The iDirect Series 7000
Satellite Router

The iDirect Series 7000 Satellite Router is the highest performance remote networking solution available today. Developed to meet the most demanding user requirements, the series 7000 is a 19 inch 1U Rack Mounted router ideal for military, network carriers, or high end enterprise customers.

The series 7000 was built from the ground up to provide the greatest flexibility, security, and network capacity available today. Providing the highest TCP/IP throughput in the industry - 18 Mbps downstream, and 4.2 Mbps upstream - with iDirect's Quality of Service (QoS), the Series 7000 delivers all the benefits of broadband IP networking beyond the constraints of the wired world.

Built in flexibility
✦ PCI expansion slot
✦ Mesh ready
✦ SCPC
✦ Wi-Fi (optional)
✦ 8 Port switch
✦ 48VDC Output on Tx port to support up to 8W Ku or 10W C-Band BUC

Secure communications
✦ Embedded 3DES/AES encryption (optional)

Bandwidth optimization
✦ Reservation MF-TDMA return channel that is 4 times more bandwidth efficient than Slotted Aloha
✦ 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)
✦ TCP and HTTP Acceleration
✦ Networks configured in 1kbps increments to get exactly the bandwidth required

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, while insuring their interoperability, 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 7000 Remote Satellite Router

Network Configuration

Network Topology	Star (TDM/TDMA with MF-TDMA), Star/Mesh, SCPC

Symbol Rates	Downstream:	64 ksps up to 11.5 Msps
	Upstream:	64 ksps up to 2.875 Msps (5.75* Msps)

Modulation	Downstream:	QPSK (BPSK*, 8PSK*)
	Upstream:	QPSK (BPSK*)

IP Data Rates	Downstream:	128 kbps – 18 Mbps
	Upstream:	64 kbps – 4.2 Mbps (8.4* Mbps)

FEC   Downstream: TPC Rate 0.879, 0.793, 0.533, 0.431*
Upstream: TPC Rate 0.793, 0.66, 0.533, 0.431*
(*Other FEC Rates will be available in the future*)

E_b/N_o

3.9 E_b/N_o for 10^{-9} Quasi Error Free @ 0.533 FEC
4.6 E_b/N_o for 10^{-9} Quasi Error Free @ 0.793 FEC
4.8 E_b/N_o for 10^{-9} Quasi Error Free @ 0.879 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)   +24V or +48V (Supports 8W Ku or 10W C BUC)
Available LNB Power (IFL)   +19.5V (Nominal)
10 Mhz Reference   Available

Data Interfaces   LAN: Single 10/100 and 8-Port 10/100 Switch, 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, Local DNS Caching, cRTP

Security   AES or 3DES* Link Encryption (Optional)

Traffic Engineering   QoS (CBWFQ), Minimum CIR, CIR (Static and Dynamic), Rate Limiting, Bandwidth on Demand

Other Features   Built-in Automatic Uplink Power, Frequency and Timing Control Adaptive Inbound Channel*

Mechanical/Environmental

Size   W 17.5 in   x D 15.5 in   x H 1.72 in
(W 44.45 cm x D 39.37 cm x H 4.37 cm)

Weight   11 lbs (Including Power Supply) [3.63 Kg]

Operating Temperature 0^0 to 60^0C ($+32^0$ to $+140^0$F) at Sea Level

Input Voltage   100-240 VAC Universal Input, 50-60 Hz, 4A Max @ 100VAC

- Planned for future release. Specifications subject to change without notice