

Kula

GV PTZ VISCA IP Camera Control

What is VISCA

Using the VISCA protocol, Kula is now able to control the GV PTZ cameras, adding the ability of remote pan/tilt/zoom operation.

Kula uses an IP VISCA protocol to communicate and control the device.

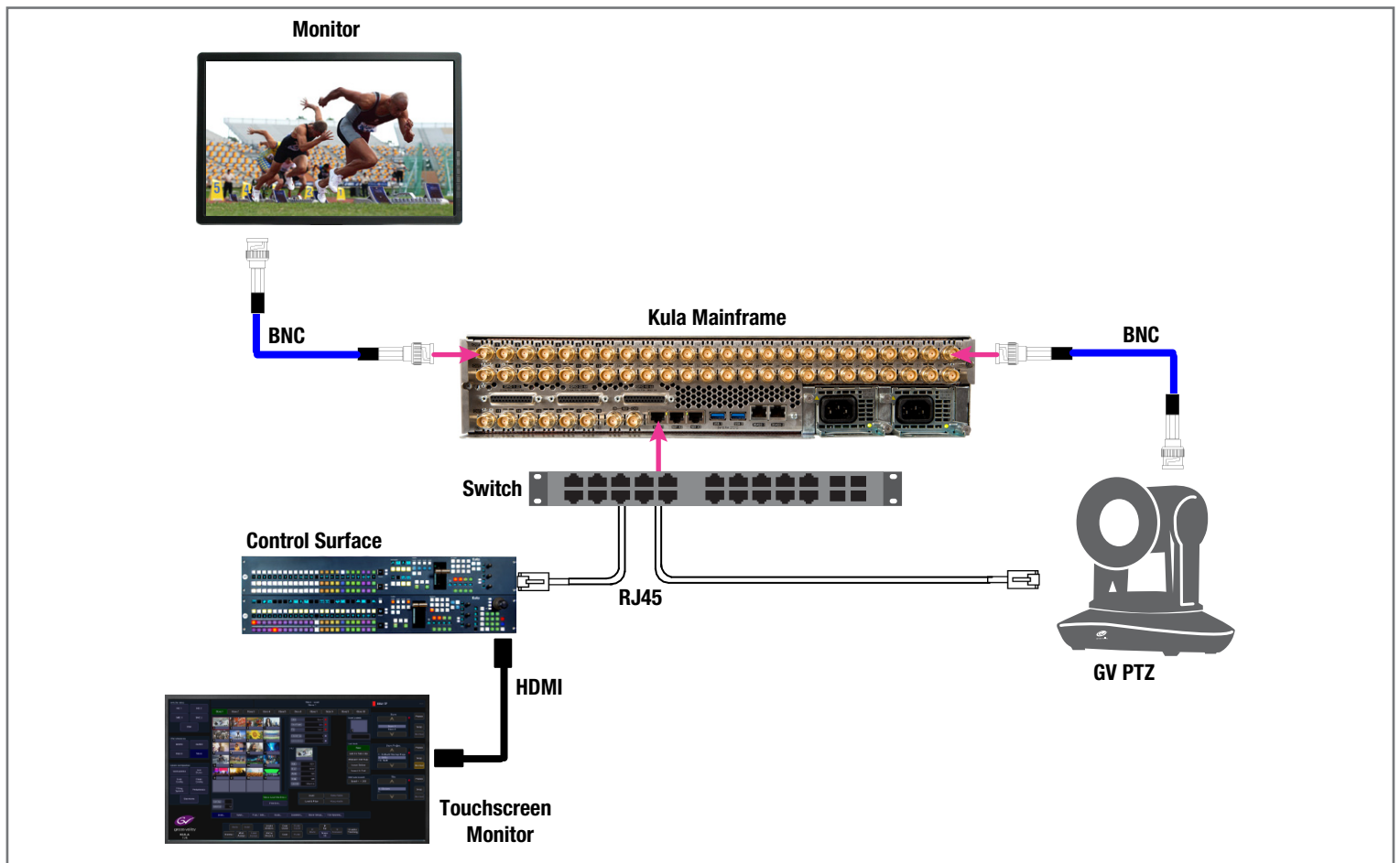
What is required

- Kula mainframe running V6.3r2 or later software
- A GV PTZ robotic camera using VISCA IP protocol

Connecting Kula to the GV PTZ camera

The diagram below displays the way Kula and the GV PTZ camera were connected.

Note: To genlock the camera signal, one of the FormatFusion engines will need to be allocated to this source.

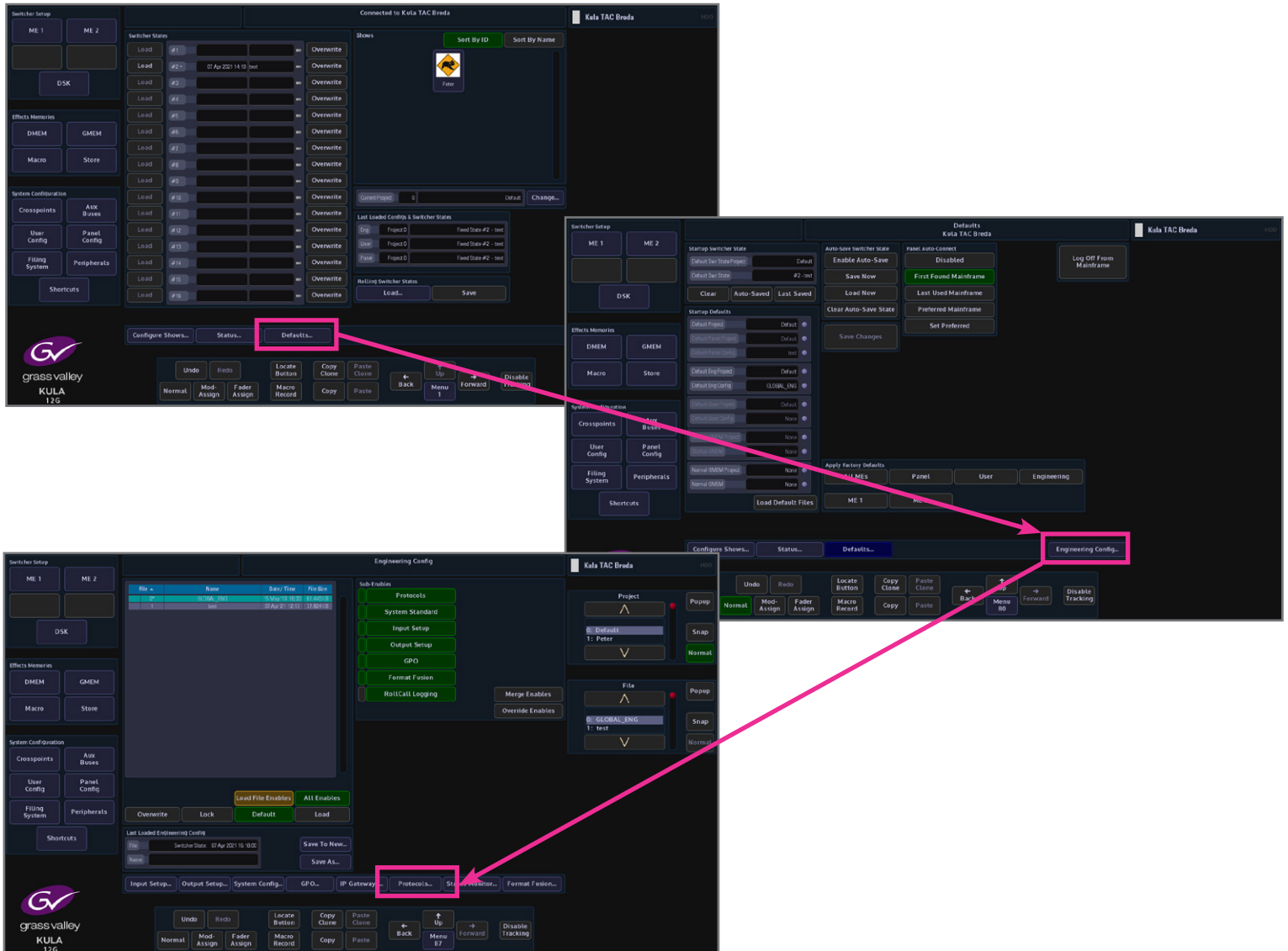


Setting up the Protocol

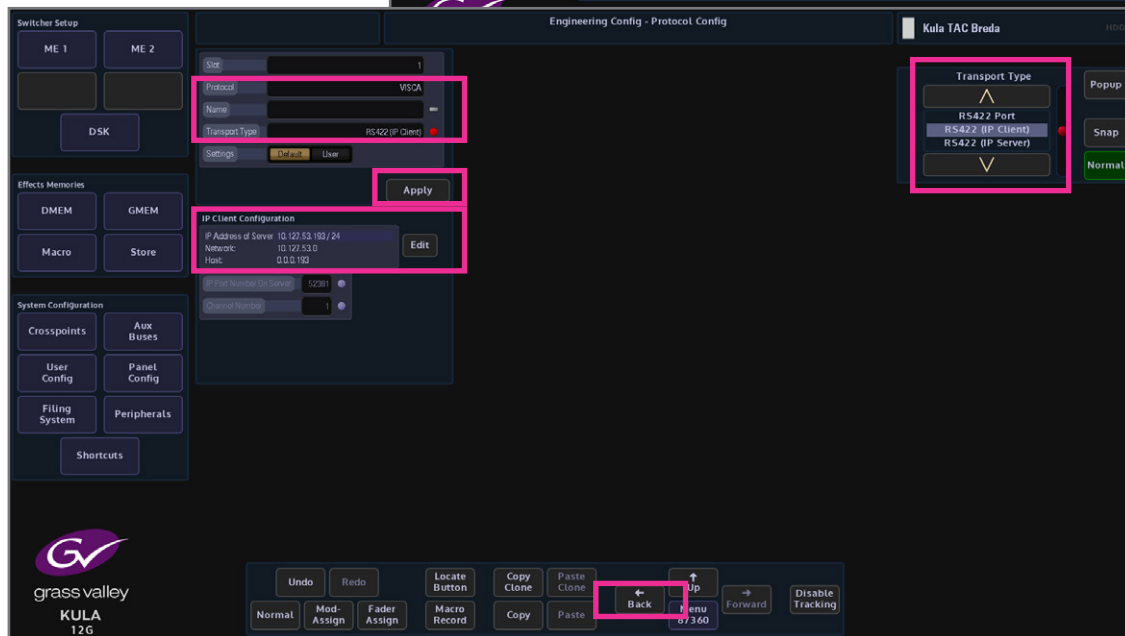
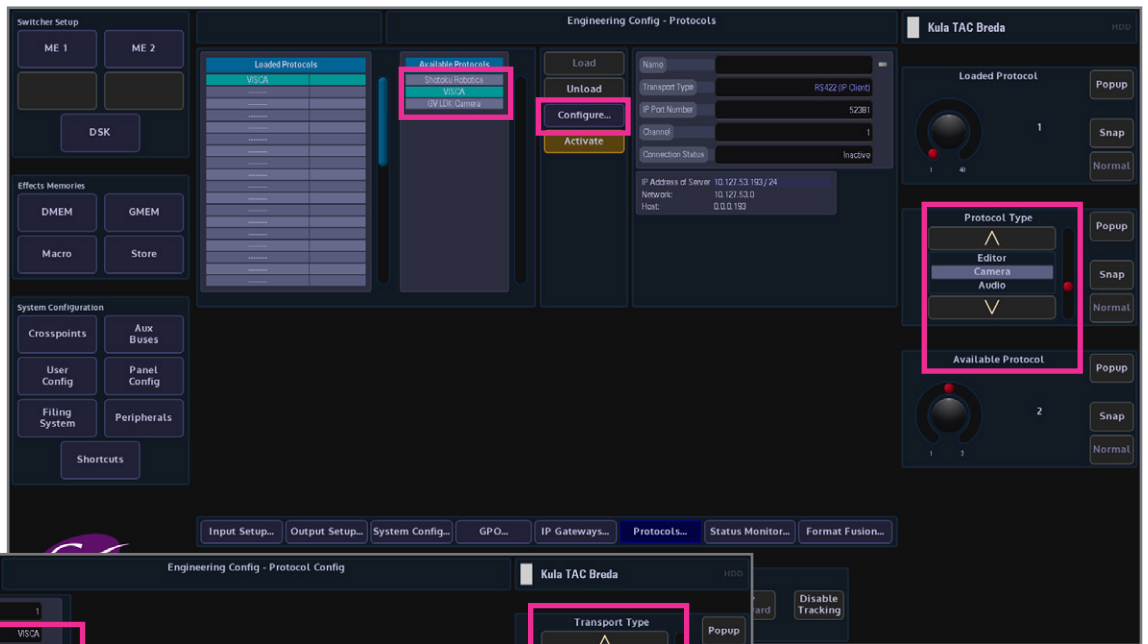
The IP GV PTZ camera and VISCA protocol on Kula need to be set up to allow the Kula mainframe to communicate with the camera.

In the “Connected to Kula Mainframe” menu, select the **[Defaults...]** menu link button, then in the Defaults menu, select the **[Engineering Config...]** menu link button.

Then select the **[Protocols...]** menu link.

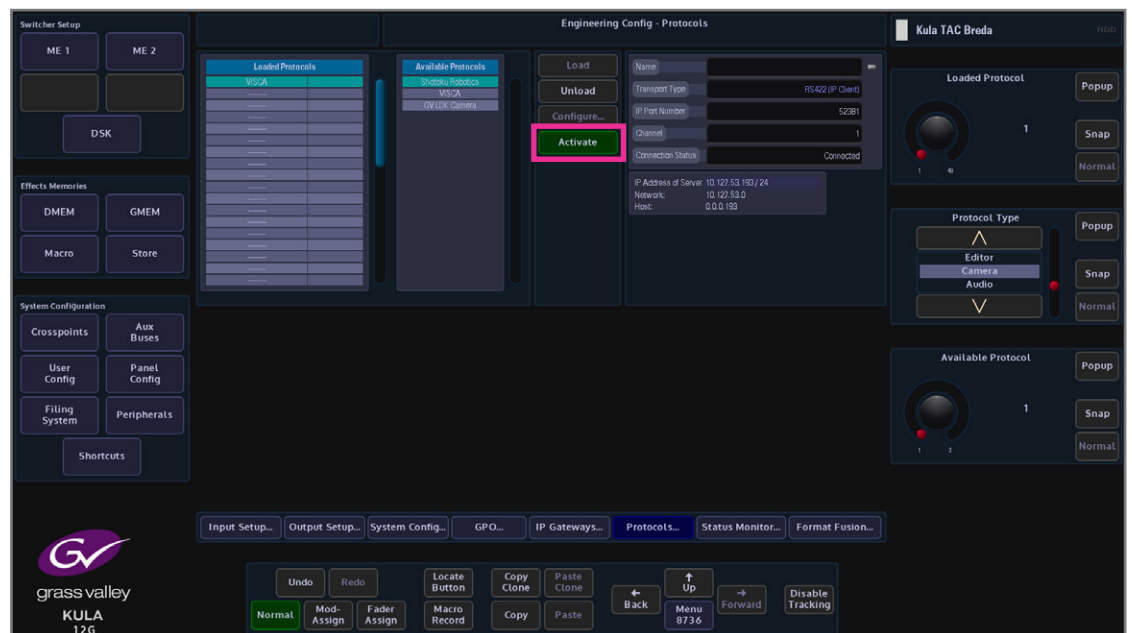


In the “Protocols” menu, use the “Protocol Type” parameter to scroll down to the “Camera” option, then select “VISCA”, then select [Configure].



Select the “Transport Type” and change this to “RS-422 IP Client” for the VISCA IP protocol, then select **[Edit]** under the IP Client Configuration. Enter the IP address of the GV PTZ camera and select “Apply” to apply the IP address, now select the “Apply” button (this should be an orange color) to set all the protocol setting for that camera channel. Then select the **[Back]** menu link to return to the “Peripherals” menu.

Finally select the “Activate” button and the GV PTZ will be connected to the Kula frame.



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Using the VISCA Protocol

This describes how to use the VISCA controls on Kula.

Using VISCA Camera Control

Once in the “VISCA Robotics menu,” using the port parameter select the IP port (**1: VISCA**) that is connected to the camera, once connected, the “Power On” button will light up.

Controlling the Camera

There are two ways to control the robotic camera:

- Using the Pre-defined Command parameter
- Using the Kula Control Surface joystick



Pre-Defined Camera Commands

The first method described here will be using the **Pre-Defined** camera commands in the **Command** parameter.

The current version of software (V6.3r2) has pre-defined camera commands. When selected, the chosen camera channel will then move and keep moving until a different command is selected.

Pre-defined Camera Commands:

- Camera Select — up to seven cameras
- Power On/Off
- Pan/Tilt/Zoom/Focus adjustment control
- Pan/Tilt/Zoom Speed adjustment control
- Picture Flip On/Off
- Left Right Reverse On/Off
- Exposure Auto/Manual
- Memory Set/Recall — 16 memory slots
- Tilt Up, Pan Left
- Tilt Up, Pan Right
- Tilt Down, Pan Left
- Tilt Down, Pan Right
- Pan Tilt Home/Reset
- Pan Reverse On/Off
- Tilt Reverse On/Off
- Tilt Up/Down
- Pan Left/Right
- Zoom Stop
- Zoom Tele (standard)
- Zoom Wide (standard)
- Focus Stop
- Focus Far (standard)
- Focus Near (sStandard)
- Focus Auto/Manual
- White Balance Auto/Manual
- Shutter Up/Down/Reset
- Iris Up/Down/Reset
- Gain Up/Reset/Down
- Brightness Up/reset/Down



Pan Speed and **Tilt Speed** parameters are only available when controlling the camera with pre-defined commands. When panning left or right, adjust the **Pan Speed** parameter using the GUI rotary control knob and the camera head will speed up or slow down. The same action is defined when using the **Tilt Speed** parameter.

Note: Pan, Tilt, Zoom and Focus can be used when using the pre-defined commands, but they will override the current Pan/Tilt/Zoom/Focus type commands.

Using the Kula Control Surface Joystick to Control the Camera

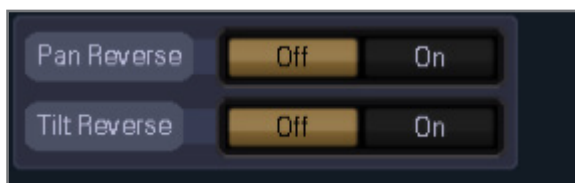
Select the **Command** attacher, then use the **Command** parameter to select the required camera movement.

Select the **Pan, Tilt, Zoom, Focus** attacher to attach the parameter controls to the control panel joystick.

Moving the joystick to the left or right will make the camera pan to the left or right.

Moving the joystick up or down will make the camera tilt up or down.

Rotating the joystick head will make the camera focus in or out.



Note: If the Pan/Tilt moves the opposite way to what is expected, select the **Pan Reverse** or **Tilt Reverse** parameters and set them to **On**. The camera will now move in the opposite direction.

Saving Camera Positions into the Camera Memory

The camera is able to store up to 16 different camera memory positions.

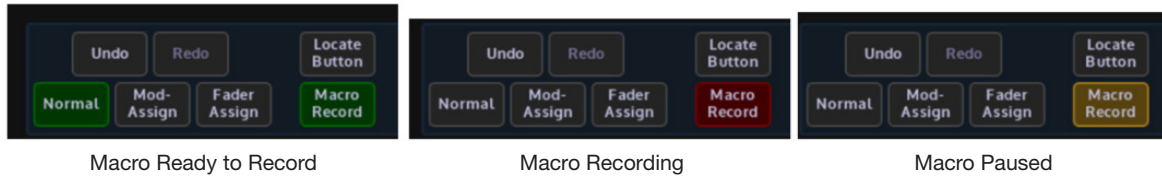
Move the camera to the required position, use the “**Memory**” parameter to select a memory position and then select [**Memory Set**]. If the memorized camera position is required in the future, select the memory location and then select [**Memory Recall**] and the camera will move to the memorized position.



Storing and Recalling Camera Position to the Kula Panel

Macros can be assigned to any button on the control surface. When macros are assigned to the macro buttons on the control surface they can have an associated “bitmap” added to an mnemonic display.

Kula macros are recorded in real time. This means that macros record functions behind buttons, rather than just the button press. This allows creation of simple multibutton operations and complex effects and transitions, which include: Pbus, GPOs, DMEM, and GMEM loading, clip playing and VDCP. For this example we are going to store camera positions.



To start recording a macro, press the **[Macro Record]** button on the GUI panel. This button will now go green, indicating a macro is ready to start recording. The macro recording and button delays will only be activated after the first function (button press) has been entered. Once the macro recording has started, the **[Macro Record]** button will go red. While recording a macro, different menus on the GUI can be entered to gain access to any menu-related functions. Once the macro is completed, press the **[Macro Record]** button again and this will end the macro and return the button to an unlit state. When you stop recording a macro, you will see the following message box:



You can Save Macro, Edit Macro or Save to New & Attach. If you select **[Save to New & Attach]**, the control panel buttons will pulsate to show all available buttons where the macro can be attached. Select the target button on the control surface by pressing and releasing the desired button. This will record the attachment and cancel the Button Attach mode.

Example: In the “Peripherals – VISCA Robotics” menu, select Camera 1, and following the instructions above maneuver the camera to a new position. Store this in Memory Location 1. Maneuver the camera to a new position and store this in Memory Location 2. Now select **[Macro Record]** and select “Memory 1” from the parameter selector, now select **[Memory Recall]**; the macro is complete so now select the **[Macro Record]** button. Select **[Save to New & Attach]** and the Kula panel buttons will start to pulse to show where you can attach the macro. Select one of the user function buttons as shown below.

Repeat the process using the macro record and this time select “Memory 2” in the VISCA protocol menu. Attach the macro to the next available user function button on the panel.

You should now have two buttons on the panel with camera positions stored on them. Selecting either one will move the camera to the desired position.

