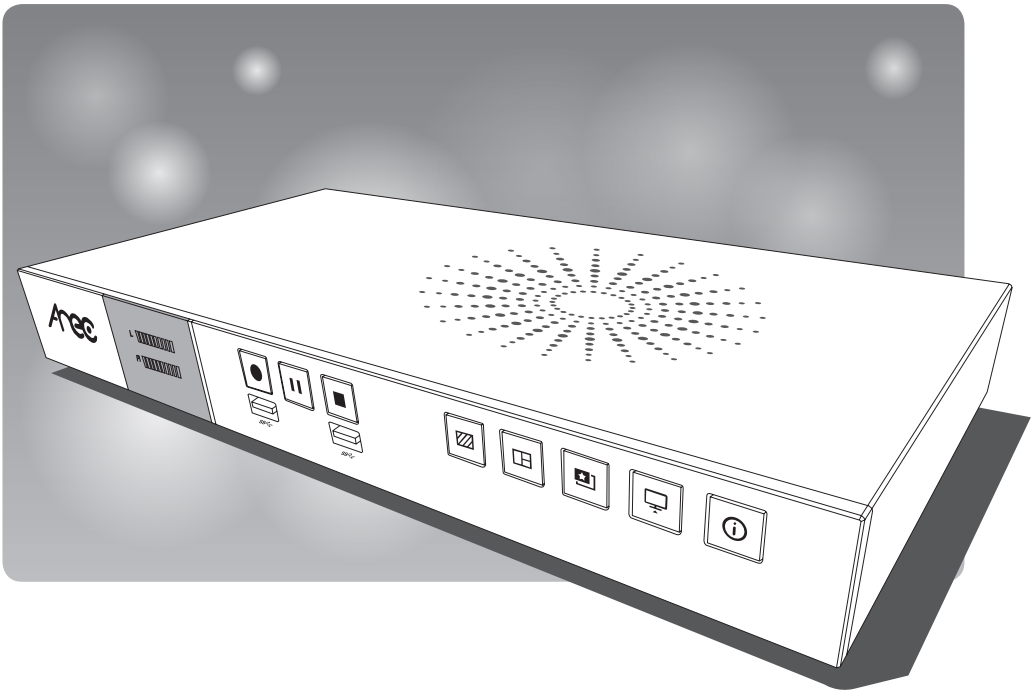
LS-860

Media Station

User Manual | English



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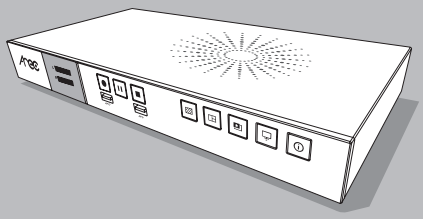
Introduction

Featuring a compact and stand-alone design, AREC LS-860 Media Station consists of diverse features and functionality, including multi-signals capturing, recording synchronously, codec, streaming online, live broadcasting, and web-based monitor page, providing complete presentation or lecture capture solution.

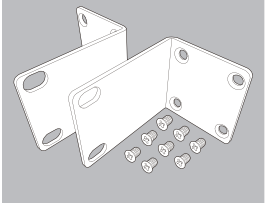
Specifications

Product Name	Media Station
Model Name	LS-860
Dimension	366mm(L) x 182mm(W) x 53mm(H)
Weight	2125g
Power Requirement	12V/3A
Power Consumption (Max.)	36W (Max.)
Operating Temperature / Humidity	0ºC ~ 40ºC / 90%
Maximum loading disclosure	Insert 4 HDMI video signals. Using external USB flash to record the transcoded video / audio. And output the transcoded video / audio to HDMI port.

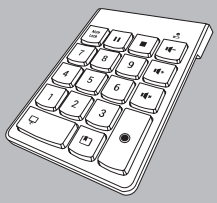
Package Contents



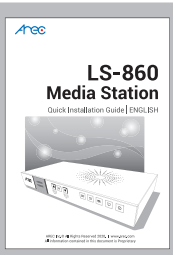
AREC Media Station



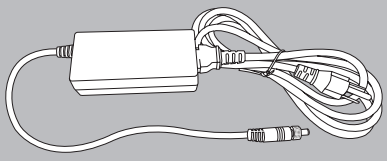
Ear Mount*



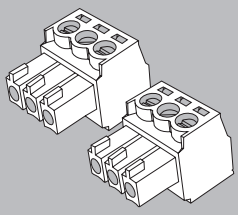
USB Keyboard



Quick Installation Guide



Power Adapter

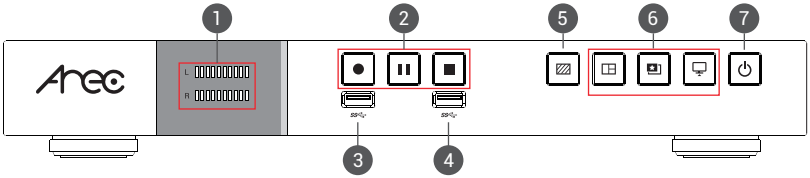


Terminal Block

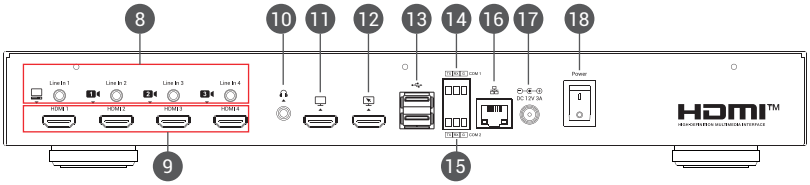
* Ear Mount. For mounting AREC Media Station in 19-inch 1U rack height.

Product Appearance

Front

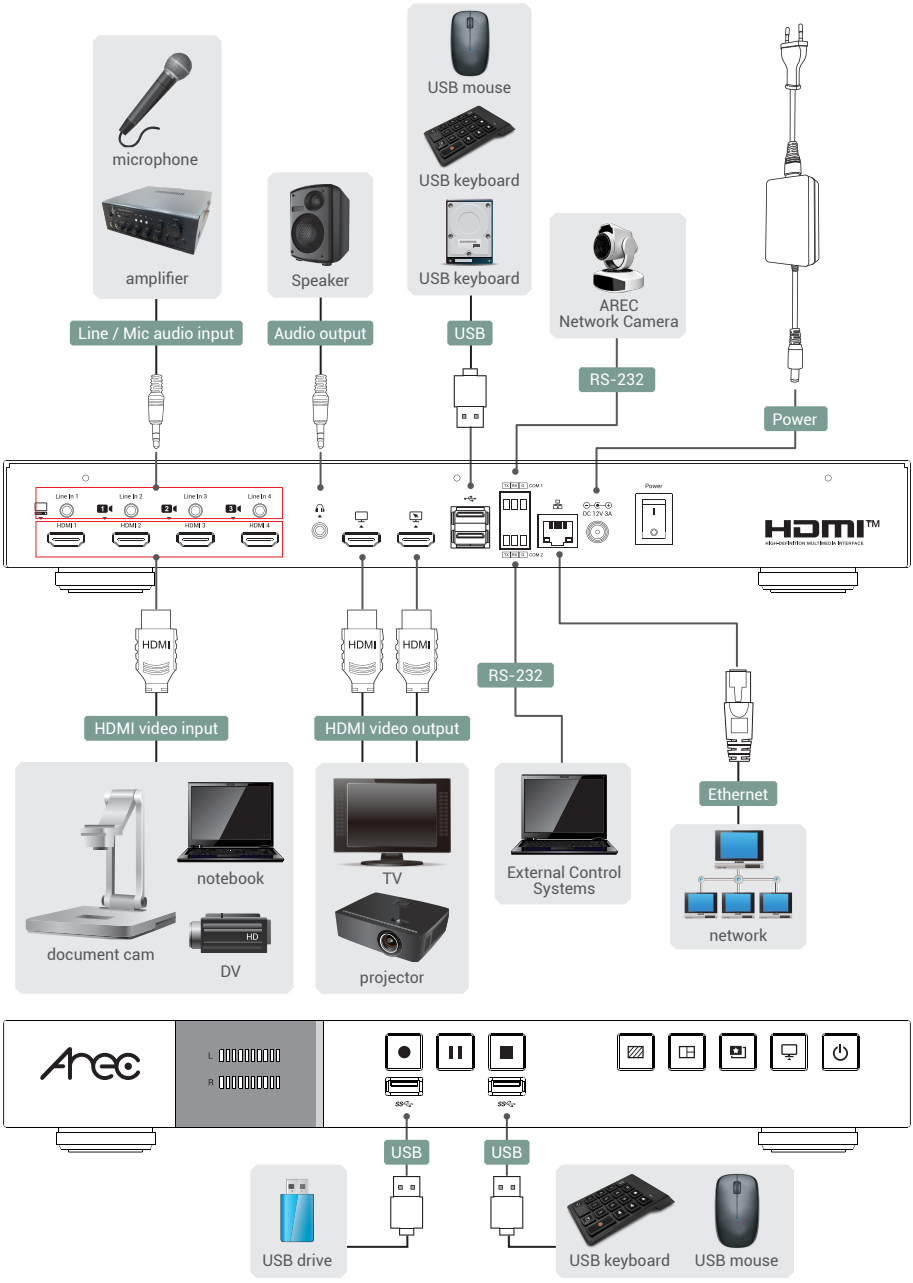


Back



No.	Name	Brief introduction
1	Audio meter	Audio volume bar
2	Record function keys	Control the Record, Pause, Stop function
3	Front USB port 1	For external USB storage device NOTE: The LS-860 can detect and record to USB storage devices using FAT32, NTFS, Ext3, Ext4, exFAT file systems.
4	Front USB port 2	Connect mouse, keyboard
5	Background function key	Control the Background function
6	Layout function keys	Control the Layout function
7	Power	Switch LS-860 into power-on mode and standy mode
8	Audio input	Line/Mic audio input
9	Video input	HDMI input source for PC [ ] 、Camera [ ]
10	Audio output	Line audio output
11	Video output	HDMI output (inputs monitoring or multi-source display)
12	Video output	HDMI output (preview recording with on-screen GUI)
13	Back USB port	Connect mouse, keyboard, USB Storage mount for recording
14	COM 1	RS-232 for Camera Control
15	COM 2	RS-232 for External Control
16	Network port	RJ-45 Ethernet connector for network connection
17	Power port	12V/ 3A
18	Power Switch	The device powers on when the button is pressed "I" and powers off when the button is pressed "O".

Connection


microphone
amplifier
Speaker
USB mouse
USB keyboard
USB keyboard
AREC
Network Camera
Line / Mic audio input
Audio output
USB
RS-232
Power
HDMI
HDMI video input
HDMI video output
RS-232
Ethernet
document cam
notebook
DV
TV
projector
External Control
Systems
network
USB
USB
USB drive
USB keyboard
USB mouse

Front Panel Buttons and Indicators

Button	Brief introduction
Background / Layout / Overlay	Change Background / Layout / Overlay cycling.
Display	Switch image sources to monitor individual image inputs.

Button / LED	Display method of indicator	Product status
Record / Pause / Stop	Record button glows red continuously.	Recording in progress.
	Record button flashes red rapidly.	Recording is paused.
	Record button flashes red slowly.	Recording is being finalized.
Power	Solid red.	Device is powered, yet not booted up.
	Solid green.	Boot up completed.
	Fast flashing red.	Device is shutting down.
	Fast flashing green.	Firmware updating.
	Slow flashing red.	Storage is abnormal.
Audio meter L/R	The volume of audio line out L/R	Boot up completed.

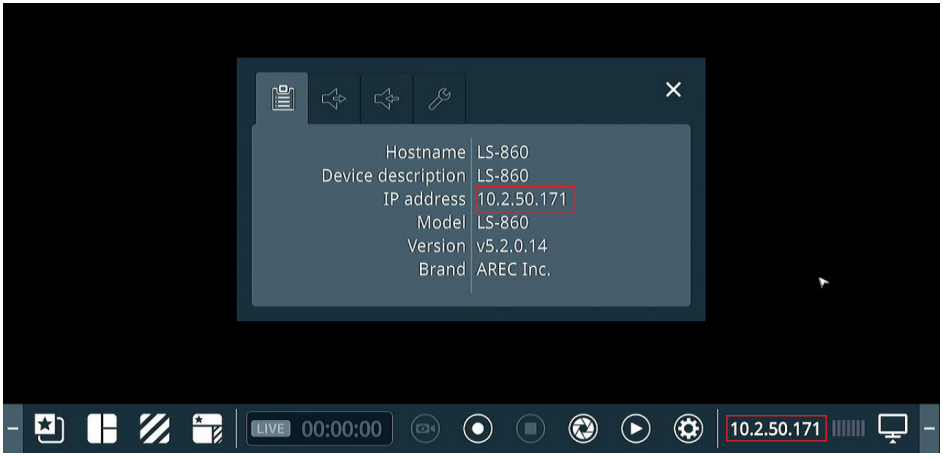
External Control via USB Keypad

Insert the keyboard into the Media Station's USB hole, let USB numeric keypad as function keys to control the Media Station.

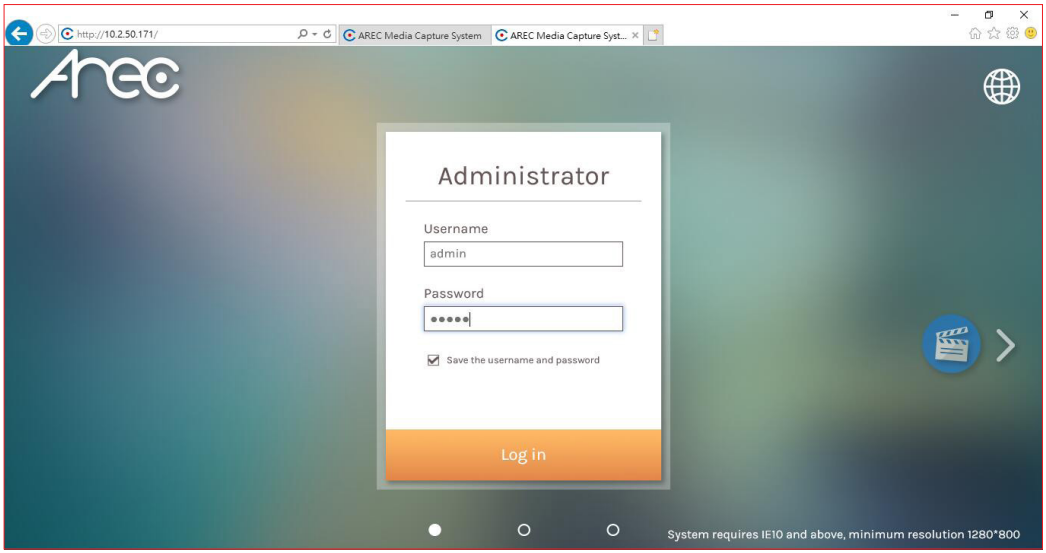
Button	Brief introduction	Button	Brief introduction
1	Theme 1	Backspace	All input volume mute/unmute
2	Theme 2	-	All input volume down
3	Theme 3	+	All input volume up
4	Theme 4	Enter	Record
5	Theme 5	ESC	Power off
6	Theme 6	Z • z	Change Background
7	Theme 7	X • x	Change Layout
8	Theme 8	C • c	Change Overlay
9	Theme 9	V • v	Live streaming on/off
/	Pause	B • b	Playback last record video
*	Stop	A • a	All output volume up
0	Change Display	S • s	All output volume down
.	Snapshot	D • d	All output volume mute/unmute
Caps Lock	Recording Start / Stop	G • g	Local director control panel on/off

Getting start

Connect PC to LS-860, your device is added the segment and the segment is consistent with the IP address of the LS-860. Get IP address from About option in Setup item of the host output interface main menu and input it in the Browser page.



Log in Administrator with default username admin and password admin, then entering the system Administrator webpages.



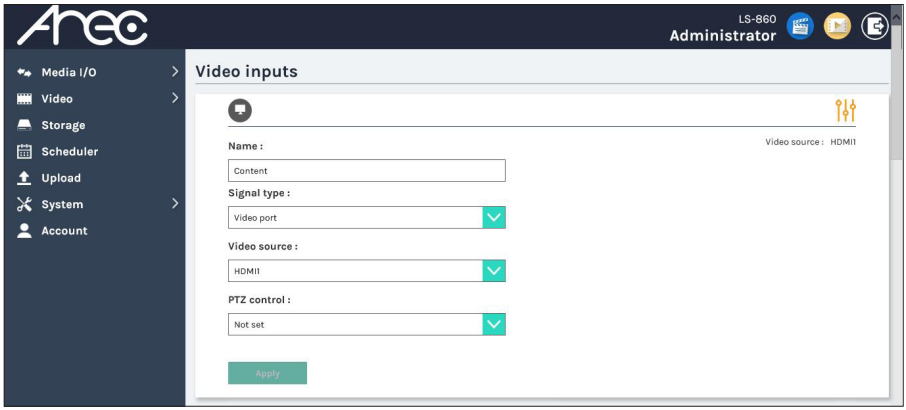
Overview of the Web Interface

LS-860 web interface has three user types, which are described in detail in the following chapters :

Online Director	For quick start recording, log in Online director from the initial login page with default username director and password director. This user also has access to Video Manager web pages.Log in with Administrator account, can switch to Administrator page.
Administrator	To setup the device, log in Administrator with default username admin and password admin, then entering System Administrator webpages. The admin account provides the user all three type of privileges.
Mini Controller	For mobile device quick start recording, log in Mini Controller from the initial login page with Administrator or Online Director account.
Video Manager	If you only need to access to the recordings, log in Video Manager with default username video and password video.Log in with Administrator account, can switch to Administrator page.

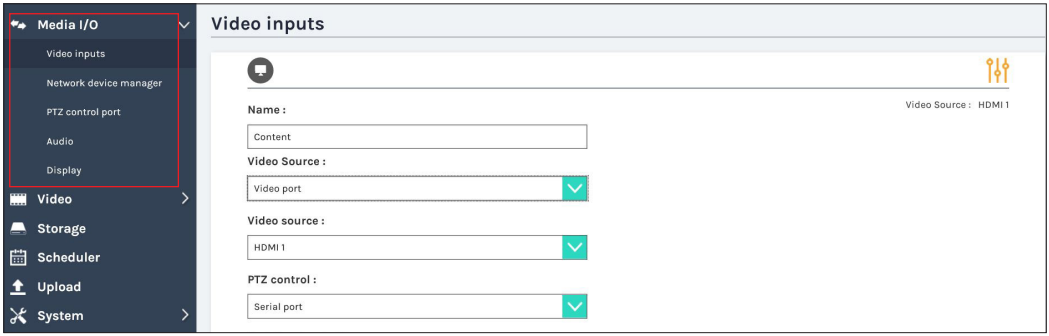
Chapter 1 Administrator

The Administrator web pages provide a system administration interface of the LS-860: it can perform Media I/O, Video, Storage,Scheduler,Account, Upload, System settings and confirm operations. The Media I/O settings make sure each input source are properly connected, and adjust the audio volume. The Video setting pages configure the recording, streaming, and other functions which define the content being recorded. System are pages contain basic settings and information of this device.Click icon can switch to Video Manager page.



1.1 Media I/O

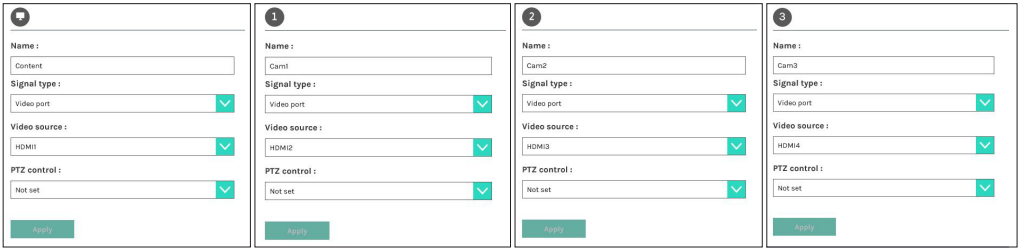
The pages within Media I/O include the following :



Video inputs	Select the signal type, video source and PTZ control method for each input.
Network device manager	List out all the connected network cameras and Auto-Tracking Mount.
PTZ control port	Set LS-860 back RS-232 serial port to drive PTZ cameras.
Audio	Adjust the volume and select the audio input source.
Display	Set the LS-860 on screen display language.

1.1.1 Video inputs

The LS-860 is capable to process up to four video inputs. The name of these inputs are user configurable; by default are Content, Cam 1, Cam 2 and Cam 3.



1.1.1.1 Content / Cam 1 / Cam 2 / Cam 3

- Video Source can be choose from Network Camera, Encoder or Video port. The last option is available only for the first two video inputs.

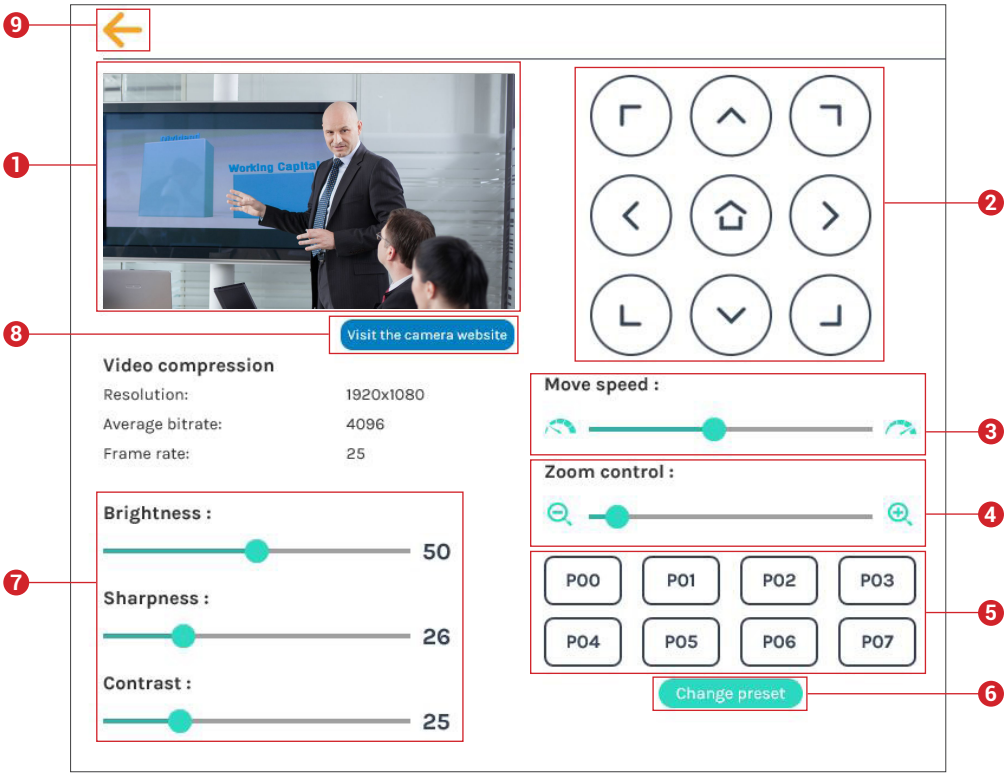
Video port	Select Video source: The LS-860 provides HDMI input for video port.
Network Camera	Select IP address: Select from the camera ip address drop list of those available. Note: A login authentication with the camera might be required. See Media I/O\ Camera manager for more details.
Encoder	Select Protocol: The available options are RTP, RTSP, or RTMP. Enter the primary and secondary url/ port number.

- PTZ control : The LS-860 is highly integrated with PTZ cameras and provides two control methods, Over IP or via Serial port.

Serial port	Select this option when the appointed camera uses RS-232 PTZ control protocol. Then complete the Serial port selection from RS-232 port (com1). See Media I/O\ PTZ control port for more details.
Over IP (ONVIF)	The option is available when the specified signal type is a network camera. Select this option if that camera supports networking PTZ control.
Auto-Tracking Mount	Select IP address: Select from the TP-100 ip address drop list of those available. Select Tracking mode: off / Auto-Tracking / Auto-Tracking (pan only), the default is the Auto-Tracking. Note: A login authentication with the TP-100 might be required. See Media I/O\ Network device manager for more details.
VISCA over IP	With VISCA over IP function, you can control the camera using VISCA on a controller equipped with IP communication capabilities via LAN.

1.1.1.2 Advanced configuration

A preview use and further configuration of the video input is provided. After the video input setting is successfully applied, click to enter the advanced configuration page. In the case of a PTZ camera, the direction control panel, zoom in/out control bar, and up to 8 preset positions are enabled.



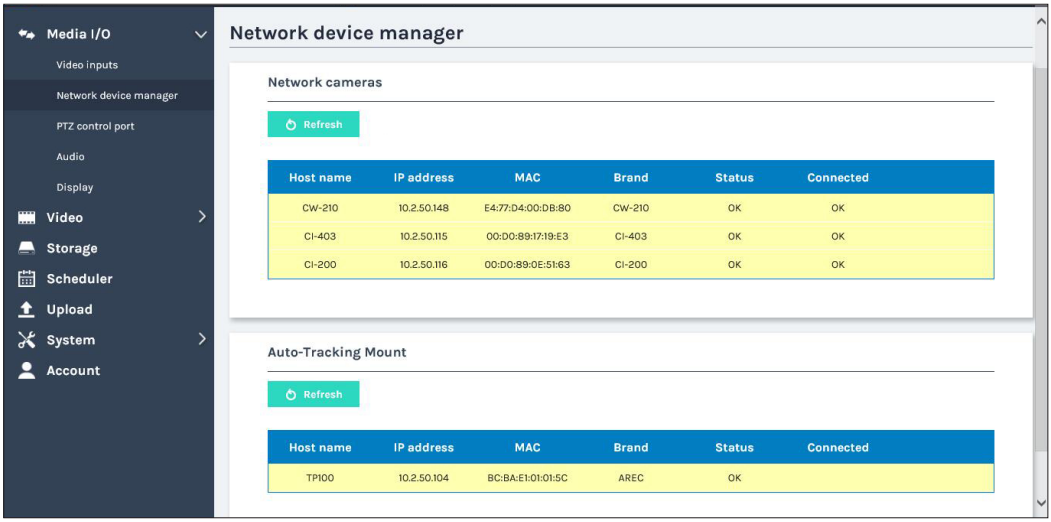
1. The video input preview.
2. Direction control panel: Click the arrow buttons to move the camera.
3. Movement speed: Move leftward or rightward to set slower or faster the camera is moving.
4. Zoom in/out: Click the buttons or drag on the control bar.
5. Preset positions: Click the buttons to command that the camera go to the preset position.
6. Change preset: Click the button to modify the preset positions. Select any of the P00~P07, move the camera to the desired position by using the direction control panel or using the zoom in/out control. Click Save button to complete the change or click Cancel button to give it up.
   Note: If you use AREC CI-xxx network camera with TP-100, you can change preset of TP-100's Home.
7. Brightness, sharpness, and contrast: Slide the adjust bar leftward or rightward to change the camera image settings.
8. Visit the camera website: Click this Visit the camera website button to enter the webcam management web site, input the verification code as prompted.
9. Click button at upper left corner to return to the last page.

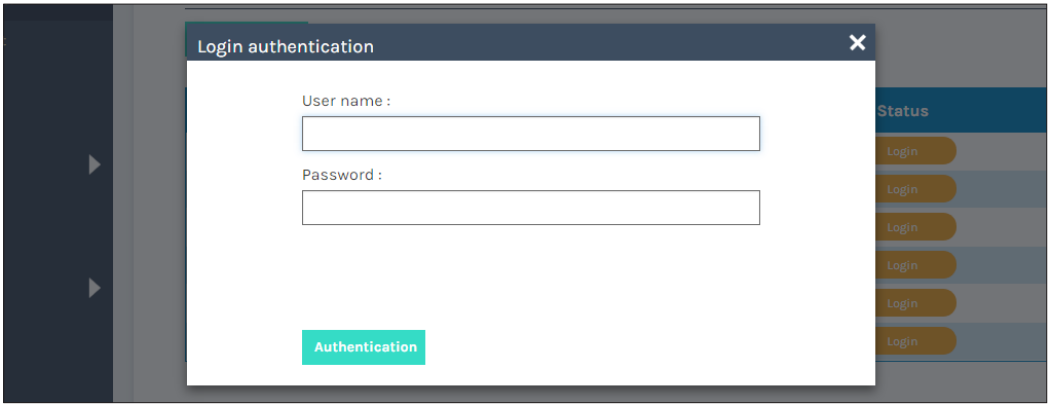
1.1.2 Network device manager

The system automatically scans and lists the network cameras and Auto-Tracking Mount connected to the Media Station once entering the [Network device manager] page. You may click Refresh button to scan again. Click Login button and the login authentication dialog pop out.

Enter the username and password of the camera or Auto-Tracking Mount to complete the authentication. Take AREC network camera for example,enter the default username and password admin/ admin. The status then changes to OK, which indicates it is available for video input selection.

Note : If you fail to find your camera by clicking on “Refresh”, please select “Signal type” to “Encoder” in the “Video Inputs” and fill in your camera information.

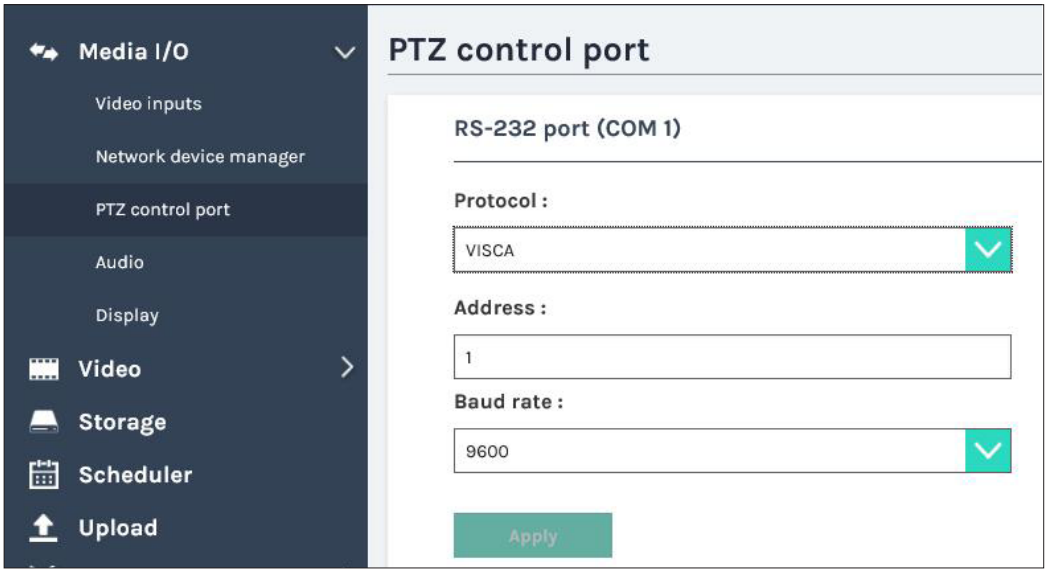




1.1.3 PTZ control port

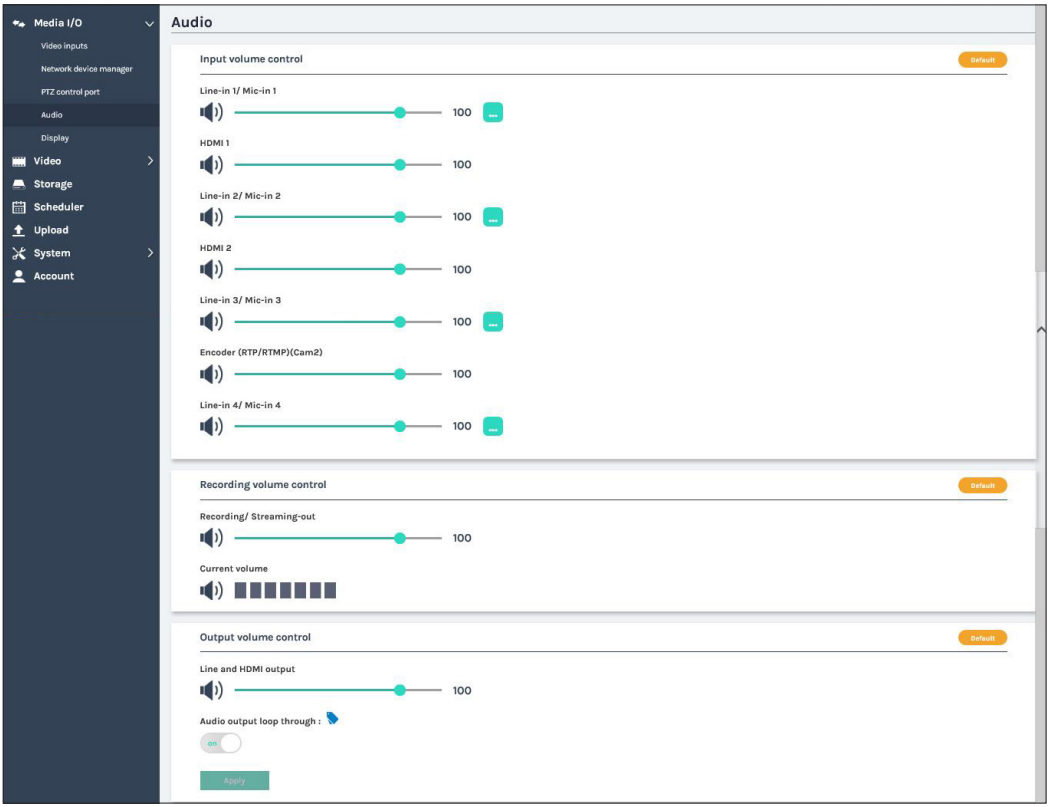
The LS-860 facilitate the web-based users control PTZ cameras using RS-232 protocol. Connect an RS-232 adapter to the LS-860 back port in advance. Before making any changes to this page, please get to know about the RS-232 settings of the desired PTZ camera. The following configurations must be identical to the external device settings.

- Protocol : Available options are VISCA, PELCO-D, and PELCO-P;
- Address : Set according to the camera address for RS-232 communication. VISCA: 1-7, PELCO D/P: 1-255;
- Baud rate : 2400, 4800, 9600, and 115200



1.1.4 Audio

Adjust volume and select the audio input source.

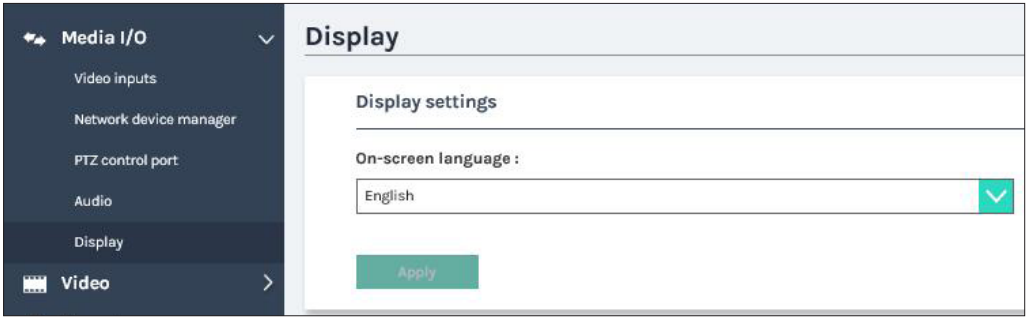


1. Input volume control - Adjust the Line-in/ Mic-in 1~4, HDMI 1~4 and Encoder (RTP/RTMP) volume.
   Configurable range of sound input is 0-125. Click ... button to open the advanced settings dialog to select Mode (Line in or Mic in) and Gain (-6~12 dB).

2. Recording volume control - Adjust the Recording/ Streaming-out volume.
   Configurable range of sound input is 0-125.
   The nearby volume meter indicates the encoded audio current volume.
3. Output volume control - Adjust the Line and HDMI output volume.
   Configurable range of sound input is 0-125.
   Set Audio output loop through on/ off.

1.1.5 Display

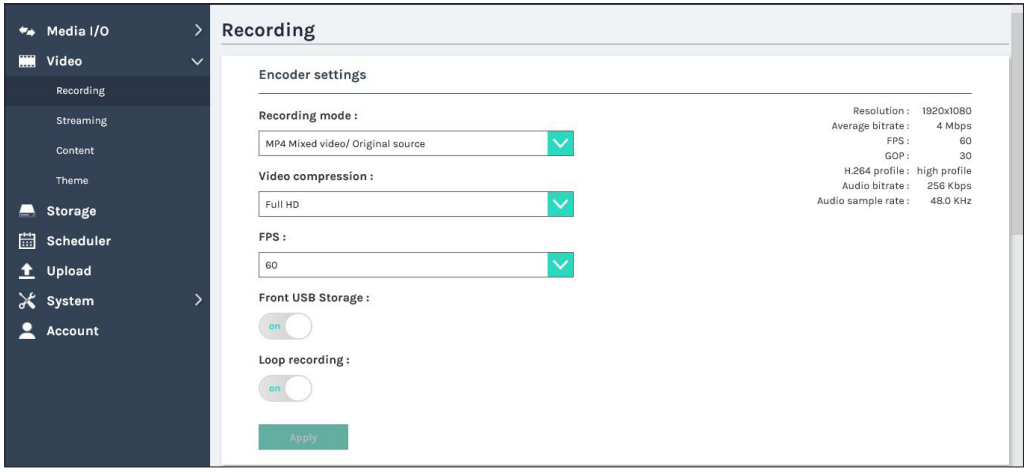
Set the LS-860 on screen display language, video output settings and color adjustment.



On-screen language: Change the GUI language.

1.2 Video

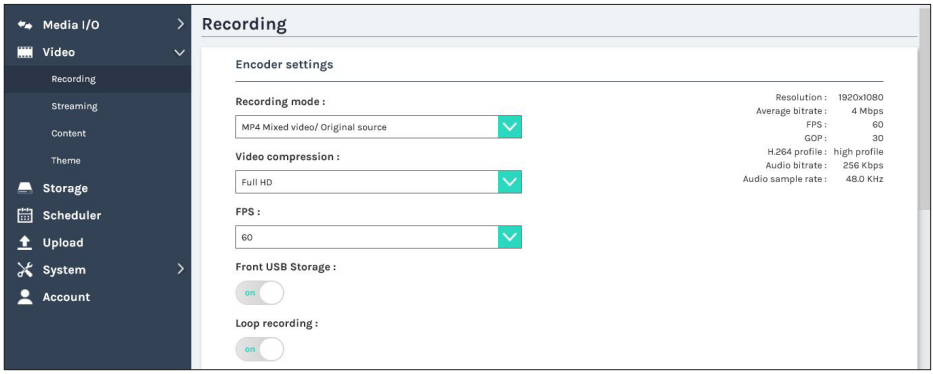
The pages within Video construct a collection of settings that defines the operating characteristics for a streaming/recording, include:



Recording	Configure Encoder settings and Bookmark settings for recording.
Streaming	Configure Encoder settings for streaming.
Content	Edit the information of the content that will be recorded.
Theme	Set the overlay files, background images and theme types.

1.2.1 Recording

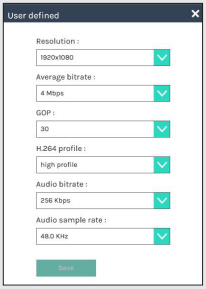
Set up the Encoder settings and Bookmark settings for recording.



Encoder settings

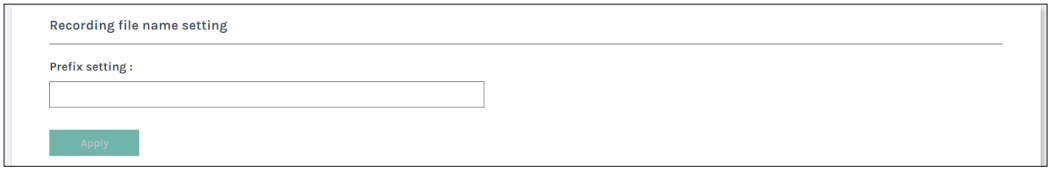
- Recording mode: Available options are MP4 Mixed video and MP4 Mixed video/ Original source.
- Video compression : There are 7 preset recording video compression profiles for different resolution and bitrate. Select one to see the option details on the right side. You may customize your own user defined option.
- FPS (Frames per second) : Available options are 60 (default), 50, 30, 25, 20, 15, 10.
- Front USB recording : Set ON/OFF to enable/disable LS-860 front USB recording function. Make sure the front USB drive connected can be normally read and written and have enough space for the recorded files.
- Loop recording : Set ON/OFF to enable/disable LS-860 local storage recording rule.

Click Apply button at the bottom corner when finished to apply the settings.

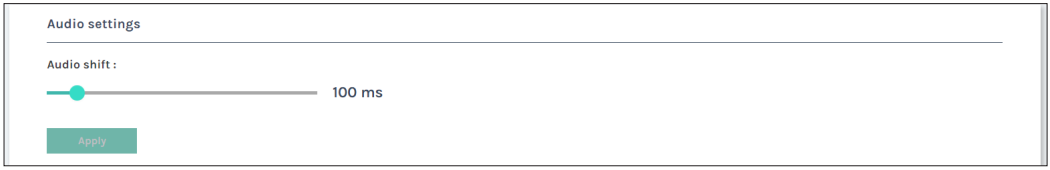
Profile name	Video Resolution/ Bitrate	Application description
Full HD	1080p/ 4Mbps	Dynamic scene and large local hard disk recording.
Internet Full HD	1080p/ 3Mbps	General scene and medium local hard disk recording.
HD	720p/ 2Mbps	Static scene and small local hard disk recording.
Internet HD	720p/ 1.5Mbps	Live broadcasting through the Internet.
SD	480p/ 800kbps	Static scene for live broadcasting through the Internet.
Mobile SD	480p/ 500kbps	Live broadcasting for portable mobile devices watching.
User defined	Click ... button to open customization window as shown below, and click Save button to make the option changed. 	

Bookmark settings- Set ON/OFF to enable add bookmark automatically.
Click Apply button at the bottom corner when finished to apply the settings.

Add prefix to video filename: Use this description is added to the Video filename as a prefix string for Download and Upload.

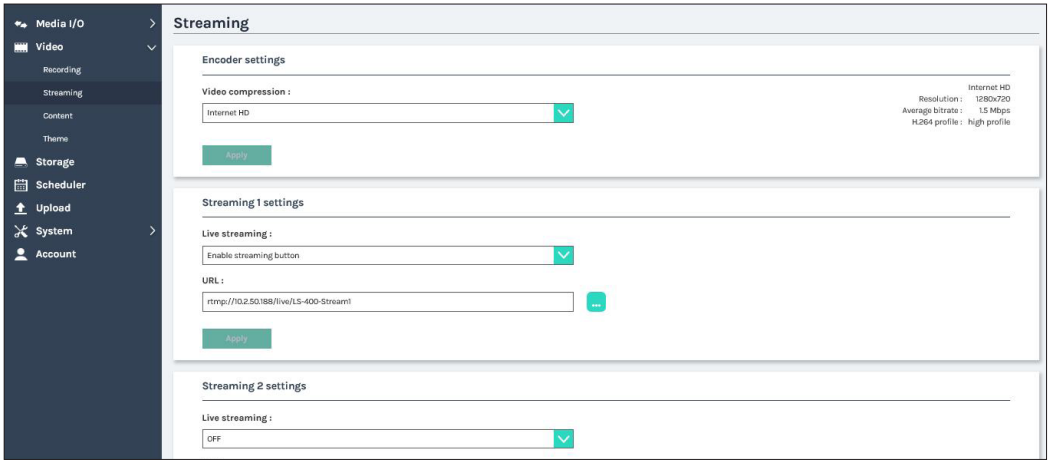


Audio shift- Adjust the delay of sound after video transmission. Synchronize the video and audio with consistency.

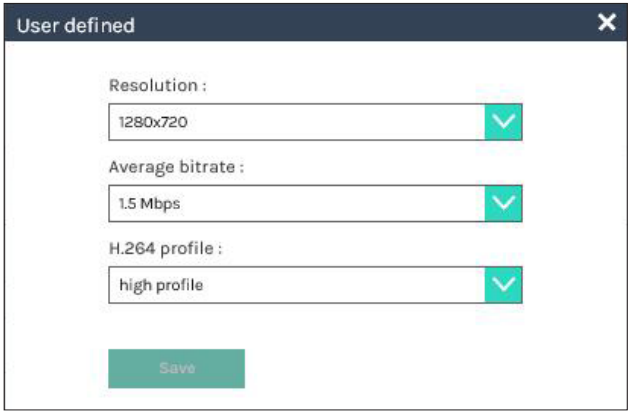


1.2.2 Streaming

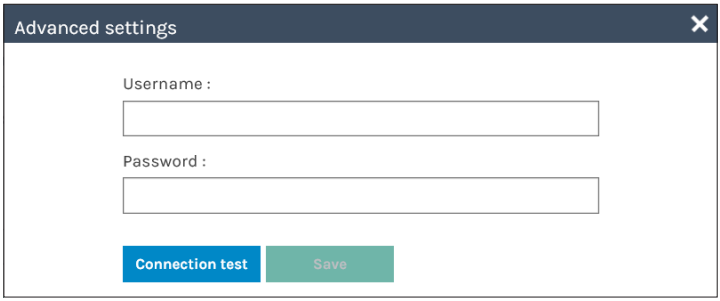
AREC Media Station support two streaming address with same video compression. The page provides user to change streaming settings. It is essential that the configurations follow the streaming protocol and recommended settings your server system supports.



Video compression profile — There are 7 streaming video compression profiles for different resolution and bitrate. Select one to see the option details on the right side. You may customize your own user defined option. Click ... button to open customization window as shown below, and click Save button to make the option changed.
Click Apply button at the bottom corner when finished to apply the settings.
Note: The resolution for streaming cannot be larger than that for recording.



Live streaming : Select OFF/ Together with recording/ Streaming always/ Enable streaming button to setting live streaming ability.
Together with recording : Streaming and recording simultaneously
Streaming always : LS-860 always streaming
Enable streaming button : Enable streaming On/Off button on GUI and Online Director
Click ... button to open customization window as shown below, RTMP username/password and test for Wowza. Click Save button to make the option change.



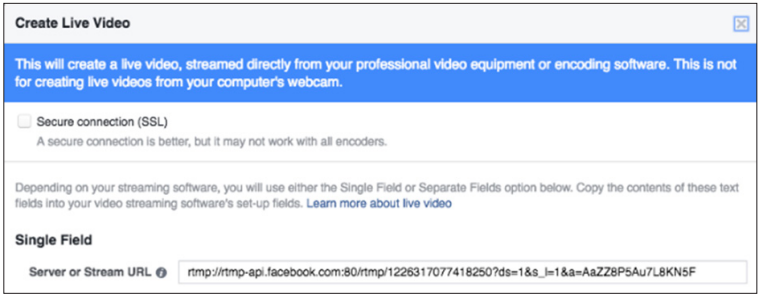
URL — The available protocol on the LS-860 are RTP and RTMP, the URL format is as follows :

RTMP	In the protocol setting field, copy and paste the Server or Stream URL and Stream name provided by you CDN or server administrator in the format rtmp://serverurl/streamname.
RTP	Enter the destination IP address and the port number where the streaming is played in the format rtp://@:1234 For example, rtp://226.10.24.32:7000

Followings are some popular examples for streaming settings.

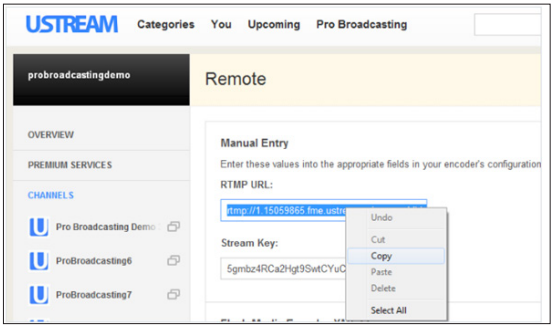
Streaming to Facebook Live

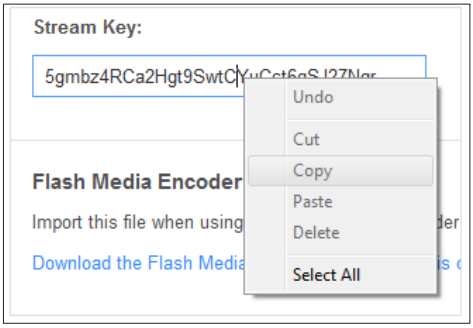
Copy the contents of the Single Field, Server or Stream URL, and paste in the LS-860 streaming protocol setting field.



Streaming to Ustream

Combine the contents of both fields: RTMP URL and Stream Key, insert a slash between them. Paste this string into the LS-860 streaming protocol setting field. For example: rtmp:1.15059865.fme.stream.tv/ustreamVideo/15059865/5gmbz4RCa2Hgt9SwtCYuCct6qS137Nar





Streaming to YouTube Live

Combine the contents of both fields: Primary Server URL and Stream Name, insert a slash between them. Paste this string into the LS-860 streaming protocol setting field.

Streaming to a media player on a PC in the same LAN with the LS-860

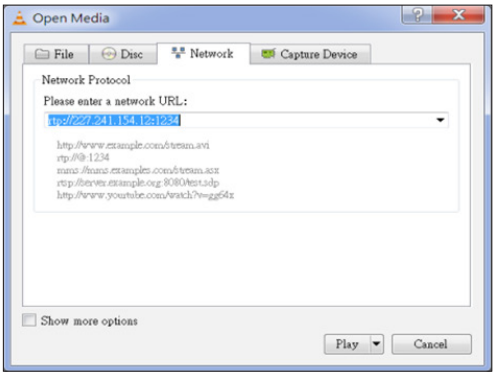
Enter the destination IP address and the port number where the streaming is played in the format rtp://@:1234.

Unicast: For a single point connection, the destination IP must be set to the location where the stream is played.

Multicast: The destination IP must be multicast IP address where it can be shared with multiple viewers.

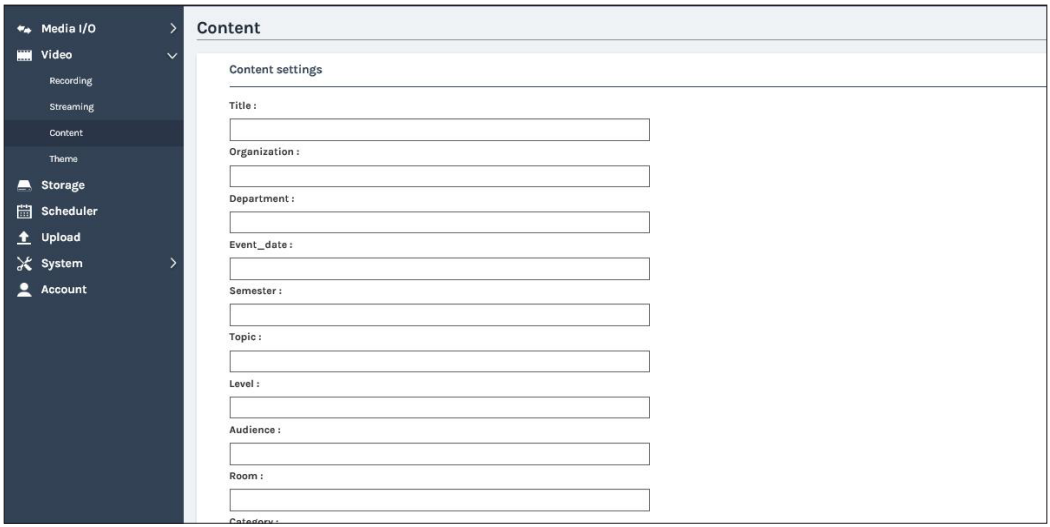
The LS-860 use IP address: 239.0.0.1 and port number: 5004 as the stream default. The available range of port number is 1024 to 65535.

To view the stream from a media player, open the URL in a media player, such as:



1.2.3 Content

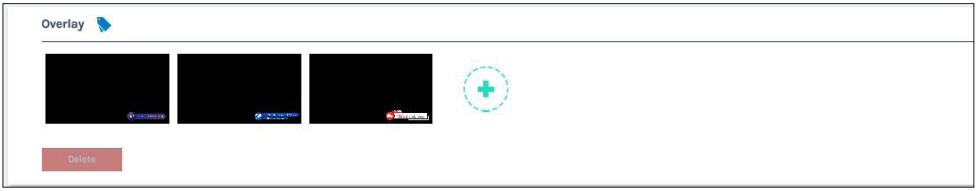
The LS-860 contains up to 13 user-configurable elements for describing content. These elements and texts will be saved in the recording data of the newly created content. Enter text in the content settings fields if desired. Click Apply button at the bottom corner when finished to apply the settings.
Note: These updates do not apply to the existing recordings. To edit the existing recording information, see Video Manager.



1.2.4 Theme

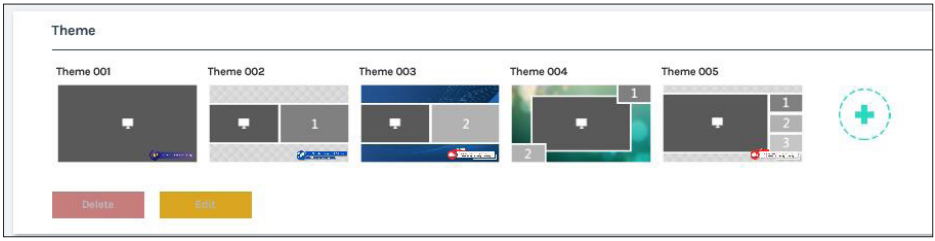
LS-860 by factory default provides three overlays, three backgrounds and five themes.

Overlay : Select and delete the overlay. Click [⊕] button and select the desired file in the Open dialog box. The file name would appears with the newly uploaded image. Click Apply button at the bottom corner to apply the settings, or click [Delete] Cancel to give it up.
Note: The overlay file must be in PNG format, maximum size 1920px*1080px.
Note: The user can use the mouse to drag the order of the display.



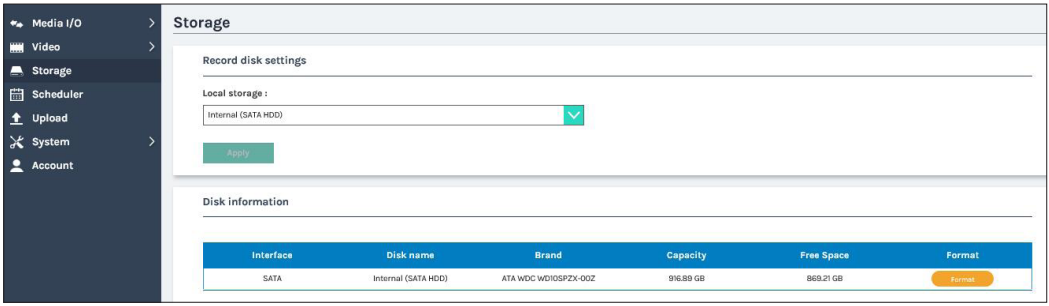
Background : Select and delete the background. Click [⊕] button and select the desired file in the Open dialog box. The file name would appears with the newly uploaded image. Click Apply button at the bottom corner to apply the settings, or click [Delete] Cancel to give it up.
Note: The background file must be in PNG format, maximum size 1920px*1080px.
Note: The user can use the mouse to drag the order of the display.

Theme : Theme is integrated with "Overlay", "Background" and "Layout". LS-860 by factory default provides five themes by different types of overlays, backgrounds and layouts. Click [⊕] to set the theme type. Input the theme name, and select the desired type of overlay, layout and background. Click Apply button at the bottom corner to apply the settings.
Note: The user can use the mouse to drag the order of the display.



1.3 Storage

The recording files produced by the LS-860 are stored on its own internal hard drive. This page provides user to set local storage drive or USB and reveals the disk information in the lower section.



Record disk settings-

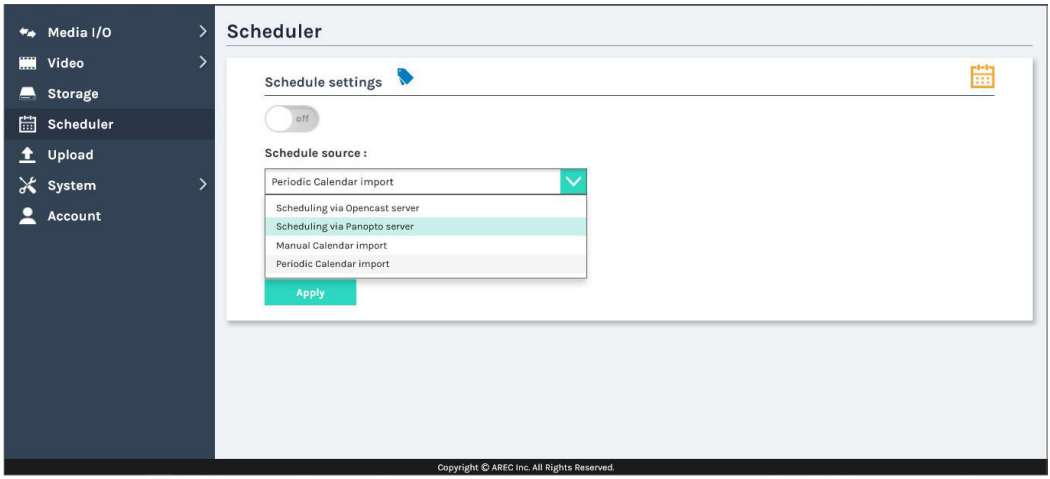
Local storage: The internal hard drive of LS-860 is preset for storing the recorded files.

Click Apply after setup is completed. New setting takes effective from next recording being created.

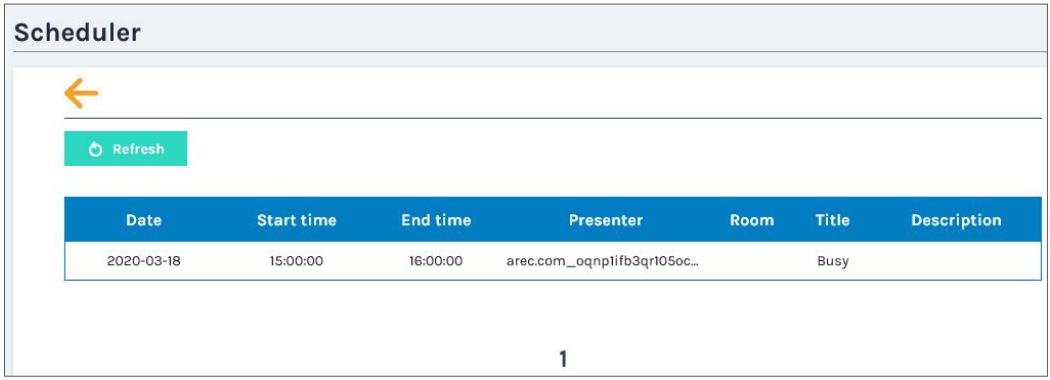
Disk information- Displays disk information, available storage space and total capacity. Click "Format" to clean up the internal storage drive. A dialog box opens asking you to confirm the disk formatting. Click Confirm to permanently delete all recording packages.

1.4 Scheduler

The Schedule Settings page allows the administrator privileges to choose how to obtain presentation schedules and, if appropriate, import calendars or connect to an Opencast scheduling system. Start video recording automatically at the date and time specified in a calendar schedule.
Available options are Scheduling via Opencast server, Scheduling via Panopto server, Manual Calendar import, and Periodic Calendar import.



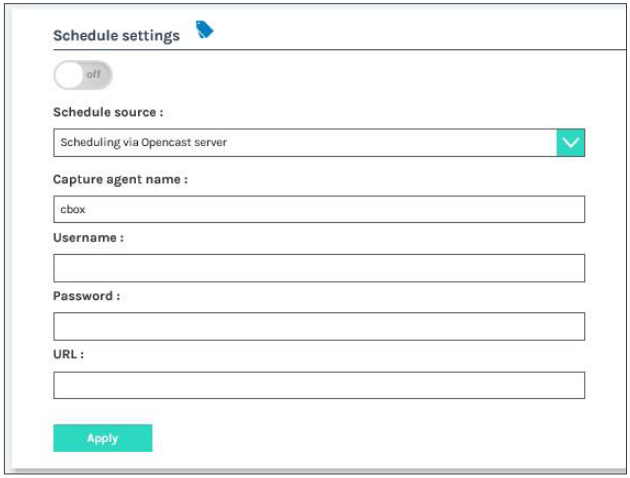
Scheduling via Opencast server : Centralized Scheduling via Opencast server
Scheduling via Panopto server Centralized Scheduling via Panopto server
Manual Calendar import : Importing iCalendar files manually
Periodic Calendar import : Importing iCalendar files automatically



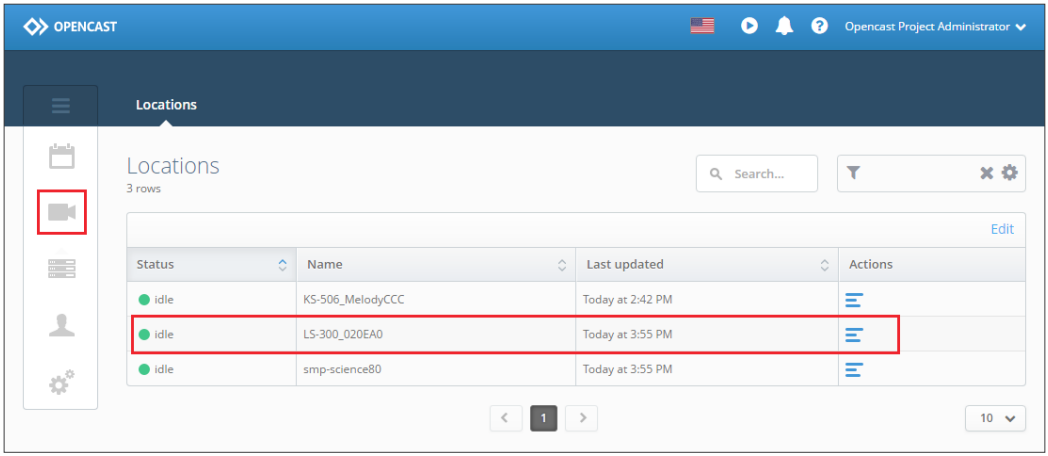
Click Open Scheduled Events page.
Refresh button: Synchronize with server

Scheduling via Opencast server

1. Enter the Capture agent name, Username, Password and URL in these fields.
   a. Capture agent name: the ID to recognize LS-860 on Opencast platform
   b. Username: Opencast user account
   c. Password: Opencast user password
2. Click Apply. The event schedule is added and appears in the calendar on the Scheduled Events page.
3. Go to Opencast admin, and check if the LS-860 is correctly registered on Opencast.

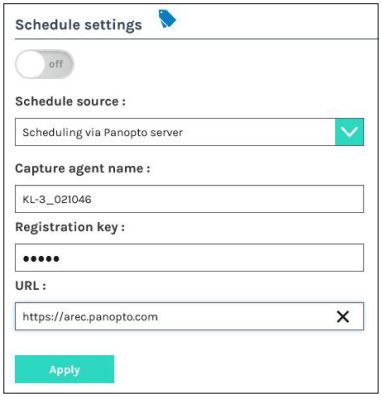


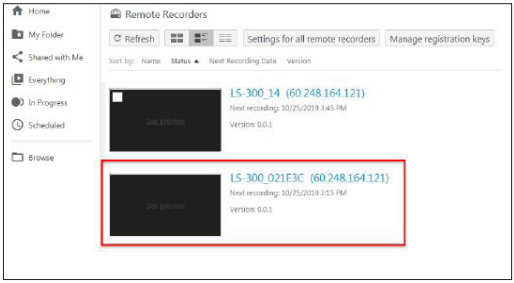
"Opencast Admin" -> "Capture" -> "Locations"



Scheduling via Panopto server

1. Enter the Capture agent name, Registration key and URL in these fields.
   Note: Get the registration keys token for scheduler in Panopto System
2. Click Apply.
3. Go to Panopto System => Remote Recorders, and Your AREC media station will list up in your Panopto account as a remote recorder.





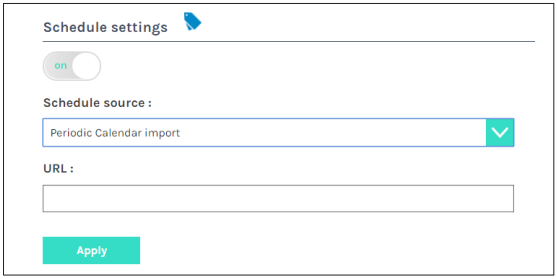
Manual Calendar import

1. Click Import. An Open window opens.
2. Locate and select the iCalendar file for import. The file must have a .ics file extension.
3. Click Open. The Open window closes and the file name is displayed within the Manual Calendar Import panel area. The Import button is active.
4. Click Apply. The event schedule is added and appears in the calendar on the Scheduled Events page.

Periodic Calendar import

1. Enter the iCalendar URL in this field.
2. Click Apply. The event schedule is added and appears in the calendar on the Scheduled Events page.

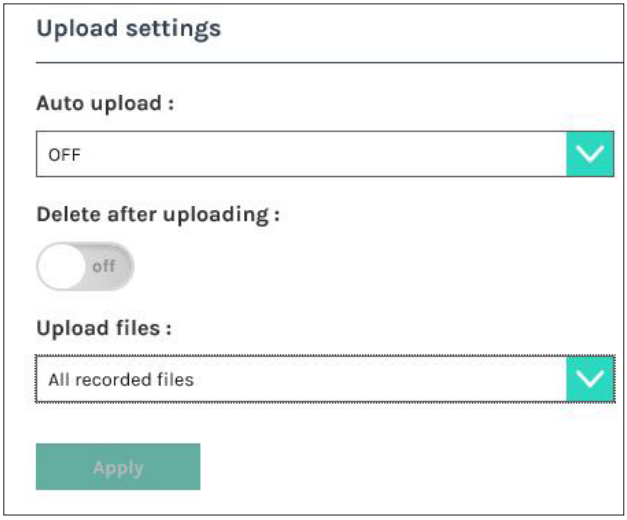
Note: iCalendar Schedule can not be set to cycle, only accept single. Cannot set more than 2 pens to start at the same time. When setting the time overlap, the start time whichever is earlier.



1.5 Upload

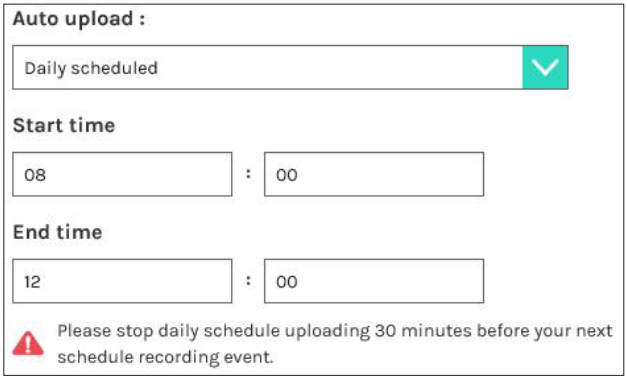
The LS-860 is able to automatically upload recordings from its internal drive to a network server. In this page, user can configure the upload destination and tests the connection.

1.5.1 Upload settings



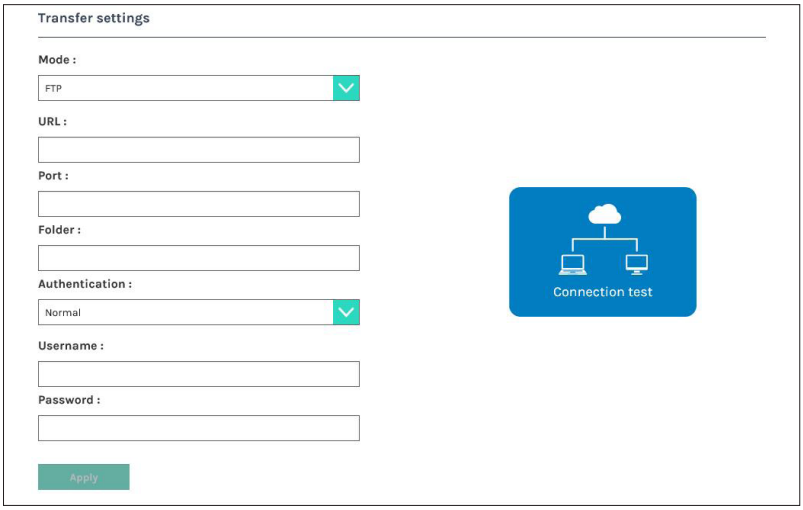
1. Auto upload: Available options are OFF, After recording is completed and Daily scheduled
   a. After recording is completed: Upload the files after recording
   b. Daily scheduled: Setup start & End time for uploading, Enable this setting Media Station will in “full speed mode” for uploading.

Note: GUI provided full speed mode on/off, please refer to 2.1.2.4



2. Delete after uploading on/off: Enable auto delete the files after uploading
3. Upload files: Available options are All recorded files, Mixed video and Original source

1.5.2 Transfer settings



Followings to be configured according to the upload destination.

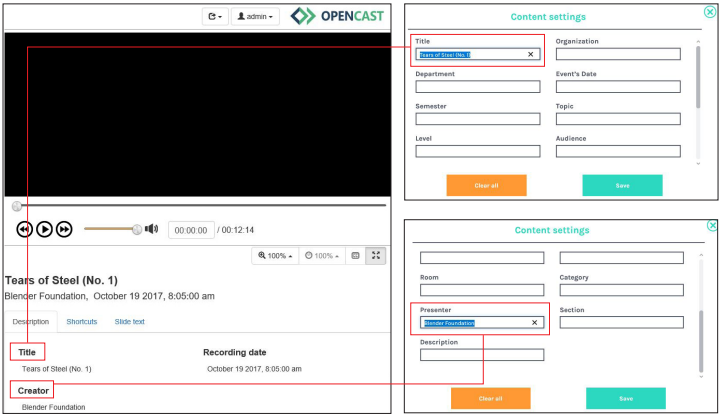
- Mode: Select network server type (FTP, SFTP, Kaltura, Panopto, Opencast HTTP, Opencast HTTPS).
- URL, port, or User ID: Configure these fields according to the upload destination.
- Folder: Enter the folder name of the upload destination.
- Authentication: Configure this section according to the upload destination authentication method.

Connection test- Click the Connection test button to validate upload settings.

Click Apply after setup is completed. New setting is effective from next recording being created.

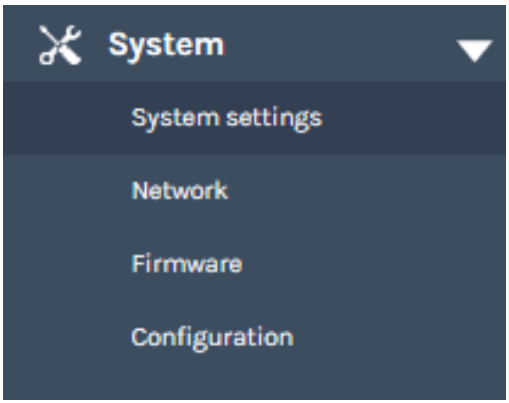
The upload status/result of the corresponding recordings is denoted in the Video Manager web pages.

Note : If the web server is Opencast, the video title and the creator description are automatically filled with the title and presenter of the Director's content settings.



1.6 System

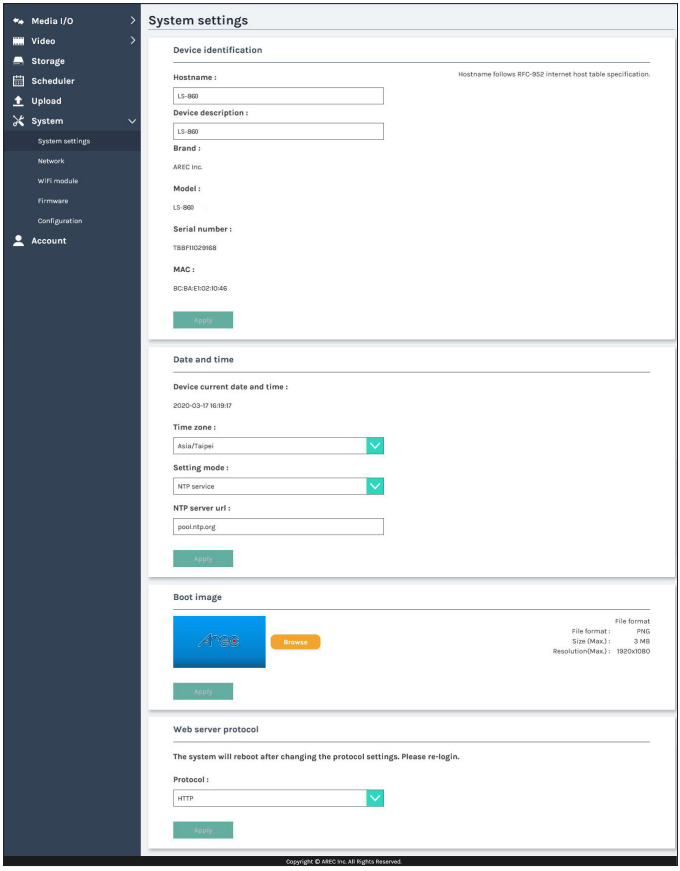
The pages within System include the following:



System settings	Contains device identification, date and time configuration, and booting settings.
Network	The device IP assignment in the networking.
Firmware	Displays the current firmware version, and provides web-based user a way to update firmware for the device.
Configuration	Export / Import the configuration.

1.6.1 System settings

The basic information and initial date/time of this device are configured here.



Device identification – Set the name (device description) for this device.

Date and Time – Set the device date, time, and time zone manually/ be synchronized to PC, or with an external NTP (network time protocol) server.

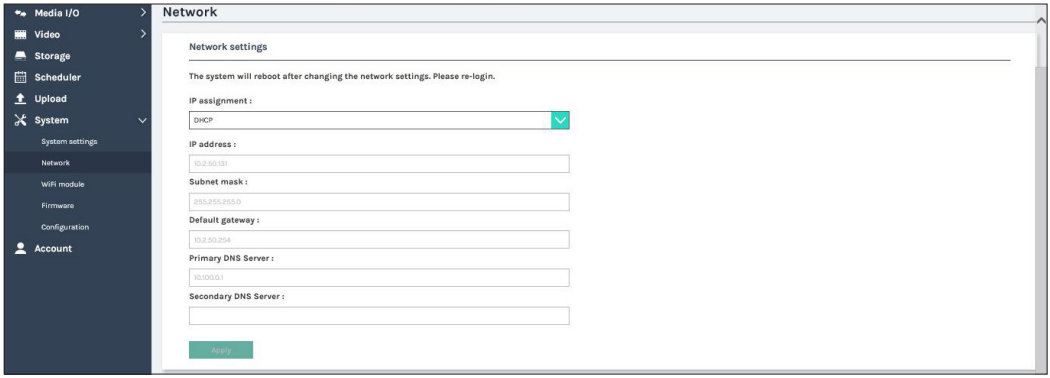
Boot image – Change the boot screen image. The boot screen is the image you will see when you boot up the device. Click Browse button and select the desired file in the Open dialog box. The file name would appears with the newly uploaded image. Click Apply button at the bottom corner to apply the settings, or click ✖ Cancel Cancel to give it up.

Web server protocol: Support HTTP and HTTPS, default is HTTP.

Note: The boot screen file must be in PNG format, maximum size 1920x1080px.

1.6.2 Network

By default LS-860 uses DHCP to obtain an IP Address via a router or any DHCP server. To use a static IP address for your device, configure the network settings in this webpage.



Network settings

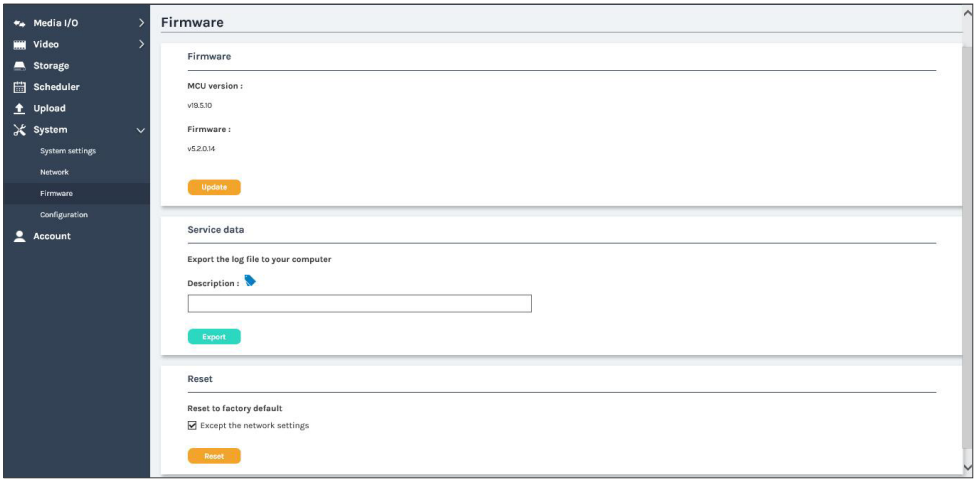
IP assignment – Select DHCP to have IP address be allocated by a router or any DHCP server being connected; or Select Static IP and enter the required network settings including IP address / subnet mask / default gateway/ DNS server.

Click Apply at lower right corner, click Confirm in popup dialog box.

Note: The system will automatically reboot to complete the network settings. Login the updated IP address after the system restarts.

1.6.3 Firmware

This page displays the device firmware version. To update the firmware, click “Update” and a dialog box opens asking you to select the file. Select the desired file and click “Open”, the dialog box closes and the file name appears underneath. Click “Apply” to start firmware update. Click “Cancel” if the uploaded file is no longer wanted.
Note: System will reboot automatically when the firmware update is completed. It might takes a few minutes. Do not shutdown/ power off the system during firmware updating.

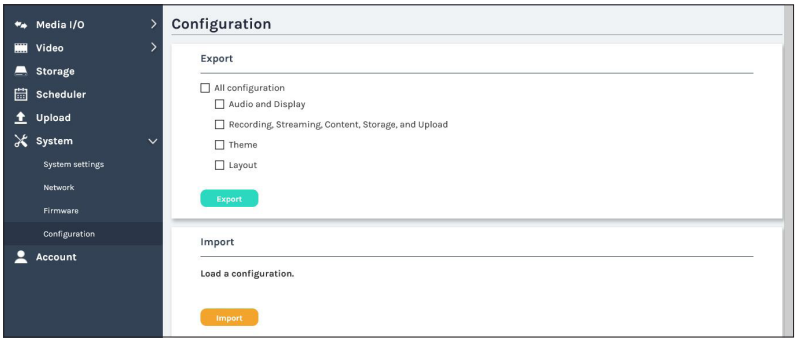


Service data : Export the log file to your computer or upload it to the Customer Service Server. Input the file name, and then click “Export” or “Upload”.
Note : The length of the string is 0~16 characters, allowing letters, numbers, symbols 11(~!@$%^&*-+_).

Reset : Reset to factory default. Check if you want to keep your network settings, and click “Reset”.The dialog pop out and ask you “System will reboot after updating, continue?
" Click “Confirm” to start reset.

1.6.4 Configuration

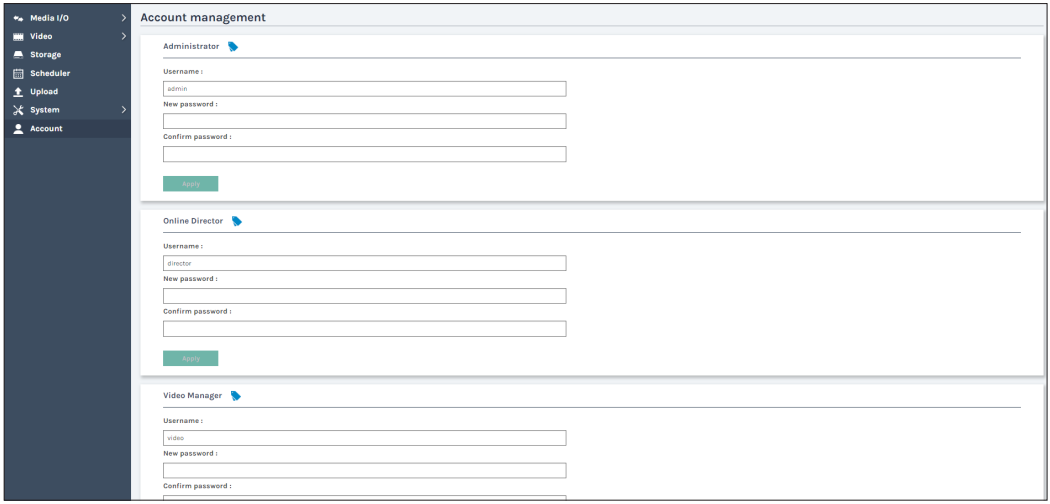
You can export or import the configuration in this page:



Export : Select the configuration to export and click “Export”.
Import : Click “Import”to load a configuration.

1.7 Account

Users can set the system account password etc.



Changing username and password with Administration/ Online Director / Video Manager :

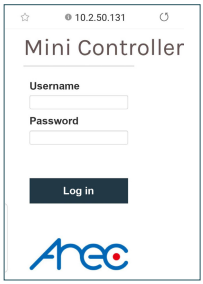
(1) New User: Enter a user login name that you want.

(2) New Password: Enter the user login password that you want.

(3) Confirm Password: Requires you to enter your password again for confirmation.

(4) Click Apply.

1.8 Mini Controller (mobile phone)

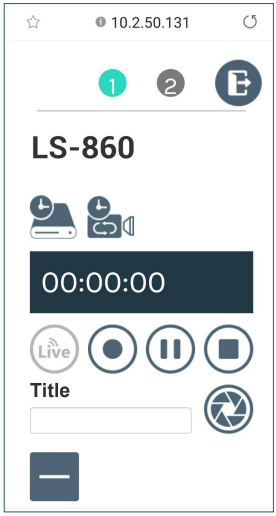


Connect mobile device to LS-860, user can make it easier to control the LS-860 with the mobile device.User can quickly record or switch screens by using the mobile device.

Login : First open the browser, and input IP address in the browser page, log in Mini Controller from the initial login page with Administrator or Online Director account.

1.8.1 Page1

On the top ,show the page1, page2 and exit button.
In page1, show the device description, storage space and recording button.

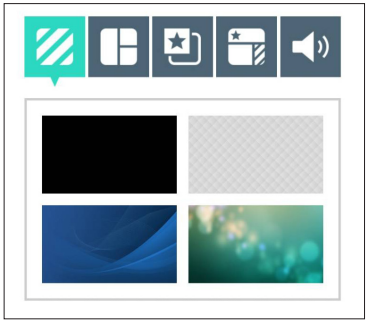


Name	Function
1 Page 1	Click to jump to page 1
2 Page 2	Click to jump to page 2
Exit	Exit the Mini Controller
Device description	Show the device description
Storage space	Show the storage space
Loop recording	Loop recording on
Front USB	Show the storage space
00:00:00 Record time	User can know from here how long they have been recording
Streaming setting	When administrator srteaming setting : Together with recording
LIVE Live streaming	LS-860 live broadcast
Live Streaming	Streaming on/off (When administrator srteaming setting : Independent streaming control)
Record	Click to start recording(In Playback mode : can not record)
Pause	Click to pause recording
Stop	Click to stop recording
Title	Enter title of video
Snapshot	Screenshot of the display
Minimum	Minimize toolbar

1.8.2 Page2

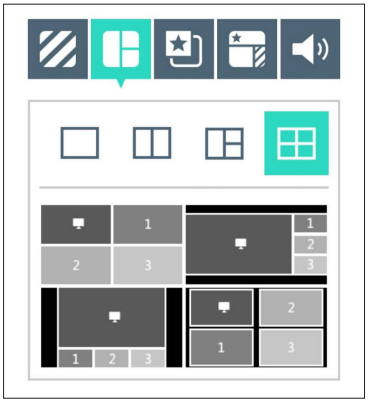
Recording controls panel

There are five tab panels for quickly switching recording background,layout,overlay,theme, and adjusting volume.



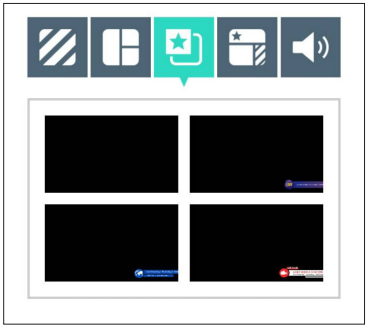
Background

Display the available background images for Online Director controlling. Click the background thumbnail to apply it to the video. LS-860 by factory default provides one plain black background and three user-configurable backgrounds.See Administrator \ Video \ Theme for more detail.



Layout

There are layout templates which are factory default layouts and pre-defined into four groups. User can apply layout to the live view window, recording session, and web streaming all at once. Click the layout template to select the desired layout.

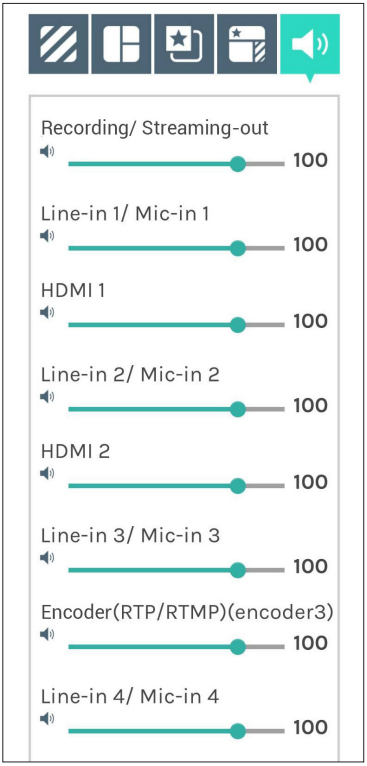


Overlay

LS-860 by factory default provides one plain black overlay and three user-configurable overlays. Click the overlay thumbnail to apply it to the video. See Administrator \ Video \ Theme for more details.

Theme

Theme is integrated with "Overlay", "Background" and "Layout". LS-860 by factory default provides themes by different overlays, backgrounds and layouts. See Administrator \ Video \ Theme for more details.



Volume control

The audio control bar is to adjust the recorded volume from each audio input and adjust the output volume. Adjustable range of sound input is 0-125.

Chapter 2 Director

2.1 Local Director

The LS-860 Local Director operates on the screen after the USB port is connected to the mouse or projector. GUI allow user to control recording and have a live stream view on the display. This director control panel makes it easy to apply layout, select background, and control the audio recorded during the recording process.

2.1.1 Preview

This section briefly introduces the names of the various function buttons, and the functions will be introduced in the next section.

	Hide the menu	LIVE	Stream Status		Snaoshot
	Maximum	00:00:00	Record Timer		Playback
	Overlay		Streaming On/Off		Settings
	Layout		Record	10.2.50.152	IP Address
	Background		Pause		Audio Volume
	Theme		Stop		Display

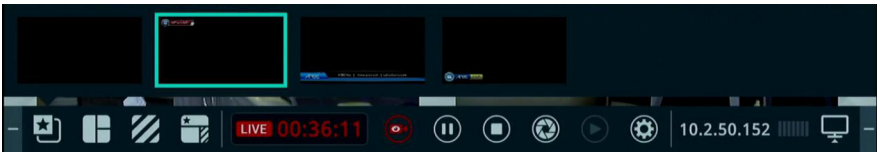
2.1.2 Toolbar

Here will introduce the function of all buttons. We divide the function into many small parts to introduce it for easy reading.

2.1.2.1 Theme and Display

There are five buttons for quickly switching recording overlay, layout, background, theme and display.

Name : Overlay
Function : Change Overlay
Brief introduction :



Name : Layout
Function : Change Layout
Brief introduction :

Name : Background
Function : Change Background
Brief introduction :

Name : Theme
Function : Change Theme
Brief introduction :

Name : Display
Function : Change Content / Cam 1 / Cam 2 / Cam 3 / Mixed video cycling
Brief introduction : Switch image sources to monitor individual image inputs.

2.1.2.2 Recording, Streaming control and Snapshot

1. There are four buttons for quickly control video recording

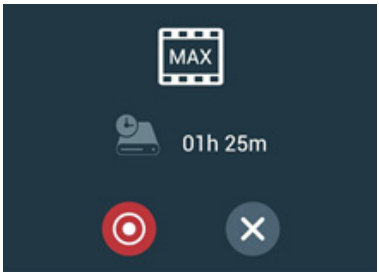
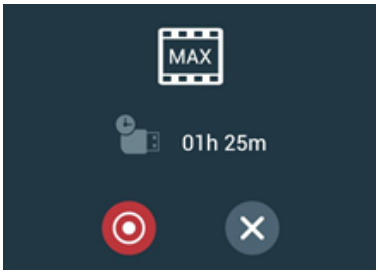
Name	Function	Description
LIVE Status	Streaming status	Status change to red while LS-860 live broadcast
00:00:00 Timer	Record timer	Timer change to red while recording
Streaming	Streaming On/Off	When administrator streaming setting : Enable streaming button
Record	Video recording	The Record button is red to indicate active recording
Pause	Pause recording	The preview video are suspended. To resume recording, click Record.
Stop	Stop to end a recording	-
Snapshot	Screen shot of the preview.	When not recording, the picture will be placed in the snapshot folder of the internal hard drive or front USB, and will appear in the Video Manger. When recording, the picture will be placed in the data set of the video(see 3.1.4 NO.6), and when the snapshot is taken, the bookmark will be automatically added.

2. video recording

Limitation

1. Video length(Max.) : 8hr
2. If Front USB is FAT32, USB record size only 4 GB space time.

Rule

<table>
<tr>
<td>1. Loop recording off
a. Front USB recording off : If internal hard drive < 8hr : max = internal hard drive, show the dialog
b. Front USB recording on and internal hard drive < USB
• If internal hard drive < 8hr : max = internal hard drive, show the dialog</td>
<td rowspan="2"> 
</td>
</tr>
<tr>
<td>2. Loop recording off
c. Front USB recording on and internal hard drive > USB
• If USB < 8hr : max = USB, show the dialog</td>
</tr>
<tr>
<td>3. Loop recording on (internal hard drive = 8hr)
a. Front USB recording on and internal hard drive > USB
• If USB < 8hr : max = USB, show the dialog</td>
<td> 
</td>
</tr>
</table>

2.1.2.3 Playback Video

■ Video list Dialog

Show all videos saved in hard drive,three videos in one page.

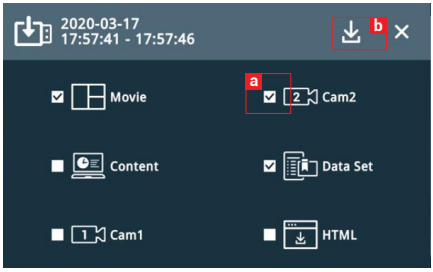
a. Date of video
b. Start-End time of video
c. Total time of video
d. File list page up
e. File list page down
f. Video list pages,click to jump to different video list page.
g. Select the file for copy to front usb disk
h. Click the icon start to copying. While using copy mode, users cannot operate any other tasks like recording, streaming. The system would only focus on copy.

■ Playback mode functions

Name	Function	Description
Play/ Pause	Play/Pause video	While the video is playing, click to pause and click again to resume
Time bar	Show playback progress in bar	Click any point on the bar will jump to correspondent time
00:00:00 Time 00:00:02 Information	Total recording time & current playback time	-
Audio On/Off	Mute or resume playback audio	-

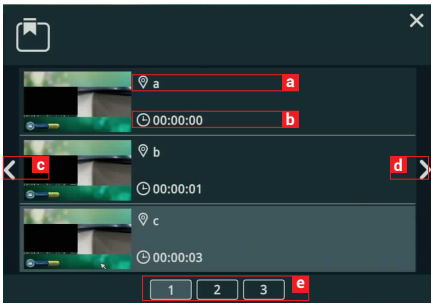
Volume bar	Show playback volume level	Click any point on the bar will adjust to correspondent volume level
Bookmark	Bookmark of video	(The dialog will be introduced below.)
Switch sources	Change playback source	-
Mixed video	Playback Mixed video	-
Content	Playback Content video	-
Cam 1	Playback Cam 1 video	-
Cam 2	Playback Cam 2 video	-
Cam 3	Playback Cam 3 video	-
copy to usb	Open file list Dialog	-
Exit	Exit the playback mode	-

■ File list Dialog



Select the file for copy to front usb disk
a. Select the file for copy to front usb disk
b. Click the icon start to copying, While using copy mode, users cannot operate any other tasks like recording, streaming. The system would only focus on copy.

■ Bookmark



Show all Bookmark list attached with this playback video,three Bookmark item in one page.

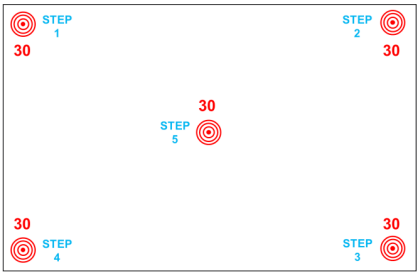
a. Bookmark Title
b. Time Point
c. Bookmark list page up
d. Bookmark list page down
e. Bookmark list pages,click to jump to different video list page.

2.1.2.4 Settings

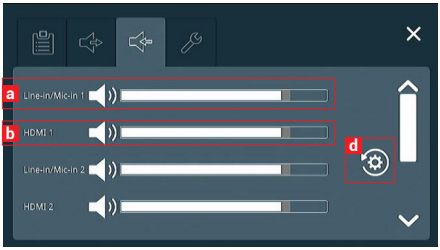
1. Information

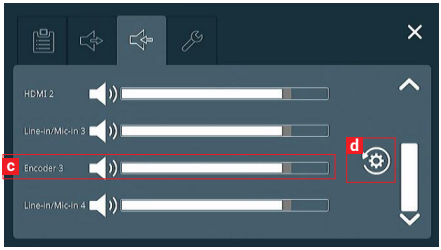
a. Show device information:Hostname/ Device description/ IP address/ Model/ Version/ Brand

b. Projector calibration: Some of the iFPD need to be calibrated before use. Using mouse control to click icon to start calibration. First appears the Touch Module list, select one and the calibration page will show. Using pen or finger to click on the center of the dot one by one. Totally 5 dots and each dot remain 30 seconds for time out.



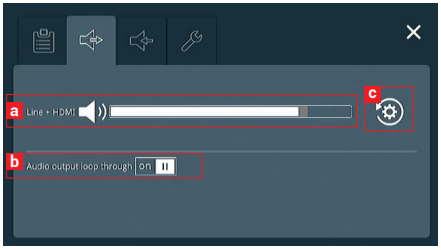
2. Audio In / Out





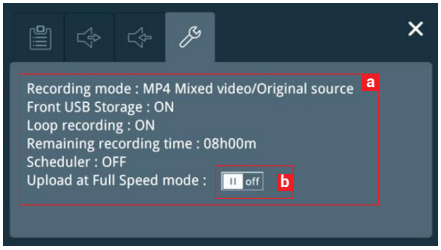
Audio Input Volume Control

a. Line-in/Mic-in 1~4 : Mute/ Down/ Up
b. HDMI 1~4 : Mute/ Down/ Up
c. Encoder: Mute/ Down/ Up
d. Default (Volume only)



Audio Output Volume Control
a. Line + HDMI: Mute/ Down/ Up
b. Audio output loop through : On/Off
c. Default (Volume only)

3. Other settings



a. Admin settings information
b. Upload at Full Speed mode on/off: The "full speed mode" for uploading. While using full speed mode to upload, users cannot operate any other tasks like recording, streaming. The system would only focus on uploading.

Note: Admin provided related options for users to setup it, please refer to 1.5.1

2.1.2.5 Others

Name	Function	Description
10.2.50.152	IP Address	Device IP Address
	Audio Volume	Audio volume meter

2.2 Online Director

The LS-860 embedded Online Director web pages allow user to control recording and have a live stream view of the output video. This director control panel makes it easy to apply layout, select background, and control the audio recorded during the recording process.

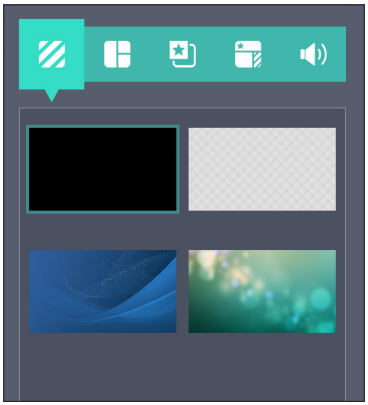
Entering the Online Director webpage via [Administrator] by clicking the button or login Online Director from the initial login page with default username director and password director. Both ways lead to the Online Director control panel for web-based users.

These Web pages provide the following features and information about:

1. A live view window and a control panel of the LS-860 recording and streaming.
2. A visual sources monitoring exclusive panel which allow user to control and monitor the cameras providing the video source.
3. A simplified setting page to configure the content that is going to be recorded and streamed.
4. A Video Manager hyperlink to manage the content stored in the LS-860.
5. Device description, which is configurable for system Administrator, indicates the device location…etc.
6. Storage capacity which is converted into remaining time for recording.
7. Recording/ Streaming status and timer.
8. Recording/ Streaming control and Snapshot buttons.
9. Audio volume meter indicates the audio volume of the content being recorded and streamed.

2.2.1 Recording controls panel

There are five tab panels for quickly switching recording background,layout,overlay,theme, and adjusting volume.

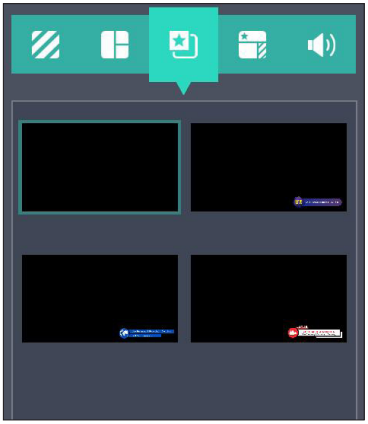


2.2.1.1 Background

Display the available background images for Online Director controlling. Click the background thumbnail to apply it to the video. LS-860 by factory default provides one plain black background and three user-configurable backgrounds.See Administrator \ Video \ Theme for more detail.

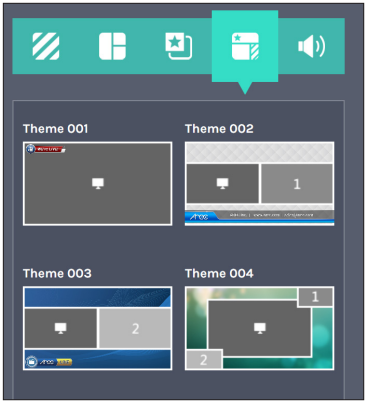
2.2.1.2 Layout

There are layout templates which are factory default layouts and pre-defined into four groups. User can apply layout to the live view window, recording session, and web streaming all at once. Click the layout template to select the desired layout.



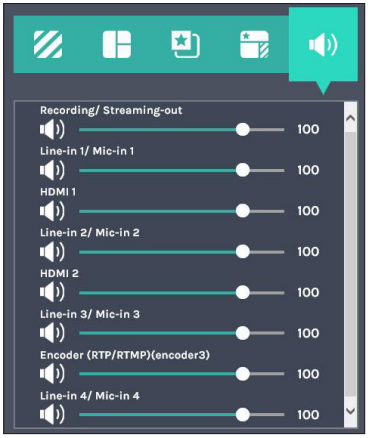
2.2.1.3 Overlay

LS-860 by factory default provides one plain black overlay and three user-configurable overlays. Click the overlay thumbnail to apply it to the video. See Administrator \ Video \ Theme for more details.



2.2.1.4 Theme

Theme is integrated with "Overlay", "Background" and "Layout". LS-860 by factory default provides themes by different overlays, backgrounds and layouts. See Administrator \ Video \ Theme for more details.



2.2.1.5 Volume control

The audio control bar is to adjust the recorded volume from each audio input and adjust the output volume. Adjustable range of sound input is 0-125.

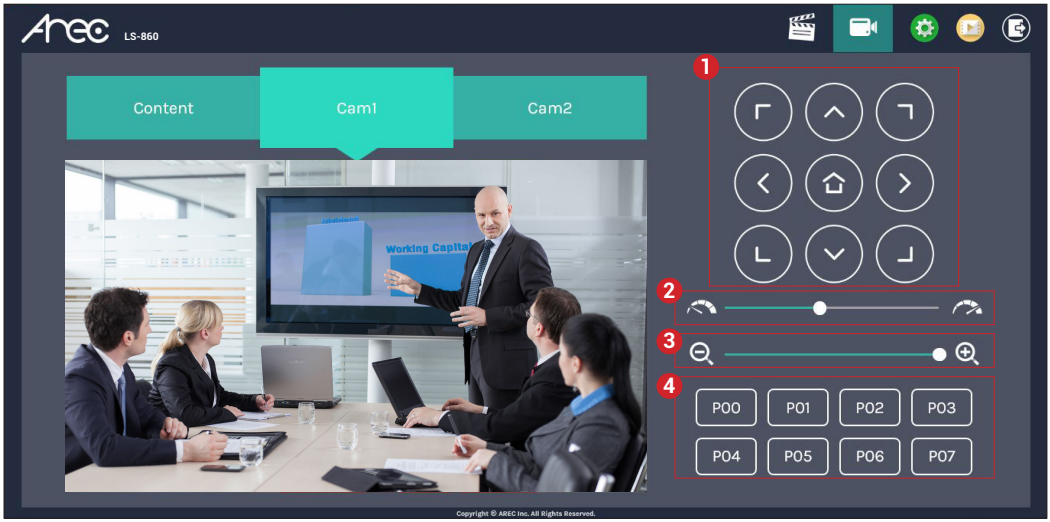
2.2.1.6 Recording/ Streaming control and Snapshot buttons

Buttons are:

Streaming setting	When administrator streaming setting Together with recording
LIVE Live streaming	LS-860 live broadcast
Live Streaming	Streaming on/off (When administrator streaming setting Enable streaming button)
Record	Click Record and recording begins. The Record button is red to indicate active recording.
Pause	Click Pause to pause recording. The preview and the output video are also suspended while recording is paused. To resume recording, click Record.
Stop	Click Stop to end a recording
Snapshot	Screen shot of the preview. When not recording, the picture will be placed in the snapshot folder of the internal hard drive or front USB, and will appear in the Video Manger. When recording, the picture will be placed in the data set of the video(see 3.1.4 NO.6), and when the snapshot is taken, the bookmark will be automatically added.

2.2.2 Visual Sources Monitoring

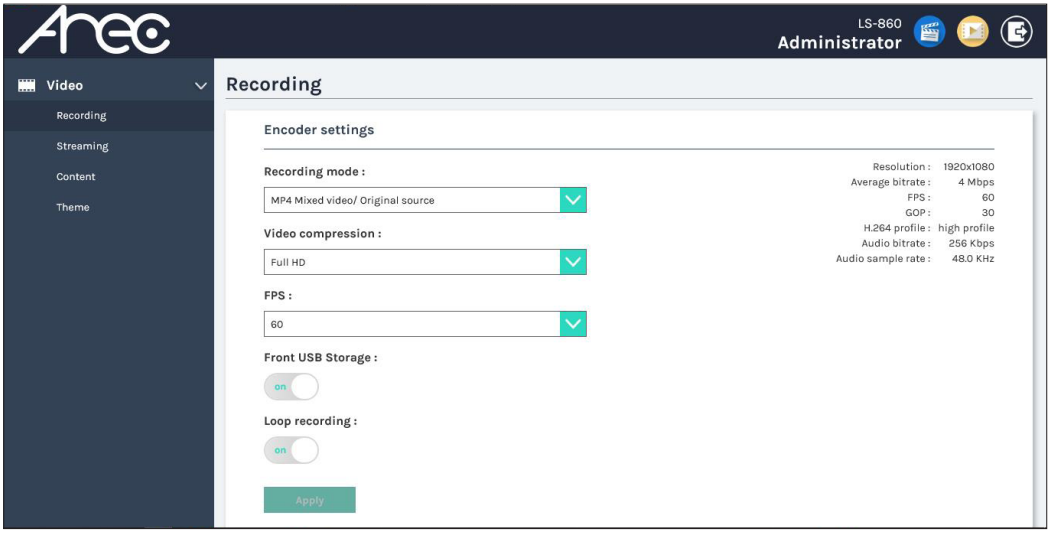
It makes easy for user to control and monitor each video input. Click the tab with the video input name on it to switch the monitoring window. In the case of a PTZ camera, the direction control panel, zoom in/out control bar, and up to 8 preset positions are enabled.



1. Direction control panel: Click the arrow buttons to move the camera.
2. Movement speed: Move leftward or rightward to set slower or faster the camera is moving.
3. Zoom in/out: Click the buttons or drag on the control bar.
4. Preset positions: Click the buttons to command that the camera go to the preset position.

2.2.3 Recording/Streaming setup

The page provides user to change settings for recording, streaming, content and theme.

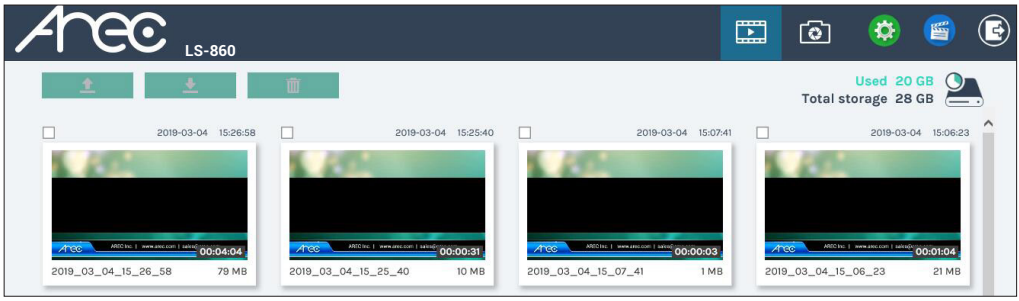


Recording	Configure Encoder settings and Bookmark settings for recording.
Streaming	Configure Encoder settings for streaming.
Content	Edit the information of the content that will be recorded.
Theme	Set the overlay files, background images and theme types.

The detail functions, please refer to 1.2 Video

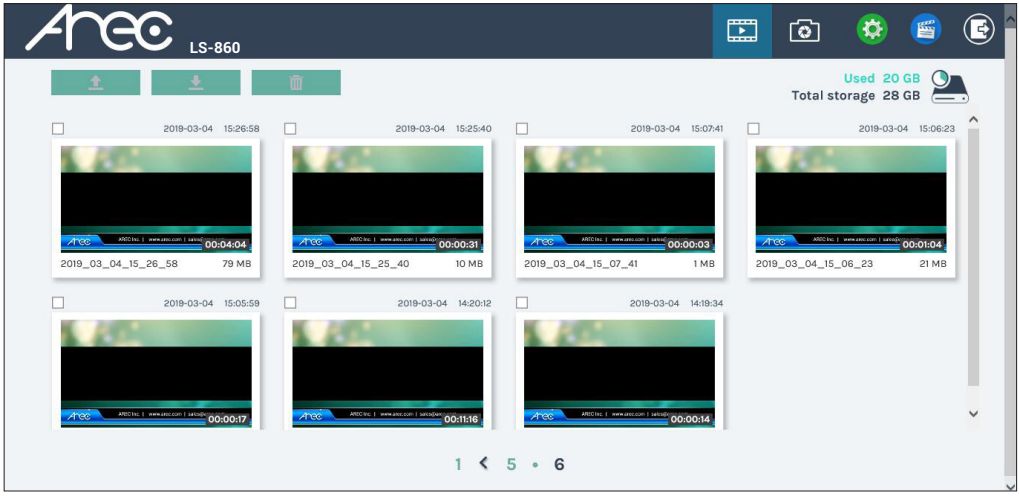
Chapter 3 Video Manager

The LS-860 embedded Video Manager provides access to recordings produced by LS-860 itself and stored in the internal -storage drive or USB. The video and Snapshot lists are in descending order by the time of occurrence.
Entering the Video Manager webpage via [Administrator][Online Director] by clicking the button; or log in Video Manager from the initial login page with default username video and password video.



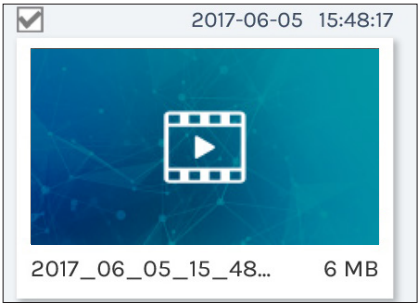
3.1 Video Management

The Video Manager includes the following features:upload, download, delete, playback the recording and edit the recording information.



3.1.1 Upload the recording

Select the desired recording and click to add it in the upload queue. The upload destination is pre-configured by system administrator. See Administrator\ Upload for more details. The LS-860 arranges the upload sequence automatically and indicates the upload status/result on the corresponding recordings. The following indicators are used:



Icon	Upload Status
	The recording package are uploaded successfully.
	The recording upload is failed.
	The recording is in the upload queue.
	The recording is uploading at this moment.

3.1.2 Download the recording

Select the desired recording and click . Select Save if offered the choice to Open or to Save the package. The recording packages are downloaded to your computer included mp4 file and dataset file. These are typically saved to the default download location used by your browser.

The recording package may contain more than one .mp4 files if that is recorded in MP4 Mixed video/ Original source recording mode.

To separately download the files in the recording packages, click on the recording thumbnail and access those in the Content information page.

3.1.3 Delete the recording

Recording packages can be deleted manually to make room for new recordings.

Select the recording and click . A confirmation dialog box opens asking you to confirm the deletion. Click Confirm to permanently remove the recording packages. The list may not update immediately. Refresh the list by reloading this webpage.

3.1.4 Playback the recording

Click on the desired recording and you will be directed to the content information page. Use the player controls at the bottom of the window to watch the video.
There might be more than one files listed under the window if the content is recorded in MP4 Mixed video/ Original source recording mode. Select the video for playback by clicking on the image of the desired one.
The file size being download is shown within the button.
The title used for Mixed video is “Movie”, and those for Original source(s) are the name of the corresponding video input(s); by default are Content, Cam 1, Cam 2 and Cam 3. To separately download MP4 Mixed video/ Original source files, select the desired file and click Download.

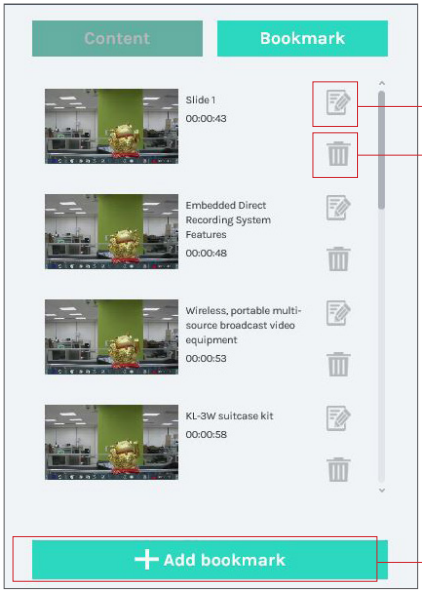
1. Title of the video file being played
2. Recording date and time
3. Edit the content fields
4. Playback window
5. Playback controls
6. Video files and data set (files containing metadata, thumbnail images, and bookmarks.)
7. HTML file and thumbnail images
8. Download button

3.1.5 Edit the recording information

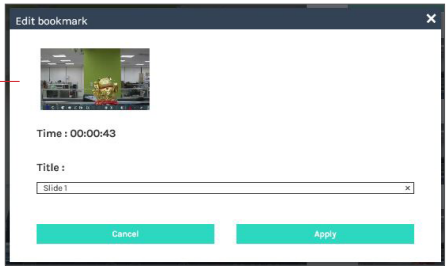
If you require to edit the information of a recording, click on the desired recording and you will be directed to the content information page. Replace the existing text or enter new information in the content fields. Click APPLY to save the changes.

3.1.6 Edit the bookmark information

If you require to edit the bookmark of a recording, click on the desired recording and you will be directed to the Bookmark page.

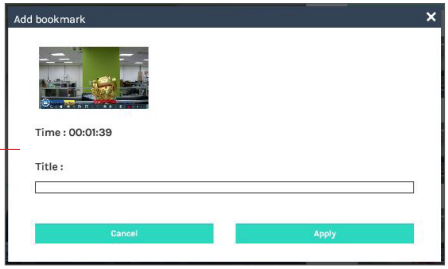


1. Edit the bookmark title.



2. Delete the bookmark

3. Add new bookmark with title.



3.2 Snapshot Management

The Snapshot Manager includes the following features:upload, download, delete, preview.

3.2.1 Upload the photo

Select the desired photo folder and click to add it in the upload queue. The upload destination is pre-configured by system administrator. See Administrator\ Upload for more details. The LS-860 arranges the upload sequence automatically and indicates the upload status/result on the corresponding folders. The following indicators are used:

Icon	Upload Status
	The file package are uploaded successfully.
	The file upload is failed.
	The file is in the upload queue.
	The file is uploading at this moment.

3.2.2 Download the photo

Select the desired photo folder and click . Select Save if offered the choice to Open or to Save the package. The photo packages are downloaded to your computer. These are typically saved to the default download location used by your browser.

To separately download the photo in the folder, click on the folder thumbnail.

3.2.3 Delete the photo

Photo packages can be deleted manually to make room for new photos.

Select the folder and click . A confirmation dialog box opens asking you to confirm the deletion. Click Confirm to permanently remove the photo packages. The list may not update immediately. Refresh the list by reloading this webpage.

3.2.4 Preview the photo

Click on the desired photo folder and you will be directed to the photo list page.

Click on the desired photo to preview the photo.

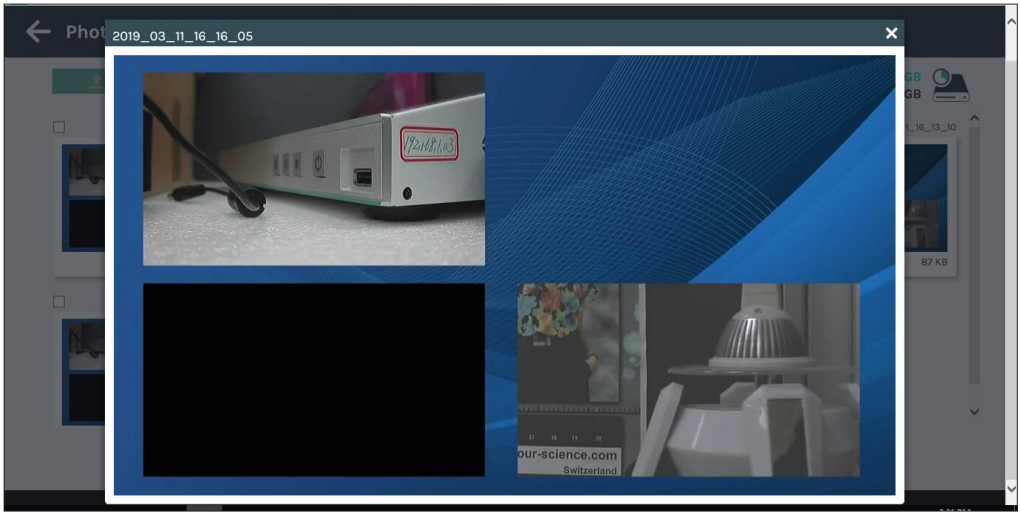
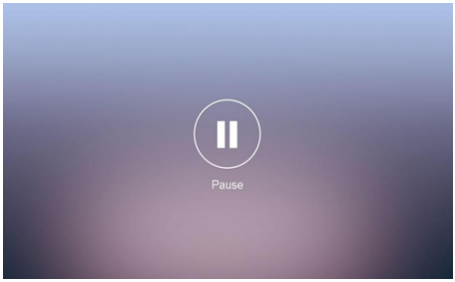


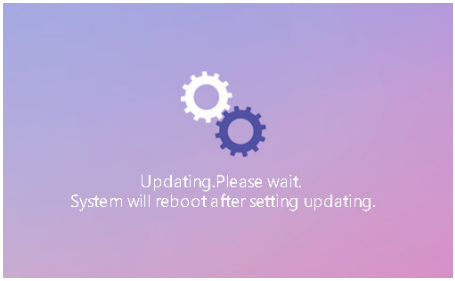
Table of On Screen Display Icons

The LS-860 provides HDMI output for recording monitoring. On screen display there are event icons and sometimes the error operation warnings.

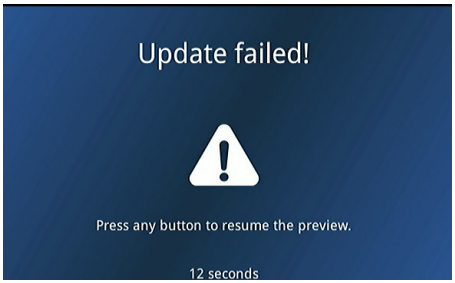
Disk full	Network connection failure	Live Streaming Error	Cancel one schedule recording
Front USB recording error	Operation is denied	Front USB recording	Disk failure
Start one schedule recording	Front USB drive mount		



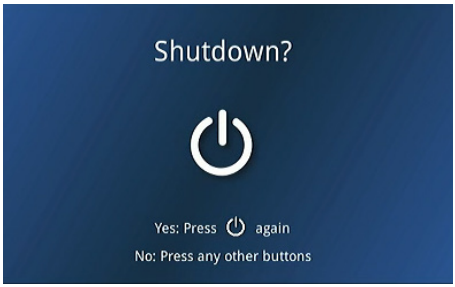
Recording is paused



Firmware updating



Firmware update failure



Shutdown confirmation

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