# SPACEBRIDGE
## ALL THINGS CONNECTED

**The SBM-90X is a high throughput SCPC modem suitable for GEO/LEO/MEO Satellites**

## Overview

The SBM-90x is SpaceBridge's Advanced Ethernet L2 Trunking Modem offerings wide band symbol rates (up to 125Msys). The SBM-90x was designed to provide minimal implementation loss to provide near theoretical performance DVB-S2X (EN 302 307-2) across the full range of available high efficiency MODCOD selections. The SBM-90x supports HTS, GEO and MEO mode operation with hitless antenna handover, doppler compensation and satellite handover.

The SBM-90x satisfies low to high bandwidth trunks with ACM enabled S2X carriers to support the following services:

## Applications and Uses

- Satisfies low to high bandwidth trunks with ACM enabled S2X carriers
- Ideal for broadband Internet trunks
- Community Internet Access Distribution
- 3G/4G/LTE/5G aggregation cellular backhaul
- Mission-critical backup or disaster recovery inks
- Surveillance, government, defense and military
- GEO/MEO/LEO applications

## Features

- Up to 1.47 Gbps aggregate throughput (Symmetric 723Mbs)
- Ethernet Jumbo frame support
- Over 1 million packets per second symmetric (2M pps total)
- Software Defined Network support
- Indoor 19" rack-mountable
- LCD Active Front panel for easy configuration
- Layer-2 transparent support
- Quality of Service (QoS)

# Specifications

## Unit Characteristics

| Form Factor | 19" Rack mountable |
|---|---|
| Installation | • Indoor<br>• Matching variety of outdoor / RF options: C-band, X-band, Ku-band and Ka-band. |
| Typical Applications | • Telecomm: Trunking , community Internet distribution, 3G/4G/LTE/5G cellular backhaul<br>• Professional: Mobile applications, video contribution<br>• Surveillance, government, defense and military<br>• Point-to-point or Point to Multipoint |

## Forward Link / RX

| Technology | DVB-S2X (EN 302 307-2) compliant link. |
|---|---|
| Channel Rate | 500 ksps to 125 Msps (250 Msps and 500 Msps – Optional), Data rate to 723Mbps. |
| Waveform | DVB-S2X ACM, BPSK up to 256APSK LDPC/BCH |
| Channel Spacing | 5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor) |
| Encapsulation | GSE Encapsulation |
| Link variation mitigation | Terminal built-in Uplink Power Control (ULPC) with ACM supporting Ka, Ku and C-band |
| Terminal IFL Input | 50 Ohm N type- 950 – 2150MHz satellite / band independent |

## Environmental and Mechanical

| Dimensions | 435 x 45 (1RU) x 292 mm (W x H x D) |
|---|---|
| Weight | ~5Kg |
| Power Consumption | 48W |
| Power Output | 100W |

## Return Link / TX

| Technology | DVB-S2X (EN 302 307-2) compliant link |
|---|---|
| Channel Rate | 500 ksps to 125 Msps (250 Msps and 500 Msps – Optional), Data rate to 723Mbps. |
| Waveform | DVB-S2X ACM, BPSK up to 256APSK LDPC/BCH |
| Channel Spacing | 5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor) |
| Encapsulation | GSE Encapsulation |
| Link variation mitigation | Terminal built-in Uplink Power Control (ULPC) with ACM supporting Ka, Ku and C-band |
| Terminal IFL Output | 50 Ohm N type- 950 – 2150MHz satellite / band independent |

## L2 Services and QoS

| Interfaces | 2 x 1GbT user data Eth RJ-45 ports, 1x out-of-band modem management Eth port |
|---|---|
| Download Speed | Up to 723 Mbps |
| Upload Speed | Up to 723 Mbps |
| Connectivity | • Layer-2 transparent between two end-points.<br>• Support L2/L3/MPLS protocols transparently across satellite . |
| QoS | • Support for 802.11pq with feedback into Forward and Return Link ACM |
| Packet Handling | 2,000,000 pps (1,000,000 pps in each direction) |