The iDirect Series 3000
Satellite Router

The iDirect Series 3000 Satellite Router provides an economical entry point into satellite networking, without sacrificing the flexibility or reliability iDirect networks are known for. The series 3000 supplies all the hardware and software you need to meet all your essential remote broadband needs.

Optimized for remote internet access, the iDirect series 3000 is an ideal solution for small to medium enterprise customers with basic remote networking needs. Able to deliver broadband access of up to 18 Mbps downstream, and 4.2 Mbps upstream, the 3000 series can support all your IP applications remotely, including VoIP and basic Video.

iDirect's series 3000 Remote Satellite Router is a "single box" solution that includes a satellite modem, IP router, TCP acceleration over satellite, and QoS/prioritization in an easy to deploy, reliable design. The 3000 also offers:

Reduced total cost of ownership
- Low cost of entry
- Reservation MF-TDMA return channel that is 4 times more bandwidth efficient than Slotted Aloha
- Low power consumption at remote terminals
- Turbo Codes on the forward and return channel for a 1.5 dB power advantage over RSV codes
- 1.2 Spacing – delivers 14% savings in bandwidth
- Proprietary IP encapsulation that is 15% more efficient than MPE (multi-protocol encapsulation)

Efficient networking performance
- TCP and HTTP Acceleration to compensate for the long latency in satellite links
- Bandwidth allocation with only 0.5 second lag between a request for capacity and its assignment
- Networks configured in 1kbps increments to get exactly the bandwidth required
- D-TDMA – allows 98% payload efficiency
- iDirect networks save 10-50% capacity compared to inefficient MPEG encapsulation
- Uplink Power Control for higher link availability

The iDirect line of remote satellite routers (series 3000, 5000 and 7000) is part of a family of solutions designed to meet the communications challenges of customers anywhere in the world. By providing different levels of functionality within the product lines, iDirect is uniquely capable of delivering the ideal networking solution for each customer network, or individual site based on their specific situation or challenges. iDirect's combination of flexibility and scalability allow us to deliver all the functionality of traditional broadband networks, beyond the constraints of the wired world.

Series 3000 Remote Satellite Router

Network Configuration

Network Topology	Star
Multiple Access	TDM Downstream D-TDMA (Deterministic TDMA) Upstream
Symbol Rates	Downstream: 64 ksps up to 11.5 Msps Upstream: 64 ksps up to 2.875 Msps
Modulation	QPSK
IP Data Rates	Downstream: 128 kbps – 18 Mbps Upstream: 64 kbps – 4.2 Mbps
FEC	Downstream: TPC Rate 0.793 or TPC Rate 0.495 Upstream: TPC Rate 0.793 or TPC Rate 0.66
E_b/N_o	4.0 E_b/N_o for 10^{-9} Quasi Error Free @ 0.495 FEC 4.6 E_b/N_o for 10^{-9} Quasi Error Free @ 0.793 FEC 5.4 E_b/N_o for 10^{-9} Quasi Error Free @ 0.66 FEC

Interfaces

SatCom Interfaces	TxIF: Type-F, 950 - 1700 MHz, Composite Power +7dBm / -35dBm RxIF: Type-F, 950 - 1700 MHz, Composite Power -5dBm / -65dBm TVRO: Type-F, 950 - 1700 MHz
Available BUC Power (IFL) Available LNB Power (IFL) 10 Mhz Reference	+24V @ 3.2 Amps (Nominal, Typically up to a 5W BUC) +19.5V (Nominal) Available
Data Interfaces	LAN: RJ45, 10/100 Ethernet, 802.1q VLAN RS-232: RJ45 (for GPS or Console connection or Antenna Pointing)
Protocols Supported	TCP, UDP, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, DHCP Helper, DNS Caching
Traffic Engineering	QoS (CBWFQ), CIR (Static and Dynamic), Rate Limiting, Bandwidth on Demand

Mechanical/Environmental

Size of Indoor Unit	W 11.375 in x D 9.50 in x H 2 in (W 28.9 cm x D 24.1 cm x H 5.1 cm)
Shipping Weight	10.0 lbs (Including IDU, Power Supply, Container, etc.) [4.6 Kg]
Operating Temperature	0^0 to 50^0C (+32^0 to +122^{0}F) at Sea Level 0^0 to 45^0C (+32^0 to +113^{0}F) at 10000 Feet
Input Voltage	100-240 VAC Universal Input, 50-60 Hz, 2A Max @ 100VAC