



ROC SOLID DISPLAY

TECHNICAL MANUAL



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1.0 General Description

The ROC 15" Display is a touchscreen-monitor suited to a wide range of industrial, mining and military applications.

The solid aluminium construction of the ROC family, along with the highly ruggedised internal design and construction techniques ensure that the system is able to operate successfully in the most challenging environments.

2.0 Technical Specifications

2.1 General Description

The ROC Computers are based around a ruggedised core design and have been developed for use in severe environments including industrial, mining and military applications.

2.2 Mounting Options

The ROC Display is available with 2 mounting options.

2.2.1 VESA Mount

Standard 100mm spaced M4 mounting points are located on the rear panel. This version is free standing and can be mounted using a movable VESA mount bracket or arm. This screen is rated to IP67 if the installer seals the back connector for cable entry with silicone.



2.2.2 Flange Mount Version

This version can be mounted into a control panel or equipment enclosure. The flange and display area are also sealed to ensure that dust and moisture is not able to enter the system. When properly mounted to a cabinet, the front of the screen is rated to IP67. The rear of the screen is also rated to IP67 if silicone is placed around the rear connector.



2.3 Electrical Parameters

2.3.1 Input

- VGA 15 pin for analog input
- DVI-D for digital input
- USB for touchscreen
- 2.5mm DC jack for power

2.3.2 LCD Panel Parameters

- Screen size : 15"
- Active area : 304 x 228mm
- Resolution : XGA (1024 x 768 pixels)
- 262K colours (18 bit interface)
- Viewing angle (H/V) 130/120
- Mode : TN
- Pixel pitch : 0.297mm
- Contrast ratio 500:1
- Backlight dual CCFL
- Maximum brightness 350 cd/m2
- High brightness options

2.3.3 Touchscreen Specifications

- Screen size : 15"
- Technology : 5 wire resistive
- Durability : > 30 million operations
- Touch Resolution : 2048 x 2048
- Accuracy : standard deviation of error < 1.5%
- Interface : USB
- Drivers available for Windows, Linux etc

2.3.4 Power Requirements

- Power supply 12v DC +/-5%
- Connection via 12v input power jack
- Current consumption typically 1.5A

2.4 Mechanical Parameters

2.4.1 Construction

- Construction : solid machined 6061-T6 aluminium enclosure
- Can be sealed to IP67 against moisture ingress

2.4.2 Spatial Envelope

- Dimensions : 360 x 280 x 40mm (VESA mount version)
- Dimensions : 365 x 300 x 40mm (flange mount version)

2.4.3 Thermal Performance

- Operational -10°C to 60°C
- Storage temperature -20°C to 65°C
- Humidity 0 to 100% condensing (if rear connector sealed)

2.4.4 Shock & Vibration Performance

- Shock 50G, 20ms, Half-sine wave, ($\pm X$, $\pm Y$, $\pm Z$)
- Vibration 1.5G, (10~200Hz, P-P)

3.0 External Electrical Interfaces

This section details the electrical interfacing to the ROC Display. Electrical connections are via the rear mounted interface panel. This panel can be completely sealed against ingress of dust and moisture to IP67.

3.1 Power Connection

The power interface is accessed by removing the ROC Computer rear cover.

Equipment Connector : 2.5mm PCB Mount DC Power Socket		
PIN No	FUNCTION	PARAMETERS
Outer	0v	Connects to isolated 12v supply common to power ROC Display
Inner	+12v	Connects to isolated 12v supply positive output to power ROC Display

3.2 Signal Connections

The signal interfaces are accessed by removing the ROC Display rear cover plate. This provides access to a number of board mounted connectors that are standard with those used throughout the computer industry.

The following table summarises the internal connectors and their function.

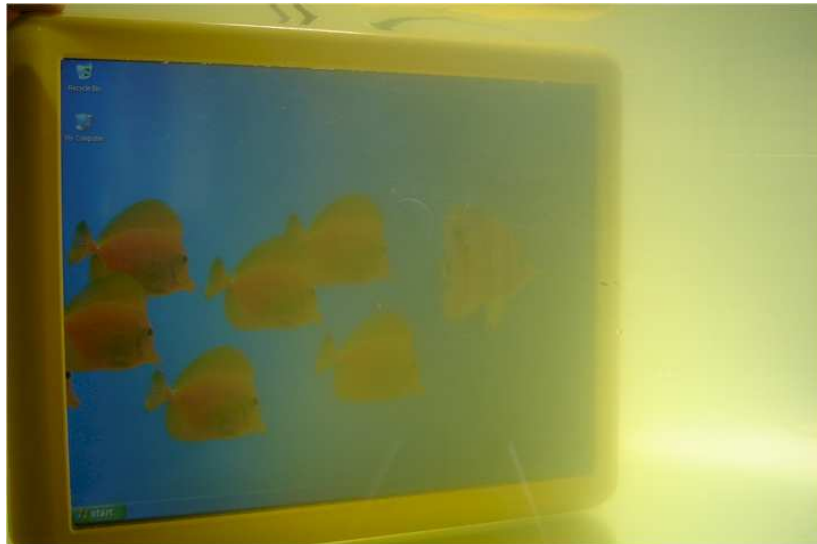
ROC Display Connectors Interface Definition	
Designation	Description
VGA	Analog video input via 15-pin VGA connector
DVI	Digital video input via DVI-D connector
Touchscreen	USB connection to computer for touchscreen control
12VDC	12V power input

ROC Display Button Definition	
Designation	Description
Power	Toggles power on and off. Remembers the last state if power is lost.
Optimise	Optimises the display to the input signal
Right/Menu/Left	Buttons for controlling on screen display functions

3.3 Rear panel Sealing

The rear panel containing the above electrical interfaces can be completely sealed against dust and water to IP67.

The following image shows operation of ROC Integrated underwater when properly sealed.



4.0 Hardware Options Summary

The following standard hardware options are available.

4.1 Mounting Methods

- Standard VESA
- Flange mount

4.2 External Colour

- Standard colours graphite grey, electrical yellow
- Other colors available upon request