灰度科技
HUIDU TECHNOLOGY

PRODUCT SPECIFICATION

LCD Display Multimedia Player

HD-3576V-BOX

Version: V1.0

Update History

Version	Release time	Description
V1.0	July 22, 2025	First official release.

Contents

Chapter Ⅰ Product Description

Ⅰ. Overview

HD-3576V uses Rockchip RK3576 octa-core high-computing processor(Quad-Core Cortex-A72 + Quad-Core Cortex-A53), 8nm process technology , and main frequency up to 2.2GHz. It has excellent computing power and efficient energy consumption ratio, providing more powerful core support for high-performance computing and multi-tasking. It has 6TOPS super computing power NPU, supports dual-core collaborative work or independent work, and supports multi-tasking and multi-scenario parallel. Equipped with Android 14.0 system, it provides a safer and more stable system environment for the research and development of terminal equipment.

RK3576 uses Mail G52 MC3 GPU and is equipped with a variety of image processing algorithms, which can further improve the clarity and color performance of images in terms of contrast adjustment, dithering algorithm, color enhancement and brightening. It supports LCD display screens and cropped screens with HDMI interface, with a resolution of up to 4K@120fps. The video encoder supports H.264 and H.265, up to 4K@60fps, and the high-quality JPEG encoder/decoder. The embedded 3D GPU makes RK3576 fully compatible with 0penGLES1.1, 2.0 and 3.2, OpenCL up to 2.0 and Vulkan 1.1 . It supports dual-screen display to meet users' diverse display needs in multiple scenarios.

It supports infrared remote control, Wi-Fi, RJ45 and other interfaces, and is widely used in advertising machines, interactive all-in-one machines, security, medical treatment, transportation, finance, industrial control and other intelligent control fields. Due to its hardware platform and Android intelligence, it can be used on the intelligent terminal motherboard when human-computer interaction and network device interaction are required, and it can be your best choice.

Ⅱ. Features

- High performance. The chip adopts RK3576 octa-core 64-bit size core architecture with a main frequency of up to 2.2GHz. It can play high-definition video in various formats and handle complex interactive operations.

- High stability. HD-3576V-BOX adds unique technology to ensure product stability in terms of hardware and software, and can make the final product reach 7*24 hours unattended.

- High integration. The HD-3576V-BOX intelligently integrates Ethernet, HDMI output, Wi-Fi, TF expansion card, and USB port.

- High definition. Support HDMI 2.0 interface, support 4K screen display, can be directly connected to the LCD display.

Chapter II Specifications

Ⅰ. Basic Parameters

1. Hardware Parameters

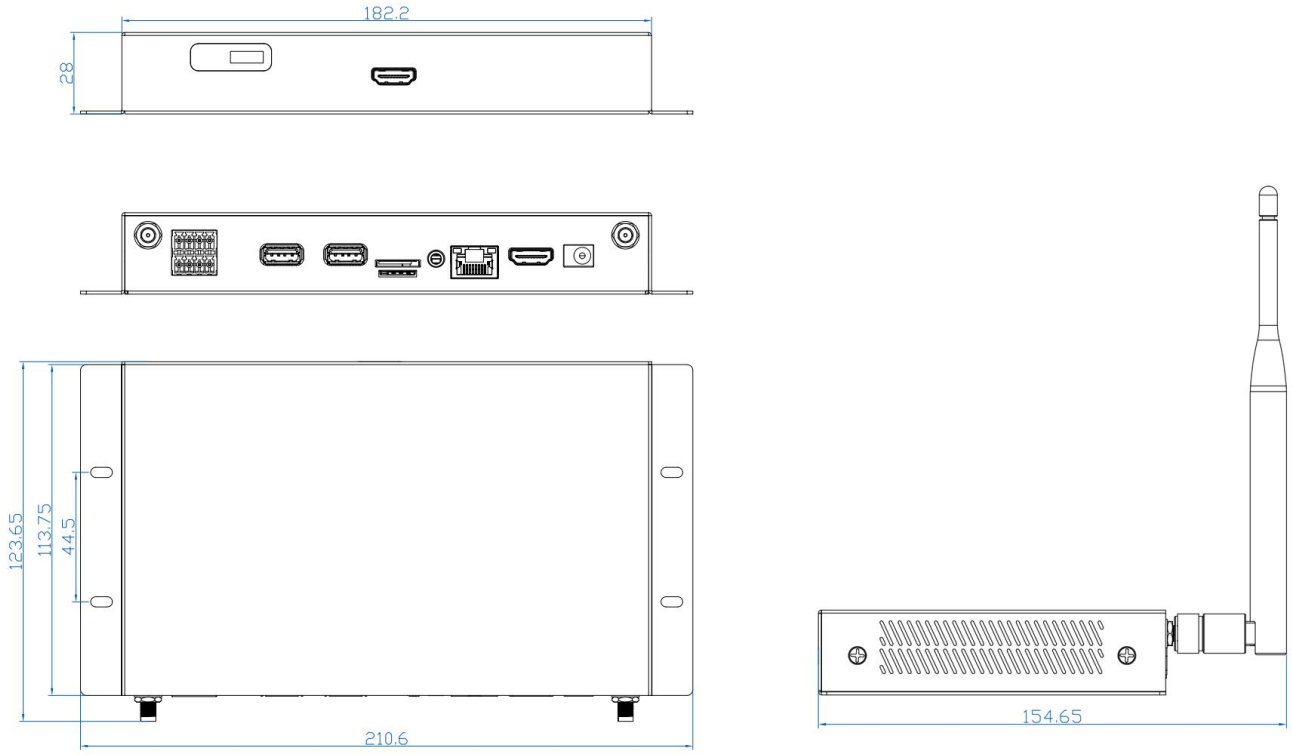
Hardware Specifications	
CPU	RK3576 Octa-core CPU, main frequency up to 2.2GHz
GPU	3D GPU fully compatible with 0penGLES1.1, 2.0 and 3.2, OpenCL up to 2.0 and Vulkan 1.1
NPU	RKNN NPU, 6TOPS computing power NPU
RAM/ Storage	Standard 4GB+32GB, 4GB+64GB,8GB+64GB,8GB+128GB
Connection	Support Gigabit Ethernet; Equipped with Wi-Fi 6, 2.4GHz+5GHz, support Wi-Fi 802.11 b/g/n/ax protocol Supports Bluetooth 5.3
Image rotation	Support 0 degree, 90 degree, 180 degree, 270 degree manual rotation
Display interface	1 * HDMI interface output, support 4K@120Hz
Audio	Support standard 3.5mm TRS left and right channel audio output
RTC	Built-in real-time clock function
USB	1 * USB 3.0 HOST, 1 * USB or OTG
Button	1 * Recovery button
Power Adapter	Input: AC100-240V.50-60Hz, output: DC12V 1.5A (Requires that the surge voltage is less than 18V and the ripple voltage is less than 100mV)
Storage Humid	10%～90％ RH
Storage Temp	-40℃~70℃
Work Temp	-20℃~70℃

2. Software Parameters

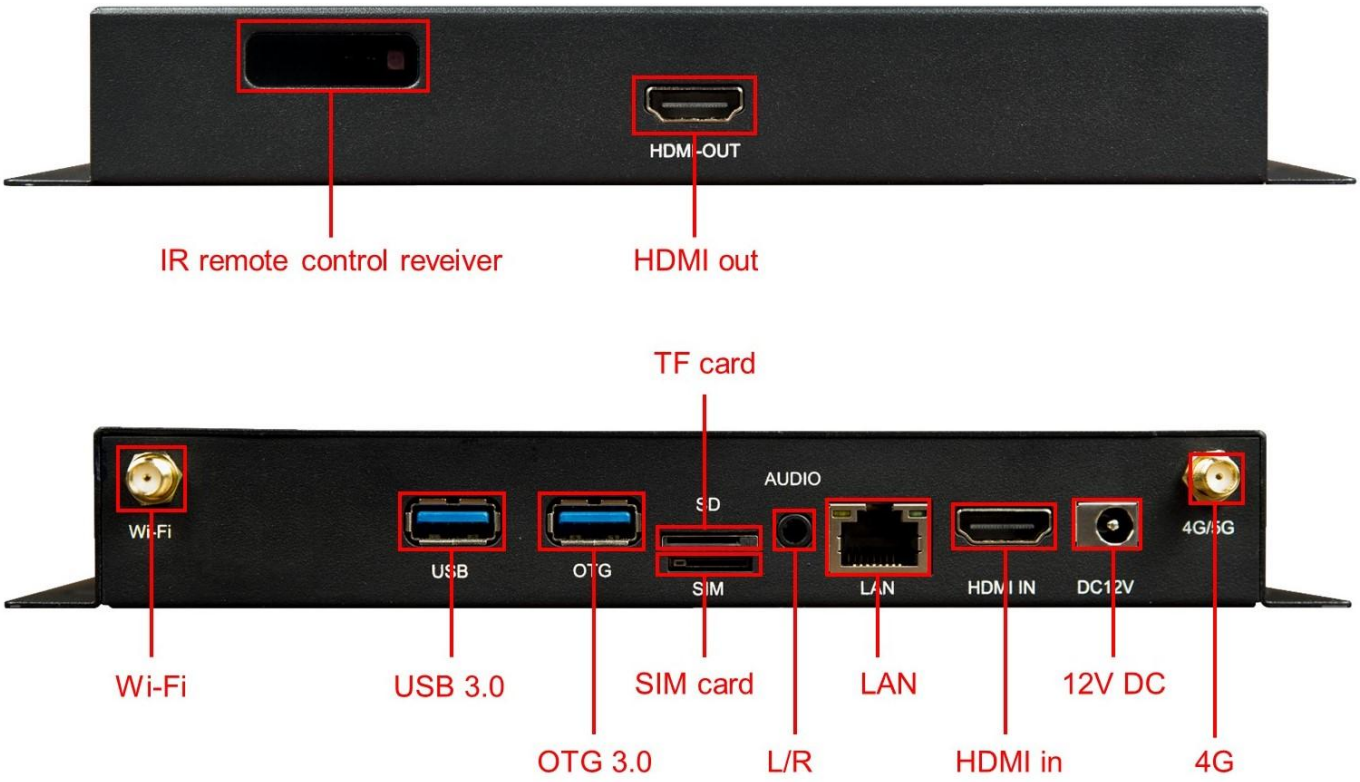
Software Specifications	
Operating system	Android 14.0
Audio	MP3, WMA, WAV, APE, FLAC, AAC, OGG, M4A, 3GPP and other formats
Video	Support H.265, H.264, VP9, AVS2, AV1 and other video formats
Picture	Support JPG, BMP, PNG and other image formats
Built-in APP default	APK Installer, Email, Calculator, Browser, Voice Recorder, Calendar, Settings, Clock, Video Player, Search, Contacts, Gallery, Downloads, Camera, Music, Explorer, etc.
Language	Support multi-languages
Input method	Standard Android keyboard, optional third-party input method
System Management	Original ecological Android system, open root privileges, and can carry out product customization development
	Real-time remote monitoring, system crash self-recovery, 7*24 hours unattended
	Support OTA remote upgrade; support U disk upgrade
	Support boot animation definition
	Support server/standalone mode switching
	Support Wi-Fi hotspot
System watchdog	Support software watchdog, hardware watchdog

Ⅱ. Product Size Specifications

Side interface size (boxed)



Ⅲ. Schematic Diagram of Product Interface



Ⅳ. Interface Parameter Description

1. PWR / DC (power input) Interface

12V DC power supply is used to supply power to the board subsystem only from the DC socket and power Socket.

2. HDMI Output

Connect to the LCD screen for program display

3. LAN Port

Connect to the Internet/LAN to realize Internet remote cluster management and LAN cluster management.

4. Audio Interface

1. Standard 3.5mm dual-channel audio interface, which can be directly connected to low-power speakers or amplifiers.
2. The reset hole is hidden in the audio port. Long press with a long reset needle to restore the factory settings.

5. TF Card Slot

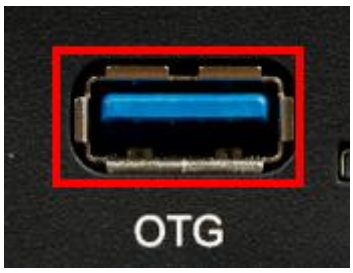
Insert the TF card to update the program content.

6. SIM Card Slot (Optional)

Install the 4G mobile phone card interface, and realize remote cluster management after connecting to the Internet (4G module needs to be installed, 4G module is not standard configuration, according to user needs to install before leaving the factory).

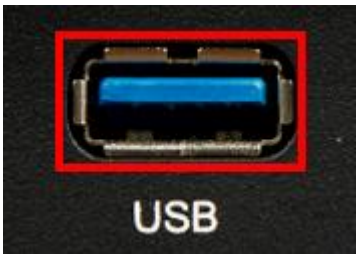
7. OTG Port

Upgrade firmware and other functions, in the system use the toolbox can be changed OTG/USB mode.



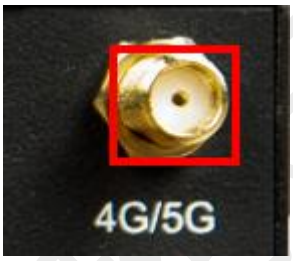
8. USB Port

Insert the U disk to update the program of the display screen. One of the USB interfaces can be switched to OTG or USB interface through jumpers (OTG and USB need to be set before the factory).



9. 4G Antenna Port（Optional）

Connect 4G antenna to enhance 4G signal.（Non-standard interface, closed by default）



10. Wi-Fi Antenna Port

Connect Wi-Fi antenna to enhance Wi-Fi signal.

11. IR Receiver Port

Receiving remote control signal, setting and programs switching.

Chapter III Communication Methods

I. Update Programs by Wi-Fi

No Server required

Mobile APP management

II. Update Program with U-disk

U-disk update programs

Support Interstitial & memory expansion

III. Update Program by TF Card

TF card update programs

Support Interstitial & memory expansion

IV. Update Programs with LAN

LAN or Internet

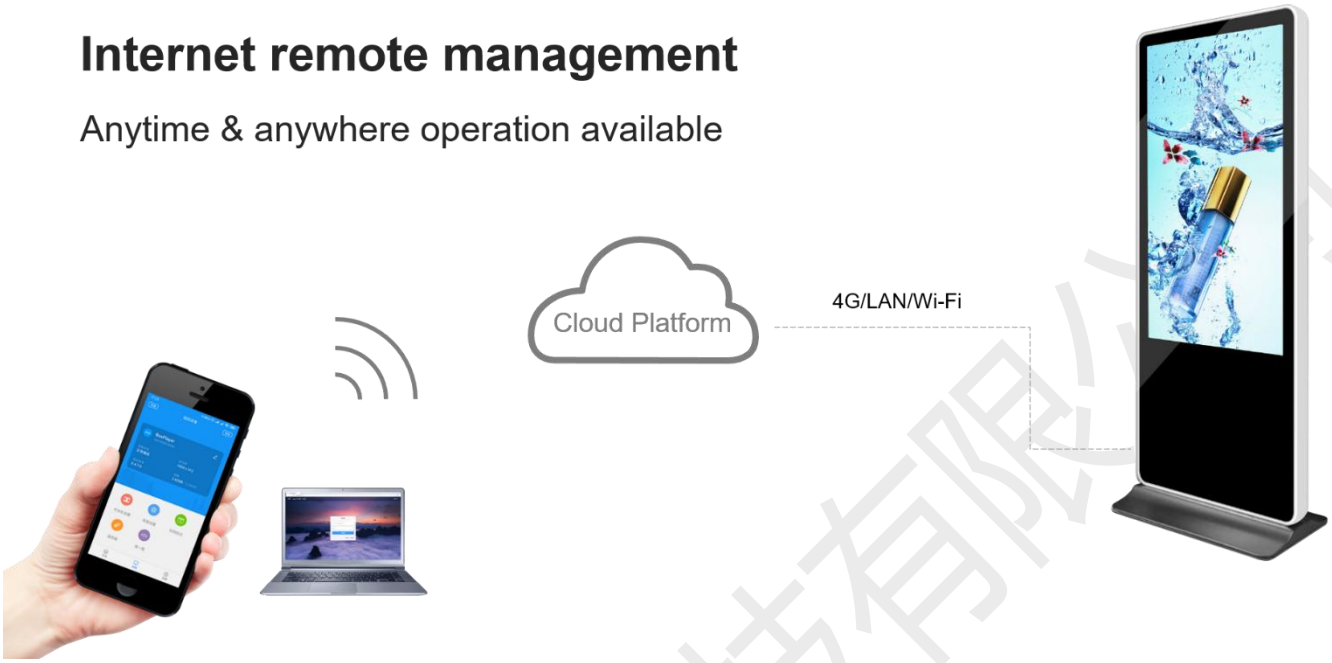
Network cable connection

LAN & Internet integrated management

V. Update Programs by the Internet

Internet remote management

Anytime & anywhere operation available



Chapter IV Appendix: Product Appearance

Note:

1. The 4G module is an optional accessory, installed in the playback box before leaving the factory;

2. Non-standard features, the picture of the specification may be slightly different from the actual product, if you have any questions, please contact Huidu Technology for confirmation.