



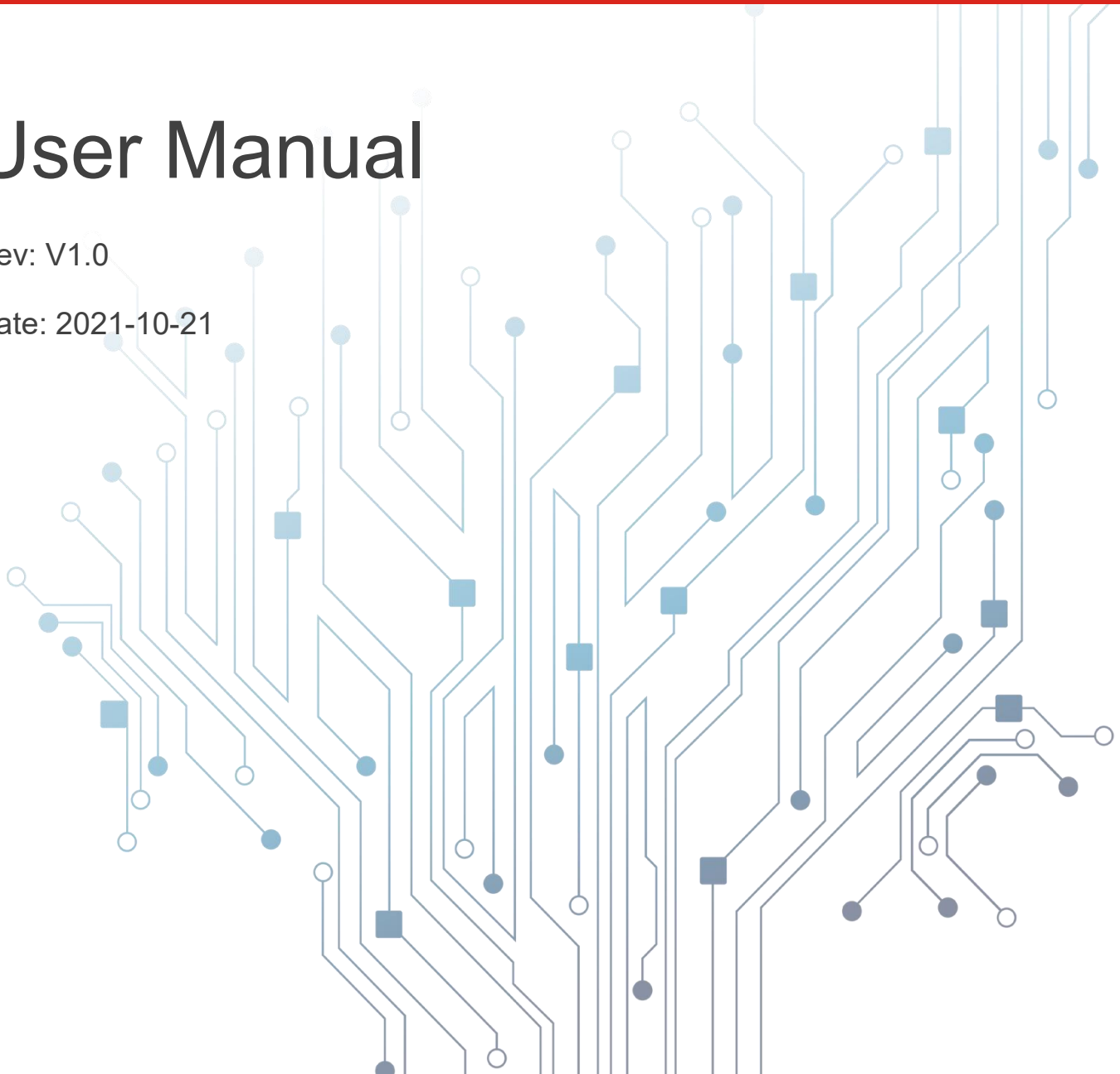
Yuntion Wireless Technology (Shenzhen) Co.,Ltd

Intelligent Edge Station Astro200Pro

User Manual

Rev: V1.0

Date: 2021-10-21



History

Revision	Date	Description
V1.0	2021-10-21	● Initial

DECLARAION

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1 Production Information

1.1. Application

There are many application scenarios of Astro200 Pro intelligent edge station, including safe cities, smart security, smart transportation, smart manufacturing, smart retail, and smart light poles. In these application scenarios, the typical architecture is as follows:

- ∞ End: Connect IPC (IP Camera) or other front-end equipment via wireless or wired
- ∞ Edge: The edge realizes value information extraction, storage and upload
- ∞ Cloud: Data center model push, management, development and application

1.2. Overview

Astro200 RPO is a lightweight edge device of Yuntion for a wide range of edge intelligent application scenarios. It is a product extension of Astro200.

It has built-in multiple CPU core units and has excellent CPU processing capability, AI computing capability, large-capacity storage, flexible configuration, small size, wide temperature range and high speed. It has the characteristics of high wired and wireless connection speed, strong environmental adaptability, and easy maintenance and management.

Astro200 RPO can be selected for different built-in CPU core units. It supports dual versions of Android OS and Linux, which can provide customers with rich AI audio and video multimedia processing services, facilitate the secondary development of applications and access to a wide range of Android ecological applications, and can also provide professional, In-depth custom-developed applications in vertical fields based on Linux.

Astro200 PRO is mainly used in intelligent audio and video collection, high-definition display, analysis, data storage and other application scenarios. It can be widely deployed in various edge and central computer rooms to meet the application in complex intelligent terminals, road traffic, communities, parks, shopping malls, supermarkets and other complex environment areas.

1.3. Features

∞ **Ease of use for edge scenarios**

- Real-time: It can process data locally to provide real-time responses
- Low bandwidth: Only necessary information is sent to the cloud
- Privacy Protection: Customers can decide what information is sent to the cloud or kept locally. All information sent to the cloud can be encrypted
- Supports standard container engines and supports rapid deployment of third-party algorithms and applications

∞ **96-channel video analysis and storage expansion capability**

- Support 96-channel video analysis capability (maximum 96-channel 1080p decoding, 60TOPS INT8 computing power)
- Support free expansion of storage capacity

∞ **Flexible configuration, wireless backhaul**

- Support WIFI6 dual-band/gigabit LAN transmission
- Support optional 5G/4G wireless module

∞ **Dual system version, taking into account ecological resource expansion and vertical field specialization**

- Support Android OS version, quickly access Android ecosystem and convenient application development, and efficiently achieve side-end collaboration
- Support Linux OS version, introduce specialized applications and algorithms for vertical fields, and efficiently realize cloud-edge-end collaboration

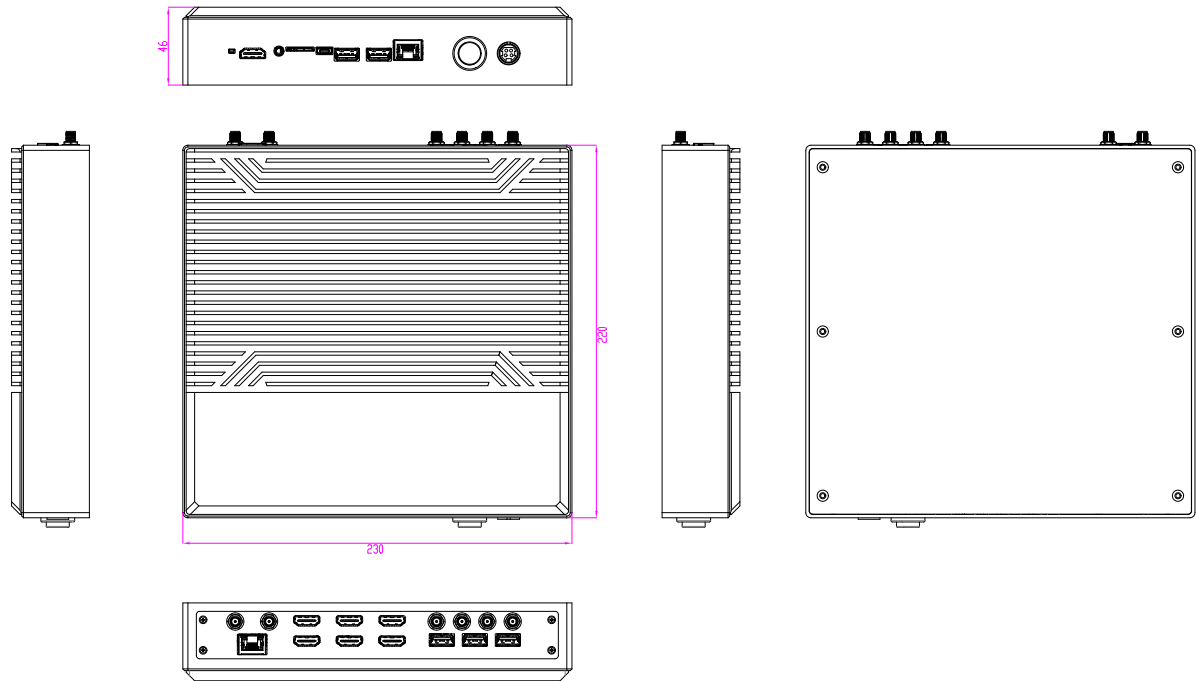
∞ **Powerful multimedia GPU processing capability**

- Built-in high-performance GPU for outstanding 3D rendering
- Support independent VPU and DPU, can realize up to 12 screens with different display function

1.4. Appearance and Interface



1.5. Dimension



Unit: mm

2 Hardware Specification

Table 1: Hardware Specification

Hardware Specification		
System Platform	CPU	Qualcomm QCS8250 Three Kryo Gold Cores 2.419GHz One Kryo Gold Prime Core 2.842GHz Quad Low-Power Kryo Silver cores 1.805GHz
	RAM	Default LPDDR4 4GB*4 (Optional as 8GB*4)
	ROM	Default UFS2.1 64GB*4 (Optional as UFS3.1 256GB*4)
	Operating System	Android 10.0
Network	WIFI,BT	2.4G 5G WIFI 802.11a/b/g/n/ac/ax 2x2 MIMO Bluetooth v5.1

	4G/5G	1 built-in M.2 interface, expandable to 4G/5G modules
	LAN	2 10M/100M/1000M Adaptive Ethernet
USB	USB3.1	5 USB3.1 HOST A port(3-way on the front panel, 2-way on the rear panel)
	Type-C	1 Type-C debug interface
Audio and Video	Headphone	1 3.5mm Headphone interface
	Speaker	Dual 5W/8R Speaker Interface
	HDMI Output	4 4K output(1-way on the front panel, 3-way on the rear panel)
	HDMI Input	3 HDMI input
Standard Card Holder	SIM Card	1.8V/3/3V, Push-Push Micro-SIM card holder
	SD Card	Push-Push Micro-SD card holder
Standard Interface	Power Input	DC-044B, 12V DC input
	Antenna	2 WIFI/BT SMA interface 4 5G SMA antenna
Encode and Decode	Video encode and decode	H.264/H.265/VP8/VP9
	Picture Format	BMP/JPEG/PNG/GIF

3 Interface Description

3.1. Power Interface

Astro200 Pro adopts DC-044B power receptacle interface, suitable for common 5.5X2.1mm 12V DC adapter connector.

3.2. USB Interface

Astro200 Pro supports 5-way USB3.1 interface and 1-way Type-C interface. Among the 5 USB3.1 ports, 2 are on the front panel and 3 are on the rear panel. Type-C interface is only used for debugging. When Type-C is connected, the HDMI, Ethernet and USB3.1 ports on the front panel will be disabled.

3.3. LAN Interface

Astro200 Pro supports two Gigabit Ethernet ports, using the RJ45 standard Ethernet port base, with one port on the front and back.

3.4. SIM Interface

Astro200 Pro supports one Micro-SIM interface, adopt Push-Push installation method.

3.5. SD Interface

Astro200 Pro supports one Micro-SD interface and adopts Push-Push installation method.

3.6. HDMI Output Interface

Astro200 Pro support 4-way HDMI output interfaces, and support 4K display.1-way on the front panel, 3-way on the rear panel.

3.7. HDMI Input Interface

Astro200 Pro support 3 HDMI input interfaces, all located on the rear panel of the whole machine.

3.8. Headphone Interface

Astro200 Pro headphone jack adopts 3.5mm standard headphone receptacle, which supports headphone output and headphone recording function.

3.9. Speaker Interface

Astro200 Pro supports dual 5W/8R speaker output, the interface model is PH2.0-4A.

3.10. Antenna Interface

Astro200 Pro supports 6 SMA antenna ports, two of which are for WIFI antenna, one for GPS antenna, and three for 5G module.

4 Electrical Parameters

Table 2: Astro200 Pro Electrical Parameters

Item		Min	Typ.	Max	Note
Power Supply	Voltage	--	--	--	
	Ripple	--	--	--	

	Current	--	--	--	
Dc Output	5.0v Output Current	--	--	--	
	12v Output Current	--	--	--	
USB 3.1	Output Current	--	--	--	
Environment	Relative Humidity	--	--	--	
	Working Temp	--	--	--	
	Storage Temp	--	--	--	