

# COBALT™ S1901 Platform



## Application Ready Platform for Defense Systems

- ▶ COM Express® Intel® High Performance Processor
- ▶ Expansion slots for multiple GPU, FPGA accelerators, or video modules
- ▶ Multiple I/O high speed interfaces and high capacity storage options
- ▶ Wireless connectivity options for cellular and wifi
- ▶ Ruggedized & modular platform for defense deployments

## Expandable and configurable to meet demanding mission requirements

To address the rapidly increasing need for powerful and configurable mission computing platforms in defense applications, Kontron has introduced the COBALT™ S1901, pre-qualified embedded mission computer sized specifically for tough, modern embedded computing problems such as autonomous vehicle control, multi-sensor situational awareness, or sensor processing. Its combination of compact packaging and diverse options and scalability means the COBALT™ S1901 is an ideal fit for mission computing applications on all platforms be they air-, ground-, or sea-based.

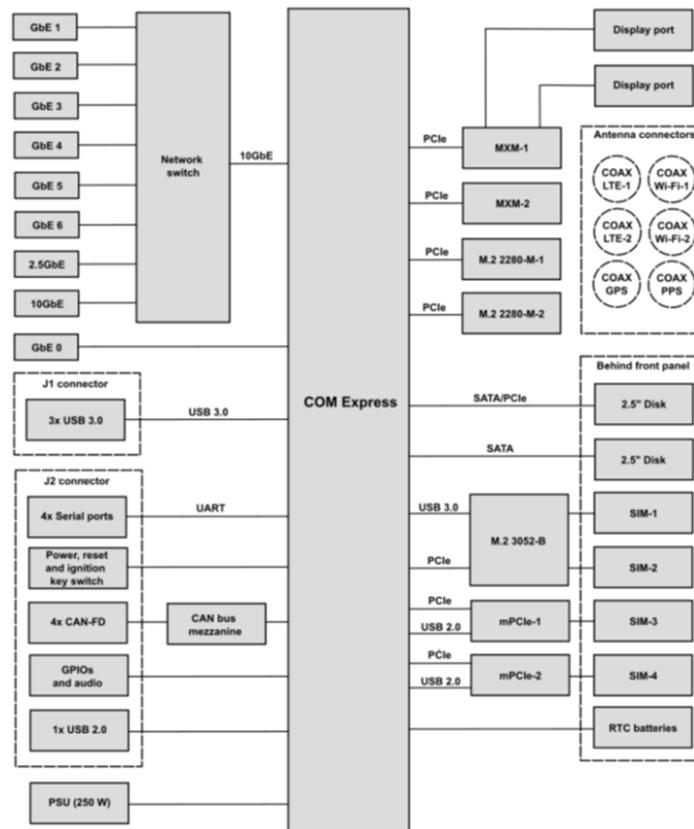
Like the earlier COBALT™ 901 series of mission computers, the COBALT™ S1901 is built on ruggedized versions of our COM Express® modules attached to a carrier and a customizable front-panel Signal Interface Board. However, the S1901 expands significantly on the capabilities of the COBALT™ 901 by offering:

- Support for type 7 COM Express® modules
- Two MXM sites for GPU, FPGA-based, or specialized processing modules
- Three m.2 and two mini-PCIe sites
- Built-in Ethernet switch
- Built-in support for an optional CANBus or combination CANBus/Safety Processor mezzanine
- Two, larger 2.5" drive bays for removable high-density solid state drives
- An optional fan kit, for configurations drawing too much power to be cooled using passive convective/conductive cooling

COBALT™ S1901 offers commercial off-the-shelf variants, but is easily customized to meet the particular needs of a deployed application.

## Technical Information

<b>DIMENSIONS (W X D X H)</b>	13.0"W x 11.2"D x 4.5"H
<b>COMe PROCESSOR</b>	COMe-bBD7R E2 Intel® Xeon® D-1539, 8 Cores, 1.6 GHz, 64 GByte of DRAM COMe-bID7 Intel Xeon D-1732TE, 8-Cores, 1.9 GHz, 64 GByte of DRAM Contact Factory for other configurations options
<b>MXM GPU</b>	NVIDIA MXM: T1000, RTX3000, A2000 Contact Factory for latest GPU Options
<b>STORAGE AND EXPANSION</b>	2x 4-Lane PCIe M.2 sites 1x 1-lane PCIe/USB 3.0 M.2 site 2x mPCIe with x1 PCIe and USB 2 Removable Storage Drive Bay; Includes two 2.5" storage slots (contact factory for configuration options)
<b>ETHERNET PORTS</b>	1x 10GBASE-T (Switched) 1x 2.5GBASE-T (Switched) 6x 1000BASE-T (Switched) 1x 1000BASE-T (Direct to CPU) PPT/1588 with 1PPS, GNSS
<b>USB</b>	3x USB 3.0/2.0
<b>WIRELESS (OPTIONAL)</b>	Cellular connectivity   WiFi connectivity
<b>SERIAL</b>	2x RS232 (tx/rx) 2x [RS232 (tx/rx/cts/rts) or RS485/422]
<b>INTERFACES</b>	Dual Display Port
<b>DISCRETES</b>	6x GPI, 4x GPO, 6x GPIO
<b>AUDIO</b>	2 Balanced Audio In, 2 Balanced Audio Out
<b>SPECIAL FEATURES</b>	GPS and 1 PPS input/output, 4x CANBus (Option) 9 Axis IMU, Aurix TC387 MCU Safety Processor (Option)
<b>POWER</b>	+28 VDC (+9 VDC to +48 VDC) power input Power Consumption: up to 250 W (configuration dependent)
<b>COOLING</b>	Passive air/conduction cooled. Auxiliary IP67 fan kit option.
<b>OPERATING SYSTEM</b>	Linux Ubuntu 20.04, LTS, 64-Bit (installed) Other OS options are available. Contact factory for details.



## Environmental Specification

<b>COOLING METHOD</b>	Passive convective cooling with conduction cooling through the bottom plate (no fans).
<b>QUALIFICATION TESTING</b>	MIL-STD-810H, MIL-STD-1686C, MIL-STD-461F, MIL-STD-1275F, MIL-STD-704F
<b>OPERATING TEMPERATURE</b>	-40 °C to 71 °C ambient - configuration dependent
<b>STORAGE TEMPERATURE</b>	-50 °C to 100 °C
<b>VIBRATION (OPERATING)</b>	5 Hz to 2000 Hz, Random, 1hr each axis, 8.21 GRMS Power Spectrum Density 40 g, 11ms sawtooth. Tested to MIL-STD-810 with a Kontron composite test profile
<b>SHOCK (FUNCTIONAL)</b>	40G, 11ms
<b>ALTITUDE (OPERATING)</b>	-1500 ft to 40,000 ft
<b>INGRESS PROTECTION</b>	IP67, designed to meet MIL-STD-810 for liquid, freezing rain, sand, dust, salt fog, and explosive atmosphere

## Your Contact

Kontron America Inc.

9477 Waples Street  
San Diego, CA 92121, USA  
Tel.: +1 888 294 4558  
sales@us.kontron.com

www.kontron.com/motherboards

## Global Headquarters

Kontron Europe GmbH

Gutenbergstraße 2  
85737 Ismaning, Germany  
Tel.: +49 821 4086-0  
info@kontron.com  
pcmb-sales@kontron.com

