HDI 256-8 T

IP Gateway/Modulator

IP into IP and 8 DVB-T

CE UKCA

User Manual

0902592

Contents

1. Montage- und Sicherheitshinweise

Bitte beachten Sie die nachfolgenden Sicherheitshinweise, um jegliche Risiken für Personen auszuschließen und Beschädigungen am Gerät zu vermeiden sowie einen Beitrag zum Umweltschutz zu leisten.

Wichtige Hinweise

Bitte lesen Sie die Bedienungsanleitung der Geräte aufmerksam durch bevor Sie diese in Betrieb nehmen! Die Anleitung enthält wichtige Informationen zur Installation, Umgebungsbedingungen sowie Wartung und Service am Gerät! Bewahren Sie die Bedienungsanleitung für den späteren Gebrauch auf. Alle Bedienungsanleitungen finden sie auf unserer Website unter:
https://polytron.de/index.php/de/service/bedienungsanleitungen

Bestimmungsgemäßer Gebrauch

Verwenden Sie das Gerät nur an den zulässigen Betriebsorten, unter den zulässigen Umgebungs-bedingungen sowie zu den in der Bedienungsanleitung beschriebenen Zweck.
Liegen zum beabsichtigten Gebrauch (z.B. Betriebsort, Umgebungsbedingungen) keine Informationen vor oder enthält die Betriebsanleitung keine entsprechenden Hinweise, müssen Sie sich an den Hersteller dieses Gerätes wenden um sicherzustellen, dass das Gerät eingebaut werden kann. Erhalten Sie vom Hersteller keine Information hierzu, darf das Gerät nicht in Betrieb genommen werden.

Transport

Überprüfen Sie die Verpackung und das Gerät nach Erhalt sofort auf Transportschäden. Nehmen Sie ein beschädigtes Gerät nicht in Betrieb.
Der Transport des Gerätes am Netzkabel ist nicht zulässig, da dies zu einer Beschädigung des Netzkabels oder der Zugentlastung führen kann. Durch übermäßige Belastung (z.B. Fall, Stoß, Vibration) können Isolierungen beschädigt werden, die dem Schutz vor Netzspannungen dienen.

Achtung

Die auf dem Gerät angegebene Nennspannung muss mit der örtlichen Netzspannung übereinstimmen. Beim Betrieb von Geräten mit Schutzklasse I ist der Anschluss an Netzsteckdosen mit Schutzleiteranschluss zwingend erforderlich. Die Hinweise zum Betrieb des Gerätes sind zu beachten.

Erdung und Potentialausgleich

Vor der Erstinbetriebnahme muss die Erdung hergestellt und der Potentialausgleich durchgeführt werden.
Gemäß der aktuell gültigen Fassung der EN 60728-11 müssen koaxiale Empfangs- und Verteilanlagen den Sicherheitsanforderungen bezüglich Erdung, Potentialausgleich etc. entsprechen, auch wenn das Gerät ausgebaut wird. Sonst können Schäden am Produkt, ein Brand oder andere Gefahren entstehen. Zusätzlich kann der Erdungsanschluss am Gerät genutzt werden. Geräte im Handbereich sind untereinander in den Potentialausgleich einzubinden. Ein Betrieb ohne Schutzleiteranschluss, Geräteerdung oder Potentialausgleich ist nicht zulässig. Bei Beschädigung ist das Gerät außer Betrieb zu nehmen.
Die elektrische Anlage zur Stromversorgung des Gerätes, z.B. Hausinstallation muss Schutzeinrichtungen gegen überhöhte Ströme, Erdschlüsse und Kurzschlüsse enthalten.
Befolgen Sie auch alle anwendbaren nationalen Sicherheitsvorschriften und Normen.

Anschlusskabel

Alle Anschlusskabel müssen stolperfrei mit einer Schlaufe verlegt werden, damit das Kondenswasser- und/oder bei Schwitzwasserbildung kein Wasser ins Gerät läuft sondern auf den Boden tropft.

Aufstellungsort wählen

Planen sie den Montageort so, dass Kinder nicht am Gerät und dessen Anschlüssen spielen können. Die Montage des Gerätes sollte nur auf eine feste, ebene und möglichst brandresistente Oberfläche erfolgen. Die in der Bedienungsanleitung angegebene Betriebsposition der Geräte beachten. Starke Magnetfelder in der Nähe vermeiden. Zu starke Hitzeeinwirkung oder Wärmestau haben einen negativen Einfluss auf die Lebensdauer. Nicht direkt über oder in der Nähe von Heizungsanlagen, offenen Feuerquellen o.ä. Wärmequellen montieren, wo das Gerät Hitzestrahlung oder Öldämpfen ausgesetzt ist. Lüftergekühlte und passiv gekühlte Geräte so montieren, dass die Luft ungehindert durch die unteren Belüftungsschlitze angesaugt wird und die Wärme an den oberen Lüftungsschlitzen austreten kann. Für freie Luftzirkulation sorgen, Lüftungsschlitze dürfen nicht abgedeckt werden. Keine Gegenstände auf dem Gerät abstellen. Die Montage in Nischen und die Abdeckung des Montageortes, z.B. durch Vorhänge ist nicht zulässig. Zur Vermeidung von Stauwärme ist unbedingt die richtige Einbaulage zu beachten und allseitige, freie Umlüftung gemäß den Angaben in der Bedienungsanleitung zu gewährleisten! Bei Schrankmontage muss eine ausreichende Luftkonvektion möglich sein, die sicherstellt, dass die maximal zulässige Umgebungstemperatur des Gerätes eingehalten wird.

Feuchtigkeit

Die Geräte besitzen keinen Schutz gegen Wasser und dürfen daher nur in trockenen Räumen betrieben und angeschlossen werden. Tropf-, Spritzwasser und hohe Luftfeuchtigkeit schaden dem Gerät. Bei Kondenswasserbildung warten, bis die Feuchtigkeit abgetrocknet ist. Betriebsumgebung laut spezifizierter IP-Schutzklasse wählen.

Wärme

Gehäuseteile in der Nähe von Kühlrippen und Kühlrippen selber können sehr heiß werden. Daher sollten Sie diese Teile nicht berühren.

Installations- und Servicearbeiten

Das Gerät darf ausschließlich von sachverständigen Personen (gemäß EN 62368-1) oder von Personen, die durch

Sachverständige unterwiesen wurden, entsprechend den Regeln der Technik, installiert und betrieben werden. Wartungsarbeiten dürfen nur von qualifiziertem Servicepersonal durchgeführt werden. Vor Beginn der Servicearbeiten die Betriebsspannung abschalten und gegen Wiedereinschalten sichern. Der Netzstecker dient im Service- und Gefahrenfall als Trennvorrichtung von der Netzspannung und muss deshalb jederzeit erreichbar und benutzbar sein. Um die Störstrahlsicherheit zu garantieren, müssen sämtliche Geräteabdeckungen nach Öffnen wieder fest verschraubt werden. Sicherungen werden nur von autorisiertem Fachpersonal gewechselt. Es dürfen nur Sicherungen des gleichen Typs eingesetzt werden.

Reparaturen
Reparaturen dürfen nur vom Hersteller ausgeführt werden. Durch unsachgemäße Reparaturen können erhebliche Gefahren für den Benutzer entstehen. Bei Funktionsstörungen muss das Gerät vom Netz getrennt und autorisiertes Fachpersonal hinzugezogen werden. Gegebenenfalls ist das Gerät an den Hersteller einzusenden.

Gewitter
Laut EN 60728-Teil 1 Sicherheitsanforderungen, aufgrund erhöhter Blitzschlaggefahr keine Wartungs- und/oder Installationsarbeiten bei Gewitter am Gerät oder an der Anlage vornehmen.
Durch hohe Überspannungen (Blitzeinschlag, Überspannungen im Stromnetz) können Isolierungen beschädigt werden, die dem Schutz vor Netzspannung dienen.

Umgebungstemperatur
Die in den technischen Daten angegebenen zulässigen Umgebungstemperaturen müssen für Betrieb und Lagerung eingehalten werden, auch wenn sich die klimatischen Bedingungen durch äußere Einflüsse (Sonneneinstrahlung etc.) verändern. Durch Überhitzung des Gerätes können Isolierungen beschädigt werden, die der Isolation der Netzspannung dienen.

Abschluss / Terminierung
Nicht benutzte koaxiale Anschlüsse sind mit 75 Ohm-Abschlusswiderständen abzuschließen. Bei DC versorgten Anschlüssen erst für eine DC Spannungsentkopplung sorgen bzw. 75 Ohm Abschlusswiderstände verwenden mit integrierter DC Entkopplung.

Achtung
Diese Baugruppe enthält ESD-Bauteile! (ESD = Elektrostatisch empfindliches Bauteil)
Eine elektrostatische Entladung ist ein elektrischer Stromimpuls, der, ausgelöst durch große Spannungsdifferenz, auch über ein normalerweise elektrisch isolierendes Material fließen kann.
Um die Zuverlässigkeit von ESD-Baugruppen gewährleisten zu können, ist es notwendig, beim Umgang damit die wichtigsten Handhabungsregeln zu beachten:
» Nur an elektrostatisch geschützten Arbeitsplätzen (EPA) diese Bauteile verarbeiten!
» Auf ständigen Potentialausgleich achten!
» Personenerdung über Handgelenk- und Schuherdung sicherstellen!
» Elektrostatisch aufladbare Materialien wie normales PE, PVC, Styropor, etc. vermeiden!
» Elektrostatische Felder >100 V/cm vermeiden!
» Nur gekennzeichnete und definierte Verpackungs- und Transportmaterialien einsetzen!
Schäden durch fehlerhaften Anschluss und/oder unsachgemäße Handhabung sind von jeglicher Haftung ausgeschlossen.

Recycling
Unser gesamtes Verpackungsmaterial (Kartonagen, Einlegezettel, Kunststoff-Folien und -beutel) ist vollständig recyclingfähig.
Die Geräte sind nach ihrer Verwendung entsprechend den aktuellen Entsorgungsvorschriften Ihres Landkreises/Landes/Staates als Elektronikschrott einer geordneten Entsorgung zuzuführen.

WEEE-Reg.-Nr. DE 51035844

Garantiebedingungen
Es gelten die allgemeinen Geschäftsbedingungen der Polytron-Vertrieb GmbH. Diese finden Sie auf unserer Website unter:
https://polytron.de/index.php/de/unternehmen/agbs

ALLGEMEINE HINWEISE ZUR BEDIENUNGSANLEITUNG

- Alle Parameterangaben sind lediglich beispielhaft.
- Technisch realisierbare Parameter sind frei wählbar.
- Menüansichten können je nach Software-Stand leicht variieren; die Bedienbarkeit ändert sich dadurch nicht.
- Die Bilder in dieser Anleitung dienen lediglich als Illustrationen.

1. Mounting and safety instructions

Please observe the following safety instructions in order to prevent any risks for persons and/or damage to the device, as well as to contribute to environmental protection.

Important instructions

Please read the operating instructions for the device(s) carefully before putting into operation! The instructions contain important information on installation, environmental conditions, service and maintenance. Save the operating instructions for later use. All operating instructions can be found on our website at: https://polytron.de/index.php/en/services/operating-manuals

Approved use

Use the device only at the permissible operating locations, under the permissible environmental conditions and for the purpose described in the operating instructions. If there is no information about the intended use (e.g. operating location, environmental conditions) or if the operating instructions do not contain any relevant information, you must contact the manufacturer of this device to ensure that the device can be installed. If you do not receive any information from the manufacturer, the device must not be put into operation.

Transport

Please check the packaging and the device for damages in shipment immediately upon receipt. Do not put a damaged device into operation.
Transporting the device by the power cord is not permitted as this can damage the power cord or the strain relief. Insulation that serves to protect against mains voltages can be damaged by excessive loads (e.g. fall, shock, vibration).

Attention

The rated voltage on the device must correspond with the mains voltage to be used. When operating devices with protection class I, connection to power sockets with a protective conductor connection is mandatory. The instructions for operating the device must be observed.

Grounding and potential equalisation

Please establish grounding and perform potential equalisation before initial startup. According to the currently valid version of EN 60728-11, coaxial receiving and distribution systems must meet the safety requirements with regard to earthing, equipotential bonding etc, even if the device is removed. Otherwise, damage to the product, fire, or other dangers can occur. In addition, the earth connection on the device can be used. Other devices within touching distance are to be integrated in the equipotential bonding. Operation without a protective conductor connection, device grounding or equipotential bonding is not permitted. If damaged, the device must be taken out of operation.
The electrical system for powering the device, e.g. house installations must contain protective devices against excessive currents, earth faults and short circuits. Follow all applicable national safety regulations and standards.

Connection cables

Always install the connection cables with a loop so that condensed and/or splashing water cannot run into the device.

Select installations site

Plan the installation location so that children cannot play with the device and its connections. The device should only be installed on a solid, flat and most of all fire-resistant surfaces. Observe the operation position of the devices specified in the operating instructions. Avoid strong magnetic fields in the surroundings. Too strong a heat effect or accumulation of heat will have an adverse effect on the durability. Don't mount directly over or near heating systems, open fire sources or the like, where the device is exposed to heat radiation or oil vapours. Mount fan-cooled and passively cooled devices so that the air can be sucked in unhindered through the lower ventilation slots and heat can escape through the upper ventilations slots. Ensure free air circulation, ventilation slots must not be covered. Do not place any objects on the devices. Installation in recesses, alcoves etc and covering the installation site, e.g. through curtains is not allowed. To avoid heat build-up, the correct installation position must be observed and all-round, free ventilation must be ensured in accordance with the information in the operating instructions! When installing the cabinet, sufficient air convection must be possible to ensure that the maximum permissible ambient temperature of the device is maintained.

Moisture

The devices have no protection against water and may therefore only be operated and connected in dry rooms. Dripping/splashing water and high humidity damage the device. If there is condensation, wait until the device is completely dry. Select the operating environment according to the specified IP protection class.

Heat

Housing parts near cooling fins and cooling fins themselves can get very hot. Therefore, you should not touch these parts.

Mounting and service work

The device may only be installed and operated by qualified persons (in accordance with EN 62368-1) or by persons who have been instructed by experts in accordance with the rules of technology. Maintenance work may only be carried out by qualified service personnel. Before starting the service work, switch off the operating voltage and secure it against being switched on again. In the event of service or danger, the mains plug serves as a disconnect device from the mains voltage and must therefore be accessible and usable at all times. In order to guarantee interference immunity, all device covers must be screwed tight again after opening.
Fuses are only to be changed by authorised specialists. Only fuses of the same type may be used.

Repairs
Repairs may only be carried out by the manufacturer. Improper repairs can pose significant risks to the user. In the event of malfunctions, the device must be disconnected from the mains and authorised specialist personnel must be consulted. If necessary, the device must be sent to the manufacturer.

Thunderstorm
According to EN 60728 part 1 safety requirements, due to increased risk of lightning, maintenance and / or installation work should not be carried out during thunderstorms on the device or the system.
High overvoltages (lightning strikes, overvoltages in the power grid) can damage insulation that serves to protect against mains voltage.

Ambient temperature
The permissible ambient temperatures specified in the technical data must be observed for operation and storage, even if the climatic conditions change due to external influences (solar radiation etc.). Overheating the device can damage the insulation that serves to isolate the mains voltage.

Termination
Unused coaxial connections should be terminated with 75 Ohm terminating resistors. For DC-supplied connections, DC voltage decoupling must be used or use 75 Ohm terminating resistors with integrated DC decoupling.

Attention
This module contains ESD components! (ESD = Electrostatic Sensitive Device).
An electrostatic discharge is an electrical current pulse, which can flow through an electrically insulated material, when triggered by a large voltage difference. To ensure the reliability of ESD components, it is necessary to consider their most important handling rules:
» Pay attention permanently to potential equalisation (equipotential bonding)!
» Use wrist straps and approved footwear for personnel grounding!
» Avoid electrostatically chargeable materials such as normal PE, PVC, polystyrene!
» Avoid electrostatic fields >100 V/cm!
» Use only labeled and defined packing and transportation materials!
Damage caused by faulty connections and/or improper handling are excluded from any liability.

Recycling
All of our packaging materials (packaging, identification sheets, plastic foil and bags) are fully recyclable. The devices are to be disposed of properly according to the current disposal regulations of your district/country/state as electronic scrap.

WEEE-Reg.-Nr. DE 51035844

Guarantee conditions
The general terms and conditions of Polytron-Vertrieb GmbH apply. The general terms and conditions can be found on our website at: https://polytron.de/index.php/en/company/general-terms-and-conditions

GENERAL INFORMATION ON THE OPERATING INSTRUCTIONS

- All parameter data are examples only.
- User adjustable parameters are freely selectable.
- Menu views can vary slightly depending on the software version; the operability does not change as a result.
- The images in this manual are for illustrative purposes only.

2. *Product overview*

2.1 *Description*

The HDI 256-8 T IPTV modulator is a high integration device which is combined with two independent modules. One is IPTV gateway module which is used for the protocol conversion scenarios and streaming media distribution scenarios and it can convert the network IP stream over HTTP, UDP, RTP, RTSP, HLS and TS file into HTTP, UDP, HLS and RTMP protocol. The other is modulator module which supports IP in and IP out and DVB-T RF out, and it can receive gateway source directly. So HDI 256-8 T achieves IP (HTTP, UDP, RTP, RTSP and HLS) in to RF out in one box.

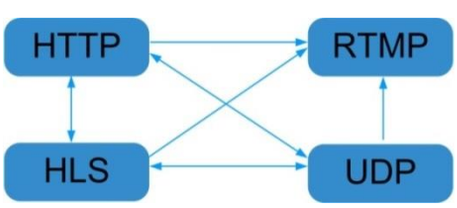
In conclusion, its high performance makes it widely used in CATV digital head-end, business application, IPTV/OTT system, etc. and it provides various solutions for operators to re-distribute programs.

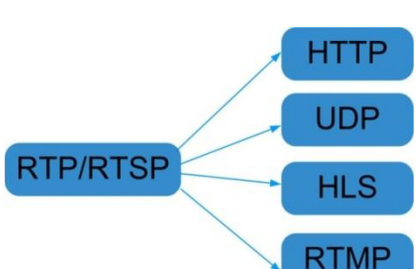
2.2 *Key features*

- 1 IPTV gateway module +1 IP modulator module, and they can work independently
- IP in (HTTP, UDP, RTP, RTSP and HLS) to RF out in one box
- Gateway Module:
  - 10 Data ports:
    First Data port: IP out over HTTP, UDP (SPTS), HLS and RTMP
    Data CH1-9 ports: IP in over HTTP, UDP (SPTS), RTP (SPTS), RTSP and HLS
    IP out over HTTP, HLS and RTMP (Unicast)
  - Transmitting IP to modulator module through Data port
- Modulator Module:
  - Max 256 IP input/output through Data/Data 1/2 port
  - Support 8 DVB-T RF out
  - Receiving IP from gateway module directly through Data port
- Support IP anti- jitter function
- Control the 2 modules separately via web-based NMS management
- Support TS files uploading through Web management

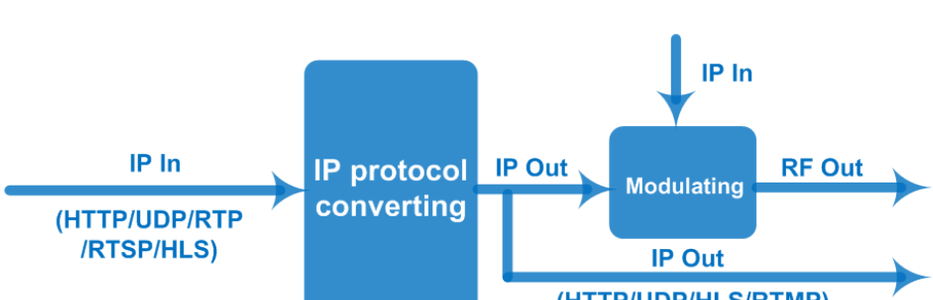
2.3 *Block diagram*

IP Protocol Conversion



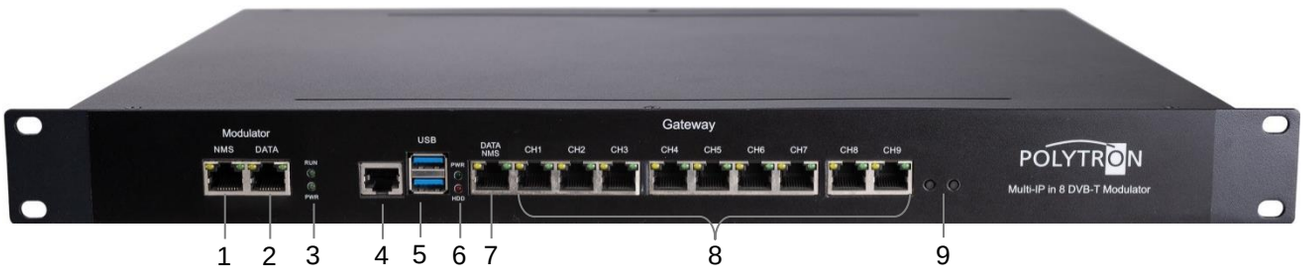


Principal Chart



3. *Housing and connections*

3.1 *Front view*



1 NMS port modulator; CA data port
2 IP input (max. 128 IP in)
3 Power indicators modulator
4 Reserved port
5 USB port
6 Power indicators IP gateway
7 NMS port IP gateway; IP output
8 CH1…CH9 IP inputs; unicast outputs
9 Reserved buttons

3.2 *Rear view*

10 Grounding connection
11 Mains switch / mains fuse / mains connection
12 VGA port monitor
13 RF output
14 IP input; IP output 1/2 modulator

4. *Installation guide*

4.1 *Scope of delivery*

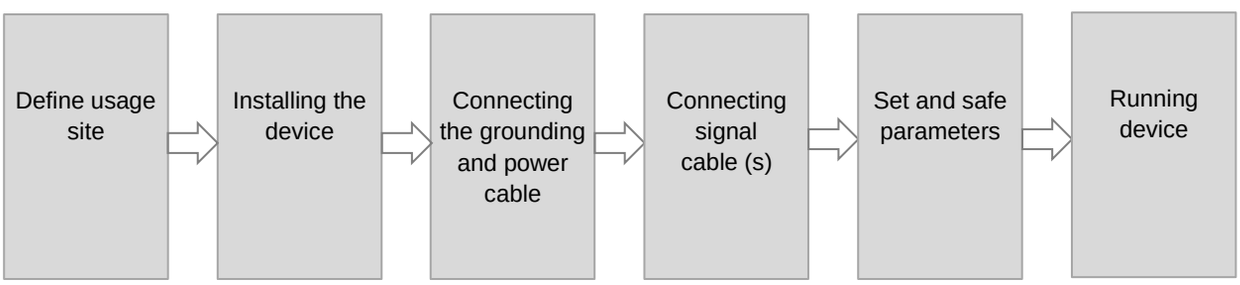
1 x HDI 256-8 T IP Gateway/Modulator
1 x Quick start guide
1 x Mounting and safety instructions
1 x Power cord
1 x Grounding cable

4.2 *Preparation for installation*

Please observe the following procedure and notes during installation.

- Check the device and the connecting cables for damage before installation.
- Preparing relevant environment for installation.
- Install the gateway/modulator.
- Connecting signal cables.
- Connecting NMS-Ethernet port if it is necessary.

4.2.1 *Installation flow and wiring*



Caution: Before connecting the power cord to the gateway/modulator, the power switch should be set to the “OFF” position.

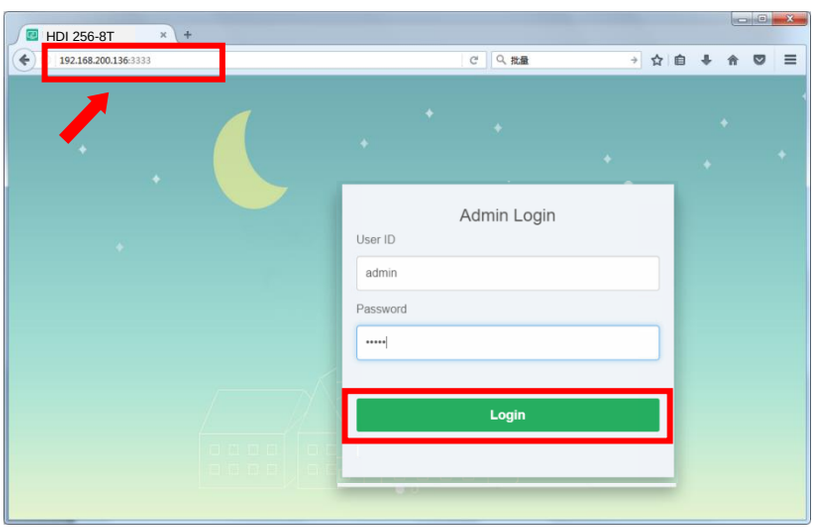
The signal connections include the connection of the input and output signal lines.

5. *Network management system (NMS)*

This HDI 256-8 T is combined with two independent modules, IPTV gateway module & DVB-T modulator module. Users need to control them separately with different web-based NMS management.
Users can only control and set the configuration in computer by connecting the device to web NMS Port. User should ensure that the computer's IP address is different from the HDI 256-8 T's IP address; otherwise, it would cause IP conflict

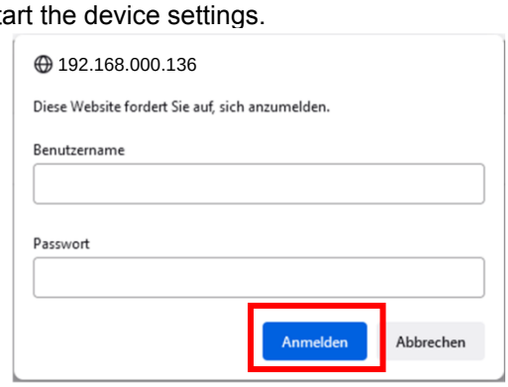
5.1 *Login*

Connect the PC / notebook to the NMS socket of gateway or modulator module using a standard network cable.
If a proxy server is used, it must be deactivated in the network connections.
The PC used must be in the same network as the HDI device.
Gateway module
By default, the gateway module has the IP address **192.168.200.136:3333** (3333 is IP port number which can't be changed). Therefore, the IP address 192.168.200.xxx must be assigned to the PC. The digits 0, 255 or already used IP addresses are not allowed.
Enter the following IP address in the web browser:
http://192.168.200.136:3333
Username: **admin**
Password: **admin**
Then click on "**Login**" to start the device settings.



After confirming the login data, the status interface where users can have an overview of system chart will be displayed.

Modulator module
By default, the modulator module has the IP address **192.168.000.136**. Therefore, the IP address 192.168.000.xxx must be assigned to the PC. The digits 0, 255 or already used IP addresses are not allowed.
Enter the following IP address in the web browser:
http://192.168.000.136
Username: **admin**
Password: **admin**
Then click on "**Login**" to start the device settings.

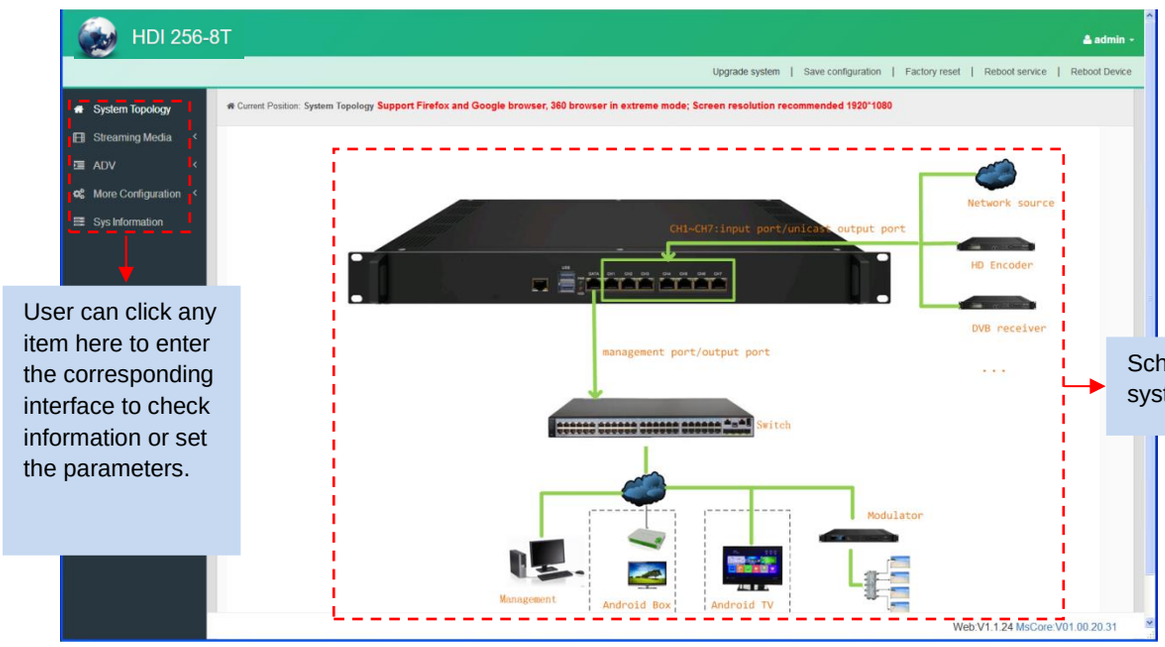


After confirming the login data, the status interface where users can have an overview of system information will be displayed.

5.2 *Operation Gateway module*

5.2.1 System Topology

After confirming the login data for the gateway module, the following menu view will be displayed.



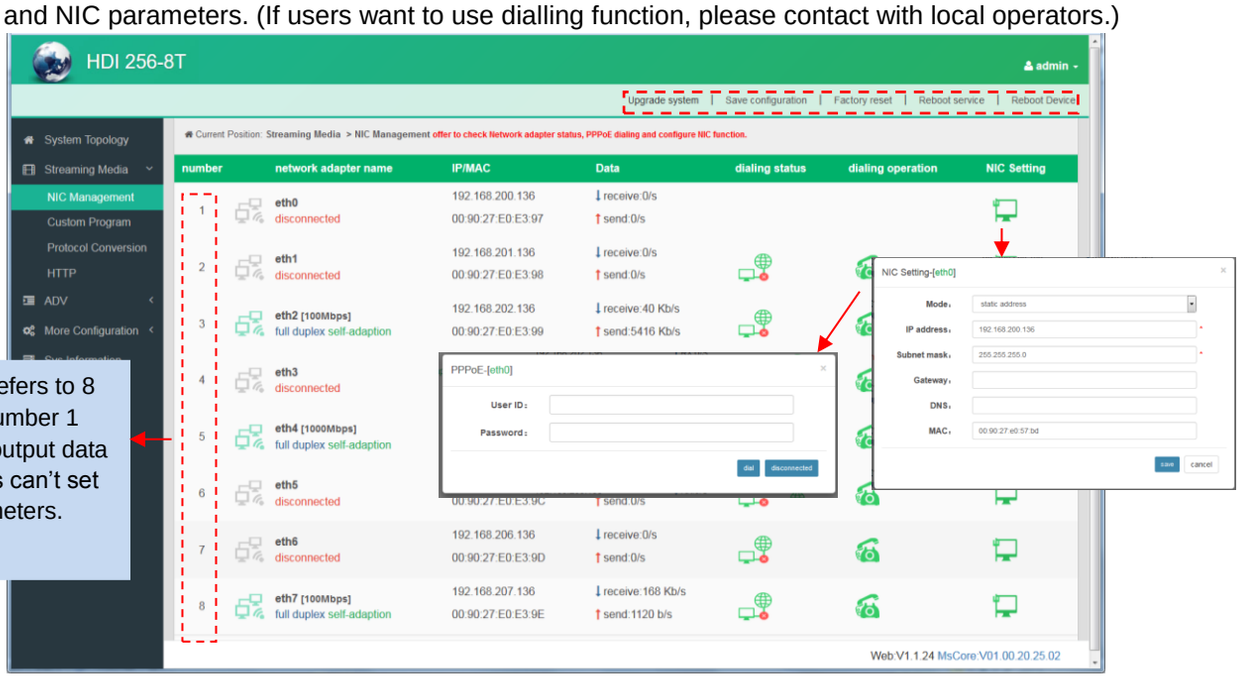
User can click any item here to enter the corresponding interface to check information or set the parameters.

Schematic diagram of system connection

5.2.2 Streaming Media

NIC Management

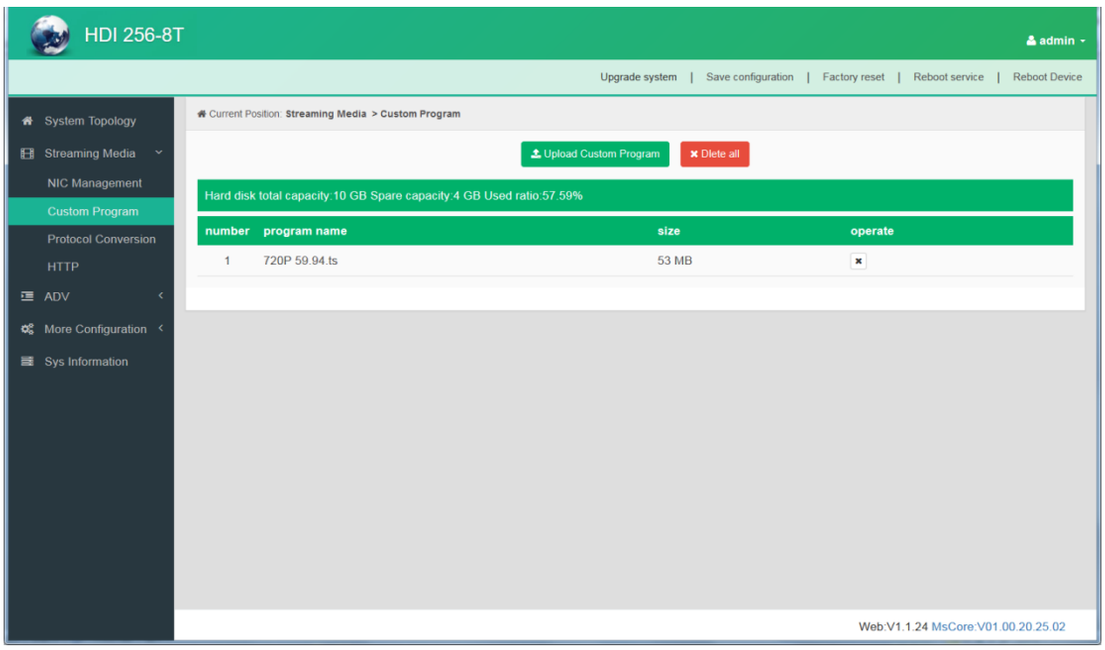
From the menu on left side of the webpage, clicking “NIC Management”, it displays the interface where users can set the dialling and NIC parameters. (If users want to use dialling function, please contact with local operators.)



Number 1-8 refers to 8 data ports. Number 1 refers to the output data port. So users can’t set dialling parameters.

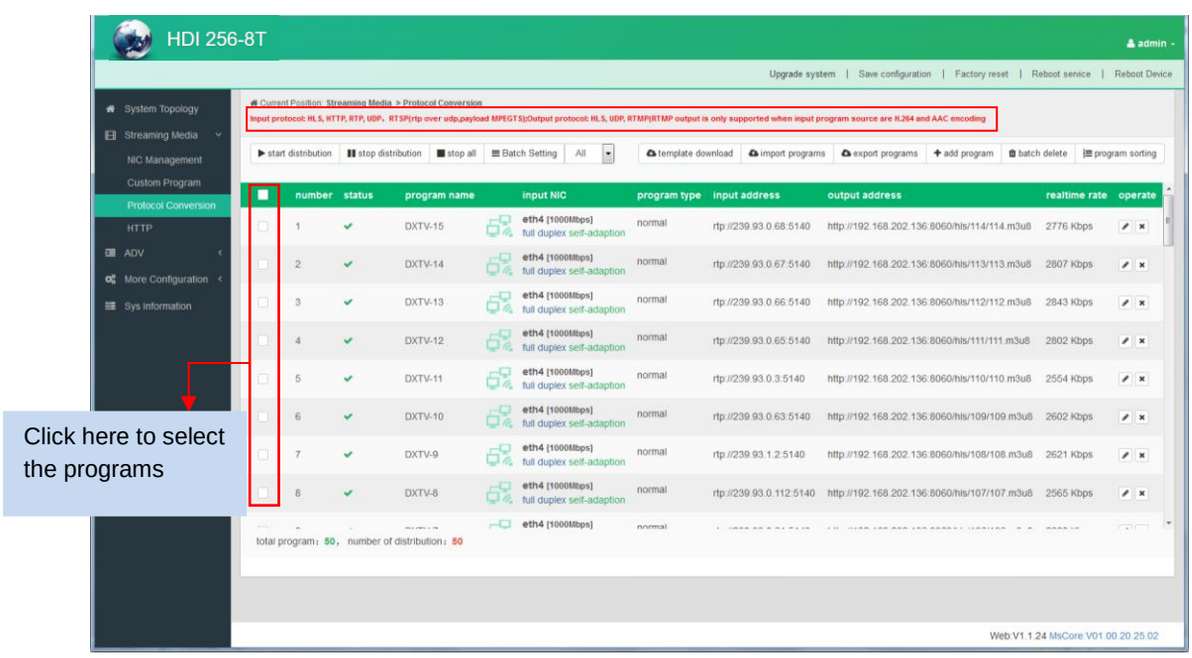
Custom Program

Clicking “Custom Program”, it displays the interface where users can upload TS files from local sources for distributing programs.



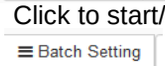
Protocol Conversion

Clicking “Protocol Conversion”, it displays the interface where users can set protocol conversion parameters and add programs from CH1-9. Input protocol supports HLS, HTTP, RTP, UDP, RTSP (RTP over UDP, playload MPEGTS). Output supports HLS, UDP, RTMP (RTMP is only supported when input sources are H.264 and AAC encoding.) Output address can’t be changed when selecting HLS as output protocol.

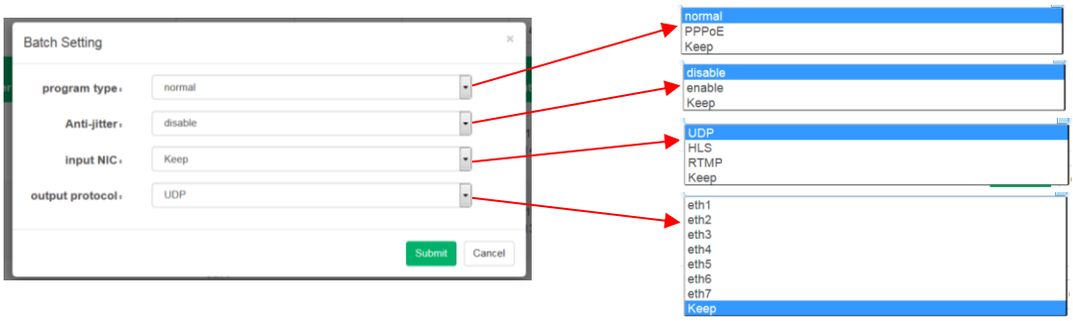


Click to edit or delect programs

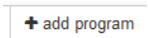
Click to start/stop/stop all the program distribution



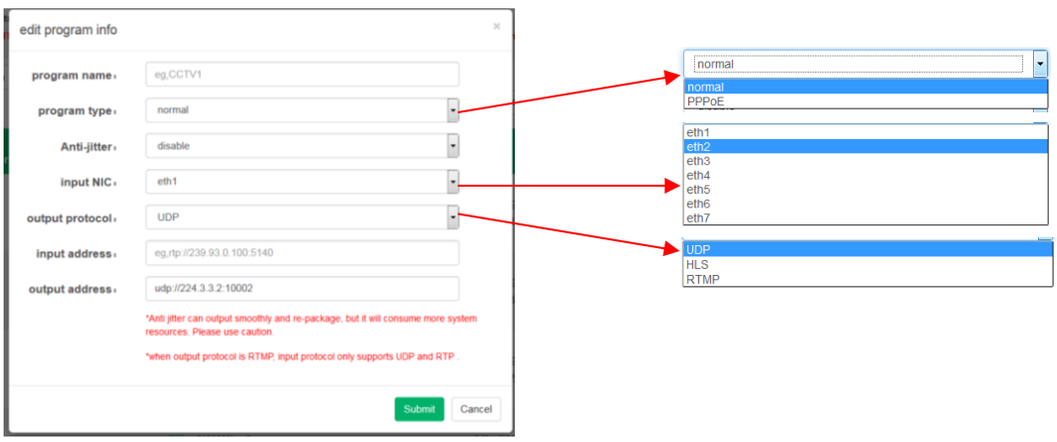
Click box in front of program number, and then click it to batch programs information as below box. “Keep” means keep the original program information

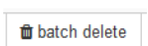


Click to download the template for inputting program information and to batch import/export programs

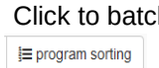


Click to add programs and edit program information as below box

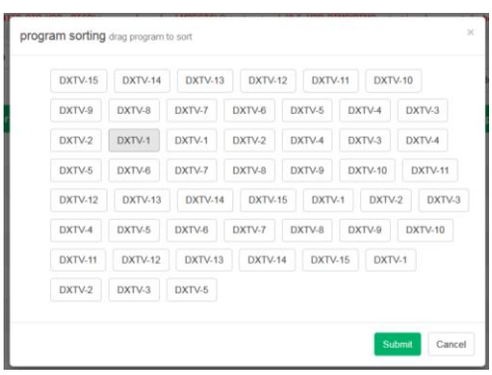




Click to batch delete programs



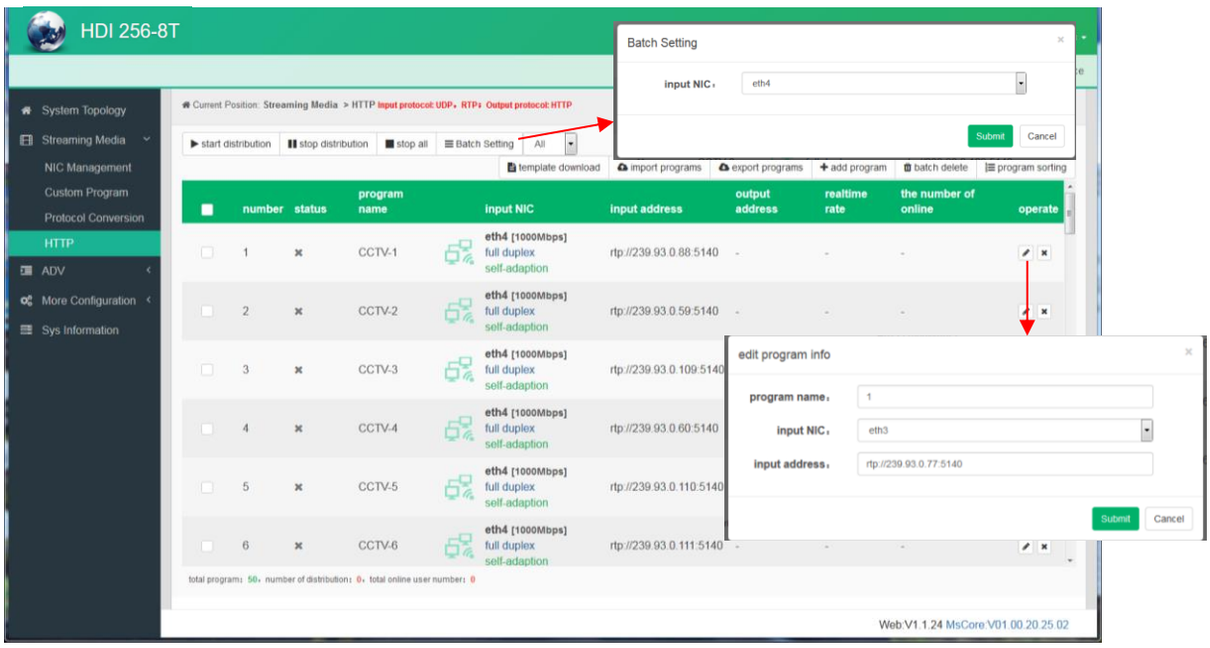
Click to sort programs manually by dragging program's name



HTTP

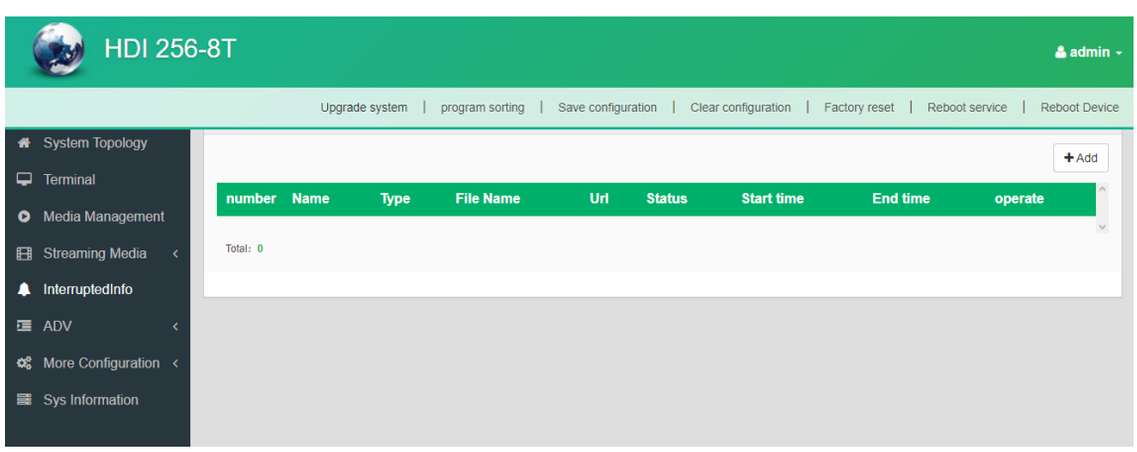
Clicking “HTTP”, it displays the interface where users can set the HTTP parameters. HLS, HTTP and RTSP can’t be converted into HTTP directly, but UDP and RTP can be converted into HTTP. The setting principle is same as “Protocol Conversion”.

Note: If users want to IP out over HTTP, they need to convert HLS/HTTP/RTSP into UDP/RTP, and then converting UDP/RTP into HTTP.



5.2.3 Interrupted Info

This menu can be used for forced insertion. The output will switch to special channel when this function is activated.

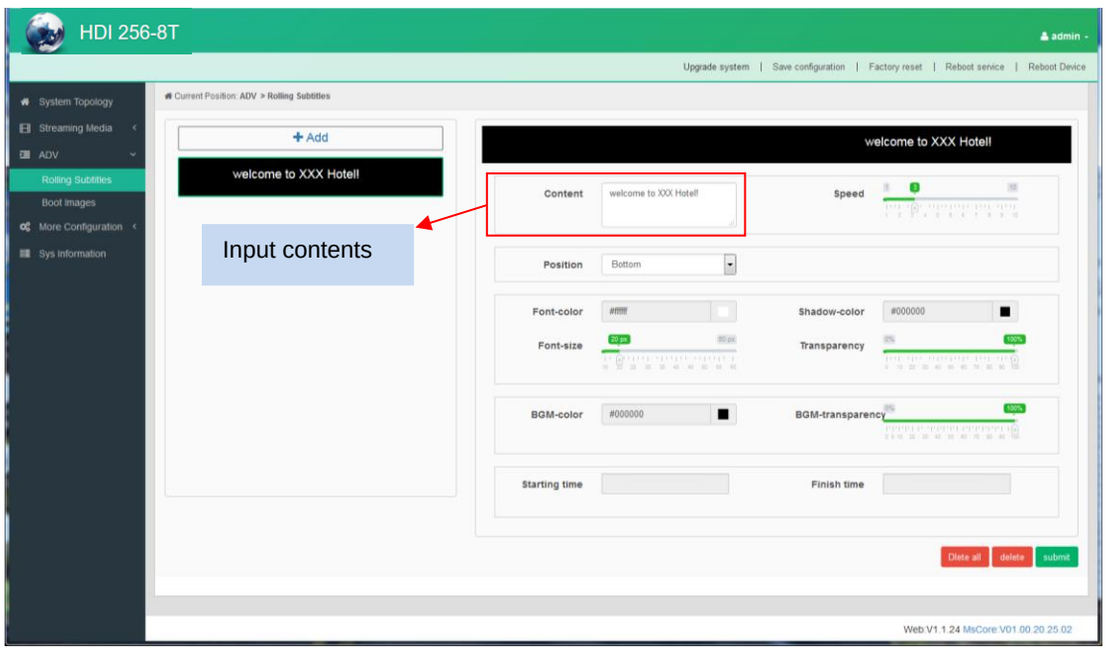


5.2.4 ADV

Rolling Subtitles

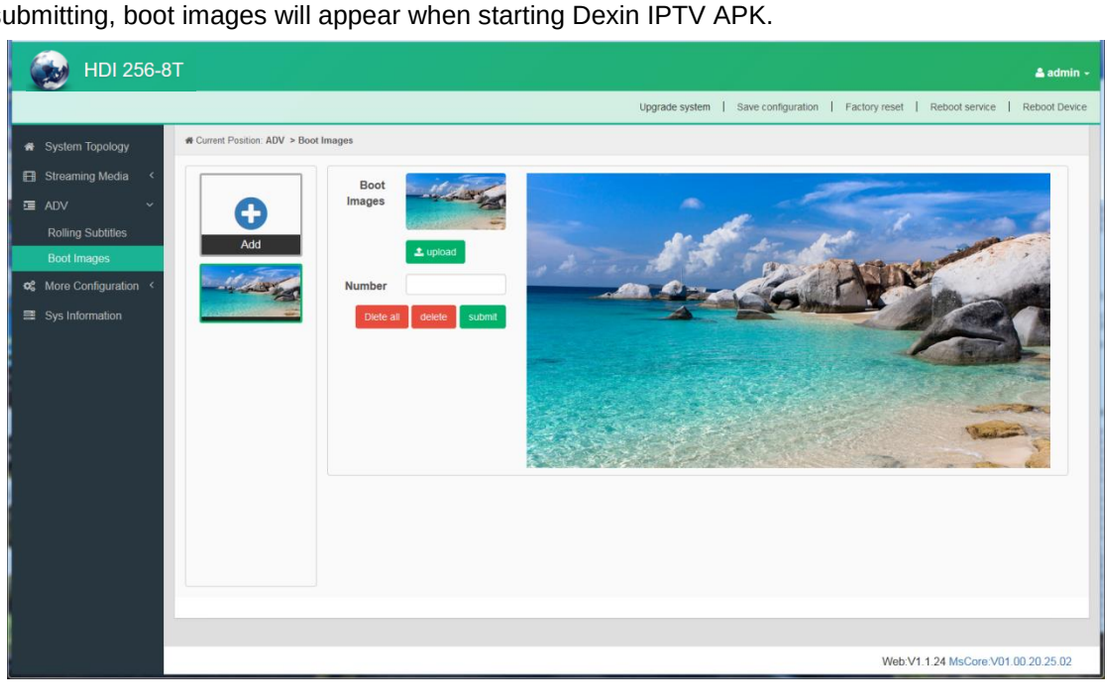
ADV function is only applicable to IP out application and the STB and TV must be installed Dexin IPTV APK.

Clicking “Rolling Subtitles”, it displays the interface where users can add rolling subtitles and set subtitles’ parameters. After submitting, rolling subtitles will appear when playing programs.



Boot images

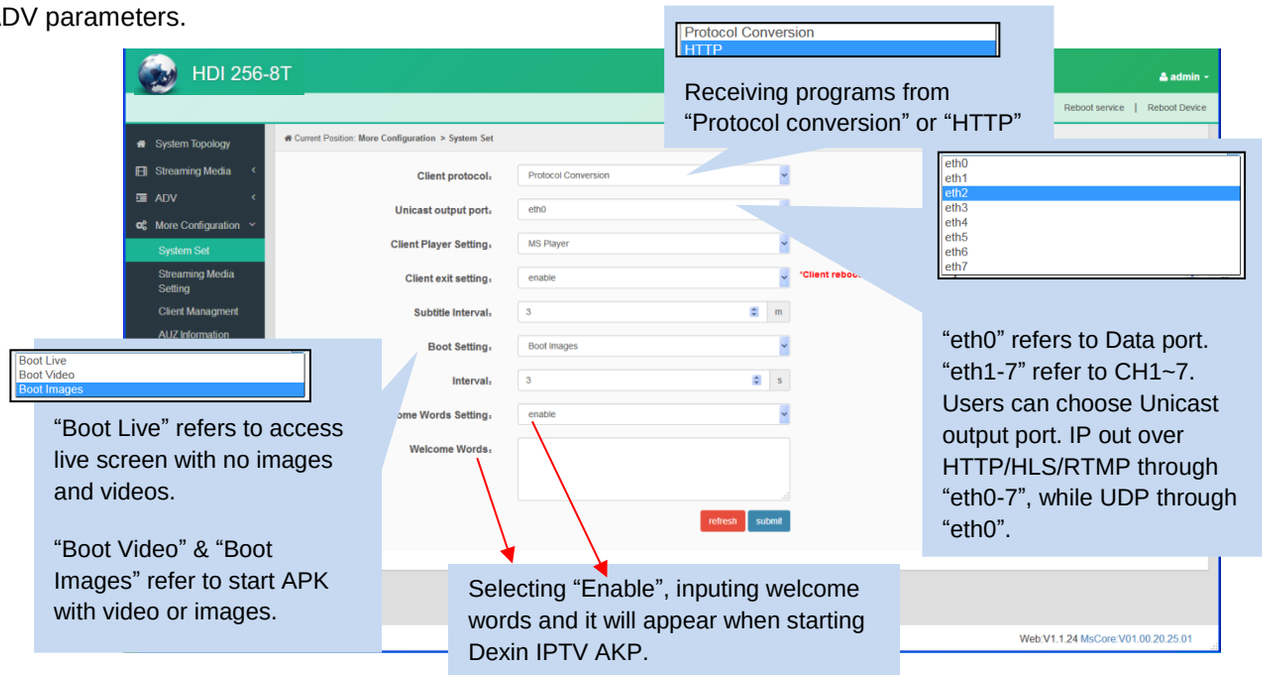
Clicking “Boot Images”, it displays the interface where users can add boot images. Click “Add” and then upload it. After submitting, boot images will appear when starting Dexin IPTV APK.



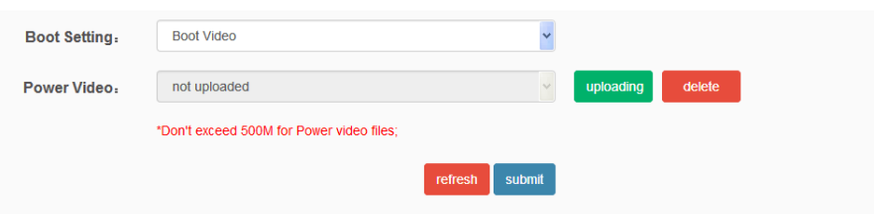
5.2.5 More Configuration

System Set

Clicking “System Set”, it displays the interface where users can select client protocol and Unicast output port, and set ADV parameters.

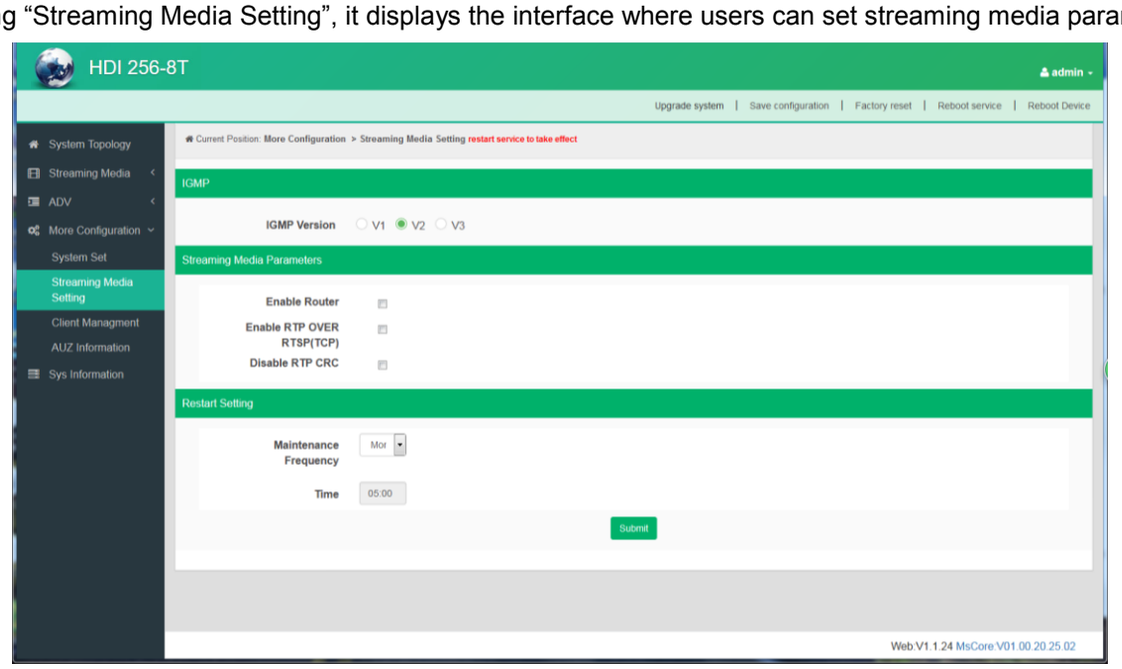


Select boot setting as “Boot Video” to upload boot video here and it will appear when starting Dexin IPTV APK. Suggest the size of video file doesn’t over 500Mbit.



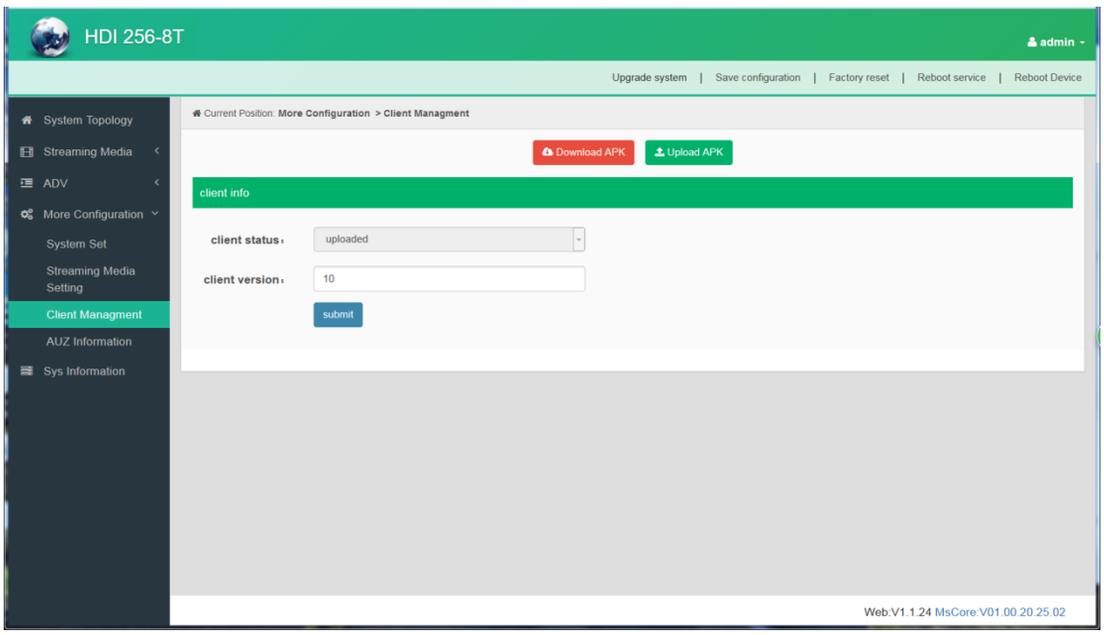
Streaming Media Setting

Clicking “Streaming Media Setting”, it displays the interface where users can set streaming media parameters.



Client Management

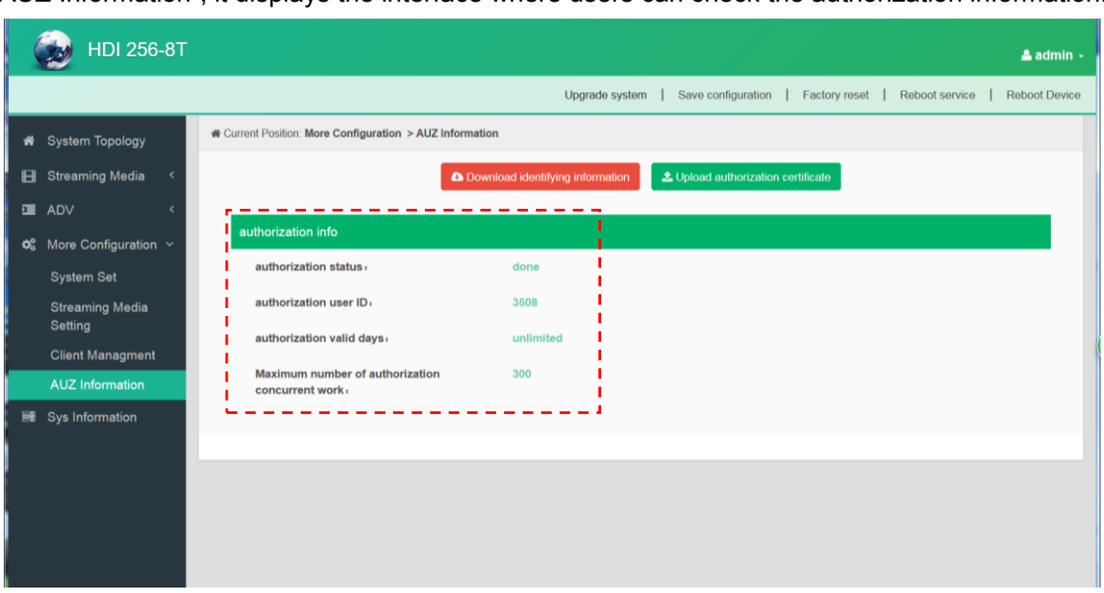
Clicking “Client Management”, it displays the interface where users can download APK from this module and then upload it to STB and TV.



Clicking “Download APK”, it will open the download menu to save IPTV APK file.

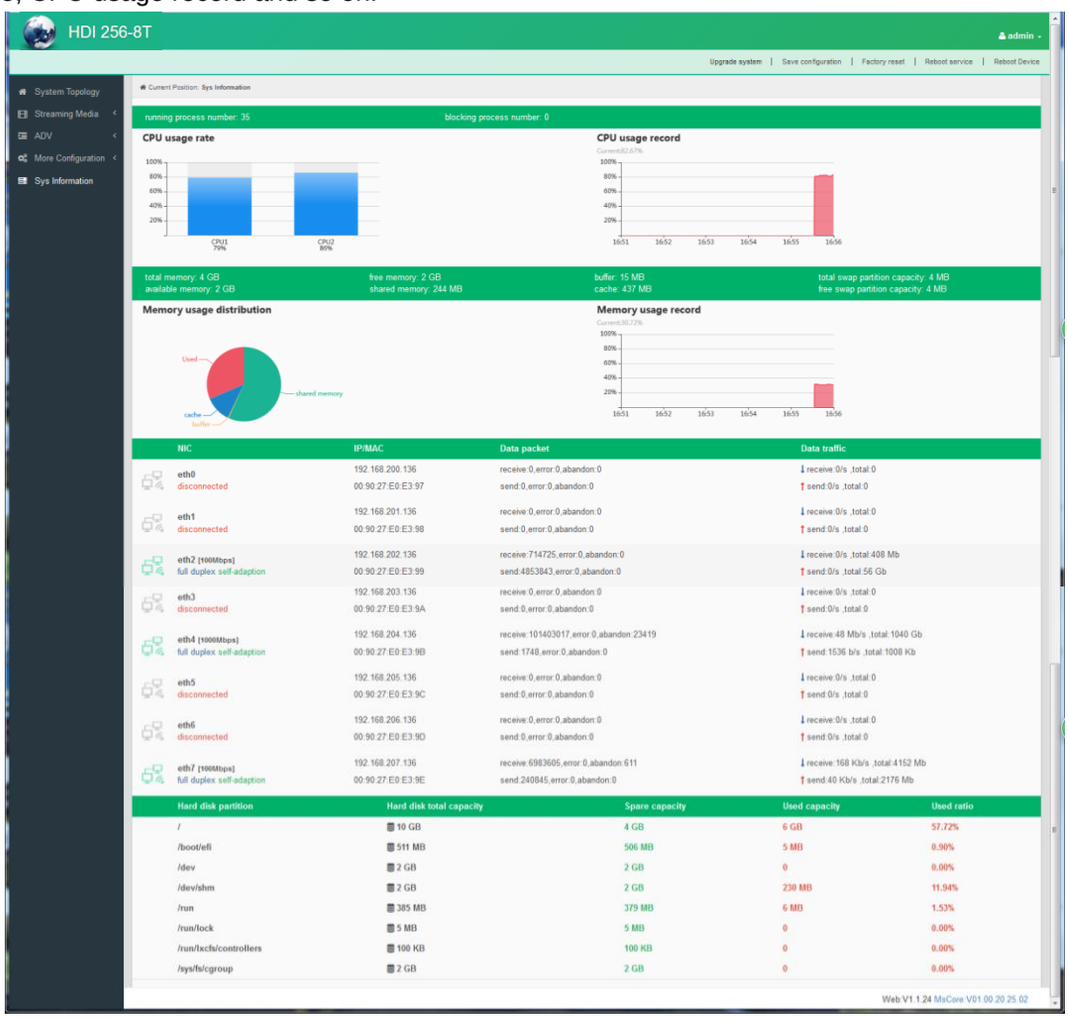
AUZ Information

Clicking “AUZ Information”, it displays the interface where users can check the authorization information.



5.2.6 Sys Information

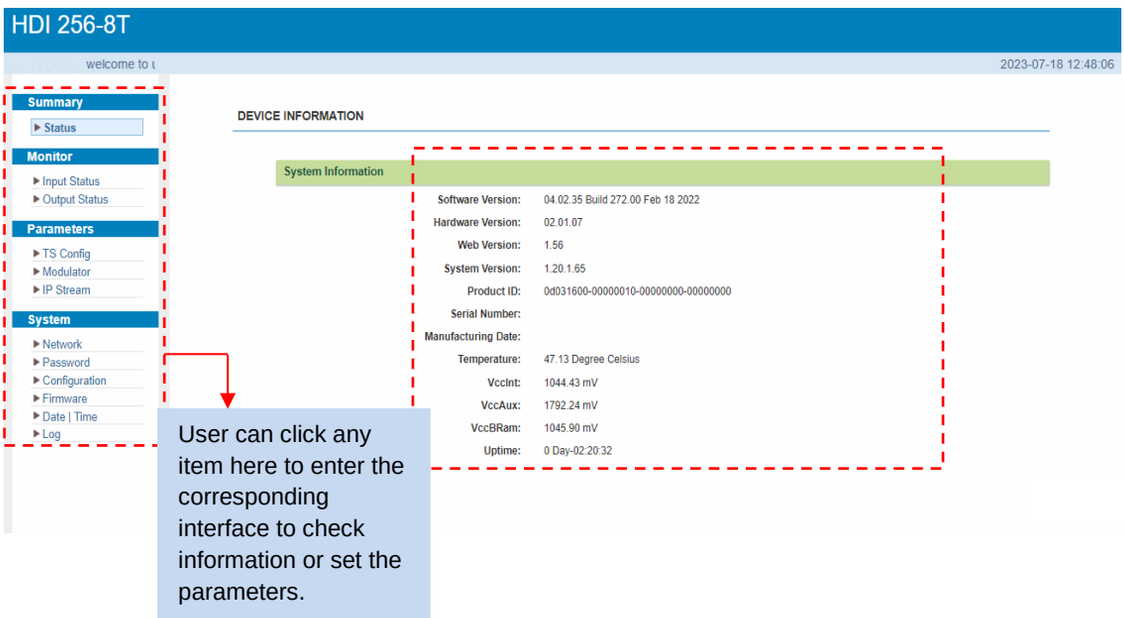
Clicking “System Information”, it displays the interface where users can check the system information such as CPU usage rate, CPU usage record and so on.



5.3 *Operation Modulator module*

5.3.1 Summary

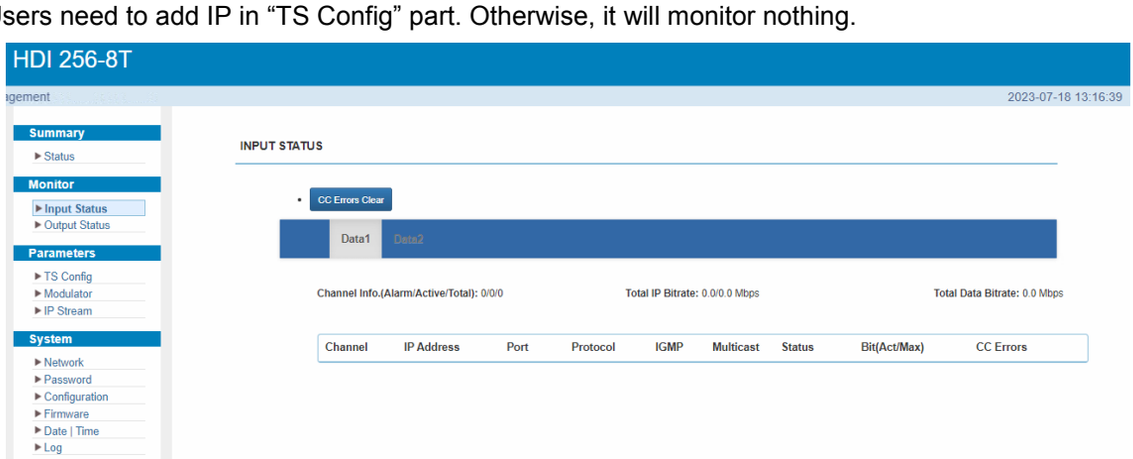
After confirming the login data, the summary interface for DVB-T modulator will be displayed, where users have an overview of system information.



5.3.2 Monitor

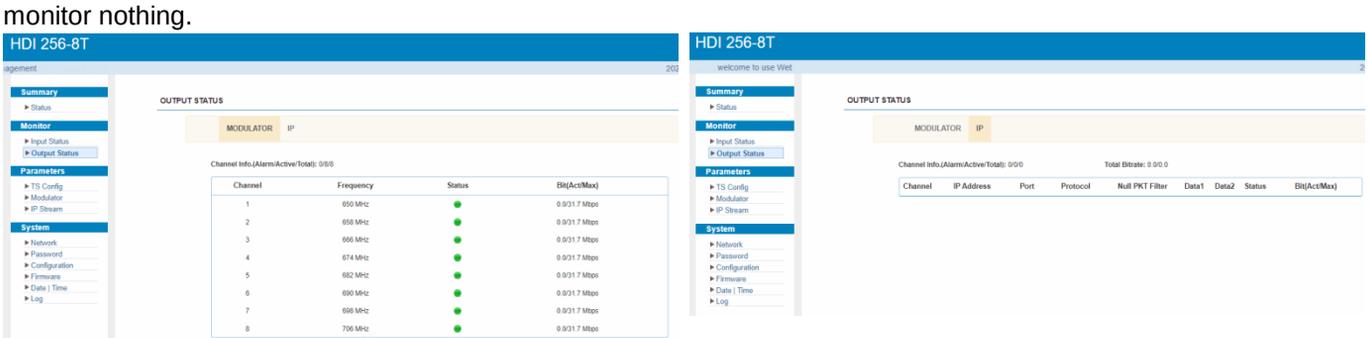
Input Status

Clicking “Input Status”, it will display the input status interface where users can check the input status of Data1 and Data 2. Users need to add IP in “TS Config” part. Otherwise, it will monitor nothing.



Output Status

Clicking “Output Status”, it will display the output status interface where users can check output status of the 8 carriers and 8 IPs. User need to enable the output status in “Modulator” and “IP Stream” part. Otherwise, it will monitor nothing.

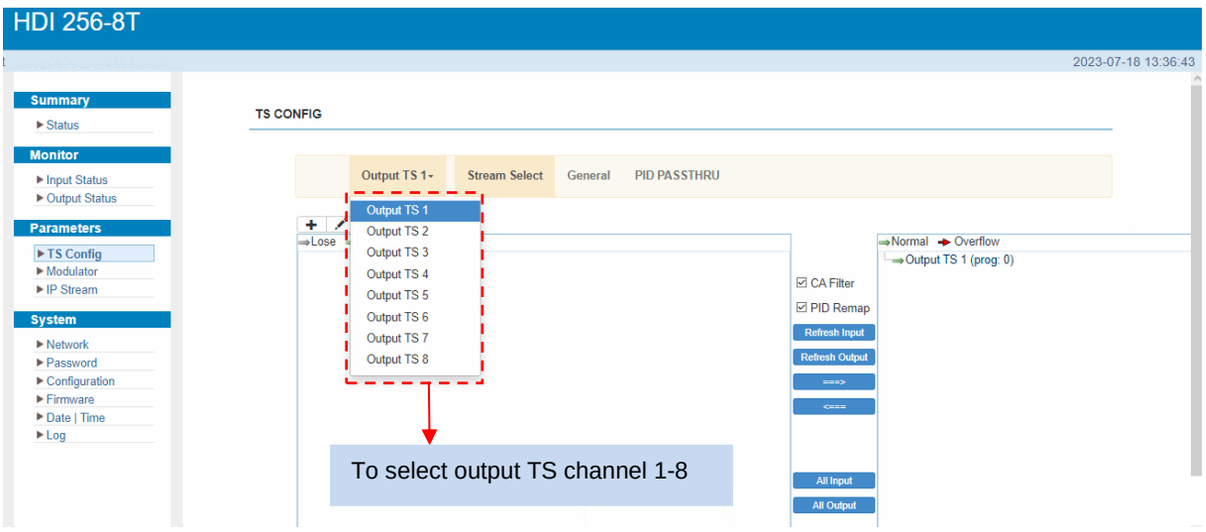


5.3.3 Parameters

TS Config

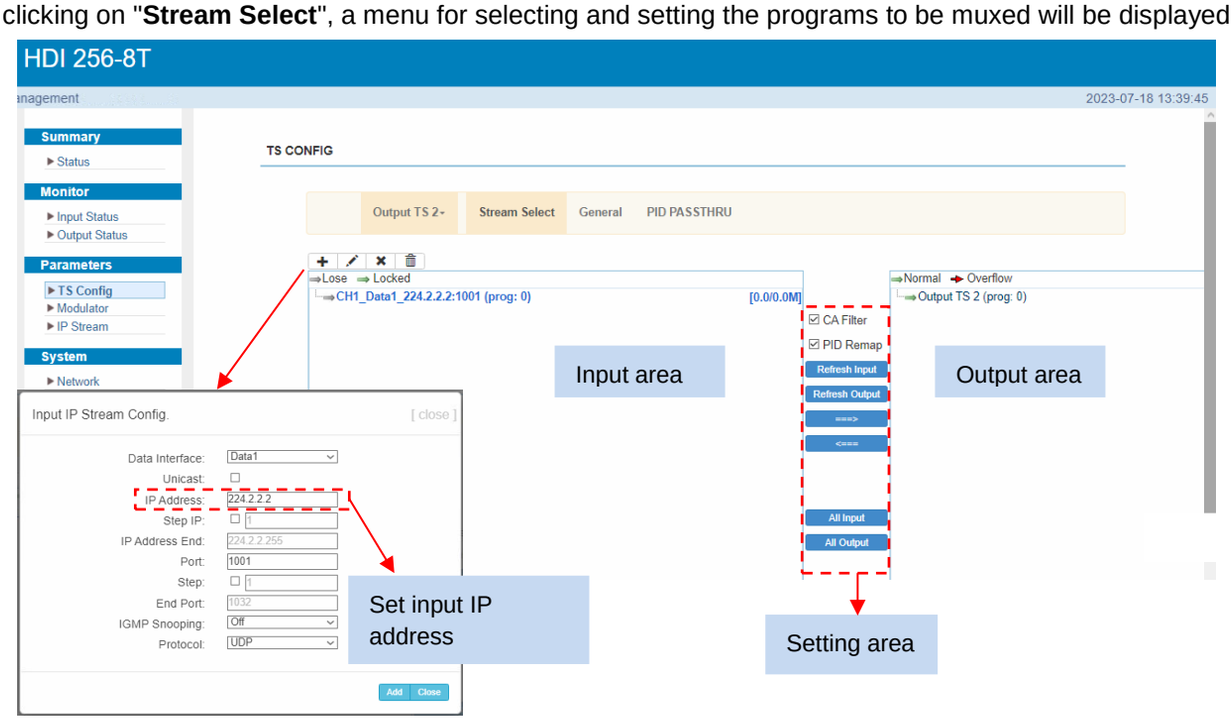
After clicking on "**TS Config**" the interface for configuration the output TS parameters will be displayed.
By clicking on the triangle symbol next to "Output TS x", the selection list of TS output channels 1-8 is displayed.

- **Output TS x:**



- **Stream Select:**

After clicking on "**Stream Select**", a menu for selecting and setting the programs to be muxed will be displayed.



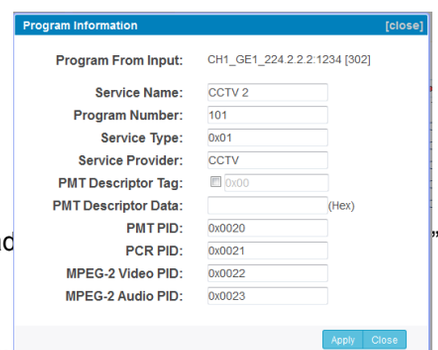
Setting "Input and Output area" using the control panels in the “Setting area”.

+	To add input channel which come from Data1or Data 2 or Data/Module (Gateway module)
✎	To edit the input channel
✖	To delete the input channel
🗑	To delete all inputs channel
Lose Locked	To check input IP lock or not, green means current IP locked
Normal Overflow	To check current TS overflow or not, red color means current TS overflow, need reduce program
☑ CA Filter	Enable/disable CA filter function to avoid interference from the device's encryption function
☑ PID Remap	Enable/disable PID remapping

Refresh Input	To refresh the input program information
Refresh Output	To refresh the output program information
===>	After selecting an input program, click on this field to transfer the program to the output area
<===	Remove selected programs from the output area
All Input	To select all the input programs
All Output	To select all the output programs
Parse program	To parse programs
time out: 60 seconds	Time limitation of parsing input programs

➔ **Program modification**

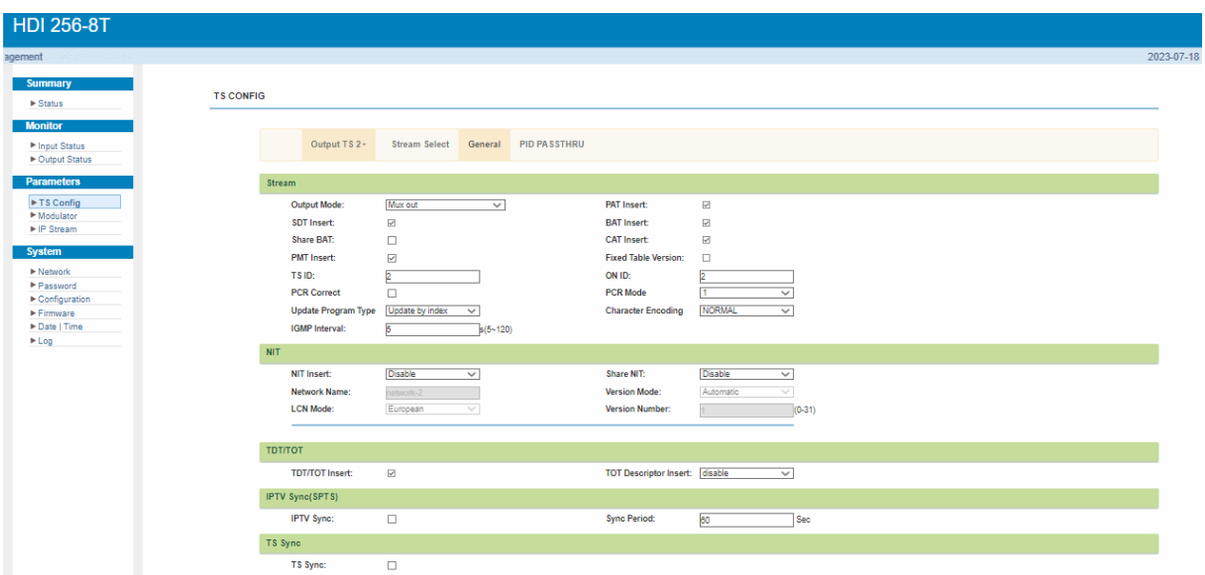
The multiplexed program information can be modified by clicking the program in the ‘output area”. For example, when clicking „**CCTV 2**“, it triggers a dialog box where users can input new information.



After the settings have been mad ”.

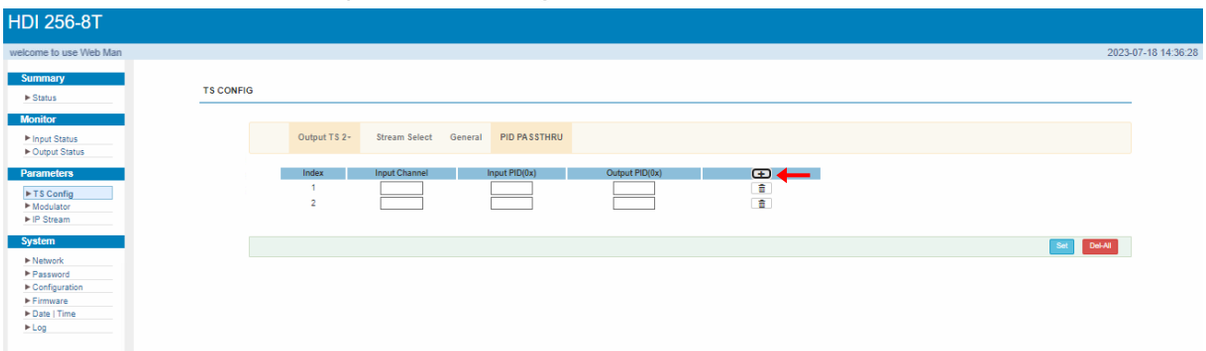
➢ **General:**

Click on "**General**" in the upper menu bar. The parameters for each output channel can be set.



➢ **PID PASSTHRU:**

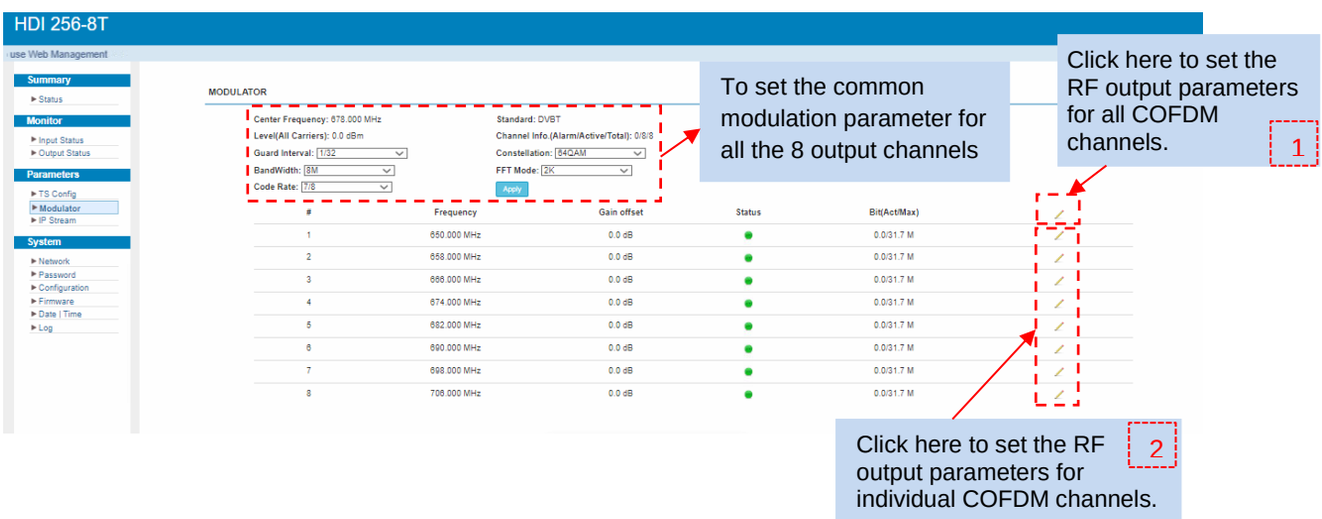
After clicking on "**PID PASSTHRU**", the input window is displayed, in which PIDs are added to be issued at the output. In some cases there are PIDs which cannot be assigned to a program (e. g. EPG, NIT tables, etc.). However, these should be available at the output without changes.



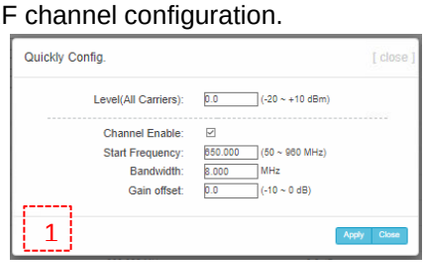
By clicking on + further PIDs can be selected. After selecting all PIDs, click on "**Set**" to apply them.

Modulator

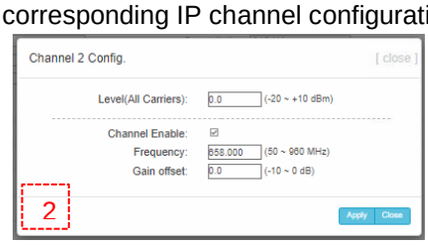
In the selection bar on the left, click on "**Modulator**" to open a dialog box where the RF output settings can be made.



Dialog box as follow where users can set all RF channel configuration.



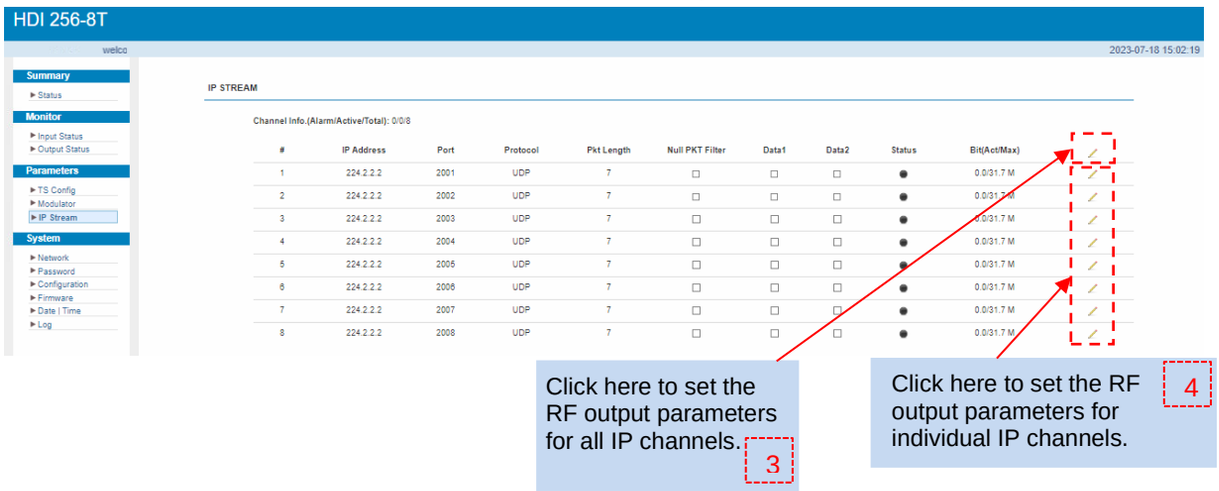
Dialog box as follow where users can set corresponding IP channel configuration.



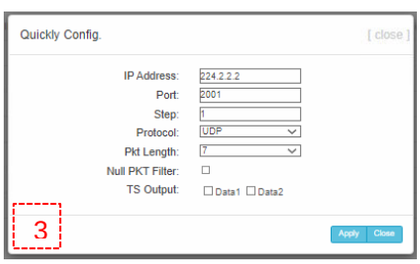
IP Stream

The HDI 256-8 T supports TS output in IP format (8*MPTS) via the data interface.

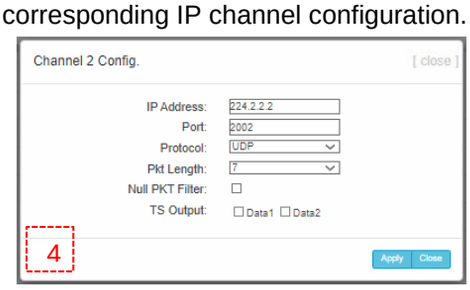
In the selection bar on the left, click on "**IP stream**" to open a dialog box where the IP output settings can be made.



Dialog box as follow where users can set all IP channel configuration.



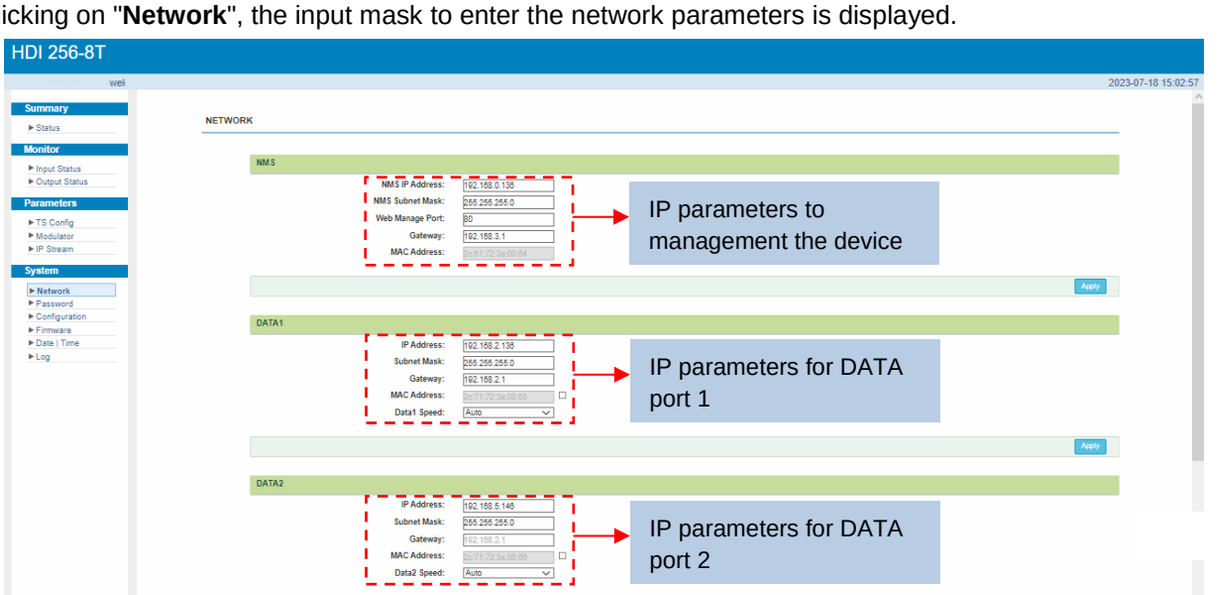
Dialog box as follow where users can set corresponding IP channel configuration.



5.3.4 System

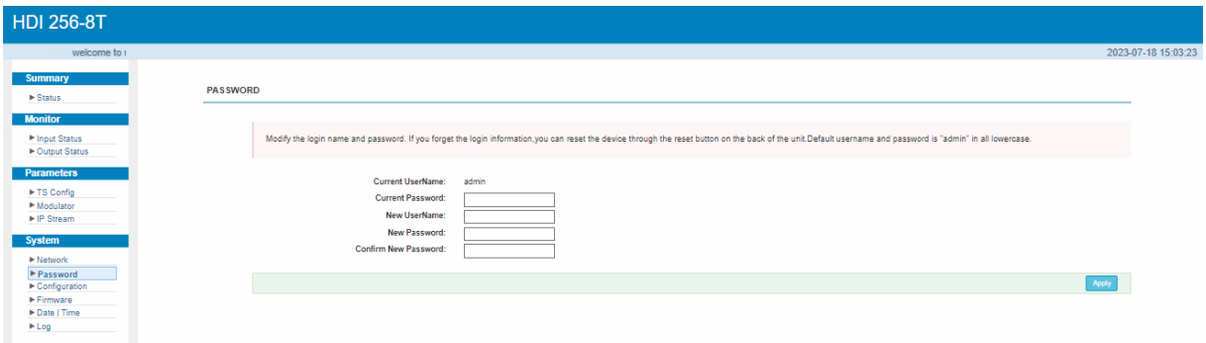
Network

After clicking on "**Network**", the input mask to enter the network parameters is displayed.



Password

In the selection bar on the left, click on "**Password**" to open the dialog box to setting login and password protection.



Current UserName

Enter the current user name (default: admin)

Current Password

Enter current password (factory setting: admin)

New UserName

Enter new user name

New Password

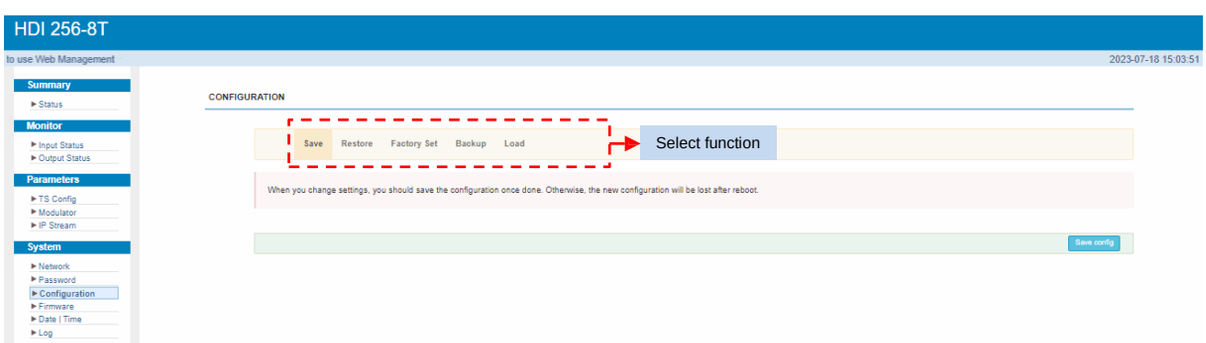
Enter new password

Confirm New Password

Confirm new password

Configuration:

In the menu “***Configuration***“ 5 selection buttons are provided, “Save“, “Restore“, “Factory Set“, “Backup“ and “Load“.



“Save“

By pressing the ***“Save“*** button, all settings in the device are stored permanently.

NOTE If the button "Save" has not been pressed, all settings will be lost during a reboot or when the device is switched off!

“Restore“

By pressing the ***“Restore“*** button, the last stored parameters are restored.

“Factory Set“

By pressing the button ***"Factory set"***, the device is reset to the factory settings and the default parameters are loaded.

“Backup“

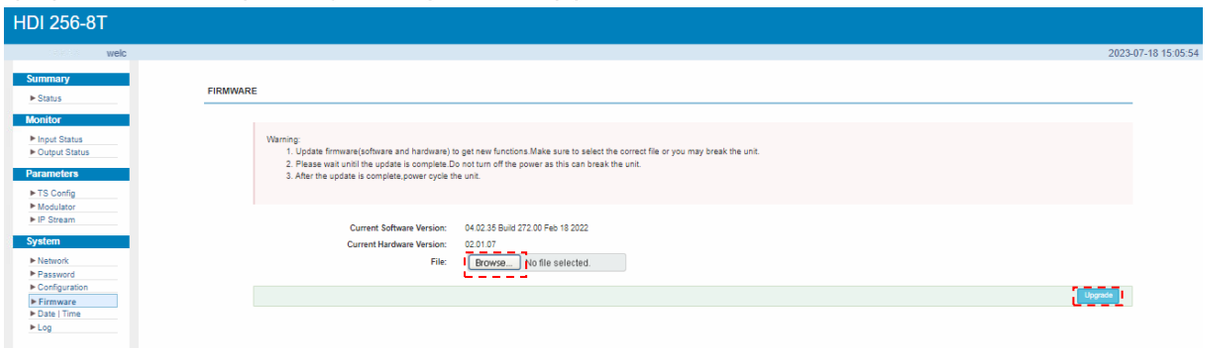
By pressing the button ***“Backup“*** and via click on the button “Backup config“, a backup file is stored on the PC/laptop.

"Load"

Select the backup file in the PC/laptop by clicking on the "Browse" button and activate the loading of the selected configuration file onto the device by clicking the "Load config" button.

Firmware

The ***"Firmware"*** menu allows the software update of the device, so the current components can be updated and newly implemented functions can be activated. By clicking the "Browse" button, select the firmware update file on the PC/laptop and start the update by clicking on the "Upgrade" button.



NOTE

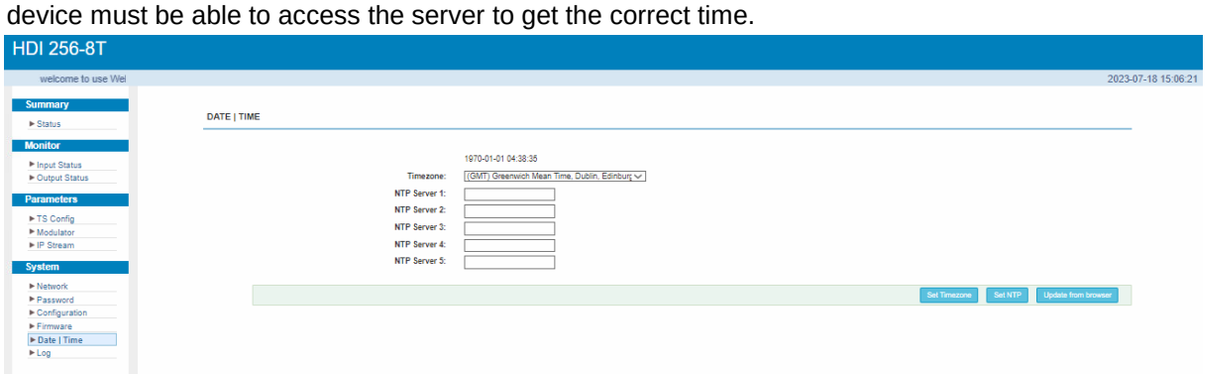
Do not switch off the device during the update process. The update requires a longer update time since this is done for several software components.

ATTENTION

Selecting an incorrect update file can cause malfunctions in/at the device.

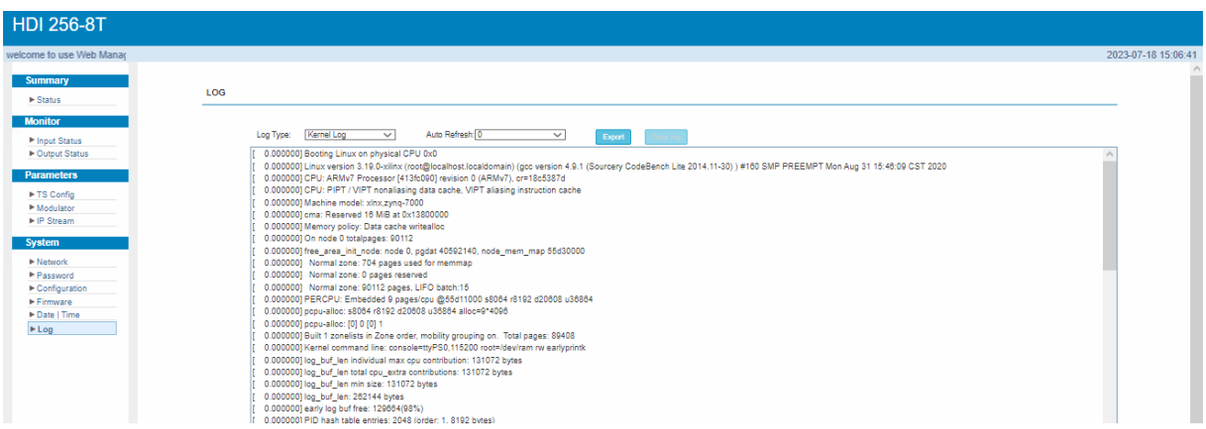
Date/Time

In the menu ***"Date / Time"***, the selection of the country specific time zone and the connection to a NTP server can be done. In the case of a NTP server, the URL of the server must be specified. For this, the "IP settings" must be correct and the device must be able to access the server to get the correct time.



Log

In the ***"Log"*** menu, the Log data will be displayed. A selection between the "Kernel Log" and "System Log" will be provided. The Log files can be saved in a text file via the "Export" button. The files are necessary for evaluation purposes.



6. Technical data

Typ / Type		**HDI 256-8 T**
Artikel-Nr. / Article no.		5741707
IPTV gateway module		
Input		IP input thru CH 1-7(1000M) over HTTP, UDP(SPTS), RTP(SPTS), RTSP (over UDP, payload: MPEG TS) and HLS
		TS files uploading through Web management
IP output		IP out thru DATA port (1000M) over HTTP (Unicast), UDP(SPTS, Multicast) HLS and RTMP (Program source should be H.264 and AAC encoding) IP out thru CH 1-9(1000M) over HTTP/ HLS/RTMP (Unicast)
System		Memory: 4G
		Solid-State Disk(SSD): 16G
		Channel switching time with DEXIN' STB: HTTP (1-3s), HLS (0.4-0.7s)
		Support adding scrolling caption, welcome words, boot picture and boot video (this function is only applicable to IP out application and the STB/Android TV must be installed Dexin IPTV APK)
		Support downloading Dexin IPTV APK directly from this module
		Play programs with APK downloaded android STB and TV, maximum 150 terminals
		Support about 80 HD/SD programs (Bitrate: 2Mbps) When HTTP/RTP/RTSP/HLS is converted into UDP (Multicast), the actual application shall prevail, and suggest maximum 80% CPU utilization
		web-based NMS management thru module's DATA port
Modulator module		
Input	Input	Max 256 IP input through 3 (front-panel Data port, Data 1 and Data 2) 100/1000M Ethernet Port (SFP interface optional). Each Data1 or Data 2 port can input max 256 IP, while front-panel Data port can input max 128 IP
	Transport Protocol	TS over UDP/RTP, unicast and multicast, IGMP V2/V3
	Transmission Rate	Max 840Mbps for each input channel
MUX	Input Channel	256
	Output Channel	8
	Max. PIDs	180 per channel
	Functions	PID remapping(auto/manually optional), PCR accurate adjusting, PSI/SI table automatically generating
Modulation Parameters	Channel	8
	Standard	ETSI EN300 744
	Constellation	QPSK, 16 QAM, 64 QAM
	Bandwidth	6 MHz, 7 MHz, 8 MHz
	Trans mode	2K, 4K, 8K
	FEC	1/2, 2/3, 3/4, 5/6, 7/8
RF Output	Interface	F typed output port for 8 non-adjacent carriers
	RF Range	50…960 MHz, 1 kHz steps
	Output Level	-20…+10 dBm (for all carriers), 0.5 dB steps
	MER	≥ 40 dB
	ACL	-55 dBc
TS Output	8 IP output over UDP/RTP/RTSP, unicast/multicast, 2 100/1000M Ethernet Ports	
System	Web-based Network management	
General		
Dimensions		482 mm × 324 mm × 44 mm (WxLxH)
Temperature		0…45 °C (operation), -20…80 °C (storage)
Power Supply		AC 100V±10%, 50/60Hz or AC 220V±10%, 50/60Hz

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…1.5 m and the distance against wall should be no less than 0.8 m.
Machine Hall Floor	Electric Isolation, Dust Free Volume resistivity of ground anti-static material: $1X10^{7}$…$1X10^{10\Omega}$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/㎡)
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 100V…240V 50/60Hz 2A. Please carefully check before running.

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Technische Änderungen vorbehalten
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