

# 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



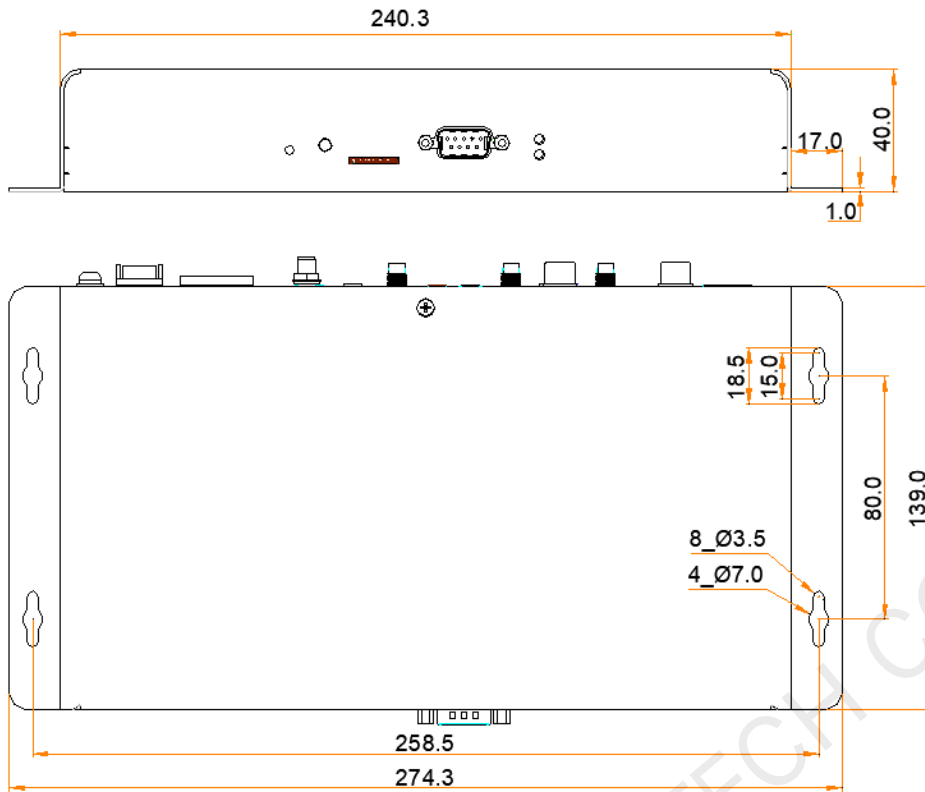
| Name  | Description   |
|---|---|
| RESET   | Factory reset button<br>Press and hold this button for 5 seconds to reset the device to its factory settings.   |
|  | Reserved  |
| SIM CARD  | SIM card slot<br>Capable of preventing users from inserting a SIM card in the wrong orientation   |
| RS232   | Reserved  |
| PWR (red)   | Power indicator<br>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<br>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<br>Support for switching between Wi-Fi AP and Wi-Fi Sta  |
| USB   | USB (Type B) port<br>Connects to the control computer for content publishing and screen control.   |
| COM 2   | GPS antenna connector  |
| SENSOR  | Sensor connectors<br>Connect to brightness sensors or temperature and humidity sensors.  |
| USB 3.0   | USB 3.0 (Type A) port<br>Allows for USB playback and firmware upgrade over USB, and cascades a sending device for control.<br><br>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<br>Allows for USB playback and firmware upgrade over USB, and cascades a sending device for control.<br><br>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<br>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<br>Support for SRGB JPEG<br>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)<br>QCIF (176x144)<br>CIF (352x288)<br>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.

**Copyright © 2022 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.**

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

#### **Trademark**

**NOVA STAR** is a trademark of Xi'an NovaStar Tech Co., Ltd.

#### **Statement**

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

**Official website**  
[www.novastar.tech](http://www.novastar.tech)

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