

**Partner: Panasonic**  
**Model: Pro AV Control (PAC)**  
**Device Type: TV**



## GENERAL INFORMATION

<b>SIMPLWINDOWS NAME:</b>	Panasonic Pro AV Control v1.1
<b>CATEGORY:</b>	TV
<b>VERSION:</b>	V1.1
<b>SUMMARY:</b>	The module controls a Panasonic TV with AV Pro Control (PAC) service via TCP/IP.
<b>GENERAL NOTES:</b>	<p>The module controls a Panasonic TV with AV Pro Control.</p> <p>The module offers functionality to send commands or retrieve state of the Panasonic TV. It can be used to control Volume, Aspect Ratio, Channel selection, Input Selection and Viewing mode.</p> <p>Feedback on state changes on the device are retrieved by polling.</p>
<b>CRESTRON HARDWARE REQUIRED:</b>	3-Series processor
<b>SETUP OF CRESTRON HARDWARE:</b>	Connect the Crestron processor on the same network as the Panasonic TV. Configure the component with Hostname (or IP) and Mac Address of the TV.
<b>VENDOR FIRMWARE:</b>	/
<b>VENDOR SETUP:</b>	<p>Connect the Panasonic TV on the same network as the Crestron processor.</p> <p>Enable "Wake-on-Lan" (Default is Off)</p> <p>Enable "Powered On by Apps" (Default is Off)</p> <p>It is recommended to configure a static IP address (or use DHCP server to configure a fixed IP address)</p>
<b>CABLE DIAGRAM:</b>	Standard network cable.

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**CONTROL:**

WakeOnLan	D	Sends a Wake-on-Lan packet to the TV. WoL might be unavailable 30 seconds after shutdown.
Standby	D	Pulse to Power-Off to the TV.
RefreshVolume	D	Pulse to receive an update on the Volume.
VolumeUp	D	Pulse to increase the Volume.
VolumeDown	D	Pulse to decrease the Volume
Volume	A	Set the volume to the specified value (0%-100%)
RefreshMute	D	Pulse to update the current Muted State.
MuteOn	D	Pulse to set Mute On
MuteOff	D	Pulse to set Mute Off
MuteToggle	D	Pulse to Toggle the Mute
RefreshAspect	D	Pulse to receive an update on the current Aspect Ratio
AspectToggle	D	Pulse to Toggle the Aspect Ratio. Please note that this will toggle to the next available ratio. Depending on the device not all Aspect Ratios might be available.
Aspect_16_9	D	Pulse to switch aspect ratio to 16:9 (if available)
Aspect_Just	D	Pulse to switch aspect ratio to Just (if available)
Aspect_4_3	D	Pulse to switch aspect ratio to 4:3 (if available)
Aspect_Zoom	D	Pulse to switch aspect ratio to Zoom (if available)
Aspect_4_3_Full	D	Pulse to switch aspect ratio to 4:3 Full (if available)
Aspect_Sidecut_Just	D	Pulse to switch aspect ratio to Sidecut Just (if available)
Aspect_Sidecut_Zoom	D	Pulse to switch aspect ratio to Sidecut Zoom (if available)
Aspect_Auto	D	Pulse to let the TV automatically select an aspect ratio.
Aspect_14_9	D	Pulse to switch aspect ratio to 14:9 (if available)
Aspect_H_Full	D	Pulse to switch aspect ratio to H-Full (if available)
Aspect_V_Full	D	Pulse to switch aspect ratio to V-Full (if available)
Channel_Up	D	Pulse to increase the channel

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Channel_Down	D	Pulse to decrease the channel
Channel_LastView	D	Pulse to select the last viewed channel
Digit_*	D	Pulse to send a keypress (0-9) to the device.
RefreshInputSelection	D	Pulse to receive an update on the current Input Selection
InputSelection_TV	D	Pulse to switch input selection to TV (if available)
InputSelection_AnalogueTV	D	Pulse to switch input selection to Analogue TV (if available)
InputSelection_DVB_T	D	Pulse to switch input selection to DVB-T (if available)
InputSelection_DVB-S	D	Pulse to switch input selection to DVB-S / Other Sat (if available)
InputSelection_Freesat	D	Pulse to switch input selection to Freesat (if available)
InputSelection_DVB_C	D	Pulse to switch input selection to DVB-C (if available)
InputSelection_SAT_IP	D	Pulse to switch input selection to SAT-IP (if available)
InputSelection_Video1	D	Pulse to switch input selection to Video 1 (if available)
InputSelection_Video2	D	Pulse to switch input selection to Video 2 (if available)
InputSelection_Component1	D	Pulse to switch input selection to Component 1 (if available)
InputSelection_HDMI1	D	Pulse to switch input selection to HDMI1 (if available)
InputSelection_HDMI2	D	Pulse to switch input selection to HDMI 2 (if available)
InputSelection_HDMI3	D	Pulse to switch input selection to HDMI 3 (if available)
InputSelection_HDMI4	D	Pulse to switch input selection to HDMI 4 (if available)
InputSelection_DisplayPort	D	Pulse to switch input selection to Display Port (if available)
InputSelection_SD_USB	D	Pulse to switch input selection to SD/USB (if available)
RefreshViewingMode	D	Pulse to receive an update on the current Viewing Mode
ViewingMode_Dynamic	D	Pulse to switch the Viewing Mode to Dynamic (if available)
ViewingMode_Normal	D	Pulse to switch the Viewing Mode to Normal (if available)
ViewingMode_THX_Cinema	D	Pulse to switch the Viewing Mode to THX Cinema (if available)
ViewingMode_THX_Bright_Room	D	Pulse to switch the Viewing Mode to THX Bright Room (if available)
ViewingMode_True_Cinema	D	Pulse to switch the Viewing Mode to True Cinema (if available)
ViewingMode_Cinema	D	Pulse to switch the Viewing Mode to Cinema (if available)

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ViewingMode_Custom	D	Pulse to switch the Viewing Mode to Custom (if available)
ViewingMode_Monitor	D	Pulse to switch the Viewing Mode to Monitor (if available)
ViewingMode_Professional1	D	Pulse to switch the Viewing Mode to Professional 1 (if available)
ViewingMode_Professional2	D	Pulse to switch the Viewing Mode to Professional 2 (if available)
Button_Menu	D	Pulse to emulate a 'Menu' button pressed.
Button_OK	D	Pulse to emulate an 'OK' button pressed.
Button_Return	D	Pulse to emulate a 'Return' / 'Back' button pressed.
Button_Exit	D	Pulse to emulate an 'Exit' button pressed.
Button_ArrowLeft	D	Pulse to emulate a 'Left arrow' button pressed.
Button_ArrowRight	D	Pulse to emulate a 'Right arrow' button pressed.
Button_ArrowUp	D	Pulse to emulate a 'Up arrow' button pressed.
Button_ArrowDown	D	Pulse to emulate a 'Down arrow' button pressed.
Button_Option	D	Pulse to emulate an 'Option' button pressed.
Button_Red	D	Pulse to emulate a 'Red' button pressed.
Button_Green	D	Pulse to emulate a 'Green' button pressed.
Button_Yellow	D	Pulse to emulate a 'Yellow' button pressed.
Button_Blue	D	Pulse to emulate a 'Blue' button pressed.
Button_Apps	D	Pulse to emulate an 'Apps' button pressed.
Button_Home	D	Pulse to emulate a 'Home' button pressed.
Button_3D	D	Pulse to emulate a '3D' button pressed.
Button_Play	D	Pulse to emulate a 'Play' button pressed.
Button_Stop	D	Pulse to emulate a 'Stop' button pressed.
Button_Pause	D	Pulse to emulate a 'Pause' button pressed.
Button_FastForward	D	Pulse to emulate a 'Fast Forward' button pressed.
Button_Rewind	D	Pulse to emulate a 'Rewind' button pressed.
Button_SkipPrev	D	Pulse to emulate a 'Skip Previous' button pressed.
Button_SkipNext	D	Pulse to emulate a 'Skip Next' button pressed.

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Button_Record	D	Pulse to emulate a 'Record' button pressed.
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**FEEDBACK:**

PowerOn_Fb	D	Indicates that the TV is turned ON
InStandby_Fb	D	Indicates that the TV is in Standby. The TV can be turned on by WoL)
Disconnected	D	Indicates that the TV is not responding (Disconnected from network, or Turned Off). Might or might not be turned on by WoL.
Volume_Fb	A	Indicates the Volume of the TV (0-100)
Muted_Fb	D	High when the TV is muted.
NotMuted_Fb	D	High when the TV is not muted. (Both muted and notMuted can be low when state is unknown)
Aspect_16_9_Fb	D	Indicates that the aspect 16:9 is currently applied.
Aspect_Just_Fb	D	Indicates that the aspect Just is currently applied.
Aspect_4_3_Fb	D	Indicates that the aspect 4:3 is currently applied.
Aspect_Zoom_Fb	D	Indicates that the aspect Zoom is currently applied.
Aspect_4_3_Full_Fb	D	Indicates that the aspect 4:3 Full is currently applied.
Aspect_Sidcut_Just_Fb	D	Indicates that the aspect Sidecut Just is currently applied.
Aspect_Sidcut_Zoom_Fb	D	Indicates that the aspect Sidecut Zoom is currently applied.
Aspect_Auto_Fb	D	Indicates that the aspect Auto is currently applied (according to Panasonic documentation). However, the observed behavior of the TV is that it switches to the automatically selected aspect ratio.
Aspect_14_9_Fb	D	Indicates that the aspect 14:9 is currently applied.
Aspect_H_Full_Fb	D	Indicates that the aspect H-Full is currently applied.
Aspect_V_Full_Fb	D	Indicates that the aspect V-Full is currently applied.
InputSelection_*	D	Indicates that the corresponding input is selected.
ViewingMode_*	D	Indicates that the corresponding Viewing Mode is selected.
Information_*	D	Indicates that the corresponding Information is applied.

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**PARAMETERS:**

<b>HostName</b>	S	Hostname or IP address of the Panasonic TV
<b>MACAddress</b>	S	MAC address of the Panasonic TV.

**Additional notes:**

A Refresh-rate not faster than 15 seconds is recommend when the TV is turned off. When refreshing more frequent the driver might receive a time-out after a successful response (when TV is turned on) and assume the TV was turned off again. When the TV is already turned on, the refresh rate can be set up to 1 second. A faster refresh is ignored by the driver.

The web service on A Panasonic TV might be unresponsive due to much network traffic. For example when a SSDP broadcast occurs (during our tests every 15 minutes). It is therefore recommended to 'debounce' the outputs, especially when they trigger additional actions. A S+ 'analog debouncer' is provided in the demo program.

A Panasonic TV might not response to a Wake-On-Lan within 30 seconds after shutdown.

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**TESTING:**

<b>OPS USED FOR TESTING:</b>	CP3,
<b>SIMPL WINDOWS USED FOR TESTING:</b>	SIMPL Windows: 4.03.20 SIMPL+ 4.03.16
<b>DEVICE DB USED FOR TESTING:</b>	73.00.001.00
<b>CRES DB USED FOR TESTING:</b>	54.05.005.00
<b>SYMBOL LIBRARY USED FOR TESTING:</b>	983
<b>SAMPLE PROGRAM:</b>	Panasonic Pro AV Control v1.1 Demo.smw
<b>REVISION HISTORY:</b>	v1.0 – Initial Release v1.0.1 – Included missing files v1.1 – Minor bug fixes - 'Debouncing' outputs in the demo program