



PC Vision Technology Limited



GENIBOX User Manual

V 1.00 November 01, 2020

User Manual

Page 1 / 21



栢景科技有限公司 PC Vision Technology Limited

Legal statement

The contents of this functional specification are subject to change without notice.

The company makes no warranties or guarantees of any kind, express, implied or otherwise, as to the merchantability of this manual, its suitability for a particular purpose, or for any other matter. Therefore, the company will not be liable for any errors in the contents of the manual, or for direct, indirect, sudden or continuing damage caused by the addition, subtraction, display or other use of this manual.

Copyright Statement: Authors - PC Vision Technology Limited - Taiwan Head Office - 2019, copyright, reprint must be investigated.

No part of this User Manual may be reproduced, excerpted, or translated without the consent of the Company or as permitted by the Copyright Act.

The trademarks and copyrights of the respective manufacturers mentioned in this manual are the property of the company.



Revision history

The sections of this manual that have been added, deleted, and updated at each revision are listed below.

DATE	version	Revised chapter
Nov 2020	1.00	The first version of the document was created



Table of Content

1 Introduce	5
1.1 Product Specifications	5
1.2 Getting to know your GENIBOX	6
1.3 Package contents	9
2 Setting up your GENIBOX	9
2.1 First Hardware Install	9
2.2 Turn on your GENIBOX	. 13
2.3 UMCC Setting	. 15
2.4 Enable Surround View	. 18



1 Introduce

1.1 Product Specifications

Processor	Intel 9th Generation Coffee lake i7-9750H, 6 Cores/12 Threads CPU, 12M cache, 45W TDP				
Graphics	RTX2070 ADAPTOR BOARD / 8GB GDDR6				
System Memory	Support up 2x DDR4-2666 SO-DIMM up to 32GB;				
Mass Storage	1x M.2 SSD slot (PCIe x4, NVMe SATA III auto detect); 1x 2.5" SA	ATAIII HDD/SSD bay			
Audio Codec	ALC892-GR 7.1+2 Channel high definition audio CODEC				
	Intel Wireless-AC 9462NGW M.2 2230 , BT5.0				
Networking	2x external antenna for WIFI				
	2x Realtek RTL8111H-CG Gigabit Ethernet controller				
	Power switch with LED	4x USB3.1 type A receptacle			
Front Donal	LED: Power, HDD activity (Green), WiFi activity (Red)	RJ11: Remote power switch port			
Front Panel	1x 3.5mm stereo out,	8x HDMI: Capture card input (install by order)			
	1x 3.5mm microphone	1x SD/SDHC/SDXC card reader			
	1x DC input jack	16x (16H)or 9x HDMI+1xDP (9H) output			
	1x COM PORT	1xHDMI Console Output			
Back Panel	2x 10/100/1000Mbps Ethernet	1x CLEAR CMOS: Pin hole on back panel			
	2x SMA antenna socket	1x FPGA Reset (reserved, function not available)			
	4x USB3.0 type A receptacle	1x Service (reserved, function not available)			
Casa	Black metal chassis with active cooling fans				
Case	Physical dimension: 321.5(L) x 209.8(L) x 114.5(H) mm excluding mounting plate and protruded portion				
	Main unit:	AC adapter:			
Ambient	Operating: 0°C – 35°C. Humidity 10% – 90% non-condensing	Operating: 0°C – 40°C. Humidity 10% – 90% non-condensing			
	Storage: -10 – +85°C. Humidity 10% – 90% non-condensing	Storage: -10 – +85°C. Humidity 10% – 95% non-condensing			
	19.5V/330W Power Supply.				
Power Input	Maximum Power Consumption: Approximately 290W				
	NEWSUN CR2032HF-90-2 high temperature lithium manganese b	pattery w/3M4920 double side adhesive tape			
Operating System	Windows 10 Pro				
Packing Contonto	1x Main unit	1x Universal AC input 19.5V/330W Power Supply			
Packing Contents	2x Dual-band antenna	1x US plug AC power cord			
	No-brand gift box				
Packing	One unit per transport carton box				
	Net weight: ~5.8Kg for main unit without HDMI capture card				
Compliance	ESD immunity: +/-4KV contact, +/-8KV air				
Compliance	FCC, ISED, CE RED EMC pre-scan; RoHS compliant				



1.2 Getting to know your GENIBOX

Front view



Refer to the diagram below to identify the components on this side of the system

1. Power switch

The power switch allows powering ON and OFF the system.

2. Memory card reader

The built-in memory card reader reads SD/SDHC/SDXC cards used in devices such as digital cameras, MP3 players,

mobile phones and PDAs.

3. USB 3.1 port

The USB 3.1 port supports the SuperSpeed USB 3.1 device. Use this port for USB 3.1 devices for maximum performance

with USB 3.1 compatible devices.

4. Microphone jack

The microphone jack is designed to connect the microphone used for video conferencing, voice narrations or simple audio recordings.

5. Headphone/Audio Out jack

The stereo headphone jack (3.5mm) is used to connect the system's audio out signal to amplified speakers or

headphones.

6. WIFI/SATA LED

The LED show up WIFI or SSD wording Status.

7. Video Input HDMI Port

The HDMI Port which can install the Video Capture card function, support FHD x8 or 4Kx4 Channel.



Rear view

GeniBox 16H



Refer to the diagram below to identify the components on this side of the system.

1. WiFi antenna connector

The WiFi antenna connector supports WiFi antenna module.

2. USB 3.1 ports

The USB 3.1 port supports the SuperSpeed USB 3.1 device. Use this port for USB 3.1 devices for maximum performance with USB 3.1 compatible devices.

3. Power input (DC19.5V)

The supplied power adapter converts AC power to DC power for use with this power port. To prevent damage to the

mini-PC, always use the supplied power adapter.

4. LAN ports

The eight-pin RJ-45 LAN port supports standard Ethernet cables for connection to a local network. The LAN port marked with K is for Killer Ethernet.

5. COM Port

RS-232 Series Port

6. FPGA Reset

Reset each HDMI Output Port resolution back to factory Default

7. Clear CMOS

Clear System BIOS Setting

8. Console HDMI Port

Console of Monitor

9. Video Output HDMI ports

The HDMI (High Definition Multimedia Interface) port supports a FHD device such as an LCD or LED or Project Display

device to allow viewing on a larger desktop display.

User Manual



GeniBox 9H



Refer to the diagram below to identify the components on this side of the system.

1. WiFi antenna connector

The WiFi antenna connector supports WiFi antenna module.

2. USB 3.1 ports

The USB 3.1 port supports the SuperSpeed USB 3.1 device. Use this port for USB 3.1 devices for maximum performance with USB 3.1 compatible devices.

3. Power input (DC19.5V)

The supplied power adapter converts AC power to DC power for use with this power port. To prevent damage to the

mini-PC, always use the supplied power adapter.

4. LAN ports

The eight-pin RJ-45 LAN port supports standard Ethernet cables for connection to a local network. The LAN port marked

with K is for Killer Ethernet.

5. COM Port

RS-232 Series Port

6. FPGA Reset

Reset each HDMI Output Port resolution back to factory Default

7. Clear CMOS

Clear System BIOS Setting

8. Console HDMI Port

Console of Monitor

9. Video Output HDMI ports

The HDMI (High Definition Multimedia Interface) port supports a FHD device such as an LCD or LED or Project Display device to allow viewing on a larger desktop display.



1.3 Package contents

- 1 x GENIBOX 9H/16H
- 1 x AC Adapter
- 1 x Power Cord
- 2 x Antenna
- 1 x xxxx

2 Setting up your GENIBOX

2.1 First Hardware Install

1. Connecting WiFi antenna modules

Connect WiFi antenna modules to the WiFi antenna connectors.

2. Connecting to USB 3.1 devices

Connect USB 3.1 devices such as external hard drives, SSDs and flash drives to the USB 3.1 port on the system rear panel.

3. Connecting to network devices

Connect one end of a network cable to the LAN port on the system rear panel and the other End to a hub or switch. The LAN

port marked with K is for Killer Ethernet.

4. Connecting to HDMI Video input Device

Connect DVD PC or any HDMI output Device .

5. Connecting to HDMI Output to LCD displays

Connect one end of an HDMI cable to the HDMI port on the system rear panel and the other end to a HDMI-compatible

display such as an HDTV or monitor.

6. Turning on the system

Connect two supplied AC adapters to the DC IN jack on the system rear panel and then press

the power switch on the front panel to turn on the system.

Jack When your GENIBOX is not in use, unplug the power adapter or switch off the AC outlet

to save on power consumption.



PC Vision Technology Limited





PC Vision Technology Limited



GENIBOX_9H





PC Vision Technology Limited



USB

HDMI C-1

HDMI B-3 HDMI B-2 HDM B-1

HDMI C-3 HDMI C-2 HDM A-3

D3 D2 **D**1

HDN A-2 HDM A-1

Ú



2.2 Turn on your GENIBOX

- Power on & Booting to Win10
- Check Each HDMI Output Resolution

Settings	- 🗆 X]
û Home	Display	
Find a setting $\begin{tabular}{lllllllllllllllllllllllllllllllllll$	Adjusting fort size 2 3 1 4 Fixing screen flickering	
🖵 Display	Setting up multiple monitors	l
다) Sound	Get help	
Notifications & actions	Identify Detect 🕈 Give feedback	
J Focus assist	culu	
🖒 Power & sleep	COOF	
📼 Storage	© Off	
년 Tablet	Night light settings	
口 Multitasking	Windows HD Color	
Projecting to this PC	Get a brighter and more vibrant picture for videos, games and apps that sunnort HDR.	
🛠 Shared experiences	Windows HD Color settings	
D Clipboard	Scale and layout	
→ Remote Desktop	Change the size of text, apps, and other items	
① About	100% (Recommended) \vee	
	Advanced scaling settings	1
	7680 × 1080 V	
	Display orientation	
	Landscape \lor	
	Multiple displays	

GENIBOX_16H



PC Vision Technology Limited

Settings	- 🗆 X
යි Home	Display
Find a setting	2
System	1
🖵 Display	3
句)) Sound	
Notifications & actions	Identify Detect
J Focus assist	C-la
O Power & sleep	Color
Storage	C off
Lo Tablet	Night light settings
Multitasking Device time to this DC	Windows HD Color
Shared experiences	Get a brighter and more vibrant picture for videos, games and apps that support HDR.
而 Clipboard	Windows HD Color settings
→ Remote Desktop	Scale and layout
① About	Change the size of text, apps, and other items
	Advanced scaling settings
	Display resolution
	5760 × 1080 V
	Display orientation
	Landscape

GENIBOX_9H

Settings		- 0	×
வ Home	Display		
Find a setting	1 2		
🖵 Display	3 4		
(小) Sound			
Notifications & actions	Apply Cancel Identify	Detect	
J Focus assist			
() Power & sleep	Color		
I Storage	Night light		
- Tablet	Night light settings		
H Multitasking Projecting to this PC Y Shand experiences	Windows HD Color Get a brighter and more vibrant picture for videos, games and apps that support HDR.		
19 Clickered	Windows HD Color settings		
Li Clipboard ✓ Remote Desktop	Scale and layout Change the size of text, apps, and other items		
① About	100% (Recommended) V Advanced scaling settings Display resolution 5760 × 1080 V Display orientation Landscape V		

GENIBOX_9H+DPHM13



2.3 UMCC Setting

Install UMCC V3.10:



- PIs install USB to UART driver before install UMCC Control Center, the UART device will show up in Device Manager after finished the UART driver install
- ⊿ 🖤 連接埠 (COM 和 LPT)
 - 🚏 Silicon Labs CP210x USB to UART Bridge (COM13)
 - 🐺 Silicon Labs CP210x USB to UART Bridge (COM4)
 - 🐺 Silicon Labs CP210x USB to UART Bridge (COM8)



• Install Ultra Matrix Control Center, the UMCC ICON will show in Desktop after finished the UMCC V3.10 install



Please press the mouse right button to setting the UMCC V3.10 ICON to "Running by Administrator"



UMCC Provide Each HDMI Output Resolution & Display Parameter Adjustment

🥶 - v3.10				
Turn On	Pattern Off	dentify HW Reset Setting	Apply	
DPHM - 14/28 H/V Pol	larity:+/+		Device Setting Sync	
© FW: 13				
COM: 3 BoxID: 0				
Positive (+)	DP Port -	Parameter -		
O Positive (-)	5120 x 1024	Vertical Rate: 60		
Positive (+)				
O Positive (-)	5464 x 768			
 8 Bit 	5760 x 900	Horz Blank : 280 Vert Blank : 45		
10 Bit	5760 x 1050	Horz Offset: 88	1	
	5100 - 500			
• Off	6400 X 900	Horz Sync Width : 44 Vert Sync Width : 5		
EDID Version	6400 x 1200			
© v12	6720 x 1050			
v1.3	O 7690 × 1090	1	-	
	7080 x 1200			
	4096 x 768 ↔			
Turn On	UMCC On/ Off	Embedded Pattern	Embedded RGBW Pattern	Multi-Device ID
HW Reset	Reset to Default	Parameter Setting	Apply New Setting	
		Hor	z Polarity Vert Pola	rity
FW: 13 FW: 8 COM: 3 COM: 4	V Device S	etting Sync	Positive (+)	
BoxID: 0 BoxID: 0	Multi-Device	Write Multi-Device	H SYNC Polarity	V SYNC Polarity
		EDID	Version	
Color Depth	Audio Support	v v	1.1 1.2 Parameter -	
8 Bit	On On		1.3 20 EDID Venical Rate: 6	
U 10 Bit			EDID Version	Vertical Rate
	8	Vert Blank : 45		
Horz Blank : 280				
Horz Offset : 88	2	Vert Offset : 4		
Horz Sync Width : 44	H Display Parameter	Vertsync Width b V Display Pa	arameter	
DP Port -				
5464 x 768				
5760 x 900				
5760 × 1050				
6400 × 900				
6400 x 1200				

Display Resolution



Normal Setting





User Manual



2.4 Enable Surround View



NVIDIA Set Up Surround		×	NVIDIA Set Up Surround				×
	1 2 4 3		1 4			2 3	I
Displays Topology: ≤ × 1 Deplays: CeForce RIX 2070 ∑ J.hes PCV-GB00 ISC2 ∑ J.hes PCV-GB00 ISC2 ∑ J.hes PCV-GB00 ISC2 ∑ J.hes PCV-GB00 ISC2 ∑ J.hes PCV-GB00 ISC1	Resolution: 7680 x 4320 (recommended) ∨ [⊑] Refresh Rate: 60 Hz ∨	Bezel Correction Bezefis: H1 0 * H2 0 * H3 0 * H3 0 *	Displays Topology: 2 × 2	Resolution Resolution: 15360 × 2160 Refresh Rate: 60 Hz	Y Y	Bezel Correction Bezels: V1 000 H1 000	
Keyboard Shortcuts		Disable Surround Apply Cancel	Keyboard Shortcuts			Enable Surround Apply	Cancel

4x1 8Kx4K

2x2 16Kx2K



PC Vision Technology Limited

Settings		- 🗆 X
Gi Home	Display	night an nep you get to steep
Find a setting ,0	Night light Off Night light settings	of usplaying warner cours at right. Select Night light settings to set things up.
🖵 Display		Help from the web
4ŵ Sound	Windows HD Color	Adjusting font size Changing screen brightness
Notifications & actions	Get a brighter and more vibrant picture for videos, games and apps that support HDR. Window HD Color settings	Fixing screen flickering Setting up multiple monitors
J Focus assist	trine to com actings	
O Power & sleep	Scale and layout	Get help
📼 Storage	Change the size of text, apps, and other items 100% (Recommended)	Give feedback
- Tablet	Advanced scaling settings	
버 Multitasking	Display resolution	
Projecting to this PC	7680 × 4320 V	
💥 Shared experiences	Landscape	
Clipboard	Portrait Landscape (flipped)	
>< Remote Desktop	Portrait (flipped)	
① About	Older displays might not always connect automatically. Select Detect to try to connect to them.	
	Advanced asping settings Graphics settings	

Landscape / Portrait Select



GENIBOX_16H

WIDIA Set Up Surround	1	×	NVIDIA Set Up Surround		×
	3 2	2	1	3	2
Displays Topology: 3 × 1 Displays: Gefforce RTX 2070 Gefforce RTX 2070 Gefforce OPMAD9 B1 Displays are selected.	Resolution Resolution: 5760 x 5240 Refresh Rate: 60 Hz	HI OC H2 OC	Displays Topology: 1 × 3 v Displays: Geforce RTX 2070 Geforce RTX 2070 Superv core Mays B3 Superv core Mays B3 V Superv core Mays B3 v 3 Displays are selected.	Resolution 17280 × 1080 V E ² Refresh Rate: 60 Hz V	Bezel Correction Bezels: V1 0; v2 0; o
Keyboard Shortcuts	3x1 6Kx3K	Enable Surround Euroly Cancel	Keyboard Shortcuts	1x3 16Kx ²	Enable Surround Apply Cancel

- 🗆 X Settings 命 Home Display Find a setting Windows HD Color System Get a brighter and more vi support HDR. Windows HD Color setting es and apps that 🖵 Display 이) Sound Scale and layout Notifications & actions Change the size of text, app J Focus assist 100% (Recommended) Advanced scaling setting: O Power & sleep Display resolution 📼 Storage 5760 × 3240 (Recommended) 🕞 Tablet Landscape H Multitasking Portrait Projecting to this PC Landscape (flipped) Portrait (flipped) X Shared experiences Older displays might not always connect automatically. Select Detect to try to connect to them. 🛱 Clipboard Detect >< Remote Desktop () About Advanced display settings Graphics settings Sleep better Night light can help you get to sleep by displaying warmer colors at night. Select Night light settings to set things up.

Landscape / Portrait Select



GENIBOX_9H

NVIDIA Set Up Surround	1 2	×	NVIDIA Set Up Surround		2
Displays	Resolution	Bezel Correction	Displays	Resolution	Bezel Correction
Topology: 4 × 1 V Doplays: Sefarce RIX 2070 V_2PCV OPH03_B1 V_2PCV OPH03_B1 V_3PCV OPH03_B2 3.8/CV OPH03_B2 3.8/CV OPH03_B2 3.8/CV OPH03_B2 3.8/CV OPH03_B2 3.8/CV OPH03_B2 4.0/Diplays are selected.	Resolution: 5760 x 4320 V E: Refredh Rate: 60 Hz V	Bertés: H1 0 + H2 0 + H3 0 + H3 0 +	iopongy: 2 × 2 ✓ Diplays: Geforce RTX.2070	xesounon: 11520 × 2460 ∨ Refresh Rate: 60 Hz ∨	рееен: VI 0 ; 0 HI 0 ; 0
Keyboard Shortcuts		Enable Surround Apply Cancel	Keyboard Shortcuts		Enable Surround Apply Cancel

4x1 6Kx4K

2x2 12Kx2K

Settings		- 🗆 X
🛱 Home	Display	
Find a setting P	• Off	ourcer mynengne octonigo to oct omigo. Up.
System	Night light settings	
		Help from the web
🖵 Display	Windows HD Color	Adjusting font size
句例 Sound	Get a brighter and more vibrant picture for videos. games and apps that support HDR.	g screen flickering
D Notifications & actions	Windows HD Color settings	ng up multiple monitors
ی Focus assist	Scale and layout	Get help
් Power & sleep	Change the size of text, apps, and other items	Give feedback
📼 Storage	Advanced scaling settings	
CB Tablet	Display resolution	
Hi Multitasking	11520 × 2160 (Recommended) ~	
Projecting to this PC	Display orientation	
Y and the	Landscape	
Shared experiences	Landscape (flipped)	
D Clipboard	Portrait (flipped)	
>< Remote Desktop	Older displays might not always connect automatically. Select Detect to	
O About	try to connect to them. Detect	
	Advanced display settings	
	Graphics settings	

Landscape / Portrait Select

GENIBOX_9H+DPHM13