

## Product Brochure

# SkyEdge II-c Capricorn-4 S2X

## Ultra-High-Performance VSAT

### Enabling High-Speed Broadband Services

SkyEdge II-c Capricorn-4 S2X is an ultra-high-performance VSAT designed to enable corporate services, 3G/LTE cellular backhauling and mobility services. For mobility, Capricorn-4 S2X delivers acceleration and packet-per-second performances that support hundreds of users per VSAT. For 3G and LTE cellular backhauling, Capricorn-4 S2X includes Gilat's patent-pending cellular data acceleration technology that enables full LTE speeds of up to 150Mbps for cellular handheld devices. To reach these high return speeds, Capricorn-4 S2X supports both TDMA and SCPC transmission.

### Flexibility x 4

The four-port Gb Ethernet LAN eliminates the need for an external switch. Each port can be individually managed, including assigning VLANs, monitoring, and configuring Ethernet link parameters.

### Complete Feature Set

Capricorn-4 is a full-featured IP router, with advanced application-based QoS, VLANs, and next-generation IPv6 networking.

To ensure fast running of applications, web browsing and a high-quality user experience, Capricorn-4 contains a full set of protocol optimization and application acceleration features, including TCP, HTTP and GTP protocol acceleration, compression and embedded web caching technologies.

Capricorn-4 provides the highest level of transmission security, supporting X.509 terminal authentication and AES-256 bit link layer encryption with dynamic key rotation to protect all user traffic.

### Advanced VSAT Platform for Corporate and Enterprises

Based on the latest generation, multi-core ARM technology, Capricorn-4 enables high-speed services up to 200Mbps in the forward direction and 100Mbps in the return direction. The ultra-high speed exhibited by this VSAT platform, combined with built-in TCP and HTTP acceleration technologies, is ideal for vertical markets that demand high bandwidth and high packets-per-second performances such as Cellular Backhaul, Mobility services, ISP PoP Locations, Oil & Gas, Video Contribution and Corporate Networking.

### Benefits

- Up to 200Mbps service for 3G/LTE cellular backhauling and mobility services
- Integrated, managed 4-port GbE LAN switch
- Built-in data acceleration for 3G and LTE cellular data services
- On-demand inbound switchover between TDMA and high-speed SCPC carrier
- Fast web browsing with web acceleration and compression
- Forward and return channel adaptive transmission technologies
- Central monitoring and service management
- C, Ku and Ka band support



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## Enhanced Central Service Management Interface for VNOs

The Capricorn-4 VSAT is part of a complete VSAT ground system that includes an advanced Network Management System (NMS) and facilitates service management available to VNOs via an electronic B2B interface.

SkyEdge II-c Service Management enables VNOs to manage their services totally independent of the satellite network operator, providing a complete management suite. This includes real-time viewing of the service status, events, alarms and statistics, as well as historic/trend analysis of the service over longer periods.

This system also provides VNOs with an automated and easy-to-use interface for simple creation, activation and management of end-to-end services with a high level of flexibility.

## Technical Specifications

### Forward Channel

**Standard:**

DVB-S2X Adaptive Coding and Modulation (ACM)

**Carrier Rate:**

1.5Msps-500Msps

**Roll-Off:** 0.05, 0.1, 0.2

**Modulation:**

QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 256APSK

**Coding:** LDPC, BCH

**FEC:**

All DVB-S2X FECs

### Return Channel (TDMA)

**Access Scheme:**

MF-TDMA, Dynamic Channels

**Inbound Rates:**

Symbol rate - 128Ksps-30Msps

**Modulation:**

BPSK, QPSK, 16QAM

**Coding:** LDPC

**FEC:** 1/4, 1/3, 2/5, 1/2, 2/3, 3/4, 5/6, 8/9

**Spread Spectrum FEC:**

Spreading Factor: 2,4,6,8,12

BPSK: 1/4, 1/3, 2/5, 1/2

### Return Channel (SCPC)

**Standard:**

DVB-S2 Adaptive Coding and Modulation (ACM)

**Carrier Rate:** 1.5Msps - 40Msps

**Modulation:**

QPSK, 8PSK, 16APSK

**Coding:** LDPC

**FEC:**

1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

### Modem Interfaces

**RF Input / Output:**

- Two female F connectors, 75 Ω
- RF in frequency - 950-2150MHz
- RF out frequency - 950-2400MHz
- DISEqC

**Data Interfaces:**

- 4 x Ethernet 10/100/1000BaseT
- RJ-45, 802.1q VLAN
- 1 x Serial Interface RJ-45

**Management Interface:**

- Web-based local management
- Full FCAPS management
- Remote software upgrades over the air
- SNMP

## Superior VSAT Technology

Designed to support the latest standard and high throughput satellites, Capricorn-4's advanced adaptive transmission technologies maximize performance and improve service availability. Capricorn-4 is based on Gilat's VSAT technologies, which power over a million terminals worldwide.

## Maximum Spectral Efficiency

Gilat's innovative transmission technologies deliver exceptional performance and space segment efficiencies. Adaptive transmission in the return direction, enables high on-the-move service availability and maximum bandwidth efficiency at any condition - at beam peak, beam edge, at fade and at different traffic demands. This is achieved by adaptive power control and changes to the carrier symbol rate and ModCod per VSAT on a per time-slot basis.

### Enhanced Features

**IP Features:**

IPv4/IPv6, TCP, UDP, ICMP, DHCP, NAT/PAT, DNS Caching, cRTP, IGMPv2, SIP, DiffServ, VLANs, RIPv2, Static Routes

**QoS:**

Per VSAT and per Managed Group, CIR, MIR, CBR, DiffServ and priority-based queuing, application-based priority

**Security:**

- AES-256 bit link encryption
- IPSEC Client
- ACL Firewall
- x.509 Terminal Authentication

**Application Acceleration and Protocol Optimization**

- TCP acceleration
- HTTP web pre-fetch
- acceleration and compression
- GTP cellular data acceleration

**Mobility - Antenna Interface:**

- Gilat ICD (Serial)
- OpenAMIP (IP)

### Environmental and Mechanical

**Dimensions:**

201 x 176.5 x 36mm (WxDxH)

**Weight:** 0.35 Kg

**Operating Voltage:**

- 100V-240V AC Auto Range
- 11V - 60V DC Auto Range

**Power Consumption:** 15W

**Operating Temperature:**

0°C to +50°C

**Certifications:** CE, FCC, EMC

### Outdoor Unit (ODU)

**Frequency Bands:** C, Ku, Ka

**Transmit Power:**

Via IDU 24V or 48V DC insertion^

**Antenna Size:** 0.76m and higher

**Operating Temperature:**

-40°C to +60°C