



Displays

GDR 12 Series

12.1" Flat-Panel TFT LCD Display

GDR 12: 12.1" Color LCD Monitor, 300 nits, 800x600

GDR 12-TR: GDR 12 with Resistive Touchscreen

GDR 12H: 12.1" Color LCD Monitor, 800 nits, 800x600

GDR 12-TR: GDR 12 with Resistive Touchscreen

USER'S MANUAL

REVISION 1.0 – 2002

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1. Introduction

Thank you for purchasing the GDR 12 rugged TFT display.

The GDR 12 range of products have been designed to provide the highest possible image quality, in a rugged housing that has specifically been manufactured to operate in environments that would normally be considered too harsh for normal computer equipment .

What makes the GDR 12 different?

The GDR 12 is a high quality, Ultra-Bright TFT LCD display with a resolution of 800x600. Sleek yet solid, our GDR Series displays feature a two-piece cast aluminum shell with low-profile rubber buttons, designed to withstand the shock and vibration of industrial and vehicle use. The screen is crisp, flicker-free, and brilliant

This well-thought out design is NEMA 12 dust and moisture resistant, with elastomer-sealed OSD geometry controls on the front panel for convenient screen image control. Locking power and signal connectors help prevent accidental disconnection.

The GDR 12 has been rigorously tested to withstand severe shock and continual vibration and features a panel protected by 3mm toughened glass. Each display has a guaranteed 24-hour burn prior to shipping.



2. Unpacking

Along with the GDR 12 rugged TFT, each box should contain the following:

1. Universal AC/DC Power Supply
2. 2-meter VGA Connector Cable
3. 3-pin IEC Power Lead
4. 9-pin Serial Connector Cable
5. Touch Drivers CD-ROM (GDR 12-TR touchscreen model)
6. User's Manual

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If any of these items are not included, please contact CyberResearch. In the unlikely event of product failure, please retain the original packaging so that the units may be safely returned to us for service.

Important Note: Do not use any other power supply, other than the one shipped with the unit. This may cause irreparable damage to either the panel or the electronics, and will in all cases invalidate the warranty.

It is recommended that the display be used only in conjunction with the VGA cable supplied. Deterioration in picture quality may occur if a poorly shielded cable, or a longer cable is used in its place.



3. Connection to the Computer

GDR 12 Model

Using the following simple instructions, the GDR 12 will be installed and configured within about five minutes.

On the bottom of the GDR 12, there are two ports—a 15-pin VGA port, and a power jack. One end of the VGA cable will already be connected to the VGA port when the unit is shipped.

- 3.1 Turn off the computer.
- 3.2 Attach the VGA cable to the video port on the PC and ensure that both thumbscrew connections are securely fastened.
- 3.3 Insert the power jack on the power supply into the remaining circular port on the monitor, and connect the power supply to an outlet using the IEC power lead.
- 3.4 Turn on the computer.
- 3.5 Turn on the display.
- 3.6 The display has not yet been configured, so the picture quality may not yet be optimized.

GDR 12-TR and GDR 12H-TR Touchscreen Models

In addition to the above, the touchscreen model has an extra cable terminating in a 9-pin serial connector which connects to one of the PC's serial ports.



Power, VGA, & Touchscreen connectors on bottom of unit.

4. Image Control and Adjustment

There are two important steps in order to ensure that the best possible image quality is now obtained:

4.1 Select the correct resolution and refresh rate.

The GDR 12 is intended to run at a resolution of 800x600 pixels. Although the unit can display in full screen mode at 640x480, we strongly recommend you now set the resolution to 800x600.

- Move the slider bar until the screen resolution is **800x600**.
- Change the refresh rate to **60 Hz**
- Set the number of colors to 256k
- Save settings before exiting.

4.2 Run the On-Screen Auto Adjust Utility using the buttons on the front of the monitor:

- Click the “Menu” Button once. The On-Screen Menu will now pop up and will already be highlighting the “Auto Adjust” option.
- Click “Select.”
- The display will now resize and reposition until an optimal image is achieved.
- Wait five seconds and the On-Screen Controls will disappear.

Important Note: The panel used in the GDR 12 can operate between a range of 60 and 75 Hz. The best frequency will depend on the driver card in the PC. If at this stage there is any “noise” on the screen, we recommend the following:

- Try increasing the refresh rate above 60 Hz. **Do not exceed 75 Hz.**
- Fine-tune the Brightness, Contrast and Sharpness functions using the On-Screen Control.

4.3 The GDR 12 is an extremely bright display, operating at 300 nits (400 cd/m²). The GDR 12H operates at 800 nits (800 cd/m²). We strongly recommend that, unless the unit is used in very bright lighting conditions, the brightness be reduced to around 60 to 70% using the On-Screen Control. This helps to eliminate any residual screen noise, and also will greatly prolong the backlight life of the panel.

4.4 Changing the screen resolution:

The GDR 12 can operate in full screen at either SVGA (800x600) or VGA (640x480) .The unit cannot operate at any resolution higher than 800x600.

In order to step down resolution, simply select the “Display” icon in the Control Panel, chose “Settings,” and move the slider bar to the desired position.

Note: When changing resolutions it may be necessary to run the On-Screen Auto Adjust utility in the new resolution in order to maximize image quality.

Whenever the display is being used at 800x600 the image quality will never be as crisp and clear as when it is operating at its preferred resolution of 1024x768. This is particularly noticeable when viewing text, especially small fonts. This is a due to the monitor “doubling” some pixels in order to fill the screen and is completely normal.

5.

Specifications

Display Type:	Ultra-Bright color TFT LCD flat panel display
Active Screen Size:	12.1"
Input Signal:	Analog RGB
Resolution:	SGA 800x600 pixels, max.
Colors:	262,000
Backlight MTBF:	40,000 hours
Brightness:	GDR 12: 300 nits (300 cd/m ²) GDR 12H: 800 nits (800 cd/m ²) (will vary with touchscreen options)
Contrast Ratio:	300: 1
Refresh Rate:	60Hz~75 Hz
Viewing Angle:	Left: 75°, Right: 75°, Up: 60°, Down: 55° (150° horizontal, 115° vertical)
Response Time:	60 ms rise, 50 ms decay
Power Consumption:	GDR 12: 18 watts, typical GDR 12H: 29 watts, typical
External Power Supply:	60W, provided by low-voltage wall-mount power supply, 100~240 VAC @ 50/60 Hz, 1.5A input, 12 VDC @ 5A output
Enclosure:	Industrial cast aluminum alloy housing with NEMA 12 sealed (water-resistant) front panel. Rugged construction is ideal for industrial use
Stand Mounting:	VESA std 75mm mounting holes on rear
Dimensions:	12.5" Wide x 9.3" High x 2.4" Deep (318 x 235 x 59 mm)
Height with GDR D12:	With desktop stand 13.75" (350 mm)
Weight of Display:	6.7 lbs. (3.1 kg)
Weight of GDR D12 Stand:	3.4 lbs. (1.5 kg)
VGA Input:	Analog VGA Input (connects to any standard VGA port —no special video card needed)
Display Controls:	Low-profile, sealed rubber brightness & contrast control buttons on front panel
VGA Cable:	6-foot VGA cable included
CE Conformity:	This product complies with the EMC Directive, number 89/336/EEC

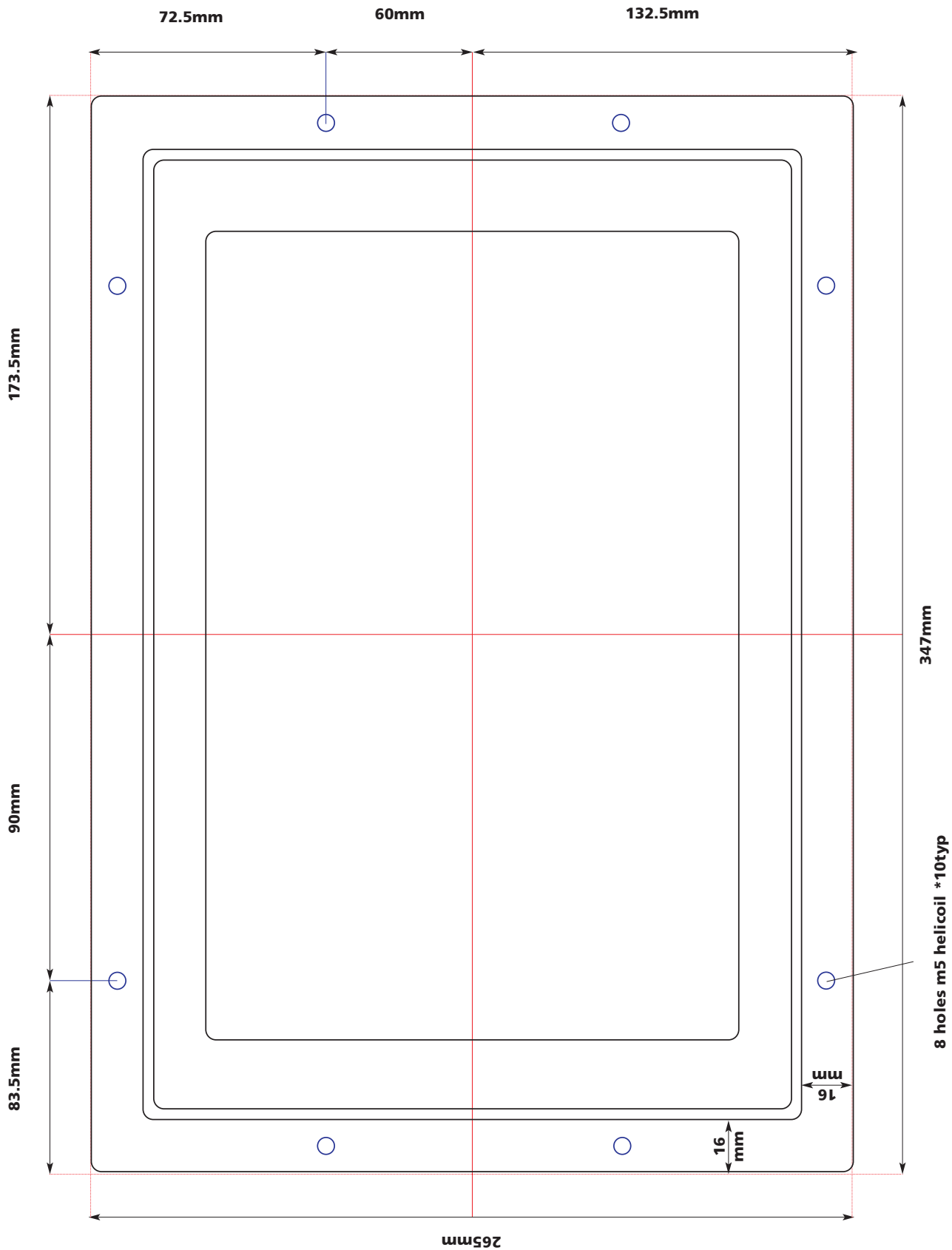
GDR 12-TR Analog Resistive Touchscreen Model

Opacity Clarity:	75% Light Transmission @ 550 Nanometers
Touch Resolution:	1024x1024 (Touch resolution not Video resolution)
Controller Communication:	RS-232
Activation Force:	1~4 ounces

Touch Life: Greater than 1 million activations at a single point
Positional Accuracy: Less than 2% error
Drivers: Mouse Emulation
Touchscreen Connector: Standard DB-9 female connector.
A 6-foot DB-9 M-F serial cable is included with touchscreen models

Environmental Specifications

Vibration: 1g @ 5 Hz~150Hz for 2 hours. per axis, operating
Shock: 18g half-sine for 6ms, 500 bumps per axis in each direction (total 3000), operating
Operating Temperature: +32° to +122°F (0° to +50°C)
Storage Temperature: -13° to +140°F (-25° to +60°C)
Relative Humidity: 5 to 95%, noncondensing



NOT TO SCALE

Please note: specifications are correct at time of going to press and may be subject to change without notice.

6. Cleaning & Maintenance

The viewing surface should be cleaned with a suitable general purpose anti-static wipe. **Never use industrial cleaners or solvents**, as there are special coatings on the viewing surface that could be damaged.

7. Service and Support

If you are not completely satisfied with your GDR 12, simply call our toll-free hotline (1-800-341-2525) within 30 days of receiving the item. A friendly customer service technician will arrange for a full refund, replacement, exchange, or credit.

If you have any questions about your GDR 12, call our toll-free number in the USA (1-800-341-2525), call worldwide (203-483-8815), send a fax to (203-483-9024), or email our applications engineers at techsupport@cyber-research.com.

