Liberty

Control Command Guide

DigiIP 5000 Series

ARRANGER
BUILD | CONTROL | MANAGE

Rev 230131

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1 Introduction

This document describes everything that a developer needs to be aware of to use the Arranger command guide and develop client control applications for IPEX5000 series.

1.1 Licence Requirements

The IPEX5000 Arranger Controller must have a valid licence key entered before use or trying to connect to the Telnet TCP control port 6980.
If no valid licence is active the Arranger Controller will return 'Invalid License' and terminate the TCP connection. Contact Liberty or your local distributor for licencing information.

1.2 Telnet Connection

Third party controllers connect to the Arranger Controller and issue commands using ascii strings terminated with a carriage return <cr> 0x0D. This allows any Telnet client to be used with the system.

The Arranger Controller listens on TCP port 6980. Once a successful TCP connection is established you will receive a welcome message ‘Connection Successful’.

A constant TCP connection to the Arranger Controller is recommended to maintain status changes of the system from notification events.

An optional security key can be used with all TCP API commands made to port 6980.
The keyword ‘key:’ along with the security key are added to the API command before any parameters.

1.3 HTTP requests

It is also possible to control the system with HTTP GET and POST requests.
A security key must be sent with any request. Security keys are generated by ‘admin’ level UI users on the Global Settings / Security Key tab.

GET = http://<*controllerURL*>/api/command/<*ARRANGER_API_COMMAND*>/<*KEY*>
POST = http://<controllerURL>/api/command/{'cmd':'<*ARRANGER_API_COMMAND*>','key':'<*KEY*>'}

Refer Appendix A - How to HTTP request

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2 Command Overview

Commands are in a simple ascii text format. For each command, the Arranger Controller responds with a response which contains the return status (i.e. whether the command succeeded or not) and, if successful, the return value of the command if required. The API is to be used synchronous communication.

- All commands and returns are terminated with a carriage return <cr> 0x0D
- Commands are not case sensitive
- Invalid commands will return **error [Unknown]**<cr>
- Missing security key will return **error [security key missing]**<cr>
- Invalid security key will return **error [security key invalid]**<cr>

- join video encoder1 decoder1<cr>
- join video encoder1 all<cr>
- join video encoder1 MyGroup<cr>

- stop encoder1<cr>
- start encoder1<cr>

- send serial decoder1 "my data string\x0D"<cr>

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3 System Commands

3.1 Command reboot

The **reboot** command is used to restart any or all Encoders and Decoders.

3.1.1 Command usage

reboot **[**key:<*security_key*>**]** <*device_name*><cr>

3.1.2 Description

Causes the target device to restart and become unavailable for a short period while restarting.

3.1.3 Arguments

device_name	Name of the Encoder, Decoder, Group or '**all**' | '**all_rx**' | '**all_tx**'

3.1.4 Notes

- **all** is used as a destination when all devices are required to reboot.
- **all_rx** is used as a destination when all Decoders are required to reboot.
- **all_tx** is used as a destination when all Encoders are required to reboot.
- ***group_name*** is used as a destination when all Encoders and Decoders in a group are required to reboot.

3.1.5 Return Value

command	<space>	**status**	**terminator**
reboot	<space>	*success / error [message]*	<cr>

3.1.6 Command Examples

```
reboot Encoder1<cr>
reboot all<cr>
reboot all_rx<cr>
reboot all_tx<cr>
reboot MyGroup<cr>
reboot key:abc123 Encoder1<cr>
```

3.1.7 Return Examples

```
reboot success<cr>

reboot error [incomplete]<cr>
reboot error [device 'Encoder1' not found]<cr>
```

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4 Command join

The **join** commands are used for routing all the signals to their required destinations.
Video, audio, USB, infrared and serial can all be independently routed to their destinations.

join video command provides independent routing of the video.

join audio command provides independent routing of the audio.

join ir command provides independent routing of infrared (IR).

join serial command provides independent routing of serial (RS-232).

join usb command provides independent routing of USB.

join all command provides combined routing of all signals.

join av command provides combined routing of the video and audio together.

join kvm command provides combined routing of the video, audio and USB together.

join wall command is used to send a cropped portion of the video source to a display in a video wall configuration.

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4.1 Command join video

4.1.1 Command usage

join video **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]** **[**<original> | <auto> | **[**size <mode>**]]**<cr>

4.1.2 Description

The command **join video** is used for independent routing of video signals.

4.1.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the *Decoder*, *Group* or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)
original	Keyword '**original**' will set the Decoder resolution as pass-though to match the Encoder video resolution. (optional)
auto	Keyword '**auto**' is only available when the Decoder has a monitor connected with valid EDID. The Decoders resolution will be set to the connected displays preferred resolution. (optional)
size	Keyword '**size**' is followed by the video mode (optional)

4.1.4 Notes

- **all** can replace *decoder_device_name* when the video is required to be connected to all Decoders.
- Only use **'original'** or **'auto'** or **'size'**.
- The name of a group can replace *decoder_device_name* when the video is required to be connected to all Decoders in a group.
- '**auto**' = Decoder's connected displays preferred resolution
- '**original**' = Encoder source resolution
- Valid modes:
  - 'size 2160p30'
  - 'size 1080p60'
  - 'size 1080p50'
  - 'size 720p60'
  - 'size 720p50'

4.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	video	<space>	*success / error [message]*	<cr>

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4.1.6 Command Examples

```
join video Encoder1 Decoder1<cr>
join video Encoder1 all<cr>
join video Encoder1 MyGroup<cr>
join video Encoder1 Decoder1 exclusive<cr>
join video Encoder1 Decoder1 original<cr>
join video Encoder1 Decoder1 auto<cr>
join video Encoder1 Decoder1 size 1080p60<cr>
join video key:abc123 Encoder1 Decoder1<cr>
```

4.1.7 Return Examples

```
join video success<cr>

join video error [incomplete]<cr>
join video error [join not permitted]<cr>
join video error [invalid parameter]<cr>
join video error [encoder 'Encoder1' not found]<cr>
join video error [decoder 'Decoder1' not found]<cr>
join video error [monitor not detected]<cr>
```

4.2 Command join audio

4.2.1 Command usage

join audio **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]**<cr>

4.2.2 Description

The command **join audio** is used for independent routing of audio signals.

4.2.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)

4.2.4 Notes

- **all** can replace *decoder_device_name* when the audio is required to be connected to all Decoders.
- The name of a group can replace *decoder_device_name* when the audio is required to be connected to all Decoders in a group.

4.2.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	audio	<space>	*success / error [message]*	<cr>

4.2.6 Command Examples

```
join audio Encoder1 Decoder1<cr>
join audio Encoder1 all<cr>
join audio Encoder1 MyGroup<cr>
join audio Encoder1 Decoder1 exclusive<cr>
join audio Encoder1 MyGroup exclusive<cr>
join audio key:abc123 Encoder1 Decoder1<cr>
```

4.2.7 Return Examples

```
join audio success<cr>

join audio error [incomplete]<cr>
join audio error [join not permitted]<cr>
join audio error [invalid parameter]<cr>
join audio error [encoder 'Encoder1' not found]<cr>
join audio error [decoder 'Decoder1' not found]<cr>
```

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4.3 Command join ir

4.3.1 Command usage

join ir [key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> / <group_name> / <all> [<exclusive>]<cr>

4.3.2 Description

The command **join ir** is used for independent routing of infrared signals.

4.3.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' will remove all other joins (optional)

4.3.4 Notes

- **all** can replace *decoder_device_name* when the infrared is required to be connected to all Decoders.
- The name of a group can replace *decoder_device_name* when the infrared is required to be connected to all Decoders in a group.

4.3.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	ir	<space>	*success / error [message]*	<cr>

4.3.6 Command Examples

```
join ir Encoder1 Decoder1<cr>
join ir Encoder1 all<cr>
join ir Encoder1 MyGroup<cr>
join ir Encoder1 Decoder1 exclusive<cr>
join ir Encoder1 MyGroup exclusive<cr>
join ir key:abc123 Encoder1 Decoder1<cr>
```

4.3.7 Return Examples

```
join ir success<cr>

join ir error [incomplete]<cr>
join ir error [join not permitted]<cr>
join ir error [source 'Encoder1' not found]<cr>
join ir error [destination 'Decoder1' not found]<cr>
```

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4.4 Command join serial

4.4.1 Command usage

join serial **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]**<cr>

4.4.2 Description

The command **join serial** is used for independent routing of serial signals.

4.4.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)

4.4.4 Notes

- **all** can replace *decoder_device_name* when the serial RS232 is required to be connected to all Decoders.
- The name of a group can replace *decoder_device_name* when the serial RS232 is required to be connected to all Decoders in a group.
- Device must be in Matrix mode to allow joins.

4.4.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	serial	<space>	*success / error [message]*	<cr>

4.4.6 Command Examples

```
join serial Encoder1 Decoder1<cr>
join serial Encoder1 all<cr>
join serial Encoder1 MyGroup<cr>
join serial Encoder1 Decoder1 exclusive<cr>
join serial Encoder1 MyGroup exclusive<cr>
join serial key:abc123 Encoder1 Decoder1<cr>
```

4.4.7 Return Examples

```
join serial success<cr>

join serial error [incomplete]<cr>
join serial error [join not permitted]<cr>
join serial error [invalid parameter]<cr>
join serial error [encoder 'Encoder1' not found]<cr>
join serial error [decoder 'Decoder1' not found]<cr>
```

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4.5 Command join usb

4.5.1 Command usage

join usb **[**key:<*security_key*>**]** <*encoder_device_name*> <decoder_device_name> **[**<exclusive>**]**<cr>

4.5.2 Description

The command **join usb** is used for independent routing of USB signals.

4.5.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)

4.5.4 Notes

- **all** can replace *decoder_device_name* when the USB is required to be connected to all Decoders.
- The name of a group can replace *decoder_device_name* when the USB is required to be connected to all Decoders in a group.

4.5.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	usb	<space>	*success / error [message]*	<cr>

4.5.6 Command Examples

```
join usb Encoder1 Decoder1<cr>
join usb Encoder1 all<cr>
join usb Encoder1 Mygroup<cr>
join usb Encoder1 Decoder1 exclusive<cr>
join usb Encoder1 Mygroup exclusive<cr>
join usb key:abc123 Encoder1 Decoder1<cr>
```

4.5.7 Return Examples

```
join usb success<cr>

join usb error [incomplete]<cr>
join usb error [join not permitted]<cr>
join usb error [invalid parameter]<cr>
join usb error [encoder 'Encoder1' not found]<cr>
join usb error [decoder 'Decoder1' not found]<cr>
```

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4.6 Command join all

4.6.1 Command usage

join all **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]**
[<original> | <auto> | **[**size <mode>**]]**<cr>

4.6.2 Description

The command **join all** is used for combined routing of all signals.

4.6.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)
original	Keyword '**original**' will set the Decoder resolution as pass-though to match the Encoder video resolution. (optional)
auto	Keyword '**auto**' is only available when the Decoder has a monitor connected with valid EDID. The Decoders resolution will be set to the connected display's preferred resolution. (optional)
size	Keyword '**size**' is followed by the video mode (optional)

4.6.4 Notes

- **all** can replace *decoder_device_name* when all signals are required to be connected to all Decoders.
- Only use **'original'** or **'auto'** or **'mode'**.
- The name of a group can replace *decoder_device_name* when all signals are required to be connected to all Decoders in a group.
- '**auto**' = Decoder's connected displays preferred resolution
- '**original**' = Encoder source resolution
- Valid modes:
    - 'size 2160p30'
    - 'size 1080p60'
    - 'size 1080p50'
    - 'size 720p60'
    - 'size 720p50'

4.6.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	all	<space>	*success / error [message]*	<cr>

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4.6.6 Examples

```
join all Encoder1 Decoder1<cr>
join all Encoder1 all<cr>
join all Encoder1 MyGroup<cr>
join all Encoder1 MyGroup exclusive<cr>
join all Encoder1 Decoder1 original<cr>
join all Encoder1 Decoder1 auto<cr>
join all Encoder1 Decoder1 size 1080p60<cr>
join all key:abc123 Encoder1 Decoder1<cr>
```

4.6.7 Return Examples

```
join all success<cr>

join all error [incomplete]<cr>
join all error [join not permitted]<cr>
join all error [invalid parameter]<cr>
join all error [encoder 'Encoder1' not found]<cr>
join all error [decoder 'Decoder1' not found]<cr>
join all error [monitor not detected]<cr>
```

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4.7 Command join av

4.7.1 Command usage

join av **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]**
[<original> | <auto> | **[**size <mode>**]]**<cr>

4.7.2 Description

The command **join av** is used for combined routing of audio and video signals.

4.7.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)
original	Keyword '**original**' will set the Decoder resolution as pass-though to match the Encoder video resolution. (optional)
auto	Keyword '**auto**' is only available when the Decoder has a monitor connected with valid EDID. The Decoders resolution will be set to the connected display's preferred resolution. (optional)
size	Keyword '**size**' is followed by the video mode (optional)

4.7.4 Notes

- **all** can replace *decoder_device_name* when the audio and video are required to be connected to all Decoders.
- Only use **'original'** or **'auto'** or **'mode'**.
- The name of a group can replace *decoder_device_name* when the audio and video are required to be connected to all Decoders in a group.
- '**auto**' = Decoder's connected displays preferred resolution
- '**original**' = Encoder source resolution
- Valid modes:
  - 'size 2160p30'
  - 'size 1080p60'
  - 'size 1080p50'
  - 'size 720p60'
  - 'size 720p50'

4.7.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	av	<space>	*success / error [message]*	<cr>

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4.7.6 Command Examples

```
join av Encoder1 Decoder1<cr>
join av Encoder1 all<cr>
join av Decoder1 MyGroup<cr>
join av Encoder1 MyGroup exclusive<cr>
join av Encoder1 Decoder1 original<cr>
join av Encoder1 Decoder1 auto<cr>
join av Encoder1 Decoder1 size 1080p60<cr>
join av key:abc123 Encoder1 Decoder1<cr>
```

4.7.7 Return Examples

```
join av success<cr>

join av error [incomplete]<cr>
join av error [join not permitted]<cr>
join av error [invalid parameter]<cr>
join av error [encoder ‘Encoder1’ not found]<cr>
join av error [decoder ‘Decoder1’ not found]<cr>
join av error [monitor not detected]<cr>
```

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4.8 Command join kvm

4.8.1 Command usage

join kvm **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> **[**<exclusive>**]**
[<original> | <auto> | **[**size <mode>**]]**<cr>

4.8.2 Description

The command **join kvm** is used for combined routing of audio, video and USB signals.

4.8.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder, Group or '**all**'
exclusive	Keyword '**exclusive**' allows for only the specified Decoder to be joined with the Encoder. All other Decoders joined with the Encoder will be removed. (optional)
original	Keyword '**original**' will set the Decoder resolution as pass-though to match the Encoder video resolution. (optional)
auto	Keyword '**auto**' is only available when the Decoder has a monitor connected with valid EDID. The Decoders resolution will be set to the connected display's preferred resolution. (optional)
size	Keyword '**size**' is followed by the video mode (optional)

4.8.4 Notes

- **all** can replace *decoder_device_name* when kvm is required to be connected to all Decoders.
- Only use **'original'** or **'auto'** or **'mode'**.
- The name of a group can replace *decoder_device_name* when kvm is required to be connected to all Decoders in a group.
- '**auto**' = Decoder's connected displays preferred resolution
- '**original**' = Encoder source resolution
- Valid modes:
  - 'size 2160p30'
  - 'size 1080p60'
  - 'size 1080p50'
  - 'size 720p60'
  - 'size 720p50'

4.8.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	kvm	<space>	*success / error [message]*	<cr>

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4.8.6 Command Examples

```
join kvm Encoder1 Decoder1<cr>
join kvm Encoder1 all<cr>
join kvm Encoder1 MyGroup<cr>
join kvm Encoder1 MyGroup exclusive<cr>
join kvm Encoder1 Decoder1 original<cr>
join kvm Encoder1 Decoder1 auto<cr>
join kvm Encoder1 Decoder1 size 1080p60<cr>
join kvm key:abc123 Encoder1 Decoder1<cr>
```

4.8.7 Return Examples

```
join kvm success<cr>

join kvm error [incomplete]<cr>
join kvm error [join not permitted]<cr>
join kvm error [invalid parameter]<cr>
join kvm error [encoder 'Encoder1' not found]<cr>
join kvm error [decoder 'Decoder1' not found]<cr>
join kvm error [monitor not detected]<cr>
```

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4.9 Command join wall

4.9.1 Command usage

join wall **[**key:<*security_key*>**]** <*encoder_device_name*> <*decoder_device_name*> <*wall_type*> <*display_position*> [size <*width*> <*height*> <*fps*>] [bezel <*display_width*> <*viewable_width*> <*display_height*> <*viewable_height*>]<cr>

4.9.2 Description

The command **join wall** is used to join an Encoder to a Decoder within a video wall layout.

4.9.3 Arguments

encoder_device_name	Device name of the Encoder
decoder_device_name	Device name of the Decoder
wall_type	Define the video wall configuration as columns x rows
display_position	Define the display position from the top left
size (optional)	Define the display resolution
width	Display resolution horizontal in px (used with optional **size**)
height	Display resolution vertical in px (used with optional **size**)
fps	Display frame rate (used with optional **size**)
bezel (optional)	Define the size of the display bezel
display_width	Define the overall width of the display in mm (used with optional **bezel**)
viewable_width	Define the viewable width of the display in mm (used with optional **bezel**)
display_height	Define the overall height of the display in mm (used with optional **bezel**)
viewable_height	Define the viewable height of the display in mm (used with optional **bezel**)

4.9.4 Notes

4.9.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
join	<space>	wall	<space>	*success / error [message]*	<cr>

4.9.6 Command Examples

```
join wall Encoder1 Decoder1 3x3 1<cr>
join wall Encoder1 Decoder1 3x3 1 size 1920 1080 60<cr>
join wall Encoder1 Decoder1 3x3 1 bezel 1000 980 800 780<cr>
join wall Encoder1 Decoder1 3x3 1 size 1920 1080 60 bezel 1000 980 800 780<cr>
```

4.9.7 Return Examples

```
join wall success<cr>

join wall error [incomplete]<cr>             join wall error [encoder 'Encoder1' not found]<cr>
join wall error [join not permitted]<cr>     join wall error [decoder 'Decoder1' not found]<cr>
join wall error [invalid display_position]<cr>
join wall error [invalid parameter]<cr>
join wall error [invalid size]<cr>
```

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5 Command leave

The **leave** commands are used with a Decoder to disconnect from an Encoder's stream.

5.1 Command leave video

5.1.1 Command usage

leave video **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.1.2 Description

The command **leave video** is used to disconnect a Decoder from the video stream it is receiving.

5.1.3 Arguments

decoder_device_name	Device name of the Decoder, Group or '**all**'

5.1.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave video subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave video subscriptions.

5.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	video	<space>	*success / error [message]*	<cr>

5.1.6 Command Examples

```
leave video Decoder1<cr>
leave video all<cr>
leave video MyGroup<cr>
leave video key:abc123 Decoder1<cr>
```

5.1.7 Return Examples

```
leave video success<cr>

leave video error [incomplete]<cr>
leave video error [decoder 'Decoder1' not found]<cr>
```

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5.2 Command leave audio

5.2.1 Command usage

leave audio **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.2.2 Description

The command **leave audio** is used to disconnect a Decoder from the audio stream it is receiving.

5.2.3 Arguments

decoder_device_name	Device name of the Decoder, Group or '**all**'

5.2.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave audio subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave audio subscriptions.

5.2.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	audio	<space>	*success / error [message]*	<cr>

5.2.6 Command Examples

```
leave audio Decoder1<cr>
leave audio all<cr>
leave audio MyGroup<cr>
leave audio key:abc123 Decoder1<cr>
```

5.2.7 Return Examples

```
leave audio success<cr>

leave audio error [incomplete]<cr>
leave audio error [decoder 'Decoder1' not found]<cr>
```

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5.3 Command leave ir

5.3.1 Command usage

leave ir **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.3.2 Description

The command **leave ir** is used to disconnect a Decoder from the infrared stream it is receiving.

5.3.3 Arguments

decoder_device_name	Device name of the Decoder, Group or '**all**'

5.3.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave infrared subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave infrared subscriptions.

5.3.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	ir	<space>	*success / error [message]*	<cr>

5.3.6 Command Examples

```
leave ir Decoder1<cr>
leave ir all<cr>
leave ir MyGroup<cr>
leave ir key:abc123 Decoder1<cr>
```

5.3.7 Return Examples

```
leave ir success<cr>

leave ir [incomplete]<cr>
leave ir [decoder 'Decoder1' not found]<cr>
```

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5.4 Command leave serial

5.4.1 Command usage

leave serial**[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.4.2 Description

The command **leave serial** is used to disconnect a Decoder from the serial RS232 stream it is receiving.

5.4.3 Arguments

decoder_device_name	Device name of the Decoder, Group or '**all**'

5.4.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave serial subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave serial subscriptions.

5.4.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	serial	<space>	*success / error [message]*	<cr>

5.4.6 Command Examples

```
leave serial Decoder1<cr>
leave serial all<cr>
leave serial MyGroup<cr>
leave serial key:abc123 MyGroup<cr>
```

5.4.7 Return Examples

```
leave serial success<cr>

leave serial error [incomplete]<cr>
leave serial error [decoder 'Decoder1' not found]<cr>
```

ToC

5.5 Command leave usb

5.5.1 Command usage

leave usb **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.5.2 Description

The command **leave usb** is used to disconnect a Decoder from the USB stream it is receiving.

5.5.3 Arguments

decoder_device_name	Name of the Decoder, Group or '**all**'

5.5.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave USB subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave USB subscriptions.

5.5.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	usb	<space>	*success / error [message]*	<cr>

5.5.6 Command Example

```
leave usb Decoder1<cr>
leave usb all<cr>
leave usb MyGroup<cr>
leave usb key:abc123 Decoder1<cr>
```

5.5.7 Return Examples

```
leave usb success<cr>

leave usb error [incomplete]<cr>
leave usb error [decoder 'Decoder1' not found]<cr>
```

ToC

5.6 Command leave all

5.6.1 Command usage

leave all **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.6.2 Description

The command **leave all** is used to disconnect a Decoder from all the streams it is receiving.

5.6.3 Arguments

decoder_device_name	Name of the Decoder, Group or '**all**'

5.6.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave all subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave all subscriptions.

5.6.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	all	<space>	*success / error [message]*	<cr>

5.6.6 Command Example

```
leave all Decoder1<cr>
leave all all<cr>
leave all MyGroup<cr>
leave all key:abc123 Decoder1<cr>
```

5.6.7 Return Examples

```
leave all success<cr>

leave all error [incomplete]<cr>
leave all error [decoder 'Decoder1' not found]<cr>
```

ToC

5.7 Command leave av

5.7.1 Command usage

leave av **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.7.2 Description

The command **leave av** is used to disconnect a Decoder from both the audio and video streams it is receiving.

5.7.3 Arguments

decoder_device_name	Name of the Decoder, Group or '**all**'

5.7.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave audio and video subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave audio and video subscriptions.

5.7.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	av	<space>	*success / error [message]*	<cr>

5.7.6 Command Example

```
leave av Decoder1<cr>
leave av all<cr>
leave av MyGroup<cr>
leave av key:abc123 Decoder1<cr>
```

5.7.7 Return Examples

```
leave av success<cr>

leave av error [incomplete]<cr>
leave av error [decoder 'Decoder1' not found]<cr>
```

5.8 Command leave kvm

5.8.1 Command usage

leave kvm **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

5.8.2 Description

The command **leave kvm** is used to disconnect a Decoder from the audio, video and USB streams it is receiving.

5.8.3 Arguments

decoder_device_name	Name of the Decoder, Group or '**all**'

5.8.4 Notes

- **all** can replace *decoder_device_name* when all the Decoders are required to leave audio, video and USB subscriptions.
- The name of a group can replace *decoder_device_name* when all Decoders in a group are required to leave audio, video and USB subscriptions.

5.8.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
leave	<space>	kvm	<space>	*success / error [message]*	<cr>

5.8.6 Command Example

```
leave kvm Decoder1<cr>
leave kvm all<cr>
leave kvm MyGroup<cr>
leave kvm key:abc123 Decoder1<cr>
```

5.8.7 Return Examples

```
leave kvm success<cr>

leave kvm error [incomplete]<cr>
leave kvm error [decoder 'Decoder1' not found]<cr>
```

ToC

6 Command stop

The **stop** command is used to stop all Encoder streams from being sent on the network. Joins are maintained between Encoder and Decoders but no data is sent from the Encoder.

6.1 Command stop

6.1.1 Command usage

stop **[**key:<*security_key*>**]** <*mode*> <*encoder_device_name*> / <group_name> / <all_tx><cr>

6.1.2 Description

The **stop** command is used to stop all Encoder streams from being sent on the network. Joins are maintained between Encoders and Decoders but no data is sent from the Encoder.

6.1.3 Arguments

mode	Always 'all'
encoder_device_name	Device name of the Encoder or Group or '**all_tx**'

6.1.4 Notes

- The name of a group can replace *encoder_device_name* when all Encoders in a group are required to stop.
- All stream types are started together.
- A streaming connection can be made again with the command **join** or **start**.

6.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
stop	<space>	all	<space>	*success / error [message]*	<cr>

6.1.6 Command Examples

```
stop all Encoder1<cr>
stop all MyGroup<cr>
stop all all_tx<cr>
stop key:abc123 all Encoder1<cr>
```

6.1.7 Return Examples

```
stop all success<cr>

stop error [incomplete]<cr>
stop error [invalid mode]<cr>
stop all error [incomplete]<cr>
stop all error [encoder 'Encoder1' not found]<cr>
```

ToC

7 Command start

The **start** command is used to start all Encoder streams.

7.1 Command start

7.1.1 Command usage

start **[**key:<*security_key*>**]** <*mode*> <*encoder_device_name*> / <group_name> / <all_tx><cr>

7.1.2 Description

The command **start** is used to start all Encoder streams.

7.1.3 Arguments

mode	Always 'all'
encoder_device_name	Device name of the Encoder or Group or '**all_tx**'

7.1.4 Notes

- A stream cannot be joined unless it has started, so a **join** command will automatically send the **start** command if the Encoder streams are stopped.
- All stream types are started together.
- The name of a group can replace *encoder_device_name* when all Encoders in a group are required to start all streams.

7.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
start	<space>	all	<space>	*success / error [message]*	<cr>

7.1.6 Command Examples

```
start all Encoder1<cr>
start all MyGroup<cr>
start all all_tx<cr>
start key:abc123 all Encoder1<cr>
```

7.1.7 Return Examples

```
start all success<cr>

start error [incomplete]<cr>
start error [invalid mode]<cr>
start all error [incomplete]<cr>
start all error [encoder 'Encoder1' not found]<cr>
```

ToC

8 Command set

The **set** commands are used to change the working conditions of an Encoder or Decoder.

8.1 Command set audio_source

8.1.1 Command usage

set audio_source **[**key:<*security_key*>**]** <*encoder_device_name*> <*value*><cr>

8.1.2 Description

The command **set audio_source** is used to change a Encoders audio stream from HDMI audio or analog audio.

8.1.3 Arguments

encoder_device_name	Device name of the Encoder
value	hdmi | analog | auto

8.1.4 Notes

- Use the command **get audio_source** to retrieve this setting.

8.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	audio_source	<space>	*success / error [message]*	<cr>

8.1.6 Command Examples

```
set audio_source Encoder1 hdmi<cr>
set audio_source Encoder1 analog<cr>
set audio_source key:abc123 Encoder1 auto<cr>
```

8.1.7 Return Examples

```
set audio_source success<cr>

set audio_source error [incomplete]<cr>
set audio_source error [invalid value '<value>']<cr>
set audio_source error [encoder ‘Encoder1’ not found]<cr>
set audio_source error [encoder ‘Encoder1’ disconnected]<cr>
```

ToC

8.2 Command set edid

8.2.1 Command usage

set edid **[**key:<*security_key*>**]** <*encoder_device_name*> <*edid_data*><cr>

8.2.2 Description

The command **set edid** is used to save EDID into Encoders.
The command **get edid** is used to retrieve EDID from a Decoder.

8.2.3 Arguments

encoder_device_name	Device name of the Encoder
edid_data	String which represents the binary EDID data

8.2.4 Notes

- **all** can be used as a destination when all the Encoders are to be set with the same EDID.
- ***group_name*** can be used as a destination when all Encoders in a group are to be set with the same EDID.
- The data argument must be a 512 character hexadecimal string which represents the EDID to be set.

8.2.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	edid	<space>	*success / error [message]*	<cr>

8.2.6 Command Examples

```
set edid Encoder1 00ffffffffffff00410c2fc0c52d00000c140103802f1a782e3585a656489a241250542f6f00714f818
0818a9500950fb3000101d1c0023a801871382d40582c4500dc0c1100001e000000ff004155353130313230313137313700000
00fd00384c1e5315000a202020202020000000fc005068696c69707320323231450a01b602031ef04b1005010203040612131
41f2309070783010000065030c001100023a801871382d40582c4500dc0c1100001e8c0ad08a20e02d10103e9600dc0c110000
18011d007251d01e206e285500dc0c1100001e8c0ad090204031200c405500dc0c110000180000000000000000000000000000
0000000000000000000000ac<cr>

set edid key:abc123 Encoder1 …<cr>
```

8.2.7 Return Examples

```
set edid success<cr>

set edid error [incomplete]<cr>
set edid error [invalid edid_data]<cr>
set edid error [encoder 'Encoder1' not found]<cr>
set edid error [encoder 'Encoder1' disconnected]<cr>
```

ToC

8.3 Command set frame_converter

8.3.1 Command usage

set frame_converter **[**key:<*security_key*>**]** <*encoder_device_name*> <*value*><cr>

8.3.2 Description

The command **set frame_converter** is used to change the Encoders video frame rate.

8.3.3 Arguments

encoder_device_name	Device name of the Encoder
value	0..59

8.3.4 Notes

- Value 0 is used to set the original source frame rate.
- Use the command **get frame_converter** to retrieve this setting.

8.3.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	frame_converter	<space>	*success / error [message]*	<cr>

8.3.6 Command Examples

```
set frame_converter Encoder1 0<cr>
set frame_converter key:abc123 Encoder1 30<cr>
```

8.3.7 Return Examples

```
set frame_converter success<cr>

set frame_converter error [incomplete]<cr>
set frame_converter error [invalid value '<value>']<cr>
set frame_converter error [encoder ‘Encoder1’ not found]<cr>
set frame_converter error [encoder ‘Encoder1’ disconnected]<cr>
```

ToC

8.4 Command set listener

8.4.1 Command usage

set listener **[**key:<*security_key*>**]** <*notify_ip*> <*notify_port*> <*protocol*> **[**<*device_ip*>**]** <*condition*> <*state*> <*device_io*> <*preset_name*> **[***delay***]**<cr>

8.4.2 Description

The command **set listener** utilises Global Caché device sensor notify functionality. This enables a preset to be triggered from a sensor notify beacon sent when a devices input status changes from a switch or PIR.

8.4.3 Arguments

notify_ip	239.255.250.250
notify_port	9160
protocol	UDP
device_ip	IP Address of the device
condition	'on' | 'off' | 'any'
state	'enabled' | 'disabled'
device_io	Physical Global Caché device input sensor port 1 to 6
preset_name	Name of the preset to be executed
delay (optional)	Optional delay time of preset execution in minutes

8.4.4 Notes

- Supported Global Caché devices: IP2IR, WF2IR, GCIR3, Flex Link Relay & Sensor Cable.
- "***condition***" is the the input as '**on**' (closed contact) or '**off**' (open contact) or '**any**' (contact closing or opening)
- "***state***" is the running state of the set listener service as '**enabled**' or '**disabled**'.
- Optional "***delay***" is used to delay the preset for the specified amount of time in minutes. The delay is reset each time the command is used.

8.4.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	listener	<space>	*success / error [message]*	<cr>

8.4.6 Command Examples

```
set listener 239.255.250.250 9160 udp 172.30.10.222 on enabled 1 preset2 30<cr>
set listener 239.255.250.250 9160 udp 172.30.10.222 on disabled 1<cr>
set listener key:abc123 239.255.250.250 9160 udp 172.30.10.222 on enabled 1 preset1<cr>
```

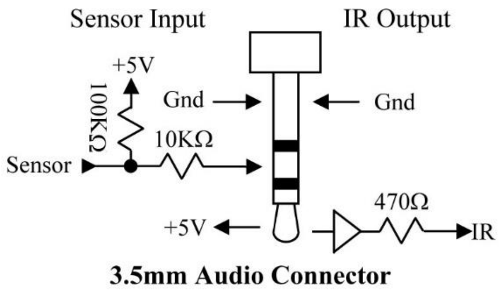
8.4.7 Return Examples

```
set listener success<cr>

set listener error [incomplete]<cr>              set listener error [no active listener found]<cr>
set listener error [reserved notify port]<cr>    set listener error [invalid device port]<cr>
set listener error [invalid parameter]<cr>
set listener error [preset not found]<cr>
```

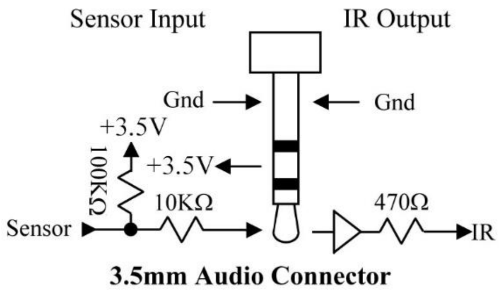
ToC

8.4.8 GC-100 Series IR/Sensor Connector Wiring



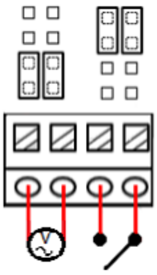
Note: Use connector RING and SLEEVE for closed contact detection

8.4.9 iTach and GlobalConnect Series IR/Sensor Connector Wiring



Note: Use connector TIP and SLEEVE for closed contact detection

8.4.10 Flex Link Relay & Sensor Cable Wiring



Note: Check jumper positions for either voltage or closed contact detection

ToC

8.4.11 Technical Notes

Global Cache sensor cables

GC-100 series
- GC-SV1 Video Out Sensor
- GC-SP1 AC/DC Voltage Sensor
- GC-SC1 Contact Closure Sensor *

IP2IR, WF2IR and GCIR3
- IT-SV1 Video Out Sensor
- IT-SP1 AC/DC Voltage Sensor
- IT-SC1 Contact Closure Sensor *

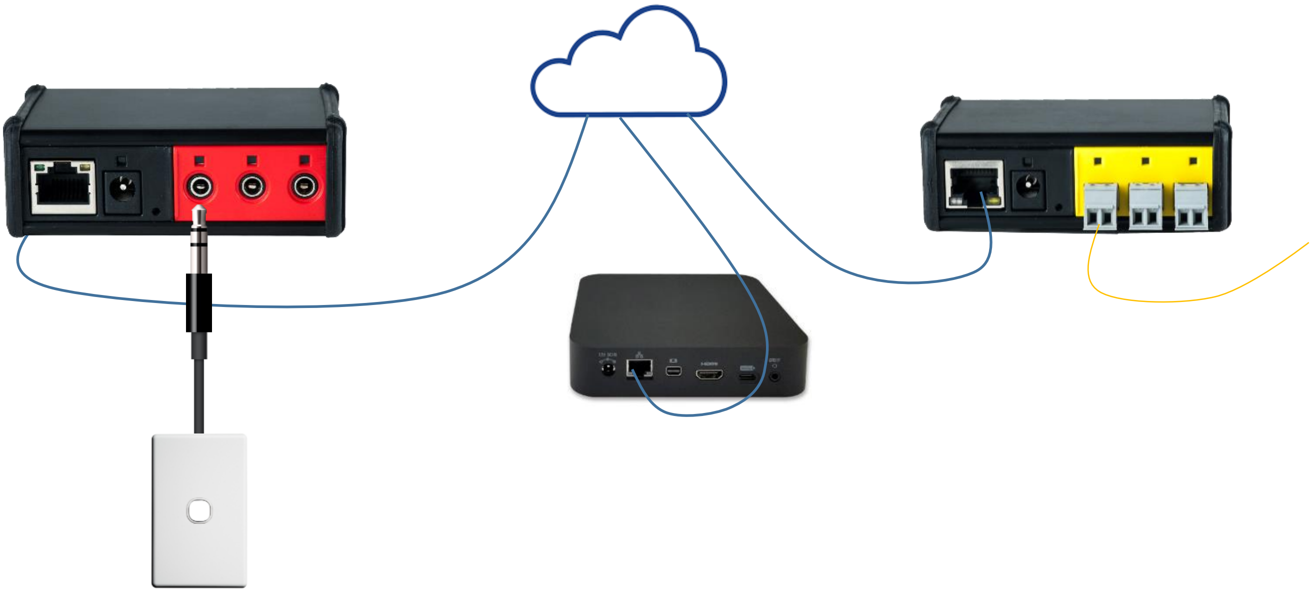
Flex series
- Not required

* For closed contact detection a GC-SC1 or IT-SC1 Contact Closure Sensor cable is not really required if you can make your own. With a 3.5mm stereo phono connector wired with tip and sleeve or ring and sleeve depending on the model as described above in 3.1.8 and 3.1.9.

IR outputs and sensor inputs share a common connector and LED indicator. Each 3.5mm audio connector is independently configured using the assistant. Each connector has three contacts configured as either an infrared (IR) output or sensor input.

When configured as an output, the indicator will blink as an IR command is transmitted. When functioning as a sensor, the indicator is "on" when a positive input or no connection is present. The maximum sensor input voltage is ±24V, with an "on" indication for voltages greater than 2.5V and "off" when less than 0.8V with an input impedance of ~100KΩ.

Here is a simple example of a system using an iTach IP2IR connected to a push button to activate an iTach IP2CC relay.



ToC

8.5 Command set rotation

8.5.1 Command usage

set rotation **[**key:<*security_key*>**]** <*decoder_device_name*> <*value*><cr>

8.5.2 Description

The command **set rotation** is used to rotate the video for displays that have been rotated.

8.5.3 Arguments

decoder_device_name	Device name of the Decoder
value	0..7

8.5.4 Notes

- Valid values:
  - 0 = none
  - 1 = vertical mirror
  - 2 = horizontal mirror
  - 3 = 180º rotation
  - 4 = 90º clockwise rotation + horizontal mirror
  - 5 = 90º clockwise rotation
  - 6 = 270º clockwise rotation
  - 7 = 270º clockwise rotation + horizontal mirror

8.5.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	rotation	<space>	*success / error [message]*	<cr>

8.5.6 Command Examples

```
set rotation Decoder1 0<cr>
set rotation key:abc123 Decoder1 5<cr>
```

8.5.7 Return Examples

```
set rotation success<cr>

set rotation error [incomplete]<cr>
set rotation error [invalid value '<value>']<cr>
set rotation error [decoder 'Decoder1' not found]<cr>
set rotation error [decoder 'Decoder1' disconnected]<cr>
```

ToC

8.6 Command set scaler

8.6.1 Command usage

set scaler **[**key:<*security_key*>**]** <*decoder_device_name*> <*mode*><cr>

8.6.2 Description

The command **set scaler** is used to change the Decoders video output resolution.

8.6.3 Arguments

decoder_device_name	Device name of the Decoder
mode	auto | original | 2160p30 .. 720p50

8.6.4 Notes

- Valid mode values:
  - auto = Decoder’s connected displays preferred resolution
  - original = Encoder source video resolution
  - 2160p30
  - 1080p60
  - 1080p50
  - 720p60
  - 720p50

8.6.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	scaler	<space>	*success / error [message]*	<cr>

8.6.6 Command Examples

```
set scaler Decoder1 auto<cr>
set scaler Decoder1 original<cr>
set scaler Decoder1 1080p60<cr>
set scaler key:abc123 Decoder1 2160p30<cr>
```

8.6.7 Return Examples

```
set scaler success<cr>

set scaler error [incomplete]<cr>
set scaler error [invalid mode '<mode>']<cr>
set scaler error [decoder ‘Decoder1’ not found]<cr>
set scaler error [decoder ‘Decoder1’ disconnected]<cr>
set scaler error [monitor not detected]<cr>
```

8.7 Command set var

ToC

8.7.1 Command usage

set var **[**key:<*security_key*>**]** <*var_name*> <*value*> [delete]<cr>

8.7.2 Description

The command **set var** is used to store any user defined variable values.

8.7.3 Arguments

var_name	Name of the variable
value	String or boolean true false
[delete]	Keyword used to delete the variable from the system

8.7.4 Notes

- *var_name* and value can be any string up to 256 characters.
- When [delete] is used as a value the variable will be deleted.
- String values with spaces are to be wrapped in "quotation marks".

8.7.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	var	<space>	*success / error [message]*	<cr>

8.7.6 Command Examples

```
set var MyVar true<cr>
set var myVar "any string up to 256"<cr>
set var MyVar [delete]<cr>
set var key:abc123 MyVar false<cr>
```

8.7.7 Return Examples

```
set var success<cr>

set var error [incomplete]<cr>
set var error [var_name max 256 characters]<cr>
set var error [value max 256 characters]<cr>
```

ToC

8.8 Command set video_mute

8.8.1 Command usage

set video_mute **[**key:<*security_key*>**]** <*decoder_device_name*> <*state*><cr>

8.8.2 Description

The command **set video_mute** is used to disable the Decoders video output and leave a black screen.

8.8.3 Arguments

decoder_device_name	Device name of the Decoder
state	true | false

8.8.4 Notes

8.8.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	video_mute	<space>	*success / error [message]*	<cr>

8.8.6 Command Examples

```
set video_mute Decoder1 true<cr>
set video_mute key:abc123 Decoder1 false<cr>
```

8.8.7 Return Examples

```
set video_mute success<cr>

set video_mute error [incomplete]<cr>
set video_mute error [invalid state '<state>']<cr>
set video_mute error [decoder ‘Decoder1’ not found]<cr>
set video_mute error [decoder ‘Decoder1’ disconnected]<cr>
```

8.9 Command set video_quality

8.9.1 Command usage

set video_quality **[**key:<*security_key*>**]** <*encoder_device_name*> <*value*><cr>

8.9.2 Description

The command **set video_quality** is used to manage network bandwidth by changing the video stream quality.

8.9.3 Arguments

encoder_device_name	Device name of the Encoder
value	-1..5

8.9.4 Notes

- Valid values:
    - -1 = auto
    - 0 = minimum
    - 1
    - 2
    - 3
    - 4
    - 5 = maximum

8.9.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	video_quality	<space>	*success / error [message]*	<cr>

8.9.6 Command Examples

```
set video_quality Encoder1 -1<cr>
set video_quality key:abc123 Encoder1 5<cr>
```

8.9.7 Return Examples

```
set video_quality success<cr>

set video_quality error [incomplete]<cr>
set video_quality error [invalid value '<value>']<cr>
set video_quality error [encoder ‘Encoder1’ not found]<cr>
set video_quality error [encoder ‘Encoder1’ disconnected]<cr>
```

ToC

8.10 Command set volume

8.10.1 Command usage

set volume **[**key:<*security_key*>**]** <*device_name*> <*value*><cr>

8.10.2 Description

The command **set volume** is used to set the volume level of the analog audio.

8.10.3 Arguments

device_name	Device name of the Encoder or Decoder
value	0..100

8.10.4 Notes

8.10.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	volume	<space>	*success / error [message]*	<cr>

8.10.6 Command Examples

```
set volume Encoder1 0<cr>
set volume key:abc123 Decoder1 5<cr>
```

8.10.7 Return Examples

```
set volume success<cr>

set volume error [incomplete]<cr>
set volume error [invalid value '<value>']<cr>
set volume error [device 'Encoder1' not found]<cr>
set volume error [device 'Encoder1' disconnected]<cr>
```

ToC

8.11 Command set ui_button

8.11.1 Command usage

set ui_button [key:<security_key>] *<ui_name> <button_name / button_group> <function>* [<*button_position*>] [<*value*>]<cr>

8.11.2 Description

The command **set ui_button** is used to control a button within an active User Interface.

8.11.3 Arguments

ui_name	Name of the User Interface
button_name / button_group	Name of the button or preset logic <<button_name>> Or name of a button group
function	position | state | text | press
button_position	up | down | both
value	up | down, enabled | disabled or text string depending on the function

8.11.4 Notes

- Control UI must be enabled as a feature for command to be used.
- The UI service must be enabled.
- Used with split buttons, <<encoder>> and <<decoder>> can be used for button text <value>.
- Used within a preset, <<button_name>> can be used in place of <button_name>.
- For button groups, only **position** and **state** functions are available. Radio Toggle buttons can only use **position up**.
- **function** > **position** and **text** uses **up** |**down** | **both**
- **function** > **position** is only valid for Toggle, Radio Toggle and Split button types.
- **function** > **state** uses **enabled** | **disabled**
- **button_position** is only required for function text for Toggle and Radio Toggle and Split button types otherwise ‘up’ can only be used.

- **Momentary**
    - state
    - text
    - press
- **Toggle**
    - position
    - state
    - text
    - press
- **Radio Toggle**
    - position
    - state
    - text
    - press
- **Split**
    - state
    - text
    - press
- **Repeat**
    - state
    - text
    - press

8.11.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	ui_button	<space>	*success / error [message]*	<cr>

8.11.6 Command Examples

```
set ui_button myUI myButton position up<cr>
set ui_button myUI myButton position down<cr>
set ui_button myUI myButton state enabled<cr>
set ui_button myUI myButton state disabled<cr>
set ui_button myUI myButton text up "MyText"<cr>
set ui_button myUI MyButtonGroup position up<cr>
set ui_button myUI MyButtonGroup state disabled<cr>
set ui_button myUI myButton text down <<encoder>><cr>
set ui_button myUI <<button_name>> text both <<encoder>><cr>
set ui_button key:abc123 myUI myButton press<cr>
```

ToC

8.11.7 Return Examples

```
set ui_button success<cr>

set ui_button error [incomplete]<cr>
set ui_button error [ui ‘myUI’ not found]<cr>
set ui_button error [button ‘myButton’ not found]<cr>
set ui_button error [invalid parameter]<cr>
set ui_button error [invalid button_position]<cr>
set ui_button error [service disabled]<cr>
set ui_button error [invalid button type]<cr>
```

ToC

8.12 Command set ui_label

8.12.1 Command usage

set ui_label [key:<security_key>] <*ui_name*> <*label_name*> <*function*> <*value*><cr>

8.12.2 Description

The command **set ui_label** is used to control a label within an active User Interface.

8.12.3 Arguments

ui_name	Name of the User Interface
label_name	Name of the label
function	color | visibility | text
value	depending on the function

8.12.4 Notes

- Control UI must be enabled as a feature for command to be used.
- The UI service must be enabled.
- When used with split buttons, <<encoder>> and <<decoder>> can be used for label text.
- function color uses HEX RGB color code from 000000 to FFFFFF
- function visibility uses true | false

8.12.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	ui_label	<space>	*success / error [message]*	<cr>

8.12.6 Command Examples

```
set ui_label myUI myLabel color 000000<cr>
set ui_label myUI myLabel visibility false<cr>
set ui_label myUI myLabel visibility true<cr>
set ui_label myUI myLabel text "MyText"<cr>
set ui_label key:abc123 myUI myLabel text <<encoder>><cr>
```

8.12.7 Return Examples

```
set ui_label success<cr>

set ui_label error [incomplete]<cr>
set ui_label error [ui ‘myUI’ not found]<cr>
set ui_label error [label ‘myLabel’ not found]<cr>
set ui_label error [invalid parameter]<cr>
set ui_label error [service disabled]<cr>
```

8.13 Command set ui_image

8.13.1 Command usage

set ui_image [key:<security_key>] <*ui_name*> <*image_name*> <*function*> <*value*><cr>

8.13.2 Description

The command **set ui_image** is used to control an image within an active User Interface.

8.13.3 Arguments

ui_name	Name of the User Interface
image_name	Name of the image
function	visibility
value	true | false

8.13.4 Notes

- Control UI must be enabled as a feature for command to be used.
- The UI service must be enabled.

8.13.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	ui_image	<space>	*success / error [message]*	<cr>

8.13.6 Command Examples

```
set ui_image myUI myImage visibility false<cr>
set ui_image key:abc123 myUI myImage visibility true<cr>
```

8.13.7 Return Examples

```
set ui_image success<cr>

set ui_image error [incomplete]<cr>
set ui_image error [ui 'myUI' not found]<cr>
set ui_image error [image 'myImage' not found]<cr>
set ui_image error [invalid parameter]<cr>
set ui_image error [service disabled]<cr>
```

ToC

8.14 Command set ui_page

8.14.1 Command usage

set ui_page [key:<security_key>] <*ui_name*> <*page_name*><cr>

8.14.2 Description

The command **set ui_page** is used to change the displayed page in active User Interface.

8.14.3 Arguments

ui_name	Name of the User Interface
page_name	Name of the page

8.14.4 Notes

- Control UI must be enabled as a feature for command to be used.
- The UI service must be enabled.

8.14.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	ui_page	<space>	*success / error [message]*	<cr>

8.14.6 Command Examples

```
set ui_page myUI myPage<cr>
set ui_page key:abc123 myUI Page2<cr>
```

8.14.7 Return Examples

```
set ui_page success<cr>

set ui_page error [incomplete]<cr>
set ui_page error [ui 'myUI' not found]<cr>
set ui_page error [page 'myPage' not found]<cr>
set ui_page error [service disabled]<cr>
```

ToC

8.15 Command set ui

8.15.1 Command usage

set ui [key:<security_key>] <*ui_name*> <*service*> [timeout <*timeout*>] [clients <*clients*>] [login <*pin*>]<cr>

8.15.2 Description

The command **set ui** is used to enable and disable a User Interface service.

8.15.3 Arguments

ui_name	name of the User Interface
service	‘enabled’ | ‘disabled’ | ‘logout’
clients	Optional with enabled service to set the maximum client limit from 1 to 100
pin	Optional with enabled service to set a fixed or random 4 digit login pin code

8.15.4 Notes

- Control UI must be enabled as a feature for command to be used.
- Service logout is the same as disabled then enabled.

8.15.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	ui	<space>	*success / error [message]*	<cr>

8.15.6 Command Examples

```
set ui myUI disabled<cr>
set ui myUI logout<cr>
set ui myUI enabled<cr>
set ui myUI enabled clients 10 login 1234<cr>
set ui key:abc123 myUI enabled clients 10 login random<cr>
```

8.15.7 Return Examples

```
set ui success<cr>

set ui error [incomplete]<cr>
set ui error [ui ‘myUI’ not found]<cr>
set ui error [invalid clients '<value>']<cr>
set ui error [invalid pin '<value>']<cr>
set ui error [invalid parameter]<cr>
set ui error [service disabled]<cr>
```

ToC

8.16 Command set events

8.16.1 Command usage

set events [key:<security_key>] <*event_name*> <*function*> <*value*><cr>

8.16.2 Description

The command **set events** is used to enable or disable events created on the UI's Scheduler and Events tab.

8.16.3 Arguments

event_name	Name of the event
function	Current only "**state**" supported
value	"**enabled**" or "**disabled**"

8.16.4 Notes

- Event must be created on UI's Scheduler or Events tab before using command.

8.16.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
set	<space>	events	<space>	*success / error [message]*	<cr>

8.16.6 Command Examples

```
set events MyEvent enabled<cr>
set events MyEvent disabled<cr>
```

8.16.7 Return Examples

```
set events success<cr>

set events error [incomplete]<cr>
set events error [event '<event_name>' not found]<cr>
set events error [invalid parameter]<cr>
```

ToC

9 Command get

The **get** commands are used to retrieve information from the system or Encoders and Decoders.

9.1 Command get audio_source

9.1.1 Command usage

get audio_source **[**key:<*security_key*>**]** <*encoder_device_name*><cr>

9.1.2 Description

The command **get audio_source** is used to retrieve the source of an Encoder's audio stream.

9.1.3 Arguments

encoder_device_name	Device name of the Encoder

9.1.4 Notes

- Returned value is either **hdmi**, **analog** or **auto.**
- Use the command **set audio_souce** to change this setting.

9.1.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	audio_source	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.1.6 Command Example

```
get audio_source Encoder1<cr>
get audio_source key:abc123 Encoder1<cr>
```

9.1.7 Return Examples

```
get audio_source success hdmi<cr>
get audio_source success analog<cr>
get audio_source success auto<cr>

get audio_source error [incomplete]<cr>
get audio_source error [encoder ‘Encoder1’ not found]<cr>
get audio_source error [encoder ‘Encoder1’ disconnected]<cr>
```

ToC

9.2 Command get devices

9.2.1 Command usage

get devices **[**key:<*security_key*>**]** <*target*><cr>

9.2.2 Description

The command **get devices** is used to retrieve the name and MAC Address of available devices.

9.2.3 Arguments

target	all | all_rx | all_tx

9.2.4 Notes

- Return value <device_name> = name of device
- Return value <device_id> = device MAC Address

9.2.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	devices	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.2.6 Command Example

```
get devices all<cr>
get devices all_tx<cr>
get devices all_rx<cr>
get devices key:abc123 all<cr>
```

9.2.7 Return Examples

```
get devices success '<device_name>-<device_id>','<device_name>-<device_id>'<cr>
get devices success '<device_name>-<device_id>'<cr>

get devices error [incomplete]<cr>
get devices error [invalid target '<target>']<cr>
```

ToC

9.3 Command get display_status

9.3.1 Command usage

get display_status **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

9.3.2 Description

The command **get display_status** is used to find if a Decoder has a display connected.

9.3.3 Arguments

decoder_device_name	Device name of the Decoder

9.3.4 Notes

- Returned mode is either **true** or **false.**
- Some non-compliant displays will need to be powered on before detection is possible.

9.3.5 Return Value

command	<space>	mode	<space>	status	<space>	value	terminator
get	<space>	display_status	<space>	*success data /* *error [message]*	<space>	<string>	<cr>

9.3.6 Command Example

```
get display_status Decoder1<cr>
get display_status key:abc123 Decoder1<cr>
```

9.3.7 Return Examples

```
get display_status success true<cr>
get display_status success false<cr>

get display_status error [incomplete]<cr>
get display_status error [decoder 'Decoder1' not found]<cr>
get display_status error [decoder 'Decoder1' disconnected]<cr>
```

ToC

9.4 Command get edid

9.4.1 Command usage

get edid **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

9.4.2 Description

The command **get edid** is used to retrieve a Decoder's connected displays EDID.

9.4.3 Arguments

decoder_device_name	Device name of the Decoder

9.4.4 Notes

- A display device must be connected to the Decoder to retrieve the EDID.
- Use the command **set edid** to save EDID into an Encoder.
- 256 bytes of EDID will be returned.

9.4.5 Return Value

command	<space>	mode	<space>	status	<space>	value	terminator
get	<space>	edid	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.4.6 Command Example

```
get edid Decoder1<cr>
get edid key:abc123 Decoder1<cr>
```

9.4.7 Return Examples

```
get edid success
00ffffffffffff00410c2fc0c52d00000c140103802f1a782e3585a656489a241250542f6f00714f8180818a9500950fb3000
101d1c0023a801871382d40582c4500dc0c1100001e000000ff004155353130313230313137313137000000fd00384c1e531500
0a202020202020000000fc005068696c69707320323231450a01b602031ef04b100501020304061213141f230907078301000
065030c001100023a801871382d40582c4500dc0c1100001e8c0ad08a20e02d10103e9600dc0c11000018011d007251d01e20
6e285500dc0c1100001e8c0ad090204031200c405500dc0c1100001800000000000000000000000000000000000000000000000
00000ac<cr>

get edid error [incomplete]<cr>
get edid error [decoder 'Decoder1' no EDID available]<cr>
get edid error [decoder 'Decoder1' not found]<cr>
get edid error [decoder 'Decoder1' disconnected]<cr>
```

ToC

9.5 Command get joins

9.5.1 Command usage

get joins **[**key:<*security_key*>**]** <*decoder_device_name*> <*subscription*><cr>

9.5.2 Description

The command **get joins** is used to retrieve the Encoder name subscribed to a Decoder's subscription.

9.5.3 Arguments

decoder_device_name	Device name of a Decoder
subscription	video | audio | serial | ir | usb

9.5.4 Notes

9.5.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	joins	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.5.6 Command Examples

```
get joins Decoder1 video<cr>
get joins Decoder1 audio<cr>
get joins Decoder1 serial<cr>
get joins Decoder1 ir<cr>
get joins Decoder1 usb<cr>
get joins key:abc123 Decoder1 video<cr>
```

9.5.7 Return Examples

```
get joins success Encoder1 <cr>

get joins error [incomplete]<cr>
get joins error [invalid subscription '<subscription>']<cr>
get joins error [no encoder connected]<cr>
get joins error [decoder 'Decoder1' not found]<cr>
get joins error [decoder 'Decoder1' disconnected]<cr>
```

9.6 Command get frame_converter

9.6.1 Command usage

get frame_converter **[**key:<*security_key*>**]** <*encoder_device_name*><cr>

9.6.2 Description

The command **get frame_converter** is used to retrieve the Encoder video stream frame rate.

9.6.3 Arguments

encoder_device_name	Device name of a Encoder

9.6.4 Notes

- Use the command **set frame_converter** to change this setting.
- Returned values between 0 and 59.

9.6.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	frame_converter	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.6.6 Command Examples

```
get frame_converter Encoder1<cr>
get frame_converter key:abc123 Encoder1<cr>
```

9.6.7 Return Examples

```
get frame_converter success 0 <cr>

get frame_converter error [incomplete]<cr>
get frame_converter error [encoder 'Encoder1' not found]<cr>
get frame_converter error [encoder 'Encoder1' disconnected]<cr>
```

ToC

9.7 Command get preferred

9.7.1 Command usage

get preferred **[**key:<*security_key*>**]** <*decoder_device_name*> <*option*><cr>

9.7.2 Description

The command **get preferred** is used to retrieve the preferred resolution of a display connected to a Decoder.

9.7.3 Arguments

decoder_device_name	Device name of Decoder
option	width | height | fps

9.7.4 Notes

- A display must be connected to the Decoder for the EDID to be retrieved. Some non-compliant displays may need to be switched on before the EDID can be accessed.

9.7.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	preferred	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.7.6 Command Example

```
get preferred Decoder1 width<cr>
get preferred Decoder1 height<cr>
get preferred Decoder1 fps<cr>
get preferred key:abc123 Decoder1 width<cr>
```

9.7.7 Return Example

```
get preferred success 1920<cr>
get preferred success 1080<cr>
get preferred success 60<cr>

get preferred error [incomplete]<cr>
get preferred error [invalid option '<option>']<cr>
get preferred error [no EDID available]<cr>
get preferred error [decoder 'Decoder1' not found]<cr>
get preferred error [decoder 'Decoder1' disconnected]<cr>
```

ToC

9.8 Command get rotation

9.8.1 Command usage

get rotation **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

9.8.2 Description

The command **get rotation** is used to retrieve the video output rotation status of the specified Decoder.

9.8.3 Arguments

decoder_device_name	Device name of the Decoder

9.8.4 Notes

- Return value will be between 0 and 7.
- Use the command **set rotation** to change this setting.

9.8.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	rotation	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.8.6 Command Example

```
get rotation Decoder1<cr>
get rotation key:abc123 Decoder1<cr>
```

9.8.7 Return Examples

```
get rotation success 0<cr>
get rotation success 7<cr>

get rotation error [incomplete]<cr>
get rotation error [decoder 'Decoder1' not found]<cr>
get rotation error [decoder 'Decoder1' disconnected]<cr>
```

ToC

9.9 Command get scaler

9.9.1 Command usage

get scaler **[**key:<*security_key*>**]** <*decoder_device_name*> <*option*><cr>

9.9.2 Description

The command **get scaler** is used to retrieve the scaled video resolution of the Decoder's HDMI video.

9.9.3 Arguments

decoder_device_name	Device name of the Decoder
option	all | width | height | fps

9.9.4 Notes

- If the Decoder has been set to 'original' then the command return will be 'original' for any option specified.

9.9.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	scaler	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.9.6 Command Examples

```
get scaler Decoder1 all<cr>
get scaler Decoder1 width<cr>
get scaler Decoder1 height<cr>
get scaler Decoder1 fps<cr>
get scaler key:abc123 Decoder1 all<cr>
```

9.9.7 Return Examples

```
get scaler success 1920 1080 60<cr>
get scaler success 1920<cr>
get scaler success 1080<cr>
get scaler success 60<cr>
get scaler success original<cr>

get scaler error [incomplete]<cr>
get scaler error [invalid option '<option>']<cr>
get scaler error [decoder 'Decoder1' not found]<cr>
get scaler error [decoder 'Decoder1' disconnected]<cr>
```

ToC

9.10 Command get status

9.10.1 Command usage

get status **[**key:<*security_key*>**]** <*device_name*> [<*stream*>]<cr>

9.10.2 Description

The command **get status** is used to retrieve the status of the specified device or individual Encoder device stream or Decoder subscription.

9.10.3 Arguments

device_name	Name of the Encoder or Decoder
stream	video | audio | usb | serial | ir

9.10.4 Notes

- When no stream is specified the return will be as seen on the status of the Encoder / Decoder UI Status tab, this is a general status of the device.

9.10.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	status	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.10.6 Command Example

```
get status Encoder1<cr>
get status Encoder1 audio<cr>
get status Encoder1 video<cr>
get status Encoder1 usb<cr>
get status Encoder1 serial<cr>
get status key:abc123 Encoder1 ir<cr>
```

```
get status Decoder1<cr>
get status Decoder1 audio<cr>
get status Decoder1 video<cr>
get status Decoder1 usb<cr>
get status Decoder1 serial<cr>
get status Decoder1 ir<cr>
```

9.10.7 Return Examples

```
get status success connected<cr>
get status success stopped<cr>
get status success timeout<cr>
get status success disconnected<cr>
get status success out of range<cr>

get status error [incomplete]<cr>
get status error [invalid stream '<stream>']<cr>
get status error [device ‘Encoder1’ not found]<cr>
get status error [device ‘Encoder1’ disconnected]<cr>
```

ToC

9.11 Command get var

9.11.1 Command usage

get var **[**key:<*security_key*>**]** <*var_name*><cr>

9.11.2 Description

The command **get var** is used to retrieve the value of the specified user defined variable.

9.11.3 Arguments

var_name	Name of the variable

9.11.4 Notes

9.11.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	var	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.11.6 Command Example

```
get var MyVar<cr>
```

9.11.7 Return Examples

```
get var success <value><cr>

get var error [incomplete]<cr>
get var error [var '<var_name>' not found]<cr>
```

ToC

9.12 Command get ver

9.12.1 Command usage

get ver **[**key:<*security_key*>**]** <*device_name*><cr>

9.12.2 Description

The command **get ver** is used to retrieve the current firmware version of a Decoder or Encoder.

9.12.3 Arguments

device_name	Device name of either a Decoder or Encoder

9.12.4 Notes

9.12.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	ver	<space>	*success data /* *error [message]*	<space>	<string>	<cr>

9.12.6 Command Examples

```
get ver Encoder1<cr>
get ver key:abc123 Decoder1<cr>
```

9.12.7 Return Examples

```
get ver success 1.1.2<cr>

get ver error [incomplete]<cr>
get ver error [device 'Encoder1' not found]<cr>
get ver error [device 'Encoder1' disconnected]<cr>
```

ToC

9.13 Command get video

9.13.1 Command usage

get video **[**key:<*security_key*>**]** <*encoder_device_name*> <*option*><cr>

9.13.2 Description

The command **get video** is used to retrieve the connected video information from an Encoder.

9.13.3 Arguments

encoder_device_name	Device name of the Encoder
option	all | width | height | fps | sm

9.13.4 Notes

- **all** returns <*width*> <*height*> <*frames_per_second*> <*scan_mode*>

9.13.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	video	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.13.6 Command Example

```
get video Encoder1 all<cr>
get video Encoder1 width<cr>
get video Encoder1 height<cr>
get video Encoder1 fps<cr>
get video Encoder1 sm<cr>
get video key:abc123 Encoder1 all<cr>
```

9.13.7 Return Examples

```
get video success 1920 1080 60 PROGRESSIVE<cr>
get video success 1920<cr>
get video success 1080<cr>
get video success 60<cr>
get video success PROGRESSIVE<cr>
get video success INTERLACED <cr>

get video error [incomplete]<cr>
get video error [invalid option '<option>']<cr>
get video error [encoder 'Encoder1' not found]<cr>
get video error [encoder 'Encoder1' disconnected]<cr>
```

ToC

9.14 Command get video_mute

9.14.1 Command usage

get video_mute **[**key:<*security_key*>**]** <*decoder_device_name*><cr>

9.14.2 Description

The command **get video_mute** is used to retrieve the video mute status of the specified Decoder.

9.14.3 Arguments

decoder_device_name	Device name of the Decoder

9.14.4 Notes

- Use the command **set video_mute** to turn it on and off or change the color of the muted display.

9.14.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	video_mute	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.14.6 Command Example

```
get video_mute Decoder1<cr>
get video_mute key:abc123 Decoder1<cr>
```

9.14.7 Return Examples

```
get video_mute success true<cr>
get video_mute success false<cr>

get video_mute error [incomplete]<cr>
get video_mute error [decoder 'Decoder1' not found]<cr>
get video_mute error [decoder 'Decoder1' disconnected]<cr>
```

9.15 Command get video_quality

ToC

9.15.1 Command usage

get video_quality **[**key:<*security_key*>**]** <*encoder_device_name*><cr>

9.15.2 Description

The command **get video_quality** is used to retrieve an Encoder's video stream quality.

9.15.3 Arguments

encoder_device_name	Device name of the Encoder

9.15.4 Notes

- Returned value in the range of -1 to 5**.**
- Use the command **set video_quality** to change this setting.

9.15.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	video_quality	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.15.6 Command Example

```
get video_quality Encoder1<cr>
get video_quality key:abc123 Encoder1<cr>
```

9.15.7 Return Examples

```
get video_status success -1<cr>
get video_status success 5<cr>

get video_quality error [incomplete]<cr>
get video_quality error [encoder 'Encoder1' not found]<cr>
get video_quality error [encoder 'Encoder1' disconnected]<cr>
```

ToC

9.16 Command get video_status

9.16.1 Command usage

get video_status **[**key:<*security_key*>**]** <*encoder_device_name*><cr>

9.16.2 Description

The command **get video_status** is used to find if an Encoder has a stable video source connected.

9.16.3 Arguments

encoder_device_name	Device name of the Encoder

9.16.4 Notes

- Returned mode is either **true** or **false.**

9.16.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	video_status	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.16.6 Command Example

```
get video_status Encoder1<cr>
get video_status key:abc123 Encoder1<cr>
```

9.16.7 Return Examples

```
get video_status success true<cr>
get video_status success false<cr>

get video_status error [incomplete]<cr>
get video_status error [encoder 'Encoder1' not found]<cr>
get video_status error [encoder 'Encoder1' disconnected]<cr>
```

ToC

9.17 Command get volume

9.17.1 Command usage

get volume **[**key:<*security_key*>**]** <*device_name*><cr>

9.17.2 Description

The command **get volume** is used to retrieve the current analog audio volume level.

9.17.3 Arguments

device_name	Device name of either a Decoder or Encoder

9.17.4 Notes

- Use the command **set volume** to change this setting.

9.17.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	volume	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.17.6 Command Examples

```
get volume Encoder1<cr>
get volume key:abc123 Decoder1<cr>
```

9.17.7 Return Examples

```
get volume success 0<cr>
get volume success 100<cr>

get volume error [incomplete]<cr>
get volume error [device 'Encoder1' not found]<cr>
get volume error [device 'Encoder1' disconnected]<cr>
```

9.18 Command get ui_button

9.18.1 Command usage

get ui_button **[**key:<*security_key*>**]** <*ui_name*> <*button_name*> <*function*><cr>

9.18.2 Description

The command **get ui_button** is used to retrieve the current state of a User Interface button.

9.18.3 Arguments

ui_name	Name of the User Interface
button_name	Name of the button in the User Interface or preset logic <<button_name>>
function	position | state

9.18.4 Notes

- Control UI must be enabled as a feature for command to be used.
- Use the command **set ui_button** to change this setting.
- **function** > **position** uses **up** |**down**
- **function** > **state** uses **enabled** | **disabled**

- **Momentary**
  - state
- **Toggle**
  - position
  - state
- **Radio Toggle**
  - position
  - state
- **Split**
  - position
  - state
- **Repeat**
  - state

9.18.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	ui_button	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.18.6 Command Examples

```
get ui_button MyUI MyButton position<cr>
get ui_button MyUI <<button_name>> position<cr>
get ui_button key:abc123 MyUI MyButton state<cr>
```

9.18.7 Return Examples

```
get ui_button position success up<cr>
get ui_button position success down<cr>
get ui_button state success enabled<cr>
get ui_button state success disabled<cr>

get ui_button error [incomplete]<cr>
get ui_button error [User Interface '<ui_name>' not found]<cr>
get ui_button error [button '<button_name>' not found]<cr>
get ui_button error [invalid parameter]<cr>
get ui_button error [service disabled]<cr>
```

ToC

9.19 Command get ui

9.19.1 Command usage

get ui [key:<*security_key*>] <*ui_name*><cr>

9.19.2 Description

The command **get ui** is used to retrieve the User Interface status.

9.19.3 Arguments

ui_name	Name of the User Interface

9.19.4 Notes

- User Interface must be enabled as a feature for command to be used.
- Use the command **set ui_button** to change this setting.

9.25.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	ui	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.25.6 Command Example

```
get ui MyUI<cr>
```

9.25.7 Return Examples

```
get ui disabled<cr>
get ui enabled<cr>
get ui enabled timeout 240<cr>
get ui enabled clients 1<cr> *number of users 1 to 100
get ui enabled login 1234<cr> *0000 to 9999
get ui enabled timeout 240 clients 1 login 1234<cr>

get ui error [user interface 'MyUI' not found]<cr>
```

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9.20 Command get events

9.20.1 Command usage

get events **[**key:<*security_key*>**]** <*event_name*> <*function*><cr>

9.20.2 Description

The command **get events** is used to retrieve the state of events created on the UI's Scheduler or Events tabs.

9.20.3 Arguments

event_name	Name of the event
function	Current only "**state**" supported

9.20.4 Notes

- Event must be created on UI's Scheduler or Events tab before using command.

9.20.5 Return Value

command	<space>	**mode**	<space>	**status**	<space>	**value**	**terminator**
get	<space>	events	<space>	*success data / error [message]*	<space>	<string>	<cr>

9.20.6 Command Example

```
get events state MyEvent<cr>
```

9.20.7 Return Examples

```
get events success enabled<cr>
get events success disabled<cr>

get events error [incomplete]<cr>
get events error [event '<event_name>' not found]<cr>
get events error [invalid parameter]<cr>
```

ToC

10 Command send

The **send** commands are used to send either infrared or serial RS-232 data to any or all Encoders or Decoders from a 3rd party control system. Any TCP controllable device or Global Caché device can be controlled.

10.1 Command send cec

10.1.1 Command usage

send cec [key:<security_key>] <device_name> / <group_name> / <all> / <all_tx> / <all_rx> <data_hex><cr>

10.1.2 Description

The command **send cec** is used to send cec data from a control system to a Decoder's connected display.

10.1.3 Arguments

device_name	Device name of the Decoder, Encoder, Group or '**all**' | '**all_tx**' | '**all_rx**'
data_hex	String of ascii characters representing the hexadecimal cec code

10.1.4 Notes

- The **data_hex** argument is a hexadecimal string which represent the cec code to be sent.
- The command will return with an error when using a single device if no source is connected on an Encoder or no display connected on a Decoder.
- ***group_name*** is used as a destination when all Encoders and Decoders in a group are required to send CEC.

10.1.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
send	<space>	cec	<space>	*success / error*	<cr>

10.1.6 Command Examples

```
send cec Decoder1 F004<cr>
send cec MyGroup F004<cr>
send cec key:abc123 Decoder1 F004<cr>
```

10.1.7 Return Examples

```
send cec success<cr>

send cec error [incomplete]<cr>
send cec error [HDMI disconnected]<cr>
send cec error [decoder 'Decoder1' not found]<cr>
```

ToC

10.2 Command send gc

The command **send gc** provides a seamless integration with Global Caché products.
For more information on Global Caché visit www.globalcache.com.

10.2.1 Command usage

send gc **[**key:<*security_key*>**]** <*address*> <*port*> <*gc_api*> **[**<feedback> **[**"<*feedback_string*>"**]]**<cr>

10.2.2 Description

The **send gc** command allows control of all Global Caché products via TCP.

10.2.3 Arguments

address	Global Caché IP address
port	Global Caché TCP port. Usually 4998 and for serial com1: 4999 com2: 5000
gc_api	Global Caché API string
feedback	Keywords **reply**, **equals** or **contains** (optional)
feedback_string	String used with equals or contains to compare with the feedback string

10.2.4 Notes

- The **gc_api** string uses the same standard Global Caché control string format as found in the Global Caché API manuals downloaded from: www.globalcache.com/downloads/
- Use keyword "**[disconnect]**" in place of ***gc_api*** string to terminate the connection.
- Strings sent to port 4999 or 5000 must be wrapped in quotations "my string".
- The ***feedback*** option uses keywords **reply**, **equals** or **contains** to set the type of feedback.
  To receive a string only, use **reply**.
  For comparison with the specified ***feedback_string*** use **equals** for an exact match, or **contains** for a match within the string.

10.2.5 Return Value

Return values from port 4998 will be in the standard Global Caché format under normal conditions. An exception to this would be if a TCP connection was not possible to a device, in which case an error such as send gc error [device '172.30.1.111' not found]<cr> would be sent.

Return values from either port 4999 or 5000 will be the return serial string unless a keyword is used like "reply", "contains" or "equals" in which case "reply" will return with the received serial string and "contains" and "equals" will return with a success or error as a result of comparing the serial return string.

```
send gc 172.30.1.111 4999 "a string to send"<cr> = send gc success<cr>
send gc 172.30.1.111 4999 "a string to send" reply<cr> = <feeback_string>
send gc 172.30.1.111 4999 "a string to send" contains "string"<cr> = send gc success<cr>
send gc 172.30.1.111 4999 "a string to send" contains "oops"<cr> = send gc error [<feeback_string>]
send gc 172.30.1.111 4999 "a string to send" equals "string"<cr> = send gc success<cr>
send gc 172.30.1.111 4999 "a string to send" equals "oops"<cr> = send gc error [<feeback_string>]
```

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10.2.6 Examples

```
send gc 172.30.1.111 4999 "a string to send"<cr>
send gc 172.30.1.111 4999 "a string to send" reply<cr>
send gc 172.30.1.111 4999 "a string to send" contains "a string to find"<cr>
send gc 172.30.1.111 4999 "a string to send" equals "a string to find"<cr>
send gc 172.30.1.111 4998 setstate,1:1,1<cr>
send gc 172.30.1.111 4998 sendir,1:2,4444,34500,1,1,34,48,24,12,24,960,24,12,24...<cr>
send gc 172.30.1.111 4998 [disconnect]<cr>
send gc key:abc123 172.30.1.111 4999 "\x00\x01"<cr>
```

10.2.7 Return Examples

```
a serial string<cr>
state,1:1,1<cr>
completeir,1:1,1<cr>
send gc success<cr>

send gc error [invalid]<cr>
send gc error [incomplete]<cr>
send gc error [device ‘172.30.1.111’ not found]<cr>
send gc error [device ‘172.30.1.111’ timeout]<cr>
send gc error [<string received>]<cr>
ERR_<XX><cr>
```

10.3 Command send ir

10.3.1 Command usage

send ir [key:<security_key>] <device_name> / <group_name> / <all> / <all_tx> / <all_rx> <data_hex><cr>

10.3.2 Description

The command **send ir** is used to send infrared (IR) signals from a control system to Encoders and Decoders.

10.3.3 Arguments

device_name	Device name of the Decoder, Encoder, Group or ‘**all**’ | ‘**all_rx**’ | ‘**all_tx**’
data_hex	String of ascii characters representing the hexadecimal Pronto infrared code

10.3.4 Notes

- The **data_hex** argument is a hexadecimal string which represent the Pronto infrared code to be sent.
- Its length must be a multiple of eight (i.e. data length must be a multiple of four bytes) and cannot exceed 256 burst pairs and a maximum length of 1032 bytes.
- ***group_name*** is used as a destination when all Encoders and Decoders in a group are required to send IR.

10.3.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
send	<space>	ir	<space>	*success / error*	<cr>

10.3.6 Command Examples

```
send ir Decoder1 0000006D0000002200AC00AC0015004000150040001500400015001500150015001500150015001500150015001500400015004000150040001500
150015001500150015001500150015001500150040001500150015001500150040001500400015001500150015001500400015001500150040001500400015001500150
01500150040001500400015001500150689<cr>

send ir MyGroup 0000006D0000002200AC00AC0015004000150040001500400015001500150015001500150015001500150015001500400015004000150040001500
150015001500150015001500150015001500150040001500150015001500150040001500400015001500150015001500400015001500150040001500400015001500150
01500150040001500400015001500150689<cr>

send ir key:abc123 all_rx 000006D0000002200AC00AC00150040001500400015004000150015001500150015001500150015001500150015004000150040001500
400015001500150015001500150015001500150015001500400015001500150015001500400015004000150015001500150015004000150015001500400015004000150
0150015001500150040001500400015001500150689<cr>
```

10.3.7 Return Examples

```
send ir success<cr>

send ir error [incomplete]<cr>
send ir error [max length exceeded]<cr>
send ir error [Length of hex data should be in multiples of 4 bytes]<cr>
send ir error [device ‘Encoder1’ not found]<cr>
```

ToC

10.4 Command send serial

10.4.1 Command usage

```
send serial [key:<security_key>] <device_name> / <group_name> / <all> / <all_tx> / <all_rx> "<data_string>" [<feedback> ["<feedback_string>"]]<cr>
```

10.4.2 Description

The command **send serial** is used to send serial RS-232 data from a control system to Encoders and Decoders.

10.4.3 Arguments

device_name	Device name of Encoder, Decoder, Group or '**all**' | '**all_rx**' | '**all_tx**'
data_string	String of ASCII characters
feedback	Keywords **reply**, **equals** or **contains** (optional)
feedback_string	String used with **equals** or **contains** to compare with the feedback string

10.4.4 Notes

- When either 2-way communication is required and the control system is expecting a reply from the serial equipment or unsolicited serial data is expected, then the device must be set for **control** mode in the RS232 serial port settings. When unsolicited serial data is received the Controller will raise a 'notify serial' event.

- The **data_string** and **feedback_string** arguments are ASCII text strings when set to ASCII mode.
  When the device is in ASCII mode it will only be possible to send escaped \x0D carriage return and / or \x0A line feed.
  - abcdefghijklmnopqrstuvwxyz0123456789\x0D
  - \x0D\x0A

- The **data_string** and **feedback_string** arguments are ASCII text strings of bytes when set to HEX mode.
  - 00FF
  - \x00\xFF

- The ***feedback*** option uses keywords **reply**, **equals** or **contains** to set the type of feedback.
  To receive a string only, use **reply**.
  For comparison with the specified ***feedback_string*** use **equals** for an exact match, or **contains** for a match within the string. Can only be used when ***device_name*** is a single Encoder or Decoder.

- ***feedback_string*** contains the expected device's feedback string result.

- ***group_name*** is used as a destination when all Encoders and Decoders in a group are required to send.

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10.4.5 Return Value

command	<space>	**mode**	<space>	**status**	**terminator**
send	<space>	serial	<space>	*success [data] / error [message]*	<cr>

10.4.6 Command Examples

```
send serial Decoder1 "my data string\x0D"<cr>
send serial Encoder1 "\x00\x01\x02\x03\x04"<cr>
send serial Decoder1 "my data string" reply<cr>
send serial Decoder1 "my data string\x0D" contains "\x0D"<cr>
send serial Decoder1 "my data string\x0D\x0A" equals "OK"<cr>
send serial key:abc123 Decoder1 "000102FF"<cr>
send serial MyGroup "my data string\x0D"<cr>
```

10.4.7 Return Examples

```
send serial success [my return string]<cr>
send serial success [00FF0D]<cr> * Received HEX in HEX mode
send serial success [\x00\xFF\x0D]<cr> * Received HEX in ASCII mode
send serial success []<cr>
send serial success<cr>

send serial error [incomplete]<cr>
send serial error [invalid HEX data]<cr>
send serial error [invalid HEX feedback]<cr>
send serial error [invalid parameter]<cr>
send serial error [device ‘Encoder1’ not found]<cr>
```

10.5 Command send tcp

10.5.1 Command usage

send tcp **[**key:<*security_key*>**]** <*address*> <*port*> "<*command*>" **[**<*feedback*> **[**"<*feedback_string*>"**]]**<cr>

10.5.2 Description

The command **send tcp** provides a seamless integration with any TCP controllable device.

10.5.3 Arguments

address	TCP IP address
port	TCP port
command	Command string to send to TCP device
feedback	Keyword **reply**, **equals** or **contains** (optional)
feedback_string	Expected feedback string used with **equals** or **contains**

10.5.4 Notes

- The TCP device must be in the same range as the Controller.
- To send HEX add \x before the HEX byte. \x0D for carriage return
- The feedback option uses keywords reply, equals or contains to set the type of feedback.
  To receive a string only, use reply.
  For comparison with the specified feedback_string use **equals** for an exact match, or **contains** for a match within the string. Can only be used when device_name is a single Encoder or Decoder.
- ***feedback_string*** contains the expected device's feedback string result.
- Use keyword "**[disconnect]**" in place of ***command*** string to terminate the connection.

10.5.5 Return Value

A success return value will contain what is returned from the TCP device.

10.5.6 Examples

```
send tcp 172.30.1.111 1000 "ascii string"<cr>    send tcp 172.30.1.111 1000 "an mixed string\x0D"<cr>
send tcp 172.30.1.111 1000 "\x00\x01\x02\x03"<cr>
send tcp 172.30.1.111 1000 "ascii string" contains "feedback string"<cr>
send tcp 172.30.1.111 1000 "ascii string" equals "feedback string"<cr>
send tcp 172.30.1.111 1000 "ascii string" reply<cr> send tcp 172.30.1.111 1000 [disconnect]<cr>
send tcp key:abc123 172.30.1.111 1000 "ascii string"<cr>
```

10.5.7 Return Examples

```
send tcp succuss<cr>                                        send tcp success [disconnected]<cr>
send tcp succuss [<feedback>]<cr>                           send tcp error [invalid parameter]<cr>
send tcp error [incomplete]<cr>                             send tcp error [<feedback>]<cr>
send tcp error [device '172.30.1.111' not found]<cr>
send tcp error [device '172.30.1.111:1000' not connected]<cr>
```

ToC

11 Command preset

The preset commands are used to store and apply a series of commands available from this manual.
A sequence of commands can be used to create routing tables or video wall.
Refer Appendix B - Preset logic for logic that can be applied within a preset.

11.1 Command preset add

11.1.1 Command usage

preset add **[**key:<*security_key*>**]** <*preset_name*> <*preset_data*><cr>

11.1.2 Description

The command **preset add** is used to create and append commands to a specified preset.

11.1.3 Arguments

preset_name	The name defined as the preset
preset_data	A valid Control Command string

11.1.4 Notes

- The preset is executed with the **preset load** command.
- Preset commands are not allowed in a preset itself, only used to create, delete and execute presets.

11.1.5 Return Value

command	<space>	**mode**	<space>	**name**	<space>	**status**	**terminator**
preset	<space>	add	<space>	*preset1*	<space>	*success / error [message]*	<cr>

11.1.6 Command Examples

```
preset add preset1 join all encoder1 decoder1<cr>
preset add key:abc123 preset1 join all Encoder1 Decoder1<cr>
```

11.1.7 Return Examples

```
preset add preset1 success<cr>

preset add error [incomplete]<cr>
preset error [invalid mode]<cr>
```

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11.2 Command preset delay

11.2.1 Command usage

preset delay **[**key:<*security_key*>**]** <*milliseconds*>

11.2.2 Description

The command **preset delay** is used within a preset to add a delay between commands.

11.2.3 Arguments

milliseconds	Delay time in milliseconds up to 9999

11.2.4 Notes

- This command can only be used within a preset.

11.2.5 Return Value

None

11.2.6 Command Examples

```
preset delay 1000
preset delay key:abc123 500
```

11.2.7 Return Example

```
No return is given for a valid command

preset error [invalid mode]<cr>
preset delay error [invalid milliseconds]<cr>
```

ToC

11.3 Command preset delete

11.3.1 Command usage

preset delete **[**key:<*security_key*>**]** <*preset_name*><cr>

11.3.2 Description

The command **preset delete** is used to delete the specified preset from the Thunder Arranger Controller or directly from the UI.

11.3.3 Arguments

preset_name	The name defined as the preset

11.3.4 Notes

11.3.5 Return Value

command	<space>	**mode**	<space>	**name**	<space>	**status**	**terminator**
preset	<space>	delete	<space>	*preset1*	<space>	*success / error [message]*	<cr>

11.3.6 Command Examples

```
preset delete preset1<cr>
preset delete key:abc123 preset1<cr>
```

11.3.7 Return Examples

```
preset delete preset1 success<cr>

preset delete error [incomplete]<cr>
preset delete error [preset 'preset1' not found]<cr>
preset error [invalid mode]<cr>
```

ToC

11.4 Command preset load

11.4.1 Command usage

preset load **[**key:<*security_key*>**]** <*preset_name*> **[**_delay_**]**<cr>

11.4.2 Description

The command **preset load** is used to apply stored commands within the specified preset.

11.4.3 Arguments

preset_name	The name defined as the preset
delay	Delay in minutes before preset is applied (optional)

11.4.4 Notes

- The preset is created with the **preset add** command or directly via the UI.
- Optional "***delay***" is used to delay a preset for the specified amount of time in minutes. The delay is reset each time the command is used and -1 will terminate the command.

11.4.5 Return Value

command	<space>	**mode**	<space>	**name**	<space>	**status**	**terminator**
preset	<space>	load	<space>	*preset1*	<space>	*success / error [message]*	<cr>

11.4.6 Command Examples

```
preset load preset1<cr>
preset load preset1 30<cr>
preset load preset1 -1<cr>
preset load key:abc123 preset1<cr>
```

11.4.7 Return Examples

```
preset load preset1 success<cr>
preset load preset1 delayed<cr>

preset load error [incomplete]<cr>
preset load error [preset 'preset1' not found]<cr>
preset load preset1 error […]<cr>
preset error [invalid mode]<cr>
```

ToC

12 Message notify

The **notify** messages are sent from the Controller to a third party control system connected on Telnet port 6980 with updated event notifications. A **notify** message will be sent on the following events:

- Serial RS-232 data received from Encoder or Decoder
- Encoder or Decoder network connectivity
- Decoder display connectivity
- Encoder source connectivity

12.1 Message notify serial

12.1.1 Message received

notify serial <*device_name*> <*data_string*><cr>

12.1.2 Description

A **notify serial** message is sent when serial RS-232 data from an Encoder or Decoder is received.

12.1.3 Arguments

device_name	Device name of Encoder or Decoder
data_string	String of ascii characters

12.1.4 Notes

- Before **notify serial** messaged can be received, the device must be set to **control** mode.

12.1.5 Return Value

message	<space>	**mode**	<space>	**data_string**	**terminator**
notify	<space>	serial	<space>	*ascii_data*	<cr>

12.1.6 Examples

```
notify serial ‘Decoder1’ my data string\x0D<cr>
notify serial ‘Decoder1’ \x00\x01\x02\x03\xFF<cr>
notify serial ‘Encoder1’ 0001020304<cr>
```

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12.2 Message notify network

12.2.1 Message received

notify network <*device_name*> <*state*><cr>

12.2.2 Description

A **notify network** message is sent whenever an Encoder or Decoder is connected or disconnected from the network.

12.2.3 Arguments

device_name	Device name of Encoder or Decoder
state	'true' | 'false'

12.2.4 Notes

- A **notify network** message will be sent when the Controller is unable to connect or connects with an Encoder or Decoder. For example, a false then true message will be sent during a device power cycle or reboot.

12.2.5 Return Value

message	<space>	**mode**	<space>	**status**	**terminator**
notify	<space>	network	<space>	true | false	<cr>

12.2.6 Examples

```
notify network 'Decoder1' false<cr>
notify network 'Decoder1' true<cr>
```

ToC

12.3 Message notify display

12.3.1 Message received

notify display <decoder_*device_name*> <*state*><cr>

12.3.2 Description

A **notify display** message is sent whenever a display is connected or disconnected from a Decoder.

12.3.3 Arguments

decoder_device_name	Device name of Decoder
state	‘true’ | ‘false’

12.3.4 Notes

- Some non-compliant displays will require power for this event to be raised.

12.3.5 Return Value

message	<space>	**mode**	<space>	**status**	**terminator**
notify	<space>	display	<space>	true | false	<cr>

12.3.6 Examples

```
notify display ‘Decoder1’ false<cr>
notify display ‘Decoder1’ true<cr>
```

ToC

12.4 Message notify source

12.4.1 Message received

notify source <encoder_*device_name*> <*state*><cr>

12.4.2 Description

A **notify source** message is sent whenever a source is connected or disconnected from an Encoder.

12.4.3 Arguments

encoder_device_name	Device name of Encoder
state	‘true’ | ‘false’

12.4.4 Notes

- The Controller is looking for a stable valid video signal.

12.4.5 Return Value

message	<space>	**mode**	<space>	**status**	**terminator**
notify	<space>	source	<space>	true | false	<cr>

12.4.6 Examples

```
notify source ‘Encoder1’ false<cr>
notify source ‘Encoder1’ true<cr>
```

Appendix A - How to HTTP request

GET = http://<*controllerURL*>/api/command/< *API_COMMAND*>/<*KEY*>

POST = http://<*controllerURL*>/api/command{"cmd": "< *API_COMMAND*>", "key": "<*KEY*>"}

Example 1: POST - ajax

```
<script language='JavaScript' type='text/javascript'>
          var controllerIP = '169.254.1.1'; *change this to the same IP address as the controller
          var BaseURL = 'http://' + controllerIP + '/api/command';
          var MAXIMUM_WAITING_TIME = 5000;  *timeout in milliseconds
          var CheckStatusTimer;
          var key = '123xyz'; *replace this with the generated security key
          var command = '123xyz'; *replace with any Arranger API command

          $.ajax({
                    type: 'POST',
                    crossDomain: true,
                    contentType: 'application/json; charset=utf-8',
                    dataType: 'text',
                    url: BaseURL,
                    data: '{"cmd":"' + command + '","key":"' + key + '"}',
                    timeout: MAXIMUM_WAITING_TIME,
                    success: function(data, textStatus, XMLHttpRequest){
                              console.log(data);
                    },
                    error: function (XMLHttpRequest, textStatus, errorThrown) {
                              console.log('ERROR = ' + errorThrown);
                    }
          });
</script>
```

Example 2: POST - xhr

```
<script language='JavaScript' type='text/javascript'>
          var controllerIP = '169.254.1.1'; *change this to the same IP address as the controller
          var BaseURL = 'http:// ' + controllerIP + '/api/command';
          var key = '123xyz'; *replace this with the generated security key
          var command = '123xyz'; *replace with any ARRANGER API command
          var xmlRequest = new XMLHttpRequest();
          xmlRequest.open('POST', BaseURL, true);
          var params = '{"cmd":"' + command + '","key":"' + key + '"}';
          var MAXIMUM_WAITING_TIME = 5000;
          xmlRequest.onreadystatechange = function () {
                    if (this.readyState == 4) {
                              clearTimeout(xmlTimer);
                              if(this.status == 200){
                                        console.log(this.responseText);
                              }else{
                                        console.log('ERROR = ' + this.status + ' ' + this.statusText);
                              }
                    }else{
                              if(this.status != 200){
                                        console.log('ERROR = ' + this.status + ' ' + this.statusText);
                              }
                    }
          };
          xmlRequest.send(params);
          var xmlTimer = setTimeout(function() {
                    xmlRequest.abort();
                    console.log('ERROR = timeout');
          }, MAXIMUM_WAITING_TIME);
</script>
```

ToC

Example 3: GET - xhr

```
<script language='JavaScript' type='text/javascript'>
          var controllerIP = '172.30.0.220'; *change this to the same IP address as the SDVoE Arranger controller
          var BaseURL = 'http://' + controllerIP + '/api/command/';
          var key = '123xyz'; //replace this with the generated security key
          var command = '123xyz'; //replace with an ARRANGER API command
          var MAXIMUM_WAITING_TIME = 5000;
          var btn2xhr = new XMLHttpRequest();
          btn2xhr.open('GET', BaseURL + '<command>/' + key);
          btn2xhr.onreadystatechange = function () {
                    if (this.readyState == 4) {
                              clearTimeout(btn2xhrTimer);
                              if(this.status == 200){
                                        document.getElementById('Text0').innerHTML = this.responseText;
                              }else{
                                        document.getElementById('Text0').innerHTML = 'ERROR = ' + this.status + ' ' + this.statusText;
                              }
                    } else {
                              if(this.status != 200){
                                        document.getElementById('Text0').innerHTML = 'ERROR = ' + this.status + ' ' + this.statusText;
                              }
                    }
          };
          btn2xhr.send(null);
          var btn2xhrTimer = setTimeout(function() {
                    btn2xhr.abort();
                    document.getElementById('Text0').innerHTML = 'ERROR = timeout';
          }, MAXIMUM_WAITING_TIME);
</script>
```

Example 4: IFTTT – Webhooks – POST

URL

http://<controllerIP>/api/command

Method

POST

Content Type

application/json

Body

{"cmd":"<ARRANGER_API_COMMAND>","key":"<KEY>"}

Example 5: IFTTT – Webhooks – GET

URL

http://<controllerIP>/api/command/<ARRANGER_API_COMMAND>/<KEY>

Method

GET

Content Type

text/plain

ToC

Example 6: bt.tn – Auxiliary HTTP request GET

URL=<controllerIP>/api/command/<ARRANGER_API_COMMAND>/<KEY> port=80
_*Note: All spaces in the <ARRANGER_API_COMMAND> must be url-encoded as %20._

See Percent-encoding chart below:

!	#	$	&	'	(	)	*	+	,	/	:	;	=	?	[	]
%21	%23	%24	%26	%27	%28	%29	%2A	%2B	%2C	%2F	%3A	%3B	%3D	%3F	%5B	%5D
space	'	%	-	.	<	>	\	^	_	`	{	|	}	~	@	
%20	%22	%25	%2D	%2E	%3C	%3E	%5C	%5E	%5F	%60	%7B	%7C	%7D	%7E	%40	

Example 7: bt.tn – HTTP POST

HTTP URL - Specify URL
http://<controllerIP>/api/command

HTTP METHOD
POST

ARGUMENTS - application/json
{"cmd":"< ARRANGER_API_COMMAND>","key":"<KEY>"}

ToC

Appendix B – Preset Logic

Basic if else logic can be applied within a preset to allow you to build some *smarts* into your system. All **get** commands can be used as an expression.

The following syntax applies:

```
if (something) {
    <do_this>
    …
} elseif (something_else) {
    <do_this>
    …
} else {
    <do_this_instead>
    …
}
```

Within presets only, the following commands can be used to manipulate strings:

- substr(<string>,<start>,<optional_length>)
- trim (<string>)

Substr() will extract a string from a string.
Trim() will remove any HEX after the last ASCII character, like terminators <cr> and <lf> from the end of the string.

Strings can be extracted with command **substr()** as follows:

```
substr(<string>,<start>,<optional_length>)

set var myVar "123456"
set ui_label myUI lbl01 text substr(get var MyVar,1)
```

lbl01 text = "123456"

```
set ui_label myUI lbl01 text substr(get var MyVar,3,2)
```

lbl01 text = "34"

Strings can be trimmed of trailing hexadecimal with a **trim()** command as follows:

```
if (trim(send tcp 172.30.10.141 4998 "setstate,1:1,1\x0d" reply) == "state,1:1,1"){
    set ui_label AT01 lbl01 text "good"
}else{
    set ui_label AT01 lbl01 text "bad"
}

set var MyVar send tcp 172.30.10.141 4998 "setstate,1:1,1\x0d" reply
if (trim(get var MyVar) == "state,1:1,1"){
    set ui_label AT01 lbl01 text "good"
}elseif (trim(get var MyVar) == "state,1:1,0" {
    set ui_label AT01 lbl01 text "bad"
} else {
    set ui_label AT01 lbl01 text "error"
}

set var MyVar trim(send tcp 172.30.10.141 4998 "setstate,1:1,1\x0d" reply)
if (get var MyVar == "state,1:1,1"){
    set ui_label AT01 lbl01 text "good"
}elseif (get var MyVar == "state,1:1,0" {
    set ui_label AT01 lbl01 text "bad"
} else {
    set ui_label AT01 lbl01 text "error"
}
```

Within presets only, the following variables can be used to identify buttons and devices:

- **<<button_name>>** which identifies the button pressed by name
  Note: If the button does not have a name then "<<button_name>>" will be the result
- **<<encoder>>** which identifies the Encoder by name associated with selected Split Encoder button
- **<<decoder>>** which identifies the Decoder by name associated with selected Split Decoder button

ToC

Appendix B – Preset logic continued…

The following **get** commands will return a **string** value that can be used with:

- **==** (equal to)
- **!=** (not equal to)

  - get audio_source
  - get devices
  - get edid
  - get scaler <*encoder_device_name*> all
  - get status
  - get var
  - get ver
  - get video <*encoder_device_name*> all
  - get joins
  - get ui_button

Example 1:

```
if (get joins Decoder1 == Encoder1) {
    join all Encoder2 Decoder1
} else {
    join all Encoder1 Decoder2
}
```

Example 2:

```
if (get audio_source Decoder1 != hdmi) {
    set audio_source Decoder1 hdmi
}
```

Example 3:

```
if (get var MyVar == "<string>") {
    <do_this>
} else {
    <do_this_instead>
}
```

Example 4:

```
if (get ui_button UIexample btn01 position == "down") {
    send gc 172.30.20.129 4998 setstate,1:1,1
}
```

ToC

Appendix B – Preset logic continued…

The following **send** commands will return a **string** value that can be used with:

- **==** (equal to)
- **!=** (not equal to)

- send tcp > feedback = reply
- send serial > feedback = reply
- send gc > (port 4999 / 5000) feedback = reply
- send gc > (port 4998) command get

Example 1:

```
if (send tcp 169.254.1.70 4998 "setstate,1:1,1\x0D" reply == "state,1:1,1\x0D") {
    <do_this>
} else {
    <do_this_instead>
}

if (trim(send tcp 169.254.1.70 4998 "setstate,1:1,1\x0D" reply) == "state,1:1,1") {
    <do_this>
} else {
    <do_this_instead>
}
```

Example 2:

```
if (send gc 169.254.1.70 4999 "My String" reply == "This String") {
    set ui_button UIexample btn01 position down
}
```

Example 3:

```
if (send gc 169.254.1.70 4998 getstate,1:1 == "state,1:1,1\x0D") {
    set ui_button UIexample btn01 position down
}

if (trim(send gc 169.254.1.70 4998 getstate,1:1) == "state,1:1,1") {
    set ui_button UIexample btn01 position down
}
```

Example 4:

```
if (send serial Decoder1 "My String" reply == "This String") {
    set ui_button UIexample btn01 position down
}
```

ToC

Appendix B – Preset logic continued…

The following **get** commands will return an **integer** value that can be used with:

- **==** (equal to)
- **!=** (not equal to)
- **<** (less than)
- > (greater than)

- get frame_converter
- get preferred
- get rotation
- get scaler <*encoder_device_name*> width
- get scaler <*encoder_device_name*> height
- get scaler <*encoder_device_name*> fps
- get video <*encoder_device_name*> width
- get video <*encoder_device_name*> height
- get video <*encoder_device_name*> fps
- get video <*encoder_device_name*> sm
- get video quality
- get volume

Example:

```
if (get rotation Encoder1 != 0) {
    set rotation Encoder1 0
} else {
    join all Encoder1 Decoder1
```

The following **get** commands will return a **boolean** value that can be used with:

- not

- get display_status
- get video_mute
- get video_status
- get var

Example 1:

```
if (get video_status Encoder1) {
    join all Encoder1 Decoder1
} elseif (get video_status Encoder2) {
    join all Encoder2 Decoder1
}
```

Example 2:

```
if not (get video_status Encoder1) {
    join all Encoder2 Decoder1
}
```

ToC

Appendix B – Preset logic continued…

The following **send** commands will return a **boolean** value that can be used with:

- not

  - send tcp > feedback = none, equals or contains
  - send gc > feedback = none, equals or contains

Example 1:

```
if (send tcp 172.30.20.129 4998 "setstate,1:1,1\x0D" contains "setstate,1:1,1") {
    set ui_button UIexample btn01 position down
} else {
    set ui_button UIexample btn01 position up
}
```

Example 2:

```
if not (send gc 172.30.20.129 4998 setstate,1:1,1) {
    <do something>
} else {
    <do something else>
}
```

ToC

Appendix B – Preset logic continued…

Multiple conditional statements can be included using "&&" (and) as well as "||" (or).

```
if (get video_status Encoder1 && get video_status Encoder2) {
    join all Encoder1 Decoder1
    join all Encoder2 Decoder2
}

if (get video_status Encoder1 || get video_status Encoder2) {
    join all Encoder1 Decoder1
    join all Encoder2 Decoder2
}
```

Split button Decoder state 1 preset logic to display connected Encoder on Decoder buttons or labels.

```
set ui_button buttons <<button_name>> text both <<encoder>>

if (get ui_button buttons split4 position == down) {
    set ui_label buttons lb01 text <<encoder>>
}

if (get ui_button buttons split5 position == down) {
    set ui_label buttons lb02 text <<encoder>>
}

if (get ui_button buttons split6 position == down) {
    set ui_label buttons lb03 text <<encoder>>
}

if (get ui_button buttons split7 position == down) {
    set ui_label buttons lb04 text <<encoder>>
}
```

Split button Decoder state 2 preset logic to clear connected Encoder on Decoder buttons or labels.

```
set ui_button buttons <<button_name>> text both None

if (<<button_name>> == split4) {
    set ui_label buttons lb01 text None
}

if (<<button_name>> == split5) {
    set ui_label buttons lb02 text None
}

if (<<button_name>> == split6) {
    set ui_label buttons lb03 text None
}

if (<<button_name>> == split7) {
    set ui_label buttons lb04 text None
}
```

Using a variable as string to store a send tcp/serial command result string:

```
set var myVar send tcp 10.1.1.10 6970 "{status}\x0D" reply

if (get var myVar == "option1") {
    <do something>
} elseif (get var myVar == "option2") {
    <do something>
} else if (get var myVar == "option3") {
    <do something>
} else {
    <do something>
}

set ui_label myControl lbl01 text get var myVar
```

Using a variable as boolean to set/store a button state:

```
set var myVar false

if (get var Test01) {
    set ui_button myControl btn01 position up
} else {
    set ui_button myControl btn01 position down
}
```

ToC