

GoStream Mini 100

GSM 100

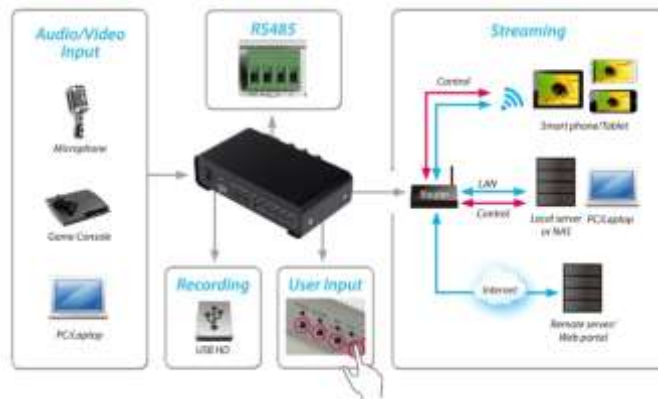
User Guide V3

1/10/2017

Contents

1. GSM 100 Overview	3
2. IP Finder	4
3. Responsive Bootstrap	5
4. GSM 100 Log in.....	5
5. Network Setup.....	6
6. Stream Server	7
7. Video Tuning	13
8. Encoder Setup	13
9. Volume Tuning	15
10. Record Stream	16
11. Firmware Update.....	17
12. Account Setup	17
13. Reset to Default.....	19
14. RS485.....	20
Appendix	23

1. GSM 100 Overview

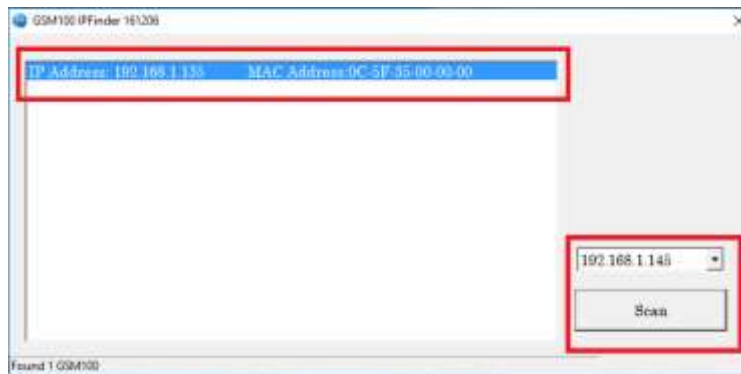


Item	Description
Input Interfaces	● Video ■ 1x BNC for 3G / HD / SD-SDI ■ 1x HDMI, 1x DVI-I for DVI-D/HDMI and DVI-A/ VGA ■ 3x BNC for YPbPr/CVBS/S-Video ● Audio ■ 1x Stereo audio through ◆ 1x RCA for Analog L/R audio ◆ SDI/HDMI/DVI-D embedded audio ◆ 1x 3.5 mm phone jack
Video Specs	● H.264/AVC , Main / High Profile ● Configurable bit rate up to 10Mbps ● Supported input / output resolutions ■ 1080@50p / 60p (1080p25 / 30p output) ■ 1080@50i / 59.94i / 60i ■ 720p@50p / 59.94p / 60p ■ 576@50p / 480@59.94p ■ 576@50i / 480@59.94i
Audio Specs	● AAC-LC ● Configurable bit rate range from 32Kbps to 384Kbps ● Sample rate : 48KHz, 16bit
Network Specs	● 1x RJ45 for 10/100Mbps Ethernet ● DHCP client
Supported Streaming Protocols	● TS over TCP/UDP (unicast & multicast) ● RTSP over HTTP/TCP/UDP (RTSP Elementary Stream) ● RTMP (Local & Publish) ● HLS
Misc. Features	● RS-485 ● 1x USB 2.0 Host for USB storage ● Web UI for system configuration ● Firmware upgradable ● LED indicator ● Auto Signal Detection
Record Format	● MP4 ● TS
Power Supply	DC 12V (With DV Adapter)

2. IP Finder

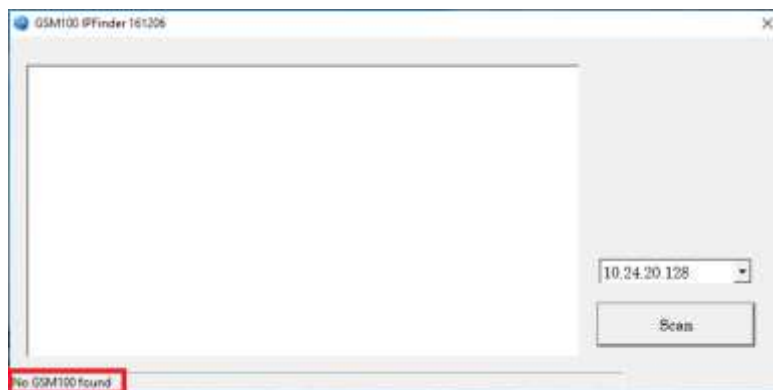
a. The GSM 100 is shipped with a static IP address of 192.168.1.20. Set your computer address to an address in the same domain, 192.168.1.3 for example or if you have a spare router you can also set that to 192.168.1.1

b. Start the IP Finder.exe .



i. If the network is available, the local IP Address is shown. You can double click on it to go directly to the encoder.

Figure 1

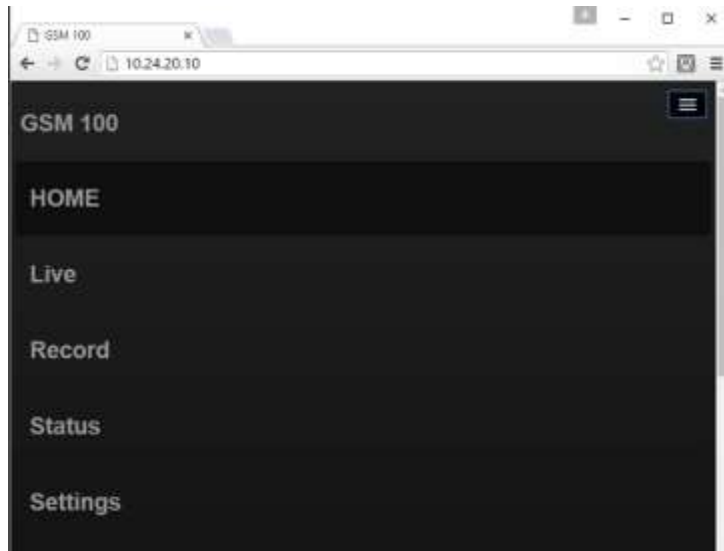


ii. If the network is NOT available, then No GSM 100 found is shown

Figure 2

Tip: You can double click the column of IP address or MAC address, and the home page of the encoder will appear.

3. Responsive Bootstrap



If the screen resolution of the browser is less than **1024x768**, the menu bar does not appear, you can access the full menu by clicking on the icon in the upper right.

Figure 3 – main interface

4. GSM 100 Log in

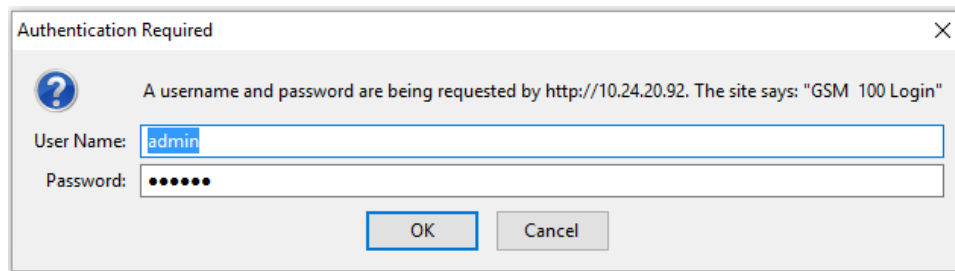


Figure 4 – Main Log in

Defaults

Username: admin

Password: 000000 (6 zeros)

5. Network Setup



The screenshot shows a web interface with a black top navigation bar containing links: GSM 100, HOME, Live, Record, Status, Settings (highlighted), and RS485. A green 'Sign out' button is on the right. Below the navigation bar, the page title 'Network Setup' is centered. The main content area is titled 'Dynamic IP Addressing (DHCP)' and features a radio button interface with 'Enable' selected and 'Disable' unselected. Below this are five input fields: 'Static IP Address' (10.24.20.10), 'Subnet Mask' (255.255.0.0), 'Default Gateway' (10.24.1.1), 'Primary DNS' (10.24.1.1), and 'Secondary DNS' (8.8.8.8). A light blue reminder box states: 'Reminder: You will need to change the IP address in the browser after a network configuration change.' At the bottom are three buttons: 'Reset' (red), 'Apply' (black), and 'Save' (black).

Figure 5

Select **Settings → Network Setup**, as above.

There are two IP Address modes, **Dynamic (DHCP)** and **Static (fixed)**.

-  This button will save the network configuration.
-  The Apply button will change the configuration immediately but will not be saved.
-  Clear all values of current input back to what they were when you started.

After Enabling DHCP, please use the IP Finder to get the dynamic IP address and login again.

Network Setup

Dynamic IP Addressing (DHCP)

☐ Enable ☒ Disable

Static IP Address : 10.24.20.10

Subnet Mask : 255.255.0.0

Default Gateway : 10.24.1.1

Primary DNS : 10.24.1.1

Secondary DNS : 8.8.8.8

Reminder
You will need to change the IP address in the browser after a network configuration change.

Reset **Apply** **Save**

Figure 6

To set a static IP address first Disable DHCP and then configure the fields. You will have to log in again to the encoder.

6. Stream Server

General settings

Live Stream Setup

Stream Server Selection

Server RTSP

Input Source Selection

Video SDI

Audio Digital

Video Tuning

Reminder!!
No available for SDI.

Encoder Setup

Scale Down 720x480

H.264 Encode Main 3.1

Audio Stereo Stereo

Stereo Bitrate (Kbps) 96K

Video Bitrate (Server ON) 1000Kbps

Video Rate Mode CBR

Analog Audio System WAPTE

Reset **Apply**

Figure 7

1. Select source first. (HDMI, DVI, DVI_A, CVBS, S-Video, YPbPr, SDI)
2. Then select server and click on desired stream protocol. (RTSP, RTMP, HLS, RTMP_Publish, RTSP_ES or Raw UDP) In this case it will be RTSP.
3. Press the Apply **Apply** button and wait for the encoder to finish loading.

4. The RTSP URL will be shown.

(Tip: HLS can only be received on the devices which are produced by Apple or the VLC player)

(Tip: Press the Reset button  to initialize the status of Live Stream Setup.)

RTSP

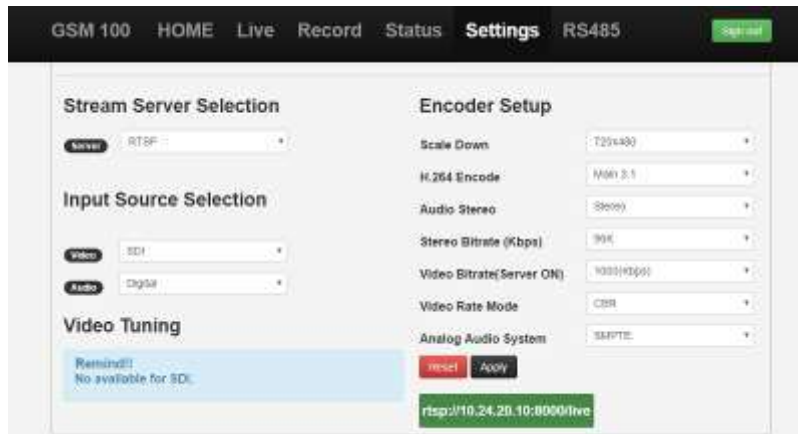


Figure 8

1. Select RTSP and the other settings you want. (Fig 8)
2. Start the VLC media player, select Open Network Stream.
3. Copy the RTSP URL to VLC.
4. Click Play.

RTSP_ES

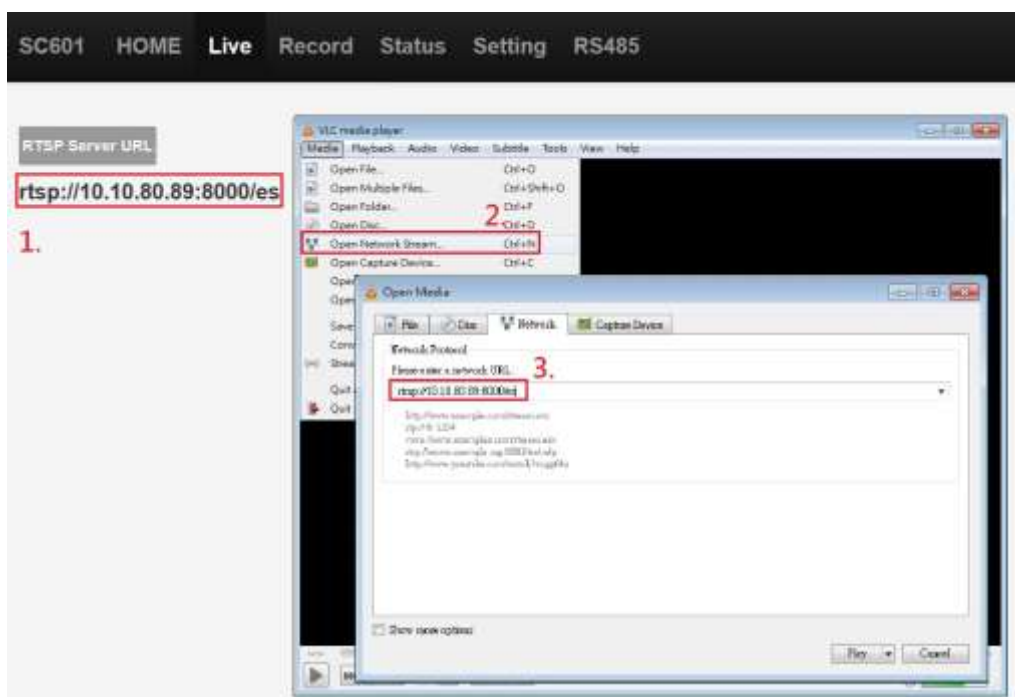


Figure 9

1. Select RTSP_ES and other settings you want to use. (Fig. 9.)
2. Start the VLC media player, select Open Network Stream.
3. Copy the RTSP URL to VLC.
4. Click Play.

RTMP

This is used for monitoring purposes. The encoder has an RTMP server.

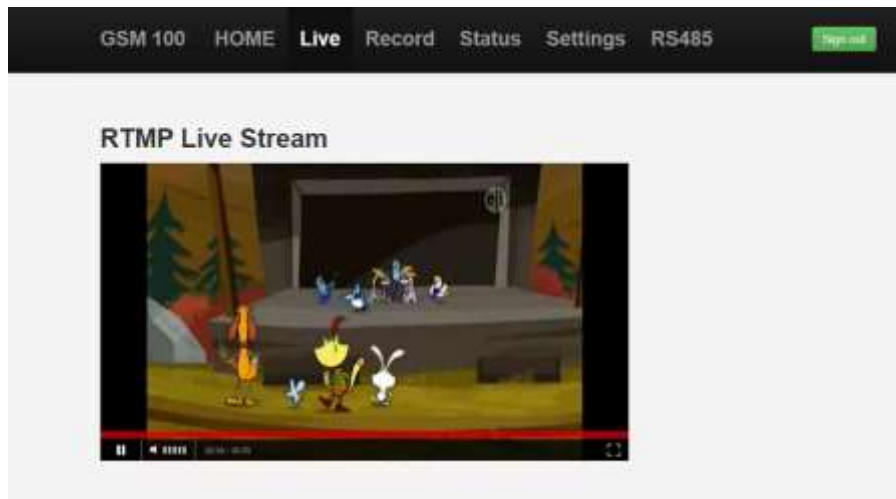


Figure 10

1. Select RTMP from the Server menu drop down.
2. After the encoder is running, click on Live in the menu bar. Click the play button to see the video.

RTMP Publish

This setting is used to stream to a CDN (UStream, YouTube Live, etc.) or to a media server (Wowza, Adobe Media Server, etc.)

Stream Server Selection

Server: RTMP_Publish

Input Source Selection

Video: SDI

Audio: Digital

Video Tuning

Remind!!
No available for SDI.

Encoder Setup

Scale Down: 720x480

H.264 Encode: Main 3.1

Audio Stereo: Stereo

Stereo Bitrate (Kbps): 96K

Video Bitrate (Server ON): 1000(Kbps)

Video Rate Mode: CBR

Analog Audio System: SMPTE

RTMP Publish URL

rtmp://1.21628346.tmc.stream.tv/ustream/video/21628346/9w48E

RTMP Username:

RTMP Password:

Reset Apply

Figure 11

1. Select RTMP_Publish for the server entry
2. **Enter the complete URL** in the RTMP Publish URL section
3. Apply setting.
4. Go to your channel and watch the live streaming.

RTMP Publish Authentication

Stream Server Selection

Server: RTMP_Publish

Input Source Selection

Video: CVI

Audio: Digital

Auto Source Selection

Video Tuning

Brightness: 128

Contrast: 128

Hue: 128

Saturation: 128

Volume Tuning

Volume: 100%

Encoder Setup

Scale Down: N/A

H.264 Encode: Main 3.1

Audio Stereo: Stereo

Stereo Bitrate (Kbps): 96K

Video Bitrate (Server ON): 3000(Kbps)

Video Rate Mode: VBR

Analog Audio System: EBU

RTMP Publish URL

rtmp://...

RTMP Username:

RTMP Password:

Reset Apply

Figure 11

RTMP authentication is only valid on publishing to **Adobe Flash Media Server & Wowza Server**. User can set multiple sets of account information on Adobe Flash Media Server.

HLS

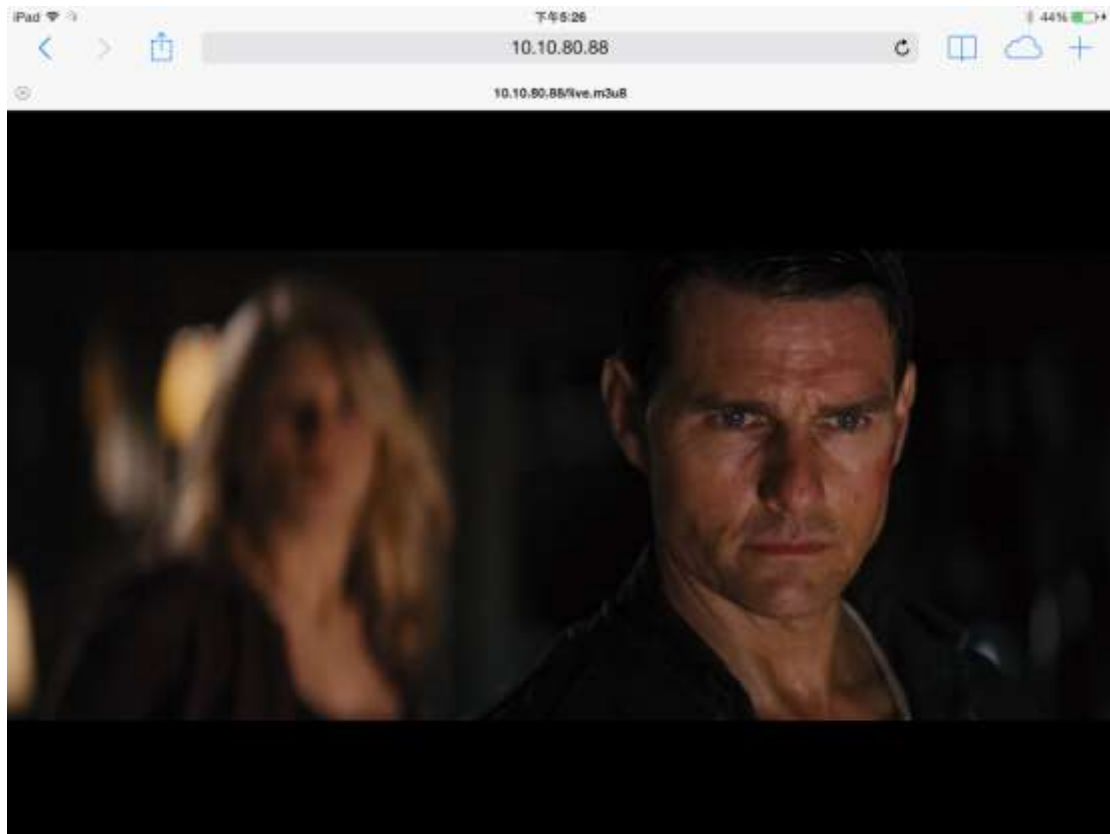


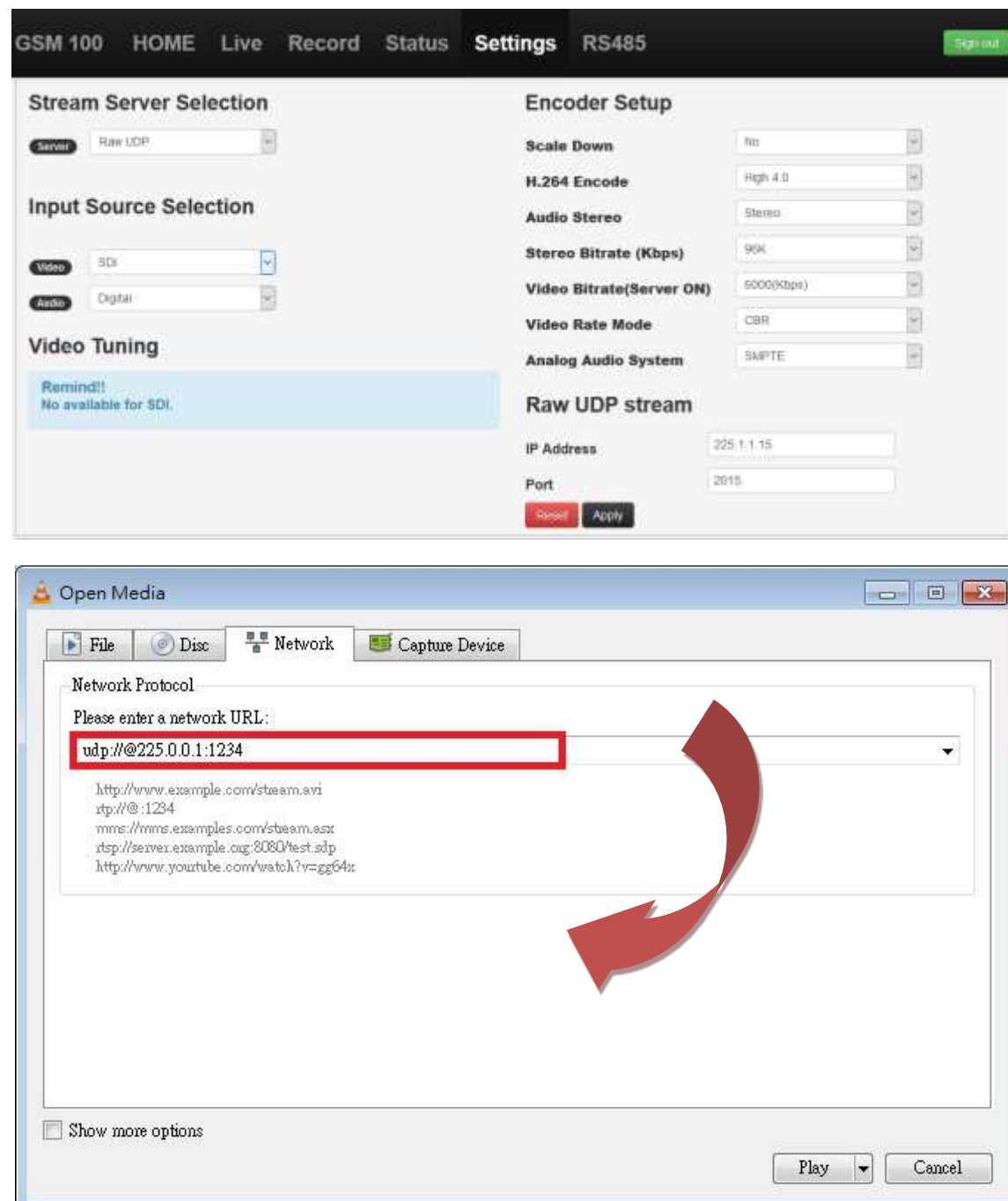
Figure 12

For Apple devices, such as iPad or iPhone, log in to the GSM 100 with a Safari browser.

(Tips: GSM 100 supports live streaming to the internet via “Wowza Server”, “Adobe FMS”, “Ustream”, “Twitch”, “FaceBook Live” and “Youtube Live”.)

Raw UDP

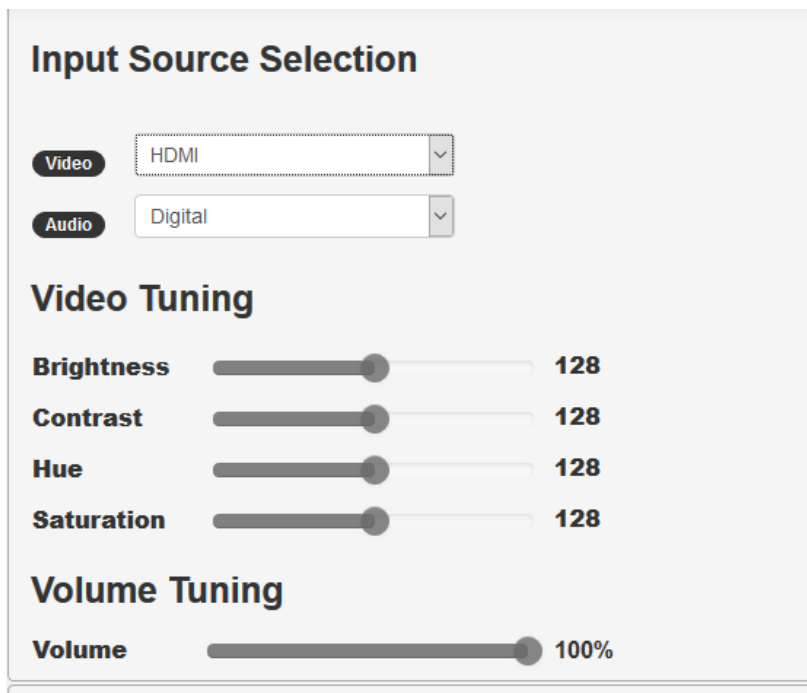
This protocol is used for distributing streaming video over a LAN to set top boxes and to PCs running VLC.



(Pic 16-1.)

1. Enter a multicast IP address (in the range of 224.0.0.0 to 239.255.255.255) and Port number
2. Click
3. Start VLC, Open Network Stream and enter udp with the multi-cast address with the port number preceded by an @ symbol. For example: udp://@225.1.1.10:2010.
4. Click Play

7.Video Tuning



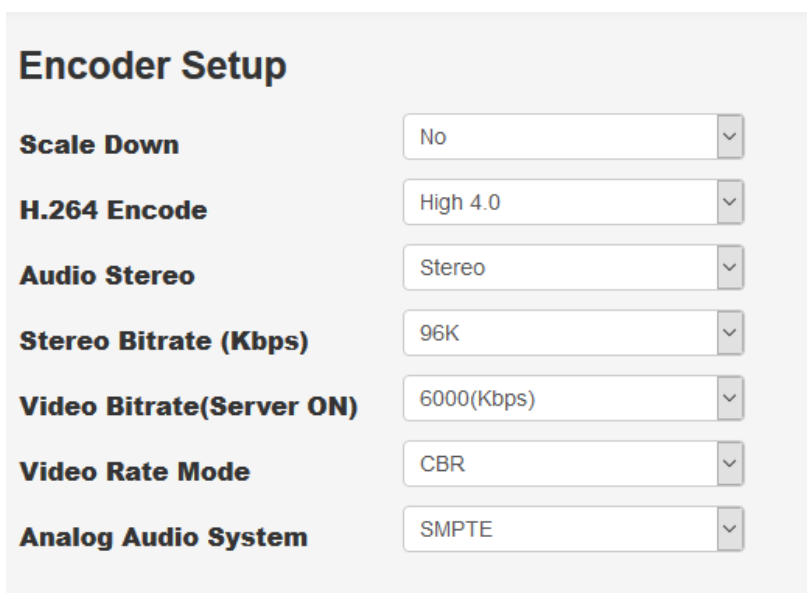
The screenshot displays the 'Input Source Selection' and 'Video Tuning' sections of a control interface. Under 'Input Source Selection', the 'Video' dropdown is set to 'HDMI' and the 'Audio' dropdown is set to 'Digital'. The 'Video Tuning' section includes four sliders: 'Brightness', 'Contrast', 'Hue', and 'Saturation', all of which are positioned at the 128 mark. Below this, the 'Volume Tuning' section features a 'Volume' slider set to 100%.

Parameter	Value
Video	HDMI
Audio	Digital
Brightness	128
Contrast	128
Hue	128
Saturation	128
Volume	100%

(Pic 17.)

User can adjust these parameters while streaming. The extra function of CVBS and S-Video is Sharpness. When the user is doing video tuning, the streaming server will not be terminated or restarted. *(Tip: There is no video tuning option for an SDI input source.)*

8. Encoder Setup



The screenshot shows the 'Encoder Setup' interface with several configuration options. Each option is a dropdown menu with a downward arrow on the right. The settings are: 'Scale Down' set to 'No', 'H.264 Encode' set to 'High 4.0', 'Audio Stereo' set to 'Stereo', 'Stereo Bitrate (Kbps)' set to '96K', 'Video Bitrate(Server ON)' set to '6000(Kbps)', 'Video Rate Mode' set to 'CBR', and 'Analog Audio System' set to 'SMPTE'.

Parameter	Value
Scale Down	No
H.264 Encode	High 4.0
Audio Stereo	Stereo
Stereo Bitrate (Kbps)	96K
Video Bitrate(Server ON)	6000(Kbps)
Video Rate Mode	CBR
Analog Audio System	SMPTE

(Pic 18.)

1. Down Scaling	(Table 2.)
2. H.264 Encoder:	Main3.0,Main3.1 and High4.0
3. Audio Stereo:	Select (Stereo) or (Mono)
4. Stereo Bitrate:	From 32(Kbps) to 384(Kbps)
5. Video Bitrate(Server OFF):	Record Only Up to 16000 Kbps
Video Bitrate(Server ON):	Streaming Only. Up to 12000 Kbps Record+stream: Up to 6000 Kbps
6. Video Rate Mode:	VBR or CBR
7. Audio Source:	Only HDMI and DVI and SDI Supports Digital Input
8. Analog Audio System:	EBU or SMPTE

(Table 1.)

(Tips: When video bitrates are higher than 6000kbps and doing recording at the same time, the GSM 100 does not guarantee the quality in the status.)

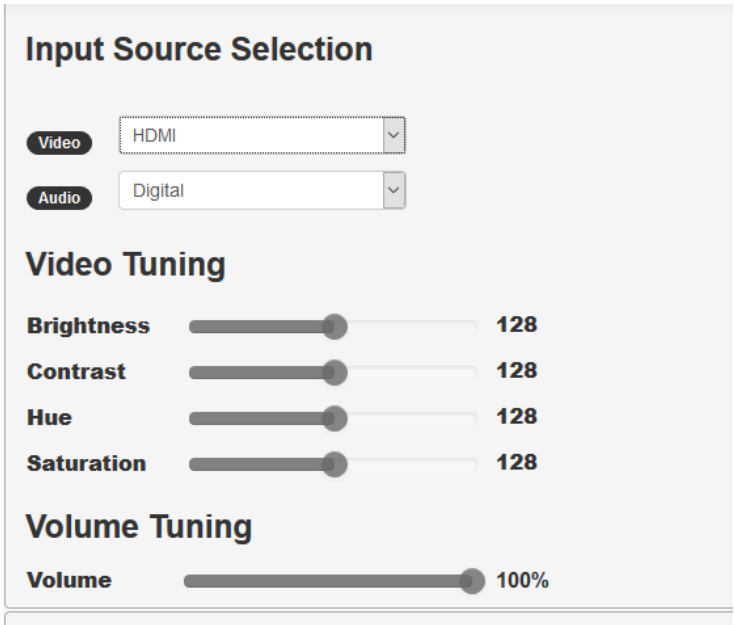
*Supported downscaling

Input \ Output	Output							
	1920x1080	1440x1080	1440x900	1280x720	960x540	720x576	720x480	320x240
1080p60 (to p30)	O	Down	Down	Down	Down	Down	Down	Down
1080i60	O	Down	Down	Down	Down	Down	Down	Down
1080p50 (to p25)	O	Down	Down	Down	Down	Down	Down	Down
1080i50	O	Down	Down	Down	Down	Down	Down	Down
720p60	N/A	N/A	N/A	O	Down	Down	Down	Down
720p50	N/A	N/A	N/A	O	Down	Down	Down	Down
576p60	N/A	N/A	N/A	N/A	N/A	O	Down	Down
480p60	N/A	N/A	N/A	N/A	N/A	N/A	O	Down

PAL (digital)	N/A	N/A	N/A	N/A	N/A	O	Down	Down
NTSC (digital)	N/A	N/A	N/A	N/A	N/A	N/A	O	Down
PAL (analog)	N/A	N/A	N/A	N/A	N/A	O	Down	Down
NTSC (analog)	N/A	N/A	N/A	N/A	N/A	N/A	O	Down

(Table 2.)

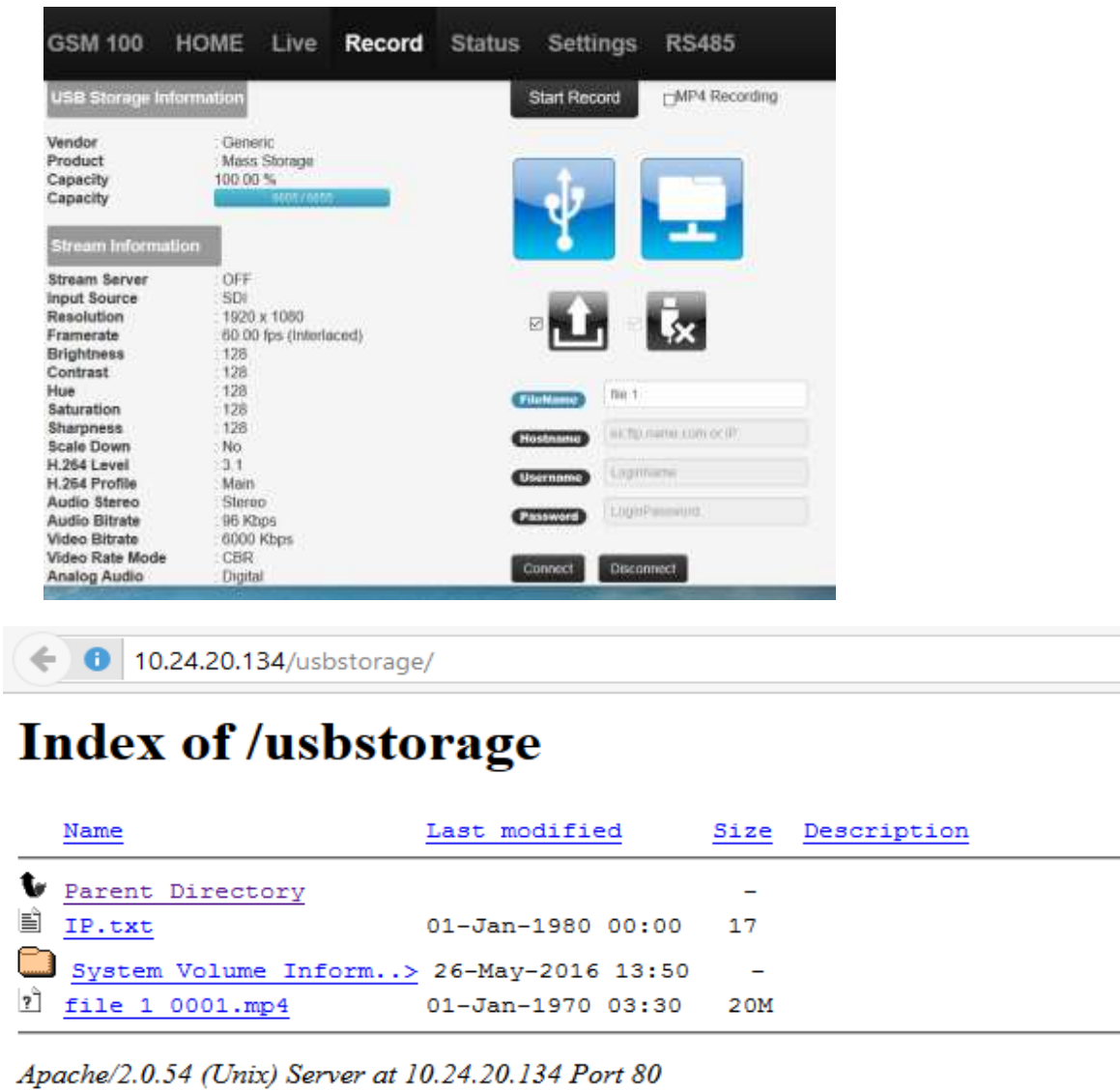
9. Volume Tuning



(Pic 19.)

For HDMI and DVI inputs the audio volume can be adjusted.

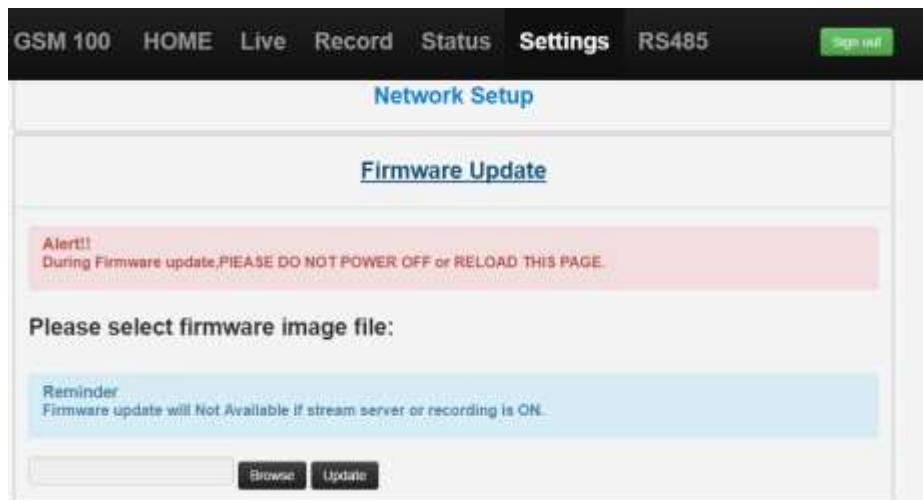
10. Record Stream



(Pic 22.)

1. Click Record button on the menu bar.
2. Start Record.
3. Click the USB icon to see the recorded files in the USB storage.
4. You can now also record to an FTP location.

11. Firmware Update



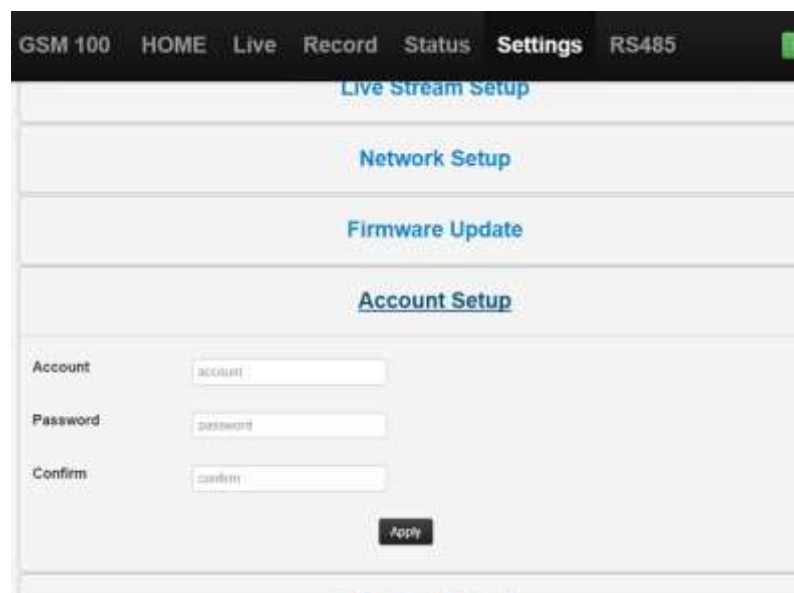
The screenshot shows the 'Firmware Update' page of the GSM 100 web interface. The top navigation bar includes links for GSM 100, HOME, Live, Record, Status, Settings (highlighted), and RS485, along with a 'Sign out' button. The page title is 'Network Setup' with 'Firmware Update' as a sub-section. A red alert box states: 'Alert!! During Firmware update, PLEASE DO NOT POWER OFF or RELOAD THIS PAGE.' Below this, a text prompt says 'Please select firmware image file:'. A blue reminder box notes: 'Reminder Firmware update will Not Available if stream server or recording is ON.' At the bottom, there is a file input field, a 'Browse' button, and an 'Update' button.

(Pic 24.)

1. Click Browse Button to find the newest GSM 100 firmware in your computer.
2. Update the Pack A and wait for the words of “update successful”.
3. Then update the Pack B and wait for the words of “Please reboot”
4. After the firmware update is successful, **reboot GSM 100**.

Tip: If you don't see “**update successful**”, don't try to update or re-boot.

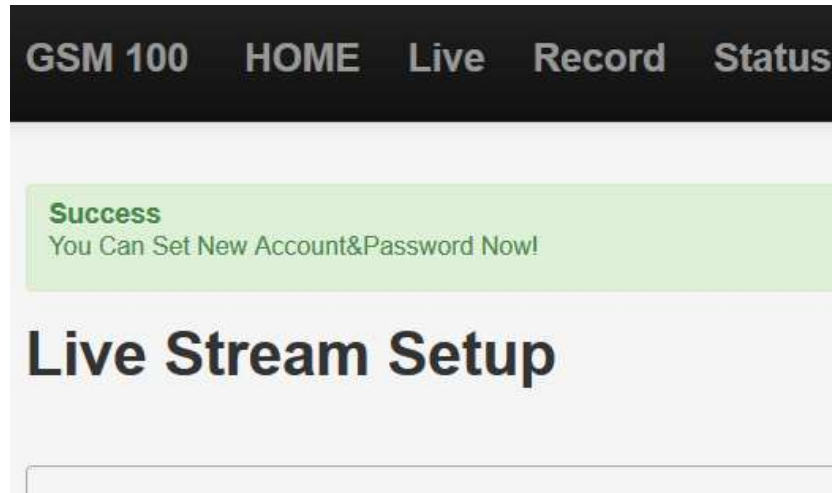
12. Account Setup



The screenshot shows the 'Account Setup' page of the GSM 100 web interface. The top navigation bar is identical to the previous page. The page title is 'Live Stream Setup' with 'Account Setup' as a sub-section. The form contains three input fields: 'Account' (placeholder 'account'), 'Password' (placeholder 'password'), and 'Confirm' (placeholder 'confirm'). An 'Apply' button is located at the bottom right of the form.

(Pic 25.)

Before setting a new username and password, the user has to input the original user name and password. If this is the first time then the user just types the **default** username and password. If this info is correct then you will see the screen below:



(Pic 26.)

Reset a newer username and password. Then apply change.

- If account information was forgotten, we can use USB disk to do a factory restore.
- USB disk must be FAT32 format.

13. Restore to Default



(Pic 27.)

If the system is showing repeated errors or boot fail, the function of “Restore to default” can help GSM 100 reset to the “Factory Default”. If the function is also not work, user can try to use the File of “Restore System” to restore GSM 100 by USB disk.

14. RS485 – Future use

I. Configure Serial Lines

The image shows a web-based 'RS485 Setup' interface. On the left is a large empty text area. To its right, a red rectangle highlights the serial configuration fields: 'BAUDRATE:' with a text input containing '9600', 'DATA BITS:' with a text input containing '8', 'STOP BITS:' with a dropdown menu showing '2', and 'PARITY:' with a dropdown menu showing 'None'. Below these fields are three buttons: 'Apply', 'Save', and 'Clear'. Further down is a row of checkboxes labeled 1 through 10. At the bottom, there are eight configuration slots labeled 'Config1' through 'Config8', each with a button that has a dashed line pattern.

Configure BAUDRATE, DATA BIT, STOP BITS and PARITY to correspond with serial lines.

The BAUDRATE can be set as following values: **50, 75, 110, 134, 150, 200, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400, 115200**

II. Save Configuration Files

SC601 HOME Live Record Status Setting RS485

English

RS485 Setup

0,15,66,187,255 1.

BAUDRATE: 9600
DATA BITS: 8
STOP BITS: 2
PARITY: None

Apply Save Clear 01 02 03 04 05 06 07 08 09 10 2.

Config1 Config2 Config3 Config4

1. Input Parameters.

NOTE: Each parameter must be within the range of **0~255** and separated by **Commas(,)**.

2. Choose which columns you want to save.

3. Click **Save** to save. If saving is successful you will see the screen below.

Success
Save Config File Success

RS485 Setup

0,15,66,187,255

BAUDRATE: 9600
DATA BITS: 8
STOP BITS: 2
PARITY: None

Apply Save Clear 01 02 03 04 05 06 07 08 09 10

Config1 0,15,66,187,255 Config2
Config3 Config4
Config5 Config6
Config7 Config8
Config9 Config10

III. Apply Parameters

SC601 HOME Live Record Status Setting **RS485**

English

RS485 Setup

1.3.99.44.50.111 **a1.**

a2. Apply Save Clear 01 02 03 04 05 06 07 08 09 10

BAUDRATE: 9600
DATA BITS: 8
STOP BITS: 2
PARITY: None

Config1 **0.15.66.187.255.** **b.** Config2
Config3 Config4
Config5 Config6
Config7 Config8
Config9 Config10

method a:

1. Input Parameters.
2. Click 

method b:

If you have already saved configuration files, you can click the blue button. (ex.

)

Appendix

Video Tuning

a. Value: 0 to 255

b. Video Tuning is available during streaming and recording.

	Brightness	Contrast	Hue	Saturation	Sharpness
HDMI	O	O	O	O	X
DVI	O	O	O	O	X
DVI_A	O	O	O	O	X
CVBS	O	O	O	O	O
S-VIDEO	O	O	O	O	O
YPbPr	O	O	O	O	X
SDI	X	X	X	X	X

Encoder parameters

a. H.264 Encode	Up to Level 4.0
b. Audio Stereo	1. Stereo 2. Mono
c. Stereo Bitrate	Up to 384kbps
d. Mono Bitrate	Up to 192kbps
e. Video Bitrate	Record Only : Up to 16000Kbps. Stream Only : Up to 12000Kbps. Stream On + Recording : Up to 6000 Kbps.
f. Video Rate Mode	1. VBR(Variable Bit Rate) 2. CBR(Constant Bit Rate)
g. Analog Audio	i. HDMI 1. No 2. RCA 3. External RCA
	ii. DVI 1. No 2. RCA 3. External RCA
	iii. DVI_A 1. RCA 2. External RCA
	iv. CVBS 1. RCA 2. External RCA
	v. S-VIDEO 1. RCA 2. External RCA
	vi. YPbPr 1. RCA 2. External RCA
	vii. SDI 1. No 2. RCA 3. External RCA

LED Behavior

Source	Flash Red Light(HDMI): Booting Green Light: Signal Locked(Green/Red: S-Video, Green: CVBS) Red Light: No Signal Input
Record	Green Light: Video Recording
Streaming	Green Light: Video Streaming