

Manufacturer: **Hatteland Technology AS**
 Product: **Compact Computer (Standard Models)**
 Type: **HTC03-xx-AC yzzzzzz**
 where xx=CPU type (i3,i5,i7), y=manufacturing site,
 zz=configuration

Last Revised: **14 Apr 2021**
 Revision#: **02**

Compact Computer (Standard Models)

Features:

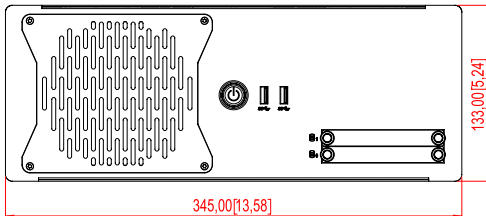
The HTC03 model is the successor to the best in class and highly successful HT C02 computer. The new model incorporates latest processor technologies and enhanced feature sets, thus providing greater versatility for high-end maritime system applications.

The HTC03 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 HTC03 to be built up to a quasi-Server capability.

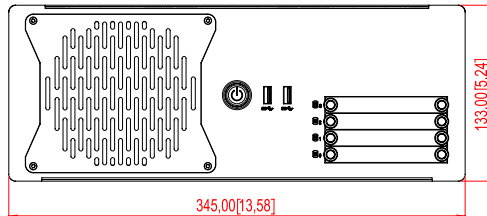
By default equipped with 2 front side bays for 2 SSDs with the option of 4 removable front side disc bays, onboard raid, M.2, 4 PCI-e slots, memory up to 64GB RAM, 6 USB, 4 LAN ports, 3 Display ports (2 DP+ 1 USB-C) and more, making the HTC03 the most versatile rugged PC solution for the professional maritime segment.



FRONT VIEW (2-bay model)

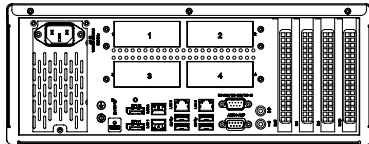


FRONT VIEW (4-bay model)

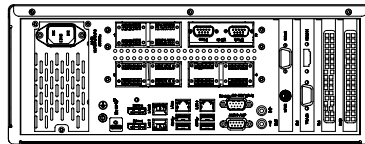


For 4-bay model: Contact your sales representative at Hatteland Technology for details.

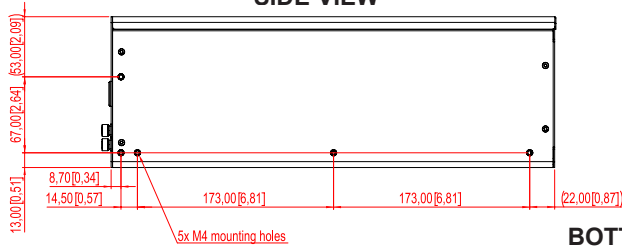
BACK VIEW



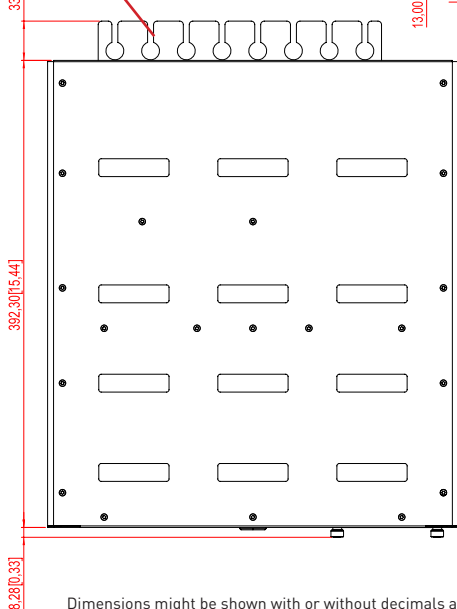
BACK VIEW w/factory options



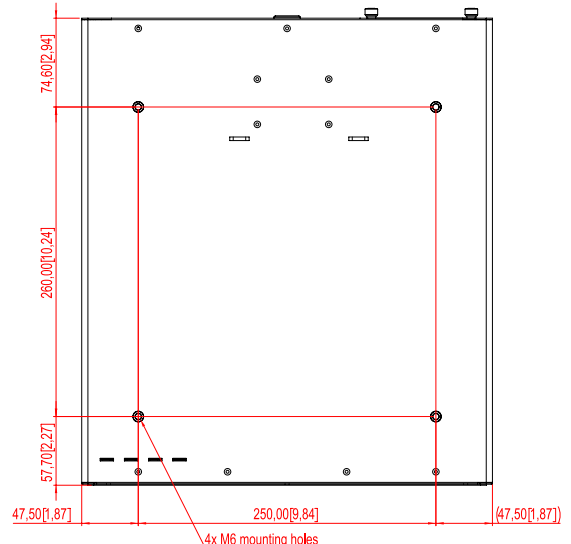
SIDE VIEW



Cable/Retainer Kit
 TOP VIEW



BOTTOM 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.

TECHNICAL DESCRIPTION

Computer Specifications:

• Operating System Support	: See table below for options	
• 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	
• Processor	: 1 x Intel® Core™ i5-9500E, 6-Core 4.20GHz, 9MB Cache - See table below for options	
• Memory/RAM	: 1 x 8GB (single channel DDR4) - Max 64GB possible - Dual Channel available - See table below for options	
• Graphics	: Intel® UHD 630	1 x USB-C + 2 x DisplayPort 1.2 (2 x Display clone + 1 extended)
• Graphics Capabilities	: DirectX Support 12.0, Shader Model 6.4, OpenCL 2.1, OpenGL Support 4.5/linux, Vulkan 1.1.97	
• Max Graphics Resolution	: Max 3840 x 2160 (4K UHD) @ 60Hz for DP (DisplayPort)	
• System Chipset	: Intel® Q370	
• BIOS	: UEFI, ACPI support	
• PCIe Slots	: 1 x PCIe 3.0 x16 (reserved for additional Graphics Card - See Factory Mounted options below) 1 x PCIe 3.0 x4 (x8 socket) + 1 x PCIe 3.0 x4 + 1 x PCIe 3.0 x1	
• M.2 Storage (PCIe options)	: 1 x M.2 2280 M-key (one SATA + NVMe) + 1 x M.2 2230 E-Key (PCIe + USB for WiFi)	
• Ethernet #1-2	: 2 x LAN 10/100/1000Mbps, Intel®, Support for Intel® Teaming	2 x RJ45 Teaming
• Ethernet #3-4	: 2 x LAN 10/100/1000Mbps (non intel)	2 x RJ45
• USB Ports #1-2	: 2 x USB 3.1 (<3m) ports in front	2 x USB Type A
• USB Ports #3-6	: 4 x USB 3.1 (<3m) ports in rear	4 x USB Type A
• USB Ports #7	: 1 x USB-C (DisplayPort - Power Distribution enabled, 60W) in rear	1 x USB-C
• Serial Port #1	: 1 x RS-232/RS-422/RS-485 un-isolated Baud Rate: Max 115.2Kbps	1 x DB9M
• Audio Onboard	: Realtek HD Audio supports 2.0 channel, Mic. in, Line out	2 x 3.5mm Audio Jack
• Audio Amplified	: 2W, Stereo/Mono supported	1 x DB9F
• Power Manager	: ACPI	
• Watchdog Timer	: Reset: 1 sec.~255 min. and 1 sec. or 1 min./step	
• H/W Status Monitor	: Temperatures, voltages & cooling fan status. Auto throttling control if CPU overheats	
• Other Features	: LAN Wakeup, USB Boot, Wakeup, Trusted Platform Module 2.0, Intel® Management Engine. True power on after power fail.	

External Connector Type:

Power Supply:

- 100-240VAC 50/60Hz
- Power Consumption: Operating: 70W typical - 240W max

External Connector Type:

Std IEC

Available Computer Configurations:

Type	Description	Size/Specification
CPU	1 x Intel® Core™ i3-9100E 1 x Intel® Core™ i5-9500E 1 x Intel® Core™ i7-9700E	4-Core 3.10GHz - 3.70GHz, 6MB Cache 6-Core 3.00GHz - 4.20GHz, 9MB Cache 8-Core 2.60GHz - 4.40GHz, 12MB Cache
Memory	DDR4 SO-DIMM 260-pin	- Uses 2 slots, available sizes are: 1x8GB (2400MHz), 2x8GB (2400MHz), 2x16GB (2400MHz), 2x32GB (2666MHz)
Storage	2.5"/M.2 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:

- CP-114EL-I ELEK KIT: 4 Ports COM Card, PCIe x1, 1xDB44F to 4xDB9M isolated, RS-232/422/485
- PNY NVIDIA Quadro P2200: PCIe 3.0 x16, 4 x DP 1.4, 5GB GDDR5
- PNY NVIDIA Quadro P620: PCIe 3.0 x16, 4 x mDP 1.4, 2 GB GDDR5**
- X710T2LBLK: Intel® Network Adapter (10GbE), 2 x RJ45
- X722DA2: Intel® Fiber Network Adapter (10GbE), 2 x SFP+
- I350T2V2BLK: Intel® Network Adapter (1GbE), 2 x RJ45
- I350F2BLK: Intel® Fiber Network Adapter (1GbE), 2 x LC Fiber Optic
- SX-118A: Parallel Port LPT, DB25F, Bi-Dir. ECP/EPP, PCIe x1 card
- PCA100297-1: Digital IO Isolated, 4 IN + 4 OUT*
- PCA100298-1: LAN 10/100Mbps, 2 ports (RJ45) module*
- PCA100309-1: Dual Isolated RS-232, 2xDB9 module*
- PCA200828-1: COM RS-422/485 isolated NMEA 4 channel, 5-pin T. Block 3.81*
- ZIA0001310-SLCAN: Socket CAN isolated, 2 channel module*
- ZIA0001310-B: CAN isolated, 2 channel module*
- VSDxxxxx-x: Additional USB ports. Pending
- 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 00225 OPT-A1: 2 x 26" ball bearing sliding rail & mounting kit for 19" Rack
- HT 00224 OPT-A1: 2 x 20" ball bearing sliding rail & mounting kit for 19" Rack
- HT 00223 OPT-A1: 1 x 4U 19" Rack Case Kit(compatible with HT00224/00225)
- HT 00226 OPT-A1: 2 x Mounting Bracket, 4mm SECC+Zinc Plating, RAL9011
- JH C01MF A-A: 1 x USB Cable 1m, Type A-Chassis mount receptacle
- HT 00275 OPT-A1: 1 x PCI Mount Kit EN60945, Low Profile (LP, any len.)
- H733S30Q20-SP000-0: 1 x Replacement Front Air Filter w/4 screws
- HT MBK STD-C1: Mounting Bracket Kit HTC03/HTC04 - L-Shaped
- HD 000TR SX1-A1: 1 x Removable Tray 2.5" Empty
- HD 000TR SX2-A3: 1 x Removable Tray 2.5" w/4xM3x4mm Phillips Countersunk Screws
- HT RET STD-A3: 1 x Cable/Retainer Kit
- 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
- HT 00273 OPT-A1: 4 x Digital IN/OUT isolated, USB ext. module
- 895-0492: USB-C cable, 2m
- VSDDPVGA340 / HT DPM2VGA-F-A1: 1 x DP to VGA adapter
- RC3473 / HT DPM2DVI-DF-A1: 1 x DP to DVI adapter
- USB-C to DP Adapter PENDING
- HT 00300 MSOS: OS options -> www.hattelandtechnology.com/os
- HD xxxxy SX1-z1: 1 x Removable Tray 2.5" w/Storage Device*

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

MECHANICAL DESCRIPTION

Physical Specifications:

- W:345.00 [13.58"] x H:133.00 [5.24"] x D:392.30 [15.44"] mm [inch]
- Weight: Approx 9.0kg / 19.8lbs
- 2 x Removable SSD tray in front (2.5" size)
- Power/Reset/Power LED Combined Function
- Easy Removable Front Air Filter (spare part accessory available)
- Includes Mounting Brackets (HT 00226 OPT-A1)
- 1 x Internal Cooling fan in front (120x120mm)

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

IEC 60945 4th (EN 60945:2002)	These products have been tested / type approved by the following classification societies: (*= Pending)	EU RO MR - Mutual Recognition
DNV GL - Det Norske Veritas / Germanischer Lloyd*	IACS E10	CCS - China Classification Society*
BV - Bureau Veritas*	EN61162	
	ABS - American Bureau of Shipping*	
	ClassNK - Nippon Kaiji Kyokai*	