



# EPIPHAN VIDEO PEARL 2 DRIVER

RELEASE

Crestron Electronics, Inc.

## REVISION HISTORY

Version	Date	Comments	Author
1.0.00	12/4/2018	Initial release	Casey Blicharz
1.0.01	1/23/2018	Bug fixes	Casey Blicharz
1.1.00	3/26/2018	Fixed issue with removed layouts not being removed from the module output.	Casey Blicharz
1.1.02	10/7/2019	Bug fixes	Casey Blicharz
2.0.00	8/4/2020	Updated for Newtonsoft v4.0.8.0	Michael O'Brien
2.2.00	2/17/2022	Bug fixes and added signals to change stream settings.	Kenny Du
2.3.00	12/1/2022	Added channel previews and support for scheduled events	Kenny Du
2.4.00	7/13/2023	Added support for 4.18 firmware and higher  Added support for Pearl Nano  Added scheduled event support for webcasts  Bug fixes related to inputs/output sources	Kenny Du

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## DEPENDENCIES

This module requires v200 or later of the Crestron Database and Crestron Device Database.

# 1 RECORDERS

Disabled recorders will not be present on the SIMPL module.

## MODULE INPUTS

Name	Type	Description
StartRecordingOnRecorder[N]	D	Starts recording on the specified recorder.
StopRecordingOnRecorder[N]	D	Stop recording on the specified recorder.

## MODULE OUPUTS

Name	Type	Description
RecorderCount	A	Specifies the number of recorders available on the unit. This will only output recorders on the device, not the maximum number of recorders.
Recorder[N]_IsAvailable_F	D	Specifies if the recorder at index N is available to be used.
Recorder[N]_Name_F	S	Specifies the recorder name at index N.
Recorder[N]_IsRecording_F	D	Specifies if the recorder at index N is recording.

## 2 CHANNELS

### MODULE INPUTS

Name	Type	Description
StartRecordingOnChannel[N]	D	Starts recording on the specified channel.
StopRecordingOnChannel[N]	D	Stops recording on the specified channel.
ActivateLayout[X]_OnChannel[N]	D	Sets the specified layout (X) to be active on the specified channel (N).
StartStream[X]_OnChannel[N]	D	Starts the specified stream (X) on the specified channel (N).
StopStream[X]_OnChannel[N]	D	Stop the specified stream (X) on the specified channel (N).
StartAllStreams_OnChannel[N]	D	Starts all streams on the specified channel.
StopAllStreams_OnChannel[N]	D	Stops all streams on the specified channel.

### MODULE OUPUTS

Name	Type	Description
ChannelCount	A	Specifies the number of channels available on the unit. This will only output recorders on the device, not the maximum number of channels.
Channel[N]_IsAvailable_F	D	Specifies if the channel at index N is available to be used.
Channel[N]_Name_F	S	Specifies the channel name at index N.
Channel[N]_PreviewURL_F	S	Specifies the preview URL for the channel at index N.
Channel[N]_IsRecording_F	D	Specifies if the channel at index N is recording.
Channel[N]_LayoutCount_F	A	Specifies the number of layouts currently configured on the device (Up to 5 are supported in the module).
Channel[N]_Layout[X]_IsAvailable_F	D	Specifies if the layout (X) is available for use on the specified channel (N).
Channel[N]_Layout[X]_Name_F	S	Specifies the layout (X) name on the specified channel (N).
Channel[N]_Layout[X]_IsActive_F	D	Specifies if the layout (X) is the current active layout on the specified channel (N).

Channel[N]_PublisherCount_F	A	Specifies the number of publishers available on the unit (Up to 5 are supported in the module).
Channel[N]_Publisher[X]_IsAvailable_F	D	Specifies if the publisher (X) on the specified channel (N) is available for use.
Channel[N]_Publisher[X]_StreamingName_F	S	Specifies the publisher (X) streaming name on the specified channel (N).
Channel[N]_Publisher[X]_StreamingType_F	A	Specifies the streaming type of the publisher (X) on the specified channel (N).  Values: Unknown = 0, RTSP = 1, RTMP = 2, WowzaStreamingCloud = 3, OriginalLivestream = 4, RTP_UDP_Push = 5, MPEG_TS_UDP = 6, MPEG_TS_RTP = 7
Channel[N]_Publisher[X]_StreamingState_F	A	Specifies the streaming state of the specified publisher (X) on the specified channel (N).  Values: Unknown = 0, Started = 1, Stopped = 2, Starting = 3, Error = 4
Channel[N]_AllStreamsActive_F	D	Specifies if all streams on the channel (N) are active. Certain streams will not be included in this: RTP_UDP_Push MPEG_TS_UDP MPEG_TS_RTP
Channel[N]_NotAllStreamsActive_F	D	Specifies if all streams on the channel (N) are not active. Certain streams will not be included in this: RTP_UDP_Push MPEG_TS_UDP MPEG_TS_RTP



### 3 SCHEDULED EVENTS

#### MODULE INPUTS

Name	Type	Description
Current_Event_Pause	D	Pauses the current event
Current_Event_Resume	D	Resumes the current event
Current_Event_Stop	D	Stops the current event
Current_Event_Extend	D	Extends the current event by 15 minutes

#### MODULE OUTPUTS

Name	Type	Description
Upcoming_Event_Name	S	Name of the upcoming event
Upcoming_Event_Countdown	S	Countdown until next event
Current_Event_Name	S	Name of the current event

### 4 INPUTS

#### MODULE INPUTS

None

#### MODULE OUPUTS

Name	Type	Description
VideoInputCount	A	Specifies the number of video inputs on the device.
AudioInputCount	A	Specifies the number of audio inputs on the device.
VideoInput[N]_IsAvailable_F	D	Specifies if the video input at index N is available.
VideoInput[N]_HasSignal_F	D	Specifies if the video input at index N has a signal.
VideoInput[N]_Name_F	S	Specifies the video input name at index N.
VideoInput[N]_Resolution_F	S	Specifies the video input resolution at index N.

AudioInput[N]_IsAvailable_F	D	Specifies if the audio input at index N is available.
AudioInput[N]_Name_F	S	Specifies the audio input name at index N.

## 5 OUTPUTS

### MODULE INPUTS

None

### MODULE OUPUTS

Name	Type	Description
VideoOutputCount	A	Specifies the number of video outputs available on the device.
VideoOutput[N]_IsAvailable_F	D	Specifies if the video output at index N is available.
VideoOutput[N]_HasSignal_F	D	Specifies if the video output at index N has a signal.
VideoOutput[N]_Name_F	S	Specifies the video output name at index N.
VideoOutput[N]_Resolution_F	S	Specifies the video output resolution at index N.
VideoOutput[N]_ResolutionAndRate_F	S	Specifies the video output resolution and refresh rate at index N.

## 6 DISK INFORMATION

### MODULE INPUTS

None

### MODULE OUPUTS

Name	Type	Description
UsedSpaceSerial	S	Specifies the amount of used space on the system in megabytes.
UsedSpaceAnalog	A	Specifies the amount of used space on the system in megabytes.
TotalSpaceSerial	S	Specifies the amount of total space on the system in megabytes.
TotalSpaceAnalog	A	Specifies the amount of total space on the system in megabytes.
FreeSpaceSerial	S	Specifies the amount of free space on the system in megabytes.
FreeSpaceAnalog	A	Specifies the amount of free space on the system in megabytes.

## 7 COMMUNICATION

### MODULE INPUTS

Name	Type	Description
StartCommunication	D	Starts communication with the device with the specified address, port, username, and password. This will also start the polling cycle that happens every 15 seconds.
StopCommunication	D	Stops communication with the device – polling will be disabled but commands may still be sent.
DeviceAddress	S	The address of the device, such as an IP address or a hostname.
DevicePort	A	The port the driver should use for communication. If 0 or no value is specified the driver will default to port 80.
DeviceUsername	S	The username on the device.  *Required for communication
DevicePassword	S	The password on the device  *Required for communication if a password exists. If no password exists for the username, then this signal may be left blank / not set.

### MODULE OUPUTS

Name	Type	Description
IsCommunicating_F	D	Specifies if the driver is communicating with the device. Every 15 seconds the driver will send a request to the device for its hardware information. If this response fails then this signal will go low. If it succeeds then this signal will go high.

## 8 STREAMS

### MODULE INPUTS

Name	Type	Description
Select_Channel	A	Selects a channel for the Add_[X]_Stream signals below
Select_Stream	A	Selects a stream for the [X]_New_Stream_Settings signals
Add_RTSP_Stream	D	Adds a new RTSP Stream on the channel specified by the Select_Channel join
Add_RTMP_Stream	D	Adds a new RTMP Stream on the channel specified by the Select_Channel join
Add_RTPUDP_Stream	D	Adds a new RTP-UDP Stream on the channel specified by the Select_Channel join
Add_MPEG-TS_RTP_Stream	D	Adds a new MPEG-TS RTP Stream on the channel specified by the Select_Channel join
Add_MPEG-TS_UDP_Stream	D	Adds a new MPEG-TS UDP Stream on the channel specified by the Select_Channel join
RTSP_New_Stream_Settings	D	When triggered, modifies the stream settings of the selected channel and stream. (See Select_Channel and Select_Stream joins.) The stream settings are based on the data specified via the RTSP settings joins.  Note: Settings will only be applied to RTSP Streams.
RTSP_Single_Touch	D	Sets the single touch property. Low = false, High = true
RTSP_Stream_URL	S	Sets the stream URL.
RTSP_Transport	A	Sets the transport type. 0 = tcp, 1 = udp, any other value will default to tcp.
RTSP_Username	S	The stream username.
RTSP_Password	S	The stream password.
RTMP_New_Stream_Settings	D	When triggered, modifies the stream settings of the selected channel and stream. (See Select_Channel and Select_Stream joins.) The stream settings are based on the data specified via the RTMP settings joins.  Note: Settings will only be applied to RTMP Streams.
RTMP_Single_Touch	D	Sets the single touch property. Low = false, High = true

RTMP_Stream_URL	S	Sets the stream URL.
RTMP_Stream_Name	S	Sets the stream name.
RTMP_Username	S	The stream username.
RTMP_Password	S	The stream password.
RTP_UDP_New_Stream_Settings	D	When triggered, modifies the stream settings of the selected channel and stream. (See Select_Channel and Select_Stream joins.) The stream settings are based on the data specified via the RTP_UDP settings joins.  Note: Settings will only be applied to RTP/UDP Streams.
RTP_UDP_Address	S	Sets the stream address.
RTP_UDP_Video_Port	A	Sets the stream video port.
RTP_UDP_Audio_Port	A	Sets the stream audio port.
MPEG-TS_UDP_New_Stream_Settings	D	When triggered, modifies the stream settings of the selected channel and stream. (See Select_Channel and Select_Stream joins.) The stream settings are based on the data specified via the MPEG-TS_UDP settings joins.  Note: Settings will only be applied to MPEG-TS_UDP Streams.
MPEG-TS_UDP_Address	S	Sets the stream address.
MPEG-TS_UDP_Port	A	Sets the stream port.
MPEG-TS_UDP_Sap	D	Use SAP announcement. High = true, Low = false.
MPEG-TS_UDP_Sap_Ip	S	Sets the SAP IP address.
MPEG-TS_UDP_Sap_Channel	S	Sets the SAP Channel.
MPEG-TS_UDP_Sap_Play_Group	S	Sets the SAP Play Group.
MPEG-TS_RTP_Create_New_Stream_Settings	D	When triggered, modifies the stream settings of the selected channel and stream. (See Select_Channel and Select_Stream joins.) The stream settings are based on the data specified via the MPEG-TS_RTP settings joins.  Note: Settings will only be applied to MPEG-TS_RTP Streams.
MPEG-TS_RTP_Address	S	Sets the stream address.
MPEG-TS_RTP_Port	A	Sets the stream port.
MPEG-TS_RTP_Sap	D	Use SAP announcement. High = true, Low = false.
MPEG-TS_RTP_Sap_Ip	S	Sets the SAP IP address.

MPEG-TS_RTP_Sap_Channel	S	Sets the SAP Channel.
MPEG-TS_RTP_Sap_Play_Group	S	Sets the SAP Play Group.

## MODULE OUPUTS

Name	Type	Description
Error_Message	S	Displays any error messages generated by the stream settings operations.

## 9 LOGGING

You can use the following commands in text console to enable/disable logging.

- USERPROGCMD "REGULARLOG ON"
- USERPROGCMD "REGULARLOG OFF"
- USERPROGCMD "VERBOSELOG ON"
- USERPROGCMD "VERBOSELOG OFF"

When reporting issues, please enable these logs and provide the output. It will either print to SIMPL Debugger if it is open and connected or it will print to Text Console otherwise.