

Manufacturer: **Hatteland Technology AS**  
 Product: **Industrial Marine Computer (Standard Models)**  
 Type: **HT20370-ww-xx yzzzzzz**  
 where ww=CPU type (i3,i5,i7), xx=Power Input (AC, DC),  
 y=manufacturing site, zz=configuration

Last Revised: **11 Oct 2021**  
 Revision#: **05**

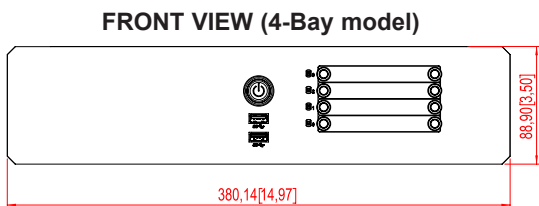
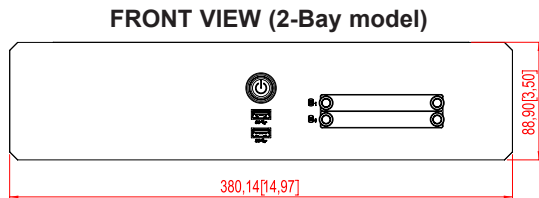
## Marine Computer (Standard Models)

### Features:

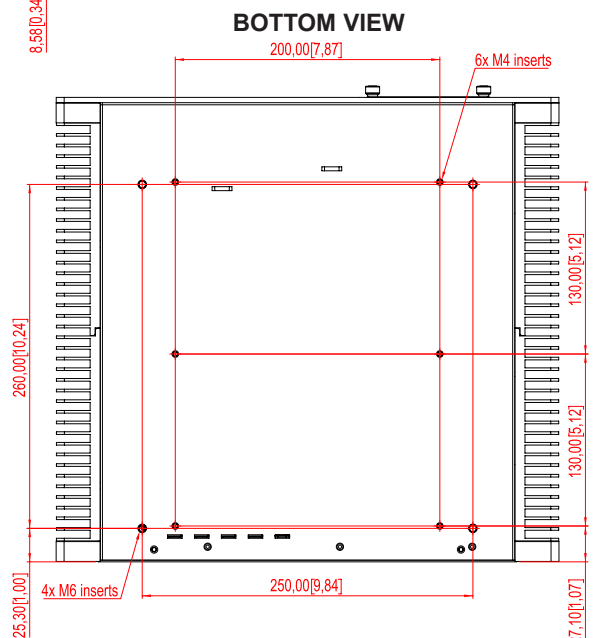
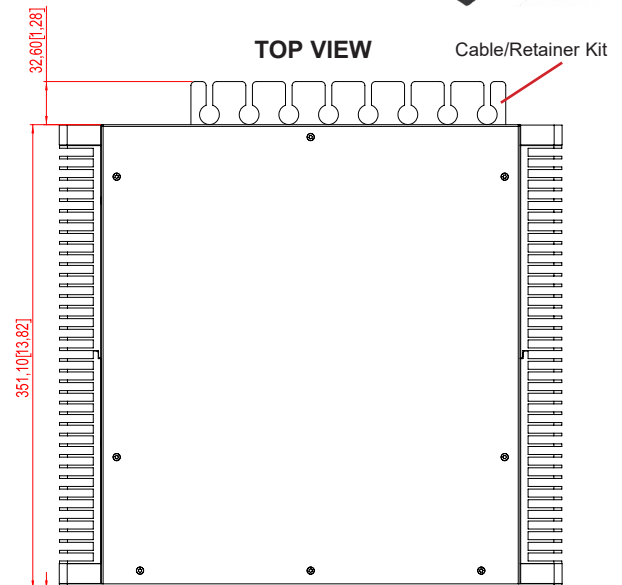
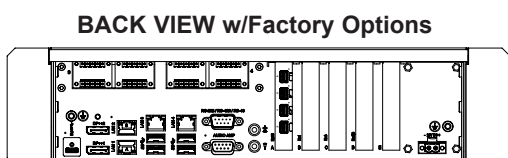
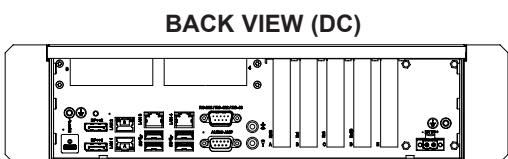
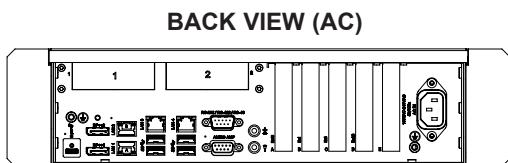
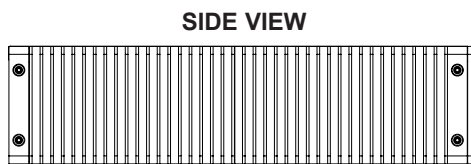
The HT20370 model is the successor to the best in class and highly successful ENIX-2087 computer. The new model incorporates latest processor technologies and enhanced feature sets, thus providing greater versatility for high-end maritime system applications.

The HT20370 models are high-end platforms with an enhanced chassis that includes external disc bays at the front. The i3, i5 or i7 processor options ensure state of the art computing performance is delivered; while the extensive feature options allows for the HT20370 to be built up to a quasi-Server capability.

By default equipped with 2 front side bays for 2 SSDs with the option of 4 removable front side disc bays, onboard raid, M.2, 4 PCI-e slots, memory up to 64GB RAM, 6 USB, 4 LAN ports, 3 Display ports (2 DP+ 1 USB-C) and more, making the HT20370 the most versatile rugged PC solution for the professional maritime segment.



For 4-bay model: Contact your sales representative at Hatteland Technology for details.



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.

## TECHNICAL DESCRIPTION

### Computer Specifications:

<ul style="list-style-type: none"> <li>• Installed Operating System : Windows® 10 IoT Enterprise 2019 LTSC (64bit)</li> <li>• Supported Storage : 2 or 4 x SATA 3.0 (6GB/s) in Removable SSD tray in front (2.5" size). See table below for options</li> <li>• Processor : 1 x Intel® Core™ i5-9500TE, 6-Core 2.20Ghz - 3.60Ghz, 9MB Cache - See table below for options</li> <li>• Memory/RAM : 1 x 8GB (single channel) installed - Max 64GB possible - Dual Channel available - See table below for options</li> <li>• Graphics : Intel® UHD 630</li> <li>• Graphics Capabilities : DirectX Support 12.0, Shader Model 6.4, OpenCL 2.1, OpenGL Support 4.5/linux, Vulkan 1.1.97</li> <li>• Max Graphics Resolution : Max 3840 x 2160 (4K UHD) @ 60Hz for DP (DisplayPort)</li> <li>• System Chipset : Intel® Q370</li> <li>• BIOS : UEFI, ACPI support</li> <li>• PCIe Slots : 1 x PCIe 3.0 x16 (reserved for additional Graphics Card - See Factory Mounted options below)</li> <li>• M.2 Storage (PCIe options) : 1 x M.2 2280 M-key (one SATA + NVMeEx4) 1 x M.2 2230 E-Key (PCIe + USB for WiFi)</li> <li>• Ethernet #1-2 : 2 x LAN 10/100/1000Mbps, Intel®, Support for Intel® Teaming</li> <li>• Ethernet #3-4 : 2 x LAN 10/100/1000Mbps (non intel)</li> <li>• USB Ports #1-2 : 2 x USB 3.1 (&lt;3m) ports in front</li> <li>• USB Ports #3-6 : 4 x USB 3.1 (&lt;3m) ports in rear</li> <li>• USB Ports #7 : 1 x USB-C (DisplayPort - Power Distribution enabled)</li> <li>• Serial Port #1 : 1 x RS-232/RS-422/RS-485 un-isolated Baud Rate: Max 115.2Kbps</li> <li>• Audio Onboard : Realtek HD Audio supports 2.0 channel, Mic. in, Line out</li> <li>• Audio Amplified : 2W, Stereo/Mono supported</li> <li>• Power Manager : ACPI</li> <li>• Watchdog Timer : Reset: 1 sec.~255 min. and 1 sec. or 1 min./step</li> <li>• H/W Status Monitor : Temperatures, voltages &amp; cooling fan status. Auto throttling control if CPU overheats</li> <li>• Other Features : LAN Wakeup, USB Boot, Trusted Platform Module 2.0 (TPM2.0), Intel® Management Engine. True power on after power fail.</li> </ul>	<p><b>External Connector Type:</b></p> <p>1 x USB-C + 2 x DisplayPort 1.2</p> <p>2 x RJ-45 Teaming 2 x RJ-45 2 x USB Type A 4 x USB Type A 1 x USB-C 1 x DB9M 2 x 3.5mm Audio Jack 1 x DB9F</p>
--	---

### Power Supply:

: Power Consumption - Operating: 40W Typical - 240W Max

- Single DC: 24VDC
- Single AC: 100-240V AC - 50/60Hz

### External Connector Type:

1 x 2-pin Terminal Block 5.08 STD IEC

### Available Computer Configurations:

Type	Description	Size/Specification
CPU	1 x Intel® Core™ i3-9100TE 1 x Intel® Core™ i5-9500TE 1 x Intel® Core™ i7-9700TE	4-Core 2.20GHz - 3.20GHz, 6MB Cache 6-Core 2.20GHz - 3.60GHz, 9MB Cache 8-Core 1.80GHz - 3.80GHz, 12MB Cache
Memory	DDR4 - SO-DIMM 260-pin	- Uses 2 slots, Single or Dual Channel (where applicable), available sizes are: Single Channel: 1x8GB (2400MHz) Dual Channel: 2x8GB (2400MHz), 2x16GB (2400MHz), 2x32GB (2666MHz)
Storage	2.5" SSD SATA	- 240GB (0.9PBW), 480GB (1.2PBW), 960GB (3.4PBW), 1.92TB (7.1PBW)
OS Option	Microsoft® Windows® Server 2016/2019 64bit, Windows® 10 IoT Enterprise 2019 LTSC (64bit). Linux: Kernel 4.1x or later version	

### Factory Mounted Options:

- VCQP620V2-PB: PNY NVIDIA Quadro P620, PCIe 3.0 x16, 4x mDP 1.4, 2GB GDDR5\*\*
- CP-114EL-I ELEK KIT: 4 Ports COM Card, PCIe x1, 1xDB44F to 4xDB9M isolated, RS-232/422/485)
- I350F2BLK: Intel® Fiber Network Adapter (1GbE), 2 x LC Fiber Optic
- I350T2V2BLK: Intel® Network Adapter (1GbE), 2 x RJ45
- ZIA0001310-B: CAN isolated, 2 channel module\*
- ZIA0001310-SLCAN: Socket CAN isolated, 2 channel module\*
- PCA100298-1: LAN 10/100Mbps, 2 ports (RJ45) module\*
- PCA100297-1: Digital IO Isolated, 4 IN + 4 OUT module\*
- PCA200828-1: COM RS-422/485 isolated NMEA 4 ch., 5-pin T. Block 3.81\*
- PCA100309-1: Dual Isolated RS-232, 2xDB9 module\*
- VSDxxxxx-x: Additional USB ports. Pending.
- SX-118A: 1 x Parallel Port LPT, DB25F, Bi-Dir. ECP/EPP, PCIe x1 card
- Variations of Storage, RAM Memory and Operating System

\* For all Factory Mounted Options, review User Manual for possible HW combinations.

\*\* miniDP to DP adapter not included. See accessories below.

### Available Accessories:

- HT RMK STD-E1: 2U Rack Mount Kit 19" - HT20xxx
- HT 00225 OPT-A1: 2 x 26" ball bearing sliding rail & mount kit for 19" Rack
- HT 00224 OPT-A1: 2 x 20" ball bearing sliding rail & mount kit for 19" Rack
- HT MBK STD-E1: Desktop Mounting Kit HT20xxx - Plate Shaped
- JH C01MF A-A: 1 x USB Cable 1m, Type A-Chassis mount receptacle
- HT 00300 MSOS: OS options -> <http://www.hattelandtechnology.com/os>
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- VSDDPVGA340 / HT DPM2VGAFA1: 1 x DP to VGA adapter
- RC3473 / HT DPM2DVI-DF-A1: 1 x DP to DVI adapter
- HT 00262 OPT-A1: 4 x RS-422/RS-485 isolated, USB ext. module
- HT 00263 OPT-A1: 4 x RS-232 COM non-isolated, USB ext. module
- HT 00264 OPT-A1: 1 x CAN isolated, 2 channel, USB ext. module
- HT 00274 OPT-A1: 2 x LAN 10/100Mbps, RJ45, USB ext. module
- HD 000TR SX1-A1: 1 x Removable Tray 2.5" Empty
- HD xxxxy SX1-z1: 1 x Removable Tray 2.5" w/Storage Device\*
- HD 000TR SX2-A3: 1 x Removable Tray 2.5" w/4xM3x4mm Phillips Countersunk Screws
- HT MBK STD-F1: Mounting Bracket Kit HT20xxx - L-Shaped

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

## MECHANICAL DESCRIPTION

### Physical Specifications:

- W:380.14 [14.97"] x H:88.90 [3.50"] x D:351.10 [13.82"] mm [inch]
- Weight: Approx 7.5kg / 16.5lbs
- 2U chassis, Aluminum Alloy
- 2 x Removable SSD tray in front (2.5" size)
- Power/Reset/Power LED Combined Function

Compass Safe Distance: Standard: 150cm - Steering: 130cm

### Environmental Considerations:

- Operating : Temperature -15°C to +55°C - Humidity up to 95%
- Storage : Temperature -20°C to +70°C - Humidity up to 95%

### 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.

## APPROVALS & CERTIFICATES

These products have been tested / type approved by the following classification societies: (\* = Pending)

IEC 60945 4th (EN 60945:2002)	IACS E10	EN61162	EU RO MR - Mutual Recognition
ABS - American Bureau of Shipping*	CCS - China Classification Society		BV - Bureau Veritas*
			ClassNK - Nippon Kaiji Kyokai*