

# OMP150-IPTV System

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## User Manual



## Revision History

Date	Version	Description	Author
05/10/20	1.0	Initial Release	ERH
05/28/2021	1.1	Update	ACP
12/7/2021	1.2	Added Cluster Feature	ACP
3/20/2024	1.3	Fix some editing errors and format errors	JS

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This guide contains some symbols to call your attention.



DANGER

The DANGER symbol calls your attention to a situation that, if ignored, may cause physical harm to the user.



CAUTION

The CAUTION symbol calls your attention to a situation that, if ignored, may cause damage to Our product.



NOTE

The NOTE symbol calls your attention to important information.



TIP

The TIP symbol calls your attention to additional information that, if followed, can make procedures more efficient.



Red  
Arrow

The Red Arrow symbols point to import details mention the context above or below an image.



Blue  
Arrow

The Blue Arrow symbol indicates the motion path of an item in an operation step.



Thick  
Arrow

The thick Arrow symbol calls your attention to a serial of operation steps mentioned in the context.

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This guide also contains the following text conventions.

***Bold Italic***

The bold Italic text indicates a button to click, an item in the drop-down menu to select, or a certain item in the UI.

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## Safety Instructions

- Read these instructions
- Keep these instructions
- Follow all instructions
- Heed all warnings
- Do not use this unit near water.
- Only use a damp cloth to clean chassis
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
- This unit is grounded through the power cord grounding conductor. To avoid electrocution, do not remove the power cord before the outlet is switched off or unplugged. If the plug does not fit into your outlet, consult an electrician for replacement of the outlet.
- Route power cords and other cables so that they are not likely to be damaged.
- Only use attachments/accessories specified by the manufacturer.
- Do not wear hand jewelry or watch when troubleshooting high current circuits.
- Do not work on the system during periods of lightning.
- Refer all servicing to qualified service personnel. Servicing is required when this unit has been damaged in any way.
- **Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power-supply cord or plug is damaged.
  - If liquid has been spilled, or objects have fallen into the product.
  - If the product has been exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of the controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - If the product has been damaged in any way.
- **Replacement parts:** When replacement CHAPTERs are required, be sure the service technician uses replacement CHAPTERs specified by the manufacturer. Unauthorized part substitutions made may result in fire, electric shock or other hazards.

## SAFETY PRECAUTIONS

**There is always a danger present when using electronic equipment.**

Unexpected high voltages can be present at unusual locations in defective equipment and signal distribution systems. Become familiar with the equipment that you are working with and observe the following safety precautions.

- Every precaution has been taken in the design of the products to ensure that it is as safe as possible. However, safe operation depends on you the operator.
- Always be sure your equipment is in good working order. Ensure that all points of connection are secure to the chassis and that protective covers are in place and secured.
- Never work alone when working in hazardous conditions. Always have another person close by in case of an accident.
- Always refer to the manual for safe operation. If you have a question about the application or operation contact the manufacturer for assistance.

Electrostatic Discharge (ESD) Caution:

- Always wear an ESD-preventive wrist or ankle strap when handling electronic components.
- Handle cards by the faceplates and edges only. Avoid touching the printed circuit board and connector pins.
- Avoid touching any electronic components while holding any module in hands.



Danger of explosion if battery is incorrectly replaced

## Trademark Acknowledgments

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# Section 1 Overview

## 1.1 Product Overview

OMP150 IPTV system is a compact, highly-integrated and flexible solution that can provide high-quality live video and VOD content for end users via IP network. With embedded Android-based APK, it supports up to 50 live SD/HD programs, third-party VOD systems and 500 terminals. Equipped with ample function modules, OMP150 can also provide a customized welcome page, OSD message, organization introduction, advertisements and other value-added services. With the popularity of IP network, OMP150 now is widely used in hotels, hospitals, schools, communities, yachts and other areas where the streaming of live or VOD content is required via IP network.

## 1.2 Front Panel Overview

OMP150 is a 1RU Server with 2 hardware models namely OMP150100 and OMP150200. See pictures below for the differences of the two hardware.



OMP150100

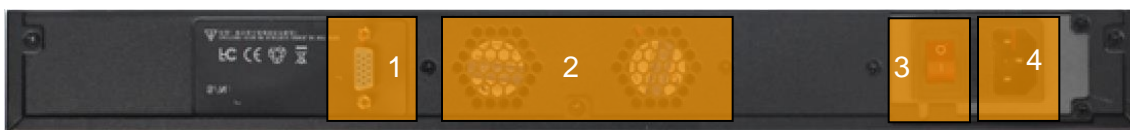
1. Console: Server NIC, used to remotely connect to the Server BIOS system (for technicians)
2. USB interface\*2
3. Ethernet port (ETH0 to ETH5): used for management or data traffic, depending on the settings



OMP150200

1. USB interface\*2
2. Reset to Factory Default button
3. Power switch button

**1.3 Rear Panel Overview**



OMP150100

1. VGA interface
2. Fan for ventilation
3. Power switch button
4. Power input interface: AC100~240V, 50/60Hz



OMP150200

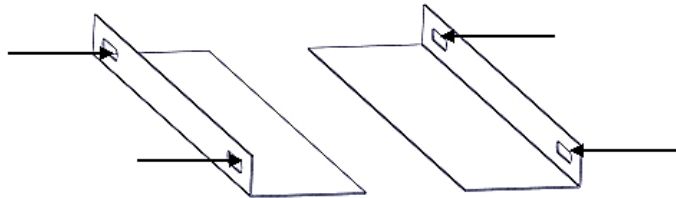
1. Power input interface: AC100~240V, 50/60Hz
2. Fan for ventilation
3. VGA interface for monitor display
4. PMIT remotely connect to the server BIOS system
5. USB interface
6. VGA interface for monitor display
7. Ethernet port for management and data traffic

# Section 2 Installation

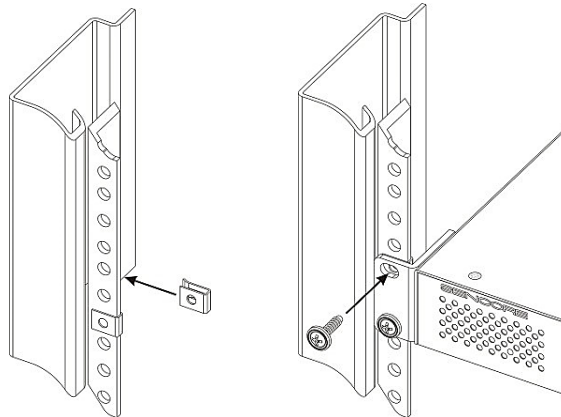
## 2.1 Rack Installation

The OMP150 is designed to be mounted in a standard 19" rack. It takes 1RU of rack space. To install it into a rack, please use the following steps:

- Determine the desired position in the rack for the OMP150. Make sure that the air intake on the front of the unit and the exhausts on the back of the unit will not be blocked.
- Install the brackets at desired position if there is no supporting plate in the rack.



- Insert the rack mount clips into place over the mounting holes in the rack.
- Slide the OMP150 into the position in the rack.
- Secure the chassis to the rack by installing the four supplied screws through the front mounting holes and tightening.



## 2.2 AC Power Connection

The OMP150 is to be powered by supplies with operating 120V or 240V systems. The power supply will automatically detect the system it is connected to. To hook up the power, use the following steps:

- Locate the power cords that are contained in the box. Please only use the supplied 3-prong power connector or one with equal specifications. NEVER tamper with or remove the grounding pin. This could cause damage to OMP150, personnel, or property.
- Plug the female end of the power cords into the front of the unit.
- Locate a protected outlet to plug into the male ends of the power cables.



When you take the equipment from a cold condition into a much warmer and humid condition, the equipment should be acclimated to the warm and humidity condition for at least 30 minutes. Powering up a non-acclimated unit may lead to shortcut or other damage to electronic components.



A professional UPS system is recommended for better performance of your content distribution system.

# Section 3 Web Interface Operation

## 3.1 OMP150 Web Interface Overview

### 3.1.1 Connecting to the Management Port

OMP150 has multiple Ethernet ports, with which you can access the management interface of the device. There are six (6) ports tagged with ETH0, ETH1, ETH2, ETH3, ETH4 and ETH5. You can see the labels on the front panel of OMP150100. For OMP150200, the six ports (ETH0 to ETH5) are placed at the back on the unit from left to right.

### 3.1.2 Login to the OMP150 Web Interface

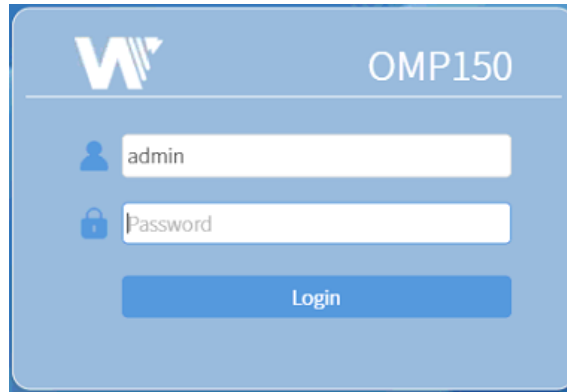
To enter the OMP150 web interface, use one of the following supported browsers and navigate to the unit's IP address:

- Firefox
- Google Chrome

OMP150 has six (6) Ethernet ports where you can log in and access the management interface. Factory network settings of management port are:

- IP address: 192.168.1.201      Gateway:192.168.1.254 for ETH0
- IP address: 192.168.2.201      Gateway:192.168.2.254 for ETH1
- IP address: 192.168.3.201      Gateway:192.168.3.254 for ETH2
- IP address: 192.168.4.201      Gateway:192.168.4.254 for ETH3
- IP address: 192.168.5.201      Gateway:192.168.5.254 for ETH4
- IP address: 192.168.6.201      Gateway:192.168.6.254for ETH5
  
- Subnet Mask: 255.255.255.0

You can connect to any port and type the corresponding IP address to log in to the web interface. The default **username/password** are **admin/admin**. Click the login button to access the web interface.



### 3.2 Device Status Overview

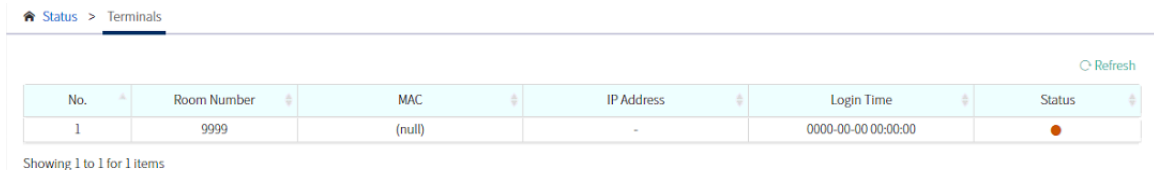
After a successful login, the Status will be displayed. It will show you the following:

- System status
- Terminal status
- Network status
- Channels status



**System status** will display the real-time status of CPU, Memory and Hard Disk usage of the device, aiming to avoid system crash caused by excessive resource usage.

**Terminal status** will display the number of terminals connected. You can click **More>>** to see details about the terminal like Room Number, MAC Address, IP Address, Login Time and Status (**online** or **offline**).



**Network status** will display the Ethernet port status. You can click **More>>** to see detailed information on the network as shown in the picture below.

🏠 Status > Network

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Transmit	Receive
● eth0	Not Inserted	192.168.1.100	60:E6:BC:02:2D:F3	Output	static	0.00Kb/s	0.00Kb/s
● eth1	Not Inserted	192.168.2.100	60:E6:BC:02:2D:F4	Input	static	0.00Kb/s	0.00Kb/s
● eth2	1000Mb/s	10.10.1.110	AC:1F:6B:6D:70:50	Input	static	44.40Kb/s	334.19Mb/s
● eth3	1000Mb/s	10.200.1.190	AC:1F:6B:6D:70:51	Output	static	0.00Kb/s	334.03Mb/s

- **ETH:** this will show **GREEN** if the port is connected to a device and **RED** if no connection.
- **Status:** this shows the speed (100Mb/s or 1000Mb/s) of the network where the port connects. All 6 ports on OMP150 are adaptively set to 100Mb/s or 1000Mb/s, depending on the network they connect to.
- **IP Address:** this shows the IP address on the port.
- **MAC Address:** this shows the unique MAC address on the port.
- **Input/Output:** this shows the settings of the Ethernet port, being used for input or output.
- **Model:** this shows the settings of the Ethernet port, as DHCP or Static.
- **Up Bytes:** this shows the real-time traffic of the output data on the port.
- **Down Bytes:** this shows the real-time traffic of the input data on the port.

**Channel status** will display all enabled services with active and inactive video sources. You can click [More>>](#) to see more information of the channel, as shown in the picture below.

🏠 Status > Channel

No.	Name	Program ID	Input Eth	Output URL	Output Status	DRM Status	Link Status
1	One	0001	eth2	http://10.10.1.110/live/0001/index.m3u8	Success		●
2	Two	0002	eth2	http://10.10.1.110/live/0002/index.m3u8	Success		●
3	Three	0004	eth2	http://10.10.1.110/live/0004/index.m3u8	Success		●
4	Four	0005	eth2	http://10.10.1.110/live/0005/index.m3u8	Success		●
5	Five	0006	eth2	http://10.10.1.110/live/0006/index.m3u8	Success		●
6	Local Channel	0003	Custom	http://10.10.1.110/live/0003/index.m3u8	Success		●

Showing 1 to 6 for 6 items

After login, you will also see the Main Menu on the left side of the Web interface where you can navigate to further configure the OMP150.

- *Status*
- *Quick Start*
- *Channels*
- *VOD*
- *Overlays*
- *APK Settings*
- *Operation*
- *Cluster*
- *System Setting*
- *Tools*

To continue the configuration on the unit, select the menu you want to navigate to.

### 3.3 Quick Start

This menu guides you for the following configuration steps:

- Network
- Time
- Channel List
- Status

Quick Start

Configuration Steps : 1 Network → 2 Time → 3 Channel List → 4 Status Prev Next

Refresh

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:E6:BC:02:2D:F3	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:E6:BC:02:2D:F4	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.110	AC:1F:6B:6D:70:50	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.190	AC:1F:6B:6D:70:51	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

[Eth Bonding Setting](#)

#### Network:

Network shows the Status, IP Address, MAC Address, and the setting on each Ethernet port. You can change the IP address depending on your Network setup. You can also bond (input/output bond) the Ethernet port on this page as shown in the picture below. Bonded ports share the same IP address and can have data output of 2000 Mb/s.

Eth Bonding Setting

Output binding Input binding

Enable Output Bond Eth bond0 (Select at least two eths)

bond Mode :  Auto load balance  Auto-balance load aggregation

bond0 IP :  Subnet Mask :

No.	Link Status	Eth	Bond Eth
1	●	eth0	<input type="checkbox"/>
2	●	eth1	<input type="checkbox"/>
3	●	eth2	<input type="checkbox"/>
4	●	eth3	<input type="checkbox"/>

Showing 1 to 4 for 4 items

OK Cancel

Eth Bonding Setting

Output binding Input binding

Enable Input Bond Eth bond1 (Select at least two eths)

bond Mode :  Auto load balance  Auto-balance load aggregation

bond1 IP :  Subnet Mask :

No.	Link Status	Eth	Bond Eth
1	●	eth0	<input type="checkbox"/>
2	●	eth1	<input type="checkbox"/>
3	●	eth2	<input type="checkbox"/>
4	●	eth3	<input type="checkbox"/>

Showing 1 to 4 for 4 items

OK Cancel

#### Time:

This allows you to manually input the time.



Time Zone: GMT+8

Time: 2021-12-01 14:27:47

Set Model: Manual

Submit

or sync via NTP Address.

Time Zone: GMT+8

Time: 2021-12-01 14:28:04

Set Model: Auto sync

NTP Address: 210.72.145.44

Sync Interval(Hour): 1

Submit Sync Instantly

**Channel:**

This menu allows you to input the source IP address and output the service via UDP, RTP or HTTP.

[Quick Start](#)

Configuration Steps : 1 Network -> 2 Time -> 3 Channel List -> 4 Status Prev Next

node0 +Add Forced release

+ Add + Batch Add Batch Delete Batch Enable Batch Disable Save All Import Export Change Order DRM Encryption Send channel list ONLY Move channel

Input						Output						Search		Refresh
No.	<input type="checkbox"/>	Name	Eth	Protocol	IP	Port	Protocol	IP	Port	Eth	Logo	Status	Enable	
1	<input type="checkbox"/>	One	eth2	UDP	239.192.0.211	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
2	<input type="checkbox"/>	Two	eth2	UDP	239.192.0.212	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
3	<input type="checkbox"/>	Three	eth2	UDP	239.192.0.213	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
4	<input type="checkbox"/>	Four	eth2	UDP	239.192.0.214	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
5	<input type="checkbox"/>	Five	eth2	UDP	239.192.0.215	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
6	<input type="checkbox"/>	Local Channel	Custor	Custoi	1080P30_AVC_AA	Local	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	

Showing 1 to 6 for 6 items (Tip: Press Ctrl to select more channels) (eth1: 0; eth2: 5;)

See CHANNELS menu for more details on the page.

**Status**

This is same with the Welcome page when you first log in to the unit. It shows the status of the System, including CPU, Memory and Hard Disk Status. It also displays the UP and DOWN data traffic on each port.

Quick Start

Configuration Steps : 1 Network → 2 Time → 3 Channel List → 4 Status [Prev](#) [Next](#)

**System**

CPU (1.70%)

Memory (4.30%)

Hard Disk (2.96%)

node0

**Terminals** [More>>](#)

Total number of current terminals : 1

Current Online : 0

Current Offline : 1

**Network** [More>>](#)

Eth	IP Address	Transmit	Receive	Link Status
eth0	192.168.1.100	0.00Kb/s	0.00Kb/s	Not Inserted
eth1	192.168.2.100	0.00Kb/s	0.00Kb/s	Not Inserted
eth2	10.10.1.110	8.88Kb/s	332.41Mb/s	1000Mb/s
eth3	10.200.1.190	0.00Kb/s	332.40Mb/s	1000Mb/s

**Channel** [More>>](#)

One      Two      Three      Four      Five      Local Channel

### 3.4 Channels

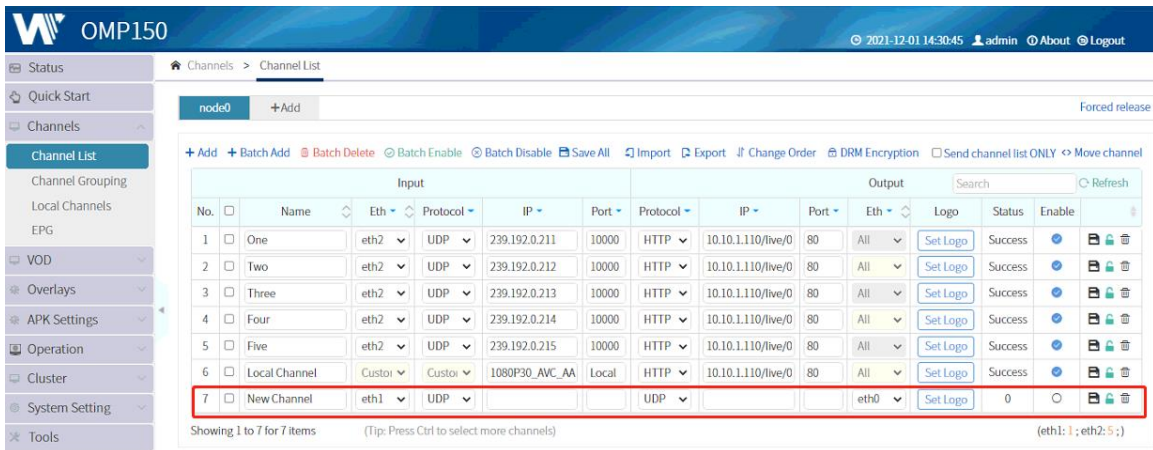
This menu allows you to configure:

- Channel List
- Channel Grouping
- Local Channels
- EPG

#### 3.4.1 Channel List

Channel tab allows you to add input stream, delete, import, export service configuration and change the channel order on this page. You can click [+ Add](#) and do the followings on the appearing line:

- Edit Name  
 You can modify the name of the input service on this field.
- Select the ETH port where the source is connected  
 For the Source port, there will be a drop-down arrow with which you can select the ETH port for the source. This will only display the port which is set as INPUT on the NETWORK page.
- Select the source protocol (UDP, RTP, RTSP or HTTP)
- Type in the source IP address and IP port
- Select the Output protocol (UDP, RTP or HTTP)
- Type in the Output IP address and IP port
- Select the ETH port where you want to output  
 For the HTTP protocol, the output port will be "ALL"  
 For the UDP or RTP protocol, there will be a drop-down arrow with which you can select the ETH port for the output. This will only display the port which is set as OUTPUT on the NETWORK page.
- Set Logo on the channel if there is
- Enable the Channel
- Save and delete the channel



Reference for IP address of input and output.

UDP: XXX.XXX.XXX.XXX:XXXX

RTP: XXX.XXX.XXX.XXX:XXXX

RTSP: XXX.XXX.XXX.XXX/live/00XX/index.smil

HTTP: XXX.XXX.XXX.XXX/live/00XX/index.m3u8

You can also click **+ Batch Add** if you need to add more input (maximum of 100 programs) with the same port and protocol of input and output. See the picture below for reference.

Batch Add Channels
✕

Name :

Count :  (Up to 200)

**Input Configuration**

Eth :  ▼

Protocol :  ▼

IP :   Increment  Fixed

Port :   Increment  Fixed

**Output Configuration**

Protocol :  ▼

Eth :  ▼

IP :   Increment  Fixed

Port :   Increment  Fixed

After batch addition, you can now modify the parameters for each service.

+ Add + Batch Add @ Batch Delete @ Batch Enable @ Batch Disable Save All ↻ Import ↵ Export ↵ Change Order DRM Encryption  Send channel list ONLY ↔ Move channel

Input						Output								
No.	<input type="checkbox"/>	Name	Eth	Protocol	IP	Port	Protocol	IP	Port	Eth	Logo	Status	Enable	
1	<input type="checkbox"/>	One	eth2	UDP	239.192.0.211	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
2	<input type="checkbox"/>	Two	eth2	UDP	239.192.0.212	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
3	<input type="checkbox"/>	Three	eth2	UDP	239.192.0.213	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
4	<input type="checkbox"/>	Four	eth2	UDP	239.192.0.214	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
5	<input type="checkbox"/>	Five	eth2	UDP	239.192.0.215	10000	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
6	<input type="checkbox"/>	Local Channel	Custo	Custo	1080P30_AVC_AA	Local	HTTP	10.10.1.110/live/0	80	All	<a href="#">Set Logo</a>	Success	<input checked="" type="checkbox"/>	
7	<input type="checkbox"/>	New Channel	eth1	UDP			UDP			eth0	<a href="#">Set Logo</a>	0	<input type="checkbox"/>	

Showing 1 to 7 for 7 items
(Tip: Press Ctrl to select more channels)
(eth1:1; eth2:5;)

After configuring, you can create a backup file configuration by clicking **Export** .  
 Loading the backup file can be done by clicking **Import** .

When using the UDP protocol, you can output 100 services to unlimited number of terminals with OMP150100 and 150 services to unlimited number of terminals with OMP150200. To do this, you need to check the box  **Send channel list ONLY** . Take note that the protocol, IP address and IP port of the input should be same with those of the

output. To implement this, it is also required for the source, the OMP150, and the STB in the same network.

Input						Output						
No.	Name	Eth	Protocol	IP	Port	Protocol	IP	Port	Eth	Logo	Status	Enable
1	One	eth2	UDP	239.192.0.211	10000	UDP	239.192.0.211	10000	eth0	<a href="#">Set Logo</a>	5885.1kbits/s	<input checked="" type="checkbox"/>
2	Two	eth2	UDP	239.192.0.212	10000	UDP	239.192.0.212	10000	eth0	<a href="#">Set Logo</a>	5817.8kbits/s	<input checked="" type="checkbox"/>
3	Three	eth2	UDP	239.192.0.213	10000	UDP	239.192.0.213	10000	eth0	<a href="#">Set Logo</a>	5829.1kbits/s	<input checked="" type="checkbox"/>
4	Four	eth2	UDP	239.192.0.214	10000	UDP	239.192.0.214	10000	eth0	<a href="#">Set Logo</a>	5681.9kbits/s	<input checked="" type="checkbox"/>
5	Five	eth2	UDP	239.192.0.215	10000	UDP	239.192.0.215	10000	eth0	<a href="#">Set Logo</a>	5618.9kbits/s	<input checked="" type="checkbox"/>
6	Local Channel	Custo	Custo	1080P30_AVC_A	Local	UDP	10.10.1.110	10000	eth0	<a href="#">Set Logo</a>	6129.0kbits/s	<input checked="" type="checkbox"/>
7	New Channel	eth1	UDP			UDP			eth0	<a href="#">Set Logo</a>	0	<input type="checkbox"/>

After you enable the “Send channel list only”, the output bitrate should show 0kbits/s, indicating that the Service output is normal.

Input						Output						
No.	Name	Eth	Protocol	IP	Port	Protocol	IP	Port	Eth	Logo	Status	Enable
1	Test	eth2	UDP	239.192.0.200	10000	UDP	239.192.0.200	10000	eth3		0	<input checked="" type="checkbox"/>
2	Test1	eth2	UDP	239.192.0.207	10000	UDP	239.192.0.207	10000	eth3	<a href="#">Set Logo</a>	0	<input checked="" type="checkbox"/>

You can also add logo per Live Channel by clicking [Set Logo](#) for each service.

**Set Logo**

Please select a logo from the following list or upload a new one :

No.	Select	Channel Name	Logo
1	<input type="checkbox"/>	HongKong TV	
2	<input type="checkbox"/>	HongKong Cable TV	
3	<input type="checkbox"/>	MaCao TV	
4	<input type="checkbox"/>	Phoenix TV	
5	<input type="checkbox"/>	PhoenixMovie TV	
6	<input type="checkbox"/>	PhoenixNews TV	
7	<input type="checkbox"/>	HuaYu TV	

Showing 1 to 24 for 24 items

OK Cancel

After you set the logo, the logo should be displayed on the same line with the Service.

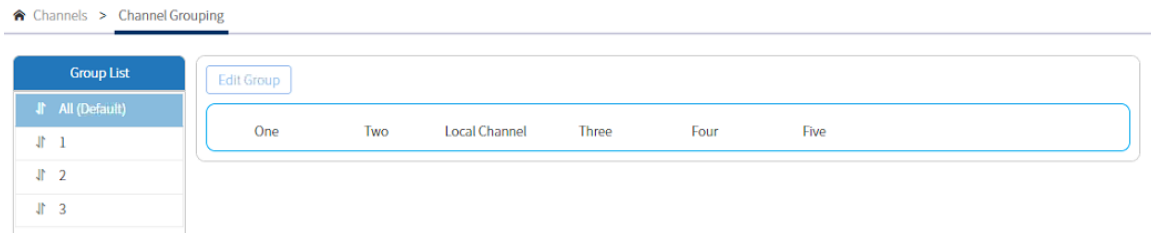
+ Add + Batch Add Batch Delete Batch Enable Batch Disable Save All Import Export Change Order DRM Encryption Send channel list ONLY Move channel

Input							Output						
No.	Name	Eth	Protocol	IP	Port	Protocol	IP	Port	Eth	Logo	Status	Enable	
1	One	eth2	UDP	239.192.0.211	10000	HTTP	10.200.1.190/liv	80	All		Success	<input checked="" type="checkbox"/>	
2	Two	eth2	UDP	239.192.0.212	10000	HTTP	10.200.1.190/liv	80	All	Set Logo	Success	<input checked="" type="checkbox"/>	
3	Local Channel	Custo	Custo	1080P30_AVC_A	Local	UDP	10.10.1.110	10000	eth0	Set Logo	6124.5kbits/s	<input checked="" type="checkbox"/>	

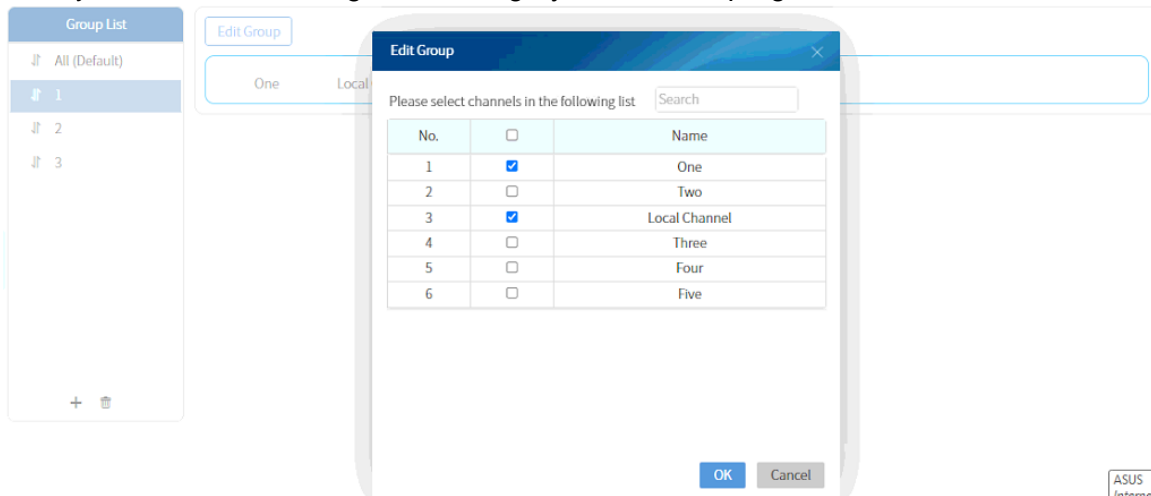
### 3.4.2 Channel Grouping

This allows you to create a channel group of services based on genre like Music, Movies, Series, Kids, etc. You can customize categories and programs to help viewers to quickly search the programs they want.

To create a channel group, go to Channels and click Channel Grouping. Click “+” under Group List to add new a category.



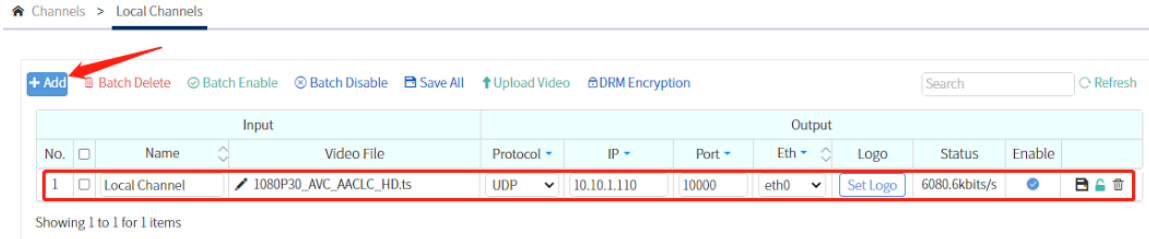
You can add and delete channel group and manage channels based on the channel group you created. To categorize the programs, select a channel group and click “Edit Group”. Then there will be lists of all enabled programs from which you can select the ones you want to be adding to the category. Select that program then click “OK”.




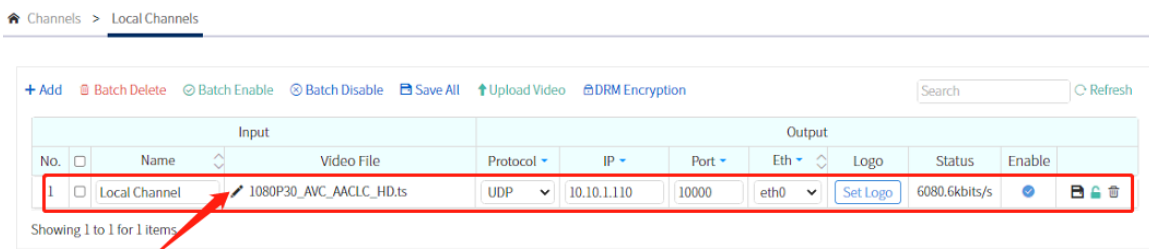
### 3.4.3 Local Channels

Local Channels is for the in-house programs of hotels. The hotel can prepare a video on hard disk or u-disk. This video will be included in the Local channel menu on the APP.

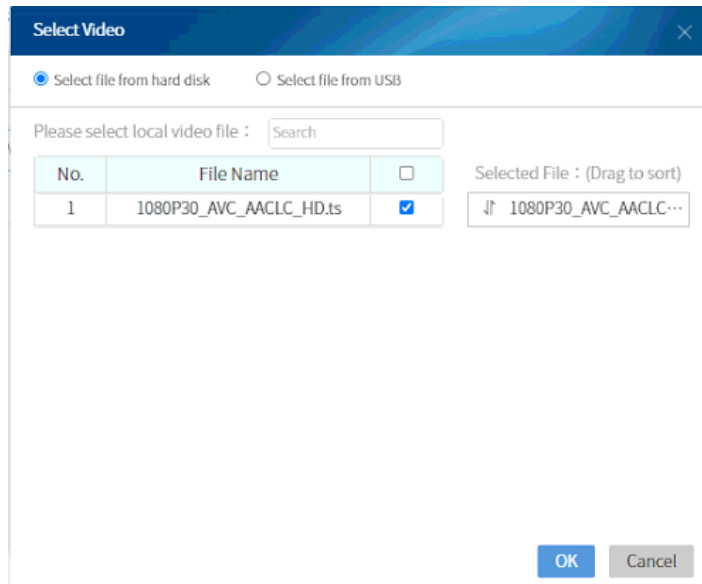
Clicking the **+ Add** will add a new channel.



To select the local video, click  and a new window will pop up where you can select the location of the video you want to add.



Select the video from the hard disk or USB then click ok.



Follow the steps on Channel List submenu on page 18 to output a local channel.

### 3.4.4 EPG

OMP150 also supports EPG and it can be configured in this submenu.

Channels > EPG

+Add Batch Delete Import FTP Settings Download EPG Template Search Refresh

No.	EPG Name	Channel ID	Name	Last Updated Time	Num of events	From	
1	BIU	0003	<a href="#">Local Channel</a>	2021-11-26 16:16:16	1	local	<a href="#">Detail</a> <a href="#">Import</a> <a href="#">Delete</a>

Showing 1 to 1 for 1 items

Click to **+Add** to add an EPG. After assigning a name and selecting which program to associate it, click OK.

Add
✕

EPG Name:  \*

Associate to:

Clicking **Download EPG Template** will download a template in .xml file from which you can edit and assign to a program by clicking import, select the file and click OK.

Channels > EPG

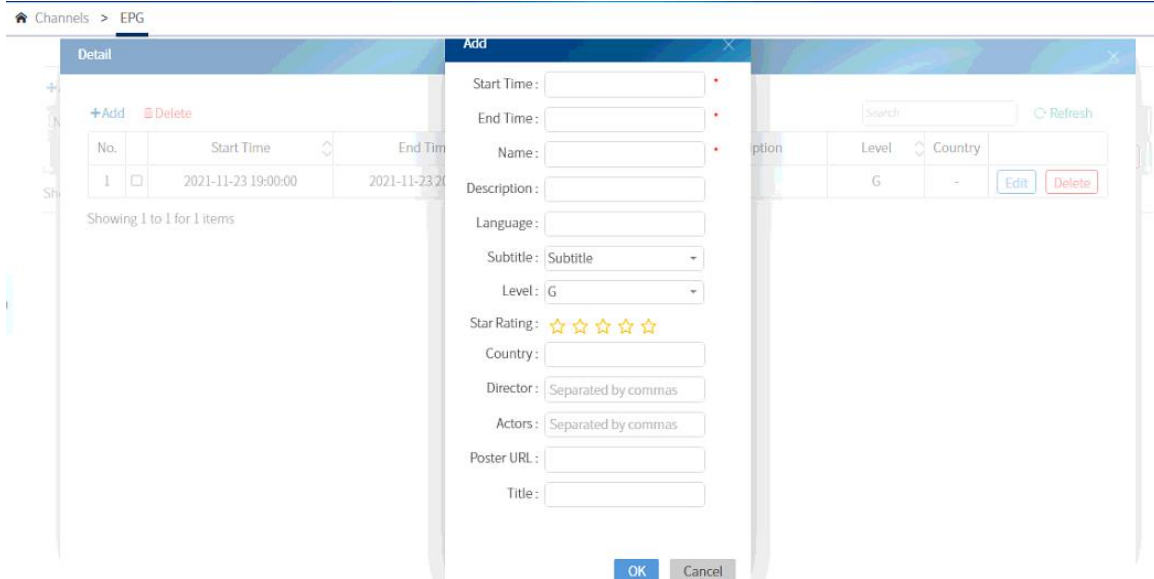
+Add Batch Delete Import FTP Settings Download EPG Template Search Refresh

No.	EPG Name	Channel ID	Name	Last Updated Time	Num of events	From	
1	BIU	0003	<a href="#">Local Channel</a>	2021-11-26 16:16:16	1	local	<a href="#">Detail</a> <a href="#">Import</a> <a href="#">Delete</a>

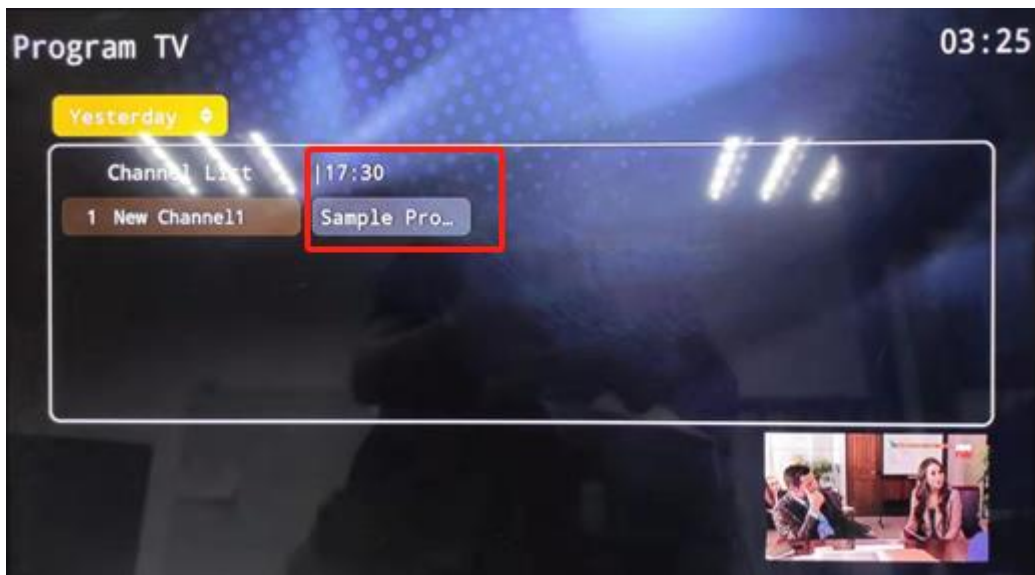
Showing 1 to 1 for 1 items

You can edit manually the EPG by clicking the **Detail**. A window will pop up and click **+Add**. After setting the parameter click OK.

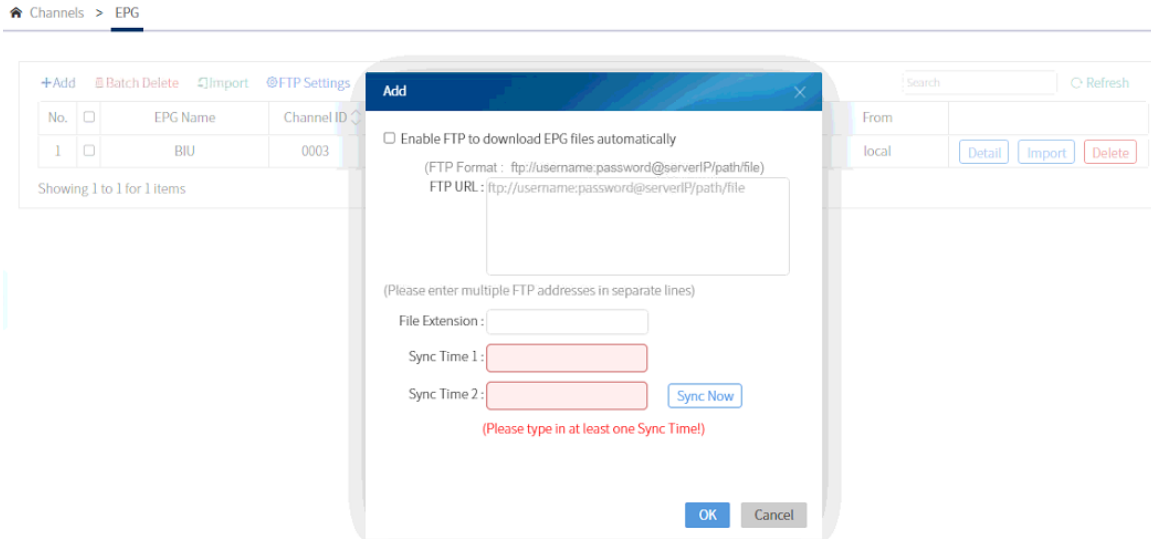




The EPG that is set on a particular program will appear now on the TV Display.



You can also add an EPG via FTP by clicking [@FTP Settings](#).



## 3.5 VOD

Video on Demand or known as VOD is supported by OMP150. You can upload a video on this page and include the video on the VOD channel service. VOD menu are divided in 4 sub-menus that can help you manage the System.

- Local VOD
- VOD Home Page
- VOD Grouping
- 3<sup>rd</sup> party VOD
- 3<sup>rd</sup> Party APPs

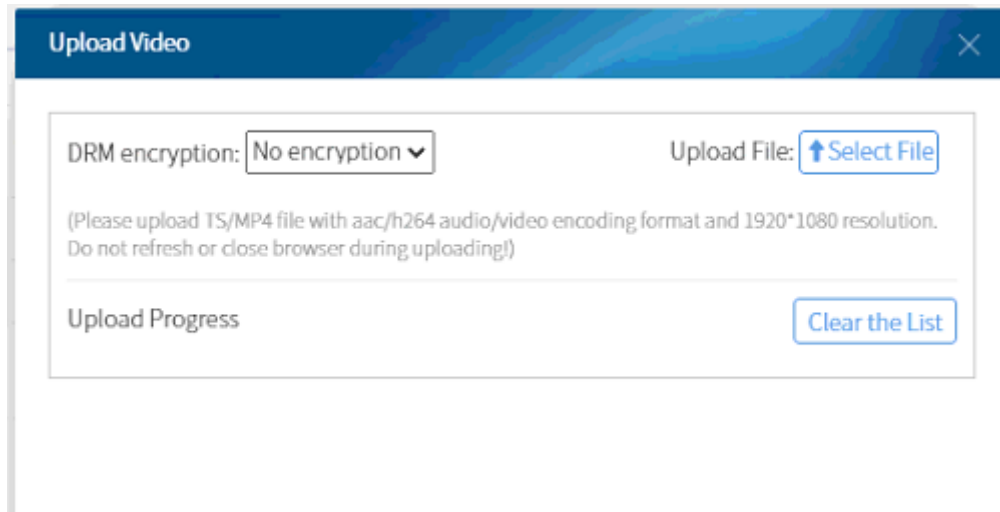
### 3.5.1 Local VOD

Local VOD is the uploaded video on the Server. You can access the OMP150 and upload several videos to the server. The Server capacity to store VOD are limited.

To upload a video to the Unit, go to VOD > Local VOD and click [Upload Video](#) . Look for the video you want to upload and enable it so that the terminal can view the service.

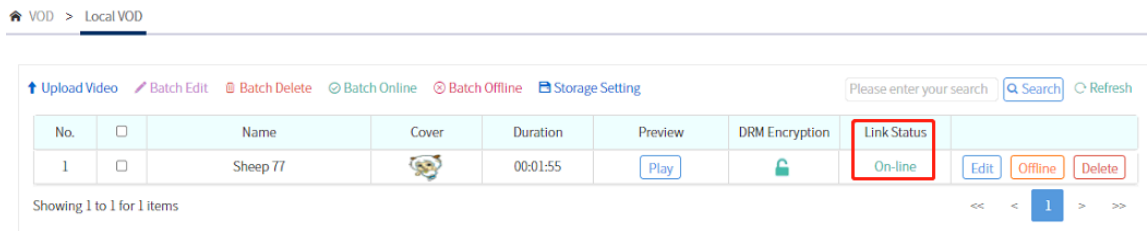
After you select the video, it will show the upload status will be shown as the picture below. You can select and upload multiple videos.

Note: Videos should be TS/MP4 files with AAC/H.264 audio/video encoding format and resolution of 1920\*1080.



Once the upload is finished, you will see the video name in the List of Local VOD.

It will take some time before you can enable the video. The status of the video will be changed from “Unprepared” to “Offline”.





Once the Status is “Offline”, you can now click on “Online” to let the video to appear on the APP. The Status will be changed to “Online” after this.


You can also click on [Play](#) under Preview to watch the video uploaded for VOD.

Home VOD > Local VOD

[Upload Video](#)
[Batch Edit](#)
[Batch Delete](#)
[Batch Online](#)
[Batch Offline](#)
[Storage Setting](#)
Please enter your search

No.	<input type="checkbox"/>	Name	Cover	Duration	Preview	DRM Encryption	Link Status	
1	<input type="checkbox"/>	Sheep 77		00:01:55	<input type="button" value="Play"/>		On-line	<input type="button" value="Edit"/> <input type="button" value="Offline"/> <input type="button" value="Delete"/>

Showing 1 to 1 for Sheep 77




After the video is uploaded, you can now polish the video by adding some details about the video. You can set a Display picture and some details like Director, Producer, and other info of the video/movie.

Edit ✕

Basic Information
Extended Information

Cover(Suggest:500px \* 700px)



Video Name :

Description :

3/300

Next
Save

The 'Edit' dialog box is divided into two tabs: 'Basic Information' and 'Extended Information'. The 'Extended Information' tab is active. It contains the following fields:

- Director: Rita
- Language: Chinese
- Screenwriter: (empty)
- Adult Level: II
- Producer: (empty)
- Label: (empty)
- Actors: (empty)
- Category: rising
- Publish Time:  Unlimited  Custom

Buttons for 'Prev' and 'Save' are located at the bottom right.

For multiple videos with the same information, you can select **Batch Edit** for easier configuration.

VOD > Local VOD

[Upload Video](#)
[Batch Edit](#)
[Batch Delete](#)
[Batch Online](#)
[Batch Offline](#)
[Storage Setting](#)

No.	<input type="checkbox"/>	Name	Cover	Duration	Preview	DRM Encryption	Link Status	
1	<input type="checkbox"/>	Sheep 77		00:01:55	<input type="button" value="Play"/>		On-line	<input type="button" value="Edit"/> <input type="button" value="Offline"/> <input type="button" value="Delete"/>

Showing 1 to 1 for 1 items

Since the storage of the Server itself is not large, you can set the Storage Setting to upload more Local VOD. Click on the Storage Setting and input the Server IP and Storage Path.

VOD > Local VOD

[Upload Video](#)
[Batch Edit](#)
[Batch Delete](#)
[Batch Online](#)
[Batch Offline](#)
[Storage Setting](#)

No.	<input type="checkbox"/>	Name	Cover	Duration	Preview	DRM Encryption	Link Status	
1	<input type="checkbox"/>	Sheep 77		00:01:55	<input type="button" value="Play"/>		On-line	<input type="button" value="Edit"/> <input type="button" value="Offline"/> <input type="button" value="Delete"/>

Showing 1 to 1 for 1 items

**Storage Setting**

Enable Remote Storage

Server IP:

Storage Path:

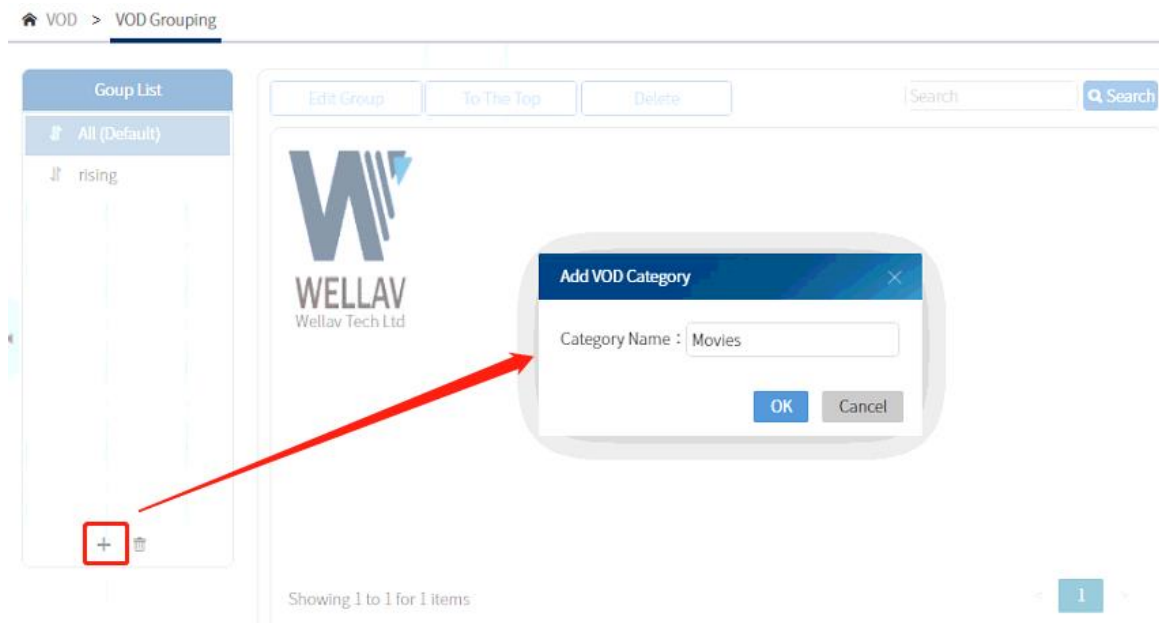
### 3.5.2 VOD Home Page

VOD Home Page is for polishing VOD interface on the APP. You can customize the page so that guest can easily know the newest and trending movie released.

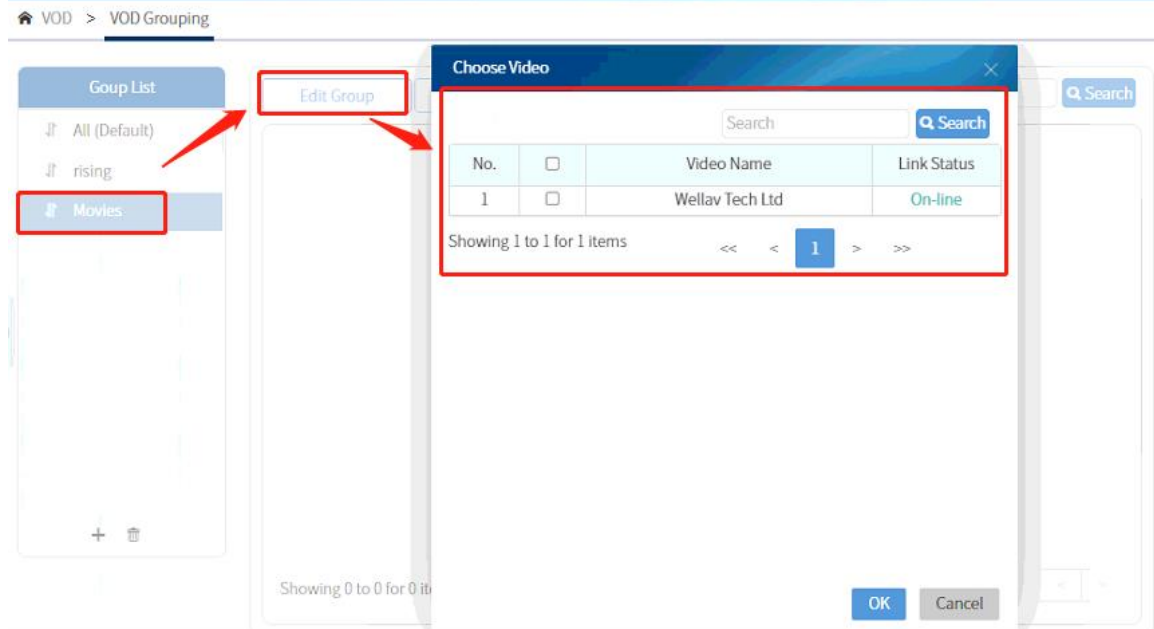


### 3.5.3 VOD Grouping

Category is for creating video categories based on their genre. Same with the Live Channel Category, you can create a category like Action Movies, Music, and Kids and assign programs to each category. To create a category, click on the “+” sign and input the category name as shown in the picture below.



To add programs to the category, click on the category name, then click on Choose Video. Choose the video to be included in the selected category.



This can help your guests to easily search for a video they want to watch. This also allows you to manage the Services based on their categories.

### 3.5.4 3<sup>rd</sup> Party VOD

3<sup>rd</sup> Party VOD is for downloading a third-party VOD. The applications that you add will be accessible on the STB or TV.

🏠 VOD > 3rd Party VOD

CIBN
 IQIYI
 Tencent

Custom

Hotel Name :

Hotel ID :

APK Name :  Download

KuGou
 Tencent music
 Custom Music





APK Name :  Download

### 3.5.5 3<sup>rd</sup> party APPs

3<sup>rd</sup> Party APPS is for downloading a third-party APK. The applications that you add will be accessible on the STB or TV.

🏠 VOD > 3rd Party APPs

[+Add](#) [Batch Delete](#)  Display apps directly on menu

No.	<input type="checkbox"/>	Logo	Name	Packet Name	Version	Download	Status	Action		
1	<input type="checkbox"/>		YouTube	com.google.android.youtube	14.43.55	<input type="button" value="Local"/>	Enabled	<input type="button" value="Edit"/>	<input type="button" value="Disable"/>	<input type="button" value="Delete"/>
2	<input type="checkbox"/>		Netflix	com.netflix.ninja	7.3.0	<input type="button" value="Local"/>	Enabled	<input type="button" value="Edit"/>	<input type="button" value="Disable"/>	<input type="button" value="Delete"/>
3	<input type="checkbox"/>		HBO	eu.hbogo.android	5.9.1	<input type="button" value="Local"/>	Enabled	<input type="button" value="Edit"/>	<input type="button" value="Disable"/>	<input type="button" value="Delete"/>
4	<input type="checkbox"/>		Hulu	com.hulu.plus	3.73.0.308630	<input type="button" value="Local"/>	Enabled	<input type="button" value="Edit"/>	<input type="button" value="Disable"/>	<input type="button" value="Delete"/>

Showing 1 to 4 for 4 items

To add a VOD app, just click [+ Add](#) and a window will appear. Input the parameters and upload the APK file then select a logo for that app then click OK. These applications will automatically be added to the STB/TV display and will now be accessible to the user.



Add
✕

Name:

Packet Name:

Version:

Download:

APK File: ↑ Select File No File Selected

Logo: ↑ Select File

Only images in PNG/JPG/JPEG/BMP format are supported  
Recommended icon size(pixel):  
On pop-up menu : 150 \* 150  
On main menu : 200 \* 200

OK
Cancel

A disabled third party apps will not appear to the STB/TV.

🏠 VOD > 3rd Party APPs

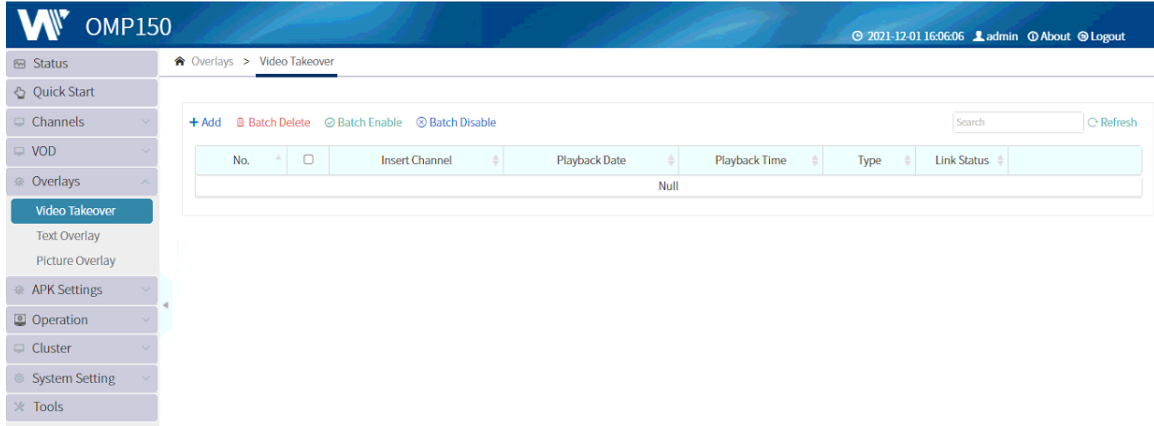
+Add
Batch Delete
 Display apps directly on menu

No.	<input type="checkbox"/>	Logo	Name	Packet Name	Version	Download	Status	Action
1	<input type="checkbox"/>		YouTube	com.google.android.youtube	14.43.55	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Local</span>	Enabled	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> <span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Disable</span> <span style="background-color: #f44336; color: white; padding: 2px 5px; border-radius: 3px;">Delete</span>
2	<input type="checkbox"/>		Netflix	com.netflix.ninja	7.3.0	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Local</span>	Disabled	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> <span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Enable</span> <span style="background-color: #f44336; color: white; padding: 2px 5px; border-radius: 3px;">Delete</span>
3	<input type="checkbox"/>		HBO	eu.hbogo.android	5.9.1	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Local</span>	Enabled	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> <span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Disable</span> <span style="background-color: #f44336; color: white; padding: 2px 5px; border-radius: 3px;">Delete</span>
4	<input type="checkbox"/>		Hulu	com.hulu.plus	3.73.0.308630	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Local</span>	Enabled	<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> <span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Disable</span> <span style="background-color: #f44336; color: white; padding: 2px 5px; border-radius: 3px;">Delete</span>

Showing 1 to 4 for 4 items

## 3.6 Overlays

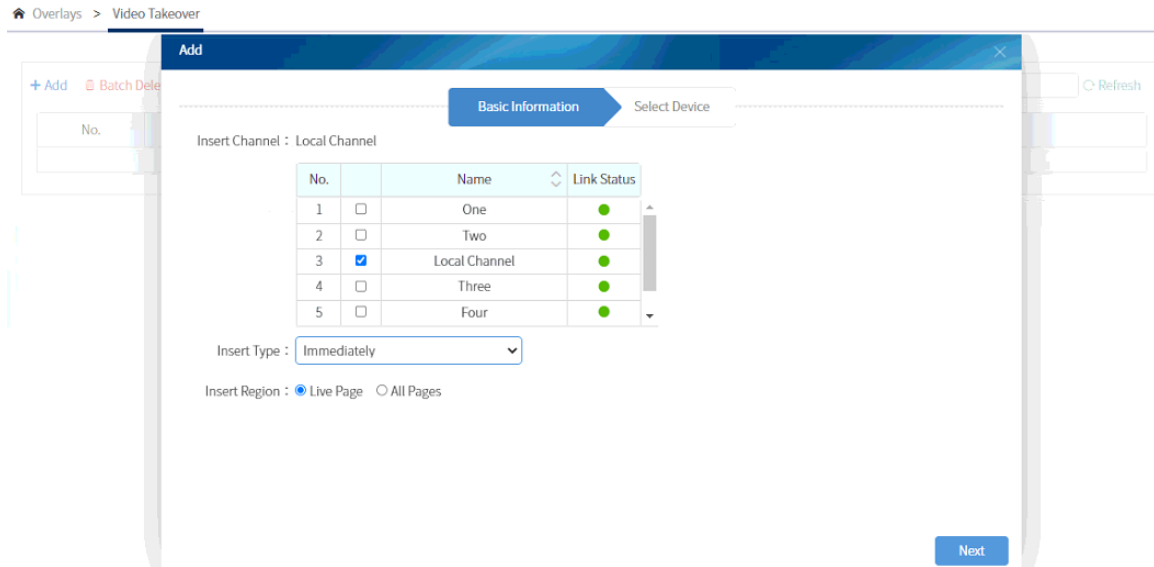
On this page, you can insert and manage videos, pictures, or subtitles on any live channels immediately or by scheduled.



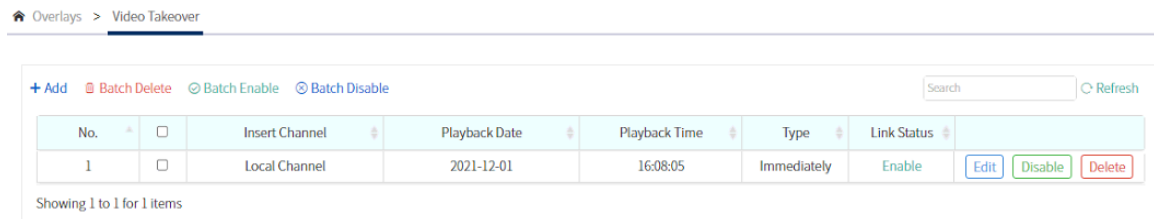
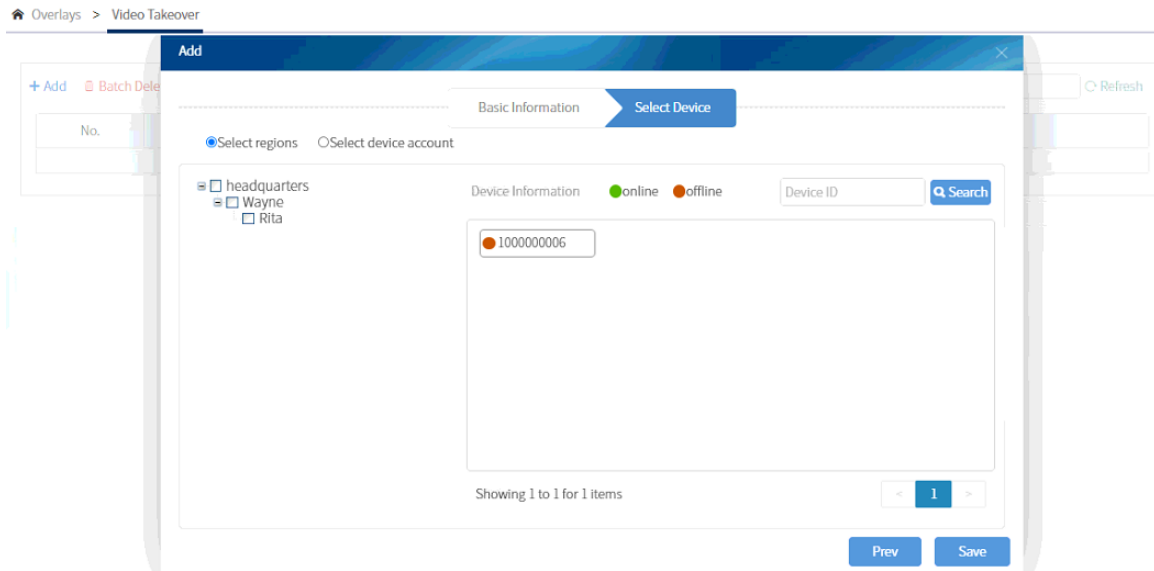
### 3.6.1 Video Takeover

Video Takeover allows you to select and insert any live channels to ALL or ANY terminal on LIVE interface or ALL interface. This is usually used when there is an emergency that the Hotel wants their guests to view the emergency video.

To do this, go to Overlays and select Video Takeover. Click on ADD and select the live channel you want to use. You can select Insert Type as “Immediately” or “Scheduled” and select the Insert Area as “Live Page” or “All Pages”.



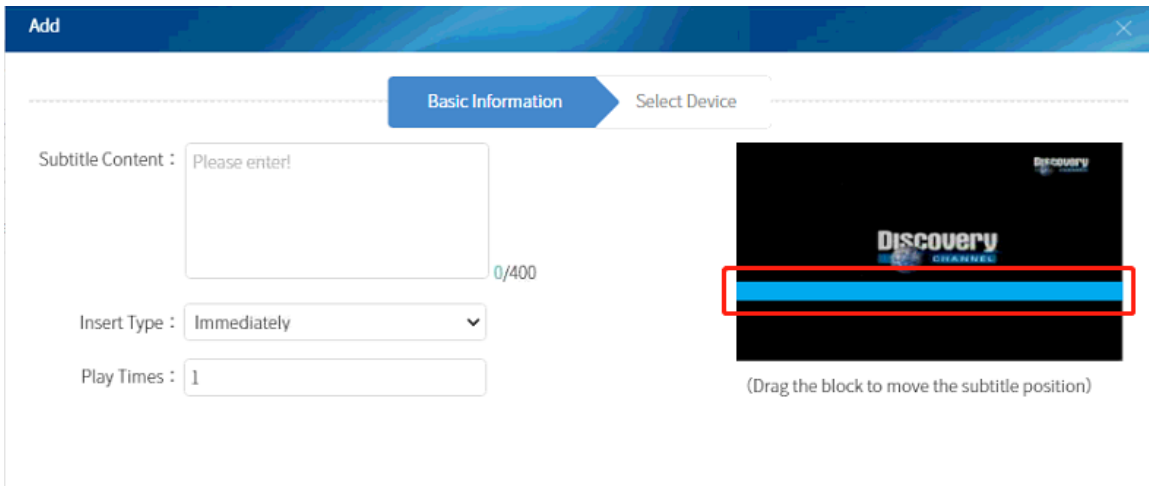
After this, you can select to apply this to all devices or selected devices only.



Aside from the Emergency Broadcast, this can also be used for events and other stuffs. You can disable/enable the configuration anytime and avoid configuring the parameters again.

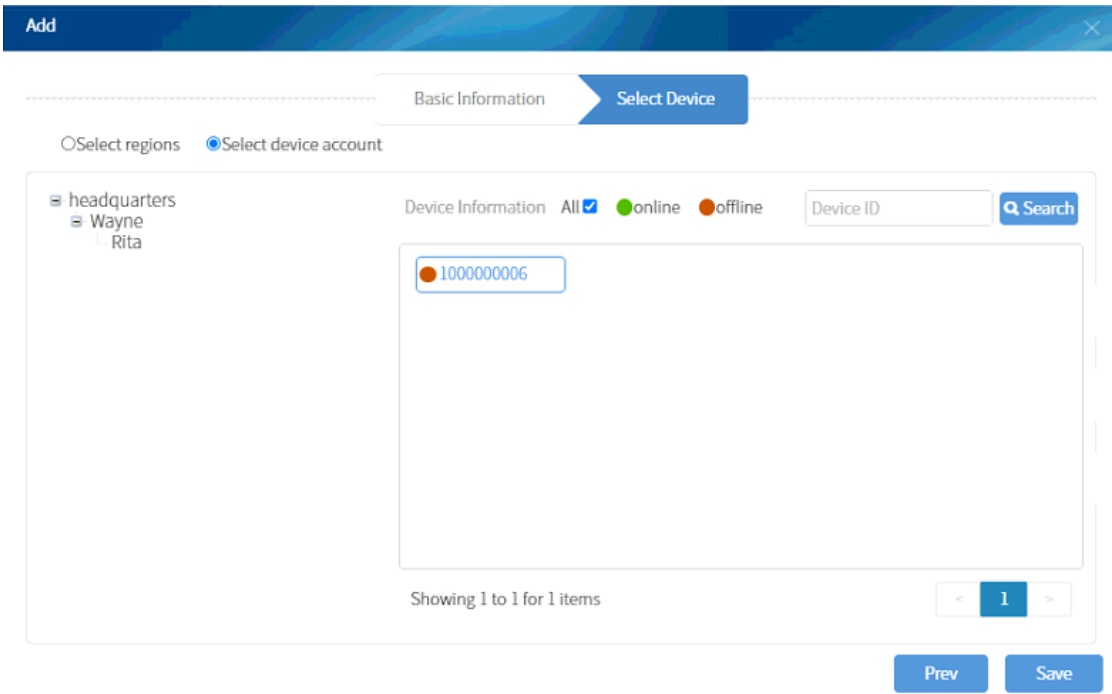
### 3.6.2 Text Overlay

Text Overlay is for displaying TEXT messages on the STB/TV. Unlike Video Takeover that has area options for display, Subtitle Insertion only supports to display subtitles across the screen.



To add subtitles, go to Overlays and select Text Overlay. Click on ADD button and input the subtitle content then fill in other parameters. You can move the orange bar in the preview area to position the subtitle on the screen. There are no options for the font style and size and displaying speed of the subtitle. Make sure the message is short and clear for viewers to read.

Following the same steps of with Video Insertion, you can select the room or terminal to display the subtitles.

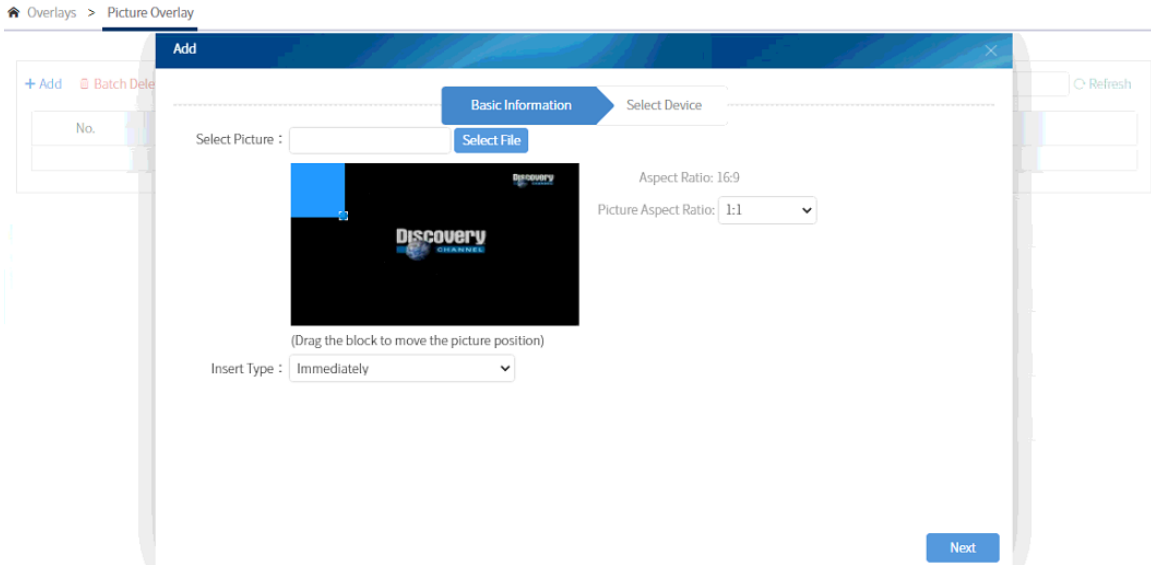


You can select “All” for all rooms or select multiple rooms that can view the subtitle. You can also disable/enable the configuration anytime to avoid configuring the parameters again.

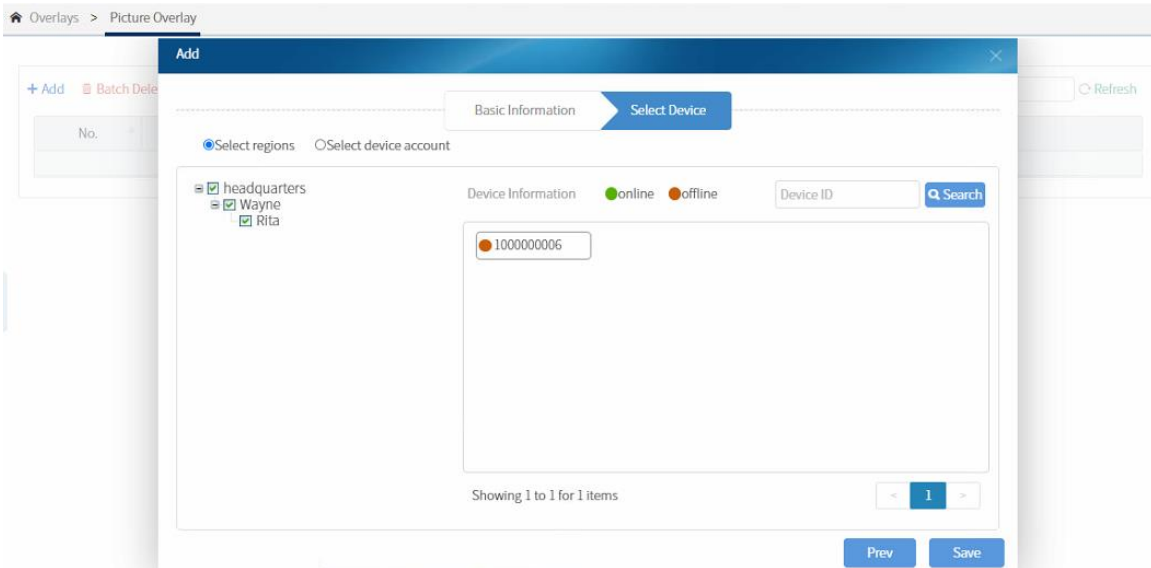
### 3.6.3 Picture Overlay

For the Picture Overlay, this is only applicable in the Live and the VOD Interface, unlike Video and Subtitle Insertion that can display in all interfaces.

Steps of adding pictures to the video are almost same with those of Video and Subtitle Insertion. Select the picture you want to display; select the Broadcast Type as “Immediately” or “Scheduled” and select the aspect ratio as 1:1, 4:3, 16:9 or free stretch.



Last, you need to select the room(s) you want to display the picture in.



You can also disable/enable the configuration anytime to avoid configuring the parameters again.

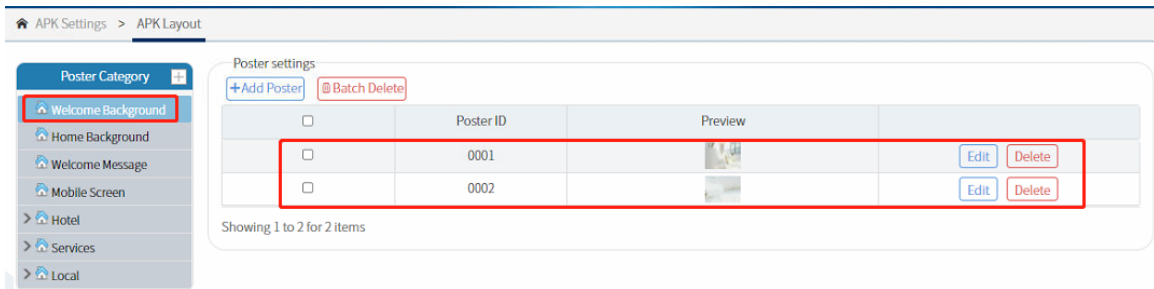
### 3.7 APK Settings

On this page, you can modify the settings on the APK on which the user will view upon entering the application. See more information in the following submenu:

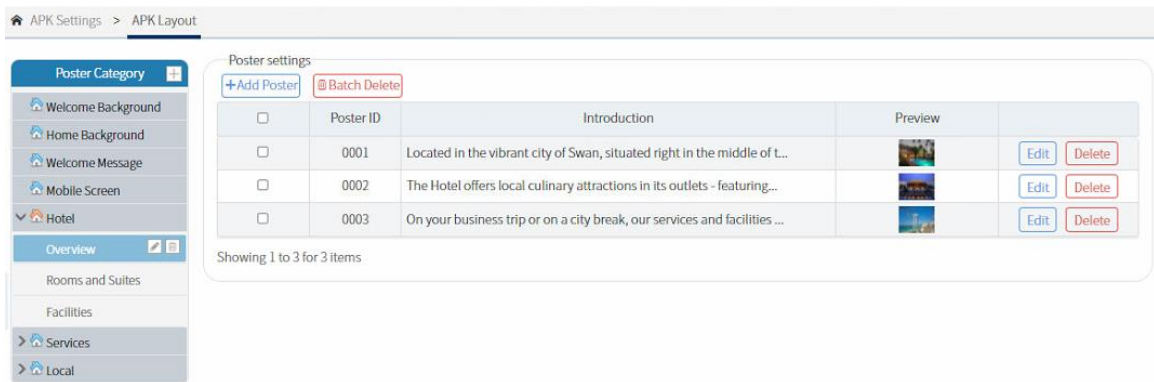
- APK Layout
- APK Background
- APK Management
- WGT Management
- APK Layout Theme

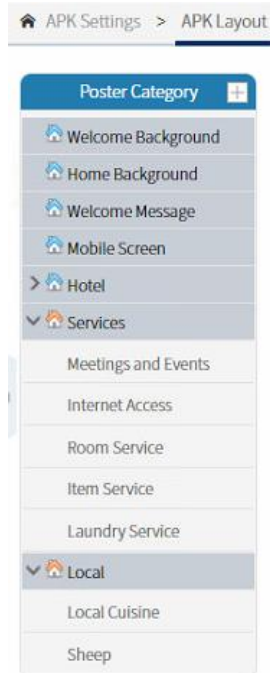
#### 3.7.1 APK Layout

This page displays the APP interface. This shows pages in APP and the posters displaying on them. For example, for the Welcome Background it will show its two posters in the APP. You can add more pictures for the Welcome Background as slides.



You can also easily add or customize the APP menu by adding categories. The next picture shows the Hotel menu and its sub-menu. It gives the hotel more options to advertise hotel rooms, food, and amenities.





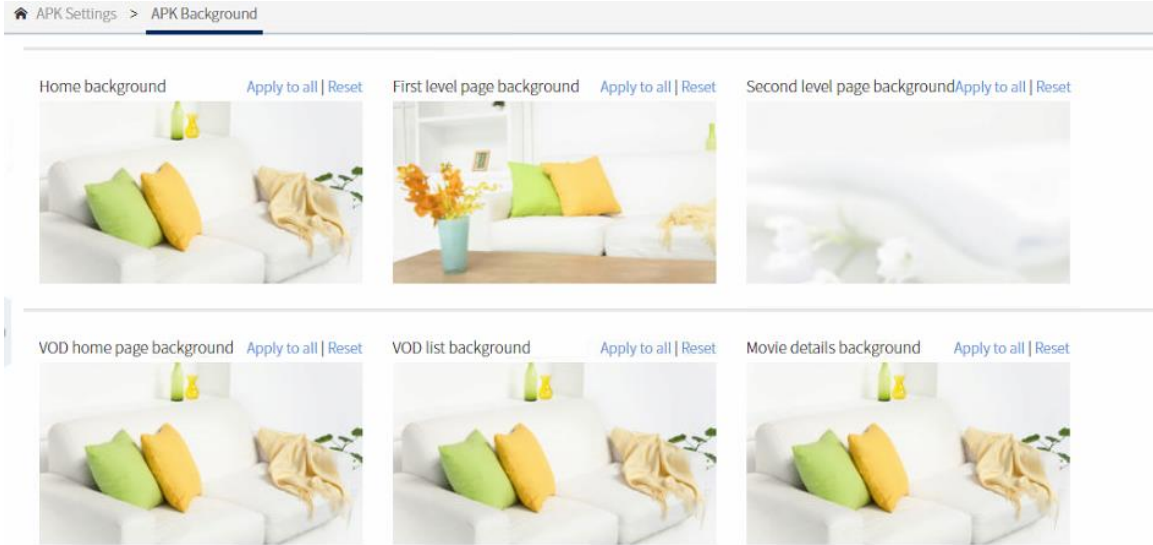
This can help a hotel attract more guests to enjoy their stay inside and outside the hotel. The Interface is very user friendly that any user can add/remove/modify the menu of the APP on this page.

### 3.7.2 APK Background

Here you can change or set a picture as the background on a certain page of the IPTV APP. You can upload a picture for the following pages:

- Home Background
- First Page Background
- Second Page Background
- VOD Home Page Background
- VOD List Background
- Movie Details background

To change the picture, simply click the picture and upload a new one.



### 3.7.3 APK Management

This menu shows APK details as reference for Android STB unit.

APK Release :

APK Version : 2.9.3-2006

MD5 : 8378ae9ef5662612e208334b02c2642f

URL : [http://10.200.1.190/source/apk/IPTV\\_2.9.3-2006.apk](http://10.200.1.190/source/apk/IPTV_2.9.3-2006.apk)

Size : 86M

Update Time : 2021-09-01 02:24:20



Here are the details about APK Settings. Selects which option do you want to apply regarding on Upgrade, Startup, Exit, Start Interface, Live Default, and Player Settings.

APK Settings > APK Management

APK Settings :

- Upgrade Settings**
  - App client forces automatic upgrade
  - App prompts to upgrade every time when start
  - App disables upgrade
- Startup Settings**
  - Boot app automatically
  - Boot app manually
- Exit Settings**
  - Press the back button to exit the app
  - Press the key combination to exit the app
  - Not allowed to exit the app
- Start Interface Settings**
  - App launches into live interface
    - Can return to menu
  - App launches into the boot interface
- Live Default Settings**
  - Continue to play the last channel
  - Play the No.  channel
- Player Settings**
  - Android Player
  - Player1
  - Player2 (recommended for Non-DRM use)
  - Player3 DRM
- Player Settings**
  - App automatically obtains the server IP

### 3.7.4 WGT Management

This menu shows WGT details as reference for TV units requiring WGT file for installation.

WGT Release :

WGT Version : 1.0.0-1165

MD5 : e1a90a2bd77b109a7f4898b3df8b9413

URL : [http://10.200.1.190/source/samsung/IPTV\\_1.0.0-1165.wgt](http://10.200.1.190/source/samsung/IPTV_1.0.0-1165.wgt)

Size : 13M

Update Time : 2020-02-20 21:37:57

[Update](#)

### 3.7.5 APK Layout Theme

APK Layout Theme provides different user interfaces for the STB. Here are three (3) unique UI styles. Simply select the option; it will take effect on the Terminal (android STB or android TV).

APK Settings > APK Layout Theme

○Style1   **○Style2**   ○Style3

Next Group

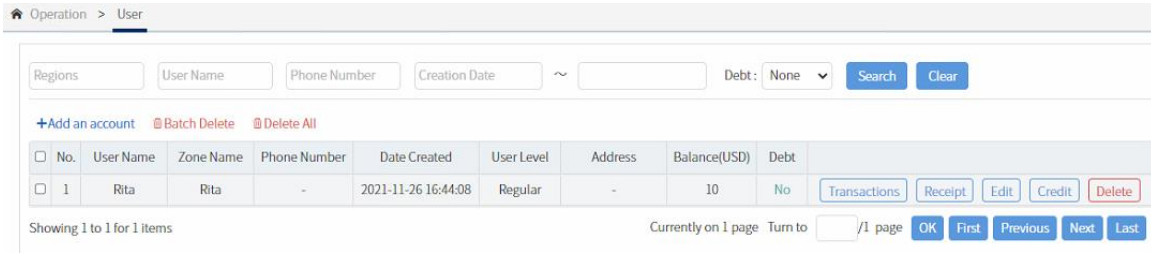
### 3.8 Operation

In the Operation menu, you can manage the terminals such as giving authorization and assigning packages. You can also make regions from which the terminals can be assigned, set discount and see statistics. Those and more other features can be seen in the following submenu:

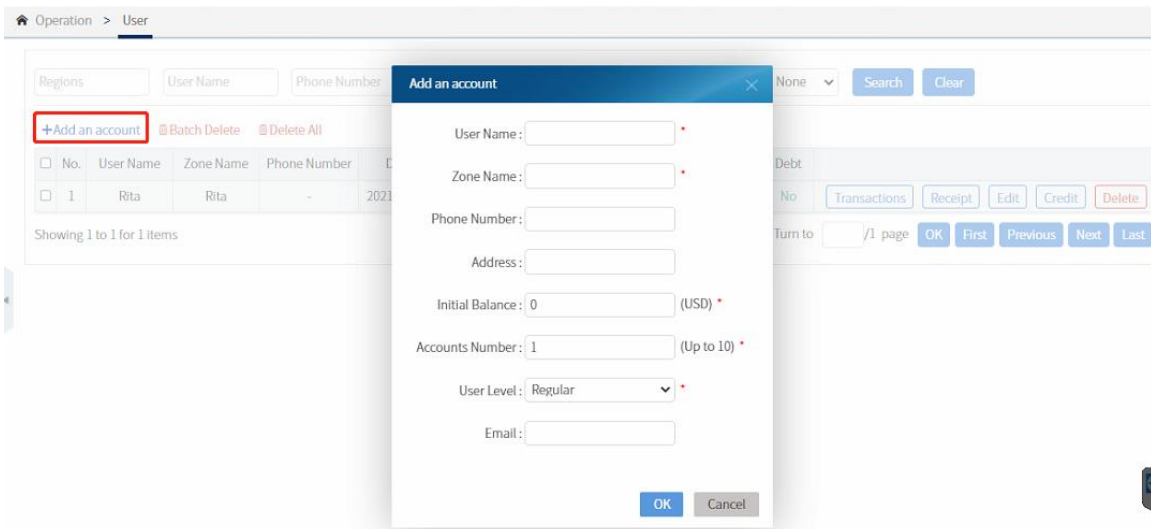
- User
- Authorization
- Packages
- Region
- Discount
- Statistics
- Access Control
- Advanced Settings

### 3.8.1 User

This is where you can find the list of users or subscribers with details. You can input in the search field any particular user, region or date interval to filter out the displayed users.



Click **+Add an account** and fill out the required fields to add a user. Zone Name is the region that the user will be assigned to, this will be discussed in **3.8.4**.



By clicking **Transactions**, you will be able to view the transactions of a particular user.



Transactions

Account : 1000000001

Package	Billing	Transactions(USD)	Deduction Date
1	Monthly	0	2021-08-06 19:28:43

Showing 1 to 1 for 1 items

Click the [Receipt](#) to view the payment history of a user.

Receipt

No.	Credit Time	Credit Amount(USD)	Note	<input type="checkbox"/>
1	2021-11-26 16:44:08	10	-	<input type="checkbox"/>
2	2021-12-01 16:29:35	10	-	<input type="checkbox"/>
3	2021-12-01 16:31:14	50	-	<input type="checkbox"/>

Showing 1 to 3 for 3 items

Clicking the [Edit](#) allows you to modify the details for each user.

Click [Credit](#) to apply a credit amount and a note for a particular user.

### 3.8.2 Authorization

This menu shows the current status of each terminal connected to the network. The Online Status will display whether the device is online or offline.

Operation > Authorization

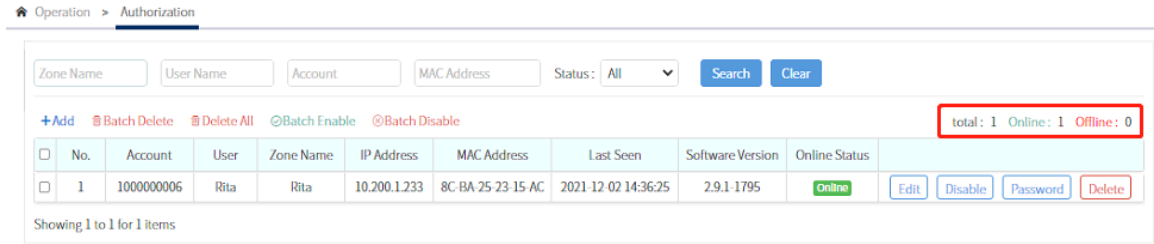
Zone Name:  User Name:  Account:  MAC Address:  Status: All

+Add     total: 1 Online: 1 Offline: 0

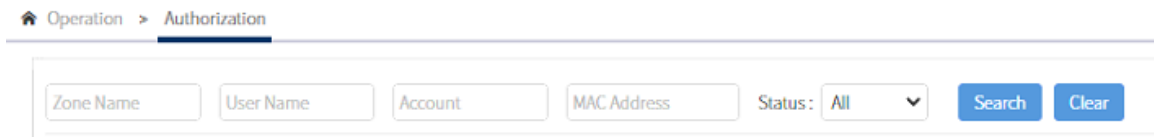
No.	Account	User	Zone Name	IP Address	MAC Address	Last Seen	Software Version	Online Status
1	1000000006	Rita	Rita	10.200.1.233	8C-BA-25-23-15-AC	2021-12-02 14:36:25	2.9.1-1795	Online <input type="button" value="Edit"/> <input type="button" value="Disable"/> <input type="button" value="Password"/> <input type="button" value="Delete"/>

Showing 1 to 1 for 1 items

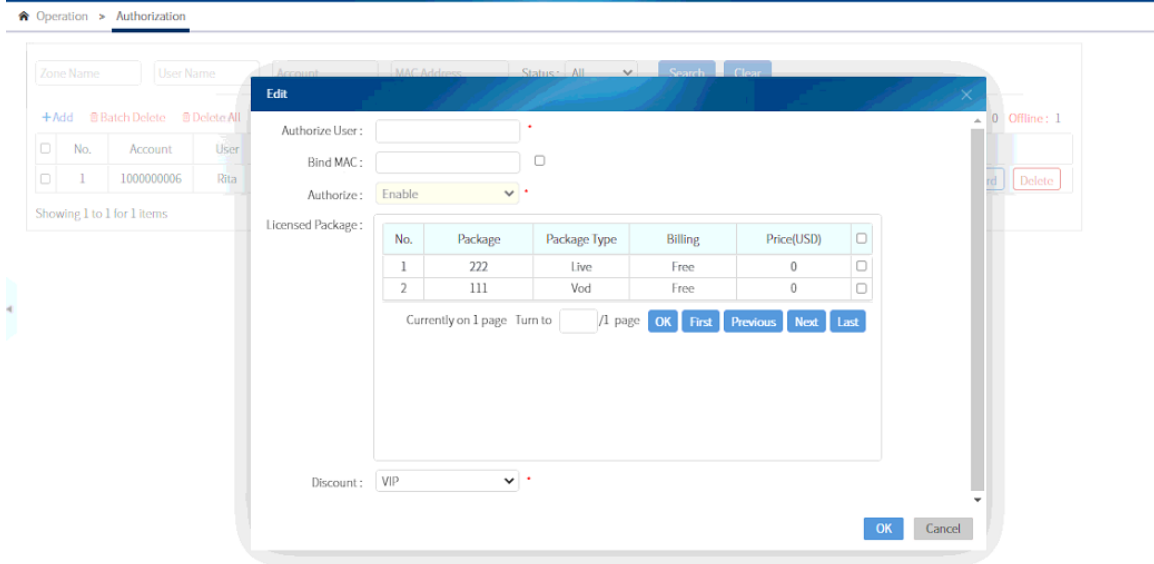
It also displays the total number of terminals that is registered to the system and the number of online and offline in those.



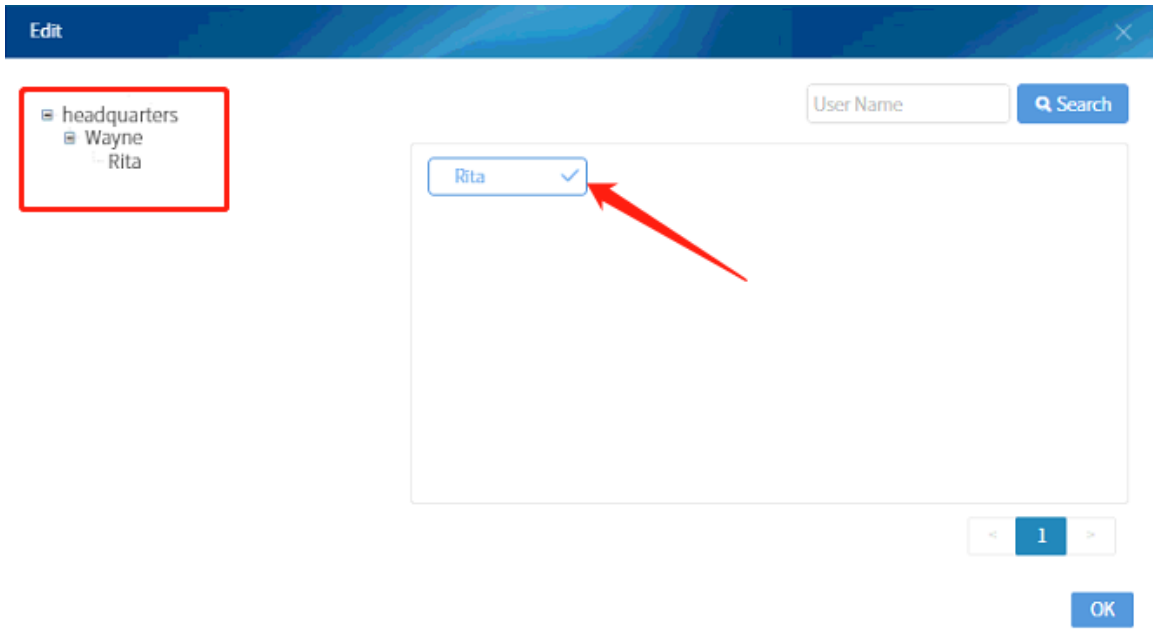
You can filter out the displayed terminals by searching a particular None, User name, Account or MAC Address.



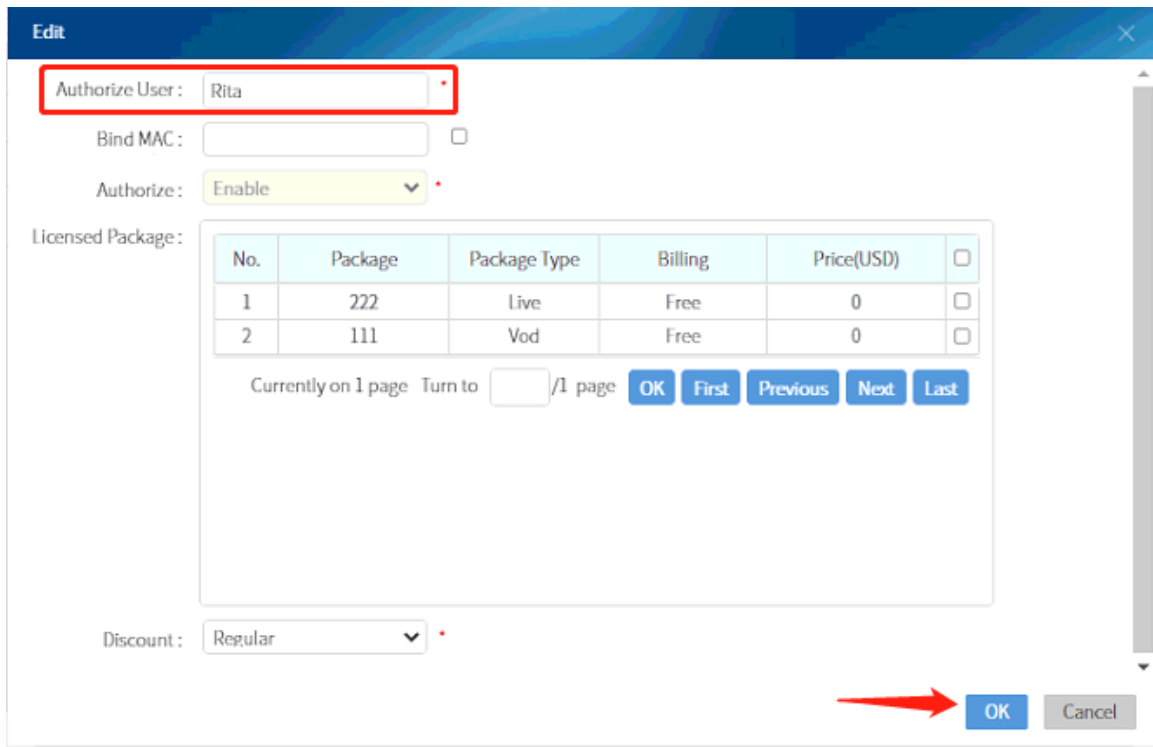
Click **+Add** to add an account.



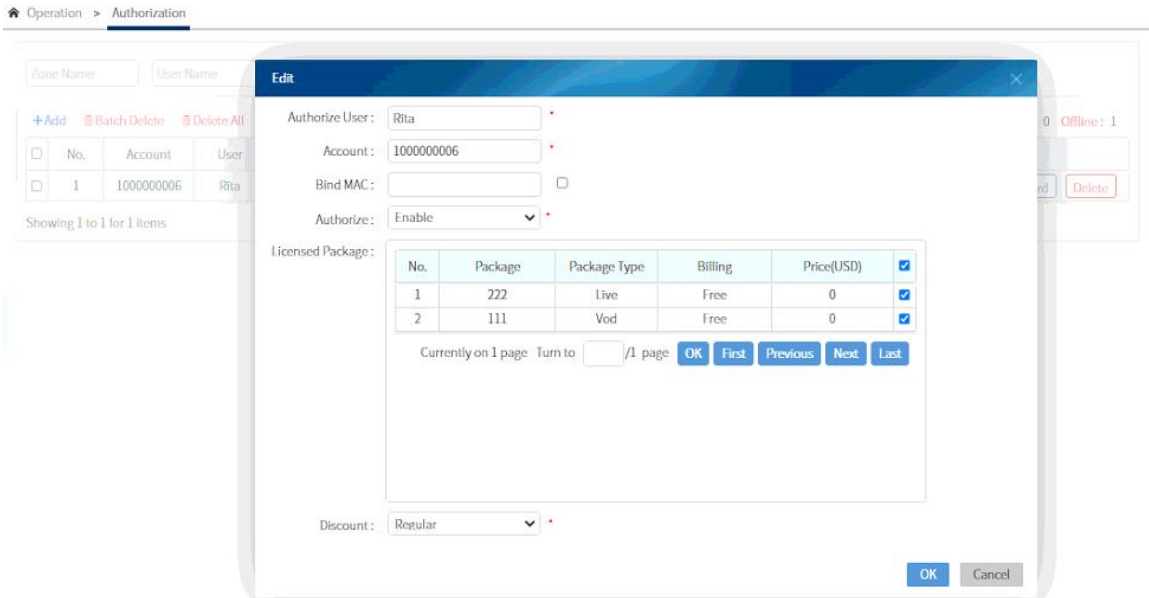
A window will pop up upon selecting the field for Authorize User. The list of users will appear in the bottom part. Click the regions (discussed in 3.8.4) on the left side to filter out the users that is shown on the right side. Select the user from which you will authorize the new account then click OK.



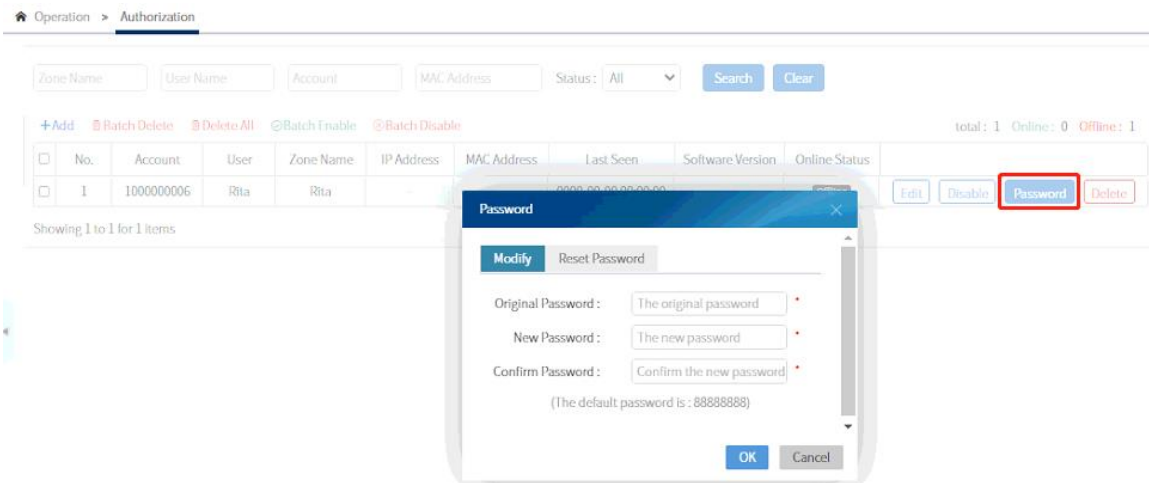
Once a user is selected, click OK.



Click **Edit** to modify the details for each account.



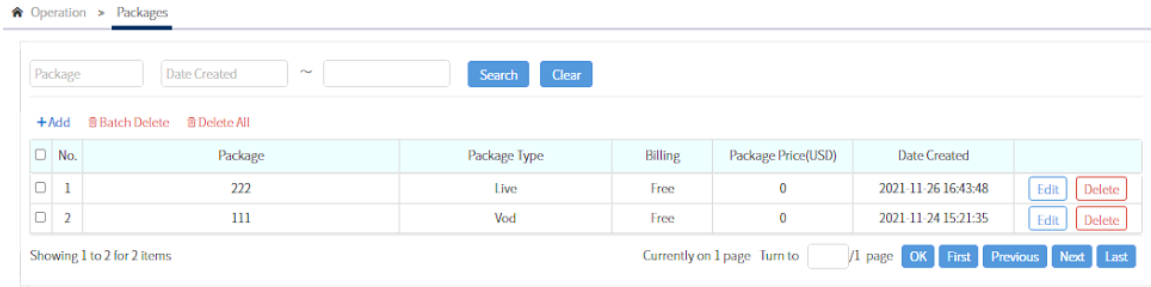
Click **Password** to modify or reset the password for an account.



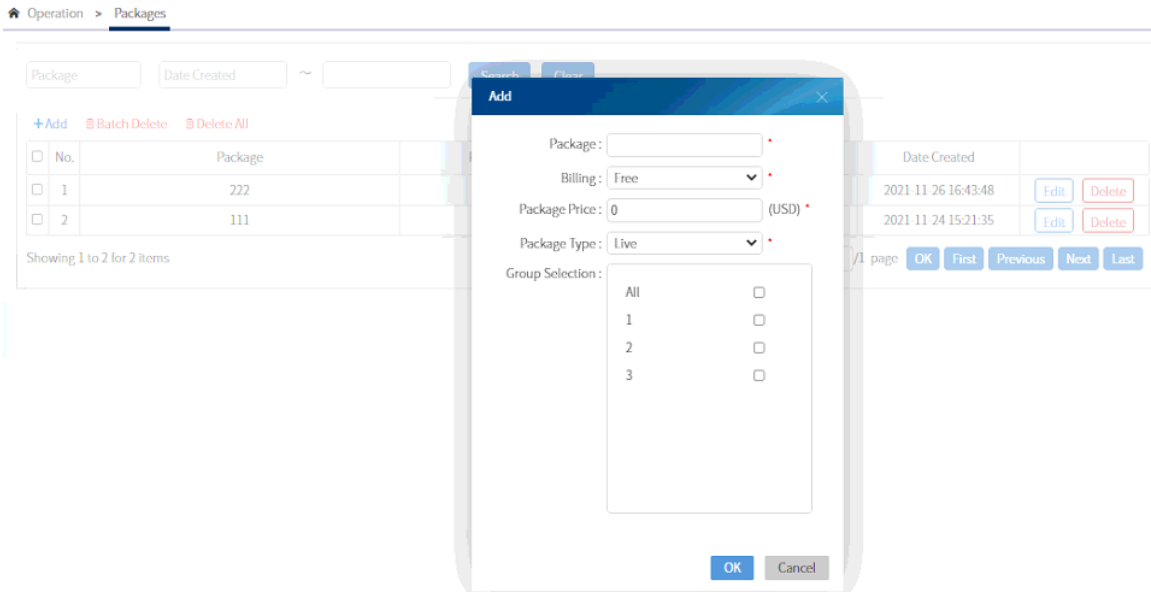
### 3.8.3 Packages

You can make packages of programs in this menu which is composed of the channel groups that is configured in the channel grouping under channels menu.

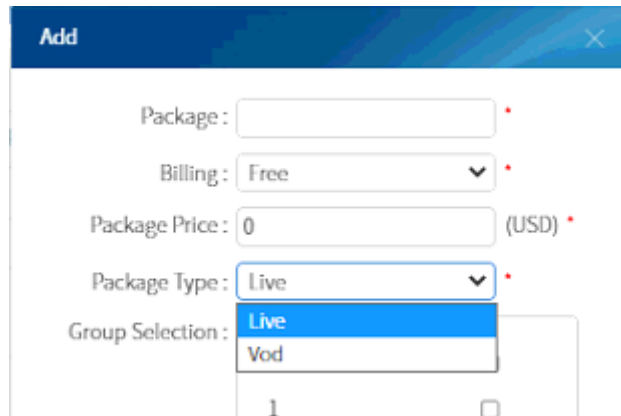




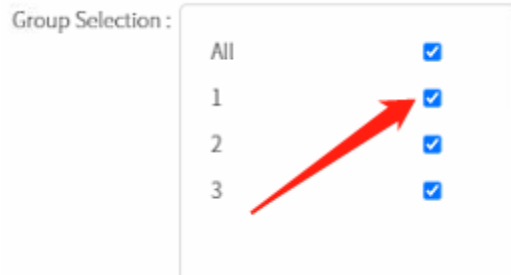
Click **+Add** to make a new package.



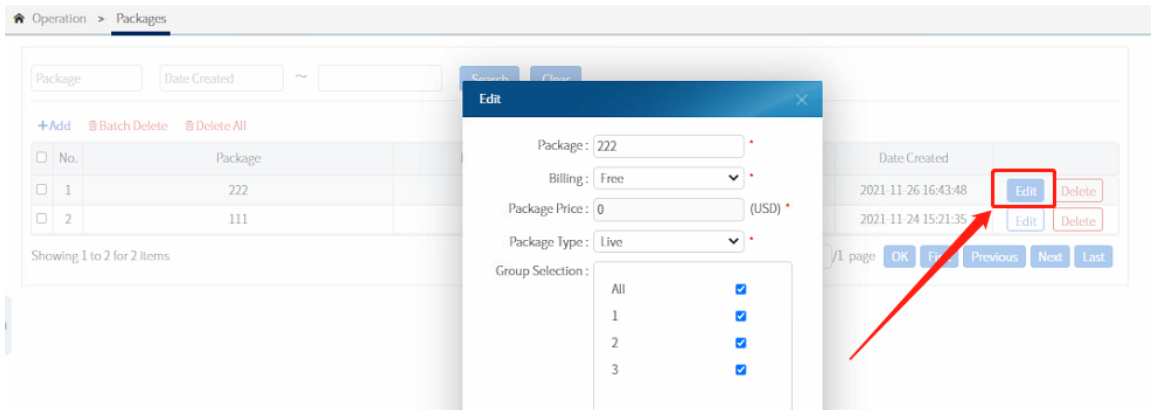
You can choose between Live and VOD package. Select which one you want to make.



Select the channel group/s or VODs that you want to include in the package. Click OK when everything is set.

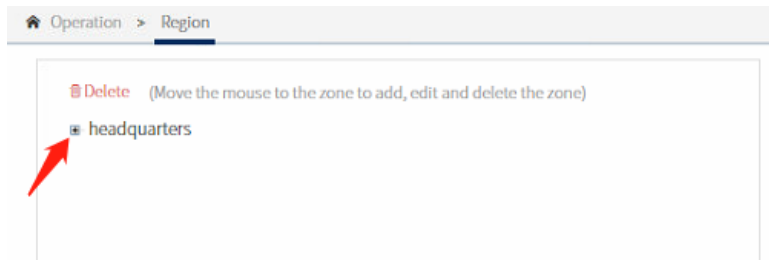


Click  to modify a package.

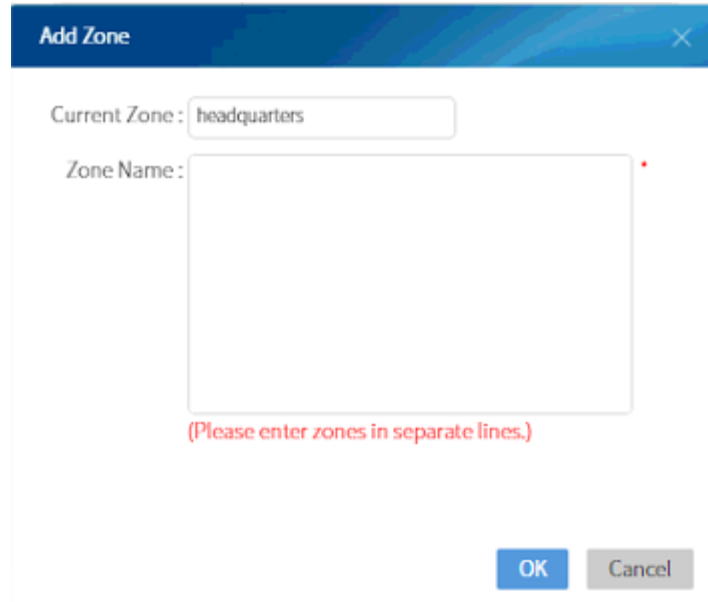


### 3.8.4 Region

In this submenu, a region can be made to which the user can be assigned to. This will be helpful to group and to easily filter out the users. The default master region is the “headquarters”. Move the mouse to the region to add or edit a subregion.



A window will pop up once the “+” is clicked. Input the sub-regions you wanted to add and click OK.

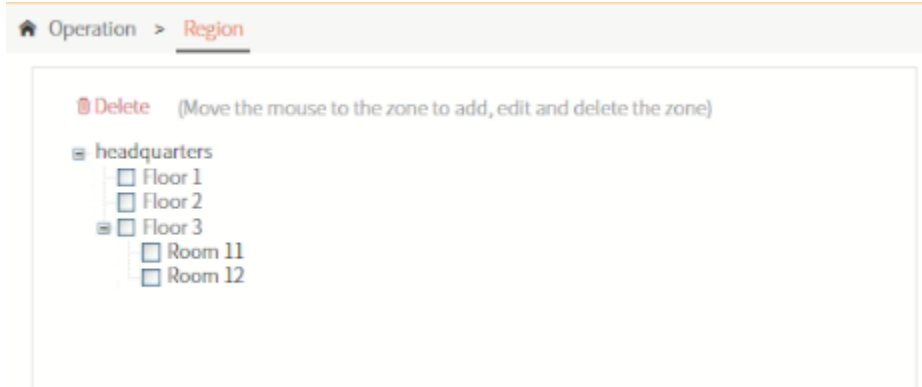


The image shows a dialog box titled "Add Zone" with a blue header and a close button (X) in the top right corner. Inside the dialog, there is a text input field labeled "Current Zone:" containing the text "headquarters". Below it is a larger text area labeled "Zone Name:" which is currently empty. A red asterisk is visible to the right of the "Zone Name:" label. At the bottom of the dialog, there are two buttons: "OK" and "Cancel". Below the "Zone Name:" text area, there is a red instruction: "(Please enter zones in separate lines.)"

The sub-regions that is added will be under the “headquarters”.

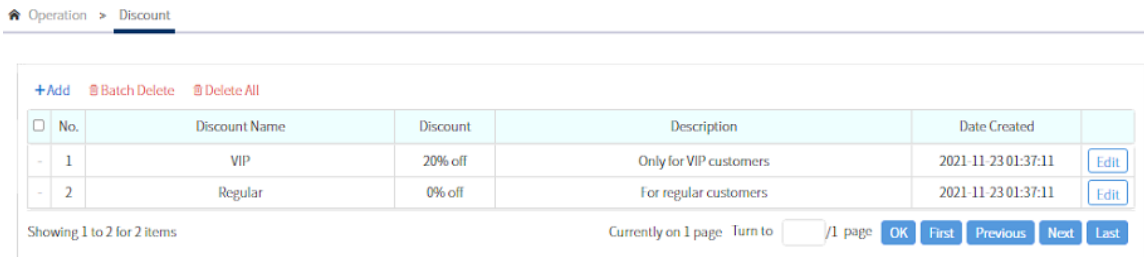


Repeat the same procedure to the sub-region to make smaller regions under it.

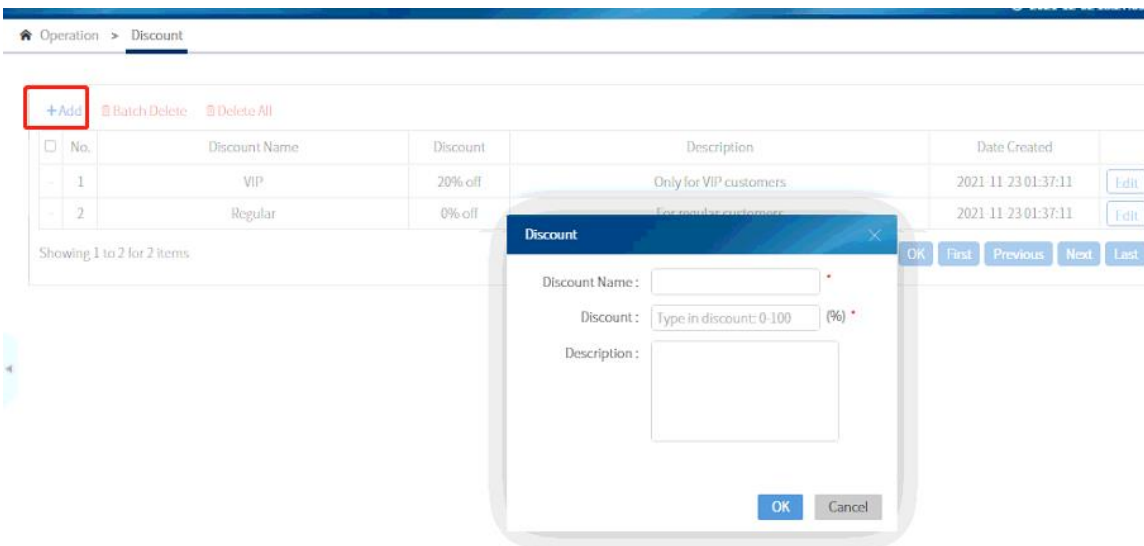


### 3.8.5 Discount

A discount can be set in this submenu,



Click **+Add** and fill up the fields for the name, discount and description and click OK to add a discount package.



Click **Edit** to modify each discount package.

### 3.8.6 Statistics

This submenu under the User Statistics displays the Credits and Balance of all the users.

Operation > Statistics

User Statistics Package Statistics

Credit  Zone Name  Start Time  ~ End Time  User Name  Phone Number

No.	User Name	Zone Name	Credit Amount(USD)	Account Balance(USD)	Operating Time	Phone Number	Note
1	Rita	Rita	50	70	2021-12-01 16:31:14	-	-
2	Rita	Rita	10	20	2021-12-01 16:29:35	-	-
3	Rita	Rita	10	10	2021-11-26 16:44:08	-	-
4	Rita	Rita	20	20	2021-11-23 19:23:55	-	-
5	Ritaa	Wayne	100	100	2021-11-23 19:21:08	-	-
6	Ritaa	Rita	10	10	2021-11-23 02:56:23	-	-

Showing 1 to 6 for 6 items Currently on 1 page Turn to  /1 page

The displayed users can be filtered out by selecting the type, zone name and/or time interval in the search fields. You can also search a specific user name or their phone number if you register them.

Package Statistics show the statistics for each package created on 3.8.3. The quantity shows how many terminals are currently subscribed to that particular package.

Operation > Statistics

User Statistics Package Statistics

Zone Name  Start Time  ~ End Time

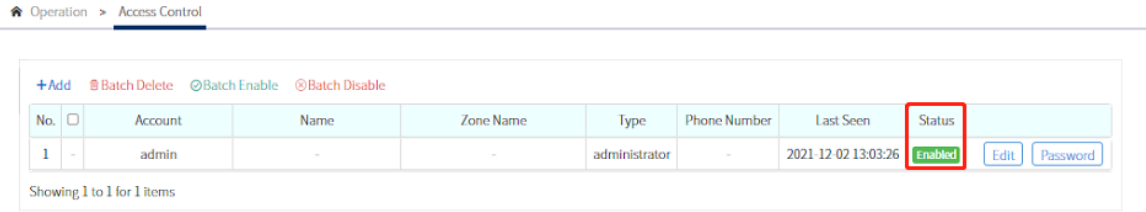
No.	Package	Package Type	Unit Price(USD)	Quantity	Total Price(USD)
1	111	Vod	0	0	0
2	222	Live	0	0	0

Showing 1 to 2 for 2 items Currently on 1 page Turn to  /1 page

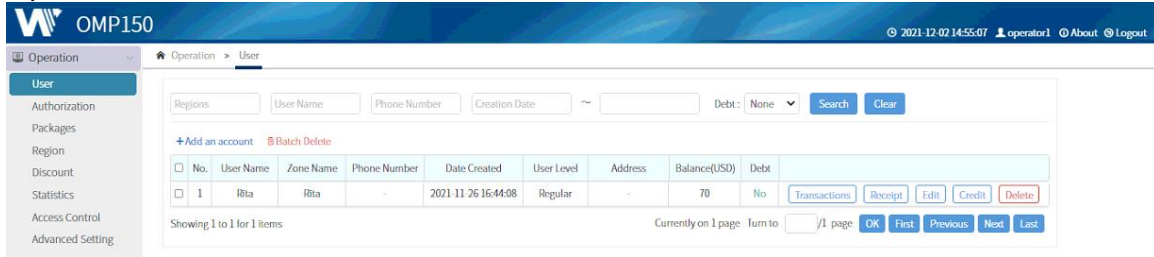
The displayed packages can be filtered out by selecting the zone name and/or time interval in the search fields.

### 3.8.7 Access Control

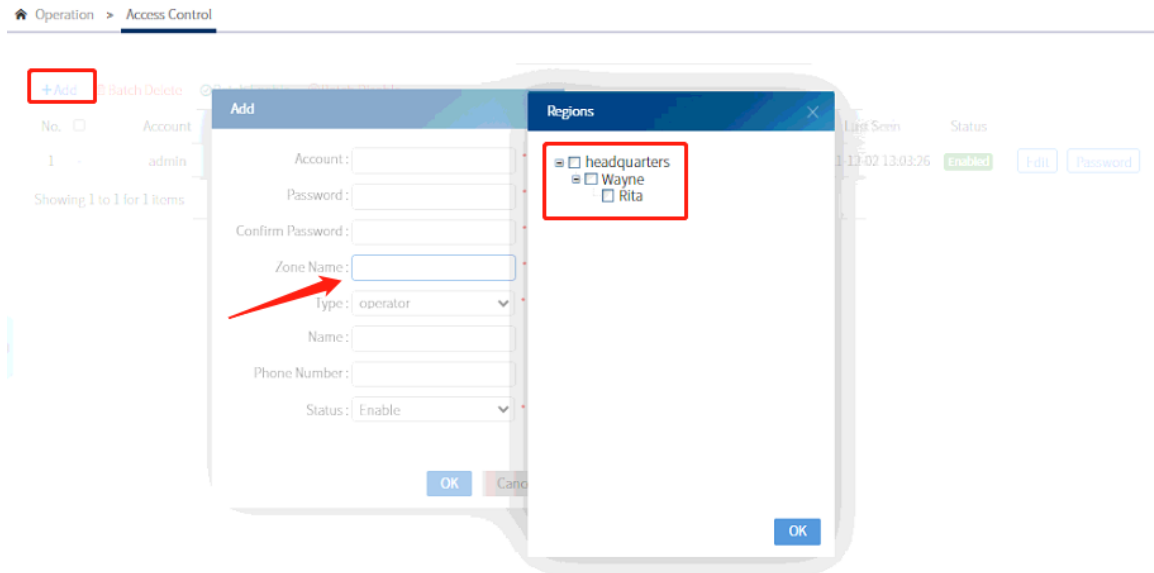
This submenu allows you to create an account for operators that they can use to access the unit. The status displays whether the account is enabled or disabled.



Note that only operator accounts can be made. Those operators can only access the Operation Menu.



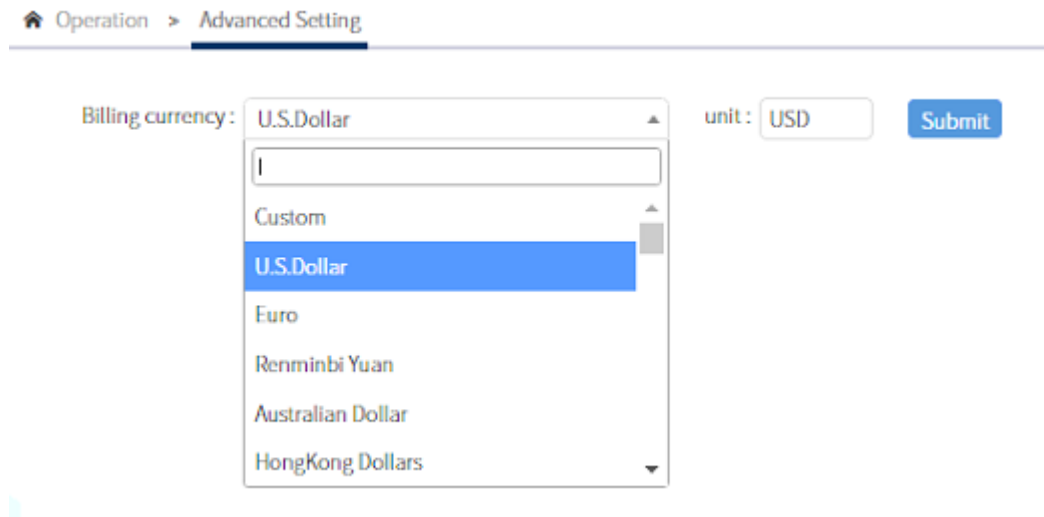
Click **+Add** to add a new account. Upon selecting the Zone Name, another window will appear. When a region is selected, that particular operator/account will only be able to manage and authorize all the users under that particular region.



Click **Edit** to modify each account and the **Password** to modify the password of an account. An account can be enabled or disabled by clicking **Enable** / **Disable**. A disabled account will not be accessible. Click **Delete** to remove the account permanently.

### 3.8.8 Advanced Setting

You can select the default billing currency in this submenu that will show in other submenu.



## 3.9 Cluster

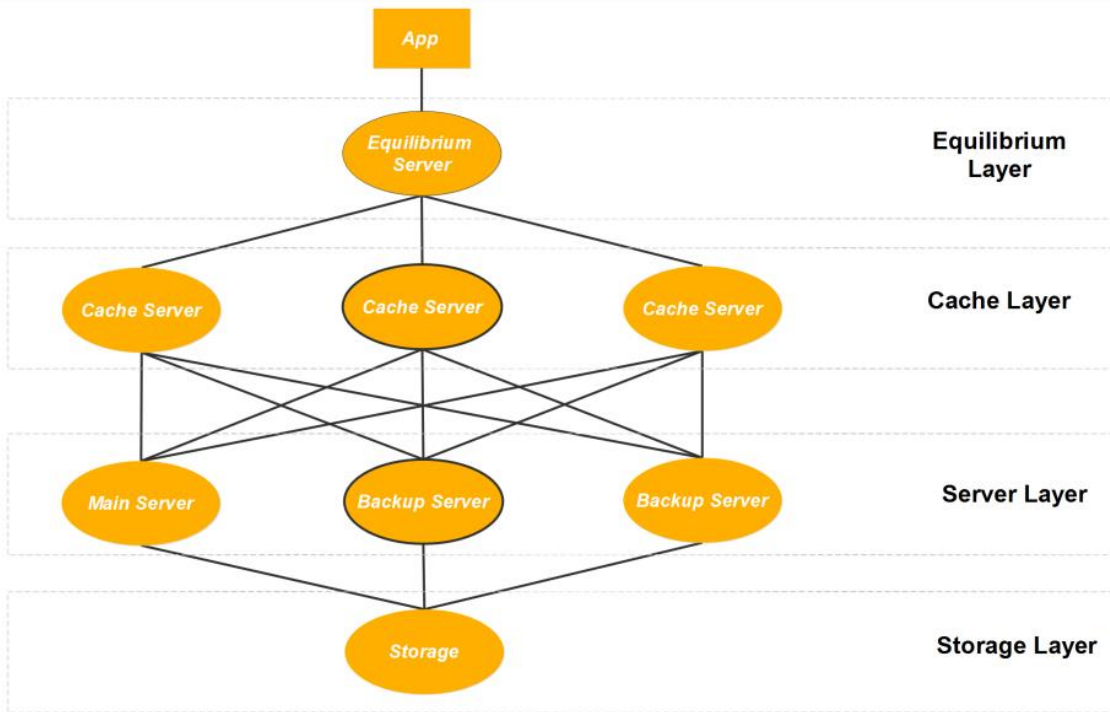
**Cluster Introduction:** Cluster function uses servers of various grades as nodes, which can solve the shortcomings of stand-alone computing capabilities, achieve high computing speeds, and respond quickly, meet today's growing demand for information services.

When the output is HTTP, the numbers of programs/services together with the number of subscribers are limited by the capacity of a single server. To expand it, several servers will be needed to be clustered. Such servers are Equilibrium/Load Balancing (BL) Server, Cache Server, the Main Server itself and Backup Servers, and Storage when needed.

The Equilibrium/Load Balancing (BL) Server handles the distribution and makes the load balance. Cache Server saves the pages or other content locally. The Main Server is where you manage the configuration and do the authorization of the subscribers.

The required number of each server needed will depend on the required number of channels and number of subscribers.

An example of the interconnection of servers is shown below:



The cluster menu displays the Status, Communications Topology, Node Settings and Run Logs all related to the interconnections of the servers that are needed in achieving certain number of requirements such as maximum number of programs and subscribers.

### 3.9.1 Cluster Status

This submenu shows the communication status of each server. A green indicator under the status means that the connection is established. The CPU, RAM and Disk utilization is also displayed together with the upstream and downstream bitrate.

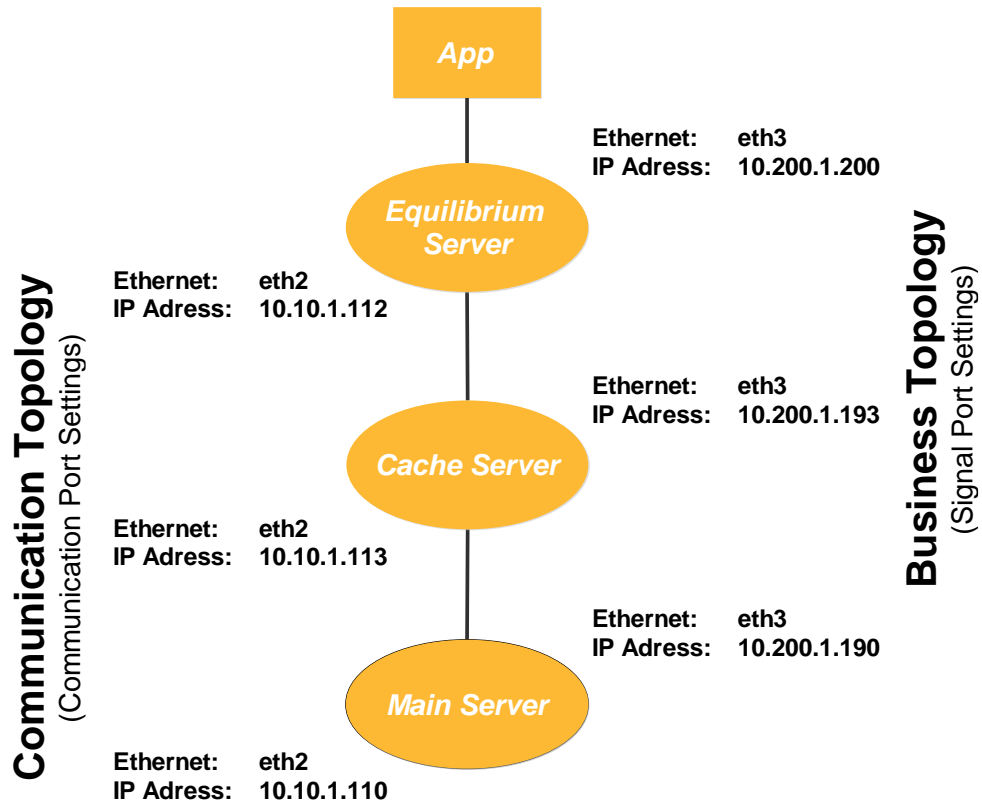
Cluster > Cluster Status

No.	Status	Node	Role	Communication network port/IP	CPU	RAM	Disk	Upstream	Downstream	Delete
1	●	node0	server(Main)	eth2:10.10.1.110/255.255.255.0	3.38%	3.94%	2.96%	71.84Kb/s	675.02Mb/s	--
2	●	node1	balance	eth2:10.10.1.112/255.255.255.0	0.74%	3.54%	2.61%	8.41Mb/s	659.89Mb/s	--
3	●	node2	cache	eth2:10.10.1.113/255.255.255.0	4.51%	3.52%	3.14%	30.27Mb/s	647.96Mb/s	--

### 3.9.1 Cluster Topology

Take for example a scenario when the a cluster involves three nodes or servers, one (1) Main Server, one (1) Cache Server, and one (1) Load Balancing Server. The following diagram represents the cluster with the assigned ports:





### Communication Topology

This shows the communication topology of the servers/nodes. The ethernet number with assigned IP address is shown here as defined in **3.9.1 Node Settings**. Each server/node has designated ethernet port for communication with other nodes. Please refer to **3.10.1 Network** for configuration of ethernet ports.



Following are the sample communication port configurations of the cluster:

Main Server:

OMP150

System Setting > Network

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:E6:BC:02:2D:F3	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:E6:BC:02:2D:F4	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.110	AC:1F:6B:6D:70:50	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.190	AC:1F:6B:6D:70:51	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

Eth Bonding Setting

Main Server Communication Port

Cache Server:

OMP150

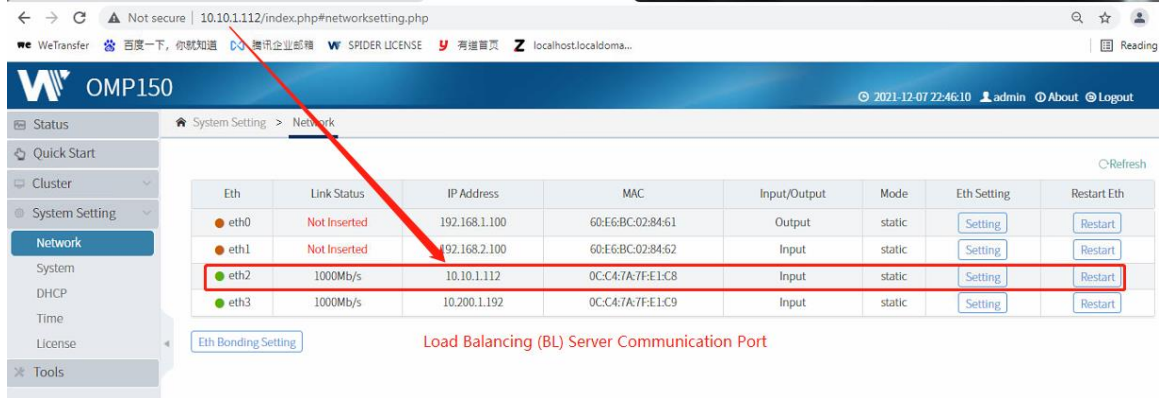
System Setting > Network

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:E6:BC:02:84:8D	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:E6:BC:02:84:8E	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.113	3C:F:C:EF:87:AE:CA	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.194	3C:F:C:EF:87:AE:CB	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

Eth Bonding Setting

Cache Communication Port

### Load Balancing (BL) Server:



### Business Topology

This shows the topology for the signal flow in the servers/nodes. The ethernet number with assigned IP address for the input and output of each server is shown here. Please refer to **3.10.1 Network** for configuration of ethernet ports.



Following are the sample port configurations of the cluster as can be seen in business topology:

Main Server:

The screenshot shows the OMP150 web interface with the 'Network' section selected in the sidebar. The main content area displays a table of network interfaces. The 'eth3' row is highlighted with a red box, and a red arrow points to its IP address, 10.200.1.190. Below the table, there is a 'Main Server' label and an 'Eth Bonding Setting' button.

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:F6:9C:02:2D:F3	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:F6:9C:02:2D:F4	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.110	AC:1F:6B:60:70:50	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.190	AC:1F:6B:60:70:51	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

Eth Bonding Setting

Main Server

## Cache Server:

Cache Communication Port

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:E6:BC:02:84:8D	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:E6:BC:02:84:8E	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.113	3C:E:C:FF:87:AF:CA	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.194	3C:E:C:FF:87:AF:CB	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

## Load Balancing (BL) Server:

Load Balancing (BL) Server Communication Port

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:E6:BC:02:84:61	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:E6:BC:02:84:62	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.112	0C:C4:7A:7F:E1:C8	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.192	0C:C4:7A:7F:E1:C9	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>

### 3.9.1 Node Settings

This setting is for each server/node where you will define the node number and communication port as can be seen in the communication topology in previous section (3.9.1 Cluster Topology).

Cluster > Node Settings

Join cluster management Forced Release

Cluster group: Group  (1 - 255) \*

Node number: Node  \*

Communication network port:  \*

Node role:  Main  Secondary  
 Source server

### 3.9.1 Run Log

This submenu shows the logs on the different nodes with details in each. It can be filtered out by entering the filters such as date and the log level.

Cluster > Run Log

Date :  Log level :  Keywords

Time	Local Node	Peer node	Log level	Log details
2021-12-06 22:38:31	node0	ALL	Error	node0 heartbeat message sent failure!
2021-12-06 21:37:50	node1	ALL	Error	node1 heartbeat message sent failure!
2021-12-06 10:49:10	node0	ALL	Error	node0 heartbeat message sent failure!
2021-12-05 23:38:26	node2	ALL	Error	node2 heartbeat message sent failure!
2021-12-05 07:24:56	node2	ALL	Error	node2 heartbeat message sent failure!
2021-12-04 22:37:30	node1	ALL	Error	node1 heartbeat message sent failure!
2021-12-04 13:13:30	node1	ALL	Error	node1 heartbeat message sent failure!
2021-12-04 08:31:06	node2	ALL	Error	node2 heartbeat message sent failure!
2021-12-04 04:07:50	node1	ALL	Error	node1 heartbeat message sent failure!
2021-12-03 23:22:10	node1	ALL	Error	node1 heartbeat message sent failure!
2021-12-03 02:13:08	node0	ALL	Error	node0 heartbeat message sent failure!
2021-12-02 15:46:37	node0	node2	Information	node0 requests node configuration synchronization from node2 successfully!
2021-12-02 15:46:37	node0	node2	Information	node0 requests node configuration synchronization from node2 successfully!
2021-12-02 15:46:37	node0	node2	Information	node0 requests node configuration synchronization from node2 successfully!
2021-12-02 15:46:27	node0	node1	Information	node0 requests node configuration synchronization from node1 successfully!
2021-12-02 15:43:17	node0	ALL	Error	node0 heartbeat message sent failure!

Showing 1 to 18 for 2,879 items Currently on 1 page Turn to  /160 page

### 3.10 System Setting

System Setting is for managing server network parameters, upgrading and checking licenses. This will navigate you to the following menus shown in the picture below.

- Network

- System
- DHCP
- Time
- License

System Setting > Network Refresh

Eth	Link Status	IP Address	MAC	Input/Output	Mode	Eth Setting	Restart Eth
eth0	Not Inserted	192.168.1.100	60:F6:BC:02:2D:F3	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth1	Not Inserted	192.168.2.100	60:F6:BC:02:2D:F4	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth2	1000Mb/s	10.10.1.110	AC:1F:6B:6D:70:50	Input	static	<a href="#">Setting</a>	<a href="#">Restart</a>
eth3	1000Mb/s	10.200.1.190	AC:1F:6B:6D:70:51	Output	static	<a href="#">Setting</a>	<a href="#">Restart</a>

[Eth Bonding Setting](#)

### 3.10.1 Network

Network tab allows you to check parameters of each Ethernet port. This will display the status, IP address, MAC address, input/output mode, and static/DHCP of each port. It allows you to change parameters of a port by clicking on [Setting](#). You can modify the followings:

- Set the port as STATIC or DHCP
- Input the IP address of the port
- Select to use the port for INPUT or OUTPUT
- Change the subnet mask and gateway

Eth Setting
✕

Static  DHCP

Eth : eth3

Input/Output :  Input  Output

IP :

Subnet Mask :

Gateway :

Primary DNS :

Secondary DNS :

MAC :

Modification of MAC address is risky, please be careful

On this page, you can also reboot a certain port by clicking on its “Restart” button. You can also bond ports by clicking [Eth Bonding Setting](#).

**Eth Bonding Setting**

Output binding | Input binding

Enable Output Bond Eth bond0 (Select at least two eths)

bond Mode:  Auto load balance  Auto-balance load aggregation

bond0 IP:  Subnet Mask:

No.	Link Status	Eth	Bond Eth
1	●	eth0	<input type="checkbox"/>
2	●	eth1	<input type="checkbox"/>
3	●	eth2	<input type="checkbox"/>
4	●	eth3	<input type="checkbox"/>

Showing 1 to 4 for 4 items

OK Cancel

### 3.10.2 System

Operation is for upgrading the software of the unit, getting the backup configuration and logs, setting the unit to factory default and rebooting the hardware and resetting the cluster node. See the picture for reference:



System Setting > System

Upgrade

Software Upgrade :

Configuration

Import Configuration :

Export Configuration :

Log

Export Log :

Server

### 3.10.3 DHCP

DHCP lets you automatically assigns an IP address and other information to each host on the network so they can communicate efficiently with other endpoints.

System Setting > DHCP

DHCP Service:

Eth:  ▼

IP Range:  \* to  \*

Gateway:

Primary DNS:

Secondary DNS:

Lease Time:  (1-2280 (min)) \*

### 3.10.4 Time

Time menu is for editing or changing the Time displaying on the unit. You can change the time manually or by using an NTP Server.

The image displays two screenshots of the OMP150 System Setting > Time menu. The top screenshot shows the 'Manual' mode with a 'Submit' button. The bottom screenshot shows the 'Auto sync' mode with an 'NTP Address' field and a 'val(Hour)' dropdown.

**Top Screenshot (Manual Mode):**

- System Setting > Time
- Time Zone: GMT+8
- Time: 2021-12-07 10:59:44
- Set Model: Manual
- Submit

**Bottom Screenshot (Auto sync Mode):**

- System Setting > Time
- Time Zone: GMT+8
- Time: 2021-12-07 10:59:55
- Set Model: Auto sync
- NTP Address: 210.72.145.44
- val(Hour): 1

### 3.10.5 License

This will display the status of the OMP150 as ACTIVATED or EXPIRED. If the unit is used as a demo and you need to extend the validity period of the demo license, please contact Wellav Sales/Support for assistance.

The screenshot shows the 'License' configuration page under 'System Setting'. It is divided into two sections: 'Serial Number' and 'Authorization'. In the 'Serial Number' section, the 'Device SN' is 'afd0c7d8c3ecbe23c49716892d624977' and there is an 'Export' button. In the 'Authorization' section, the 'Activation Status' is 'Activated' with an 'Activate' button, 'Authorize Terminal' is 'Unlimited', and 'Authorize Time' is 'Unlimited'.

### 3.11 Tools

You can capture packets with the Tools menu. This can be used when there is some issue encountered on unit. This allows you to capture the traffic on a certain port to help fixing /identifying issues.

**Easy Capture** is for recording or capturing streams in the system. You can select the Ethernet port (ETH0, ETH1, ETH2, ETH3, ETH4, ETH5), IP address, time (for how long the capture will be) and protocol (All, TCP, UDP, ICMP). After setting the parameters, click on “Start Capturing Packets” and wait till it is finished. The captured packets will be in .pcac format. You can use this tool to help analysing and troubleshooting a certain issue.

The screenshot shows the 'Easy Capture' configuration interface. It includes the following fields and controls:

- Eth :** A dropdown menu with 'eth0' selected.
- Port :** A text input field containing '0'.
- IP Address :** A text input field containing '0.0.0.0'.
- Capture Time :** A text input field containing '60' with a 's' unit indicator.
- Protocol :** A dropdown menu with 'All' selected.
- Capture File :** A label with no input field.
- Start capturing packets** : A blue button at the bottom.

**Bridge Configuration** is used to make two (2) Ethernet ports in Bridge mode. You can click on “Enable Bridge” then select ports you want to Bridge. When the ports are in Bridge mode, they should not be connected to the same switch. Click OK to apply the configuration.

**Bridge Configuration :**

**Enable Bridge** ( Forbidden to connect two bridge ports to the same switch meantime, or the network loop will lead Network break. )

No.	Status	Eth	Select Bridge Eth
1	●	eth0	<input type="checkbox"/>
2	●	eth1	<input type="checkbox"/>
3	●	eth2	<input type="checkbox"/>
4	●	eth3	<input type="checkbox"/>
5	●	eth4	<input type="checkbox"/>
6	●	eth5	<input type="checkbox"/>

**OK**

**Remote Desktop** is used to access the unit remotely. You can click check the box “Enable Remote Desktop” to use this feature.

**Remote Desktop :**

Enable Remote Desktop

Remote ID Number : Remote desktop unopened

## Section 4 Appendices

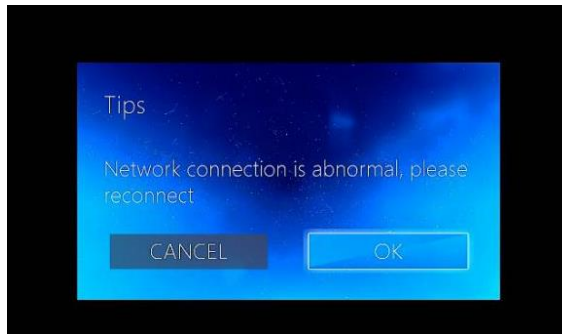
### APPENDIX A - Frequently Ask Question

Question	Possible reason	Resolution
The light on the front panel doesn't work	No power on.	Ensure the power cord is connected properly and the power switch is turned on.
Network management interface cannot be accessed	IP settings are wrong.	Ensure the IP address of the PC and that of the device are on the same network segment.
	Problematic cable.	Make sure the cable is good and connected to the network port of the device.
APP network connection is abnormal	The IP address of the output network port of the device and the local address of the TV are not on the same network segment.	Set the two addresses in the same network segment.
	APP receiving address is not set or different from the output port address	On the APP interface, quickly press up/up/down/down arrow buttons on the TV remoter to enter the IP address setting interface of the APP; Set APP receiving address the same as IP address of the output ETH port.

Question	Possible reason	Resolution
Can't get remote account	Network connection or setting error	Internet-accessible, unoccupied addresses and DNS must be filled in Eth0 settings.

## APPENDIX B - APK Management

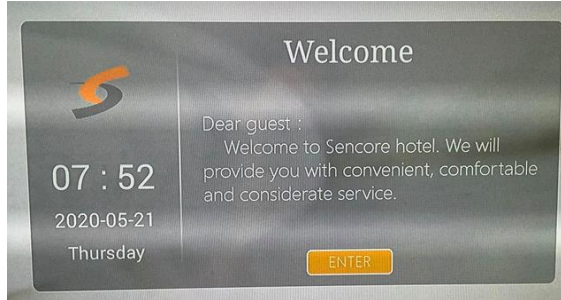
1. Install an APK of the same version as the OMP150 on the STB or TV.
2. Ensure that the IP address of the terminal (STB or TV) is in the same network segment as the ETH port of the OMP150 which the terminal is connected.
3. Installing the APK successfully in the terminal will display a pop-up prompt when you open the APP in the box.



4. Quickly press up/up/down/down arrows on the remote control access the IP settings on the interface.



5. Press again up/up/down/down and click OK
6. After setting the APP's IP address, click on OK in the APP interface and you will be able to login on the Main Interface of the APP



## **APPENDIX C - Warranty**

Wellav warrants this instrument against defects from any cause, except acts of God and abusive use, for a period of 1 (one) year from date of purchase. During this warranty period, Wellav will correct any covered defects without charge for parts, labor, or recalibration.

## **APPENDIX D - Support and Contact information**

### **1 Returning for Service or Calibration**

The OMP150 is a delicate piece of equipment and needs to be serviced and repaired by Wellav. Periodically it is necessary to return a product for repair or calibration. In order to expedite this process please carefully read the instructions below.

### **2 RMA Number**

Before any product can be returned for service or calibration, an RMA number must be obtained. In order to obtain a RMA number, use the following steps:

1. Contact the Wellav service department by going online to [www.Wellav.com](http://www.Wellav.com) and select Support.
2. Select Service and Repair from the options given.
3. Fill in the following required information:
  - i. First & Last Name
  - ii. Company
  - iii. Email
  - iv. Phone Number
  - v. Ship and Bill to Address
  - vi. Unit Model and Serial Numbers
4. A RMA number with return instructions will be emailed to you shortly after the form is completed.

### **3 Shipping the Product**

Once an RMA number has been issued, the unit needs to be packaged and shipped back to Wellav. It's best to use the original box and packaging for the product but if this not available, check with the customer service representative for the proper packaging instructions.

Note: DO NOT return any power cables or accessories unless instructed to do so by the customer service representative.

