

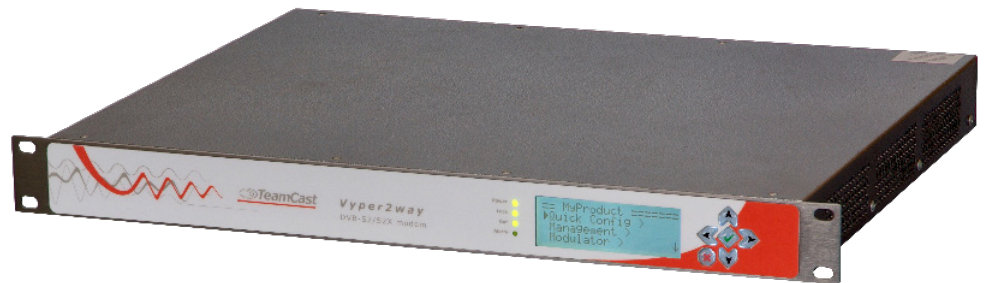
Vyper2Way

DVB-S2/S2X Satellite Modem

DVB-S2® **DVB-S2X**® **DVB-CID**®

High bitrate satellite Modem for point to point links like:

- Internet/Intranet Access,
- LAN/WAN Connectivity,
- Private Networking,
- Backup Services,
- SNG applications,
- Cellular backhaul



Description

Vyper2Way is the TeamCast Satellite modem dedicated to Point to Point applications: Cellular backhauling, IP trunking or SNG markets. This is the first modem on the market supporting the VL-SNR modes in order to deal with harsh environments. The product offers a full flexibility as it can act as a modem, a modulator or a demodulator.

Depending on the application complexity, the modem can offer up to 256 IP/Ethernet internal routes based on L2 Bridge or L3 Router modes. Moreover, the modem has the particularity to manage MPEG-TS from ASI input and IP traffic from Ethernet input on the same carrier. It offers a compact and efficient solution for SNG market players.

Vyper2Way can also come with a 1+1 redundancy system to have a reliable solution.

The modem can be easily controlled & monitored via Front Panel, SNMP and a user-friendly HTML5 Embedded Web client.

Efficiency

Vyper2Way integrates the core technology (FPGA based) required to perform the DVB-S2 and DVB-S2X modulation from BPSK to 256APSK constellations. With DVB-S2X, the TeamCast modem is able to boost spectral efficiency by 25-30% compared with DVB-S2 equipment. DVB-S2X also adds superior resilience to jamming, interference, phase-noise and weather fluctuations thanks to dedicated MODCOD added to an Adaptive Coding and Modulation (ACM) management. The maximum possible throughput can be achieved at all times. Lastly, the GSE encapsulation is used to minimize the overhead in the encapsulation process.

Thanks to the TeamCast expertise, the modem has high quality L-Band Input & Output. It can deal with a baudrate range from 0.05 to 72Mbaud in the forward & return channel to offer a 200Mbit/s full duplex system. The roll off factor can be chosen from 5 to 35% with 1% steps. The L-Band output is characterized by a high SNR, excellent shoulder levels and a low phase noise. For additional savings in operational costs, the Vyper2Way offers the Transponder Precorrection system to remove Satellite imperfections. On the reception part, the product offers high performances in term of implementation loss and a complete set of probes.

Depending on the application, the modem can be associated with a WAN optimization solution to offer TCP acceleration, data compression and data redundancy elimination.

Key features :

- DVB-S2 - ETSI EN 302 307-1
- DVB-S2X - ETSI EN 302 307-2
- Carrier ID - ETSI TS 103 129
- Symbol Rate from 0.05 to 72 Msps
- Data rate up to 200 Mbit/s
- Mix of MPEG-TS & IP/Ethernet contents
- VL-SNR modes
- Layer 2 Bridge or Layer 3 Router modes
- Predistortion for linear & non-linear satellite imperfections
- Bandwidth optimisation with ACM controller
- Generic Stream Encapsulation (GSE)
- 1+1 redundancy solution

DVB-S2 & DVB-S2X SCPC Modem



■ Standards

- o DVB-S2: EN 302 307 part I
- o DVB-S2X: EN 302 307 part II
- o Carrier ID: ETSI 103 129
- o Generic Stream Encapsulation (GSE): ETSI TS 102 606

■ RF Interfaces

- o Modulator Interface :
 - L-Band output, N connector 50 Ω
 - 950 MHz to 2150 MHz, 1 Hz steps
 - Power level: -35dBm to +7dBm, 0.1 dB steps
 - Shoulders rejection
 - < -50dB @ 0dBm & $f/fN=1.5$ for roll off 20%
 - Spurious:
 - < -65 dBc @ 0 dBm for 950 to 2150 MHz
 - -60 dBc outside the useful band
 - Noise Power Spectral Density: < -120 dBm/Hz
- o Demodulator Interface:
 - L-Band input, F connector 75 Ω
 - 950 MHz to 2150 MHz, 1 Hz steps
 - Search range +/- 5MHz
 - Power level: -65dBm to -25dBm
 - Performances monitoring:
 - RF Level, C/N, C/N Margin
 - BER before/after FEC
 - LNB power supply : 13/18VDC, 0.5A
 - LNB OL selection : 22KHz ON/OFF

■ Enhanced Satellite Precorrection (E.S.P)

- o Auto adaptive Linear / Non Linear precorrection

■ ASI Interfaces

- o ASI input
 - BNC connector, 75 Ω
 - 188 or 204 bytes mode
- o ASI output
 - BNC connector, 75 Ω

■ Ethernet Interfaces

- o 2 Ethernet interfaces dedicated to Control
- o 2 Ethernet interfaces dedicated to Data
- o Auto negotiation 10/100/1000 Base-T
- o VLAN Support

■ Clock & Synchronization

- o Internal 10 MHz Reference Frequency
 - High stability: $\pm 5.10^{-9}$ over 0 to 70° C
 - Ageing: $\pm 5.10^{-10}$ /day and $\pm 7.5.10^{-8}$ /year
- o External 10 MHz input for external clock synchronization

■ Data Process

- o Network model:
 - Layer 2 Bridge,
 - Layer 3 Router
- o Advanced filtering:
 - Ethernet header fields,
 - IPv4 header fields
- o Advanced routing:
 - up to 256 ingress routes
 - up to 20 egress routes
- o Internal PRBS sequence generator & analyser

■ Modulation & Demodulation

- o Channel bitrate up to 200Mbit/s
- o Symbol rate: 0.05 to 72 Mbaud (1 Baud steps)
- o Roll-off factor from 5 to 35 % (1% steps)
- o DVB-S2 & DVB-S2X:
 - Outer encoding: BCH
 - Inner encoding: LDPC (all code rates of the standards)
 - BPSK, QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK
 - PL Scrambling codes
 - Operating modes: CCM, VCM & ACM
 - Frame length: Short & Normal frames
 - Pilots insertion
- o DVB-CID following the standard ETSI TS 103 129
- o

■ WAN Optimization

- o Standalone 1U rack unit
- o 10,000 enhanced TCP sessions
- o Data compression
- o Data redundancy elimination

■ Control & Monitoring

- o SNMP v2c
- o HTML5 Embedded Web client
- o Front panel keyboard & display

■ Redundancy

- o 1+1 redundancy Ethernet ports (x2) for Control
- o 1+1 redundancy Ethernet ports (x2) for Data
- o 1+1 redundancy RF signal with Alarm relays:
 - connector 9-pin sub-D (F)
 - Dry contact management

■ Physical

- o Power supply: 90 to 240 VAC - 30W
- o Dimensions: 450 x 350 x 44 (LxIxH)
- o Weight: 4 kg - Temperature: 0°C to 50°C

Ordering Information

Default hardware configuration

XSSR-V2W0-2000	Vyper2way: S2/S2X Satellite Modem - L Band, QPSK/8PSK, 15 Mbaud, ACM - 1U Rack
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Software options

XSSO-V2W0-16AM	16APSK constellations	XSSO-V2W0-36MB	Symbol Rate < 36 Mbauds
XSSO-V2W0-32AM	16/32APSK constellations	XSSO-V2W0-72MB	Symbol Rate < 72 Mbauds
XSSO-V2W0-64AM	16/32/64APSK constellations	XSSO-V2W0-ESPO	Enhanced Satellite Precorrection - Linear & Non-linear
XSSO-V2W0-128AM	16/32/64/128APSK constellations	XSSO-V2W0-LSNR	Very Low-SNR ModCodes
XSSO-V2W0-256AM	16/32/64/128/256APSK constellations		

¹Specifications are not contractual and are subject to revision without notice.

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