datavideo



UNIVERSAL REMOTE
CONTROL PANEL
RMC-300A
Instruction Manual

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Disclaimer of Product & Services

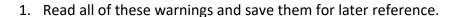
The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Warnings and Precautions





- 2. Follow all warnings and instructions marked on this unit.
- 3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- 4. Do not use this unit in or near water.
- 5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
- 6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
- 7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
- 8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
- 9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.
- 10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
- 11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.

- 12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
- 13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
 - a. When the power cord is damaged or frayed;
 - b. When liquid has spilled into the unit;
 - c. When the product has been exposed to rain or water;
 - d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
 - e. When the product has been dropped or the cabinet has been damaged;
 - f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

Standard Warranty

- Datavideo equipment is guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- The product warranty period beings on the purchase date. If the purchase date is unknown, the product warranty period begins on the thirtieth day after shipment from a Datavideo office.
- All non-Datavideo manufactured products (product without Datavideo logo) have only one year warranty from the date of purchase.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered under warranty.
- Viruses and malware infections on the computer systems are not covered under warranty.
- Any errors that are caused by unauthorized third-party software installations, which are not required by our computer systems, are not covered under warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.

- All accessories including headphones, cables, batteries, metal parts, housing, cable reel and consumable parts are not covered under warranty.
- Warranty only valid in the country or region of purchase.
- Your statutory rights are not affected.

Three Year Warranty

 All Datavideo products purchased after July 1st, 2017 qualify for a free two years extension to the standard warranty, providing the product is registered with Datavideo within 30 days of purchase.



- Certain parts with limited lifetime expectancy such as LCD panels, DVD drives, Hard Drive, Solid State Drive, SD Card, USB Thumb Drive, Lighting, Non-PCIe Card and third party provided PC components are covered for 1 year.
- The three-year warranty must be registered on Datavideo's official website or with your local Datavideo office or one of its authorized distributors within 30 days of purchase.

Disposal



For EU Customers only - WEEE Marking

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your

waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



CE Marking is the symbol as shown on the left of this page. The letters "**CE**" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive

93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.

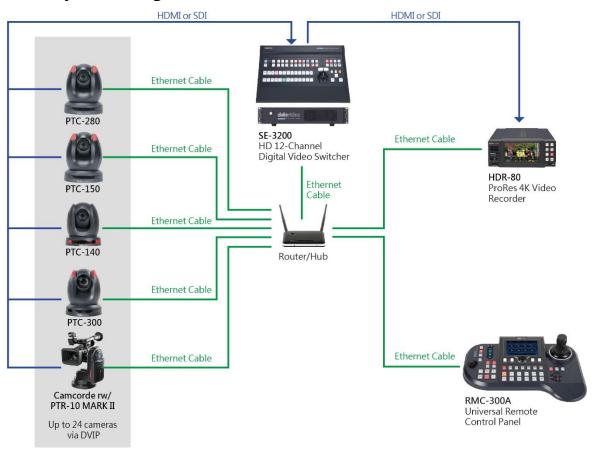
1. Product Introduction

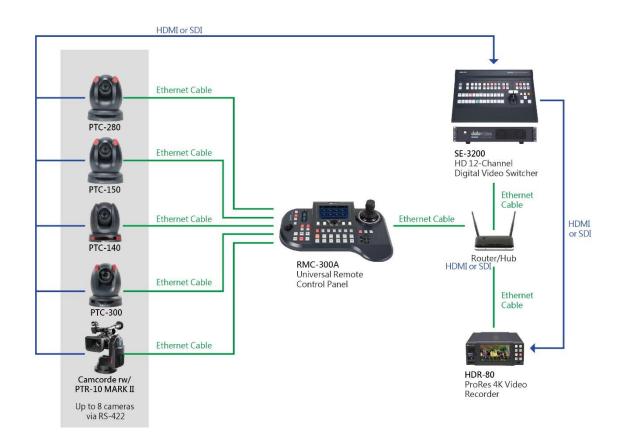
Datavideo RMC-300A is a multi-functional Multi-Camera Controller capable of controlling up to 24 PTZ and block cameras via DVIP or 8 PTZ and block cameras via RS-422. With DVIP and the RS-422 interface, the RMC-300A allows you to configure and control all Datavideo cameras, PTR-10T Robotic Head, SE-3200 Switcher and HDR-80/90 ProRes Recorder.

1.1 Features

- Remote Control via RS-422 or DVIP port
- Able to control up to 24 Datavideo PTZ/block cameras with 7 presets for each camera
- RGB keyboard for easy identification of keyboard functions
- User friendly UI on 5" touch screen for easy camera setup
- Zoom knob and pan/tilt joystick for adjusting the zoom ratio and lens position
- Easy to use and high precision
- Can be used with SE-3200 or HDR-80/90
- Firmware upgrade via USB 2.0 port

1.2 System Diagram

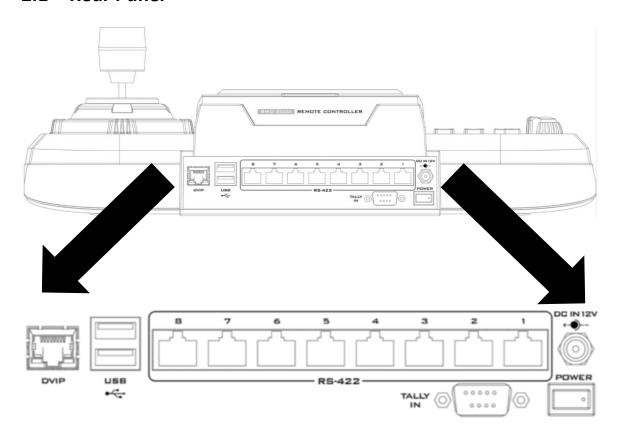




2. Connections and Controls

In this chapter, we will first describe the rear panel ports for establishing connections with external devices. In the second section, we will discuss panel operations.

2.1 Rear Panel





DVIP Control

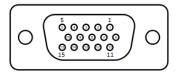
The DVIP port connects the camera controller directly to the PC or a network router via any RJ-45 cables, allowing the controller to control up to 24 cameras. See <u>DVIP</u> for setup details.

Once you've established connections with the cameras via DVIP, you can then assign cameras to different tally channels. See <u>Camera Tally</u> for instructions.



USB 2.0 Firmware Upgrade Port

Connect the USB storage device to the USB firmware upgrade port for firmware upgrade. See *Firmware Update* for instructions.



Tally IN Port

The D-sub 15 pin female Tally IN port receives tally signals from the connected switcher's tally out. **Red** indicates On-Air, and **Green** indicates next camera source.

The following table shows the pinout of the tally in jack.

Pin	Function
1	Program Channel 1
2	Program Channel 5
3	Preview Channel 1
4	GND
5	Program Channel 4
6	Program Channel 2
7	Program Channel 6
8	Preview Channel 2
9	GND
10	Preview Channel 5
11	Program Channel 3
12	Preview Channel 6
13	Preview Channel 3
14	GND
15	Preview Channel 4

See <u>Camera Tally</u> for instructions on how you can assign cameras to different tally channels.



Power Switch

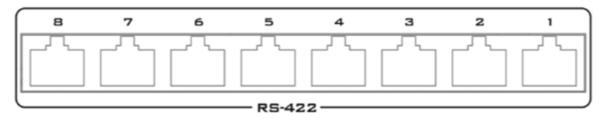
Power switch ON/OFF



DC IN

DC in socket connects the supplied 12V PSU. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.

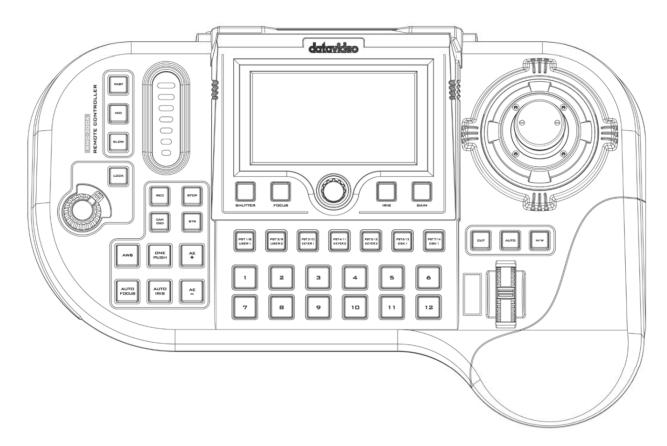
8 Serial Communication Ports



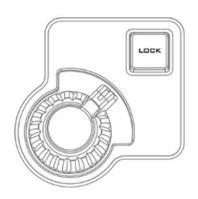
On rear panel of the RMC-300A, there are 8 RJ-45 communication ports designed for establishing direction connection with PTZ cameras. The communication protocol used here is RS-422, allowing you to connect the controller to RS-422 ports of PTZ cameras (example: PTC-150) using any RJ-45 cables. See <u>RS-422</u> section for setup details.

Note: Before establishing connections with cameras, first make sure that they are already set to RS-422 connection mode.

2.2 Operation Panel



Camera Control



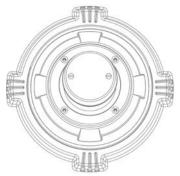
VR Knob – Zoom

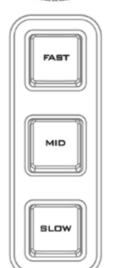
ZOOM – Twist the joystick clockwise (to the right) or anticlockwise (to the left) to zoom in or out the selected PTZ camera.

Note: Make sure the **LOCK** button is not enabled. If the **LOCK** button LED is ON, the joystick is locked; press the **LOCK** button to unlock the joystick.

LOCK Button

When enabled, the joystick will be in the lock state. To resume its functional status, simply press the button once to unlock the joystick.





Joystick - PAN / TILT

PAN – Move the joystick left or right to pan the selected PTZ camera from left to right or vice versa.

TILT – Move the joystick up or down to tilt the selected PTZ camera up or down.

PTZ Speed Selection Buttons

The speed at which the selected camera moves can be chosen by pressing one of the three speed buttons (Fast, MID and Slow).

Note: When the joystick is pushed all the way to the edges, the PTZ speed can also increase. You may select the increase style in <u>Joystick Speed Mode</u>.

Browsing the OSD menu – Use the **P/T** joystick to move between options and select.

Note: Before attempting to use the joystick to PAN or TILT a selected camera, first make sure the **LOCK** button is not enabled. If the **LOCK** button LED is ON, the joystick is locked; press the **LOCK** button to unlock the joystick.



Recorder Activation Button (REC)

Press the **REC** button to activate recording on HDR-80/90 (Currently unavailable).



Recorder Deactivation Button (STOP)

Press the **STOP** button to de-activate recording on HDR-80/90 (Currently unavailable).



CAM OSD Button

Pressing the **CAM OSD** button opens OSD menu of the selected camera, then use the **P/T joystick** to browse the OSD menu options. Moreover, please use the knob which is located below the 5" touch panel display to confirm the selected option.



STR (Memory) Button

Press the STR button to enter the RMC-300A into **STORE MODE**. When activated, this allows the current camera position to be stored in a chosen Preset Button by pressing the corresponding preset button.

Press again to exit **STORE MODE**.



White Balance

Certain light conditions can cause discoloration of your image. White balance allows you to adjust the color balance in order to produce the best image quality.

Automatic White Balance (AWB)

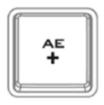
Press this button to activate the AWB mode of currently selected camera. When this button is shown in red, press it once and then it will be shown in white to turn to the "Manual White Balance" function. You can tap on the corresponding camera icon from the screen and then press the "MWB Pro" button to adjust the R/B Gain value by the slider. After the adjustment is done, please press the "OK" button.



One Push White Balance

The One Push White Balance mode is a fixed white balance mode that is automatically adjusted at the user's request (button push). The One Push White Balance data is lost when the power is turned off, in other words, turning off the machine power resets the One Push White Balance setting.

The One Push White Balance mode can also be used for white balance calibration. Zoom in the camera lens on a white piece of paper which basically serves as a reference for what is white, then press the PUSH AUTO button to balance other colors accordingly.



AE+ Button

Press AE+ button to enable automatic exposure mode. The selected camera will automatically increase exposure by adjusting shutter and iris according to the subject's brightness.



AE- Button

Press AE- button to enable automatic exposure mode. The selected camera will automatically decrease exposure by adjusting shutter and iris according to the subject's brightness.

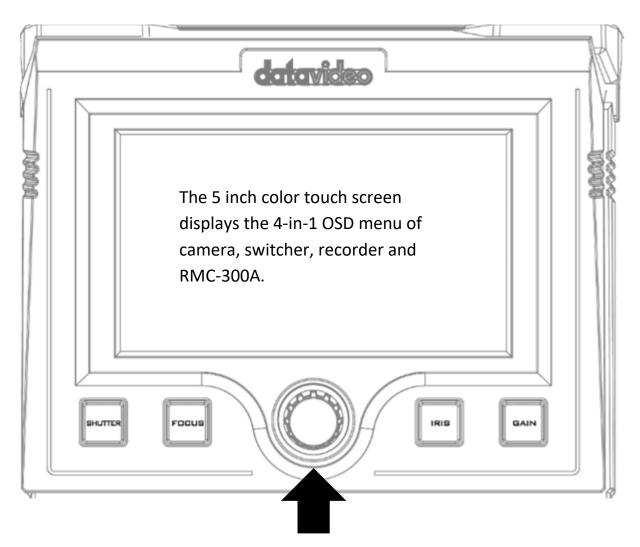
AUTO FOCUS Button

Press the **AUTO FOCUS** button to enable auto focus adjustment of the selected camera.



AUTO IRIS Button

Press the **AUTO IRIS** button to enable auto iris adjustment of the selected camera.



The knob allows the user to manually adjust the camera's shutter speed, focus, iris and gain.



SHUTTER Button

Press to enable manual adjustment of the shutter speed.



IRIS Button

Press to enable manual adjustment of the lens iris.

Note: Make sure the AUTO IRIS button is deactivated.



FOCUS Button

Press to enable manual adjustment of the focus.

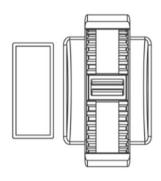
Note: Make sure the AUTO FOCUS button is deactivated.



GAIN Button

Press to enable manual adjustment of the gain or brightness.

Switcher Control



Transition Scroll Wheel

The wheel triggers transition of **PVW** and **PGM** views (currently not available).



CUT Button

Pressing the **Cut** button performs immediate manual switch between PVW and PGM views without the transition effect (Currently unavailable).



MIX/WIPE Button

Pressing the **M/W** button selects either **MIX** or **WIPE** transition effect which can be activated by either moving the **transition scroll wheel** or pressing the **AUTO** button (Currently unavailable).



AUTO Button

Pressing the **Auto** button automatically transitions **PVW** and **PGM** views according to the selected transition effect (Currently unavailable).

Camera Preset / Switcher Multi-Functional Composite Keys















The above composite keys allow you to save and recall PTZ settings in/from camera presets or activate the corresponding switcher functions as labelled. In this section, the Camera Preset buttons (PST 1/8 – PST 7/14) will be referred to as the **PST button**, the User Memory buttons (USER 1 and USER 2) for accessing the switcher's system settings will be referred to as the **USER button**, the Keyer function buttons (KEYER 1 – KEYER 3) for accessing the switcher's keyer settings will be referred to as the **KEYER button**, and the DSK function buttons (DSK 1 and DSK 2) for accessing the switcher's DSK settings will be referred to as the **DSK button**.

Follow the steps below to save and recall PTZ settings to/from presets:

- 1. Pan, tilt and zoom your camera.
- 2. On the 5" touchscreen, tap the "Preset" button $\frac{Preset}{Preset}$ to activate Presets 1 7 or tap the "Preset Shift" button $\frac{Preset}{Preset}$ to activate Presets 8 14.

Note: Camera preset composite keys should illuminate purple if "Preset" key is pressed, and cyan if "Preset shift" key is pressed.

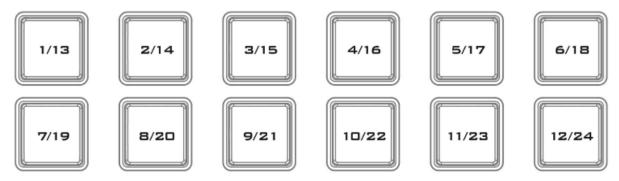
- 3. On the physical control panel, press the **STR** button which should illuminate red after that.
- 4. Now, on the physical control panel, press the **PST** button to which the PTZ settings should be assigned.
- 5. After the save is complete, the **STR** button should illuminate white and the selected **PST** button should illuminate red.
- 6. To **RECALL** a preset, first select a camera by pressing a **Camera Selection Composite Key** (see the next section), then press the corresponding **PST** button to pan, tilt and zoom the camera to the saved PTZ position.

The USER buttons allow access to the switcher's system settings (currently unavailable).

The KEYER buttons allow access to the switcher's Keyer settings (currently unavailable).

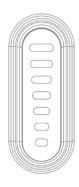
The DSK buttons allow access to the switcher's DSK settings (currently unavailable).

Camera Selection Composite Keys 1/13 – 12/24



Each Camera Selection Composite Key allows you to select up to two camera numbers as labelled. To switch between cameras 1-12 and cameras 13-24, simply press the "*Camera Shift*" button Camera Shift on the touch screen.

Keyboard Brightness Control



Keyboard Brightness Slider

The LED style slider adjusts the keyboard brightness (currently unavailable).

3. OSD MENU

This chapter provides descriptions of various functions in the OSD menu.

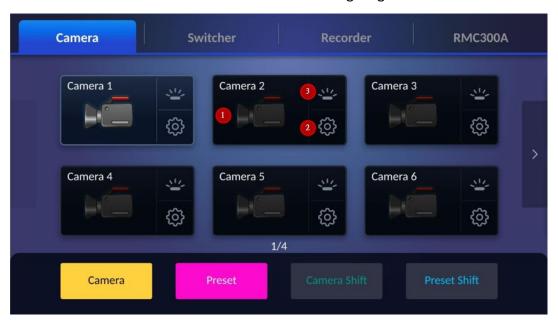


Locate and turn on the device's power switch at the rear panel, after which the 5 inch color touch screen should display the 4-in-1 OSD menu of camera, switcher, recorder and RMC-300A.

Note: The Switcher and Recorder functions are currently unavailable.

3.1 Camera

The "Camera" control interface allows you to control up to 24 connected cameras. Moreover, it allows you to set serial port parameters or network related parameters. Furthermore, it also allows you to control the No.1 to No. 12 cameras by pressing the "Camera" button and to control the No. 13 to No. 24 cameras by pressing the "Camera Shift" button. Press the "Preset" + "SRT" + "PST1 to PST7" buttons allow you to set No.1 to No.7 Presets. Moreover, press the "Preset Shift" + "SRT" + "PST8 to PST14" buttons allow you to set No.8 to No.14 Presets. The Gear icon allows you to set "Serial Port" or "Network" related parameters depending on whether the "Serial Ports" ON/OFF switch is turned on or not. The "Camera" interface is shown in the following diagram.



1	Camera Settings	Please press the camera icon to set the camera related
		parameters.
2	Network	Please press this gear icon to set the "Serial Port" or
		"Network" related parameters.
3	Tally Light	This icon can show the Tally light status of the controlled
		camera. If this icon is shown in red, it means this camera is in
		PGM situation. If it is shown in green, it means that the
		camera is in PVW situation.

The bottom row of buttons is described below:

Camera Tap to enable Camera Selection Composite Keys, which should

illuminate yellow (the color of the camera button), indicating that the

keys are activated for selection of cameras 1 to 12.

Preset Tap to enable Camera Preset / Switcher Multi-Functional Composite

Keys, which should illuminate **purple (the color of the Preset button)**, indicating that the keys are activated for selection of presets 1 to 7.

Camera Shift Tap to switch the color of *Camera Selection Composite Keys*, to dark

green (the color of the Camera Shift button), indicating that the keys

are activated for selection of cameras 13 to 24.

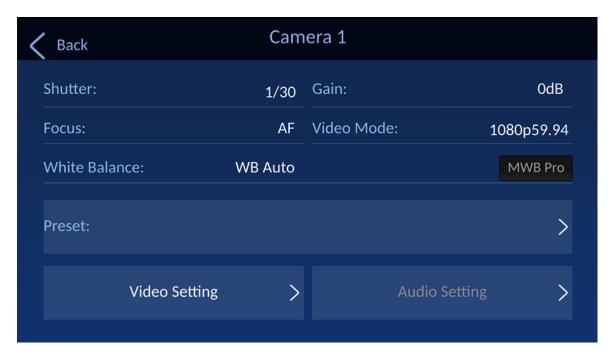
Preset Shift Tap to enable Camera Preset / Switcher Multi-Functional Composite

Keys, which should illuminate **light blue** (the color of the Preset Shift button), indicating that the keys are activated for selection of presets 8

to 14.

3.1.1 Camera Settings (Camera icon)

Tap camera icon to open the camera configuration page.



The options are described below.

Shutter

Displays the camera's shutter speed such as 1/30.

Note: This field currently works for PTC-150 PTZ camera only.

Gain

Currently unavailable.

Focus

Displays the camera's focus mode such as AF, or auto focus.

Video Mode

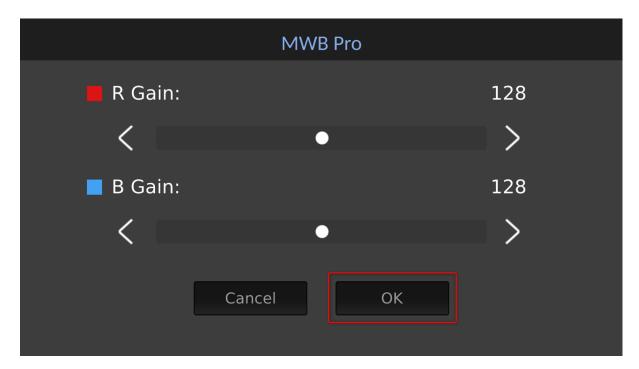
This column will display the output resolution which is set in the "Video Setting">"Video Mode".

White Balance

Displays the camera's white balance mode. Please press the "AWB" button on the RMC-300A keyboard, and then this button will be shown in red to turn on the AWB mode. At this time, press this "AWB" button once, and then it will be shown in white to turn to the "MWB" mode.

If the camera is in manual white balance mode, you may tap to open the configuration page.

MWB Pro stands for manual white balance professional, allowing the user to manually adjust white balance by dragging red and blue gain sliders on the configuration page. After the red and blue gains are adjusted, please press the "OK" button and then the adjustment is finished.



Preset

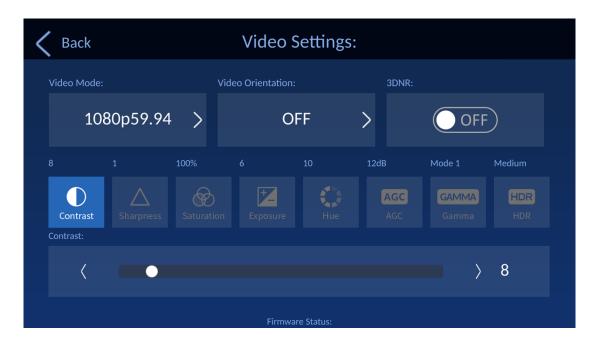
Currently unavailable.

Video Setting

Tap the video Setting to open the camera video configuration page.

Note: For the "Video Setting" option, only video mode and video orientation are allowed for configuration, the rest of setting options are not allowed for configuration.

The "Video Settings" interface is shown in the following diagram. It provides many parameters for you to adjust including "Video Mode", "Video Orientation", "3DNR ON/OFF", "Contrast", "Sharpness", "Saturation", "Exposure", "Hue", "AGC", "Gamma" and "HDR". For the "Video Settings" interface, you can configure "Video Mode" and "Video Orientation" functions currently, for other options, they are not allowed to be configured.



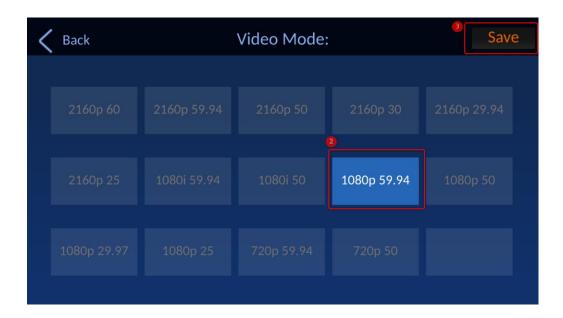
Video Mode

The "Video Mode" option allows you to adjust the output resolution of the camera by using the RMC-300A directly. Please follow the following steps for adjusting the output resolution (currently unavailable).

- 1. At first, please press the "Video Mode" button.
- 2. You will see the "Video Mode" interface which is shown in the following diagram. Please press your desired output resolution. We take "1080p59.94" as an example in this section.

1080p59.94

3. Please press the "Save" button and then the "Video Mode" is set successfully.



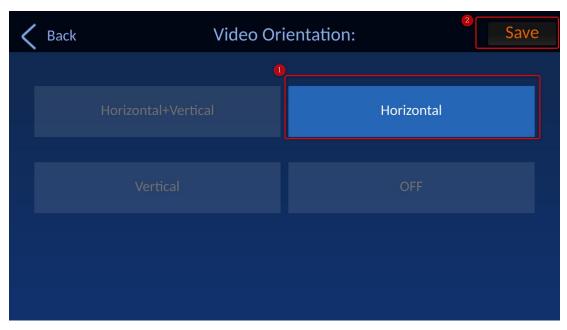
Video Orientation

This option allows you to set your desired video orientation direction. There are 4 video orientation ways for you to select including "Horizontal+ Vertical", "Horizontal", "Vertical" and "OFF". Please follow following steps for setting the video orientation direction.

- 1. At first, please press the "Video Orientation" button.
- 2. You will see the "Video Orientation" interface which is shown in the following diagram.



3. Please press your desired video orientation direction. We will take "Horizontal" as an example.



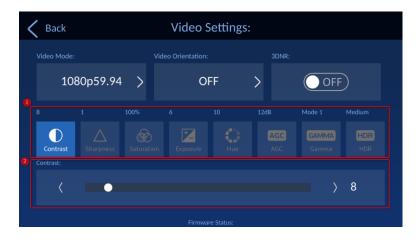
4. Please press the "Save" button to finish the "Video Orientation" setting.

Other Video Settings (Currently unavailable)

3DNR	This allows you to turn on or turn off the 3DNR function.
Contrast/	Those icons allow you to adjust each parameter
Sharpness/Saturation/	respectively.
Exposure/ Hue/ AGC /	
Gamma/ HDR	

Please see following steps for adjusting the above-mentioned parameters.

- 1. At first, please press the parameter icon that you want to adjust.
- 2. Please use the slider which is located below the icon to adjust to your desired value and then this parameter is set successfully.



Audio Setting

Currently unavailable.

3.1.2 Serial Ports Parameters (Gear Icon)(For Serial Port Config)

Tap the gear icon on the "Camera" page to open the serial port configuration page.

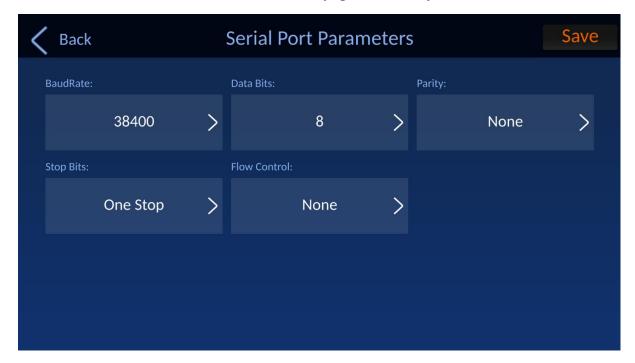


Descriptions of the displayed options are outlined below.

If the "Serial Ports" option in the RMC-300A "System" option is turned "ON"

and the gear icon is pressed, you will enter the "Serial Port Parameters" interface. There are several options including "BaudRate", "Data Bits", "Parity", "Stop Bits" and "Flow Control" in the "Serial Port Parameters" interface for you to set serial port related parameters. When all of the parameters are set, please press the "Save" button for saving the selected settings. The "Serial Port Parameters" interface is shown in the following diagram.

Please note that the "Serial Port Parameters" page is currently unavailable.



Baud Rate: Available rates are listed as follows.

- 9600
- 19200
- 38400
- 57600
- 115200

Data Bits: You can choose either 5, 6, 7, or 8 bits but the most frequently used data bit is 8 bits.

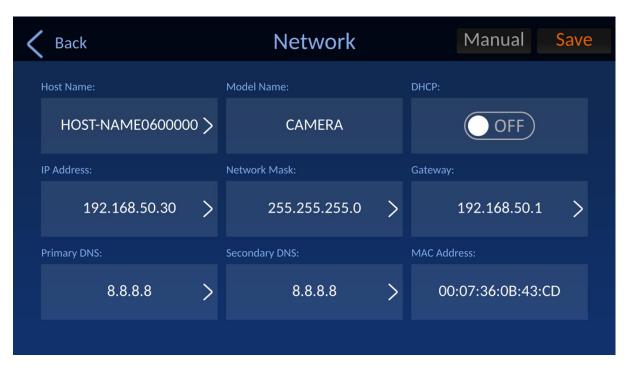
Parity: There are three options including "Even", "Odd" and "None".

Stop Bits: There are two options including "One Stop" and "Two Stop" for you to select.

Flow Control: There are three options including "Hard", "Soft" and "None".

• If the "Serial Ports" option within in the RMC-300A "System" option is set to "OFF"

pressed. This interface allows you to set the "Network" related parameters for the connected cameras. There are several options including "Host Name", "Model Name", "DHCP ON/OFF Switch", "IP Address", "Network Mask", "Gateway", "Primary DNS" and "Secondary DNS" for you to set the "Network" related parameters. The "Network" interface is shown in the following diagram.



Host Name: When your camera is connected to the RMC-300A by a router through the DVIP protocol, the host name of the camera which is detected by the RMC-300A will be shown in this option. Please follow the following steps for changing the "Host Name".

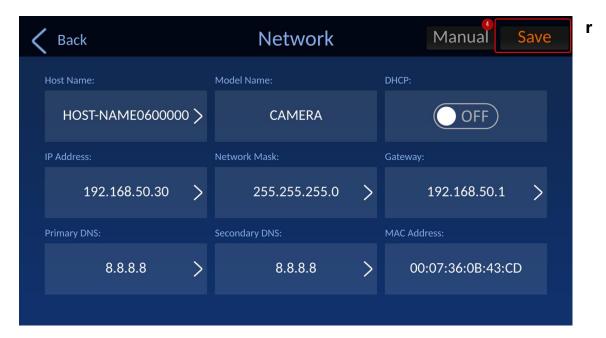
1. Please press the "Host Name" option.



2. Please press "X" to delete the original "Host Name" and then please use the keypad to enter your desired "Host Name". After that, please press the "OK" button.



3. Please go back to the "Network" interface and then press the "Save" button for changing the "Host Name" successfully.

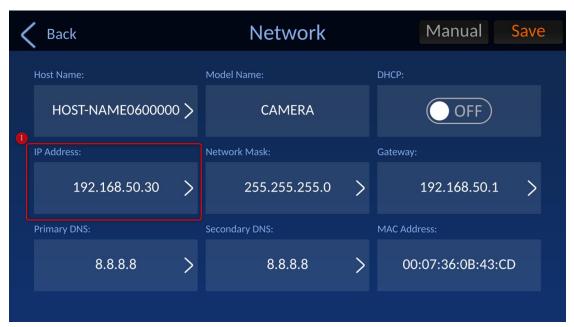


Host Name: The "Host Name" of the connected camera will be shown in this option.

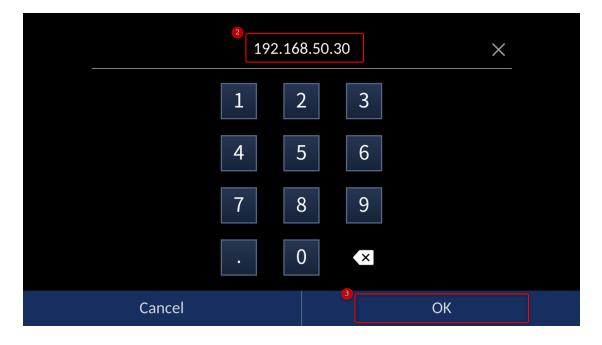
DHCP ON/OFF: This option allows you to determine whether you want to use the DHCP or the static IP address. Press this option once to switch between DHCP ON/DHCP OFF.

IP Address: If the "DHCP" is set to "OFF", this "IP Address" option allows you to set your desired static IP address. Please follow the following steps for setting the static IP address. Please note that the IP address here means the static IP address of the camera.

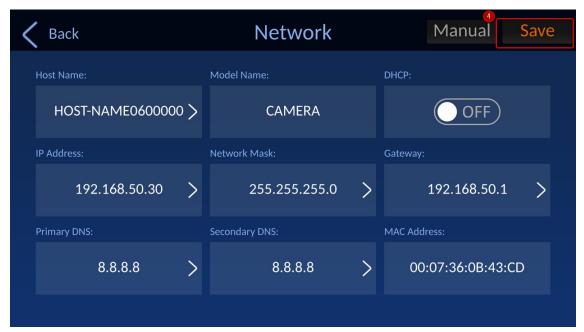
1. Please click the "IP Address" option.



2. You can use the keypad which is shown in the following diagram for entering your desired static IP address for your camera. We will take "192.168.50.30" as an example in this section. After the setting is finished, please press the "OK" button.



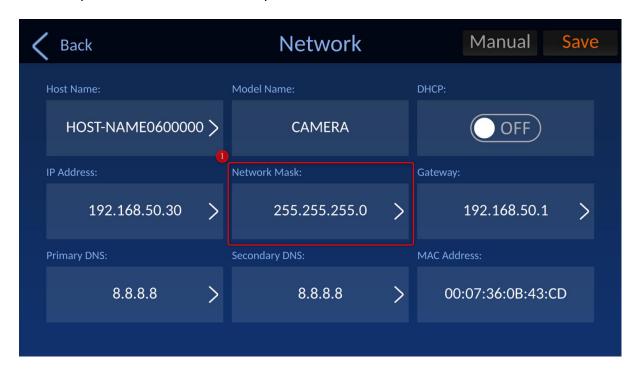
3. Please go back to the "Network" interface and then please press the "Save button". And then please reboot your camera. After that, the "IP Address" option is set successfully.



Note: If you use the static IP address for connecting the RMC-300A and your cameras, please make sure that your cameras, the RMC-300A, and the router which is used to connect to the RMC-300A and cameras are set within the same LAN.

Network Mask: This option allows you to set your desired Network Mask address. Please follow the following steps for setting the Network Mask address. The default value for the "Network Mask" option is "255.255.255.0".

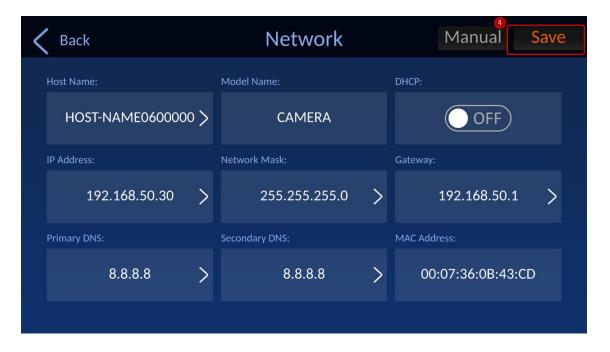
1. Please press the "Network Mask" option.



2. You can use the keypad which is shown in the following diagram for entering your desired Network Mask address for your camera. After the setting is finished, please press the "OK" button.

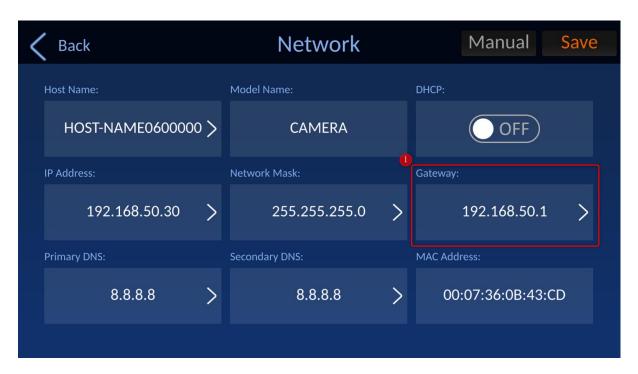


3. Please go back to the "Network" interface and then please press the "Save button". After that, the "Network Mask" option is set successfully.



Gateway: This option allows you to set your desired Gateway address. Please follow the following steps for setting the Gateway address.

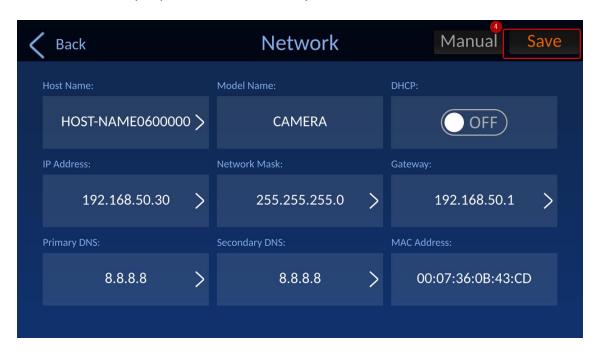
1. Please press the "Gateway" option.



2. You can use the keypad which is shown in the following diagram for entering your desired Gateway address for your camera. After the setting is finished, please press the "OK" button.

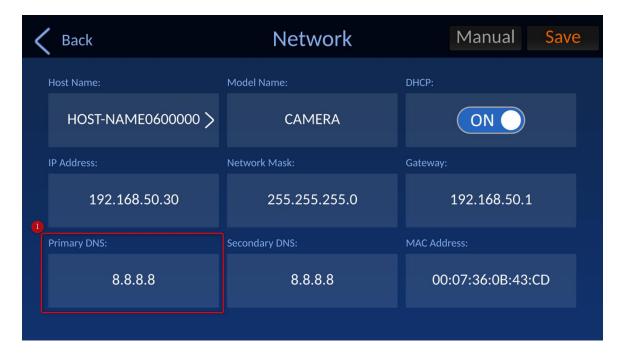


3. Please go back to the "Network" interface and then please press the "Save button". After that, the "Gateway" option is set successfully.



Primary DNS: This option allows you to set your desired Primary DNS Server. Please follow the following steps for setting the Primary DNS Server. Please follow the following steps for setting the Primary DNS Server address. We will take "8.8.8.8" as an example in this section. The default value for the "Network Mask" option is "255.255.255.0".

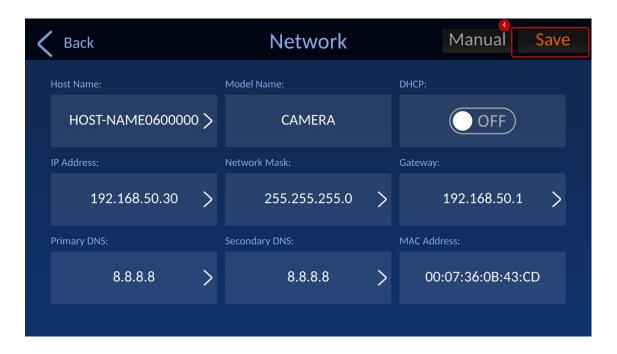
1. Please press the "Primary DNS" option.



2. You can use the keypad which is shown in the following diagram for entering your desired "Primary DNS Server". After the setting is finished, please press the "OK" button.

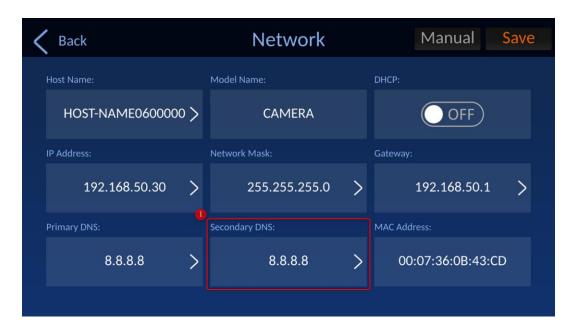


3. Please go back to the "Network" interface and then please press the "Save button". After that, the "Primary DNS" option is set successfully.



Secondary DNS: This option allows you to set your desired Secondary DNS Server. Please follow the following steps for setting the Secondary DNS Server. Please follow the following steps for setting the Secondary DNS Server address. We will take "8.8.8.8" as an example in this section.

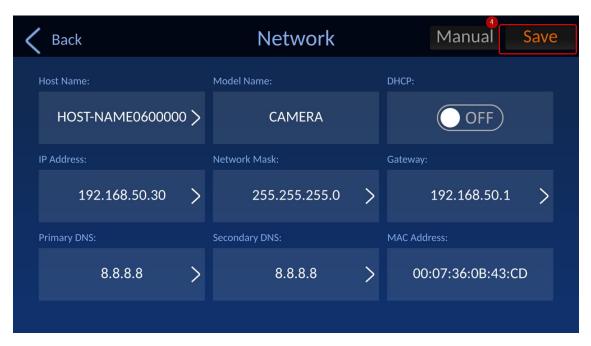
1. Please press the "Secondary DNS" option.



2. You can use the keypad which is shown in the following diagram for entering your desired "Secondary DNS Server". After the setting is finished, please press the "OK" button.



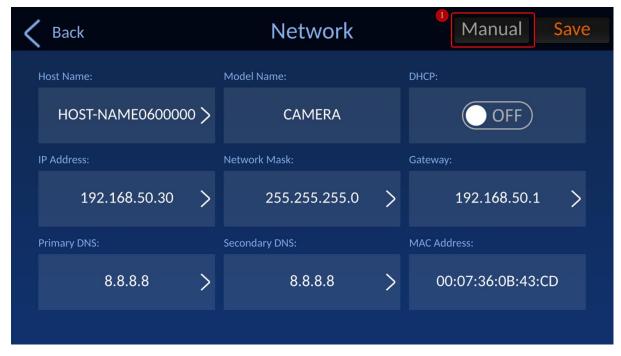
3. Please go back to the "Network" interface and then please press the "Save button". After that, the "Secondary DNS" option is set successfully.



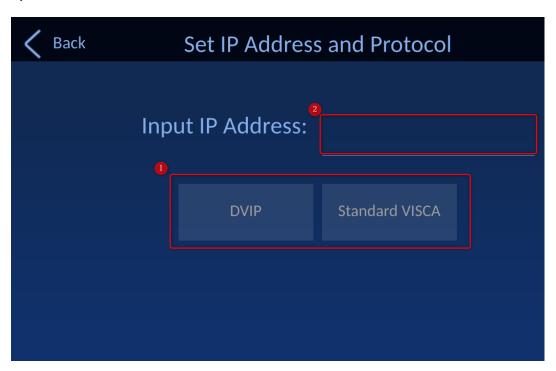
MAC: This option provides the "MAC Address" and it can not be modified.

Manual: The "Manual" button allows you to select your desired connection protocol and the static IP address for the camera manually. Please see following steps for setting the Network related parameters manually.

1. Please press the "Manual" button from the "Network interface".



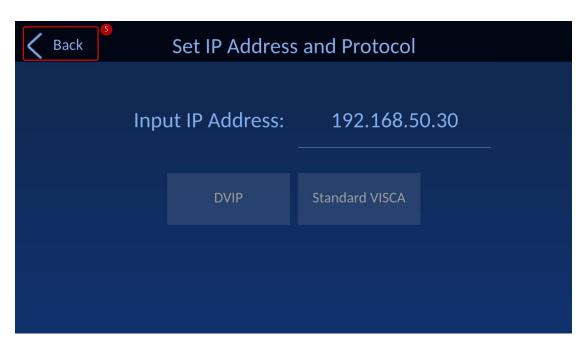
2. You can see the "Set IP Address and Protocol" interface which is shown in the following diagram. Please select your desired connection protocol from "DVIP" or "Standard VISCA (VISCA over IP)". After that, please press the blank which is next to the "Input IP Address" option.



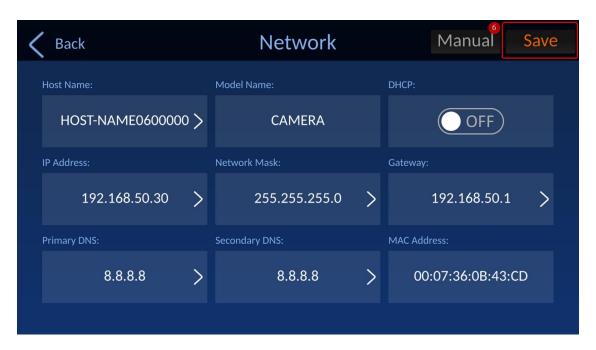
3. You can use the keypad which is shown in the following diagram for entering your desired "Static IP Address". After the setting is finished, please press the "OK" button.



4. Please press the "Back" button for returning to the "Network" interface.



5. After returning to the "Network" interface, please press the "Save" button, and then you can see that the "IP Address" is set successfully.



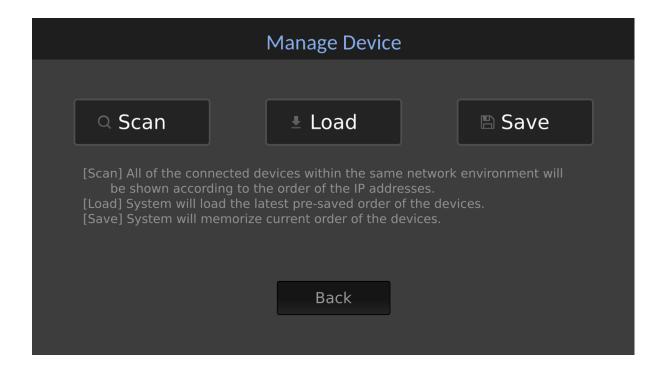
3.2 RMC-300A

The "RMC300A" tab provides two options including "Manage Device" and "System". The "Manage Device" option allows you to search for current connected device within the same LAN, to load pre-saved order for the connected devices and to save the order for the currently connected devices. The "System" option provides you several RMC-300A system related parameters including "Language", "Serial Ports", "Network Setting", "Camera Tally", "Joystick Speed Mode", "Auto DVIP Scan" and "Screen Saver". You can see that "Manage Device" and "System" options are shown on the bottom of the screen. The main interface of the "RMC-300A" option is shown in the following diagram.



3.2.1 Manage Device

Please press the "Manage Device" option to enter the "Manage Device" interface, and then you will see that there are three keys including "Scan", "Load" and "Save". The main interface of the "Manage Device" option is shown in the following diagram.



Scan: After the "**Scan**" button is clicked, you will see a progress bar indicating the status of the scan. Once the scan is complete, all of the connected devices within the same network environment will be shown according to the order of the IP addresses.



Load: System will load the latest pre-saved order of the devices. After the Load button is clicked, you will see a progress bar indicating the status of the load.

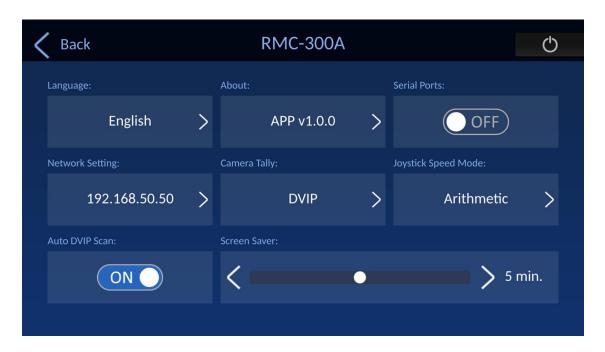


Save: The RMC-300A will memorize current order of the devices.

Back: After the "Back" button is pressed, it will go back to the main interface of the "RMC-300A" option.

3.2.2 System

Please press the "System" option for entering the main interface of the "RMC-300A" option. The "System" option allows you to set the related parameters for the RMC-300 main unit. The main interface of the "System" option is shown in the following diagram.



Language

The "Language" option allows you to select English, Traditional Chinese or the Simplified Chinese to be the display language. Please press your desired language and then please press the "Save" button for setting the language. The main interface of the "Language" option is shown in the following diagram.



About

The "About" option shows current installed App version. When the "About" button is pressed for entering the "About" interface, it will show the current installed App and MCU versions. Moreover, it also provides the "Upgrade" button for you to update the latest firmware. For the detailed way for updating the firmware, please refer to the firmware update related chapter. After the "Back" button is pressed, you can go back to the main interface of the "RMC-300A" option. The main interface for the "About" option is shown in the following diagram.



Serial Ports

The "Serial Ports" option is a serial port ON/OFF toggle switch determine whether you want to use the serial port or the DVIP protocol to connect to your cameras. If the "Serial Ports" option is "ON", you can connect the RMC-300A to up to 24 cameras by using the serial port and the DVIP protocols. The first to the eighth cameras will connect by the RS-422 protocol, the ninth to the twenty-fourth cameras will connect by the DVIP protocol. If the "Serial Ports" option is "OFF", you can connect to up to 24 cameras by using the DVIP protocol only. The numbering rule is that the smaller the fourth code of the IP address, the higher the order. Press this toggle switch once to switch between the ON and OFF.

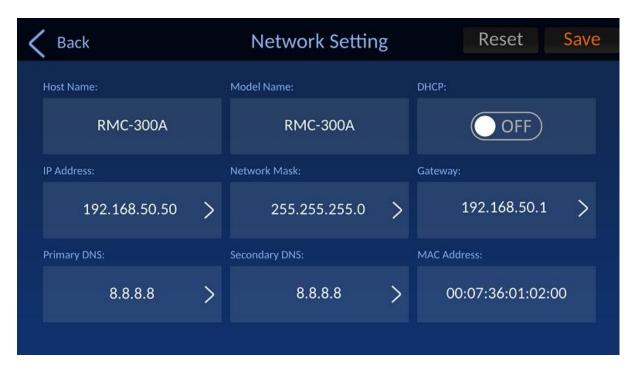
If the "Serial Ports" option is turned ON: Cameras 1 – 8 are reserved for RS-422 connections.

Note: Cameras connected via DVIP while the serial port is enabled will be numbered from 9-24 as cameras connected to the serial ports take the priority over numbers from 1-8.

If the "Serial Ports" option is turned OFF: Cameras 1 – 24 are reserved for DVIP connection.

Network Setting

The "Network Setting" option allows you to set several network related parameters for the RMC-300A main unit including "DHCP", "IP Address", "Network Mask", "Gateway", "Primary DNS" and "Secondary DNS". Moreover, it also provides "MAC Address" for you. The main interface of the "Network Setting" option is shown in the following diagram.



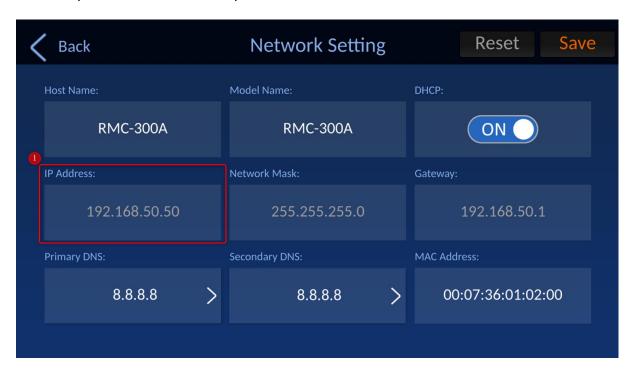
Host Name: The "Host Name" is RMC-300A.

Model Name: The "Model Name" is RMC-300A.

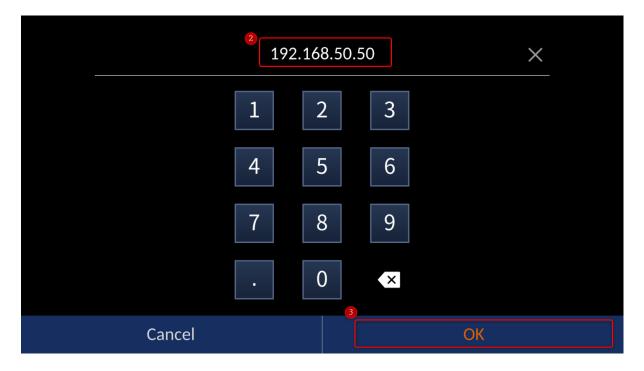
DHCP: This option is the "DHCP" ON/OFF toggle switch. If the "DHCP" is turned "ON", the RMC-300A will adopt the network-related parameters that are distributed by the connected router directly. If the "DHCP" is turned "OFF", you have to set network-related parameters manually by using the "Network Setting" interface.

IP Address: If the "DHCP" is turned "OFF", this "IP Address" option allows you to set the static IP address of the RMC-300A manually. Please follow the following steps for setting the static IP address of the RMC-300A. Please note that the IP address here means the static IP address of the RMC-300A.

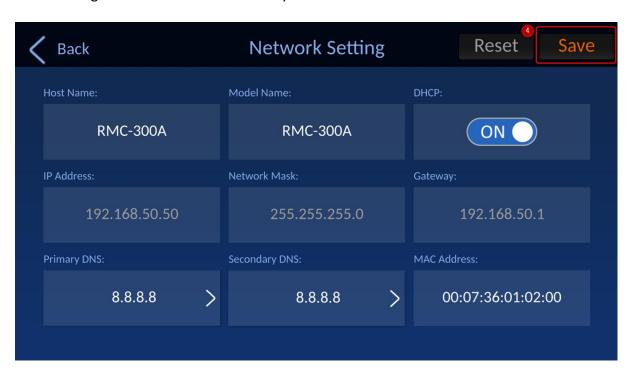
1. Please press the "IP Address" option.



2. You can use the keypad which is shown in the following diagram to enter your desired static IP address for the RMC-300A. Take "192.168.50.50" as an example. After the IP address is entered, please press the "OK" button.

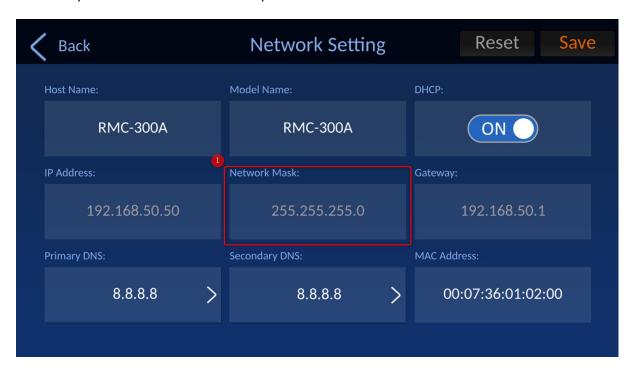


3. Please return to the "Network Setting" interface and then please press the "Save" button for setting the "IP Address" successfully.



Network Mask: This option allows you to set your desired "Network Mask" Address. Please follow the following steps for setting the "Network Mask" Address. The default value of the "Network Mask" option is "255.255.255.0".

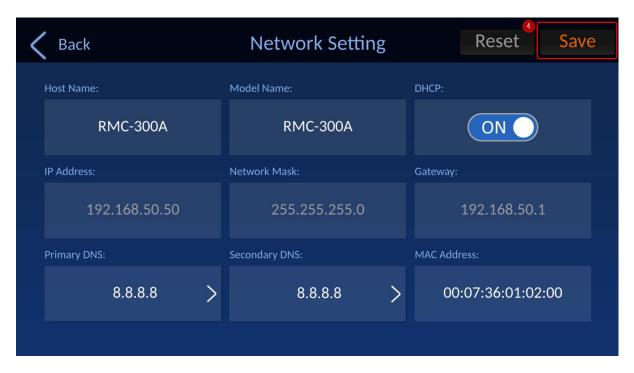
1. Please press the "Network Mask" option.



2. You can use the keypad which is shown in the following diagram to enter your desired "Network Mask" address. Take "192.168.50.50" as an example. After the IP address is entered, please press the "OK" button.

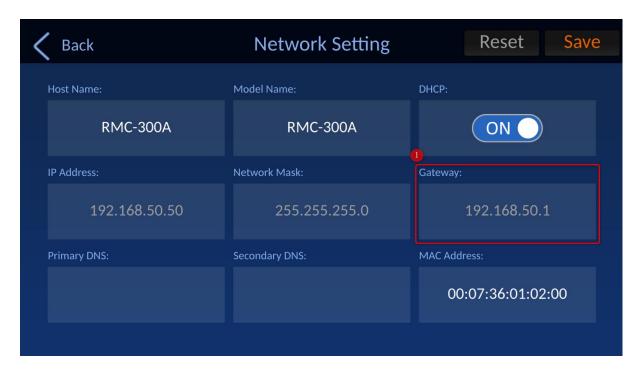


3. Please return to the "Network Setting" interface and then please press the "Save" button for setting the "Network Mask" successfully.



Gateway: This option allows you to set your desired Gateway address. Please follow the following steps for setting the Gateway address.

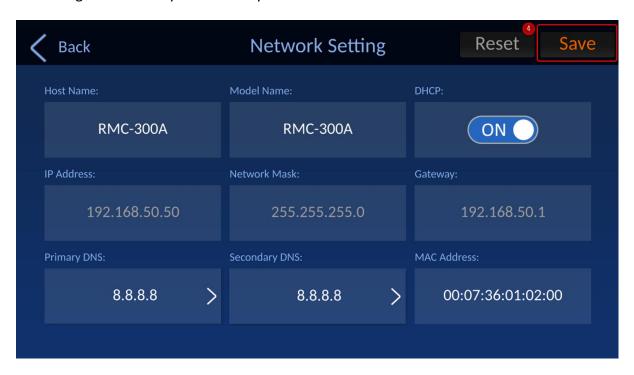
1. Please press the "Gateway" option.



2. You can use the keypad which is shown in the following diagram to enter your desired "Gateway". After the Gateway is entered, please press the "OK" button.



3. Please return to the "Network Setting" interface and then please press the "Save" button for setting the "Gateway" successfully.



Primary DNS: This option allows you to set your desired "Primary DNS". Please follow the following steps for setting the "Primary DNS". We will take "8.8.8.8" as an example in this section.

1. Please press the "Primary DNS" option.



2. You can use the keypad which is shown in the following diagram to enter your desired "Primary DNS". After the "Primary DNS" is entered, please press the "OK" button.



3. Please return to the "Network Setting" interface and then please press the "Save" button for setting the "Primary DNS" successfully.

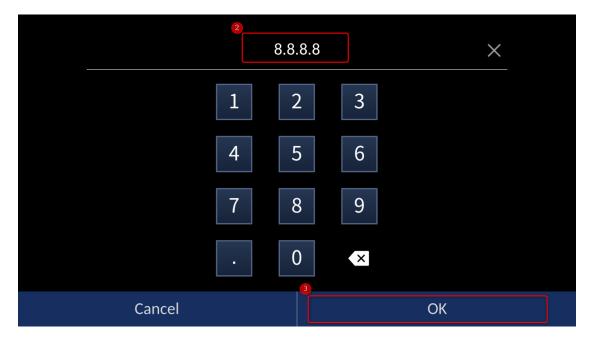


Secondary DNS: This option allows you to set your desired "Secondary DNS". Please follow the following steps for setting the "Secondary DNS". We will take "8.8.8.8" as an example in this section.

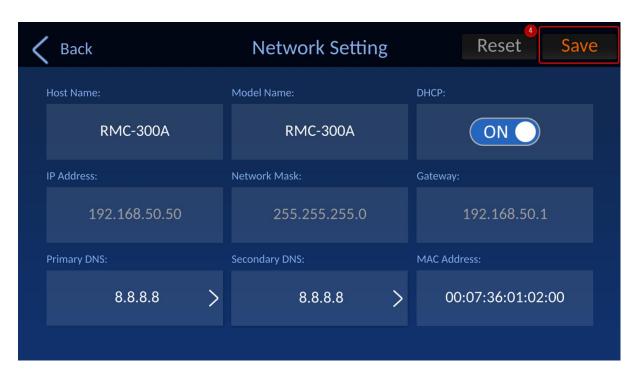
1. Please press the "Secondary DNS" option.



2. You can use the keypad which is shown in the following diagram to enter your desired "Secondary DNS". After the "Secondary DNS" is entered, please press the "OK" button.



3. Please return to the "Network Setting" interface and then please press the "Save" button for setting the "Secondary DNS" successfully.



MAC: This is the MAC Address and it can not be modified.

Reset: Please press this "Reset" button Reset to reset the network related parameters for the RMC-300A. After pressing the "Reset" button Reset to reset RMC-300A network configuration?" will be shown. Please click the "OK" button and then the "Network Setting" related parameters will be reset.

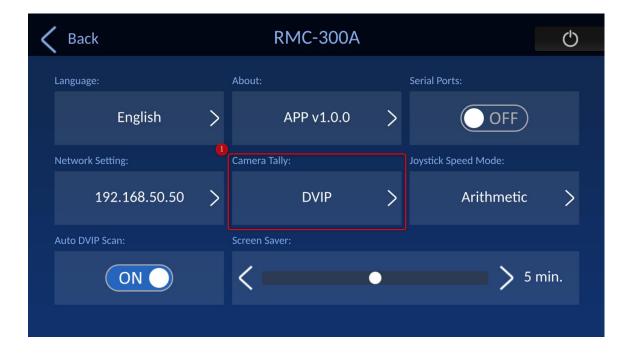
Camera Tally

The "Camera Tally" option allows you to transfer the tally signal between the RMC-300A and the connected cameras through the GPI and DVIP interfaces. If the "Camera Tally" option is turned off, this function will not be activated. The main interface of the "Camera Tally" option is shown in the following diagram.

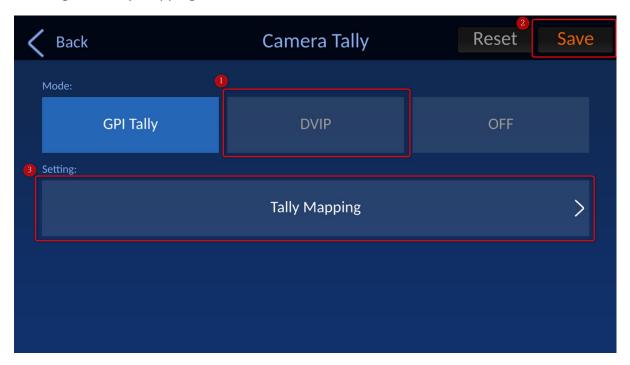


Please follow the following steps for setting the Tally Mode and for assigning different Tally Channels for your cameras.

1. At first, please click the "Camera Tally" option within the "RMC-300A" tab.



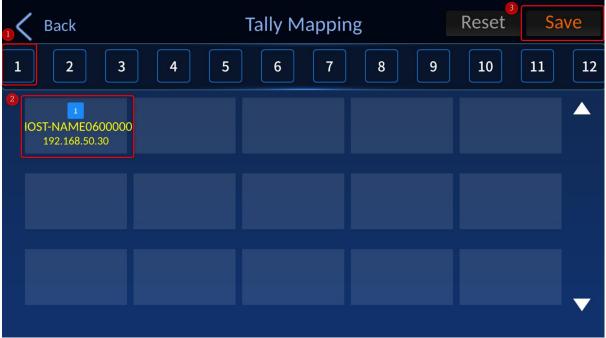
2. Please select the Tally connection mode from the GPI or the DVIP at first. After that, please press the "Save" button and then please click the "Tally Mapping" button for entering the "Tally Mapping" interface.



Please refer to the following paragraphs for the details of the GPI and DVIP connection ways.

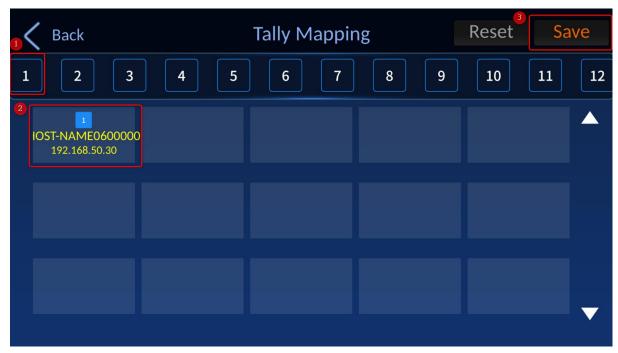
GPI

The GPI Mode allows you to select up to 4 camera tally channels. Please select a tally channel number at first. After that, please select one camera. Finally, please press the "Save" button for appointing the selected camera to the previous-selected tally channel number.



DVIP

The DVIP Mode allows you to select up to 12 camera tally channels. Please select a tally channel number at first. After that, please select one camera. Finally, please press the "Save" button for appointing the selected camera to the previous-selected tally channel number.



Joystick Speed Mode



The panning and tilting speed will increase when you push the joystick all the way to the limit. The joystick speed mode allows you to set the acceleration mode. The options are **Nonlinear**, **Arithmetic** and **Fixed**.

Nonlinear: Speed increases exponentially.

Arithmetic: Speed increases linearly.

Fixed: Speed remains constant.

Auto DVIP Scan

If this ON/OFF switch is turned "ON", the RMC-300A will search for the connected DVIP supported facilities automatically. Press this option once to switch between "ON" and "OFF".

Screen Saver

You can set the screen saver wait time for the screensaver. The allowable setting range is 0 to 10 minutes. This function allows you to set the wait time for the screensaver to open automatically. The screensaver is a black screen which will be displayed on a 5" touch panel display. Please touch any point on the touch panel display to exit the screensaver and to wake the device up.

System Shutdown Button

Please press the "System Shutdown" button which is located on the top-right side of the RMC-300A interface and then the system shutdown dialogue box will appear. Please click the "OK" button and then the RMC-300A will be powered-off immediately.



4. Device Setup

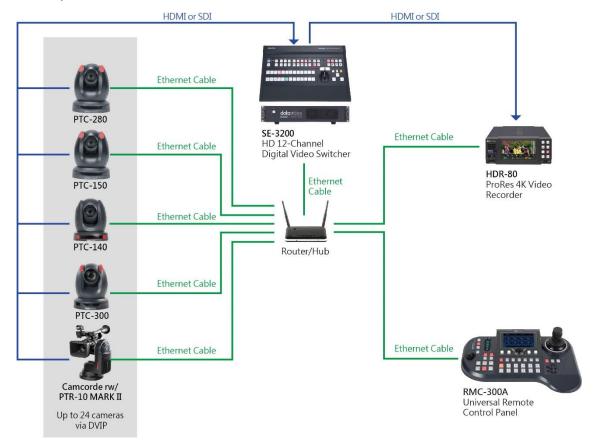
In this chapter, we will show you how you can connect the RMC-300A controller to multiple cameras via DVIP or RS-232 connection and operate cameras using your RMC-300A controller.

Please note that you will be prompted of an error message if connection to the camera fails. An example of the error prompt is shown below.



4.1 DVIP

DVIP is a communication protocol designed by Datavideo for transfer of data between **network devices.** The diagram below best illustrates the connection between RMC-300A and multiple cameras via DVIP.



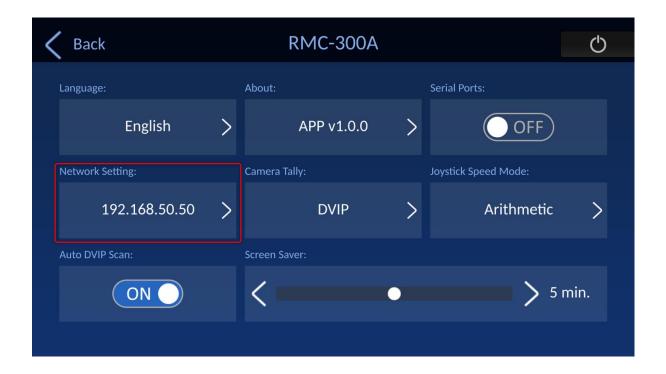
First, connect the RMC-300A and Datavideo cameras to a router via DVIP ports using Ethernet cables. If the RMC-300A and the cameras are already set to DHCP, their IP addresses will be automatically assigned by the router. If the connection mode is set to static IP, you will then need to manually configure the network settings.

Note: RMC-300A's network setting is DHCP by default.

To access or modify the RMC-300A's network settings, tap "RMC-300A" at the top right corner of the touch screen then tap "System" at the bottom right corner to open the system configuration page.

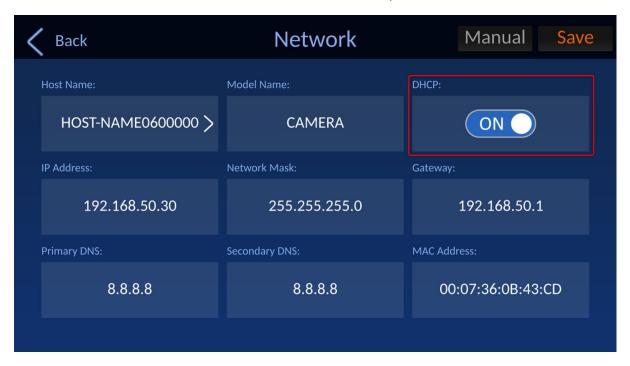


Tap "Network Setting" then select DHCP or Static IP according to your network preference.



DHCP

Enable DHCP mode if you would like your device IP address be assigned dynamically by the router. Connect the RMC-300A to the router via the DVIP port.



Static IP

To connect using Static IP, simply disable DHCP mode and manually configure the following according to your network environment:

- IP Address
- Network Mask
- Gateway
- Primary DNS
- Secondary DNS

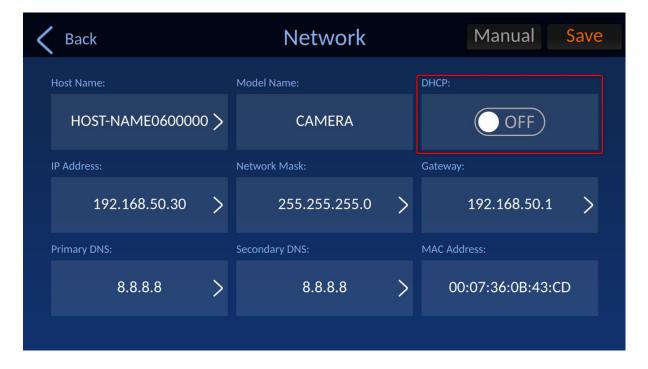
After you have configured your static IP settings, you can then connect the DVIP port of your RMC-300A to the router and the connection will be immediately established.

Note: The gateway IP should be set to the router IP; the first three octets of the IP addresses of the RMC-300A and the gateway IP should be identical.

Because Static IP involves advanced settings, please contact your IT department for further assistance.

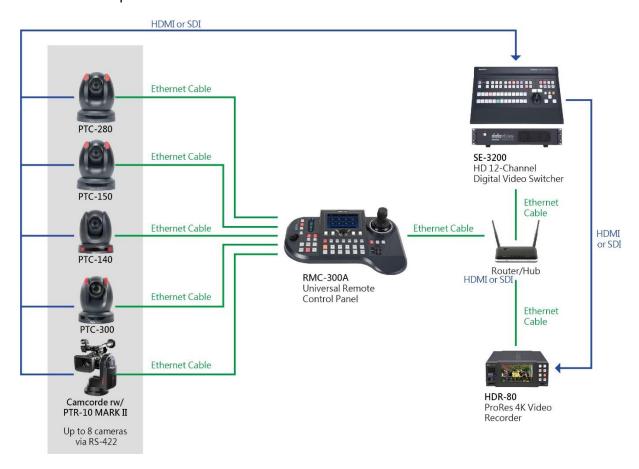
See the camera's user manual for its DVIP connection settings.

An example of the static IP settings is illustrated below:



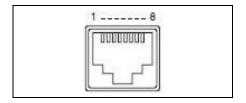
4.2 RS-422

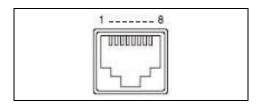
There are 8 RS-422 ports on the rear panel of RMC-300A. Each port can only connect one camera at a time. The diagram below best illustrates the connection between the RMC-300A and multiple cameras via RS-422.



You can use a custom made **RJ-45** cable to connect the RMC-300A to any Datavideo camera. Please make the connection cable according to the pinout information described below.

RMC-300A Controller			GND	PTZ Camera		
GND	1	Orange/White	GIVD	Orange/White	1	GND
NC	2	Orange		Orange	2	NC
TX-	3	Green/White		Green/White	3	RX-
RX-	4	Blue	—	Blue	4	TX-
RX+	5	Blue/White		Blue/White	5	TX+
TX+	6	Green		Green	6	RX+
NC	7	Brown/White		Brown/White	7	NC
NC	8	Brown]	Brown	8	NC





Note: If you experience difficulties in making your RS-422 connection cable, please contact your local dealer or Datavideo office for further assistance and recommendations.

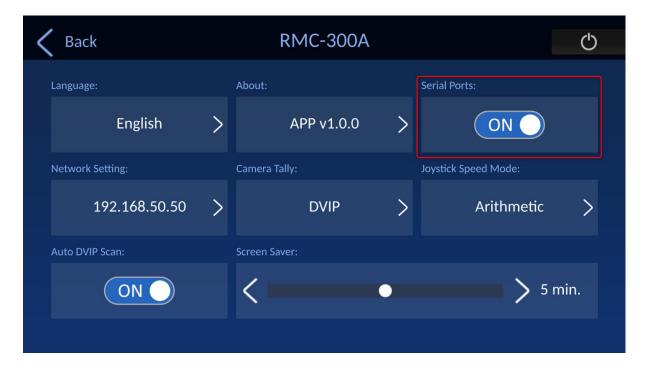
See the camera's user manual for its RS-422 connection settings.

After you've successfully established device connections, please tap "RMC-300A" on the touch screen then tap "System" to open the configuration page as shown below. Tap "Serial Ports" to enable RS-422 connection.

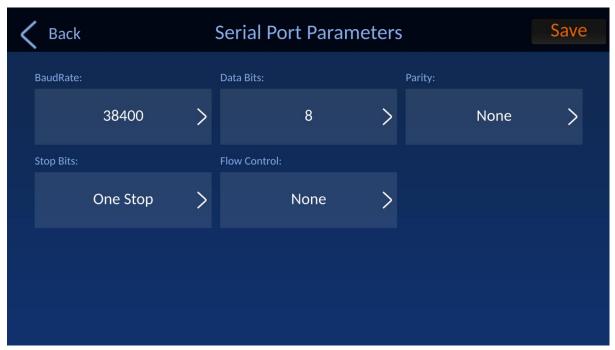
If the "Serial Ports" option is turned ON: Cameras 1 – 8 are reserved for RS-422 connections.

Note: Cameras connected via DVIP while the serial port is enabled will be numbered from 9-24 as cameras connected to the serial ports take the priority over numbers from 1-8.

If the "Serial Ports" option is turned OFF: Cameras 1 – 24 are reserved for DVIP connection.



After you've enabled the serial port, go back to the "Camera" page on the touch screen and tap the gear icon to open the Serial Port configuration page as shown below.



Note: The "Serial Port Parameters" page is currently unavailable.

Below are descriptions of various RS-422 configuration options:

Baud Rate: Available rates are listed as follows.

- 9600
- 19200
- 38400
- 57600
- 115200

Data Bits: You can choose either5, 6, 7, or 8 bits but the most frequently used data bit is 8 bits.

Parity: There are three options including "Even", "Odd" and "None".

Stop Bits: There are two options including "One Stop" and "Two Stop" for you to select.

Flow Control: There are three options including "Hard", "Soft" and "None".

5. Firmware Update

Firmware Update Procedure for RMC-300A

5.1. Introduction

Software update is performed by connecting a USB flash drive with the latest RMC-300A's firmware file to the USB 2.0 port which is located on the rear panel of the RMC-300A. This firmware update procedure applies to the following product.

Product Model	RMC-300A
Product Name	Universal Remote Control Panel

For the RMC-300A firmware, there is one zip file with the file name: **RMC-300A Firmware Update v.1.0.0.zip**

This document describes how to perform a software update on a Windows computer.

Screen images from the Windows 10 operating system are used in this document as an example. Images used in this document may differ from the actual screens. For details on Windows and computer operations, please refer to the instruction manual of your computer.

5.2. Preparation

5.2.1 System Requirements

A computer that meets the following requirements is necessary to perform the Software update procedure.

Laptop	A normal laptop is needed.
USB Flash Drive	A USB 2.0 or USB 3.0 flash drive is needed.

Operation is not guaranteed on all computers that meet the above requirements

5.2.2 Software Update Preparation

The following items are required to perform this Software update. Please prepare these items in advance before performing the update.

RMC-300Ax 1	The RMC-300A is needed for updating the firmware.	
USB 2.0 or USB 3.0 USB Flash Drive x 1	The USB flash drive for saving the firmware file and for updating the firmware.	
12V Power Adapter x 1	The 12V power adapter for the RMC-300A.	
Laptop x 1	The laptop is used to download and save the firmware of the RMC-300A.	
■ RMC-300A Firmware Update v.1.0.0.zip	The latest downloaded firmware file. ■ [RMC-300A Firmware Update v.1.0.0.zip] is the firmware file for the RMC-300A.	

5.2.3 System Connection Diagram

RMC-300A



5.2.4 Checking the Software Version

Please connect a DC12V adapter to your RMC-300A. After that, please turn on the power of the RMC-300A, and then you will see the initial screen.



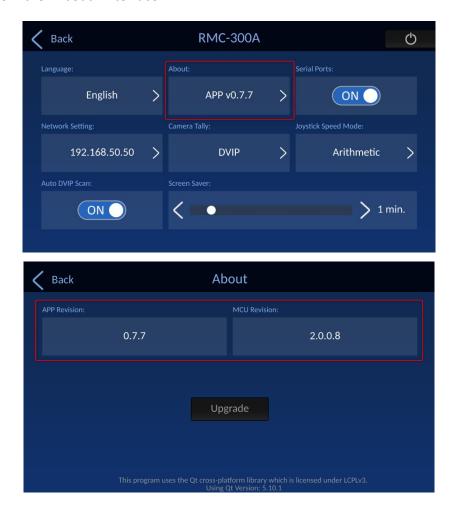
After that, you will see the control interface of the RMC-300A through the 5" touch panel display. After that, please tap the RMC-300A tab which is shown in the following diagram.



After that, please press the "System" option which is located on the bottom-right corner of RMC-300A tab interface.



After that, please tap the "About" button, and then you can see the "APP Revision" and "MCU Revision" from the "About" interface.



5.2.5 Preparing the Software

Please go to Datavideo official site's RMC-300A product page https://www.datavideo.com/product/RMC-300A to download the latest firmware file. The file name of the RMC-300A firmware is "RMC-300A Firmware Update v.1.0.0.zip". Please unzip the downloaded zip file "RMC-300A Firmware Update v.1.0.0.zip". After the firmware is unzipped, you can see the firmware file "rmc300a_fwup". Please put the unzipped firmware file "rmc300a_fwup" into a file folder which the folder name is "datavideo". Note: Please do not change the file name of the "rmc300a_fwup". Finally, please save the "datavideo" file folder and the latest firmware file into your USB thumb drive.

5.3. Update

5.3.1 Updating the Software

Please make sure that the latest downloaded RMC-300A firmware "rmc300a_fwup" is placed into a "datavideo" file folder and saved in the root directory of your USB thumb drive. After that, please insert the USB thumb drive into the USB interface which is located on the rear panel of the RMC-300A. After that, please turn on the power of the RMC-300A, and then the screen which is shown in the following diagram will be shown.



After that, you will see the main interface of the RMC-300A app which is shown in the following diagram.



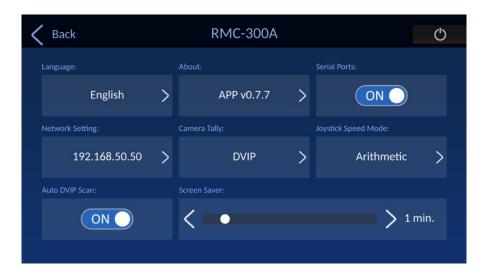
After that, please tap the "RMC-300A" tab which is shown in the following diagram.



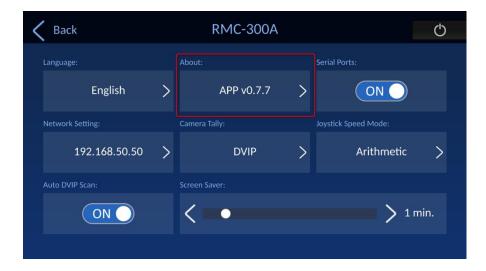
Please tap the "System" option which is located at the bottom-right corner of the "RMC-300A" page.



After pressing the "System" option, you will see the "RMC-300A" page which is shown in the following diagram.



Please tap the "About" button from the RMC-300A interface.



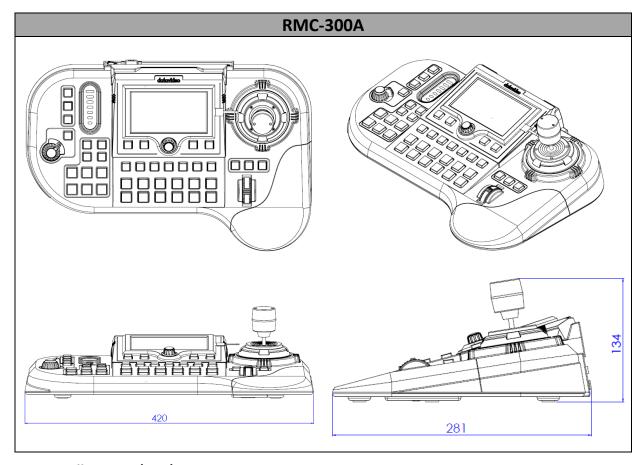
You will see current firmware version and MCU version from the "APP Revision" and "MCU Revision" columns, and then please press the "Upgrade" button.



The firmware update procedure will be started automatically, please wait until the progress bar reaches 100%. After the firmware update procedure is done, the screen which is shown in the following screen will be shown. Please press the "OK" button to reboot the RMC-300A, and then the firmware update procedure is done successfully.



6. Dimensions



Unit: Millimeters (mm)

7. Specifications

Model Name	RMC-300A	
Product Name	Universal Remote Control Panel	
Maximum Camera Control	24	
Preset (Position)	14 for each camera	
Control Protocol	DVIP, DHCP Client	
Connection to Camera	RS-422, Ethernet	
Input/Output	USB 2.0 x 2	
	10/100 Mbps Ethernet (RJ-45 connector) x 1	
	RS-422 (RJ-45 connector) x 1	
Built in Monitor	Size: 5"	
	Resolution: 1280 x 720	
Firmware Update	USB 2.0	
Dimensions	420 x 294 x 134 mm	
Weight	1.504 Kg	
Operating Temperature	0°C – 40°C (32°F – 104°F)	
Storage Temperature	-10°C – 60°C (14°F – 140°F)	
Operating Humidity	10% to 80% (non-condensing)	
Power	DC 12V, 19W	

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

Please visit our website for latest manual update.

www.datavideo.com/product/RMC-300A





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