

AVer USB API
Version 1.4
MAY 25, 2022



Revision History

Version Number	Date	Author(s)	Remark
1.0	Apr. 7, 2022	Yen Chang	Preliminary Version
1.1	Apr. 27, 2022	Yen Chang	Add PID/VID for MD330U/MD330UI
1.2	May. 9, 2022	Chenhsun Chai	Modify USB Video Class support list for MD330U/MD330UI firmware v1.1.1009.0
1.3	May, 19, 2022	Yen Chang	Add USB Audio Class – Feature Unit Control Selector
1.4	May, 25, 2022	Yen Chang	Add description for UAC



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1. Introduction

This document contains information about AVer USB VB/VC series API.

2. Vendor Id & Product Id

Model	Vendor Id	Product Id
MD330U/MD330UI	0x2574	0x0559
PTZ310/ PTZ310N/ PTZ310W	0x2574	0x0510
PTZ330/ PTZ330N/ PTZ330W	0x2574	0x0520

3. Video

- (1) USB Video Class
 - (a) Camera Terminal
 - (i) Camera Terminal Control Selectors

Control Selector	Value
CT_CONTROL_UNDEFINED	0x00
CT_SCANNING_MODE_CONTROL	0x01
CT_AE_MODE_CONTROL	0x02
CT_AE_PRIORITY_CONTROL	0x03
CT_EXPOSURE_TIME_ABSOLUTE_CONTROL	0x04
CT_EXPOSURE_TIME_RELATIVE_CONTROL	0x05
CT_FOCUS_ABSOLUTE_CONTROL	0x06
CT_FOCUS_RELATIVE_CONTROL	0x07
CT_FOCUS_AUTO_CONTROL	0x08
CT_IRIS_ABSOLUTE_CONTROL	0x09
CT_IRIS_RELATIVE_CONTROL	0x0A
CT_ZOOM_ABSOLUTE_CONTROL	0x0B
CT_ZOOM_RELATIVE_CONTROL	0x0C
CT_PANTILT_ABSOLUTE_CONTROL	0x0D
CT_PANTILT_RELATIVE_CONTROL	0x0E
CT_ROLL_ABSOLUTE_CONTROL	0x0F
CT_ROLL_RELATIVE_CONTROL	0x10
CT_PRIVACY_CONTROL	0x11
● Grey part not supported.	

(ii) Auto-Exposure Priority Control

Control Selector		CT_AE_PRIORITY_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO		
wLength		1		
Offset	Field	Size	Value	Description
0	bAutoExposurePriority	1	Number	The setting for the attribute of the addressed AutoExposure Priority control.

(iii) Focus (Absolute) Control

Control Selector		CT_FOCUS_ABSOLUTE_CONTROL		
Mandatory Requests		GET_CUR, GET_MIN, GET_MAX, GET_INFO, GET_DEF, GET_RES		
Optional Requests		SET_CUR		
wLength		2		
Offset	Field	Size	Value	Description
0	wFocusAbsolute	2	Number	The setting for the attribute of the addressed Focus (Absolute) Control.

(iv) Focus, Auto Control

Control Selector		CT_FOCUS_AUTO_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF		
wLength		1		
Offset	Field	Size	Value	Description
0	bFocusAuto	1	Boolean	The setting for the attribute of the addressed Focus Auto control.

(v) Zoom (Absolute) Control

Control Selector		CT_ZOOM_ABSOLUTE_CONTROL		
Mandatory Requests		GET_CUR, GET_MIN, GET_MAX, GET_INFO, GET_DEF, GET_RES		
Optional Requests		SET_CUR		
wLength		2		
Offset	Field	Size	Value	Description
0	wObjectiveFocalLength	2	Number	The value of Z_{cur}

(vi) Zoom (Relative) Control

Control Selector		CT_ZOOM_RELATIVE_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		3		
Offset	Field	Size	Value	Description
0	bZoom	1	Signed number	The setting for the attribute of the addressed Zoom Control: 0: Stop 1: moving to telephoto direction 0xFF: moving to wide-angle direction
1	bDigitalZoom	1	Boolean	0: Digital Zoom OFF 1: Digital Zoom On
2	bSpeed	1	Number	Speed for the control change
<ul style="list-style-type: none"> Grey part not supported. 				

(vii) PanTilt (Absolute) Control

Control Selector		CT_PANTILT_ABSOLUTE_CONTROL		
Mandatory Requests		GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
Optional Requests		SET_CUR		
wLength		8		
Offset	Field	Size	Value	Description
0	dwPanAbsolute	4	Signed number	The setting for the attribute of the addressed Pan (Absolute) Control
4	dwTiltAbsolute	4	Signed Number	The setting for the attribute of the addressed Tilt (Absolute) Control

(viii) PanTilt (Relative) Control

Control Selector		CT_PANTILT_RELATIVE_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	bPanRelative	1	Signed number	The setting for the attribute of the addressed Pan (Relative) Control: 0: Stop 1: moving to clockwise direction 0xFF: moving to counter clockwise direction
1	bPanSpeed	1	Number	Speed of the Pan movement
2	bTiltRelative	1	Signed number	The setting for the attribute of the addressed Tilt (Relative) Control: 0: Stop 1: point the imaging plane up 0xFF: point the imaging plane down
3	bTiltSpeed	1	Number	Speed for the Tilt movement
<ul style="list-style-type: none"> • Grey part not supported. 				

(b) Processing Unit
 (i) Processing Unit Control Selectors

Control Selector	Value
PU_CONTROL_UNDEFINED	0x00
PU_BACKLIGHT_COMPENSATION_CONTROL	0x01
PU_BRIGHTNESS_CONTROL	0x02
PU_CONTRAST_CONTROL	0x03
PU_GAIN_CONTROL	0x04
PU_POWER_LINE_FREQUENCY_CONTROL	0x05
PU_HUE_CONTROL	0x06
PU_SATURATION_CONTROL	0x07
PU_SHARPNESS_CONTROL	0x08
PU_GAMMA_CONTROL	0x09
PU_WHITE_BALANCE_TEMPERATURE_CONTROL	0x0A
PU_WHITE_BALANCE_TEMPERATURE_AUTO_CONTROL	0x0B
PU_WHITE_BALANCE_COMPONENT_CONTROL	0x0C
PU_WHITE_BALANCE_COMPONENT_AUTO_CONTROL	0x0D
<ul style="list-style-type: none"> Grey part not supported. 	

(ii) Backlight Compensation Control

Control Selector		PU_BACKLIGHT_COMPENSATION_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wBacklightCompensation	2	Number	The setting for the attribute of the addressed Backlight Compensation control.

(iii) Brightness Control

Control Selector		PU_BRIGHTNESS_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wBrightness	2	Signed number	The setting for the attribute of the addressed Brightness control.

(iv) Contrast Control

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



wLength		2		
Offset	Field	Size	Value	Description
0	wContrast	2	Number	The setting for the attribute of the addressed Contrast control.

(v) Power Line Frequency Control

Control Selector		PU_POWER_LINE_FREQUENCY_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bPowerLineFrequency	1	Number	The setting for the attribute of the addressed Power Line Frequency control: 0: Disabled 1: 50 Hz 2: 60 Hz

(vi) Hue Control

Control Selector		PU_HUE_CONTROL		
Mandatory Requests		GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
Optional Requests		SET_CUR		
wLength		2		
Offset	Field	Size	Value	Description
0	wHue	2	Signed number	The setting for the attribute of the addressed Hue control

(vii) Saturation Control

Control Selector		PU_SATURATION_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wSaturation	2	Number	The setting for the attribute of the addressed Saturation control

(viii) Sharpness Control

Control Selector		PU_SHARPNESS_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wSharpness	2	Number	The setting for the attribute of the



				addressed Sharpness control
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(ix) White Balance Temperature Control

Control Selector		PU_WHITE_BALANCE_TEMPERATURE_CONTROL		
Mandatory Requests		GET_CUR, GET_INFO, GET_DEF, GET_MIN, GET_MAX, GET_RES		
Optional Requests		SET_CUR		
wLength		2		
Offset	Field	Size	Value	Description
0	wWhiteBalanceTemperature	2	Number	The setting for the attribute of the addressed White Balance Temperature control

(x) White Balance Temperature, Auto Control

Control Selector		PU_WHITE_BALANCE_TEMPERATURE_AUTO_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_INFO, GET_DEF		
wLength		1		
Offset	Field	Size	Value	Description
0	wWhiteBalanceTemperatureAuto	1	Number	The setting for the attribute of the addressed White Balance Temperature, Auto control



4. Audio

(1) USB Audio Class

Both mic and speaker is all support uac feature unit. (For mic, volume control means gain control.)

(a) Feature Unit Control Selector

Control Selector	Value
FU_CONTROL_UNDEFINED	0x00
MUTE_CONTROL	0x01
VOLUME_CONTROL	0x02

(b) Feature Unit

1 Mute Control

Control Selector		MUTE_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_MIN, GET_MAX, GET_RES		
wLength		1		
Offset	Field	Size	Value	Description
0	bMute	1	Boolean	The setting for the addressed Mute Control's CUR attribute. Muted when TRUE, not muted when FALSE.

2 Volume Control

Control Selector		VOLUME_CONTROL		
Mandatory Requests		SET_CUR, GET_CUR, GET_MIN, GET_MAX, GET_RES		
wLength		2		
Offset	Field	Size	Value	Description
0	wVolume	2	Number	The setting for the attribute of the addressed Volume Control: 0x7FFF: 127.9961 dB ... 0x0100: 1.0000 dB ... 0x0002: 0.0078 dB 0x0001: 0.0039 dB 0x0000: 0.0000 dB 0xFFFF: -0.0039 dB 0xFFFE: -0.0078 dB ... 0xFE00: -1.0000 dB ... 0x8002: -127.9922 dB 0x8001: -127.9961 dB 0x8000: -∞dB (CUR attribute only)

5. Reference

- (1) USB Video Class v1.1
<https://usb.org/document-library/video-class-v11-document-set>
- (2) Device Class Definition for HID 1.11
<https://www.usb.org/document-library/device-class-definition-hid-111>
- (3) HID Usage Tables 1.12
<https://usb.org/document-library/hid-usage-tables-112>
- (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>