

SOLUTIONS FOR GROWTH



nT

n - TECH SOLUTIONS

YUAN

nT19AX05/SC6D0N4

SDI 4CH SDI STREAM / RECORD PIP DEVICE

HDMI
DIGITAL VIDEO MULTIMEDIA INTERFACE



Operation Manual

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1. PRODUCT INTRODUCTION

1.1. Product Brief

SC6D0N4 SDI provides 4 x 3G-SDI input for SDI multiviewer and PGM feature in one device, it can reception 4 3G-SDI inputs and 3G-SDI/HDMI outputs. For 3G-SDI/PGM output, it can provide PGM feature and transfer it to broadcasting equipments; for HDMI output, it can provide commercial interface for local monitor usage. It also provides 4 x 3.5mm analog audio input for audio embedded and a 3.5mm analog audio output for audio deembedded.



Front panel

In front panel, 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.

For audio and video, SC6D0 provides 4×SDI、 4×3.5mm audio jack for input and SDI(PGM)、 HDMI(Multiview)、 3.5mm for output.

User can void local UI interface by USB mouse right click, and control SC6D0 by USB keyboard/mouse. The UI interface will appear at HDMI (Multiview).

1.2. Specification

Model	SC6D0N4 SDI
Max. FPS	1920×1080p@300fps(4 SDI + 1 PGM Channels)
Recording Mode	Hardware Compression
Product Photo	 The top view of the device shows a power button, a RECORD button, a SNAPSHOT button, a STREAM button, and four function buttons labeled 1, 2, 3, and 4. A USB 3.0 port is also visible. The bottom view shows four SDI input ports (SDI4, SDI3, SDI2, SDI1), an AUDIO input, an SDI/PGM output, an HDMI output, a USB 2.0 port, an RS232 port, an ETHERNET port, and a 12V power input.
Input Interfaces	Video 4×SDI Audio 4×3.5mm
Output Interface	Video 1×HDMI (Multiview / PGM) 1×SDI (PGM) Audio 1×3.5mm
Video Feature	H.264 baseline/main/high profile Support input / output resolutions 1920×1080 (P60/P50/P30/P25/P24/i60/i50) 1280×720 (P60/P50)
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 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 / MOV

1.3. Suggest Temperature/Humidity

Working Temperature	0~70°C
Storage Temperature	-20~70°C
Working Humidity	0%~90% Non- Condensing
Storage Humidity	0%~90% Non- Condensing

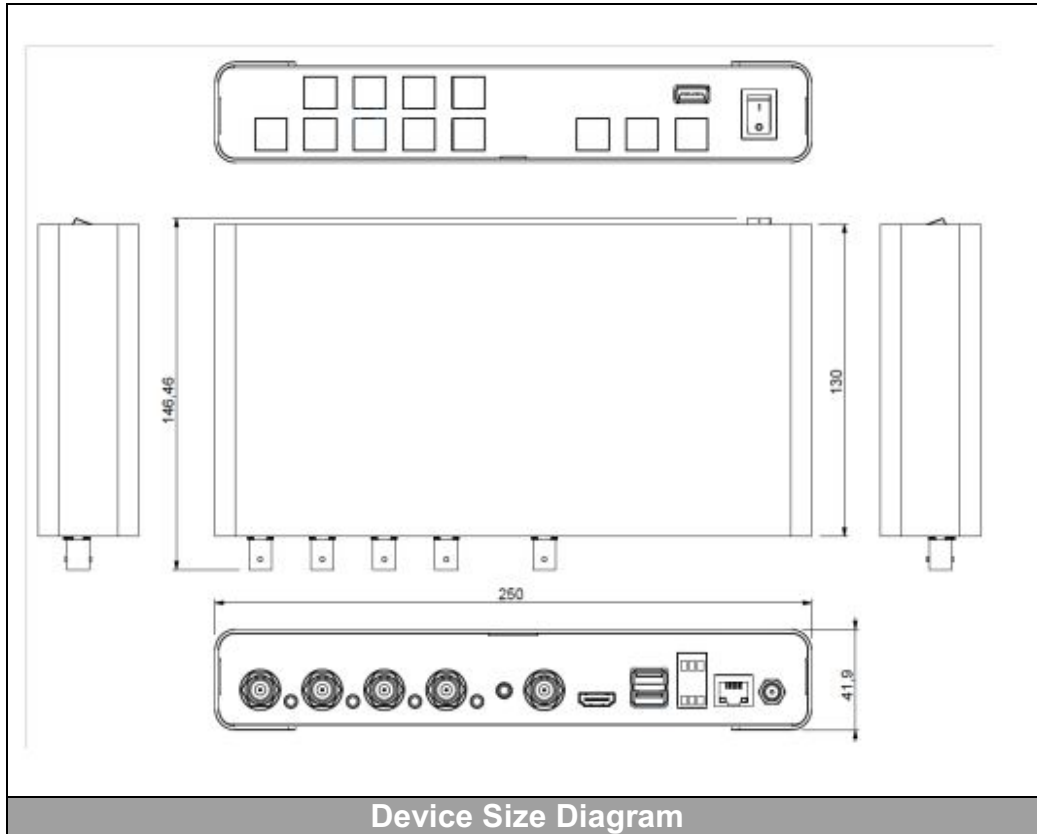
2. HARDWARE INSTALLATION

2.1. Package Contents

Item	Amount
SC6D0N4 SDI	1
Adapter	1

2.2. Device Size

Figure below is the device size of SC6D0N4 SDI.



2.3. Front Panel Button Function

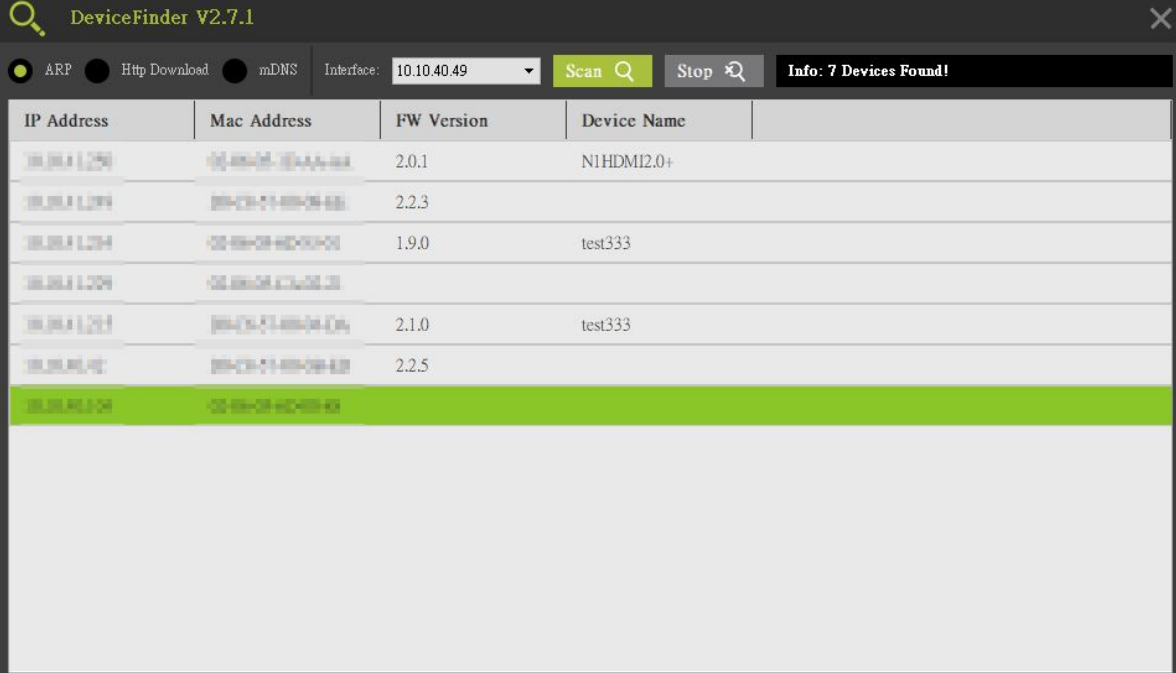


Main function switch	
Icon	Feature
	Record

	Snapshot
	Stream
PGM mode switch	
Icon	Feature
	Full screen
	Quadview
	Picture by picture
	Picture in picture
	PGM Loop
Full screen switch	
Icon	Feature
   	Main channel selection on Full screen, PBP and PIP

3. IP Finder

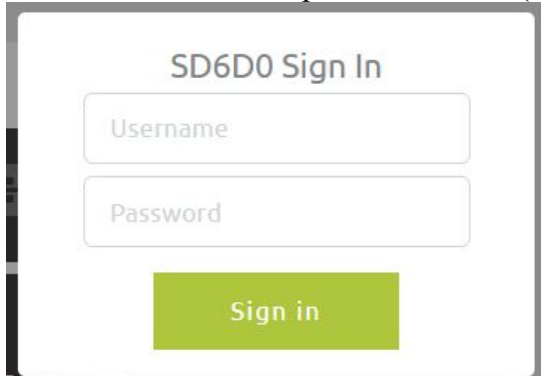
For using SC6D0 Web UI, please open IP finder and search for the ip address to open control interface. The correct ip address can be distinguish by MAC address.



IP Address	Mac Address	FW Version	Device Name
10.10.40.49	02:8B:08:42:00:00	2.0.1	N1HDMI2.0+
10.10.40.49	02:8B:08:42:00:00	2.2.3	
10.10.40.49	02:8B:08:42:00:00	1.9.0	test333
10.10.40.49	02:8B:08:42:00:00		
10.10.40.49	02:8B:08:42:00:00	2.1.0	test333
10.10.40.49	02:8B:08:42:00:00	2.2.5	
10.10.40.49	02:8B:08:42:00:00		

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.)



SD6D0 Sign In

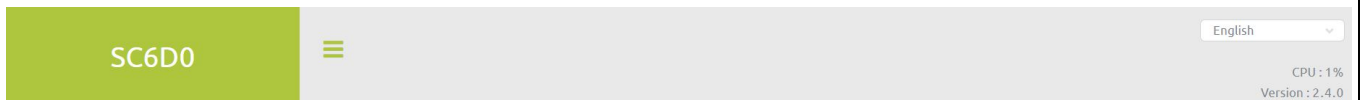
Username

Password

Sign in

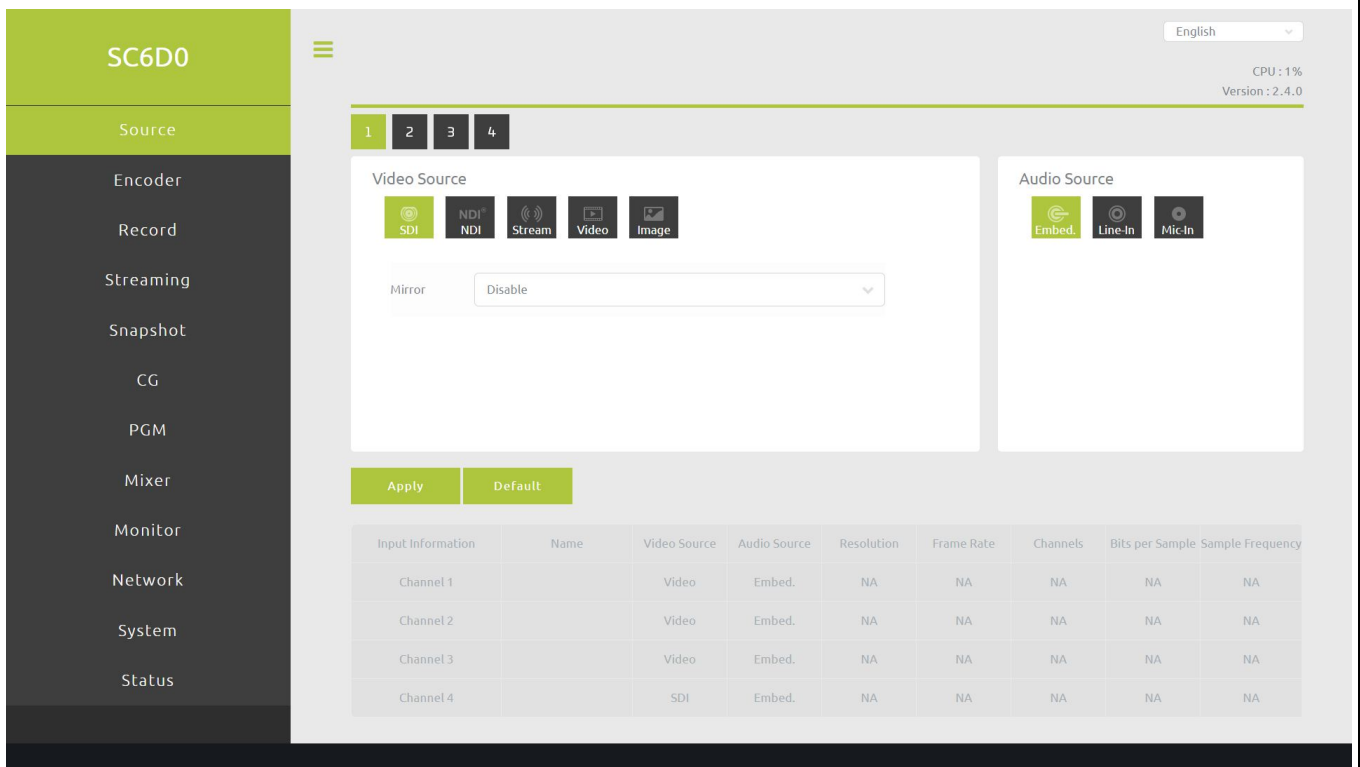
Username: admin
Password: 0000

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



SC6D0

Source

Encoder

Record

Streaming

Snapshot

CG

PGM

Mixer

Monitor

Network

System

Status

English

CPU : 1%
Version : 2.4.0

1 2 3 4

Video Source

SDI NDI Stream Video Image

Mirror Disable

Audio Source

Embed Line-In Mic-In

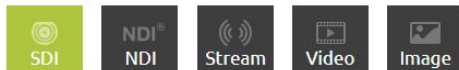
Apply Default

Input Information	Name	Video Source	Audio Source	Resolution	Frame Rate	Channels	Bits per Sample	Sample Frequency
Channel 1		Video	Embed.	NA	NA	NA	NA	NA
Channel 2		Video	Embed.	NA	NA	NA	NA	NA
Channel 3		Video	Embed.	NA	NA	NA	NA	NA
Channel 4		SDI	Embed.	NA	NA	NA	NA	NA

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 (SDI)

Video Source



Mirror

Disable

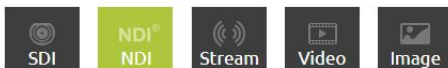
Here displayed usable video input interfaces.

Mirror adjust can support on SDI input interfaces.

Disable
Vertical
Horizontal
Vertical & Horizontal

4.2.2. Video Source (NDI)

Video Source



Group

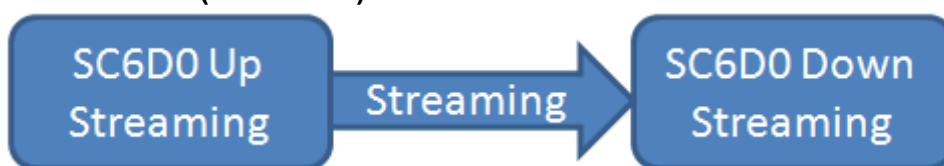
Name

Delay Duration

-1

When enter NDI feature, SC6D0 will automatically scan the same domain, NDI stream will automatically appears here.

4.2.3. Video Source (IP Stream)



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

Video Source



Source URL

UDP

Account

Password

Delay Duration

Reconnection Timeout (ms)

-1

10000

Here are different stream receiving setting. All supported formats are listed as below.

1.RTSP

rtsp://[account][passwd]@[ip]:[port]/[session name].mpg

Example: rtsp://root:root@10.10.41.228:556/session0.mpg

2.RTMP

rtmp://[ip]/[session name]

Example: rtmp://10.10.41.189/live

3.HLS

http://[ip]/hls/[CH]/[Session name].m3u8

Example: http://10.10.41.228/hls/3/session0.m3u8

4.TS Unicast

udp://[localhost]:[port]

Example: udp://10.10.41.189:556

5.TS Multicast

udp://234.0.0.1:[port]

Example: udp://234.0.0.1:556

6.NDI

NDI Name

7.SRT Listener

srt://[ip]:[port]

Example: srt://10.10.41.228:1202

Delay Duration Select delay latency for reception.

-1ms: Ultra low latency (RTSP only)

0ms: Low latency

1~1000ms: Latency

Reconnection Timeout (ms) Select time duration for timeout reconnection.

Please set the value more than 500ms

※ For Streaming example, please check **chapter 4.5** for further information.

4.2.4. Internal File (Video, Picture)

SDI

NDI®

Stream

Video

Image

File Source

File Replay

Disable

SDI

NDI®

Stream

Video

Image

File Path

Upload Image

Browse

Show No Signal Picture

Disable

SC6D0 can also play files inside flash disk, please attach the flash disk and select the file to play it.

Support format: H264

File type: mp4, mov, ts

Audio format: AAC

Support image file type: jpg, png.

4.2.5. Audio Source

Audio Source



In audio source block, user can select audio input source from **Embedded** SDI audio or 3.5mm audio source (Embedded audio is the same as selected video interface).

4.2.6. Input Signal Status

Input Information	Name	Video Source	Audio Source	Resolution	Frame Rate	Channels	Bits per Sample	Sample Frequency
Channel 1		Video	Embed.	NA	NA	NA	NA	NA
Channel 2		Video	Embed.	NA	NA	NA	NA	NA
Channel 3		Video	Embed.	NA	NA	NA	NA	NA
Channel 4		SDI	Embed.	NA	NA	NA	NA	NA

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

4.3. Encoder

SC6D0

Source

Encoder

Record

Streaming

Snapshot

CG

PGM

Mixer

Monitor

Network

System

Status

English

CPU : 2%
Version : 2.4.0

1 2 3 4 PGM

Main Encoder

Resolution: Same as Input

Frame Rate: Same as Input

Profile: Main

Level: Level 41

Entropy: CABAC

GOP: 30

Video Bitrate (bps): 6 M

Custom Video Bitrate (K bps): 0

Crop-X: 0

Crop-Y: 0

Crop-Width: 0

Crop-Height: 0

Audio Frequency: 48kHz

Audio Bitrate (bps): 256 K

Color Range: Full Color

Apply Default

Sub Encoder

Resolution: Same as Input

Frame Rate: Same as Input

Profile: Main

Level: Level 41

Entropy: CABAC

GOP: 30

Video Bitrate (bps): 2 M

Custom Video Bitrate (K bps): 0

Crop-X: 0

Crop-Y: 0

Crop-Width: 0

Crop-Height: 0

Audio Frequency: 48kHz

Audio Bitrate (bps): 256 K

Color Range: Full Color

Encoder page contains **Main Encoder** and **Sub Encoder** 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

Main Encoder

Resolution: Same as Input

Frame Rate: Same as Input

Profile: Main

Level: Level 41

Entropy: CABAC

GOP: 30

Video Bitrate (bps): 6 M

Custom Video Bitrate (K bps): 0

Crop-X: 0

Crop-Y: 0

Crop-Width: 0

Crop-Height: 0

Audio Frequency: 48kHz

Audio Bitrate (bps): 256 K

Color Range: Full Color

Resolution For encoders here, we provide Same as input, 1920*1080, 1280*720 and some other popular resolutions.

Same as Input
1920 * 1080
1280 * 720
960 * 540
720 * 576
720 * 480
640 * 480
640 * 360
576 * 324
480 * 320
384 * 216
320 * 240
160 * 120

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

Same as Input
60.00
50.00
30.00
25.00
20.00
15.00
12.50
10.00
5.00
1.00

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.

Level 41
Level 40
Level 32
Level 31
Level 30
Level 22
Level 21
Level 20
Level 13
Level 12
Level 11
Level 10
Level 1b

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

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

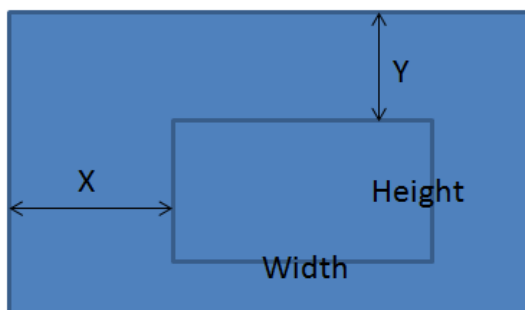
255
240
200
120
100
60
50
30
25
20
15
10
5
3
2
1

VideoBitrate (bps) Video bitrate select (44K~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
44 K
Custom Video Bitrate (K bps)

Customize Video Bitrate User select bitrate.

Crop-X/Y/Width/Height Crop the needed video and display.



AudioFrequency Audio frequency select

16kHz
44.1kHz
48kHz

Audio Bitrate (bps)Audio bitrate select

384 K
256 K
128 K
64 K
32 K

ColorRangeSelect between Full Color or Limited Color.

Full Color
Limited Color

4.4. Record

SC6D0

Source

Encoder

Record

Streaming

Snapshot

CG

PGM

Mixer

Monitor

Network

System

Status

English

CPU: 1%
Version: 2.4.0

1 2 3 4 PGM

CIFS NFS FTP

Main Record

Encoder Source
Main Encoder

File Name
CH01_MAIN_%Y%M%D_%h%m%s_%i

Type
MP4

Duration (min)
120

Content
Video and Audio

Apply Default

Sub Record

Encoder Source
Disable

File Name
CH01_SUB_%Y%M%D_%h%m%s_%i

Type
MP4

Duration (min)
120

Content
Video and Audio

Start Record Stop Record

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



SC6D0 also provide upload feature, on the right hand side, user can check 3 icons for upload usage.

4.4.1. Main Record/Sub Record

Main Record

Encoder Source

Main Encoder

File Name

CH01_MAIN_%Y%M%D_%h%m%s_%i

Type

MP4

Duration (min)

120

Content

Video and Audio

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 MOV at present time

Duration Setting recording time. Recording will automatically stopped when the time is up.

Content Record content includes audio+video, video only or audio only.

4.4.2. Upload-NFS

NFS is a distributed file system protocol, for user to access files via network.

Setting

Host

Account

Password

Storage Mode

Record to Device

Storage Path

Storage Mode User can select save mode here.

Storage Mode

Record to Device

Record to Device

Remove Record File after Upload

Record to Device and FTP

4.4.3. Upload-FTP

SC6D0 can save files to FTP, please setup FTP site, password and accounts then select your save method.

FTP Setting

Host

10.10.80.132

Account

Ryan

Password

FTP Mode

PASV

Storage Mode

Record to Device

Storage Path

FTP_RYAN

FTP mode PASV or EPSV

PASV

EPSV

Storage Mode User can select save mode here.

Storage Mode

Record to Device

Record to Device

Remove Record File after Upload

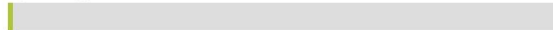
Record to Device and FTP

4.4.4. Upload-Other Settings

On other setting block, user can check upload status and select server, check local USB disk content and filter for the file browser.

Other Setting

Uploading Status:



Server

Upload

Cancel

Delete

Refresh

Filter Type

All

Local USB

Filter Type Filter record files or picture only.

Filter Type

All

All

Record file only

Picture file only

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. RTSP Streaming

Encoder Source User can select between main encoder and sub encoder.

Streaming Type Here are RTSP, RTMP, TS, HLS, NDI, SRT and Youtube 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.

Multicast Enable or disable multicast.

Enable: Enable multicast, using broadcast to transfer package. When multiple clients are receiving package, this setting can reduce CPU usage.

Disable: Disable multicast, using unicast to transfer package. When multiple clients are receiving package, this setting will increase CPU usage.

Content Select the willing streaming data content.

Play URL (Appears when start streaming): Streaming address for other devices to receiving.

RTSP format listed as below.

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

The screenshot shows a 'Main Streaming' configuration window. It contains several input fields and dropdown menus. The 'Encoder Source' is set to 'Main Encoder'. 'Stream Type' is set to 'RTSP'. 'RTSP Port' is 554 and 'RTSP HTTP Port' is 8554. 'Account' is 'root' and 'Password' is 'root'. 'Session Name' is 'session0.mpg'. 'Multicast' is set to 'Disable'. 'Content' is set to 'Video and Audio'. The 'Play URL' field is populated with 'rtsp://root:root@10.10.41.242:554/session0.mpg'.

After the setting as above, the streaming address will be
rtsp://root:root@10.10.41.242:554/session0.mpg
 (IP may different by environment)

For **down streaming** side, please enter **source video source IP Stream**

Video Source



Source URL

rtsp://192.168.1.200:554/session0.mpg

UDP ▾

Account

root

Password

root

Delay Duration

0

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://root:root@10.10.41.242:554/session0.mpg**

Account : root

Password : root

User can key in Account and Password info into Source URL or key in Account and Password information on the below block.

Decode video format: H264

Decode audio format: AAC

4.5.2. NDI Streaming (30 min)

Main Streaming

Encoder Source
Main Encoder

Stream Type
NDI

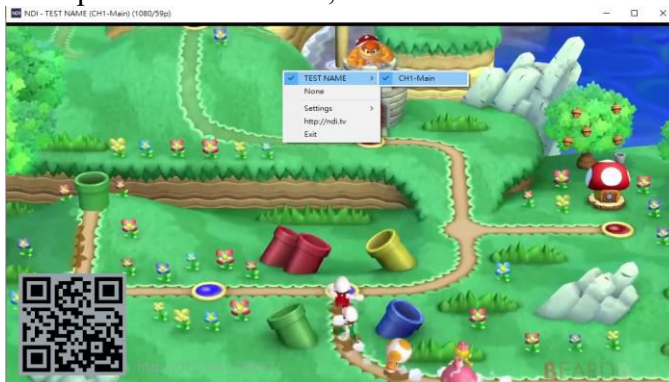
NDI Group
test name

NDI Name
CH1-Main

NDI Group: Device name

NDI Name: NDI streaming name

After press **Start Stream** the NDI stream can be received by NDI Tools



SC6D0 had build-in trial version of NDI streaming, which can provide user to transfer NDI streaming for 30 minutes.

4.5.3. SRT Streaming

Here are 2 modes available on SRT streaming, Caller and Listener.

SRT Listener mode turn SC6D0 into a sender, send SRT stream directly to other receivers.

SRT Format `srt://10.10.41.201[port]`

Stream Type

SRT

Stream Type

Listener

SRT Port

1200

Passphrase

Play URL

`srt://10.10.41.201:1200`

Stream Type User can select caller or listener (Listener here)

SRT Port Setting port for streaming out.

Passphrase Setting the password for this stream.

Press to get a URL for receives; enter the URL at access point to receive the streaming

Example: `srt://10.10.41.201:1200`

SRT Caller mode turn target device as a portal, SC6D0 send SRT stream to target then the target will send device to other receivers.

SRT Format `srt://[ip]:[port]`

Stream Type

SRT

Stream Type

Caller

SRT Port

10000

Caller IP Address

Latency (20~8000 ms)

1000

Passphrase

Stream Type User can select caller or listener (Caller here)

SRT Port Setting port for streaming out.

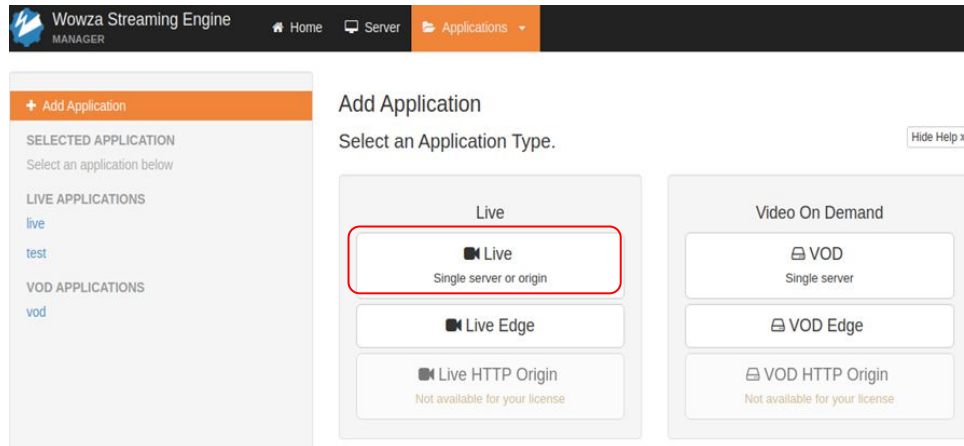
Caller IP Address Setting streaming out IP address.

Latency Video latency time (20~8000ms)

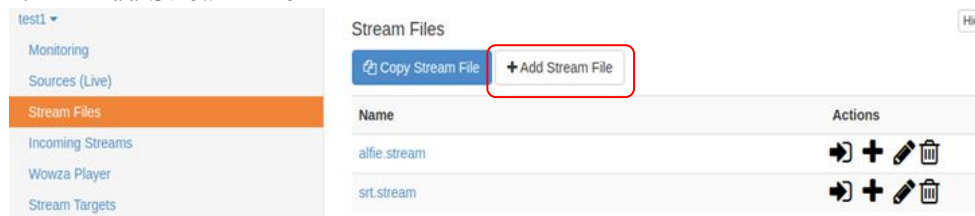
Passphrase Setting the password for this stream.

We've take Wowza as an example for demonstration on SRT Caller

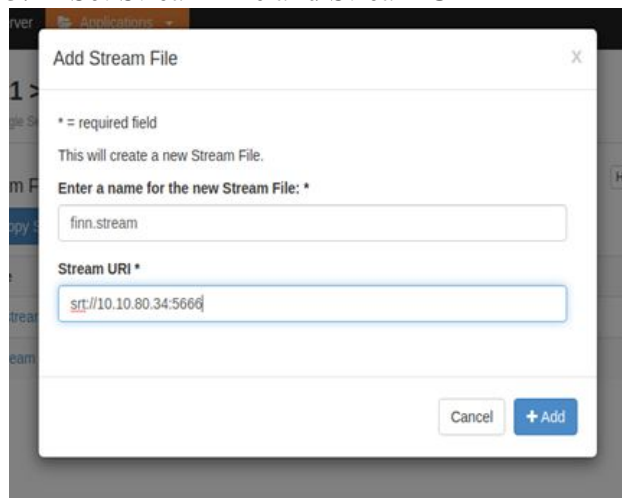
1. Select Live



2. Add Stream File



3. Set Stream File and Stream URL



※ Stream URL is the current platform IP address.

4. Select Stream and Connect

Wowza Streaming Engine MANAGER

Home Server Applications

+ Add Application

SELECTED APPLICATION

test1

Monitoring

Sources (Live)

Stream Files

Incoming Streams

Wowza Player

Stream Targets

Source Security

test1 > Stream Files

Live Single Server or Origin

Stream Files

Copy Stream File + Add Stream File

Name	Actions
alfe.stream	Connect + Edit Delete
finn.stream	Connect to this stream + Edit Delete
srt.stream	Connect + Edit Delete

5. Update MediaCaster Type to SRT

Connect a Stream File

Stream Name

finn.stream

Application

test1

Application Instance

☒ Connect to default application instance: _definst_

☐ Connect to application instance:

Enter an existing application instance name. The application instance will be created if it does not exist.

MediaCaster Type

SRT

Cancel OK

6. Select Incoming Streams and select the stream

Wowza Streaming Engine MANAGER

Home Server Applications

+ Add Application

SELECTED APPLICATION

test1

Monitoring

Sources (Live)

Stream Files

Incoming Streams

Wowza Player

Stream Targets

Source Security

Playback Security

SMIL Files

test1 > Incoming Streams

Live Single Server or Origin

Active Streams Streams available for recording via this application.

Refresh View by Stream View by Group

Default Instance (_definst_)

Stream	Status	Actions
finn.stream srt://10.10.80.34:5666	Waiting for Stream	Stop Refresh Close

7. Set Caller IP Address and SRT Port to SC6D0

Main Streaming

Encoder Source
Main Encoder

Stream Type
SRT

Stream Type
Caller

SRT Port
5666

Caller IP Address
10.10.80.34

Latency (20~8000 ms)
1000

Passphrase

8. Press Start Stream and SC6D0 will start to stream the video to Wowza Server.

Stream Type
SRT

Stream Type
Caller

SRT Port
5666

Caller IP Address
10.10.80.34

Latency (20~8000 ms)
1000

Passphrase

Stream Type

RTSP Port

Account

Session Name

Multicast

Content

Apply Default Start Stream Stop Stream

4.5.4. TS Streaming

Here are two formats TS streaming support, unicast and multicast.

For unicast, user need to provide “Client Side” IP address for TS URL, and setting a port for it.

TS unicastFormat `udp://[localhost][port]`

Example: Streaming TS to device 10.10.41.288, user need to add TS URL as below. (user can change port to willing value)

Main Streaming

Encoder Source
Main Encoder

Stream Type
TS

TS URL
udp://10.10.41.228:8888

Play URL
udp://10.10.41.228:8888

For multi cast, user needs to fill ipaddress for TS URL and giving it a port value.(The IP address range can be 224.XX.XX.XX~239.XX.XX.XX), Here is a example with 234.0.0.1.

TS multicasFormat `udp://234.0.0.1:[port]`

Example: User can set TS URL to udp://234.0.0.1:8888 for multicast.

Main Streaming

Encoder Source
Main Encoder

Stream Type
TS

TS URL
udp://234.0.0.1:8888

4.5.5. RTMP Streaming

Main Streaming

Encoder Source

Main Encoder

Stream Type

RTMP

RTMP URL

ex: rtmp://192.168.1.88/live/stream_main_01

Account

Password

Content

Video and Audio

RTMP URL: For RTMP server address usage.

Account/Password: Setting account and password for RTMP Server, if the account and password is set, audience should have the account and password to watch the streaming content on the RTMP Server.

Content: Setting streaming out data content.

4.5.6. YouTube Streaming

Main Streaming

Encoder Source

Main Encoder

Stream Type

Youtube

Add Account

After select **Streaming Type** as **YouTube** and press start streaming, SC6D0 will automatically generate **USER CODE** for user to connect with YouTube account. (Remember to allow the browser popup window for connecting YouTube)

Main Streaming

Encoder Source

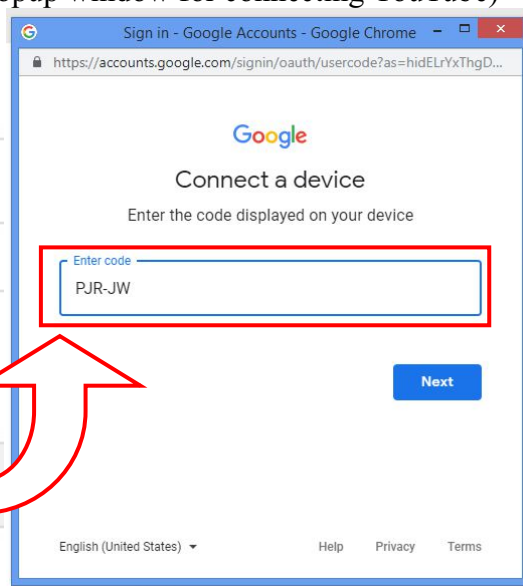
Main Encoder

Stream Type

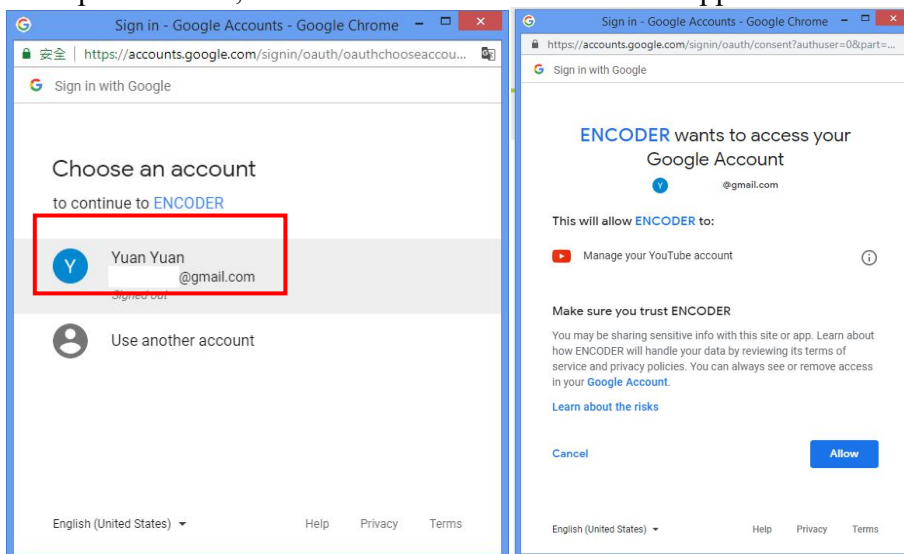
Youtube

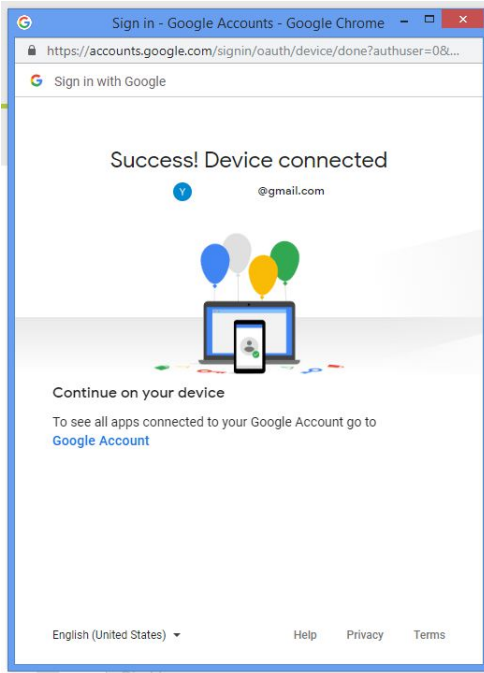
User Code

PJR-JW



After press NEXT, the connectable user account will appear for user to select.

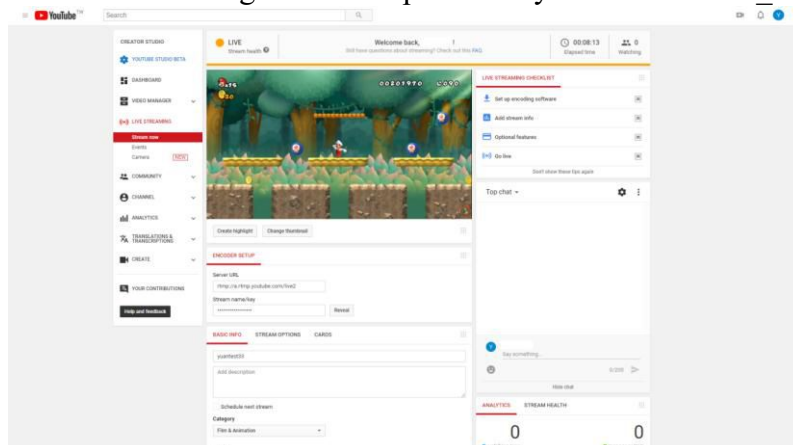




When the connection is succeed, please start streaming.

A screenshot of a web interface for "Sub Streaming" configuration. The interface includes several input fields and dropdown menus. The "Encoder Source" is set to "Disable". The "Stream Type" is set to "RTSP". The "RTSP port" is "555" and the "RTSP HTTP Port" is "8555". The "Account" is "root" and the "Password" is "root". The "Session Name" is "session0.mpg". The "Multicast" is set to "Disable". At the bottom, there are two buttons: "Start Stream" (highlighted with a red box) and "Stop Stream".

YouTube live video streaming will automatically generates after the setting is completed.
YouTube streaming website https://www.youtube.com/live_dashboard



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

The screenshot shows the SC6D0 CG settings interface. The sidebar on the left lists various system functions, with 'CG' currently selected. The main panel displays the configuration for the first OSD layer (Layer 0). The settings include:

- CG Layer:** Layer 0
- CG Type:** Text
- Text:** CH01 %Y.%M.%D %h:%m:%s
- Location-X:** 50
- Location-Y:** 50
- Text Size:** 36
- Text Color:** R: 255, G: 255, B: 255
- Transparent:** 255
- Effect:** Cut in
- Effect Distance:** 0
- Background Type:** Disable
- Background Color:** Black

 At the bottom, there are buttons for 'Apply', 'Default', 'Start CG', and 'Stop CG'. The top right corner shows system status: CPU: 5% and Version: 2.4.0.

User can change OSD contents here, including **Text** label, place (**LocationX**, **LocationY**) and color (**Background Color**, **Foreground Color**)

4.7.1. OSD Setting

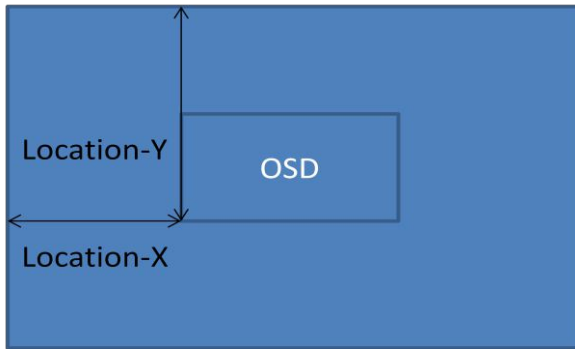
This is a detailed view of the CG settings form. It contains the following fields:

- CG Layer:** A dropdown menu showing 'Layer 0'.
- CG Type:** A dropdown menu showing 'Text'.
- Text:** A text input field containing 'CH01 %Y.%M.%D %h:%m:%s'.
- Location-X:** A numeric input field with the value '50'.
- Location-Y:** A numeric input field with the value '50'.
- Text Size:** A numeric input field with the value '36'.
- Text Color:** A color selection field showing 'R: 255, G: 255, B: 255'.
- Transparent:** A numeric input field with the value '255'.
- Effect:** A dropdown menu showing 'Cut in'.
- Effect Distance:** A numeric input field with the value '0'.
- Background Type:** A dropdown menu showing 'Disable'.
- Background Color:** A color selection field showing 'Black'.

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



LocationX: OSD offset of X axis.

LocationY: OSD offset of Y axis.

Text Size OSD text size.

Text Color OSD text color.

Transparent Adjust transparent value (0~255)

Effect OSD display method

Cut in
Scroll left to right
Scroll right to left

EffectDistance OSD effect distance (Unit: Pixels)

Back Ground Type Enable text background to Font Border, Fill or disable.

Disable
Font Border
Fill

Back Ground Color Decide text background color.

Black
Blue
Red
White
Yellow

4.7.2. OSD Example

Example:Effect->Cut in; Back Ground Type->Font Border; Back Ground Color->Black.

CH01 2021.02.08 14:59:28

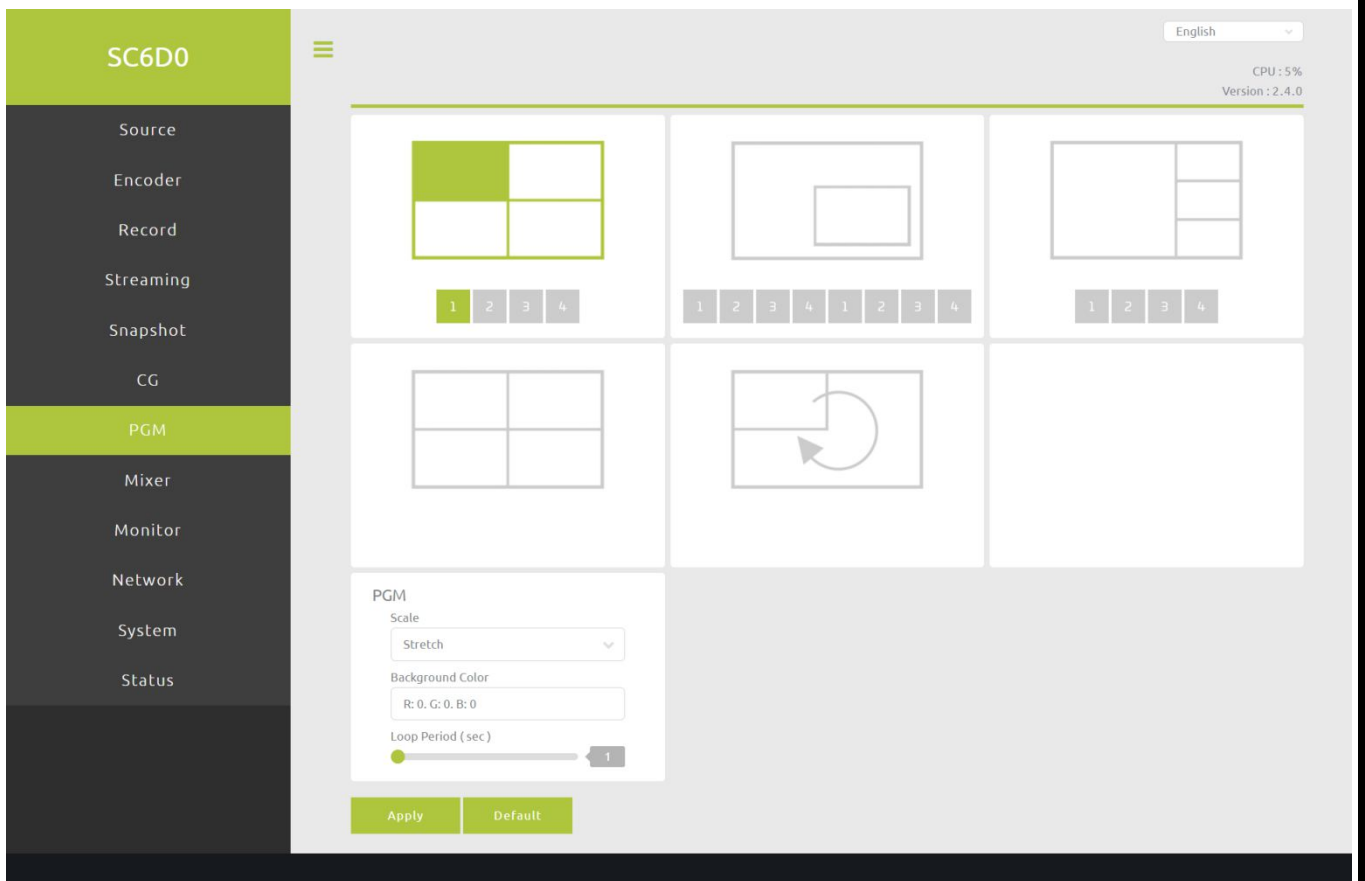
Example:Effect->Cut in; Back Ground Type->Fill; Back Ground Color->Black.

CH01 2021.02.08 14:59:42

Example:Effect->Scroll left to right; Back Ground Type->Fill; Back Ground Color->Black.

08 15:00:13

4.8. PGM



This page contains PGM port video output layout selections.

Full Screen Mode	 1 2 3 4 Full screen mode will display whole input video into one PGM output.
-------------------------	--

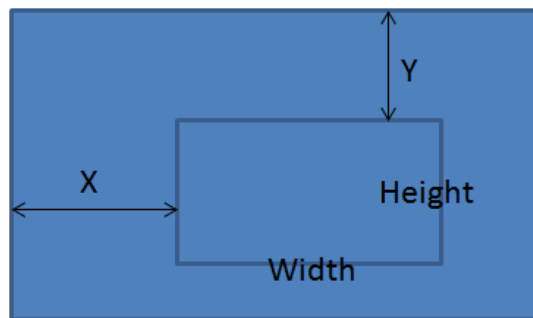
Picture in Picture Mode



For picture in picture mode, first channel select is the main channel, the second channel selection is the minor channel. This mode also provide PGM Advance mode for user to adjust their video layout.

PGM Advance					
	Layer	Location-X	Location-Y	Width	Height
Window 1	Layer 0 ▾	0	0	1920	1080
Window 2	Layer 1 ▾	1240	610	480	270

The PGM Advance layout is listed as below.



Picture by Picture Mode

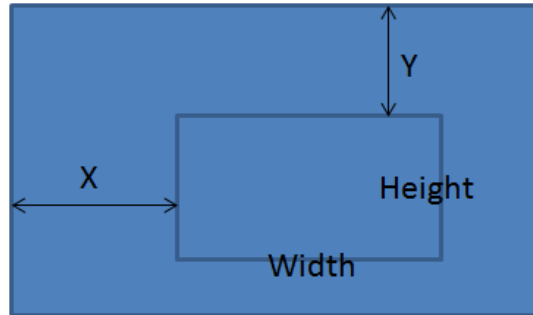


Picture by picture mode will display all 4 channels in one screen, but there will be a main channel in the right. There also a main channel selection in the bottom. This mode also provide PGM Advance mode for user to adjust their video layout.

PGM Advance

	Layer	Location-X	Location-Y	Width	Height
Window 1	Layer 0 ▾	0	0	1400	1080
Window 2	Layer 1 ▾	1400	0	520	360
Window 3	Layer 2 ▾	1400	360	520	360
Window 4	Layer 3 ▾	1400	720	520	360

The PGM Advance layout is listed as below.

**Quadview
Mode**

This mode will display all 4 channels in one screen.

**PGM Loop
Mode**

PGM Loop mode will automatically loop all channels.

PGM

PGM Scale

stretch
stretch
fit
full

PGM: PGM video scale setting.

PGM Background Color Change when no video input, displayed PGM background color.

PGM Loop Period (sec) The time can setting to 1~60sec.

4.9. Mixer

Select PGM audio to Mixer or follow PGM

Mixer: Mix all input audio and outputs.

Follow PGM Mix audio input source that channels displayed by PGM mode.
Channel 1/2/3/4 Sound Set output audio as channel 1/2/3/4.

4.10. Monitor

SC6D0

English

CPU : 5%
Version : 2.4.0

HDMI (MultiView)

Frame Rate
60.00

Display Mode
PGM

Volume
128

SDI (PGM)

Frame Rate
60.00

Volume
128

Apply Default

Source
Encoder
Record
Streaming
Snapshot
CG
PGM
Mixer
Monitor
Network
System
Status

HDMI : PGM Channel, user can select PGM mode or Multiview mode for it.

4.11. Network

DHCP: Enable/disable DHCP feature. When disable DHCP, please provide necessary internet parameters for SC6D0.

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

Network Status Here presents IP address and network status

Time Setting Set time server and sync type.

Account and Password user can assign new account and password here.

Timeout Period Set user using time after log in, when the time is up, the user will be logout.

4.12. System

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

4.12.1. Device name setting

User can set device and channel name here.

4.12.2. Disk Format

User can format attached USB disk drive here, supported formats are listed as below.

4.12.3. Device Config Setting

User can save the setting or load previous settings here.

4.12.4. Firmware Update

Firmware Update

File Path

Browse

Update

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

4.12.5. System Control

System Control

Restore to Default

Reboot

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

4.12.6. Debug Mode

Debug Mode

OFF ☐ ON

4.13. Status

SC6D0

English

CPU : 1%
Version : 2.4.0

Source

Encoder

Record

Streaming

Snapshot

CG

PGM

Mixer

Monitor

Network

System

Status

Input Information

	Name	Video Source	Audio Source	Resolution	Frame Rate	Channels	Bits per Sample	Sample Frequency
Channel 1		Video	Embed.	NA	NA	NA	NA	NA
Channel 2		Video	Embed.	NA	NA	NA	NA	NA
Channel 3		Video	Embed.	NA	NA	NA	NA	NA
Channel 4		SDI	Embed.	NA	NA	NA	NA	NA

Record Status

		Encoder Source	Resolution	Frame Rate	Video Bitrate (bps)	Audio Bitrate (bps)
Channel 1	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 2	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 3	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 4	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
PGM	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA

Stream Status

		Encoder Source	Resolution	Frame Rate	Video Bitrate (bps)	Audio Bitrate (bps)
Channel 1	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 2	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 3	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
Channel 4	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA
PGM	Main	NA	NA	NA	NA	NA
	Sub	NA	NA	NA	NA	NA

Disk Information

	Name	Size	Format Type	Time Left	Status
Device	NA	NA	NA	NA	NA

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:1.95 - 1.2.3

MCU:17.9.11.0

Add login part.

5.5. Version 1.4

Update Web UI.

SW:1011.2.7 Beta

FW:17.12.19.0

5.6. Version 1.5

Update spec to V3.31

5.7. Version 1.6

Update spec to V1.3.1

5.8. Version 1.7

Update spec to V1.3.6

5.9. Version 1.8

Update spec to V1.4.1

5.10. Version 1.9

Update SDI information

5.11. Version 2.0

Update YouTube streaming

5.12. Version 2.1

Update FTP chapter

5.13. Version 2.2

Update 4.2.3 Video Source chapter

Update 4.5 Streaming chapter

5.14. Version 2.3

Add Front panel button info

5.15. Version 2.4

Update spec to V2.4.0