Evolution X3 Satellite Router

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

Evolution X3 features a highly efficient implementation of the DVB-S2 standard. With Adaptive Coding and Modulation (ACM) on the outbound carrier and iDirect’s patented, deterministic TDMA or SCPC 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 software licensing features can 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

<table>
<thead>
<tr>
<th>Modulation</th>
<th>Downstream DVB-S2</th>
<th>Upstream TDMA</th>
<th>Upstream SCPC Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>QPSK, 8PSK, 16APSK</td>
<td>BPSK, QPSK, 8PSK</td>
<td>BPSK, QPSK, 8PSK</td>
<td></td>
</tr>
<tr>
<td>LDPC, 1/4 - 8/9</td>
<td>TPC, 0.431 - 0.793**; 2D 16-State, 1/2 - 6/7</td>
<td>2D 16-State, 1/3 - 6/7</td>
<td></td>
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</tbody>
</table>

| Max. Symbol Rate | 45 Msps | 7.5 Msps | 15 Msps |
| Max. Info Rate   | 150 Mbps\(^1\) | 12.8 Mbps | 24 Mbps |
| Max. Line Card IP Data Rate | 149 Mbps\(^1\) | 11.1 Mbps\(^2\) | 18.2 Mbps\(^3\) |
| Max. Remote IP Data Rate | 29 Mbps\(^1\) | 7.8 Mbps\(^2\) | 11.8 Mbps\(^3\) |

\(^{1}\)16APSK 8/9 FEC \(^{2}\)QPSK 6/7 FEC \(^{3}\)QPSK 4/5 FEC

Maximum downstream and upstream data rates cannot be achieved simultaneously

Maximum rates are achieved with optimal configurations

INTERFACES

Satcom Interfaces
- TxIF: Type-F, 950–1700MHz, +7dBm / -35dBm
- RxIF: Type-F, 950–2150MHz, -5dBm (max) composite/ -125+10*log(Fsym)dBm (min) single carrier
- Software controllable 10 MHz reference on TX Out and RX In ports

BUC IFL Interface
- +24V, 3A (max)

LNB IFL Interface
- 14-19 VDC, 500mA (max)
- DiSEqC (Voltage 14V/19V + 22kHz tone)

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

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

Security
- AES Link Encryption (256-bit) (optional)

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, Antenna Control Interface (OpenAMIP)

MECHANICAL/ENVIRONMENTAL

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

Weight
- 4.3 lbs (1.95 Kg)

Operating Temperature
- 0˚ to +50˚C (32˚ to +122˚F) with up to 96W max power consumption
- 0˚ to +40˚C (32˚ to +104˚F) with up to 120W max power consumption

Humidity Max
- 90% non-condensing humidity

Certification
- FCC, CE, TUV, and RoHS Compliant

Input Voltage
- 100–240 VAC Single Phase, 47 - 63 Hz, 1.6 A (max)

Router Input Power
- 24VDC, 5A (max) up to 40˚C, 4A (max) 40 to 50˚C

Authentication
- *Available with IDX 3.0 or above

Security
- **Not supported for use with DVB-S2 outbound in IDX 3.0 or above