# MULTI SERVICE NODE EUROCOM TACTICAL SWITCH

Compliant with NATO STANAG, ITU-T and ETSI standards, the MSN100 Series provides access and advanced switching, multiplexing, routing and satellite services, to support military networks in tactical and infrastructural enviroments. The MSN100 equipment is fully interoperable with Leonardo CD1xx family of digital switches.

This switch supplies access for Analogue Voice Users, Asynchronous/Synchronous Data channels, V/HF Combat Net Radio, 10/100 Mbps autosensing Ethernet LAN bridge Ports, and Trunk Interface towards external Networks. The number of user/network interfaces is scalable: modularity is provided at User Interface Unit level.  MSN100 can operate with an internal independent clock or can be locked to an external source, derived from a trunk interface.

Together with a convenient RF front-end, the MSN100 equipment allows ground networks and users to access the suitable satellite segment, both in strategic and tactical environment, such as shelters, ships, wheeled or tracked vehicles and flyaway applications.

The MSN100 Series equipment feature different heights depending on the setted up stackable modules number.

## KEY FEATURES

- Compactness - Light-weight modules provide an integrated Eurocom switch with variable rate satellite modems
- High Integration - A single equipment providing user interfaces, switching capabilities, satellite channel access (modems) with a single board containing main controller, switch and user/network interfaces
- Flexibility - Wide range of power supply units, comprehensive user and network interfaces
- Modularity - Variable dimensions thanks to stackable light weight boxes (2÷4 Rack Units), modular increase of user and network interfaces
- Designed for operation in severe environments
- Powerful self-diagnostics greatly ease the field maintenance task
- Monitoring and Control function through an High Level Software Interface; remote control can be over a traffic channel.

# MSN100 SERIES

## TECHNICAL SPECIFICATIONS

### MAIN FEATURE

| | |
|---|---|
| Local subscribers (voice, data, LAN) | |
| Trunk interface configurable as | Eurocom trunk to CD1xx family |
| | EUROCOM Gateway/ EES Gateway |
| | STANAG 4206 |
| | ITU-T E1 with selectable Euro ISDN/QSIG/R2/ CAS/M-DSS1 protocol |
| CNRA Interfaces for HF/VHF/UHF radios | |
| Voice Channels Coding | CVSD 16/32 kbps (EUROCOM D/1 IA8) |
| | ADPCM 16/32 kbps (ITU-T G.726) |
| | ACELP 8 kbps (ITU-T G.729) |
| Data processing | EUROCOM data classes 1,2,3,4 (EUROCOM D/1 IA9) |
| Local and remote control | |

### CONFIGURATIONS

| |
|---|
| Trunk/Access Switching Node |
| Small Tactical Switching Node |
| Tactical Radio Gateway Node |
| Satellite Node. |

### POWER SUPPLY

| | |
|---|---|
| Voltage | 110÷230 Vac ±10%, 47÷63 Hz with AC source mains or generating set |
| Voltage | 24 or 48 Vdc ±20% with vehicle battery or other DC source |
| Power Consumption | 250 W maximum (full configuration) |

### PHYSICAL

| | |
|---|---|
| Overall dimensions (Width x Height x Depth) | |
| Minimum configuration (2U) | 490x102x480mm |
| Maximum configuration (4U) | 490x200x480mm |

### OVERALL WEIGHT

| | |
|---|---|
| Minimum configuration (2U) | 16kg |
| Maximum configuration (4U) | 35kg |

### ENVIRONMENTAL

| | |
|---|---|
| According to MIL-STD-810F | |
| Operating temperature | -40 ÷ + 55°C |
| Relative humidity | Up to 95% |

### EMI/EMC

| |
|---|
| According to MIL-STD-461E |

### INSTALLATION

| |
|---|
| 19" racks |
| Fixed, shelter, platform systems, field use |

### NETWORK INTERFACES (MODULARLY EXPANDABLE)

| | |
|---|---|
| Network TDM interfaces configurable via software as: | |
| Leonardo Eurocom trunk | |
| EUROCOM Gateway | |
| EES Gateway | |
| STANAG4206 | |
| ITU-T E1 with the following signalling | Euro-ISDN (ETSI 300.102), Qsig, R2, CAS, M-DSS1 (STANAG 4578 Ed. 1 compatible) |
| With relevant signalling and with the following electrical interfaces: | EUROCOM A (64 ÷ 2048 kbps) |
| | ITU-T G.703 2 Mbps |

### USER INTERFACES (MODULARLY EXPANDABLE)

| | |
|---|---|
| Analogue interfaces | 4 ACB analogue interfaces for telephone, Fax or Modem |
| | 1 Two-wires (six-wires) ACB/CACB/LB, STANAG 5040, Type 5, Transparent configurable analogue interface (suitable for external PABX) |
| Digital interface | 1 Two-wires EUROCOM K digital voice and data interface up to 32 kbps |
| Data interfaces | 2 synchronous (up to 1 Mbps) / asynchronous (Up to 115.2 kbps) V11/V28/V35 data interfaces |
| | 2 asynchronous-only (up to 115.2 kbps) V28 data interfaces |
| | 2 Ethernet 10 Mbps interfaces |
| Radio interfaces | 4 analogue E&M / digital MIL-STD188-114 interfaces (each one individually configurable) towards Combat Net Radios (CVSD and MELP vocal transcoding) |

### MANAGEMENT

| | |
|---|---|
| Auto-diagnostics | Power-on self-test |
| | On-line BITE |
| | General Alarm: pair of floating relay contacts |
| | Network management interface: ITU-T V.28, asynchronous serial line, binary protocol, 9.6 kbps |
| Local Control | ITU T V.28; asynchronous serial line, ASCII XON/ XOFF protocol, up to 19.2 kbps |
| Remote Control | Through data switched connection, also over the satellite |