Integrated Terminal Series

AMS-R2O-C Integrated Terminal

User Manual

（V1.0）

Foreword

The objective of this section is to ensure that users can effectively utilize the product by following the instructions in this manual, thereby preventing potential hazards or damage to property during operation. Prior to using this product, we strongly advise reading this product manual attentively and storing it securely for future reference.

Overview

This manual offers comprehensive guidance on operating and utilizing the AMS-R2O-C Integrated Smart Terminal.

Symbol conventions

Symbol	Function
⬜i illustration	Explanatory text, this type of text serves to supplement and elucidate the main content. It provides additional information and clarification to enhance understanding.
⚠ Caution	Cautionary text, this text serves as a reminder to users about critical operations or potential risks of harm and property damage. Failure to take precautions could result in accidents, equipment damage, or business interruption. Exercise care to prevent any such occurrences.
⚠ Danger	Dangerous text, this text indicates a potential high-risk situation. Failure to take precautions could lead to significant danger, potentially resulting in harm or loss of life. Extreme caution is advised to avoid such risks.

Revision History

Version	Revision Notes	Editor	Date
V1.0	Initial Release	Chester Huang	2025/6/3

Important Notes

This manual provides a comprehensive overview of the device's features, general principles, and methods for installation and operation. It is essential for users to thoroughly read this manual before proceeding with installation and use.

Usage Guidelines

To prevent damage to this product or any connected devices, it should only be used within the specified range. Please adhere to the following guidelines:

1) Avoid Exposure to Rain or Moisture, do not expose the device to rain or moisture.
2) Electrical Safety: To prevent the risk of electric shock, do not open the casing. Installation and maintenance should only be performed by qualified technicians.
3) Operating Conditions:
Use the product within the specified temperature, humidity, and power supply specifications.
4)Cleaning Instructions:
When cleaning the device lens, use a dry, soft cloth. For stubborn stains, use a mild, neutral cleaner and gently wipe. Avoid using strong or corrosive cleaners to prevent scratches on the lens, which may affect image quality.

Electrical Safety

Installation and use of this product must strictly adhere to local electrical safety standards.

Handle with Care during Transport

During transportation, storage, and installation, precautions should be taken to avoid heavy pressure, severe vibrations, or immersion that may cause damage to the product.

No Unauthorized Disassembly

Users should refrain from disassembling the product, as there are no user-serviceable parts. Damages resulting from user disassembly are not covered under warranty.

Magnetic Field Interference

At specific frequencies, electromagnetic fields may impact the device's image. This product is classified as Class A. In a residential environment, it may cause radio interference, and users should take appropriate measures.

FCC STATEMENT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.   NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the   receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FCC Compliance Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Compliance

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Indoor Client 6XD statement

1. FCC regulations restrict the operation of this device to indoor use only.

2. The device will only associate and connect with a low-power indoor access point or subordinate device and never directly connect to other client devices.

3. The device will always initiate transmission under the control of a low-power indoor AP or subordinate except for brief transmissions before joining a network. These short messages will only occur if the client has detected an indoor AP or subordinate operating on a channel. These brief messages will have a time-out mechanism such that if it does not receive a response from an AP it will not continually repeat the request.

4. transmissions will be lower or equal to the power advertised by the indoor low-power access point or subordinate and never above the maximum output power allowed by the FCC grant for

equipment class 6XD.

5. Prohibited for control of or communications with unmanned aircraft systems, including drones.

IC Wi-Fi 6E Statement:

Devices shall not be used for control of or communications with unmanned aircraft systems.

Low-power indoor access points and indoor subordinate devices shall bear statements acknowledging both of the following restrictions in the user manual and, where feasible, in a conspicuous location on the device.

Operation shall be limited to indoor use only.

Operation on oil platforms, automobiles, trains, maritime vessels and aircraft shall be prohibited except for on large aircraft flying above 3,048 m (10,000 ft).

L'équipement ne doit pas être utilisé pour le contrôle ou la communication des systèmes d'aéronefs sans pilote. Les points d'accès intérieurs de faible puissance et les accessoires intérieurs doivent indiquer les restrictions suivantes dans le manuel de l'utilisateur et, si possible, à un endroit bien en vue de l'appareil: Le fonctionnement doit être limité à un usage intérieur. Il est interdit de travailler sur les plates - formes pétrolières, les voitures, les trains, les navires maritimes et les aéronefs, à l'exception des gros aéronefs de plus de 3 048 mètres (10 000 pieds).

Contents

1. Quick Installation Guide

1.1 Panel

No.	Description	Remark
1	Light Sensor	1 x Light sensor
2	Zoom camera	1 x zoom camera, 30X zoom lens, 2.4MP sensor surrounded by 8 IR LED
3	MENS MIC	Red frame: 2 x Light sensor Green frame: 1 x three-colour indicator Blue frame: 6 x MEMS array microphone
4	IR LED	30 x IR LED
5	Fixed-focus camera	1 x 2.4MP Sensor, rotatable camera module
6	Wireless	2 x Wireless Antenna, enhance WIFI signal.
7	RS232	1x RJ12 port, for serial communication. PS: care.ai provides interface definition
8	HDMI IN	1 x Female HDMI port to connect with HDMI source. HDMI 1.4, resolution up to 4K@30Hz, supports CEC
9	HDMI OUT	1 x Female HDMI port to connect with HDMI display. HDMI OUT 1 supports HDMI 1.4 and CEC, resolution up to 4K@30Hz
10	LAN	1 x RJ45 Port, for connecting with Ethernet, 10/100/1000 Base-T and PoE++ (PoE power receiving)

11	USB	3 x USB-A, USB2.0 For connecting with USB devices such as mouse, keyboard and microphone.
12	OTG	1 x Micro-USB, USB 2.0, for device debugging
13	IR	1 x 3.5 mm port, for connecting with IR emitter.
14	MIC	1 x RJ45 Port, for connecting with extend speakerphone
15	DC 12V	1 x power port, DC12V, connector with lock
16	OFF/ON	Power Switch

1.2 Use of Device

1. Check the hardware packaging list to confirm that the packaging is complete and the accessories are complete.

2. Connect each interface cable to the corresponding device.

3. After the correct connection, turn on the power of the host, press the power button, wait for about 10 seconds, and then turn it on. After powering on, the terminal startup screen will be displayed on the TV screen. (Note: Please switch the signal source input of the TV screen to HDMI input mode).

1.3 Video Out

HDMI output: Connect the device and monitor correctly through HDMI video cable, select the correct input source on the monitor, and the terminal system interface will appear. In default mode, the output content of HDMI OUT is system UI, it can also be switched to HDMI IN.

1.4 System Interface

AMS-R2O-C comes with Android 13, which is the native version of Android. The overall interface can be controlled by customers by connecting a mouse or keyboard through the USB port.

1.5 Audio Module

1) When used independently (powered by both PoE or DC), the algorithm will lower the speaker volume of the AMS-R2O-C to enhance the double-talk. This configuration is suitable for small room.

PoE or DC

2) When powered by PoE and connecting external expansion modules, due to power limitations, external speakers cannot be connected. Instead, up to four external microphones can be connected. The -C's speaker volume can be adjusted to be higher than when used independently.

PoE power supply
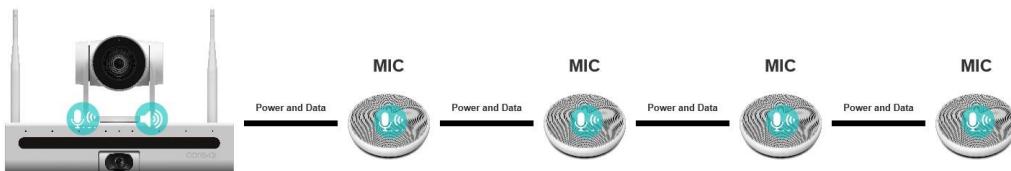
3) When powered by DC and connecting external expansion modules. According to the power distribution, up to three modes of cascading can be followed and the extension module can be reduced according to actual application. And -C's speakers can play simultaneously with the external speakers.

DC power supply
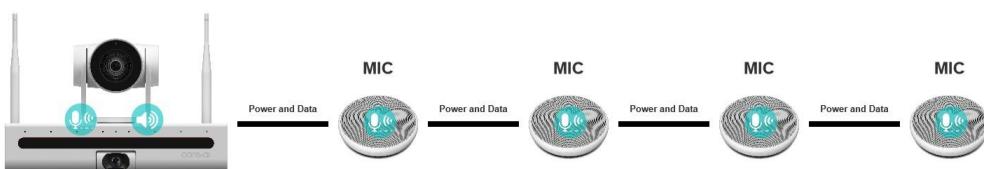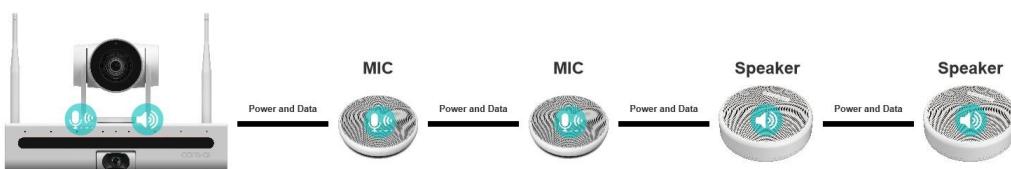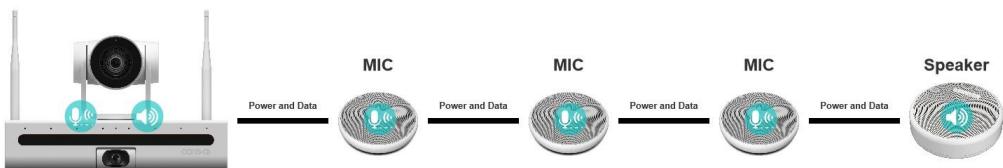
2. Product Description

2.1 Product Description

The Android video terminal AMS-R2O-C uses a 30X optical zoom lens, and built-in intelligent echo cancellation and noise suppression audio algorithms; it adopts an integrated design that integrates the Android platform, camera, Mechanical gimbal, Wi-Fi, Bluetooth, easy and fast wiring and installation; fully open API, built-in low-power high-performance processor, supports the development of third-party applications.

Note: This unit is for indoor use only. The functions of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) within the band 5150-5350 MHz for this device are restricted to indoor use only within all European Union countries (BE/BG/CZ/DK/DE/EE/IE/EL/ES/FR/HR/IT/CY/LV/LT/LU/HU/MT/NL/AT/PL/PT/RO/SI/SK/FI/SE/NO/CH/IS/LI/UK(NI)

Hereby, SHENZHEN MINRRAY INDUSTRY CO., LTD. declares that the radio equipment type AMS-R2O-C is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://www.care.ai/

2.1.1 Dimension
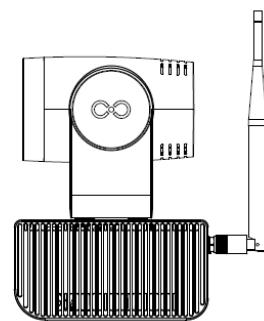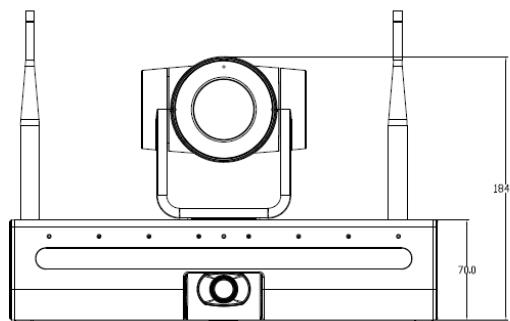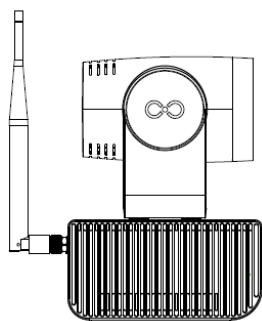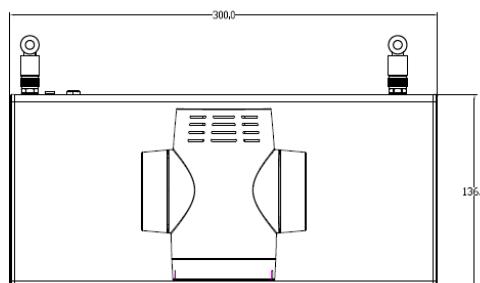
2.1.2 Accessories

When opening the package, please check and confirm all the accessories that should be provided. The accessories that come with the product are shown in Table 2-1:

Product Name	Quantity	●Standard ○Optional

AMS-R2O-C terminal	1	●
Power Adapter	1	●
HDMI 2.0 cable	2	●
CAT6 Cable	2	●

2.2 Features

- 30X Optical Zoom HD Night Vision Camera with Dual-Axis Pan/Tilt Gimbal

- 1080p Fixed-Focus Night Vision Camera

- Fixed-focus camera with a single-axis gimbal for vertical angle adjustment, supporting a privacy shield feature

- Octa-core processor with 6nm FinFET process technology

- Supports WiFi 6E and 2x2 MU-MIMO

- Supports cascaded audio module expansion

- Integrated with a rich set of audio and video interfaces

2.3 Parameter

System	Android	Android 13
	RAM	8G
	ROM	128G
Camera1	Sensor	2.07M
	View	2.48°（T）~ 65.4°（W）（D）/2.14°（T）~ 58.1°（W）（H）/1.2°（T）~ 33.8°（W）（V）
	Zoom	30X optical zoom
	Video out	Up to 1080P
Camera2	Sensor	2.07M
	View	115°（D）/108°（H）/74°（V）
	Zoom	3X digital zoom

Audio	Video out	Up to 1080P
	MIC	6x Pickup MIC
	Audio processing	AEC, AGC, ANS
Wireless	Bluetooth 5.2	BLE(2M)Frequency Range: 2402MHz- 2480MHz
	BT	2.4GHz~2.4835GHz EIRP<20 dBm
	BLE	2.4GHz~2.4835GHz EIRP<20 dBm
	Wi-Fi	802.11 a/b/g/n/ac/ax 2.4GHz~2.4835GHz,5.15GHz~5.35GHz,5.725~5.85GHz,5.945~6.425GHz EIRP 2.4 GHz<20 dBm, EIRP 5 GHz<23 dBm, EIRP 5.8 GHz<13.98 dBm, EIRP6GHz<23dBm
	WIFI 6E	Frequency Range: 2.412-2.472GHz; 5.15-5.25GHz; 5.25-5.35GHz; 5.47-5.725GHz; 5.725-5.85GHz; 5.850-5.895GHz; 5.925-6.425GHz; 6.425-6.525GHz; 6.525-6.875GHz; 6.875-7.125GHz RF Conducted Power: For 2.4GHz Wi-Fi: 802.11b: 14.2 dBm; 802.11g: 14.2 dBm; 802.11n(HT20): 14.2 dBm; 802.11n(HT40): 14.2 dBm; 802.11ax(HEW20): 14.2 dBm; 802.11ax(HEW40): 14.2 dBm; For 5GHz Wi-Fi: 802.11a: 16 dBm; 802.11n(HT20): 15 dBm; 802.11n(HT40): 15 dBm; 802.11ac(VHT20): 15 dBm; 802.11ac(VHT40): 15 dBm; 802.11ac(VHT80): 15; dBm802.11ac(VHT160): 15 dBm; 802.11ax(HEW20): 15 dBm; 802.11ax(HEW40): 15 dBm; 802.11ax(HEW80): 15 dBm; 802.11ax(HEW160): 14 dBm; For 6GHz Wi-Fi: 802.11ax(HEW20): 15 dBm; 802.11ax(HEW40): 15 dBm; 802.11ax(HEW80): 15 dBm; 802.11ax(HEW160): 14 dBm;

Port		
	HDMI OUT	1x HDMI OUT, HDMI 1.4, up to 4K@30Hz
	HDMI IN	1x HDMI IN, HDMI 1.4，up to 4K@30Hz
	USB	3x USB 2.0, 1x Micro USB
	Wireless	2.4G / 5G Wi-Fi, Bluetooth 5.0
	MIC IN	1x RJ45, for connecting cascade MIC and speaker
	Ethernet	1x 10/100M/1000M RJ45
	Power	1x HEC3800 DC12V
	Power Switch	On/Off

3. Maintenance and troubleshooting

3.1 Product maintenance

1) If the equipment is not used for a long time, please turn off the power switch when not in use, and disconnect the AC power adapter from the AC socket.

2) When removing dust from the device casing, please use soft cloth or tissue paper to avoid scratches.

3) When cleaning the device lens, please use a dry soft cloth to wipe it. If the dirt is serious, please use a neutral detergent to wipe it gently. Do not use strong or corrosive cleaners to avoid scratching the lens and affecting the image quality.

3.2 Troubleshooting

1) Video output has no picture

Solution:

a. Check whether the power supply of the device is connected properly and whether the power indicator light is on.

b. Check whether the device is functioning normally after powering off and restarting.

c. Check whether the bottom DIP switch is in normal working mode (refer to Table 2-9)

d. Check whether the video output and video monitor connection cables are normal.

2) The image sometimes disappears

Solution:

Check whether the video output and video monitor connection cables are normal

3) The remote control cannot control

Solution:

a. Check whether the battery of the remote control is installed properly or the battery is insufficient.

b. Check whether the equipment working mode is the normal working mode (refer to Table 2-9)

c. Check whether the menu has not exited. After exiting the menu, you can control it normally. If the web page outputs an image, the menu will not be displayed and no operation will be performed. The menu will automatically exit after 30 seconds and you can control it.

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