TSIP-24 IP Tuner to IP Gateway

User's Manual

Chapter 1 Product Outline

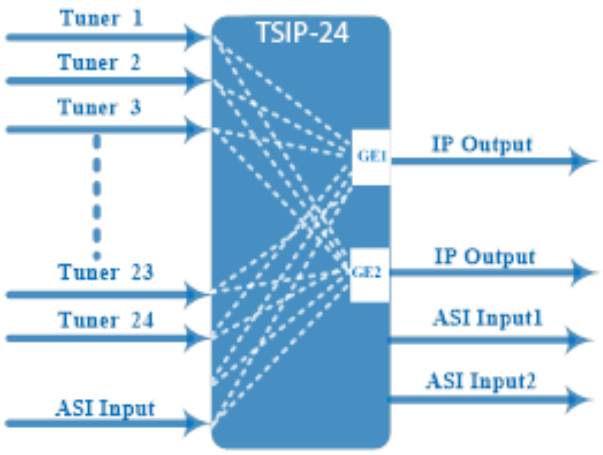
1.1 Outline

TSIP-24 IP Tuner to IP Gateway is a head-end interface conversion device which supports MPTS and SPTS output switchable. It supports 24 MPTS or 512 SPTS output over UDP and RTP/RTSP protocol. It is integrated with tuner demodulation (or ASI input) and gateway function, which can demodulate the signal from 24 tuners into IP package, or directly convert the TS from ASI input and tuner into IP package, then output the IP package through different IP address and ports. BISS function is also embedded for tuner input to descramble your tuner input programs.

1.2 Features

- Support 24 FTA DVB- S/S2/S2X input, 1 ASI input
- Support BISS descrambling
- Support DisEqc function
- 24 MPTS or 512 SPTS output (MPTS and SPTS output switchable)
- 2 GE output (IP address and port number of GE1 and GE2 are different), up to 850Mbps---SPTS
- 2 independent GE output port, GE1 + GE2---MPTS
- Support PID filtering, re-mapping (Only for SPTS output)
- Support "Null PKT Filter" function (Only for MPTS output)
- Support Web operation

1.3 Inner Principle



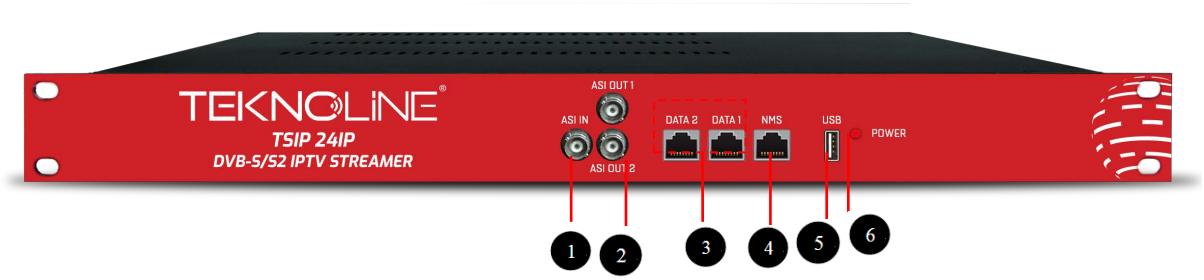
1.4 Specifications

Input	24 tuners input +1 ASI input---SPTS/MPTS output		
Tuner Section	DVB-S	Frequency In	950-2150MHz
		Symbol rate	0.5~45Msps
		Signal Strength	- 65- -25dBm
		FEC	1/2, 2/3, 3/4, 5/6, 7/8
		Constellation	QPSK
		Max input bitrate	≤125 Mbps
	DVB-S2	Frequency In	950-2150MHz
		Symbol rate	QPSK/8PSK /16APSK :0.5~45 Msps 32APSK: 0.5~34Msps;
		FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
		Constellation	QPSK, 8PSK, 16APSK, 32APSK
		Max input bitrate	≤125 Mbps
	DVB-S2X	Frequency In	950-2150MHz
		Symbol rate	QPSK/8PSK /16APSK :0.5~45 Msps 8APSK: 0.5~40Msps 32APSK: 0.5~34Msps
		FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 8APSK: 5/9-L, 26/45-L 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36 , 2/3-L, 25/36, 13/18, 7/9, 77/90

			32APSK: 3/4, 4/5, 5/6, 8/9, 9/10, 2/3-L, 32/45, 11/15, 7/9
		Constellation	QPSK, 8PSK, 8APSK, 16APSK, 32APSK
		Max input bitrate	≤125 Mbps
BISS Descrambling	Mode 1, Mode E (Up to 850Mbps) (descramble individual program)		
Output	512 SPTS IP mirrored output over UDP and RTP/RTSP protocol through GE1 and GE2 port (IP address and port number of GE1 and GE2 are different) , Unicast and Multicast		
	24 MPTS IP output (for Tuner/ASI pass-through) over UDP and RTP/RTSP protocol through GE1 and GE2 port, Unicast and Multicast , 2 ASI output		
System	Web based management		
	Ethernet software upgrade		
Miscellaneous	Dimension	482mm×410mm×44mm (W×L×H)	
	Approx weight	3.6kg	
	Environment	0~45℃(work)；-20~80℃（Storage）	
	Power requirements	100~240VAC, 50/60Hz	
	Power consumption	20W	

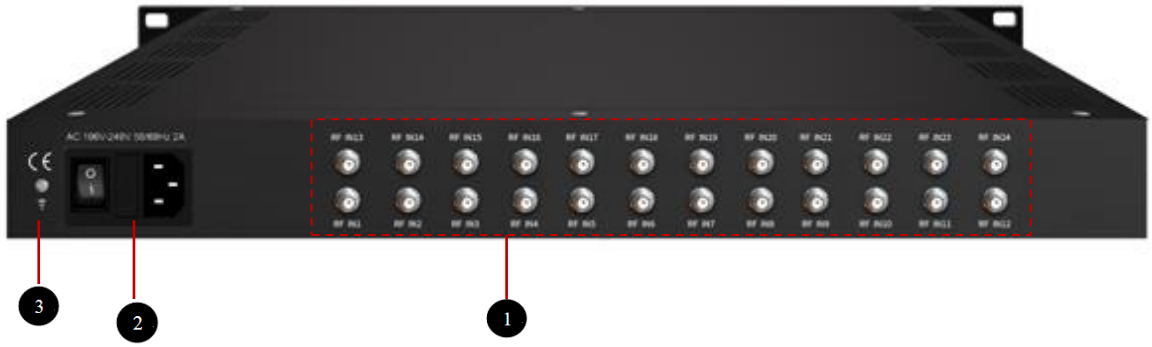
1.5 Appearance and Description

Front Panel Illustration:



1	ASI input port
2	ASI output port
3	Data port（GE1&GE2）: IP out port
4	NMS port: Network management interface
5	USB port for upgrade
6	Power indicator

Rear Panel Illustration



1	24 channels RF IN Interface
2	Integrated power switch and socket
3	Grounding Wire

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:

- TSIP-24 IP Tuner to IP Gateway
- Grounding Cable
- RF In and Loop Out Cable
- Power Cord

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

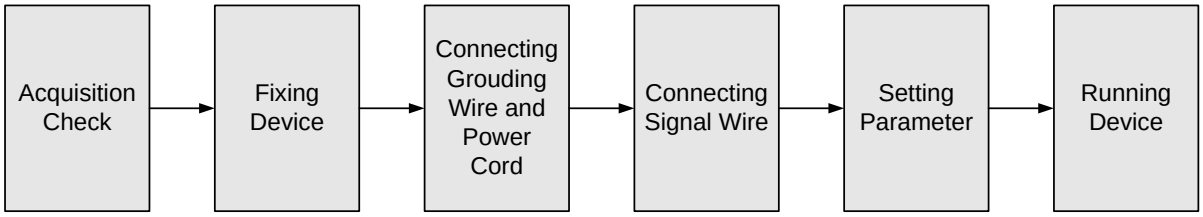
2.2 Installation Preparation

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 gateway
- Connecting signal cables
- Connecting communication port (if it is necessary)

2.2.1 Device's Installation Flow Chart 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: $1X10^{7}$~$1X10^{10\Omega}$, Grounding current limiting resistance: 1M (Floor bearing should be greater than 450Kg/㎡)
Environment Temperature	5~40℃(sustainable)，0~45℃(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.

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 25mm^2.

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 25mm^2.

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 TSIP-24 IP Tuner to IP Gateway, user should set the power switch to "OFF".

Chapter 3 WEB NMS operation

User 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 TSIP-24's IP address; otherwise, it would cause IP conflict.

3.1 login

The default IP of this device is 192.168.0.136.

Connect the PC and the device with net cable, and use ping command to confirm they are on the same network segment.

I.G. the PC IP address is 192.168.99.252, we then change the device IP to 192.168.99.xxx (xxx can be 0 to 255 except 252 to avoid IP conflict).

Use web browser to connect the device with PC by inputting this device's IP address in the browser's address bar and press Enter.

It displays the Login interface as Figure-1. Input the Username and Password (Both the default Username and Password are "admin".) and then click "Login" to start the device setting.

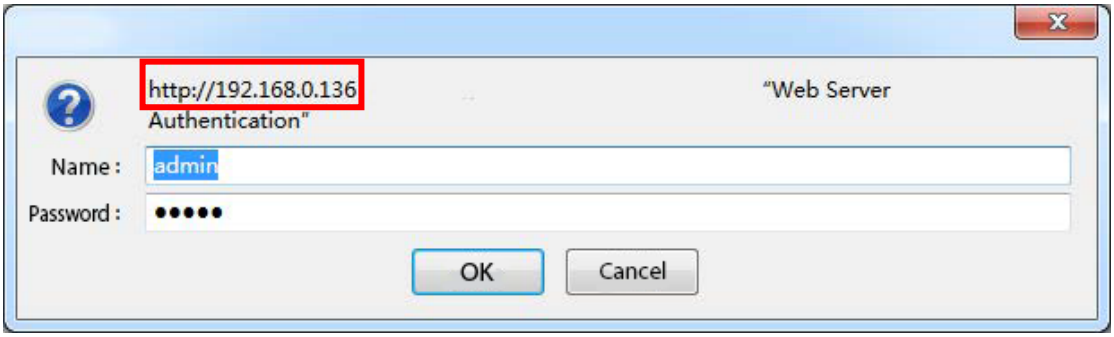


Figure-1

3.2 Operation

Summary → Status

When we confirm the login, it displays the status interface as Figure-2

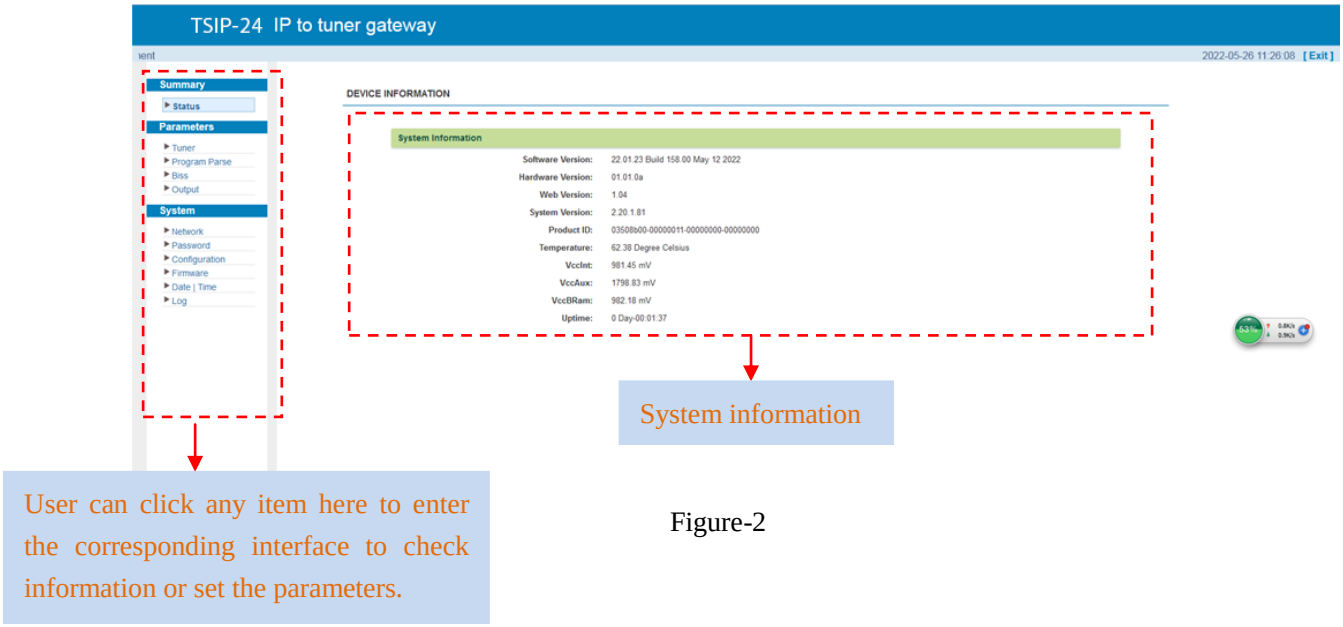


Figure-2

Parameter→ Tuner input (DVB-S2/S2X)

From the menu on top side of the webpage, click "Tuner", it displays the interface where users can check the 24 DVB-S/S2/S2X Tuners input status. (Figure-4)

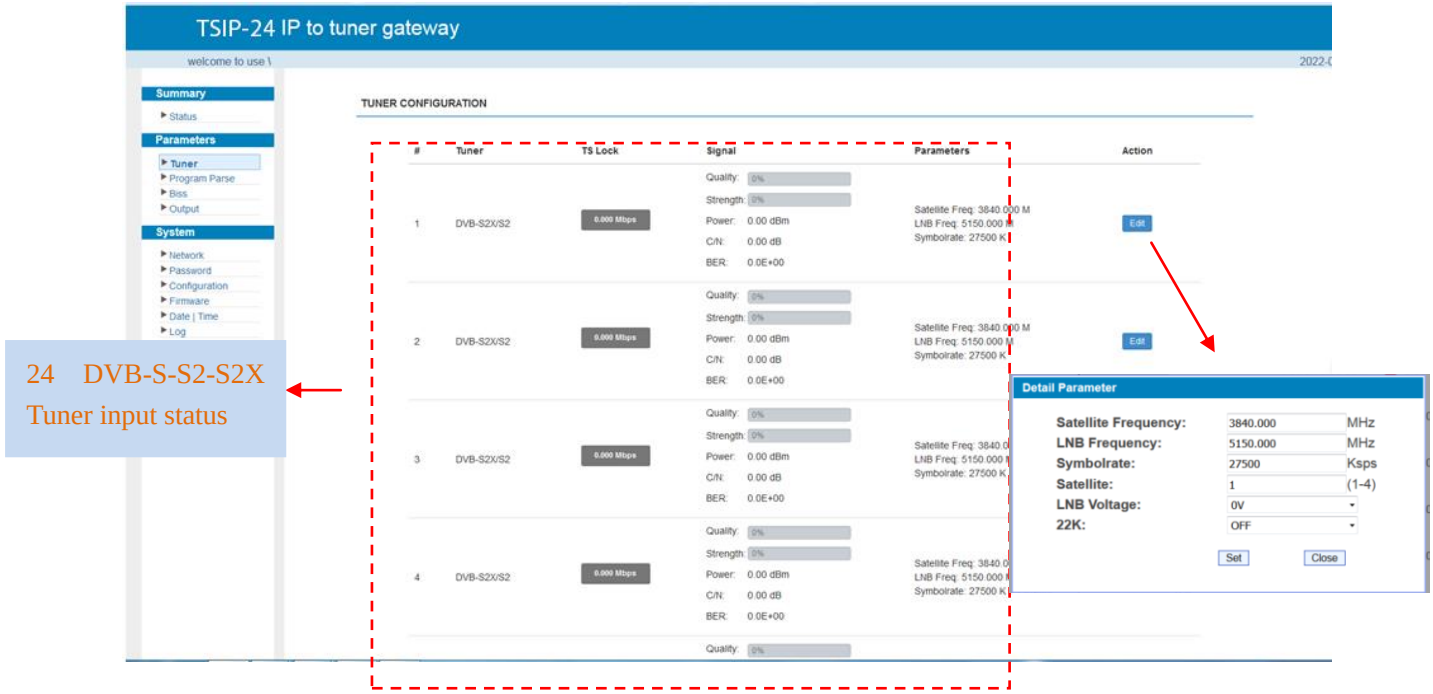


Figure-4

Parameter→ Program Parse

From the menu on top side of the webpage, click "program Parse", it displays the interface where users can check the 24 tuner parse status. (Figure-5)

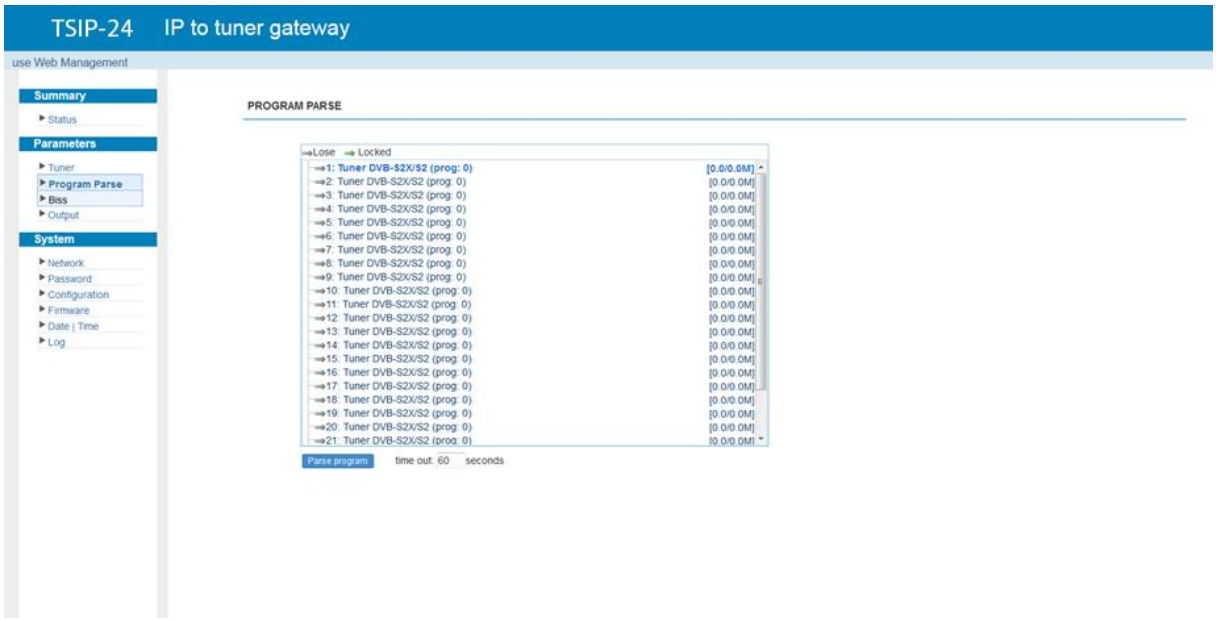


Figure-5

Parameter→ BISS

From the menu on left side of the webpage, clicking "BISS", it displays the interface where users can configure BISS and descramble the input channels (Figure-6).

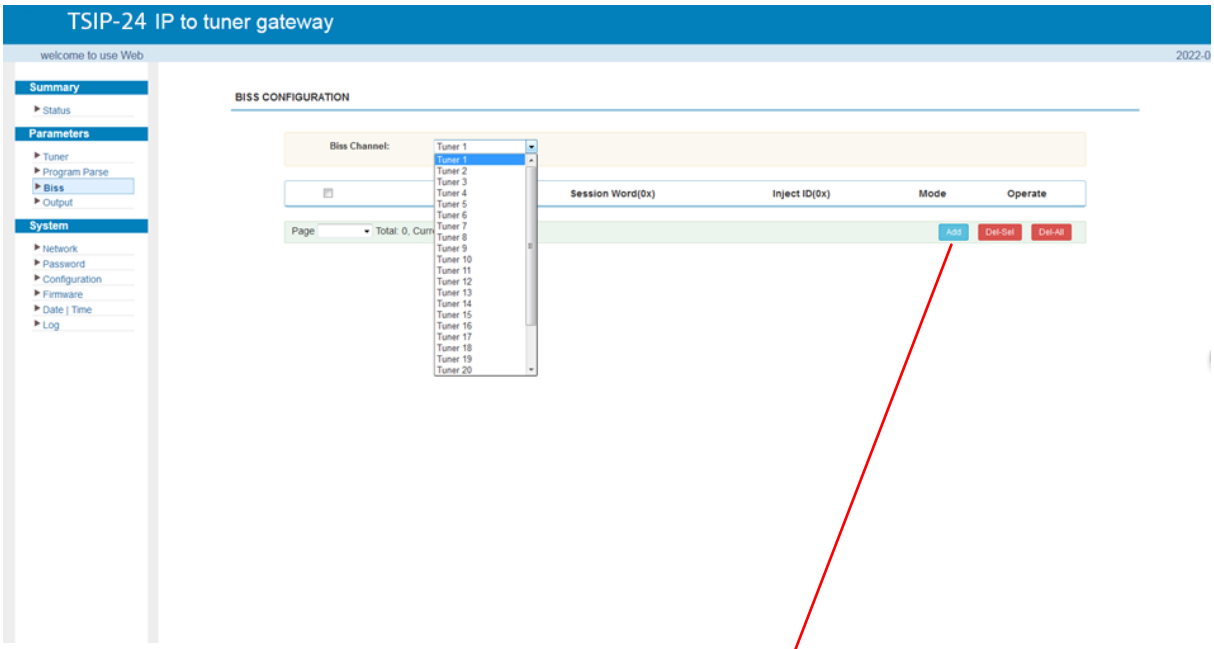
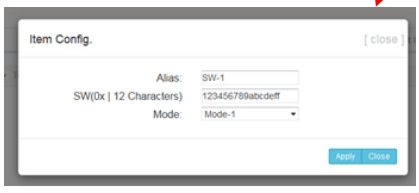


Figure-6

Users can set BISS parameter through click "Add" button.



Parameter → Output:

From the menu on left side of the webpage, clicking "Output", it displays the interface where users can choose 24 DVB-S/S2/S2X Tuner input and 1 ASI Input programs to output from IP. (Figure-7 and Figure-8)

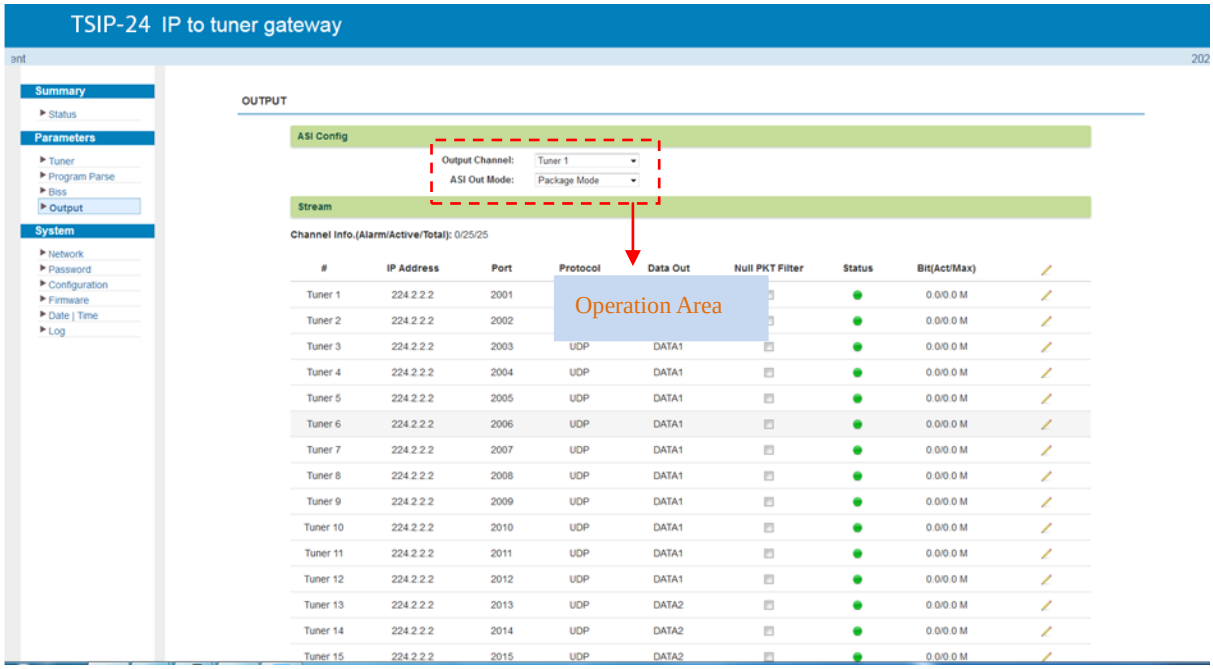


Figure-8

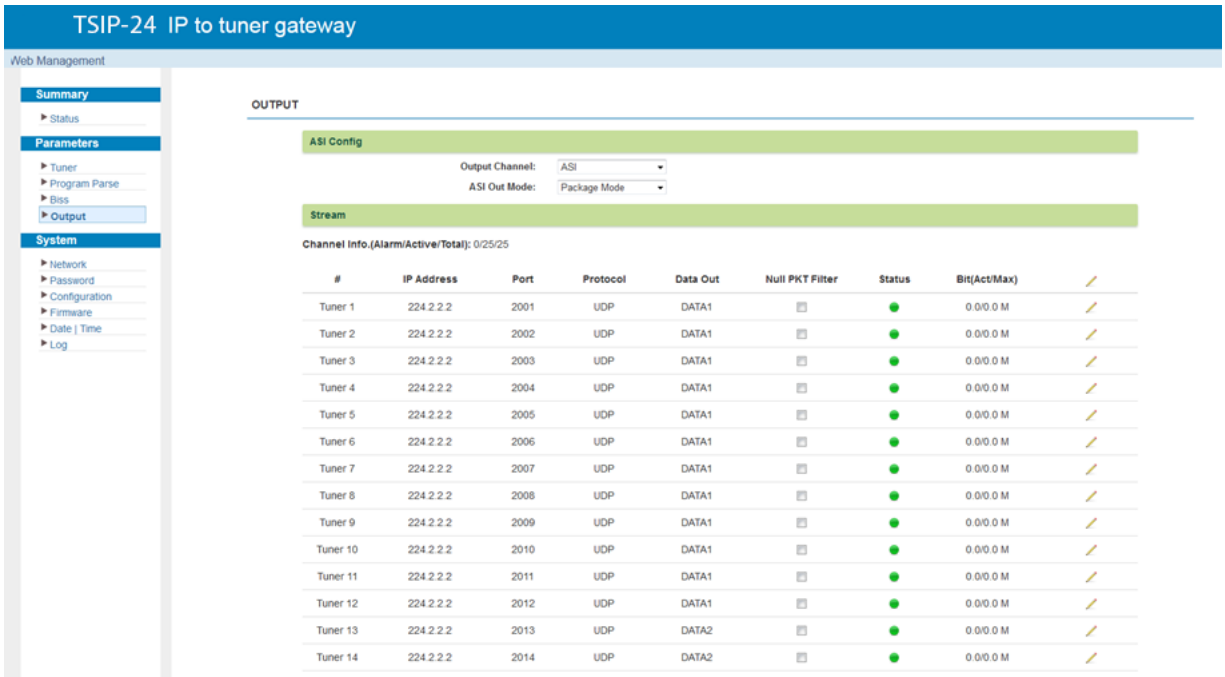


Figure-9

System → Network:

Clicking "Network", it displays the interface as Figure-10 where to set network parameters.

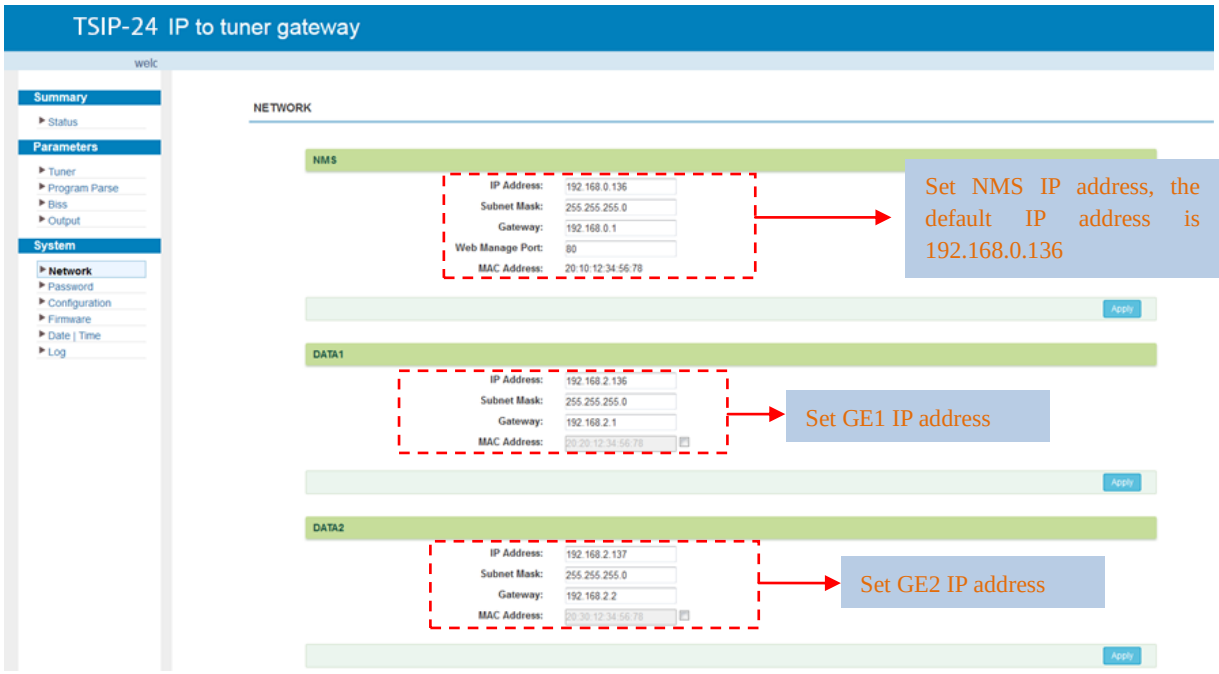


Figure-10

System → Password:

From the menu on left side of the webpage, clicking "Password", it displays the screen as Figure-11 where to set the login account and password for the web NMS.

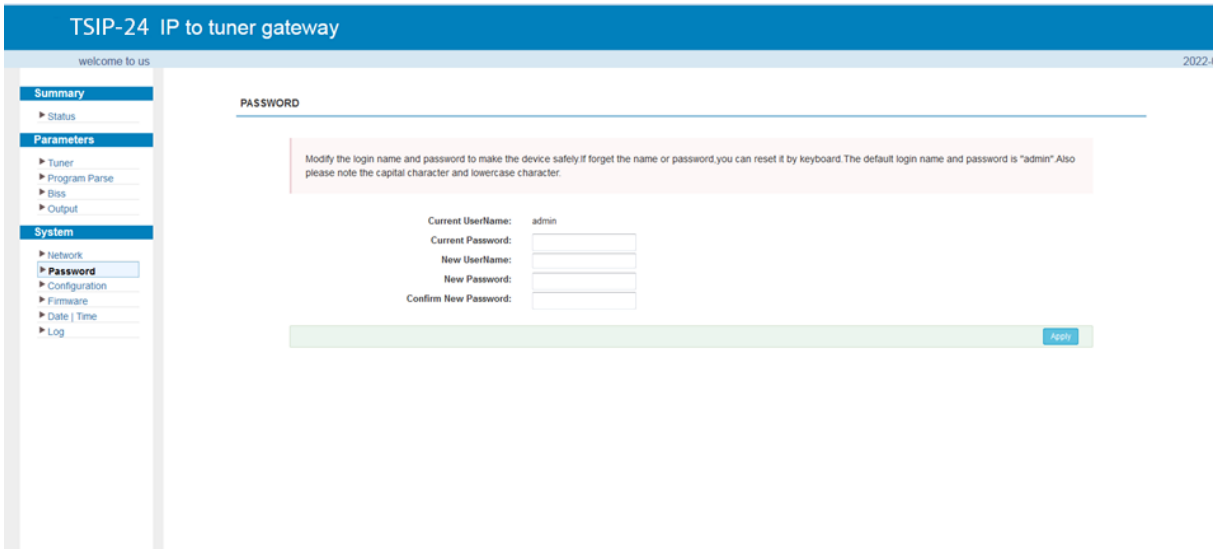


Figure-11

System → Configuration:

From the menu on left side of the webpage, clicking "Configuration", it displays the screen as Figure-12 where to save /restore/Factory Set/Backup/Load your configurations.

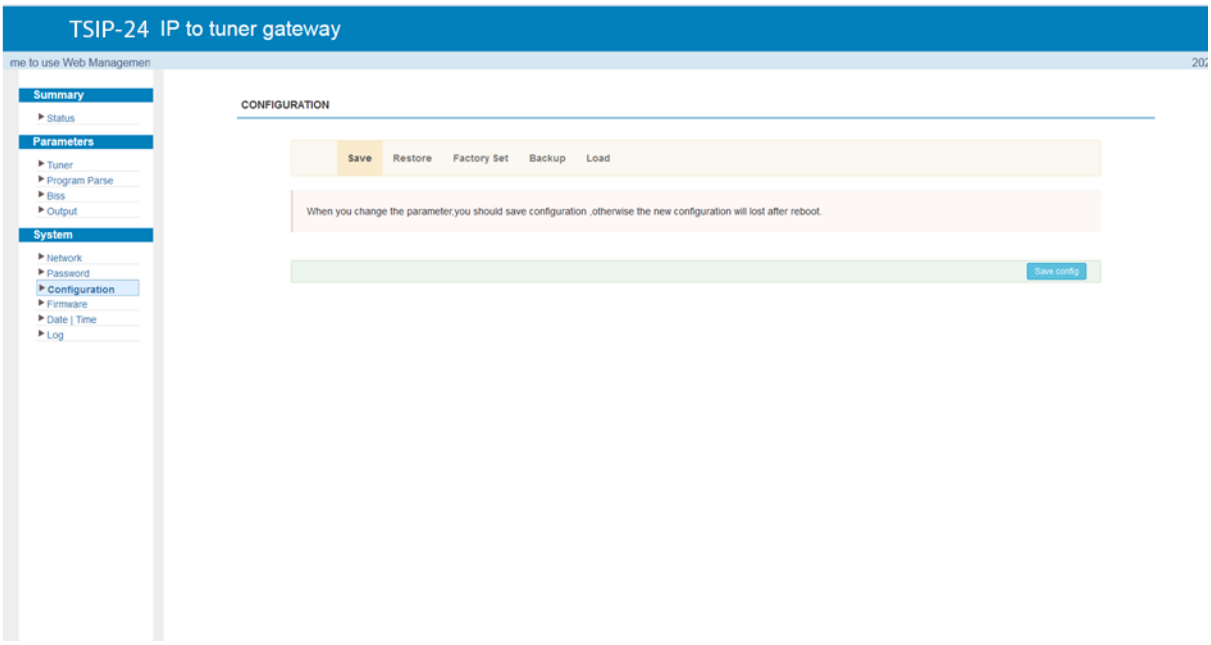


Figure-12

System → Firmware:

From the menu on left side of the webpage, clicking "Firmware", it displays the screen as Figure-13 where to update firmware for the device.

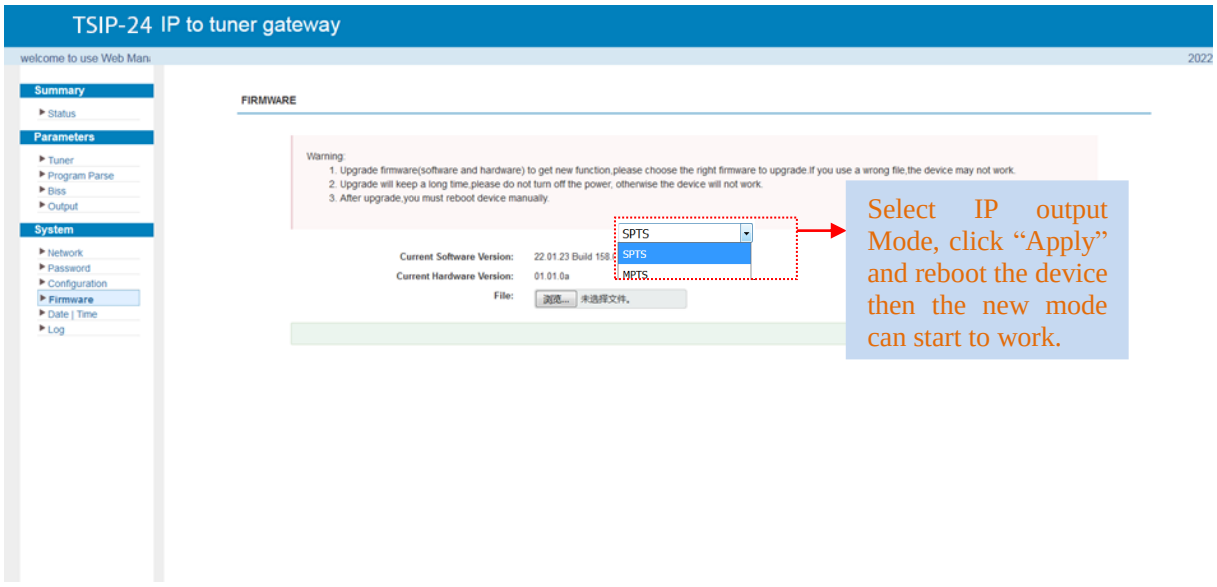


Figure-13

System → Date/time:

From the menu on left side of the webpage, clicking "Date/time", it displays the screen as Figure-14 where to update Date and time information for the device.

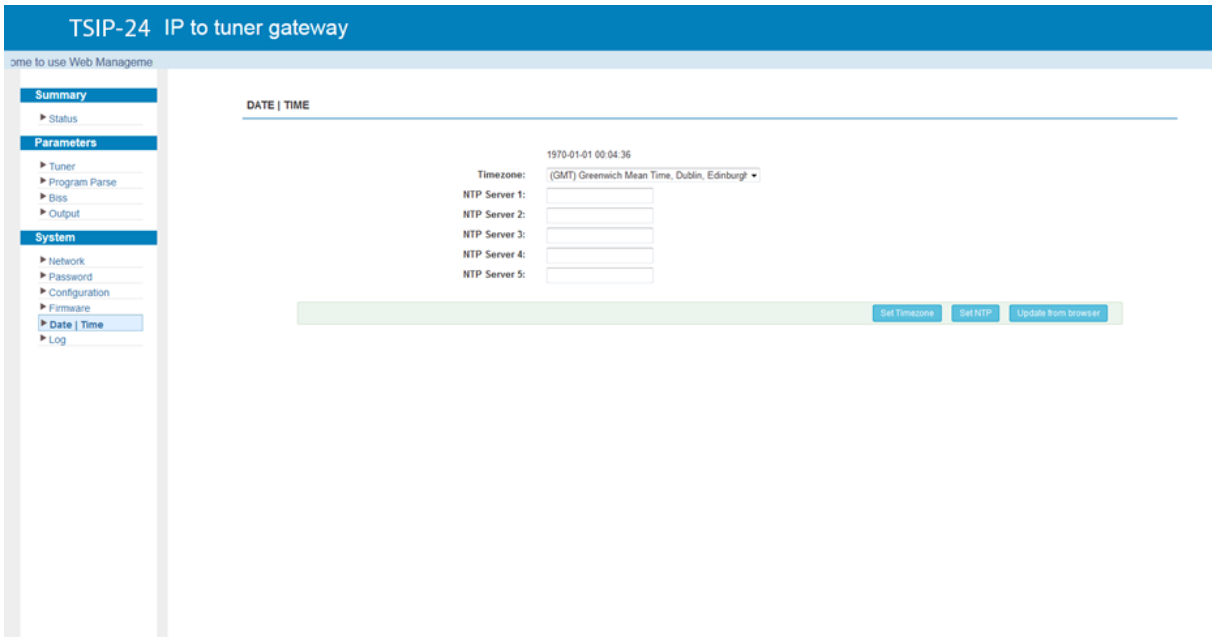


Figure-14

System → Log:

From the menu on left side of the webpage, clicking "Log", it displays the screen as Figure-14 where to log information for the device.

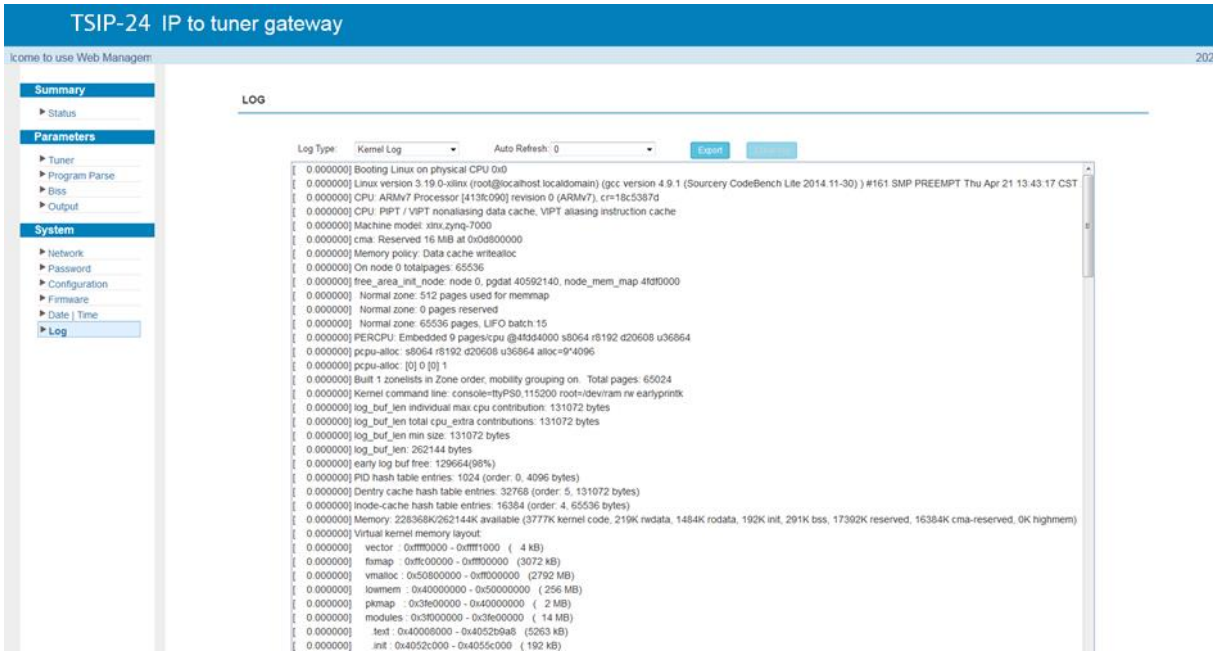


Figure-15