Specification

Technical parameters	CMC-100	CMC-200	CMC-300	CMC-400
	General processing computer	Enhanced processing computer	Video processing computer	Graphics processing computer
Dimensions (LxW)	240mm (L), 104mm (W)			
Height	40mm	48mm	48mm	48mm
Weight (Kg)	1	1.2	1.2	1.2
Primary processor	400MHz NXP MPC8308 PowerQUICC II processor	1.4GHz PowerPC T1042 quad core	Xilinx ZYNQ XC7Z045, Dual ARM A9 embedded processor cores, 1GHz	1.4 GHz PowerPC T1042 quad core
SD RAM	1GB DDR2 with ECC	Up to 8GB DDR3	512MB DDR3 (Logic) + 512MB DDR3 (Processor)	Up to 8GB DDR3
FLASH memory	128MB NOR	up to 32GB NAND 512MB NOR	64MB	128MB NOR
Secondary processor	N/A	400MHz NXP MPC8308 PowerQUICC II processor 1GB DDR2 SDRAM with ECC 128MB NOR FLASH		GPGPU based on E8860
Generic interfaces	Dual MIL-STD-1553B BC or Multi-RT ARINC429 Gigabit Ethernet RS232/RS422/RS485 Configurable discretes			
Specific interfaces	Application specific interfaces supported via PCM/XMC interface modules		PAL / NTSC, SD/HD/3G-SDI, Def Stan 00-82, VGA to 1280 x 1024, hi-speed serial (PCIe, XAUI), stereo audio, USB2	DisplayPort, VGA, LVDS, DVI up to 4096×2160 resolution
Power supply	28V DC with options for other voltages			
Power dissipation (W)	10	24	30	30
Operating temperature	-40°C to +70°C (Extended temperature variants available).			
Storage temperature	-55°C to +85°C			
Cooling requirements	Conduction cooling through case and fixings			
Vibration limits	RTCA DO-160F Section 8 categories S, R			
Shock limits	RTCA DO-160F Section 7 category B-R20			
Lightning protection	RTCA DO-160F section 22 Level 3 Pin, Level 4 shielded cable bundles			
Salt fog	RTCA DO-160F section 14 Category S			
Sand and dust	RTCA DO-160F section 12 Category S			
Operating system options	VxWorks / VxWorks ARINC 653, Greenhills Integrity, Linux, LynxOS, MS Windows Embedded			
Software certification	RTCA DO-178C – Certifiable up to level A			
Hardware certification	RTCA DO-254 – Certifiable up to level A			
System architecture supports	GVA, GSA, IMA2, ASAAC, ARINC 653, ECOS			

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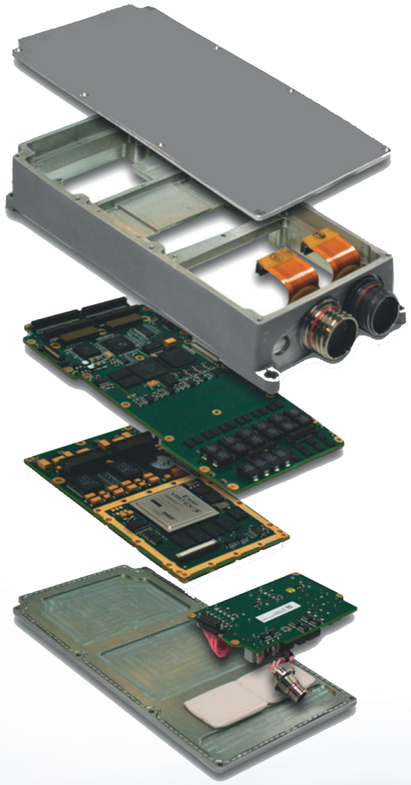
GDUK3470 03/17

Compact Modular Computer

Low size, weight and power processing solutions

General Dynamics Mission Systems–UK is a leading provider of ruggedised computer products for a wide range of applications. Using the extensive experience gained over many years involvement with avionics computing solutions, General Dynamics Mission Systems–UK has now developed a family of adaptable, low Size, Weight and Power (SWaP) processing products suitable for air, land and maritime platforms.



The Compact Modular Computer (CMC) provides a flexible and cost effective approach to the evolving requirements for future processing applications on a range of platforms:

- Civilian and military aircraft
- Unmanned air systems
- Land vehicles
- Surface and subsurface vessels

This approach has many benefits to the platform integrator:

- Greater flexibility of the installation location
- Ability to locate the processing node closer to the sensors and effectors reducing the wiring loom weight and cost
- Higher availability through the use of system reconfiguration and redundancy
- Reduced LRU power and weight
- Expansion and growth capability through the addition of extra CMCs, avoiding modification costs to existing units and the configuration management overhead
- System tooling to support Model Driven Development providing greater control to the platform system designers and domain experts, significantly reducing integration and upgrade costs.

CMC provides a configurable hardware platform with a software environment enabling efficient development of end-user applications.

GENERAL DYNAMICS
Mission Systems

www.gd-ms.uk

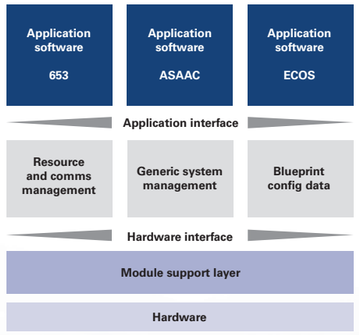
Compact Modular Computer

Low SWaP, High Performance Platform Processing Solutions

Scalable – Adaptable – Secure – Affordable

General Processing Computer CMC-100

Supports a range of processing applications including: system management, communications, tactical datalink processing and health usage monitoring. The CMC-100 is available with an open standard software environment allowing third party software applications to be easily hosted. An ideal solution for distributed processing that can be installed close to associated sensors and effectors.

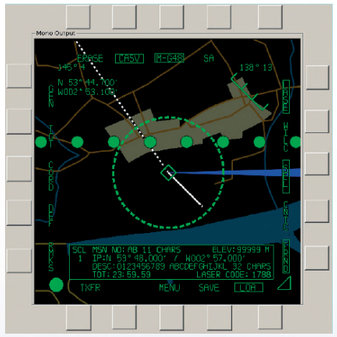


Typical applications:

- General application processing
- Data link processing
- Communications processing
- Independent system monitoring
- Signal data concentration

Enhanced Processing Computer CMC-200

Provides a high performance processing platform ideal for multiple or demanding applications. The CMC-200 is an extension to CMC-100 which offers additional processing power with the inclusion of the quad core T1042 PowerPC or an Intel processor. Capable of hosting the most processor intensive applications to provide an alternative to current 3U and 6U based processing units with more than a 50 per cent reduction in size, weight and power.



Typical applications:

- Mission system computing
- Decision aid processing
- High volume data processing
- Sonar processing
- Autonomy algorithms processing

Video Processing Computer CMC-300

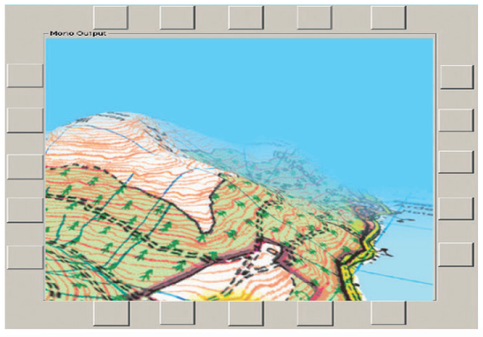
Delivers image enhancement techniques including: stabilisation, haze reduction, target tracking, image stitching, blending and fusion, compression and distribution. There is increasing demand for electro optic sensor integration onto platforms (manned or unmanned) and land based surveillance. Sensor fusion and image enhancement is becoming a necessity as an aid to reduce operator workload.

Typical applications:

- Covert surveillance processing
- Operator control HMI
- Low latency video processing
- Video standards conversion
- Enhanced vision processing

Graphic Processing Computer CMC-400

Provides HMI overlays, generates digital maps and manages synthetic 3D model displays. From the traditional 2D textual menu displays through to the high end 3D synthetic vision systems, the CMC-400 is capable of rendering the most demanding graphics applications. Offering standard graphics APIs such as OpenGL™, customers can host applications and develop using industry standard HMI toolsets.



Typical applications:

- Synthetic vision rendering
- SoftMap™ Digital Mapping
- Symbology generation
- Interactive HMI generation
- Data and image fusion