

# FOR A GOOD **REASON** **GRUNDIG**

## Owner's Manual



### Monitors

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GML-2230M	54.6 cm (21.5") LCD/TFT Monitor LED Backlight
GML-2430M	61 cm (23.6") LCD/TFT Monitor LED Backlight

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GML-2230M.69.1.29.06.2012

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**Content:**

<b>1. Important Safety Instructions</b>	<b>1</b>
<b>2. Installation</b>	<b>2</b>
<b>3. Package Contents</b>	<b>3</b>
<b>4. Rear View with Connections</b>	<b>3</b>
<b>5. Turning the Monitor Off/On</b>	<b>4</b>
<b>6. Switching the Monitor Source</b>	<b>4</b>
<b>7. OSD Menu Configurations</b>	<b>4</b>
1. Picture Menu	5
2. Sound Menu	6
3. Setting Menu	6
4. PIP/POP Setup Menu	7
<b>8. Frequently Asked Questions</b>	<b>8</b>

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**1. Important Safety Instructions**

Do not insert sharp objects or spill liquid into the monitor through the ventilation holes. This may cause fire, electric shock or failure.

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage potentials or other risks.

When you transport this monitor for repair or shipment, use the original carton and packing materials.

Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a pen or screwdriver. This could scratch the display.

The LED monitor's plastic casing and LED panel can be cleaned with a soft, lint-free cloth. Never use scrub pads or other cleaning materials with abrasive surfaces to clean your LED monitor!

A. A slightly damp cloth may be used to clean the display of fingerprints or smudges.

B. For the plastic case, a mild detergent may be used to clean the surface. However, you should ensure not to use too much detergent or water as this could leak into the interior of the casing.

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Do NOT use cleaning fluids based on alcohol, methylated spirit or ammonia. The glass plate has a hard surface coating to prevent scratches. However, the use of strong chemical cleaning agents may damage this coating. Use only a mild soap or detergent and water or specially formulated cleaners made for cleaning glass panels.

Avoid direct contact with water or other liquids. Never use the LED monitor in or around areas where water may pose a potential hazard to normal operation.

Use the LED monitor only indoors, and avoid the contact with oil, vapor, steam, moisture and dust. The LED monitor should be used in a clean environment with low humidity.

Do not touch the screen directly with your fingers. You may damage the screen, and it is difficult to remove skin oil from the monitor.

Do not apply pressure to the screen. The LED display is very delicate.

**WARNING:** Any unauthorised modification of this equipment could result in the revocation of the authorisation to operate the equipment and void the product warranty.

## **2. Installation**

Do not install the monitor near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Do not cover or block the ventilation holes in the case.

Place the monitor on a flat and leveled surface.

Do not remove any of the prongs of the monitor's three-pronged power plug.

Use an appropriate power cord for your local power supply.

Do not allow anything to rest on the power cord.

Do not locate this product where persons will walk on the cord.

Connect the power supply to the socket and plug the video cable or VGA cable to the desired signal source.

Use the proper power cord with a correct attachment plug type. If the power source is 120 V AC, use a power cord that has UL and C-UL approvals. If the power source is a 240 V AC supply, use the tandem (T blade) type attachment plug with a ground conductor power cord that meets the respective European country's safety regulations, such as VDE for Germany.

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

Ensure that the total ampere rating of all units plugged into the extension cord is not over the cord's rating.

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If the power supply cord, that came with your monitor, is to be connected to the PC instead of the wall outlet, this equipment is to be used with UL/TUV approved computers with receptacle rated 100-240 V AC, 50/60 Hz, 2.0 A (minimum).

Check the monitor specification carefully. This GRUNDIG monitor has a 1280 x 1024 resolution and works with both PAL and NTSC signal modes. This GRUNDIG monitor is for 24/7 security purposes; therefore, the environmental specifications such as the operating temperature and the voltage needed have to be maintained at all times.

### 3. Package Contents

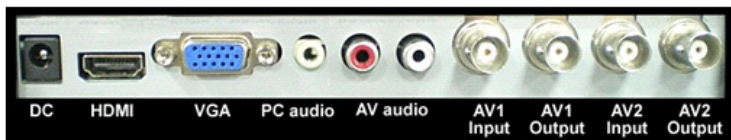
These parts are included:

- LED Monitor
- 12V DC Adapter
- Power Cord
- D-Sub 15-pin VGA Connector Cable
- Owner's Manual

### 4. Rear View with Connections

Up to 16 zone titles can be set with a maximum of 20 characters for each title.

Follow the steps below to set a camera title.



DC: Connect the 12V power adapter that is included in the package.

HDMI (High Definition Multimedia Input): Here you can connect a monitor with a HDMI cable (the cable is not included in the package).

NOTE: HDMI includes not only the image transfer but also the ability to transmit audio.

VGA: Connect the monitor with the VGA cable that is included in the package.

PC Audio: Please use the 3.5 mm jack to transmit audio signals for VGA mode.

AV Audio: Please use the RCA plugs to transmit audio signals for AV1 or AV2 mode.

AV1 Input: Connect a video source with coaxial cable (with Composite Video Signal) to the BNC connector for AV1 mode.

AV1 Output: Here you can pick off the signal of the AV1 input and make it available for other devices. If no cable connected, the monitor automatically sets a 75  $\Omega$  resistance.

AV2 Input: Connect a video source with coaxial cable (with Composite Video Signal) to the BNC connector for AV2 mode.

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AV2 Output: Here you can pick off the signal of the AV1 input and make it available for other devices. If no cable is connected, the monitor automatically sets a 75  $\Omega$  resistance.

**PLEASE NOTE:**

The audio inputs only work if the appropriate video mode is enabled. (PC Audio - VGA / AV Audio - AV1 or AV2). In PIP or POP mode, you can choose which of the two audio sources will be played.

## **5. Turning the Monitor Off/On**

**PLEASE NOTE:**

After pressing the "Power" button, it will take approximately 6 sec. until the monitor is ready and the display is visible.

These are the various power states of the LED monitor represented by the different LED colours on the POWER button:

BLUE: On

RED: Standby

BLANK: Off or No power supply

## **6. Switching the Monitor Source**

- Press the "A" button to make the source menu visible.
- Press "+ / -" to choose the source from the modes "VGA", "HDMI", "AV1", "AV2".
- Press "A" again to apply the selected source.

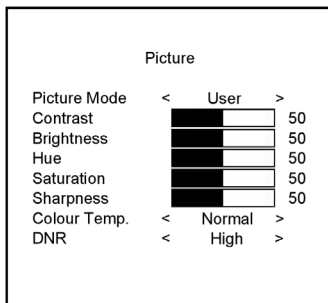
## **7. OSD Menu Configurations**

- Press the "M" button to see the menu.
- Press "+ / -" to switch between the four menus.
- After having selected a menu, press "A" to select a menu item. Press "+ / -" to adjust the settings of this item.
- To go to another menu, press the "M" button again and go with the "+ / -" buttons to the desired menu. Press "A" again to select a menu item and press "+ / -" to adjust the settings of this item.

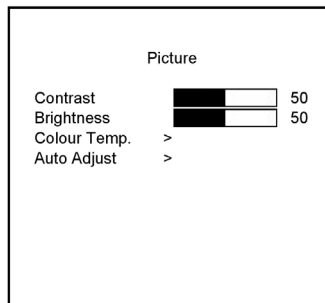
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## 7.1. Picture Menu

### AV1 / AV2 Mode



### VGA / HDMI Mode



#### Picture Mode:

Press - or + to select the picture mode ("User, Standard, Movie, Vivid").

#### Contrast:

This is used to set the brightness of the screen. Press - or + to adjust the parameter.

#### Brightness:

This is used to adjust the image contrast. Press - or + to adjust the parameter.

#### Hue:

This is used to adjust the image hue. Press - or + to adjust the parameter.

#### Saturation:

This is used to adjust the image saturation. Press - or + to adjust the parameter.

#### Sharpness:

Adjust the sharpness. It makes the image become soft. Press - or + to adjust the parameter.

#### Colour Temp.:

In AV1 or AV2 mode, press - or + to adjust the colour tones ("Cool, Warm, Normal").

In VGA and HDMI mode, a sub-menu will appear when you press - or + to select <Colour Temp.>. In this sub-menu it is possible to adjust the colour tones ("Cool, Warm, Standard, SRGB, User"). When you select <User>, it is possible to set user defined Red/Green/Blue values (R/G/B).

#### DNR:

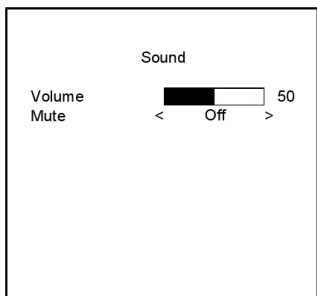
Press - or + to adjust the noise reduction ("High, Low, Off, Mid").

#### Auto Adjust:

In VGA mode it is possible to select this item to perform an automatic adjustment of the image.

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## 7.2. Sound Menu

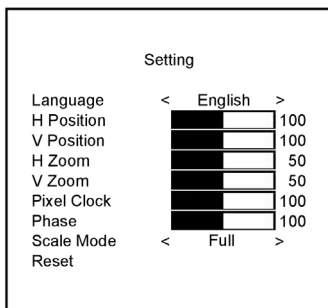


Volume:  
Press – or + to adjust the volume level.

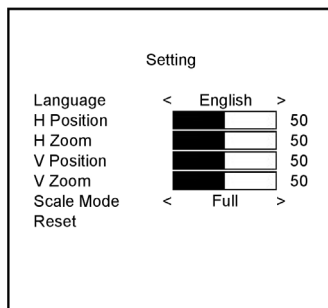
Mute:  
Press – or + to turn the sound "Off, On".

## 7.3. Setting Menu

### VGA Mode



### AV1 / AV2 / HDMI Mode



Language:  
Press – or + to select the language.

H Position:  
Move the display picture to the left or right. Press – or + to adjust the parameter.

H Zoom:  
Adjust the H-size of the display picture. Press – or + to adjust the parameter.

V Position:  
Move the display picture up or down. Press – or + to adjust the parameter.

V Zoom:  
Adjust the V-size of the display picture. Press – or + to adjust the parameter.



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Pixel Clock:

Press – or + to adjust the parameter.

Phase:

Press – or + to adjust the parameter.

Scale Mode:

Adjust the V-size of the display picture. Press – or + to set it the V-size to "Full" or "16:9".

Reset:

Press – or + to recall the default settings.

NOTE:

The "Pixel Clock" and "Phase" setting is only available in VGA Mode.

#### 7.4. PIP/POP Setup Menu

	PIP	
Multi Window	< Off >	
Sub Source	< VGA >	
Size	< Large >	
Position	< UL >	
Border Colour	< Black >	
Sound Source	< Main >	
Swap	>	

Multi Window:

Press – or + to select "PIP, POP, Off" mode.

Sub Source:

Press – or + to select "AV1, AV2" in VGA and HDMI mode or "HDMI, VGA" in AV1 and AV2 mode.

Size:

Adjust the size of the Sub Source window. Press – or + to select "Large", "Small" or "Mid".

Position:

Move the position of the Sub Source window. Press – or + to select the position ("UR, BR, UL, BL").

Border Colour:

Choose the border colour of the Sub Source window. Press – or + to select "Black" or "Blue" colour.

Sound Source:

Press – or + to select the mode ("Main, Sub").

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Swap:

Press – or + to swap the windows of the Main and Sub Source.



NOTE:

1. In PIP / POP mode, AV1 or AV2 and HDMI or VGA can be displayed at the same time on one monitor.
2. If POP mode is selected, both images are scaled to fit the screen.

## 8. Frequently Asked Questions

The Power button does not respond:

- Check the power cord to ensure that it is securely plugged into the monitor base and also into the electrical outlet.
- Ensure that there is electrical power coming from the AC outlet. Use another device to check the power.
- Unplug the power cord of the monitor from the AC outlet, wait a few minutes, then plug the power cord into the AC outlet again. This will reset the monitor and power supply.

No image on the screen:

- Ensure that the DB-15 signal cable is properly connected to the display card/computer.
- Check the DB-15 signal cable connector on both ends for bent or pushed-in pins.
- The display card should be properly seated in its card slot.
- Ensure that the computer's power switch is ON.
- Ensure that the monitor's power switch is ON.
- Unplug the power cord of the monitor from the AC outlet, wait a few minutes, then plug the power cord into the AC outlet again. This will reset the monitor and power supply.

The Power LED is red (with no image on the screen):

- Check the DB-15 signal cable to ensure that it is properly attached to the graphics display card.
- Check the DB-15 signal cable on both ends for bent or pushed-in pins.
- Make sure the computer is not in a power-saving mode (move the mouse or press a key on the keyboard).

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No sound coming from the audio speakers:

- The audio cable should be connected to the line-out on the audio card and the line-in on the monitor. Ensure that the audio cable is properly connected.
- Inspect the audio cable for any apparent damage. Double-check by switching to another audio cable to see if the audio works.

NOTE: The different video modes have different Audio Inputs. You will only receive here the sound of the corresponding Inputs (VGA - PC Audio / AV1 and AV2 - AV Input / HDMI - HDMI).

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**Specifications GML-2230M**

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LCD Panel size	21,5" Diagonal AM-TFT LED Backlight
Pixels - Total	1920(H) x 1080(V)
Pixel Pitch	0.248 mm(H) x 0.248 mm(V)
Video Standard	PAL/NTSC
Video Inputs	2 CH Composite, BNC, Looped 1 HDMI, 1 CH VGA
Audio Inputs	3 CH (stereo),(1xHDMI, 1xCinch (L/R), 1xTRS Connector)
Brightness	300 cd/m <sup>2</sup>
Contrast ratio	10.000:1
Number of Colours	16.7 million
Viewing Angle	160°(H) ~ 170°(V)
Response Time	5 ms
Screen Mode	16:9, 4:3
Speaker Output	3W (2x1.5W built-in)
OSD	Yes, multi language
PIP	On/Off
PBP	On/Off
MTBF at 25° C	> 100,000 hours
Operating Temperature	0°C ~ +40°C
Humidity	10 ~ 90% no condensation
Storage Temperature	-10°C ~ +60°C
Suitable for	VESA 100
Supply Voltage	12VDC, (100~240VAC, 50/60Hz)
Power Consumption	25 W
Weight	3.6 kg
Dimensions (wxhxd)	524 x 375 x 175 mm

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**Specifications GML-2430M**

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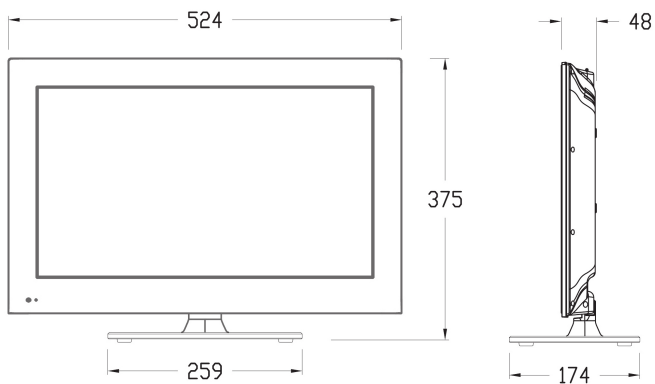
LCD Panel size	23,6" Diagonal AM-TFT LED Backlight
Pixel Pitch	0.272 mm(H) x 0.272 mm(V)
Viewing Angle	160°(H) ~ 160°(V)
Power Consumption	30 W
Weight	4 kg
Dimensions (wxhxd)	580 x 407 x 175 mm

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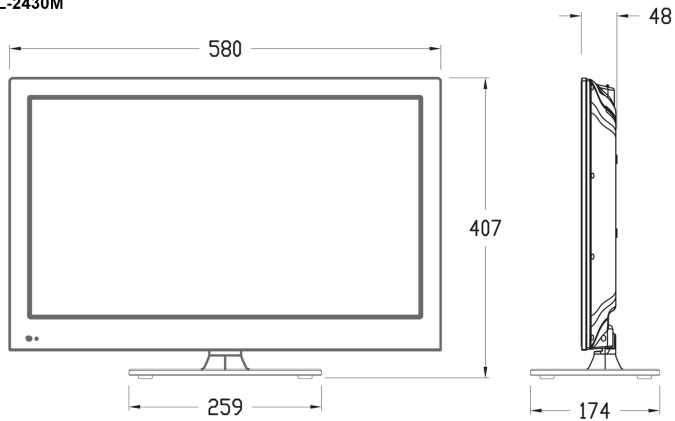
## Dimensions

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GML-2230M



GML-2430M



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## EC Declaration of Conformity



GML-2230M            54.6 cm (21.5") LCD/TFT Monitor LED Backlight

GML-2430M            61 cm (23.6") LCD/TFT Monitor LED Backlight

It is hereby certified that the products meet the standards in the following relevant provisions:

EC EMC Directive 2004/108/EC  
Low Voltage Directive 2006/95/EC

Applied harmonised standards and technical specifications:

EN 55022: 2006 + A1: 2007  
EN 61000-3-2:2006  
EN 61000-3-3:1995 + A1: 2001 + A2: 2005  
EN 55024: 1998 + A1: 2001 + A2: 2003

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**GRUNDIG**

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