



## AJA Ki Pro GO Module Application Guide

### Description

This module allows you to control many aspects of the AJA Ki Pro GO device using the RESTful IP interface.

This module provides a wide variety of functionality for control of and status feedback from a supported Ki Pro Ultra including:

- System configurations
- Preset saving and recalling
- Playback Media Selection
- Input selections and configurations
- Playback controls
- Record controls and storage configuration
- Clip and Transport controls
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This module is designed to work with the AJA Ki Pro GO only. This module is not supported on the Ki Pro Rack, Ki Pro Ultra, Ki Pro Ultra Plus, and older Ki Pro models.

### Supported Processors

A 3-series processor with Ethernet is required. This module is not supported on 2-series or earlier processors.

Compatibility			Processor Requirements	

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## Module Application

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- Communications
  - The Crestron processor must be able to communicate with the KiPro over the network via TCP port 80.
  - Enter the IP address of the KiPro Ultra in the "IP Address or Hostname" parameter.
  - If desired, you can set a dynamic address using the [ip\_address\_or\_hostname\_override\$]. This field allows you to override the IP Address or Hostname parameter if a dynamically settable option is required.
- Polling
  - You do not need to poll for any of the inputs to function. Polling is only required for feedback of the device.
  - The module will start polling when the [start\_polling] input is pulsed, and stop when [stop\_polling] is pulsed. It is recommended to poll only when needed.
  - When polling is enabled, the module actively watches for play status. When the KiPro is playing, the poll frequency is significantly increased to ensure timecode is correct. It is recommended to only poll when feedback is needed.

# Signal and Parameter Descriptions

Bracketed signals such as "[signal\_name]" are optional signals

## **DIGITAL INPUTS**

[enable_debug] .....	While high will print debugging information and status messages to the processor console. In most cases this signal should be left undefined or low.
[start_polling] .....	Pulse to enable periodic polling of the Ki Pro for status updates. The polling interval is changed automatically based on of the Ki Pro is idle or running (for example, playing back, fast forwarding, rewinding, etc.)
[stop_polling] .....	Pulse to disable periodic polling of the Ki Pro for status updates. While polling is disabled the module's outputs may not represent the actual state of the Ki Pro.
[panel_lock_on]/[panel_lock_off] .....	Pulse to lock (disable) or unlock (unlock) the front panel controls on the Ki Pro
[playback_media_source_usbx] .....	Pulse to specify which slot is to be used for media playback.
[sdi_monitor_all_channels] .....	Configure the SDI monitor output to receive all channels
[sdi_monitor_channel1...4] .....	Configure the SDI monitor output to receive the specified channel.
[hdmi_monitor_all_channels] .....	Configure the HDMI monitor output to receive all channels
[hdmi_monitor_channel1...4] .....	Configure the HDMI monitor output to receive the specified channel.
[lcd_super_opacity_...%] .....	Pulse to configure the opacity of the super box on the front panel of the Ki Pro between 25% and 100%
[headphone_and_vu_meter_monitor_channel1-4] .....	Pulse to select the Encode Channel that will feed the headphones and VU Meters.
[play_media_behavior_...]	Determines how media is playback (e.g. single clip, all clips, or playlist contents)
[looped_playback_on/off] .....	Pulse to turn looped playback on or off. When looped playback is on clips will continue playing in repeat; otherwise clips will play only once.
[looped_playback_toggle] .....	Pulse to toggle looped playback mode on or off.
[record_loss_of_video_stop/continue] .....	Pulse to configure the behavior if a loss of video is detected while recording. If "stop" is selected, recording will be stopped, otherwise recording will continue.
[channel1-4_disable] .....	Pulse to disable record and playback functionality for the channel.
[channel1-4_enable] .....	Pulse to enable record and playback functionality for the channel.
[channel1-4_main_record_destination_usb1-5] .....	Pulse to specify the primary record destination.
[channel1-4_backup_record_destination_none] .....	Pulse to specify the backup record destination to none.
[channel1-4_backup_record_destination_usb1-5] .....	Pulse to specify the backup record destination.
[channel1-4_encode_profile_low] .....	Pulse to set the encode quality to low.
[channel1-4_encode_profile_medium] .....	Pulse to set the encode quality to medium.
[channel1-4_encode_profile_high] .....	Pulse to set the encode quality to high.
[channel1-4_record_sdi1-4...hdmi1-4] .....	Pulse to set the input used for channel record.
[channel1-4_record_embedded_audio] .....	Pulse to record the embedded audio on HDMI or SDI.
[channel1-4_record_analog_audio] .....	Pulse to record the analog audio inputs.
[transport_command_play] .....	Pulse to start playback.

[transport_command_record]	.....Pulse to start recording.
[transport_command_stop]	.....Pulse to stop playback or recording
[transport_command_fast_forward]	.....Pulse to fast forward playback
[transport_command_fast_reverse]	.....Pulse to fast reverse (rewind) playback
[transport_command_single_step_forward]	.....Pulse to advance playback a single step forward
[transport_command_single_step_reverse]	.....Pulse to advance playback a single step backwards
[transport_command_next_clip]	.....Pulse to advance to the next clip in the sequence or playlist.
[transport_command_previous_clip]	.....Pulse to change to the previous clip in the sequence or playlist
[transport_command_variable_speed_play]	.....Pulse to change the transport to variable speed play mode.
[transport_command_preroll]	.....Pulse to change the transport to preroll mode

## **ANALOG INPUTS**

[recall_preset_(1-20)]	.....Will recall the specified Ki Pro system preset (from 1 to 20) on any change.
[save_preset_(1-20)]	.....Will store the current Ki Pro settings as a preset (from 1 to 20) on any change.
[go_to_playlist_index]	.....Will attempt to load the clip at the specified index in the Ki Pro playlist. Typically, the index starts at 0 where 0 is the first item in the list.

## **SERIAL INPUTS**

[ip_address_or_hostname_ovveride\$]	.....Allows you to override the IP Address or Hostname parameter if a dynamically settable option is required.
[system_name\$]	.....Sets the system name for the Ki Pro being controlled.

## **DIGITAL OUTPUTS**

[polling_active_fb]	.....High when polling for the Ki Pro's current status is enabled. Module feedback will accurately represent the state of the Ki Pro.
[polling_inactive_fb]	.....High when polling for the Ki Pro's current status is disabled. Module feedback may not accurately represent the state of the Ki Pro
[panel_lock_on_fb]	.....When high indicates that the Ki Pro front panel buttons are locked (disabled)
[panel_lock_off_fb]	.....When high indicates that the Ki Pro front panel buttons are unlocked (enabled)
[playback_media_source_usb1-5/smb_fb]	.....High indicates the corresponding channel is selected for playback.
[media_slot1-5_unknown_fb]	.....High indicates the corresponding media slot state is unknown.
[media_slot1-5_mounting_fb]	.....High indicates the corresponding media slot state is mounting media.
[media_slot1-5_mouted_read_only_fb]	.....High indicates the corresponding media slot state is mounted read only.
[media_slot1-5_mouted_read_write_fb]	.....High indicates the corresponding media slot state is mounted read write.
[media_slot1-5_unmounting_fb]	.....High indicates the corresponding media slot is unmounting.
[media_slot1-5_unmounted_fb]	.....High indicates the corresponding media slot is unmounted.
[media_slot1-5_error_fb]	.....High indicates the corresponding media slot has an error.

[sdi_monitor_all_channels_fb] .....	High indicates the Ki Pro is configured to route all channels to the SDI monitor.
[sdi_monitor_channel1...4_fb] .....	High indicates the Ki Pro is configured to route the specified channel to the SDI monitor.
[hdmi_monitor_all_channels] .....	Configure the HDMI monitor output to receive all channels.
[hdmi_monitor_channel1...4] .....	High indicates the Ki Pro is configured to route the specified channel to the SDI monitor.
[super_opacity_...%_fb] .....	High indicates the opacity of the super (timecode bun) is configured for the corresponding value (between 25% and 100%)
[headphones_and_vu_meters_monitor_channel1-4_fb] ..	High indicates the corresponding record channel is configured to be monitored on the Ki Pro headphone output and VU meters.
[play_media_behavior_..._fb] .....	Determines how media is played back (e.g. single clip, all clips, or playlist contents)
[looped_playback_on/off_off_fb] .....	Indicates that looped playback is on or off. When looped playback is on clips will continue playing in repeat; otherwise clips will play only once.
[record_loss_of_video_stop/continue_fb] .....	Indicates the behavior if a video input is lost while recording. If "stop" is selected, recording will be stopped, otherwise recording will continue.
[channel1-4_enable/disable_fb] .....	High indicates the channel is enabled or disabled for playback and record functionality.
[channel1-4_main_record_destination_usb1-5/smb_fb] ...	High indicates the corresponding channels main record destination.
[channel1-4_backup_record_destination_usb1-5/smb_fb]	High indicates the corresponding channels backup record destination.
[channel1-4_backup_record_destination_none_fb] .....	High indicates the corresponding channels backup record destination is set to none.
[channel1-4_encode_profile_low/medium/high_fb] .....	High indicates the corresponding channels encode quality is set to low/medium/high.
[channel1-4_record_sdi1-4/hdmi1-4_fb] .....	High indicates the corresponding channels record input is SDI input 1-4 or HDMI input 1-4.
[channel1-4_record_embedded/analog_audio_fb] .....	High indicates the corresponding channels record audio source is coming from embedded audio or the analog input on the Ki Pro.
[transport_state_uninitialized_fb] .....	Indicates that the transport has not been initialized
[transport_state_idle_fb] .....	Indicates that the transport is idle.
[transport_state_recording_fb] .....	Indicates that the transport is recording
[transport_state_playing_forward_fb] .....	Indicates that the transport is playing in forward mode
[transport_state_forward_2x/4x/8x/16x_fb].....	Indicates that the transport is playing in fast forward mode at the specified speed (2x, 4x, 8x, or 16x)
[transport_state_forward_step_fb] .....	Indicates that the transport is playing in forward step mode
[transport_state_playing_reverse_fb] .....	Indicates that the transport is playing in reverse mode.
[transport_state_reverse_2x/4x/8x/16x_fb] .....	Indicates that the transport is playing in fast reverse mode at the specified speed (2x, 4x, 8x, or 16x)
[transport_state_paused_fb] .....	Indicates that the transport is paused (still)
[transport_state_error_in_idle_fb] .....	Indicates that the transport state was idle but encountered an error.
[transport_state_error_in_record_fb] .....	Indicates that the transport state was recording but encountered an error while recording.
[transport_state_error_in_play_fb] .....	Indicates that the transport state was playback but encountered an error while playing.
[transport_state_error_in_pause_fb] .....	Indicates that the transport was paused but encountered an error while paused.

## **ANALOG OUTPUTS**

- [recall\_preset\_(1-20)\_fb] .....Indicates that the corresponding Ki Pro system preset has been recalled.
- [save\_preset\_(1-20)\_fb] .....Indicates that the corresponding Ki Pro system preset has been saved.
- [media\_slot1-5\_remaining\_capacity\_percent\_fb] .....Indicates the percentage of space currently unused on the media.
- [current\_playlist\_index\_fb] .....Indicates the index

## **SERIAL OUTPUTS**

- [system\_name\_fb\$] .....Indicates the currently configured name for the Ki Pro system
- [current\_volume\_name\_fb\$] .....Indicates the name of the current media volume (disk) loaded by the Ki Pro
- [current\_playlist\_name\_fb\$] .....Indicates the name of the current playlist loaded by the Ki Pro
- [display\_timecode\_fb\$].....Indicates the currently displayed timecode value
- [current\_clip\_name\_fb\$] .....Indicates the name of the currently loaded clip.

## **PARAMETERS**

- IP Address or Hostname ..... The IP address or hostname to use when connecting to the KiPro REST interface. If it is necessary to change this value at runtime use the [ip\_Address\_or\_hostname\_override\$] input

## Support

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This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email [support@controlworks.com](mailto:support@controlworks.com) or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at <https://store.controlworks.com/account/login.aspx>

### Distribution Package Contents

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The distribution package for this module should include:

AJA_Ki_Pro_GO_Demo_V1.2_(ControlWorks).smw	Demonstration Program
AJA_Ki_Pro_GO_V1.2_(ControlWorks).umc	Main User Module
AJA_Ki_Pro_GO_Engine_v1.2_(ControlWorks).usp	SIMPL+ for use inside main module
AJA_Ki_Pro_GO_Engine_v1.2_(ControlWorks).ush	SIMPL+ header file, for use inside main module
aja_ki_pro_go.clz	SIMPL# module for use in SIMPL+ module
AJA_Ki_Pro_GO_TSW1060_Demo_v1.2_(ControlWorks).vtp	Demonstration TSW-1060 file
AJA_Ki_Pro_GO_v1.2_(ControlWorks)_Help.pdf	This help file.



## Revision History

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V1.2 caleb@controlworks.com 2023.08.28

- Added SMB recording destination and SMB playback media source.
- Bug fix for media error state.

V1.1 caleb@controlworks.com 2020.09.03

- Recompile for Database 200.

V1.0 lincoln@controlworks.com 2019.10.09

- Initial Version

## Development Environment

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This module version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

<b>AJA Hardware</b>	<b>Software Version</b>
AJA KiPro Ultra	4.0.3.18-11r
<b>Crestron Hardware</b>	<b>Firmware Version</b>
Crestron CP3 Processor	v1.8001.4925.26115
<b>Software</b>	<b>Software Version</b>
Crestron SIMPL Windows	4.25
Crestron Vision Tools Pro-e	6.2.02
Crestron Database	219.05
Device Database	200.285

# ControlWorks Consulting, LLC Module License Agreement

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## Definitions:

*ControlWorks*, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 8228 Mayfield Road, Chesterland Ohio, 44026. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. *Module* refers to files required to implement the functionality provided by the module and may include source files with extensions such as UMC, USP, SMW and VTP. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

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## Provision of Support

We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

## Modification of Software

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