



## OSAMC in Air, Land & Sea



HAL-Edgewood Technologies Pvt. Ltd.

*Designed to operate in severe military environments, the OSAMC, with its advanced processing power and modular flexibility, is the right choice for retrofits on aircraft.*

### Benefits

- Next generation Mission computing with proven advanced technology - maiden Vita-46 VPX system
- 08 Slots conduction cooled 270 watts 3/4 ATR (short) chassis
- Four high-end MPC 8641D processor carrier blades on high-speed Vita 46 back plane with PCIe protocol
- Two PMC slots on each carrier blade supporting avionics functions like Quad 1553B, Arinc 429, Stroke, Graphics, Video and Mass storage
- Single point solution for advance avionics demand - Network Centric Requirement
- Enhanced situational awareness and mission capability
- Controlled I/O transition panel shielding external world.
- Cableless architecture
- Open, intelligently processed middleware software
- Obsolescence proof
- High growth potential
- 7500 MTBF

# OSAMC

*On Indian Soil*

## Open System Architecture Mission Computer

The Open System Architecture Mission Computer (OSAMC) is a leading-edge, flexible and rugged modular computer that can be readily configured to meet the general purpose, I/O, Video, Voice, Map, Head Up Display and Graphics processing needs of modern military systems. The mission computer leverages commercial-off-the-shelf technology, proven protocols and expertise in application-specific requirements to provide open, high-performance, state-of-the-art computing resources for harsh avionics, ground-based systems and shipboard environments. The OSAMC revolves around Feature Centric Design philosophy.

The OSAMC features 1.5GHz Freescale MPC 8641D processors with PCI Express on VITA-46 Backplane for processing critical data in real time, at a high refresh rate. It has extensive video conversion, video switching, stroke and graphics generation capabilities. It includes an industry leading, 64 Gbyte solid state mass memory card for moving map generation function. Processing is supported by modules that can be enhanced for high-resolution graphics in case of multifunction displays. The OSAMC generates and control stroke symbology on the HUD units.

Designed and qualified to operate in severe military environments, the versatile mission computer with superior processing power and modular flexibility, is the right choice for retrofits on aircraft. The unmatched configurability and flexibility make it suitable for variety of applications ranging from embedded module functions to full-scale multi-computer configurations. Minimal changes at I/O and Backplane are required to employ across the weapon platforms like SU-30, Mig 27, Mig 29, Jaguar, Mirage and Helicopter fleets. General areas of application include mission processing, display processing, stores, redundancy and built-in-test capabilities management.



**HAL-Edgewood, Bangalore is focussed on the avionics design and development domain. HAL-Edgewood is a joint venture of HAL, pioneers of avionics and systems industry in Asia, Edge Tech India and Edgewood Ventures, LLC USA an investor in major projects in the areas of Semiconductors, Satellite Based Systems, Wireless, Aerospace and Defense.**

# F E A T U R E S

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| VITA 46 Backplane, PCI Express Open Architecture system   | World-wide High Speed, ruggedized standard that is rapidly being adopted by the military/aerospace industry.<br>Facilitates program development via its support of a wide range of third-party hardware modules and software support tools.  |
| Modular Construction/Flexible Design  | Supports the data processing, interface and primary control/display elements of any aircraft avionics system.<br>Easily configurable for future expansion.<br>Modules for special functions such as Radar Computation, Electronic Warfare, ECCM, Data Link, SW Defined radios, Multi Mode Radar and other sensitive applications can be added. |
| High-Resolution Graphics Generation for MFD Drivers, RGB, DVI, Y/C & HUD Stroke Applications  | Supports either smart or dumb MFDs.<br>High graphics resolution up to 1920x1200<br>Flexible and economical cockpit integration. Full 2D and 3D OpenGL support with real time video overlay.  |
| Symbol/Graphics Overlay<br>Video Map Overlay<br>Picture In Picture  | Provides pilot with real time cues for navigation and weapons delivery.  |
| Multiple Interface Support:<br>MIL-STD-1553/1760, ARINC-429, RS-422/485, Ethernet, Video Interface, Discrete, Analog and Synchros<br>DO-160 level 3 compliant IOs and DO-254 compliant Neutron immune FPGAs<br>Qualification for Mil-810F and Mil-217F<br>Environmental and Reliability | Multiple interface capability facilitates easy integration into almost any aircraft avionics system.   |
| Multiple PowerPC core 8641D with 512 Mbytes of DDR Memory 128 Mbytes of Flash Memory  | Processing power and data storage capability for processing and display of data from multiple sensor sources.<br>Information is provided to the pilot in real time with minimal latency.   |
| Enclosed Equipment Case with Conductive Cooling for Electronic Modules.<br>Ruggedized Construction.   | Qualification for operating reliably in harsh environments of temperature, altitude, moisture, vibration, shock, EMI/EMC.  |
| PBIT, CBIT and IBIT Capability<br>Script Based Test Strategy<br>Embedded Test Software - Ability to inject test during the Maintenance Mode   | Continuous in-flight testing and fault log for O-Level and bench fault isolation   |
| ARINC 653 Compatible Operating System   | Provides certification capability for DO-178B, Levels A-D.   |
| 64 GB Mass Memory<br>Intelligently controlled Middleware  | Extensive storage for DTED elevation data, raster maps, MPEG video/data and map databases.   |
| OSAMC Platform SW   | DO-178B qualified platform software built on Open Standards Middleware with feature centric design allows extensibility and code re-use<br>Arinc-615A complaint Dataloader<br>Cross Platform capabilities for application development to reduce design lifecycle<br>C++ language capability with greater flexibility for software update       |
| ATE   | Next Generation ATE with built-in automation interface which is scalable and configurable modular architecture   |



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