

AVer UVC Extension Unit

Dec, 2024

Version	Released (base on V33)
<p>Please refer to the notes in the file to confirm which model supports those command. Those form which leave in blank means is not supported by the MD Cameras.</p> <p>Should you have any inquiries or require further assistance, please contact our Field Application Engineer</p> <p>mail to : AVerSupport_10@aver.com</p>	
Applicable Products	
<ul style="list-style-type: none">■ MD330U■ MD330UI■ MD120UI	

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1. Introduction

This document contains information about AVer UVC Extension Unit API. The defined AVer XU* are used to being common control interface. The standard UVC control, Camera Terminal and Processing Unit, are not both described in this document. For detail description of standard UVC control, please refer to [6.1](#).

For integrating with 3rd UVC software more easily, the camera control function which UVC specification has been defined, ex. exposure control, PTZ control, camera firmware should comply with UVC specification first as far as possible.

2. Vendor ID / Product ID

For VID and PID, please refer to Z:\AVI\RDC\Product Quality Validation Dept_Share_\【RDM 資料】\VID.PID 一覽表.

3. Class-Specific Requests

3.1 Control Requests

Request Type	Request	Value	Index	Length	Data
0x21	SET_CUR				
0xA1	GET_CUR	Control Selectors	Unit or Terminal ID and Interface, retrieved from GUID	Data Length	Data Content
	GET_MIN				
	GET_MAX				
	GET_RES				
	GET_LEN				
	GET_INFO				
	GET_DEF				



3.2 Requests

Request	Value	Description	
GET_CUR	0x81	Returns the current state of the streaming interface.	
GET_MIN	0x82	Returns the minimum value for negotiated fields.	
GET_MAX	0x83	Returns the maximum value for negotiated fields.	
GET_RES	0x84	Return the resolution of each supported field in the Probe/Commit data structure.	
GET_LEN	0x85	Returns the length of the Probe data structure.	
GET_INFO	0x86	Queries the capabilities and status of the Control.	
		D0: 0/1 Support Get value requests	D1: 0/1 Support Set value requests
		D2: 0/1 Disabled due to automatic mode	D3: 0/1 Autoupdate Control
		D4: 0/1 Asynchronous Control	D5 – D7 Reserved
GET_DEF	0x87	Returns the default value for the negotiated fields.	
SET_CUR	0x01	Sets the streaming interface Probe state.	

3.3 Unit or Terminal ID and Interface

Control	GUID	Index (optional)
Camera Terminal Control	Standard	0x0001
Process Unit Control	Standard	0x0002
AVer XU1	366966CB-266E-47A0-8451-96ECF60330D6	0x0005
AVer XU2	36693AD0-130B-11E5-B939-0800200C9A66	0x0006
AVer XU3	36692875-1BA4-4D5B-BF91-CA2965B36DFE	0x0007
AVer XU4	3669827A-C026-11EA-B3DE-0242AC130004	0x0008
AVer DOCC	366997A3-445A-4CCB-9FA6-2CFF8D27531B	0x0009
AVer WIFIC	3669F88E-83E8-4892-A3AB-286B9458EACA	0x000A
ZOOM	A8BD5DF2-1A98-474e-8DD0-D92672D194FA	0x000B
AVer XU5	36694F5D-E1EE-4A73-9B9C-08393E01FBFD	0x000C
AVer XU6	36696FB5-0FB3-4843-AA6B-E4780B5BBFF5	0x000D

3.4 Third-Party Camera API Reference

Control	Document	Revision	Date
ZOOM	Zoom-Camera-API-May-2020.docx	0.1	May 12, 2020



4 Video

4.1 Extension Unit – AVer XU1

4.1.1 GUID {366966CB-266E-47A0-8451-96ECF60330D6}

4.1.2 AVer XU1 Selectors

Control Selector	Value
UVCX_UCAM_NONE	0x00
UVCX_UCAM_FLIP	0x0f
UVCX_UCAM_MIRROR	0x10
UVCX_UCAM_SYSTEM_THEME_MODE	0x11
UVCX_UCAM_PRESET	0x12
UVCX_UCAM_FW_VERSION	0x14
UVCX_UCAM_IR_ID	0x19

PS: UVCX_UCAM_IR_ID – UVC_EXT v1.25(MD330U/UI v1.1.1030.0)

UVCX_UCAM_SYSTEM_THEME_MODE – UVC_EXT v1.33(MD330U(I) v1.1.1048.0)

4.1.3 Flip Control

Control Selector		UVCX_UCAM_FLIP		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bFlip	1	Boolean	0: OFF 1: ON

4.1.4 Mirror Control

Control Selector		UVCX_UCAM_MIRROR		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bMirror	1	Boolean	0: OFF 1: ON



4.1.5 System Theme Mode

Control Selector		UVCX_UCAM_SYSTEM_THEME_MODE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bSysThemeMode	1	Number	0: Standard mode 1: Zoom mode
PS: UVCX_UCAM_SYSTEM_THEME_MODE – UVC_EXT v1.33(MD330U(I) v1.1.1048.0)				

4.1.6 Preset Control

Control Selector		UVCX_UCAM_PRESET		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		3		
Offset	Field	Size	Value	Description
0	bSaveRestore	1	Number	0: save 1: restore 2: clear
1	wPresetId	2	Number	Preset Id (0~n), n depends on model.

4.1.7 Firmware Version

Control Selector		UVCX_UCAM_FW_VERSION		
Mandatory Requests		GET_CUR, GET_INFO, GET_RES		
wLength		32		
Offset	Field	Size	Value	Description
0	Ver[32]	32	String	Firmware Version

4.1.8 XU API parameters

Control Selector		UVCX_UCAM_XU_API_PARAM		
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4.1.9 XU API executions

Control Selector		UVCX_UCAM_XU_API_EXEC		
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4.1.10 IR Remote Camera Selector

Control Selector		UVCX_UCAM_IR_ID		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description



0	bID	1	Signed number	0~2: IR Remote Camera selector 1~3 For S331/GP20/GA20: -2: Ignore all IR Remote channel keys -1: Accept all IR Remote channel keys 0~3: IR Remote Camera selector 1~4
PS: UVCX_UCAM_IR_ID – UVC_EXT v1.25(MD330U/UI v1.1.1030.0)				



4.2 Extension Unit – AVer XU2

4.2.1 GUID {36693AD0-130B-11E5-B939-0800200C9A66}

4.2.2 AVer XU2 Selectors

Control Selector	Value
UVCX_UCAM2_NONE	0x00
UVCX_UCAM2_WHITE_BALANCE_COMPONENT	0x07
UVCX_UCAM2_AUTO_WHITE_BALANCE_COMPONENT	0x08
UVCX_UCAM2_WHITE_BALANCE_ONEPUSH	0x1D

4.2.3 White Balance Component

Control Selector		UVCX_UCAM2_WHITE_BALANCE_COMPONENT		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		4		
Offset	Field	Size	Value	Description
0	wBgain	2	Number	B gain value
1	wRgain	2	Number	R gain value
Only Manual mode(UVCX_UCAM2_AUTO_WHITE_BALANCE_COMPONENT = 6) can setup				

4.2.4 Auto White Balance Component

Control Selector		UVCX_UCAM2_AUTO_WHITE_BALANCE_COMPONENT		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	dCompMode	1	Number	0: AUTO 1: ATW 2: Indoor 3: Outdoor 4: OnePush 6: Manual

4.2.5 White Balance OnePush

Control Selector		UVCX_UCAM2_WHITE_BALANCE_ONEPUSH		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bTrigger	1	Number	1: Trigger
Only Manual mode(UVCX_UCAM2_AUTO_WHITE_BALANCE_COMPONENT = 4) can setup				



4.3 Extension Unit – AVer XU3

4.3.1 GUID {36692875-1BA4-4D5B-BF91-CA2965B36DFE}

4.3.2 AVer XU3 Selectors

Control Selector	Value
UVCX_UCAM3_NONE	0x00
UVCX_UCAM3_USB_SPEED	0x01
UVCX_UCAM3_UVC_EZOOM_SPEED	0x03
UVCX_UCAM3_IP_ADDRESS	0x0C
UVCX_UCAM3_FOCUS_ONE_TRIGGLER	0x11
UVCX_UCAM3_FILL_LIGHT_BRIGHT	0x15
UVCX_UCAM3_PT_POS_CALIBRATION	0x1A
UVCX_UCAM3_MOVE_TO_PT	0x1D
UVCX_UCAM3_PT_SPD_RELATIVE_Z_RATIO	0x1F

PS:

UVCX_UCAM3_FILL_LIGHT_BRIGHT – UVC_EXT v1.21(MD330U)

UVCX_UCAM3_PT_POS_CALIBRATION – (MD330U/UI v1.1.1037.0, MD120 v1.1.1009.0)

UVCX_UCAM3_PT_SPD_RELATIVA_Z_RATIO – UVC_EXT v1.26(v1.1.1031.0)



4.3.3 USB Speed

Control Selector		UVCX_UCAM3_USB_SPEED		
Mandatory Requests		GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bUsbSpeed	1	Signed number	0: USB device not connected. 1: USB full speed 2: High speed 3: Super speed

4.3.4 UVC Transfer Mode

Control Selector	UVCX_UCAM3_UVC_TRANS_MODE
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4.3.5 Ezoom Speed

Control Selector		UVCX_UCAM3_UVC_EZOOM_SPEED		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bEzoomSpeed	1	Signed number	0: Slow 1: Fast

4.3.6 Hardware Version

Control Selector	UVCX_UCAM3_HW_VER
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4.3.7 UAC Enable

Control Selector	UVCX_UCAM3_UAC_EN
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4.3.8 Auto Framing Control

Control Selector	UVCX_UCAM3_UVC_AUTO_FRAMING
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4.3.9 People Counting

Control Selector	UVCX_UCAM3_UVC_FACE_NUM
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4.3.10 Meeting Interval

Control Selector	UVCX_UCAM3_UVC_STREAM_TIME
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4.3.11 Smart Auto Framing

Control Selector	UVCX_UCAM3_UVC_SMART_AUTO_FRAMING
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4.3.12 Low Light Compensation

Control Selector	UVCX_UCAM3_UVC_LOW_LIGHT_COMP
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4.3.13 Enable Remote Access

Control Selector	UVCX_UCAM3_EN_REMOTE_ACCESS
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4.3.14 IP Address

Control Selector	UVCX_UCAM3_IP_ADDRESS			
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	1			
Offset	Field	Size	Value	Description
0	bIpAddress	32	String	String of IP address, end with \0

4.3.15 IP Auto Framing Position

Control Selector	UVCX_UCAM3_IP_AUTO_FRAMING_POS
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4.3.16 Tracking Speed

Control Selector	UVCX_UCAM3_UVC_TRACKING_SPEED
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4.3.17 Angle Compensation

Control Selector	UVCX_UCAM3_UVC_ANGLE_COMPENSATION
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4.3.18 Enable Preset Position Setting

Control Selector	UVCX_UCAM3_PRESET_POS_SETTING_EN
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4.3.19 Focus one trigger

Control Selector	UVCX_UCAM3_FOCUS_ONE_TRIGGLER			
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	1			
Offset	Field	Size	Value	Description
0	bData	1	Boolean	0: Not trigger 1: Trigger once

4.3.20 Remember fill light setting

Control Selector	UVCX_UCAM3_FILL_LIGHT_KEEP_SET
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4.3.21 Intelligent or manual light

Control Selector	UVCX_UCAM3_FILL_LIGHT_AUTO
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4.3.22 Fill light color temperature

Control Selector	UVCX_UCAM3_FILL_LIGHT_COLOR_TEMP
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4.3.23 Fill light Bright

Control Selector	UVCX_UCAM3_FILL_LIGHT_BRIGHT			
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	1			
Offset	Field	Size	Value	Description
0	bBright	1	Number	Range: 0 - 11 Default: 0 For S331: 1: Change light bright one step
PS: UVCX_UCAM3_FILL_LIGHT_BRIGHT – UVC_EXT v1.21(MD330U)				

4.3.24 Turn on light when camera is power on

Control Selector	UVCX_UCAM3_FILL_LIGHT_POWER_ON
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4.3.25 Turn on light when video stream is on

Control Selector	UVCX_UCAM3_FILL_LIGHT_ON_STM_ON
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4.3.26 Turn off light when video stream is off

Control Selector	UVCX_UCAM3_FILL_LIGHT_OFF_STM_OFF
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4.3.27 Audio presentation mode

Control Selector	UVCX_UCAM3_ADO_PRESENTATION_MODE
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4.3.28 Pan/Tilt Calibration

Control Selector	UVCX_UCAM3_PT_POS_CALIBRATION			
Mandatory Requests	SET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	1			



Offset	Field	Size	Value	Description
0	bStart	1	Signed number	1: Pan/Tilt Calibration Start
PS: UVCX_UCAM3_PT_POS_CALIBRATION – (MD330U/UI v1.1.1037.0, MD120 v1.1.1009.0)				

4.3.29 Stream Freeze

Control Selector	UVCX_UCAM3_STREAM_FREEZE
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4.3.30 Framing Size

Control Selector	UVCX_UCAM3_UVC_FRAMING_SIZE
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4.3.31 Move To PT

Control Selector	UVCX_UCAM3_MOVE_TO_PT			
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	8			
Offset	Field	Size	Value	Description
0	bXPos	4	Number	X position
1	bYPos	4	Number	Y position
Source image mapping from 1920x1080.				

4.3.32 Multi-Presenter setting

Control Selector	UVCX_UCAM3_MULTI_PRESENTER_SEL
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4.3.33 Pan/Tilt Speed Relative Zoom Ratio

Control Selector	UVCX_UCAM3_PT_SPD_RELATIVE_Z_RATIO			
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	1			
Offset	Field	Size	Value	Description
0	bEnabled	1	Boolean	0: disable, 1: enable
PS: UVCX_UCAM3_PT_SPD_RELATIVA_Z_RATIO – UVC_EXT v1.26(v1.1.1031.0)				



4.4 Extension Unit – AVer XU4

4.4.1 GUID {3669827A-C026-11EA-B3DE-0242AC130004}

4.4.2 AVer XU4 Selectors

Control Selector	Value
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4.4.3 Effect

Control Selector	UVCX_UCAM4_EFFECT
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4.4.4 Freeze

Control Selector	UVCX_UCAM4_FREEZE
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4.4.5 Focus Trigger

Control Selector	UVCX_UCAM4_FOCUS_TRIGGER
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4.4.6 Focus One Step

Control Selector	UVCX_UCAM4_FOCUS_ONE_STEP
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4.4.7 Zoom One Step

Control Selector	UVCX_UCAM4_ZOOM_ONE_STEP
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4.4.8 Pan Tilt One Step

Control Selector	UVCX_UCAM4_PANTILT_ONE_STEP
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4.4.9 Profile

Control Selector	UVCX_UCAM4_PROFILE
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4.4.10 Update Info Status

Control Selector	UVCX_UCAM4_UPDATE_INFO_STATUS
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4.4.11 Update Info Content

Control Selector	UVCX_UCAM4_UPDATE_INFO_CONTENT
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4.4.12 File Open

Control Selector	UVCX_UCAM4_FILE_OPEN
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4.4.13 File Length

Control Selector	UVCX_UCAM4_FILE_LENGTH
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4.4.14 File Data

Control Selector	UVCX_UCAM4_FILE_DATA
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4.4.15 File Close

Control Selector	UVCX_UCAM4_FILE_CLOSE
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4.5 Extension Unit – AVer DOCC

4.5.1 GUID {366997A3-445A-4CCB-9FA6-2CFF8D27531B}

4.5.2 AVer DOCC Selectors

Control Selector	Value
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4.5.3 Preview Mode

Control Selector	UVCX_DOCC_PREVIEW_MODE
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4.5.4 Exposure Mode

Control Selector	UVCX_DOCC_EXPOSURE_MODE
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4.5.5 Exposure Absolute

Control Selector	UVCX_DOCC_EXPOSURE_ABSOLUTE
-------------------------	------------------------------------

4.5.6 Exposure Relative

Control Selector	UVCX_DOCC_EXPOSURE_RELATIVE
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4.5.7 White Balance Component Relative

Control Selector	UVCX_DOCC_WHITE_BALANCE_COMPONENT_RELATIVE
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4.5.8 Version

Control Selector	UVCX_DOCC_VERSION
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4.5.9 Model Number

Control Selector	UVCX_DOCC_MODEL_NUMBER
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4.5.10 HQ Capture

Control Selector	UVCX_DOCC_HQ_CAPTURE
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4.6 Extension Unit – AVer WIFIC

4.6.1 GUID {3669F88E-83E8-4892-A3AB-286B9458EACA}

4.6.2 AVer WIFIC Selectors

Control Selector	Value
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4.6.3 SSID Length

Control Selector	UVCX_WIFIC_SSID_LENGTH
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4.6.4 SSID Content

Control Selector	UVCX_WIFIC_SSID_CONTENT
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4.6.5 Mac Address Length

Control Selector	UVCX_WIFIC_MACADDRESS_LENGTH
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4.6.6 Mac Address Content

Control Selector	UVCX_WIFIC_MACADDRESS_CONTENT
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4.6.7 Wireless Reset

Control Selector	UVCX_WIFIC_WIRELESS_RESET
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4.6.8 Hotspot Frequency

Control Selector	UVCX_WIFIC_HOTSPOT_FREQUENCY
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4.7 Extension Unit – AVer XU5

4.7.1 GUID {36694F5D-E1EE-4A73-9B9C-08393E01FBFD}

4.7.2 AVer XU5 Selectors

Control Selector	Value
UVCX_UCAM5_NONE	0x00
UVCX_UCAM5_AUDIO_VOLUME	0x03
UVCX_UCAM5_AUTO_TRACKING	0x04
UVCX_UCAM5_TRACK_MODE	0x05
UVCX_UCAM5_TRACK_UPDATE	0x06
UVCX_UCAM5_TRACK_NUM	0x07
UVCX_UCAM5_TRACK_ZONE	0x08
UVCX_UCAM5_UVC_PAN_SPEED	0x09
UVCX_UCAM5_UVC_TILT_SPEED	0x0A
UVCX_UCAM5_UVC_PRESET_SPEED	0x0B
UVCX_UCAM5_UVC_FREEZE_WHILE_PRESET	0x0C
UVCX_UCAM5_UVC_TRACKING_SENSITIVITY	0x0D
UVCX_UCAM5_UVC_TRACKING_LOST_TIME	0x0E
UVCX_UCAM5_UVC_PRIVACY_MODE_OP	0x13
UVCX_UCAM5_UVC_FACTORY_RESET	0x15
UVCX_UCAM5_UVC_MODEL_NAME	0x18
UVCX_UCAM5_UVC_SERIAL_NUM	0x19
UVCX_UCAM5_UVC_ETH_MAC_ADDR	0x1A
UVCX_UCAM5_UVC_PTZ_GO_HOME	0x1B

PS:

UVCX_UCAM5_AUTO_TRACKING – (MD330U/UI v1.1.1022.0)

UVCX_UCAM5_TRACK_MODE – (MD330U/UI v1.1.1022.0)

UVCX_UCAM5_TRACK_UPDATE – (MD330U/UI v1.1.1023.0)

UVCX_UCAM5_TRACK_NUM – (MD330U/UI v1.1.1023.0)

UVCX_UCAM5_TRACK_ZONE – (MD330U/UI v1.1.1023.0)

UVCX_UCAM5_TRACKING_SENSITIVITY – (MD330U/UI v1.1.1023.0)

UVCX_UCAM5_TRACKING_LOST_TIME – (MD330U/UI v1.1.1023.0)

4.7.3 Power Frequency

Control Selector	UVCX_UCAM5_PWR_FREQ
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4.7.4 Audio Input Type

Control Selector	UVCX_UCAM5_AUDIO_INPUT
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4.7.5 Audio Volume

Control Selector	UVCX_UCAM5_AUDIO_VOLUME
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES



wLength		1		
Offset	Field	Size	Value	Description
0	bAudioVol	1	Signed number	0~10: Volume value

4.7.6 Auto Tracking

Control Selector		UVCX_UCAM5_AUTO_TRACKING		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bAutoTracking	1	Boolean	0: Tracking off 1: Tracking on
PS: UVCX_UCAM5_AUTO_TRACKING – (MD330U/UI v1.1.1022.0)				

4.7.7 Tracking Mode

Control Selector		UVCX_UCAM5_TRACK_MODE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bTrackingMode	1	Signed number	1: Wide area (Presenter) 2: Segment (Zone) 3: Hybrid For S331: 0: Face 1: Eyes
PS: UVCX_UCAM5_TRACK_MODE – (MD330U/UI v1.1.1022.0)				

4.7.8 Tracking Update

Control Selector		UVCX_UCAM5_TRACK_UPDATE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bTrackingUpdate	1	Signed number	1: Update

For click tracking. Please refer to the follow command flow to use this command.

- Send SET_CUR on **UVCX_UCAM5_TRACK_UPDATE** to request tracking cam update the tracked target information.
- Send GET_CUR on **UVCX_UCAM5_TRACK_NUM** to get the total number of tracking objects and the current focus target ID.
- Set **bTrackingFocusId** in command **UVCX_UCAM5_TRACK_NUM** and send SET_CUR to determine which object you want to know the position information.



- d. Send GET_CUR on **UVCX_UCAM5_TRACK_ZONE** to get the position information for the ID you set in **UVCX_UCAM5_TRACK_NUM**.
- e. If you want to change focus target to another tracking object, send SET_CUR and the position information on **UVCX_UCAM5_TRACK_ZONE** directly.

For S331: Step a. can be skipped and execute steps b. ~ e. directly.

PS: **UVCX_UCAM5_TRACK_UPDATE** – (MD330U/UI v1.1.1023.0)

4.7.9 Tracking Detect Number

Control Selector		UVCX_UCAM5_TRACK_NUM		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	bTrackingNum	1	Signed number	Track Total Zone Number
1	bTrackingFocusId	1	Signed number	Track Focus Zone Index
For click tracking. Please refer to UVCX_UCAM5_TRACK_UPDATE command to use this command.				
PS: UVCX_UCAM5_TRACK_NUM – (MD330U/UI v1.1.1023.0)				

4.7.10 Tracking Zone

Control Selector		UVCX_UCAM5_TRACK_ZONE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		16		
Offset	Field	Size	Value	Description
0	dwXpos	4	Number	X position
1	dwYpos	4	Number	Y position
2	dwWidth	4	Number	Width
3	dwHeight	4	Number	Height
For click tracking. Please refer to UVCX_UCAM5_TRACK_UPDATE command to use this command. Source image mapping from 1920x1080.				
PS: UVCX_UCAM5_TRACK_ZONE – (MD330U/UI v1.1.1023.0)				

4.7.11 Pan Speed

Control Selector		UVCX_UCAM5_UVC_PAN_SPEED		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPanSpeed	1	Number	Pan speed value



4.7.12 Tilt Speed

Control Selector		UVCX_UCAM5_UVC_TILT_SPEED		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bTiltSpeed	1	Number	Tilt speed value

4.7.13 Preset Speed

Control Selector		UVCX_UCAM5_UVC_PRESET_SPEED		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPresetSpeed	1	Number	Preset speed value

4.7.14 Video Freeze while Preset

Control Selector		UVCX_UCAM5_UVC_FREEZE_WHILE_PRESET		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPresetFreeze	1	Boolean	0: Off 1: On

4.7.15 Tracking Sensitivity

Control Selector		UVCX_UCAM5_UVC_TRACKING_SENSITIVITY		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bTrackingSensitivity	1	Number	Tracking sensitivity value For S331: Tracking Range 0x00: Close 0x01: Medium 0x02: Wide
PS: UVCX_UCAM5_TRACKING_SENSITIVITY – (MD330U/UI v1.1.1023.0)				

4.7.16 Time of Return to Tracking Point



Control Selector		UVCX_UCAM5_UVC_TRACKING_LOST_TIME		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wTrackingLostTime	2	Number	Time of return to tracking point in second
PS: UVCX_UCAM5_TRACKING_LOST_TIME – (MD330U/UI v1.1.1023.0)				

4.7.17 People Size for Presenter Mode

Control Selector	UVCX_UCAM5_UVC_PRESENTER_PEOPLE_SIZE
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4.7.18 Block Number for Zone Mode

Control Selector	UVCX_UCAM5_UVC_ZONE_BLOCK_NUM
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4.7.19 Sleep Mode

Control Selector	UVCX_UCAM5_UVC_SLEEP_MODE_EN
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4.7.20 Sleep Timer

Control Selector	UVCX_UCAM5_UVC_SLEEP_TIME
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4.7.21 Privacy Mode

Control Selector		UVCX_UCAM5_UVC_PRIVACY_MODE_OP		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPrivacyOp	1	Number	0: Disable 1: Enable 2: Reset setting to default (-90°) For S331: 0: Disable 1: Enable

4.7.22 Privacy Setting

Control Selector	UVCX_UCAM5_UVC_PRIVACY_SETTING
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4.7.23 Factory Reset

Control Selector	UVCX_UCAM5_UVC_FACTORY_RESET
Mandatory Requests	SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN,



		GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bFactoryReset	1	Signed number	1: Execute

4.7.24 Profile Control

Control Selector	UVCX_UCAM5_UVC_PROFILE_OP
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4.7.25 Tracking Point

Control Selector	UVCX_UCAM5_UVC_TRACKING_POINT
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4.7.26 Model Name

Control Selector	UVCX_UCAM5_UVC_MODEL_NAME			
Mandatory Requests	GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	64			
Offset	Field	Size	Value	Description
0	baModelName	64	String	String of model name, end with \0
Maximum string length is 63. Please use GET_LEN to get actual string length.				

4.7.27 Serial Number

Control Selector	UVCX_UCAM5_UVC_SERIAL_NUM			
Mandatory Requests	GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	64			
Offset	Field	Size	Value	Description
0	baSerialNum	64	String	String of serial number, end with \0
Maximum string length is 63. Please use GET_LEN to get actual string length.				

4.7.28 Ethernet MAC Address

Control Selector	UVCX_UCAM5_UVC_ETH_MAC_ADDR			
Mandatory Requests	GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES			
wLength	64			
Offset	Field	Size	Value	Description
0	baEthMacAddr	64	String	String of Ethernet MAC address, end with \0
Maximum string length is 63. Please use GET_LEN to get actual string length.				

4.7.29 PTZ Go Home



Control Selector		UVCX_UCAM5_UVC_PTZ_GO_HOME		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPtzGoHome	1	Signed number	1: Execute

4.7.30 Auto Zoom

Control Selector	UVCX_UCAM5_AUTO_ZOOM
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4.7.31 Effective Tracking Area Enable

Control Selector	UVCX_UCAM5_EFFECTIVE_TRACKING_AREA_EN
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4.7.32 Effective Tracking Area Start

Control Selector	UVCX_UCAM5_EFFECTIVE_TRACKING_AREA_START
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4.7.33 Effective Tracking Area

Control Selector	UVCX_UCAM5_EFFECTIVE_TRACKING_AREA
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4.8 Extension Unit – AVer XU6

4.8.1 GUID {36696FB5-0FB3-4843-AA6B-E4780B5BBFF5}

4.8.2 AVer XU6 Selectors

Control Selector	Value
UVCX_UCAM6_NONE	0x00
UVCX_UCAM6_NOISE_SUPPRESSION	0x02
UVCX_UCAM6_AUDIO_BEAMFORMING	0x03
UVCX_UCAM6_LED_CONTROL	0x04
UVCX_UCAM6_IRCUT_FILTER_CONTROL	0x05
UVCX_UCAM6_IRCUT_SENSITIVITY	0x06
UVCX_UCAM6_SYSTEM_REBOOT	0x09
UVCX_UCAM6_AUDIO_OUTPUT_TYPE	0x0A
UVCX_UCAM6_AUDIO_OUTPUT_VOLUME	0x0B
UVCX_UCAM6_SYSTEM_POWER	0x0C
UVCX_UCAM6_TRACK_RESULT_DISPLAY	0x0D
UVCX_UCAM6_AI_DETECT	0x0E
UVCX_UCAM6_AI_DETECT_MODE	0x0F



UVCX_UCAM6_PAN_LR_DIRECT_SWITCH	0x10
UVCX_UCAM6_AUDIO_ALARM_DETECT	0x11
UVCX_UCAM6_AUDIO_ALARM_SELECT	0x12
UVCX_UCAM6_AI_VIDEO_MOSAIC	0x13
UVCX_UCAM6_AI_VIDEO_FALL_EGRESS_DET	0x14
UVCX_UCAM6_FALL_EGRESS_DETECT_SITE	0x15
UVCX_UCAM6_FALL_EGRESS_SENSITIVITY	0x16
UVCX_UCAM6_FALL_EGRESS_ALARM_EVTS	0x17

PS:

- UVCX_UCAM6_TRACK_RESULT_DISPLAY – (MD330U/UI v1.1.1023.0)
- UVCX_UCAM6_AI_DETECT – (MD330U/UI only v1.1.1028.0)
- UVCX_UCAM6_AI_DETECT_MODE – (MD330U/UI only v1.1.1028.0)
- UVCX_UCAM6_PAN_LR_DIRECT_SWITCH – UVC_EXT v1.26(MD330U/UI v1.1.1031.0)
- UVCX_UCAM6_AUDIO_ALARM_DETECT – UVC_EXT v1.27(MD120 only)
- UVCX_UCAM6_AUDIO_ALARM_SELECT – UVC_EXT v1.27(MD120 only)
- UVCX_UCAM6_VDO_MOSAIC_NET_STM – UVC_EXT v1.28(MD330U/UI v1.1.1036.0,

MD120 v1.1.1009.0)

- UVCX_UCAM6_AI_VIDEO_MOSAIC – UVC_EXT v1.29(MD330U/UI v1.1.1042.0)

- UVCX_UCAM6_AI_VIDEO_FALL_EGRESS_DET – UVC_EXT v1.31

- UVCX_UCAM6_FALL_EGRESS_DETECT_SITE – UVC_EXT v1.31

- UVCX_UCAM6_FALL_EGRESS_SENSITIVITY – UVC_EXT v1.31

- UVCX_UCAM6_FALL_EGRESS_ALARM_EVTS – UVC_EXT v1.31

UVCX_UCAM6_SYSTEM_REBOOT – UVC_EXT v1.32 add scheduled reboot(MD330U/UI v1.1.1048.0)

4.8.3 Noise Suppression

Control Selector		UVCX_UCAM6_NOISE_SUPPRESSION		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bNoiseSuppression	1	Signed number	0: noise suppression off 1: noise suppression on For S331: 0: noise suppression off 1: ON: DSP mode 2: ON: AI NR mode 3. ON: AI NR + Beamforming 4. ON: AI NR enhanced + Beamforming

4.8.4 Audio Beamforming

Control Selector		UVCX_UCAM6_AUDIO_BEAMFORMING		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN,		



		GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bAdoBeamForming	1	Number	0: BF angle 30 degree 1: BF angle 50 degree 2: BF angle 70 degree 3: BF angle 90 degree 4: BF angle 110 degree 5: BF angle 130 degree
Only valid when Noise Suppression mode is 3 or 4. Please refer to UVCX_UCAM6_NOISE_SUPPRESSION .				

4.8.5 LED Control

Control Selector		UVCX_UCAM6_LED_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		4		
Offset	Field	Size	Value	Description
0	bLedCtrlMode	1	Number	0x00: Auto control mode 0x01: Manuel control mode
1	bLedPosition	1	Number	0x00: Top 0x01: Bottom 0x02: All (Top + Bottom)
2	bLedColor	1	Number	LED Color 0x00: Off 0x01: Blue 0x02: Orange 0x03: Red 0x04: Purple 0x05: White 0x06: Green 0x07: Cyan 0x08: Magenta 0x09: Yellow
3	bLedBlinkMode	1	Number	LED Blink Mode (blink interval) 0x00: Steady 0x01: Very Slow (2 secs) 0x02: Slow (1 sec) 0x03: Normal (500 msecs) 0x04: Quick (200 msecs) 0x05: Very Quick (100 msecs)
Set bLedCtrlMode to 0 will ignore bLedPosition/bLedColor/bLedBlinkMode parameters.				

4.8.6 IRCut Filter

Control Selector	UVCX_UCAM6_IRCUT_FILTER_CONTROL		
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Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bIRCutFilterMode	1	Number	0x00: Day mode 0x01: Night mode 0x02: Auto mode

4.8.7 IRCut Filter Sensitivity

Control Selector		UVCX_UCAM6_IRCUT_SENSITIVITY		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bIRCutSensitivity	1	Number	0x00: Low 0x01: Middle 0x02: High
Only valid when IRCut Filter mode is Auto mode.				

4.8.8 System Reboot

Control Selector		UVCX_UCAM6_SYSTEM_REBOOT		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bySystemReboot	1	Number	0x01: System reboot immediately For S331: 0x02: Enable scheduled reboot 0x03: Disable scheduled reboot
1	dwCurrentDateTime	4	Number	The current time data.
5	dwRebootDateTime	4	Number	The reboot time data.

Note: Scheduled reboot is for S331 only.

Scheduled Reboot Time Data Structure

Byte 0 for Weekday: 0 = Sunday ~ 6 = Saturday
 Byte 1 for Clock Time Hour: 0 ~ 23
 Byte 2 for Clock Time Minute: 0~59
 Byte 3 is Reserved

Ex:

Sunday AM 02:00 = 0x00020000
 Saturday PM 23:30 = 0x06171E00

PS: Scheduled Reboot – UVC_EXT v1.32 (MD330U/UI v1.1.1048.0)

4.8.9 Audio Output Type

Control Selector		UVCX_UCAM6_AUDIO_OUTPUT_TYPE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byAudioOutType	1	Signed number	For S331: 0: Build-in Speaker 1: HDMI 2: Both

4.8.10 Audio Output Volume

Control Selector		UVCX_UCAM6_AUDIO_OUTPUT_VOLUME		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bAudioOutVol	1	Signed number	For S331: Control build-in speaker only 0~10: Volume value

4.8.11 System Power

Control Selector		UVCX_UCAM6_SYSTEM_POWER		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bySystemPower	1	Number	0x00: System power off 0x01: System power on

4.8.12 Tracking Result Display

Control Selector		UVCX_UCAM6_TRACK_RESULT_DISPLAY		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byTrkResultDisplay	1	Number	0: Display OFF 1: Display ON 2: Display Always ON
PS: UVCX_UCAM6_TRACK_RESULT_DISPLAY – (MD330U/UI v1.1.1023.0)				



4.8.13 AI Detection

Control Selector		UVCX_UCAM6_AI_DETECT		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bDetect	1	Boolean	0: AI detection off 1: AI detection on
Note: S331 only				
PS: UVCX_UCAM6_AI_DETECT – (MD330U/UI only v1.1.1028.0)				

4.8.14 AI Detection Mode

Control Selector		UVCX_UCAM6_AI_DETECT_MODE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bDetectMode	1	Number	0: Body 1: Face
Note: S331 only				
PS: UVCX_UCAM6_AI_DETECT_MODE – (MD330U/UI only v1.1.1028.0)				

4.8.15 Pan L/R Move Direction Switch

Control Selector		UVCX_UCAM6_PAN_LR_DIRECT_SWITCH		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bSwitch	1	Boolean	0: Off 1: On
PS: UVCX_UCAM6_PAN_LR_DIRECT_SWITCH – UVC_EXT v1.26(MD330U/UI v1.1.1031.0)				

4.8.16 AI Video Mosaic

Control Selector		UVCX_UCAM6_AI_VIDEO_MOSAIC		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byMosaic	1	Number	0: AI video mosaic off 1: AI video mosaic on net stream For S331: 2: AI video mosaic on HDMI
Note: S331 & GP20 only. For S331, please refer to UVCX_UCAM6_AI_DETECT_MODE .				
PS:				



UVCX_UCAM6_AI_VIDEO_MOSAIC – UVC_EXT v1.29(MD330U/UI v1.1.1042.0)
UVCX_UCAM6_VDO_MOSAIC_NET_STM – UVC_EXT v1.28(MD330U/UI v1.1.1036.0, MD120 v1.1.1009.0)

4.8.17 AI Video Fall/Egress Detection

Control Selector		UVCX_UCAM6_AI_VIDEO_FALL_EGRESS_DET		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byAIVideoDetect	1	Number	0: AI video alarm off 1: AI video all-type alarm 2: AI video fall alarm 3: AI video egress alarm

Note: S331, GP20 & GA20 only.

PS: UVCX_UCAM6_AI_VIDEO_FALL_EGRESS_DET – UVC_EXT v1.31(MD330U/UI v1.1.1048.0)

4.8.18 AI Video Fall/Egress Detection Site

Control Selector		UVCX_UCAM6_FALL_EGRESS_DETECT_SITE		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byDetectSite	1	Number	Set Preset 0~255 as Detection Site

Note: S331, GP20 & GA20 only.

PS: UVCX_UCAM6_FALL_EGRESS_DETECT_SITE – UVC_EXT v1.31(MD330U/UI v1.1.1048.0)

4.8.19 AI Video Fall/Egress Detection Sensitivity

Control Selector		UVCX_UCAM6_FALL_EGRESS_SENSITIVITY		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	byDetectSensitivity	1	Number	0: Low 1: Medium 2: High

Note: S331, GP20 & GA20 only.

PS: UVCX_UCAM6_FALL_EGRESS_SENSITIVITY – UVC_EXT v1.31(MD330U/UI v1.1.1048.0)

4.8.20 AI Video Fall/Egress Alarm Event

Control Selector		UVCX_UCAM6_FALL_EGRESS_ALARM_EVT
Mandatory Requests		GET_CUR, GET_INFO, GET_LEN
wLength		64



Offset	Field	Size	Value	Description
0	baAlarmEvent	64	Number	The alarm event data.

Note: S331, GP20 & GA20 only.

1. Alarm events are updated every 0.5 seconds. If multiple events occur in the detection site, multiple alarm events will be generated.
2. Alarm event is composed as AVer AVIMETA Event.

AVer AVIMETA Event Data Structure

2 bytes	2 bytes	60 bytes
MAGIC Num: 0x36 0x69	PKT Content size	PKT Content Data

2 bytes of Magic Number: **0x36 0x69**

2 bytes of PKT Content size: PKT content data size. Size 0 means no event.

Max 60 bytes of content data.

AVer AVIMETA Event PKT Content Data Structure

1 byte	4 bytes	55 bytes
Event type	Timestamp (epoch time in sec)	Data

1 byte of Event type.

Event type:

0x01	Egress event
0x02	Fall event

4 bytes of Timestamp: Epoch time in seconds.

Max 55 bytes of event data, varies by event type.

● Egress Event

Event Type: 0x01 for Egress event.

Event Data: 2 bytes

1 byte	1 byte
Index	Category

1 byte of Index: Reserved currently.

1 byte of Category: Reserved currently.

● Fall Event

Event Type: 0x02 for Fall event.

Event Data: 3 bytes

1 byte	1 byte	1 byte
Index	Category	Level

1 byte of Index: Reserved currently.

1 byte of Category: Reserved currently.

1 byte of Level: Reserved currently.

5 Reference

- 5.1 USB Video Class v1.1
<https://usb.org/document-library/video-class-v11-document-set>
- 5.2 Device Class Definition for HID 1.11
<https://www.usb.org/document-library/device-class-definition-hid-111>
- 5.3 HID Usage Tables 1.12
<https://usb.org/document-library/hid-usage-tables-112>
- 5.4 Audio Device Class Spec for Basic Audio Devices v1.0
<https://usb.org/document-library/audio-device-class-spec-basic-audio-devices-v10-and-adopters-agreement>