


# MD120UI

## Software integration document



	<b>Product</b>	MD120UI		
	<b>FW Support</b>	1.1.1012.0		
	<b>Version</b>	2024-0426	<b>Level</b>	Public

This document outlines the control command set supported by the camera, which is designed for integration by third-party software developers. Below, you will find a comprehensive list of instructions available for use. Developers are encouraged to refer to this list when building or updating their software to ensure compatibility and functionality. Should you have any inquiries or require further assistance, please do not hesitate to contact our Field Application Engineer (mail to : AVerSupport\_10@aver.com).

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## VISCA RS-232 Command Table

Command Set	Command	Command Packet	Comments
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear (Clear Visca connection & command buffer queue)
CommandCancel	--	8x 2p FF	p: Socket No. (=1or2)
CAM_Power	On	8x 01 04 00 02 FF	Power OFF to Standby mode
	Off	8x 01 04 00 03 FF	Power ON supported in Standby mode only
CAM_Zoom	Stop	8x 01 04 07 00 FF	Zoom Control
	Tele(Standard)	8x 01 04 07 02 FF	
	Wide(Standard)	8x 01 04 07 03 FF	
	Tele(Variable)	8x 01 04 07 2p FF	p=0 (Low) to 7 (High)
	Wide(Variable)	8x 01 04 07 3p FF	
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position. MD120UI: 0x00F0 (x1) ~ 0x5370 (x20)
CAM_Focus	Stop	8x 01 04 08 00 FF	Focus Control
	Far (Standard)	8x 01 04 08 02 FF	Each 'Far/Near' needs a 'stop'
	Near (Standard)	8x 01 04 08 03 FF	
	Far (Variable)	8x 01 04 08 2p FF	p=0 (Low) to 7 (High)
	Near (Variable)	8x 01 04 08 3p FF	
	Auto Focus	8x 01 04 38 02 FF	AF ON/OFF
	Manual Focus	8x 01 04 38 03 FF	
	Auto/Manual	8x 01 04 38 10 FF	
	One Push	8x 01 04 18 01 FF	
	Direct	8x 01 04 48 0p 0q 0r 0s FF	pqrs: Focus Position, MD120UI: 0x0000(wide) ~ 0x4000(tele)
Near Limit	8x 01 04 28 0p 0q 0r 0s FF	pqrs: Focus Near Limit Position 0001: 0.3m 0002: 1m 0003: 1.5m 0004: 2m 0005: 3m 0006: 6m 0007: 10m	
CAM_AFMode	Normal AF	8x 01 04 57 00 FF	Continuous AF ON
	Zoom Trigger AF	8x 01 04 57 02 FF	Continuous AF OFF, only trigger AF after PTZ done
CAM_WB	Auto	8x 01 04 35 00 FF	Normal Auto
	ATW	8x 01 04 35 04 FF	
	Indoor	8x 01 04 35 01 FF	
	Outdoor	8x 01 04 35 02 FF	
	One Push WB	8x 01 04 35 03 FF	One Push WB mode
	Manual	8x 01 04 35 05 FF	Manual Control mode
	One Push Trigger	8x 01 04 10 05 FF	One Push WB Trigger
CAM_RGain	Reset	8x 01 04 03 00 FF	Return to 80 (128) value
	Up	8x 01 04 03 02 FF	Manual Control of R Gain
	Down	8x 01 04 03 03 FF	

	Direct	8x 01 04 43 00 00 0p 0q FF	pq: R Gain 00(0) to FF(255)
CAM_BGain	Reset	8x 01 04 04 00 FF	Return to 80 (128) value
	Up	8x 01 04 04 02 FF	Manual Control of B Gain
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: B Gain 00(0) to FF(255)
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode
	Manual	8x 01 04 39 03 FF	Manual Control mode
	Shutter Priority	8x 01 04 39 0A FF	Shutter Priority Automatic Exposure mode
	Iris Priority	8x 01 04 39 0B FF	Iris Priority Automatic Exposure mode
CAM_SlowShutter	Auto	8x 01 04 5A 02 FF	Auto Slow Shutter ON/OFF
	Manual	8x 01 04 5A 03 FF	
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Shutter Setting
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter Position
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris Setting
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris Position
CAM_Gain	Reset	8x 01 04 0C 00 FF	Gain Setting
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Direct	8x 01 04 4C 00 00 0p 0q FF	pq: Gain Position
	AE Gain Limit	8x 01 04 2C 0p FF	p: Gain Position (8 to E: 24db~42db)
CAM_Bright	Up	8x 01 04 0D 02 FF	--
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 4D 00 00 0p 0q FF	pq: Bright Position
CAM_ExpComp	Reset	8x 01 04 0E 00 FF	Exposure Comp Amount Setting
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 0p 0q FF	pq: ExpComp Position
CAM_Backlight	On	8x 01 04 33 02 FF	Back Light Compensation ON/OFF
	Off	8x 01 04 33 03 FF	
CAM_LR_Reverse	On	8x 01 04 61 02 FF	Mirror Image ON/OFF
	Off	8x 01 04 61 03 FF	
CAM_Flip	On	8x 01 04 66 02 FF	Flip ON/OFF
	Off	8x 01 04 66 03 FF	
CAM_Preset	Reset	8x 01 04 3F 00 pp FF	Preset Cancel. pp: Preset Number 0x00~0xFF
	Set	8x 01 04 3F 01 pp FF	Preset Save.
	Recall	8x 01 04 3F 02 pp FF	Preset Load.
CAM_Menu	On	8x 01 06 06 02 FF	Menu Display ON/OFF
	Off	8x 01 06 06 03 FF	
	On/Off	8x 01 06 06 10 FF	

CAM_MenuEnter	--	8x 01 7E 01 02 00 01 FF	Enter Submenu
CAM_NR	--	8x 01 04 53 0p FF	p: Image NR Setting (0:OFF, Level1 to 3)
CAM_WDR	On	8x 01 04 3D 02 FF	Wdr ON/OFF
	Off	8x 01 04 3D 03 FF	
CAM_ICR	On	8x 01 04 01 02 FF	Infrared Mode ON (Night)
	Off	8x 01 04 01 03 FF	Infrared Mode OFF (Day)
CAM_AutoICR	On	8x 01 04 51 02 FF	Auto Infrared mode ON/OFF
	Off	8x 01 04 51 03 FF	
	Threshold	8x 01 04 21 00 00 0p 0q FF	pq: ICR OFF(Day)->ON(Night) threshold level 00: Low; 01: Middle; 02: High
CAM_IDWrite	--	8x 01 04 22 0p 0q 0r 0s FF	pqrs: Camera ID (=0000 to FFFF)
Video Format Change	--	8x 01 7E 01 1E 0p 0q FF	pq
			0x02: 1920x1080P/60
			0x03: 1920x1080P/59.94
			0x04: 1920x1080P/30
			0x05: 1920x1080P/29.97
			0x08: 1920x1080I/60
			0x0A: 1920x1080I/59.94
			0x0B: 1280x720P/60
			0x0C: 1280x720P/59.94
			0x0D: 1920x1080P/50
			0x18: 1920x1080P/25
			0x22: 1920x1080I/50
			0x26: 1280x720P/50
			0x30: 3840x2160P/60
			0x31: 3840x2160P/59.94
0x32: 3840x2160P/50			
0x33: 3840x2160P/30			
0x34: 3840x2160P/29.97			
0x35: 3840x2160P/25			
IR_Receive	On	8x 01 06 08 02 FF	Infrared remote commander reception ON
Pan-tilt Drive	Up	8x 01 06 01 VV WW 03 01 FF	VV: Pan speed setting 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed setting 0x01 (low speed) to 0x18 (high speed) YYYY: Pan Position 7FFF(170°) to 8000(-170°) (Normalized, CENTER 0000) ZZZZ: Tilt Position 7FFF(90°) to 8000(-30°) (Image Flip: OFF) (Normalized, CENTER 0000)
	Down	8x 01 06 01 VV WW 03 02 FF	
	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	UpLeft	8x 01 06 01 VV WW 01 01 FF	
	UpRight	8x 01 06 01 VV WW 02 01 FF	
	DownLeft	8x 01 06 01 VV WW 01 02 FF	
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03	

		03 FF	
	AbsolutePosition	8x 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	RelativePosition	8x 01 06 03 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Freeze	Freeze On	8x 01 04 62 02 FF	Freeze On Immediately
	Freeze Off	8x 01 04 62 03 FF	Freeze Off Immediately
	Preset Freeze On	8x 01 04 62 22 FF	Freeze On When Running Preset
	Preset Freeze Off	8x 01 04 62 23 FF	Freeze Off When Running Preset
RTMP	On	8x 01 04 A2 02 FF	RTMP ON/OFF
	Off	8x 01 04 A2 03 FF	
Reboot	On	8x 01 04 A4 FF	System reboot
P/T Spd. Relative Zoom Ratio	On	8x 01 04 A6 02 FF	P/T Speed Relative Zoom Ratio ON/OFF
	Off	8x 01 04 A6 03 FF	
Factory Reset	System Factory Reset	8x 01 04 3F 03 00 FF	
Preset Speed	Set Preset Speed	8x 01 06 20 0p FF	p=1 (Low) to 6 (High)
Facial Tracking	On	8x 01 04 7D 02 FF	AI Facial Tracking ON/OFF
	Off	8x 01 04 7D 03 FF	

Inquiry Command	Inquiry Packet	Reply Packet	Comments
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_FocusModelInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
CAM_FocusNearLimitInq	8x 09 04 28 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Near Limit Position
CAM_AFModelInq	8x 09 04 57 FF	y0 50 00 FF	Continuous AF ON
		y0 50 02 FF	Continuous AF OFF, only trigger AF after PTZ done
CAM_WBModelInq	8x 09 04 35 FF	y0 55 00 FF	Auto
		y0 55 04 FF	ATW
		y0 55 01 FF	Indoor
		y0 55 02 FF	Outdoor
		y0 55 03 FF	One Push WB
		y0 55 05 FF	Manual
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_AEModelInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter Priority
		y0 50 0B FF	Iris Priority
		y0 50 0D FF	Bright
CAM_SlowShutterModelInq	8x 09 04 5A FF	y0 50 02 FF	Auto
		y0 50 03 FF	Manual
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position
CAM_GainLimitInq	8x 09 04 2C FF	y0 50 0q FF	p: Gain Limit
CAM_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position
CAM_BacklightModeInq	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_LR_Reverse_Inq	8x 09 04 61 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_Flip_Inq	8x 09 04 66 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_NRIrq	8x 09 04 53 FF	y0 50 0p FF	p: NR Level
CAM_WDRInq	8x 09 04 3D FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ICRModelInq	8x 09 04 01 FF	y0 50 02 FF	On (Night)
		y0 50 03 FF	Off (Day)
CAM_AutoICRModelInq	8x 09 04 51 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_AutoICRThresholdInq	8x 09 04 21 FF	y0 50 00 00 0p 0q FF	pq: ICR OFF(Day)->ON(Night) threshold level

Inquiry Command	Inquiry Packet	Reply Packet	Comments
			00: Low; 01: Middle; 02: High
CAM_IDInq	8x 09 04 22 FF	y0 50 0p 0q 0r 0s FF	pqrs: Camera ID
CAM_VersionInq	8x 09 00 02 FF	y0 50 ab cd mn pq rs tu vw FF	abcd: Vendor Code, AVer: 2574 mnpq: Model Code, MD120UI: 0565 rstu: Firmware version (ex: 4025 for 1.1.4025.0) vw: Socket Number (=02)
CAM_MenuModelInq	8x 09 06 06 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
Video Format Inq	8x 09 06 23 FF	y0 50 02 FF	1920x1080P/60
		y0 50 03 FF	1920x1080P/59.94
		y0 50 04 FF	1920x1080P/30
		y0 50 05 FF	1920x1080P/29.97
		y0 50 08 FF	1920x1080I/60
		y0 50 0A FF	1920x1080I/59.94
		y0 50 0B FF	1280x720P/60
		y0 50 0C FF	1280x720P/59.94
		y0 50 0D FF	1920x1080P/50
		y0 50 18 FF	1920x1080P/25
		y0 50 22 FF	1920x1080I/50
		y0 50 26 FF	1280x720P/50
		y0 50 30 FF	3840x2160P/60
		y0 50 31 FF	3840x2160P/59.94
		y0 50 32 FF	3840x2160P/50
y0 50 33 FF	3840x2160P/30		
y0 50 34 FF	3840x2160P/29.97		
y0 50 35 FF	3840x2160P/25		
IR_Receive	8x 09 06 08 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
Pan-tiltPosInq	8x 09 06 12 FF	y0 50 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	YYYY: Pan Position 7FFF(170°) to 8000 (-170°) (Normalized, CENTER 0000) ZZZZ: Tilt Position 7FFF(90°) to 8000(-30°) (Image Flip: OFF) (Normalized, CENTER 0000)
CAM_Preset_Inq	8x 09 04 3F FF	y0 50 pp FF	Return the last preset number which has been operated pp:01-FF
Pan-tiltMaxSpeedInq	8x 09 06 11 FF	y0 50 ww zz FF	ww = Pan Max Speed zz = Tilt Max Speed
Freeze_Mode_Inq	8x 09 04 62 01 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
Preset_Freeze_Inq	8x 09 04 62 02 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
RTMP_Inq	8x 09 04 A2 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
Preset_Speed_Inq	8x 09 06 20 FF	y0 50 0p FF	p=1 (Low) to 6 (High)
Firmware version	8x 09 36 69 04 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0w FF	fw_ver: p.q.rstu.vw

Inquiry Command	Inquiry Packet	Reply Packet	Comments
Facial Tracking Inq	8x 09 04 7D FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_Hdmi_Port Inq	8x 09 7E 04 79 00 FF	y0 50 00 00 00 00 00 00 00 00 00 0p 0q 0r 0s FF	pqrs: Source physical address (See HDMI VSDB) p:data[A], q:data[B], r:data[C], s:data[D]
USB Status Inq	8x 09 36 69 05 FF	y0 50 0p FF	p=0: OFF, p=1: ON
UVC Status Inq	8x 09 36 69 06 FF	y0 50 0p FF	p=0: OFF, p=1: ON



# VISCA over IP Setting

## PORT

Internet protocol	IPv4
Transport protocol	UDP
Port address	52381

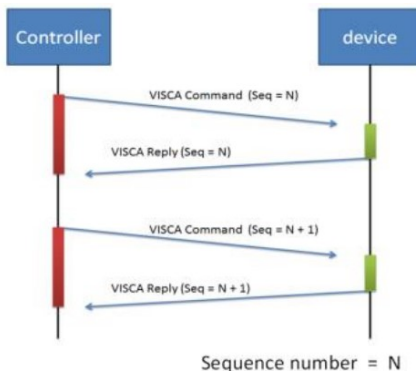
## FORMAT

	byte 0	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8 ~~~ byte 23	
func	Payload type		Payload Length		Sequence number			Payload (1 to 16 bytes)		
data	Value1	Value2	1~16(0x0001~0x0010)		0x00000000 ~ 0xFFFFFFFF			VISCA Packet (see page VISCA)		

## Payload type

Name	Value1	Value2	Description
VISCA command	0x01	0x00	Stores the VISCA command.
VISCA inquiry	0x01	0x10	Stores the VISCA inquiry.
VISCA reply	0x01	0x11	Stores the reply for the VISCA command and VISCA inquiry, or VISCA device setting command
VISCA device setting command	0x01	0x20	Stores the VISCA device setting command.
Control command	0x02	0x00	Stores the control command
Control reply	0x02	0x01	Stores the reply for the control command.

## Sequence number



Example Address locked to "X = 1" for VISCA over IP

	byte 0	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8 ~~~ byte 23
func	Payload type		Payload Length		Sequence number				Payload (1 to 16 bytes)
data	Value1	Value2	1~16(0x0001~0x0010)		0x00000000 ~ 0xFFFFFFFF				VISCA Packet (see page VISCA)
CMD: Power Off	0x01	0x00	0x00	0x06	0x00	0x00	0x00	0x01	81 01 04 00 03 FF
reply ACK	0x01	0x11	0x00	0x03	0x00	0x00	0x00	0x01	90 41 FF
reply COMPLET E	0x01	0x11	0x00	0x03	0x00	0x00	0x00	0x01	90 51 FF

INQ: Power	0x01	0x10	0x00	0x05	0x00	0x00	0x00	0x02	81 09 04 00 FF
INQ reply	0x01	0x11	0x00	0x04	0x00	0x00	0x00	0x02	90 50 03 FF

## VISCA Zoom Table

Zoom position and zoom ratio (MD120UI)	
Parameter	Zoom ratio
00F0	x1
1C60	x2
2938	x3
3130	x4
36D8	x5
3B50	x6
3EC8	x7
41A8	x8
4430	x9
4660	x10
4828	x11
49F0	x12
4B80	x13
4CF0	x14
4E48	x15
4F78	x16
5090	x17
51A0	x18
5290	x19
5370	x20

# Pelco-D Command

## PAN AND TILT COMMANDS P/T bit(byte4.0) = 0

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7
func	SYNC	ADDR	cmd 1	cmd 2	data1	data2	checksum
data	0xFF	1~8	cmd 1	cmd 2	Pan speed	Tilt speed	2~6 SUM

note : speed = 0x00~0x17

### byte3 : command 1

	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
SENSE ON	NA	NA	NA	NA	CAM ON/OFF	NA	NA	NA

note : power off : byte3.7 = 0 & byte3.3 = 1 (0x08)

note : power on : byte3.7 = 1 & byte3.3 = 1 (0x88)

### byte4: command 2

	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	ZOOM Wide	ZOOM Tele	TILT Down	TILT Up	PAN Left	PAN Right	P/T bit 0(always)	

## EXTENDED COMMAND SET P/T bit(byte4.0) = 1

		byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7
func		SYNC	ADDR	data1	data2	data3	data4	checksum
Set Preset XX		0xFF	1~8	0x00	0x03	0x00	Preset #	2~6 SUM
Clear Preset XX		0xFF	1~8	0x00	0x05	0x00	Preset #	2~6 SUM
Go To Preset XX		0xFF	1~8	0x00	0x07	0x00	Preset #	2~6 SUM
Track ON		0xFF	1~8	0x00	0x65	0x00	0x00	2~6 SUM
Track OFF		0xFF	1~8	0x00	0x67	0x00	0x00	2~6 SUM

note : Preset # : 0x01 ~ 0xFF

# Pelco-P Command

## PAN AND TILT COMMANDS P/T bit(byte4.0) = 0

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8
func	STX	ADDR	data1	data2	data3	data4	ETX	checksum
data	0xA0	0~7F	cmd 1	cmd 2	Pan speed	Tilt speed	0xAF	1~7 XOR

note : speed = 0x00~0x17

### byte3 : command 1

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	CAM ON	NA	CAM ON/OFF	NA	NA	NA	NA

note : power off : byte3.6 = 0 & byte3.4 = 1 (0x10)

note : power on : byte3.6 = 1 & byte3.4 = 1 (0x50)

### byte4: command 2

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	ZOOM Wide	ZOOM Tele	TILT Down	TILT Up	PAN Left	PAN Right	P/T bit 0(always)

## EXTENDED COMMAND SET P/T bit(byte4.0) = 1

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8
func	STX	ADDR	data1	data2	data3	data4	ETX	checksum
Set Preset XX	0xA0	0~7	0x00	0x03	0x00	Preset #	0xAF	1~7 XOR
Clear Preset XX	0xA0	0~7	0x00	0x05	0x00	Preset #	0xAF	1~7 XOR
Go To Preset XX	0xA0	0~7	0x00	0x07	0x00	Preset #	0xAF	1~7 XOR
Track ON	0xA0	0~7	0x00	0x65	0x00	0x00	0xAF	1~7 XOR
Track OFF	0xA0	0~7	0x00	0x67	0x00	0x00	0xAF	1~7 XOR

note : Preset # : 0x01 ~ 0xFF

# CGI Command

Format to control camera using CGI :

<http://camera ip/cgi> , (Ex: <http://192.168.1.100/cgi-bin?OnePush=Y>)

CGI List for Video Transmission					
CGI item name	URL	Command	Parameter Name	Parameter value	Description
Get JPEG	/snapshot				1280x720 jpg
Get 4K JPEG	/cgi-bin?OnePush=n				Step 1: request 4k snapshot
	/snapshot?res=4k				Step 2: get 3840x2160 jpg
Set RTSP URL	/cgi-bin?SetString= =	sys_rtsp_stm1_url,rtsp_url			Set RTSP URL to rtsp_url
Get RTSP URL	/cgi-bin?GetString= g=	sys_rtsp_stm1_url			Reply RTSP URL example: sys_rtsp_stm1_url="live_st1"
Get RTSP stream	rtsp://ip/rtsp_url				Default RTSP url: live_st1 rtsp://ip/live_st1

CGI List for Camera Control					
CGI item name	URL	Command	Parameter Name	Parameter value	Description
up start	/cgi-bin?SetPtfz= =	1,0,1			
up end	/cgi-bin?SetPtfz= =	1,0,2			
down start	/cgi-bin?SetPtfz= =	1,1,1			
down end	/cgi-bin?SetPtfz= =	1,1,2			
left start	/cgi-bin?SetPtfz= =	0,1,1			
left end	/cgi-bin?SetPtfz= =	0,1,2			
right start	/cgi-bin?SetPtfz= =	0,0,1			
right end	/cgi-bin?SetPtfz= =	0,0,2			
zoom_in start	/cgi-bin?SetPtfz= =	2,0,1			
zoom_in end	/cgi-bin?SetPtfz= =	2,0,2			
zoom_out start	/cgi-bin?SetPtfz= =	2,1,1			
zoom_out end	/cgi-bin?SetPtfz= =	2,1,2			
set preset:	/cgi-bin?ActPreset= =	1,N			N : position
load preset:	/cgi-bin?ActPreset= =	0,N			N : position

CGI List for Various Settings
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CGI item name	URL	Command	Parameter Name	Parameter value	Description
exposure value	/cgi-bin?Set=	img_expo_expo,3,N	value	1 ~ 9	N : value
saturation	/cgi-bin?Set=	img_saturation,3,N	value	0 ~ 10	N : value
contrast	/cgi-bin?Set=	img_contrast,3,N	value	0 ~ 4	N : value
Tracking on:	/cgi-bin?Set=	trk_tracking_on,3,1			
Tracking off:	/cgi-bin?Set=	trk_tracking_on,3,0			
Reboot	GET(Basic Authentication)	/cgi-bin?OnePush=!			
Factory Reset	GET(Basic Authentication)	/cgi-bin?OnePush=d			
RTMP Start streaming	/cgi-bin?Set=	vdo_rtmp_enable,3,1			
RTMP Stop streaming	/cgi-bin?Set=	vdo_rtmp_enable,3,0			
Status get (Model name & mac & FW_VER)	/cgi-bin?GetString=	sys_name&net_mac&sys_fw_version		http://10.100.105.110/cgi-bin?GetString=sys_name&net_mac&sys_fw_version	
Serial No. get	/cgi-bin?GetSerial Number			http://10.100.105.110/cgi-bin?GetSerialNumber	
oneclick	/cgi-bin?Set=	ptz_oneclick_x,3,N1&ptz_oneclick_y,3,N2&ptz_one_click_spd,3,N3		ptz_one_click_spd 1~24	N1, N2 = X, Y coordinates (1080P, 0,0 at top left) N3=moving speed
IR Cut Filter	/cgi-bin?Set=	img_ircut_filter,3,N		0 ~ 2	0 = Day, 1 = Night, 2 = Auto
IR Cut Filter Sensitivity	/cgi-bin?Set=	img_ircut_sensitivity,3,N		0 ~ 2	0 = Low, 1 = Middle, 2 = High

CGI List for Video Stream					
CGI item name	URL	Command	Parameter Name	Parameter value	Description
Video Stream Resolution	/cgi-bin?Set=	vdo_net_stm_res,3,N	value	1 ~ 6	1 = 1920x1080; 2 = 1280x720; 3 = 960x540; 4 = 640x480; 5 = 640x360; 6 = 3840x2160
Video Stream	/cgi-bin?Set=	vdo_net_stm_fr,3,N	value	1 / 5 / 15 / 20	frames per

Framerate				/ 30 / 60	second
Video Stream Bitrate	/cgi-bin?Set=	vdo_net_stm_bitrate,3,N	value	0 ~ 8	0 = 512 Kbps; 1 = 1 Mbps; 2 = 2 Mbps; 3 = 4 Mbps; 4 = 8 Mbps; 5 = 16 Mbps; 6 = 32 Mbps; 7 = 64 Mbps; 8 = Auto;
Video Stream I-VOP Interval (S)	/cgi-bin?Set=	vdo_net_stm_intvl,3,N	value	1 ~ 10	I-VOP Interval in seconds
Video Stream Rate Control	/cgi-bin?Set=	vdo_net_stm_ratectrl,3,N	value	0 / 1	0: CBR; 1: VBR
Video Stream Encoding Type	/cgi-bin?Set=	vdo_net_stm_codec,3,N	value	1 ~ 2	1: H.264; 2: H.265
Mosaic on Stream On/Off (Mosaic on Stream, Eyes Tracking and AI Video Detection are mutually exclusive.)	/cgi-bin?Set=	vdo_net_stm_mosaic,3,N	value	0 / 1	0: OFF; 1: ON

#### CGI List for Audio

CGI item name	URL	Command	Parameter Name	Parameter value	Description
Audio In Volume	/cgi-bin?Set=	ado_vol,3,N		0 ~10	0 ~ 10 volume

#### CGI List for AI Settings

CGI item name	URL	Command	Parameter Name	Parameter value	Description
Eyes Tracking On/Off (Mosaic on Stream, Eyes Tracking and AI Video Detection are mutually exclusive.)	/cgi-bin?Set=	trk_tracking_on,3,N	value	0 / 1	0: OFF; 1: ON
Tracking Preset	/cgi-bin?ActPr				Save current pos. for eye



	eset=1,255				tracking preset point.
Timeout to preset	/cgi-bin?Set=	trk_lost_time,3,N	value	3 / 5 / 7 / 10	timeout in seconds
Tracking Site	/cgi-bin?Set=	trk_mode,3,N	value	0 / 1	0: Full face; 1: Eyes
Tracking Range	/cgi-bin?Set=	trk_sensitivity,3,N	value	0 ~ 2	0: Close; 1: Medium; 2: Wide
Eyes Tracking On/Off Get	/cgi-bin?Get=trk_tracking_on				
	- Reply	On trk_tracking_on=1 Off trk_tracking_on=0			
Get detect zone(target frame) number	/cgi-bin?Get=trk_detect_num				
	- Reply	trk_detect_num=X	X: number of target frames, 50 max.		
Get detect zone(target frame) info	/cgi-bin?GetGroup=trk_detect_zones				
	- Reply	trk_detect_zones="trk_num:02.focus:-1.zone[00]:76 0,09,222,300.zone[01]:66 0,540,16,22."	focus - current target frame index. zone[NN]: x,y,w,h - 1080P based	(0,0) at top left of video. X,Y,W(width), H(height) is based on the top left of the target frame. "focus:" is followed by the current tracking target frame index. Example: "-1" indicates no target is being tracked. If 3 targets are being detected, "focus:" should be followed by either 0, 1, or 2.	
AI Video Detection On/Off (Mosaic on Stream, Eyes	/cgi-bin?Set=	vdo_det_alarm,3,N	value	0 / 1	0: OFF; 1: ON

Tracking and AI Video Detection are mutually exclusive.)					
Fall Detection View	/cgi-bin?Set=	vdo_det_fall_down_preset,3,N	value	0 ~ 255	Fall Detection View preset point
Fall Detection Sensitivity	/cgi-bin?Set=	vdo_det_fall_down_sensitivity,3,N	value	0 ~ 2	0: Low; 1: Medium; 2:High
Select Tracking Target	/cgi-bin?SetString=	TrackingFocusZone,x,y,w,h		x, y: coordinates, w: width, h: height, (0,0 at top left)	Based on the result of trk_detect_zones, select tracking target. ex: x=343, y=373, w=213, h=310 /cgi-bin?SetString=TrackingFocusZone,343,373,213,310