



NetStream 5x100 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 advanced technologies such as MIMO and OFDM to ensure unrivalled robustness and resiliency in operation in the sub-6 GHz bands.

NetStream 5x100 provides a flexible combination of native TDM and Ethernet (up to 16 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 5x100 multi-band radio ensures utmost transmission resiliency and field flexibility.

NetStream 5x100

**Carrier Class, High Capacity
Sub-6 GHz Solution for Transfer of TDM
(up to 16 E1) and IP (up to 100 Mbps)**

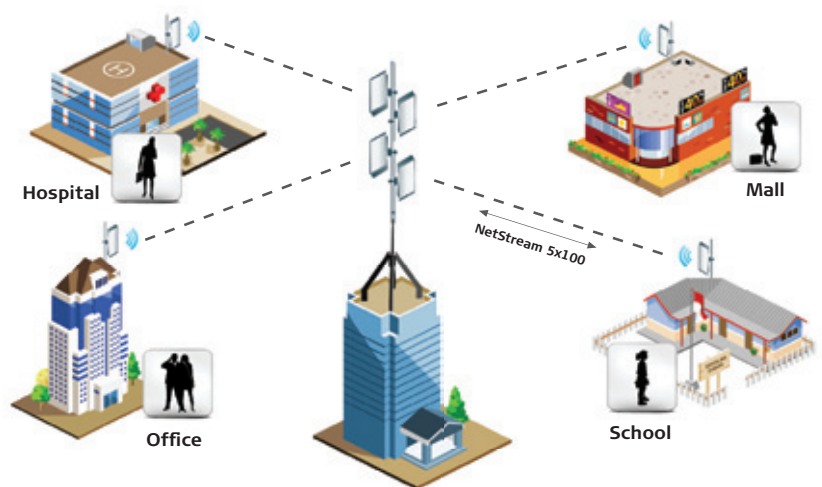
Product Highlights

- Native TDM and Ethernet (up to 16E1s/T1s)
- 100 Mbps net throughput
- Superior spectral efficiency @ 20 MHz
- Long range up to 120 Km/75 miles
- Advanced MIMO and OFDM technologies
- Built-in mechanisms to mitigate interference
- Monitored Hot Standby 1+1 support



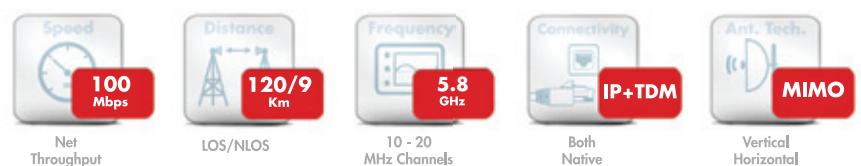
Key Benefits

- 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)



Leveraging from Netronics proprietary air interface, coupled with advanced built-in OFDM, MIMO and Diversity technologies, NetStream 5x100 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 5x100 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	5.725 to 5.850
Channel Bandwidth	10/20 MHz
Modulation	2x2 MIMO-OFDM (BPSK/QPSK/16QAM/64QAM)
Adaptive Modulation & Coding	Supported
Automatic Channel Selection	Supported (DFS)
Max Tx Power	Total EIRP: 36 dbm with TPC
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 16
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	50 Mbps symmetric full duplex throughput (100 Mbps total)
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
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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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