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.
Multi Function Console specifications

Construction
Three millimeters stainless steel. RAL color can be adapted according to the customer requirements.

Dimensions (W x H x D)
492x549x622mm 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 (2x Intel® I211AT + 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, bygrometry, system status)

- 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

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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