



ETSI

Wireless without Boundaries

KSLV35 - 5.X/4.9/3.3/2.4 GHz 1E1or2E1 w/V.35



Indoor Unit



Outdoor Unit + Antenna

5.X/4.9/3/2
GHz

L/LE

18Mbps
1 or 2E1
V.35

LOS

TDD

PTP

Split
PoE

PDH/Ethernet Convergent Systems—Fractional Model

Features & Benefits

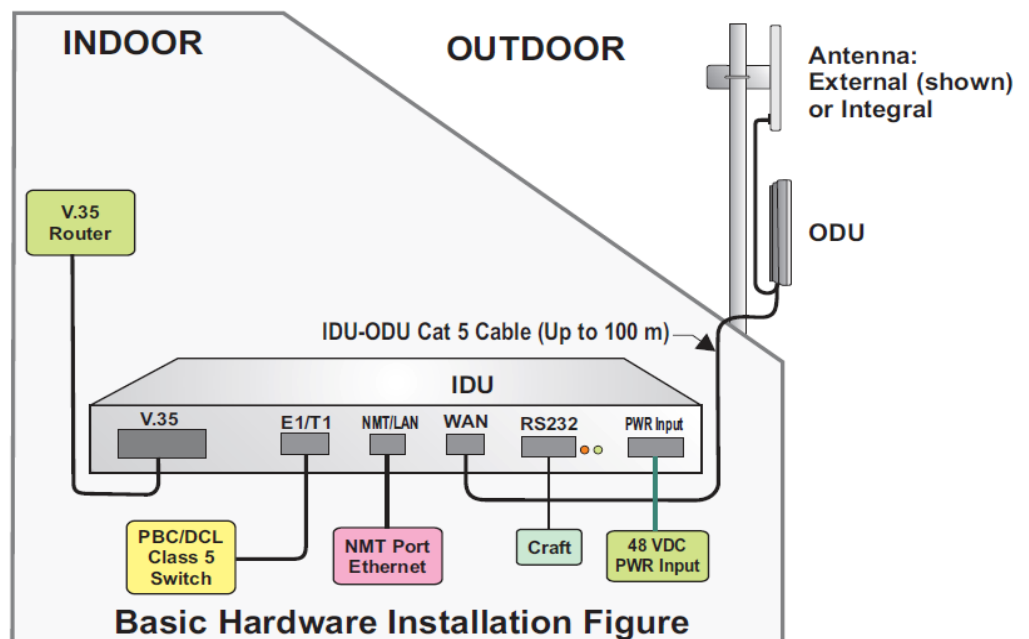
- High quality Voice / Data / Video transmission
- Cost-effective alternative to traditional E1 devices.
- Serial data transmission - V.35 (n times 64Kbps; n=1~32)
- High reliability of radio link provides excellent BER
- Various frequencies with OFDM technology
- Employs Time Division Duplex (TDD) transmission - no need to plan and to allocate separate channels for the uplink and downlink data streams
- End to end transmission of multiple user services over packet switched networks
- Transparent Ethernet forwarding
- Supports SNMP for remote monitor and management
- Windows-based utility provides user friendly interface to configure the IDU/ODU
- Rapid installation and easy configuration for deploying the link.
- Enhanced Security and access control
- Power over Ethernet to ODU
- Offers advanced IP-68 rated weather-proof housing for ODU

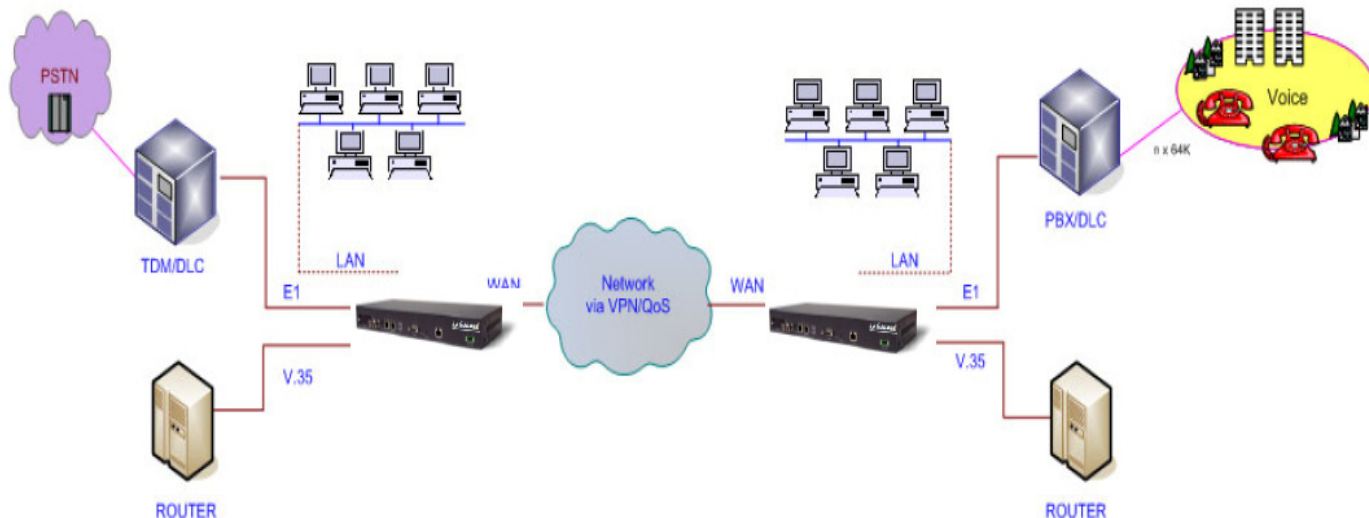
KymaStar/Kyma Fractional is a compact, cost effective and very easy for deployment of E1 (Full / Fractional) last mile device, which converge E1, V.35 and IP protocol. It is ideal for wireless links because it delivers LAN and high quality voice to remote locations over high reliability OFDM radio.

The *KymaStar/Kyma Fractional* with a single or dual E1 can provide 30 or 24 voice channels, two types of connectors (120Ω/75Ω) that can be manually selected by dip switch. The E1 type (Full/Fractional/BNC/RJ45) is selectable via software. One Ethernet port for IP packets transfer can be independently set for each Ethernet port: up to 6.4 Mbps. Total capacity in each direction is 9 Mbps (V.35 or E1s and Ethernet).

The *KymaStar/Kyma Fractional* includes an internal mechanism for identifying and assigning priority to E1 packets over those containing other LAN traffic. This ensures that voice packets are not delayed over data and a high voice service quality is maintained.

KymaStar/Kyma Fractional series system offers more than just an attractive price, but provides excellent performances; easy installation and alignment, along with smart management capabilities that make setup and configuration a snap.





This is an example of a KymaStar Fractional application. For other applications such as Point-to-Point, please consult your WNI Global account representative—or send an email to: sales@wnint.com

OTHER APPLICATIONS INCLUDE

Cellular Backhaul for small capacity area
 Interconnecting Multiple Legacy Services over Packet Networks
 Internet and voice service extension for remote districts

Telephony Extension
 Extension to MMDS and 3G last mile networks
 Compressed Digital Voice and data over Wireless Network

KEY FEATURES

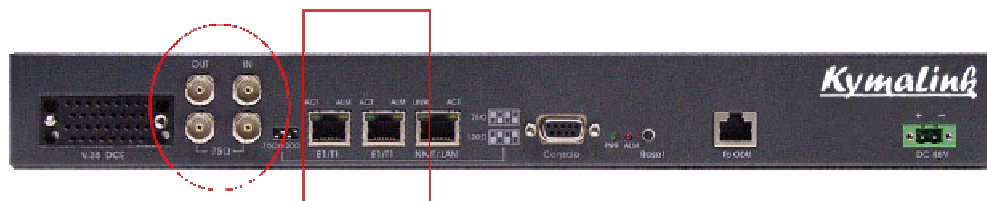
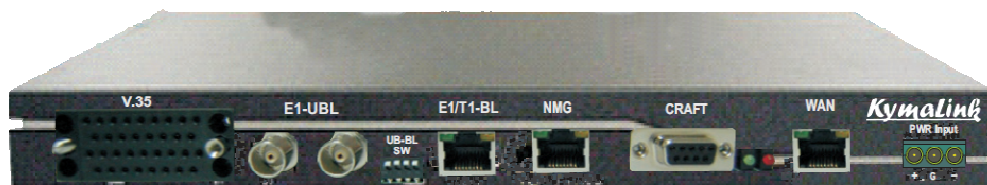
- 1RU Standalone
- Flexible Tx and Rx IF to ODU
- Standard Interfaces
- E3Option
- Supports Customized NMS, SNMP
- Adaptive Modulation Option

SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support
- Extended Warranty

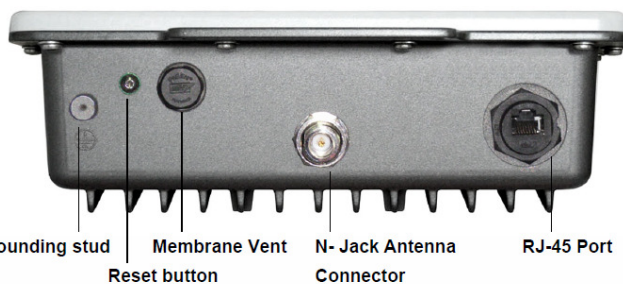
For more information on any of our products or services please visit us on the Web at:

www.wniglobal.com



The InDoor Unit (IDU) - Both the Single E1 and the Dual E1 versions

2E1 ports



The bottom view of the Out Door Unit (ODU) with connections

Specifications

CONFIGURATION				
Architecture	IDU: Indoor Unit: Multiplex 1/2xEI+V.35+Ethernet, Includes 48VDC PoE			
	ODU: Outdoor Unit: TDD Ethernet Radio			
IDU to ODU Interface	Outdoor CAT-5 cable: Maximum cable length: 90+m w/48VDC			
RADIO				
Frequency Bands (GHz)	KSLV35 2/3X-	2.300 — 2.4835 / 3.300—3.400		Customizable to meet local regulatory requirements
	KSLV35 49-	4.940 — 4.990		
	KSLV35 5X	5.150 — 5.850		
Data Rate	Software Configurable			
E1/T1 and V.35 Capacity	1 or 2 x E1 (up to 23 slots) + V.35 (Nx64Kbps up to 2.048 Mbps)			
Ethernet Throughput	Up to 18 Mbps / + 6 Mbps Ethernet at full EI load (capacity is shared with EI load)			
RF Channel Bandwidth (MHz)	5 / 10 / 20 adjustable via software			
Duplex Technique	TDD			
Modulation	OFDM-BPSK, QPSK, 16QAM, 64QAM			
Transmit Power	2.3 / 2.4 & 5.X GHz: 23dBm, 3.3 GHz: 28dBm, 4.9 GHz: 21 dBm			
Rx Sensitivity at 10E-6 BER	54Mbps	36Mbps	18Mbps	6Mbps
	-60dBm	-65dBm	-72dBm	-77dBm
Received Dynamic Range	> 60dB			
ETHERNET INTERFACE				
Interface Type	10 / 100BaseT with Auto-negotiation (IEEE 802.3)			
Number of Ethernet Ports	1 (LAN Traffic Bandwidth Control), Up to 6 Mbps Throughput			
Framing / Coding	IEEE 802.3 / IEEE 802.3u			
Bridging	Self-learning up to 2047 MAC addresses IEEE 802.1q			
Traffic Handling	MAC layer bridging, self-learning			
Line Impedance	100 ohm			
VLAN Support	Transparent			
Connector	RJ-45			
E1 & V.35 INTERFACE				
Framing	Unframed (transparent)			
Number of EI (T1) and V.35	1xEI Software Switch able, Front Switch for Bal/Unbal Selection. 1xV.35 port (2xE1 avail)			
Standard Compliance	G.703, G.826			
Timing	Independent Tx and Rx timing			
Line Code	EI: HDB3 @ 2.048 Mbps			
Impedance	EI-120 ohm. Balanced or 75 ohm Unbalanced			
Connector	RJ-45 for EI Bal & Ethernet, BNC for EI Unbal. F34 Winchester for V.35 (DCE)			
Jitter & Wander	According to G.823, G.824			
NETWORK MANAGEMENT				
Local Management	CLI RS232, SNMP			
Remote Management	SNMP			
SNMP Agent	MIB 11, Private MIB			
SECURITY				
Data Encryption / Authorization	WEP 40/128/152 bit / MAC Address Access Filter			

Summation

POWER and MOUNTING			
Power Input*	+48VDC: Power Consumption 20W/2.4G, 17W/4.9/5.8G		
Mounting	Pole or Wall for ODU, 19 inch (423mm) Rack (1 Mtg Sp) or Desktop		
MECHANICS			
4.9 & 5.X GHz ODU Dimensions (include 23 dBi integral antenna)	335 (L) x 335 (W) x 81 (H) ; mm; (13.1(L) x 13.2(W) x 3.2(H) inches) Weight: 2.9 Kg; (6.4 lb)		
2.4 & 3.3 GHz ODU Dimensions (includes 18 dBi integral antenna)	330 (L) x 295 (W) x 91 (H) ; mm; (13.0(L) x 111.6(W) x 3.6(H) inches) Weight: 2.9 Kg; (6.4 lb)		
ODU Dimensions for External Antenna)	259 (L) x 250 (W) x 75 (H); mm; (10.2(L) x 9.8(W) x 3.0(H) inches) Weight: 1.8kg; (4.0 [b])		
IDU Dimensions	425 (L) x 256 (W) x 44.5 (H); mm; (16.8(L) x 10.1(W) x 1.75(H) inches) Weight: 2.9 Kg; (6.4 lb)		
INTEGRAL ANTENNA	KSLV35 49-	KSLV35 5X-	KSLV35 2/3X-
Gain	23 dBi	23 dBi	18 dBi
Beam Width	10° (Opt 8° external)	10° (Opt 8° external)	10° (Opt 8° external)
Polarization	Linear or Vertical		
ENVIRONMENTAL			
Outdoor Unit Enclosure	IP-68 rated weather-proof enclosure		
ODU Operating Temperature Range	-30°C to +60°C; (-4°F-140°F)		
IDU Operating Temperature Range	-5.0°C to +55°C; (23°F-131°F)		
Storage Temperature Range	-30°C to +70°C, (-22°F-158°F)		
Humidity	Up to 90% non-condensing for IDU and 100% condensing for ODU		
ORDERING INFORMATION**			
KSLV35 23-2251-EXT	2.3GHz, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [23 dBm] with external* antenna option		
KSLV35 23-2151-I18	2.3GHz, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [23 dBm] with integrated 18 dBi antenna		
KSLV35 24-2221-EXT	2.4GHz ISM band, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [23 dBm] w/external* antenna option		
KSLV35 24-2121-I18	2.4GHz ISM band, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [23 dBm] w/integrated 18 dBi antenna		
KSLV35 33-2281-EXT	3.3GHz, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [27 dBm] with external* antenna option		
KSLV35 49-2271-EXT	4.9GHz PSB***, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [21 dBm] w/external* antenna option		
KSLV35 49-2171-I23	4.9GHz PSB***, 1/2xE1/T1, 1xEthernet with V.35 IDU; ODU [21dBm] w/23dBi integrated antenna		
KSLV35 5X-2211-EXT	5GHz ISM band, 1/2xE1, 1xEthernet with V.35 IDU; ODU [23 dBm] with external* antenna option		
KSLV35 5X-2111-I23	5GHz ISM band, 1/2xE1, 1xEthernet with V.35 IDU; ODU [23 dBm] with integrated 23 dBi antenna		

* A matching 23 dBi external antenna available — for other size antennas and gains, please contact the factory

** Optional 100-240 VAC 50/60 Hz to +48 VDC Power Module is available from WNI Global

*** Public Safety Band

WNI Global, Inc. 3064 Scott Blvd. Santa Clara, California 95054 USA
Phone +1 408 982.9454 Fax +1 408 982.9456
Email: sales@wnint.com—Web: www.wniglobal.com

Specifications and availability are subject to change without notice.

Performance specifications are for 1+0 configurations and optimum conditions and may be affected by location, environment, and other operating conditions.

©2009-10, WNI Global, KymaStar F Revised 061110