

VELOX LE™ 50

DIGITAL RADIO LINK

- > Velox LE 2450 SR
- > Velox LE 2450 SRi

- > Velox LE 5850 SR
- > Velox LE 5850 SRi

High capacity, 16 x T1/E1 solution.
2.4 and 5.8 GHz License-exempt Digital Radio Links



VELOX LE 50

The flexible, extra capacity, license-exempt solution



Velox LE range provides cost effective, license-exempt digital radio platforms that enable rapid rollout with exceptional cost benefits. The Velox LE 50 is the answer to ever increasing demand for greater throughput with 16 x E1/T1 links for voice or data. The Velox LE 50 is also designed with flexibility in mind, allowing for various interface options.

The Velox LE 50 is a carrier-class, license-exempt system which provides quality and reliability comparable with licensed band radios but without related regulatory time and cost penalties.

The Velox LE 50 incorporates a number of advanced technologies such as software-driven configuration and capacity scalability (voice and data), onboard spectrum analyzer and Network Configuration Tool (NCT).

Despite its comprehensive functionality and extensive features, the Velox LE 50 is easy to configure, manage and maintain and can be deployed and generating revenue in just a few hours—earning a return before other systems even make it off the drawing board.

Feature Overview

The Velox LE 50 offers full duplex, point-to-point T1/E1 and 10/100Base-T Ethernet wireless connectivity in either the license-exempt 2.4 or 5.8 GHz bands. Software-driven scalability allows capacity (voice/data) to be configured as 1 to 16 x T1/E1 interface options with no physical intervention or new hardware. An SNMP-compliant Network Management Tool (NCT) with an easy to operate Graphical User Interface (GUI) is standard. The split configuration option affords greater transmission range and significant installation cost savings. An all-indoor option is also available for easier and safer maintenance.

Core Benefits

- > Highly flexible solution that simplifies your network connectivity needs
- > Unique, on-demand capacity scalability (field upgradeable) with no hardware or physical intervention required
- > Independent band plans enable co-location of multiple radios
- > Tx and Rx frequency selectable in 1 MHz steps
- > Easy, efficient, accessible Network Configuration (SNMP and GUI)
- > Effective interference clearing and frequency planning using onboard spectrum analyzer
- > No license-related costs and delays
- > Swift network rollout capability, immediate usage and revenue generation
- > Rapid ROI versus fixed line or licensed solutions
- > Near zero downtime, outstanding availability (99.999%)
- > One platform, multiple uses

Key Applications

- > Cellular/PCS backhaul
- > Wireline replacement
- > High speed LAN/WAN/Internet connection
- > Corporate, civil utilities/services and campus networks
- > Service provider network extension
- > Rural telecom infrastructure
- > Redundant link and disaster recovery
- > Video transmission



> All-indoor option

Velox LE 50	2450	5850
General Characteristics		
Frequency Range	2400 to 2483.5 MHz	5725 to 5850 MHz
Data Capacity	Scalable between 10/100Base-T Ethernet, 50 Mbps aggregate and 1 to 16 x T1/E1 tributaries	
RF Channel Bandwidth	2.6; 6.4; 8.0; 12 MHz	
Modulation Method	16- and 32-QAM	
Processing:	Forward Error Correction	
<ul style="list-style-type: none"> 1-4 x T1/E1, 8464 kbps 5-8 x T1/E1, 16.9 Mbps 8 x T1/E1 + Ethernet, 25.4 Mbps 16 x T1/E1 + Ethernet, 50.8 Mbps 	16 channels, 3 MHz recommended spacing 7 channels, 6 MHz recommended spacing 5 channels, 10 MHz recommended spacing 3 channels, 14 MHz recommended spacing	
Frequency Channel Plans	A, B, C (predefined) and D (independently adjustable)	
Transmission Delay	0.4 ms per terminal	
Compliance	FCC Part 15.247 Canada: IC RSS 139 ISS 5	
Power Output	Software adjustable +24 dBm maximum ¹	
Receiver Sensitivity:		
<ul style="list-style-type: none"> 1-4 x T1/E1, 2.6 MHz RF BW 5-8 x T1/E1, 5.4 MHz RF BW 8 x T1/E1 + Ethernet, 8 MHz RF BW 50 Mbps Ethernet, 14 MHz RF BW 16 x T1/E1 + Ethernet, 14 MHz RF BW 	-88 dBm (16 QAM) -85 dBm (16 QAM) -83 dBm (16 QAM) -76 dBm (32 QAM) -76 dBm (32 QAM)	
Maximum Receive Level	-30 dBm (32 QAM)	
Antenna Connector	N-Type Female	
nT1/nE1 or DS3/E3:		
<ul style="list-style-type: none"> Data Rate Digital Interface Connectors Line Code 	1 to 16 x T1/E1 software-selectable ITU-T G.703, CEPT-1, DSX-1	
10/100Base-T Interface:	4 x 25-way D-connectors (T1/E1 balanced or unbalanced)	
<ul style="list-style-type: none"> Compliance Connector 	B8ZS (T1), HDB3 (E1), or AMI (E1,T1) selectable IEEE 802.3 RJ-45	
Front Panel LEDs	System, Payload and RF Link summary LEDs	
Auxiliary User I/O	2 In (Contact closure), 2 Out (Relays)	
Wayside Service Channel	RS-232; 115.2 Kbps maximum	
Element Manager	RS-232; 115.2 Kbps fixed	
Power:		
<ul style="list-style-type: none"> DC Power Power Consumption AC Power Supply 	21 to 58 VDC 45 W maximum 110V-240V (External PSU)	
Temperature:	Operation: -33°C to +60°C	
<ul style="list-style-type: none"> Outdoor RF Unit Indoor RF unit Digital unit 	Operation: -5°C to +50°C Operation: -5°C to +50°C	
Size:	335mm x 232mm x 125mm, 6.5 kg	
<ul style="list-style-type: none"> Outdoor RF Unit Indoor RF unit 	1U 19" housing, table top or rack mounting, 3.5 kg	
Lightning Protection:	Outdoor RF Unit and Digital Unit	
<ul style="list-style-type: none"> Integral Protection 		
EMC	EN 301 489	
Operation	Outdoor RF Unit: EN 300 019, class 4.1 Digital Unit: EN 300 019, class 3.2	
Storage: Digital & RF Unit	EN 300 019, class 1.2	
Transportation: Digital & RF Unit	EN 300 019, class 2.3	
Radio Frequency	EN 300 328	n/a
Water Ingress	Outdoor RF Unit: IEC 60529 (IPX5)	

1. Typical

Velox LE 50 Features

- > Spectrum efficient 16- and 32-QAM modulation
- > Scalable between 10/100Base-T Ethernet, 50 Mbps aggregate and 1 to 16 x T1/E1 tributaries
- > Transparent Ethernet bridging (learning - “store and forward”)
- > Available with 1 to 16 x T1 and 1 to 16 x E1 data interfaces
- > G.826 compliant-based error reporting for RF link and line-interface data
- > Multiple software-selectable frequency channel plans
- > Network Configuration Tool (NCT) allows full remote and local control/management
- > All electrical connections located on front panel for easy installation and access
- > SNMP support for open Network Configuration (Enterprise and MIB-II)
- > Onboard spectrum analyzer
- > All-indoor mounting option using only 2U rack space