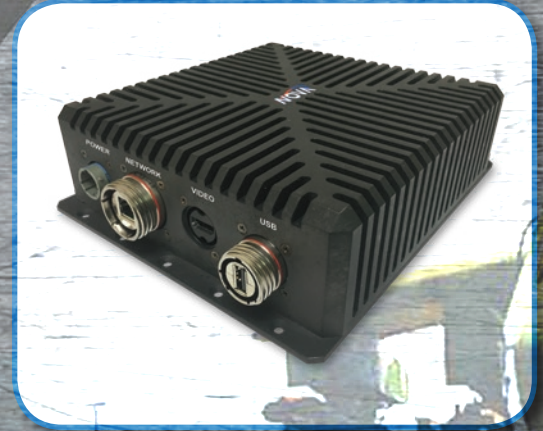


MODEL 2140
MILITARY GRADE
CONDUCTION COOLED
COM EXPRESS CHASSIS



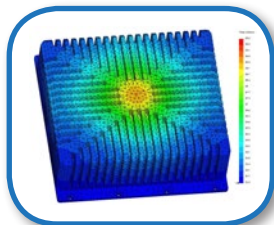
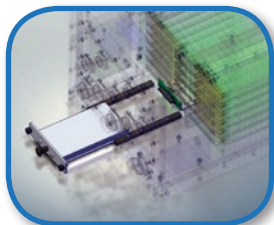
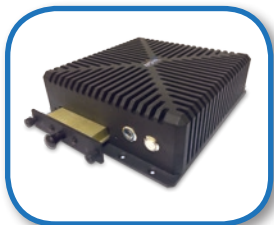
The 2000 Series consists of a family of standard embedded computer products and custom reference designs also referred to as a chassis or enclosure. They support highly rugged and MIL-spec applications utilized by the defense/aerospace markets as well as high reliability industrial such as railway and oil/gas.

The 2100 Class is a family of conduction cooled enclosures ideally suited for applications requiring a sealed chassis without the use of forced air convection. This product class is designed to thermally manage the highest processing power offered by each board form factor such as Intel NUC, COM Express, PC104, etc.

The Model 2140 is a full military grade IP67 conduction cooled chassis which houses any COM Express board and processor available. These small and powerful boards are typically available with up to 16GB of memory with expansion for PC104 board, miniPCI slots and almost unlimited I/O options. A sealed 2.5" hard drive enclosure is available for additional storage space. Multiple power input and front panel I/O options are available.

NIS is a vertically integrated advanced packaging company and is well suited to handle challenges required by UAVs, Fighter Jets, and similar aircraft applications. All facets of the design, simulation, manufacturing and testing including mechanical/electrical design, thermal/structural simulation, EMI filter design, PSU design, I/O panel design, shock isolation, metal fabrication, and more are well within our capabilities.

- ▶ **Generic enclosure reference design is scalable to support all COM Express boards and additional plug in boards available on the market**
- ▶ **NOVA's proprietary, overlapping machined panel design results in zero torsional flex and superior sealing for FOD and EMI**
- ▶ **Conduction cooled IP67 rated housing**
- ▶ **RTCA/DO-160E temperature, altitude, humidity, shock, vibration, explosive atmosphere, salt spray and sand / dust**
- ▶ **MIL-STD-461E EMI/EMC**
- ▶ **Intel i3, i5 or i7 processors supported**
- ▶ **Customer definable I/O panel**
- ▶ **18-32VDC, 110-220VAC, 115VAC / 47-440Hz or external power pack power input available**
- ▶ **Thermal and structural simulations have been completed validating all designs**
- ▶ **Optional Sealed 2.5" hard drive enclosure**



ENVIRONMENTAL CHARACTERISTICS

Temperature, operating	0°C to +70°C -40°C to +70°C w/ heater
Temperature, non-operating	-40°C to +85°C
Temperature Variation	RTCA/DO-160E, Paragraph 5.3.1, Category A
Humidity	0% to 100%, non-condensing MIL-STD-810D, Method 507.2, Fig 507.2-3
Altitude, operating	-1,000 to 15,000 ft (minimum) RTCA/DO-160E, Paragraph 4.6.1, Category A
Altitude, non-operating	-1,000 ft. to 60,000 ft. RTCA/DO-160E, Paragraph 4.6.1
Decompression	65,000 ft. tested per RTCA/DO-160E, Paragraph 4.6.2
Vibration, random	3.19 GRMS @ 20-2000Hz
Acceleration	40G, any axis per MIL-STD-810D method 513.3
Shock	40 G, 11ms saw-tooth MIL-STD-810F, Method 516.5, Procedures I & VI MIL-STD-901D optional
EMI/EMC	MIL-STD-461F CE102, CE106, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
Electrical Bonding	MIL-HDBK-1857
ESD	MIL-STD-1686A
Explosive Atmosphere	RTCA/DO-160E, Paragraph 9.7.2, Category E
Salt Spray	RTCA/DO-160E, Paragraph 14.2, Category 5

Sand and Dust	RTCA/DO-160E, Paragraph 12.3, Category D
Fungus Resistance	MIL-STD-454N, Requirement 4
Fluid Contamination	Jet fuel DERD 2494, hydraulic fluid MIL-H-5606E, lube oil mixtures to DERD 2497/ MIL-L-7808 & soap water

PHYSICAL CHARACTERISTICS

Dimensions	15" D x 7.69" W x 2.72" H
Weight	10 lbs.
Mounting	Tabletop
Sealing	IP67
Chassis Body	Machined aluminum alloy #6061-T6
Cooling	15°C Temperature rise (max.) over ambient with Intel i7 processor installed

ELECTRICAL CHARACTERISTICS

Input Power	18-32 VDC 110-220VAC (nominal) 115VAC, 47-440Hz External Power Pack
Power Consumption	100W (max, typical)
Voltage Hold Up	MIL-STD-704A (optional)

PERFORMANCE CHARACTERISTICS

Processor	Intel i5-4402E, or Intel i7-4700EQ
Memory	Up to 16GB, DDR3L
Graphics	NVIDIA GTX 970M AMD Radeon E8860
Video	DisplayPort, HDMI or DVI
Audio	Up to 7.1 surround
I/O (up to)	4x USB 3.0 6x USB 2.0 2x 10/100/1000 Ethernet 3x RS-232 / 1x RS-485
Storage	2x mSATA (hard mount) 1x micro SD card slot 1x 2.5" SATA via removable drive carrier
Operating System	Customer Installed
Customization	Customer definable front I/O panel. Additional PC104 and MiniPCI slots for expansion

Note: All performance characteristics are examples based on a typical COM Express board platform. Actual characteristics are based on the customer selected board(s) used.

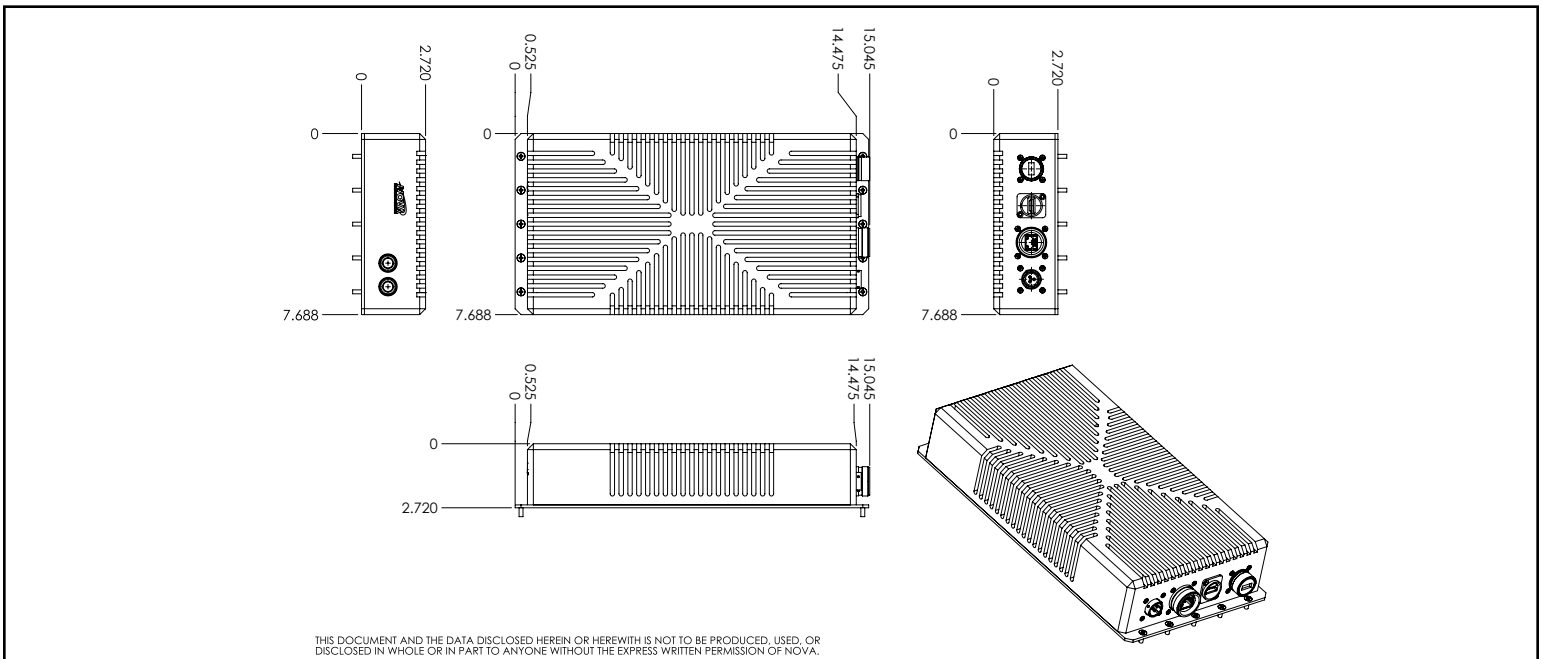
ORDERING TABLE

95-2140-0CMMP-00X

CPU TYPE	MEMORY	POWER	CONFIG
3 Intel i3	4 4GB	1 18-32VDC	1 Standard
5 Intel i5	8 8GB	5 110-220VAC	x Customer Specific
7 Intel i7	16 16GB	6 115VAC 47-440Hz 9 External	

Contact Nova Integration Solutions to find your configuration

OUTLINE DRAWING



* Products may vary from the specifications and images depicted within this document and are subject to change without notice. Nova Integration Solutions takes no responsibility for damages incurred due to errors contained in this document. Please contact Nova Integration Solutions for further information about our products.