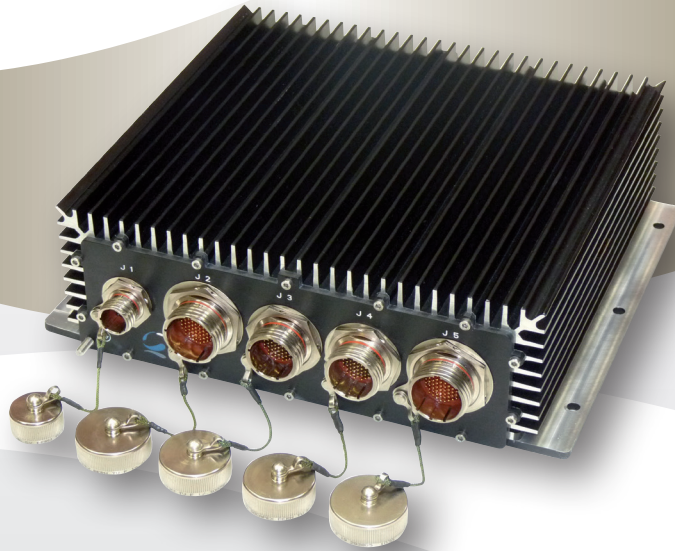


ONYX-Datalink

The ideal rugged processor platform for your Tactical Data link system



▶ RTCA DO-160 & MIL-STD Qualified COTS platform ready to manage a huge quantity of Avionics and Industrial I/O's

Through the secure networking of sensors, platforms and systems, operational decision-makers are able to co-ordinate and maximize battlefield effects. ECRIN Systems is a key supplier of the enabling technologies, including link-11 (NTDS & ATDS), -16 (1553B & Ethernet) and -22 (Ethernet TCP/IP), which optimize the warfighter's effectiveness by facilitating the timely dissemination of situational awareness and communications data across the battlespace. ONYX-Datalink secure tactical data link "Ready to Application" product can be embedded on helicopters, fixed-wing aircraft, MALE and Tactical UAS, surface ships and submarines. This multi-link processor bare borne provides a compact, single LRU, innovative and versatile solution to single or multiple tactical data link operations with control/command capabilities.

Qualified ONYX-Datalink profiles slash design risk, lower costs and speed deployment thanks to risk-lowering of proven technology, stress tests passed for maximum loads, saving up to \$60,000 and 2 months campaign.

ONYX-Datalink profile is based on modular mezzanines concept that offers customer a large flexibility and Long Life Management with revision control. It employs cutting edge technology based on COM Express type 6 Intel® multi-core i7 processing capabilities plus a large number of embedded proven mezzanines, like XMC, PMC and miniPCI Express that will allow tailoring the configuration to exact customer's I/O requirements and suitable IP interface to host system.

> Supports Multi-Core INTEL i7 3rd, 4th and 6th Gen, evolutionary thanks to COM Express architecture with perspective of long terms availability

> 1x DVI-D Single Link + 1x VGA

> 2x XMC/PMC and 2* mini PCI Express sites for flexible avionics and industrial I/O expansion

> 4x Isolated RS-422/RS-232

> 1x USB 3.0 Full Specs with circular USB-Field connector

> Cable-free, Fan less, MIL-DTL-38999 circular connectors

> Real cold start at -40°C and up to +71°C Operating Temp (depend on configuration and cooling system)

> Standard BOM Qualified DO-160F and MIL-STD-810G/461F/1275D/704

> IP-67 Ingress

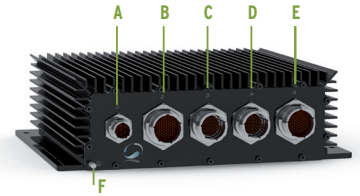
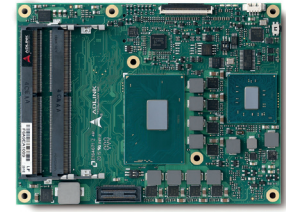
> High flexibility to Modified COTS Services (functions and connectors)

> ITAR free without Export Control

> Long Life Management with revision control

System specifications

Processor Module	COM-Express Basic Size
Processor 6 th Generation Intel	Mobile 6 th Generation Intel® Xeon® and Core™ Processors - 14nm ("Skylake-H") Xeon® E3-1505L v5 2.0/2.8GHz (Turbo), 0.35-1.0GHz (Graphics), 8M, 25W (4C/GT2) Core™ i7-6822EQ 2.0/2.8GHz (Turbo), 0.35-1.0GHz (Graphics), 8M, 25W (4C/GT2)
Memory	Dual channel 1867/2133 MHz DDR4 memory up to 32GB
Processor 4 th Generation Intel	4 th Generation Intel® Core™ i7 Processors (Mobile) - 22nm ("Haswell") i7-4860EQ 2.4 GHz (3.2 GHz Turbo), 47W (4C/GT3) i5-4400E 2.7 GHz (3.3 GHz Turbo), 37W (2C/GT2) i5-4402E 1.6 GHz (2.7 GHz Turbo), 25W (2C/GT2)
Memory	Dual channel with ECC 1600/1333 MHz DDR3L memory up to 16GB
Processor 3 rd Generation Intel	3 rd Generation Intel® Core™ i7/i3, 22nm process, ("Ivy Bridge") i7-3612QE 2.1GHz, 6MB L3 cache, 35W, quad core i7-3555LE 2.5GHz, 4MB L3 cache, 25W, dual core i7-3517UE 1.7GHz, 4MB L3 cache, 17W, dual core
Memory	Dual channel ECC 1600 MHz DDR3 memory up to 16 GB
Video outputs (Intel HD Graphic)	1x VGA* + 1x DVI-D Single Link
Other video Inputs / Outputs	Using miniPCIe board
Ethernet	3x 10/100/1000 BaseT
Serial	2x Isolated RS232 - 2x Isolated RS422
USB 2.0	2x Isolated USB2.0 Full / Low speed 2x USB2.0 High / Full / Low speed
USB 3.0 (38999 USB Field)	Full USB3.0 specifications, on rear panel
Audio	Intel® High Def Audio: 1x In and 1x Out Lines
Discret I/O	4x Isolated Inputs 4x Isolated Outputs Reset, Power Button, Power Led, HDD Led, Fast Erase
I/O Expansion slots	1x XMC/PMC slot + 1x PMC slot 2x miniPCIe slots
Solid State Disk (SSD) (Internal)	1x SSD 2.5" slot (MLC or SLC) - 1x cFast slot (MLC or SLC)
Hardware monitoring	Voltages, CPU, GPU, and carrier board temperatures
Watchdog timer	Programmable timer range to generate RESET



- A: Power supply
- B: USB, Serial, GPIO, DVI-D + VGA
- C: Ethernet, Audio
- D: PMC I/O's
- E: PMC I/O's
- F: Ground

Power supply

Power Input	+28VDC (+10VDC up to +36VDC) Hold-up capacitors for momentary power interruption protection (approx 120ms) MIL-STD-1275D / DO-160F / MIL-STD-461F / MIL-STD-704
Power consumption	Less than 90W

SWaP-C constraints

Size (WxDxH)	270mm x 250mm x 88mm (2U)
Weight	7kg
Cooling type	Convection & radiation by fins, conduction by cold plate (conduction cooled inside)
Connectors	Military circular IP67 locking connectors (MIL-DTL-38999) Front panel customizable for specific application

Environmental Qualification Tests

Operating temperature	-40°C / +71°C (depend on configuration and cooling system)	Salt fog	50% salt spray / 96h (DO-160F)
Storage temperature	Storage: -40°C / +85°C	Dust	Wind and fine dust particles (DO-160F)
Ingress protection rating	IP67	Operating shock & vibration	MIL-STD-810G / DO-160F
Altitude	Up to 15000 feet (DO-160F)	EMI / RFI	MIL-STD-461F / DO-160F
Humidity	0%-95% relative humidity (DO-160F)	CE certification	EMC: 2014/30/UE ; EN 61000-6-2, EN55022, EN 55024 - SAFETY: 2014/35/UE ; EN60950-1 : 2006 2 nd edition A11 : 2009 + A1 : 2010 + A12 : 2011 + A2 : 2014

Software corner

Operating system	Windows 7 32/64-bit, Linux 32/64-bit, PikeOS. For other requirements, contact ECRIN Systems
-------------------------	---------------------------------------------------------------------------------------------

Security & dependability

Trusted platform module	Atmel AT97SC3204; TPM 1.2/2.0 (TPM 2.0 release later)
Built-In-Test	pBIT, monitoring functions library, Maintenance L2 with SEMA library

Export control classification

	ITAR Free - Not Controlled (ECCN 4A003)
--	-----------------------------------------

Other specifications

Reliability	Designed and manufactured using ISO 9001:2000 Certified Quality Program
MTBF	Calculated per MIL-HDBK-217F, available upon request
Regulatory compliance	European CE Mark
Warranty	1 year return to depot warranty (extended warranty available with service contract)
Starter cable set	Optional starter breakout cable set mates with MIL-DTL-38999 connectors to break out standard CPU I/O and power signals to traditional PC style interfaces for lab or bench testing purposes

* Not available with Skylake processor

sales@ecrin.com

www.ecrin.com

Headquarters
143, rue Louis Neel
Parc Technologique du Pré Roux
38920 Crolles - France
Tel: +33 (0)4 76 92 20 01

Marketing & sales
2 - 12, rue du Chemin des Femmes
Immeuble l'Odyssée
91300 Massy - France
Tel: +33 (0)1 69 07 83 22



Note: The information in this document is subject to change without notice and should not be considered as a commitment by ECRIN Systems. While reasonable precautions have been taken, ECRIN Systems assumes no responsibility for any error that may appear in this document. All trademarks or registered trademarks are the properties of their respective owners.