

CAM-0402-NDI-BRG / CAM-0402-BRG

Application Programming Interface

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0. Device Communication

0.1 Overview

The following contains the connection and commands to control the CAM-0402-NDI-BRG. By following the content contained in this document, the device can be controlled and configured via 3rd party control system.

⚠ IMPORTANT NOTE: Due to differences between WyreStorm device model versions within a series, some commands have different parameters based on the model and version. These differences are noted where applicable and should be followed, as sending an incorrect parameter may cause the unit to lock up and become inoperable.

0.2 Network Connection

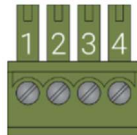
By default, the IP address is assigned by the DHCP server. If the DHCP server is not available the unit will use a link local IP address based on its MAC address, if the unit was not already configured via the Web interface.

Default communication port number is 23.

0.3 Serial Connection

The CAM-0402-NDI-BRG uses a 3-pin RS-232 with no hardware flow control. Most control systems and computers are DTE where pin 2 is RX, this can vary from device to device. Refer to the documentation for the connected device for pin functionality to ensure that the correct connections can be made.

RS-232 Settings
Baud Rate: 9600
Data Bits: 8bits
Parity: None
Stop Bits: 1bit
Flow Control: None



WyreStorm Connector			3 rd Party device
Pin 1	12V DC Out	No Connection	Reserved
Pin 2	TX (Transmit)	---> To --->	RX (Receive)
Pin 3	RX (Receive)	---> To --->	TX (Transmit)
Pin 4	G (Ground)	---> To --->	G (Ground)

0.4 Command Delimiters for Sent Commands

All commands should be delimited with carriage return and line feed.

Accepted delimiter characters are:

Character	Shorthand	Hex Notation	Escape Notation	Decimal Notation
Line Feed	LF	0A	\n	10
Carriage Return + Line Feed	CR LF	0D 0A	\r\n	13 10

Please note, most 3rd party control software will either append these characters automatically or an option to specify them will be present. It is important that the last delimited character is LF and not CR.

1. Device Management

1.1 Set Device Alias

Set the device alias.

Command Structure SET ALIAS < DeviceName >	Parameters: DeviceName = The alias to set, up to 31 characters. Allowed characters: letters (case-sensitive), digits, spaces, underscore ('_') and hyphen ('-'). Spaces cannot appear at the beginning or end.
Response Structure ALIAS < DeviceName >	
Command Example SET ALIAS MeetingRoom	
Response Example ALIAS MeetingRoom	
Additional Notes: Default value: CAM-0402-NDI-BRG-XXXXXX, where XXXXXX is the hexadecimal form of the MAC address's last two positions. For example: CAM-0402-NDI-BRG-327C01	

1.2 Get Device Alias

Command Structure GET ALIAS	Parameters:
Response Structure ALIAS < DeviceName >	
Command Example GET ALIAS	
Response Example ALIAS MeetingRoom	
Additional Notes:	

1.3 Get Device Version Information

Retrieve the version information for each software module on the device.

Command Structure GET VER < ALL ModuleName >	Parameters: ModuleName = The software module to query. Supported values: MAINSOC、CAMCHIP、VIDEOCHIP ALL = Retrieve version information for all software modules; in this case the device returns each module's version on separate lines.
Response Structure VER < ModuleName > < Version > or VER < ModuleName1 > < Version1 > VER < ModuleName2 > < Version2 > ...	
Command Example GET VER MAINSOC	
Response Example VER MAINSOC 1.4.0	
Additional Notes:	

1.4 Device Reboot

Sends a command to restart the device.

Command Structure REBOOT	Parameters:
Response Structure REBOOT	
Command Example REBOOT	
Response Example REBOOT	
Additional Notes:	

1.5 Device Reset

Commands the device to restore factory settings.

Command Structure RESET	Parameters:
Response Structure RESET	
Command Example RESET	
Response Example RESET	
Additional Notes:	

1.6 Get Device Serial Number

Read the device serial number.

Command Structure GET SYS_SN	Parameters:
Response Structure SYS_SN < SerialNumber >	
Command Example GET SYS_SN	
Response Example SYN_SN WS29125260001	
Additional Notes:	

1.7 Get MAC Address

Get the device's MAC address information

Command Structure GET MACADDR	Parameters:
Response Structure MACADDR < MACAddress >	
Command Example GET MACADDR	
Response Example MACADDR E4:CE:02:13:5F:A1	
Additional Notes:	

2. Input/Output Settings

2.1 Set Output Resolution

Set the resolution for the HDMI output interface. You can specify a resolution directly, or let the device automatically determine the best resolution.

Command Structure SET VIDOUT_RES [OUT1] < AUTO Resolution >	Parameters: AUTO = Automatically select the best output resolution based on the connected display's EDID. Resolution = A specific resolution. Valid options are: 3840x2160P@30 2560x1440P@30 1920x1080P@60 1920x1080P@50 1920x1080P@30 1680x1050P@60 1600x1200P@60 1440x900P@60 1366x768P@60 1280x1024P@60 1280x800P@60 1280x720P@60 1024x768P@60 720x576P@50 720x480P@60
Response Structure VIDOUT_RES OUT1 < AUTO Resolution >	
Command Example SET VIDOUT_RES OUT1 AUTO	
Response Example VIDOUT_RES OUT1 AUTO	
Additional Notes: Set to AUTO to let the HDMI output automatically select the resolution.	

2.2 Get Output Resolution

Retrieve the resolution of the video output interfaces.

Command Structure GET VIDOUT_RES < OUT1 USB ALL >	Parameters: ALL = Retrieve the resolutions of both output interfaces; the device will return the two output resolutions on two separate lines. AUTO = The output interface is set to automatic resolution. DISCONNECTED = The HDMI interface is set to AUTO mode but no display is connected, or the UVC device declared on the USB HOST interface has not been opened.
Response Structure VIDOUT_RES < OUT1 USB > < Resolution DISCONNECTED > [AUTO] or VIDOUT_RES OUT1 < Resolution DISCONNECTED > [AUTO] VIDOUT_RES USB < Resolution DISCONNECTED >	
Command Example GET VIDOUT_RES OUT1	
Response Example VIDOUT_RES OUT1 3840x2160P@30 AUTO	
Additional Notes:	

2.3 Set HD Mode

Configure the HD mode for the USB HOST output interface.

The USB HOST interface provides video output using the UVC protocol, but the resolution cannot be set directly.

Instead, the device offers a set of supported resolutions, and the HOST selects one from that set.

This API configures that set. When this option is enabled, the set contains only resolutions of 720P@30 and above.

Command Structure SET UVC_HDMODE < ON OFF >	Parameters:
Response Structure UVC_HDMODE < ON OFF >	
Command Example SET UVC_HDMODE OFF	
Response Example UVC_HDMODE OFF	
Additional Notes: Default: HD mode is enabled (ON).	

2.4 Get HD Mode

Retrieve the HD mode status of the USB HOST output interface.

Command Structure GET UVC_HDMODE	Parameters:
Response Structure UVC_HDMODE < ON OFF >	
Command Example GET UVC_HDMODE	
Response Example UVC_HDMODE OFF	
Additional Notes:	

2.5 Set Output Interface HDCP

Enable or disable HDCP on the output interface.

Command Structure SET HDCP OUT1 < ON OFF >	Parameters:
Response Structure HDCP OUT1 < ON OFF >	
Command Example SET HDCP OUT1 OFF	
Response Example HDCP OFF	
Additional Notes: Default: HDCP is enabled on HDMI output interfaces; configuration value is ON.	

2.6 Get Output Interface HDCP

Get whether HDCP is enabled on the output interface.

Command Structure GET HDCP OUT1	Parameters:
Response Structure HDCP OUT1 < ON OFF >	
Command Example GET HDCP OUT1	
Response Example HDCP OFF	
Additional Notes:	

2.7 Get Input Connection Status

Get the connection status of input interfaces.

The criteria for determining connection differ by input type:

HDMI inputs are considered connected based on the presence of the +5V signal.

USB inputs are considered connected when a USB device is plugged in.

NDI inputs are considered connected when the NDI input channel has been assigned an NDI video source.

Command Structure GET VIDIN_CONNECT < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 ALL >	Parameters: ALL = Get the connection status of all input interfaces
Response Structure VIDIN_CONNECT < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 > < DISCONNECTED CONNECTED > or VIDIN_CONNECT IN1 < DISCONNECTED CONNECTED > VIDIN_CONNECT IN2 < DISCONNECTED CONNECTED > VIDIN_CONNECT IN3 < DISCONNECTED CONNECTED > VIDIN_CONNECT IN4 < DISCONNECTED CONNECTED > VIDIN_CONNECT NDI1 < DISCONNECTED CONNECTED > VIDIN_CONNECT NDI2 < DISCONNECTED CONNECTED > VIDIN_CONNECT NDI3 < DISCONNECTED CONNECTED > VIDIN_CONNECT NDI4 < DISCONNECTED CONNECTED >	
Command Example GET VIDIN_CONNECT IN2	
Response Example VIDIN_CONNECT IN2 DISCONNECTED	
Additional Notes:	

2.8 Get Input Signal Status

Get the status of input signals. In the response, NO means invalid or no signal; VALID means valid or signal present. A USB input is considered valid when the UVC device is open and is properly receiving video data. An NDI input is considered valid when it is receiving a valid stream.

Command Structure GET VIDIN_SIG < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 ALL >	Parameters: ALL = Retrieve the status of all input signals
Response Structure VIDIN_SIG < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 > < NO VALID > or VIDIN_SIG IN1 < NO VALID > VIDIN_SIG IN2 < NO VALID > VIDIN_SIG IN3 < NO VALID > VIDIN_SIG IN4 < NO VALID > VIDIN_SIG NDI1 < NO VALID > VIDIN_SIG NDI2 < NO VALID > VIDIN_SIG NDI3 < NO VALID > VIDIN_SIG NDI4 < NO VALID >	
Command Example GET VIDIN_SIG IN2	
Response Example VIDIN_SIG IN2 VALID	
Additional Notes:	

2.9 Get Input Video Format

Get the video format of the input signal.

Command Structure GET VIDIN_FORMAT < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 ALL >	Parameters: ALL = Get the video formats of all input interfaces INVALID = No valid video signal detected on the input interface
Response Structure VIDIN_FORMAT < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 > < INVALID VideoFormat > or VIDIN_FORMAT IN1 < INVALID VideoFormat > VIDIN_FORMAT IN2 < INVALID VideoFormat > VIDIN_FORMAT IN3 < INVALID VideoFormat > VIDIN_FORMAT IN4 < INVALID VideoFormat > VIDIN_FORMAT NDI1 < INVALID VideoFormat > VIDIN_FORMAT NDI2 < INVALID VideoFormat > VIDIN_FORMAT NDI3 < INVALID VideoFormat > VIDIN_FORMAT NDI4 < INVALID VideoFormat >	The format of the parameter VideoFormat: < WidthXHeight[P],FrameRate;HDRInfo;EncMode;ColorDepth > The value and meaning of every field are as follows: - Width = The width of the video - Height = The height of the video - P = Progressive video format - FrameRate = Frame rate - HDRInfo = HDR status. The device does not currently support HDR, so this field will always be NONE HDR. - EncMode = Encoding mode, available values are RGB, YUV444, YUV422, H.264 - ColorDepth = Color depth. Currently only 8BIT. - An actual example of VideoFormat: 1920X1080P;60;NONE HDR;RGB;8BIT
Command Example GET VIDIN_FORMAT IN2	
Response Example VIDIN_FORMAT IN2 3840X2160P,60;NONE HDR;RGB;8BIT	
Additional Notes:	

2.10 Get Input Audio Format

Get the audio format of the input signal. NDI input currently does not support audio.

Command Structure	Parameters: ALL = Get the audio format of all input interfaces. INVALID = No valid audio signal detected on the input interface. The format of the AudioFormat parameter: < Encoding;SamplingRate;SamplingWidth > The value and meaning of each field: - Encoding = The audio encoding mode. Available values: PCM, AAC, MP3, OPUS - SamplingRate = The sampling rate, e.g., 48kHz - SamplingWidth = The sampling bit depth. Available values: 8BIT, 16BIT Example AudioFormat: PCM;48kHz;8BIT
GET AUDIN_FORMAT < IN1 IN2 IN3 IN4 ALL >	
Response Structure	
AUDIN_FORMAT < IN1 IN2 IN3 IN4 > < INVALID AudioFormat >	
or	
AUDIN_FORMAT IN1 < INVALID AudioFormat >	
AUDIN_FORMAT IN2 < INVALID AudioFormat >	
AUDIN_FORMAT IN3 < INVALID AudioFormat >	
AUDIN_FORMAT IN4 < INVALID AudioFormat >	
Command Example	
GET AUDIN_FORMAT IN2	
Response Example	
AUDIN_FORMAT IN2 PCM;48kHz;8BIT	
Additional Notes:	

2.11 Get Output Connection Status

Get the connection status of the output interfaces. For USB HOST, the connection is considered connected when the UVC device is opened.

Command Structure GET VIDOUT_CONNECT < OUT1 USB ALL >	Parameters: ALL = Get the connection status of both output interfaces.
Response Structure VIDOUT_CONNECT < OUT1 USB > < CONNECTED DISCONNECTED > 或 VIDOUT_CONNECT OUT1 < CONNECTED DISCONNECTED > VIDOUT_CONNECT USB < CONNECTED DISCONNECTED >	
Command Example GET VIDOUT_CONNECT USB	
Response Example VIDOUT_CONNECT USB CONNECTED	
Additional Notes:	

2.12 Set USB Output Mode

Some customers may want to exclude audio data from the USB HOST interface. This API configures which functions are declared on that interface.

Command Structure	Parameters: VIDEO = Only a UVC device is declared; only video data is sent over the USB HOST interface. ALL = Both UVC and UAC devices are declared; both video and audio data are supported.
SET USB_DEVICE_MODE < VIDEO ALL >	
Response Structure	
USB_DEVICE_MODE < VIDEO ALL >	
Command Example	
SET USB_DEVICE_MODE VIDEO	
Response Example	
USB_DEVICE_MODE VIDEO	
Additional Notes: Default: ALL (video and audio).	

2.13 Get USB Output Operating Mode

Command Structure GET USB_DEVICE_MODE	Parameters:
Response Structure USB_DEVICE_MODE < VIDEO ALL >	
Command Example GET USB_DEVICE_MODE	
Response Example USB_DEVICE_MODE VIDEO	
Additional Notes:	

3. Video Switching and Settings

3.1 Set Low-Latency Mode

Enable or disable low-latency mode. In low-latency mode the device opens the camera at 1080P, and USB and HDMI outputs use the same 1080P resolution to achieve lower latency and faster switching. To support 4K resolution, low-latency mode must be turned off.

Command Structure SET LOW_LATENCY_FN < ON OFF >	Parameters:
Response Structure LOW_LATENCY_FN < ON OFF >	
Command Example SET LOW_LATENCY_FN OFF	
Response Example LOW_LATENCY_FN OFF	
Additional Notes: Default: Low-latency mode is enabled; configuration value is ON	

3.2 Get Low-Latency Mode

Command Structure GET LOW_LATENCY_FN	Parameters:
Response Structure LOW_LATENCY_FN < ON OFF >	
Command Example GET LOW_LATENCY_FN	
Response Example LOW_LATENCY_FN OFF	
Additional Notes:	

3.3 Switch Input Source

Switch an input to display full-screen on all outputs

Command Structure	Parameters: NONE = Switch to full-screen mode but display no video source
SET SW < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 NONE >	
Response Structure	
SW < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 NONE >	
Command Example	
SET SW IN1	
Response Example	
SW IN1	
Additional Notes:	

3.4 Get Display Status

Get the current status of the displayed video source

Command Structure GET SW	Parameters: NONE = No video source is currently being displayed MV = Currently in multi-view mode; use the multi-view APIs to retrieve related information
Response Structure SW < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 NONE MV >	
Command Example GET SW	
Response Example SW IN1	
Additional Notes:	

3.5 Set Current Layout

Switch the multi-view layout.

The parameter is the layout name and is case-sensitive.

Command Structure SET MV_LAYOUT < FULLSCREEN PIP SBS LBRs PYRAMID QUAD >	Parameters: The parameter is the layout name and is case-sensitive.
Response Structure MV_LAYOUT < FULLSCREEN PIP SBS LBRs PYRAMID QUAD >	
Command Example SET MV_LAYOUT PIP	
Response Example MV_LAYOUT PIP	
Additional Notes:	

3.6 Set Current Layout by ID

Switch the multiview layout.

The parameter is the layout ID in hexadecimal format.

Command Structure	Parameters: The six hexadecimal IDs correspond to the six layout names defined in the previous API.
SET MV_LAYOUT < 0X100 0X101 0X102 0X103 0X104 >	
Response Structure	
MV_LAYOUT < 0X100 0X101 0X102 0X103 0X104 0X105 >	
Command Example	
SET MV_LAYOUT 0X101	
Response Example	
MV_LAYOUT 0X101	
Additional Notes:	

3.7 Get Current Layout

Get the current multi-view layout ID and name.

Command Structure GET MV_LAYOUT	Parameters:
Response Structure MV_LAYOUT < < 0X100 FULLSCREEN > < 0X101 PIP > < 0X102 SBS > < 0X103 LBRS > < 0X104 PYRAMID > < 0X105 QUAD > >	
Command Example GET MV_LAYOUT	
Response Example MV_LAYOUT 0X101 PIP	
Additional Notes:	

3.8 Set Layout and Video Sources

Switch multi-view layouts and set video sources for each sub-window.

Command Structure SET MV_WIN_SRC < FULLSCREEN PIP SBS LBRS PYRAMID QUAD CURRENT > < WinNo1 > < Src1 > < WinNo2 > < Src2 > ...	Parameters: CURRENT = Keep the current layout unchanged; only switch the video source(s) for the specified window(s). WinNo can be a plain number (e.g., 1, 2, 3) or in the form Win1, Win2, Win3, etc. Src1 Src2... can be one of: < IN1 IN2 IN3 IN4 NDI1 NDI2 NDI3 NDI4 NONE > - NONE = Do not display any video source in that sub-window; the sub-window remains empty.
Response Structure MV_WIN_SRC < FULLSCREEN PIP SBS LBRS PYRAMID QUAD > < WinNo1 > < Src1 > < WinNo2 > < Src2 > ...	
Command Example SET MV_WIN_SRC PIP 1 IN1 2 IN2	
Response Example MV_WIN_SRC PIP 1 IN1 2 IN2	
Additional Notes:	

3.9 Get Layout and Video Sources

Retrieve the current layout and the video source for each sub-window.

Command Structure GET MV_WIN_SRC	Parameters:
Response Structure MV_WIN_SRC < FULLSCREEN PIP SBS LBRS PYRAMID QUAD > < WinNo1 > < Src1 > < WinNo2 > < Src2 > ...	
Command Example GET MV_WIN_SRC	
Response Example MV_WIN_SRC PIP 1 IN1 2 IN2	
Additional Notes:	

3.10 Get Video Source for Specified Window

Get the video source of the specified sub-window.

Command Structure GET MV_WIN_SRC CURRENT WinNo	Parameters:
Response Structure MV_WIN_SRC CURRENT < WinNo > < Src >	
Command Example GET MV_WIN_SRC CURRENT WIN2	
Response Example MV_WIN_SRC CURRENT WIN2 IN2	
Additional Notes: This API is a subset of the previous API, provided for compatibility with SYN-TOUCH10.	

4. Audio Processing

4.1 Set Audio Mixing

The device has a built-in audio DSP that supports an audio matrix. It supports three audio inputs (DspIn: USBIN, HDMIIN, USBHOST) and three audio outputs (DspOut: USBIN, HDMIOUT, USBHOST), allowing any audio input to be mixed into any audio output.

This API sets the mix enable for a specific audio matrix crosspoint. To prevent audio loopback oscillation, the following mix configurations are forbidden:

USBIN -> USBIN

USBHOST -> USBHOST

Command Structure SET DSP_MIX < USBIN HDMIOUT USBHOST > < USBIN HDMIIN USBHOST > < ON OFF >	Parameters: The first parameter is the audio output The second parameter is the audio input ON = Include the specified input in the mix for the specified output
Response Structure DSP_MIX < USBIN HDMIOUT USBHOST > < USBIN HDMIIN USBHOST > < ON OFF >	
Command Example SET DSP_MIX HDMIOUT HDMIIN ON	
Response Example DSP_MIX HDMIOUT HDMIIN ON	
Additional Notes: Default: The USBHOST input is mixed into the USBIN output, i.e. DSP_MIX USBIN USBHOST ON All other crosspoints are OFF	

4.2 Get Mix Settings for a Specified Input and Output

Command Structure	Parameters: The first parameter is the audio output The second parameter is the audio input
GET DSP_MIX < USBIN HDMIOUT USBHOST > < USBIN HDMIIN USBHOST >	
Response Structure	
DSP_MIX < USBIN HDMIOUT USBHOST > < USBIN HDMIIN USBHOST > < ON OFF >	
Command Example	
GET DSP_MIX HDMIOUT HDMIIN	
Response Example	
DSP_MIX HDMIOUT HDMIIN ON	
Additional Notes:	

4.3 Get Audio Sources for a Specified Output (Mixing Settings)

Query which audio inputs are mixed to produce the specified audio output.

Command Structure	Parameters: Request message specifies one audio output. Response message lists all audio inputs participating in the mix for that audio output. DspIn refers to one of the DSP's three audio input channels (USBIN, HDMIIN, USBHOST). ALL = get audio sources for all output channels.
GET DSP_MIX < USBIN HDMIOUT USBHOST ALL >	
Response Structure	
DSP_MIX < USBIN HDMIOUT USBHOST > < DSPIn1 > < DSPIn2 > ... > ... 或 DSP_MIX USBIN < DSPIn1 > < DSPIn2 > ... DSP_MIX HDMIOUT < DSPIn1 > < DSPIn2 > ... DSP_MIX USBHOST < DSPIn1 > < DSPIn2 > ...	
Command Example	
GET DSP_MIX HDMIOUT	
Response Example	
DSP_MIX HDMIOUT USBIN HDMIIN	
Additional Notes:	

4.4 Set Audio Input Channel

Only one of the device's two USB input audio signals can be routed to the audio matrix for processing. The two HDMI inputs have the same limitation. This API selects one audio signal from the two USB or HDMI inputs for processing.

Command Structure	Parameters:
1. 设置 USB 输入音频通道 SET DSP_AUD_SRC USBIN < IN1 IN2 >	
2. 设置 HDMI 输入音频通道 SET DSP_AUD_SRC HDMIIN < IN3 IN4 >	
Response Structure	
DSP_AUD_SRC USBIN < IN1 IN2 > 或 DSP_AUD_SRC HDMIIN < IN3 IN4 >	
Command Example	
SET DSP_AUD_SRC USBIN IN2	
Response Example	
DSP_AUD_SRC USBIN IN2	
Additional Notes: Default values: USBIN audio comes from IN1 HDMIIN audio comes from IN3	

4.5 Get Audio Input Channels

Command Structure GET DSP_AUD_SRC < USBIN HDMIIN ALL >	Parameters: ALL = Retrieve audio channels for both USB and HDMI inputs.
Response Structure DSP_AUD_SRC USBIN < IN1 IN2 > 或 DSP_AUD_SRC HDMIIN < IN3 IN4 > 或 DSP_AUD_SRC USBIN < IN1 IN2 > DSP_AUD_SRC HDMIIN < IN3 IN4 >	
Command Example GET DSP_AUD_SRC USBIN	
Response Example DSP_AUD_SRC USBIN IN2	
Additional Notes:	

4.6 Set Audio Input Mute

The audio matrix can mute input channels. This API configures the mute state for an input.

Command Structure SET DSP_AUD_GAIN_MUTE < USBIN HDMIIN USBHOST > < ON OFF >	Parameters: USBHOST = the audio input channel on the USB HOST interface
Response Structure DSP_AUD_GAIN_MUTE < USBIN HDMIIN USBHOST > < ON OFF >	
Command Example SET DSP_AUD_GAIN_MUTE USBIN ON	
Response Example DSP_AUD_GAIN_MUTE USBIN ON	
Additional Notes: Default: all audio inputs are unmuted; configuration value is OFF	

4.7 Get Audio Input Mute

Command Structure GET DSP_AUD_GAIN_MUTE < USBIN HDMIIN USBHOST ALL >	Parameters: ALL = Retrieve mute settings for all audio input channels
Response Structure DSP_AUD_GAIN_MUTE < USBIN HDMIIN USBHOST > < ON OFF > > 或 DSP_AUD_GAIN_MUTE USBIN < ON OFF > DSP_AUD_GAIN_MUTE HDMIIN < ON OFF > DSP_AUD_GAIN_MUTE USBHOST < ON OFF >	
Command Example GET DSP_AUD_GAIN_MUTE USBIN	
Response Example DSP_AUD_GAIN_MUTE USBIN ON	
Additional Notes:	

4.8 Set Audio Input Gain

The audio matrix can adjust input gain. This API sets the input gain. When the gain is adjusted, the corresponding input channel will be unmuted.

Command Structure SET DSP_AUD_GAIN < USBIN HDMIIN USBHOST > < Gain >	Parameters: Gain = input gain, in dB, valid range [-20, +30]
Response Structure DSP_AUD_GAIN < USBIN HDMIIN USBHOST > < Gain >	
Command Example SET DSP_AUD_GAIN USBIN -10	
Response Example DSP_AUD_GAIN USBIN -10	
Additional Notes: Default: no gain adjustment on input audio; configured value is 0	

4.9 Get Audio Input Gain

Command Structure GET DSP_AUD_GAIN < USBIN HDMIIN USBHOST ALL >	Parameters: ALL = Get the gain settings for all input channels
Response Structure DSP_AUD_GAIN < USBIN HDMIIN USBHOST > < Gain > 或 DSP_AUD_GAIN USBIN < Gain1 > DSP_AUD_GAIN HDMIIN < Gain2 > DSP_AUD_GAIN USBHOST < Gain3 >	
Command Example GET DSP_AUD_GAIN USBIN	
Response Example DSP_AUD_GAIN USBIN -10	
Additional Notes:	

4.10 Set Audio Output Mute

The audio matrix can mute outputs. This API configures that feature.

Command Structure SET DSP_AUD_VOL_MUTE < USBIN HDMIOUT USBHOST > < ON OFF >	Parameters: USBIN = audio output channel for the USB input; both USB input channels always output the same audio signal.
Response Structure DSP_AUD_VOL_MUTE < USBIN HDMIOUT USBHOST > < ON OFF >	
Command Example SET DSP_AUD_VOL_MUTE USBHOST ON	
Response Example DSP_AUD_VOL_MUTE USBHOST ON	
Additional Notes: Default: output audio is unmuted; configured value is OFF	

4.11 Get Audio Output Mute Status

Command Structure GET DSP_AUD_VOL_MUTE < USBIN HDMIOUT USBHOST ALL >	Parameters: ALL = Get mute settings for all output channels
Response Structure DSP_AUD_VOL_MUTE < USBIN HDMIOUT USBHOST > < ON OFF > > 或 DSP_AUD_VOL_MUTE USBIN < ON OFF > DSP_AUD_VOL_MUTE HDMIOUT < ON OFF > DSP_AUD_VOL_MUTE USBHOST < ON OFF >	
Command Example GET DSP_AUD_VOL_MUTE USBHOST	
Response Example DSP_AUD_VOL_MUTE USBHOST ON	
Additional Notes:	

4.12 Set Audio Output Volume

The audio matrix can adjust output volume. This API configures that function.
When the volume is adjusted, the corresponding output channel will be unmuted.

Command Structure SET DSP_AUD_VOL < USBIN HDMIOUT USBHOST > < Volume >	Parameters: Volume = output volume in dB. Range: [-100, 0]
Response Structure DSP_AUD_VOL < USBIN HDMIOUT USBHOST > < Volume >	
Command Example SET DSP_AUD_VOL USBHOST -10	
Response Example DSP_AUD_VOL USBHOST -10	
Additional Notes: Default: no volume adjustment; configured value is 0	

4.13 Get Audio Output Volume

Command Structure GET DSP_AUD_VOL < USBIN HDMIOUT USBHOST ALL >	Parameters: ALL = Retrieve the volume levels for all output channels
Response Structure DSP_AUD_VOL < USBIN HDMIOUT USBHOST > < Volume > 或 DSP_AUD_VOL USBIN < Volume1 > DSP_AUD_VOL HDMIOUT < Volume2 > DSP_AUD_VOL USBHOST < Volume3 >	
Command Example GET DSP_AUD_VOL USBHOST	
Response Example DSP_AUD_VOL USBHOST -10	
Additional Notes:	

5. Sleep/Standby and Peripheral Control

5.1 Set Automatic Standby

Configure the device's automatic standby function.

When automatic standby is enabled, if the device is idle (not displaying any video source) for the period defined by the standby timeout value, it will send a power-off command to all connected displays and disable HDMI +5V and TMDS signals.

Command Structure SET AUTO_STANDBY_FN < ON OFF >	Parameters: ON = Enable automatic standby function
Response Structure AUTO_STANDBY_FN < ON OFF >	
Command Example SET AUTO_STANDBY_FN OFF	
Response Example AUTO_STANDBY_FN OFF	
Additional Notes: Default: ON	

5.2 Get Automatic Standby

Retrieve the device's automatic standby (auto-standby) on/off status.

Command Structure GET AUTO_STANDBY_FN	Parameters:
Response Structure AUTO_STANDBY_FN < ON OFF >	
Command Example GET AUTO_STANDBY_FN	
Response Example AUTO_STANDBY_FN OFF	
Additional Notes:	

5.3 Set Automatic Standby Timeout

Set the automatic standby timeout value

Command Structure SET AUTO_STANDBY_D < TimeOut >	Parameters: TimeOut: range 0-3600, unit seconds
Response Structure AUTO_STANDBY_D < TimeOut >	
Command Example SET AUTO_STANDBY_D	
Response Example AUTO_STANDBY_D 100	
Additional Notes: Default: 120	

5.4 Get Auto Standby Timeout

Retrieve the auto standby timeout value.

Command Structure GET AUTO_STANDBY_D	Parameters:
Response Structure AUTO_STANDBY_D < TimeOut >	
Command Example GET AUTO_STANDBY_D	
Response Example AUTO_STANDBY_D 100	
Additional Notes:	

5.5 Set Device Power On or Standby

Manually control the device's power state: on or standby.

Command Structure SET STANDBY < ON OFF >	Parameters: ON = Power on OFF = Standby
Response Structure STANDBY < ON OFF >	
Command Example SET STANDBY ON	
Response Example STANDBY ON	
Additional Notes:	

5.6 Get Device Standby Status

Retrieve whether the device is powered on.

Command Structure GET STANDBY	Parameters:
Response Structure STANDBY < ON OFF >	
Command Example GET STANDBY	
Response Example STANDBY ON	
Additional Notes:	

5.7 Send CEC Power On/Off Command

Send a CEC power-on or power-off command to the specified output interface.

Command Structure SET CEC_PWR OUT1 < ON OFF >	Parameters:
Response Structure CEC_PWR OUT1 < ON OFF >	
Command Example SET CEC_PWR OUT1 ON	
Response Example CEC_PWR OUT1 ON	
Additional Notes:	

5.8 Set CEC Power On/Off Command

Set the CEC power-on or power-off command for a specified output interface.

Command Structure SET CECCMD_EDIT OUT1 < ON OFF > < CECCode DEFAULT >	Parameters: The parameter CECCode is the actual CEC message string in hexadecimal format, with no spaces between adjacent bytes. DEFAULT = Restore to the default CEC code.
Response Structure CECCMD_EDIT OUT1 < ON OFF > < CECCode >	
Command Example SET CECCMD_EDIT OUT1 ON 4004	
Response Example CECCMD_EDIT OUT1 ON 4004	
Additional Notes: Default values: Power on: 4004 Power off: FF36	

5.9 Get CEC Power On/Off Command

Retrieve the CEC power-on or power-off command for the specified output interface.

Command Structure GET CECCMD_EDIT OUT1 < ON OFF >	Parameters:
Response Structure CECCMD_EDIT OUT1 < ON OFF > < CECCode >	
Command Example GET CECCMD_EDIT OUT1 ON	
Response Example CECCMD_EDIT OUT1 ON 4004	
Additional Notes:	

5.10 Send CEC Command String

Send a CEC command string directly to a specific output interface.

Command Structure SET CEC_CMD OUT1 < CECCode >	Parameters:
Response Structure CEC_CMD OUT1 < CECCode >	
Command Example SET CEC_CMD OUT1 4004	
Response Example CEC_CMD OUT1 4004	
Additional Notes:	

5.11 Set UART Parameters

Sets four UART parameters, including the baud rate.

Command Structure	Parameters: BaudRate is the baud rate. Valid values: 9600, 19200, 38400, 57600, 115200 Parity indicates parity check. Valid values: NONE, ODD, EVEN DataBit is the number of data bits. Valid values: 7, 8 StopBit is the number of stop bits. Valid values: 1, 2
SET UART_CFG < BaudRate > < Parity > < DataBit > < StopBit >	
Response Structure	
UART_CFG < BaudRate > < Parity > < DataBit > < StopBit >	
Command Example	
SET UART_CFG 115200 NONE 8 1	
Response Example	
UART_CFG 115200 NONE 8 1	
Additional Notes: Default: 115200 NONE 8 1	

5.12 Get UART Parameters

Retrieve UART parameters such as baud rate and other settings.

Command Structure GET UART_CFG	Parameters:
Response Structure UART_CFG < BaudRate > < Parity > < DataBit > < StopBit >	
Command Example GET UART_CFG	
Response Example UART_CFG 115200 NONE 8 1	
Additional Notes:	

5.13 Set UART Baud Rate

Set the baud rate for the UART (serial) port.

Command Structure SET UART_B < BaudRate >	Parameters:
Response Structure UART_B < BaudRate >	
Command Example SET UART_B 115200	
Response Example UART_B 115200	
Additional Notes:	

5.14 Get Serial Port Baud Rate

Retrieve the serial port's baud rate parameter.

Command Structure GET UART_B	Parameters:
Response Structure UART_B < BaudRate >	
Command Example GET UART_B	
Response Example UART_B 115200	
Additional Notes:	

5.15 Set UART Command

Configure a UART (serial) command.

Command Structure SET UART_CMD < CmdName > < HEX STR > < CmdStr >	Parameters: CmdName = command name; besides ON and OFF, it can be other custom commands such as VolumeUp, etc. HEX = the command is in hexadecimal format STR = the command is in string format CmdStr = the command string. For hexadecimal strings, adjacent bytes do not require spaces between them.
Response Structure UART_CMD < CmdName > < HEX STR > < CmdStr >	
Command Example SET UART_CMD ON STR PowerOn	
Response Example UART_CMD ON STR PowerOn	
Additional Notes: By default, no UART commands are defined.	

5.16 Delete UART Command

Deletes a UART command

Command Structure SET UART_CMD_D < CmdName >	Parameters:
Response Structure UART_CMD_D < CmdName >	
Command Example SET UART_CMD_D ON	
Response Example UART_CMD_D ON	
Additional Notes:	

5.17 Get UART Commands

Retrieve one or all UART (serial) commands.

Command Structure GET UART_CMD < CmdName ALL >	Parameters:
Response Structure UART_CMD < CmdName > < HEX STR > < CmdStr > 或 UART_CMD < CmdName1 > < HEX STR > < CmdStr1 > UART_CMD < CmdName2 > < HEX STR > < CmdStr2 > ...	
Command Example GET UART_CMD ON	
Response Example UART_CMD ON STR PowerOn	
Additional Notes:	

5.18 Send Serial Port Command

Send a previously defined serial port command.

Command Structure SET UART_CMD_S < CmdName >	Parameters:
Response Structure UART_CMD_S < CmdName >	
Command Example SET UART_CMD_S ON	
Response Example UART_CMD_S ON	
Additional Notes:	

5.19 Send UART Command String

Directly send UART (serial) data.

Command Structure SET UART_S < HEX STR > < CmdStr >	Parameters:
Response Structure UART_S < HEX STR > < CmdStr >	
Command Example SET UART_S STR PowerOn	
Response Example UART_S STR PowerOn	
Additional Notes:	

5.20 Set UART Power Control Function

Enable or disable whether the UART participates in sending power on/off commands.

When the UART is in external-control mode, if this setting is enabled the device will send the corresponding commands over the UART (in addition to sending CEC commands) whenever the device automatically or manually enters or exits standby.

Command Structure SET UARTPWR_FN < ON OFF >	Parameters:
Response Structure UARTPWR_FN < ON OFF >	
Command Example SET UARTPWR_FN ON	
Response Example UARTPWR_FN ON	
Additional Notes: Default: OFF	

5.21 Get UART Power On/Off Function

Retrieves whether the UART (serial port) is used to send power on/off commands.

Command Structure GET UARTPWR_FN	Parameters:
Response Structure UARTPWR_FN < ON OFF >	
Command Example GET UARTPWR_FN	
Response Example UARTPWR_FN ON	
Additional Notes:	

5.22 Send CEC and/or Serial Commands

Send CEC and/or RS232 serial commands simultaneously.

Command Structure SET SEND_CMD < ON OFF > < RS232 CEC ALL >	Parameters: RS232 = Only send RS232 (serial) commands CEC = Only send CEC commands ALL = Send both RS232 and CEC commands simultaneously
Response Structure SEND_CMD < ON OFF > < RS232 CEC ALL >	
Command Example SET SEND_CMD ON CEC	
Response Example SEND_CMD ON CEC	
Additional Notes:	

5.25 Set UART Operating Mode

The serial port (UART) can be used for external control or to provide API services (i.e., to accept control). This API sets that mode.

Command Structure SET UART_MODE < API COM >	Parameters: API = The UART is used to provide API services to external devices; in this mode, the functions in the earlier APIs that send actual UART data will be disabled. COM = The UART is used for external control.
Response Structure UART_MODE < API COM >	
Command Example SET UART_MODE API	
Response Example UART_MODE API	
Additional Notes: Default: COM	

5.26 Get UART Operating Mode

Get UART operating mode

Command Structure GET UART_MODE	Parameters:
Response Structure UART_MODE < API COM >	
Command Example GET UART_MODE	
Response Example UART_MODE API	
Additional Notes:	

6. Network Management

6.1 Set IP Address - DHCP

Set IP address using DHCP

Command Structure SET IPADDR DHCP	Parameters:
Response Structure IPADDR DHCP	
Command Example SET IPADDR DHCP	
Response Example IPADDR DHCP	
Additional Notes: DHCP mode is used by default. If DHCP fails, the address 169.254.1.100 is used.	

6.2 Set IP Address - Static

Configure a static IP address.

Command Structure SET IPADDR STATIC < IPAddress > < NetMask > [Gateway [DNSServer]]	Parameters: Gateway and DNS server are optional parameters.
Response Structure IPADDR STATIC < IPAddress > < NetMask > [Gateway [DNSServer]]	
Command Example SET IPADDR STATIC 192.168.1.34 255.255.255.0 192.168.1.1 192.168.1.2	
Response Example IPADDR STATIC 192.168.1.34 255.255.255.0 192.168.1.1 192.168.1.2	
Additional Notes:	

6.3 Get IP Address

Retrieve the device's IP address.

Command Structure GET IPADDR	Parameters:
Response Structure IPADDR < DHCP STATIC > < IPAddress > < NetMask > [Gateway [DNSServer]]	
Command Example GET IPADDR	
Response Example IPADDR STATIC 192.168.1.34 255.255.255.0 192.168.1.1 192.168.1.2	
Additional Notes:	

6.4 Configure HTTPS Function

Command Structure SET HTTPS < ON OFF >	Parameters: ON = Enable HTTPS
Response Structure HTTPS < ON OFF >	
Command Example SET HTTPS ON	
Response Example HTTPS ON	
Additional Notes: Default: ON	

6.5 Get HTTPS Switch Status

Command Structure GET HTTPS	Parameters:
Response Structure HTTPS < ON OFF >	
Command Example GET HTTPS	
Response Example HTTPS ON	
Additional Notes:	

6.6 Configure Telnet over TLS

Command Structure SET TELNETS < ON OFF >	Parameters: ON = Enable Telnet over TLS
Response Structure TELNETS < ON OFF >	
Command Example SET TELNETTLS ON	
Response Example TELNETTLS ON	
Additional Notes: Default: OFF	

6.7 Get Telnet over TLS Feature Switch Status

Command Structure GET TELNETS	Parameters:
Response Structure TELNETS < ON OFF >	
Command Example GET TELNETTLS	
Response Example TELNETTLS ON	
Additional Notes:	

7. NDI Function

7.1 Set NDI RX Group Name

Command Structure SET NDI_RX_GROUP < GroupName >	Parameters: GroupName = NDI RX group name, case-sensitive.
Response Structure NDI_RX_GROUP < GroupName >	
Command Example SET NDI_RX_GROUP MeetingRoom1	
Response Example NDI_RX_GROUP MeetingRoom1	
Additional Notes: Default value: Public	

7.2 Get NDI RX Group Name

Command Structure GET NDI_RX_GROUP	Parameters:
Response Structure NDI_RX_GROUP < GroupName >	
Command Example GET NDI_RX_GROUP	
Response Example NDI_RX_GROUP MeetingRoom1	
Additional Notes:	

7.3 Set NDI RX Device Name

Command Structure SET NDI_RX_DEV_NAME < DeviceName >	Parameters: DeviceName = NDI RX device name, case-sensitive
Response Structure NDI_RX_DEV_NAME < DeviceName >	
Command Example SET NDI_RX_DEV_NAME CamMixer	
Response Example NDI_RX_DEV_NAME CamMixer	
Additional Notes: Default value: CAM-0402-BRG-XXXX-RX XXXX is the last two bytes of the MAC address in hexadecimal form	

7.4 Get NDI RX Device Name

Command Structure GET NDI_RX_DEV_NAME	Parameters:
Response Structure NDI_RX_DEV_NAME < DeviceName >	
Command Example GET NDI_RX_DEV_NAME	
Response Example NDI_RX_DEV_NAME CamMixer	
Additional Notes:	

7.5 Get NDI Device List

Get the list of NDI devices discovered on the network.

You can request the list of TX devices, RX devices, or both TX and RX devices.

Command Structure GET NDI_SCAN_DEV_LIST < TX RX ALL >	Parameters: ALL = retrieve the scanned list of both TX and RX devices Each line of the response corresponds to one device; fields are, in order: device type (TX or RX), device name, IP address.
Response Structure NDI_SCAN_DEV_LIST < TX RX > < DeviceName1 > < IPAddress1 > > NDI_SCAN_DEV_LIST < TX RX > < DeviceName2 > < IPAddress2 > > ...	
Command Example GET NDI_SCAN_DEV_LIST TX	
Response Example NDI_SCAN_DEV_LIST TX Team1 169.254.34.71 NDI_SCAN_DEV_LIST TX Team2 169.254.179.80	
Additional Notes: The response messages do not include the device's own TX and RX.	

7.6 Get NDI Channel List

Retrieve the list of NDI channels discovered on the network.

You can request the channel list for a specific device, or for all TX devices, all RX devices, or all devices.

Command Structure GET NDI_SCAN_CHN_LIST < DeviceName TX RX ALL >	Parameters: ALL = retrieve channel lists for all devices. Each line in the response corresponds to one device. Fields are: device name, device type (TX or RX), followed by all channel names.
Response Structure NDI_SCAN_CHN_LIST < DeviceName > < TX RX > < ChannelName1 > [ChannelName2 ...] 或 NDI_SCAN_CHN_LIST < DeviceName1 > < TX RX > < ChannelName11 > [ChannelName12 ...] NDI_SCAN_CHN_LIST < DeviceName2 > < TX RX > < ChannelName21 > [ChannelName22 ...]	
Command Example GET NDI_SCAN_CHN_LIST Team1	
Response Example NDI_SCAN_CHN_LIST Team1 TX Team1TX	
Additional Notes: In theory a device can have multiple channels, but in practice a device usually has only one channel.	

7.7 Set NDI RX Video Source

Configure an NDI RX decoder to receive and decode an NDI stream.

The decoded video from the NDI decoder is provided as input to downstream video switching modules, referred to as NDIIN.

Command Structure SET NDI_IN_SRC < 1 2 3 4 > TXDeviceName [ChannelName]	Parameters: First parameter is the NDI RX decoder number. There are 4 NDI decoders, so the valid range is 1–4. TXDeviceName = NDI TX device name ChannelName = NDI TX channel name If ChannelName is omitted, the decoder will use the TX device's first channel. In most cases an NDI TX device has only one channel, so this parameter can usually be omitted.
Response Structure NDI_IN_SRC < 1 2 3 4 > < TXDeviceName > [ChannelName]	
Command Example SET NDI_IN_SRC 1 Team1	
Response Example NDI_IN_SRC 1 Team1	
Additional Notes:	

7.8 Remove NDI RX Video Source

Remove the video source from the NDI RX decoder.

Command Structure SET NDI_IN_SRC < 1 2 3 4 >	Parameters:
Response Structure NDI_IN_SRC < 1 2 3 4 >	
Command Example SET NDI_IN_SRC 1	
Response Example NDI_IN_SRC 1	
Additional Notes:	

7.9 Get NDI RX Video Source

Retrieve the NDI stream information received by the NDI RX decoder.

Command Structure	Parameters: ALL = retrieve the video sources of all NDI decoders If the response contains only the decoder number without a TX device name and channel name, it means that decoder has no video source configured.
GET NDI_IN_SRC < 1 2 3 4 ALL >	
Response Structure	
NDI_IN_SRC < 1 2 3 4 > [< TXDeviceName > < ChannelName >]	
或	
NDI_IN_SRC 1 [< TXDeviceName1 > < ChannelName1 >]	
NDI_IN_SRC 2 [< TXDeviceName2 > < ChannelName2 >]	
NDI_IN_SRC 3 [< TXDeviceName3 > < ChannelName3 >]	
NDI_IN_SRC 4 [< TXDeviceName4 > < ChannelName4 >]	
Command Example	
GET NDI_IN SRC 1	
Response Example	
NDI_IN_SRC 1 Team1 Team1TX	
Additional Notes:	

7.10 Set NDI TX Group Name

Command Structure SET NDI_TX_GROUP < GroupName >	Parameters: GroupName = NDI TX group name, case-sensitive. It may be the same as or different from the NDI RX group name.
Response Structure NDI_TX_GROUP < GroupName >	
Command Example SET NDI_TX_GROUP Classroom	
Response Example NDI_RX_GROUP Classroom	
Additional Notes: Default value: Public	

7.11 Get NDI TX Group Name

Command Structure GET NDI_TX_GROUP	Parameters:
Response Structure NDI_TX_GROUP < GroupName >	
Command Example GET NDI_TX_GROUP	
Response Example NDI_RX_GROUP Classroom	
Additional Notes:	

7.12 Set NDI TX Device Name

Command Structure SET NDI_TX_DEV_NAME < DeviceName >	Parameters: DeviceName = NDI TX device name, case-sensitive Must not be the same as the NDI RX device name.
Response Structure NDI_TX_DEV_NAME < DeviceName >	
Command Example SET NDI_TX_DEV_NAME Teacher	
Response Example NDI_RX_DEV_NAME Teacher	
Additional Notes: Default value: CAM-0402-BRG-XXXX-TX XXXX are the last two bytes of the MAC address, in hexadecimal form.	

7.13 Get NDI TX Device Name

Command Structure GET NDI_TX_DEV_NAME	Parameters:
Response Structure NDI_TX_DEV_NAME < DeviceName >	
Command Example GET NDI_TX_DEV_NAME	
Response Example NDI_RX_DEV_NAME Teacher	
Additional Notes:	

7.14 Set NDI TX Channel Name

Command Structure SET NDI_TX_CHN_NAME < ChannelName >	Parameters: ChannelName = NDI TX channel name, case sensitive
Response Structure NDI_TX_CHN_NAME < ChannelName >	
Command Example SET NDI_TX_CHN_NAME NDIOut1	
Response Example NDI_RX_CHN_NAME NDIOut1	
Additional Notes: Default: NDI	

7.15 Get NDI TX Channel Name

Command Structure GET NDI_TX_CHN_NAME	Parameters:
Response Structure NDI_TX_CHN_NAME < ChannelName >	
Command Example GET NDI_TX_CHN_NAME	
Response Example NDI_RX_CHN_NAME NDIOut1	
Additional Notes:	

7.16 Set NDI Output Video Encoding Parameters

Command Structure SET NDI_TX_VENC_CFG < NDI11 NDI12 > < EncodeMode > < Resolution > < FrameRate > < BitRateCtl > < BitRate > < GopSize >	Parameters: The first parameter specifies which stream to configure; valid values are NDI11 and NDI12. The format is 'NDI' followed by two digits: - The first digit indicates which NDI output. The device currently supports only one NDI output, so this digit is always 1. - The second digit distinguishes main stream and preview stream: 1 = main stream, 2 = preview stream. EncodeMode = encoding method, valid values: H.264, H.265 Resolution = resolution, valid values: - Main stream: 1280X720 1920X1080 3840X2160 - Preview stream: 320X240 640X360 FrameRate = encoding frame rate, valid range: 1~60 BitRateCtl = bitrate control mode, valid values: CBR, VBR BitRate = encoding bitrate in kbps, valid ranges: - Main stream: 64~16384 - Preview stream: 64~4096 GopSize = group of pictures size (I-frame interval), valid range: 1~150
Response Structure NDI_TX_VENC_CFG < NDI11 NDI12 > < EncodeMode > < Resolution > < FrameRate > < BitRateCtl > < BitRate > < GopSize >	
Command Example SET NDI_TX_VENC_CFG NDI11 H.264 1920X1080 30 CBR 8192 60	
Response Example NDI_TX_VENC_CFG NDI11 H.264 1920X1080 30 CBR 8192 60	

Additional Notes: 1. Defaults:

Main stream:

H.264 1920X1080 30 CBR 4096 30

Preview stream:

H.264 320X240 30 CBR 1024 30

2. The device currently determines the encoding frame rate automatically; any FrameRate set by this API will be ignored.

7.17 Get NDI Output Video Encoding Parameters

Command Structure GET NDI_TX_VENC_CFG < NDI11 NDI12 ALL >	Parameters: ALL = Get video encoding parameters for both the main (primary) stream and the preview stream
Response Structure NDI_TX_VENC_CFG < NDI11 NDI12 > < EncodeMode > < Resolution > < FrameRate > < BitRateCtl > < BitRate > < GopSize > 或 NDI_TX_VENC_CFG NDI11 < EncodeMode > < Resolution > < FrameRate > < BitRateCtl > < BitRate > < GopSize > NDI_TX_VENC_CFG NDI12 < EncodeMode > < Resolution > < FrameRate > < BitRateCtl > < BitRate > < GopSize >	
Command Example GET NDI_TX_VENC_CFG NDI11	
Response Example NDI_TX_VENC_CFG NDI11 H.264 1920X1080 30 CBR 8192 60	
Additional Notes: This API returns the actual video encoding frame rate	

7.18 Set NDI Output Function

Turn the NDI TX encoding output on or off.

Command Structure SET NDI_TX_STREAM_FN < NDI11 NDI12 > < ON OFF >	Parameters:
Response Structure NDI_TX_STREAM_FN < NDI11 NDI12 > < ON OFF >	
Command Example SET NDI_TX_STREAM_FN NDI12 OFF	
Response Example NDI_TX_STREAM_FN NDI12 OFF	
Additional Notes: Default: Both the NDI main stream and the preview stream encoding output are enabled (ON).	

7.19 Get NDI Output Function

Command Structure GET NDI_TX_STREAM_FN < NDI11 NDI12 ALL >	Parameters: ALL = Retrieve the status of the encoding output functions for the main stream and the preview stream.
Response Structure NDI_TX_STREAM_FN < NDI11 NDI12 > < ON OFF > 或 NDI_TX_STREAM_FN NDI11 < ON OFF > NDI_TX_STREAM_FN NDI12 < ON OFF >	
Command Example GET NDI_TX_STREAM_FN NDI12	
Response Example NDI_TX_STREAM_FN NDI12 OFF	
Additional Notes:	

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