Evolution X3 Satellite Router

**High-speed, High-efficiency IP Broadband Connectivity for Enterprise Networks**

Evolution X3 is the first next-generation satellite router featuring iDirect’s highly efficient implementation of the DVB-S2 standard. With Adaptive Coding and Modulation (ACM) on the outbound carrier and iDirect’s patented, deterministic TDMA return channel, Evolution X3 maximizes efficiency of satellite capacity to enable new opportunities for star topology networking.

Evolution X3 is ideally suited for broadband requirements such as Internet and VPN access to enterprise networks, as well as real-time VoIP and videoconferencing.

**Superior Quality of Service and Network Performance**

iDirect’s sophisticated Group QoS advanced traffic prioritization dynamically balances the demands of different applications according to their needs and bandwidth availability, across multiple sites and user sub-networks.

Features such as TCP and HTTP acceleration, in addition to local DNS caching, increase performance and maximize user experience.

**Seamless Terrestrial Integration**

An integrated satellite modem and router with Ethernet interface, combined with a native IP architecture, ensuring easy integration of satellite-delivered connectivity into almost any data network.

Support for a rich set of IP protocols and features such as TCP, UDP, multicasting, NAT and DHCP guarantee compatibility with a wide range of applications and user needs, including corporate network extension, point of sale, SCADA, telemetry, multimedia and Internet cafés.

**Flexibility to Meet Changing Requirements**

Over-the-air upgrade options can add strong data encryption or extend the remote’s capabilities allowing operators to customize Evolution X3 to meet technical and budget requirements.

**Simple, Intuitive Network Management**

The Evolution router is easily configured, monitored, and controlled through the iVantage™ network management system, a complete suite of software-based tools for configuring, monitoring and controlling satellite networks from one location.
Evolution X3
Satellite Router

NETWORK CONFIGURATION

Network Topology
Star (DVB-S2/ACM downstream + Multi Frequency D-TDMA upstream)

Modulation
- Downstream: QPSK, 8PSK, 16APSK
- Upstream: BPSK, QPSK, 8PSK

Carrier Sizes
- Rate Downstream (DVB-S2/ACM): Up to 160 Mbps
- Symbol rate: 1-45 Msps
- Max Info Rate: Up to 160 Mbps
- Upstream (D-TDMA): Up to 8 Mbps
- Max Info Rate: Up to 8 Mbps

FEC
For full list please refer to the latest iDirect Link Budget Analysis Guide

Eb/No
For full list please refer to the latest iDirect Link Budget Analysis Guide

INTERFACES

Satcom Interfaces
- TxIF: Type-F, 950–1700MHz, Composite Power +7dBm / -35dBm
- RxIF: Type-F, 950–2150MHz, Composite Power -5dBm / -65dBm

Available BUC Power (IFL)
+24V, 85W max. supporting BUCs up to 5W (120W PSU)

Available LNB Power (IFL)
+19.0V (Nominal) / +14V (Nominal), 300mA (DiSEqC) 22KHz DiSEqC tone

10 MHz Reference
Software controllable on Tx and Rx IF ports

Data Interfaces
- LAN: 10/100 Ethernet, 802.1q VLAN
- RS-232: RJ45 (Console connection)

Protocols Supported
- TCP, UDP, ACL, ICMP, IGMP, RIP Ver2, BGP***, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, cRTP and GRE

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, Authentication, AES-256 encryption**

MECHANICAL/ENVIRONMENTAL

Size
W 11.5 in (29.2 cm) x D 9.9 in (D25.1 cm) x H 2 in (5.1cm)

Operating Temperature
0° to +45°C (32° to +113°F) at Sea Level with temperature gradient of 5°C per 10mins

Humidity Max
90% non-condensing humidity

Input Voltage
100–240 VAC Single Phase, 50–60 Hz, 2A max at 90 VAC, 1A max at 240 VAC

Radio Standards
EN 301-428 v1.3.1 — Ku-Band System Level Specification
EN 301-443 v1.3.1 — C-Band System Level Specification

Safety Standards
Complies with IEC 60950, EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1-03

Emission Standard
Complies with EN 55022 Class B, FCC Part 15 Class B, CISPR 22 Class B, EN 61000-3-2, EN 61000-3-3

EMC/Immunity Standard
Complies with EN 55024, EN 301-489-1, EN 301-489-12, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

Certification
FCC, CE, and RoHS Compliant

*The processing capability of an individual remote will be less than the stated maximum carrier size
**Subject to options
*** Future release