

Open Standard Reconfigurable and Certifiable Computer Architecture (ORCCA)

- Flexible - Multiple I/O configurations available
- Powerful - Abundance of usable processing power
- Certifiable - DO-178B/C and DO-254 (Up to DAL A)
- Open Standard - Aligned with FACE™ Standard
- Low-power - Peak power dissipation under 10W
- Licensing - Modular hardware and software licensing model



Mercury Mission Systems' Open Standard Reconfigurable and Certifiable Computer Architecture (ORCCA) provides the perfect combination of power and flexibility required for implementing innovative new commercial and military avionics systems.

Our flexible, high-performance and safety certifiable computing platform can be used for diverse avionics functions and is easily reconfigured to support a variety of popular form-factors, sizes and connector types. The exceptionally low-power dissipation makes ORCCA the ideal solution for environments where cooling proves problematic.

With certification up to RTCA-DO-178B and DO-254 Level A, this platform can be used in the most critical flight applications.

ORCCA is available as an open development platform that is aligned with the FACE standard. Mercury also offers full application development for clients requiring turnkey systems.

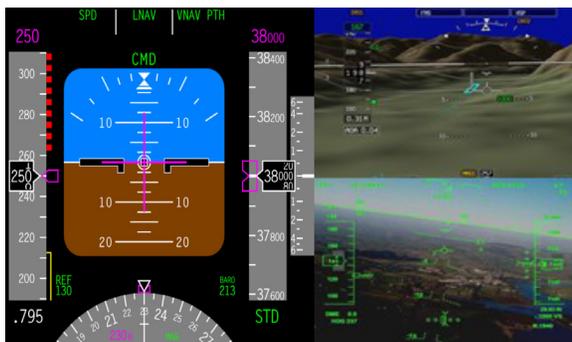
The unit is designed as an IMA unit and can be supplied with TSO-C153.

Application Domains

- Cockpit display systems
- Tactical displays
- Navigation/FMS computer
- Flight control computer
- Mission computer
- UAV ground station computer
- UAV payload control computer
- Video and imaging processor

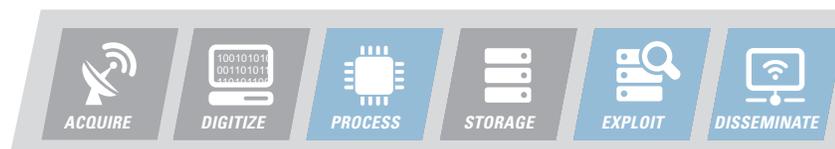
Key Features

- Dual Core ARM processor
- UP to 1 GB DDR2 RAM
- Up to 4G NAND FLASH memory
- Analog and digital video I/O and processing
- Fully redundant I/O controllers with dedicated CPUs
- Real-time OS and Linux support



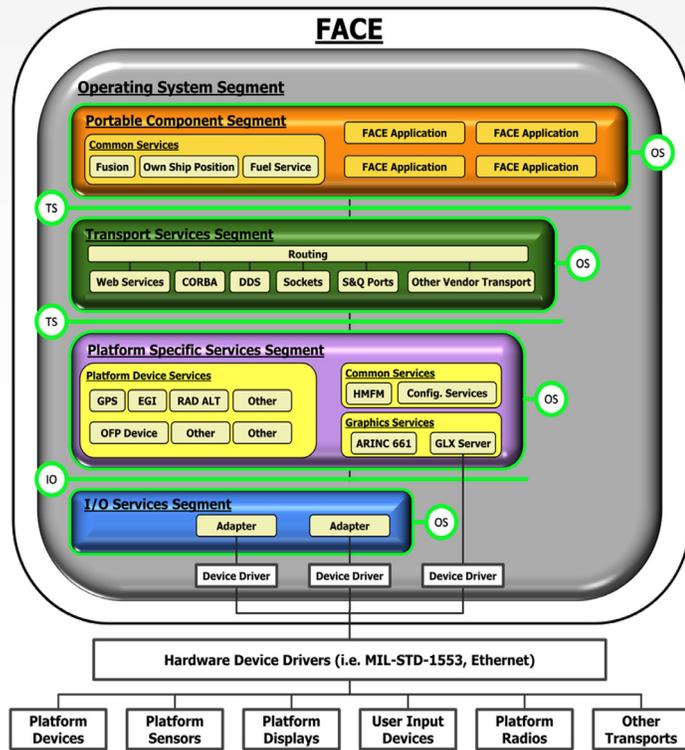
Typical Uses

Mercury Systems is a leading commercial provider of secure sensor and mission processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.





Size of ORCCA



ORCCA architecture diagram



Processing and Memory		
	Standard	Options
CPU(s)	Dual core ARM Cortex A9	PPC P1020D (includes Graphics)
GPU	OpenGL SC1.0 Rasterizer	SGX (OpenGL ES2.0)
Main Memory	512 MB (1GB Option)	1 GB
Additional Memory	32GB Compact Flash	Call to discuss options

Input and Output *		
Type	Input	Output
ARINC-429	12	8
Ethernet	1 10/100	1 10/100
Discrete	16	8
Fiber Optic	1 ARINC-818-1 (option)	1 ARINC-818-1 (option)
Digital Video	0	2 DVI
Analog Video (RS-170)	1	1
ARINC-717	2	2
RS-422/RS-232	1	1
CAN Bus	1	1

Fully Redundant I/O Controllers	
CPU(s)	2 ARM Cortex R4F
Flash	3MB with ECC
RAM	256 KB with ECC

* Please contact us for other I/O requirements

Software

The software provided with ORCCA is a DO-178B/C certifiable, Open Architecture platform that is aligned with the FACE standard. The FACE standard is developed by a consortium of the Open Group and industry specialists and provides a truly open platform ready for 3rd party applications, custom applications or a mixture of both.

As part of the FACE standard, the platform provides ARINC-653 compliant partitioning of time and space and is certifiable up to RTCA-DO-178B/C Level A.

Mercury has the deep knowledge, experience and capabilities to develop software applications to fully exploit the power and flexibility of the avionics computer. Whatever your avionics requirements, from primary flight displays to infrared image processing, Mercury can develop your solution.

Mercury has extensive experience in both defense and commercial certifications and provides full certification kits to meet both RTCA-DO-178B/C and RTCA-DO-254 requirements.

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3331.00E-0717-ds-ORCCA



INNOVATION THAT MATTERS™

MERCURY MISSION SYSTEMS
3305 Breckinridge Blvd, Suite 100
Duluth, GA 30096
(678) 825-8093

CORPORATE HEADQUARTERS

50 Minuteman Road • Andover, MA 01810 USA
(978) 967-1401 • (866) 627-6951 • Fax (978) 256-3599