



Control Your Video

**VIDEO WALLS VIDEO PROCESSORS  
VIDEO MATRIX SWITCHES  
EXTENDERS SPLITTERS WIRELESS  
CABLES & ACCESSORIES**

## **CTRLPRO-M**

**IPAD AND PC WINDOWS APP  
VIDEOWALL SETUP**



**Model #: HDM-C6MXIP-SET  
HDM-C6MWIP-SET  
CTRLPRO-MIP**

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## ABOUT THIS DOCUMENT

This document explains how to configure the M-SERIES devices to work with an iPad App and Windows 7 control PC software.

Software Version **v7.0.0**

Firmware Version **v2.5.10**

The firmware and software versions listed in this document have been tested within the recommended settings the units can support and are fully supported by Avenview.

It is recommended that users read this entire document before attempting both setup and firmware updates and fully understand all the steps and procedures outlined in this document.

This document was last updated 21/01/2016

- Report any bug issues to:- [support@avenview.com](mailto:support@avenview.com)



**WARNING** –Please make sure when using this guide for an existing setup all of the following items are available:

- HDM-C6MXIP-S and HDM-C6MXIP-R with 12V 1A power supplies
- CTRLPRO-MIP IP Controller
- 6 x Ethernet (RJ45 Patch Cable 6 to 10ft or within the setup CAT5/6 cable runs)
- Wireless Gigabit Router with 802.11/a/b/g/n 2.4 GHz; 5 GHz
- Cisco SG Series switch
- RS-232 to bare wire for phoneix RS-232 out
- 3.5mm headphones jack to bare wire (external audio)

## GENERAL INSTRUCTIONS

1. Before beginning the setup guide or firmware upgrade ensure that the M-Series unit are powered by the supplied power supply 12V 1A or to proper POE specifications.
2. PC Requirements-Windows® XP/Windows Vista®/Windows® 7 (Windows® 8/Windows® 10 Coming Soon)
3. Ensure Laptop or desktop is plugged in to AC power during the update process. It is not recommended to use battery power during the setup/upgrade. Do not unplug power from the unit at any time during the firmware update process as this could lead to malfunctions.

## OVERVIEW

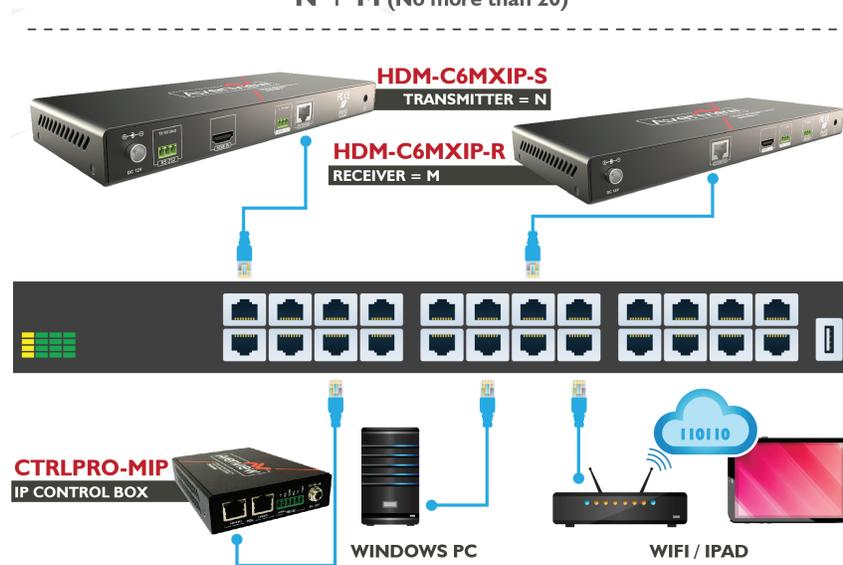
The following table describes the firmware version the devices has to be at to ensure a stable working enviroment and Windows 7 and IOS compatibility.

### Products and Versions

Products	Versions
CTRLPRO-M (PC Console)	V7.0.0
CTRLPRO-MIP	v1.5/v5.1.0 (v5.1.1)
HDM-C6MXIP-S (Sender/Encoder)	V2.8.3
HDM-C6MXIP-R (Receiver/Decoder)	V2.8.2
HDM-C6MWIP-S (Sender/Encoder)	V2.8.3
HDM-C6MWIP-R (Receiver/Decoder)	V2.8.2
CTRLPRO-M Windows 7 version	V2.5.10

### 24-Port Single Switch Networking

**N + M** (No more than 20)



Deployed by the field requirement

## A. BEFORE INSTALLATION

- Place the product in a level and stable location. If the product falls, it may cause damage or malfunction to components within the casing.
- Do not place the product in temperatures under 0°C or over 50°C. High humidity may also cause the unit to malfunction.
- Use the DC power adapter with correct specifications supplied with the unit. If improper power supply is used, this may result in malfunction of the unit and may cause fire.
- Do not twist or pull by force the ends of the UTP/HDMI cable. It will cause malfunction.

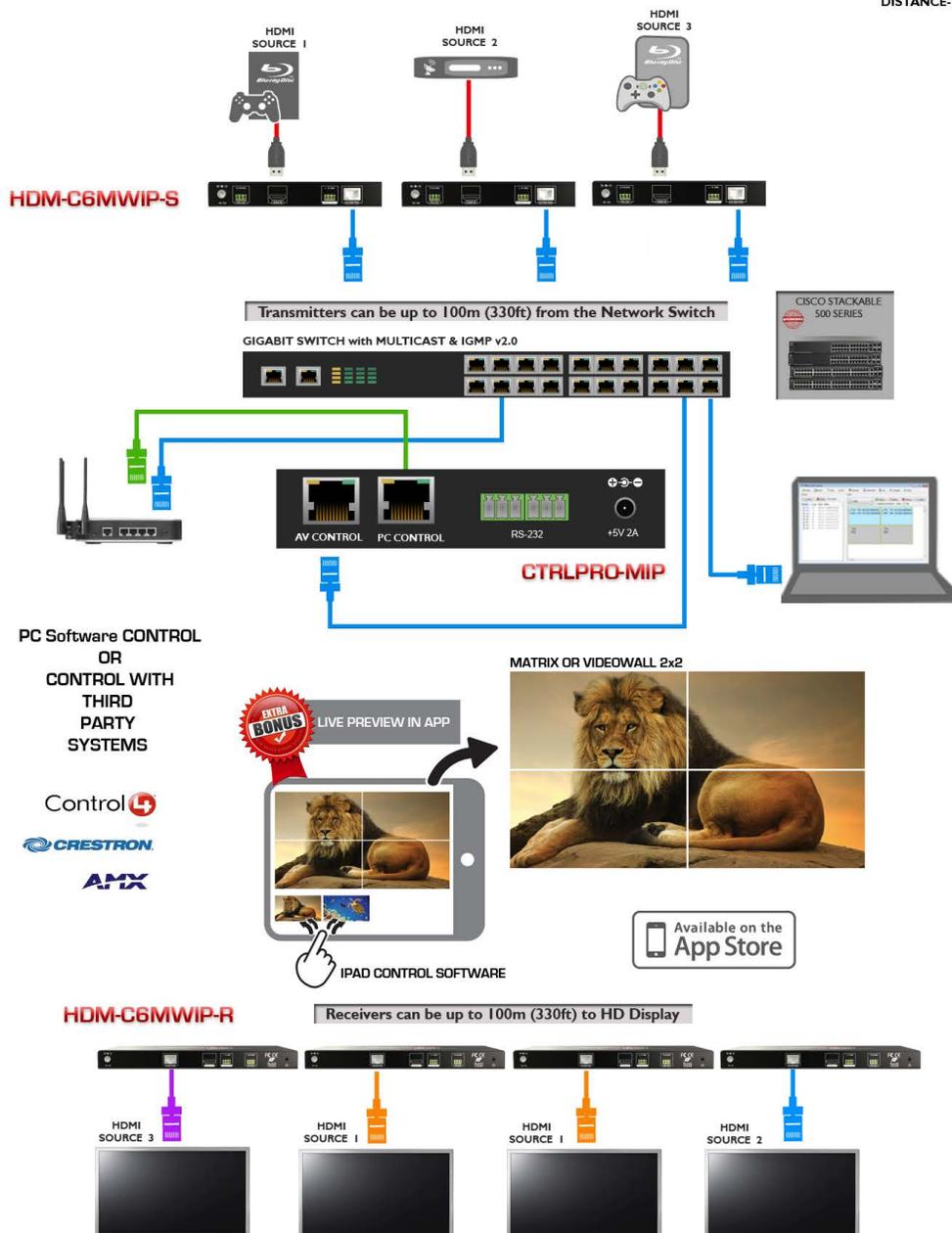
Please follow the connection diagram as below:

### CTRLPRO-MIP

HDM-C6MWIP-SET  
HDM-C6MWIP-SET  
HDM-C6MWIP-SET

IP CONTROLLER FUNCTION  
FOR ALL M-SERIES DEVICES  
DISTANCE-100m (330 feet) CAT5/6  
LAYOUT 1

CABLE INDEX  
Control AV ■  
Network ■  
Input / Source ■



## B. NETWORK BANDWIDTH CALCULATOR

The following notes and math equations below allow the installer to properly calculate and establish the right network environment for streaming live video across the network and iPad.

**Control Device :** iPad Air/ Air2/Mini

**iOS Version:** Compatible with iOS 7 and above.

**Wireless device:** Should have Wi-Fi frequency band (2.4GHz and 5GHz)

Equation for calculating the video bandwidth allowed

**Tband** =  $1.3 * i * (6 + VW) * 0.5$  aka True bandwidth

**Pband** = Wifi bandwidth/3 (Unit: M) aka Project bandwidth

*Project proposal should be Tband < Pband.*

### Parameters:

**Constant 1.3:1.3** is the network packets consumption coefficient.

**Variable i:** the number of the iPads which connected to the same network of the IPcontroller(CTRLPRO-MIP) and has the APP running.

**Constant 6:** this number is the max number of TX show on the CTRLPRO-M task bar App.

**Variable VW:** the numbers of the video wall configuration show on the CTRLPRO-M

**Constant 0.5:** this number is the TX preview stream bandwidth to the CTRLPRO-M software.

**Variable Wifi bandwidth/3:** this digit is the wireless router protocol (Example 802.11G=54Mbps @ 2.4Ghz) or Access Point's rated bandwidth, on any project site the device would only use 1/3 of the bandwidth

**Unit M:** the network transfer unit.

### Calculating TX Bandwidth

Each Transmitter sender streams an average of 30-50Mbps of data, therefore a system of:

10 TX each streaming @ 50Mbps

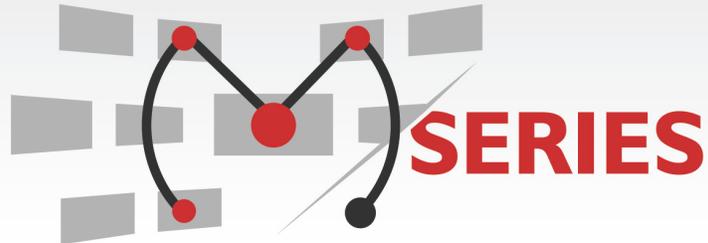
50 RX link to the 10 TX with each TX streaming to 10 Groups of 5 RX

The Tx bandwidth within this system would be 0.02Gbps.



# M Series iPad Application

Control your video anywhere, anytime



# VIDEO WALL SETUP

## Before Starting iPad Control Software

Follow the steps below from page 1 to page 8 using **PC Console Software** to set up alias names, matrix, videowall and scenes before attempting to use the CTRL-M iPad app or CTRL-M Windows 7 application (*if this is already completed proceed to page 9*).

By performing the following tasks within the PC console; the information is easily uploaded to the CTRLPRO-MIP and then transferred to the iPad App or PC App.

### What is the CTRLPRO-MIP ?

This device aka IP Controller (CTRLPRO-MIP) offers API commands to third party applications for matrix,videowall configuration and RS-232 control to peripheral devices.

The user can use two methods when setting up a videowall -Create and Configure video wall.

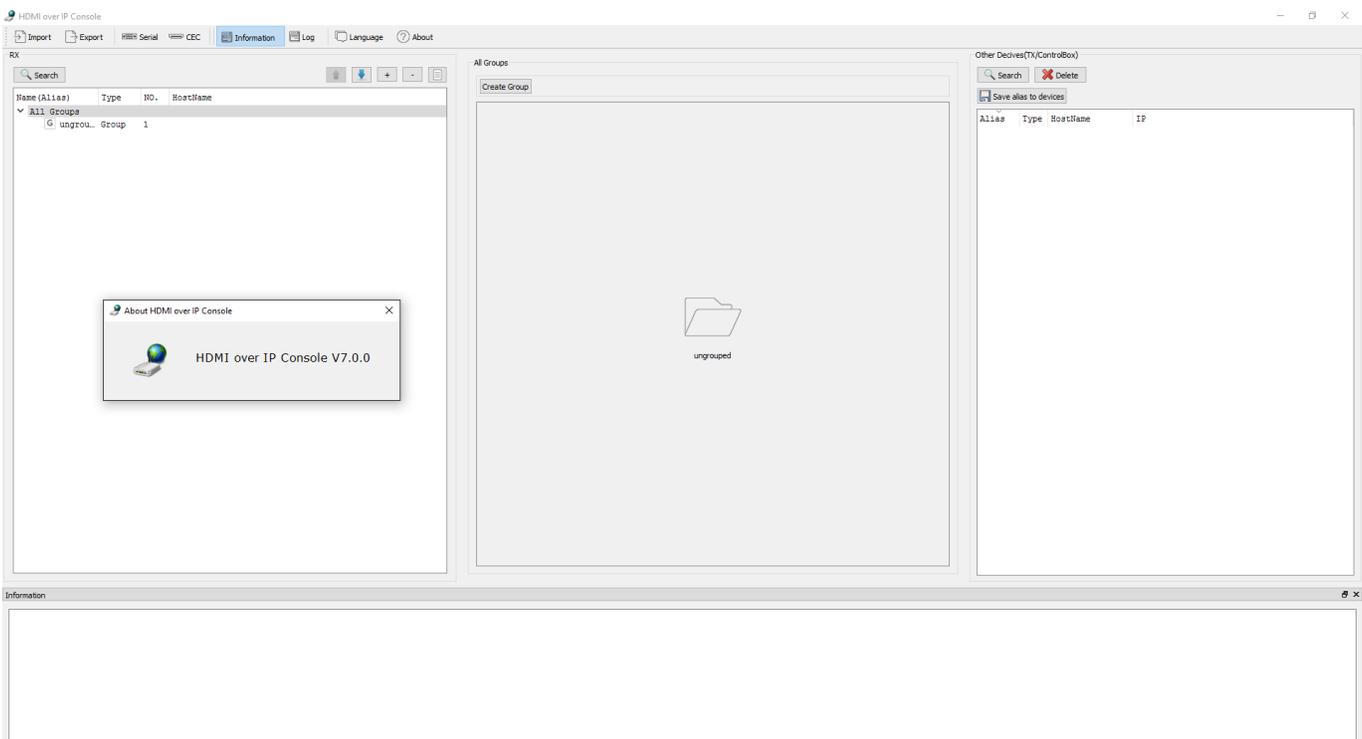
**Method 1** requires simple telnet commands as noted in the CTRLPRO-MIP API commands user guide. Preferred when using a 3rd party controller such as Crestron Control4.

**Method 2** via PC configurator. This guide mainly explains method 2.

- 1) API commands
- 2) PC configurator (HDMI over IPConsole) to create and configure video wall, and then upload its configuration to IP Controller.

### Recommended Software Versions:

- PC configurator: V7.0.0
- IP Controller: API V1.5 or higher, gbcmdV5.1.1 or higher, CTRLPRO-MIP\_WebV5.1.0 or higher



### 3. CREATE AND CONFIGURE VIDEOWALL

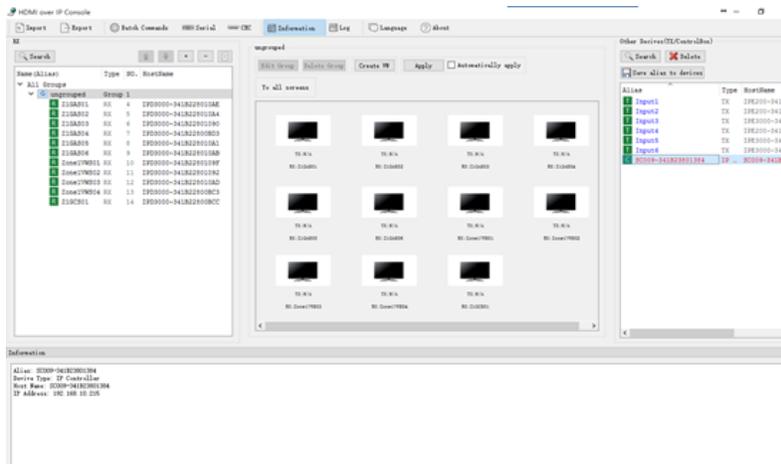
The following example creates and configure a group "Group1", a 2 x 2 video wall "Zone1Scene2" within this group, and two layouts under the 2x2 video wall.

The details of the two layouts are shown in the table below.

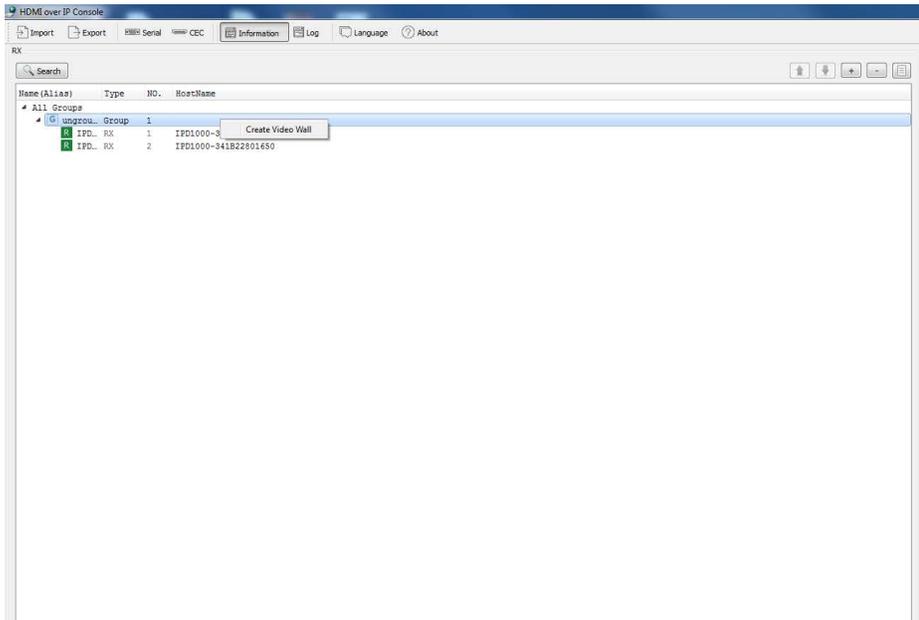
	NAME	CONTENT
Layout A	Matrix	Four Single Screens
Layout B	2X2	A 2 x 2 Combination Screen

Step 1. Launch PC configurator and click **Search** to search the connected devices TX, RX and IP controller on the desired network.

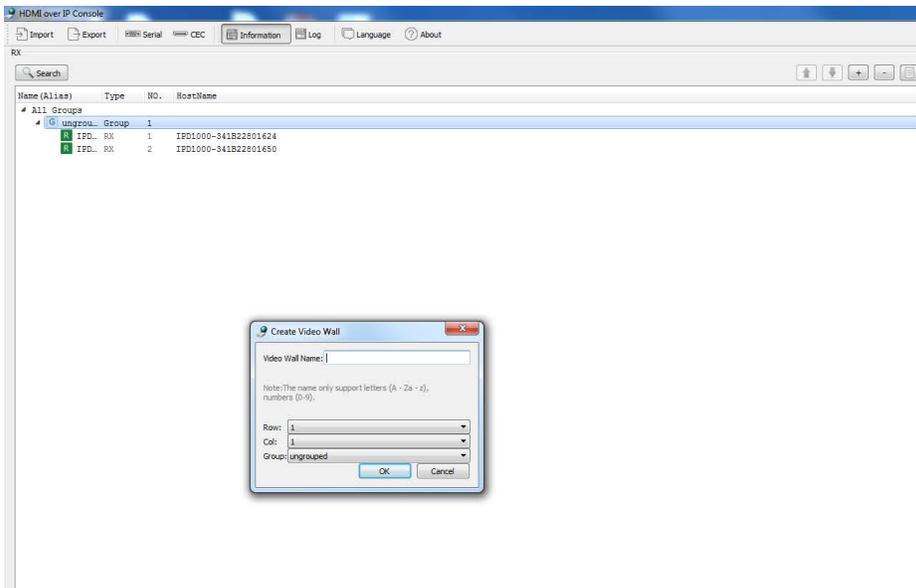
Please note if the devices is displayed with the factory given names, proceed to provide alias names for easy identification. The following caption shows devices with aliases.



Step2. Create a group. To create a group please right click on "ungroup" a create videowall box appears, please click on the tab.  
 Name :**Group I**

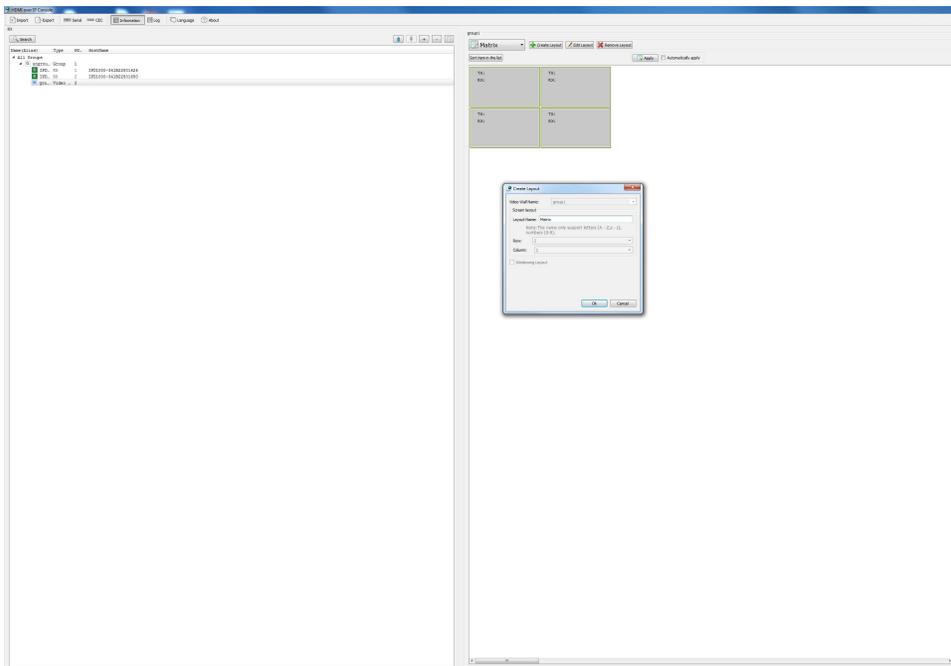


Step:3. In **Group I** create a 2x2 video wall **Zone I Scene2** with two rows and two columns.



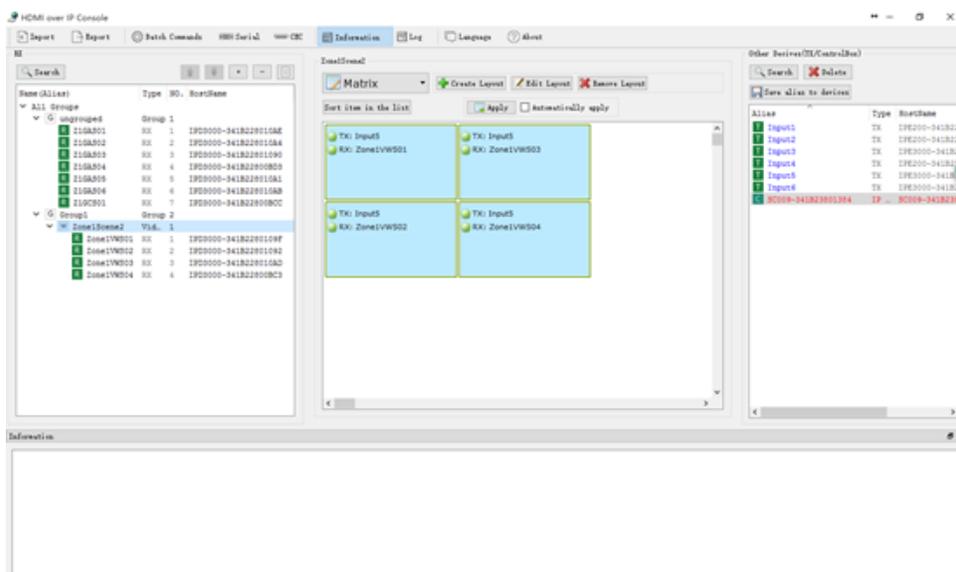
Step 4. In the middle section, click on Create layout button, a window will appear to create "Layout Name".

(A) Please type **Matrix**.



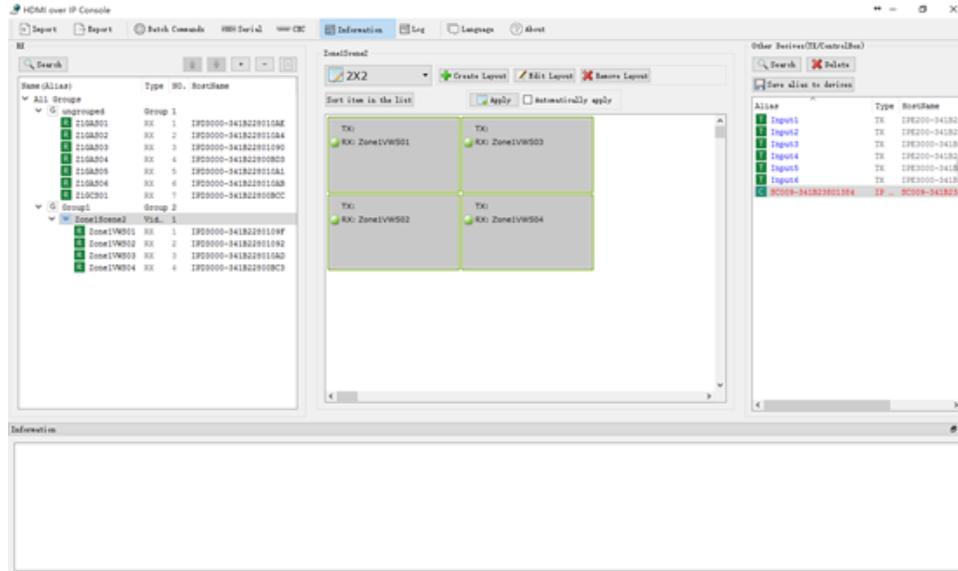
(B) To link/enable video and audio in the matrix , please Drag and Drop the RX devices from the left in Group I to the middle section on the assigned screens. Perform this task again with the TX devices on the right to stream the source to the screens.

**NOTE: Apply button must be clicked for the above actions to be activated.**

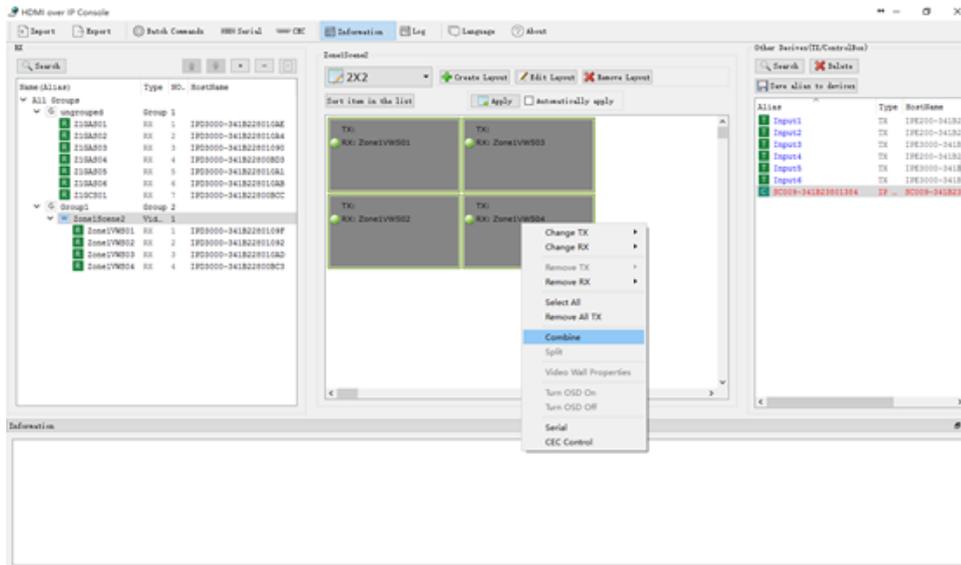


5. Create layout B which contains 2x2 combination screen.

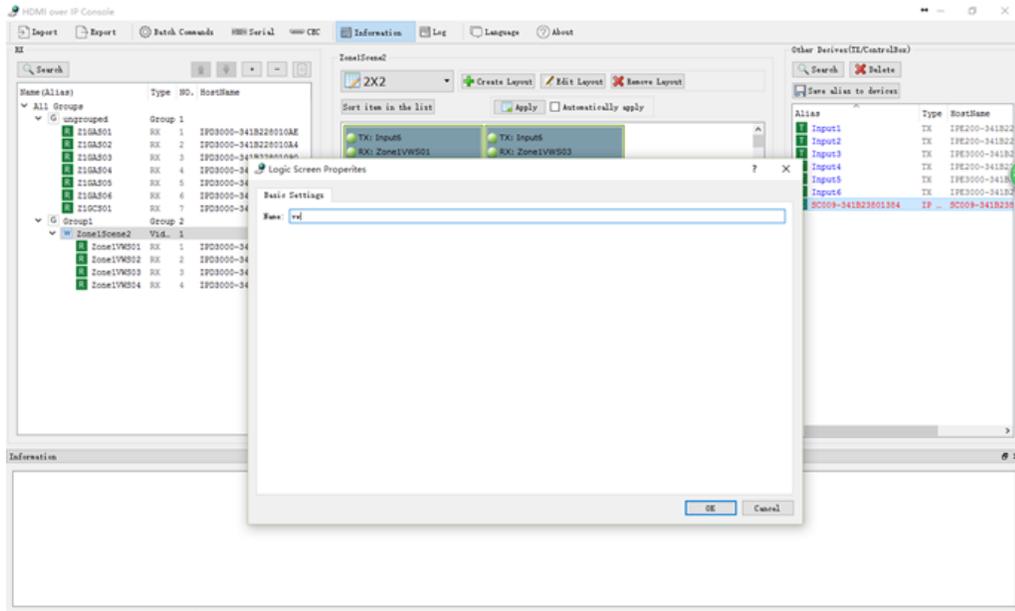
1) In video wall **Zone1Scene2**, create a layout **2x2**.



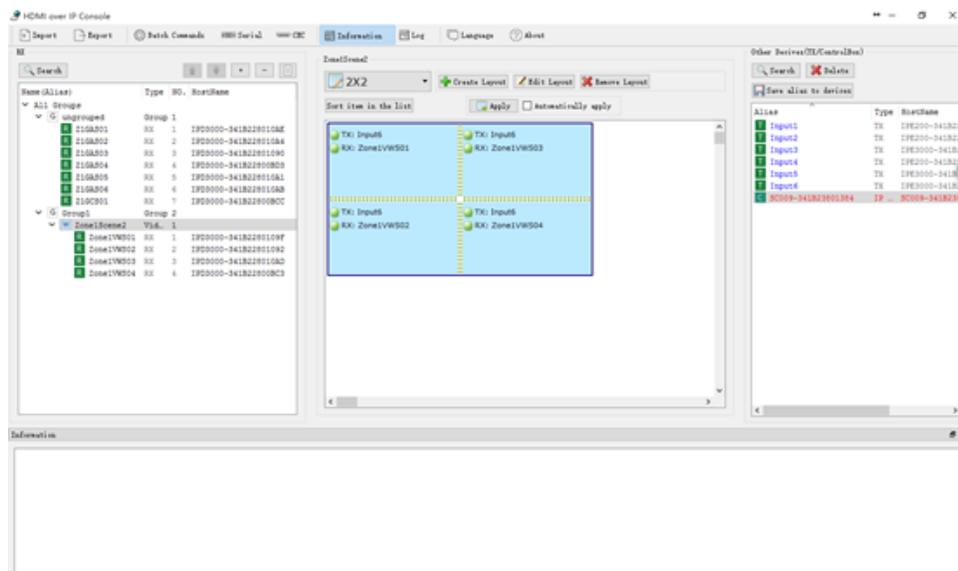
2) Select the four screens by right clicking on the screen on the upper left corner and moving the cursor while holding the right mouse until all four screens are highlighted. In the displayed context menu, choose **Combine**.



3) In the **Video Wall Properties** dialog box, set the combination screen name to **vw** and click **OK**.



(F) The yellow checked lines combining the 4 screens indicates a videowall has been created, as shown in the caption below.



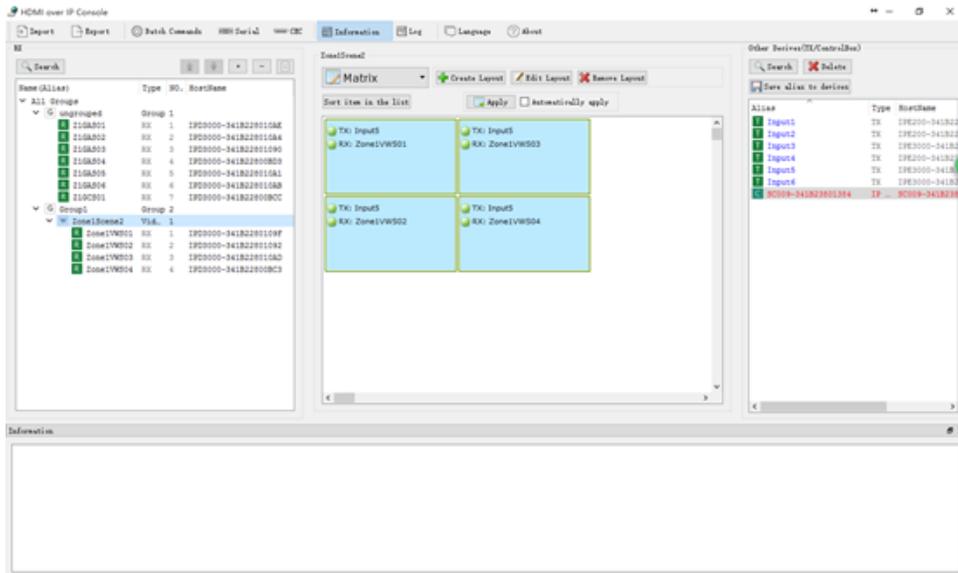
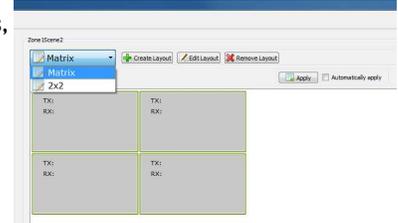
**Please Note:**

When the video wall and its layouts are completed as the above examples, different layouts can be viewed by clicking on the drop down arrow.

**Layout name:** Matrix

**Content:** Four single screens

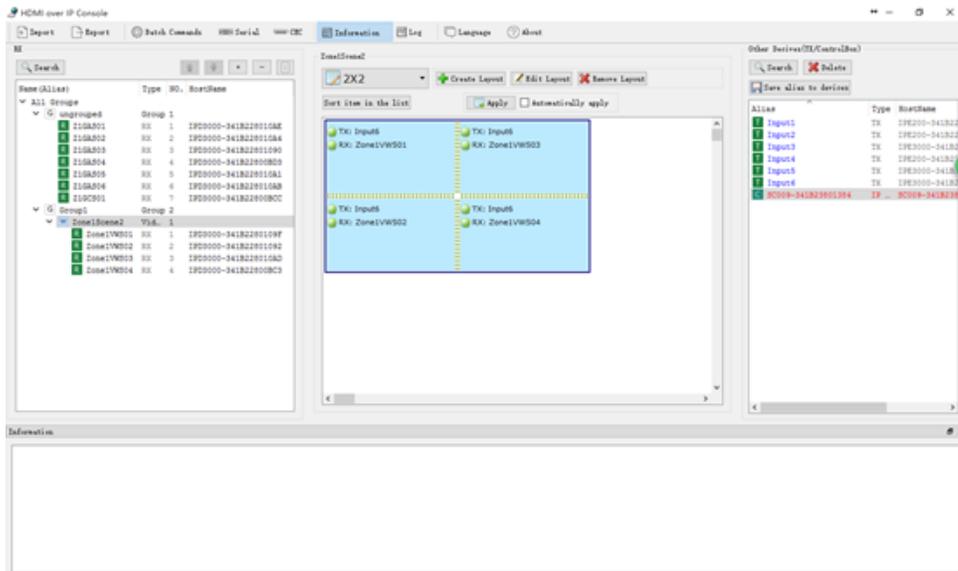
**Location:** videowall Zone I Scene2



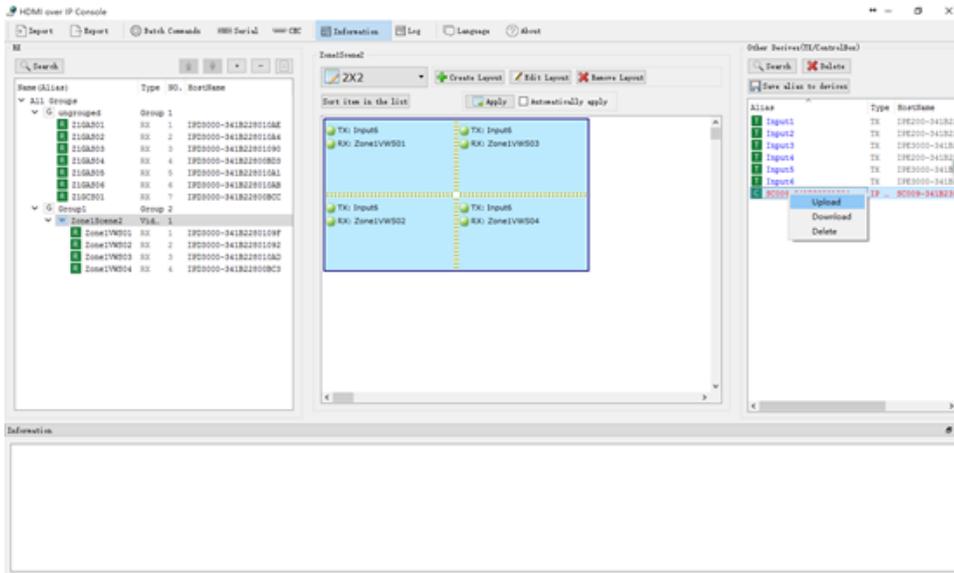
**Layout name:** 2x2

**Content:** 2x2 combination screen vw (configurable)

**Location:** video wall Zone I Scene2



- STEP 6.** Proceed to upload all the configurations made to the IP controller.  
 Right click on CTRLPRO-MIP (SC009 IP controller) in Other Devices area and choose Upload.  
 When 100% is displayed, the upload is successful.



**All steps for creating a videowall and matrix layouts are now successfully completed.**

In the above examples, a video wall **Zone1Scene2** contains the following **two** layouts.

1. Matrix which contains no combination screen
2. 2X2 which contains a combination screen vw and is recognized as **Zone1Scene2-2X2\_vw** in IP controller.

Within the IP controller WEB GUI, the user can input **API commands** to switch between sources on the video wall.

- To switch between sources for a videowall layout, use **vw change vwname txname**.
- To switch between sources for a single screen in a layout, use **vw change rxname txname**.

Example, to switch to source **input1** for the 2X2 videowall screen use **vw change Zone1Scene2-2X2\_vw Input1**.

**Note:**

Naming Convention-Layout and Videowall names can only contain numbers 0 to 9, lowercase letters a to z and uppercase letters A to Z.

- To switch between sources for a videowall and a single screen in a layout, use **vw change**
- To switch between sources for a single screen outside a layout, use **matrix set**



## CTRLPRO-M iPad App Quick Start

This guide demonstrates the seamless switching control application for the M-Series devices on Windows PC or iPad for small or medium applications where a 3rd Party controller and programmer is not in the budget.

### A. CTRLPRO-M on iPad

1.1 **Key Features** Drag and Drop Source to Monitor/Screens, Live Preview on App of the connected Source and which screens the source is streaming on. Seamless Matrix and Videowall switching, upload scenes from PC software to CTRLPRO-MIP for easy setup and configuration.

1.2 **Downloading CTRLPRO-M**

\* Search **CTRLPRO-M** in Apple store and download it.



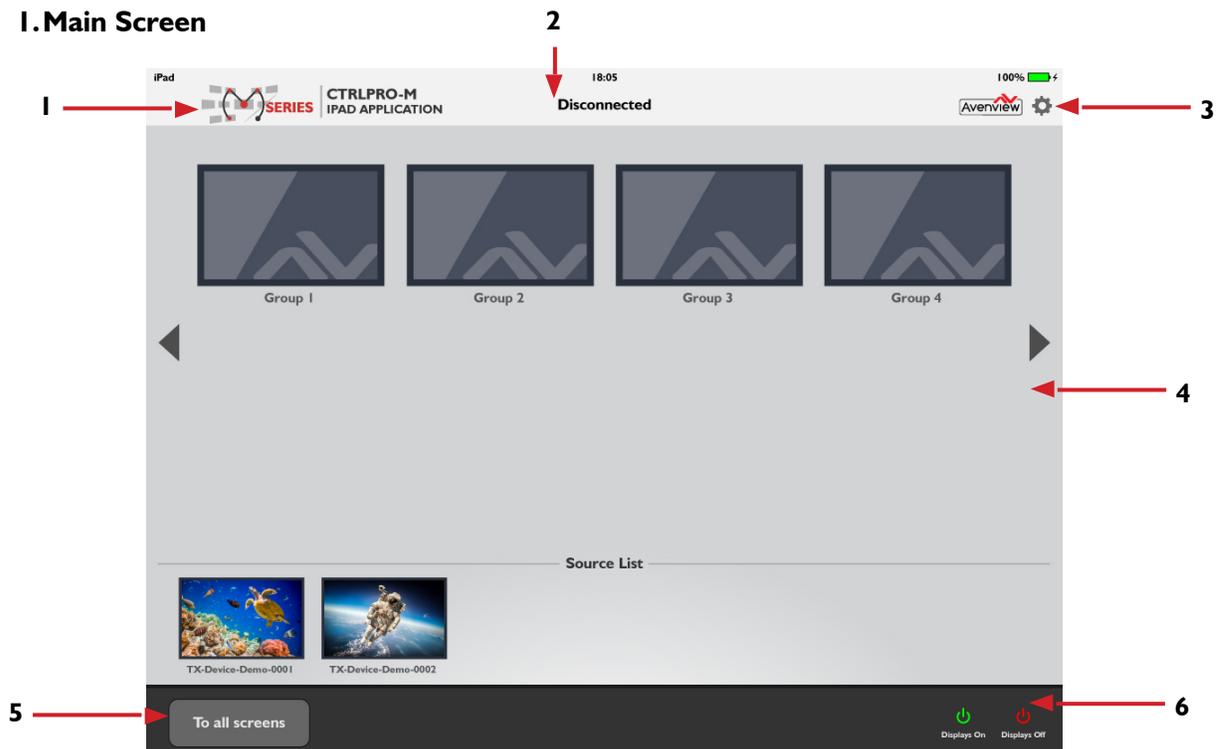
1.3 **Operating CTRLPRO-M**

i. Launching CTRLPRO-M

CTRLPRO-M automatically connects to CTRLPRO-MIP using the default IP address 169.254.1.1 on its first startup. When connection succeeds, CTRLPRO-M downloads configuration information from CTRLPRO-MIP such as logo icon, group information (includes group name and group sequence), device information (includes device name, groups and device sequence in a group) and video wall information (includes video wall name, layouts, groups and video wall sequence in a group). For iPad to receive /view live video feed from the connected Encoders, must be on the same IP range.

ii. Introduction to CTRLPRO-M Interface

#### I. Main Screen



When CTRLPRO-M has established network connection to the CTRLPRO-MIP controller, the main screen above is displayed. For more details on the functions and buttons, please see the next page.

1. **Logo icon:** indicates the image of this app name CTRLPRO-M, which is uploaded to CTRLPRO-MIP configuration web from your local computer and then is downloaded from CTRLPRO-MIP to CTRLPRO-M.
2. **Connected and Disconnected:** indicates the connection status between CTRLPRO-M and CTRLPRO-MIP.
3. **System Settings button:** used to configure the system settings.
4. **Slider:** go to previous or next screen.
5. **To all screen:** dragging and dropping a source from source list over this button means the switching of this source to the screens in all groups, including single screens and video walls.
6. **Display On:** Power on the displays in all groups (must be compatible with CEC commands).  
**Display Off:** Place all displays in standby state (must be compatible with CEC commands).

## 2. Introduction to Video Wall



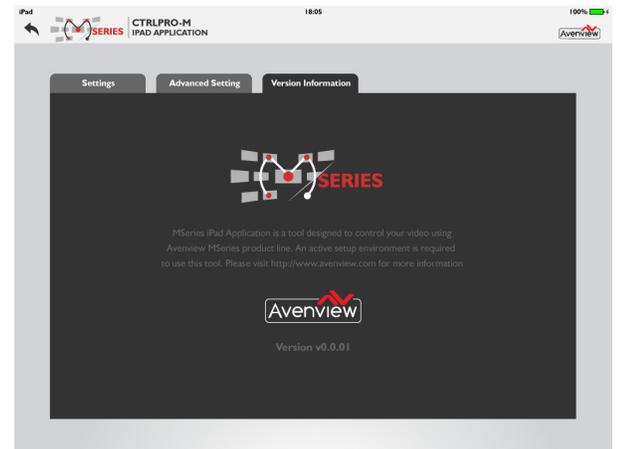
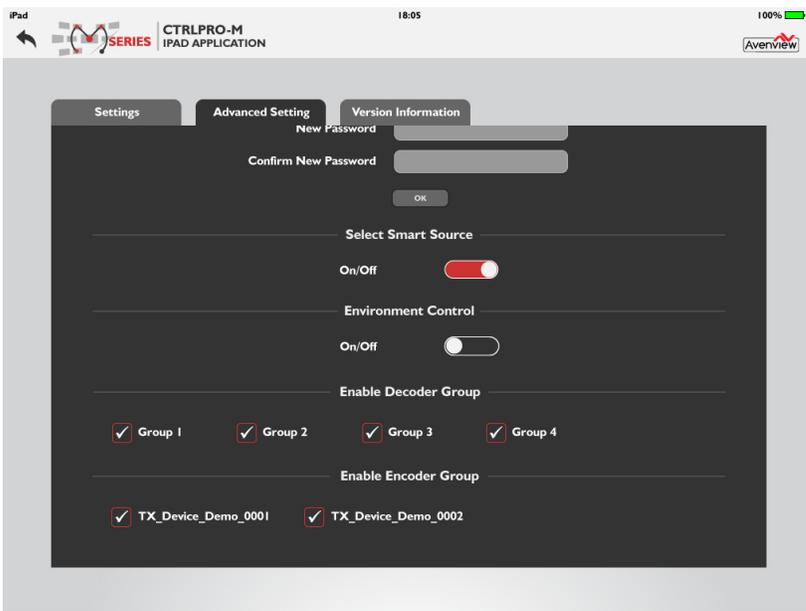
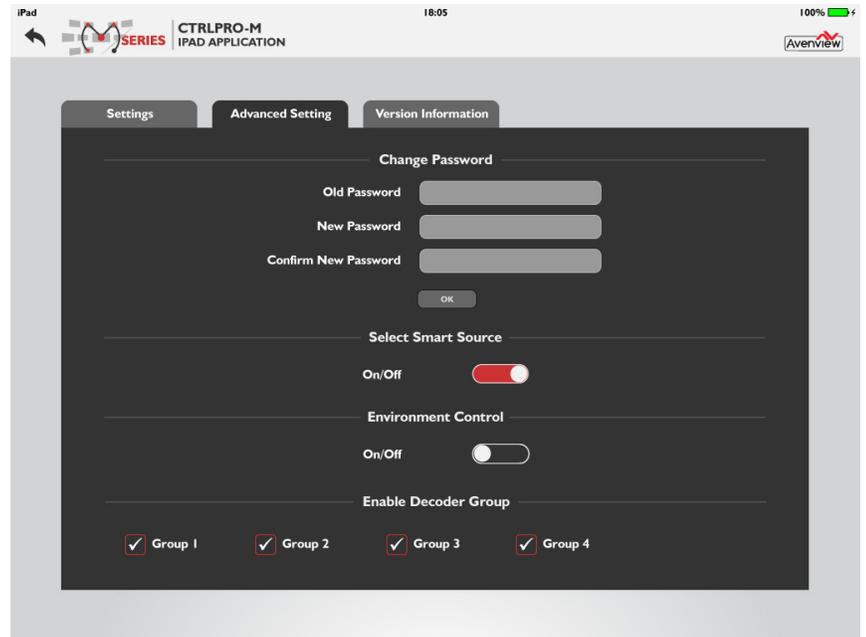
On the main screen, select a group icon to access this group.

If this group is configured for a video wall, the following app interface will show as the above caption.

7. **Group 1:** indicates the user is in/selected the current group.
8. **VWall2:** indicates the video wall name.
9. **Screen layout list:** indicate all videowall layouts created, Press a layout to seamlessly switch between each other.
10. **Display area:** Drag and drop a video source from the source list to this area to switch between video sources and enjoy live preview as well.
11. **Preset settings:**  
**Save:** The current link or configuration made between RX and TX in a group as a preset option.  
Preset-1, Preset-2 and Preset-3: recall the corresponding relationship between RX and TX in a group.
12. **Back button:** To navigate to the main screen.



## ADVANCE SETTING TABS



### 3. Introduction to System settings Screen

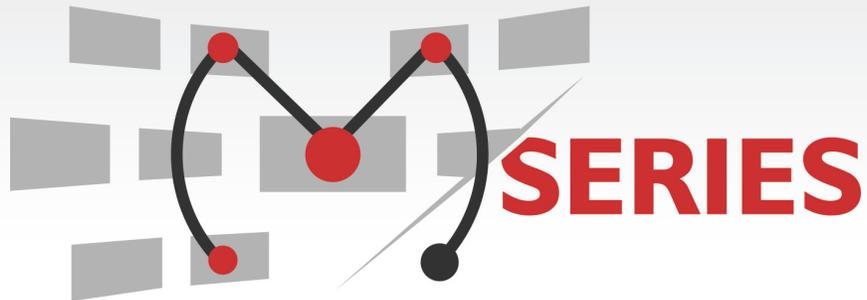
In system settings screen the user can:

- Change CTRLPRO-MIP IP address.
- Change advanced setting password (the default is admin).
- Show and hide RX groups and TX.
- Enable and disable smart source selection function. When switching between video wall layouts, the video source from the last layout will be used in the current layout.
- Enable and disable environment control function. By default, it's disabled.
- View software version.



# M Series Windows Application

Control your video anywhere, anytime



Coming Soon on:



## CTRLPRO-M Windows App Quick Start

This guide demonstrates the seamless switching control application for the M-Series devices on Windows PC for small or medium applications where a 3rd Party controller and/or programmer is not needed.

### A. CTRLPRO-M on iPad

2.1 **Key Features** Drag and Drop Source to Monitor/Screens, Live Preview on App of the connected Source and which screens the source is streaming on. Seamless Matrix and Videowall switching, upload scenes from PC software to CTRLPRO-MIP for easy setup and configuration.

2.2 **Downloading CTRLPRO-M**

\* Search **CTRLPRO-M** in [avenview.com](http://avenview.com) and download> software section.

2.3 **Operating CTRLPRO-M**

i. **Launching VisualM**

CTRLPRO-M automatically connects to CTRLPRO-MIP using the default IP address 169.254.1.1 on its first startup. When connection is established, CTRLPRO-M downloads configuration information from CTRLPRO-MIP such as logo icon, group information (includes group name and group sequence), device information (includes device name, groups and device sequence in a group) and video wall information (includes video wall name, layouts, groups and video wall sequence in a group).

ii. **Introduction to CTRLPRO-M Interface**



### B. CTRLPRO-M on Windows

2.4 **Installing CTRLPRO-M**

Software should be installed according to the following system requirements.

OS	OS
Windows 7	Windows 8 and Windows 10
Windows 7	Windows 8 and Windows 10
Windows 7	Compatible with Keyboard & Mouse control Windows 7 (recommended)



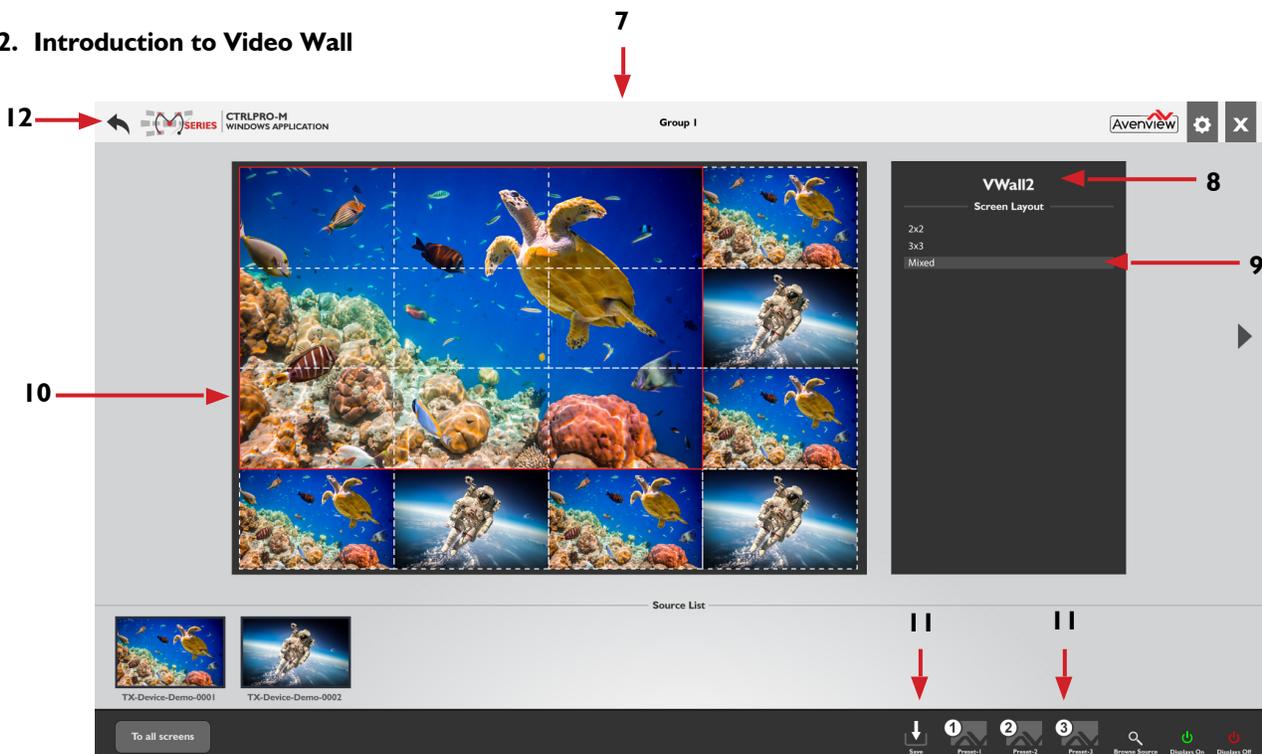
## 2.5 Installing CTRLPRO-M Windows Version

When the user clicks on the .exe file to install or the icon to launch the Windows software the below captions will be displayed.

**NOTE:** CTRLPRO-M installed on a PC/Laptop connected to the same network or directly to RJ45 port LAN2 (C) on the CTRLPRO-MIP unit, the software main screen displays the information given when the user uploads the config from the HDMI PC console.

1. **Logo icon:** indicates the image of this app name CTRLPRO-M, which is uploaded to CTRLPRO-MIP configuration web from your local computer and then is downloaded from CTRLPRO-MIP to CTRLPRO-M.
2. **Connected and Disconnected:** indicates the connection status between CTRLPRO-M and CTRLPRO-MIP.
3. **System Settings button:** used to configure the system settings.
4. **Slider:** go to previous or next screen.
5. **To all screen:** dragging and dropping a source from source list over this button means the switching of this source to the screens in all groups, including single screens and video walls.
6. **Display On:** Power on the displays in all groups (must be compatible with CEC commands).  
**Display Off:** Place all displays in standby state (must be compatible with CEC commands).

## 2. Introduction to Video Wall

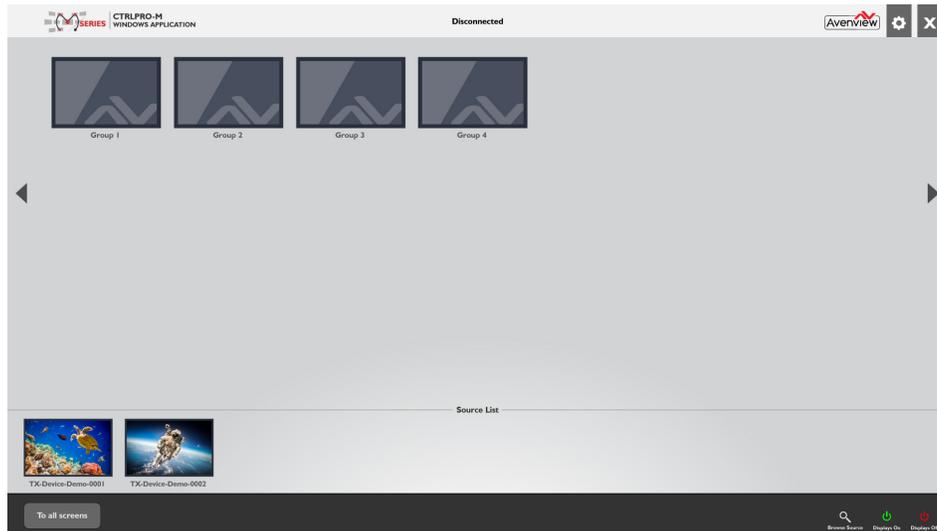


On the main screen, select a group icon to access this group.

If this group is configured for a video wall, the following app interface will show as the above caption.

7. **Group 1:** Indicates the user is in/selected the current group.
8. **VWall2:** Indicates the video wall name.
9. **Screen layout list:** Indicate all videowall layouts created, Press a layout to seamlessly switch between each other.
10. **Display area:** Drag and drop a video source from the source list to this area to switch between video sources and enjoy live preview as well.
11. **Preset settings:**  
**Save:** The current link or configuration made between RX and TX in a group as a preset option.  
Preset-1, Preset-2 and Preset-3: recall the corresponding relationship between RX and TX in a group.
12. **Back button:** To navigate to the main screen.

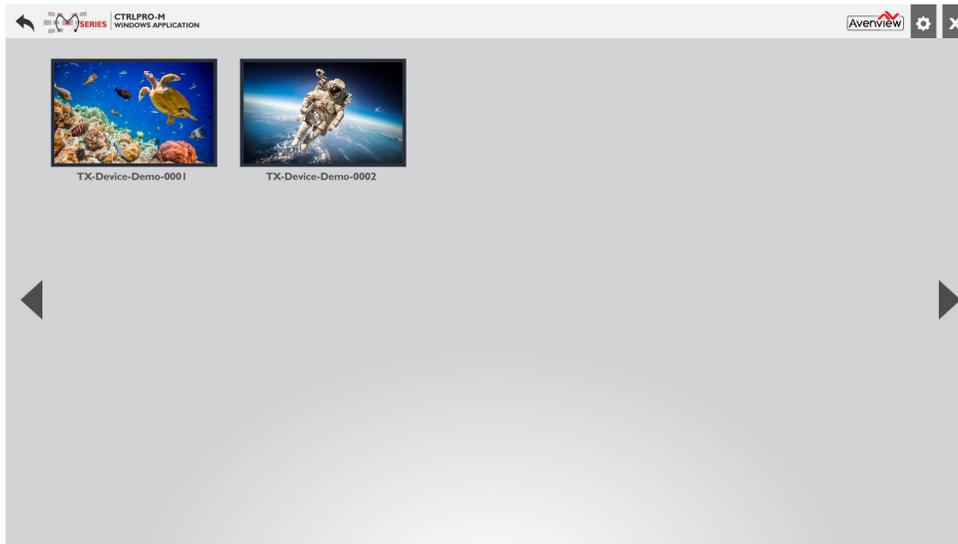




13

13. **Video Source Browser button:** easily displays all Encoders (TX) on single screen.

Layouts and operation methods are similar to that of CTRLPRO-M on iPad except the function Video Source Browser (view all connected source devices with live preview over the network).



14

14

The screen shot above shows only 2 Encoders (TX). If there are more than 16 TX's, they will appear on multiple screens. Please use the Left/Right navigation arrows to scroll to the Previous or Next Page.

14. **Navigation buttons:** To navigate to Left or Right to the Previous or Next page to view all sources connected in the system.



No.	COMMANDS	DESCRIPTION
1	matrix set TX1 RX1 RX2	Switch between sources for single screens.
2	vw change RX TX	Switch between sources for single screens. <b>Note:</b> For a display in a combination screen, <b>matrix set</b> will not change its video wall status while <b>vw change</b> will set it to exit the current video wall status and to full-screen display of TX.
3	vw change vw-name TX	Switch between sources for a videowall layout.
4	scene active scenename	Switch between video wall layouts.
5	config set device cec standby hostname1 hostname2...	Set displays connected to <b>hostname1</b> and <b>hostname2</b> to enter standby mode. The displays must support CEC.
6	config set device cec onetouchplay hostname1 hostname2...	Power on displays connected to <b>hostname1</b> and <b>hostname2</b> . The displays must support CEC.

**NOTE:** For more Telnet API commands please visit [www.avenview.com](http://www.avenview.com) and search product name **CTRLPRO-MIP**, Click on **User Guides** Tab then Choose **API Commands for CTRLPRO-MIP** sheet.







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## TECHNICAL SUPPORT

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