

CRYSTAL-19

Control Command light console



► Networked multifunction console

CRYSTAL-19 is the latest family of multifunction consoles offering an ergonomic rugged working position for the most demanding Command and Control, systems control or situational awareness applications. The CRYSTAL-19's modular approach makes it ideal for integration into various Combat Information Center applications on board surface ships, submarines or mobile Ground shelters.

ECRIN CRYSTAL-19 consoles are fully network capable, so they successfully address the needs of modern CIC rooms, where reduced manpower and low cost of ownership are of utmost importance. Networked visualization makes it possible to visualize any real time data anywhere in the CIC room and offers utmost flexibility, survivability and maintainability.

ECRIN Systems offers to its customers capability to modify the COTS, personalizing the look, changing color, adding corporate logo and branding, modifying front connector and LED panel, adapting rear interface connector to the environment. ECRIN Systems offers you a unique look that will shape your image and promote your sales in all over regions of the world.

- > 19" SXGA rugged display
- > Ergonomic Trackball, Infra-red optical, IP68
- > Compact Backlit Industrial Keyboard
- > Fully network capable
- > Health monitoring with HUMS functionality
- > Front Lexan & MIL-DTL-38999 connector's rear plate easily customizable
- > Small footprint
- > Less than 41 kg
- > Pre-Qualified MIL-STD-810/167-1, STANAG 4435/ 1008
- > 95% HR @ 26°C
- > 0°C/+50°C operating; -20°C/+60°C non-operating Temp
- > Long Life Management
- > High modularity for quick LRU's exchange
- > High flexibility to Modified COTS
- > ITAR free

CRYSTAL-19

MultiFunction Console specifications

Construction	Three millimeters stainless steel. RAL color can be adapted according to the customer requirements.
Dimensions (W x H x D)	492x549x612mm in use - 92x549x501mm tablet raised.
Weight	Less than 41 kg, lifting ring for transport.
Air conditioning	Cooling: two 92 mm ball bearing low noise fans with monitoring Heating to boot up at low temperature and humidity control.
Power Supply	85 - 264 Vac (wide range) / 47-440Hz - 120-300 Vdc
Easy maintenance	Display removed, every LRUs are accessible from the front panel. LRUs are fixed on interface plates for easy maintenance and improve long life.
Specific I/O	Front & rear panel can be easily customized
HUMS	Health and Usage Monitoring System based on microcontroller board.

Computer specifications

Processor	Intel Core™ Architecture
Chipset / Memory	Intel QM87 / DDR3L 1600MHz, dual Channel - 16Go max.
Video	Intel® HD Graphics 4600, 1x DVI-I + 2x Display Port, Triple Head support
Network	4x GbE (3x Intel® I210IT + 1x I217LM PHY) - Intel® AMT 9.0 support
Storage	2x 2.5" SATA III HDD/SSD with RAID support 1x type II CFast slot, 1x eSATA
I/O	6x USB 3.0 + 1x USB 2.0 4x COM (2x RS-232 + 2x RS-232/422/485) 8x DI + 8x DO with 1.5 kV isolation
Expansions	2x PCIe mini card slots with 1x mSATA support



HMI Specifications

Display	Panel size: 19", SXGA resolution (1280x1024), Brightness 200 cd/m², contrast ratio 500:1. Standard and Rugged option Options: LCD Flicker Compensation, Low latency, Touch screen
Keyboard	Compact Backlit Industrial Keyboard - With 12 function keys
Trackball	Ergonomical Trackball - Ball size 50mm, left / right switch plus scroll wheel, Infra-red optical, IP68.



I/O

Front Panel	Standard configuration: Headset & Speaker, GbE, USB 3.0 (x2), LED (x4), button (Power / test LED), Potentiometers (volume, brightness)
Rear panel	Removable interface connector (309 x 117 mm)



Environmental specifications

Temperature	Operating : 0~50°C (MIL STD 810E) / Storage -20~55°C (MIL STD 810E)
Humidity	95% HR @ 26°C (MIL STD 810E)
Rain / Salt Fog	280l / m² / H (MIL STD 810E; method 506.3) / 5% NaCl (MIL STD 810E; method 509.3)
Shock & Vibration	Shock: Operating 30G, 6ms 6 axis (MIL STD-810E) • Vibration: Operating 5~100 Hz : 1G (MIL STD 167-1)
EMC	STANAG 4435 V2
Power Supply	STANAG 1008 edition 9
Certifications	EMC: UE 2004/108/CE ; EN 61000-6-2, EN55022, EN 55024 • SAFETY: UE 2006/95 CE ; EN 60950-1: 2006 2nd Edition

System Monitoring and Management

- > Intel® AMT 9.0 for remote management
- > HUMS (Health and Usage Monitoring)
 - FAN control & monitoring
 - Temperatures (system, CPU)
 - Humidity sensor
 - 3-axis accelerometer sensor for shock and vibration
 - Watchdog & elapsed time counter
 - LED (temperature, fan, hygrometry, system status)

OEM services

- > Branding user's Lexan - Costless, NRE fees only
- > Customization:
 - Front panel design
 - Specific I/O on front panel / rear panel
 - Specific H/W configurations
 - Specific S/W functionality
- Call us for more information ...

Options

Processor	- Intel® Core™ i5-4400E @ 2.7GHz, 2C/4T, HD4600, 3M cache, 37W TDP - Intel® Core™ i3-4100E @ 2.4GHz, 2C/4T, HD4600, 3M cache
Memory	DDR3L-1600 4GB / 8GB / 16GB
Disk	SLC & MLC Solid State Drive (32 GB ~ 512 GB) - up to two disk (RAID support)
Display	Touchscreen
OS	Microsoft® Windows or Linux

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