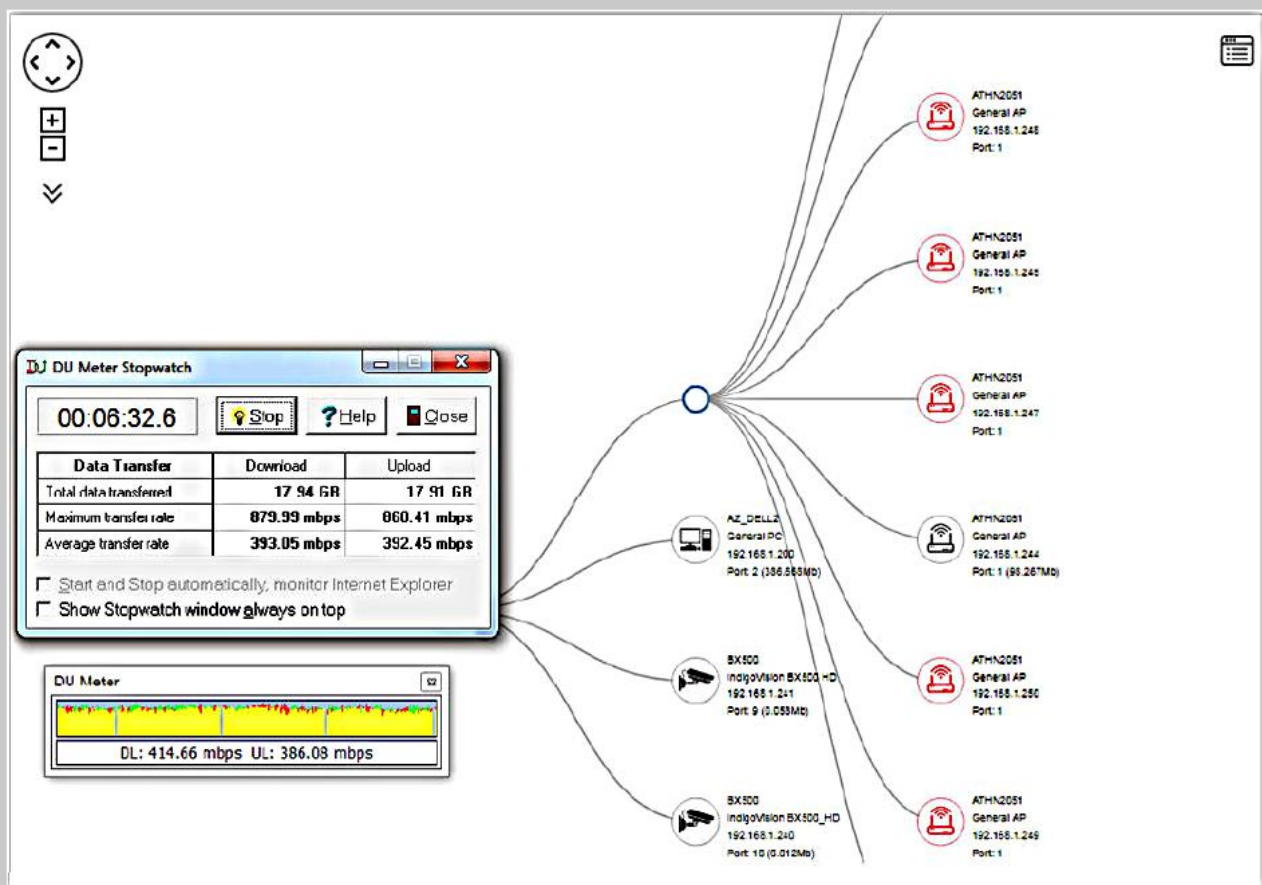


# Hypercable

## Device Embedded Management System (DEMS) Of HYC-TNS5310-C2

Industrial L2 Managed GbE Switch



## User's Manual

(V 1.0.1)

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## Revision History

<b>Release</b>	<b>Date</b>	<b>Revision</b>
<b>Release</b>	<b>2017/08/25</b>	<b>V1.0.1</b>



## Chapter 2 Management

### 2-1 DEMS mode

Information Home » Management » Information

Mode	Enabled ▾
Total Device	2
On-line Devices	2
Off-line Devices	0
Controller IP	192.168.1.1

Apply

**Figure 2: The DEMS mode**

- DEMS Mode: Enable/ Disable the DEMS function. Or you can choose 「High Priority」, then the device will be the master switch.
- Total Device: Here will show how many IP devices are detected and displayed in the topology view.
- On-Line Devices: Here will show how many IP devices on-line in the topology view.
- Off-Line Device: Here will show how many IP devices off-line in the topology view.
- Controller IP: It show the Master IP.

## 2-2 Device List

It will show all devices and their information which are detected by DEMS.

The screenshot shows the 'Devices List' page with the following elements highlighted:

- A:** Auto-refresh checkbox
- B:** Refresh icon
- C:** Edit icon
- D:** Search bar
- E:** Remove checkbox

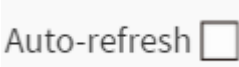
	Status	Device Type	Model Name	Device Name	MAC	IP Address
<input type="checkbox"/>	Online	AP	Airlive AC.TOP	Airlive	00-4F-6A-0C-31-EC	192.168.0.249
<input type="checkbox"/>	Online	AP	Airlive N.TOP	Airlive	80-1F-02-75-E4-EE	192.168.0.244
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS	Camera-01	18-4E-94-00-29-32	192.168.0.64
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS	Camera-01	18-4E-94-00-2E-C6	192.168.0.63
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS 52R	Camera-01	18-F8-7A-00-CC-42	192.168.0.55
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS 52V	Camera-01	18-F8-7A-00-CD-62	192.168.0.60
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS 62V	ANNEXXUS-62V	18-F8-7A-00-DC-69	192.168.0.59
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS 52R	Camera-01	18-F8-7A-00-E6-FA	192.168.0.57
<input type="checkbox"/>	Online	IP Cam			18-F8-7A-00-E7-62	192.168.0.61
<input type="checkbox"/>	Online	IP Cam	i3 ANNEXXUS 52R	Camera-01	18-F8-7A-00-ED-71	192.168.0.62


Showing 1 to 10 of 19 entries


Previous 1 2 Next

Apply

**Figure 3: The Devices List**

A.  If you want to auto-refresh the information then you need to evoke the "Auto refresh".

B.  Click this icon to Refresh the status of all devices.

C.  Click this icon to Edit Device Name and http Port.

- User can press "Edit" icon to edit device name and HTTP port for each IP device. This function can also be configured in the Dashboard of Topology view.
- There is no HTTP connection function for Unknown Device and PC type devices, so UI doesn't provide "Edit HTTP port" function for configuring it.

The screenshot shows a web interface titled "Devices List" with a table of device information. The table has the following columns: Remove, Status, Device Type, Model Name, Device Name, Edit Device Name, MAC, IP Address, and Edit Http Port. The "Edit Device Name" and "Edit Http Port" columns are highlighted with red boxes. The table contains four rows of data:

Remove	Status	Device Type	Model Name	Device Name	Edit Device Name	MAC	IP Address	Edit Http Port
<input type="checkbox"/>	Offline	Others	IP PEX		<input type="text"/>	00-05-6B-90-00-6C	192.168.3.210	<input type="text" value="80"/>
<input type="checkbox"/>	Online	Others	Mobile Device		<input type="text"/>	08-60-6E-47-E2-D1	192.168.3.5	<input type="text" value="80"/>
<input type="checkbox"/>	Online	PC	General PC	TEST-PC	TEST-PC	00-1A-80-4A-B8-E7	192.168.3.34	
<input type="checkbox"/>	Online	SWITCH	LPB2910A	S7SG 8310	S7SG 8310	08-60-6E-09-3D-6A	192.168.200.3	

**Figure 4: The Edit of Devices List**

D. Search:  Search devices by key words with full text search.

E.  Remove Only Offline devices provide "Remove" function to remove from DEMS device list.

---

### Note:

The device name will not save until you click Apply button. Please do not click refresh, auto-refresh or edit button before you apply new device name.

---

## Chapter3 Graphical Monitoring

### 3-1 Topology View

DEMS can automatically discover all IP devices and display the devices by graphic networking topology view. User could manage and monitor them by the Topology View, such as to remotely diagnose the cable connection status, auto alarm notifications on critical events, remotely reboot PoE device when it's not alive. Therefore, the user can apply DEMS platform to solve the abnormal issues anytime and anywhere by tablet or smart phone, and keep the network works smoothly.

Click Graphical Monitoring Topology View, you can see a visual view of the network topology.

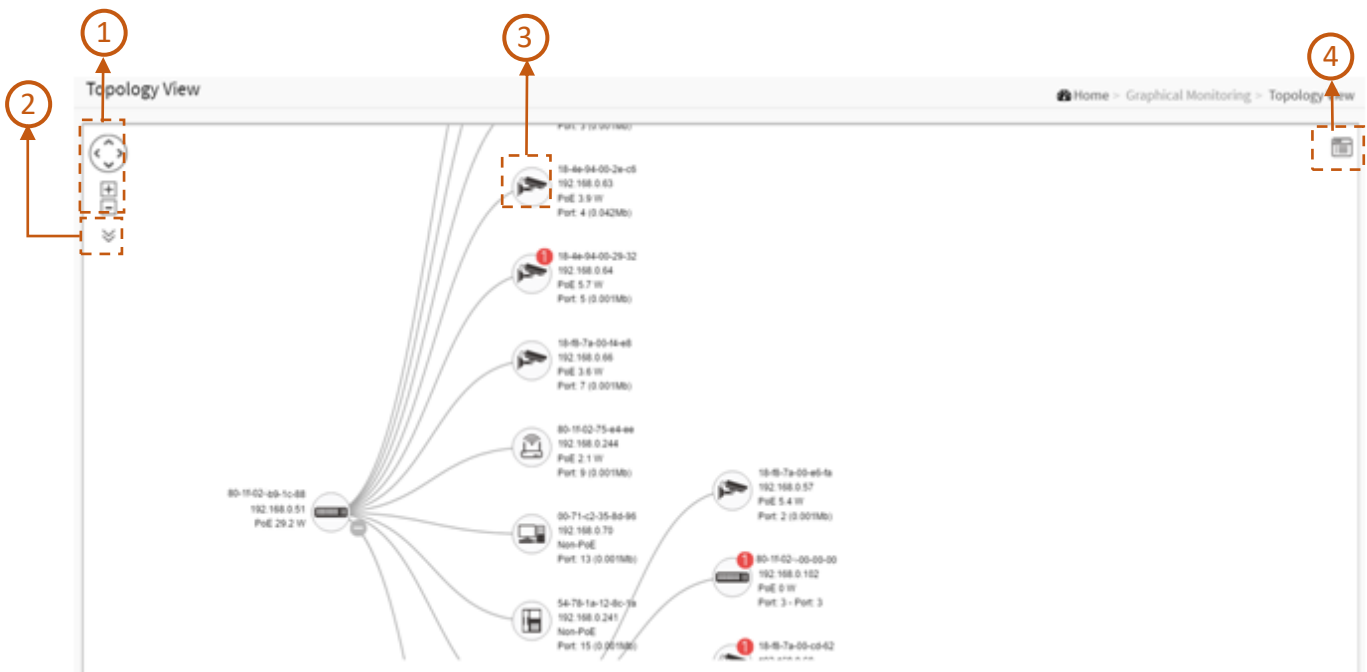



Figure 4: The Topology View




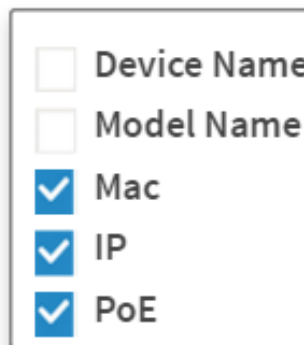
## 3-2 Parameter description:



1.  Icon with plus and minus marks: Zoom in and zoom out the topology view. User can scroll up/down with mouse to achieve the same purpose.







2.  Icon with information list: User can select what kind of information should be shown on the topology view of each device. Up to 3 items can be selected.



**Figure 5: The Information List**





### 3. Device picture

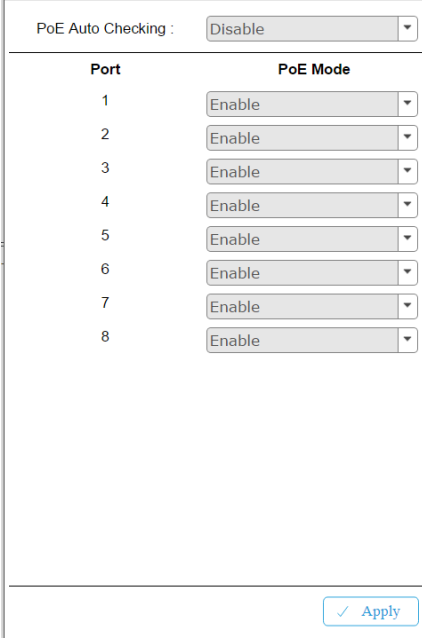
-  Icon with black mark: Device link up. User can select function and check issues.
-  Icon with red mark: Device link down. User can diagnose the link status.
-  Icon with numbers: It means some events happened (e.g. Device Off-line, IP Duplicate...etc.) on the IP device, user can click on the device icon to check events in Notification.
-  Icon with question: It means the IP device is detected by DEMS, but the device type can't be recognized which will be classified as an unknown device type.
- To left-click any device icon to display the device consoles for further actions:

Device Type	SWITCH
Device Name	<input type="text"/>
Model Name	TNS5310-C2
Mac Address	00-1b-5c-00-1a-56
DHCP Client	Disable
IPv4 Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.254
Http Port	80
PoE Supply	4.4 W
   	
 	

**Figure 6: The Device Console**


- A. Dashboard Console: It displays device info and related actions for the device.
- ◆ Different device type supports different function:
    - If an IP device is recognized as DEMS switch, it will support "Upgrade", "PoE Config" and "Find Switch" function.
    - If an IP device is recognized as PoE device, it will support "PoE Reboot" function in addition to "Upgrade" and "Find Switch".
    - If an IP device is recognized as IP cam via ONVIF protocol.
  - ◆ Device Type: It can be displayed automatically. If an unknown type is detected, user can still select type from a pre-defined list.
  - ◆ Device Name: Create your own Device Name or alias for easy management such as, 1F\_Lobby\_Cam1.
  - ◆ Model Name, MAC Address, IPv4 Address, Subnet Mask, Gateway, PoE Supply and PoE Used are displayed automatically by DEMS.
  - ◆ Http Port: Re-assign http port number to the device for better security.
  - ◆ DHCP Client: Enable or Disable the DHCP client. If this feature is enabled, the system will configure the IPv4 address and mask of the interface using the DHCP protocol. The DHCP client will announce the configured System Name as hostname to provide DNS lookup.

- ◆  Login: Click the Login Action Icon to log in the device via http for further configuration or status monitoring.
- ◆  Upgrade: Click it to upgrade software version.
- ◆  Find Switch: Find Switch: When this feature is activated, the switch LED will all lighten up and flicker for 15 seconds.
- ◆  PoE Config: Click it to configure the PoE function, enable/disable PoE Auto Checking or enable/disable PoE mode for per port.



Port	PoE Mode
1	Enable
2	Enable
3	Enable
4	Enable
5	Enable
6	Enable
7	Enable
8	Enable

**Figure 7: The PoE Configure**



- ◆  Diagnostics: Click Diagnostic Action Icon to perform the cable diagnostics, to exam where the broken cable is, and, check if the device connection is alive or not by ping.
  - Cable Status:
    - Green icon: Cable is connected correctly.
    - Red icon: Cable is not connected correctly. User can check the distance info (XX

meters) to identify the broken cable location.

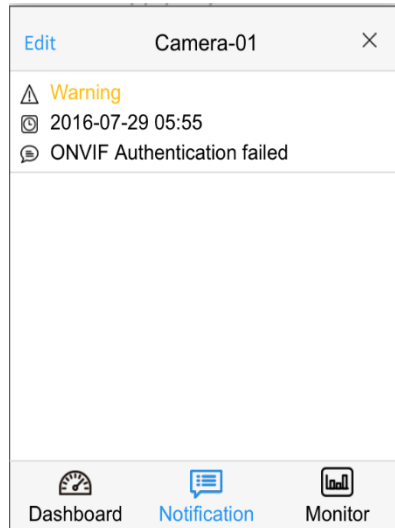
- Connection:
  - Green icon: Device is pinged correctly.
  - Red icon: Device is not transmitted /receiving data correctly. Which means it might not be pinged successfully.



**Figure 8: The Diagnostics**

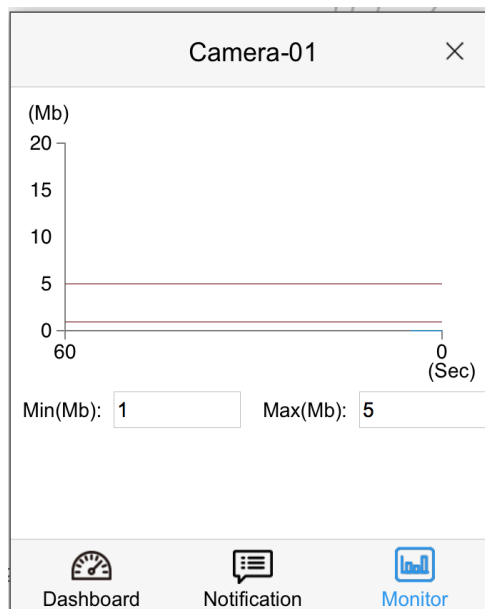
- ◆  **PoE Reboot** PoE Reboot: Click Reboot Action Icon to reboot the device remotely so as recover the device back to its normal operation.
- ◆  **Parent Node** Icon with blank node: When DEMS switch detects more than two IP devices from the same port, switch can't resolve this IP device's layout, instead, it will show a blank node to present this situation. User can use "Parent Node" function to adjust layout in Dashboard.

B. Notification Console: It displays alarms and logs triggered by events.




**Figure 9: The Notification Console**

- C. Monitor Console: It displays the traffics for device health check purpose.
- ◆ For each IP device except DEMS switches, User can set a threshold of throughput for IP devices, and get notification when throughput is lower or higher than settings.
  - ◆ If both values are "0", it means the function is disabled.
  - ◆ Polling interval is 1 second, when the page is closed, the Polling interval will change to around 5 seconds.

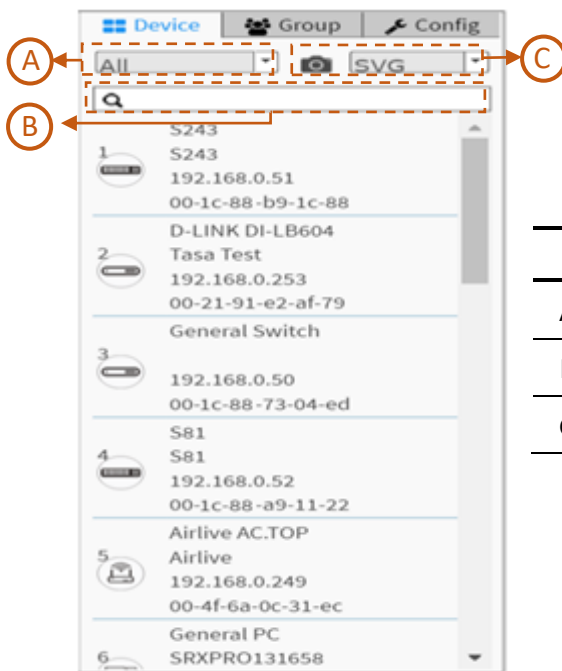


**Figure 10: The Monitor Console**

4.  In the upper right corner, there is a "Setting icon". When user clicks the icon, it will pop-up Device, Group, Config, export topology view and advanced search functions for the topology.

- Device Search Console

All devices and info. will show on the list.

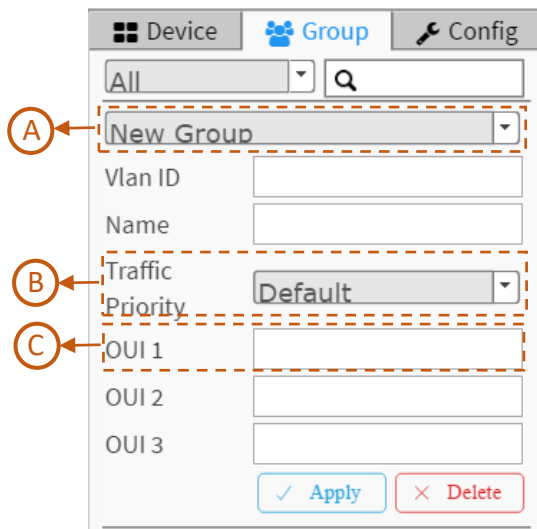


Function
A. Filter devices by Device Type
B. Search devices by key words full text search
C. Save the whole View to SVG, PNG or PDF

**Figure 11: The Device Search Console**

#### A. Group Setting Console

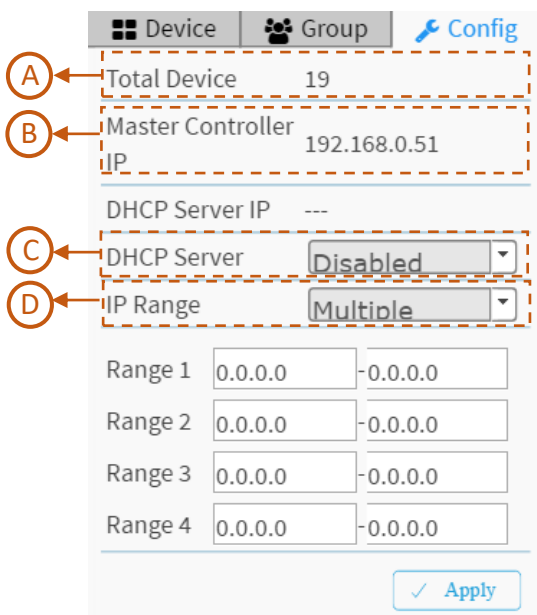
- User can set VLAN group for each IP device by OUI or clicking device icon, and configure traffic priority (0~7) for each VLAN group.
- Using Mac Based VLAN to isolate groups.
- One IP device only can join one VLAN group.



Function	
A.	Group devices by filtering, searching, clicking device icons, or specifying OUI.
B.	Configure traffic priority for the VLAN.
C.	Assign VLAN ID or Name to Group.

**Figure 12: The Group Setting Console**

**B. System Setting Console**



Function	
A.	Here will show how many IP devices are detected and displayed in the topology view.
B.	It show the Master IP.
C.	You can enable/disable DHCP server
D.	- Single Subnet: DEMS will base on the master switch's IP address. Here the subnet means "255.255.255.0". - Multiple Subnet: To provide 4 ranges for inputting manually. (In the case, we will suggest user to adjust switch's subnet mask to "255.255.0.0" also to avoid IP devices can't be recoanized.)

**Figure 13: The System Setting Console**

## 3-3 Floor View

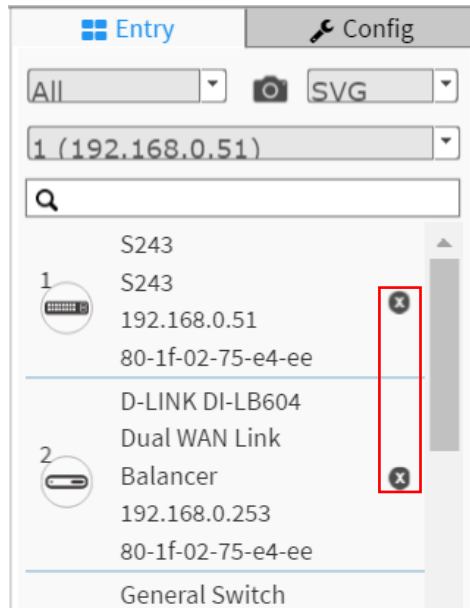
User can easily plan IP devices installation location onto the custom uploaded floor images.



**Figure 14: The Floor View**

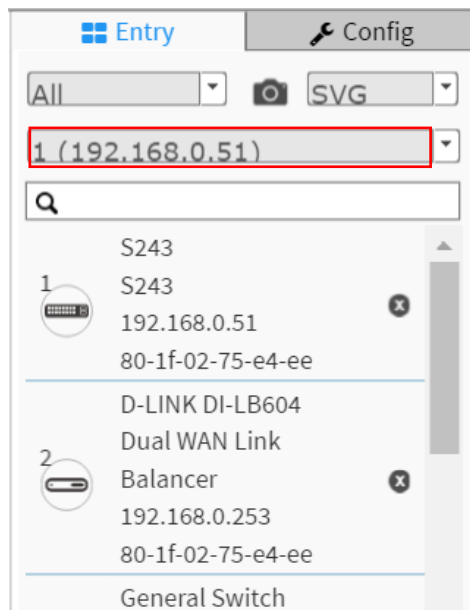
- Anchor Devices onto Floor Maps
- Find Device Location Instantly
- 10 Maps can be Stored in Each Switch
- IP Surveillance/VoIP/WiFi Applications
- Other Feature same as Topology View
- To place and remove a device icon:
  - To select a device and click its icon from the device list.
  - The device icon will show on the floor image's default location.
  - To click and hold left mouse by dragging-and-dropping the icon to the correct location on the floor view.
  - To click cross sign on the right side of device icon to remove a device from all floor view images.





**Figure 15: The Device Icon to Remove a Device**

- If there are more than two floor images, it can be selected from the field.



**Figure 16: The Device Icon to Select floor**

## 3-4 Map View

It can help to find the location of the devices even they are installed in different building. User can place the device icon on the Map View of which navigated by Google map.

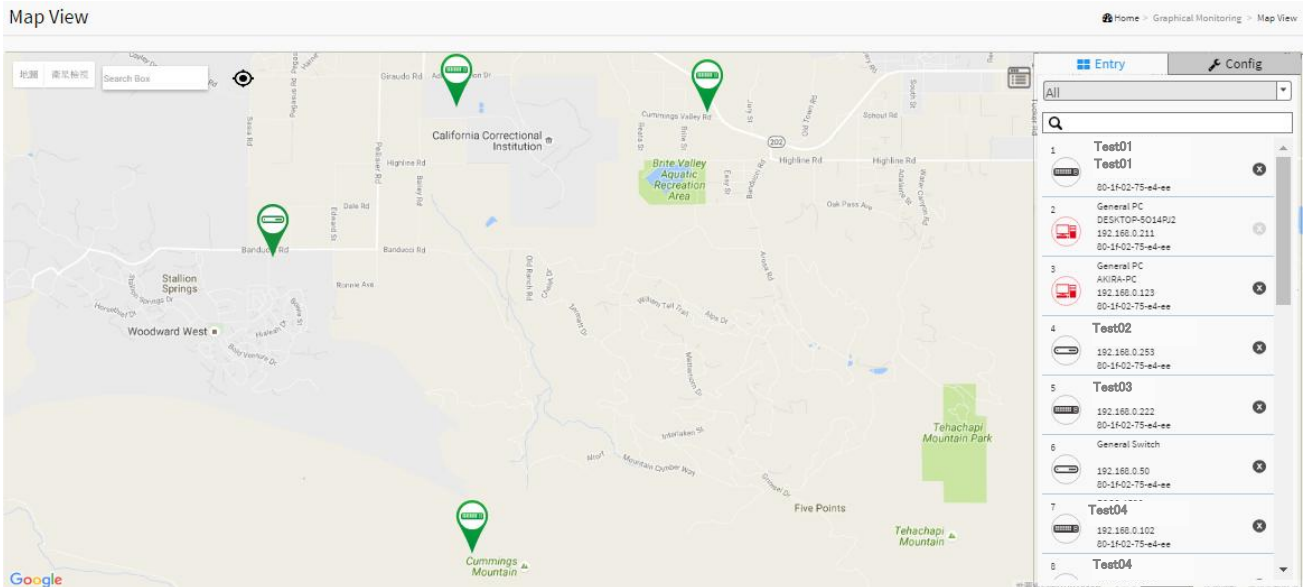


Figure 17: The Map View

- Anchor Devices onto Google Map.
- Find Devices Instantly from Map.
- On-Line Search Company/Address.
- Outdoor IP Cam/WiFi Applications.
- Other Feature same as Topology View.

## Chapter 4 Maintenance

### 4-1 Floor Image

In this page, user can add or delete a floor image.

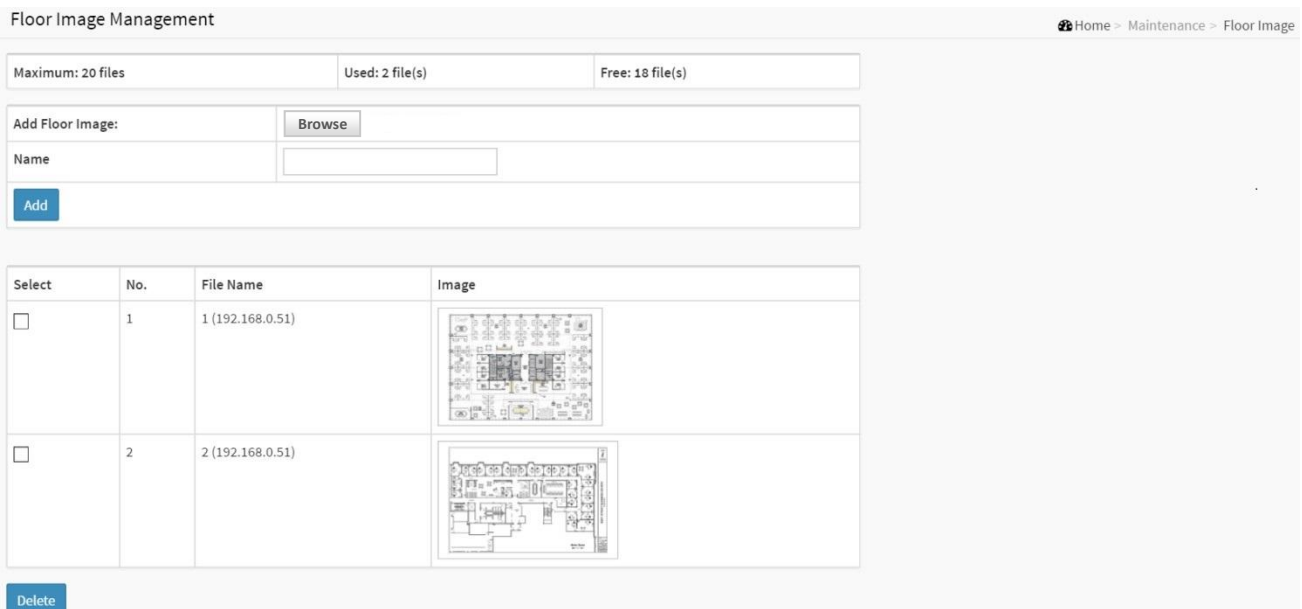


Figure 18: The Floor Image

- Each DEMS switch provides 10 files space for uploading.
- Only support JPG and PNG formats.
- File size is limited to 512KB.
- All DEMS switches' floor image in the same network can be shared together.

#### For example:

- If Switch1 has uploaded 10 floor images, Switch2 uploaded 5 images, the total 15 floor images can be shared and selected on all DEMS switches in the same network.
- File name will attach IP address to let user know the floor image is stored on which DEMS switch.

## 4-2 Diagnostics

In this page, all IP devices will be listed in a table, user can diagnose connection status of IP device in the network

Select	Status	Model Name	Device Name	MAC	IP Address	Version
<input type="checkbox"/>	Online	D-LINK DI-LB604	Tasa Test	00-21-91-E2-AF-79	192.168.0.253	
<input type="checkbox"/>	Online	General Switch		00-E2-AF-73-04-ED	192.168.0.50	
<input type="checkbox"/>	Online	S81	S81	00-E2-AF-A9-11-22	192.168.0.52	v6.54.2135 2016-08-01
<input type="checkbox"/>	Online	Airlive AC.TDP	Airlive	00-4F-6A-0C-31-EC	192.168.0.249	
<input type="checkbox"/>	Online	General PC	S8XPRO131658	00-71-C2-35-8D-96	192.168.0.70	
<input type="checkbox"/>	Online	SWITCH		00-E2-AF-00-00-00	192.168.0.102	v0.83.128
<input type="checkbox"/>	Online	I3 ANNEXXUS	Camera-01	18-4E-94-00-29-32	192.168.0.64	
<input type="checkbox"/>	Online	I3 ANNEXXUS	Camera-01	18-4E-94-00-2E-C6	192.168.0.63	
<input type="checkbox"/>	Online	I3 ANNEXXUS 52R	Camera-01	18-F8-7A-00-CC-42	192.168.0.55	
<input type="checkbox"/>	Online	I3 ANNEXXUS 52V	Camera-01	18-F8-7A-00-CD-62	192.168.0.60	

**Figure 19: The Diagnostics List**

- User select a device, the diagnostics procedure will start automatically.

The screenshot shows the 'Diagnostics' page with the 'Another Try' button highlighted. Below the table, the selected device 'D-LINK DI-LB604' is shown with its IP address '192.168.0.253' and MAC address '00-21-91-E2-AF-79'. The connection status is 'Connection.....' and the cable status is 'Cable status.....', both with green checkmarks indicating they are online.

**Figure 20: The Select a Device to Diagnostics**

- **Another Try** To press "Another Try" to back IP device list page.
- The diagnostic function can also be found in Dashboard of topology view.