

# LCB4K LCD Multimedia Player



**Specifications**

## Change History

Document Version	Release Date	Description
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

CCC

**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 of the internal source is fixed at 48 kHz.

### Control

- 1x USB 3.0 (Type A) port
  - Allows for USB playback and firmware upgrade over USB, and cascades a sending device for control.
- 1x USB 2.0 (Type A) port
  - Allows for USB playback and firmware upgrade over USB, 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 connects 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 “12345678”.
  - 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 (1x 4K video)
  - 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 only the 5G networks in China can be accessed.


Network connection priority: Wired network > Wi-Fi network > 4G/5G network

When multiple types of networks are available, the LCB4K will choose a signal automatically according to the priority.

## Appearance


### Front Panel



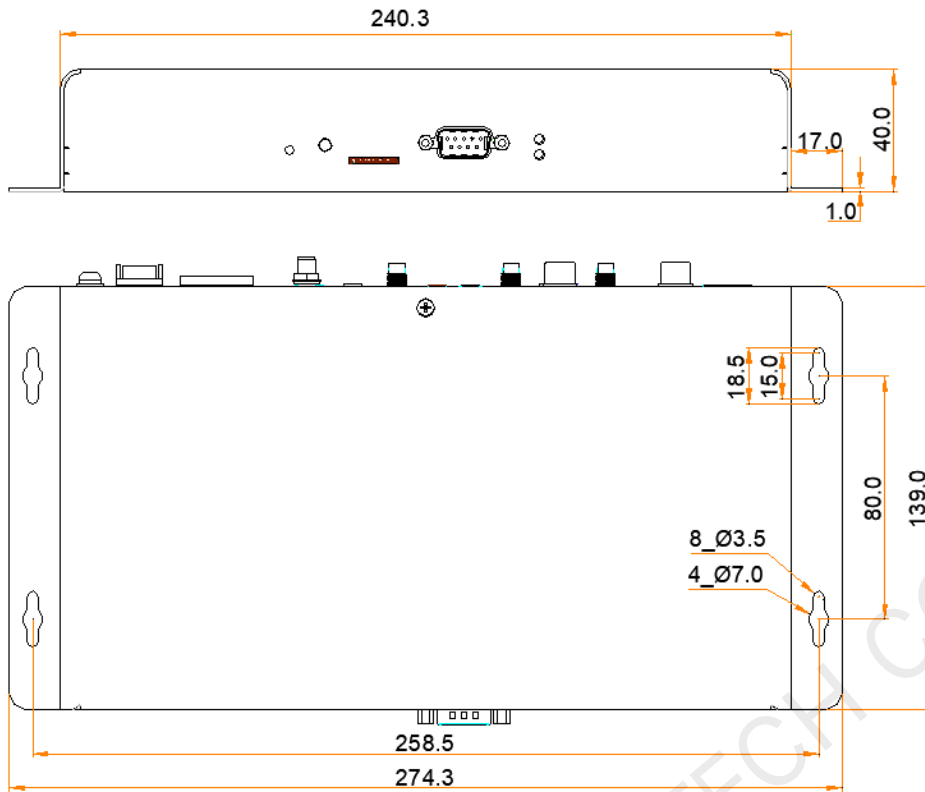
Name	Description
RESET	Factory reset button Press and hold this button for 5 seconds to reset the device to its factory settings.
	Reserved
SIM CARD	SIM card slot Capable of preventing users from inserting a SIM card in the wrong orientation
RS232	Reserved
PWR (red)	Power indicator Staying on: The power supply is working properly.
SYS (green)	System running and Internet connection indicator <ul style="list-style-type: none"> <li>● Flashing once every 2s: The system is functioning normally.</li> <li>● Flashing once every 0.5s: The Internet connection is normal.</li> <li>● Staying on/off: The operating system is malfunctioning.</li> </ul>

### 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 <ul style="list-style-type: none"> <li>Adaptive mode: The LCB4K automatically adjusts the playback window resolution according to the EDID of the LCD display. <ul style="list-style-type: none"> <li>3840x2160@60/50/30/25/24Hz</li> <li>1920x1080@60Hz</li> <li>1280x720@60Hz</li> <li>720x480@60Hz</li> </ul> </li> <li>Custom mode: The user manually sets the playback window resolution. <ul style="list-style-type: none"> <li>Maximum width: 4096 pixels (4096x2160@60Hz)</li> <li>Maximum height: 4096 pixels (2160x4096@60Hz)</li> </ul> </li> </ul>
WiFi	Wi-Fi antenna connector 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 and firmware upgrade over USB, and cascades a sending device for control.  The Ext4 and FAT32 file systems are supported. The exFAT and FAT16 file systems are not supported.
USB 2.0	USB 2.0 (Type A) port Allows for USB playback and firmware upgrade over USB, and cascades a sending device for control.  The Ext4 and FAT32 file systems are supported. The exFAT and FAT16 file systems are not supported.
COM 1	4G antenna connector
AUDIO OUT	Audio output connector
	RF antenna connector (reserved)
100-240V~, 50/60Hz, 0.6A	Power input connector
ON/OFF	Power switch

## Dimensions



Tolerance:  $\pm 0.3$  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°C to +60°C
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	-40°C to +80°C
	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	<ul style="list-style-type: none"> <li>1x Wi-Fi omnidirectional antenna</li> </ul>

		<ul style="list-style-type: none"> <li>• 1x AC power cord</li> <li>• 1x USB cable</li> <li>• 1x Packing list</li> </ul>
IP Rating	IP20	Please prevent the product from water intrusion and do not wet or wash the product.
System Software	<ul style="list-style-type: none"> <li>• Android 11.0 operating system software</li> <li>• Android terminal application software</li> </ul> <p>Note: Third-party applications are not supported.</p>	

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

## Media Decoding Specifications

### Image

Category	Codec	Supported Image Size	Format	Remarks
JPEG	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	BMP	No Restriction	BMP	N/A
GIF	GIF	No Restriction	GIF	N/A
PNG	PNG	No Restriction	PNG	N/A
WEBP	WEBP	No Restriction	WEBP	N/A

### Video

Category	Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48×48 pixels to 1920×1088 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support for field coding
MPEG-4	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/AVC	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
MVC	H.264 MVC	48×48 pixels to 4096×2304 pixels	2304p@60fps	100Mbps	MKV, TS	Support for Stereo High Profile only
H.265/HEVC	H.265/HEVC	64×64 pixels to 4096×2304 pixels	2304p@60fps	100Mbps	MKV, MP4, MOV, TS	Support for Main Profile, Tile & Slice
GOOGLE	VP8	48×48 pixels	30fps	38.4Mbps	WEBM, MKV	N/A

Category	Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
VP8		to 1920x1088 pixels				
GOOGLE VP9	VP9	64x64 pixels to 4096x2304 pixels	60fps	80Mbps	WEBM, MKV	N/A
H.263	H.263	SQCIF (128x96) QCIF (176x144) CIF (352x288) 4CIF (704x576)	30fps	38.4Mbps	3GP, MOV, MP4	No support for H.263+
VC-1	VC-1	48x48 pixels to 1920x1088 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48x48 pixels to 1920x1088 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.

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www.novastar.tech

[Technical support](mailto:support@novastar.tech)  
support@novastar.tech