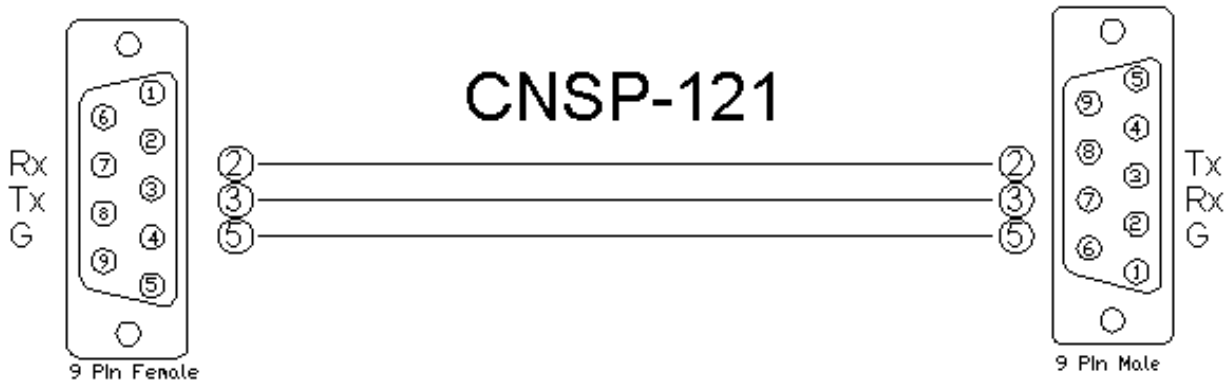
Partner: Runco
Model: CX-46HD
Device Type: TV / Video Projector

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Runco CX-46HD v1.0.umc
CATEGORY:	TV/Video Projector
VERSION:	V1.0
SUMMARY:	Controls the Runco Crystal Series LCD display using the ASCII protocol
GENERAL NOTES:	Display does not allow for polling of status so some states are forced at startup. These states are Power, PIP on/off. The rest will sync up after use and will remain unchanged unless the processor is rebooted. **NOTE**: All feedback is based on response from the display including volume level and will not work if From_Device is commented out. This module is SystemBuilder compatible.
CRESTRON HARDWARE REQUIRED:	CNCOMH-2, CNXCOM, ST-COM, C2COM
SETUP OF CRESTRON HARDWARE:	RS232 Baud: 19200 Parity: N Data Bits: 8 Stop Bits: 1
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	None
CABLE DIAGRAM:	CNSP-121



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CONTROL:

Power_On	D	Pulse to turn the unit on
Power_Off	D	Pulse to turn the unit off
Input_TV	D	Pulse to select the TV video input
Input_1	D	Pulse to select the Input 1 video input
Input_2	D	Pulse to select the Input 2 video input
Input_3	D	Pulse to select the Input 3 video input
Input_4	D	Pulse to select the Input 4 video input
Input_RGB	D	Pulse to select the RGB video input
Input_HDMI_1	D	Pulse to select the HDMI 1 video input
Input_HDMI_2	D	Pulse to select the HDMI 2 video input
Input_Next	D	Pulse to select the next available input in the cycle
PIP_On	D	Pulse to turn PIP on
PIP_Off	D	Pulse to turn PIP off
PIP_Input_TV	D	Pulse to select the PIP Input TV video input
PIP_Input_1	D	Pulse to select the PIP Input 1 video input
PIP_Input_2	D	Pulse to select the PIP Input 2 video input
PIP_Input_3	D	Pulse to select the PIP Input 3 video input
PIP_Input_4	D	Pulse to select the PIP Input 4 video input
PIP_Input_RGB	D	Pulse to select the PIP Input RGB video input
PIP_Input_HDMI_1	D	Pulse to select the PIP Input HDMI 1 video input
PIP_Input_HDMI_2	D	Pulse to select the PIP Input HDMI 2 video input

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PIP_Input_Next	D	Pulse to select the next available PIP input in the cycle
PIP_Aspect_16x9	D	Pulse to set PIP Aspect to 16x9
PIP_Aspect_4x3	D	Pulse to set PIP Aspect to 4x3
PIP_Swap	D	Pulse to swap PIP inputs
PIP_Size_Small	D	Pulse to set the PIP window to small
PIP_Size_Medium	D	Pulse to set the PIP window to medium
PIP_Size_Large	D	Pulse to set the PIP window to large
PIP_Position_Top_Left	D	Pulse to place the PIP window in the top left quadrant of the display
PIP_Position_Top_Right	D	Pulse to place the PIP window in the top right quadrant of the display
PIP_Position_Bottom_Left	D	Pulse to place the PIP window in the bottom left quadrant of the display
PIP_Position_Bottom_Right	D	Pulse to place the PIP window in the bottom right quadrant of the display
Volume_Up	D	Press and hold to raise the unit volume
Volume_Down	D	Press and hold to lower the unit volume
Volume_Mute	D	Pulse to mute/unmute the unit volume
Audio_Mode_Surround	D	Pulse to set the unit local audio to surround
Audio_Mode_MTS/SAP	D	Pulse to set the unit local audio to MTS/SAP
Channel_Up	D	Press and hold to change the tuner channel up
Channel_Down	D	Press and hold to change the tuner channel down
Previous_Channel	D	Pulse to change the tuner to the previously tuned channel
Closed_Caption_On/Off	D	Pulse to enable/disable closed caption on the tuner
***Key_0 – 9**	D	Pulse to actuate the corresponding key number on the tuner
Key_-	D	Pulse to actuate the - key
Menu	D	Pulse to enable the on screen menu
Enter	D	Pulse to accept on screen menu selections

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Exit	D	Pulse to exit the on screen menu
Info	D	Pulse to display input info on screen
Up	D	Pulse to move the menu cursor up
Down	D	Pulse to move the menu cursor down
Left	D	Pulse to move the menu cursor left
Right	D	Pulse to move the menu cursor right
Aspect_16x9	D	Pulse to set the unit aspect ratio to 16x9
Aspect_4x3	D	Pulse to set the unit aspect ratio to 4x3
Aspect_Letterbox	D	Pulse to set the unit aspect ratio to letterbox
Aspect_Virtual_Wide	D	Pulse to set the unit aspect ratio to virtual wide
Settings_Custom	D	Pulse to restore custom viewing settings
Settings_ISF_Day	D	Pulse to restore ISF Day viewing settings
Settings_ISF_Night	D	Pulse to restore ISF Night viewing settings
From_Device	S	Serial signal to be routed from a 2 way RS232 port

FEEDBACK:

Power_Is_On	D	High to indicate that the power is on
Power_Is_Off	D	High to indicate that the power is off
Input_Is_TV	D	High to indicate that the input is TV
Input_Is_Input_1	D	High to indicate that the input is Input 1
Input_Is_Input_2	D	High to indicate that the input is Input 2
Input_Is_Input_3	D	High to indicate that the input is Input 3
Input_Is_Input_4	D	High to indicate that the input is Input 4
Input_Is_RGB	D	High to indicate that the input is RGB

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Input_Is_HDMI_1	D	High to indicate that the input is HDMI 1
Input_Is_HDMI_2	D	High to indicate that the input is HDMI 2
PIP_Is_On	D	High to indicate that the PIP is on
PIP_Is_Off	D	High to indicate that the PIP is off
PIP_Input_Is_TV	D	High to indicate that the PIP input is TV
PIP_Input_Is_Input_1	D	High to indicate that the PIP input is Input 1
PIP_Input_Is_Input_2	D	High to indicate that the PIP input is Input 2
PIP_Input_Is_Input_3	D	High to indicate that the PIP input is Input 3
PIP_Input_Is_Input_4	D	High to indicate that the PIP input is input 4
PIP_Input_Is_RGB	D	High to indicate that the PIP input is RGB
PIP_Input_Is_HDMI_1	D	High to indicate that the PIP input is HDMI 1
PIP_Input_Is_HDMI_2	D	High to indicate that the PIP input is HDMI 2
PIP_Aspect_Is_16x9	D	High to indicate that the PIP aspect ratio is 16x9
PIP_Aspect_Is_4x3	D	High to indicate that the PIP aspect ratio is 4x3
PIP_Size_Is_Small	D	High to indicate that the PIP size is small
PIP_Size_Is_Medium	D	High to indicate that the PIP size is medium
PIP_Size_Is_Large	D	High to indicate that the PIP size is Large
PIP_Position_Is_Top_Left	D	High to indicate that the PIP position is top left
PIP_Position_Is_Top_Right	D	High to indicate that the PIP position is top right
PIP_Position_Is_Bottom_Left	D	High to indicate that the PIP position is bottom left
PIP_Position_Is_Bottom_Right	D	High to indicate that the PIP position is bottom right
Volume_Gauge	A	Analog gauge that represents the unit volume from 0 to 100%
Volume_Is_Muted	D	High to indicate that the volume is muted
Aspect_Is_16x9	D	High to indicate that the aspect ratio is 16x9

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Aspect_Is_4x3	D	High to indicate that the aspect ratio is 4x3
Aspect_Is_Letterbox	D	High to indicate that the aspect ratio is Letterbox
Aspect_Is_Virtual_Wide	D	High to indicate that the aspect ratio is Virtual Wide
To_Device	S	Serial signal to be routed to a 2 way RS232 port

TESTING:

OPS USED FOR TESTING:	PRO2 Cntrl Eng [v3.155.1240 (Feb 12 2007), #7F0057E2]
SIMPL WINDOWS USED FOR TESTING:	2.10.32
CRESTRON DB USED FOR TESTING:	20.01.008.00
DEVICE DB USED FOR TESTING:	20.03.013.00
SAMPLE PROGRAM:	Runco CX-46HD v1.0 Demo Pro2.smw
REVISION HISTORY:	V. 1.0

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