

# **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 iNFINITITDM 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 156 Mbps on the outbound and up to 6.5 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 certification\*, 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 missioncritical applications.

#### Simple, Intuitive Network Management

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

\*Certification pending



#### Features

- Spread spectrum waveform

- Built-in 8-port Ethernet switch



# **Evolution 8000 Series Satellite Router Models e8350, iConnex e800**



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**Network Topology** Star, Mesh and SCPC

Modulation

Downstream (iNFINITITDM) Downstream (DVB-S2/ACM) Upstream (D-TDMA)

PSK, QPSK, 8PSK QPSK, 8PSK BPSK, 16APSK BPSK, QPSK, 8PSK

 FEC
 Turbo, 0.431–0.879
 LDPC, 0.25–0.9
 Turbo, 0.431–0.793

 Maximum Carrier Rates
 Symbol Rate
 15 Msps
 45 Msps
 7 Msps

 Info Rate
 21 Mbps¹
 160 Mbps²
 11 Mbps³

IP Data Rate 20 Mbps<sup>1</sup> 156 Mbps<sup>2</sup> 6.5 Mbps<sup>3</sup>

Notes: <sup>1</sup>QPSK, .879 FEC; <sup>2</sup>16APSK 8/9 FEC; <sup>3</sup>QPSK.793 FEC, unlimited NMS

Spread Spectrum | Spreading Factor 2,4 1,2,4,8", and 16"

Max Rate (Msps) SF2: 7.5; SF4: 3.75 SF1: 7.5; SF2: 3.75; SF4: 1.875

**Interfaces** 

**SatCom Interfaces** TX Out: Type-F, 950–2000 MHz, Composite Power +3dBm/-35dBm

RX In: Type-F, 950–2000 MHz, Composite Power -5dBm/-65dBm

RX Out: Type-F, 950–2000 MHz
Software controllable 10 MHz reference on TX Out and RX In ports

Available BUC Power (IFL) +24V (Optional +48V supports up to 16W Ku-band or 20W C-band)

Available LNB Power (IFL) +19V; DiSEqC 1.0 capable\*

Data Interfaces LAN: Single 10/100 and 8-Port 10/100 Switch, 802.1g VLAN

Console: Console connection

RS-232: GPS input or Antenna Control Signaling

10 MHz: External reference clock\*
USB: External media access\*\*

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 with FIPS 140-2 certification\*\*\*, 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**\* 10 lbs (4.55 Kg)

Operating Temperature | -10° to +60°C (14° to +140°F) at Sea Level -10° to +55°C (14° 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** | Model e8350: Max 92% non-condensing humidity

Model e800: Max 92% with condensing humidity (conformal coating)

Input Voltage | Model e8350: 100–240 VAC Universal Input, 50–60 Hz, 4A max at 100 VAC

Model e800: +24V or +48V DC

**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

\*Applies to Model e8350 only \*\*Future release \*\*\*Certification pending