GoStream Mini 400 Encoder

User Manual

Contents

1. PRODUCT INTRODUCTION

1.1 Product Brief

The GSM 400S has four SDI inputs while the GSM 400H has 4 HDMI inputs. Both models have an HDMI output The 400S model also has an SDI output while the 400H model has two HDMI outputs. There are also 4 x 3.5mm analog audio inputs for audio embedding and a 3.5mm analog audio output for audio de-embedding.

Front panel

The front panel has PGM / feature buttons for users to control it locally. The USB3.0 interface allows the user to record in various formats. There are also record / snapshot / stream / connectivity buttons on the front panel.

400H Back panel

The GSM 400 has one RJ45 for network connectivity. It also has an RS232 and 2 USB2.0 ports for users to connect with industrial / commercial controlling systems. The user can connect a USB keyboard and mouse to access the GSM 400 internal control interface.

1.2. Specification

Max. FPS	60/50fps @ 1920 × 1080p
Recording Mode	Hardware Compression
Product Photo	
Input Interfaces	● Video 4 × HDMI (400H) or 4 x SDI (400S) ● Audio 4 × 3.5mm
Output Interface	● Video 2 × HDMI (400H) or 1 x HDMI and 1X SDI (400S) ● Audio 1 × 3.5mm
Video	● H.264 baseline/main/high profile ● Support input / output resolutions 1920 × 1080P60 (output 1920 × 1080P30) 1920 × 1080(P30/P25/P24/i59.94), 1280 ×720 (P60/P59.94/P30) 1024 × 768P30, 800 × 600(P60/P30) 720 × 480(P60/P30), 720 × 576P50
Audio	● AAC-LC ● Configurable bit rate range from 32Kbps to 384Kbps ● Sample rate : 48KHz, 16bit
Network	● 1 × RJ45 for 10/100/1000Mbps Ethernet ● DHCP client ● Wifi:

	➢ 802.11b/g/n ➢ Support 150Mbps PHY rate
Streaming protocols	● RTSP over UDP/TCP/Multicast/HTTP ● RTMP public (web portal) ● TS over IP ● HLS
Misc. Features	● Web UI for system configuration ● Firmware upgradable ● LED indicator ● Status with Power Recycle ● Main function switch ➢ Record ➢ Snapshot ➢ Stream ● PGM mode switch ➢ Full screen ➢ Quadview ➢ Picture by picture ➢ Picture in picture ➢ PGM Loop ● Full screen switch ➢ Channel 1 ➢ Channel 2 ➢ Channel 3 ➢ Channel 4 ● 2 × USB2.0 (For Keyboard and mouse usage) ● 1 × USB3.0 (For external storage usage) ● 1 × RS232 + 1 × RS485
Record Format	MP4 / TS / AVI

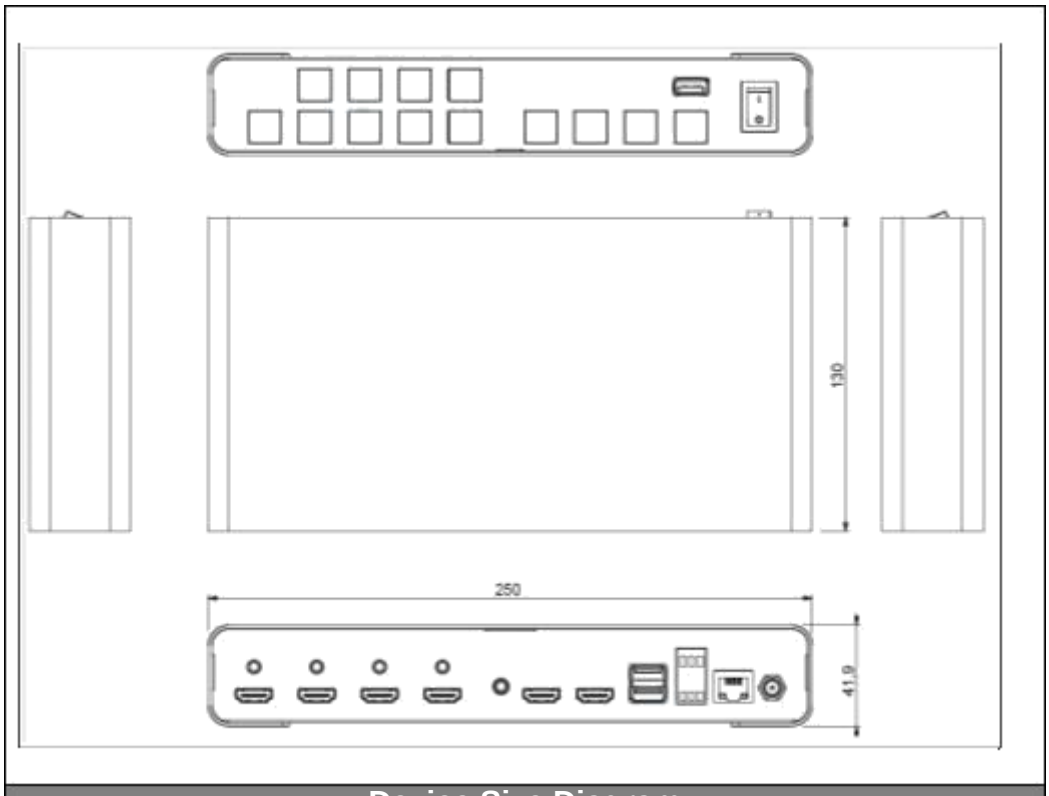
2. HARDWARE INSTALLATION

2.1. Package Contents

Item	Amount
GSM 400 Encoder	1
Power Adapter	1

2.2. Device Size

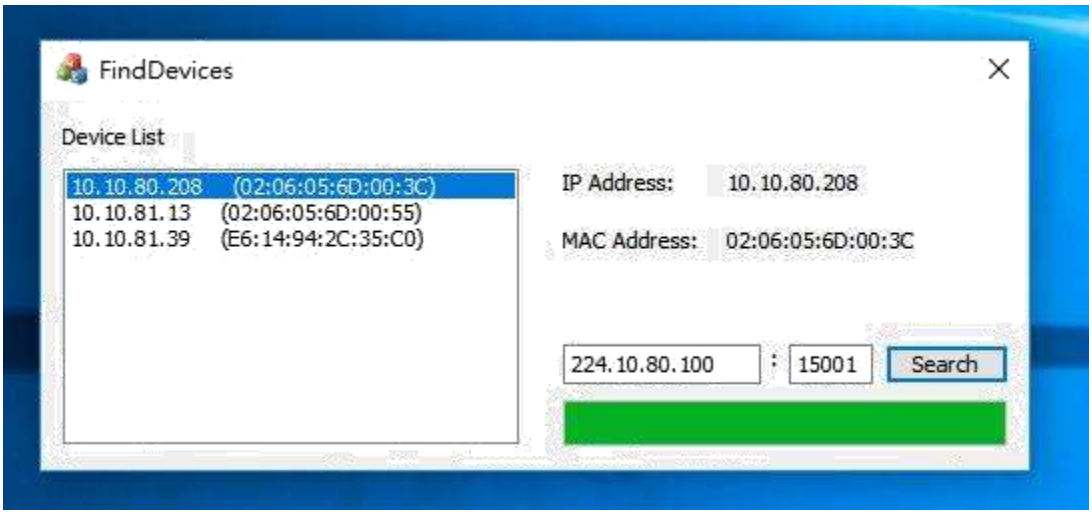
Figure below is the size of the GSM 400.



Device Size Diagram

3. IP Finder

When the encoder is in DHCP mode you can use the IP finder to get the IP address. If you have multiple GSM 400s you can locate the one you want by the MAC address.
Don't change the parameters on the right side. Just start the application and click the Search button.

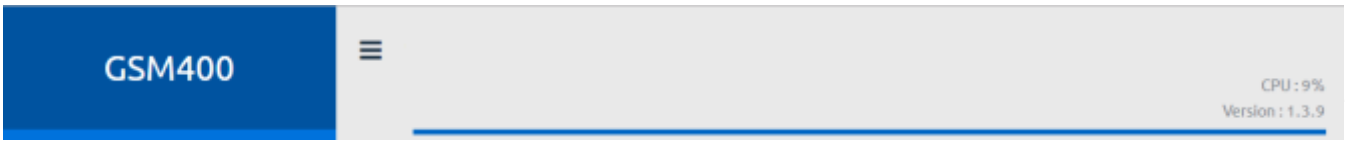


4. WEB UI

The Web UI is the interface for the user to control the GSM 400, users can control them via normal PC or portable devices (EX: Android, iPhone, iPad…etc.)

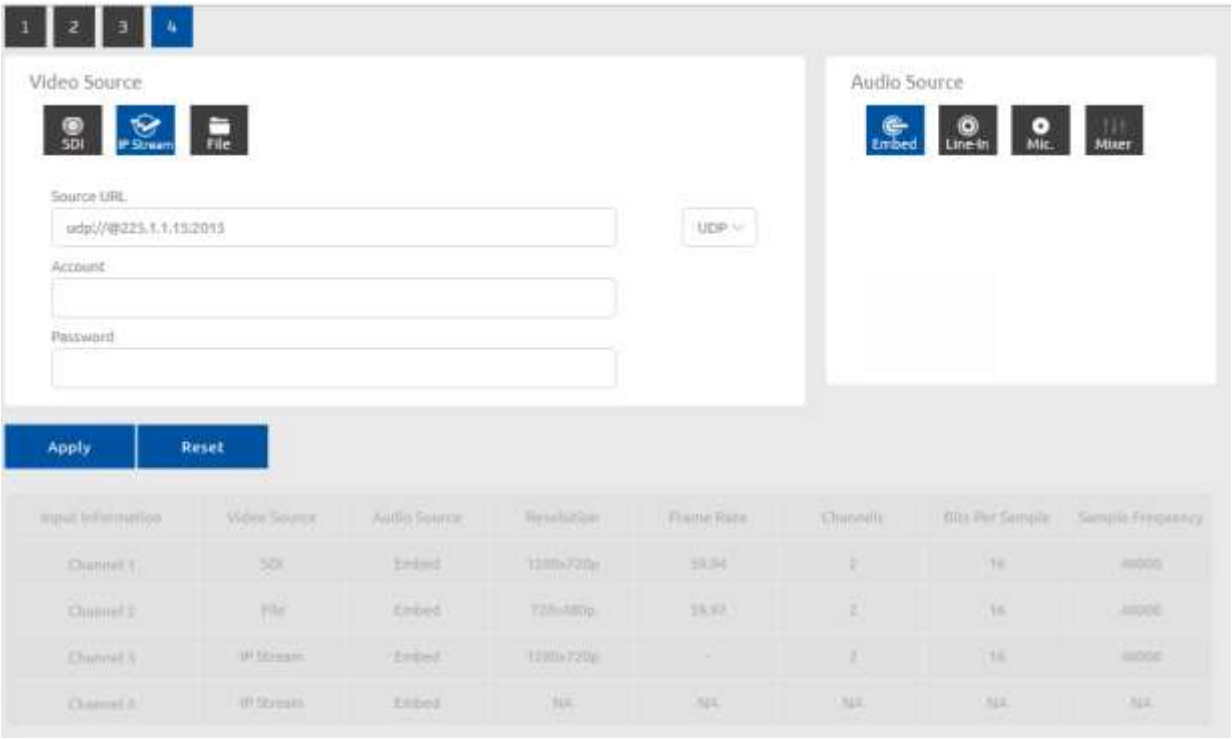
Username: admin
Password: 0000 (Four zeros)
Default IP address: 192.168.1.23 Net Mask 255.255.255.0

4.1. Firmware



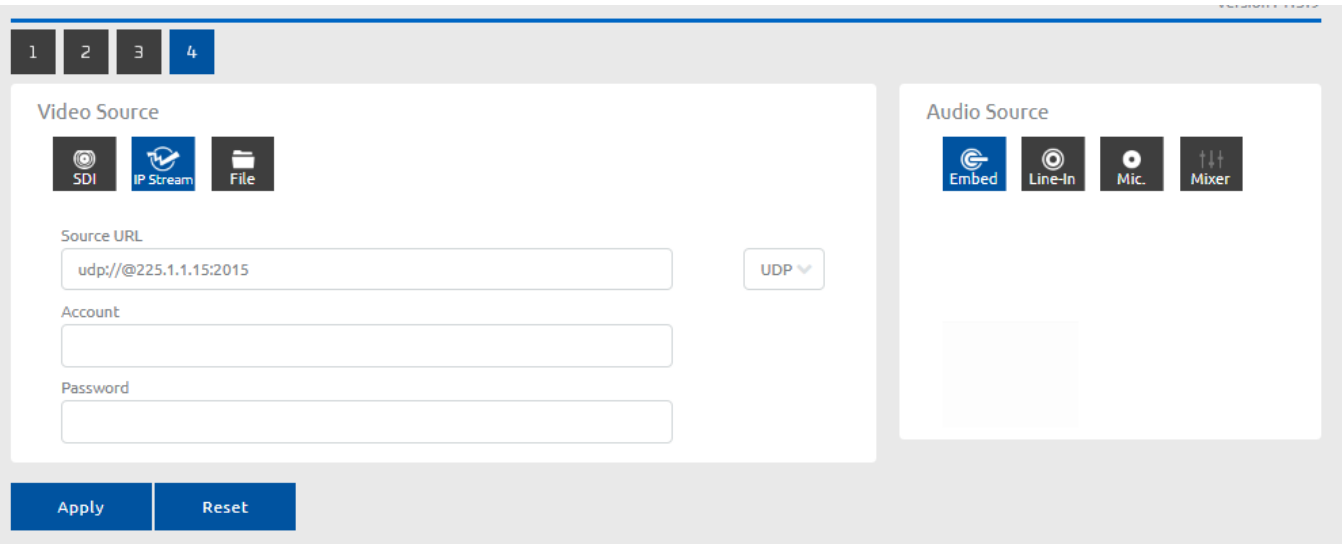
On the top right you can find the software firmware version and the processor utilization.

4.2. Source



This page contains **input signal status**, input **Video Source** and **Audio Source** selection. Users can change input video property, source and check input video information here. User can select on the top 1/2/3/4 icons to change the channel that willing to adjust.

4.2.1. Video Source (Local)

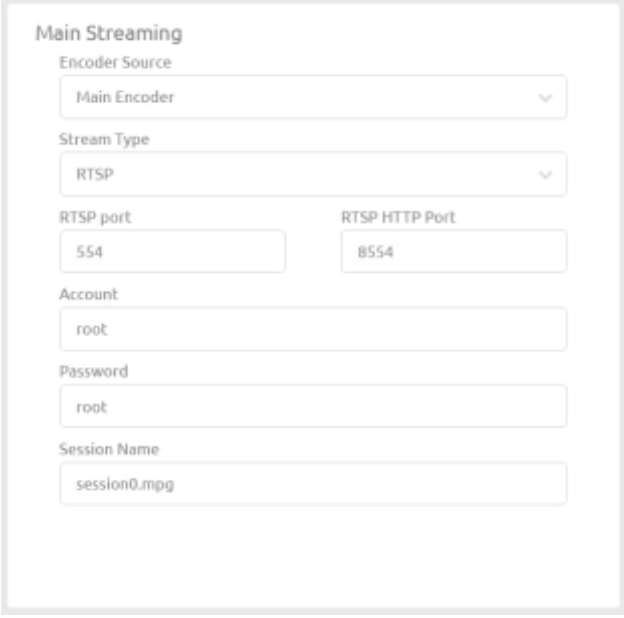


The user can change the video and audio sources here.

4.2.1. Video Source (Streaming)

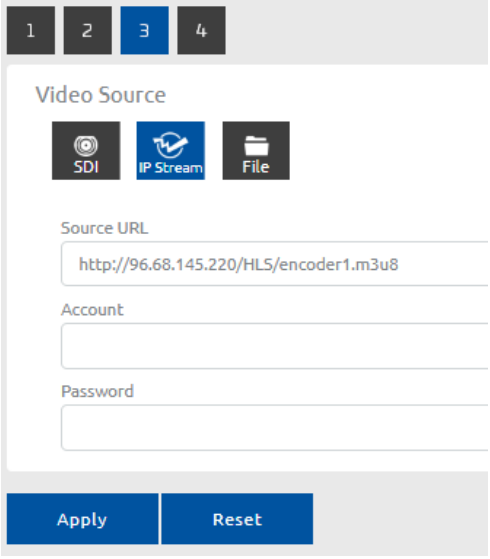
The video source can be certain IP streams; HLS and RTSP are supported. Please check on other protocols. If the source is the encoder itself then for RTSP the format is;

rtsp://(Account):(Password)@(GSM 400 IP address):(RTSP port)/(Session name)

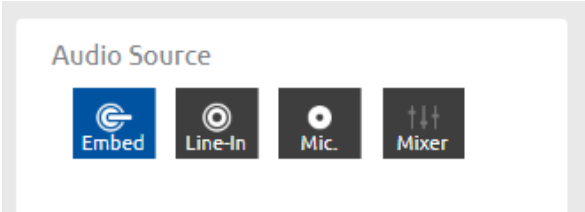


The example shown here is for an HLS stream
In this case it is;
http://96.68.145.220/HLS/encoder1.m3u8.

This is one of our test streams, if you wish to test this then contact us as we don't keep it running all the time.



4.2.2. Audio Source

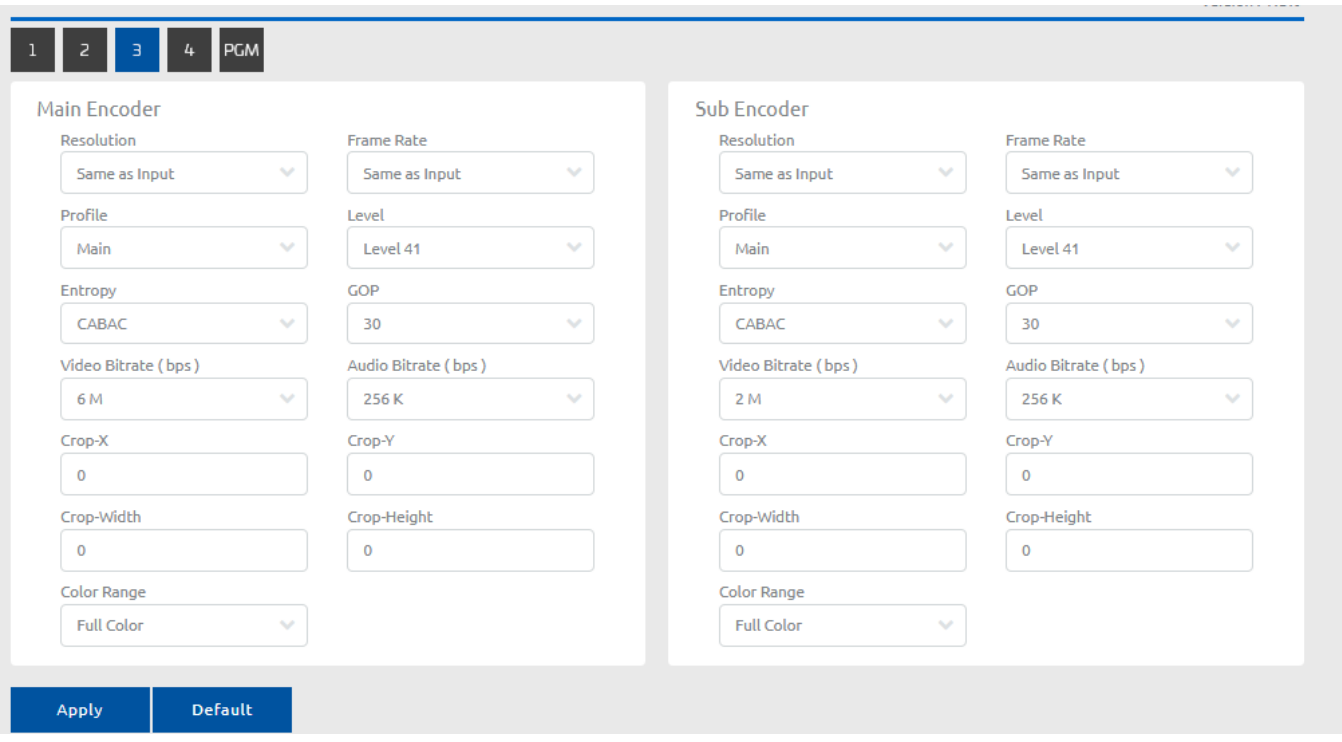


In the audio source block, the user can select from **Embedded** audio, 3.5mm audio **Line-in**, **Microphone** input or **Mixer**.

4.2.3. Input Signal Status

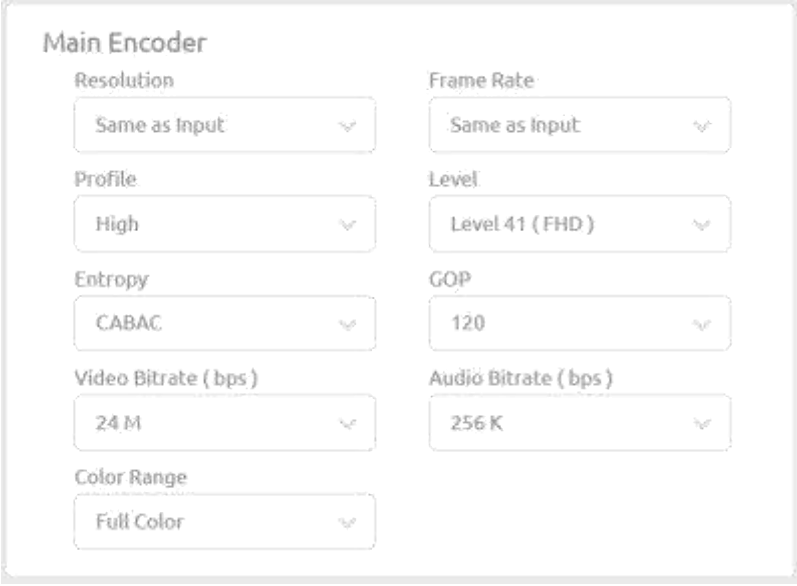
In input information block, user can check signal status and signal format.

4.3. Encoder

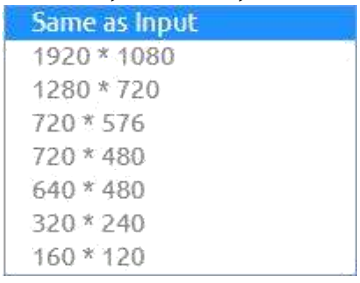


Encoder page contains **Main Encoder** and **Sub Encoder** 2 parts, which allows user to change video and audio encode, this page also provides user to change sub streaming encoder.

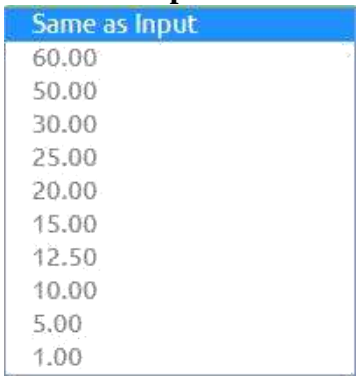
4.3.1. Main Encoder/Sub Encoder



Resolution options: Same as input, 1920*1080, 1280*720 and 720*576, 720*480, 640*480, 320*240, and 160*120 resolutions



Framerate options: Same as input, 60, 50, 30, 25, 20, 15, 12.5, 10, 5, and 1.

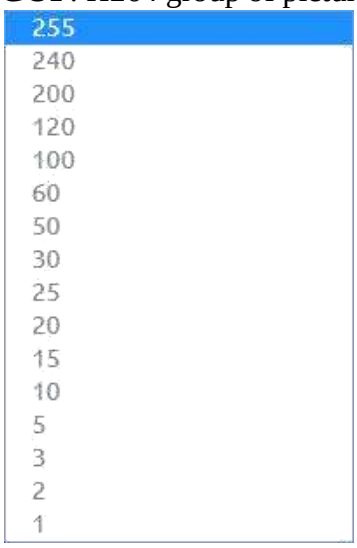


Profile options: high, main and baseline.

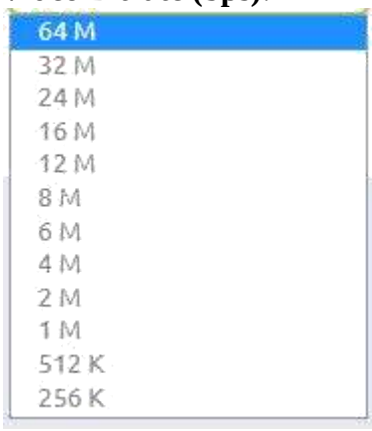
Level options: 41, 40, 32, 31, 30, 22, 21, 20, 13, 12, 11, 10, and 1b.

Entropy: The GSM 400 supports both CAVLC and CABAC entropy encoding options.

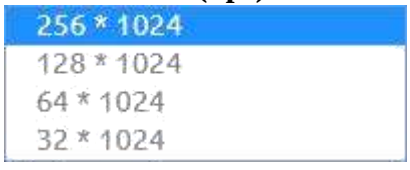
GOP: H264 group of pictures setting (from 255~1).



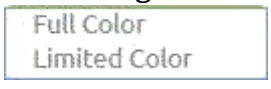
Video Bitrate (bps):



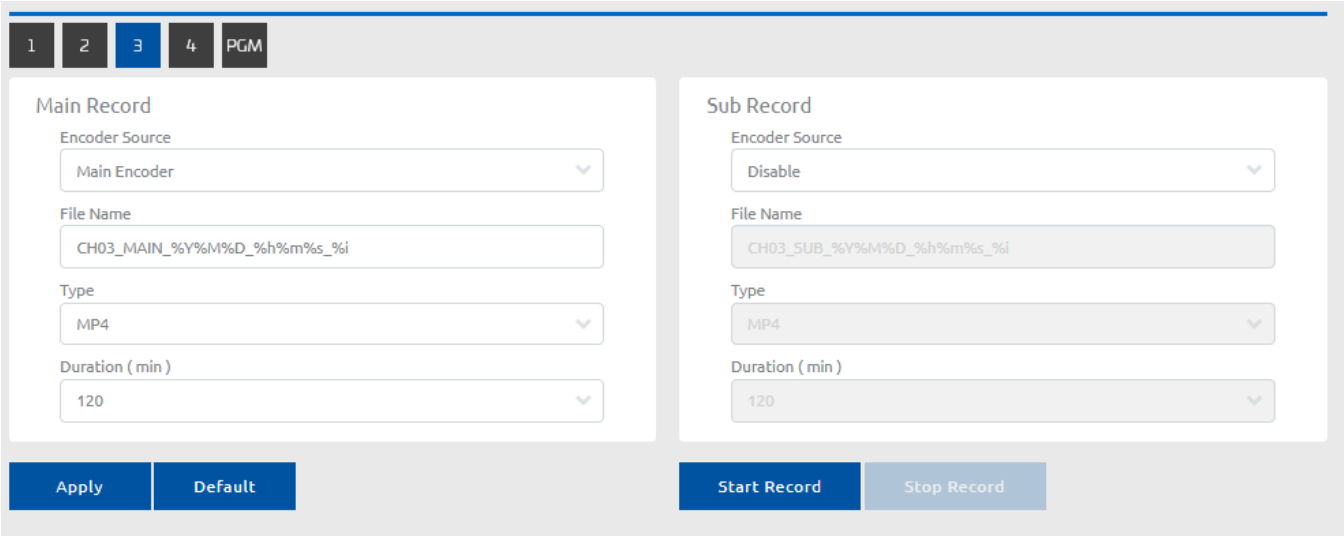
Audio Bitrate (bps): Audio bitrate select (from 256*1024~32*1024)



ColorRange: Select between Full Color or Limited Color.

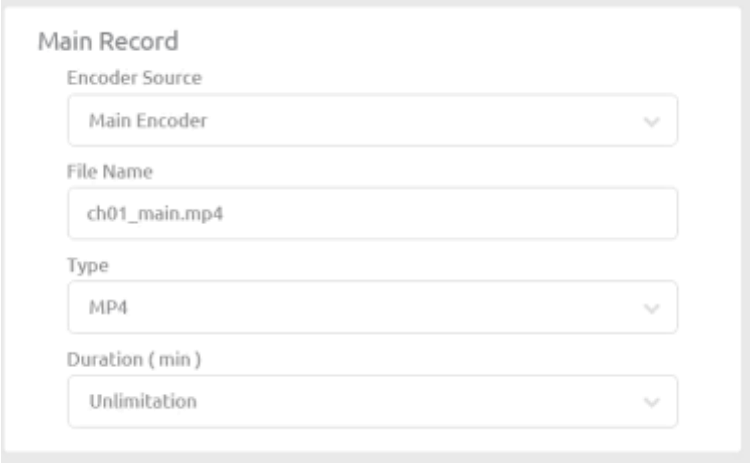


4.4. Record



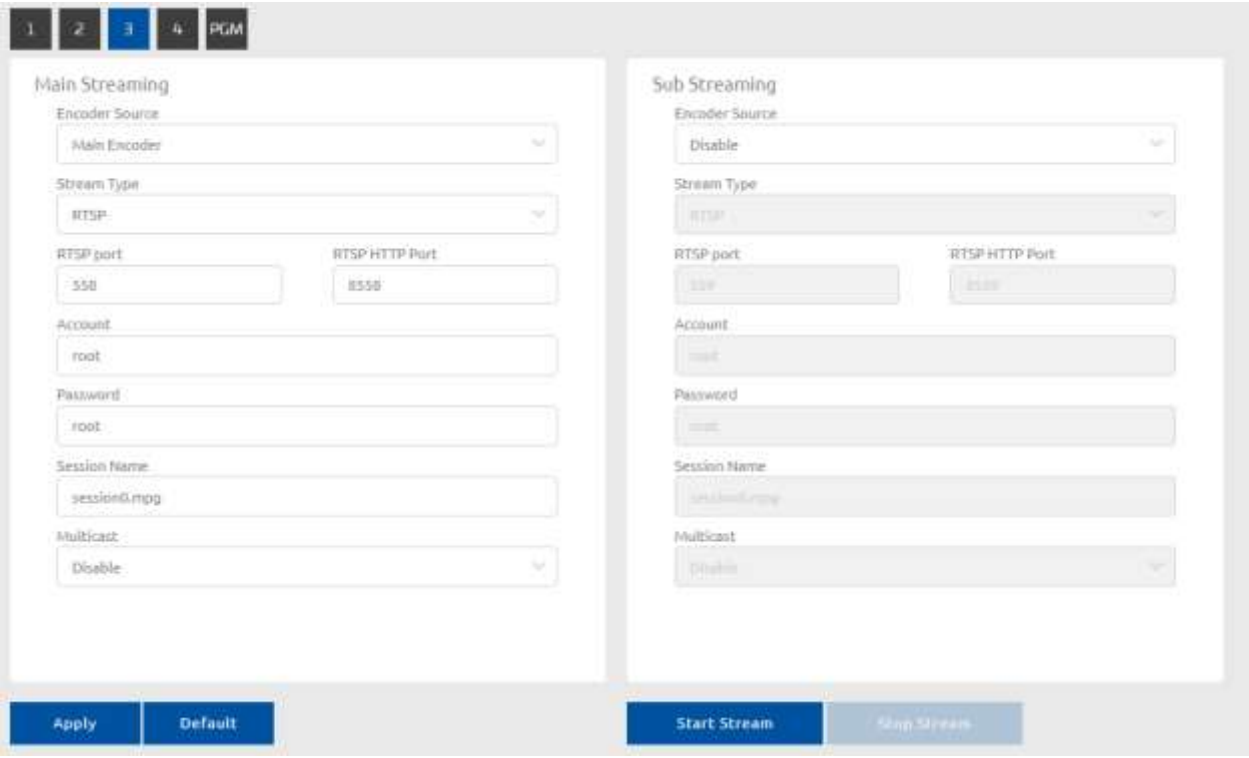
The record page allows user to change the video format that recorded to USB3.0 disk drive. On the top 1/2/3/4/PGM is the channel that desired to record; and the 2 block in the middle is the main/sub record format.

4.4.1. Main Record/Sub Record



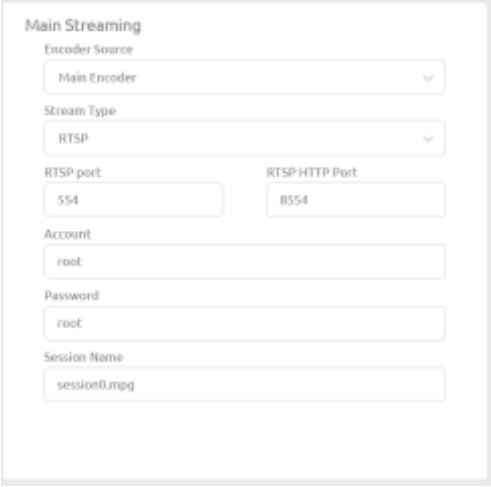
Encoder source: Choices are; Main Encoder, Sub Encoder and disable selections.
File name: The file name setting, this would be the file name recorded.
Type: Decide needed file type; MP4, TS or AVI
Duration: Choices are; Unlimitation, 60, 30, 5, and 1 minutes for user to set. Recording will automatically stop when the time is up.

4.5. Streaming



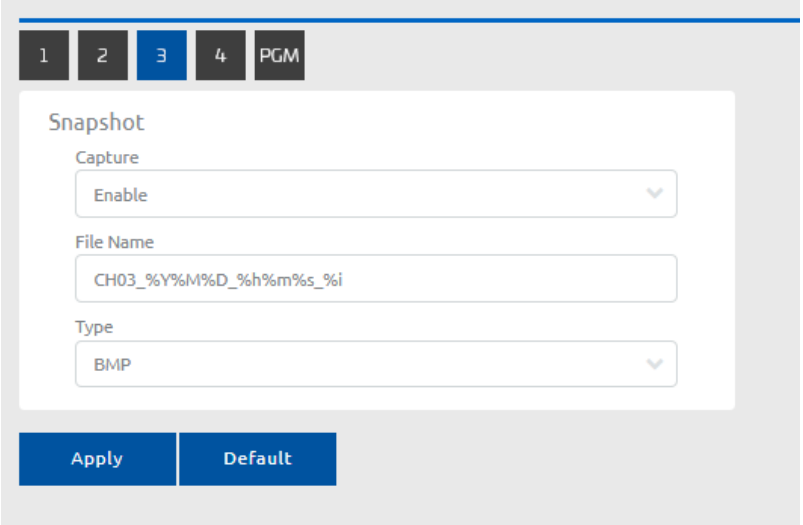
This page contains the GSM 400 streaming settings; user can decide which encoder's stream will send out and select streaming type here.
On the top 1/2/3/4/PGM is the channel that desired steaming; and the 2 blocks in the middle are the main/sub streaming format.

4.5.1. Main Streaming/Sub Streaming



Encoder Source: User can select between main encoder and sub encoder.
Streaming Type: Here are RTSP, RTMP, and TS streaming type GSM 400 available.
RTSP port: RTSP server port
RTSP HTTP Port: RTSP HTTP server port
Account: RTSP account, setting this for other users to link with RTSP mode.
Password: RTSP password, setting this for other users to link with RTSP mode.
Session Name: RTSP Session name.

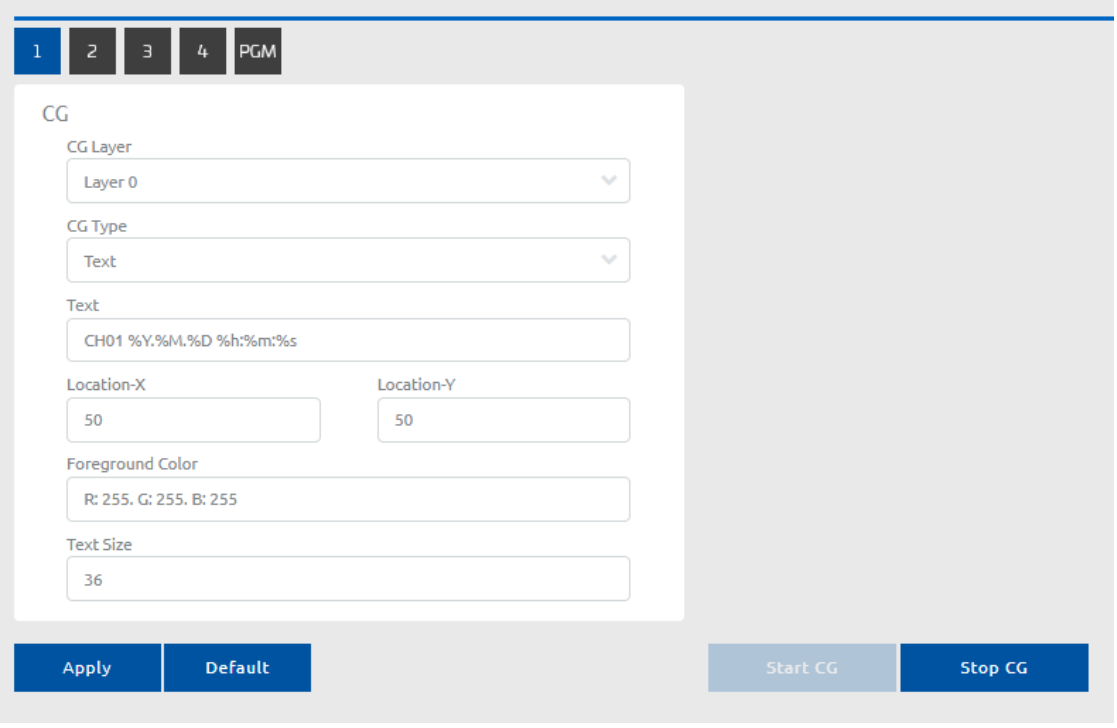
4.6. Snapshot



4.6.1. Snapshot

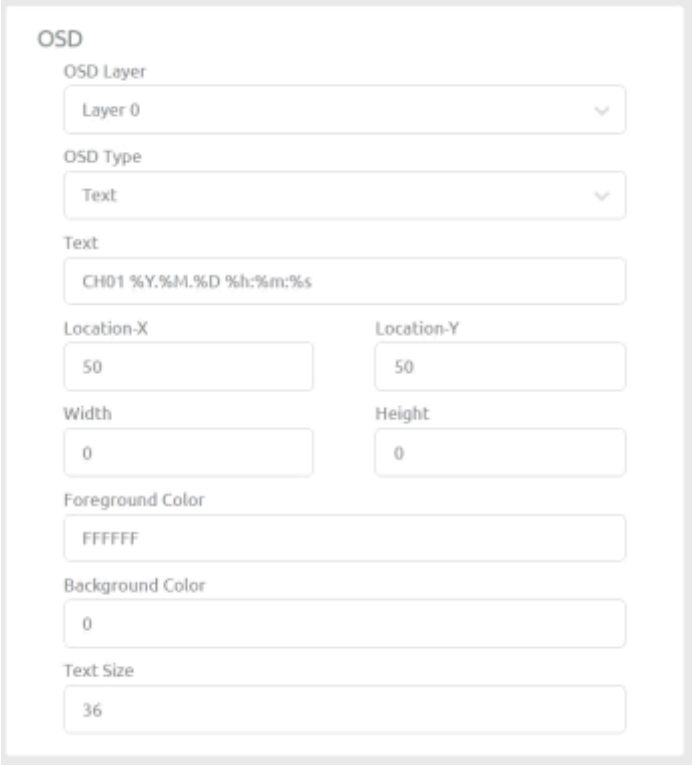
Capture: Select Enable or Disable
File Name: Time and date codes are supported
Type: Select the snapshot file format; BMP or JPEG

4.7. CG

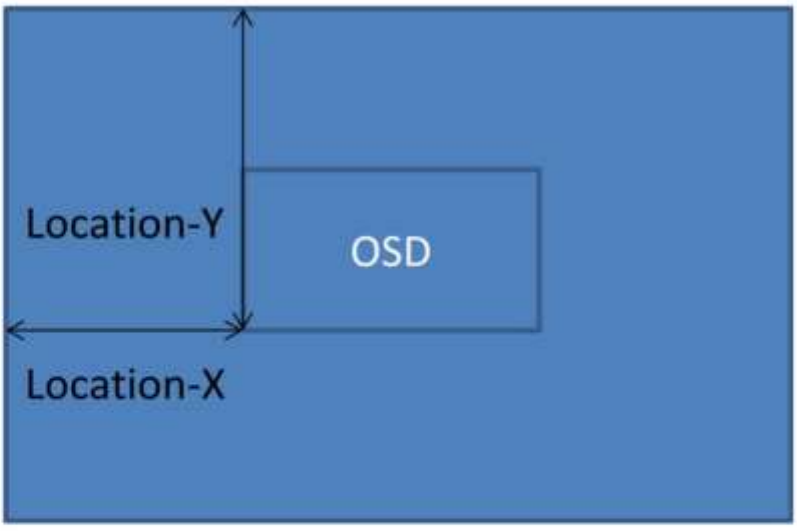


The user can change on screen display content here; a **Text** label, place (Location-X, Location-Y) and color (Background Color, Foreground Color) or a **Graphics** file.

4.7.1. OSD Setting

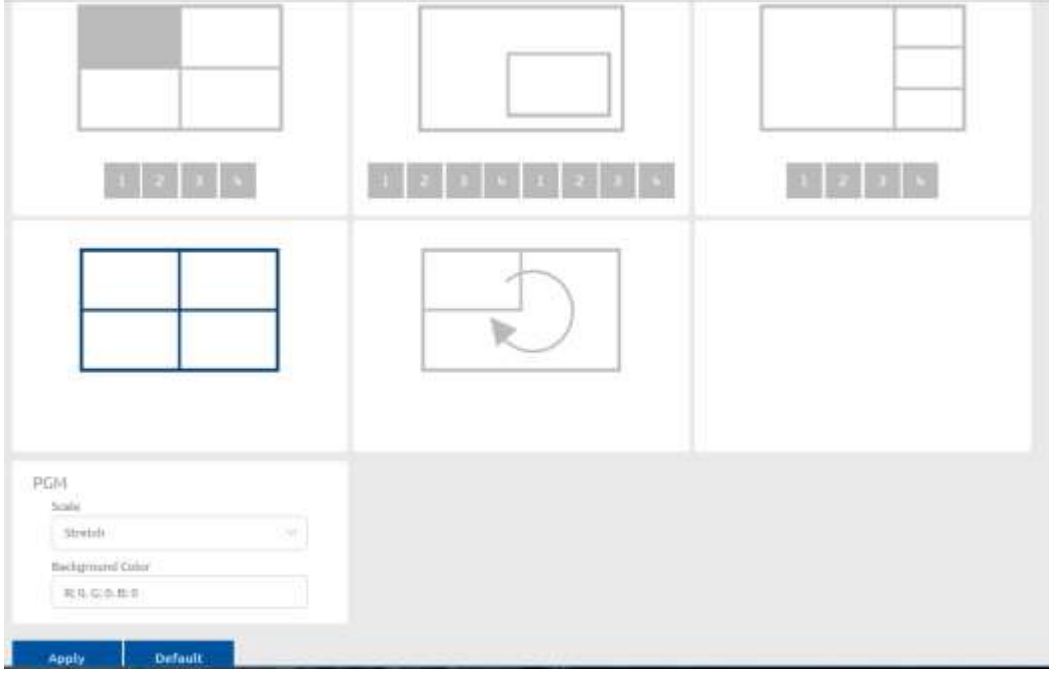


OSD Layer: Each Input has up to 4 layers
OSD Type: Each layer can be text or a graphics file
Text: Text label for channel 1~4 and PGM



Location-X: OSD offset of X axis
Location-Y: OSD offset of Y axis
Background Color: OSD background color.
Foreground Color: OSD foreground color.

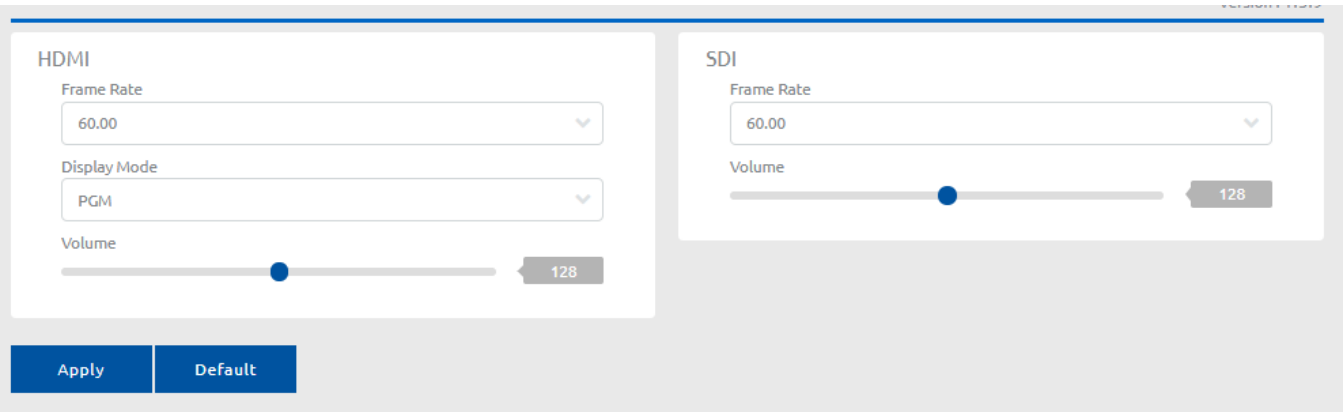
4.8. PGM



This page contains the program (PGM) video output layout selections.

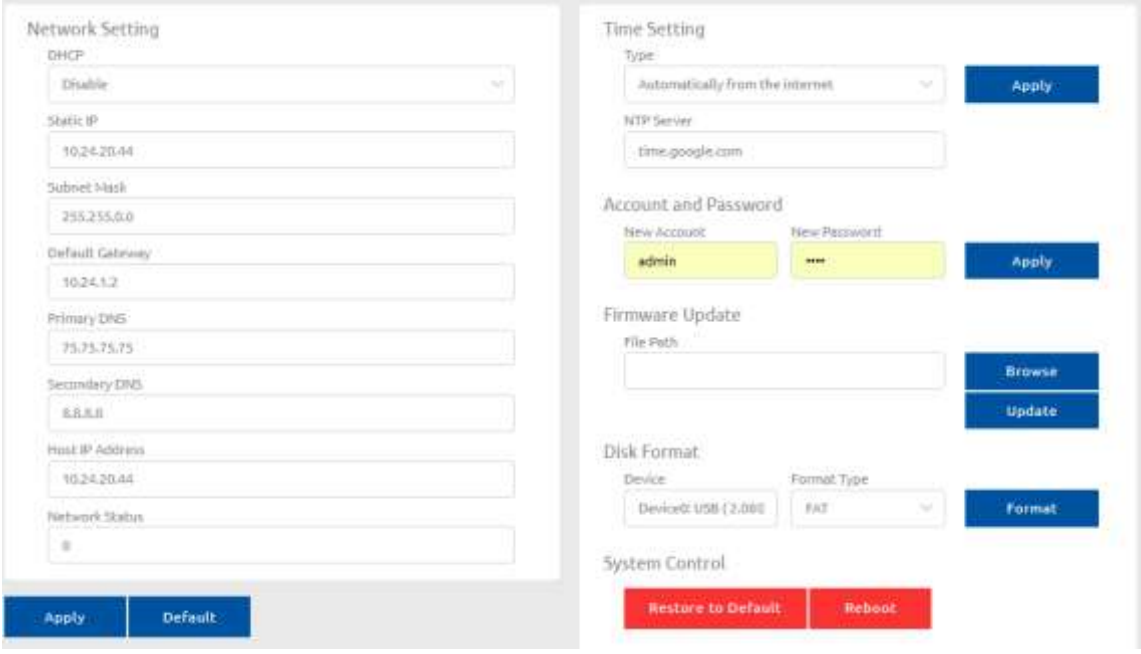
Full Screen Mode	 Full screen mode will display a single channel input
Picture in Picture Mode	 For picture in picture mode, first channel select is the main channel, the second channel selection is the minor channel.
Picture by Picture Mode	 Picture by picture mode will display all 4 channels in one screen, but there will be a main channel in the right. There is also a main channel selection in the bottom
Quadview Mode	 This mode will display all 4 channels in one screen.
PGM Loop Mode	 PGM Loop mode will automatically loop all channels.

4.9. Monitor



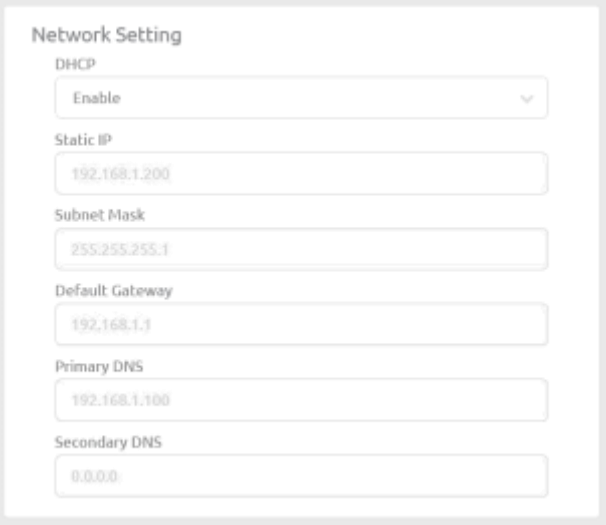
These 2 blocks are used to control the output modes, framerate and volume. For the HDMI model both outputs are HDMI, this is the SDI model's output.

4.10. System



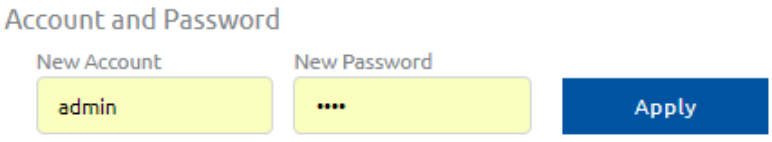
In the system page, user can set account /password, system reboot, format attached USB disk, check network status/setting and **Firmware Update** here.

4.10.1. Network Setting



DHCP: Enable/disable DHCP feature. When you disable DHCP, please provide necessary network parameters.
Static IP: Setting GSM 400 static IP.
Subnet Mask: Setting GSM 400 subnet mask.
Default Gateway: Setting GSM 400 default gateway.
Primary DNS: Setting GSM 400 primary DNS.
Secondary DNS: Setting GSM 400 secondary DNS.

4.10.2. Account and Password

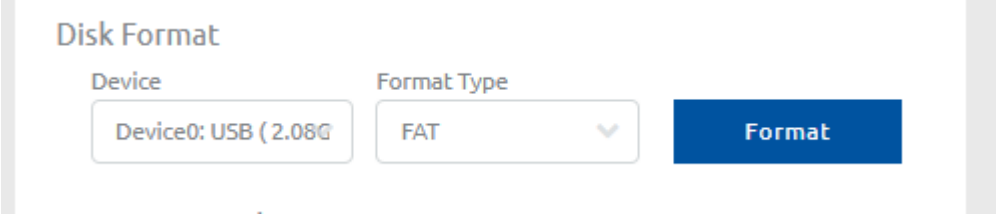


User can assign new account and password here.

4.10.3. Firmware Update

Press the **Browse** button to select the new firmware and **Update** button to update it, **during firmware update, please don't turn off the power and wait until the upgrade progress completes.**

4.10.4. Disk Format



The user can format a USB flash drive here.

4.10.5. System Control

Restore to default will erase all settings and back to original, and Reboot button will restart the GSM 400.

4.11. Status

User can check the GSM 400 status here (Including input signals, recording and streaming)