

Internal Department or Context

UP-CAME-2M

User Manual



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Revision History

The following table contains the information regarding the history and revisions of this living document.

Version	Date	Contributor	Changes Description
01	10 Sep 2018	Irene Lin	Initial Creation

Document Attributes

The following table contains the list of files that are associated with this living document.

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2 UP-CAMERA Layout

2.1 TOP



2.2 BOTTOM

3 Connector, Switch References

3.1 Connector Index

Reference	Functional Description	Connector Type
Designation		
CN1	5V PW	10P 710-74-10TWR6
CN2	CAMERA/2M	21P FH35C-21S-0.3SHW(50)
CN3	CAMERA/2M	21P FH35C-21S-0.3SHW(50)

4 Switch Settings

4.1 CN1: 5V PW

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	5V	2	NC	3	NC
4	M_GND	5	5V	6	NC
7	NC	8	M_GND	9	NC
10	NC				

4.2 CN2: UP board-CAMERA board connector/2M

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	M_GND	2	M_+V2P8_CAM	3	M_I2C2_SOC_SDA
4	M_CAM_RST_N	5	M_I2C2_SOC_SDA	6	M_I2C2_SOC_SCL
7	M_GND	8	M_CAM_MCLK	9	M_GND
10	M_+V1P8_CAM	11	M_+V1P2_CAM	12	M_GND
13	M_MCSI_1_DATA0_DP	14	M_MCSI_1_DATA0_DN	15	M_GND
16	M_MCSI_1_CLK_DP	17	M_MCSI_1_CLK_DN	18	M_GND
19	M_MCSI_1_DATA1_DP	20	M_MCSI_1_DATA1_DN	21	M_GND

4.3 CN3: CAMERA board-camera connector/2M

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	M_GND	2	S_MCSI_1_DATA1_DN	3	S_MCSI_1_DATA1_DP
4	M_GND	5	S_MCSI_1_CLK_DN	6	S_MCSI_1_CLK_DP
7	M_GND	8	S_MCSI_1_DATA0_DN	9	S_MCSI_1_DATA0_DP
10	M_GND	11	+V1P2_R_CAM	12	+V1P8A
13	M_GND	14	M_CAM_MCLK	15	M_GND
16	M_I2C2_SOC_SCL	17	M_I2C2_SOC_SDA	18	M_CAM_RST_N
19	M_FLASH_RESET_N	20	M_+V2P8_CAM	21	M_GND

5 Quick Install Guide

- 1. Check your UP-CAME package. You will have:
 - 1 x Y cable(for UP-CHT01 only, not necessary for UP-APL01 and UP core)
 - 1 x Camera adapter board
 - 1 x 21PIN FPC cable
 - 1 x 2M Chicony camera module



3. Find the "daughter" side on the FPC cable and connect to "UP" mipi csi connector(CN2) on the camera board(Golden Finger side up).



- 4. Connect your UP-CAME board to UP, UP2 or UP core board. UP-CHT01(UP board): connect the "UP" side of FPC cable to FPC connector(CN32)(Golden Finger side up). UP-APL01(UP Squared): connect the "UP" side of FPC cable to FPC connector(CN5)(Golden Finger side up). UP-CHCR1(UP core): connect the "UP" side of FPC cable to FPC connector(CN32)(Golden Finger side up).
- Boot up your device and install camera WIN10 driver according to UP/UP2/UP core SOP(see next chapter).

6 WIN10 Driver Installation Guide

*Chicony 2M camera can only support Windows 10 ver.1607.

6.1 How to install camera driver on UP-CHT01 and UP-CHCR1?

6.1.1 BIOS setting

6.1.1.1Go to "Chipset" > "North Bridge" > Press [Enter]



6.1.1.2Press "ISP Enable/Disable" > select "Enabled"



6.1.1.3Press "Intel OV2740 Support" > select "Enabled"



6.1.2 Windows driver installation

6.1.2.1Right click "Start" > Enter "Device Manager"



6.1.2.2Click "Devices by connection"

<u>a</u> 1	Dev	vice Ma	nager			-	х
File		Action	Viev	/ Help			
(>		•	Devices by type			
~ 1	R.	DESKTO		Devices by connection			^
	>	📢 Aud		Resources by type			
	> [Com		Resources by connection			
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	> .	lmag	ging d	evices			
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	> [Keył	board				
	>	Mice	e and	other pointing devices			
	> [Mor	nitors				
	>	🚍 Netv	vork a	dapters			
· ·	-	🕐 Othe	er dev	ces			
		<u> </u> 🛐	Bridge	device			
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	>	Port	able [evices			
	>	🖗 Port	s (CO	VI & LPT)			
	> 1	🚖 Print	t queu	es			
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	<u> </u>	Seci	urity d	avines			~
Displa	ays	devices	by co	nnection.			

6.1.2.3Right click "Unknown device" (Either one) > Click "Update Driver



6.1.2.4 Search your driver location and click "OK"



6.1.2.5Click "Next"

	×
 Update Driver Software - Unknown Device 	
Browse for driver software on your computer	
Search for driver software in this location:	
C:\Users\UP1\Desktop\OV2740 UP1_CAMERA_DRIVER\OV2740 V Browse	
☑ Include subfolders	
→ Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
Next	Cancel

6.1.2.6Click "Install"

🛃 Device Manager	- 0	1 × 1	
File Action View Help			
	×	^	
🔶 📱 Update Driver Software - Unknown Device			
Installing driver software			
	E Windows Security		×
	Would you like to install this device s	oftware?	
	Name latel Compartion System dark	ione in the second second	
	Publisher: Intel(R) Camera Sensor Driv	ver	
	Always trust software from "Intel(R) Camera Driver".	a Sensor	Install Don't Install
	You should only install driver software from software is safe to install?	n publishers ye	ou trust. How can I decide which device



6.1.2.7Done. You can use skype to check up-camera, or any app for it.

6.2 How to install camera driver on UP-APL01?

6.2.1 BIOS setting

(Before entering BIOS, please key in <mark>upassw0rd</mark> as password.)

6.2.1.1Main > CRB Setup

Aptio Setup Ut Main Advanced C	<mark>ility – Copyright (C) 2017 A</mark> m hipset Security Boot Save	merican Megatrends, Inc. & Exit
BIOS Information UP-APL01 R2.1	(UPA1AM21)(09/01/2017)	Set the Date. Use Tab to switch between Date
BIOS Vendor Compliancy	American Megatrends UEFI 2.5; PI 1.4	elements. Default Ranges: Year: 2005–2099 Months: 1–12
System Date System Time	[Wed 09/26/2018] [08:17:26]	Days: dependent on month
Access Level ► CRB Setup	Administrator	++: Select Screen T1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.	1263. Copyright (C) 2017 Ameri	ican Megatrends, Inc.

6.2.1.2Enter CRB Chipset

 CRB Main CRB Advanced CRB Chipset CRB Security CRB Boot CRB Save & Exit 	
	<pre>→+: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defau F4: Save & Exit</pre>

6.2.1.3Uncore Configuration

A Main	ptio Setup	Utility -	Copyright	(C) 2017	American	Megatrends,	Inc
 Uncor South North South 	e Configur Cluster (Bridge Bridge	ation Onfigurati	on		Un ++ t1 En +/ F1 F2	Core Configu : Select Scre : Select Iter ter: Select -: Change Opt : General He : Previous Va	een n Lp alues
					F4 ES	: Save & Exit C: Exit	

6.2.1.4IPU Enable/Disable > Enable

6.2.1.5SA IPU ACPI mode > [IGFX Child]

Hptio Setup Utility Meim	– Copyright (C) 2017 America
IGD - LCD Control BIA ALS Support IGD Flat Panel IGD Boot Type Panel Scaling GMCH BLC Control	Auto] [Enable] [Auto] [Auto] [Auto] [Auto] [PWM-Inverted]
Memory Configuration Memory Scrambler	[Disable]
IPU PCI Device Configur IPU Enable/Disable SA IPU ACPI mode Rear Camera Front Camera Rotation	ation [Enable] [IGFX Child] [Disable] [OV2740] [O]
135 2 18.1263.	Copyright (C) 2017 American

6.2.1.6CAMERA setting:

*You can enable only one camera(2M/8M) at the time. >>Rear Camera Disable / IMX135 >>Front Camera Disable / OV2740

6.2.1.6.1 2M CAMERA

1. Please refer to below image:

Rear Camera[Disable]; Front Camera[OV2740]



2. Enter Windows to install the camera driver.

Note: DRIVER location: File "Camera-4.014393.9780.3468-Rx64-APL"



- 3. Open "Device Manager"
- 4. Click "VIEW" and select "Devices by connection"



5. Start to install four drivers:



*Browse to find the file "Camera-4.014393.9780.3468-Rx64-APL" and update driver:



Multimedia Controller (2/4)

*Browse to find the file "Camera-4.014393.9780.3468-Rx64-APL" and update driver. (Same as driver#1)

File Action the second se	
Statel(R) AVStream Camera saAC	1.00
Le 1/0' Serial IO 12C Host Controller - 3000	
The stand IO I2C Host Controller - SAAC	
intello senti Dig Host Controller - 5A80	
intel(R) Serial to 10 Host Controller - 5A82	
Intel(R) Senai for the Controller - SAB4	
Intel(R) Serial 10 LC PION CONTENT	10 10 10 10 10 10 10 10 10 10 10 10 10 1
K Unknown device	
Intel(R) Serial IO I2C Host Controller SAR8	
The Intel(R) Serial IO I2C Host Controller (AUA)	100
Intel(R) Senal 10 (2C Host Controller - Saco	
Intel(R) Serial IO SPI Host Controller - SACE	
Label/B) Serial (O SP) Host Controller - SACD	
Intelline Serial IO UART Hest Controller - SABC	
S The second IO HART Host Controller - SABE	
> Initely Service Otherwide Host Controller - 1.0 (Microsoft)	
> Intel(K) USB 3.0 Excentiller	
Multimedia Audio Controllo	
Multimedia Controller	
PCI Device Update Driver Softwares	
> Standard SA Disable	
System CMOS/1 Uninstall	
C Unknown devic	
Composite Bus Enume Scan for hardware changes	
Properties	
Microsoft Uverke Assoc	
Microsoft GS wavesade synthetic	~
C. Microsoft Gorana Variation of the scheduled design	
Launches the Update Driver Software within for the software werken	

Unknown Device <mark>(3/4)</mark>

*Browse to find the file "Camera-4.014393.9780.3468-Rx64-APL" and update driver. (Same as driver#1)



*After installing driver#3, another "Unknown Device" will appear. Unknown Device (4/4)

*Browse to find the file "APL-OV2740 driver for RS1" >> "driver"(=the driver for 2M camera) and update driver.



Note: Different from above 3 drivers.

