



# Altair Airborne System

## Rugged Processor System

### Features:

- ★ Flexible, Rugged conduction-cooled design
- ★ MIL-DTL-38999 connectors with data rates up to 10Gb
- ★ +28V MIL-STD-704F 150W Power Supply
- ★ System Configurable 50ms+ Hold-up (optional)
- ★ COM Express Type 6 Basic Module carrier – CB2603
- ★ Scalable processor modules; ATOM – i-7 Quad core
- ★ Feature-rich IO
- ★ Conduction-cooled XMC (8-lane) / PMC (PCI-X 133MHz) Slot
- ★ Two MiniPCIe Sockets (Half-Mini and/or Full-Mini Card)
- ★ Dual 32/64GB Embedded SATA (SSD)
- ★ Gigabit Ethernet
- ★ HD Audio CODEC
- ★ Four RS-232 ports
- ★ Four configurable RS-232/422/485 ports
- ★ 12 GPIO pins
- ★ VGA and DVI Display
- ★ SATA ports
- ★ USB 2.0 ports
- ★ Operating temperature: -40C to +71C
- ★ Internal Temperature sensor
- ★ Dimensions L x W x H: 9.181" x 5.3" x 3.525"
- ★ Weight 7 lbs (fully loaded)
- ★ Rigel's Standard 1 Year Warranty for Subsystems

**Let us configure an Altair Airborne System that's right for you!**

Rigel's Altair family of rugged small form factor processor systems are loaded with open standard I/O interfaces and utilize the latest high performance and low-power embedded processors. The rugged enclosure is small, with a footprint of only 9.181" x 5.3" x 3.525" and weighs 7lbs fully loaded, which makes it ideal for use in size constrained and rugged environments.

The AA6000 provides access to a wide range of I/O through two MIL-DTL-38999 connectors. The I/O is expanded from Rigel's CB2603 COM Express carrier card via built-in native I/O and module support through the following mezzanine expansion sites. 1 COM Express, 1 PMC/XMC, and 2 MiniPCIe. The 38999 connectors are routed to the processing elements via the GB1300 interface card that is easily customizable to meet the system I/O pinout requirements. This also provides a cleaner, more rugged design with no custom internal cable harness.

The mezzanine expansion sites allow the system to be custom configured to use any available COTS module to meet the processing requirement, such as Intel, Freescale or ARM based processors. I/O and Communication requirements such as MIL-STD-1553B, ARINC 429/717, CAN bus, ADCs, and custom FPGA cards can be easily integrated into the system through the available mezzanine sites.

The Altair comes with a rich selection of native I/O already built into the system which includes Gigabit Ethernet, High Definition Audio CODEC, eight serial interfaces, two internal embedded SATA devices that support either 32 or 64GB each, 2x SATA ports for external access, GPIO, USB, VGA and DVI support.

# Physical, Electrical & Environmental

## Mechanical Envelope

- ★ L x W x H: 9.181" x 5.3" x 3.525"

## Weight

- ★ As little as 5.5 lbs
- ★ 7 lbs (fully loaded including power supply hold up board)

## External Interface Connectors

- ★ 2x High-speed MIL-C-38999J (MIL-DTL-38999) IO connectors
- ★ MIL-C-26482 +28V DC power connector
- ★ All IO signals routed through J2 & J3

## Power

- ★ 70W maximum (+28v in @ 2.5A)
- ★ MIL-STD-704F power supply
- ★ Configurable 50ms+ Hold-up

## Environmental

- ★ Temperature:
  - Operating (standard): -0°C to +70°C
  - Operating (extended): -40°C to +71°C
  - Storage (all): -40°C to +85°C

## Performance

### COM Express

- ★ Supports Compact and Basic sized modules
- ★ COM Express Type 6 signaling
- ★ PICMG COM.0 Revision 2.1 Compliant

### MiniPCIe

- ★ Two Full-Mini & Half-Mini Sockets (PCIe)
- ★ 20x Differential & 8x Single-ended IO signals each routed externally via a MiniPCIe adapter card for each socket

### XMC/PMC

- ★ 133MHz 64-bit PCI-X capable PMC slot
- ★ Double FAT Pipe (8x PCIe lanes) XMC interface
- ★ All PMC/XMC IO routed to interface board for external access

### Mezzanine Support for Industry Standard I/O

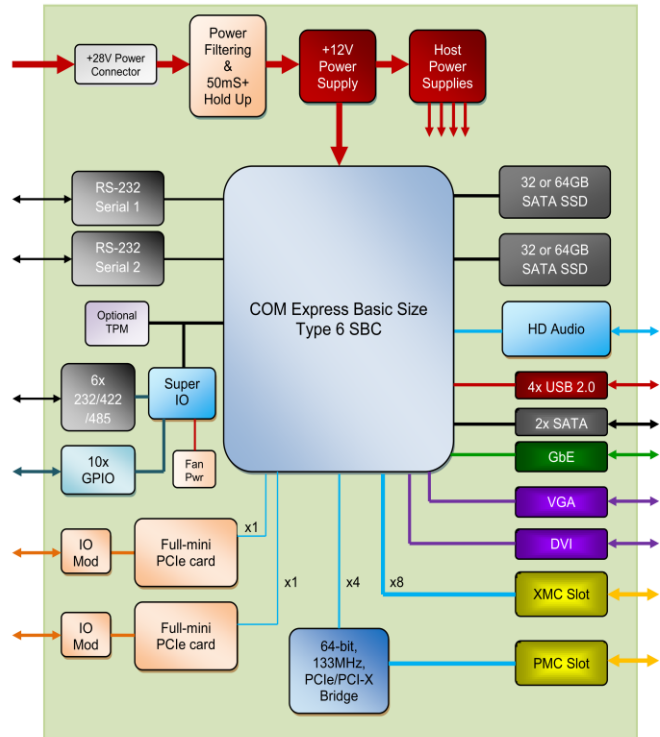
- ★ MIL-STD-1553B
- ★ ARINC 429
- ★ FPGAs
- ★ Ethernet switches and more...

### 192 Configurable I/O Pins

- ★ Up to 88 Differential pairs with rates up to 10Gb/s
- ★ 8 Single ended pins

### Serial Ports

- ★ Four RS-232 ports
- ★ Four configurable RS-232/422/485 ports



CB2603 Carrier Card Block Diagram

### Gigabit Ethernet via COM Express SBC module

- ★ Additional ports via mezzanine sites

### Audio Input / Output

- ★ Cirrus Logic CS4207 HD Audio Codec
- ★ Line in: 8-96KHz, 88dB THD, 105dB Dynamic range
- ★ Line out: 32-192KHz, 94dB THD, 110dB Dynamic range

### Solid State Storage

- ★ Two on-board SATA SSDs
- ★ Up to 128GB embedded storage

### Discrete I/O

- ★ 12 Software configurable TTL compatible GPIOs

### Video

- ★ VGA
- ★ DVI

### Miscellaneous I/O

- ★ Four USB 2.0 ports
- ★ Two SATA ports



At Rigel Engineering, we are dedicated to working directly with your Engineers and System Designers to provide the best possible solution that meets or exceeds your requirements.

*Custom solutions with off-the-shelf pricing*