

## ► Mechanical Housing Assembly (MHA)

The Mechanical Housing Assembly (MHA) is a versatile, rugged enclosure for embedded systems, as used in varied Naval, Military and Industrial applications and has extensive I/O capability and options.

The MHA can be configured for use with a wide range of standard or custom backplanes.

The MHA has dual-redundant hot-swap power supplies, connected in a load-sharing topology, capable of operating from a wide AC input range and supplying standard DC output rails. On-board power line filtering is implemented to limit susceptibility to EMI and RFI.

The modular rear-I/O connector plate can easily be customised to suite any end application. Resilience to shock and vibration is ensured by the MHA's external shock isolation mounts, which operate in conjunction with the inner cage's own shock isolation mounts.

The MHA supports many further optional features, including a 305 mm (12") TFT LCD Touchscreen, located on the front access panel.

### Features

- Support for various 3U and 6U backplanes (CompactPCI, VME, VPX, custom, etc.)
- Four CompactPCI or VME card slots in the standard configuration (expandable)
- Rugged, stainless steel welded plate construction
- Dual-redundant power supplies
- External and internal mechanical shock isolation
- Forced-air or chilled water cooling
- Front-panel running hour meter, power and battleshort switches, USB connector and CO2 injection point
- Optional 305 mm (12") TFT LCD touchscreen



**Figure 1 : Mechanical Housing Assembly (MHA)**



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Specifications	
<b>Mechanical Construction</b>	3CR12 stainless steel plate (2,5 mm) construction CNC laser cut parts All stainless steel nuts, bolts and screws Removable lifting eyes Freestanding (with or without shockmounts) and 19" rackmount options
<b>Card Area</b>	Shock isolated inner card cage 3U or 6U, four slots Horizontal card orientation Air-cooled cards Lockable front access panel
<b>Thermal Management</b>	Forced air cooling via filtered side panel air vents Optional intercooler for chilled water cooling
<b>Backplane Type</b>	Various standard 3U or 6U options (CompactPCI, VME, VPX, etc.) Custom 3U or 6U backplanes
<b>Power Supply</b>	Dual-redundant power supplies (application specific rating) EMI/RFI power line filtering
<b>I/O Interface</b>	Fully customisable rear I/O area Rear I/O plate angled for cable strain relief
<b>Switches and Indicators</b>	Standard front panel switches and indicators : - Power and battleshort switches - Running hour meter - General purpose multi-pin circular I/O connector (USB or serial I/O)
<b>Surface Finish</b>	Powder coat painted
<b>IP Rating</b>	IP-54 (IEC-60529)
<b>Acoustic Noise</b>	< 55 dBA at 1 m
<b>MTTR</b>	< 1 hour onboard

Characteristics		
Physical	Dimensions (W x H x D)	Weight
		450 mm x 310 mm x 565 mm



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Environmental Specifications			
	Commercial Grade	Industrial Grade	Ruggedised Grade
<b>Temperature</b> - Operating - Storage	0 C to +55 C -40 C to +85 C	-15 C to +75 C -50 C to +85 C	-40 C to +85 C -60 C to +125 C
<b>Humidity</b>	0% to 90%	0% to 95%	
<b>Shock</b>	N/A	25 g for 5 ms, ½ sine (operational) 30 g for 10 ms, ½ sine (non-operational)	
<b>Vibration</b>	N/A	i.a.w. DEF-STAN 07-55 (Part 2), Section 1/1, Annex A, Figure 4	
<b>EMC</b>	i.a.w. MIL-STD-461C (Table 5 for Class A4 equipment installed on surface ships)		

Part Designations	
Part Designation	Grade
CCII/MHA/xxx/COM	Commercial
CCII/MHA/xxx/IND	Industrial
CCII/MHA/xxx/RGD	Ruggedised

**Note :** The three digit code (xxx) in the part number denotes customer specific backplane options.