Evolution 8000 Series Satellite Router

Highly Secure, Reliable, and Fast IP Broadband Connectivity

Developed to meet the most rigorous mobility and security requirements, the Evolution 8000 Series Satellite Router provides fast, reliable quality of service enabled connections for Communications on the Move (COTM).

With the integration of spread spectrum technology and DVB-S2/ACM, along with advanced FIPS-certified TRANSEC security and advanced QoS functionality, the Evolution 8000 Series provides a new level of IP broadband capabilities.

Greater Flexibility

The Evolution 8000 Series offers the choice between iNFINITI TDM or DVB-S2/ACM on the outbound, providing more flexibility for network design and bandwidth optimization. Combined with the highly efficient, deterministic MF-TDMA technology on the inbound, the Evolution 8000 Series delivers speeds up to 138 Mbps on the outbound and up to 8.6 Mbps on the inbound.

Available as e8350 router or iConnex e800 board, the Evolution 8000 Series allows for maximum customization and easy integration into existing equipment. Also, in order to support WGS ranges, the Evolution 8000 Series is equipped to cover wider IF ranges providing flexibility in network deployment.

Greater Mobility

Leading spread spectrum technology enables use of ultra small (sub 1m) and phased-array antennas on aircrafts, ships, and land based vehicles. The Evolution 8000 Series is fully enabled for iDirect's Global Network Management System (GNMS) and automatic beam switching technology allowing for a seamless network with truly global coverage.

High Security

Compliant with the highest military security requirements, the Evolution 8000 Series features embedded AES encryption and TRANSEC with advanced FIPS 140-2 Level 2 compliance*, X.509 digital certificate encryption, and automatic over the air key exchange.

Superior Quality of Service

Flexible Quality of Service and prioritization capabilities enable network operators to not only prioritize traffic and applications over their networks; with iDirect's state-of-the-art Group QoS they can segregate bandwidth by groups of remotes, multiple sub-networks, and multiple mission-critical applications.

Simple, Intuitive Network Management

The Evolution 8000 Series is easily configured, monitored, and controlled through the iVantage™ network management system, a complete suite of software-based tools for configuring, monitoring and controlling networks from one location.

*Certification pending

Features

- Multiple topologies: Star, Mesh, iSCPC
- Two modes of operation: iNFINITI TDM or DVB-S2/ACM outbound
- High carrier IP rates up to 138 Mbps outbound, 8.6 Mbps on the inbound
- Next-generation, extremely efficient 2D 16-State inbound coding
- Spread spectrum waveform technology supports very small antennas
- Unique TRANSEC security with AES 256-bit encryption
- Advanced QoS and traffic prioritization options
- Supports WGS IF ranges: 950-2000 MHz
- Built-in 8-port Ethernet switch

Evolution 8000 Series
Satellite Router
Models e8350, e8350-48, e8350-FIPSL2, e8350-FIPSL2-48

e8350 shown

Configuration

Network Topology	Star, Mesh and iSCPC			
		Downstream (iNFINITI TDM)	Downstream (DVB-S2/ACM)	Upstream (D-TDMA)
Modulation		BPSK, QPSK, 8PSK	QPSK, 8PSK, 16APSK	BPSK, QPSK, 8PSK
FEC		Turbo, 0.495–0.879	LDPC, 1/4-8/9	Turbo, 0.431–0.793 2D 16-State*, 1/2-6/7
Maximum Rates	Symbol	15 Msps	45 Msps	7.5 Msps
	Info	21 Mbps[1]	150 Mbps[2]	11.8 Mbps[3]
	Carrier IP Data	20 Mbps[1]	138 Mbps[2]	10.8 Mbps[3]
	Remote IP Data	17 Mbps[1]	32 Mbps[2]	8.6 Mbps[3]
	Notes:	[1]QPSK, .879 FEC;	[2]16APSK 8/9 FEC;	[3]QPSK.793FEC,unlimitedNMS
	Maximum downstream and upstream data rates cannot be achieved simultaneously Maximum rates are achieved under optimal conditions and with unlimited NMS			
Spread Spectrum	Spreading Factor	2, 4 and 8		1, 2 , 4, 8, and 16
	Max Chip Rate	15 Mcps		7.5 Mcps

Interfaces

SatCom Interfaces	TX Out: Type-F, 950–2000 MHz, +5dBm/-35dBm RX In: Type-F, 950–2000 MHz, -5dBm (max) composite/ -130+10*log(Fsym)dBm (min) single carrier RX Out: Type-F, 950–2000 MHz Software controllable 10 MHz reference on TX Out and RX In ports
BUC IFL Interface	+24V (Optional +48V supports up to 16W Ku-band or 20W C-band)
LNB IFL Interface	+19V/+14V (Nominal), 500mA max; 22 kHz DiSEqC tone, DiSEqC 2.0 capable**
Data Interfaces	LAN: Model e8350: Single 10/100 and 8-Port 10/100 Switch, 802.1q VLAN Model e800: Single 10/100 Console: Console connection RS-232: GPS input or Antenna Control Signaling 10 MHz: External reference clock**
Protocols Supported	TCP, UDP, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, OpenAMIP, cRTP and GRE
Security	AES Link Encryption (256-bit), TRANSEC (iNFINITI and S2 modes), FIPS 140-2 Level 2 Compliant*** (optional), x.509 digital certificates authentication, Automatic Key Management
Traffic Engineering	Group QoS, QoS (Priority Queuing and CBWFQ), Strict Priority Queuing, Application Based QoS, Minimum CIR, CIR (Static and Dynamic), Rate Limiting
Other Features	Built-in Automatic Uplink Power, Frequency and Timing Control (star and mesh), Authentication

Mechanical/Environmental

Size	W 17.5 in x D 13.0 in x H 1.75 in (W 44.45 cm x D 33 cm x H 4.4 cm)
Weight	Models e8350, e8350-48: 10 lbs (4.55 Kg) Models e8350-FIPSL2, e8350-FIPSL2-48: 10.8 lbs (4.90 Kg)
Operating Temperature	-30° to +60°C (-22° to +140°F) at Sea Level -30° to +55°C (-22° to +131°F) at 10000 feet (3048m)
Altitude	Operational: Up to 10,000 feet (3048m); Storage: up to 30,000 feet (9144m)
Vibration	Remains operational with no errors under operational vibration profiles as specified in MIL STD 810F
Shock	Remains operational when subjected to the operational shock profiles as specified in MIL STD 810F
Relative Humidity	Max 92% non-condensing humidity
Input Voltage	100–240 VAC Universal Input, 50–60 Hz, 4A max at 100 VAC
Safety Standards	Complies with IEC 60950, EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1-03
Emission Standard	Complies with EN 61000-3-2, EN 61000-3-3, EN 55022 class B, FCC Part 15 class B, CISPR 22 class B
Immunity Standard	Complies with EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11, EN 301-489-1 v1.6.1 and EN 301-489-12 v 1.6.1
Certification	FCC, CE, and RoHS Compliant

* In DVB-S2 mode only **Future release ***Certification pending