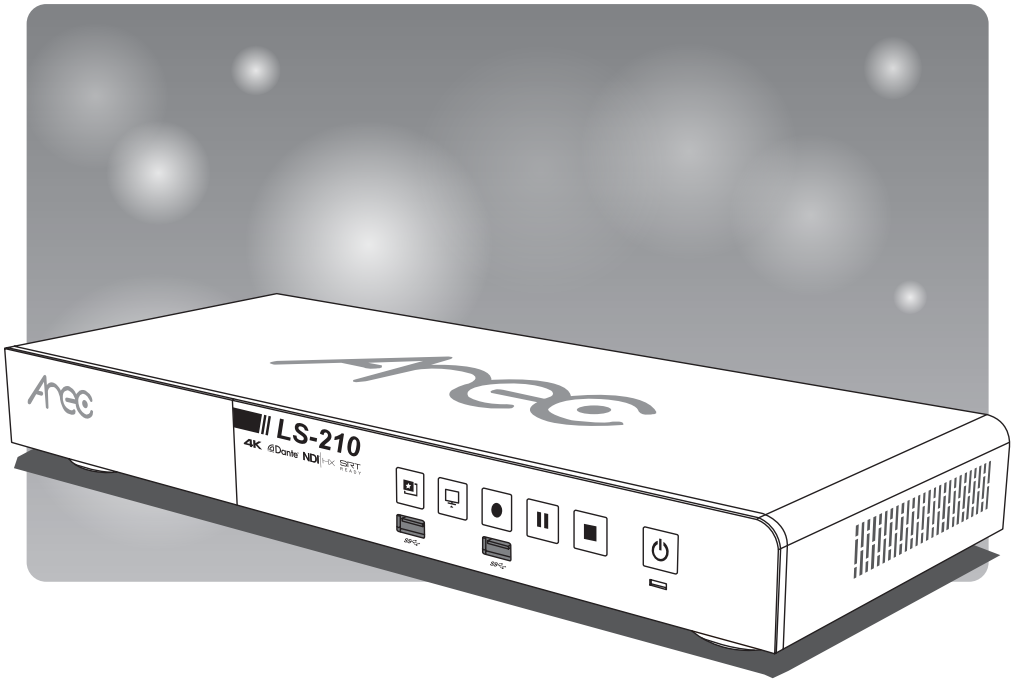
LS-210

Media Station

User Manual | English



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Introduction

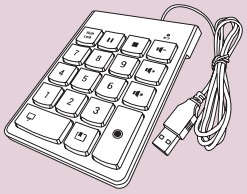
Featuring a compact and stand-alone design, AREC LS-210 Media Station consists of diverse features and functionality, including multi-signals capturing, recording synchronously, codec, streaming online, live broadcasting, and web-based monitor page, providing complete presentation or lecture capture solution.

Specifications

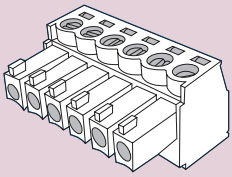
Product Name	Media Station
Model Name	LS-210
Dimension	401mm(L) x 167mm(W) x 54mm(H)
Weight	2250g
Power Requirement	12V/3.34A
Power Consumption (Max.)	40W (Max.)
Operating Temperature / Humidity	0ºC ~ 40ºC / 90%
Maximum normal load description	Insert 2 IP CAM to LAN port and insert 2 video signals (HDMI). Using external USB flash to record the transcoded video/audio. And output the transcoded video/audio to HDMI and DP ports.

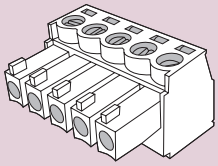
Package Contents

AREC LS-210 Media Station



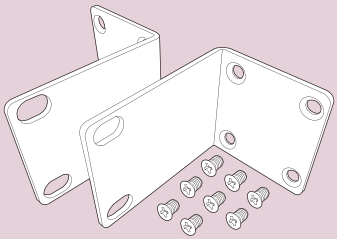
USB Keyboard



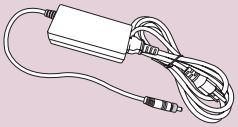


Terminal Block

Quick Installation Guide



Ear Mount*



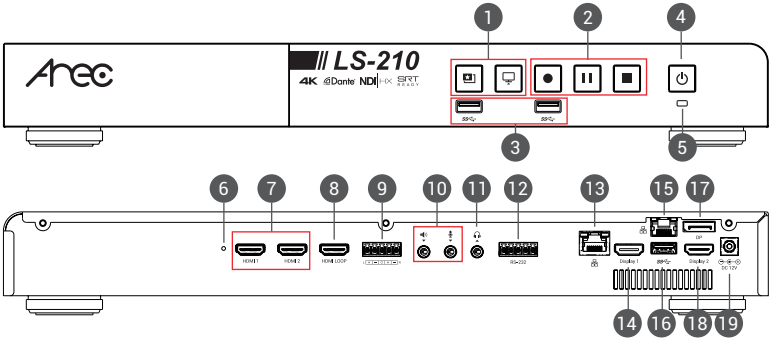
Power Adapter

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

Product Appearance

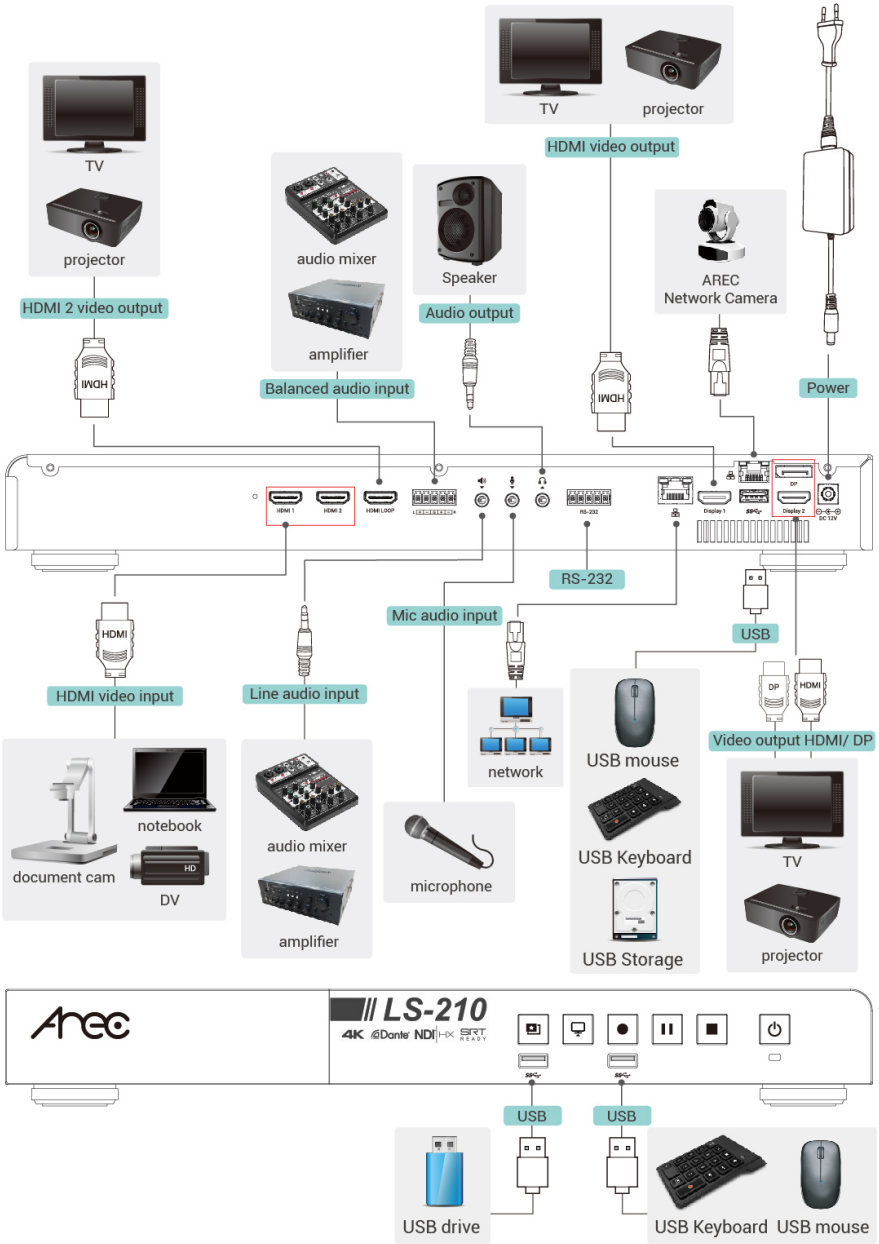
Front

Back



No.	Name	Brief introduction
1	Layout function keys	Control the Layout functions
2	Record function keys	Control the Record, Pause, Stop functions
3	Front USB ports	1. For external USB storage device* 2. Firmware update via USB disk 3. Available for USB mouse, keyboard 4. Available for USB video/audio input (Note: Connecting an USB AV device via an USB hub is not recommended. It may cause compatibility issues.) NOTE: Can detect and record to USB storage devices using FAT32, NTFS, Ext3, Ext4, exFAT file systems.
4	Power	Power on/off the device
5	Indicator	Red/Green dual color to show device status
6	Reset button	Long push to reset to default settings
7	HDMI inputs	HDMI input source for PC, Cameras
8	HDMI loop out	HDMI loop through from adjacent input port
9	Audio input	Balanced audio-in with a 5-pin Phoenix connector
10	Audio input	Line audio input / Mic audio input
11	Audio output	Line audio output
12	RS-232	Captive screw connector for control over RS-232
13	Ethernet port	RJ-45 Ethernet connector for WAN connection
14	Video output	HDMI output (preview recording with on-screen GUI)
15	Ethernet port	RJ-45 Ethernet connector for LAN connection
16	Back USB port	Function same as front ports
17	Video output	DisplayPort output (inputs monitoring or multi-source display)
18	Video output	HDMI output (inputs monitoring or multi-source display)
19	Power port	12V/ 3.34A

Connection


TV
projector
HDMI 2 video output
audio mixer
amplifier
Balanced audio input
Speaker
Audio output
TV
projector
HDMI video output
AREC
Network Camera
Power
RS-232
Mic audio input
USB
HDMI video input
Line audio input
network
USB mouse
USB Keyboard
USB Storage
Video output HDMI/ DP
TV
projector
notebook
document cam
DV
audio mixer
amplifier
microphone
LS-210
USB
USB
USB drive
USB Keyboard
USB mouse

Front Panel Buttons and Indicators

Button	Brief introduction
Overlay	Overlay cycling.
Output Switcher	Switch image sources to monitor individual image inputs.

Button/ Indicator	Display method of indicator	Product status
Record / Pause / Stop buttons with indicators	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 indicator	Steady green.	Boot up completed.
Power indicator	Solid red.	The device is booting up or shutting down
	Solid green.	Boot up completed.
	Fast flashing green.	Firmware updating.
	Slow flashing green.	Uploading the video files or copying files to front USB storage.
	Fast flashing red.	The storage is abnormal or the system is overheating.
	Slow flashing red.	The device is in sleep mode.

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

Way 1:

Connect PC to the setting port(LAN) of the Media Station with standard network cable. Open up the browser, and input 192.168.11.254 in the URL column. You will then connect with LS-US2 webpage interface.

Way 2:

Connect the video output port to a screen with an HDMI cable. Make your PC and Media Station on the same physical LAN, and enter the IP address displayed in the lower right side of the screen in your browser to access the System Administration webpage.

Log in **Administrator** with default username **admin** and password **admin**, then entering System Administration webpages.

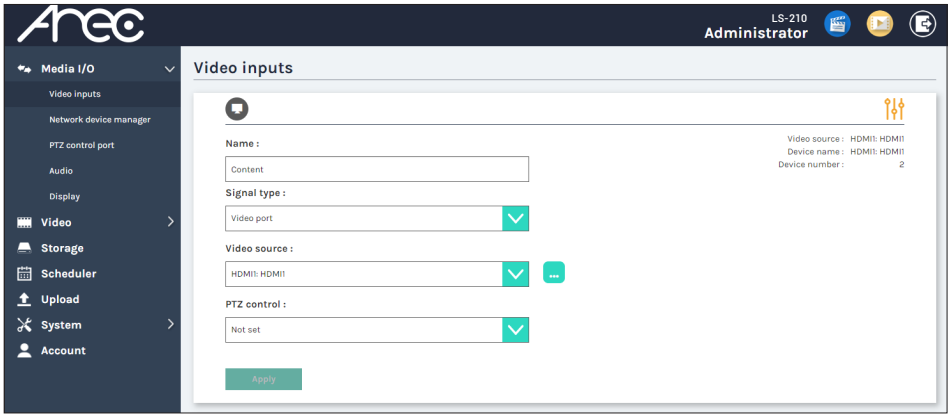
Overview of the Web Interface

LS-210 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.

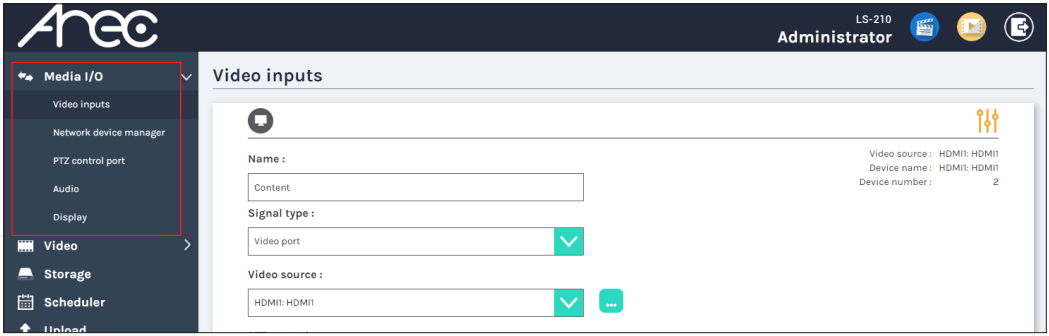
Chapter 1 Administrator

The Administrator web pages provide a system administration interface of the LS-210: 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

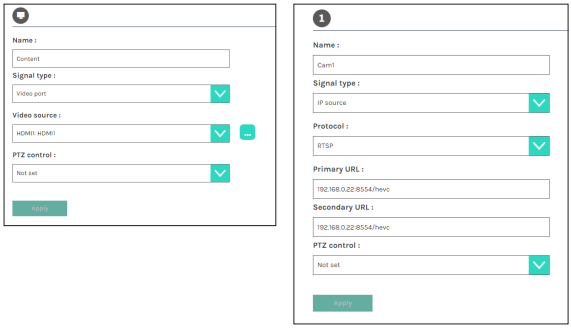
The pages within Media I/O include the following :



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-210 back USB-to-RS-232 serial port to drive PTZ cameras.
Audio	Adjust the volume and select the audio input source.
Display	Set the LS-210 on screen display language, video output settings and color adjustment.

1.1.1 Video inputs

The LS-210 is capable of process up to two video inputs. The name of these inputs are user configurable; by default are Content, Cam 1.



1.1.1.1 Content / Cam 1

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

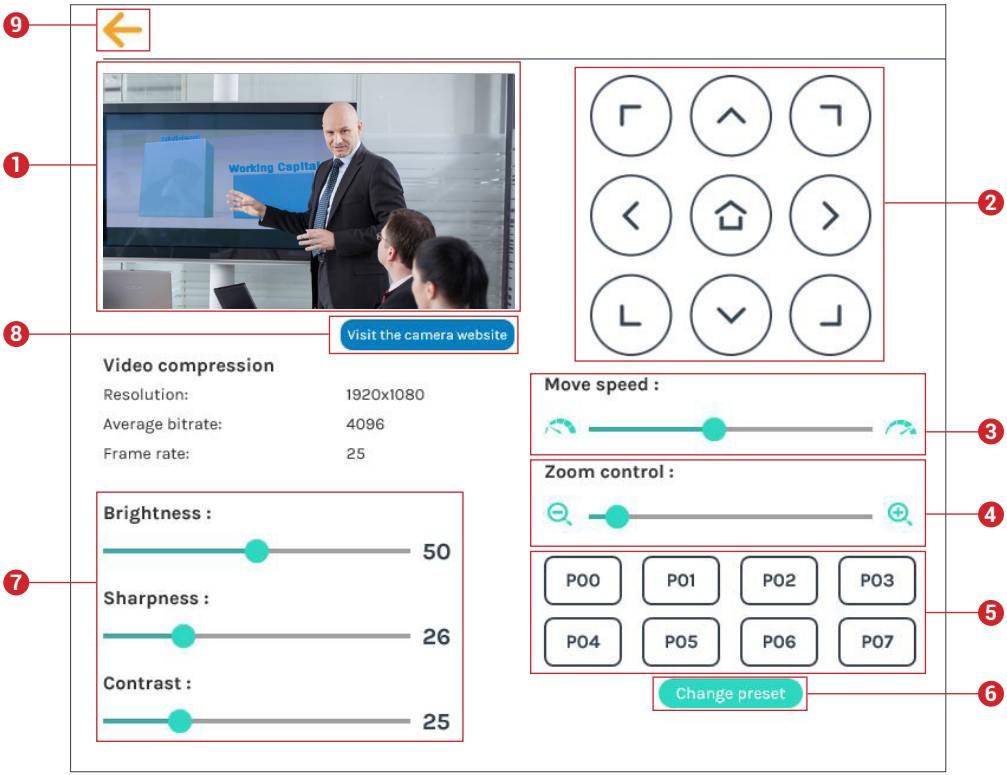
Video port	Select Video source: The LS-210 provides HDMI and UVC (USB Video) input options for video port.
Network Camera	Select IP address: Select from the camera ip address drop list of those available. Note: A login authentication with the camera might be required. See Media I/O\ Camera manager for 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-210 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 drop list Port 1~4. 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.
VISCA over IP	For the camera which support VISCA over IP control, make sure the camera and LS-210 are under the same LAN environment. After select VISCA over IP from the drop down list, please input IP address of the camera for the connection.

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.



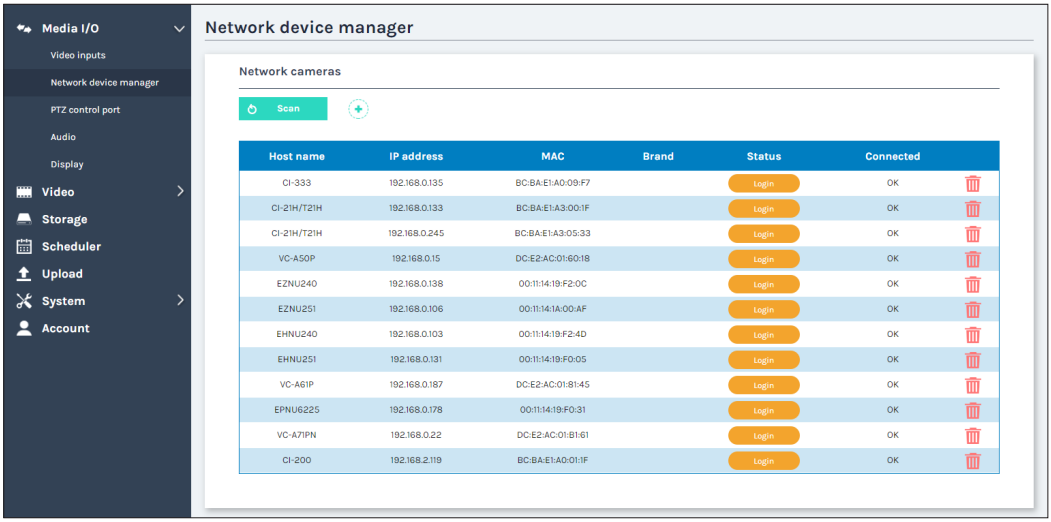
1. The video input preview.
2. Direction control panel: Click the arrow buttons to move the camera.
3. Movement speed: Move leftward or rightward to set slower or faster the camera is moving.
4. Zoom in/out: Click the buttons or drag on the control bar.
5. Preset positions: Click the buttons to command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

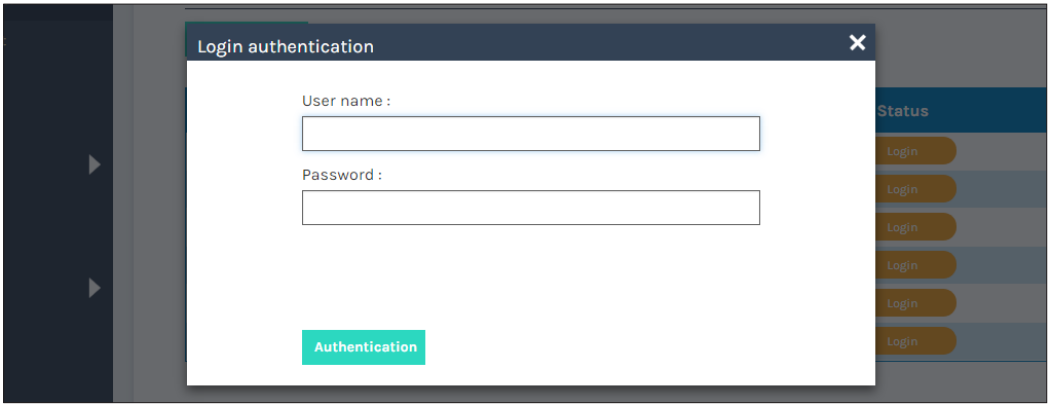
1.1.2 Network device manager

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.



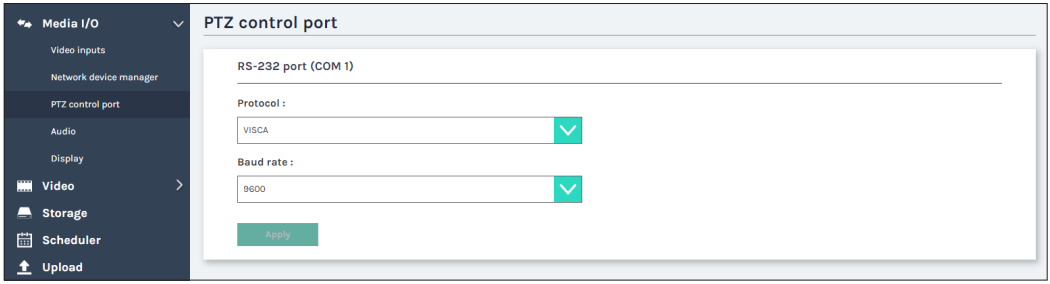


1.1.3 PTZ control port

The LS-210 facilitate the web-based users control PTZ cameras using RS-232 protocol. Connect an USB-to-RS-232 adapter to the LS-210 back USB 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.

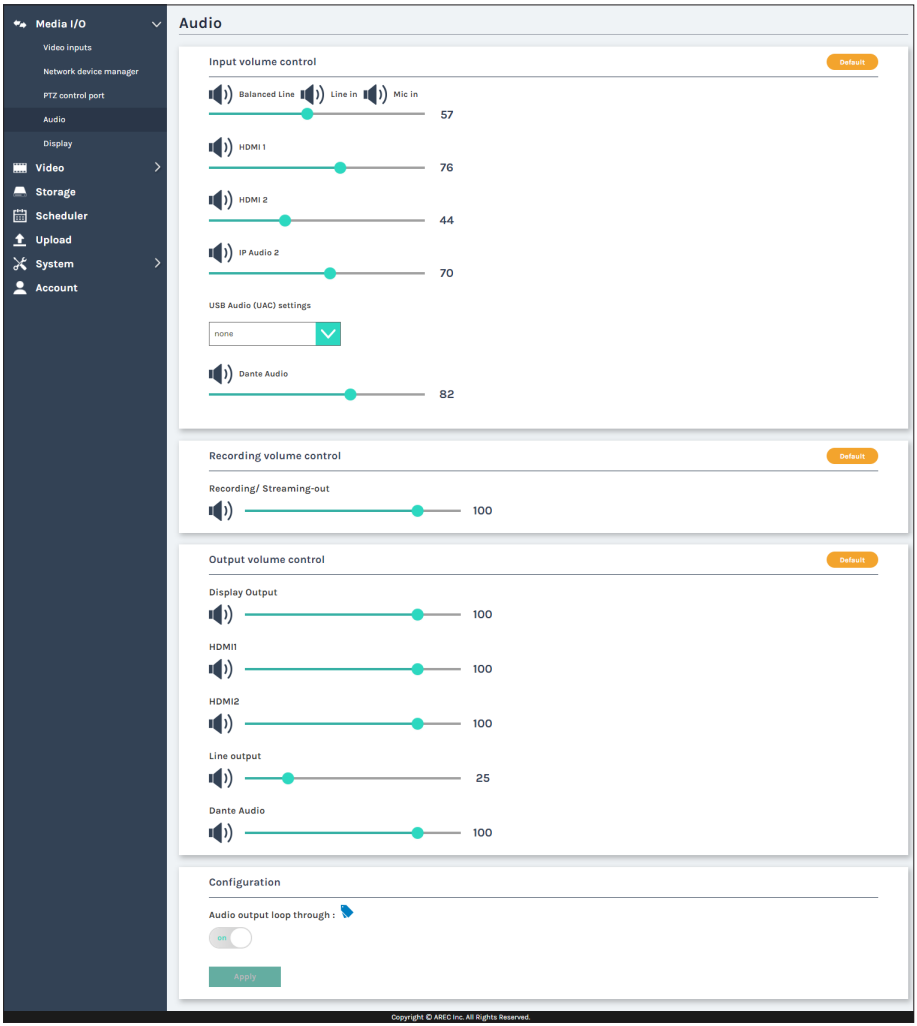
- Protocol : Available options are VISCA, PELCO-D, and PELCO-P;
- Baud rate : 2400, 4800, 9600, and 115200

Note: Support USB to RS-232 serial port adapter with chip PL2303 or FT4232H.



1.1.4 Audio

Adjust volume and select the audio input source.



Input volume control - Users can select the sound source from the drop-down menu. Adjust the volume of the recorded files from each audio input. Which include Balanced, Line in, Mic in, HDMI 1/2, USB and Dante audio. Configurable range of sound input is 0-125.

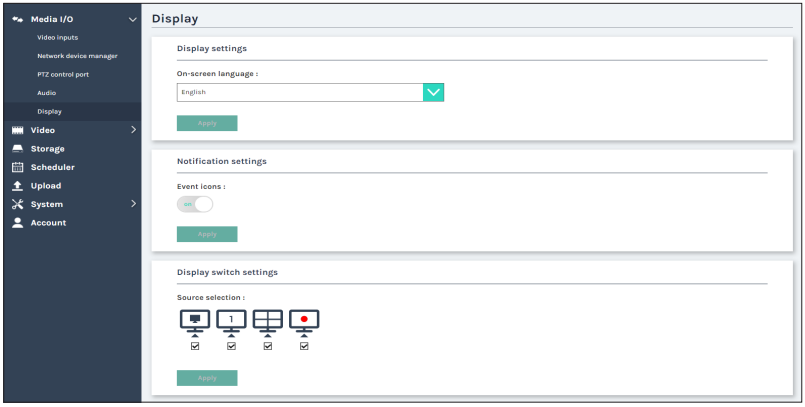
Recording volume control – Adjust the volume of recording videos or streaming.

Output volume control - Adjust the DisplayPort, Line, Dante and HDMI 1/2 output volume.

Set Audio output loop through on/ off. Click on "Apply" button to apply.

1.1.5 Display

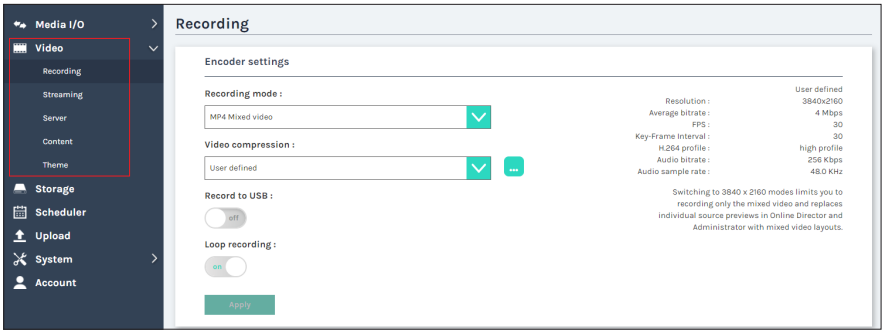
Set the LS-210 on screen display language, video output settings and color adjustment.



On-screen language: Change the GUI language.
Notification settings: Switch ON/OFF of the event icons shown on top right corner of the monitor.
Display switch settings: Allow multiple selection of the display video sources. Check the desired video sources and the system will hide the others when pressing the output switching button in both the GUI tool bar and the front panel.

1.2 Video

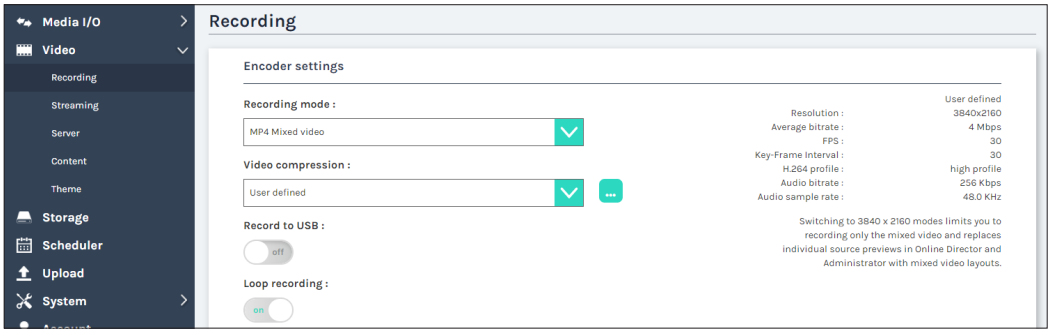
The pages within Video construct a collection of settings that defines the operating characteristics for a streaming/recording, include:



Recording	Configure Encoder settings and Bookmark settings for recording.
Streaming	Configure Encoder settings for streaming.
Server	NDI settings
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

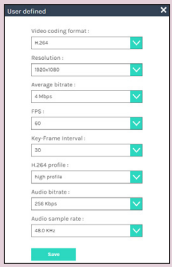
Set up the Encoder settings and Bookmark settings for recording.



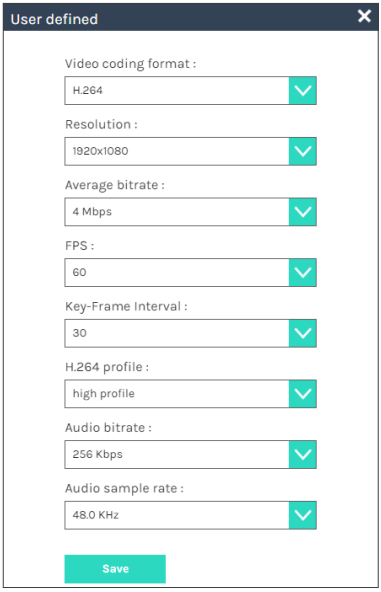
Encoder settings

- 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.
- Front USB recording : Set ON/OFF to enable/disable LS-210 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-210 local storage recording rule.

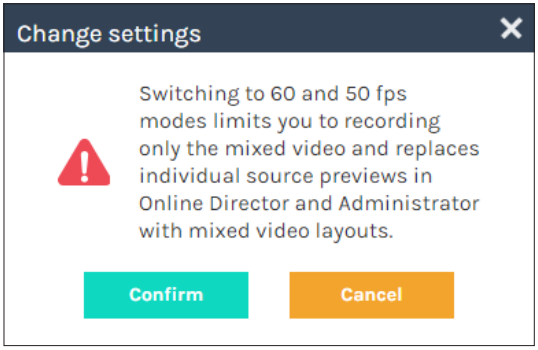
Click Apply button at the bottom corner when finished to apply the settings.

Profile name	Video Resolution/ Bitrate	Application description
Full HD	1080p30/ 4Mbps	Dynamic scene and large local hard disk recording.
Internet Full HD	1080p30/ 3Mbps	General scene and medium local hard disk recording.
HD	720p30/ 2Mbps	Static scene and small local hard disk recording.
Internet HD	720p30/ 1.5Mbps	Live broadcasting through the Internet.
SD	480p30/ 800kbps	Static scene for live broadcasting through the Internet.
Mobile SD	480p30/ 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. You could select 4K resolution or 1080p 50, 60fps in user define drop down list. There will be some limitations after you apply. Please see below for more information. 	

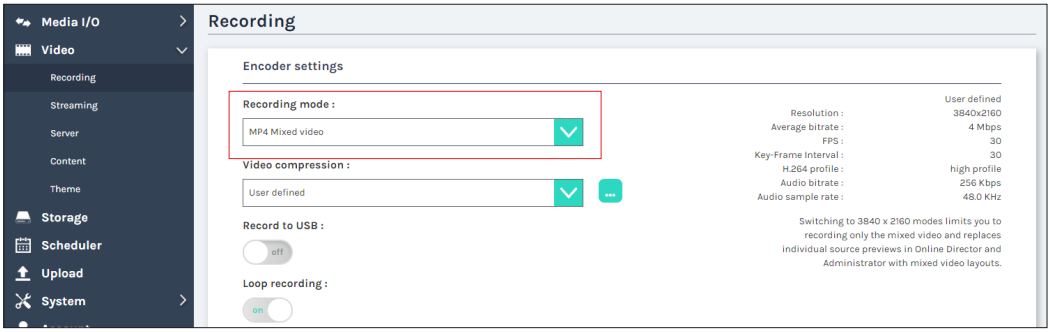
[Exception 1: 1920 x 1080 @ 50/60 fps]
When select 50 or 60 FPS with 1920 x 1080 resolution, it will come with a notice to show the limitations.



Click on "Confirm" to apply or "Cancel" to exit.

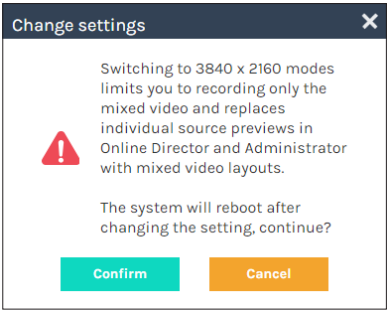


After change to 1920 x 1080@ 50 or 60fps, there will be only "MP4 Mixed video" shown in Recording mode.

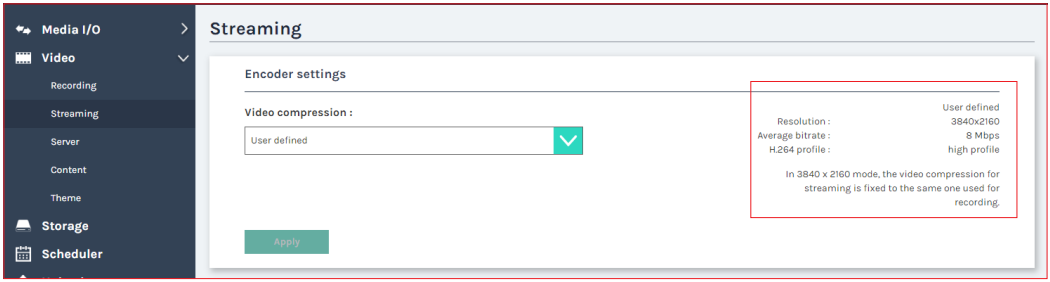


[Exception 2: 3840 x 2160 @ 30 fps]
When select 3840 x 2160 resolution, it will come with a notice to show the limitations. Click on "Confirm" to apply or "Cancel" to exit.
The system will reboot automatically after the setting applied. The reboot will also happen when changing the resolution from 4K to another resolution.

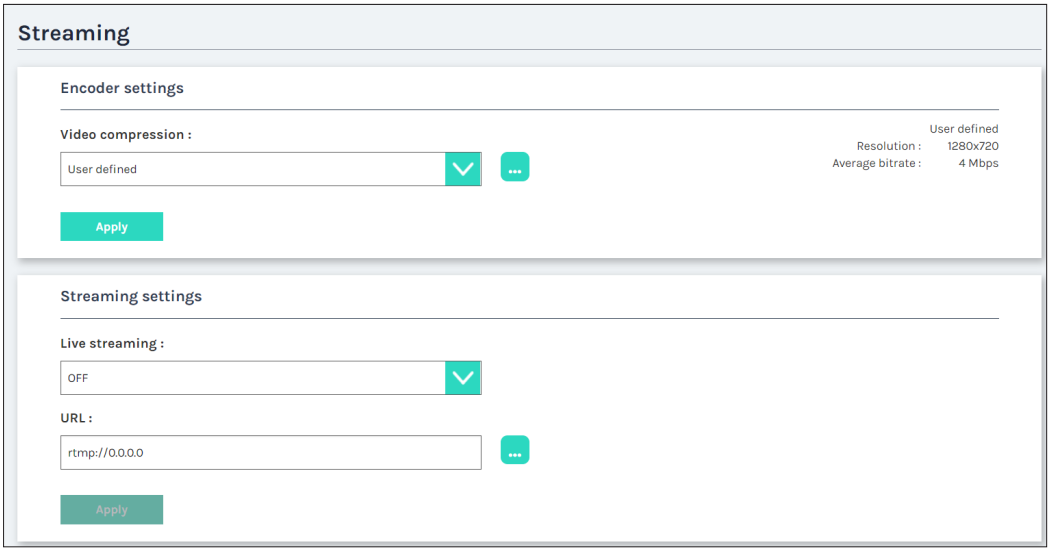
After change to 3840 x 2160, there will be only "MP4 Mixed video" shown in Recording mode.



Meanwhile, the streaming profile will be switched to be the same as recoding profile automatically.

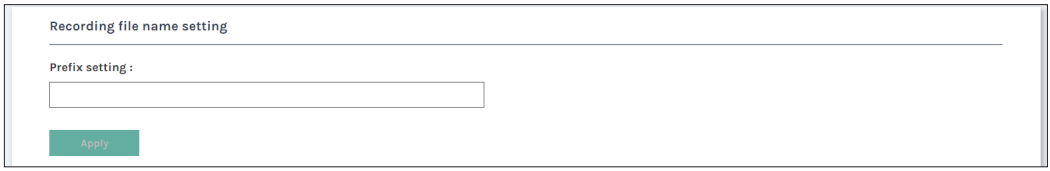


[Exception 3: HEVC mode]
When select H.265, which is also called HEVC compression, as the video recording format, the video compression will be fixed to user defined as 1280x720@4M for a more stable performance.

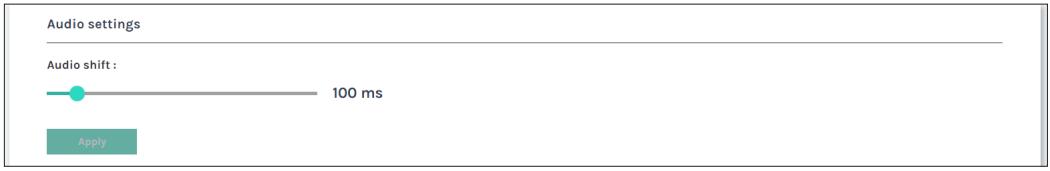


Bookmark settings- Set ON/OFF to enable add bookmark automatically. Click Apply button at the bottom corner when finished to apply the settings.

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

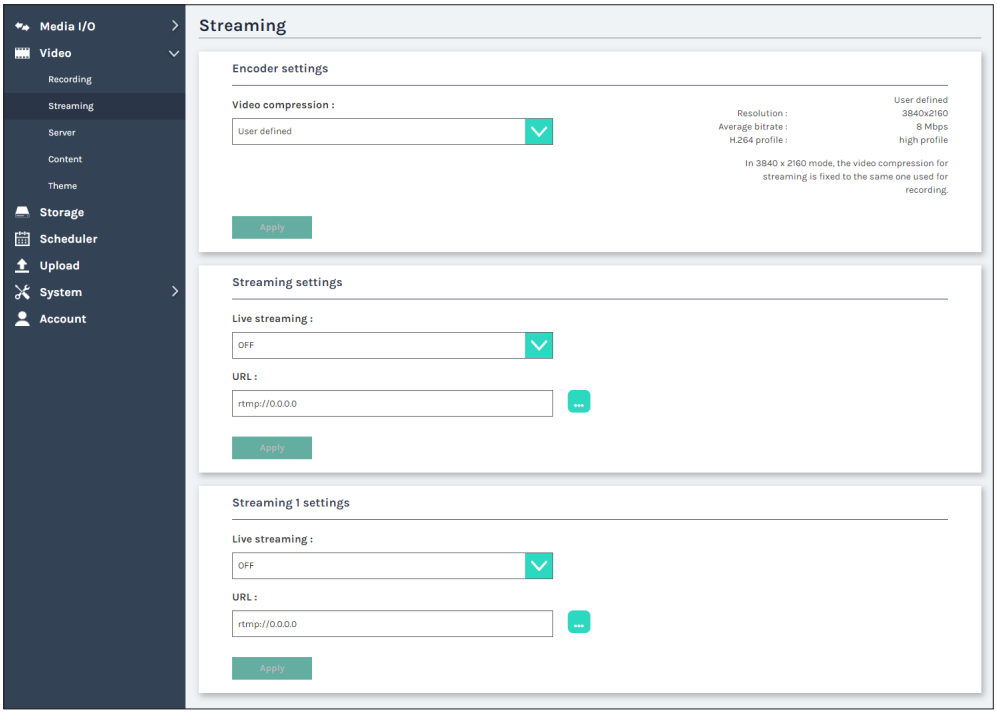


Audio shift- Adjust the delay of sound after video transmission. Synchronize the video and audio with consistency.

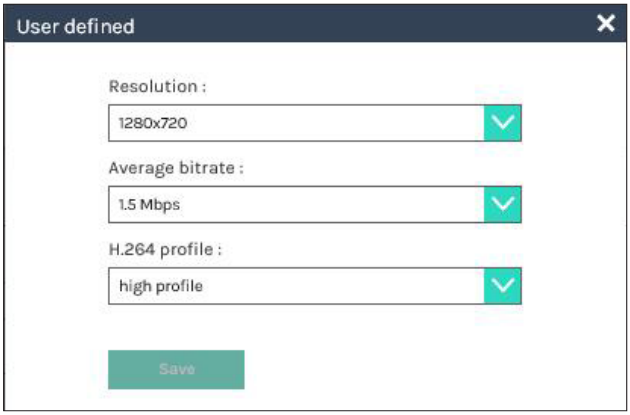


1.2.2 Streaming

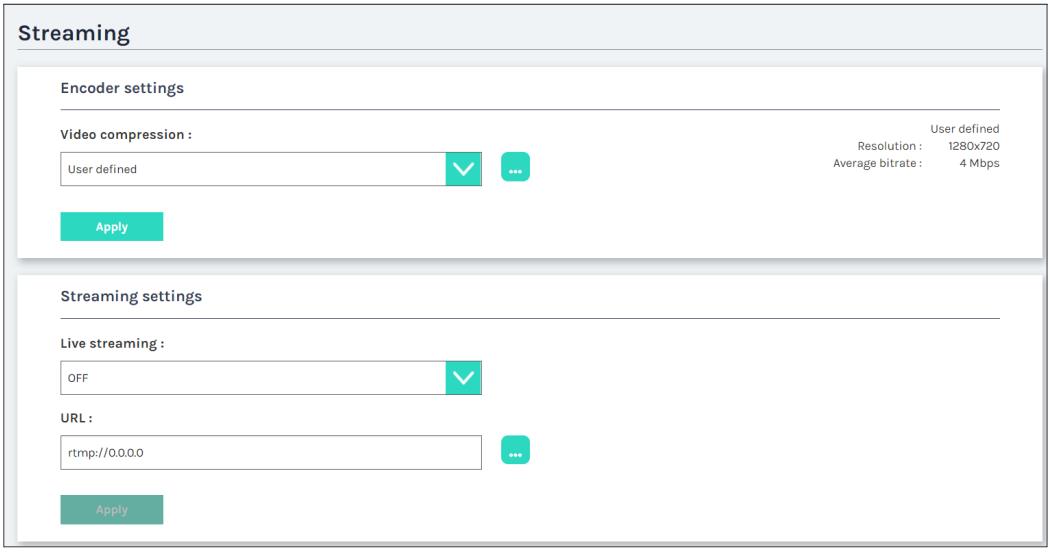
AREC Media Station support two streaming address with same video compression. The page provides user to change streaming settings. It is essential that the configurations follow the streaming protocol and recommended settings your server system supports.



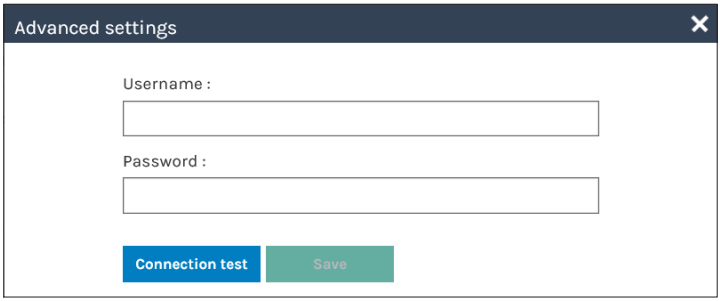
Video compression profile — There are 7 streaming video compression profiles for different resolution and bitrate. Select one to see the option details on the right side. You may customize your own user defined option. Click ... button to open customization window as shown below, and click Save button 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.



[Exception: HEVC mode]
When select H.265, which is also called HEVC compression, the video compression will be fixed to user defined as 1280x720@4M for a more stable performance.



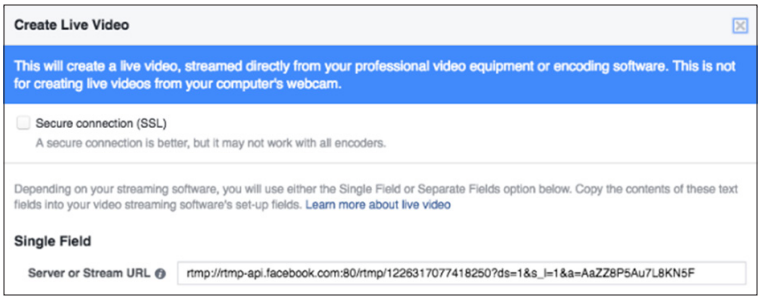
Live streaming : Select OFF/ Together with recording/ Streaming always/ Enable streaming button to setting live streaming ability.
Together with recording : Streaming and recording simultaneously
Streaming always : LS-210 always streaming
Enable streaming button : Enable streaming On/Off button on GUI 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-210 are RTP and RTMP, the URL format is as follows :

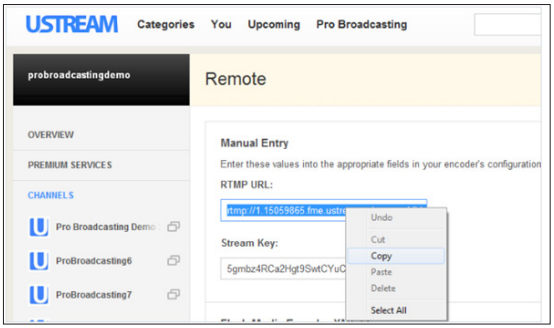
RTMP	In the protocol setting field, copy and paste the Server or Stream URL and Stream name provided by you CDN or server administrator in the format rtmp://serverurl/streamname.
RTP	Enter the destination IP address and the port number where the streaming is played in the format rtp://@:1234. For example,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

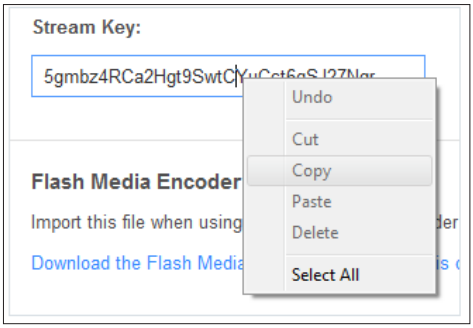
Followings are some popular examples for streaming settings.
Streaming to Facebook Live
Copy the contents of the Single Field, Server or Stream URL, and paste in the LS-210 streaming protocol setting field.



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-210 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-210 streaming protocol setting field.

Streaming to a media player on a PC in the same LAN with the LS-210

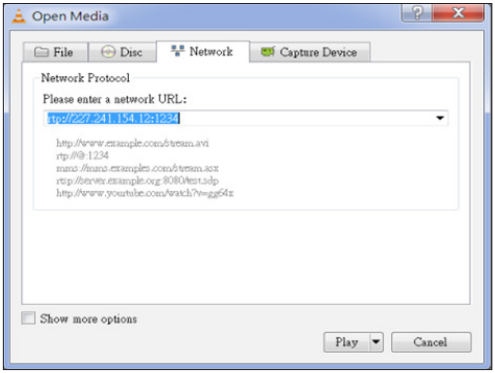
Enter the destination IP address and the port number where the streaming is played in the format rtp://@:1234.

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.

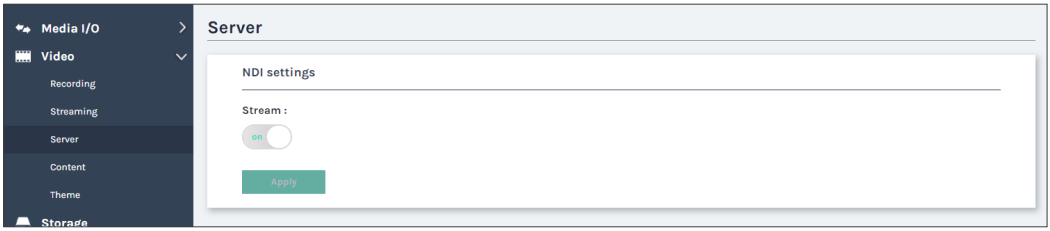
The LS-210 use IP address: 239.0.0.1 and port number: 5004 as the stream default. The available range of port number is 1024 to 65535.

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



1.2.3 Server

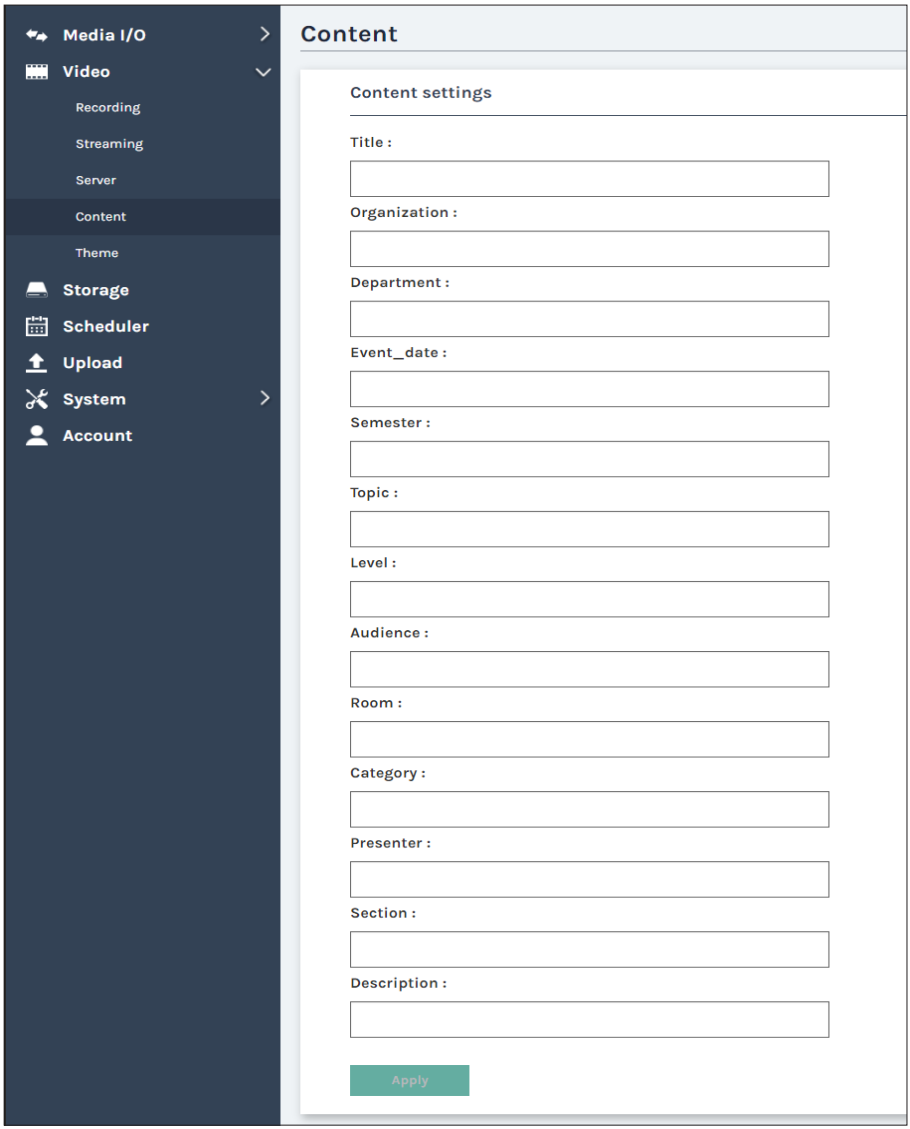
NDI server trun on or trun off.



1.2.4 Content

The LS-210 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.

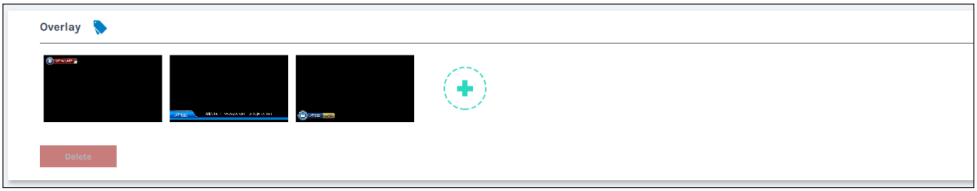
Note: These updates do not apply to the existing recordings. To edit the existing recording information, see Video Manager.



1.2.5 Theme

LS-210 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.

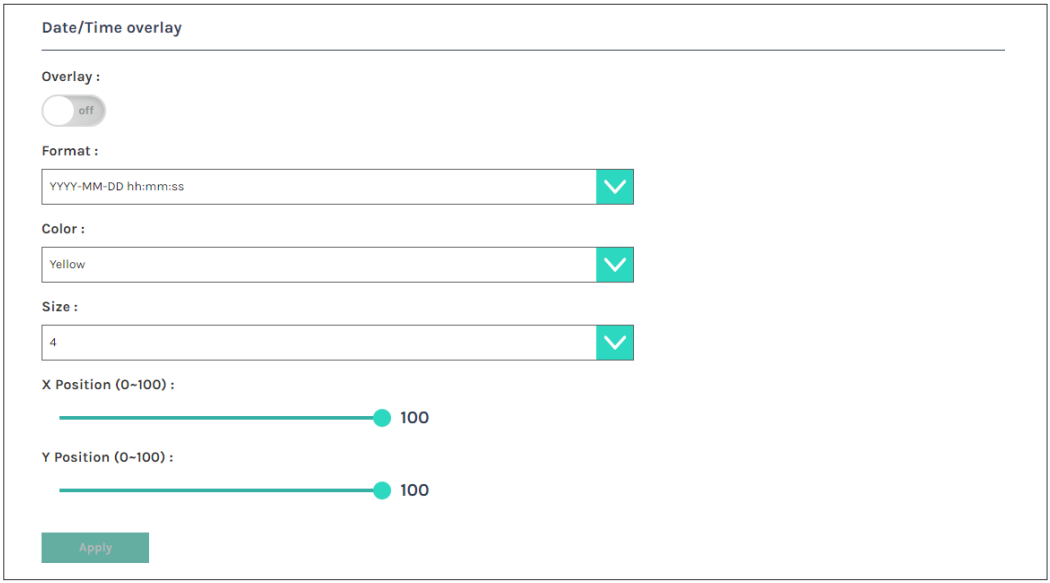


Background : Select and delete the background. Click [⊕] button and select the desired file in the Open dialog box. The file name would appears with the newly uploaded image. Click Apply button at the bottom corner to apply the settings, or click [Delete] Cancel to give it up.
Note: The background file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

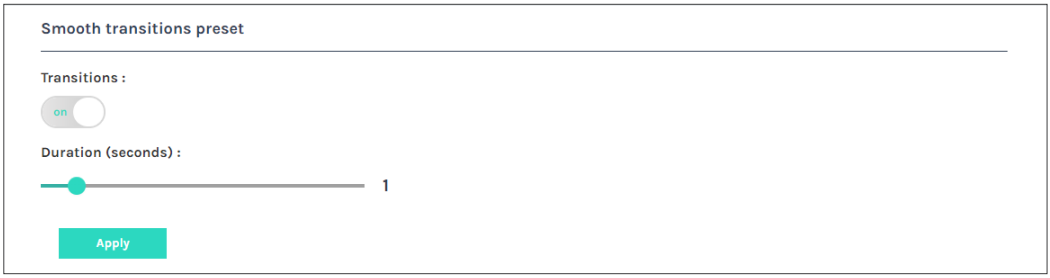
Theme : Theme is integrated with "Overlay", "Background" and "Layout". LS-210 by factory default provides four themes by different types of overlays, backgrounds and layouts. Click [⊕] to set the theme type. Input the theme name, and select the desired type of overlay, layout and background. Click Apply button at the bottom corner to apply the settings.
Note: The user can use the mouse to drag the order of the display.

Note: When recording in 4K, please use 3840 × 2160 resolution image files for overlays and backgrounds to maintain optimal output quality.

Date/Time overlay

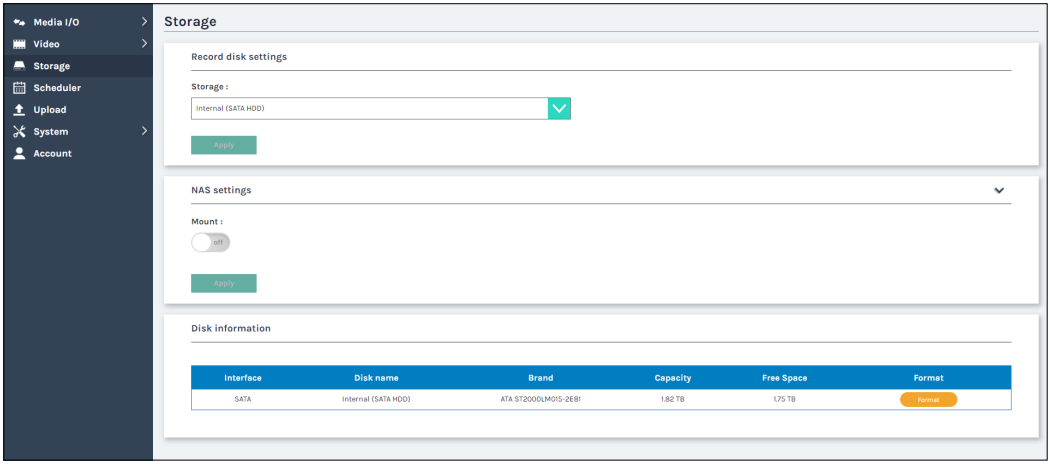


Smooth transitions preset

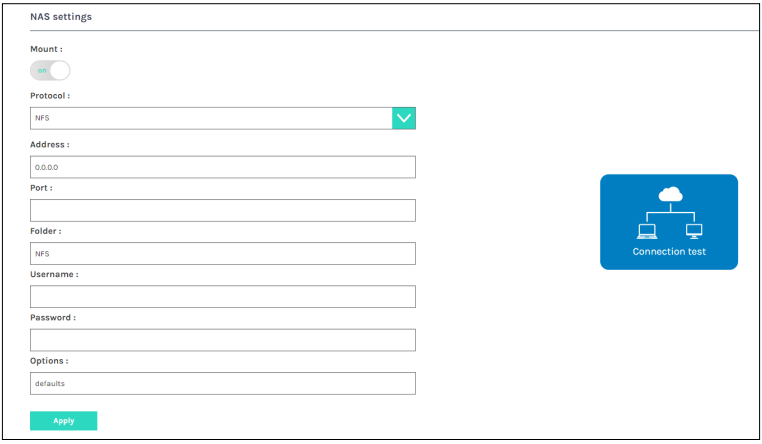


1.3 Storage

The recording files produced by the LS-210 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-210 is preset for storing the recorded files.
Click Apply after setup is completed. New setting takes effective from next recording being created.
NAS Settings: LS-US2 allows you to store the video file to the NAS device via network cable. Finish all the settings by filling in all the required information and then click the connection test button to test.

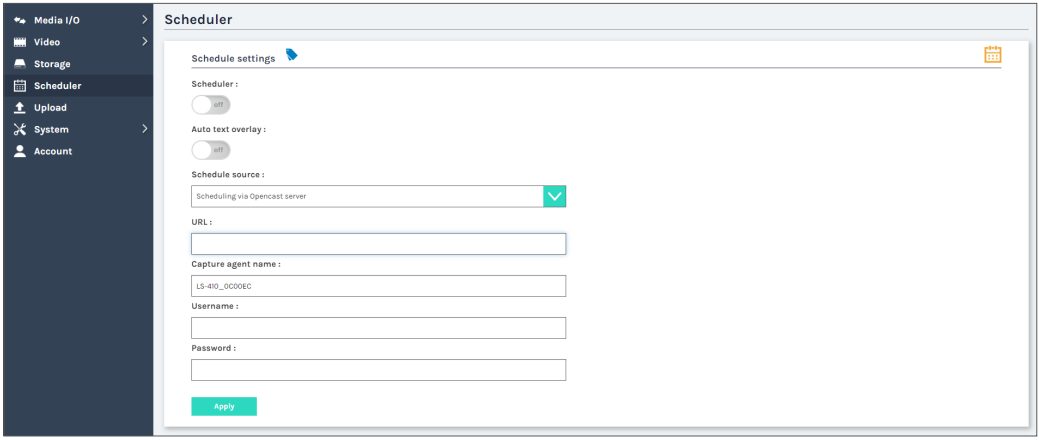


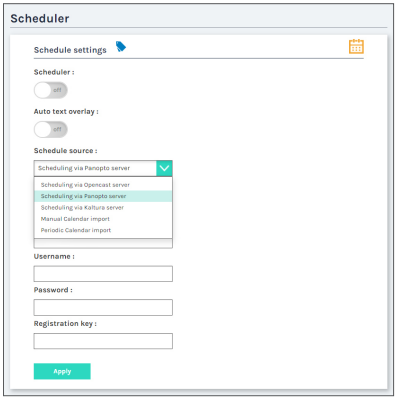
Disk information- Displays disk information, available storage space and total capacity. Click "Format" to clean up the internal storage drive. A dialog box opens asking you to confirm the disk formatting. Click Confirm to permanently delete all recording packages.

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, Scheduling via Kaltura server, Manual Calendar import, and Periodic Calendar import.

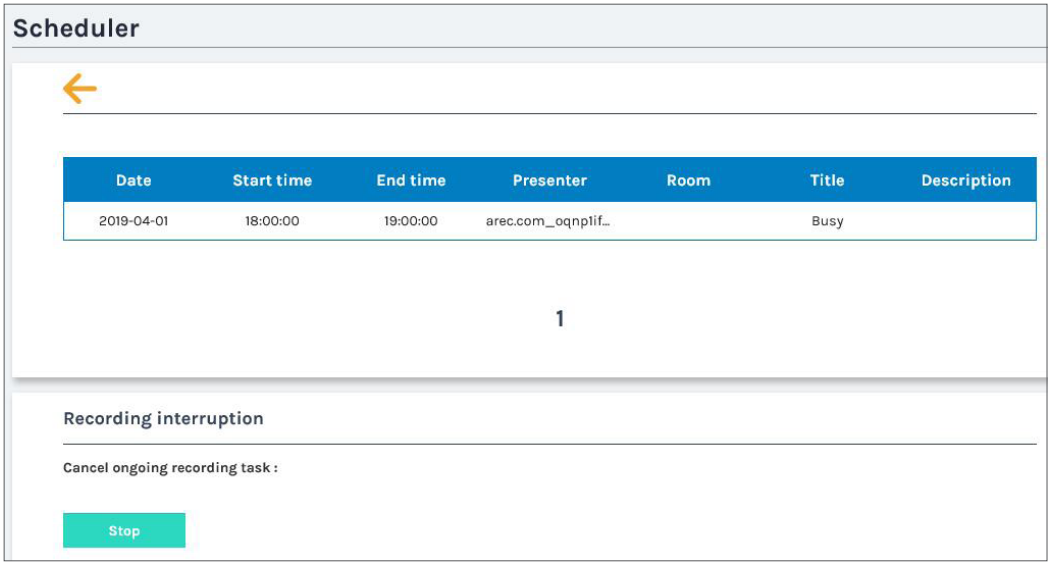




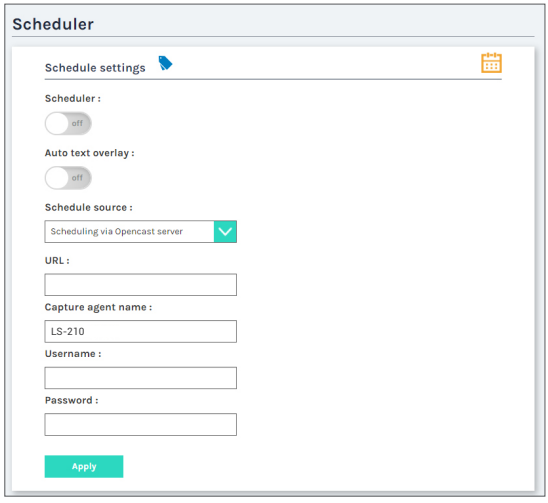
Scheduling via Opencast server : Centralized Scheduling via Opencast server
Scheduling via Panopto server : Centralized Scheduling via Panopto server
Scheduling via Kaltura server : Centralized Scheduling via Kaltura server
Manual Calendar import : Importing iCalendar files manually
Periodic Calendar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

Disable Recording functions if Schedule Record is on

a. Local director : record button
b. Online director : record buttons (record / pause / stop)
c. Front Panel (record / stop)
d. USB Keyboard (record / pause / stop)
e. Front USB recording off



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

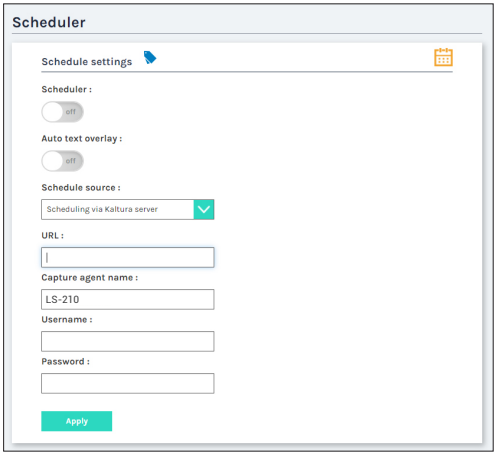


Scheduling via Opencast server

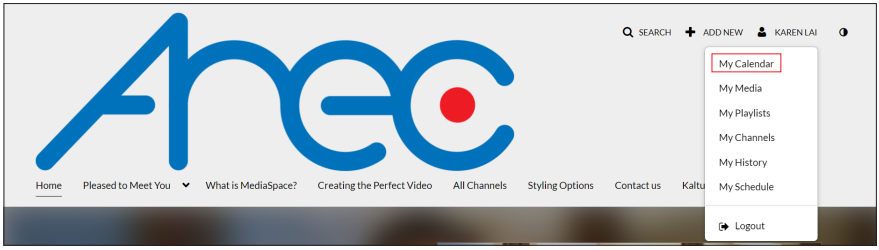
1. Enter the Capture agent name, Username, Password and URL in these fields.
   a. Capture agent name: the ID to recognize LS-210 on Opencast platform
   b. Username: Opencast user account
   c. Password: Opencast user password
2. Click Apply. The event schedule is added and appears in the calendar on the Scheduled Events page.
3. Go to Opencast admin, and check if the LS-210 is correctly registered on Opencast.

Scheduling via Kaltura server

1.Enter the URL(https://www.kaltura.com), Capture agent name, Username and Password in these fields. Click Apply.
  a.Capture agent name: the ID to recognize LS-210 on Kaltura platform
  b.Username: Kaltura user account
  c.Password: Kaltura user password

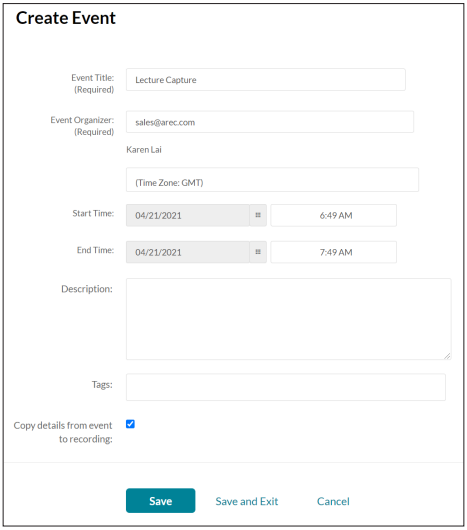


2. Enter the Kaltura MediaSpace. Select "My Calendar" from the user drop down menu.



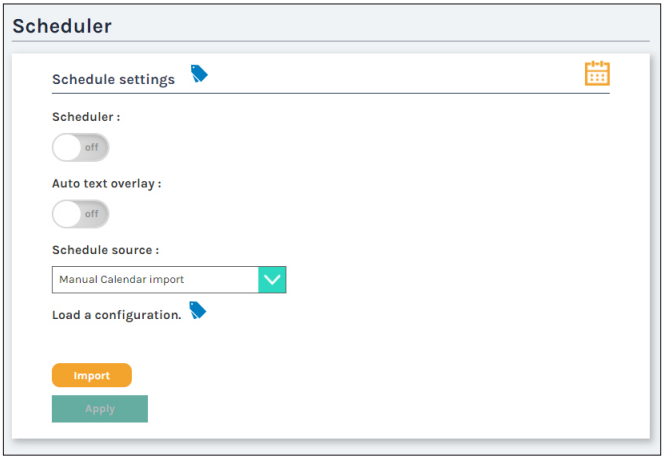
3. After entering the "My Calendar" page, click "Create Event" to create a schedule. Fill in "Event Title" and select "Resource"*. Click " Save" to complete the setting.

* Please select the preset "Recoding device name" as Resource.



Manual Calendar import

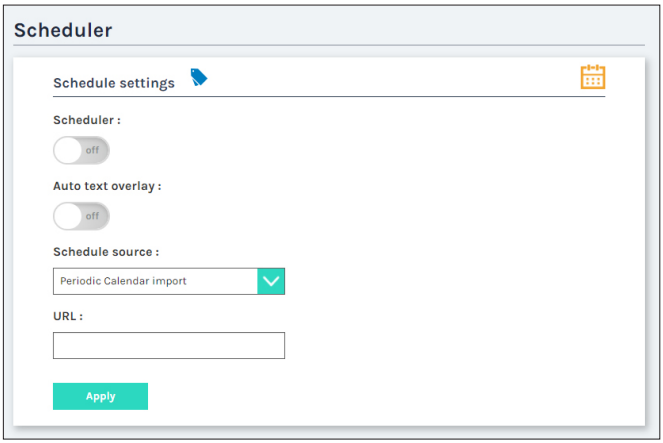
1. Click Import. An Open window opens.
2. Locate and select the iCalendar file for import. The file must have a .ics file extension.
3. Click Open. The Open window closes and the file name is displayed within the Manual Calendar Import panel area. The Import button is active.
4. Click Apply. The event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



Periodic Calendar import

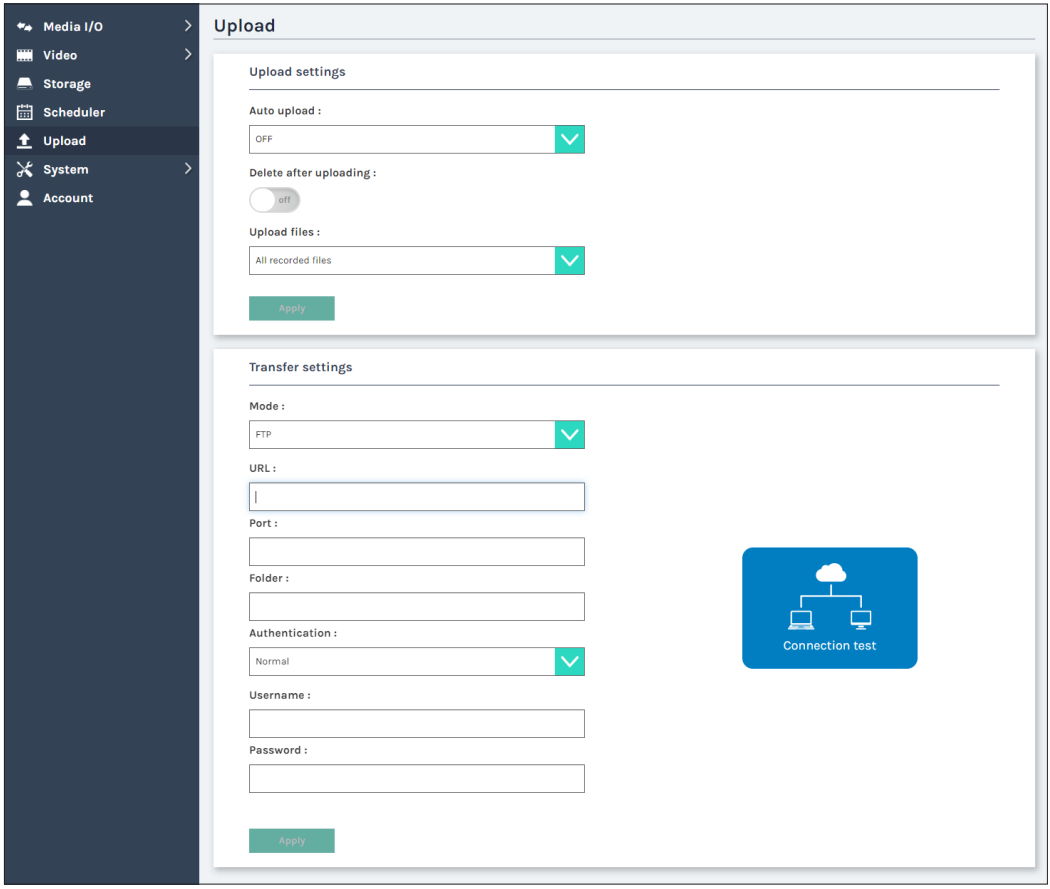
1. Enter the iCalendar URL in this field.
2. Click Apply. The event schedule is added and appearsin the calendar on the Scheduled Events page.

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.

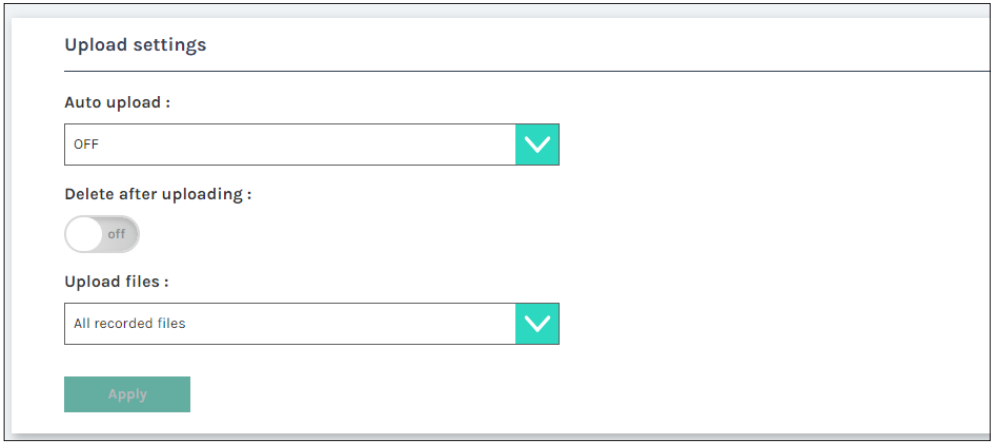


1.5 Upload

The LS-210 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.

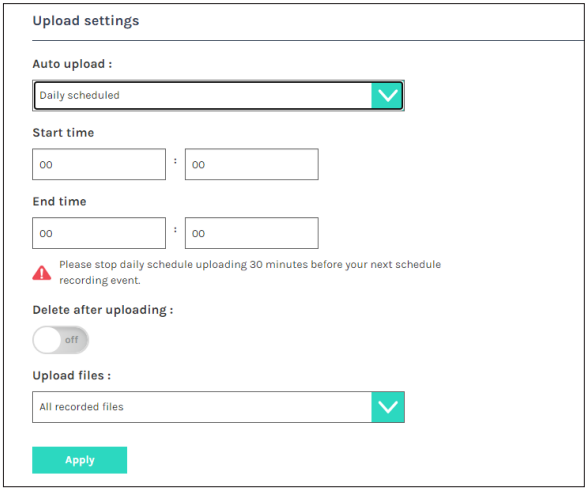


1.5.1 Upload settings



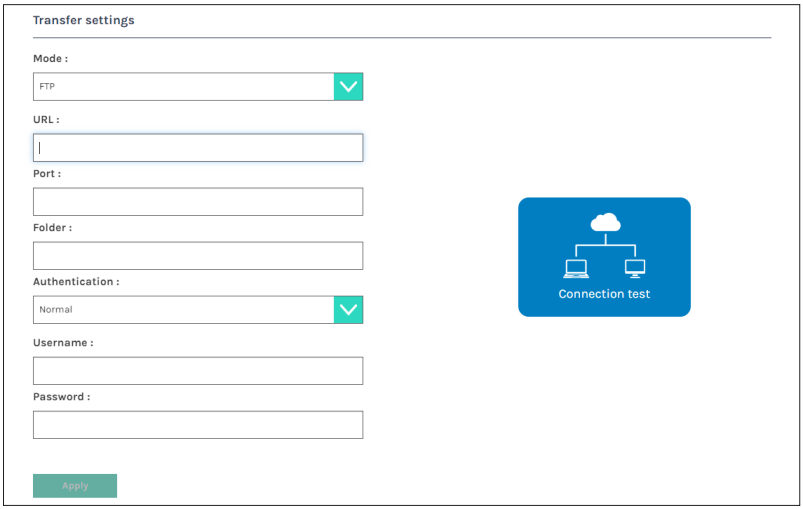
1. Auto upload: Available options are OFF, After recording is completed and Daily scheduled
   a. After recording is completed: Upload the files after recording
   b. Daily scheduled: Setup start & End time for uploading, Enable this setting Media Station will in "full speed mode" for uploading.

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.

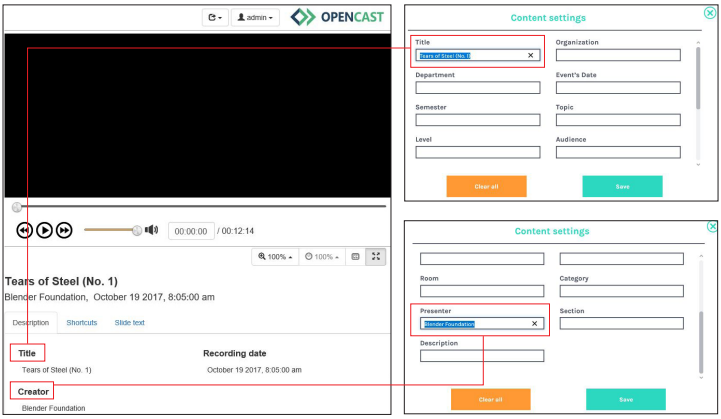
- Mode: Select network server type (FTP, SFTP, Kaltura, Panopto, Opencast HTTP, Opencast HTTPS).
- URL, port, or User ID: Configure these fields according to the upload destination.
- Folder: Enter the folder name of the upload destination.
- Authentication: Configure this section according to the upload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

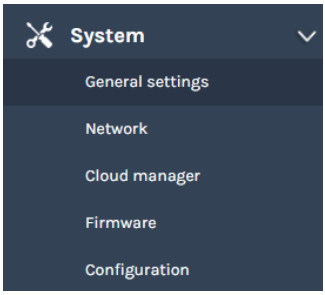
The upload status/result of the corresponding recordings is denoted in the Video Manager web pages.

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

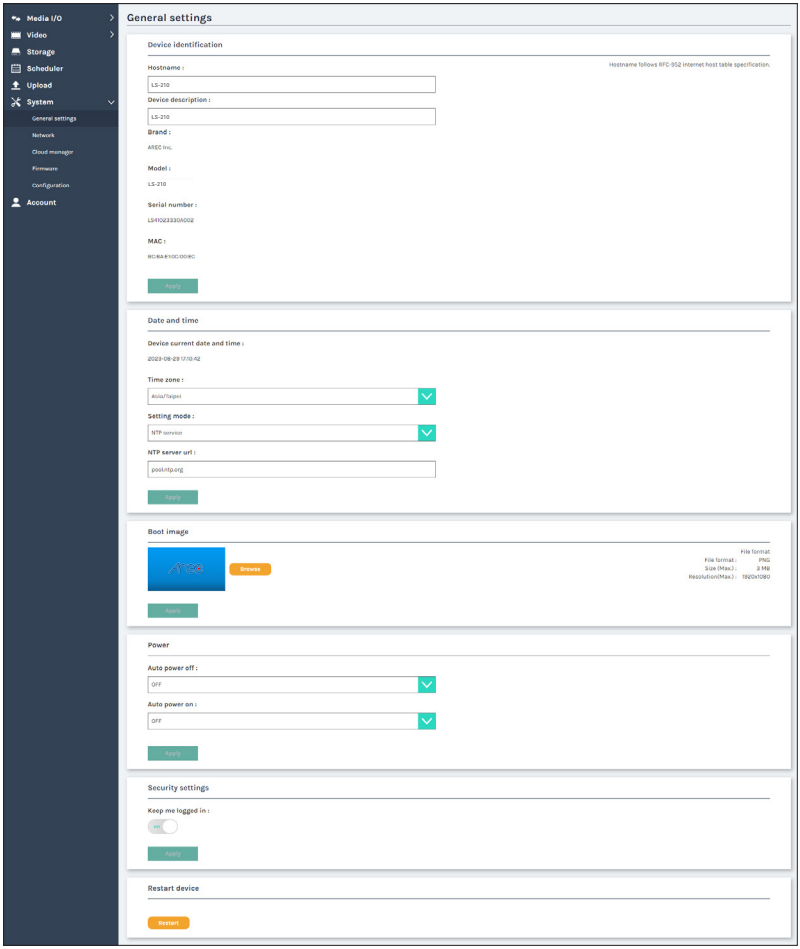
The pages within System include the following:



General settings	Contains device identification, date and time configuration, and booting settings.
Network	The device IP assignment in the networking.
Cloud Manager	Function settings related ARECloud Manager
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 General 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 input the URL of an external NTP (network time protocol) server.

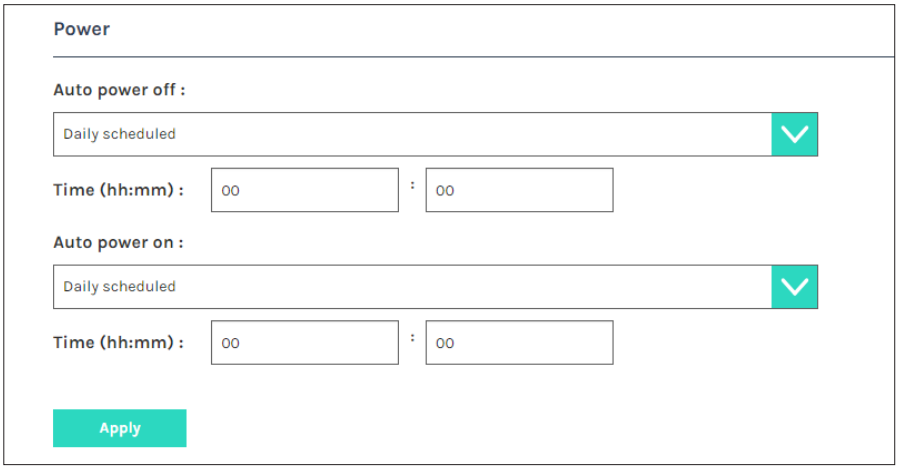
Boot image – Change the boot screen image. The boot screen is the image you will see when you boot up the device. Click Browse button and select the desired file in the Open dialog box. The file name would appears with the newly uploaded image. Click Apply button at the bottom corner to apply the settings,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

System On/Off – Enable/Disable schedule On/Off. After turn on the schedule function, input the time for starting or shutting down the system automatically.

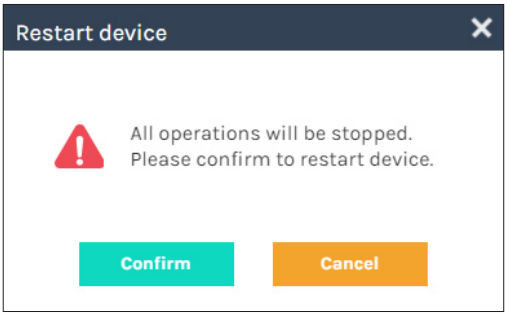
Web server protocol: Support HTTP and HTTPS, default is HTTP.

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

Power settings
Auto power off: select power off via daily scheduler or power button pushing. Please notice the scheduling and auto upload time before settings.
Auto power on: select power on via daily scheduler or power button pushing.

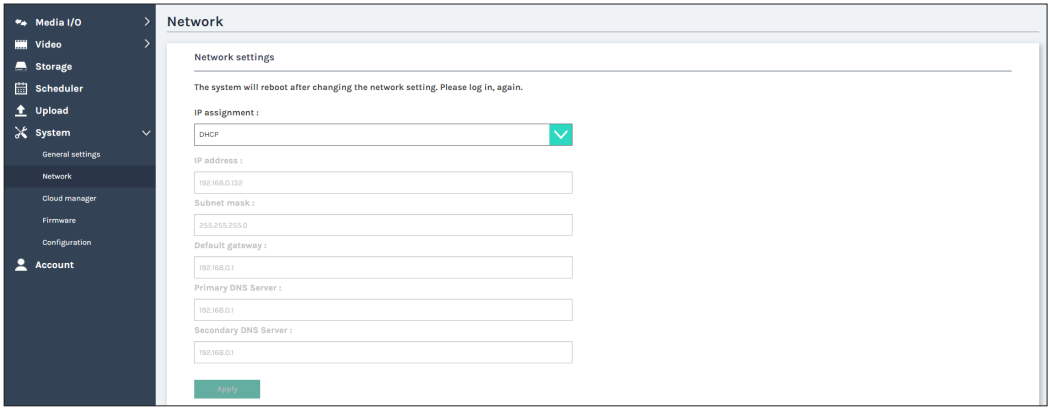


Restart device: Administrator can restart media station remotely. Please notice if the device is working or used by other people.



1.6.2 Network

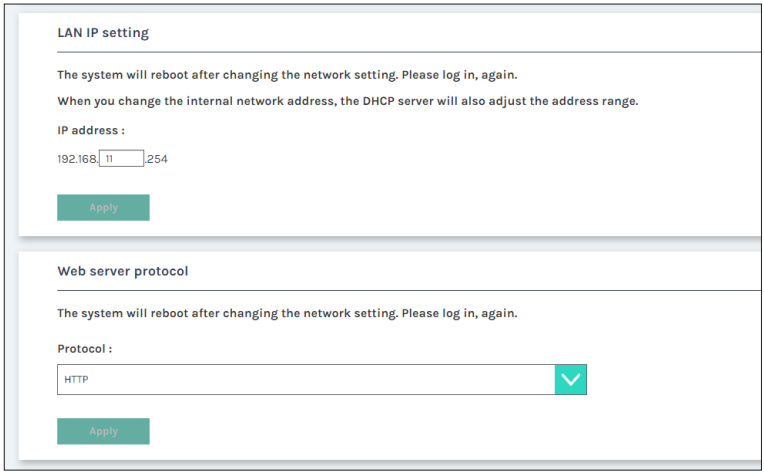
By default LS-210 uses DHCP to obtain an IP Address via a router or any DHCP server. To use a static IP address for your device, configure the network settings in this webpage.



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.



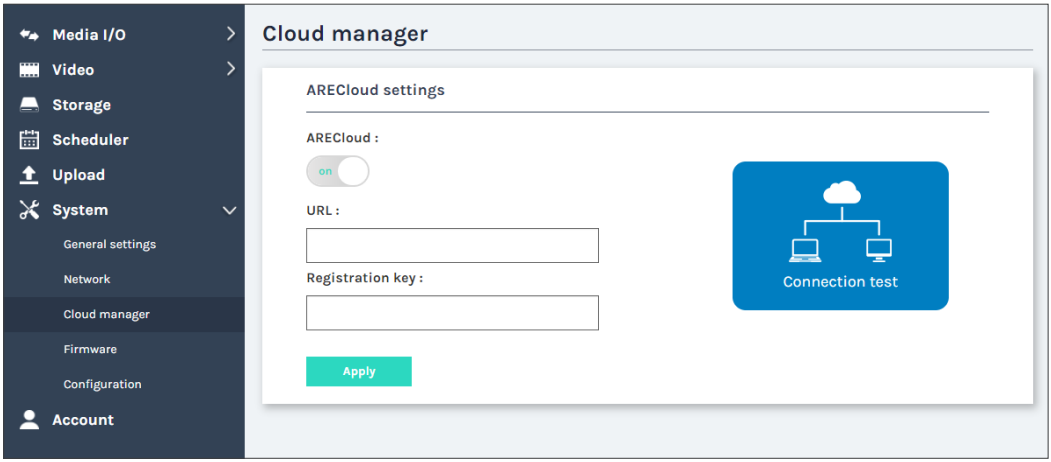
LAN IP Setting: Allow to set the 3rd Octet of the LAN IP address. The system will reboot after changing the network setting. Please log in, again.

Web server protocol: The website communication protocol can be selected in HTTP or HTTPs mode.

As setting finished, please click “Apply” button.

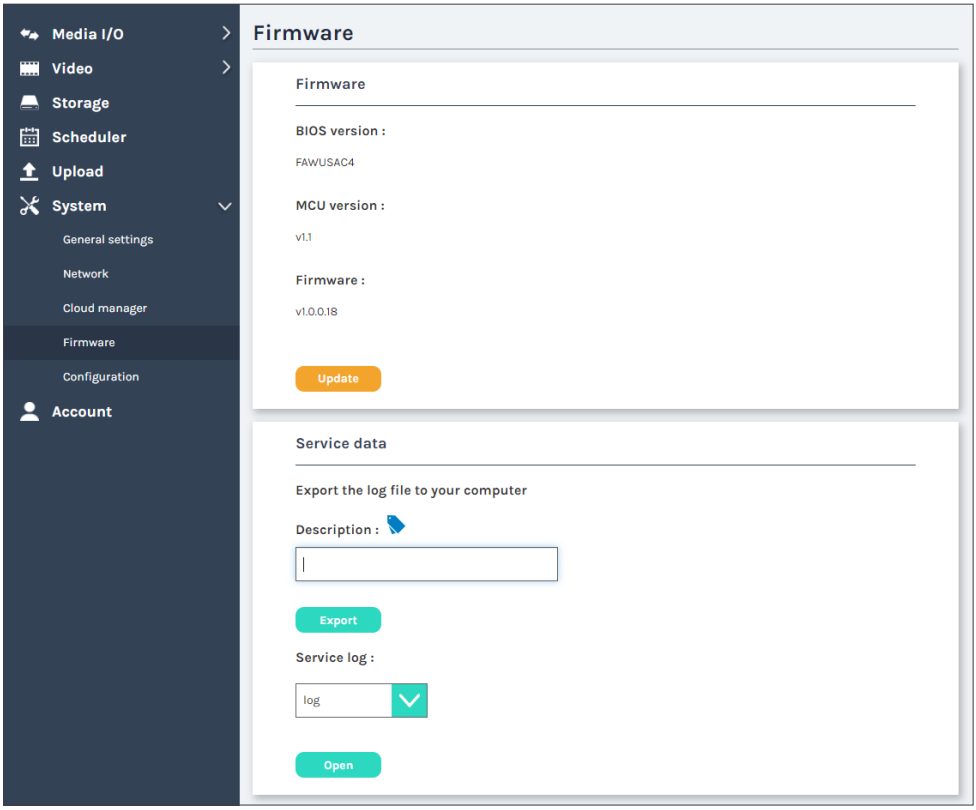
1.6.3 Cloud Manager

If you want to use ARECloud service, please go to ARECloud Platform to apply a management account and obtain the registration code. Then, please fill in your registration code in the specific area. After clicking Apply, when your media station is connected to the network, it will automatically authenticate with ARECloud service.



1.6.4 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.

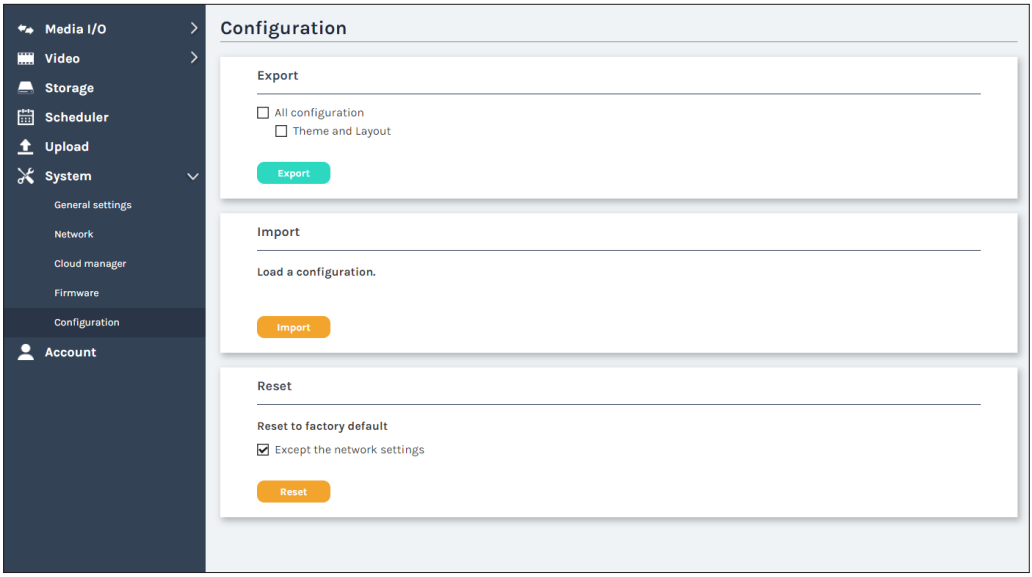


Service data : Export the log file to your computer and send to your Distributor or AREC sales representative for further investigation. Input the file name, and then click “Export” or “Upload”.
Note : The length of the string is 0~16 characters, allowing letters, numbers, symbols 11(~!@$%^&*-+_).

Service log : Local service staff could open the service log to check the system operating history. This service log could help to analyze problems through users’ operating actions. If the cause is still unclear, please download the Service data and send to your Distributor or AREC sales representative for further investigation.

1.6.5 Configuration

You can export or import the configuration in this page:



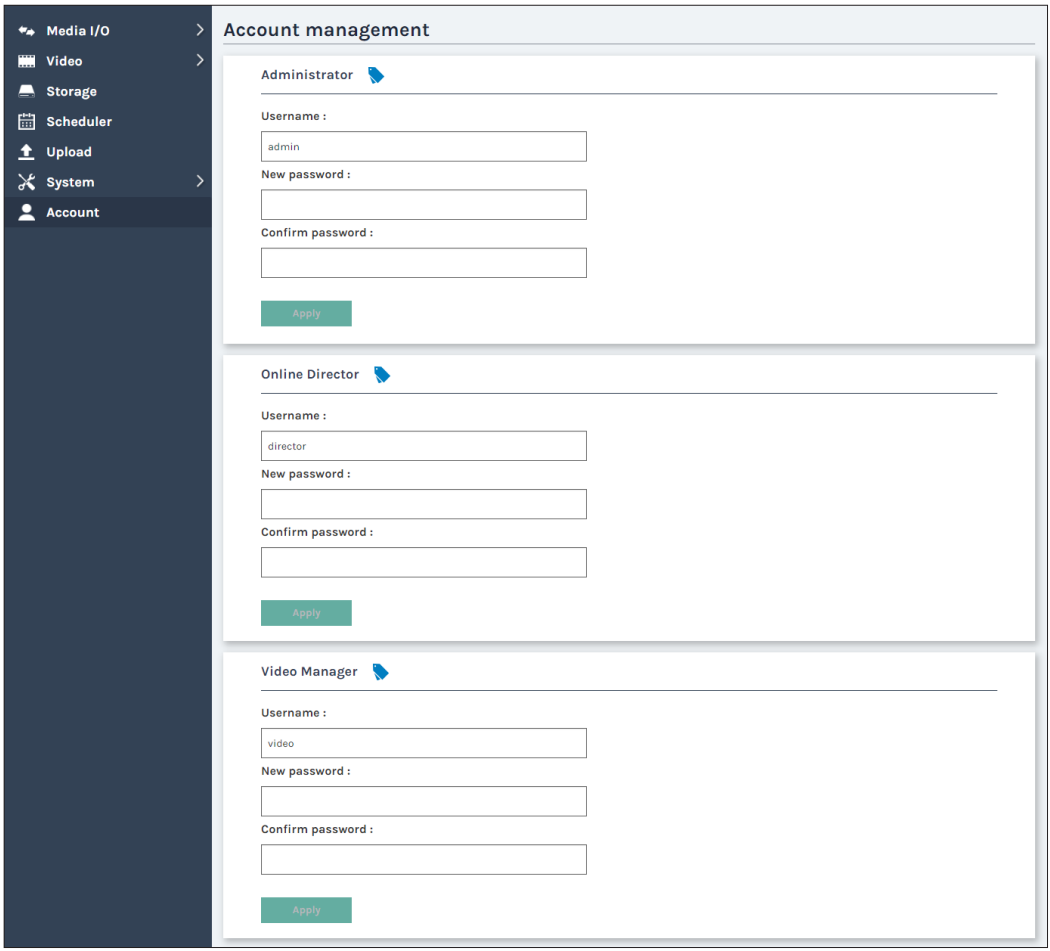
Export : Select All configuration or just Theme and Layout to export and click “Export”.

Import : Click “Import” to load a configuration.

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.

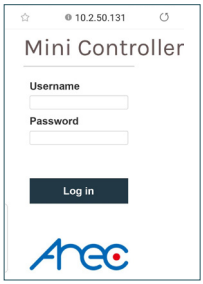
1.7 Account

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)

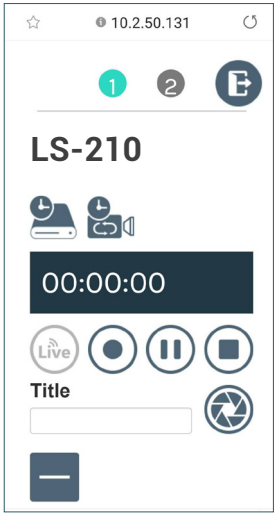


Connect mobile device to LS-210, user can make it easier to control the LS-210 with the mobile device.User can quickly record or switch screens by using the mobile device.

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.

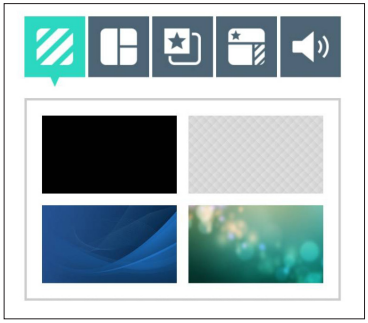


Name	Function
1 Page 1	Click to jump to page 1
2 Page 2	Click to jump to page 2
Exit	Exit the Mini Controller
Device description	Show the device description
Storage space	Show the storage space
Loop recording	Loop recording on
Front USB	Show the storage space
00:00:00 Record time	User can know from here how long they have been recording
Streaming setting	When administrator srteaming setting : Together with recording
LIVE Live streaming	LS-210 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

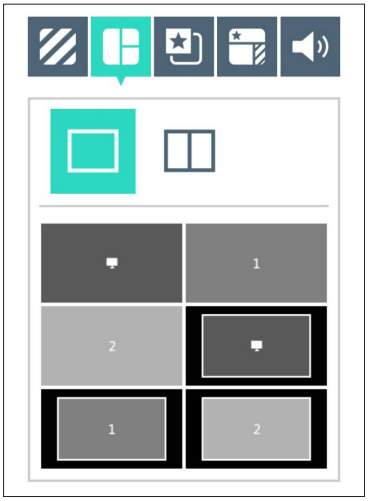
Recording controls panel

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



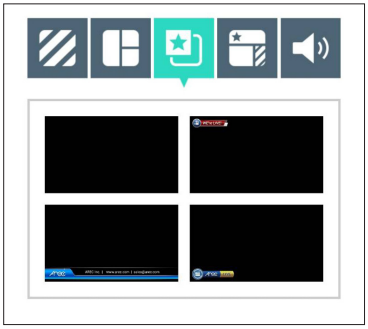
Background

Display the available background images for Online Director controlling. Click the background thumbnail to apply it to the video. LS-210 by factory default provides one plain black background and three user-configurable backgrounds.See Administrator \ Video \ Theme for more detail.



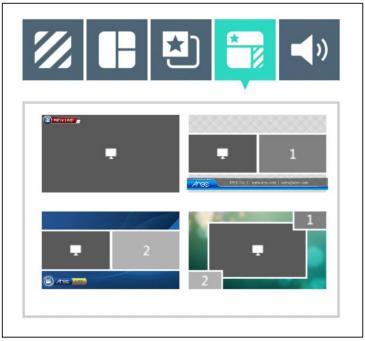
Layout

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.



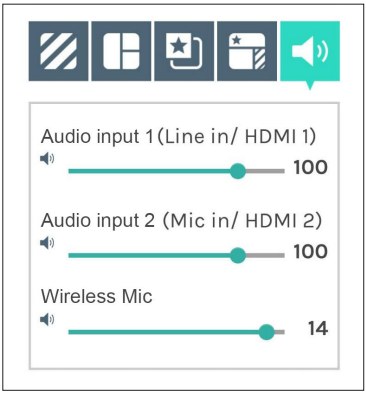
Overlay

LS-210 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-210 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, AREC wireless microphone 0~15.

Chapter 2 Director

2.1 Local Director

The LS-210 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.

	Minimum / Maximum	00:00:00	Record Timer		Settings
	Overlay		Streaming On/Off		Camera Control
	Layout		Record	10.2.50.152	IP Address
	Background		Stop		Audio Volume
	Theme		Snaoshot		Display (HDMI)
LIVE	Stream Status		Playback		Display(DP)

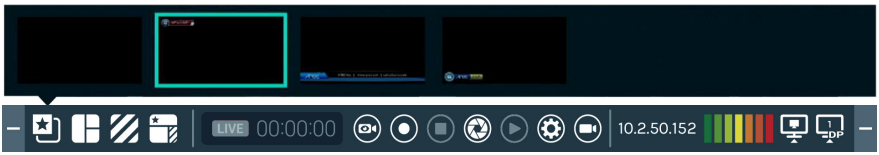
2.1.2 Toolbar

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

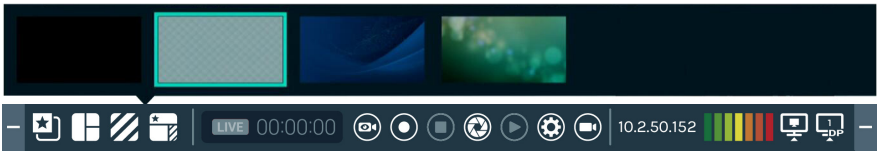
There are five buttons for quickly switching recording overlay, layout, background, theme and display.

Name : Overlay
Function : Change Overlay
Brief introduction :

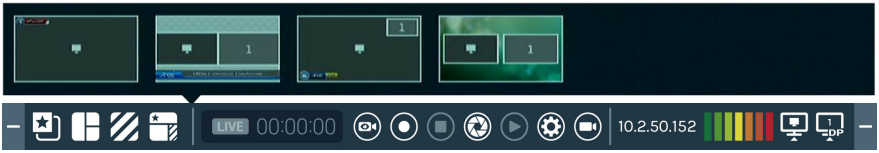


Name : Layout
Function : Change Layout
Brief introduction :

Name : Background
Function : Change Background
Brief introduction :



Name : Theme
Function : Change Theme
Brief introduction :



Name : Display for 2 different kinds of output ports
Function : Change Content / Cam 1 / Cam 2 / Cam 3 / Mixed video cycling
Brief introduction : Switch image sources to monitor individual image inputs.
The video output settings display Monitor input sources or Preview mixed recording, please refer to 1.1.5 Display

2.1.2.2 Recording, Streaming control and Snapshot

1. There are two indicators to show the recording status and four buttons for quick control.

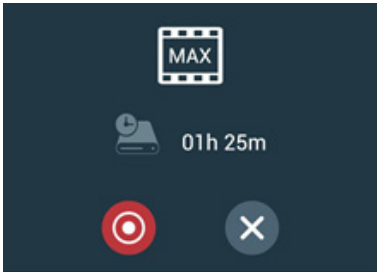
Name	Function	Description
Status	Streaming status	Status change to red while LS-400 live broadcast
00:00:00 Timer	Record timer	Timer change to red while recording
Streaming	Streaming On/Off	When administrator streaming setting : Enable streaming button
Record	Video recording	The Record button is red 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.

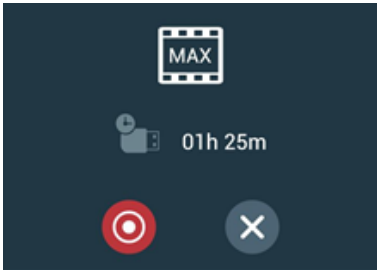
2. video recording

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

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></tr>
<tr><td colspan="2"> 
</td></tr>
</table>

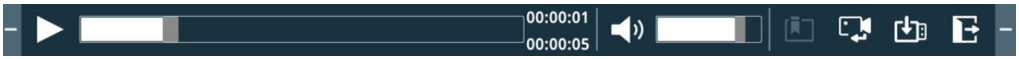
2.1.2.3 Playback Video

■ Video list Dialog

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

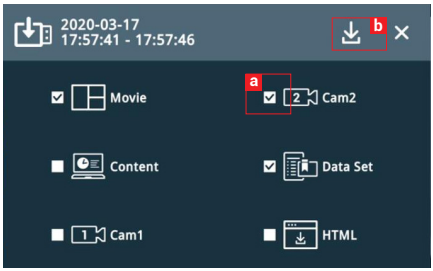
a. Date of video
b. Start-End time of video
c. Total time of video
d. File list page up
e. File list page down
f. Video list pages,click to jump to different video list page.
g. Select the file for copy to front usb disk
h. Click the icon start to copying. While using copy mode, users cannot operate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

■ Playback mode functions



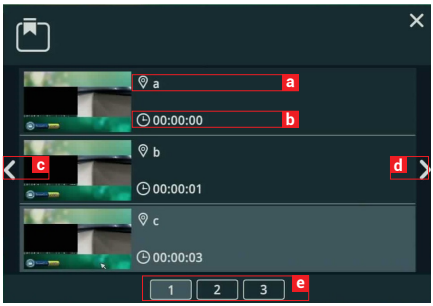
Name	Function	Description
Play/ Pause	Play/Pause video	While the video is playing, click to pause and click again to resume
Time bar	Show playback progress in bar	Click any point on the bar will jump to correspondent time
00:00:00 Time 00:00:02 Information	Total recording time & current playback time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

Click on the camera icon to open camera control panel. Here you can do camera's PTZ control and call the preset points.

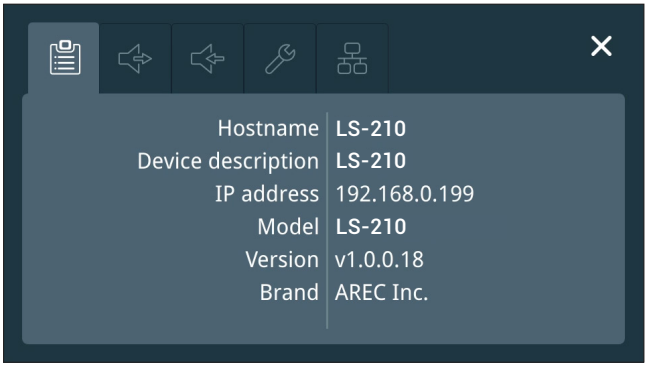
1. Select the camera source from Content/Cam1/Cam2/Cam3
2. Click the direction arrows and central home button to control camera Pan & Tilt.
3. Click the + & - to control zoom in & zoom out.
4. Choose from P0 to P7 to call the camera's preset point.

2.1.2.5 Settings

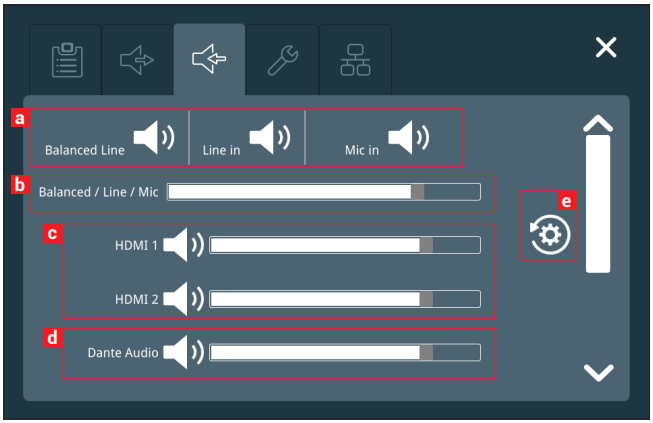
1. Information

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

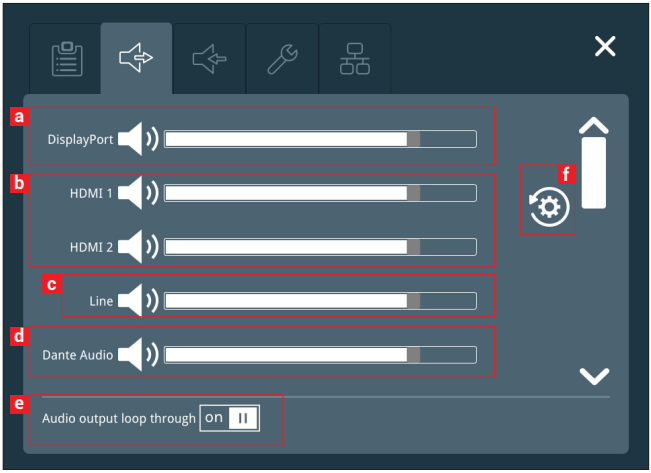
a. Balanced Line/ Line in/ Mic in : On/Off

b. Balanced Line/ Line in/ Mic in : Down/ Up

c. HDMI 1/ HDMI2 : Mute/ Down/ Up

d. Dante Audio : Mute/ Down/ Up

e. Default (Volume only)



Audio Output Volume Control
c. Display Port : Mute/ Down/ Up
b. HDMI : Mute/ Down/ Up
c. Line : Mute/ Down/ Up
d. Dante Audio : Mute/ Down/ Up
e. Audio output loop through : On/Off
Note :
Audio Loop-through Off : Local audio output does not include local audio input (Audio 1, Audio 2, Wireless Microphone and USB Microphone)
f. Default (Volume only)

2.1.2.6 Others

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

[Limitation Note: 3840x2160 mode]
When setting 3840x2160 as recording profile, the resolution of local preview(with GUI as Display 1) will be fixed to 3840x2160@30fps. Meanwhile, the resolution of another 2 outputs (Display 2 & DP) will be fixed to 1920x1080@20fps.

2.2 Online Director

The LS-210 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.

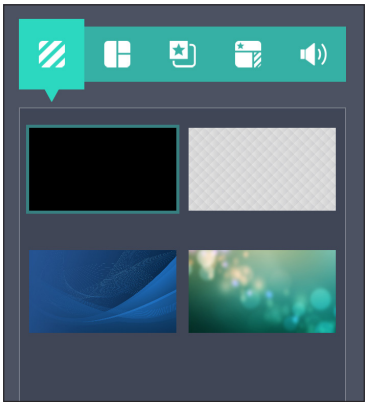
Entering the Online Director webpage via [Administrator] by clicking the button or login Online Director from the initial login page with default username director and password director. Both ways lead to the Online Director control panel for web-based users.

These Web pages provide the following features and information about:

1. A live view window and a control panel of the LS-210 recording and streaming.
2. A visual sources monitoring exclusive panel which allow user to control and monitor the cameras providing the video source.
3. After users click the button, they can add and edit the text overlay. Users can also adjust the font format.
4. A Video Manager hyperlink to manage the content stored in the LS-210.
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.

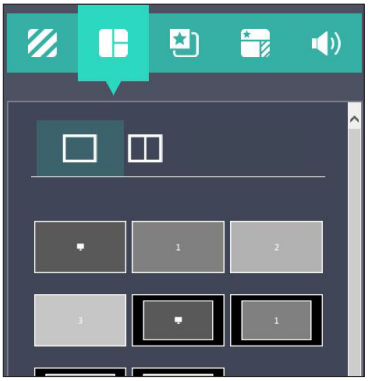
2.2.1 Recording controls panel

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



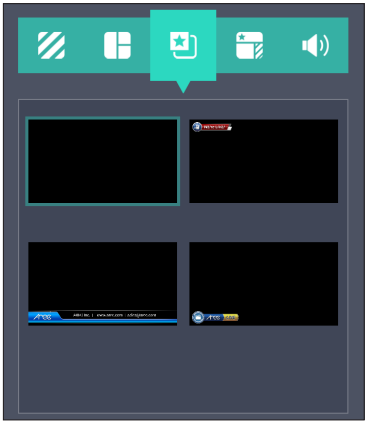
2.2.1.1 Background

Display the available background images for Online Director controlling. Click the background thumbnail to apply it to the video. LS-210 by factory default provides one plain black background and three user-configurable backgrounds.See Administrator \ Video \ Theme for more detail.



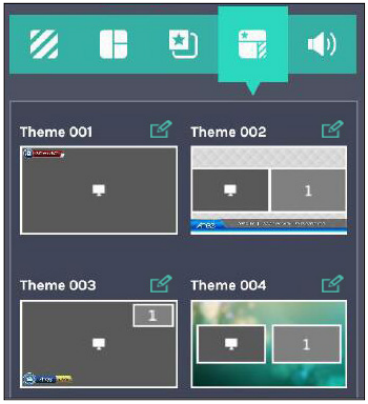
2.2.1.2 Layout

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

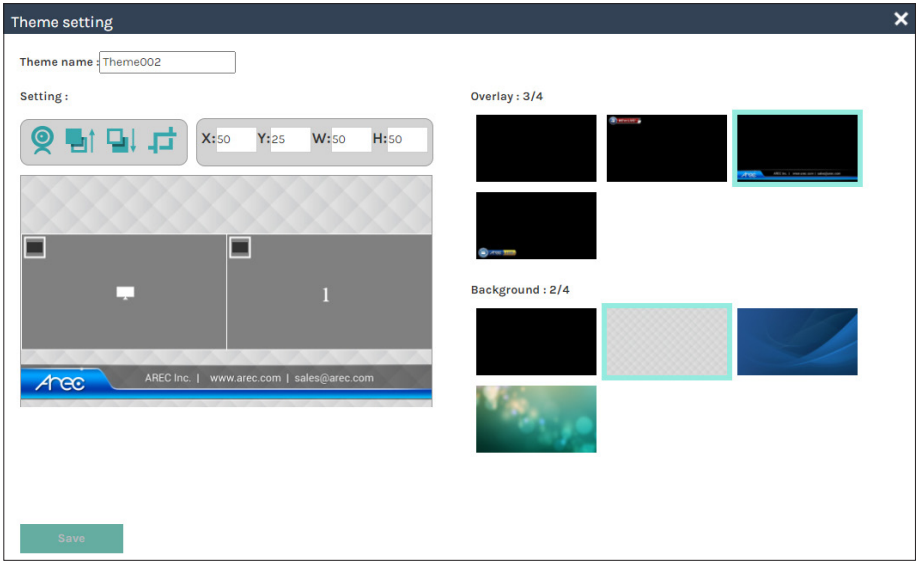
LS-210 by factory default provides one plain black overlay and three user-configurable overlays. Click the overlay thumbnail to apply it to the video. See Administrator \ Video \ Theme for more details.



2.2.1.4 Theme

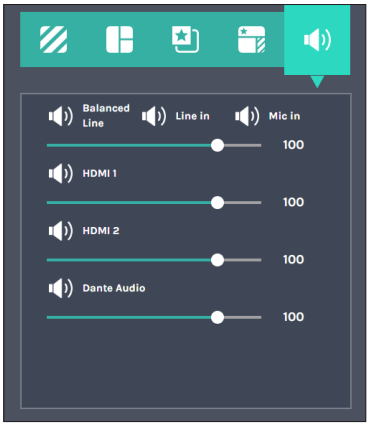
Theme is integrated with “Overlay”, “Background” and “Layout”. LS-210 by factory default provides themes by different overlays, backgrounds and layouts. See Administrator\ Video\ Theme for more details.

Click “ ” button, you can edit the theme to fit your event need quickly.



This web page provides the following features:

1. Change video source
2. Make the selected video source up 1 layer
3. Make the selected video source down 1 layer
4. Resize video source: original size/ fit to height/ fit to width/ full screen
5. Fill in the video size manually
6. Drag and resize video source freely
7. Save the setting



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, AREC wireless microphone 0~15.

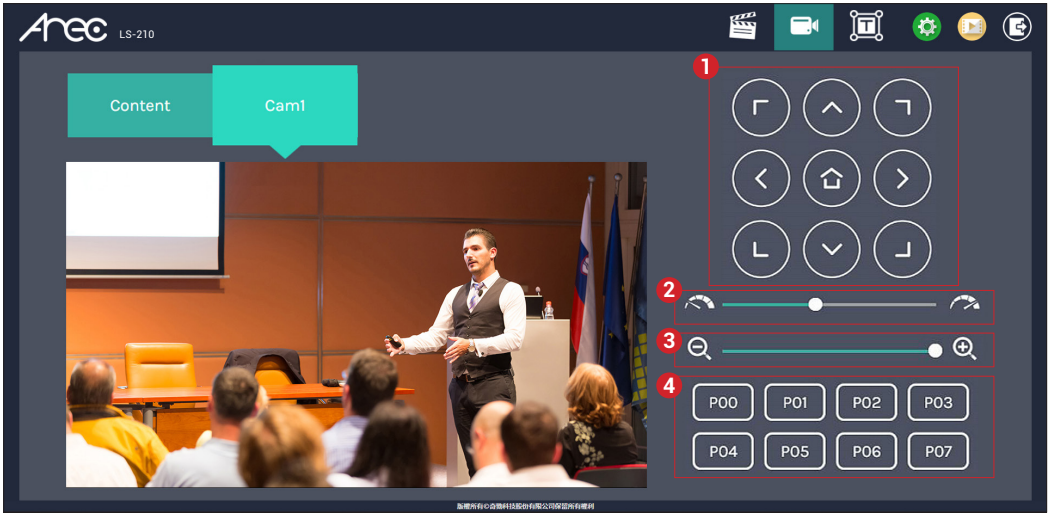
2.2.1.6 Recording/ Streaming control and Snapshot buttons

Buttons are:

Streaming setting	When administrator streaming setting Together with recording
LIVE Live streaming	LS-210 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.

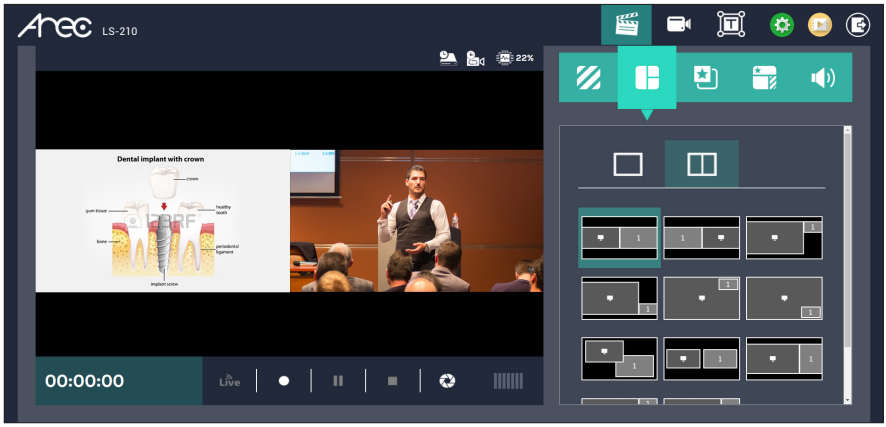
2.2.2 Video Sources Monitoring

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.



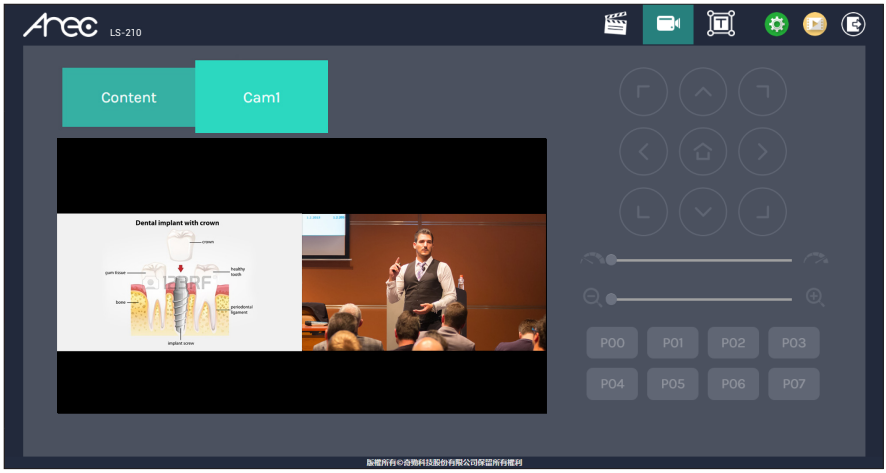
1. Direction control panel: Click the arrow buttons to move the camera.
2. Movement speed: Move leftward or rightward to set slower or faster the camera is moving.
3. Zoom in/out: Click the buttons or drag on the control bar.
4. Preset positions: Click the buttons to command that the camera go to the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

Meanwhile, due to limited system resources, the system will adjust the PGM's resolution and frame rate to 1280 x 720 @ 10 fps.



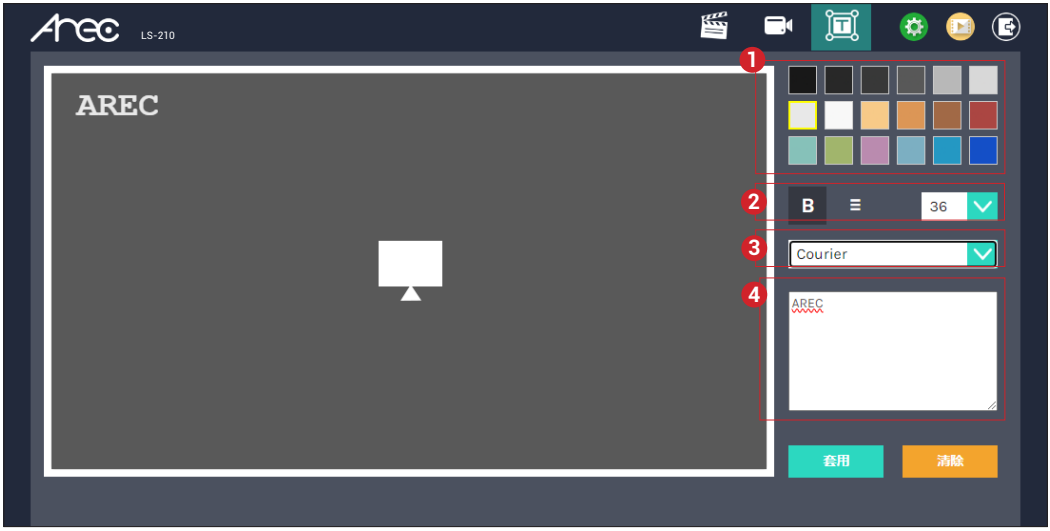
1280 x 720 @ 10 fps

[Exception 2: 1920 x 1080 @ 50/60 fps & 3840 x 2160 @ 30 fps]
When select 50/60fps with 1920 x 1080 resolution or 3840 x 2160 as the recording resolution, the "Mixed video" will replace individual source previews in cameraman.



2.2.3 Subtitle Editor

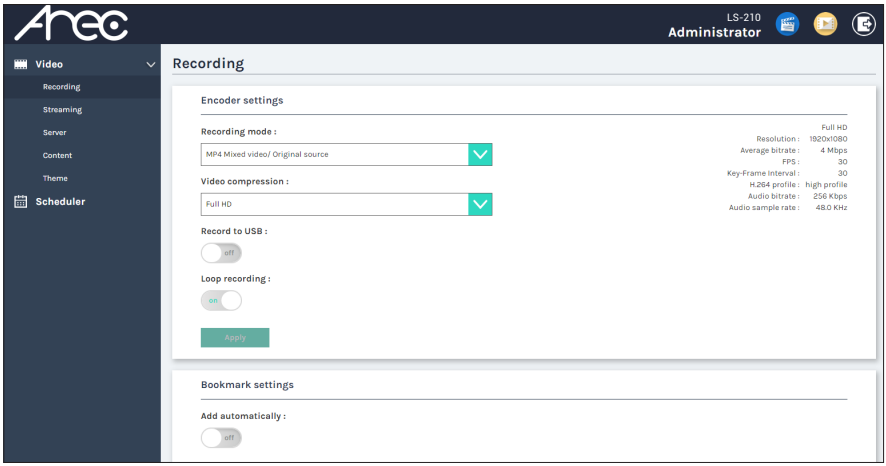
Users can add a custom text to videos.



1. Color chart: Click the color block to change the font color.
2. Font format: Adjust the thickness, centering or size of text.
3. Font: Select text font.
4. Text input box: Enter the text you want to put in the video.

2.2.4 Recording/Streaming setup

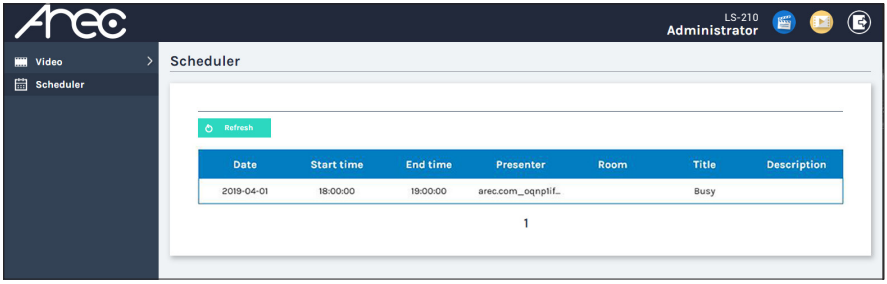
There is a " " icon in online director webpage. If users using director/director to log in, only Video & Scheduler tab in administrator could be accessed. Allowing users to change settings for recording, streaming, content and theme and also refresh and synchronize the schedule, which is *.ics file.



Note: You cannot adjust the video resolution in the Recording setting page when you log in as the online director. Please log in as the administrator to change this setting.

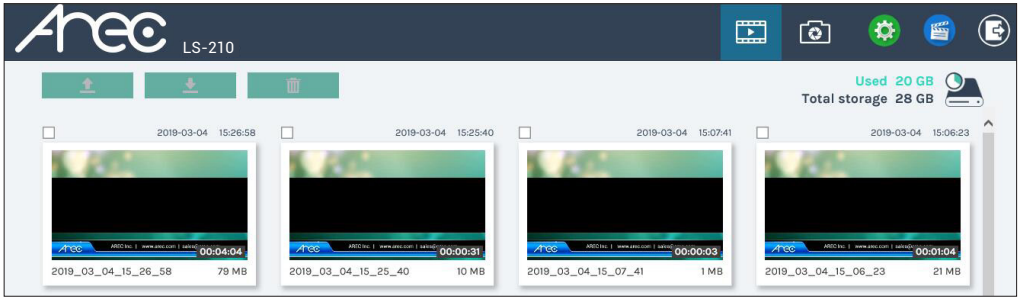
Recording	Configure Encoder settings and Bookmark settings for recording.
Streaming	Configure Encoder settings for streaming.
Server	NDI settings
Content	Edit the information of the content that will be recorded.
Theme	Set the overlay files, background images and theme types.

The detail functions, please refer to 1.2 Video



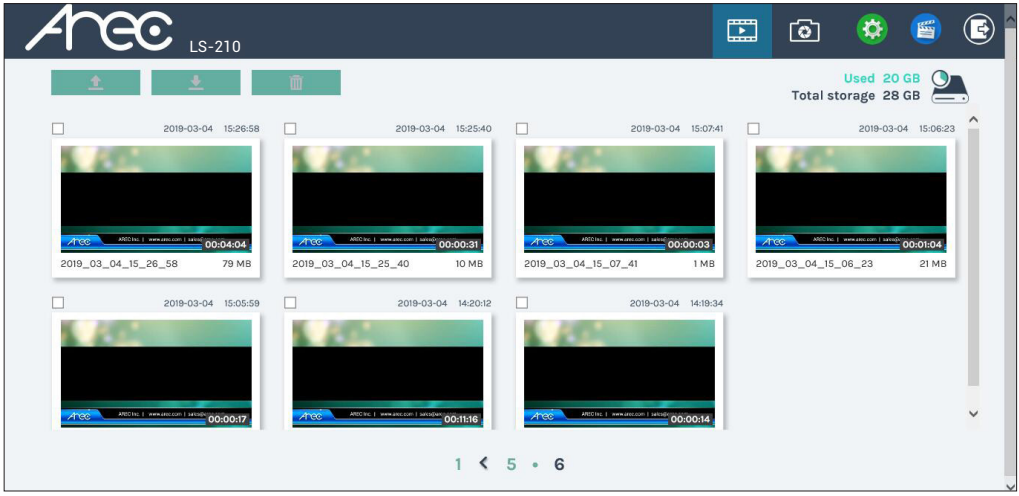
Chapter 3 Video Manager

The LS-210 embedded Video Manager provides access to recordings produced by LS-210 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.



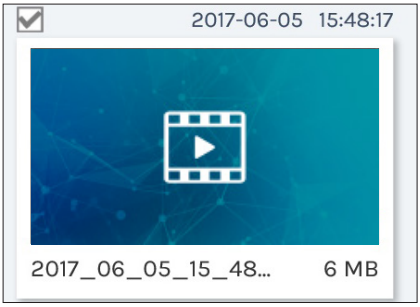
3.1 Video Management

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-210 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.

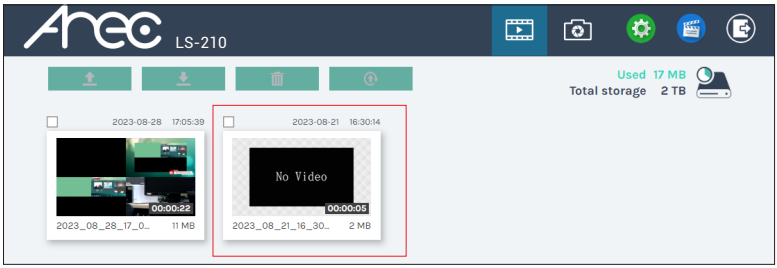
The file size being download is shown within the button.

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.

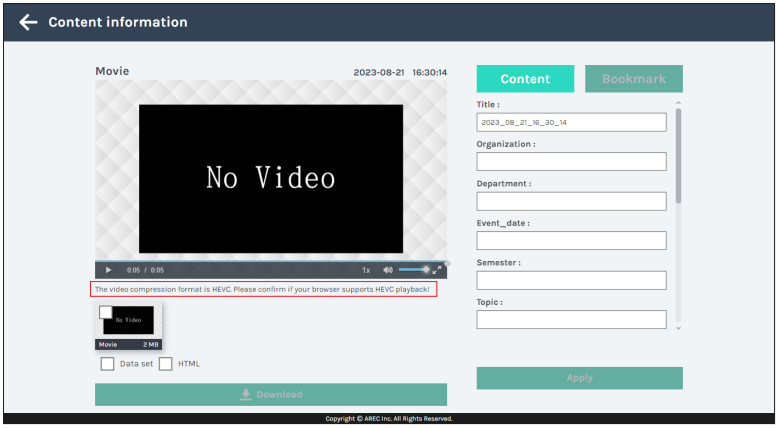
1. Title of the video file being played
2. Recording date and time
3. Edit the content fields
4. Playback window
5. Playback controls
6. Video files and data set (files containing metadata, thumbnail images, and bookmarks.)
7. HTML file and thumbnail images
8. Download button

Note: When choosing H.265(HEVC) as the video encoding format, some browsers may not be able to playback even the video file is good and could be playback in PC with other video players.

· It will show "No Video" on sub-nail in the video list.



· In playback preview, it will show all black even the progressing bar would still on-going.

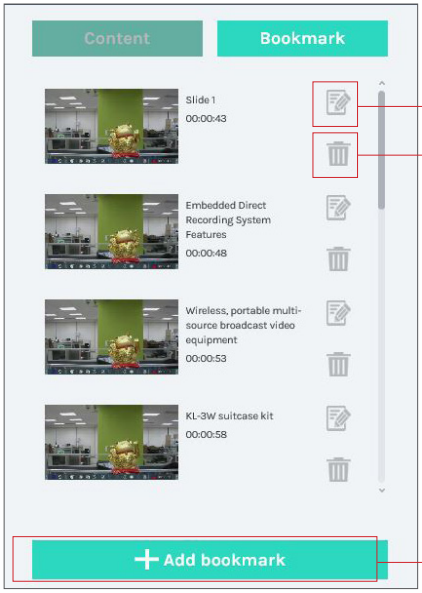


3.1.5 Edit the recording information

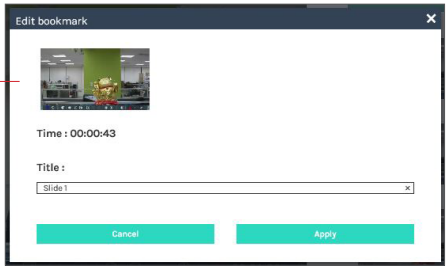
If you require to edit the information of a recording, click on the desired recording and you will be directed to the content information page. Replace the existing text or enter new information in the content fields. Click APPLY to save the changes.

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.

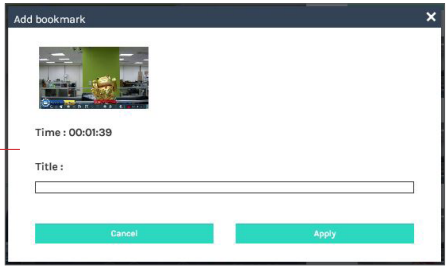


1. Edit the bookmark title.



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-210 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.

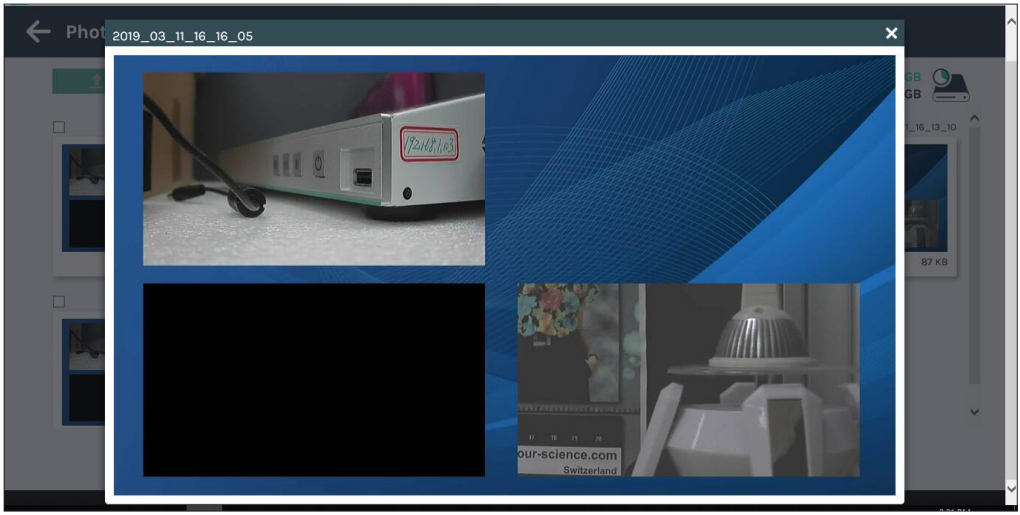
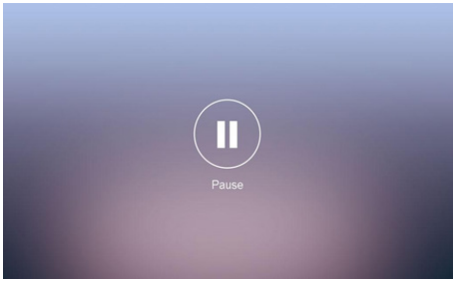


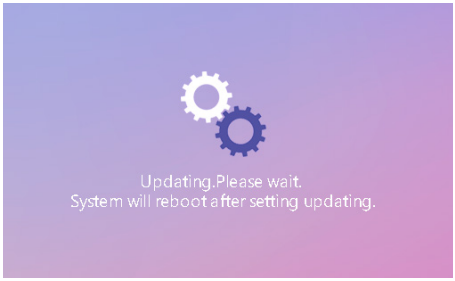
Table of On Screen Display Icons

The LS-210 provides HDMI or VGA output for recording monitoring. On screen display there are event icons and sometimes the error operation warnings.

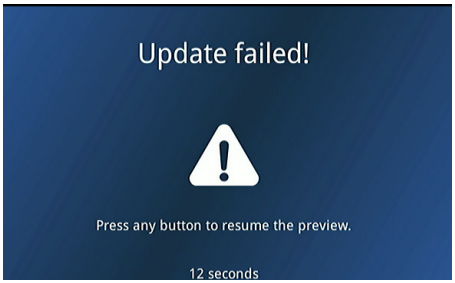
Disk full	Network connection failure	Wireless microphone connected	Live Streaming Error
Front USB recording error	Operation is denied	Front USB recording	Disk failure
Input no video	Front USB drive mount	Cancel one schedule recording	Start one schedule recording



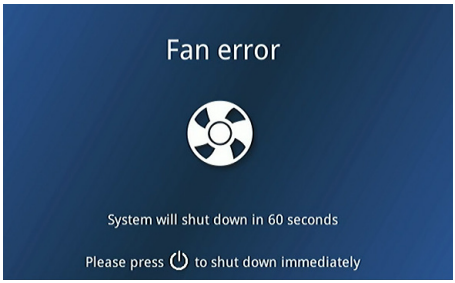
Recording is paused



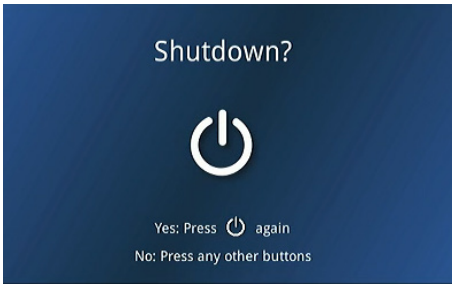
Firmware updating



Firmware update failure



Fan failure



Shutdown confirmation

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Date : 2026.01.1

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