

# MS3050

Mariner Kit for use with HP Z440 Workstation  
(Desktop configuration)



The HP Z440 Workstation is marine type approved by all of the major international marine Classification Societies when it is installed in conjunction with our Mariner Kit MS3050.

The MS3050 Mariner Kit affords protection against the effects of vibration and shock experienced in the offshore marine environment and has been type tested against IACS Unified Requirement E10 and the relevant sections of IEC60945 (see below right for test details).

This type approved combination of hardware and Mariner Kit can be used as the platform for your critical navigation, control, loading and general purpose applications (please check individual type-approval certificates for any restrictions).

**“World leading type approved  
computer hardware”**



## PRODUCT FEATURES:

- ◆ Achieve the performance you need with next generation Intel® Xeon® processors for up to 8 processor cores in one system
- ◆ Wide range of professional graphics solutions from professional 2D to mid-range 3D
- ◆ Maximise your time and increase your capabilities with USB and SATA ports, plus lightning-fast data transfers using optional Thunderbolt™ 2 technology
- ◆ A brand new tool-free chassis boasts low acoustics, single integrated Gb Ethernet and more
- ◆ Reduce boot up, calculation, and graphics response and revolutionise how your HP Z440 handles large files with the HP Z Turbo Drive, a remarkably fast and innovative storage solution
- ◆ You'll never run out of juice with two power supply options: 525W & 700W
- ◆ Take multitasking to a new level with support for up to eight displays
- ◆ Optimise this HP Z440 for peak performance. HP Performance Advisor configures your system with updated settings and drivers to help maximise performance
- ◆ Up to 128GB DDR4-2133 ECC registered SDRAM
- ◆ Two full-height PCI Express Gen3 x16 slots; One full-height PCI Express Gen3 x8 slot (open-ended); One full-height PCI Express Gen2 x4 slot (open-ended); One full-height PCI Express Gen2 x1 (open-ended); One full-height PCI slot
- ◆ Four front, six rear and two internal USB ports
- ◆ ENERGY STAR® certified and EPEAT® registered configurations available
- ◆ Worldwide product availability
- ◆ Protected by HP Services, including a 3 years parts, 3 years labour and 3 years onsite service (3/3/3) standard limited warranty

This Mariner system is type tested against the consolidated, 'worst-case' requirements of all the major international marine Classification Societies:

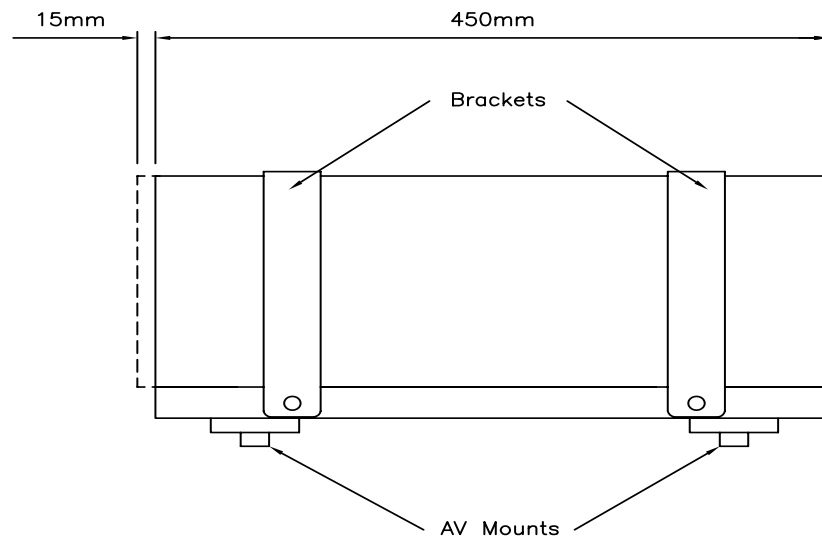
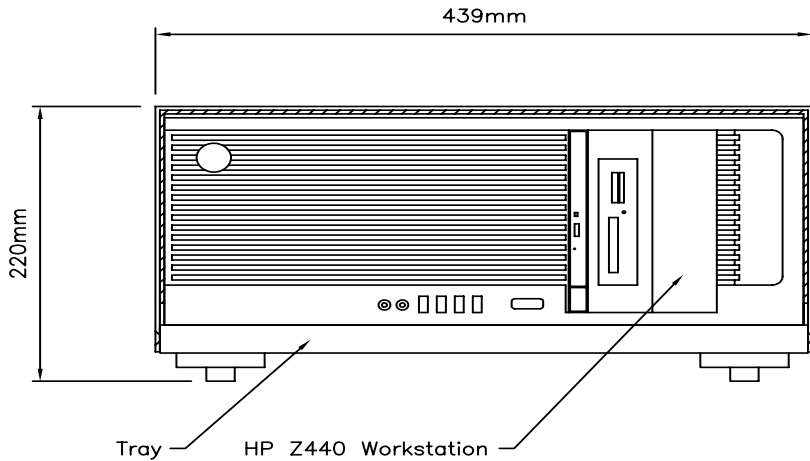
**ABS, BV, CCS, DNV GL, KR, LR, NKK, PRS, RINA**

Type-tests included on the test programme are as follows:

- > Vibration, Shock, Static and Dynamic Inclination
- > Dry & Damp Heat, Low Temperature
- > Acoustic Noise, Compass Safe Distance
- > High Voltage, Power Supply Variation & Power Supply Failure
- > Conducted LF & RF, Electromagnetic Field
- > Radiated & Conducted Emissions, Electrostatic Discharge
- > Insulation Resistance, Burst / Fast Transients
- > Surge Immunity, Access to Dangerous Voltages

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## Mariner Kit for use with HP Z440 Workstation (Desktop configuration)



## BASIC JAPAN

Basic Japan株式会社 Suginami Tokyo, Japan  
Phone: 03-5335-7651  
E-mail: mail@basicjp.com  
URL: www.basicjp.com



### Mariner Systems (UK) Limited

Oaklands Park • Wokingham • Berkshire • RG41 2FD • United Kingdom  
Telephone: +44 (0) 118 979 6020 • Facsimile: +44 (0) 118 979 6021  
sales@marinersystems.com • www.marinersystems.com

## OPERATING GUIDELINES

Although all of our equipment is tested against extreme environmental conditions for the purposes of marine type approval, installation should take into account the following guidelines:

- Keep the equipment away from excessive moisture, direct moisture and the extremes of heat and cold and, wherever possible, ensure that the equipment is within the manufacturer's specified operating/non-operating ranges:

	Operating	Non-Operating
Temperature	+5° to +35°C (+40° to +95°F)	-40° to +60°C (-40° to +140°F)
Humidity	8% to 85% (non-condensing)	8% to 90% (non-condensing)

- Leave at least 15.2 cm (6-inch) clearance on all vented sides of the equipment to permit the required airflow
- Never restrict airflow into the equipment by blocking any vents or air intakes
- If the equipment is to be operated within a separate enclosure, intake and exhaust ventilation must be provided

By following these guidelines you will maximise the life of your equipment and minimise service costs.

## STATISTICS

Overall Fitted Dimensions	439mm (w) x 220mm (h) x 465mm (d)
Weight (Mariner Kit only)	Approx. 3 kg
Weight (including hardware)	Max 21 kg
Chipset	Intel® C612
Available Processors	Intel® Xeon® E5-2600 v3 & E5-1600 v3 series processors up to and including 3.70GHz, 20MB cache, 8 cores
Memory	Up to 128 GB 2133 MHz DDR4 ECC Registered SDRAM
Hard Drive(s)	500 GB to 3 TB SATA 7200 rpm 6 Gb/s; 300 GB to 1.2 TB SAS 10000 rpm (2.5-inch); 300 GB & 600 GB SAS 15000 rpm; 128 GB to 1 TB SATA 6Gb/s SSD; 240 GB & 480 GB Samsung Enterprise 6 Gb/s SSD; 256 GB & 512 GB HP Z Turbo Drive (PCIe SSD)
Keyboard	HP Standard (PS/2 or USB)
Mouse	HP Standard (PS/2 or USB)
Network Card	Integrated Intel I218LM PCIe GbE Controller
Graphics	No integrated graphics; NVIDIA NVS310 512MB; NVIDIA NVS315 1GB; NVIDIA NVS510 2GB; NVIDIA Quadro K420 1GB; NVIDIA Quadro K620 2GB; NVIDIA Quadro K2200 4GB; AMD FirePro W2100 2GB
Optical Storage	HP 9.5mm Slim SATA DVD-ROM; HP 9.5mm Slim SATA SuperMulti DVD Writer; HP 9.5mm Slim SATA BDXL Blu-ray Writer; HP 15-in-1 Media Card Reader
Audio	Integrated Realtek HD ALC221 Audio
Operating System	Windows® 8/8.1 Enterprise 64-bit; Windows® 8.1 Professional 64-bit; Windows® 8.1 64-bit; Windows® 8.1 Emerging Market; Windows® 7 Enterprise 64-bit; Windows® 7 Professional 64-bit; SUSE Linux Enterprise Desktop 11; Red Hat Enterprise Linux Desktop; Ubuntu 14.04; HP Installer Kit for Linux
Slots	Two full-height PCI Express Gen3 x16 slots; One full-height PCI Express Gen3 x8 slot (open-ended*); One full-height PCI Express Gen2 x4 slot (open-ended*); One full-height PCI Express Gen2 x1 (open-ended*); One full-height PCI slot. *Open-ended connector allows a greater bandwidth card to be installed physically into a lower bandwidth connector/slot
USB Ports	9 x USB 3.0 ports - 4 front, 4 rear and 1 internal. 3 x USB 2.0 ports - 2 rear and 1 internal
Serial Port	Serial supported with optional connector on PCI bracket cabled to system board connector