AIRBORNE MODULAR COMPUTERS
The airborne computer is the core of all avionics architectures and implements a wide variety of avionics functions. Examples are critical flight control, mission data processing and connecting a variety of specialized equipment into the avionics computer network. Saab’s airborne modular computers consist of modularized hardware and software that can be combined to meet all needs related to communications, data acquisition, graphics, video processing etc. The modules are packaged in rugged and compact solutions to minimize avionics system weight and volume.

Saab has a long experience in developing and producing airborne computers; one of our key product areas. Saab is also a sub-system and aircraft manufacturer, which ensures a unique understanding of customer requirements and equipment architecture and integration.

Saab is supplying nearly all types of computers, from high performance flight and mission computers to specialized utility and display computers with safety criticality ranging all the way up to RTCA DAL A.

Saab’s long term strategy for modular airborne computers gives the customer a modular, upgradable, cost efficient and future-safe solution.

Since every customer is unique with individual needs, Saab can offer tailored products to maximize operational effect from their available budget.

Saab is a true partner over the life time of the system.

Saab continuously develops new computer boards following a defined roadmap. The computers are carefully selected based on:

- Estimated life time and availability
- Service history
- Safety features
- Integrated peripherals
- Environmental and packaging issues
- Software development environment
- RTOS support
- ITAR free components

Our roadmap is divided into three tracks:

1. **High performance track**
   - for computing intensive applications
   - Assures offering of state of the art computers.
   - Gives opportunity to seamlessly upgrade computer performance or making obsolescence replacements.
   - Enables upgrading with software transparency.

2. **Medium performance track**
   - for control applications with demands on moderate power consumption
   - We supply our computers in different levels of system completeness with software integrated according to customer requirements.

3. **Compact, low power track**
   - where size and power is the most essential
   - Installed operating system could be VxWorks (standard or ARINC 653), Integrity (standard or ARINC 653) or the Saab ERIS (Level A, ARINC 653) operating system.
   - All, or part, of the application software could be delivered by Saab. We have software for dedicated functions such as digital maps, mission management and data acquisition. Also, third party software could be integrated on customer request.
AMC - THE AIRBORNE MODULAR COMPUTERS SERIES

Saab’s Airborne Modular Computers consist of modularized hardware/software that can be combined to meet all needs related to communications, data acquisition, graphics, video processing etc.

Below are examples of existing configurations.

**AMC-241x**

The AMC-241x series is general data processing resources featuring dual 8548 and dual P1013 CPUs together with plentiful avionics interfaces. In addition it features Ethernet switch and can host multiple H.264/JPEG200 video compression modules making it ideal for video and data concentration and link applications. Various analog and digital video interfaces are supported through optional video modules that also supply video management functions. Additional CPUs, solid state disc and extended I/O interfaces can be added. The design is hosted in an ARINC 600 4 MCU sized chassis.

The AMC-241x is suitable for video and data concentration, link applications and mission video recording.

**AMC-242x**

The AMC-242x series is general high performance video and graphics mission computers. It features a powerful P4080 multicore CPU, a dual channel E46090 GPU connected to a video management backbone. Various video processing as well as switching and compression is supported. Video input and output interfaces include ARINC818, HD-SDI and RGB. The computer interfaces to other equipment via Ethernet. Additional I/O interfaces and video interfaces as well as enhanced video processing power and a second GPU all available as options. The design is hosted in an ARINC 600 4 MCU sized chassis.

The AMC-242x is suitable for systems where a powerful video and graphics hub is needed in combination with advanced video and graphics processing.

**AMC-140x**

The AMC-140x series can be equipped with dual-redundant computers and plentiful avionics interfaces. Each computer includes two processing units based on the PowerPC family and a power supply. Interfaces include Ethernet, MIL-STD-1553B, RS422/485, ARINC 429 and Discrete Inputs/Outputs. The design has complex digital hardware developed in accordance with RTCA-DO178B, level A and platform software developed in accordance with RTCA-DO178B, level A. ARINC 653 RTOS and data loader compliant to ARINC 615/665 can be provided. The design is hosted in an ARINC 600 4-6 MCU sized chassis depending on I/O-configuration.

The AMC-140x is suitable for executing safety critical core computer functions necessary to manage flight.

**AMC-141x**

The AMC-141x series is compact high performance computers realized as equipment with its own power supply, six processing modules based on the PowerPC family and a 24 port Ethernet Switch. The design has complex digital hardware developed in accordance with RTCA-DO178B, level A and platform software developed in accordance with RTCA-DO178B, level A. ARINC 653 RTOS and data loader compliant to ARINC 615/665 can be provided. The design is hosted in an ARINC 600 4 MCU sized chassis.

The AMC-141x is suitable for combined powerful processing/ monitoring and network data management.

**AMC-221x**

The AMC-221x series combines mission computation with graphics generation and video processing. It features the P1013 processor and a powerful E4690 GPU with two independent graphics channels. The design also includes a monitoring mechanism suitable for safety critical graphics applications. Standard interfaces such as: ARINC429, RS422, Ethernet and discretes are present. The basic configuration features dual RS170 inputs and dual DVI outputs, other video standards are supported through options. An additional processor module and more I/O interfaces can also be added as an option. The design is hosted in an ARINC 600 2 MCU sized chassis.

The AMC-221x is suitable for enhanced vision systems and head-up/ head-down displays.

**AMC-221x**

Saab’s Airborne Modular Computers can be integrated with many aircraft types for civil and military platforms.
Saab provides configurable distributed computing systems building the core of today’s avionics systems. Two examples are shown here. Saab would be pleased to work with the customer defining the architecture for best performance per weight, volume and cost in a future safe solution.

Saab offers a through life support of equipment and sub-systems.

**INTEGRATED LOGISTICS SUPPORT**
The integrated logistics support (ILS) is tailored to support the specific customer need. Saab can offer different support concepts, such as basic Product Support Programmes (PSP) as well as Performance Based Logistics (PBL). We have certificates for production according to EASA/FAR Part 21 and for maintenance according to Part 145.

**TECHNICAL SUPPORT**
Saab can provide assistance for various integration and in-service technical issues. We can perform on-site trouble-shooting and service assistance to maximize the benefit of our equipment.

**UPGRADES AND RETROFITS**
Saab can offer replacement of existing equipment with a range of solutions from “form-fit-function” module replacement to development of new equipment implementation to enhance a customer’s capability.