59,8 cm (23,6“) LED Backlight Monitor
MEDION® AKOYA® P55491 (MD 20491)
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1. About these instructions
Read the safety instructions carefully before using the device for the first time. Note the warnings on the device and in the operating instructions. Always keep the operating instructions close to hand. If you sell the device or give it away, please ensure that you also pass on these instructions.

1.1. Warning symbols and signal words used in these instructions

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>DANGER! Warning: immediate mortal danger!</td>
</tr>
<tr>
<td>!</td>
<td>WARNING! Warning of possible risk of fatal injury and/or serious irreversible injuries!</td>
</tr>
<tr>
<td>!</td>
<td>CAUTION! Danger of possible minor or moderate injuries!</td>
</tr>
<tr>
<td>i</td>
<td>NOTICE! Please follow the instructions to avoid property damage. Additional information on using the device.</td>
</tr>
<tr>
<td></td>
<td>NOTICE! Follow the guidelines in the operating instructions.</td>
</tr>
</tbody>
</table>

2. Proper use
This TFT monitor is designed exclusively for the playback of video and audio signals from external devices, such as computers, whose connections and screen resolutions match the specified technical data of the TFT monitor. Any other use is deemed as improper.
- The device is intended for private use only and not for industrial/commercial use.
- This device is not suitable for use with VDU workstations in accordance with §2 of the German VDU workstation regulation.

Please note that we shall not be liable in cases of improper use:
- Do not modify the device without our consent and do not use any auxiliary equipment which we have not approved or supplied.
- Use only spare parts and accessories which we have supplied or approved.
- Heed all the information in these operating instructions, especially the safety information. Any other use is deemed improper and can cause personal injury or damage to the appliance.
- Do not use the device in areas where there is a risk of explosion. These areas include e.g. tank systems, fuel storage depots, or areas in which solvents are being used. It is also not permitted to use this device in areas where the air is contaminated with fine particles (e.g. flour dust or sawdust).
- Do not expose the appliance to any extreme conditions. The following should be avoided:
  - High humidity or moisture
  - Extremely high or low temperatures
  - Direct sunlight
  - Open flames
3. Declaration of conformity
Medion AG hereby declares that the product conforms to the following European requirements:
• EMC Directive 2004/108/EC
• Low Voltage Directive 2006/95/EC
• RoHS Directive 2011/65/EU.
  However, the device is not equipped with a full function for minimising power consumption in accordance with the
  Ecodesign Directive. In this product category, the function is normally defined or controlled by the connected end
  device (personal computer).

4. Safety instructions
4.1. Operating safety
• This device is not intended for use by people (including children) with reduced physi-
  cal, sensory or mental abilities or by those without experience and/or knowledge, unless
  they are supervised by a person responsible for their safety or they have been instructed
  in its use by that person. Children should be supervised to ensure they do not play with
  this device.

DANGER!
Risk of suffocation!
Plastic wrapping can be swallowed or used improperly. Therefore, there is a risk of
suffocation!
  ▶ Keep packaging material such as plastic film or plastic bags away from children.

DANGER!
Risk of injury!
There is a risk of the display breaking if excessive force is exerted on it.
  ▶ Recover all broken pieces using protective gloves and send them to your Service
    Centre for proper waste disposal.
  ▶ Then wash your hands with soap because chemicals may have leaked out.
• To avoid damaging the screen, do not touch it with your fingers or sharp objects.
4.2. Installation location

- Keep your monitor and all connected devices away from moisture and avoid dust, heat, direct sunlight and naked flames (such as candles, for instance). Non-compliance with these instructions can lead to faults or damage to the monitor.
- Do not use the device outdoors because external elements such as rain, snow, etc. could damage it.
- Avoid exposing the device and the mains adapter to water droplets or spray and do not place any liquid-filled containers (vases or similar) on or next to the device or the mains adapter. Liquids penetrating the device may impair the electrical safety of the product.
- The slots and openings on the monitor are for ventilation purposes. Do not cover these openings (overheating, fire risk)!
- Position the cable so that it cannot be stepped on or tripped over.
- Make sure that there is enough clearance from the sides of the furniture unit. Ensure a minimum clearance of 10 cm around the device for sufficient ventilation.
- Place and operate all the components on a stable, level and vibration-free surface in order to prevent the monitor from falling down.
- Avoid glare, reflections and excessive bright-dark contrast to protect your eyes and guarantee pleasant workstation ergonomics.
- Take regular breaks when working at your monitor to prevent muscle tension and fatigue.

4.3. Repairs

- Contact customer services if:
  - the power cable is burnt or damaged
  - liquid has penetrated the monitor
  - the monitor is not operating correctly
  - the monitor has been dropped or the housing is damaged.
- Repairs to your monitor should only be carried out by qualified specialists.
- If a repair must be carried out, please contact only our authorised service partner.

4.4. Environmental temperature

- The monitor can be operated at an ambient temperature of +0°C to +35°C with a relative humidity of < 80% (non-condensing).
- When switched off, the monitor can be stored at temperatures from -20°C to +60°C.

⚠️ DANGER!
Risk of electric shock!

Large changes in temperature or fluctuations in humidity can cause moisture build-up within the monitor due to condensation. This can cause an electrical short-circuit.

- After transporting the monitor, wait until the appliance has reached room temperature before switching it on.
4.5. Power supply

DANGER!
Risk of electric shock!
Even when the mains switch is off, some components of the device are live.
- In order to disconnect the power to your monitor or to completely isolate the device from voltage sources, remove the mains plug from the mains socket.
- Operate the monitor only on a 100–240 V~ 50/60 Hz earthed safety contact socket that is close by and easy to access.
- To disconnect the power supply from your monitor, pull the mains plug from the power outlet.

DANGER!
Risk of electric shock!
The monitor contains live parts. They pose a risk of electric shock or fire if an unintentional short circuit occurs.
- Never open the monitor’s casing and do not insert anything into the monitor through the slots and openings!
- To avoid damaging the cables, do not place any objects on them.
- Keep the device at a distance of at least one metre from sources of high-frequency or magnetic interference (televisions, loudspeakers, mobile telephones, etc.) to avoid malfunctions and data loss.

5. Package contents
Please check your purchase to ensure that all items are included. If anything is missing, please contact us within 14 days of purchase. The following items are supplied with your monitor:
- Monitor
- VGA cable
- Audio cable
- Mains adapter with mains cable (model number FSP030-RHAN2)
- Monitor stand
- Documentation

DANGER!
Risk of suffocation!
Plastic wrapping can be swallowed or used improperly. Therefore, there is a risk of suffocation!
- Keep packaging material such as plastic film or plastic bags away from children.
6. Overview of the device

6.1. Front

1) **MENU**: This button starts the OSD; Confirm the choice of the parameter

2)  : Arrow keys to change the values and selections in the menu while the OSD menu is opened; When the OSD menu is closed, with  brightness and with  volume settings are activated.

3) **AUTO**: Automatic adjustment of the picture (VGA connection only); Close the OSD menu

4) LED displays the operating status
   - Green: monitor is switched on, orange: monitor is in standby mode

5) Ø: This button lets you switch the monitor on or switches to the standby mode
6.2. Rear

1) Loudspeakers
2) **DC IN** – connection for power supply
3) **HDMI** – HDMI connection
4) **D-SUB** – VGA connection
5) **AUDIO** – Audio connection (3.5 mm stereo jack)
6) Opening for Kensington® lock. This serves to protect the monitor from theft
7. Using the device for the first time

7.1. Before connecting the monitor
It is possible that your existing monitor supports a physical resolution that is not supported by your new monitor. In this case, the image on your new monitor may not appear correctly after it has been connected.

- To prevent this, select a physical resolution that is supported by both of your monitors. Set this physical resolution in your operating system before connecting your new monitor.

A table listing the physical resolutions supported by this monitor can be found in the section “Setting the screen resolution” on page 11.

7.2. Mounting the stand
Attach the monitor stand as shown in the illustration. Carry out this step before connecting the monitor.
7.3. Setting up and positioning the monitor
The monitor should be set up in such a way as to avoid reflections, glare and excessive contrast. Use the drawing to help you select the ideal location for the monitor and achieve an ergonomic sitting position.

7.4. Connecting the monitor

7.4.1. Connecting the signal cable
- Connect the signal cable to the appropriate VGA or HDMI connection on the computer and the monitor.

**NOTICE!**
Only one type of connection can be used at the same time.

7.4.2. Connecting the audio cable
- Connect the audio cable to the matching audio jacks on the computer and on the monitor. If you are using an HDMI signal cable, you do not need a separate audio cable.

7.4.3. Connecting the mains adapter
- Insert the jack plug on the supplied mains adapter (model FSP030-RHAN2) into the DC IN socket on the device.
- Connect the mains plug on the device to a 100-240V ~ 50Hz mains socket. The mains socket must be close to the monitor and easy to access (use the same power circuit as for the computer).

**NOTICE!**
Only use the supplied mains adapter (model FSP030-RHAN2). Using a different mains adapter may damage the device.

7.5. Switching on the monitor
- Use the On/Standby switch on the front of the device to switch on your monitor.
- Then switch on your computer.
7.6. Setting the screen resolution

The monitor supports the physical resolutions listed in the table. The aspect ratio of the monitor is 16:9. You will get a distortion-free picture if you select the 1920 x 1080 pixels resolution. This is a native 16:9 aspect ratio. Picture distortions or black bars at the edge of the picture can occur with all other resolutions.

- Set the physical resolution on your computer according to the instructions in your operating system.

<table>
<thead>
<tr>
<th>Physical resolution (pixels)</th>
<th>Vertical frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640 x 480</td>
<td>60</td>
</tr>
<tr>
<td>640 x 480</td>
<td>72</td>
</tr>
<tr>
<td>640 x 480</td>
<td>75</td>
</tr>
<tr>
<td>720 x 480</td>
<td>60</td>
</tr>
<tr>
<td>800 x 600</td>
<td>60</td>
</tr>
<tr>
<td>800 x 600</td>
<td>72</td>
</tr>
<tr>
<td>800 x 600</td>
<td>75</td>
</tr>
<tr>
<td>1024 x 768</td>
<td>60</td>
</tr>
<tr>
<td>1024 x 768</td>
<td>70</td>
</tr>
<tr>
<td>1024 x 768</td>
<td>75</td>
</tr>
<tr>
<td>1152 x 864</td>
<td>60</td>
</tr>
<tr>
<td>1280 x 720</td>
<td>60</td>
</tr>
<tr>
<td>1280 x 800</td>
<td>60</td>
</tr>
<tr>
<td>1280 x 960</td>
<td>60</td>
</tr>
<tr>
<td>1280 x 1024</td>
<td>60</td>
</tr>
<tr>
<td>1280 x 1024</td>
<td>75</td>
</tr>
<tr>
<td>1366 x 768</td>
<td>60</td>
</tr>
<tr>
<td>1600 x 900</td>
<td>60</td>
</tr>
<tr>
<td>1680 x 1050</td>
<td>60</td>
</tr>
<tr>
<td>1920 x 1080</td>
<td>60</td>
</tr>
</tbody>
</table>
8. On-screen display (OSD) menu

You can use the on-screen display menu to set various functions, such as those for picture, sound or language.

- Press the MENU button to activate the OSD.
- Use the buttons to select the options from the menu.
- Confirm your selection with the MENU button.
- Press the AUTO button to exit the OSD.

NOTICE!
The menu disappears automatically if you do not touch any button at the monitor within the preset time.

8.1. The OSD menu

The following explains the main functions or setting options of the OSD.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTRAST</td>
<td>For setting the picture contrast.</td>
</tr>
<tr>
<td>BRIGHTNESS</td>
<td>For adjusting the brightness of the picture.</td>
</tr>
<tr>
<td>COLOUR TEMP.</td>
<td>To select the color temperature, to improve the brightness, and color saturation. (Cool, Normal, Warm, User Colour)</td>
</tr>
<tr>
<td>AUTOM. ADJUST</td>
<td>Carries out an automatic picture adjustment of the picture (corresponding to the button AUTO)</td>
</tr>
<tr>
<td>COLOR ADJUST</td>
<td>Carries out an automatic colour adjustment of the picture (corresponding to the button AUTO).</td>
</tr>
<tr>
<td>H.POSITION (in VGA mode only)</td>
<td>Sets the horizontal and vertical position of the video image.</td>
</tr>
<tr>
<td>V.POSITION (in VGA mode only)</td>
<td>Set the clock rate for the image.</td>
</tr>
<tr>
<td>CLOCK (in VGA mode only)</td>
<td>Fine tuning to improve the display of the screen. If the phase setting is incorrect, horizontal interference may appear on the screen.</td>
</tr>
<tr>
<td>PHASE (in VGA mode only)</td>
<td>Makes it possible for the user to choose from the available languages.</td>
</tr>
<tr>
<td>LANGUAGE</td>
<td>For the horizontal setting of the OSD position.</td>
</tr>
<tr>
<td>OSD V. POS.</td>
<td>For the vertical setting of the OSD position.</td>
</tr>
<tr>
<td>OSD DISPLAY TIME</td>
<td>To automatically switch off the on screen display after a preset time has elapsed (5 s to 60 s).</td>
</tr>
<tr>
<td>TRANSPARENCY</td>
<td>Enabled the transparent appearance of the menu.</td>
</tr>
<tr>
<td>MODE</td>
<td>Several picture modes offers an optimal display environment corresponding to the displayed content: STANDARD is suitable for general applications. GAME is optimum for PC/TV games. VIDEO is optimum for playing back movies and moving pictures.</td>
</tr>
<tr>
<td>VOLUME</td>
<td>Adjusts the volume of the speakers.</td>
</tr>
<tr>
<td>SIGNAL SOURCE</td>
<td>Sets the input source HDMI or VGA.</td>
</tr>
<tr>
<td>ASPECT RATIO</td>
<td>Selection of the aspect ratio of the picture: 16:9 : display in widescreen AUTO: automatic aspect ratio setting 4:3 : display in 4:3 format</td>
</tr>
<tr>
<td>DCR</td>
<td>Here you can switch the DCR function (dynamic contrast) on and off.</td>
</tr>
</tbody>
</table>
9. Power-saving features

This monitor switches to different power-saving modes which are specified by the respective computer/operating system. This complies with the current requirements for reducing the energy consumption.

The monitor supports the following types of power-saving modes:

<table>
<thead>
<tr>
<th>Status</th>
<th>Power consumption (nominal value)</th>
<th>Colour of operating indicator</th>
<th>Ready for operation (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON</td>
<td>&lt; 40 watt (max.)</td>
<td>green</td>
<td>-</td>
</tr>
<tr>
<td>STANDBY</td>
<td>&lt; 0.5 watt</td>
<td>orange</td>
<td>2 seconds</td>
</tr>
<tr>
<td>EXT. STANDBY*</td>
<td>&lt; 0.5 watt</td>
<td>-</td>
<td>5 seconds</td>
</tr>
</tbody>
</table>

*The device is switched to extended standby mode by pressing the button on the front of the device.

Depending on the operating system, the monitor will remain in power-saving mode until you press a key on the keyboard or move the mouse. The monitor requires about 2 seconds to switch from standby mode to operating mode.
10. Troubleshooting
If problems occur with your monitor, make sure that the monitor has been properly installed. If the problems persist, then read this section for information about possible solutions.

10.1. Picture interference or no picture
- The mains cable must be firmly seated in the socket and the power switch (if available) must be switched on.
- The computer must be switched on and the connection cables must be firmly seated in their sockets.
- The values set in the operating system must be suitable for the monitor. To avoid distortions, select a resolution in the 16:9 format.
- If the screen saver has been activated or the monitor is in standby mode, press any key on the keyboard or move the mouse.
- Remove interfering devices (cordless phones, loudspeakers or similar) from the vicinity of the monitor.
- If there are bent pins on the VGA socket, contact your customer service.

10.2. Incorrect colour display; picture is too bright/dark
- Check the colour settings in the monitor’s OSD menu or in the computer’s operating system.
- Select Autom. adjustment to optimise the settings for brightness and contrast. For optimisation, the display should show a text page.
- If there are bent pins on the VGA socket, contact your customer service.

11. Cleaning
- Always unplug the device and disconnect all cables before cleaning.
- Do not use solvents, corrosive agents or aerosol-based detergents to clean the device.
- Clean the screen with a soft, lint-free cloth.
- Make sure that no water droplets remain on the screen. Water can cause permanent discolouration.
- Store the packaging material in a safe place; always use this box to transport the monitor.

NOTICE!
There are no parts inside the monitor housing require cleaning or maintenance.

12. Recycling and disposal
If you have any questions about disposal, please contact your sales agent or our service centre.

**Packaging**
Your device has been packaged to protect it against transportation damage. Packaging is raw material and can be reused or added to the recycling system.

**Device**
Old devices should not be disposed of with the normal household rubbish. In accordance with Directive 2012/19/EU, the device must be properly disposed of at the end of its service life. This involves separating the materials in the device for the purpose of recycling and avoiding any impact on the environment. Take old devices to a collection point for electrical scrap or a recycling centre. Contact your local waste disposal company or your local authority for more information on this subject.
### 13. Pixel defects on screens

For active matrix TFTs with a resolution of 1920 x 1080 pixels, which are each made up of three sub-pixels (red, green, blue), there are a total of approximately 6.2 million control transistors in use. Due to this very high number of transistors and the associated extremely complex manufacturing processes used, occasionally one or more pixels can fail or become incorrectly controlled.

The ISO standard ISO 9241-307 defines, amongst other things, the generally applicable guidelines relating to pixel defects. Pixel defects are categorised into four fault classes and three defect types. Every individual pixel consists of three sub-pixels, each of which is assigned a basic colour (red, green, blue).

<table>
<thead>
<tr>
<th>Pixel fault class</th>
<th>Defect type 1</th>
<th>Defect type 2</th>
<th>Defect type 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pixel constantly lit</td>
<td>Pixel constantly black</td>
<td>Defective sub-pixel</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>II</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>III</td>
<td>5</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>IV</td>
<td>50</td>
<td>150</td>
<td>500</td>
</tr>
</tbody>
</table>


\[ n^* = 1.5 \]

The table describes the maximum number of pixel failures allowed on the screen, before a warranty claim arises. A warranty claim may be applicable if the above number of defects in a category is exceeded.
14. Technical data

Device
Model | P55491 (MD 20491)
Nominal voltage | DC 12V \(\frac{2,5A}{\text{max.}}\)
Power consumption (standby) | < 0.3 watt
Power consumption (in operation) | < 40 watt (max.)

Mains adapter
Model | FSP GROUP INC., model number FSP030-RHAN2
Input voltage | 100-240V~50/60Hz 1.5A max.
Output voltage | DC 12V \(\frac{2,5A}{\text{max.}}\)

Picture
Screen size | 59.8 cm (23.6"), TFT with LED backlight
Aspect ratio | 16:9
Resolution | 1920 x 1080 pixels
Brightness | 250 cd/m² (typ.)
Contrast ratio | 1,000:1 (typ.)
Dynamic contrast ratio | 30,000,000:1
Response time | 15 ms (grey to grey, typ.)

Connections
RGB input, analogue | VGA 15-pin D-SUB
HDMI input | HDMI with HDCP decryption
Audio input | 3.5 mm stereo input
Audio output | 2 x 2 W max. via speakers

Environment values
Temperatures
In operation: 0°C ~ +35°C
Not in operation: -20°C ~ +60°C
Humidity
In operation: < 80%
(non-condensing)
Not in operation: < 90%

Dimensions/weight
Weight (with stand) | approx. 3.4 kg
Dimensions with stand (WxHxD) | approx. 535 x 403 x 199 mm
14.1. Product data sheet
As per regulation 1062/2010.

Power consumption in standby: 0.22 watt
Power consumption in off state: 0.20 watt
Physical resolution: 1,920 x 1,080 pixels
15. Legal notice
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Am Zehnthof 77
45307 Essen
Germany
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www.medion.com/_gb/service/start/.
You can also scan the QR code above and download the operating manual onto your mobile device via the service por-
tal.