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Installation and Operation Manual

Blackmagicdesign

Crestron module for HyperDeck Studio

HyperDeck Extreme 8K HDR
HyperDeck Extreme 4K HDR
HyperDeck Studio 4K Pro
HyperDeck Studio HD Pro
HyperDeck Studio HD Plus
HyperDeck Studio HD Mini
HyperDeck Shuttle 4K Pro
HyperDeck Shuttle HD
HyperDeck Studio
HyperDeck Studio Pro
HyperDeck Studio 12G
HyperDeck Studio Mini

Contents

Overview

The Crestron module for Blackmagic Hyperdeck provides seamless integration between your Crestron control system and Blackmagic Design's popular recording decks. This powerful combination allows you to control recording, playback, transport, and other essential functions directly from your Crestron touch panel or keypad.

The Crestron module is compatible with various Blackmagic Hyperdeck models, including:

HyperDeck Extreme 8K HDR

HyperDeck Extreme 4K HDR

HyperDeck Studio 4K Pro

HyperDeck Studio HD Pro

HyperDeck Studio HD Plus

HyperDeck Studio HD Mini

HyperDeck Shuttle 4K Pro

HyperDeck Shuttle HD

HyperDeck Studio

HyperDeck Studio Pro

HyperDeck Studio 12G

HyperDeck Studio Mini

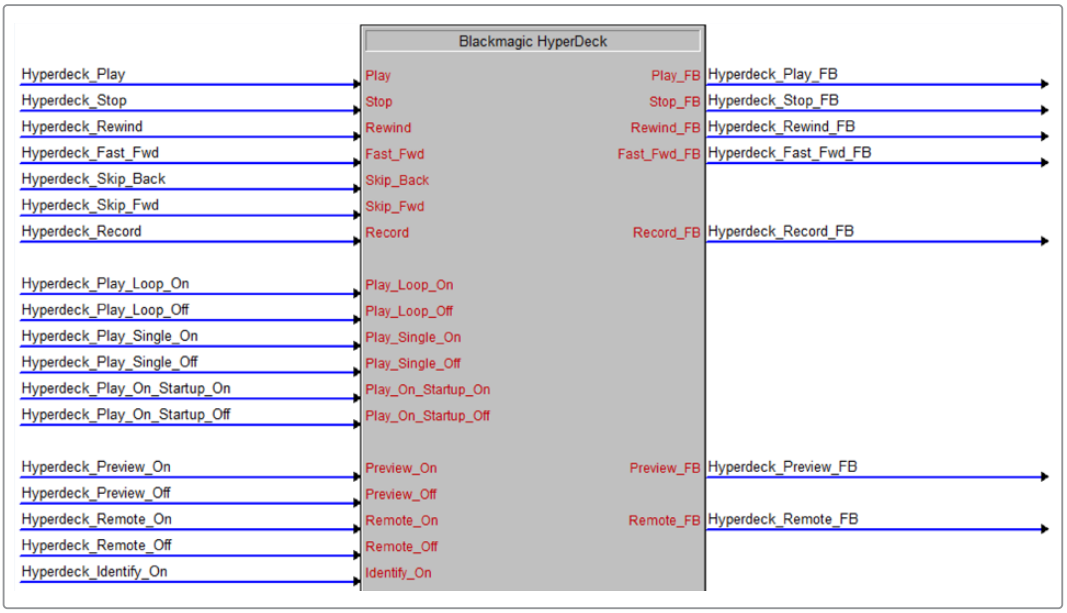
Product Features

- Transport controls
  - Play
  - Stop
  - Rewind
  - Fast Forward
  - Skip Back
  - Skip Forward
  - Record with the option to specify the filename
- Go to the Start or End of a clip
- Go to the Start or the end of the timeline
- List of clips stored on current slot
- Clips auto update when the slot is changed
- Get Clips command to refresh list any time
- Feedback for the current clip number
- Feedback for the total clips
- Adjust playback speed
- Feedback for the current playback speed
- Jump to specified location on the timeline
- Feedback for the current timeline location
- Jump to a specified timecode
- Feedback for the current timecode
- Jump to specified slot
- Feedback for the current slot
- Feedback to the total slots
- Enable / Disable Playback Loop
- Enable / Disable Single
- Enable / Disable Play on Startup
- Enable / Disable Remote with Feedback
- Enable / Disable Preview with Feedback
- Enable / Disable Identify
- Feedback for the total recording time
- Feedback for system
- Model
- Protocol version
- Firmware version
- Set connection watchdog time
- Set video format
- Ability to send a custom command

Installation

The zip file that included this documentation has the simpl# (.clz file) and associated simpl+ (.usp file) modules that need to be copied in to your project folder. The files were built and tested on a Crestron 4- series processor, but should work on any current 3 or 4 series processor.

The zip file also contains a SIMPL project and a VT-Pro touchscreen design that you can use for testing.



Usage

The module allows for direct control over a single Hyperdeck model. The module has been designed to work with the various available models. If you have multiple Hyperdeck devices you will need to use an instance for each device. The module requires a TCP/IP Client to be loaded for connection to the device.

TCP/IP Client

A TCP/IP Client is required for this module. This is an intentional decision to allow all the traffic to and from the device to be viewed in SIMPL Debugger if required. The IP address can be seen/set in the Setup menu and the control port required is 9993.

Slots

Different models will have a different number and types of slots. The module will report how many slots the device supports and the slots can be selected using the Slot_Select signal. When the slot value changes the clips will be re-read automatically.

Clips

The clips list will show a list of clips that are currently on the timeline. This may not be the same as the files on the disk as the clips can be manually removed and they also need to be in the same video format.

Changing to a new slot will rebuild the timeline. The clips names are available a a series of serial joins (255 total) and any clip can be selected with the Clip_ID join.

Inputs

Each input for the Hyperdeck module is detailed below with their use and, where appropriate, any restriction the acceptable values.

Digital Inputs

Play

The Play input is used to start the Hyperdeck playing from the current timecode / timeline location.

Stop

The Stop input is used to stop any currently playing clip.

Rewind

The Rewind input is used to rewind the timeline until you stop or start playback. It will continue until it reaches the start of the timeline. You can change the speed using the Playback Speed analog input (see that signal form more detail).

Fast_Fwd

The Fast_Fwd input is used to fast forward the timeline until you stop or start playback. It will continue until it reaches the end of the timeline. You can change the speed using the Playback Speed analog input (see that signal form more detail).

Skip_Back

The Skip_Back input is used to skip back one clip in the timeline.

Skip_Fwd

The Skip_Fwd input is used to skip forward one clip in the timeline.

Record

The Record input is used to start recording from the currently selected input.

Play Loop On/Off

The Play Loop On and Off inputs are used to control whether playback will loop back to the start once it finishes. To enable the looping playback use the Play Loop On and to disable use Loop Play Off.

Play Single On/Off

The Play Single On and Off inputs are used to control whether playback will play once only. To enable the single playback use the Play Single On and to disable use Play Single Off.

Play On Startup On/Off

The Play On Startup On and Off inputs are used to control whether playback will play when the unit starts up. To enable the playing on startup use the Play On Startup On and to disable use Play On Startup Off.

Preview On/Off

The Preview On/Off input is used to enable or disable the Preview view. If you use Preview On, the output will change to show the signal coming in on the selected input. Using Preview off will return you to the clip view.

Remote On/Off

The Remote On/Off input is used to set whether remote control is allowed. If you set this, the module will not have any control over the Hyperdeck. You can use the Remote On input to restore control.

Identify On/Off

The Identify On/Off input is used to help identify the connected Hyperdeck by flashing the REM button the the front panel. Using the Identify On signal will start the REM button flashing. Using the Identify Off input will stop the REM button flashing.

Get Clips

The Get Clips input is used to refresh the clips list. This is done automatically when changing slots or by using certain functions of the Hyperdeck, but some manual functions (like removing clips from the timeline) will not trigger an automatic fetch of the clips, so this signal can be used to make sure the list is up to date.

Goto Clip Start/End

The Goto Clip Start/End input is used to used to skip to the start of the end of the current clip. To jump to the beginning of the clip use the Goto Clip Start. To go to the end of the clip use the Goto Clip End.

Goto Timeline Start/End

The Goto Timeline Start/End input is used to jump to the very start or the end of the timeline. To jump to the start of the timeline use the Goto Timeline Start and to get to the end of the timeline use the Goto Timeline End.

Analog Inputs

Playback Speed

The Playback Speed input is used to affect the current speed used for the fast forward and rewind function.

Note, that pressing play will return the playback speed to 1x. The speed is set a a number between 1 and 500, as a floating point value with two decimal places. For example, a value of 5x would be represented by 500, whereas a value of 1x would be a value of 100. The same value is used for rewind and fast forward, so if you set the speed to 250 (2.50x) and press rewind, it will rewind at 2 1/2 times speed. If you then hit fast forward it will also fast forward at 2 1/2 times speed.

Goto Timeline

The Goto Timeline input is used to jump to a specific location on the timeline. The exact time will be determined by the video format you are using, so if you want to jump to a specific time use the Goto Timecode signal instead.

Clip ID

The Clip ID input is used to jump to a specific clip. The clip ID's are the clip numbers, starting from 1.

Slot Select

The Slot Select input is used to change the used storage slot. All of the command (Playback, Clips, Timeline, etc) refer to the current slot. If you wish to access clips saved to a different storage device then you can select that by using this signal to change to the correct slot. Note you may need to refer to the menu for your device to work out which slot is which.

TCP Status

The TCP Status input is used with the TCP/IP Client's status output. This signal is used to track the connection and initialise the module. Most of the feedback will not work correctly unless you connect this signal.

Watchdog Period

The Watchdog Period input is used to change the time time the Hyperdeck uses to check the connection. The value is in seconds.

String Inputs

Goto Timecode

The Goto Timecode input is used to jump to a specific timecode. The timecode format is hh:mm:ss:ms so a timecode that looks like this

```
00:04:37:15
```

This would indicate jumping to 4 minutes, 37 seconds and 15 milliseconds.

Slot Video Format

The Slot Video Format input is used to change the currently used video format. Note that the clips available all have to be in the same format, so if you have a mixture of different formats this signal can be used to get access to the correct ones. A typical format string would be

```
1080p59.94
```

Save Filename

The Save Filename input is used to set the name used when you use the Record feature. If you don't specify a name then the name will be automatically generated, but if you wish to use a specific name then you can use this input. Please note that once you have hit record this value will be cleared automatically to ensure there are no duplicates. If you press record after using this signal without resetting it, the device will revert to the auto-generated names.

Custom Command

The Custom Command input is used to send any valid command to the Hyperdeck. The device uses a plain text command set and the commands can be viewed by connecting to the unit (on port 9993) and issuing the help command. The command can be entered is directly, there is no need to add trailing carriage returns or line feeds. The command will be sent exactly as entered.

An example command is

```
ping
```

Rx

The Rx input is used to connect to the TCP/IP Client's RX$ output. All incoming data needs to be sent to this input. Please note that the module uses a gather internally to collect the data so it's important not to modify it before it gets to the module.

Outputs

Each output for the Hyperdeck module is detailed below with their use and, where appropriate, any restriction the acceptable values.

Digital Outputs

Play FB

The Play FB signal will be high when the unit is playing a clip, and low when its not.

Stop FB

The Stop FB signal will be high when the unit is in its sped state and low when its not.

Rewind FB

The Rewind FB signal will be high when the unit is rewinding and low when its not.

Fast Fwd FB

The Fast Fwd FB signal will be high when the unit is fast forwarding and low when its not.

Record FB

The Record FB signal will be high when the unit is recording and low when its not.

Preview FB

The Preview FB signal high if the unit is is currently in Preview mode and low if its not.

Remote FB

The Remote FB signal will be high if the remote function is active and low if its inactive. This signal is updated at startup.

Analog Outputs

Current Speed

The Current Speed signal indicates the current playback speed, from 0 for stopped to 500 for 5x fast forward or -500 for full rewind. Note, this is the actual speed, not the speed you may have selected using Playback Speed signal for the rewind / fast forward function.

Timeline

The Timeline signal indicates the current timeline location. Note the value is in frames and will depend on the video format you have currently selected.

Current Clip

The Current Clip signal indicates the current clip id selected. Note this value is updated when certain functions are used, but manual control will not trigger an update, so depending on your usage this may not be up to date.

Current Slot

The Current Slot signal indicates the current slot you have selected.

Recording Time

The Recording Time signal represents how much recording time is left of the current media in the selected slot.

Total Slots

The Total Slots signal indicates the total slots for this device.

Total Clips

The Total Clips signal indicates the total clips that are in the timeline. Note this value is updated when certain functions are used, but manual control will not trigger an update, so depending on your usage this may not be up to date.

Serial Outputs

Model

The Model signal will contain the current model name of the connected unit.

Protocol

The Protocol signal contains the current API protocol version.

Version

The Version signal contains the current firmware version.

Tx$

The Tx$ signal is used to connect to the TCP/IP Clients TX$ input. All data from the module will pass through this signal. You could use the signal elsewhere in your project but the Custom Command signal is recommended if you need to send commands that are not part of the module.

Clips[1-255]

The Clips[1-255] signals contain the names of the clips on the current timeline. The clip index will match the outputs index, so clip 5 will be on Clips[5] for example. The values are updated updated when certain functions are used, but manual control will not trigger an update, so depending on your usage this may not be up date.