

# MB4

Commercial Led Display Controller Series

Specification V4.0



## CONTENT

|                                      |   |
|--------------------------------------|---|
| 1 Update Records .....               | 1 |
| 2 Product Introduction .....         | 1 |
| 3 Product Characteristics .....      | 1 |
| 4 Product Features .....             | 2 |
| 4.1Features .....                    | 2 |
| 4.2Audio & Video Performance: .....  | 3 |
| 4.3Terminal Management: .....        | 3 |
| 5 Product Appearance .....           | 4 |
| 5.1 Data Interface Description ..... | 4 |
| 5.2 Indicator Light .....            | 5 |
| 5.3 Dimensions(Size: mm) .....       | 6 |
| 6 Product Parameters .....           | 6 |
| 6.1Performance Parameters .....      | 6 |
| 6.2 Specification .....              | 7 |
| 7 Precautions .....                  | 7 |

## 1 Update Records

| Document Version | Hardware Version | Release Time      | Update Record |
|------------------|------------------|-------------------|---------------|
| V4.0             | MB4 (V1.4)       | July 31(th), 2025 | First release |

## 2 Product Introduction

MB4 Media Player features 8-core high-performance CPU and it's a combination of the Player with the Sending Card(Integration). Given that the Player has a very high performance of the video processing.

The MB4 features a compact size, low power consumption, and wide temperature range compatibility, with convenient installation and maintenance. It supports 2 network port outputs, with a maximum load capacity of 1.3 million pixels, a maximum width of 3840 pixels, and a maximum height of 2160 pixels.

It could be widely used at business display area(fields) such as : Fixed Installation LED Display, Intelligent Lamppost Led Display, Over-door Led Display,Vehicle-Mounted Led Display, Chain Stores Cluster Display Management, Led Electronic Whiteboard, Led Mirror(Mirror-like Led Display),Advertise Led Display, and the Led Display that does not need to be used with the PC(Offline Mode).

## 3 Product Characteristics

- Supports synchronous/asynchronous switching
- Supports HDMI loop-out
- Supports H.265 hardware decoding
- Supports cloud cluster control management
- Supports Android 7.1 system
- Supports comprehensive program control and display panel control via mobile/iPad, LAN, and PC
- Supports Wi-Fi connectivity and can function as a WiFi hotspot
- Low power consumption, stable and reliable performance suitable for wide temperature ranges
- Compact size for easy installation and maintenance

## 4 Product Features

### 4.1 Features

- Supports switching between synchronous and asynchronous signals
- Supports HDMI input and HDMI loop-out
- Supports H.265 4K high-definition hardware decoding playback
- Supports cloud cluster control management, enabling program release without on-site debugging.
- Supports multiple networking methods including LAN/WIFI/4G
- Supports various content types: HD video, images, text, weather, clock, etc.
- Supports multi-window playback with freely adjustable window size/position and window overlay
- Provides Android/iOS system apps
- Manage programs and configure settings via PC, mobile phone, tablet for flexible and convenient operation
- Supports RS485 sensor interface for monitoring environmental parameters like temperature, humidity, and brightness
- Automatically adjusts display brightness
- Supports NTP for precise timing
- Supports multi-screen synchronized display
- Supports USB flash drive updates for plug-and-play programming; also enables network-based program updates and management
- Features automatic and scheduled intelligent brightness adjustment
- Enables playback according to predefined program schedules
- Allows scheduled screen on/off settings via management system

## 4.2 Audio & Video Performance:

|                    |                                                                                                                                                                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programs Partition | Supports arbitrary partitioning of program windows and arbitrary layering of windows.                                                                                                                                                                             |
| Video Format       | MPG,MOV,MP4,FLV,MKV etc.                                                                                                                                                                                                                                          |
| Audio Format       | MPEG-1 Layer III, AAC,etc.                                                                                                                                                                                                                                        |
| Image Format       | JPG、PNG,etc.                                                                                                                                                                                                                                                      |
| TXT Display        | Single-Line TXT,Static TXT,Multi-Line TXT                                                                                                                                                                                                                         |
| Image Partition    | It supports Video,Image,Scrolling Caption,LOGO,Data and Time; the images could be partitioned freely.                                                                                                                                                             |
| OSD Supported      | It supports 32bit True Color OSD,it could be displayed at any position, it supports the video ,image and TXT to be played together at the same time, the image or TXT could be superposed on the videos, it supports transparent,semi-transparent,opaque effects. |
| RTC                | Real Time Clock Display and Management                                                                                                                                                                                                                            |

## 4.3 Terminal Management:

|                       |                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Network Communication | LAN/WiFi/4G Network Access                                                                                                               |
| Programs Update       | USB Flash Drive Content Plug-and-Play; Management Terminal Network Transmission                                                          |
| Device Management     | PC, Android, iOS, and Other Smart Terminal Devices                                                                                       |
| Wireless Control      | Real-time Brightness Adjustment, Display Switch, System Parameter Configuration, Program Playback Control, Wireless Program Transmission |

|                                     |                                                                                       |
|-------------------------------------|---------------------------------------------------------------------------------------|
| Brightness Automatically Adjustment | Supports automatic screen brightness adjustment based on time or ambient light levels |
| Timing Playing                      | Supports playback according to scheduled programs                                     |
| Management Software                 | APP Supports various Android and iOS devices                                          |
| Scheduled power on/off              | Centralized settings can be configured through the management system.                 |

## 5 Product Appearance

### Front Panel



\* Product photos are for reference only, please refer to the products actually purchased.

### 5.1 Data Interface Description

| Front Panel   |                                                         |
|---------------|---------------------------------------------------------|
| Name          | Illustration                                            |
| DC 12V        | Input Power Connector: 5.5*2.5MM                        |
| CONFIG        | Type B USB Port for Display Parameter Configuration     |
| LED Indicator | PWR/4G/SYS/WIFI Indicator Lights                        |
| Micro-B       | Micro-B Debugging Port                                  |
| 4G            | 4G Antenna Port (when equipped with optional 4G module) |
| WiFi          | WiFi Antenna Port                                       |
| SENSOR        | Light Sensor Probe Port                                 |
| SWITCH        | Synchronous/Asynchronous Playback Switch                |
| SIM           | Micro SIM card, 4G mobile SIM card                      |

## Rear Panel



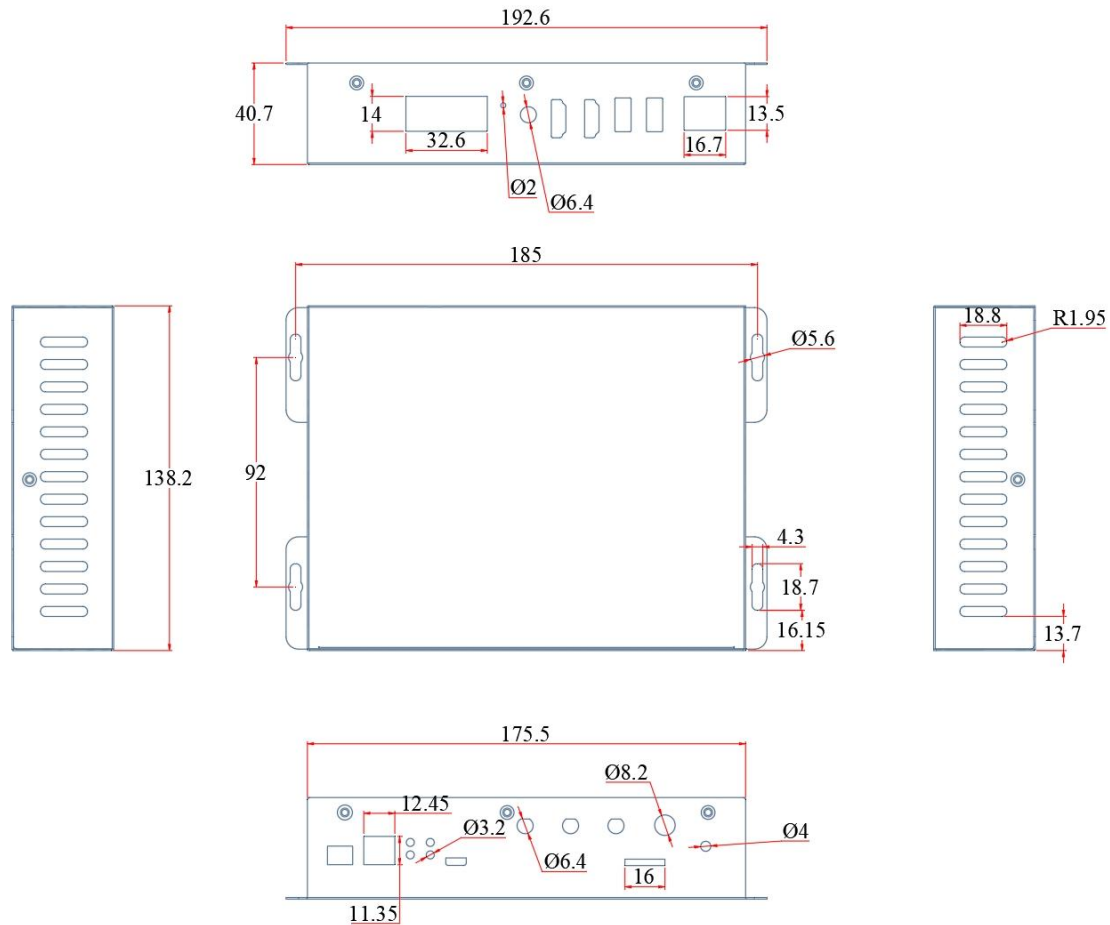
\* Product photos are for reference only, please refer to the products actually purchased.

| Rear Panel |                                                                                                           |
|------------|-----------------------------------------------------------------------------------------------------------|
| Name       | Illustration                                                                                              |
| LEDOUT     | 2 Gigabit Ethernet ports output signal                                                                    |
| USB        | 2x USB 2.0 ports for connecting external USB drives or other devices                                      |
| HDMI IN    | HDMI Input                                                                                                |
| HDMI OUT   | HDMI Output                                                                                               |
| LAN        | 100 Mbps network access                                                                                   |
| AUDIO      | 1/8" (3.5mm) TRS plug audio output                                                                        |
| RESET      | Insert the tip of a pen into the RESET hole and press and hold for 8 seconds to restore factory settings. |

## 5.2 Indicator Light

| Name | Indicator Illustration                                                |
|------|-----------------------------------------------------------------------|
| 4G   | 4G Indicator Light: Remains on when connected to a 4G network         |
| WiFi | WiFi Indicator Light: Remains on when connected to a wireless network |
| PWR  | Power Indicator Light: Remains on when powered on                     |
| SYS  | System Indicator Light: Flashes when the system is running            |

### 5.3 Dimensions(Size: mm)



Tolerance:  $\pm 0.3$  Unit: mm

## 6 Product Parameters

### 6.1 Performance Parameters

|                        |                                                                                                                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Performance Parameters | <p>Processor: Octa-core CPU</p> <p>Memory: 2GB DDR3 high-speed RAM</p> <p>Flash Storage: 8GB eMMC high-speed storage</p> <p>Resolution: Supports H.265 4K HD hardware decoding playback</p> |
| Network Access Method  | 100 Megabit, LAN、WiFi AP、WiFi STA, 4G Module (Optional)                                                                                                                                     |
| Processing Capacity    | <p>Supports 1.3 Million pixels</p> <p>Maximum width: 3840 pixels, maximum height: 2160 pixels</p>                                                                                           |



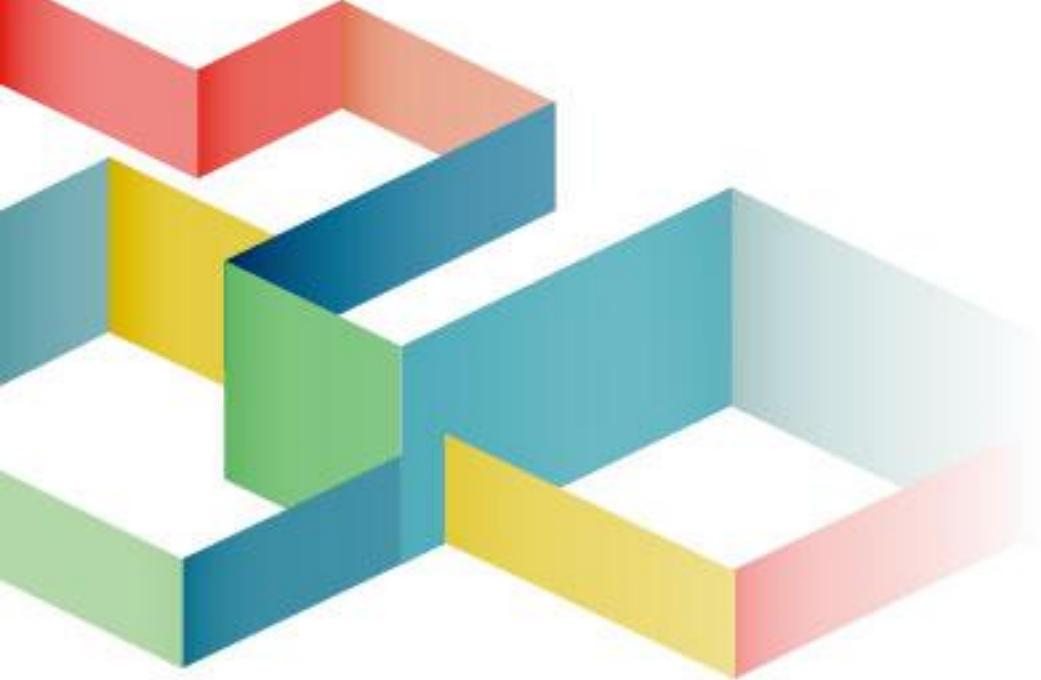
## 6.2 Specification

|                       |                                                                                                              |                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Electrical Parameters | Rated Voltage                                                                                                | DC 12V                                           |
|                       | Rated Power                                                                                                  | 15W                                              |
| Operating Environment | Operating Temperature                                                                                        | -20°C~60°C                                       |
|                       | Operating Humidity                                                                                           | 0%RH~80%RH, No condensation                      |
| Storage Environment   | Storage Temperature                                                                                          | -40°C~80°C                                       |
| Dimensions            | 193mmX139mmX42mm                                                                                             |                                                  |
| Net Weight            | 0.5 Kg                                                                                                       |                                                  |
| Packing Information   | List: USB debugging cable, Wi-Fi antenna (2 pieces), 12V/2A power adapter (5.5mm × 2.5mm standard connector) |                                                  |
|                       | Option List: 4G Module (includes 4G module, antenna, and antenna mount)                                      |                                                  |
|                       | Dimension                                                                                                    | 305*245*85mm                                     |
|                       | Packaging                                                                                                    | Outer packaging varies in size depending on qty. |
|                       | Gross Weight                                                                                                 | 1Kg                                              |

\* Current and power consumption may vary according to different factors such as product usage, environment and settings.

## 7 Precautions

- The installation process must be completed by professionals.
- Must be antistatic.
- Please pay attention to waterproof and dust removal.



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