Avenview
Control Your Video

VIDEO WALL VIDEO PROCESSORS
MULTIVIEWERS DIGITAL SIGNAGE
EXTENDERS CONTROL CENTERS
SCALERS WIRELESS

AVENVIEW 3 YEARS WARRANTY

HDM-C6MX/WIP-SET

Videowall Matrix IP Extender with Audio, RS232 and CEC control

M-SERIES- HDM-C6MXIP & MWIP
CISCO SWITCH CONFIGURATION GUIDE

HDM-C6MX/WIP-SET Compatible switch configuration on Existing Network

What is Multicast Video?

Multicast video manages large number of recipients (Rx) from a replicated transmission which makes a tremendous difference in network load, even in a simple network with a small number of router and switch hops.

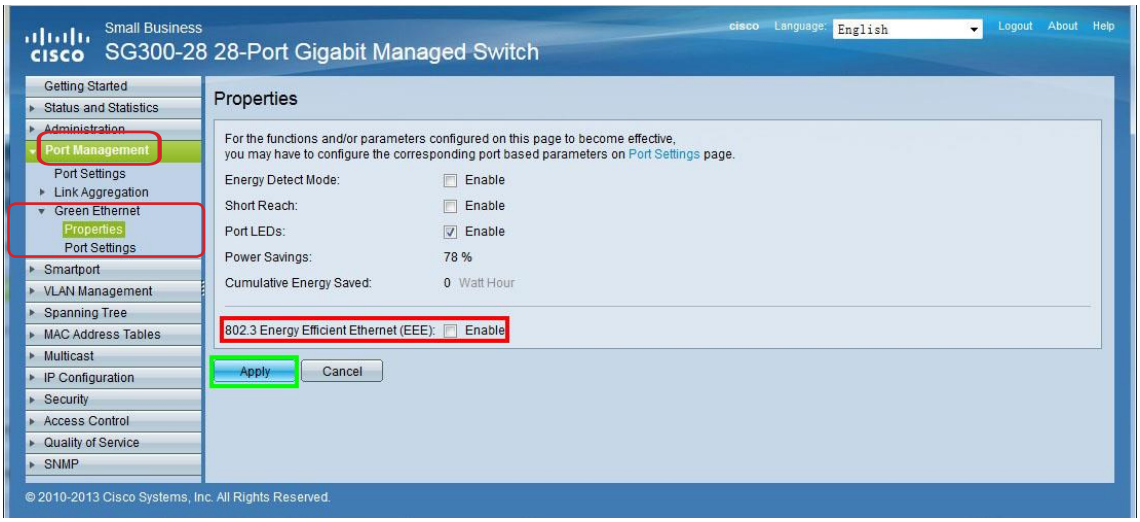
Additional features of multicast are beneficial in specific applications such as IP Encoder/Decoders. Multicast transmissions are delivered nearly simultaneously to all members of the recipient group.

What is IGMP?

IGMP is a network layer (Layer 3) protocol used to establish membership in a Multicast group and can register a router to receive specific Multicast traffic. Without IGMP Querying/Snooping, Multicast traffic is treated in the same manner as a Broadcast transmission, which forwards packets to all ports on the network. With IGMP Querying/Snooping, Multicast traffic is only forwarded to ports that are members of that Multicast group. IGMP Snooping generates no additional network traffic, which significantly reduces the Multicast traffic passing through your switch.

CISCO SWITCH CONFIGURATION STEPS

1. **Go to Port Management ---> Green Ethernet --->Properties ---> Uncheck Enable** 802.3 Energy Efficient Ethernet EEE(un-check box to disable).Press **Apply** once completed.



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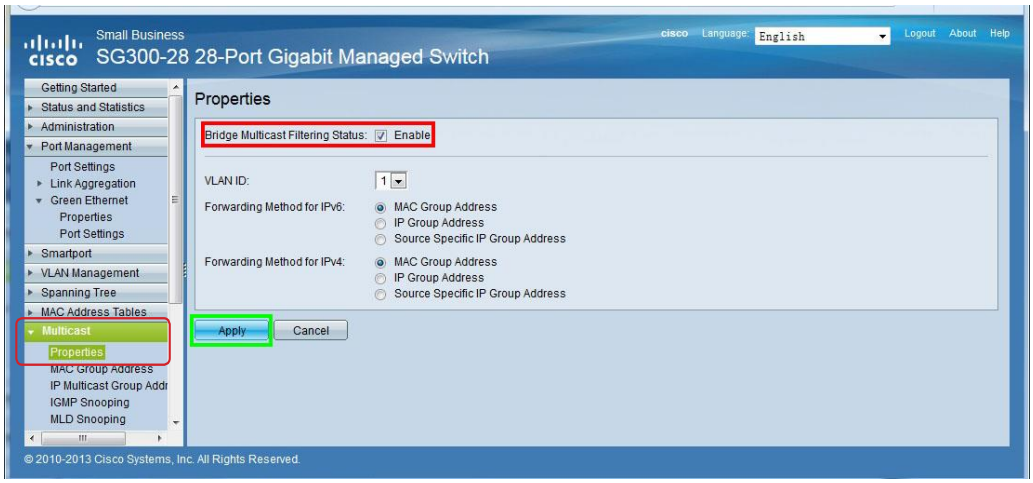
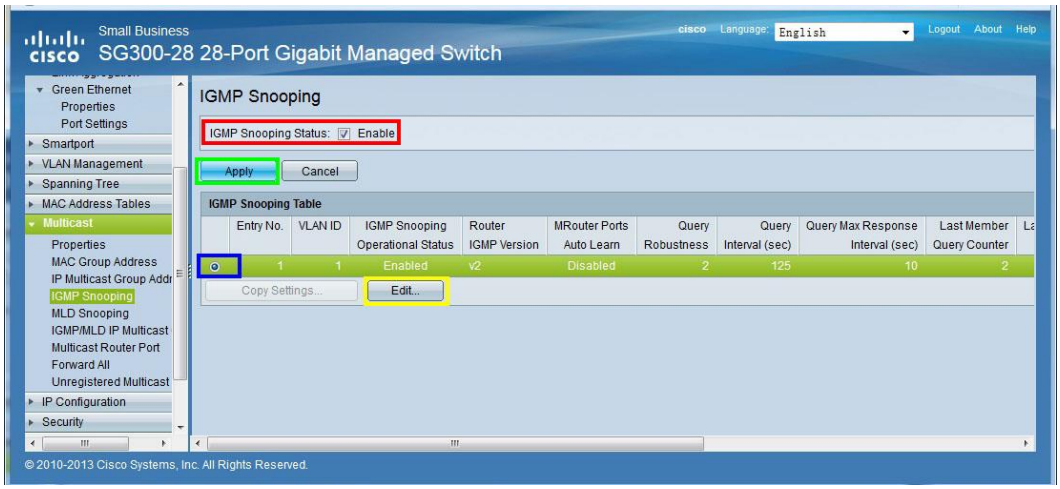
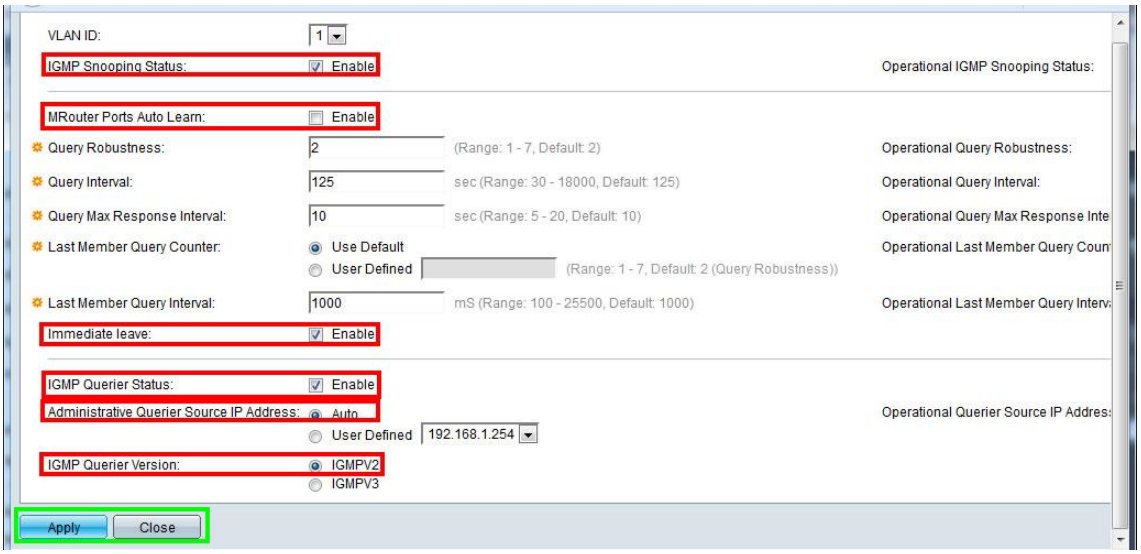
2. **Go to Multicast ---> Properties ---> Enable** Bridge Multicast Filtering Status (check box to enable).Press **Apply** once completed.



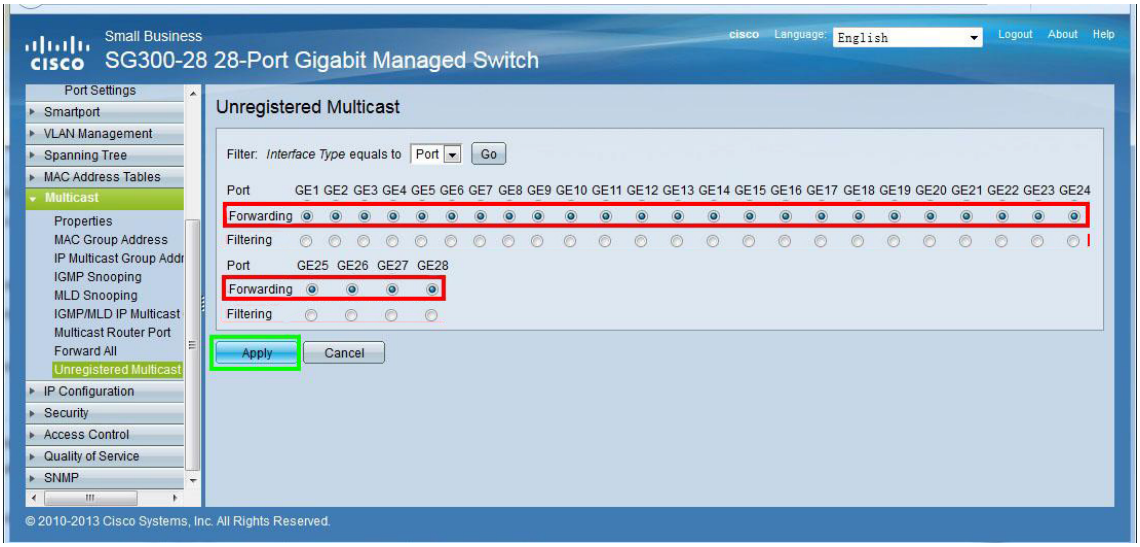
3. **In Multicast > IGMP Snooping---> Enable IGMP Snooping Status** (check box to enable)**.** Press **Apply** once completed.
Click the first item **IGMP Snooping Table--->** then **Edit,** configure **IGMP Snooping VLAN1**





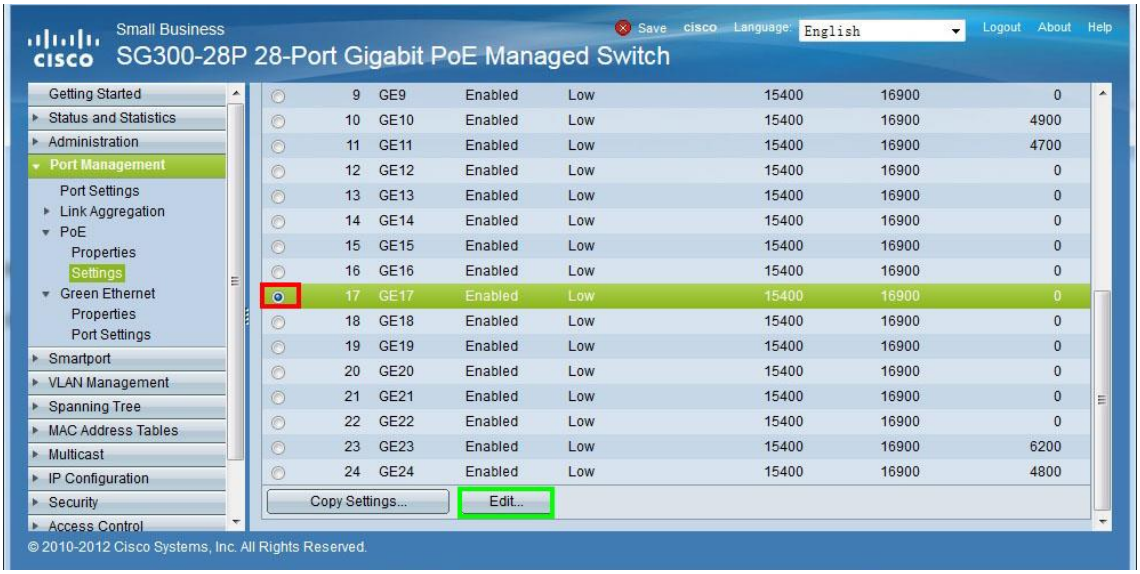
3.1 **VLAN ID 1 > IGMP Snooping Status ---> Enable** (check box to enable)**.**
MRouter Ports Auto Learn---> Disable(uncheck box to disable)
Immediate Leave ---> **Enable** (check box to enable).
IGMP Querier Status---> **Enable** (check box to enable).
Select **Auto** > **Adminstrative Querier Source IP Address.**
Select IGMPV2> **IGMP Querier Version.**
Press **Apply** once completed**.**
Then **Close** to close the window.

4. **In Multicast >Unregistered Multicast--->** Make sure all ports are set to **Forwarding (default).**



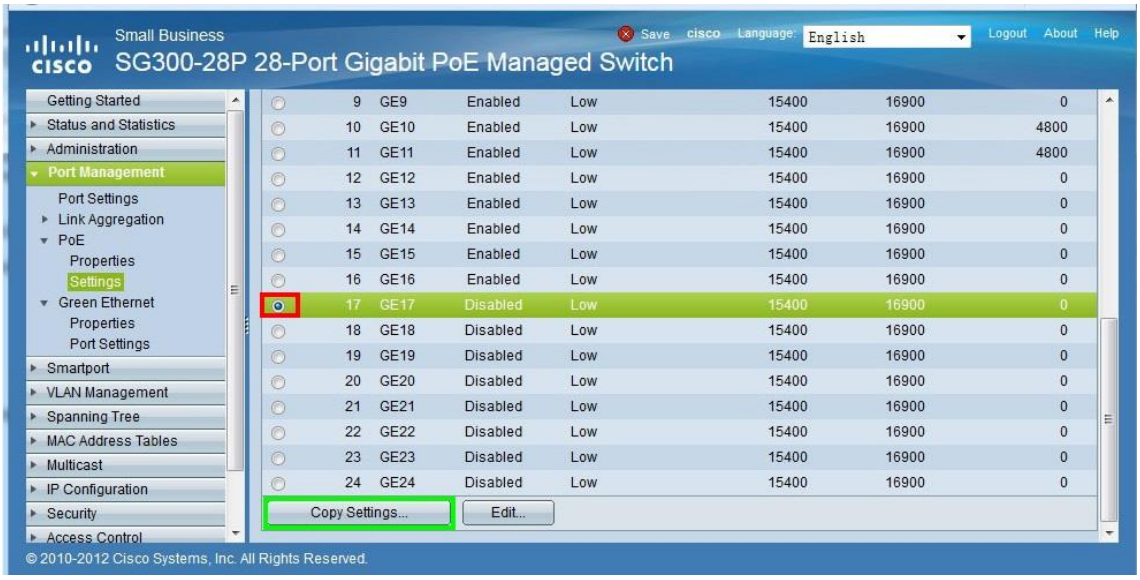
5. **POE Configuration Setup**> Switches that are POE, please ensure to disable POE in the unused ports. Example below demonstartes disabling POE in ports 17-24.

Go to Port Management ---> Settings --->Select **GE17--->** Click **Edit**,

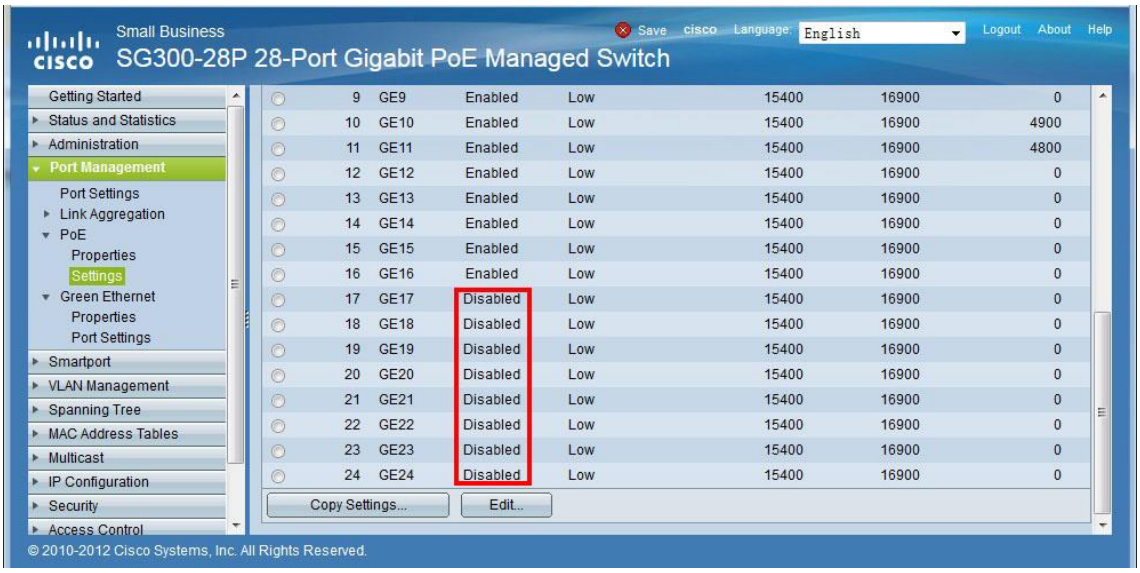


5.1 **POE Administrative Status > Disable** (uncheck box to disable).
Press **Apply** once completed.
Then **Close** to close the window.

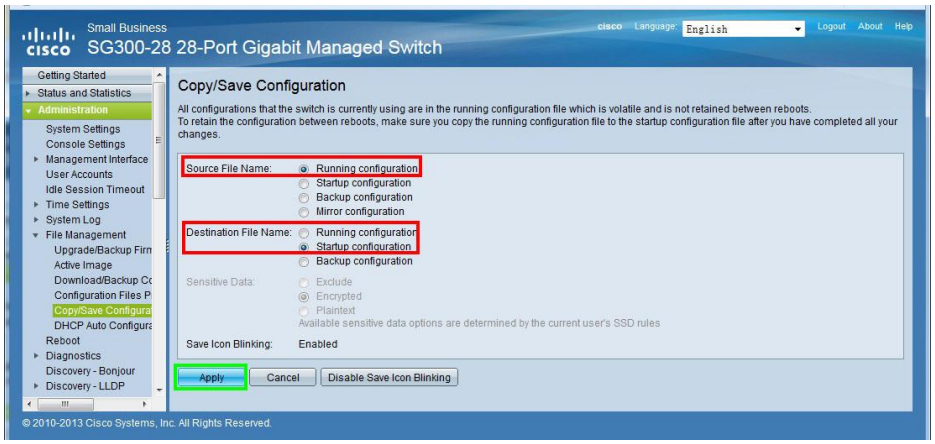
5.2 Go to Port Management ---> Settings --->Select **GE17--->** Click **Copy Settings,**



Copy Configuration from entry 17 (GE17) to> Type **18-24 or GE18 to GE24** to copy the same settings
Press **Apply** once completed.



5.3 Go to Administration> File Management--->Copy/Save Configuration



Source File name: Select **Running configuration**
Destination File Name: Select **Startup Configuration**
Press **Apply** once completed**.**
NOTE: Dont navigate to other screens copy operation will be aborted. Click **OK**

Preparations

Before installing the M-Series system, read carefully the instructions below.
Use only accessories and cables supplied with the products or purchased as required.

Recomended:

UTP Cables - Belden DataTwist 2400 Cables Exceed the TIA/EIA Requirements for Category 6 Installations and Provide for Transmission Speeds Up to 2.4 Gb/s.

Network Switches

Small Solutions

CISCO CATALYST 2960 SWITCHES

WS-C2960-24TC-L	24-port 100Mbps Ethernet switch
WS-C2960S-24PS-L	24-port 1000Mbps PoE Ethernet switch

CISCO SG300 FAMILY SWITCHES

SG300-28	28-port 1000Mbps Ethernet switch
SG300-28P	28-port 1000Mbps PoE Ethernet switch

Medium Solutions

CISCO CATALYST 2960 SWITCHES

WS-C2960X-24PSQ-L	24-port 1000Mbps PoE
WS-C2960X-48FPS-L	48-port 1000Mbps Ethernet switch

CISCO SG500 FAMILY SWITCHES

SG500-28P	28-port 1000Mbps Ethernet switch
SG500-48P	48-port 1000Mbps PoE Ethernet switch

Large Solutions

CISCO CATALYST 2960 SWITCHES

WS-C2960X-48FPS-L	48-port 1000Mbps Ethernet switch

CISCO SG500 FAMILY SWITCHES

SG500-52P	52-port 1000Mbps Ethernet switch

HUAWEI SWITCHES

S5700-48TP-PWR-SI	48-port 1000Mbps Ethernet switch

Displays
For the installer or site designer to have a smooth CEC control feature, it is recommended to use the following tested manufacturers:

SAMSUNG
40" - UA40JU6400JXXZ, UA40HU5920J - 46" - UA46C7000WF, UN46D6500VF

SHARP
40" - LCD-40 LX440A

SONY
24" - KDL-24EX520 - 32" - KLV-32EX400 40" - KDL-40RM10 - 55" - BKD-55X9000A

RS232 Data
The M-series devices support ASCii commands as well as Hex commands to control external devices for simple automation control. This is supported by connecting wires to the phoneix connector at the rear panel of the TX and RX. Sending commands from the MIP control box WEB interface or 3rd Party control systems over Telnet.
The M-series setup with CTRLPRO-MIP control box can also receive feedback DEVICE INFO when requested from 3rd Party control system. Example: *Volume level, Online and Offline status.*

Audio Out
The M-series devices support Audio out via phoenix port or 3.5mm headphone jack on the rear panel of the TX and RX. This function is the key for systems with an external audio distribution system so the installer can easily extend the audio from the TX without audio delay/lipsync issues. Having this supported on the RX users can setup an audio matrix system without connecting to a monitor or send audio to an external amplifier at the display side.

NOTE: All of the above have been tested and approved by Avenview, by implementing all features within a test solution we would like to enforce following all the documentaion given would result in a successful solution. We cannot guarantee bandwidth and stabilty of the system outside our recommended guidelines.

CONFIGURING A L2 MANAGED SWITCH

Preparations

When installing the UTP cables, ensure it is provisioned by the TIA-569 standard with respect to cable run in pathways, space and construction practices in support of telecommunication media and equipment within buildings.

CTRLPRO-MIP IP controller's LAN1(AV) port is connected to a switch and LAN2(C) port is connected to the same switch as well to allow PC software control. If using iPad control or 3rd Party control systems connect the LAN2(C) port to the network router.

Configuring a Switch,
Proceed to perform different operations based on your actual manufacture and model network switch.

1. If the switch is supplied with Avenview devices then it has been configured correctly and passed our QC.
2. Disable green or energy-saving feature.
3. Enable Multicast forwarding or filtering.
4. Enable IGMP Snooping.
5. Adminstration source IP address- Auto.
6. Enable IGMP Querier.
7. Enable IGMP fast leave.
8. Disable dynamic multicast router port.
9. Disable forwarding unknown multicast.
10. The configuration to all the related settings 1-9 be made in global configuration and VLAN configuration.

Performing Matrix Switching

1. Power on devices:
   - Power on source devices connected to the HDM-C6MXIP-S
   - Power on display devices connected to HDM-C6MXIP-R
   - Power on CTRLPRO-MIP IP controller,
   - Power on TX or RX or alternatively plug into a POE switch
   - How to calculate POE (See Page 9 on M-Series User Guide)

2. Configure your PC's network settings with IP address 169.254.254.65 and subnet mask 255.255.0.0, leave gateway and DNS blank.
3. Log in to CTRLPRO-MIP IP controller's web configuration page.
   a) Enter IP address 192.168.11.243 of IP controller's LAN1(AV) port.
   b) Enter username (admin by default) and password (admin by default).
4. In the web configuration page, choose Scenes > All Devices.
5. In Matrix area, the table of TX/RX units will appear with HDM-C6MXIP-S TX units across the top and the HDM-C6MXIP-R RX down the left hand side.

Press the box that links each TX/RX to perform matrix switching.

Configuring Video Wall HDM-C6MWIP UNITS ONLY

1. On your computer, start M-Series PC Software then click Search button to search for TX and RX.
2. Create a scene.
   a) In Scene area, click Create button.
   b) In the dialog box, set scene name and size, and then click OK.
3. In Devices list, click and drag RX to the scene table to assign RX.
4. In Devices list, click and drag TX to the assigned RX positions in the scene table to perform matrix switching.
5. In the scene table, select multiple RX and choose Combine from the right-click menu to create a video wall.

Performing App Operations
1. Connect a wireless router's LAN port to the switch and the LAN2(c) on the CTRLPRO-MIP .
2. Configure wireless network settings in iPad.
   a) Enable WLAN in iPad.
   b) Connect iPad to your wireless router.
   c) Click the connected wireless router name.
   d) Click Static.
   e) Set IP address as 169.254.1.21, subnet mask 255.255.0.0, but leave router and DNS blank.
3. Start CTRLPRO-M Window App or CTRLPRO-M Ipad App

It will automatically connect to IP controller and show Live preview of the sources
Drag and drop TX on to the RX in the scenes created