



PUBLIC DISPLAY

USER MANUAL

REVISION

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**THE MONITOR,
THAT FITS.**

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CONTENT

1.	INTRODUCTION	5
1.1	Warranty Terms.....	5
1.2	Product Exchange	5
1.3	Information and Support	5
1.4	Safety	5
1.5	Electrostatic Discharge	5
1.6	RoHS-Compliance.....	6
1.7	Terminology and Definitions.....	6
2.	overview.....	7
2.1	Introduction.....	7
2.2	Technical Specifications.....	7
2.2.1.	Electrical Specifications	7
2.2.2.	Public Display	7
2.2.3.	Public Display Advanced	9
2.3	Video Tutorial	10
3.	connections	11
3.1	POWER SUPPLY CONNECTION	11
3.2	Infrared Sensor.....	11
3.3	Audio Connection.....	11
3.4	USB Connection.....	11
3.5	Video Terminal (optional).....	11
4.	INFRARED REMOTE CONTROL	12
5.	PUBLIC DISPLAY SETTINGS	14
5.1	Preference / Settings	14
5.2	Time Set Menü.....	16
5.2.1.	Time Settings.....	16
5.2.2.	Timer X Setting Menu.....	17
5.3	Function Menu.....	18
5.4	Screen Set Menu.....	19
6.	SETTINGS FOR THE PUBLIC DISPLAY ADVANCED	20
6.1	General Setting	20
6.2	Play Setting.....	21
6.3	Subtitles Setting	22

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6.4	Clock Setting.....	22
6.5	Display Setting.....	23
6.6	Storage Setting.....	24
7.1	Public Display-Specific Accessories.....	25
7.1.1.	Extension for Infrared Transmitter and Status LED.....	25
7.1.2.	Extension for Power Supply Connection.....	25
7.1.3.	CF / SD Card Module.....	25
7.1.4.	OSD-Keyboar.....	25
7.2	Power Supply.....	25
7.3	Control Cabinet Kit.....	26
7.4	Rackmount Serverkit.....	26
7.5	Aluminum Housing.....	27

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1. INTRODUCTION

1.1 Warranty Terms

For MIKKA products, a warranty period of 3 years applies from the initial sale of the product in new condition by an authorized dealer to a purchasing business. For more information on warranty terms, please visit our website at:

<https://mikka.com/en/support/unser-service#Warranty>

1.2 Product Exchange

During the warranty period, the supplier guarantees to provide, at their discretion, support and service for the repair, replacement, or credit of the item. Shipping costs related to non-conforming items or items that need to be replaced are the responsibility of the customer. Items cannot be returned unless approved by the supplier beforehand. For all information regarding exchanges, please visit our website at: <https://mikka.com/en/support/unser-service#austausch>

Warning! Any modifications or alterations to the device that are not expressly approved by MIKKA may affect the functionality of the device and void the warranty.

1.3 Information and Support

What should I do if the product is defective?

MIKKA provides the following services:

- MIKKA website: Visit mikka.com to access the latest product information. In most cases, useful information for problem resolution can be found.
- MIKKA sales representative: The sales representative can help identify the exact cause of the problem and seek the best solution.
- MIKKA helpdesk: Contact MIKKA's technical customer service. A technician is available to identify the exact source of the problem and propose the correct solution. Email: info@mikka.com

1.4 Safety

The monitor uses low voltages. Please exercise extreme caution when handling the monitor to avoid any risk or damage to electronic components.

Always turn off the power and unplug the power cord before working with the monitor and/or connecting cables or other components. Do not use metallic components - such as paper clips, screws, and the like - near the monitor when connecting it to a power source to prevent short circuits due to unintended contact with other board components.

If the monitor becomes wet, never connect it to an external power source.

1.5 Electrostatic Discharge

Like any other electronic product, the monitor is electrostatic-sensitive: high voltages due to static electricity can damage some or all devices and/or components in the monitor. When working with the monitor, ground yourself with an antistatic wristband. Placing the monitor on an antistatic surface is also highly recommended.

1.6 RoHS-Compliance

The monitor has been constructed with RoHS-compliant components and produced on a lead-free production line. It is therefore fully RoHS compliant.

1.7 Terminology and Definitions

DESCRIPTION OF TECHNICAL TERMS

LVDS:	Low Voltage Differential Signaling => Interface standard
HDMI:	High Definition Multimedia Interface => Interface for video and audio transmission
VGA:	Video Graphics Array => Computer graphics standard
AV-IN:	Analog video signal transmission system based on SCART
SCART:	European standard for audio/video signal connectors
NAND Flash:	Digital storage component
IR:	Infrarot-LED. Light-emitting diode for simple data transmission

Table 1. Overview with descriptions of technical terms

2. OVERVIEW

2.1 Introduction

The MIKKA Public Display is available in various sizes and configurations. Each model is assembled in Ansfelden, Upper Austria. This ensures that MIKKA monitors not only offer high-quality performance but can also be delivered quickly. Stocked models are typically ready for shipment within 7 working days. Furthermore, MIKKA monitors are known for their straightforward and easy installation. With space-saving design and standardized brackets, the MIKKA open frame monitor seamlessly integrates into your existing structure and application. The exact fit is further optimized by additions such as a frame lip or glass panel. The MIKKA open frame monitor perfectly adapts to your needs in every case. Open frame monitors are also highly flexible. These installation devices, also known as Open Frame Monitors, can be seamlessly integrated into almost any location. The MIKKA open frame monitor excels in low heat emission and silent operation. Designed for 24-hour continuous operation, the monitor is a reliable solution in industries, the automotive sector, hospitality, and museums. Status, machine data, and more are easily readable on the high-contrast display of the industrial monitor. The compact design of the open frame monitor allows for installation even in limited spaces, requiring space-saving solutions. With the optional glass panel, you can better protect your monitor, ensuring optimal performance even in harsh environmental conditions. The optional frame lip provides a clean and visually high-quality finish between the monitor and the installation structure.

We offer two versions of the Media Player Board:

- Public Display
- Public Display Advanced

2.2 Technical Specifications

2.2.1. Electrical Specifications

The monitor must be powered with an external 12V DC power supply with a range of $\pm 10\%$ and a power rating of 60W. An exception is the 31.5" model, which exclusively operates with a 24V power supply. This voltage can be supplied through an optional 6.3mm power socket (internal pin, diameter 2.0mm). The internal pin is VIN power.

2.2.2. Public Display

2.2.2.1. General Description

The integrated Player Board supports LCDs with eDP or LVDS interfaces and a maximum resolution of WUXGA (1920 x 1200). Two separate USB 2.0 interfaces allow playback of music, video, and images from USB devices (e.g., USB stick).

This board has the following features:

- Display sizes ranging from 13.3" to 31.5"
- Additionally, a Video Terminal Module can be installed (HDMI, VGA, AV In)

2.2.2.2. Block Diagram of Public Display

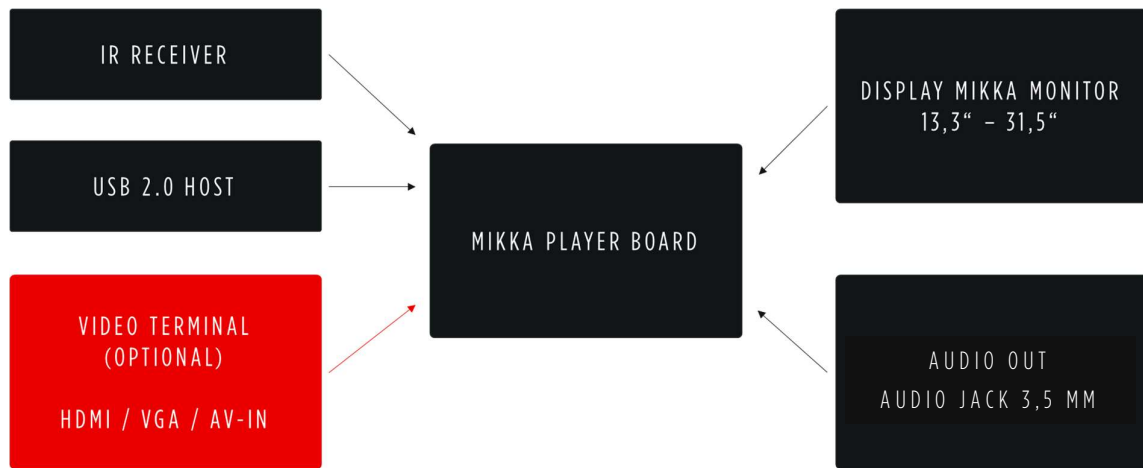


Figure 1. Block Diagram of Public Display

2.2.2.3. Supported Video Formats

The Public Display's player supports various video formats. An overview is provided in Table 2.

Video Extension	Resolution and Frame Rate	Bit Rate
MP4	1920x1080@30P	20Mbit/sec
MPG	1920x1080@30P	20Mbit/sec
MPEG	1920x1080@30P	20Mbit/sec
AVI	1920x1080@30P	20Mbit/sec
MOV	1920x1080@30P	20Mbit/sec
VOB	1920x1080@30P	20Mbit/sec
MKV	1920x1080@30P	20Mbit/sec
ASF	1920x1080@30P	20Mbit/sec
WMV	1920x1080@30P	20Mbit/sec
TS	1920x1080@30P	20Mbit/sec
M2TS	1920x1080@30P	20Mbit/sec
RM	1920x1080@25P	10Mbit/sec
3GP	1920x1080@30P	20Mbit/sec
FLV	1920x1080@30P	20Mbit/sec

Table 2. Supported Video Formats of the Public Display

2.2.3. Public Display Advanced

2.2.3.1. General Description

The integrated Player Board supports LCDs with eDP or LVDS interfaces and a maximum resolution of WUXGA (1920 x 1200). It is powered by a high-performance A9 CPU with 1GHz and 256MB RAM. Two separate USB 2.0 interfaces allow playback of music, video, and images from USB devices (e.g., USB stick).

This board features the following:

- Display sizes ranging from 17" to 31.5"
- Seamless video playback
- Built-in 8GB NAND flash
- Video files/menu can be rotated by 90/180/270 degrees

2.2.3.2. Block Diagram of Public Display Advanced

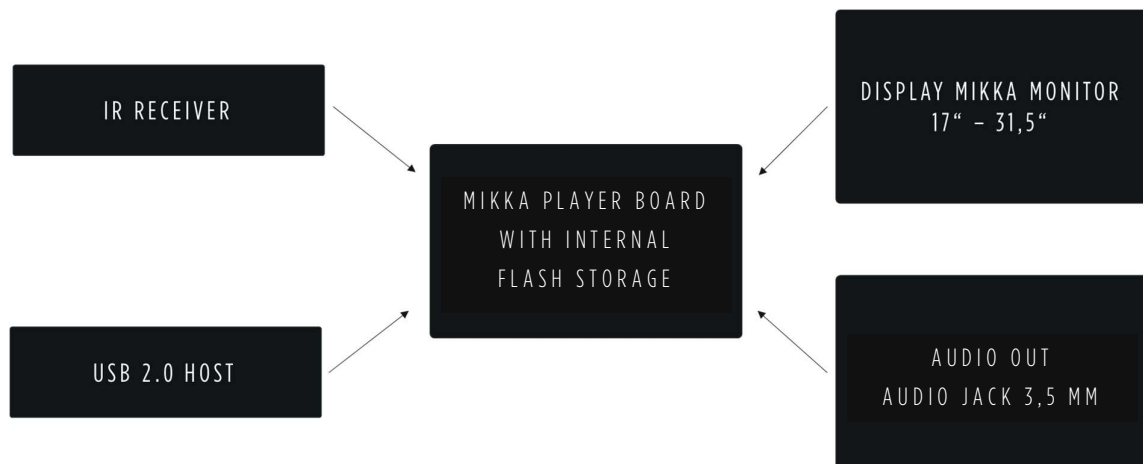


Figure 2. Block Diagram of Public Display Advanced

2.2.3.3. Supported Video Formats

The Player of the Public Display Advanced supports various video formats. An overview can be found in Table 3.

Extension Name	Resolution and Frame Rate	Bit Rate
MP4	1920x1080@25P	18Mbit/sec
MPG	1920x1080@25P	18Mbit/sec
MPEG	1920x1080@25P	18Mbit/sec
AVI	1920x1080@25P	18Mbit/sec
MOV	1920x1080@25P	18Mbit/sec
VOB	1920x1080@25P	18Mbit/sec
MKV	1920x1080@25P	18Mbit/sec
ASF	1920x1080@30P	20Mbit/sec

WMV	1920x1080@30P	20Mbit/sec
RM	1920x1080@25P	18Mbit/sec
3GP	1920x1080@25P	18Mbit/sec
FLV	1920x1080@25P	18Mbit/sec

Table 3. Supported Video Formats of Public Displays Advanced

2.3 Video Tutorial

For setting up the Public Display, a video tutorial is available on our website. It covers the following topics:

- Overview of connections
- Playing video on the Public Display
- Functionality of the Media Player and navigation menu
- Setting up audio with external speakers

Link to the video: <https://mikka.com/en/produkte/public-display-monitor#public-display-tutorial>



Figure 3. Video tutorial for Public Display

3. CONNECTIONS

The connections are located on the back of the monitor. Figure 4 shows the exact positions.

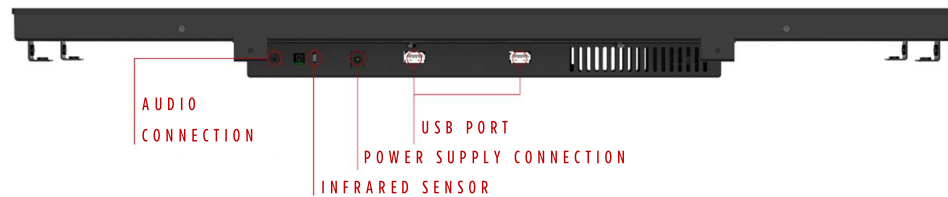


Figure 4. Position of the connections on the monitor

3.1 POWER SUPPLY CONNECTION

For power supply, a 6.3mm power socket (internal pin, diameter 2.0mm) is available. The internal pin is the VIN power line. Suitable power supplies are available as accessories (see Chapter 7.2).

3.2 Infrared Sensor

To control the monitor with the included remote control, a direct connection to the infrared sensor is required. An extension is necessary when the monitor is in a built-in state (see Chapter 7.1.1).

3.3 Audio Connection

Use external speakers for audio playback. The monitor provides an audio connection via a 3.5mm stereo audio jack (2x 6W / 8Ω).

3.4 USB Connection

Two USB 2.0 ports are available for data input (video or images) (max. 480Mbps or max. 500mA). Please note the required data formats (see Chapter 2.2.2.3 for Public Displays and Chapter 2.2.3.3 for Public Display Advanced).

3.5 Video Terminal (optional)

An optional video terminal expands the connections for data import, including:

- HDMI port
- VGA port
- AV and Audio IN port (implemented as V-Chinch or Stereo 3.5mm jack)

Note: A video terminal cannot be installed on a MIKKA Public Display Advanced. Additionally, the housing needs to be adapted.

4. INFRARED REMOTE CONTROL

The included infrared remote control requires a direct line of sight to the IR sensor. To adjust the monitor, aim the remote control at the IR sensor. If you wish to continue operating the monitor smoothly while it is installed, we recommend using an extension cable (see Chapter 7.1.1).



Figure 5. Remote Control for the Public Display

Table 4 below provides a detailed description of the functions of the remote control.

REMOTE CONTROL BUTTONS










POWER:	Turn the monitor on/off
MUTE	Mute
	Play/Pause
	Fast forward
	Rewind
	Up
	Left
	Right
	Down
MENÜ	Enter the menu
VOL+	Increase volume
COL-	Decrease volume
	Next title
	Previous title
EXIT:	Exit from the menu/playlist
DELETE	Delete selected files

Table 4. Description of remote control buttons

5. PUBLIC DISPLAY SETTINGS

After pressing the "Menu" button, the Public Display menu provides options for General, Time, Ads, and Display settings (Figure 6). These will be described in more detail below.



Figure 6. Overview of the Public Display Menu

5.1 Preference / Settings

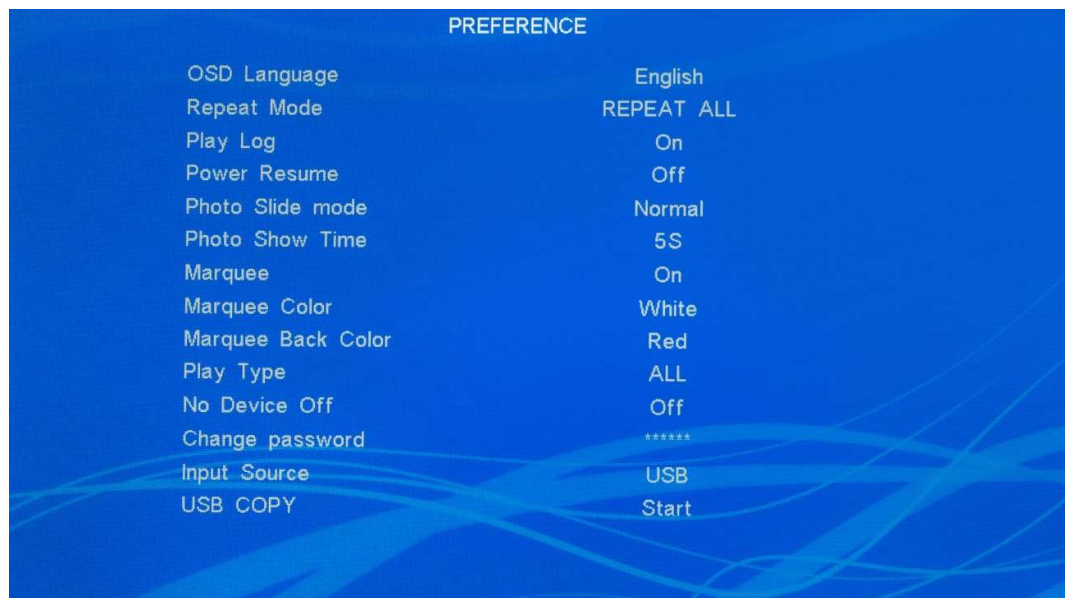


Figure 7. General Settings of the Public Display

DESCRIPTION OF PREFERENCES

OSD Language:	OSD Menu Language
Repeat Mode:	<p>Repeat Mode</p> <ul style="list-style-type: none"> • Repeat all: Repeat all files • Repeat one: Repeat one file • Cancel: Cancel repeat
Play Log:	<p>Playback Log</p> <p>The player records the name of the played file, playback duration, as well as the power on/off time.</p> <p>Note: A file named PLAY.LOG must be created on the USB device for this.</p>
Power Resume:	<p>The player records the played file and the time when the power supply is interrupted. When power is restored, the player resumes playback from where it was interrupted.</p> <p>Note: Music files are not supported.</p>
Photo Slide Mode:	Photo Slide Mode, where you can choose from preset modes.
Photo Show Time:	Display duration of images
Marquee:	Turn the screensaver on/off
Marquee Color:	Color of the display tex
Marquee Back Color:	Background color of the text
Play Type:	<p>Playback Mode</p> <ul style="list-style-type: none"> • Picture: Only image files are played • Music: Only music files are played • Playlist: Playback according to the playlist • Video: Only video files are played • ALL: All files are played
No Device Off:	The monitor automatically turns off when no playback file is found.
Change password:	Must be enabled in the factory menu as an option.
Input Source:	Switch input source type (AV*, VGA*, HDMI*, USB)
USB Copy:	By pressing the menu button, files are copied from one USB stick to another.

Figure 5. Settings under Preferences

5.2 Time Set Menü

In the Timer Settings, predefined time settings (1-5) can be stored.

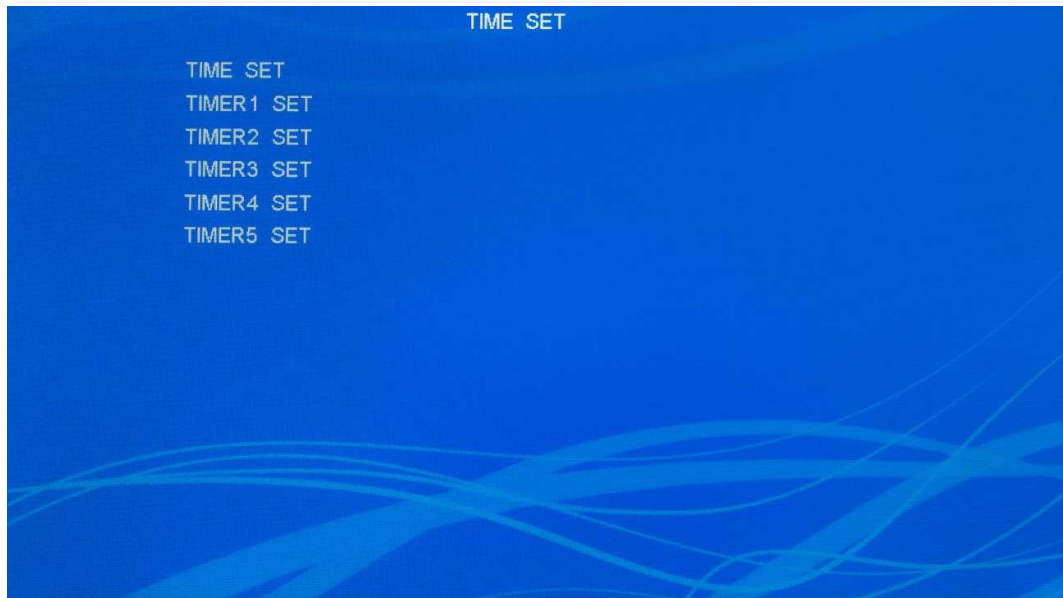


Figure 8. Time Set Settings for the Public Display

5.2.1. Time Settings

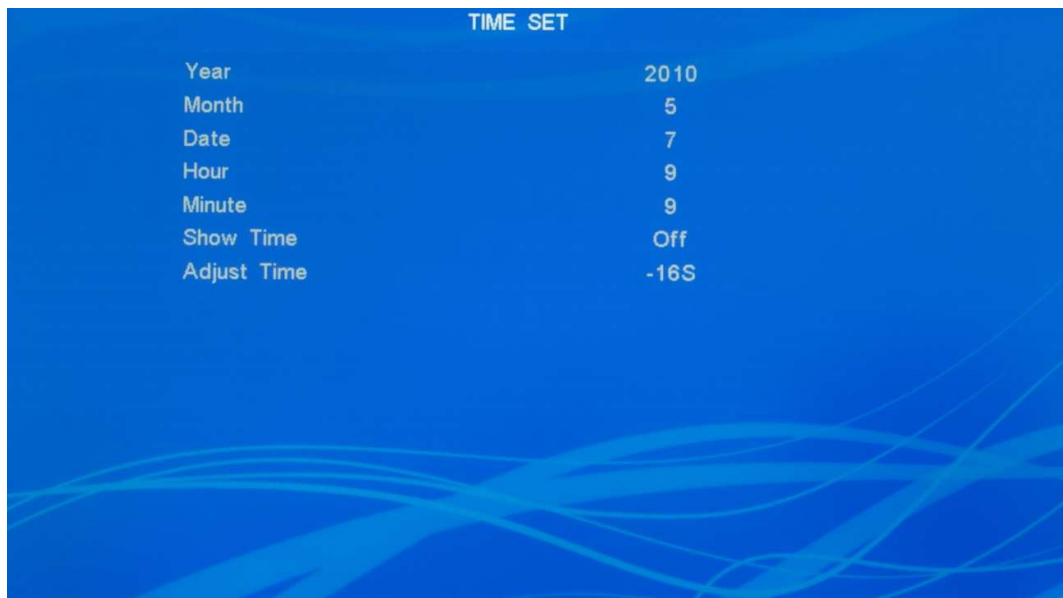


Figure 9. Time Settings for the Public Display

DESCRIPTION OF TIME SETTINGS

Year:	Set the year
Month:	Set the month
Date:	Set the day
Hour:	Set the hour
Minute:	Set the minute
Show Time	Display time on the screen ON / OFF
Adjust Time	Precise adjustment down to the second

Table 6. Settings under Time Settings

5.2.2. Timer X Setting Menu

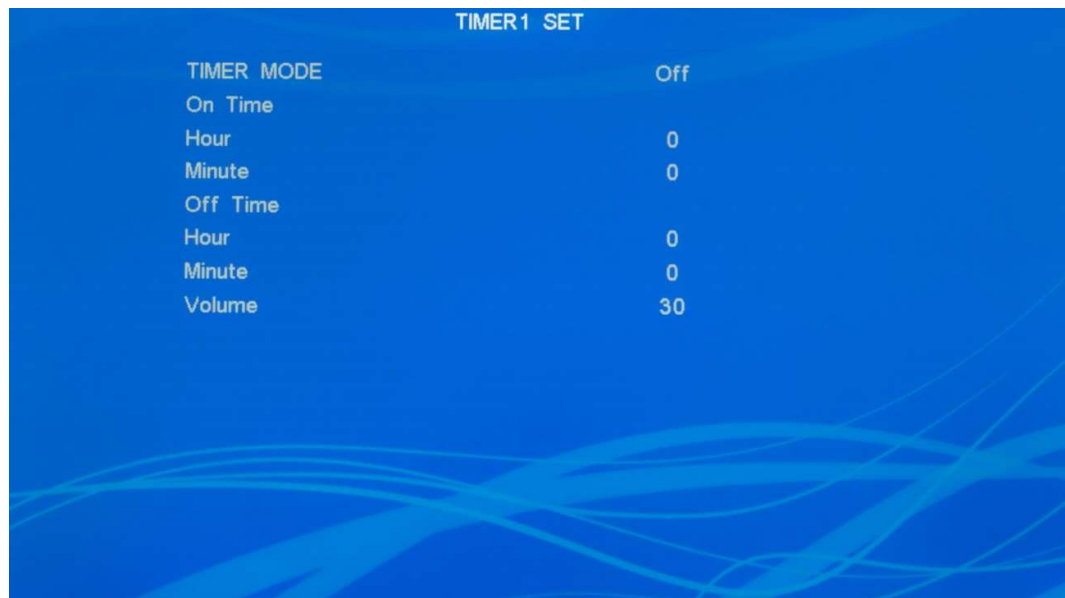


Figure 10. Timer Settings for the Public Display

DESCRIPTION OF TIMER X SETTINGS

Timer Mode:	Every day, weekdays, weekends, OFF
On Time:	Set the power-on time
Off Time:	Set the power-off time
Volume:	Set the volume for this period

Table 7. Settings under Timer X Settings

5.3 Function Menu

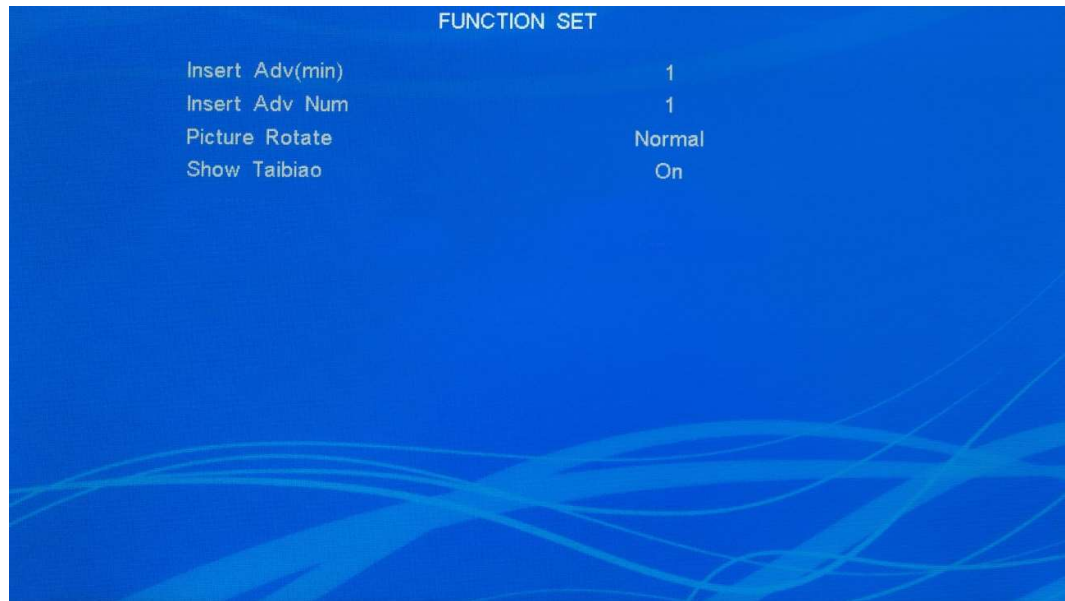


Figure 11. Function Settings for the Public Display

DESCRIPTION OF FUNCTION SETTINGS

Insert Adv (min):	Set the time for inter-cut advertising, which can be set from 1 to 60 minutes.
Insert Adv Num:	Number of inter-cut ads, from 1 to 9
Picture Rotate:	Adjust the degree of photo rotation
Show Taibiao:	Display a 240*240 JPG photo

Table 8. Settings under Function Setting

5.4 Screen Set Menu

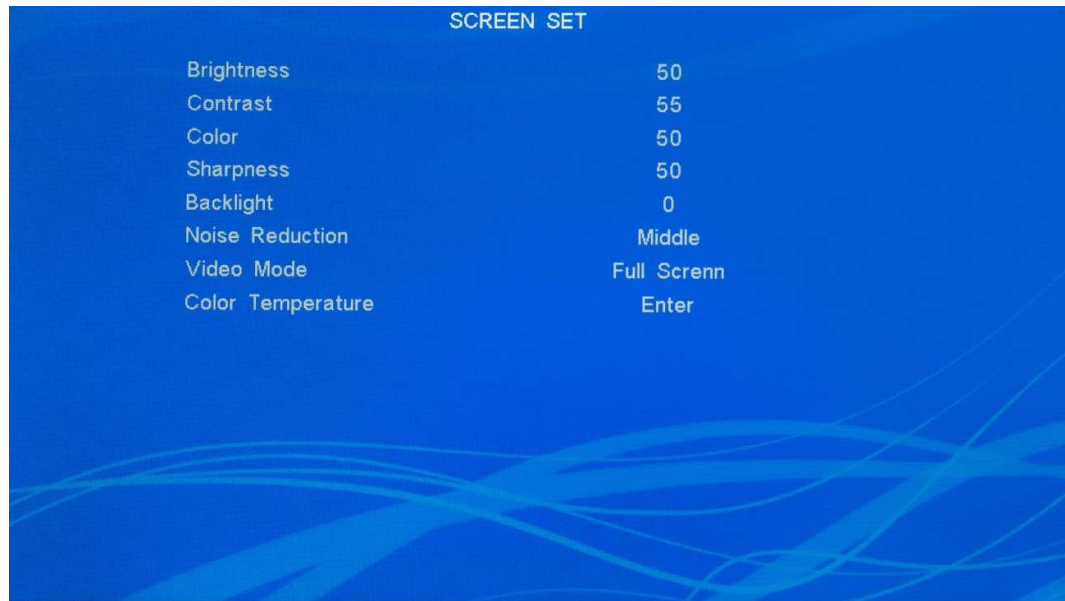


Figure 12. Display Settings for the Public Display

DESCRIPTION OF SCREEN SETTINGS

Brightness:	Adjust brightness
Contrast:	Adjust contrast
Color:	Adjust saturation
Sharpness:	Adjust sharpness
Backlight:	Adjust backlight
Noise Reduction:	Adjust noise reduction
Video Mode:	Picture mode 4:3, 16:9, Full Screen
Color Temperatur:	Adjust color temperature

Table 9. Settings under Screen Settings

6. SETTINGS FOR THE PUBLIC DISPLAY ADVANCED

After pressing the "Menu" button, the Public Display Advanced menu provides options for General, Playback, Subtitles, Clock Display, and Storage (Figure 13). These will be described in more detail below.



Figure 13. Overview of the Public Display Advanced Menu

6.1 General Setting



Figure 14. General Settings for the Public Display Advanced

DESCRIPTION OF GENERAL SETTINGS

OSD Language:	OSD Menu Language
Local ID:	Set the device ID, a folder with this name must exist on the USB (save video data there!)
No Files Auto Off:	The monitor automatically turns off when no playback file is found. Banner Setting: Display a logo
Banner Setting:	Display a logo Note: The photo must be saved as banner.png. Maximum resolution: 280*100
Time Volume:	Set the volume at a specific time
System Reset:	Reset to factory settings

Table 10. Settings under General Settings

6.2 Play Setting



Figure 15. Playback Settings for the Public Display Advanced

DESCRIPTION OF PLAY SETTINGS

Photo Show Time:	Seconds until the next photo is displayed
Play Type:	Playback mode <ul style="list-style-type: none"> • Picture: Play only image files • Music: Play only music files • Pic Video: Play images and videos • As List: Playback according to the playlist • Video: Play only video files • ALL: Play all files
Photo Slide Mode:	Image transition mode, where you can choose from preset modes.
Scaler Mode:	Set the scaling mode for displaying images
Split Setting:	Configure the split mode

Table 11. Settings under Play Settings

6.3 Subtitles Setting

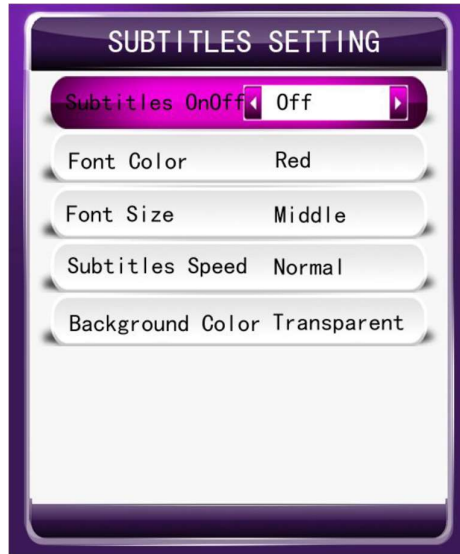


Figure 16. Subtitles Settings for the Public Display Advanced

DESCRIPTION OF SUBTITLES SETTINGS

Subtitles OnOff:	Turn subtitles on or off
Font Color:	Set the font color
Font Size:	Set the font size
Subtitles Speed:	Adjust the display speed
Background Color:	Set the background color

Table 12. Settings under Subtitles Setting

6.4 Clock Setting



Figure 17. Clock Settings for the Public Display Advanced

DESCRIPTION OF CLOCK SETTINGS

Time Setting:	Set the time
Display Time:	Position of the display on the screen
Timer Setting:	<ul style="list-style-type: none"> • Timer Mode: Every day, weekdays, weekends, off • On Time: Set the power-on time • Off-Time: Set the power-off time • Volume: Set the volume for this period

Table 13. Settings under Clock Setting

6.5 Display Setting

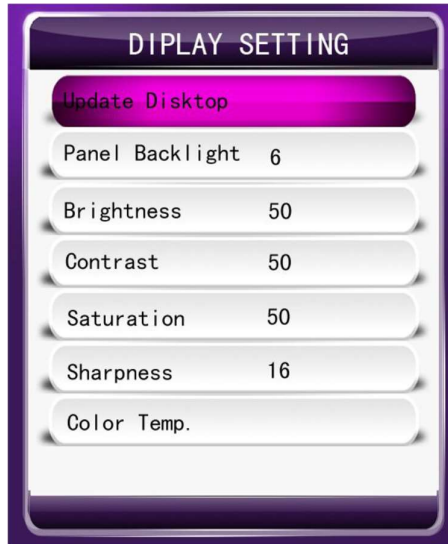


Figure 18. Display Settings for the Public Display Advanced

DESCRIPTION OF DISPLAY SETTINGS

Update Desktop:	Set the menu background Note: Save a new background as "menu_bg_h.jpg" or "menu_bg_v.jpg".
Panel Backlight:	Adjust the backlight
Brightness:	Adjust brightness
Contrast:	Adjust contrast
Saturation:	Adjust saturation
Sharpness:	Adjust sharpness
Color Temp.	Adjust color temperature

Table 14. Settings under Display Setting

6.6 Storage Setting



Figure 19. Storage Settings for the Public Display Advanced

DESCRIPTION OF STORAGE SETTINGS

File Manage:	File management. View saved files.
Update Storage:	Select whether to only add new files, delete files in storage, or both.
Format Local Disk:	Format internal storage.
Priority Storage:	Source from which files are played. Internal flash storage or USB device.
Copy ByLocal Id	Enable copying only files for the set device ID from the USB device. Note: Define the device ID under GENERAL SETTING and create a folder with the name of the desired device ID on the USB device..

Table 15. Settings under Storage Setting

7. ACCESSORIES

For a smooth installation of the monitors, we recommend using the original accessories. We have everything you need for mounting, installation, and operation in high-quality MIKKA standards.

7.1 Public Display-Specific Accessories

Often, adaptations to the monitor's casing are necessary for the use of specific accessories. Please contact a MIKKA sales representative or our customer support for assistance!

7.1.1. Extension for Infrared Transmitter and Status LED

For operation with the IR remote control, we offer an extension cable (length = 20cm) with a status and IR LED at the end. You can route the cable from the monitor casing and integrate it into the installation structure, allowing for smooth remote control operation when the monitor is installed.

7.1.2. Extension for Power Supply Connection

To integrate the power connection into the installation structure, we can provide an extension cable with a power socket, 20 cm in length. Simply route the cable out of the monitor casing, with a mounting nut included.

7.1.3. CF / SD Card Module

Expand the monitor with a CF / SD card reader. This reader allows data import from CF or SD cards.

7.1.4. OSD-Keybaord

With an OSD keyboard directly connected to the monitor, you can control it directly. No remote control is needed for adjustments anymore.

7.2 Power Supply

Power supplies with inadequate or excessive wattage can affect the performance and lifespan of your monitor. MIKKA power supplies guarantee optimal power delivery to your monitor.



Figure 20. 12V power supply

For our monitors, two different power supplies are available.

POWER SUPPLY TYPES

Type	12V Power Supply (AC/DC Adapter)	24V Power Supply (AC/DC Adapter)
Input	100-240V 1.5A ca. 50/60 Hz	100-240V 1.5A ca. 50/60 Hz
Output	12V 5A	24V 3.5A

Table 16. Power Supply Types for MIKKA Monitors

7.3 Control Cabinet Kit

The control cabinet mounting kit for selected monitors ranging from 13" to 27" is made of high-quality aluminum and can be quickly and easily mounted in any control cabinet thanks to perfectly matched components.

The MIKKA mounting kit is delivered as a complete set, including mounting screws.



Figure 21. Control Cabinet Kit for MIKKA Monitors

7.4 Rackmount Serverkit

With the rackmount mounting kit, you can quickly and easily integrate your MIKKA 19-inch rackmount monitor or touch monitor into your server rack.

The MIKKA Rackmount Server Kit is delivered as a complete set, including mounting screws.

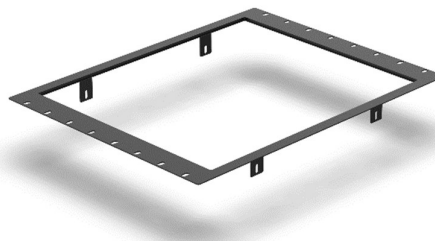


Figure 22. Rackmount Server Kit for MIKKA Monitors

7.5 Aluminum Housing

Enhance your monitor with our aluminum housing. This provides protection according to IP44 standards, guarding against foreign objects and splashing water. Upon request, we can extend the protection to IP64 standards, which also includes protection against dust and jet water.

The aluminum housing can be used both indoors and outdoors. Additionally, it offers the option to mount a bracket following VESA standards.

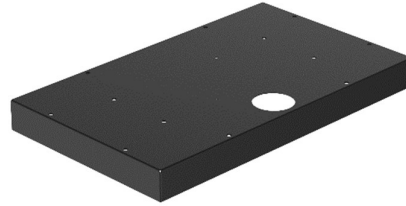


Figure 23. Aluminum housing for MIKKA Monitors