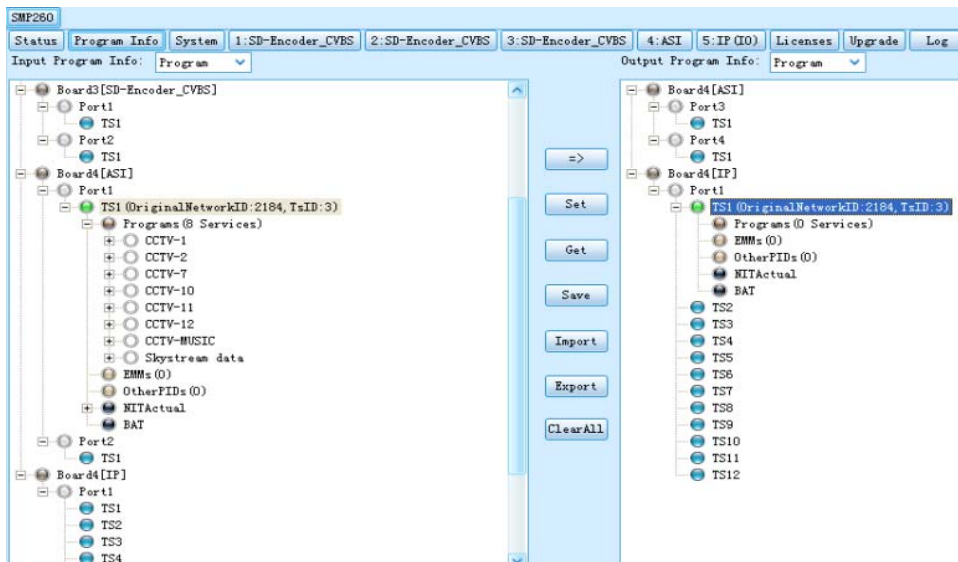
To delete the inserted “Original Network ID” and “TS ID”, click the right mouse

button on the TS, and select “Delete”.

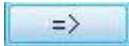


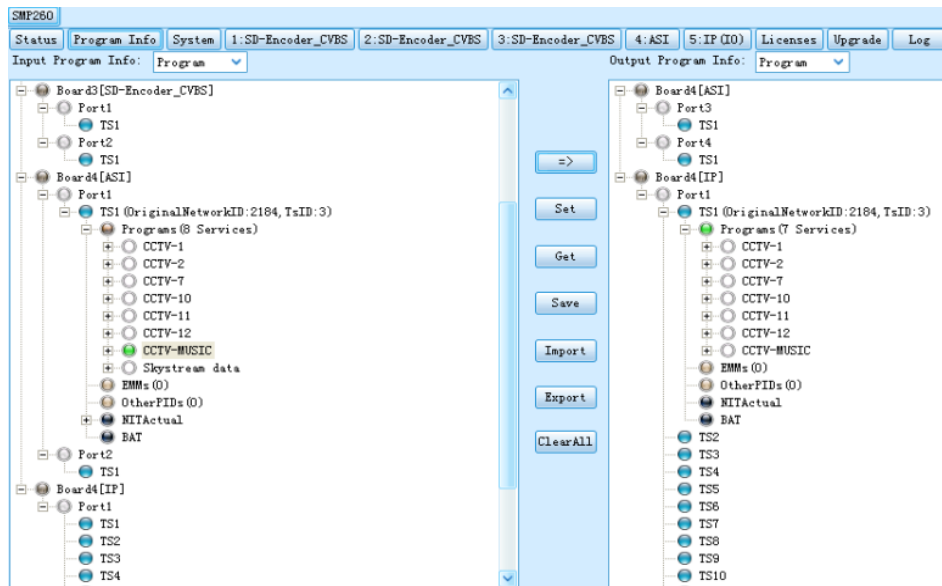
Pic-2.3-12

- Select TS which is going to be transmitted on the left hand side “Input Program Info” window, and select the port, TS (channel) which are going to carry the transmission on the right hand side “Output Program Info” window.



Pic-2.3-13

- Click the  button to set transfer of the selected TS from the “Input Program Info” to the “Output Program Info”.



Pic-2.3-14

- Follow above operation steps, user can set the selected input stream to be transmitted at any assigned output TS (channel).

Note: This Quick Installation Guide only contains tutorials with simple instructions for device installation and configuration. For more information, please refer to the User Manual in the CD packaged with your product.