

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



## GENERAL INFORMATION

<b>SIMPLWINDOWS NAME:</b>	Panasonic Pro AV Control v1.0
<b>CATEGORY:</b>	TV
<b>VERSION:</b>	V1.0
<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>Recommended is 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:**

<b>PowerOn_Fb</b>	D	Indicates that the TV is turned ON
<b>InStandby_Fb</b>	D	Indicates that the TV is in Standby. The TV can be turned on by WoL)
<b>Disconnected</b>	D	Indicates that the TV is not responding (Disconnected from network, or Turned Off). Might or might not be turned on by WoL.
<b>Volume_Fb</b>	A	Indicates the Volume of the TV (0-100)
<b>Muted_Fb</b>	D	High when the TV is muted.
<b>NotMuted_Fb</b>	D	High when the TV is not muted. (Both muted and notMuted can be low when state is unknown)
<b>Aspect_16_9_Fb</b>	D	Indicates that the aspect 16:9 is currently applied.
<b>Aspect_Just_Fb</b>	D	Indicates that the aspect Just is currently applied.
<b>Aspect_4_3_Fb</b>	D	Indicates that the aspect 4:3 is currently applied.
<b>Aspect_Zoom_Fb</b>	D	Indicates that the aspect Zoom is currently applied.
<b>Aspect_4_3_Full_Fb</b>	D	Indicates that the aspect 4:3 Full is currently applied.
<b>Aspect_Sidcut_Just_Fb</b>	D	Indicates that the aspect Sidecut Just is currently applied.
<b>Aspect_Sidecut_Zoom_Fb</b>	D	Indicates that the aspect Sidecut Zoom is currently applied.
<b>Aspect_Auto_Fb</b>	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.
<b>Aspect_14_9_Fb</b>	D	Indicates that the aspect 14:9 is currently applied.
<b>Aspect_H_Full_Fb</b>	D	Indicates that the aspect H-Full is currently applied.
<b>Aspect_V_Full_Fb</b>	D	Indicates that the aspect V-Full is currently applied.
<b>InputSelection_*</b>	D	Indicates that the corresponding input is selected.
<b>ViewingMode_*</b>	D	Indicates that the corresponding Viewing Mode is selected.
<b>Information_*</b>	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. With or without dashes

**Additional notes:**

The feedbacks reflect the last known state of the TV. Since polling is used the actual state might be changed using other remotes. There might be some delay between the selection of a control and the feedback. A feedback is only updated when a successful response is received.

It is not always necessary to pulse the refresh control to update the feedbacks. The driver internally refreshes its state when appropriate. The refresh is only required when the state of the TV was altered in another way (for example, by using another remote).

A Refresh-rate not faster than 15 seconds is recommended when the TV is turned off. When refreshing more frequently 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.

When it is detected that the TV is turned on, the appropriate feedbacks are set. When the TV is shut down all feedbacks will go to low. The sequence of those events are not predictable.

A Panasonic TV might not respond on 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 v1.0 Demo.smw
<b>REVISION HISTORY:</b>	v1.0 – Initial Release