LCB4K
LCD Multimedia Player

Specifications

Change History

Document Version	Release Date	Description
V1.1.0	2024-05-30	• Updated the feature descriptions. • Updated the connector descriptions. • Updated the media decoding specifications.
V1.0.4	2024-01-18	Updated the certification information.
V1.0.3	2023-10-16	Updated the description of the default Wi-Fi AP password.
V1.0.2	2023-06-14	• Updated the certification information. • Updated the descriptions in the Features chapter.
V1.0.1	2022-11-18	Updated the certification information.
V1.0.0	2022-09-06	First release

Introduction

The LCB4K is an LCD multimedia player created by NovaStar. This multimedia player applies to LCD and LED displays in advertising media, digital signage, commercial display and other fields.

Certifications

CQC, SRRC, CE, WPC

If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact NovaStar to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or NovaStar has the right to claim compensation.

Features

Output

- 1x HDMI 2.0 connector
  - Adaptive mode: The LCB4K automatically adjusts the playback window resolution according to the EDID of the LCD display.
  - Custom mode: The user manually sets the playback window resolution.

- 1x Stereo audio connector

  The audio sample rate is fixed at 48 kHz.

Control

- 1x USB 3.0 (Type A) port

  Allows for USB playback, firmware upgrade and storage expansion, and cascades a sending device for control.

- 1x USB 2.0 (Type A) port

  Allows for USB playback, firmware upgrade and storage expansion, and cascades a sending device for control.

- 1x USB 2.0 (Type B) port

  Connects to the control computer for content publishing and screen control.

- 1x Gigabit Ethernet port

  Connects to the control computer or connects to a LAN or public network for content publishing and screen control.

Performance

- Powerful processing capacity
  - Quad-core ARM A55 processor @1.8 GHz
  - Support for H.264/H.265 4K@60Hz video decoding
  - 2 GB of RAM
  - 32 GB of internal storage

- Flawless playback

  Supports playback of 2x 4K, 6x 1080p, 10x 720p, or 20x 360p videos.

Functionality

- All-round control plans
  - Allows users to publish content and control screens from a computer, mobile phone, or tablet.
  - Allows users to publish content and control screens from anywhere, anytime.
  - Allows users to monitor screens from anywhere, anytime.
- Switching between Wi-Fi AP and Wi-Fi STA
  - In Wi-Fi AP mode, the user terminal is connected to the built-in Wi-Fi hotspot of the LCB4K. The default SSID is "AP+*Last 8 digits of SN*" and the default password is printed on the SSID label of the product.
  - In Wi-Fi STA mode, the user terminal and the LCB4K are connected to the Wi-Fi hotspot of a router.

- Synchronous playback across multiple screens (Playback limit: 1x 4K video)

  Enabling synchronous playback halves the decoding capability of the device.
  - NTP time synchronization
  - GPS time synchronization (The specified 4G module must be installed.)
  - RF time synchronization (The specified RF module must be installed.)

- Support for 4G/5G modules

  The LCB4K ships without a 4G/5G module. Users have to purchase 4G/5G modules separately if needed. Currently the 5G networks only in China can be accessed.

  Network connection priority: Wired network > Wi-Fi network > 4G/5G network (This order of priority is followed when the firmware is earlier than V4.5.0. The networks coexist when the firmware is V4.5.0 or later.)

Appearance

Front Panel

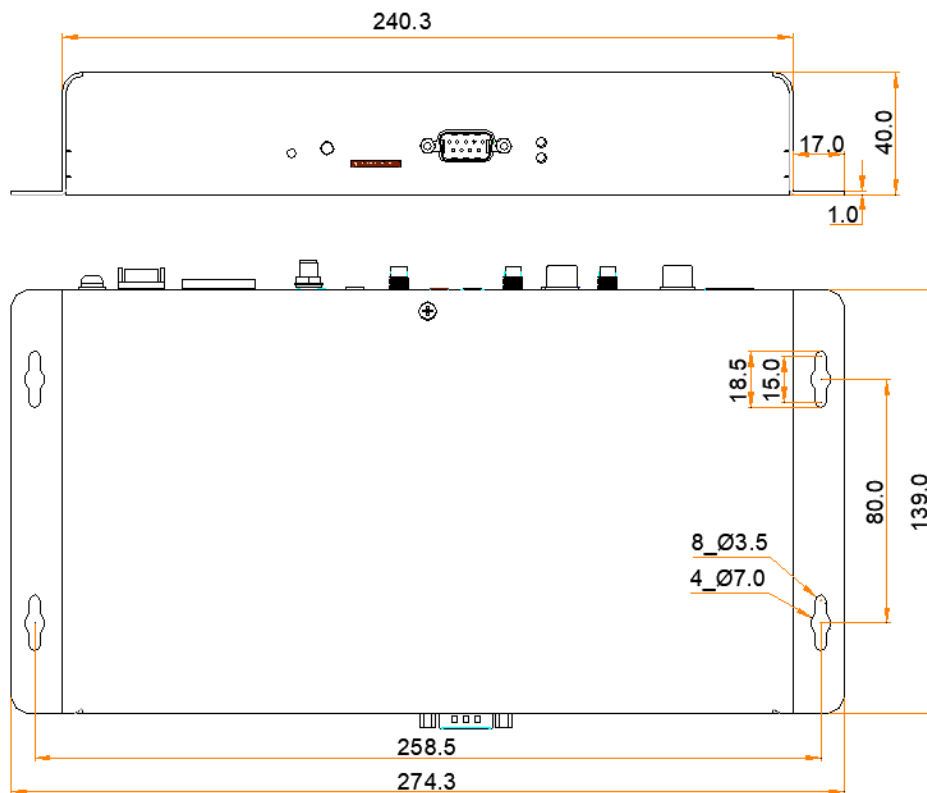| Name	Description
RESET	Factory reset button Press and hold this button for 5 seconds to reset the device to its factory settings.
	To be available in future updates
SIM CARD	SIM card slot Capable of preventing users from inserting a SIM card in the wrong orientation.
RS232	To be available in future updates
PWR (red)	Power indicator Staying on: The power supply is working properly.
SYS (green)	System running and Internet connection indicator • Flashing once every 2s: The system is functioning normally. • Flashing once every 0.5s: The Internet connection is normal. • Staying on/off: The operating system is malfunctioning.

Rear Panel

Name	Description
ETHERNET	Gigabit Ethernet port Connects to the control computer or connects to a LAN or public network for content publishing and screen control.
HDMI 2.0 OUT	HDMI 2.0 output connector

Name	Description
	• Adaptive mode: The LCB4K automatically adjusts the playback window resolution according to the EDID of the LCD display. – 3840×2160@60/50/30/25/24Hz – 1920×1080@60Hz – 1280×720@60Hz – 720×480@60Hz • Custom mode: The user manually sets the playback window resolution. – Maximum width: 4096 pixels (4096×2160@60Hz) – Maximum height: 4096 pixels (2160×4096@60Hz)
WiFi	Wi-Fi antenna connector (2.4 GHz Wi-Fi supported) Support for switching between Wi-Fi AP and Wi-Fi Sta
USB	USB (Type B) port Connects to the control computer for content publishing and screen control.
COM 2	GPS antenna connector
SENSOR	Sensor connectors Connect to brightness sensors or temperature and humidity sensors.
USB 3.0	USB 3.0 (Type A) port Allows for USB playback, firmware upgrade and storage expansion, and cascades a sending device for control. The Ext4 and FAT32 file systems are supported. The maximum size of a single file supported by FAT32 is 4 GB. The exFAT and FAT16 file systems are not supported.
USB 2.0	USB 2.0 (Type A) port Allows for USB playback, firmware upgrade and storage expansion, and cascades a sending device for control. The Ext4 and FAT32 file systems are supported. The maximum size of a single file supported by FAT32 is 4 GB. The exFAT and FAT16 file systems are not supported.
COM 1	4G antenna connector
AUDIO OUT	Audio output connector OMTP headphones can be connected.
	RF antenna connector (to be available in future updates)

Name	Description
100–240V~, 50/60Hz, 0.6A	Power input connector
ON/OFF	Power switch

Dimensions

Tolerance: ±0.3   Unit: mm

Specifications

Electrical Parameters	Input voltage	100–240 V~, 50/60 Hz, 0.6 A
	Maximum power consumption	15 W
Storage Space	RAM	2 GB
	Internal storage	32 GB
Operating Environment	Temperature	−20℃ to +60℃
	Humidity	0% RH to 80% RH, non–condensing
Storage	Temperature	−40℃ to +80℃

Environment	Humidity	0% RH to 80% RH, non-condensing
Physical Specifications	Dimensions	274.3 mm × 139.0 mm × 40.0 mm
	Net weight	1.1 kg
	Gross weight	1.7 kg Note: It is the total weight of the product, accessories and packing materials packed according to the packing specifications.
Packing Information	Dimensions	386.0 mm × 110.0 mm × 285.0 mm
	Accessories	• 1x Wi-Fi omnidirectional antenna • 1x AC power cord • 1x USB cable • 1x Packing list
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product.	
System Software	• Android 11.0 operating system software • Android terminal application software Note: Third-party applications are not supported.	

The amount of power consumption may vary depending on various factors such as product settings, usage, and environment.

Media Decoding Specifications

Image

Codec	Resolution	Format	Remarks
JFIF file format 1.02	96×32 pixels to 817×8176 pixels	JPG, JPEG	No support for non-interlaced scan Support for SRGB JPEG Support for Adobe RGB JPEG
BMP	No Restriction	BMP	N/A
GIF	No Restriction	GIF	N/A
PNG	No Restriction	PNG	N/A

Codec	Resolution	Format	Remarks
WEBP	No Restriction	WEBP	N/A

Video

Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	Format	Remarks
MPEG–1/2	48×48 pixels to 1920×1088 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support for field coding
MPEG4	48×48 pixels to 1920×1088 pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	No support for MS MPEG4 v1/v2/v3, GMC
H.264	48×48 pixels to 4096×2304 pixels	2304p@30fps	80Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support for field coding and MBAFF
H.264 MVC	48×48 pixels to 4096×2304 pixels	2304p@60fps	100Mbps	MKV, TS	Support for Stereo High Profile only
H.265/HEVC	64×64 pixels to 4096×2304 pixels	2304p@60fps	100Mbps	MKV, MP4, MOV, TS	Support for Main Profile, Tile & Slice
VP8	48×48 pixels to 1920×1088 pixels	30fps	38.4Mbps	WEBM, MKV	N/A
VP9	64×64 pixels to 4096×2304 pixels	60fps	80Mbps	WEBM, MKV	N/A
H.263	SQCIF (128×96) QCIF (176×144) CIF (352×288) 4CIF (704×576)	30fps	38.4Mbps	3GP, MOV, MP4	No support for H.263+
MJPEG	48×48 pixels to 1920×1088 pixels	60fps	60Mbps	AVI	N/A

Notes and Cautions

This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Official website
www.novastar.tech

Technical support
support@novastar.tech