



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

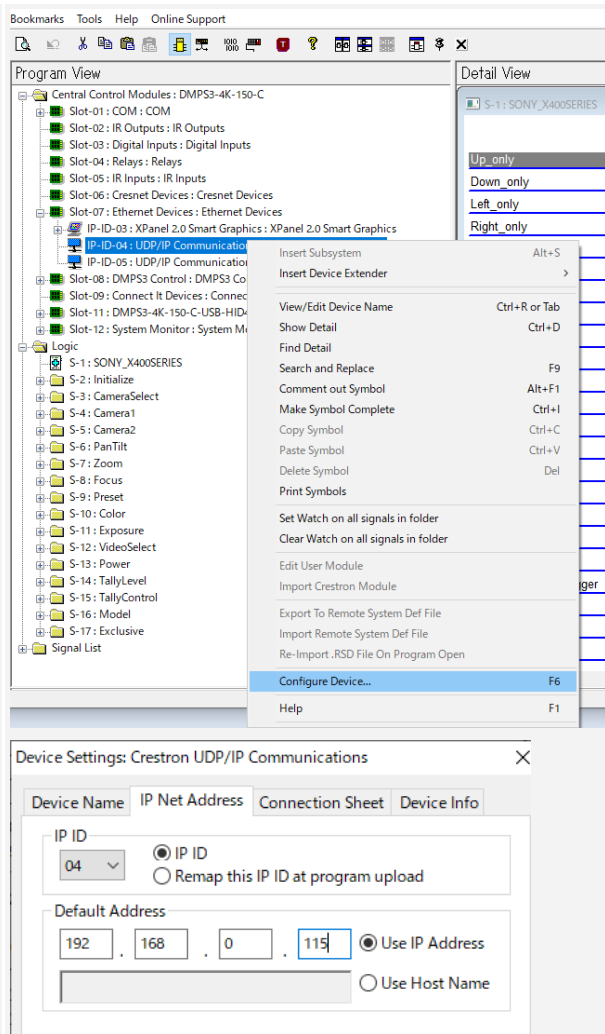
CONTACT SUPPORT:

COMPANY NAME:	Sony Imaging Products & Solutions Inc.
SUPPORT CONTACT:	Crestron driver support
EMAIL ADDRESS:	Crestron.driver@am.sony.com
NOTES:	

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Sony_BRC-X400_SRG-X_series
CATEGORY:	Camera
VERSION:	1.0
SUMMARY:	This module controls Sony BRC–X400, SRG-X series cameras by way of VISCA over IP protocol.
GENERAL NOTES:	<p>Using the provided sample program, you will be able to control up to 2 cameras by selecting the camera (either Camera1 or Camera2) in Camera selection menu in [System] tab.</p> <p>This program works with the following models of Sony network camera products.</p> <ul style="list-style-type: none"> - BRC-X400, SRG-X400, SRG-X120, BRC-X401, SRG-201M2, SRG-X402, SRG-HD1M2 <p>Prior to building and transferring the firmware into the Crestron Control System, be sure to set up the correct IP addresses of the camera in IP-ID-04 and IP-ID-05 UDP/IP Communications in Slot-07 of "Central Control Modules: DMPS3-4K-150C" in the Program View of the SIMPL Windows project. Right click the UDP/IP Communications object and then select "Configure devices ... (F6)", go into [IP Net Address] tab and then put the correct camera IP address in the "Default Address" fields (see below pictures).</p>

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera



* The above screen capture is based on SIMPL Windows version described in SIMPL WINDOWS USED FOR TESTING column under TESTING chapter. The same also applies to the SIMPL Windows screen capture below.

CRESTRON HARDWARE REQUIRED:	3-series processor with Ethernet capabilities
SETUP OF CRESTRON HARDWARE:	N/A
VENDOR FIRMWARE:	Greater than or equal to v1.00 (Be sure not to mix up the software version among cameras being connected.)



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

VENDOR SETUP:	IPv4 address of the camera should be properly configured beforehand. In case that the camera's IPv4 address is configured as fixed address, use "RM-IP Setup Tool" to set the IP address, the Subnet mask and the default gateway address and then press either [Apply] or [OK] button.
CABLE DIAGRAM:	N/A

CONTROL:		
UP, DOWN	D	Press and hold to tilt up/down the camera. Release to stop the tilt operation.
LEFT, RIGHT	D	Press and hold to pan the camera to the left/right. Release to stop the pan operation.
Home	D	Press to move the camera to the home position for pan and tilt.
pan_speed_up, pan_speed_down	D	Increment/decrement pan speed.
tilt_speed_up, tilt_speed_down	D	Increment/decrement tilt speed.
zoom_tele, zoom_wide	D	Press and hold to zoom in/out.
zoom_speed_up, zoom_speed_down	D	Increment/decrement zoom speed
zoom_mode_optical, zoom_mode_clearimage, zoom_mode_full	D	Press to set the zoom mode to either optical, clear image zoom or full mode. The other signals that are not last set will be changed to 0 via corresponding control feedback signals.
tele_convert_on, tele_convert_off	D	Press to enable or disable Tele Shift mode. This can be configured only in supported model and supported video format.
auto_focus, manual_focus	D	Press to set the focus mode to either auto or manual. The other signal will be changed to 0 via corresponding control feedback signal.
focus_far, focus_near	D	Press and hold to move the focus position to far/near position. Release to stop the focus operation.
focus_speed_up, focus_speed_down	D	Increment/decrement focus speed.
focus_one_push_trigger	D	Press to perform one push AF.



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

preset_mode_std, preset_mode_ptzf, preset_mode_trace	D	<p>Press to set the preset operation mode to either "standard", "ptzf" or "trace" as follows.</p> <p>"standard": Save/restore its PTZF positions as well as its camera configuration parameters such as exposure, white balance etc.</p> <p>"ptzf": Save/restore its PTZF positions only</p> <p>"trace": Preset save/call operations are mapped to PTZ Trace. This is supported in software version 2.00.</p> <p>The other signals that are not last set will be changed to 0 via corresponding feedback control signals.</p>
preset_freeze, preset_normal	D	<p>Press to set preset recall mode to either freeze or normal. The other signal will be changed to 0 via corresponding feedback control signal.</p>
preset_set, preset_recall, preset_reset	D	<p>Press to save/recall/reset the preset to a selected preset position number.</p>
preset_number_up, preset_number_down	D	<p>Increment/decrement preset number for save/recall/reset operation.</p>
preset_speed_up, preset_speed_down	D	<p>Increment/decrement preset position operation speed.</p>
preset_compatible, preset_separate, preset_common	D	<p>Press to set preset speed mode to either compatible, separate or common whose details are shown below. The other signals that are not last set will be changed to 0 via correspondent feedback control signals.</p> <p>"compatible": The same effect as "separate" in case that the preset operation is controlled under VISCA and/or VISCA over IP protocol. However, be sure that it should be configured to this mode when you use the preset position function by way of CGI protocol as well.</p> <p>"separate": Preset operation speed is set when saving the preset position using preset_set signal. Thus, the speed configuration should be per position basis.</p> <p>"common": Preset operation speed is uniquely configured regardless of recalled/saved preset position number.</p>
wb_mode_auto, wb_mode_indoor, wb_mode_outdoor, wb_mode_one_push, wb_mode_ATW, wb_mode_manual	D	<p>Press to set white balance mode to either auto, indoor, outdoor, one push, ATW (Auto Tracing White balance) or manual. The other signals that are not last set will be changed to 0 via corresponding feedback control signals.</p>
wb_one_push_trigger	D	<p>Press to perform one push WB. This is possible when the White balance mode is set to one push beforehand.</p>
wb_offset_reset	D	<p>Press to reset white balance offset.</p>
wb_offset_up, wb_offset_down	D	<p>Increment/decrement white balance offset.</p>
r_gain_reset	D	<p>Press to reset red gain.</p>



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

r_gain_up, r_gain_down	D	Increment/decrement red gain.
b_gain_reset	D	Press to reset blue gain.
b_gain_up, b_gain_down	D	Increment/decrement blue gain.
exposure_mode_auto, exposure_mode_shutter, exposure_mode_iris, exposure_mode_manual	D	Press to set exposure mode to either auto, shutter priority, iris priority or manual. The other signals that are not last set will be changed to 0 via corresponding feedback control signals.
exposure_iris_reset	D	Press to reset IRIS value.
exposure_iris_up, exposure_iris_down	D	Increment/decrement IRIS value
exposure_gain_reset	D	Press to reset gain.
exposure_gain_up, exposure_gain_down	D	Increment/decrement gain.
exposure_shutter_reset	D	Press to reset shutter speed.
exposure_shutter_up, exposure_shutter_down	D	Increment/decrement shutter speed
slow_shutter_on, slow_shutter_off	D	Press to set slow shutter mode on/off.
exposure_compensation_on, exposure_compensation_off	D	Press to set exposure compensation to on/off.
exposure_compensation_reset	D	Press to reset exposure compensation value.
exposure_compensation_up, exposure_compensation_down	D	Increment/decrement exposure compensation value.
backlight_on, backlight_off	D	Press to set backlight compensation mode to on/off.
visibility_enhancer_on, visibility_enhancer_off	D	Press to set visibility enhancer to on/off.
brightness_up, brightness_down	D	Increment/decrement visibility enhancer brightness level.
luminance_up, luminance_down	D	Increment/decrement visibility enhancer luminance level.
intensity_up, intensity_down	D	Increment/decrement visibility enhancer compensation level.
video_1, video_2, video_3, video_4, video_5, video_6, video_7, video_8, video_9, video_10, video_11, video_12, video_13, video_14, video_15, video_16	D	Press to select the video format setting as follows. Please be sure that the software version of the camera should be greater than or equal to v2.00 and that the SYSTEM SELECT switch is set to 6. Please also be sure that recycling the power



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

		<p>or once turning off and on the camera using power button to reflect the setting.</p> <p>video_1: 1280x720/59.94p (VGA)</p> <p>video_2: 1280x720/50.94p</p> <p>video_3: 1920x1080/29.97p</p> <p>video_4: 1920x1080/59.94i</p> <p>video_5: 1920x1080/59.94p (Level A)</p> <p>video_6: 1920x1080/59.94p (Level B)</p> <p>video_7: 3840x2160/29.97p (only for 4K supported model)</p> <p>video_8: 1280x720/50p</p> <p>video_9: 1920x1080/25p</p> <p>video_10: 1920x1080/50i</p> <p>video_11: 1920x1080/50p (Level A)</p> <p>video_12: 1920x1080/50p (Level B)</p> <p>video_13: 3840x2160/25p (only for 4K supported model)</p> <p>video_14: 1920x1080/23.98p</p> <p>video_15: 3840x2160/23.98p (only for 4K supported model)</p> <p>The other signals that are not last set will be changed to 0 via corresponding feedback control signals.</p>
power_push	D	Press to change the camera to stand-by or power-on state.
tally_on, tally_off	D	Press to set the tally mode to on/off.
tally_level_off, tally_level_low, tally_level_high	D	Press to set the tally level to either off, low or high. The other signals that are not last set will be changed to 0 via corresponding feedback control signals.
camera1, camera2	D	Press to select the target camera for control.
af_mode_normal, af_mode_interval, af_mode_zoomtrigger	D	Press to set auto focus mode to either normal, interval or zoom trigger. The other signals that are not last set will be changed to 0 via corresponding feedback control signals.
system_tab_pressed, videoout_tab_pressed, ptzf_tab_pressed, exposure_tab_pressed, color_tab_pressed, preset_tab_pressed	D	Press to select tab in the SmartGraphics GUI to either System, Video out, PTZF, Exposure, Color or Preset tab. The other signals that are not last set will be changed to 0 via corresponding feedback control signals.
preset_stop	D	Press to stop the currently on-going preset operation. In case that the preset mode is set to Trace mode, pressing this signal will stop the currently on-going PTZ trace operation.

FEEDBACK:

©2013 Crestron Electronics, Inc.
 15 Volvo Drive • Rockleigh, NJ 07647
 800.237.2041 / 201.767.3400

<http://application.market.com>

For more information please contact our Crestron Application Market team at applicationmarket@crestron.com. The information contained on this document is privileged and confidential and for use by Crestron Authorized Dealers, CSP Members, A+ Partners and Certified Integrated Partners only. Specifications subject to change without notice.



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

zoom_mode_optical_fb, zoom_mode_clearimg_fb, zoom_mode_full_fb	D	Indicates the current zoom mode, which is either optical, clear image zoom or full.
tele_convert_on_fb, tele_convert_off_fb	D	Indicates the current Tele shift mode, which is either on or off.
auto_focus_fb, manual_focus_fb	D	Indicates the current focus mode, which is either auto or manual.
preset_mode_std_fb, preset_mode_ptzf_fb, preset_mode_trace_fb	D	Indicates the current preset mode, which is either standard, ptzf or trace mode.
preset_freeze_fb, preset_normal_fb	D	Indicates the current preset recall mode, which is either freeze or normal.
preset_compatible_fb, preset_separate_fb, preset_common_fb	D	Indicates the current preset speed mode, which is either compatible, separate or common.
wb_mode_auto_fb, wb_mode_indoor_fb, wb_mode_outdoor_fb, wb_mode_one_push_fb, wb_mode_ATW_fb, wb_mode_manual_fb	D	Indicates the current white balance mode, which is either auto, indoor, outdoor, one push, ATW or manual.
exposure_mode_auto_fb, exposure_mode_shutter_fb, exposure_mode_iris_fb, exposure_mode_manual_fb	D	Indicates the current exposure mode, which is either auto, shutter priority, iris priority or manual.
slow_shutter_on_fb, slow_shutter_off_fb	D	Indicates the current slow shutter mode which is either on or off.
exposure_compensation_on_fb, exposure_compensation_off_fb	D	Indicates the current exposure compensation mode which is either on or off.
backlight_on_fb, backlight_off_fb	D	Indicates the current backlight compensation mode which is either on or off.
visibility_enhancer_on_fb, visibility_enhancer_off_fb	D	Indicates the current visibility enhancer mode which is either on or off.
video_1_fb, video_2_fb, video_3_fb, video_4_fb, video_5_fb, video_6_fb, video_7_fb, video_8_fb, video_9_fb, video_10_fb, video_11_fb, video_12_fb, video_13_fb, video_14_fb, video_15_fb	D	Indicates the current video format setting. See the description in the corresponding video_<n> signals in Control signal description above.
power_push_fb	D	Indicates the current power status, which is either power-on or stand-by.
tally_on_fb, tally_off_fb	D	Indicates the current tally status, which is either on or off.
tally_level_off, tally_level_low, tally_level_high	D	Indicates the current tally level setting, which is either off, low or high.
enable_1, enable_2	D	Indicates which camera is currently selected, which is either camera1 or camera2.
af_mode_normal_fb, af_mode_interval_fb,	D	Indicates the current Auto Focus mode, which is ether normal, interval or zoom



Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

af_mode_zoomtrigger_fb		trigger.
system_tab_pressed_fb, videoout_tab_pressed_fb, ptzf_tab_pressed_fb, exposure_tab_pressed_fb, color_tab_pressed_fb, preset_tab_pressed_fb	D	Indicates the currently selected tab in the Smart Graphics GUI which is either one of the following tabs <ul style="list-style-type: none"> - System - Video out - PTZF - Exposure - Color - Preset
enable_preset_mode	D	Indicates whether the preset mode of the connected camera can be configured i.e. either standard or ptfz.
enable_tele_convert	D	Indicates whether the tele convert mode is available by the connected camera.
enable_tally	D	Indicates whether the tally control is possible for the connected camera.
enable_ptztrace	D	Indicates whether the PTZ Trace is possible for the connected camera.
enable_video_out	D	Indicates whether the video format selection is possible for the connected camera and its system select setting.
enable_zoom_mode	D	Indicates whether the zoom mode can be changed for the connected camera.
busy, not_busy	D	When selecting the camera in the Smart Graphics GUI, busy signal is asserted for a certain period until the necessary answer messages to the inquiry requests are responded so that necessary GUI set up can be performed. The busy signal indicates such busy state while not_busy signal indicates its inverted state.

PARAMETERS:

N/A		
-----	--	--

TESTING:

OPS USED FOR TESTING:	1.503.3732.27877
SIMPL WINDOWS USED FOR TESTING:	4.11.06.01
DEVICE DB USED FOR TESTING:	108.05.001.00

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

CRES DB USED FOR TESTING:	81.05.001.00
SYMBOL LIBRARY USED FOR TESTING:	1094
SAMPLE PROGRAM:	Sony_X400SERIES
REVISION HISTORY:	V1.0 – First release

Appendix:

The provided sample program supports up to 2 cameras that can be connected. However, there might be some case that you would need to increase the number of cameras that can be connected in the program. Please perform the following steps to do so (the following instruction is based on the example to add 2 more cameras).

1. Create/add additional ‘Camera’ button(s) and put appropriate Digital / Enable join
 Display XPanel 2.0 Smart Graphics into Detail View under program mode and then put “camera3” and “camera4” in the pressXXX signals.

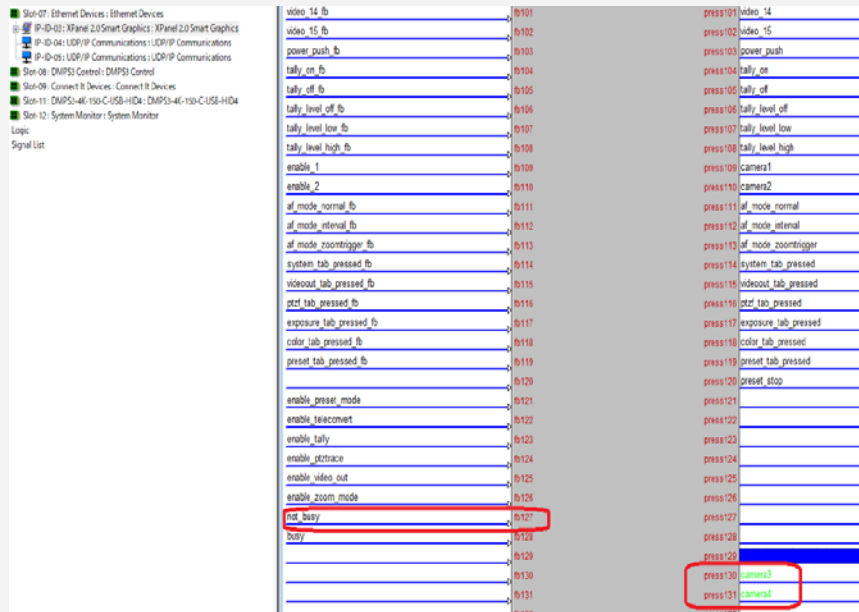


Figure 1: SMPL project window

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

Then open System page in the VT Pro-e project (.vtp) and then create “Camera3” and “Camera4” buttons as below.

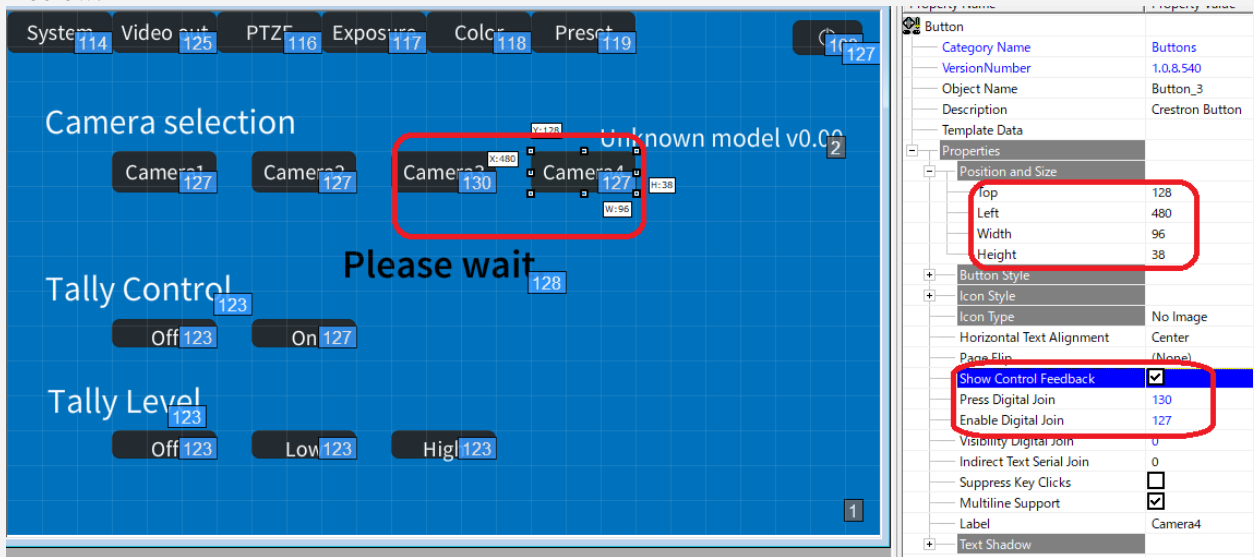


Figure 2: VT Pro-e window (system page)

* The above screen capture is based on VT Pro-e version 6.2.00 where Smart Graphics Controls version 2.15.03.04 is applied.

2. Add UDP/IP communications objects via Configure mode view of SIMPL project
 Go to SIMPL project and then move to Configure view in order to add UDP/IP communications objects.

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

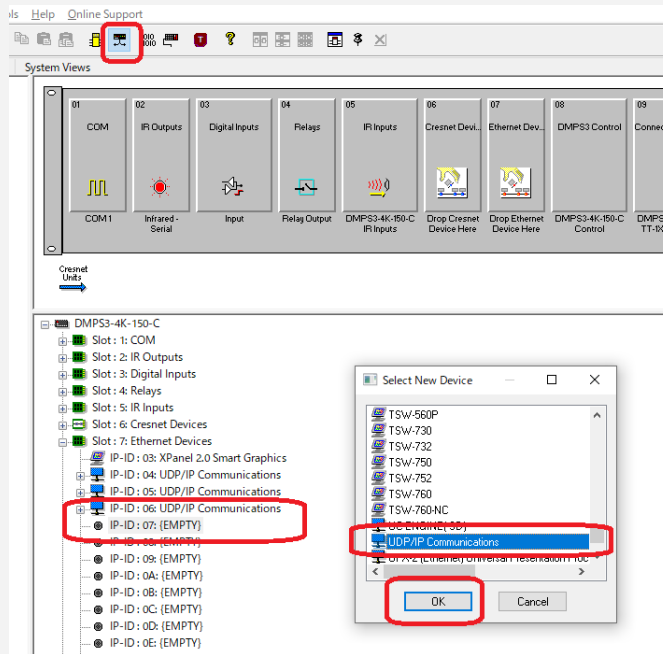


Figure 3: Configure mode view – Addition of UDP/IP Communications objects

3. Move to logic mode view, open the original UDP/IP communications and the newly created one, and then copy the signal names using drag & drop operation.

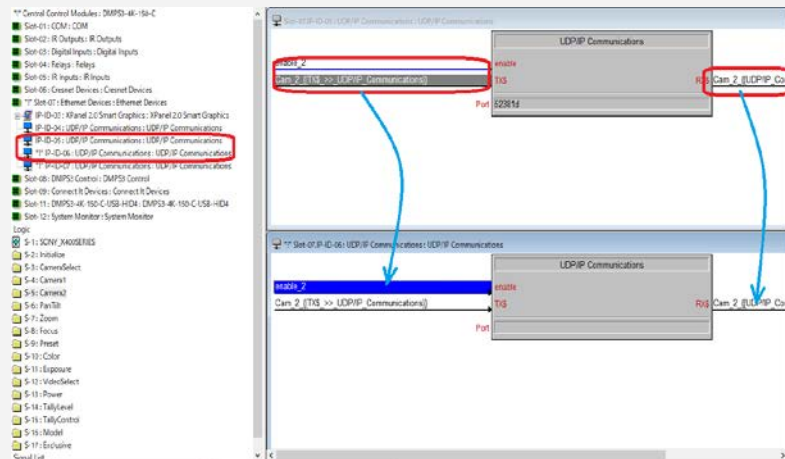


Figure 4: Copying signals using drag & drop operation

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

In the new UDP/IP communications, put “52381d” that is UDP port number of controlling VISCA over IP protocol. Select all the three signals using [Ctrl] + mouse-click and then press [F9] to prompt ‘Search and Replace’ dialog box. Put “_2” and “_3” (in case of 3rd camera addition) in the upper 2 edit boxes and then press [OK] to correct the signal names. Repeat the same operation towards newly created UDP/IP communication objects.

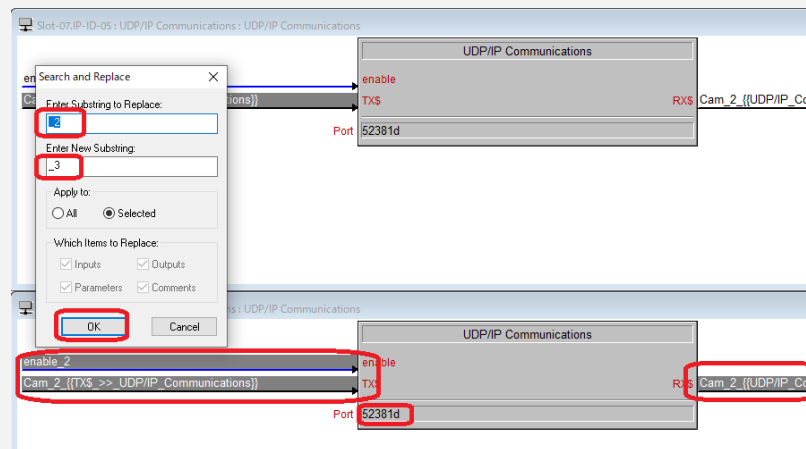


Figure 5: Signal name correction using Substring replace

4. Addition of signals under S-3: CameraSelect Logic

Expand S-3: CameraSelect logic and then display all the objects in Detail View. Add respective signals whose signal name contain numerical suffix by pressing [Alt] + [+] button.

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

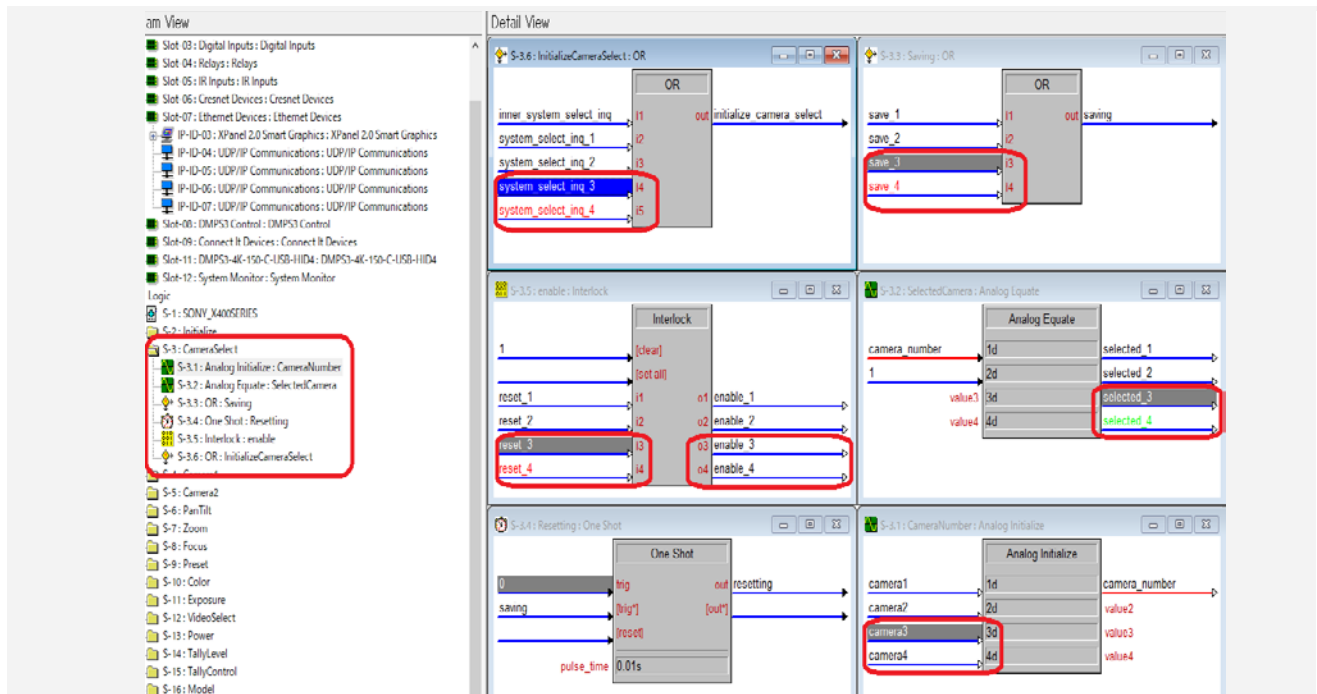


Figure 6: Signal extension under S-3: CameraSelect logic

5. Copy and paste S5: Camera2 logic

Select and copy S5: Camera2 logic using [Ctrl] + C and then move the mouse focus to “Logic”. Select [Edit] -> [Paste Special... (Ctrl + Shift + V)] to prompt the Paste Special dialog box. In the dialog, set the following and then press [OK] to paste Camera3 and Camera4 in this example.

 - Number of Copies: 2
 - Increment Signal Names: checked
 - Select [Last] in “Which Numeric Component to Increment:”
 - Check all the items in “Which Items to Increment:” i.e. Inputs, Parameters, Outputs and Symbol Comment

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

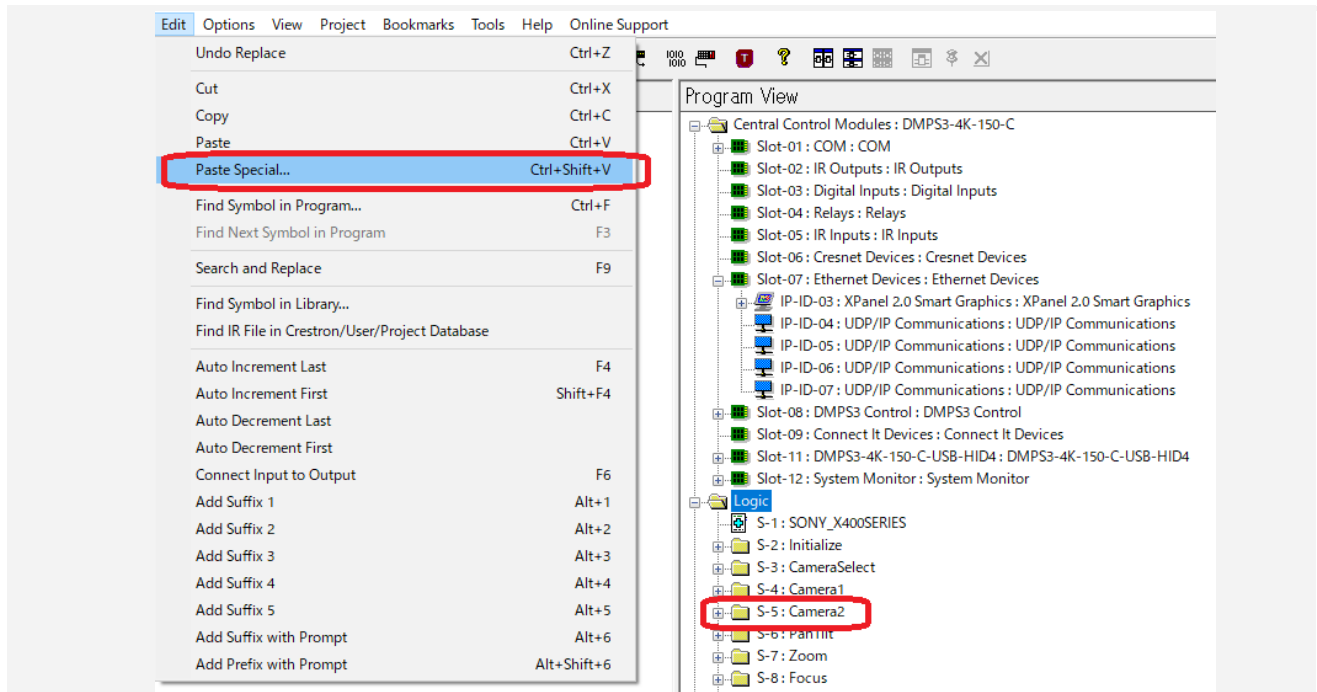


Figure 7: Program View before pasting Camera3 and Camera4

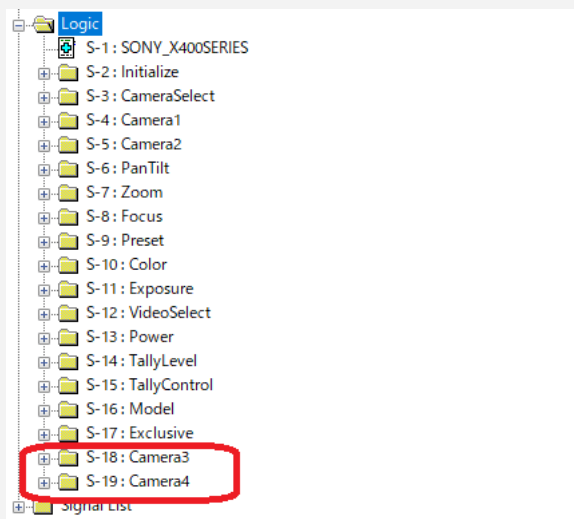


Figure 8: Program View after pasting Camera3 and Camera4

Manufacturer: Sony Imaging Products & Solutions Inc.
 Model: BRC-X400/SRG-X series
 Device Type: Camera

- Connect added signals of “enable_<n>” into XPanel 2.0 Smart Graphics object.
 Put “enable_3” and “enable_4” signals in the control feedback signal as below.

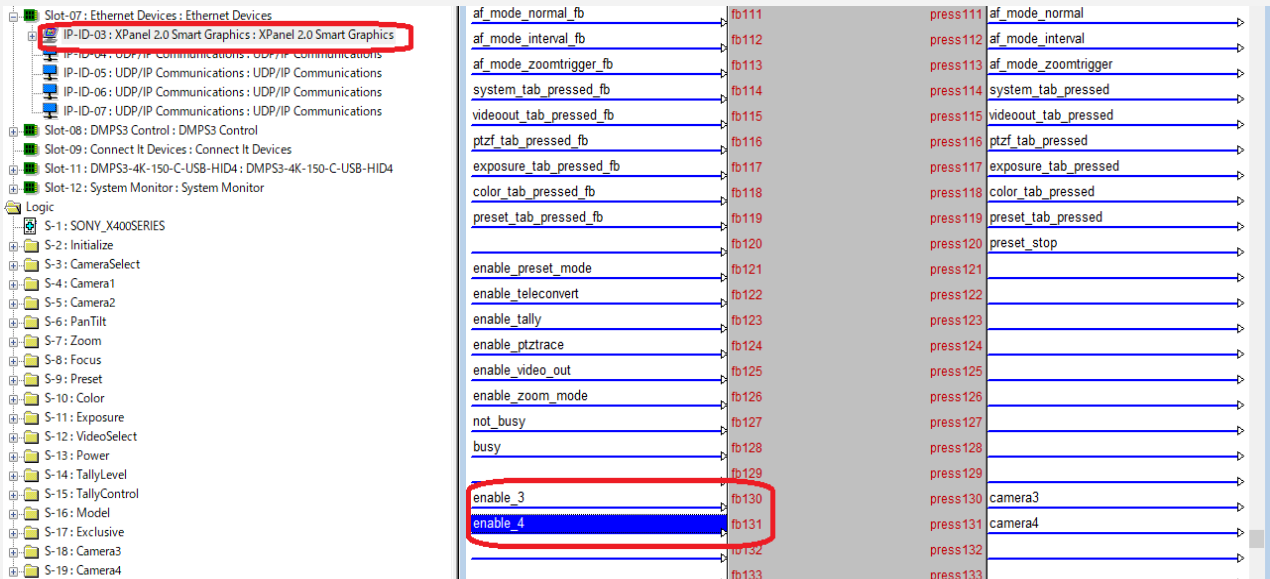


Figure 9: Addition of “enable_<n>” signals into Smart Graphics

- Build VT Pro-e and SIMPL project and then transfer the program / firmware into the target Crestron devices