



ORION TELECOM NETWORKS INC.

VCL-DMR - 8E1 / 16 E1 / 24 E1 / 32 E1 Digital Microwave Radio

Product Brochure & Data Sheet

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Product Description

E1 Digital Microwave solution for wireless transmission

Orion's offers a rugged and a very reliable Wireless Digital-Microwave solution which may be used to transmit up to 8E1/16E1/24E1/32E1 channels (or a combination of E1 channels plus an Ethernet Channel) up to a distance of 40 KM in a "line-of-sight" installation.

Orion's Digital-Microwave Radio solution consists of a 1U, 19-Inch Rack-Mountable Indoor Unit (IDU) and a very compact, pole-mountable Out-Door Unit (ODU).

The 1U, 19-Inch Rack-Mountable Indoor Unit (IDU) may be powered from a nominal - 48V DC power input (acceptable DC voltage input range is - 40V DC to - 60 V DC).

The ODU (Out-Door Unit) is packaged in a weather-proof, rugged pole-mountable units which is powered from the IDU (Indoor Unit) through it's single antenna cable.

Orion's Digital-Microwave Radio solution is provided with advanced internal diagnostics capabilities which enables it to offer reliable performance even under the most difficult and harsh conditions. The equipment is also available (optionally) in a 1+1 protected package.

Features

- Available in the 7GHz, 8GHz, 13GHz, 15GHz, 18GHz and 23GHz frequency bands
- Scalable transmission capacities from 2Mbps to 68 Mbps
- Offers 8E1, 16E1, 24E1, 32E1, Ethernet etc. Network interface by flexible plug-in module
- 8 GHz and 15 GHz 1+1 (QPSK) - User selectable modulation
- Software Programmable Output Power Level
- Automatic Transmit Power Control (ATPC)
- Software-selectable frequency
- Upgradable capacity
- Adaptive Reed-Solomon Forward Error Correction (FEC) to ensure error-free transmission
- Integrated WEB server
- SNMP based Network Management System
- Low power consumption
- Comprehensive, integrated performance monitoring and logging
- Available in (1+1) protected, or (1+0) unprotected configurations
- Reliable link performance
- High reliability
- Single coaxial cable connection between Indoor (IDU) and Outdoor (ODU) unit
- Standard radio IF frequencies on the cable: TX:310MHz/RX:70MHz
- No requirement for cable length or adjustments, RG-8/U cable up to 300m
- Frequency/channel setting via LCD panel or NMS
- 253 different Device ID codes
- The same IDU supports all different service cards such as E3, 8E1/16E1/24E1/32E1, 10/100BASE-T
- Automatic sensing and adaption of service cards by IDU

VCL-E1-DMR VCL-8/16/24/32 E1



IDU

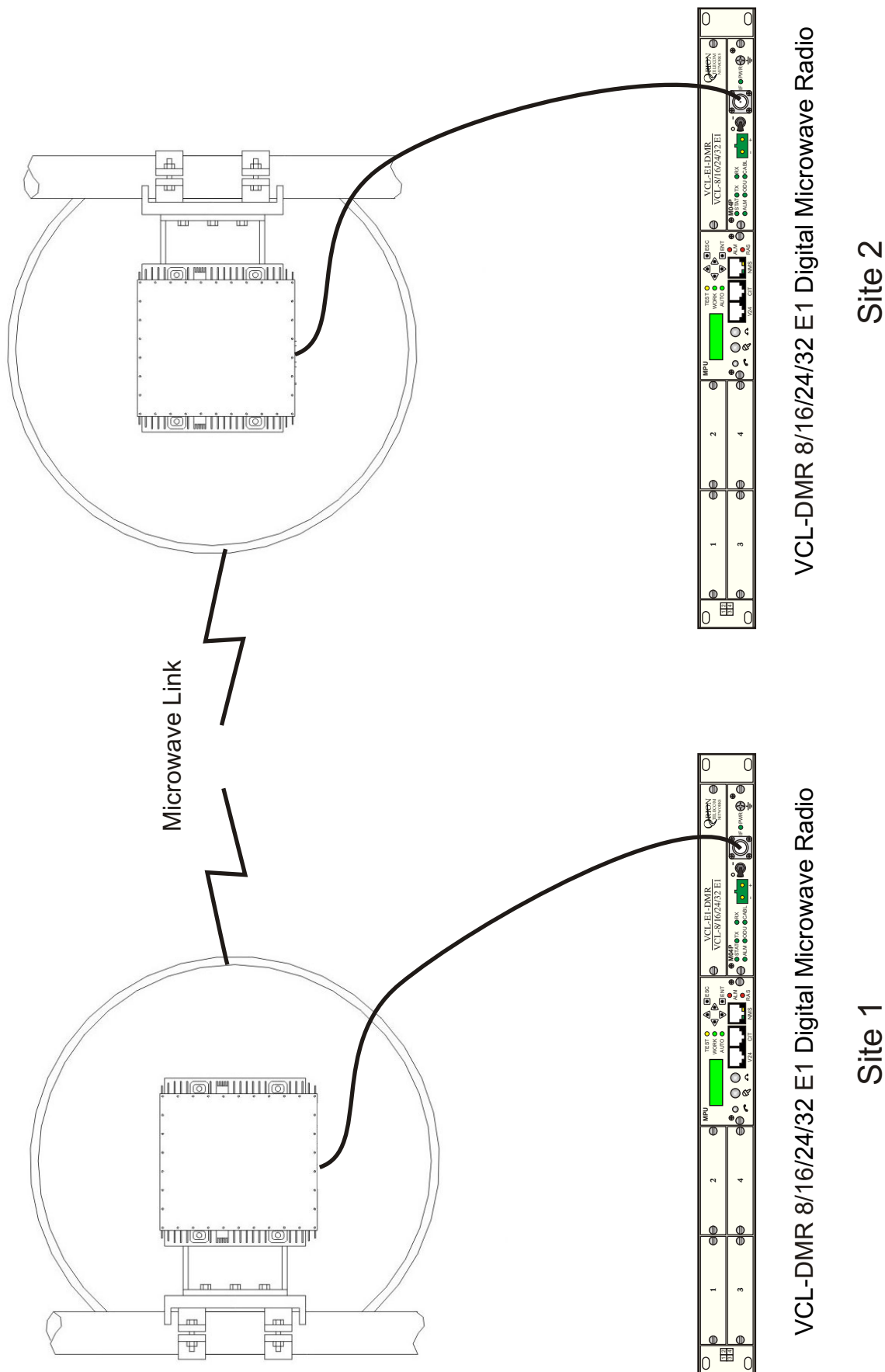


ODU (Bottom View)



ODU (Top View)

Application Diagram
1+0 configuration



Technical Specifications:**System Specifications:**

Frequency Band (GHz)	7	8	13	15	18	23
T-R Spacing (MHz)	154/161	119/126/266/311	266	420/490	1008/1010 1092.5	1008/1232
Occupied Bandwidth (MHz)	3.5/7/14/28					
Modulation Type	QPSK (Quadrature Phase Shift Keying)					
Frequency Source	Synthesizer					
Synthesizer Step Size (KHz)	250					
Frequency Stability (ppm)	± 10					
Systems Configuration	(1+0), (1+1) Co-channel standby system					
	1+1 Channel hot standby system					
RF Channel Selection	IDU Controlled or via NMS					
E1 Interface	75Ω unbalanced (BNC) / 120Ω balanced (RJ-45)					
Ethernet Interface	10/100BASE-T (RJ-45)					
Power Supply (V)	-48V DC					
Power Consumption (W)	35	35	30	30	30	30
RF Interface	UBR84/N	UBR84/N	UBR140	UBR140	UBR220	UBR220
Transmitter						
Tx IF Frequency (MHz)	310					
RF Output Power (dBm)	25	25	20	20	18	18
ATPC Range	+5dBm upto Maximum					

Technical Specifications:**System Specifications:**

Receiver							
Rx IF Frequency (MHz)	70						
RF Input Range (dBm)	- 20 ~ - 90						
Threshold	4×E1	-87	-87	-87	-87	-86	-86
(dbm)	8×E1	-84	-84	-84	-84	-83	-83
BER=1E-6	16×E1	-81	-81	-81	-81	-80	-80
Saturate Input Level (dBm)	- 10						
Auxiliary & NMS							
Order Wire	1 Channel digital order wire, 3.5mm (1/8 inch) Headset Jack						
Auxiliary Data	19.2kbit/s, RS232C, RJ-45						
NMS Channel 1	115.2kbit/s, RS232C, RJ-45						
NMS Channel 2	100Mbit/s, 10/100BASE-T, RJ-45						
Operation system	WIN2000 / WINDOWS NT / WINXP						
Mechanical							
Dimension	IDU: 482mm x 44mm x 265mm ODU: 265mm x 265mm x 110mm						
Weight	Indoor Unit: 3.5 kg Outdoor Unit: 5.5 kg						
Environmental							
Temperature Range	IDU: -0°C ~ +50°C ODU: -33°C ~ +55°C						
Relative Humidity	IDU: 20% ~ 90% ODU: N/A						
Elevation (Meter)	≤ 4500						

