



AJA KiPro RS422 Module Application Guide

Description

This module allows you to control many aspects of the AJA KiPro device using the RS-422 serial interface.

This module provides a wide variety of functionality for control of the AJA KiPro including:

- Standard transport controls (play, stop, fast forward, etc.)
- Timecode feedback
- The ability to store and recall up to 10 presets based on time code
- The ability to load clips
- Jog controls using a slider

Supported Processors

Any 2- or 3-Series Processor with an RS-422 port is supported.

Compatibility			Processor Requirements	
				

Contents

Description	1
Supported Processors	1
Module Application	3
Signal and Parameter Descriptions	4
DIGITAL INPUTS	4
ANALOG INPUTS	4
SERIAL INPUTS	4
DIGITAL OUTPUTS	5
ANALOG OUTPUTS	5
SERIAL OUTPUTS	5
PARAMETERS	5
Support	6
Distribution Package Contents	6
Revision History	7
ControlWorks Consulting, LLC Module License Agreement.....	8

Module Application

You must connect the KiPro to a RS-422 capable serial port on the Crestron processor.

The serial port must be configured for RS-422, 38400 baud, 8 data bits, one stop bit and Odd (O) parity.

Using a Jog/Shuttle Slider

To make use of the "Jog/Shuttle Slider" feature of this module, be sure to assign the slider a Digital Press Join in your VisionTools project and connect it to the module's [\[jog_shuttle_press\]](#) digital input.

Local Control Mode

If local control mode is enabled(Config option 35.2) the module will feedback, but not control the KiPro. You must set option 35.2 to RS422 Only mode.

Signal and Parameter Descriptions

Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS

[rewind]	Pulse to start the KiPro rewinding
[play]	Pulse to start the KiPro playing from the current position
[stop]	Pulse to stop the KiPro at the current position. Pulsing it again, will exit playback mode.
[fast_forward]	Pulse to start the KiPro fast forwarding
[still]	Pulse to still the KiPro at the current position
[record]	Pulse to start recording. Note that not all KiPros support recording.
[enable_poll_for_status]	Hold high to enable polling for status information, such as the state of the transport, not including time code information.
[enable_poll_for_time_code]	Hold high to enable polling for time code information. It is recommended that this signal only be held high when time code information is needed.
[position_store]	Pulse before selecting a preset to store the current time code as a position preset.
[position_preset1...10]	If pulsed when [ready_to_store_preset] is low, recalls the selected preset by instructing the KiPro to go to that time code; if pulsed when [ready_to_store_preset] is high, stores the current position as the preset and updates the preset position text.
[variable_speed_playback_enable]	Hold high to enable the "Variable Speed Playback" function using a slider to control speed
[variable_speed_slider_press]	Connect the digital press feedback from the slider used for variable speed playback functions.
[previous_clip]	Pulse to load the previous clip in the sequence (clip order is defined by KiPro firmware)
[next_clip]	Pulse to load the next clip in the sequence
[clip_id_poll]	Pulse to poll for the ID number of the current clip. The clip number is also automatically polled for when either [enable_poll_for_...] input is high, or when transport commands are triggered.

ANALOG INPUTS

[variable_speed_slider_slider]	Connect to the analog touch from a slider (unsigned touch/feedback, snap to center not enabled) for variable speed functionality.
[cue_clip_at_index_(0-65535d)]	Specify the index of the clip to be cued. Index numbers are determined by KiPro firmware with 0 being the index of the first clip on the media and ascending sequentially.

SERIAL INPUTS

aja_kipro_rs422_rx\$	Route from serial port RX\$ line.
----------------------	-----------------------------------

DIGITAL OUTPUTS

[rewinding_fb]	High while the KiPro is rewinding
[playing_fb]	High while the KiPro is playing
[stopped_fb]	High while the KiPro is stopped
[fast_forwarding_fb]	High while the KiPro is fast forwarding
[still_fb]	High while the KiPro is in still (pause) mode
[recording_fb]	High when the KiPro is recording
[record_inhibit_fb]	High when the KiPro is record inhibited
[ready_to_store_preset]	High when the module is ready to store a preset. Pulse [position_preset1...10] to store the current time as a preset.
[in_local_mode_fb]	When high, the KiPro is set to local control mode only. In this mode the module will feedback, but will not control the unit. You must set Config option 35.2 to RS422 Only mode.
[not_in_capture_mode_fb]	High when the KiPro reports that it is not in capture mode and not ready to record. Typically indicates the KiPro is currently in playback mode, however this is not definitive.

ANALOG OUTPUTS

[variable_speed_feedback]	Connect to the analog feedback join of the variable speed playback slider if this function is used. This analog forces the slider back to the center position when the slider is released.
[current_clip_number_fb]	Reports the current clip number loaded on the KiPro, with a valid range of 0 to 65535. Refer to [cue_clip_at_index_(0-65535)] for additional information.

SERIAL OUTPUTS

Aja_kipro_rs422_rx\$	Route to the serial port TX\$ line.
[time_code\$]	When poll for timecode is enabled, reports the current time code in HH:MM:SS format. (Frame numbers are not reported)
[position_preset1...10_time\$]	The time code position associated with the corresponding preset (in HH:MM:SS format)

PARAMETERS

Running status poll interval.....	The amount of time to wait between polling while the KiPro is running (for example, play, rewind, fast forward, jog, or variable speed playback)
Idle status poll interval.....	The amount of time to wait between polling while the KiPro is idle (for example, stopped or stilled)

Support

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email 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 <http://www.thecontrolworks.com/customerlogin.aspx>.

Distribution Package Contents

The distribution package for this module should include:

AJA_KiPro_RS422_v1.0_(ControlWorks).umc.....Crestron User Module
Serial String Queue 1.0.usp.....SIMPL+ file
Serial String Queue 1.0.ush.....SIMPL+ header file
Sony P2 String Comparison.uspSIMPL+ file
Sony P2 String Comparison.ushSIMPL+ header file
AJA_KiPro_RS422_Demo_v1.0_(ControlWorks).smwDemo program for PRO3 processor
AJA_KiPro_RS422_TSW1060_Demo_v1.0_(ControlWorks).vtp Demo touchpanel file
AJA_KiPro_RS422_v1.0_(ControlWorks)_Help.doc.....Help file

Revision History

V1.0 lincoln@controlworks.com 2019.10.09

-Initial Version

Development Environment

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.

AJA Hardware	Software Version
AJA KiPro Ultra	4.1.0.23
Crestron Hardware	Firmware Version
Crestron AV3 Processor	v1.504.3687.28729
Software	Software Version
Crestron SIMPL Windows	4.11.06
Crestron Vision Tools Pro-e	3.7.2.8
Crestron Database	80.05.003.00
Crestron Symbol Library	1084
Crestron Device Library	1084

ControlWorks Consulting, LLC Module License Agreement

Definitions:

ControlWorks, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 701 Beta Drive, Suite 22 Mayfield Village, Ohio 44143-2330. *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.

Disclaimer of Warranties

ControlWorks Consulting, LLC software is licensed to You as is. You, the consumer, bear the entire risk relating to the quality and performance of the Software. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from any defect in the Software, even if ControlWorks Consulting, LLC had reason to know of the possibility of such damage. If the Software proves to have defects, You and not Us must assume the cost of any necessary service or repair resulting from such defects.

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

You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Module in whole or part. You may modify the Demo Program. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from You modifying the Software in any manner.

Indemnification/Hold Harmless

ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result from the operation of a program containing a ControlWorks Consulting, LLC Module or any component thereof.

License Grant

Software authored by ControlWorks remains the property of ControlWorks. ControlWorks grants You the non-exclusive, non-transferable, perpetual license to use the Software authored by ControlWorks as a component of Systems programmed by You. This Software is the intellectual property of ControlWorks Consulting, LLC and is protected by law, including United States and International copyright laws. This Software and the accompanying license may not be transferred, resold, or assigned to other persons, organizations or other Crestron Dealers via any means.

The use of this software indicates acceptance of the terms of this agreement.

Copyright (C) 2019 ControlWorks Consulting, LLC All Rights Reserved – Use Subject to License.
US Government Restricted Rights. Use, duplication or disclosure by the Government is subject to restrictions set forth in subparagraphs (a)-(d) of FAR 52.227-19.