Partner: Philips
Model: Signage Displays
Device Type: Display

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Philips Signage Displays IP v1.0
CATEGORY:	TV/Video Projector
VERSION:	1.0
SUMMARY:	This module controls TCP/IP communication with a Philips signage display that supports the Philips SICP protocol.
GENERAL NOTES:	This module will control a Philips signage display that supports the Philips SICP protocol. As different signage displays support different functionality, this module is set up to be a generic module with parameters intended to be used to "teach" the module how to control a specific display. It is important that the parameters be set to match the capabilities of the display. If the display does not support a feature but the parameter is set to use the unsupported feature, the module will not initialize and control will not be possible. You may also set the parameters to turn off features which may actually be available on the display but which you do not need to control. This will reduce polling traffic and make the module operation leaner as it will not poll for any features that have been turned off in the parameters. Signals for control and feedback will not be available for any parameter that been turned off. This module is intended to control either a single display or a video wall (if video wall functionality is supported by the display). When video wall functionality is enabled, control will be set to "broadcast" (display ID 0) and feedback will be based on the state of the display that corresponds to the display ID set in the parameters.
CRESTRON HARDWARE REQUIRED:	Crestron 3-Series processor **only**.
SETUP OF CRESTRON HARDWARE:	N/A
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	N/A

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PARAMETER:	
Monitor_ID	Indicates the ID that has been set for the display. *Note: when video wall mode is enabled, the module will only look for feedback from the display with an ID that matches the one set here (typically monitor ID 1).*
IP_Address	Indicates the IP address of the display to control.
Frame_Comp	Indicates whether or not to use frame compensation while in video wall mode. *Note: this setting only relevant if "Supports_Video_Wall" is set to "Yes".*
Horizontal_Count	Indicates the number of horizontal displays in the video wall. *Note: this setting only relevant if "Supports_Video_Wall" is set to "Yes".*
Vertical_Count	Indicates the number of vertical displays in the video wall. *Note: this setting only relevant if "Supports_Video_Wall" is set to "Yes".*
Volume_Speaker_Step_Size	Setting to indicate the single step amount to increment/decrement the speaker volume. *Note: this setting only relevant if "Supports_Speaker_Volume" is set to "Yes".*
Volume_Audio_Step_Size	Setting to indicate the single step amount to increment/decrement the audio volume. *Note: this setting only relevant if "Supports_Audio_Volume" is set to "Yes".*
Supports_PiP	Setting to indicate whether the display supports PiP functionality.
PiP_Type	Indicates the type of PiP functionality the display supports. *Note: this setting only relevant if "Supports_PiP" is set to "Yes".*
Supports_IR_Lock	Setting to indicate whether the display supports IR Lock functionality.
Supports_Keypad_Lock	Setting to indicate whether the display supports Keypad Lock functionality.
Supports_Speaker_Volume	Setting to indicate whether the display supports Speaker Volume functionality.
Supports_Audio_Volume	Setting to indicate whether the display supports Audio Volume functionality.
Supports_Picture_Mode	Setting to indicate whether the display supports Picture Mode functionality.
Supports_Video_Wall	Setting to indicate whether the display supports Video Wall functionality.
Video_Wall_Family	Indicates the family of video wall this display is in. Some displays support up to 15 displays in a video wall while others support up to 150 displays in a wall. *Note: this setting only relevant if "Supports_Video_Wall" is set to "Yes". If you are using video wall functionality, it is critical that this setting is correct as it will effect internal calculations needed to control the displays.*

General Note: for all the "Supports_X" parameters above, you may set any of these to "No" (even if the display supports the function) if you are not controlling that function. This will reduce polling traffic only to those functions needed in your program.

CONTROL:

Connect	D	Pulse to establish communication with the display and start the module "heartbeat" which is used to maintain communication with the display by periodically sending status requests to confirm the display is still communicating with the control system.
Disconnect	D	Pulse to break communication with the display and stop the module "heartbeat".
Reinitialize	D	Pulse to re-establish communication with the display and sync the module with the current state of the display.
Enable_Polling	D	Latch high to enable polling the display for the status of all relevant attributes. Unlatch to turn off polling. *Note: the displays tested do not provide unsolicited feedback. Enabling polling is highly recommended for accurate and up-to-date feedback. Polling, if turned on, will occur every 15 seconds.*
Enable_Debug	D	Latch high to enable trace messages in SIMPL Debugger which show relevant operations happening within the SIMPL# module. *Note: it is recommended to keep this turned <u>off</u> during normal operation and only turn on if troubleshooting device operation as the large amount of trace statements printed may bog down the processor.*
Power_On	D	Pulse to turn on the display.
Power_Off	D	Pulse to turn off the display.
Power_Toggle	D	Pulse to toggle the power status of the display.
Tiling_On	D	Pulse to turn on video wall functionality for all displays in the RS232 daisy-chain.
Tiling _Off	D	Pulse to turn off video wall functionality for all displays in the RS232 daisy-chain.
Tiling _Toggle	D	Pulse to toggle the video wall state of all displays in the RS232 daisy-chain.
Volume_Speaker_Set	A	Set the speaker volume level to be set using "Volume_Speaker_Send". If "Volume_Speaker_Send" is high when this value changes, the module will automatically send the new value.
Volume_Speaker_Send	D	Pulse to send the speaker volume value currently set on "Volume_Speaker_Set". This will allow preset value to be sent to the display.
Volume_Speaker_Up	D	Pulse to raise the speaker volume of the display by 1 step. Hold to raise the speaker volume of the display in 1 step increments until released.
Volume_Speaker_Down	D	Pulse to lower the speaker volume of the display by 1 step. Hold to lower the speaker volume of the display in 1 step increments until released.

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CONTROL continued:

Volume_Audio_Set	A	Set the audio volume level to be set using "Volume_Audio_Send". If "Volume_Audio_Send" is high when this value changes, the module will automatically send the new value.
Volume_Audio_Send	D	Pulse to send the audio volume value currently set on "Volume_Audio_Set". This will allow preset value to be sent to the display.
Volume_Audio_Up	D	Pulse to raise the audio volume of the display by 1 step. Hold to raise the audio volume of the display in 1 step increments until released.
Volume_Audio_Down	D	Pulse to lower the audio volume of the display by 1 step. Hold to lower the audio volume of the display in 1 step increments until released.
Source_Select	A	Set the input source to be used. Inputs correspond to the following analog values: 1 = HDMI 1 2 = HDMI 2 3 = HDMI 3 4 = VGA 5 = DisplayPort 1 6 = DisplayPort 2 7 = DVI-D 8 = Video 9 = Component 10 = USB 1 11 = USB 2 12 = Card Ops 13 = Browser 14 = Smart CMS 15 = DMS 16 = Internal 17 = Media 18 = PDF 19 = Custom *Note: different displays support different inputs. Setting an input that does not exist on the display you are using will have no effect.*

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CONTROL continued:

PIP_Mode	A	Set the PiP Mode to be used. Modes correspond to the following analog values: 1 = Off 2 = On 3 = Pop 4 = Swap 5 = PBP 2 Window 6 = PBP 3 Window 7 = PBP 4 Window 8 = PBP 3 Window 1 9 = PBP 3 Window 2 10 = PBP 4 Window 1 11 = SICP *Note: different displays may support different PiP Modes. Setting a mode that does not exist on the display you are using (or if the display does not support PiP at all) will have no effect.*
PIP_Position	A	Set the PiP Position to be used. Positions correspond to the following analog values: 1 = Bottom Left 2 = Top Left 3 = Top Right 4 = Bottom Right 5 = Center *Note: different displays may support different PiP Positions. Setting a position that does not exist on the display you are using (or if the display does not support PiP at all) will have no effect.*
PIP_Source_Quadrant_2	A	Set the source to be used in the PiP Window for Quadrant 2. Values correspond to the inputs listed above for "Source_Select". *Note: different displays support different inputs. Setting an input that does not exist on the display you are using (or if the display does not support PiP at all) will have no effect.*
PIP_Source_Quadrant_3	A	Set the source to be used in the PiP Window for Quadrant 3. Values correspond to the inputs listed above for "Source_Select". *Note: different displays support different inputs. Setting an input that does not exist on the display you are using (or if the display does not support PiP at all) will have no effect.*
PIP_Source_Quadrant_4	A	Set the source to be used in the PiP Window for Quadrant 4. Values correspond to the inputs listed above for "Source_Select". *Note: different displays support different inputs. Setting an input that does not exist on the display you are using (or if the display does not support PiP at all) will have no effect.*

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CONTROL continued:

IR_Lock	A	Set the IR Lock Mode to be used. Modes correspond to the following analog values: 1 = Unlock All 2 = Lock All 3 = Lock All Except Power 4 = Lock All Except Volume 5 = Primary 6 = Secondary 7 = Lock All Except Power and Volume *Note: different displays may support different IR Lock Modes. Setting a mode that does not exist on the display you are using (or if the display does not support IR Lock at all) will have no effect.*
Keypad_Lock	A	Set the Keypad Lock Mode to be used. Modes correspond to the following analog values: 1 = Unlock All 2 = Lock All 3 = Lock All Except Power 4 = Lock All Except Volume 5 = Lock All Except Power and Volume *Note: different displays may support different Keypad Lock Modes. Setting a mode that does not exist on the display you are using (or if the display does not support Keypad Lock at all) will have no effect.*
Picture_Mode	A	Set the Picture Mode to be used. Modes correspond to the following analog values: 1 = Normal 2 = Custom 3 = Real 4 = Full 5 = 21 x 9 6 = Dynamic 7 = 16 x 9 *Note: different displays may support different Picture Modes. Setting a mode that does not exist on the display you are using (or if the display does not support Picture Mode at all) will have no effect.*

CONTROL continued:

Get_Temp	D	Pulse to get the current temperature of the display.
Get_Manufacturer	D	Pulse to get the manufacturer information for the display.
Get_Model	D	Pulse to get the model of the display.
Get_Serial	D	Pulse to get the serial number for the display.
Get_Firmware	D	Pulse to get the firmware version for the display.

FEEDBACK:

Is_Communicating	D	High to indicate that communication has been established with the display. Once communication has been established, the module will attempt to initialize automatically.
Is_Initialized	D	High to indicate that the module's internal state variables are now synced with the display's current state. Outgoing commands will not be sent to the display until the module is initialized. However, heartbeat commands will continue to be sent.
Power_Is_On	D	High to indicate the display is currently on.
Tiling_Is_On	D	High to indicate video wall mode is currently on.
Volume_Speaker_Level	A	Value indicating the current speaker volume level of the display.
Volume_Audio_Level	A	Value indicating the current audio volume level of the display.
Source_Select_FB	A	Value indicating the current source set on the display.
PIP_Mode_FB	A	Value indicating the current PiP Mode set on the display.
PIP_Position_FB	A	Value indicating the current PiP Position set on the display.
PIP_Source_Quadrant_2_FB	A	Value indicating the current PiP Source for Quadrant 2 set on the display.
PIP_Source_Quadrant_3_FB	A	Value indicating the current PiP Source for Quadrant 3 set on the display.
PIP_Source_Quadrant_4_FB	A	Value indicating the current PiP Source for Quadrant 4 set on the display.
IR_Lock_FB	A	Value indicating the current IR Lock Mode set on the display.
Keypad_Lock_FB	A	Value indicating the current Keypad Lock Mode set on the display.
Picture_Mode_FB	A	Value indicating the current Picture Mode set on the display.
Info_Temp	S	Value indicating the current temperature of the display.
Info_Manufacturer	S	Value indicating the manufacturer of the display.
Info_Model	S	Value indicating the model of the display.
Info_Serial_Number	S	Value indicating the serial number of the display.
Info_Firmware	S	Value indicating the firmware version of the display.

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TESTING:

OPS USED FOR TESTING:	RMC3: 1.501.0025
SIMPL WINDOWS USED FOR TESTING:	4.06.01
CRES DB USED FOR TESTING:	61.05.007.00
DEVICE DATABASE:	81.05.003.00
SYMBOL LIBRARY USED FOR TESTING:	1023
SAMPLE PROGRAM:	Philips Signage Displays IP v1.0 Demo RMC3
REVISION HISTORY:	v1.0 – Initial Release

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