SC6D0N4 HDMI

User Guide

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1. PRODUCT INTRODUCTION

1.1. Product Brief

SC6D0N4 HDMI provides 4 x HDMI input for HDMI multiviewer with PGM output feature in one, it can receive 4 HDMI inputs and has 2 HDMI outputs. HDMI output 1 provides a monitoring interface for local monitor usage. HDMI/PGM output 2 provides PGM feature and transfer it to broadcasting or other equipment. It provides also 4 x 3.5mm analog audio input for audio embedding and a 3.5mm analog audio output with audio deembedded.

Front panel

The front panel of SC6D0 provides PGM / feature button for user to control it locally. USB3.0 interface provides user to record input in various format. It also provides record / snapshot / stream / connectivity button in front panel.

Back panel

In back panel, SC6D0 provides RJ45 for internet connectivity. It also provides RS232 and 2 USB2.0 for user to connect with industrial / commercial controlling method. User can connect USB keyboard and mouse to access SC6D0 internal control interface.

1.2. Specification

Model	SC6D0N4 HDMI
Max. FPS	1920×1080p@300fps(4 HDMI + 1 PGM Channels)
Recording Mode	Hardware Compression
Product Photo	
Input Interfaces	● Video ➢ 4×HDMI ● Audio ➢ 4×3.5mm
Output Interface	● Video ➢ 1×HDMI (Multiview / PGM) ➢ 1×HDMI (PGM) ● Audio ➢ 1×3.5mm
Video Feature	● H.264/AVC, Baseline/Main/High Profile ● Configurable Bit Rate Up to 64Mbps ● Support input resolutions ➢ 1920×1080 (P60/P50/P30/P25/P24/i60/i50) ➢ 1280×720 (P60/P50), 1280×1024 (P60), 1280×960 (P60) ➢ 1024×768 (P60), 800×600 (P60), 720×480 (P60/i60) ➢ 640×480 (P60), 720×576 (P50/i50) ● Support output resolutions

	➢ Resize Range from 160×120 to 1920×1080 (P60)
Audio Feature	● AAC-LC ● Configurable bit rate range from 32Kbps to 384Kbps ● Sample rate : 48KHz, 16bit
Network Feature	● 1×RJ45 for 10/100/1000Mbps Ethernet ● DHCP client
Support Streaming protocol	● RTSP over UDP/TCP/Multicast/HTTP ● RTMP (Publish) ● TS over IP ● HLS
Misc. Features	● Web UI for system configuration ● Firmware upgradable ● LED indicator ● Status with Power Recycle ● 2×USB2.0 (For Keyboard and mouse usage) ● 1×USB3.0 (For external storage usage) ● 1×RS232 + 1×RS485 ● 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
Record Format	MP4 / TS / AVI / MOV

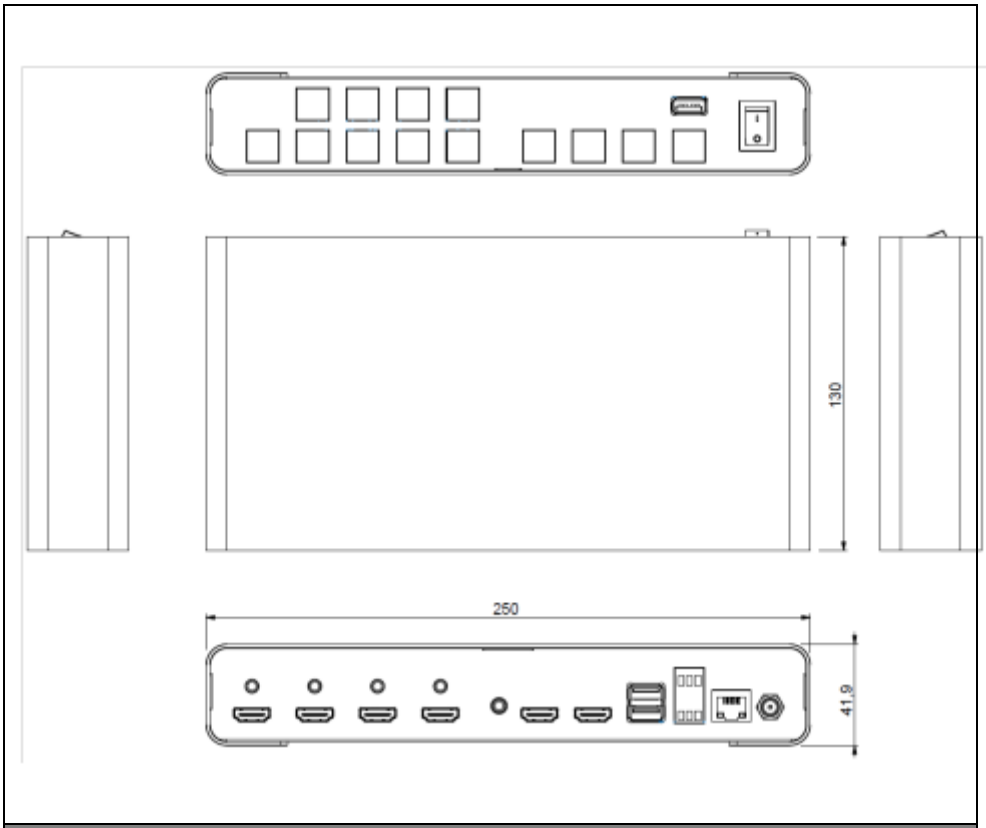
2. HARDWARE INSTALLATION

2.1. Package Contents

Item	Amount
SC6D0N4 HDMI	1
Adapter	1

2.2. Device Size

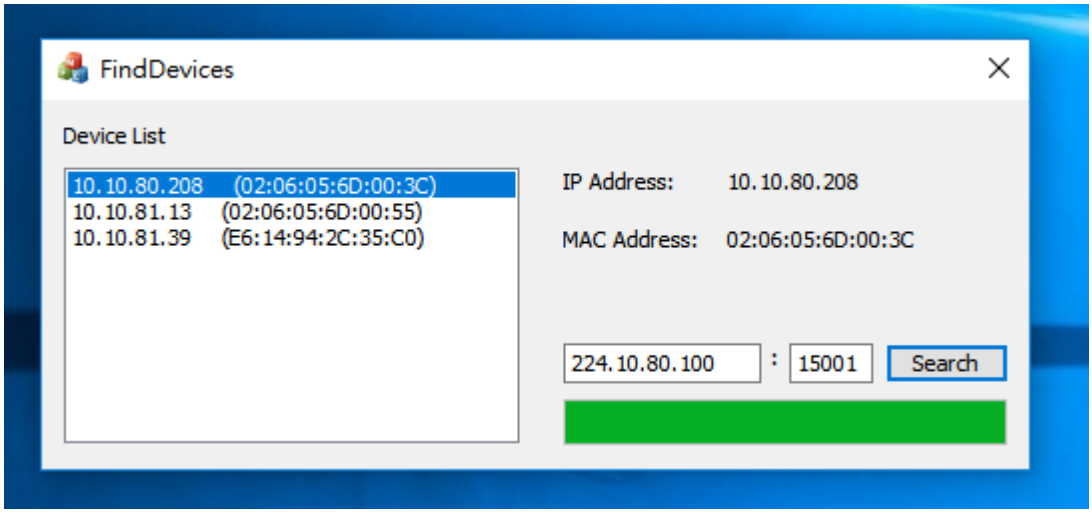
Figure below is the device size of SC6D0N4 HDMI.



Device Size Diagram

3. IP Finder

For using SC6D0 Web UI, please open IP finder and search for the ip address to open control interface. The correct ip address can be distinguish by MAC address.



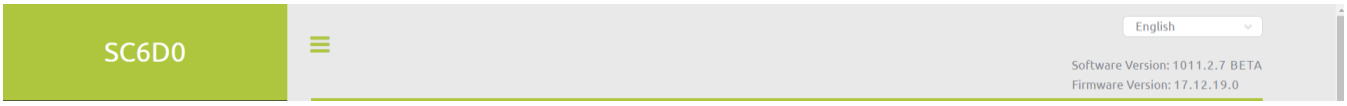
4. WEB UI

Web UI is the internet interface for user to control SC6D0 more convenient, users can control them via normal PC or portable devices (EX: Android, iPhone, iPad…etc.)

Username: admin

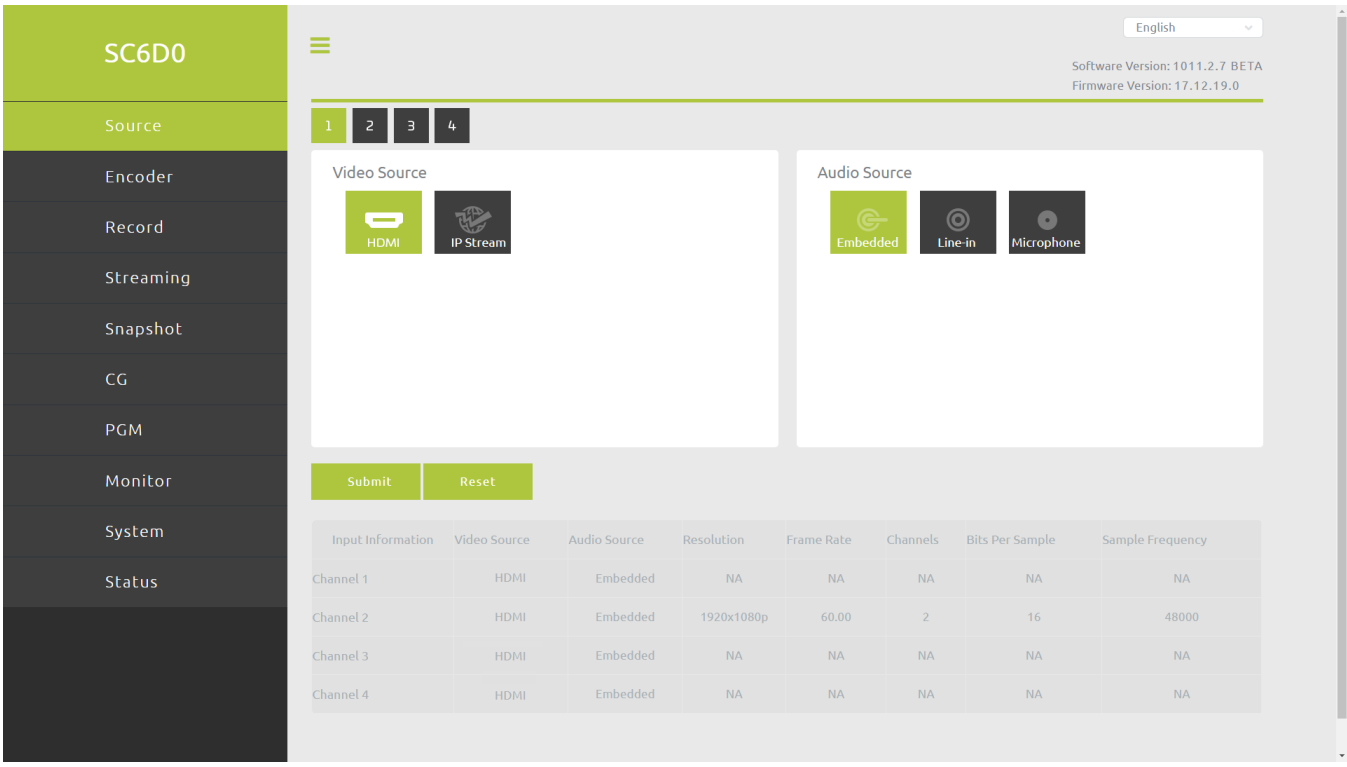
Password: 0000

4.1. Language / Firmware



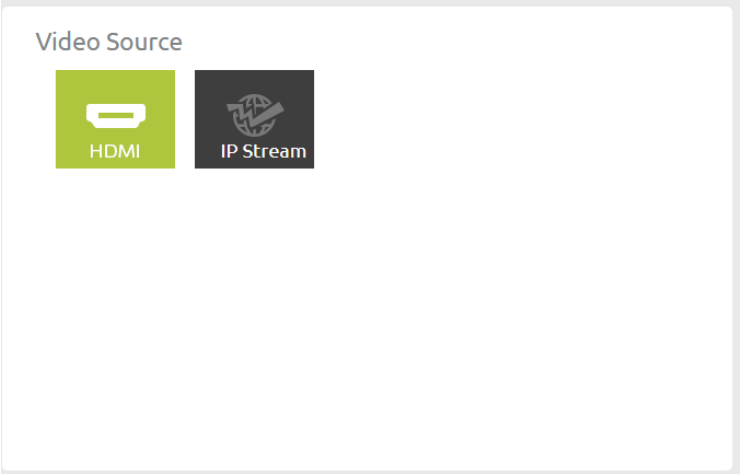
On the top, here are web UI language selection and Firmware version / MCU version. User can change Web UI language here.

4.2. Source



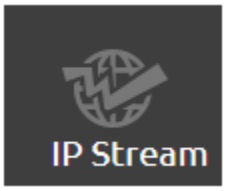
This page contains **input signal status**, input **Video Source** and **Audio Source** selection. Users can change input video property, source and check input video information here. User can select on the top 1/2/3/4 icons to change the channel that willing to adjust.

4.2.1. Video Source (Local)



User can change video source here.

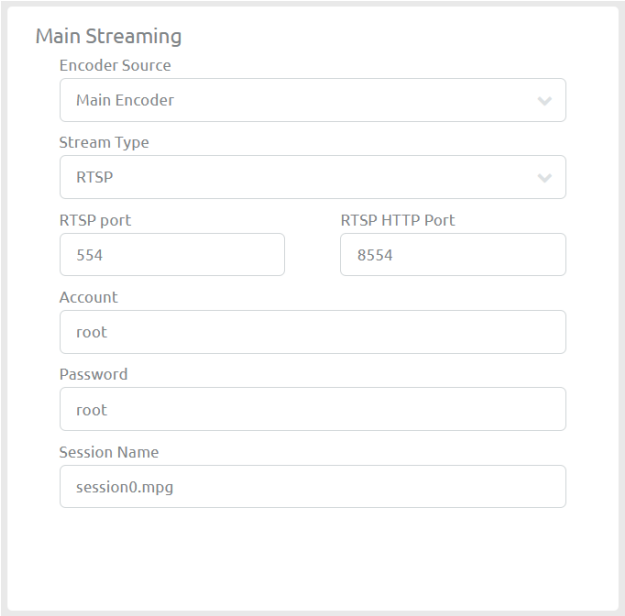
4.2.1. Video Source (Streaming)



For SC6D0 up streaming, please follow the following information (The IP address will vary by environment, please check IP finder to make sure the IP address.).

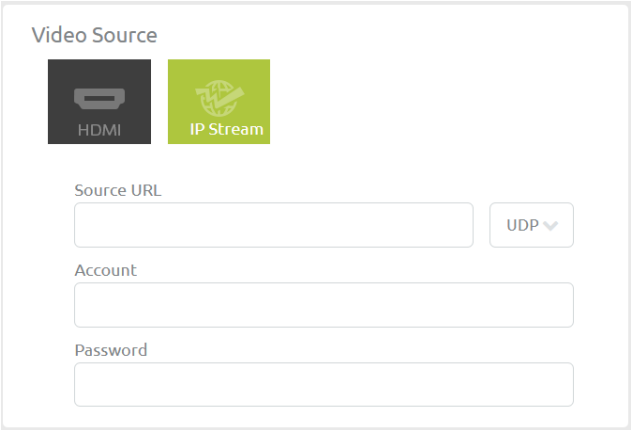
RTSP format listed as below.

rtsp://(Account):(Password)@(SC6D0 IP address):(RTSP port)/(Session name)



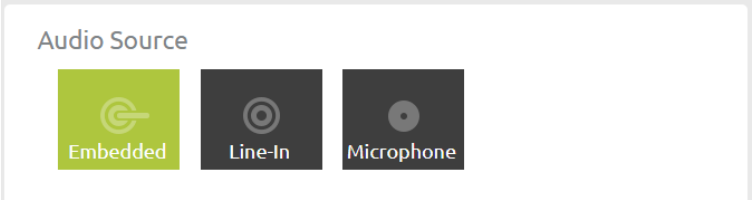
After the setting as above, the streaming address will be rtsp://root:root@192.168.1.200:554/session0.mpg

For down streaming side, please enter source->video source->IP Stream



After enter the Web UI, please setting as below (The IP address will vary by environment, please check IP finder to make sure the IP address.).
Source URL : rtsp://192.168.1.200:554/session0.mpg
Account : root
Password : root

4.2.2. Audio Source



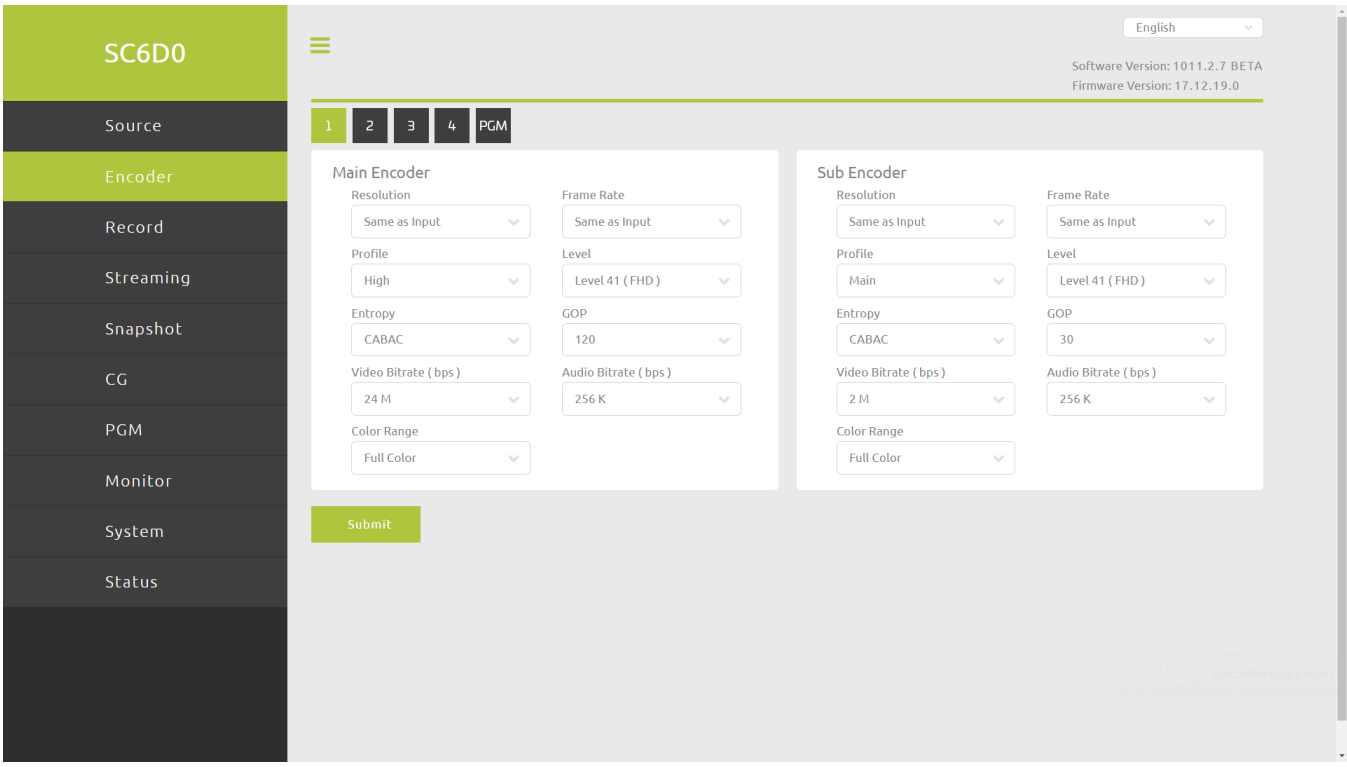
In audio source block, user can select audio input source from **Embedded** HDMI audio, 3.5mm audio **Line-in** and **Microphone** input.

4.2.3. Input Signal Status

Input Information	Video Source	Audio Source	Resolution	Framerate	Channels	Bits Per Sample	Sample Frequency
Channel 1	HDMI	Embedded					
Channel 2	HDMI	Embedded					
Channel 3	HDMI	Embedded					
Channel 4	HDMI	Embedded					

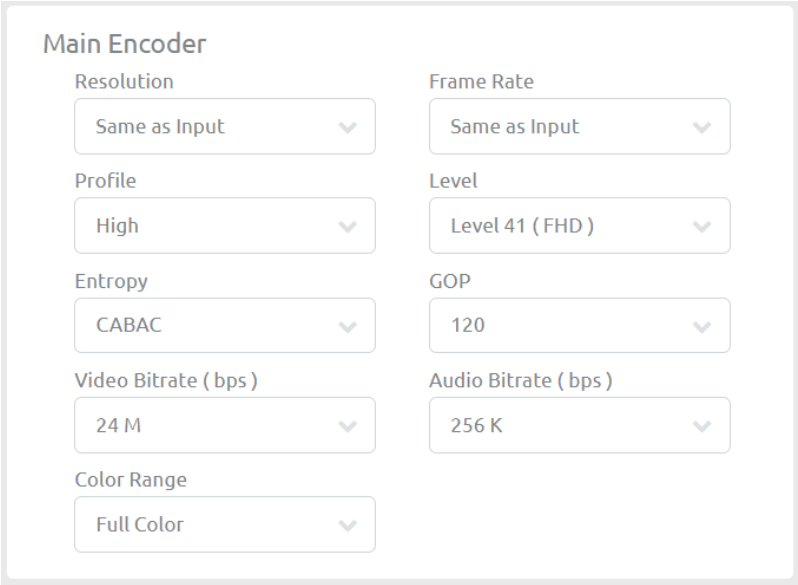
In input information block, user can check signal status and signal format.

4.3. Encoder

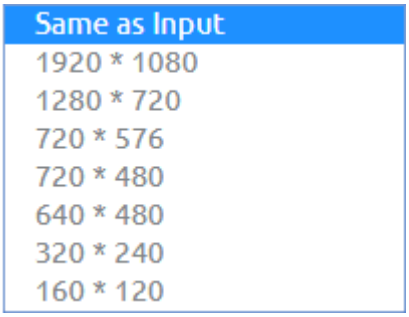


Encoder page contains **Main Encoder** and **Sub Encoder** 2 parts, which allows user to change video and audio encode, this page also provides user to change sub streaming encoder.

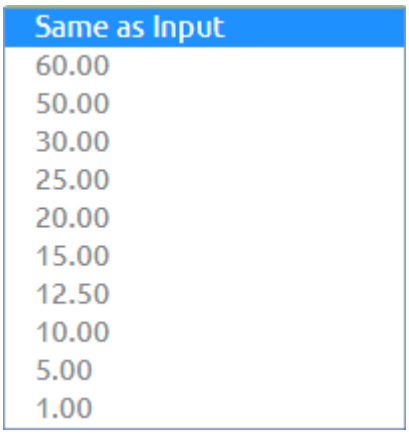
4.3.1. Main Encoder/Sub Encoder



Resolution: For encoders here, we provide Same as input, 1920*1080, 1280*720 and 720*576, 720*480, 640*480, 320*240, and 160*120 resolutions



Framerate: SC6D0 have Same as input, 60, 50, 30, 25, 20, 15, 12.5, 10, 5, and 1 framerates for user to select



Profile: User can adjuse here for H.264 profile selection, it supports high, main and baseline.

Level: H264 level support, SC6D0 provides 41, 40, 32, 31, 30, 22, 21, 20, 13, 12, 11, 10, and 1b.

Entropy: Entropy encoding selection, SC6D0 can support both CAVLC and CABAC.

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

255
240
200
120
100
60
50
30
25
20
15
10
5
3
2
1

Video Bitrate (bps): Video bitrate select (512K~64M)

64 M
32 M
24 M
16 M
12 M
8 M
6 M
4 M
2 M
1 M
512 K
256 K

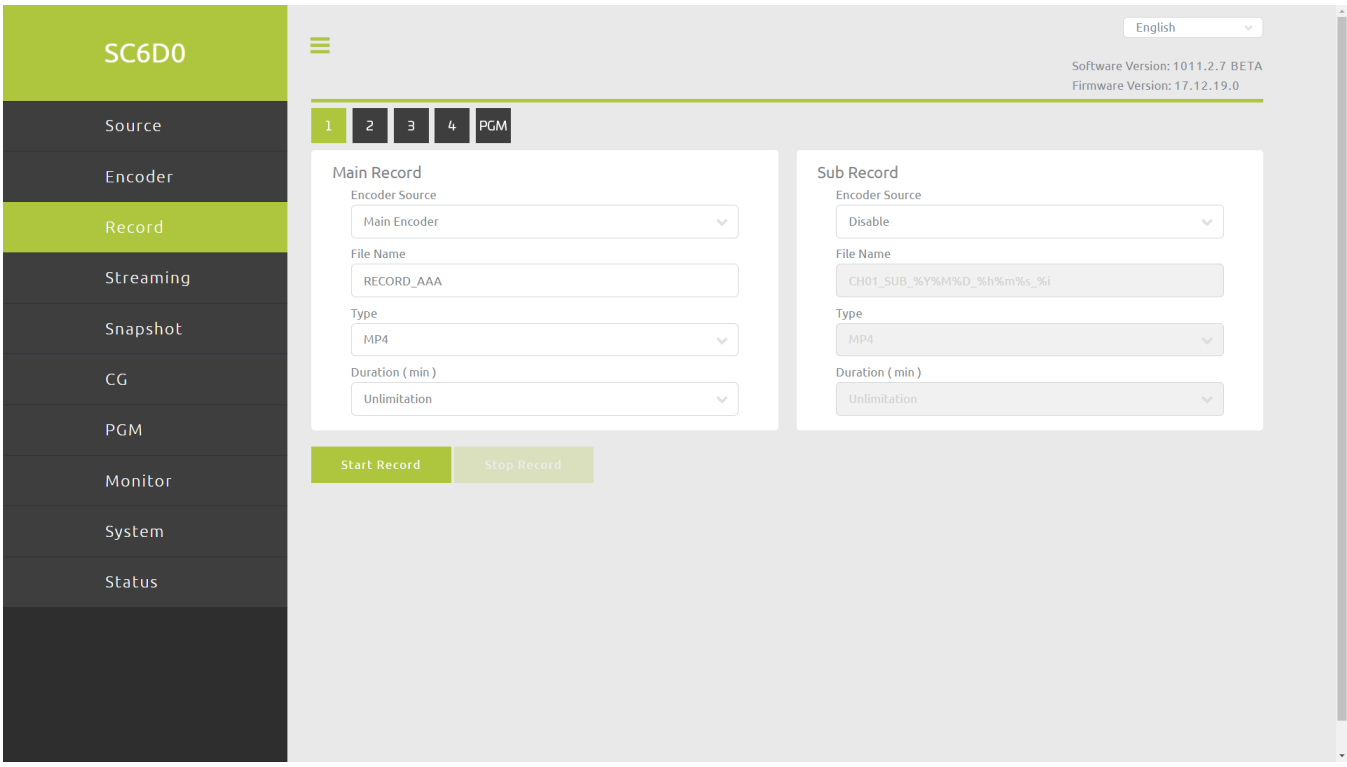
Audio Bitrate (bps): Audio bitrate select (from 256*1024~32*1024)

256 * 1024
128 * 1024
64 * 1024
32 * 1024

ColorRange: Select between Full Color or Limited Color.

Full Color
Limited Color

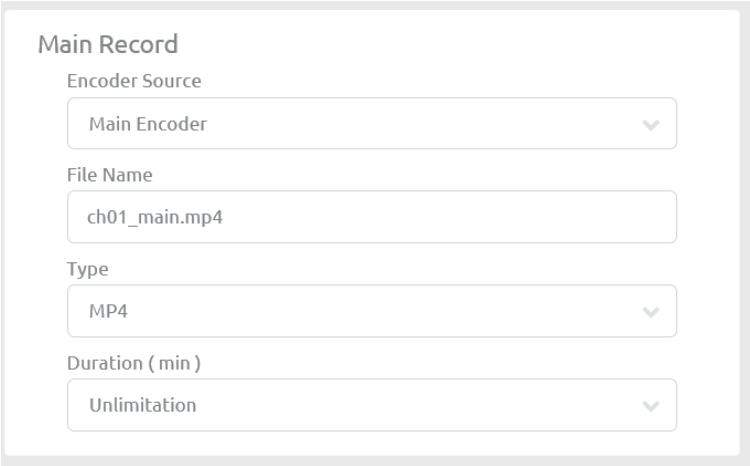
4.4. Record



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



Here are the parameters that allow user to adjust their record format.

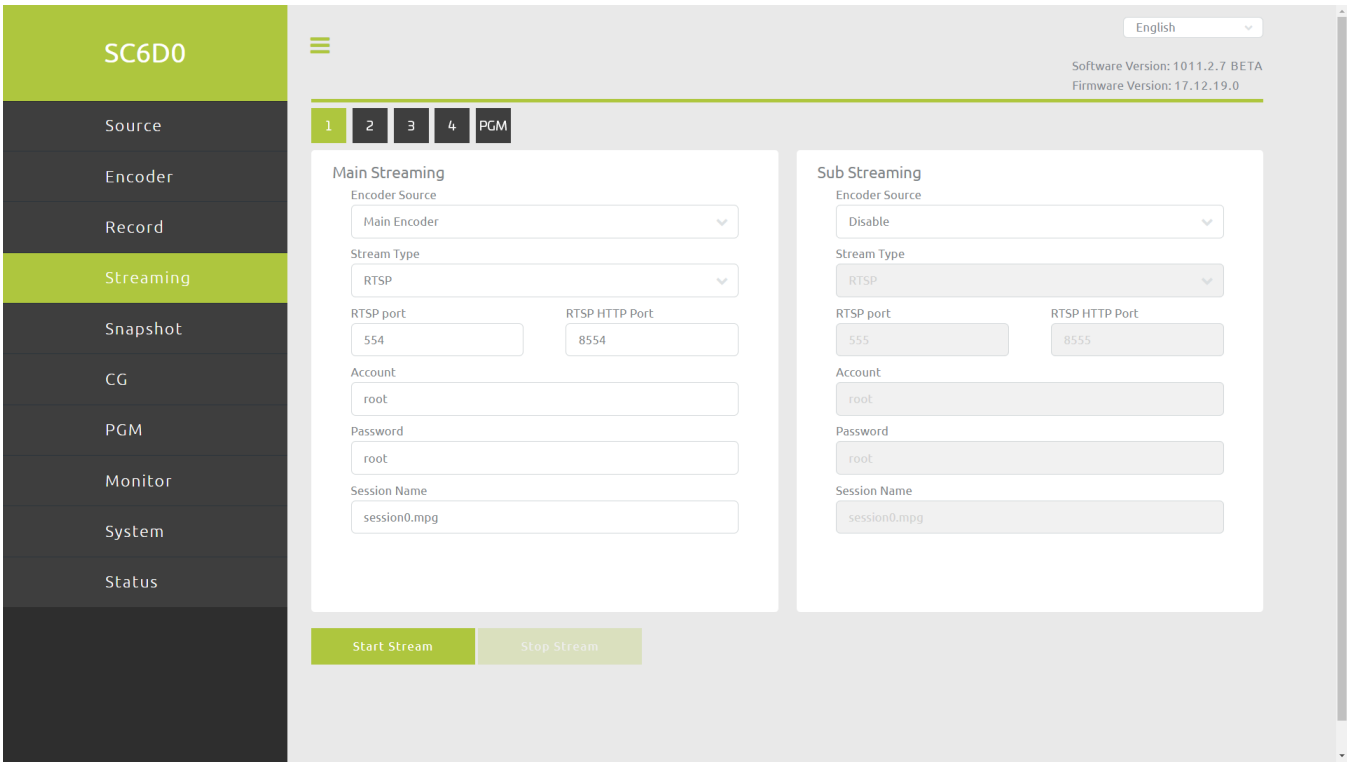
Encoder source: Select the encoder that willing to record, here are Main Encoder, Sub Encoder and disable selections.

File name: The file name setting, this would be the file name recorded.

Type: Decide needed file type, we offer MP4, TS and AVI at present time

Duration: Setting recording time, here are Unlimitation, 60, 30, 5, and 1 minutes for uset to set. Recording will automatically stopped when the time is up.

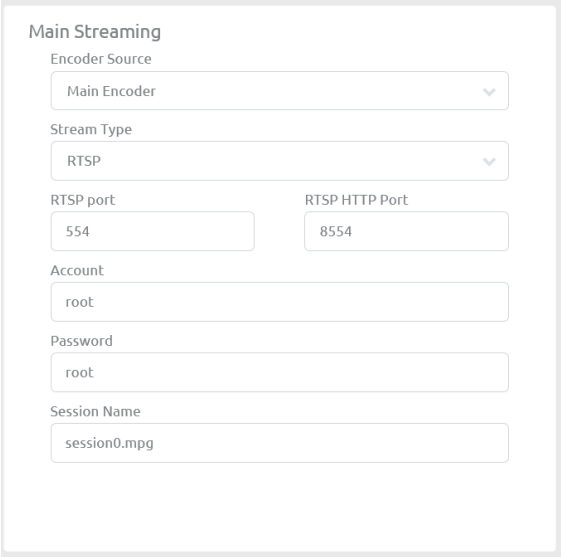
4.5. Streaming



This page contains SC6D0 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 block in the middle is 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 SC6D0 available.

RTSP port: RTSP server port

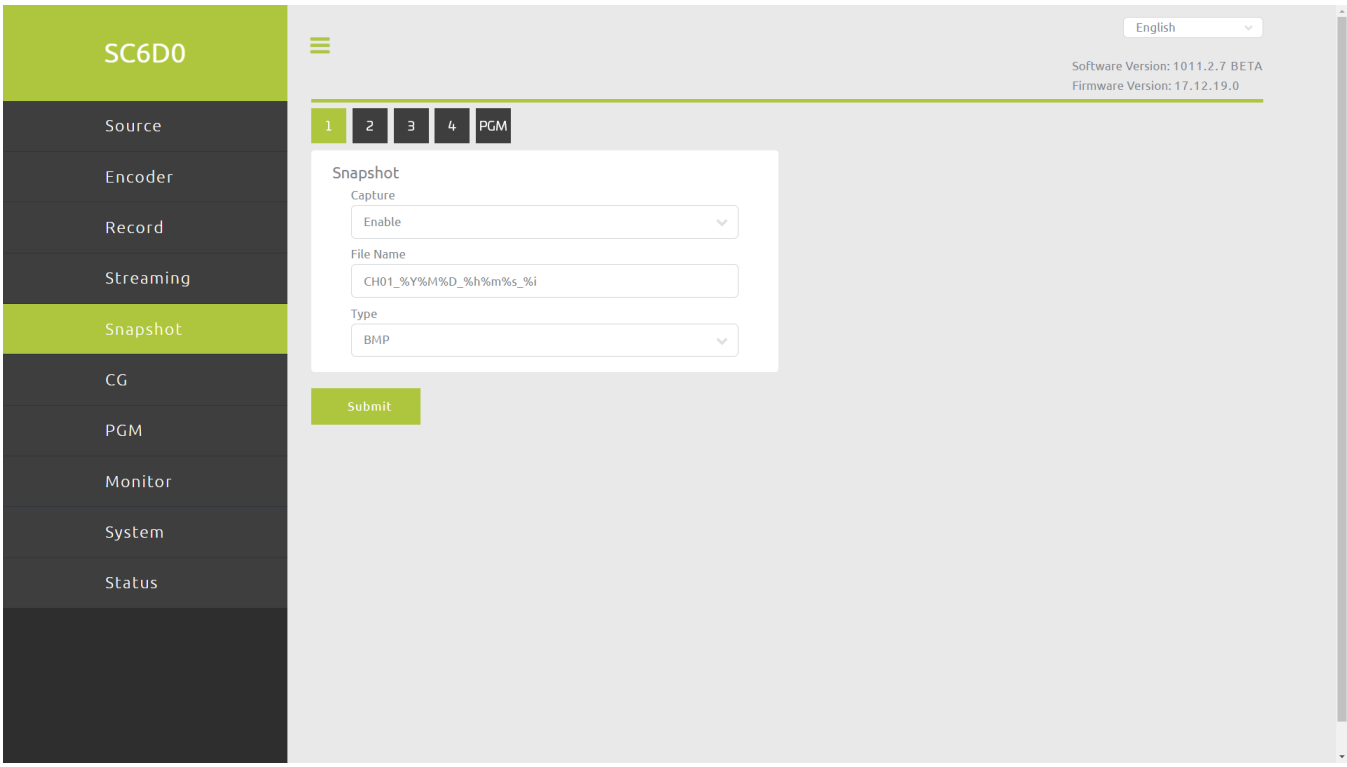
RTSP HTTP Port: RTSP HTTP server port

Account: RTSP account, setting this for other users to link with RTSP mode.

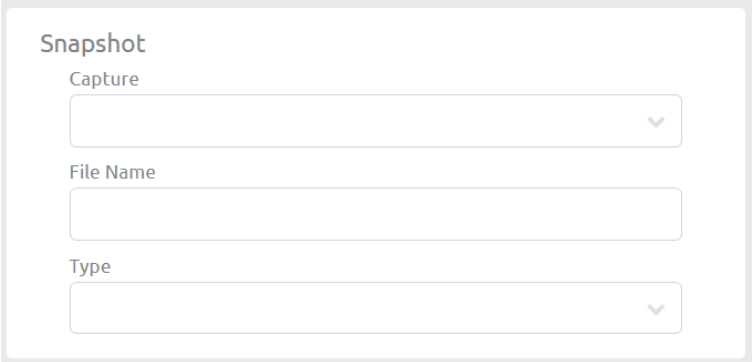
Password: RTSP password, setting this for other users to link with RTSP mode.

Session Name: RTSP Session name.

4.6. Snapshot



4.6.1. Snapshot

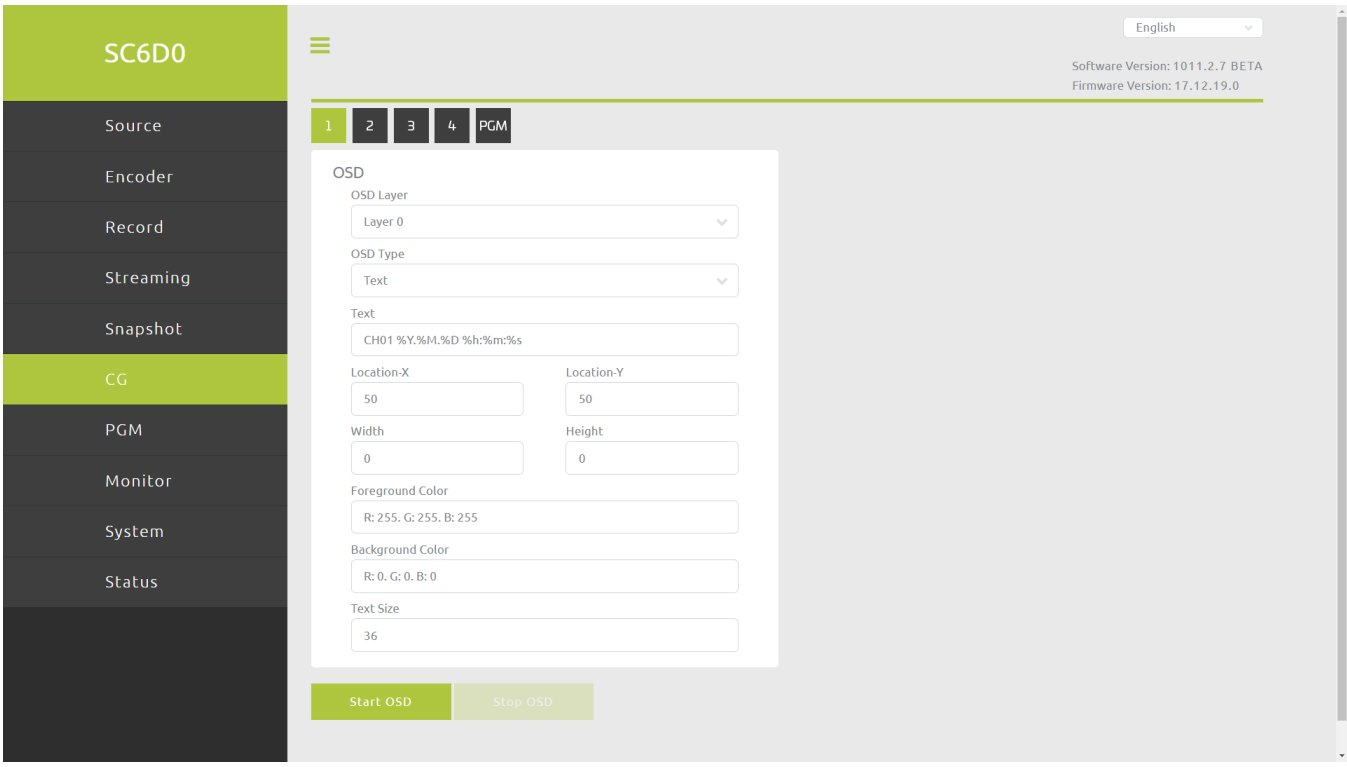


Capture: Select Enable or Disable capture feature.

File Name: User may decide willing capture file name.

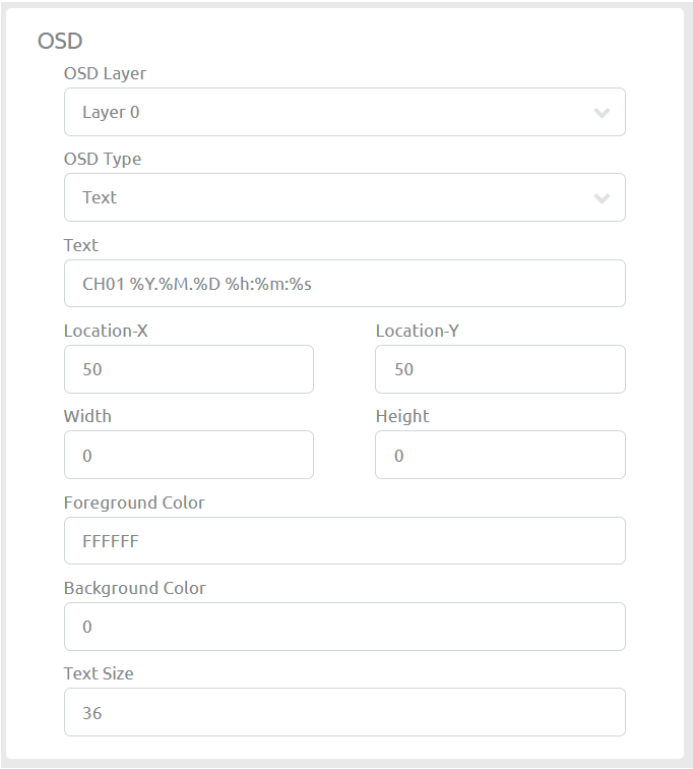
Type: Select snapshot file format, SC6D0 provides BMP and JPEG for user to select

4.7. CG



User can change OSD contents here, including **Text** label, place (**Location-X**, **Location-Y**) and color (**Background Color**, **Foreground Color**).

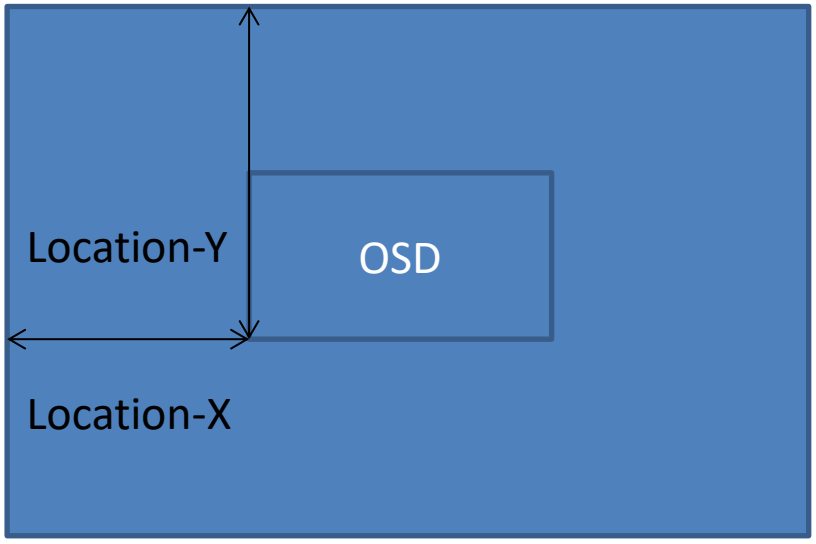
4.7.1. OSD Setting



OSD Layer: Select willing modify OSD layer (SC6D0 has 4 OSD layers)

OSD Type: Type of OSD, user can select between picture and text.

Text: Text label for channel 1~4 and PGM



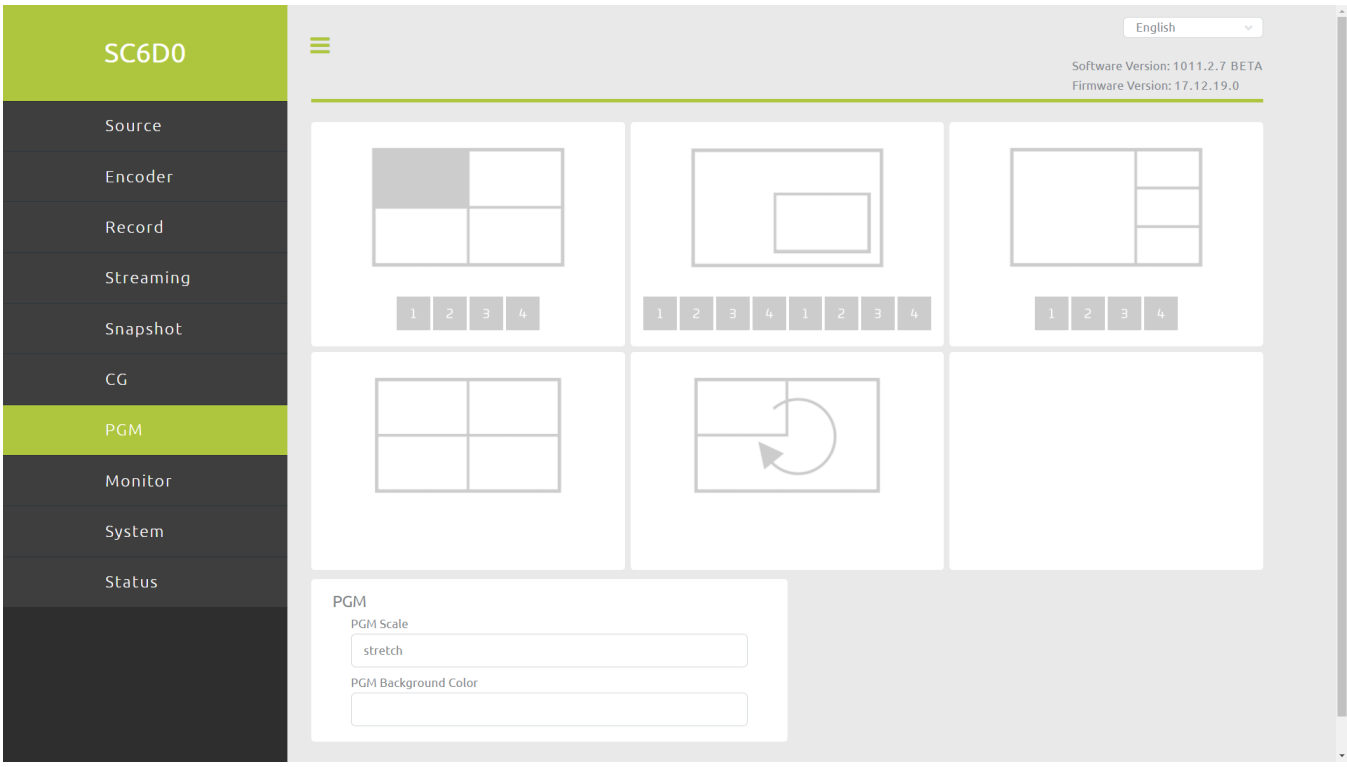
Location-X: OSD offset of X axis

Location-Y: OSD offset of Y axis

Background Color: OSD background color.

Foreground Color: OSD foreground color.

4.8. PGM

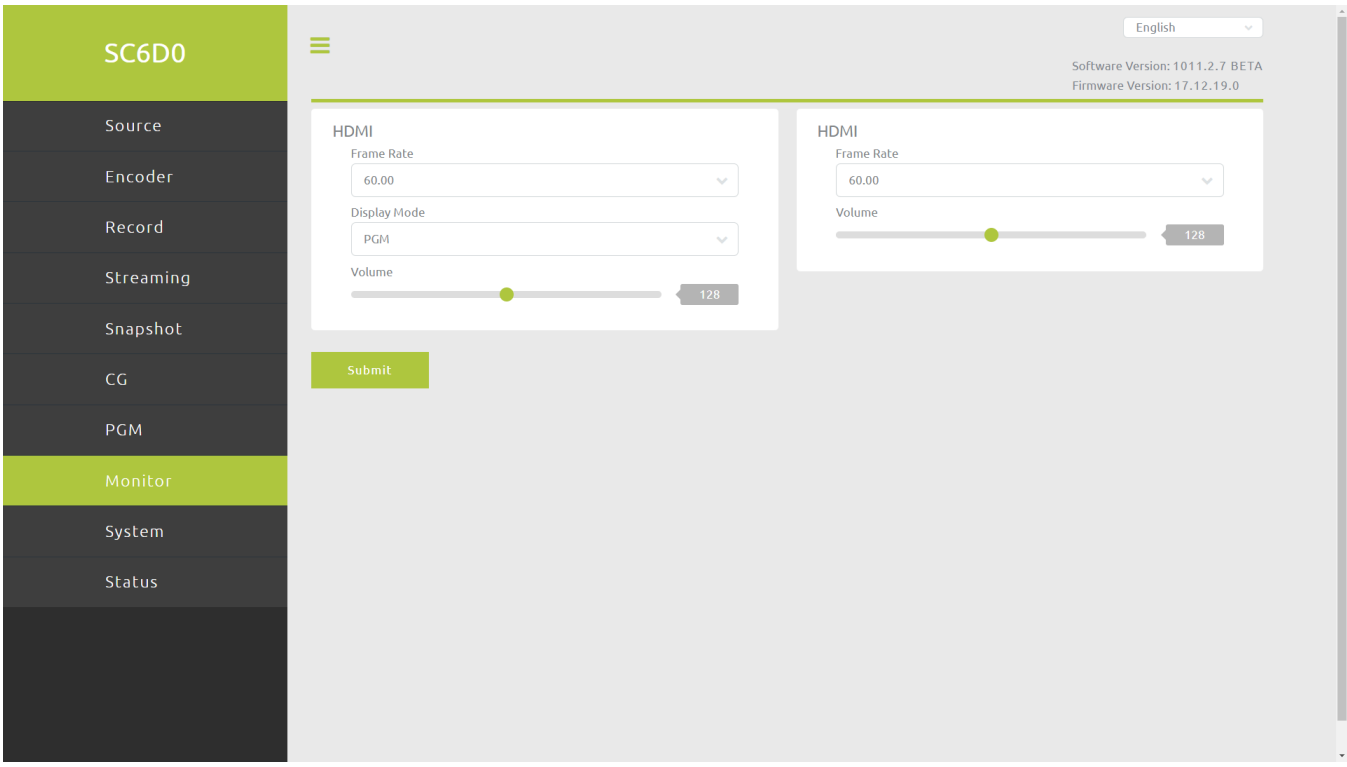


This page contains PGM port video output layout selections.

Full Screen Mode	Full screen mode will display whole input video into one PGM output.
Picture in Picture Mode	For picture in picture mode, first channel select is the main channel, the second channel selection is the minor channel.

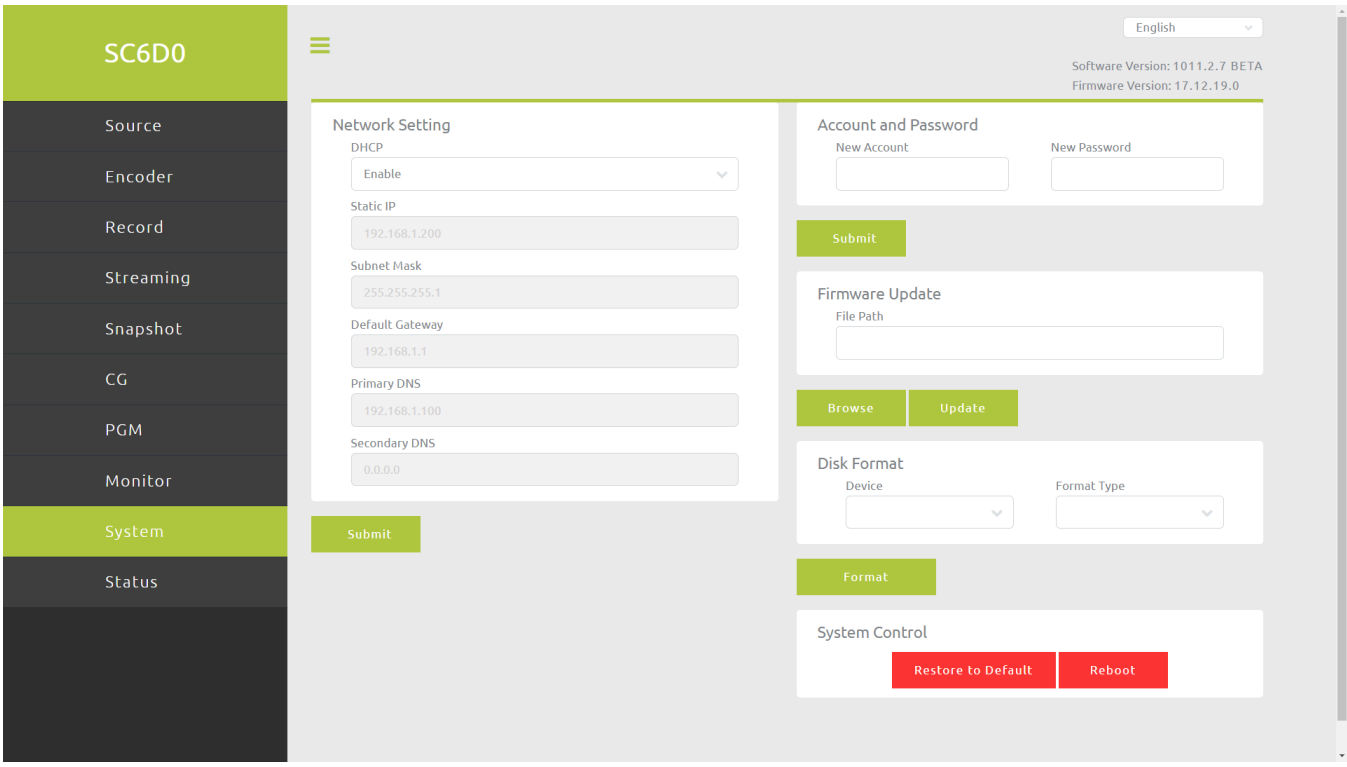
Picture by Picture Mode	 Picture by picture mode will display all 4 channels in one screen, but there will be a main channel in the right. There also a main channel selection in the bottom.
Quadview Mode	 This mode will display all 4 channels in one screen.
PGM Loop Mode	 PGM Loop mode will automatically loop all channels.

4.9. Monitor



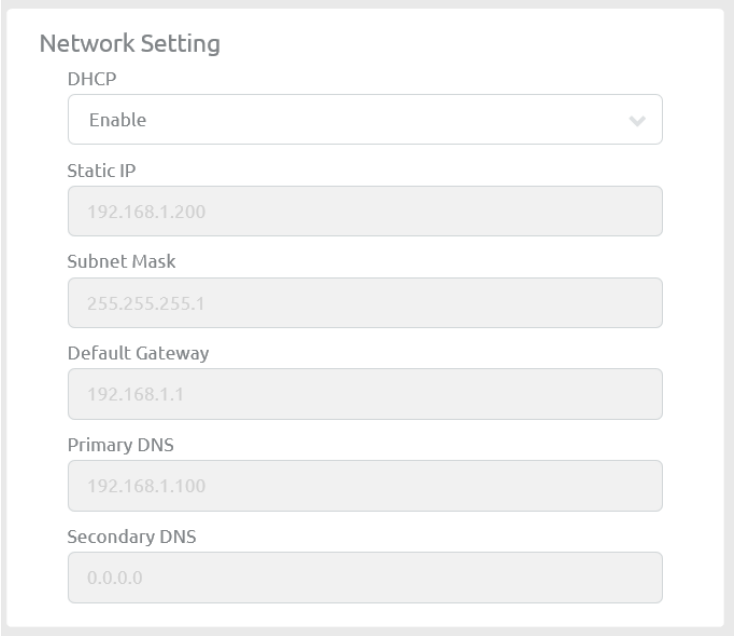
Those 2 blocks are using to control 2 HDMI output modes and framerate.

4.10. System



In 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 disable DHCP, please provide necessary internet parameters for SC6C0.

Static IP: Setting SC6D0 static IP.

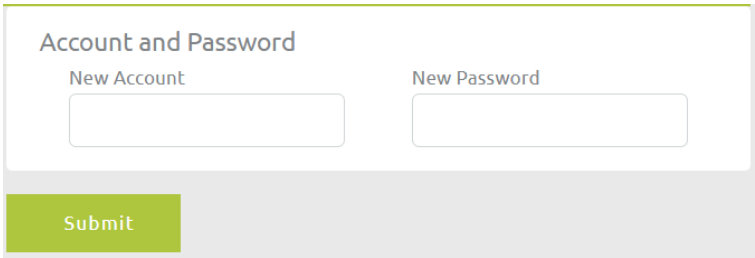
Subnet Mask: Setting SC6D0 subnet mask.

Default Gateway: Setting SC6D0 default gateway.

Primary DNS: Setting SC6D0 primary DNS.

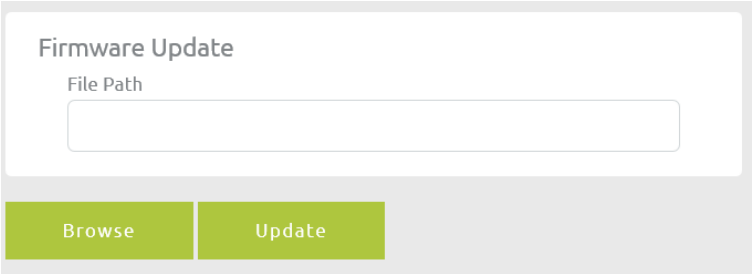
Secondary DNS: Setting SC6D0 secondary DNS.

4.10.2. Account and Passowrd



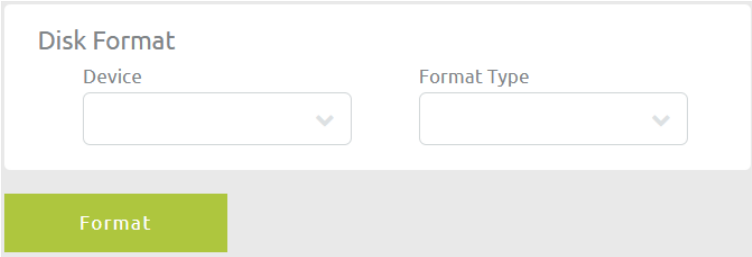
User can assign new account and password here.

4.10.3. Firmware Update



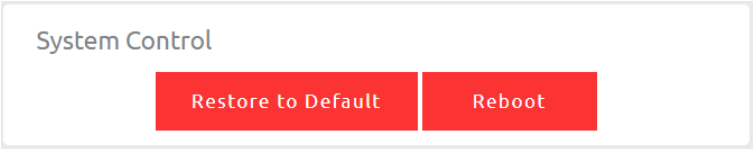
Please press **Browse** button to select firmware and **Update** button to update it, **during update firmware, please don't turn off power and wait until upgrade progress complete.**

4.10.4. Disk Format



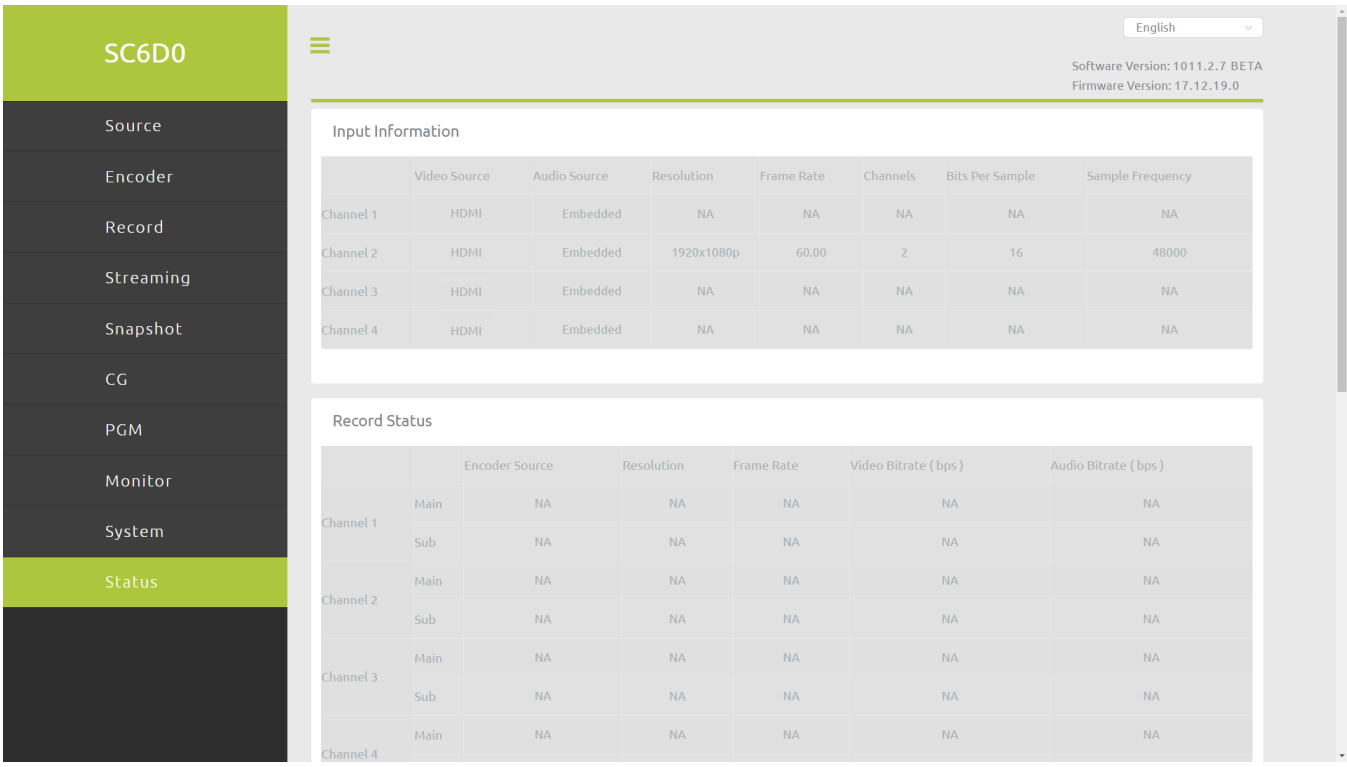
User can format attached USB disk drive here.

4.10.5. System Control



Restore to default will erase all settings and back to original, and Reboot button will restart the SC6D0.

4.11. Status



User can check SC6D0N4 status here (Including input signal, streaming status, etc.)

5. VERSION

5.1. Version 1.0

- Initial version.

5.2. Version 1.1

- Add network setting.
- Fix typo.
- Update PGM available modes.
- Fix OSD block diagram.

5.3. Version 1.2

- Update network setting.

5.4. Version 1.3

- Update Web UI.
  - FW:1.70 - 1.1.20
  - MCU:17.8.11.0
- Add login part.

5.5. Version 1.4

- Update Web UI.
  - SW:1011.2.7 Beta
  - FW:17.12.19.0