



CueServer2 Control Modules Module Application Guide

Description

This suite of modules supports the Interactive Technologies CueServer2 series of DMX controllers (CS-900, CS-920, CS-950) via UDP/IP and TCP/IP communications. Level control, cue recall, cue saving and channel feedback, digital outputs, and CueServer2 buttons are available.

Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc

This module is the base module for the CueServer2, and includes some control of the device including polling channel, cue recall, and digital outputs.

Interactive_Technologies_CueServer2_Channel_V1.0_(ControlWorks).umc

This module allows any individual channel on the CueServer to be set to a specific level input value. The input can be ramped or directly set to a level.

Interactive_Technologies_CueServer2_Button_V1.0_(controlworks).umc

This module allows triggering button functions and setting feedback.

Supported Processors

Any 3-Series, 4-Series processor appliance, or VC-4 instance that supports SIMPL Windows and has Ethernet.

Compatibility			Processor Requirements	

Contents

CueServer2 Control Modules	1
Description	1
Supported Processors	1
Ethernet Configuration Information	3
Module Application	3
Supported CueServer2 Controllers.....	3
Signal and Parameter Descriptions	4
Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc:	4
Interactive_Technologies_CueServer2_Channel_V1.0_(ControlWorks).umc:	5
Interactive_Technologies_CueServer2_Button_V1.0_(controlworks).umc:	6
Support	7
Distribution Package Contents	7
Revision History	8
Development Environment	9
ControlWorks Consulting, LLC Module License Agreement.....	10

Ethernet Configuration Information

Each CueServer2 that you are controlling requires one instance of the CueServer2 Engine module (Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc). This module serves as the communication gateway to the CueServer2.

The CueServer2 by default has inbound UDP Messages disabled and must be enabled for the module to work. To enable, open CueServer Studio, connect to the CueServer2. In the Settings menu, select General. Under "Inbound UDP Messages" change the Mode to Enabled. Note the Port number, typically the default port is 52737.

Module Application

Successful application of this module assumes working knowledge of DMX control systems in general. It also assumes that you are familiar with CueServer Studio. As the CueServer2 series can support multiple types of equipment setups, it is important that you understand the configuration of these setups and the terminology of the equipment involved.

Note about Polling for current level feedback

These modules support the usage of polling for current feedback of all 16384 channels of the CueServer2. However, it is not recommended to continuously poll for updated information as this is a very intensive request on the Crestron processor for a brief period of time. Furthermore, while this suite of modules polls for channel level information, UDP commands from the CueServer2 Channel Module will **not be generated**. Please see the demo program for the best programming technique to program these levels.

Button Feedback

Included in the module distribution is a module for CueServer2 buttons. This module is used to trigger buttons programmed in the CueServer2 and for button feedback.

Supported CueServer2 Controllers

These modules, at the time of writing this document, support the CueServer2 series family of controllers such as: CueServer2 Pro (CS-900), CueServer2 Mini (CS-920), CueServer2 DIN (CS-956).

Signal and Parameter Descriptions

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

Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc:

DIGITAL INPUTS

[enable_udp_server]	Digital input when high enables the Crestron UDP server to send commands such as cue recall and save, buttons, and setting channel levels.
[enable_debug]	Digital input when high prints messages to the console (console on appliances, journal on servers).
[refresh_channel_levels]	Pulse to poll for all channel levels. When this function is running, setting channel levels is inhibited.
[cue_recall]	Recalls an individual cue. The cue that is recalled is determined by the cue_number analog input. Requires UDP server to be enabled.
[cue_save]	saves an individual cue. The cue that is saved is determined by the cue_number analog input. Requires UDP server to be enabled.
[digital_outputx_on/off]	Pulse to set the corresponding digital output on or off. Requires UDP server to be enabled.

ANALOG INPUTS

[cue_number]	The number of the cue to be saved or recalled. This number is given as the cue number multiplied by a factor of 100. For example, if cue number 2.3 was to be recalled, this signal should have a value of 230d. This signal range is valid from 0d to 65535d.
[fade]	The fade time (in tenths of seconds) of the cue to be saved. For example, if the fade time of a cue is set to 7.8 seconds, this signal should have a value of 78d.
[follow]	The follow time (in tenths of seconds) of the cue to be saved. For example, if the follow time of a cue is set to 0.9 seconds, this signal should have a value of 9d. If the follow time is set to 0 seconds (0d), the following cue in the cue list will not play unless it is recalled (this is the default behavior of the CueServer2).

SERIAL INPUTS

This module does not utilize any serial inputs.

DIGITAL OUTPUTS

[udp_server_enabled_fb]	Indicates that the Crestron UDP Server is enabled.
[polling_busy_fb]	Indicates if the CueServer2 is currently being polled. No commands should be sent to the CueServer2 while it is being polled.

ANALOG OUTPUTS

This module does not utilize any analog outputs.

SERIAL OUTPUTS

This module does not utilize any serial outputs.

PARAMETERS

IP Address or Hostname	Enter the IP Address or hostname of the CueServer2.
HTTP Port	Enter the HTTP Port of the CueServer. This is defaulted to a value of 80d.
UDP Port	Enter the UDP Port of the CueServer2. This is default 52737d.
UDP Ethernet Adapter	Select the Adapter the CueServer2 is located.
Instance ID	Enter an ID that will be associated with this engine. Each engine in a program requires a different ID.

Interactive_Technologies_CueServer2_Channel_V1.0_(ControlWorks).umc:

DIGITAL INPUTS

reboot_finishedLatch this signal high after reboot. Do not use a 1.

ANALOG INPUTS

[channel_level_input]Sets the level of an individual channel in the range of 0-100% (0d – 65535d). The new level is set whenever this signal is changed the engine is not polling for channel levels. UDP server must be enabled for this command to function.

SERIAL INPUTS

This module does not utilize any serial inputs.

DIGITAL OUTPUTS

This module does not utilize any digital outputs.

ANALOG OUTPUTS

[channel_level_fb].....Level of the channel in the range of 0-100% (0d – 65535d). Typically, this signal is tied to the input to keep symbols such as RAMPs or PRESETVs at the correct state. See demo program for detail.

SERIAL OUTPUTS

This module does not utilize any serial outputs.

PARAMETERS

Channel NumberThe number of the channel that will have its level changed and be monitored for feedback.

Parent Engine Instance IDThe parent CueServer2 Engine instance ID in your program. Refer to the Instance ID parameter on the Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc.

Interactive_Technologies_CueServer2_Button_V1.0_(controlworks).umc:

DIGITAL INPUTS

[press].....	Pulse to active the press command that is programmed for this button. UDP server must be enabled for this command to function.
[release]	Pulse to activate the release command that is programmed for this button. UDP server must be enabled for this command to function.
[feedback_on]	Pulse to activate the feedback for this button. When feedback is enabled, the selected feedback pattern will be visible. UDP server must be enabled for this command to function.
[feedback_off]	Pulse to disable the feedback state for this button. UDP server must be enabled for this command to function.
[set_feedback_on_color].....	Pulse to set the feedback on color as defined by the feedback on color RGB analog inputs. UDP server must be enabled for this command to function.
[set_feedback_off_color].....	Pulse to set the feedback off color as defined by the feedback off color RGB analog inputs. UDP server must be enabled for this command to function.

ANALOG INPUTS

[feedback_pattern].....	Initialize to a value 0-16 corresponding to predetermined feedback patterns. 0 = solid, 1-16 = flashing with various patterns. Unfortunately when this document was written, there was not a list of patterns and their timings available.
[feedback_on/off_color_r/g/b_value].....	initialize to the RGB value for the desired on or off color of a button. Pulsing the associated set digital input sends the color.

SERIAL INPUTS

This module does not utilize any serial inputs.

DIGITAL OUTPUTS

This module does not utilize any digital outputs.

ANALOG OUTPUTS

This module does not utilize any analog outputs.

SERIAL OUTPUTS

This module does not utilize any serial outputs.

PARAMETERS

Station ID	The Station ID of the button to be controlled.
Page Number.....	The Page Number of the button to be controlled.
Button Number	The button number to be controlled.
Parent Engine Instance ID.....	The parent CueServer2 Engine instance ID in your program. Refer to the Instance ID parameter on the Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).umc.

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 will seek to answer your question during office hours which are 9 AM to 5 PM US Eastern Time, 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/Customers/Login.aspx>.

Distribution Package Contents

The distribution package for this module should include:

Interactive_Technologies_CueServer2_V1.0_(ControlWorks)_Demo.smw	Demonstration Program
Interactive_Technologies_CueServer2_Engine_V1.0_(controlworks).umc	Engine User Module
Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).usp	SIMPL+ for use inside engine module
Interactive_Technologies_CueServer2_Engine_V1.0_(ControlWorks).ush	SIMPL+ header file, for use inside engine module
Interactive_Technologies_CueServer2_Channel_V1.0_(controlworks).umc	Channel User Module
Interactive_Technologies_CueServer2_Channel_V1.0_(ControlWorks).usp	SIMPL+ for use inside channel module
Interactive_Technologies_CueServer2_Channel_V1.0_(ControlWorks).ush	SIMPL+ header file, for use inside channel module
Interactive_Technologies_CueServer2_Button_V1.0_(controlworks).umc	Button User Module
Interactive_Technologies_CueServer2_Button_V1.0_(ControlWorks).usp	SIMPL+ for use inside button module
Interactive_Technologies_CueServer2_Button_V1.0_(ControlWorks).ush	SIMPL+ header file, for use inside button module
CWCueServer2.clz	SIMPL# module for use in all SIMPL+
Interactive_Technologies_CueServer2_V1.0_(ControlWorks)_Demo_TSW1060.vtp	Demonstration Touchpanel file
Interactive_Technologies_CueServer2_V1.0_(ControlWorks)_Help.pdf	This help file.

Revision History

V1.0 caleb@controlworks.com 2022.09.27

-Initial release

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.

Manufacturer Hardware	Software Version
CS-900	4.0.8
Crestron Hardware	Firmware Version
AV3	v1.8001.4814.22511
PRO4	v2.8000.00010
VC-4	V4.0000.00007.01
TSW-1060	v3.002.0028
Software	Software Version
SIMPL Windows	4.20
Vision Tools Pro-e	6.0.07
Smart Graphics Controls	2.09.06.01
Crestron Database	213.00
Device Database	200.201

ControlWorks Consulting, LLC Module License Agreement

Definitions:

ControlWorks, We, and Us refer to ControlWorks Consulting, LLC, with headquarters located at 8228 Mayfield Road Suite 6B Rear, 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 Instance License* refers to a module license that is granted to a specific combination of a Crestron Processor and a single controlled device (for example, based on the respective serial numbers); a separate Module Instance License must be purchased for each such combination. *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

You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Module in whole or part. Any modifications to the Module shall immediately terminate any licenses purchased with respect thereto. You may, however, 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.

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