DATASHEET

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HATTELAND TECHNOLOGY
an EMBRON Company

Manufacturer:	**Hatteland Technology AS**
Product:	**24.0 inch Maritime Multi Computer (MMC)**
Type:	**HD 24T26 MxC-xxx-xxxxxx**

Last Revised:	**13 Mar 2025**
Revision#:	**05**

24.0 inch Maritime Multi Computer - Series X G2

Features:

Series X Generation 2 (G2) Panel Computers offer the ultimate in performance, convenience, state of the art design and enduring quality for system integrators and boat builders. Series X Generation 2 (G2) products offer a range of feature sets optimized for varying requirements and applications.

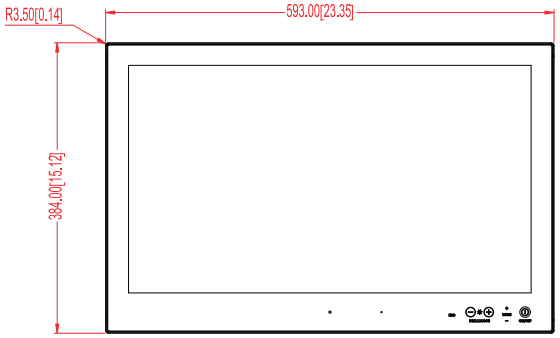
The Series X Generation 2 (G2) Panel Computer range is a flexible all in one monitor & PC solution, designed and type approved for the professional marine segment, where reliability and long life time are key prerequisites for the industry. The product range combines state of the art display and computer technology with innovative features and options, making it all that the integrator needs for top class type-approved marine systems.

The high performance MMC Panel Computer models provide a wide choice of display size and format, along with various processor and storage options. The compact, all-in-one MMC solution is the ideal one for all ship navigation or automation installations. This range with all it's versitility and capability provides a robust and cost effective platform from which to run multiple applications and display and manage data.

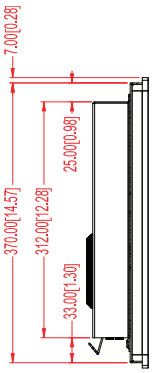
Series X Generation 2 (G2) Panel Computer feature Glass Display Control, LED Backlight Technology, full dimming, multipower or single ac power, all as standard. In addition there are options such as SSD storage mediums, Multiple interface configurations and several OS options. The product range can also accomodate and combine multi-touch screen, optical bonding and ECDIS calibration. By factory standards the 24 inch unit is ECDIS Compliant.



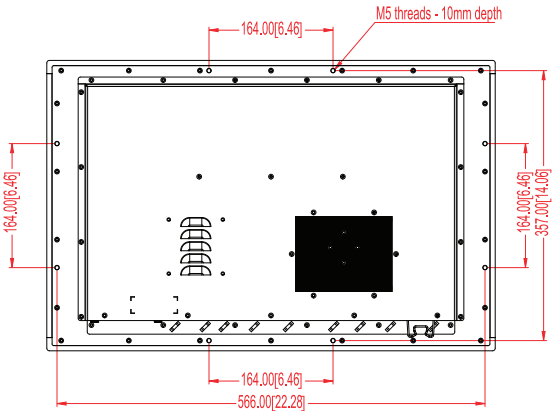
FRONT VIEW



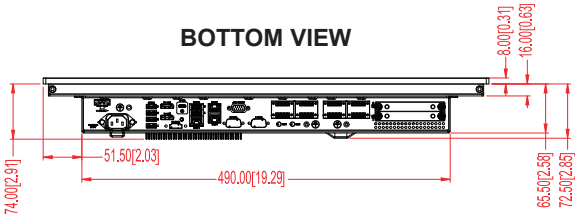
SIDE VIEW



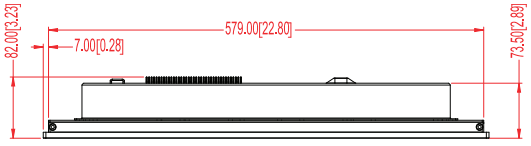
BACK VIEW

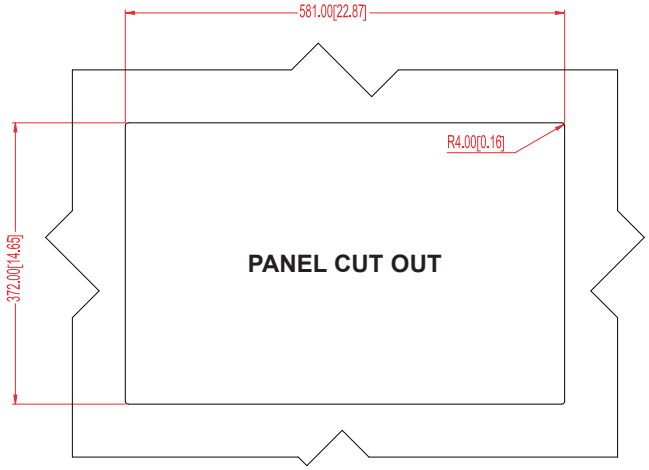


BOTTOM VIEW



TOP VIEW





Dimensions might be shown with or without decimals and indicated as mm [inches]. Tolerance on drawings is +/- 1mm. For accurate measurements, check relevant DWG file.

SPECIFICATIONS

Note: All specifications are subject to change without prior notice!
Please visit www.hattelandtechnology.com for the latest electronic version.

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TFT Technology:

- LED Backlight Technology, TFT Active-matrix
- 24.0 inch viewable image size, Widescreen, Aspect Ratio 16:9
- MVA (Multi-domain Vertical Alignment) LCD Technology, RGB vertical stripe

TFT Characteristics:

• Native Resolution	: 1920 x 1080 (FHD)
• Pixel Pitch (RGB)	: 0.276 (H) x 0.276 (V) mm
• Response Time	: 25 ms (typical), "black" to "white"
• Contrast Ratio	: 3000:1 (typical)
• Light Intensity	: 300 cd/m² (typical)
• Viewable Angle	: +/- 89 deg. (typical) (Up/Down/Left/Right)
• Active Display Area	: 531.36 (H) x 298.89 (V) mm
• Max Colors	: 16.7 millions (RGB 8-bit)

Computer Specifications:

• OS Options	: None or see table below
• Internal Storage	: 1 x SSD SATA, Type m.2. See table below.
• Removable Storage Factory Option	: 1 or 2 x 2.5" SSD SATA See table below
• CPU/Processor	: See table below
• Memory	: See table below
• System Chipset	: SOC
• Graphics Chipset	: See table below for details
• Ethernet LAN #1/#2	: Intel® I225IT Gigabit LAN 10/100/1000Mbps supports Intel® Teaming
• Ethernet LAN #3	: Realtek RTL8119i Gigabit LAN 10/100/1000Mbps
• Audio Chipsets	: Realtek HD AUDIO ALC888 (on-board)
• BIOS	: EFI, ACPI Support. Preconfigured by factory.
• PC-Beeper / Buzzer	: Optional Buzzer (according to IEC60945/IACS-E10)
• Watchdog Timer	: 256 Segments, 0, 1, 2...255 sec/min
• Power Manager	: AT, ACPI (S3/S4)
• Monitoring	: Temperature, Fan and voltages status
• Other Features	: LAN wakeup, TPM 2.0, True power on after power fail, possible to use without battery, FAN speed regulation, Secure boot support as default
• DP++ Out Max Res.	: 640 x 480 to 4096 x 2304 @ 60Hz

Available Computer Configurations:

Type	Description	Specification
CPU	Intel® i7-1185G7E 1.8GHz/4.4GHz 4/8, 12MB, 15W (standard) Intel® i5-1145G7E 1.5GHz/4.1GHz 4/8, 8MB, 15W (standard) Intel® i3-1115G4E 2.2GHz/3.9GHz 2/4, 6MB, 15W * Intel® Celeron 6305E 1.8GHz 2/2, 4MB, 15W (standard) *On request (may be subject for MOQ)	
Memory RAM	DDR4-3200, Dual Channel	8GB > 64GB
Graphics Chipset	Intel® Iris® Xe Graphics 1.35Ghz, 96 exe units (for Intel® i7-1185G7E) Intel® Iris® Xe Graphics 1.30Ghz, 80 exe units (for Intel® i5-1145G7E) Intel® UHD Graphics for 11th Gen Intel® Processors 1.25Ghz,48 exe units (for i3-1115G4E) Intel® UHD Graphics 1.25Ghz,48 exe units (for Intel® Celeron 6305E)	
Storage #1	1 x SSD SATA Type m.2 internal. Enterprise 24/7, (according to JESD218 standard with JESD219 workload). Power loss protection.	240GB > 480GB
Storage #2	2 x 2.5" SSD SATA via Removable Tray	240GB > 3.84TB
OS Options	- Windows® 10 IoT Enterprise 2019 LTSC (64bit) - Windows® 10 IoT Enterprise 2021 LTSC (64bit) - Windows® 11 IoT Enterprise 2024 LTSC (64bit) - Linux	

Power Specifications:

Power Supply option:
- 24VDC

Power Consumption:
- Operating DC: 88W (typ) - 156W (max)

Environmental Considerations:

• Operating	: Temperature -15ºC to +55ºC
• Storage	: Temperature -20ºC to +60ºC
• Humidity	: Up to 95% (Operating / Storage)
• IP-Rating Protection	: IP66 front - IP20 rear (EN60529). IP22=option
• Compass Safe Distance	: Standard: 140cm - Steering: 85cm
• CPU Fan Cooler/Heatsink	: Rear external air flow. FAN speed temp. controlled

Lifetime Considerations:

Even though the test conditions for bridge units provide for a maximum operating temperature of 55°C, continuous operation of all electronic components should, if possible, take place at ambient temperatures of only 25°C. This is a necessary prerequisite for long life and low service costs.

Physical Considerations:

Product Dimensions and Weight:
- W:593.00 [23.35"] x H:384.00 [15.12"] x D:82.00 [3.23"] mm [inch]
- Weight: Approx. 10.0 kg / 22.0lbs

User Controls:

Behind front bezel - Glass Display Control™ (GDC) IP66:
- Power On/Off, Brightness Control (-/+)
- Power LED, Mode Status Indicators (ECDIS, HDD, Service)
- Buzzer (75-85dB, through glass), Light Sensor (behind glass)

Input/Output Connectors:

Connector	Rear
• USB-C	: 1 x USB-C DP ALT mode, PD/DP (60W)
• DP++ 1.2 OUT	: 2 x DisplayPort Female (Dual-Mode DP++)
• USB2.0 (<5m)	: 4 x USB Type A (4-pin)
• USB3.0 (<3m)	: 2 x USB Type A (9-pin)
• Ethernet GBLan	: 3 x RJ-45
• Amplified Audio	: 1 x DB9 Female 2W@70ºC
• If SSD Trays option	: 2 x 2.5" Sized Tray/Bay (Factory option)
• AC Power IN	: 1 x Std IEC inlet
• If DC Power IN	: 1 x 2-pin Terminal Block 5.08

Available Accessories:

- JH C01MF A-A : 1 x USB Cable 1m, TypeA-Chassis mount receptacle
- HD VED SX2-I1 : 1 x VESA Adapter (100/100 & 200/100mm) Not EN60945 Tested
- HD TMB SX1-C1 : 1 x Table Mount Bracket. EN60945 Tested
- HD CMB SX2-E1 : 1 x Console Mount Kit. EN60945 Tested
- HD 24COV SX1-A1 : 1 x UV Sun Cover
- P022211 : 1 x IP66 Mount Gasket (EPDM), for Flush/Console mount
- HD CAK SX2-A1 : 1 x Front Console Mounting/Adapter Kit
- HT 00262 OPT-A1/B1 : 4 x RS-422/RS-485 isolated, USB ext. module [1]
- HT 00263 OPT-A1/B1 : 4 x RS-232 COM non-isolated, USB ext. module [1]
- HT 00264 OPT-A1/B1 : 1 x CAN isolated, 2 channel, USB ext. module
- HT 00264 OPT-A2/B2 : 1 x SLCAN isolated, 2 channel, USB ext. module
- HT 00273 OPT-A1/B1 : 4 x Digital IN/OUT isolated, USB ext. module
- HT 00277 OPT-B1 : 2 x LAN 1Gbps, SFP, USB ext. module
- HT 00300 MSOS : OS options: https://www.hattelandtechnology.com/os
- VSD100779-1 : External audio cable, DB9M to open leads mono 1m
- HD 000TR SX2-A2 : 1 x Removable Front Tray 2.5" Empty
- HD xxxyy SX1-z1 : 1 x Removable Front Tray 2.5" w/Storage Device*

*Where xxx=Size of device. yy=GB,TB. z=S (SSD) - Choose Device from table.

[1] **Note:**
Due to driver limitations, only 1 instance of this module can be connected to the same Computer/Panel Computer unit.
If Computer/Panel Computer already has SLCAN functionality built-in, connecting this external module will always fail.

Factory Options:

- Projected Capacitive Touch Screen (Multitouch, USB, Pen/Glove support)
- Optical Bonding Technology
- Color Calibrated models (ECDIS)
- Multipower (AC+DC) or AC only model
- Model with 2 x physical 2.5" removable Disk Bay/Tray
- IP22 Model (Factory Mounted internal gaskets)
- Variations of SSD Storage, RAM Memory, Operating System, CPU
- 1 or 2 x PCA200828-1: 4xCOM RS-422/485 isolated NMEA 4 channel module
- 1 x HTA2020002-AD1033: CAN isolated 2 channel module* [1]
- 1 x HTA2020002-SLCAN: CAN isolated 2 channel, socketCAN module* [1]
- 1 or 2 x PCA100297-1: Isolated Digital IO module, 4 x Output/4 x Input
- 1 or 2 x PCBAA21001: LAN 1Gbps, 2 x SFP module
- 1 or 2 x PCA100309-1: Dual Isolated RS-232, 2xDB9M module
- 1 x VSD203593-1: 2 x 3.5mm jack mic in, line out*
- 1 x VSD203592-1: 1 x Isolated RS-232, DB9M connector*
- 1 x PCA200827-1: 2 x RJ-45, PoE 12V 5,5A receiver module*
- 1 x HT EPB STD-A2: External/Remote ON/OFF power button*

*Only 1 of item can be installed

Frame Grabber options (1 x supported via M.2 (PCIe x1) slot):
- HD550N1 SDI M2: 1 x SDI IN, 1920x1080@60/50fps
- HD550N1 HDV M2: 1 x HDMI IN+1 x VGA IN, 1920x1200p@60/50fps

APPROVALS & CERTIFICATES

This product have been tested / type approved by the following classification societies: *=pending

IEC 60945 4th (EN 60945:2002)* **IACS E10*** **EU-RO-MR** - Mutual Recognition by DNV* **ClassNK** - Nippon Kaiji Kyokai*
ABS - American Bureau of Shipping* **BV -** Bureau Veritas* **CCS** - China Classification Society*