NetStream 5x50

Carrier Class, High Capacity Sub-6 GHz Solution for Transfer of TDM (up to 8 E1) and IP (up to 50 Mbps)

Product Highlights

- Native TDM and Ethernet (up to 8E1s/T1s)
- 50 Mbps net throughput
- Superior spectral efficiency @ 20 MHz
- Long range up to 120 Km/75 miles
- Single radio supporting multiple bands (2.4 and 4.8 - 6.1 GHz)
- Advanced MIMO and OFDM technologies
- Built-in mechanisms to mitigate interference
- Monitored Hot Standby 1+1 support

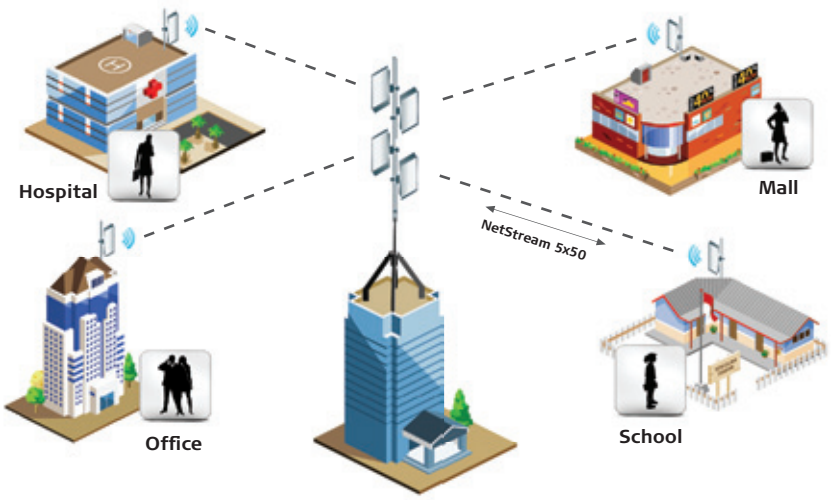
Key Benefits

- Flexible combination of E1s/T1s and Ethernet over a single wireless link
- High capacity and long range to meet today's and tomorrow's backhaul requirements
- Enabling seamless migration from TDM to IP
- Easy to install, simple to maintain
- Built-in advanced technologies: OFDM, MIMO, Diversity
- Significant reduction in cost of ownership (lower CAPEX and OPEX)

NetStream 5x50 is an excellent solution for operators requiring carrier class, affordable backhaul solutions.

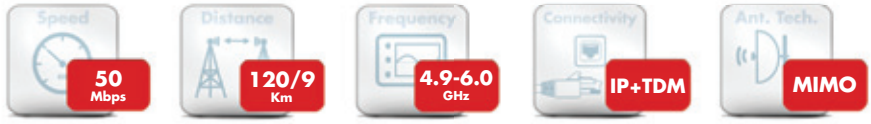
Transferring native TDM (no conversion to IP in the wireless link) and Ethernet over a single wireless link, NetStream incorporate and advanced technologies such as MIMO and OFDM to ensure unrivalled robustness and resiliency in operation in the sub-6 GHz bands.

NetStream 5x50 provides a flexible combination of native TDM and Ethernet (up to 8 E1s/T1s), preparing operators for seamless migration from TDM to IP and enabling them to offer both voice and data services to their customers. Delivering multiple frequencies over a single platform, the NetStream 5x50 multi-band radio ensures utmost transmission resiliency and field flexibility.



Leveraging from Netronics proprietary air interface, coupled with advanced built-in OFDM, MIMO and Diversity technologies, NetStream 5x50 delivers optimal performance and unequalled robustness in sub-6 GHz bands. The high-capacity solution can be deployed in various topologies including point-to-point, cascading and multiple point to point, and support collocation with other NetStream radios utilizing Hub Site Synchronization (HSS) functionality.

Built for carrier-grade networks, NetStream 5x50 is available with Monitored Hot Standby 1+1 support. In this mode, a secondary link is used to backup the primary link in case of an equipment failure or loss of air interface, thus ensuring maximum service availability.



Specifications

Configuration	
Architecture	ODU: Outdoor Unit with Integrated Antenna or Connectorized for External Antenna IDU: Indoor Unit or PoE device with Ethernet interfaces
IDU TO ODU Interface	Outdoor CAT-5e cable; Maximum cable length: 100 m

Radio	
Range	Up to 120 km/ 75 miles
Frequency Bands	Multi-band radio supporting 2.412 - 2.462 GHz and 4.800 - 6.080 GHz
Channel Bandwidth	5/10/20 MHz
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QM)
Adaptive Modulation & Coding	Supported
Automatic Channel Selection	Supported
Max Tx Power	25 dBm @ 4.8 - 5.9 GHz; 20 dBm @ 6.0 GHz
Duplex Technology	TDD
Error Correction	FEC k = 1/2, 2/3, 3/4, 5/6
Encryption	AES 128
Diversity	Supported
Spectrum View	Supported
Hub Site Synchronization	Up to 16 collocated links

TDM Interface	
Number of Ports	Up to 8
Type	E1/T1 configurable by Netronics Manager
Framing	Unframed (transparent)
Timing	Independent timing per port, Tx and Rx
Connector	RJ-45
Standards Compliance	ITU-T G,703, G,826
Line Code	E1: HDB3 @ 2.048 Mbps, T1: B8ZS/AMI @ 1.544 Mbps
Latency	Configurable: 5 - 20 msec (default: 8 msec)
Impedance	E1: 120Ω, balanced T1: 100Ω, balanced
Jitter & Wander	According to ITU-T G.823, G.824
Monitored Hot Standby 1+1	Supported

Ethernet	
Max Throughput	25 Mbps symmetric full duplex throughput (50 Mbps aggregate throughput 45 Mbps in one direction)
VLAN Support	VLAN transparent for user traffic; Separation for management traffic

Management	
NMS Application	NetStream NMS (NSNMS)
Protocol	SNMP and Telnet

Mechanics	
Dimensions	ODU with Integrated Antenna: 37.1(w) x 37.1(h) x 10.0(d) cm; 3.5 kg/ 7 lbs ODU Connectorized: 19.0(w) x 27.0(h) x 7.0(d) cm; 1.8 kg/ 3.6 lbs IDU: 43.6(w) x 4.4(h) x 21(d) cm; 1.5 kg/ 3.3 lbs

Power	
Power Feeding	Dual feeding, -20 to -60 VDC (AC/DC converter is available)
Power Consumption	< 35 W (IDU + ODU)

Environmental	
Operating Temperatures	ODU: -35°C to + 60°C / -31°F to +140°F IDU: 0°C to +50°C / 32°F +122° F
Humidity	ODU: Up to 100% non-condensing, IP67 IDU: 90% non-condensing

Radio Regulations	
FCC	47CFR, Part 15, Subpart C
IC (Canada)	RSS - 210
WPC (India)	GRS - 38
MII (China)	5.8 GHz Band Regulation

Safety	
FCC/IC (cTUVus)	UL 60950-1, CAN/CSA 60950-1 C22.2
ETSI	EN/IEC 60950-1

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