

TeamCast Vyper2Way

Satellite Modem



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TeamCast 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.

Hybrid Input Management

The TeamCast Vyper2Way modem is able 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.

Efficiency

Depending on the application complexity, the modem is able to manage IP/Ethernet internal routes based on L2 Bridge or L3 Router modes over a GSE encapsulation. This process can be linked to an ACM multi queueing. Moreover, TeamCast Vyper2Way can be used with the Echo Canceller option to establish full-duplex links on a single frequency.

Full implementation of the DVB-S2 & DVB-S2X standards

TeamCast Vyper2Way integrates the latest FPGA technology required to perform high quality modulation based on the DVB-S2 and DVB-S2X standards. It offers VCM/ACM multiqueueing, low roll off and VL-SNR modes.

Crystal Spectrum

TeamCast Vyper2Way covers for its RF input & output the full L-Band spectrum range (950/2150 MHz) with a Symbol Rate from 0.05 to 72 MBaud and roll off factor from 5 to 35% (1% steps). This RF output constitutes a best in class performance, providing a high SNR value, excellent shoulder levels and lowest phase noise.

Applications

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

Benefits

- DVB-S2 - ETSI EN 302 307-1
- DVB-S2X - ETSI EN 302 307-2
- Symbol Rate from 0.05 to 72 Msps
- Data rate up to 230 Mbit/s
- Mix of MPEG-TS & IP/Ethernet contents
- Echo Canceller
- VL-SNR modes
- Layer 2 Bridge or Layer 3 Router modes
- Generic Stream Encapsulation (GSE)

INPUT

Ethernet ports

- 2 * 1GEth ports - RJ45

ASI interfaces

- 2 ASI Inputs - BNC - 75 Ω
- 1 ASI Output - BNC - 75 Ω

RF Input

- 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

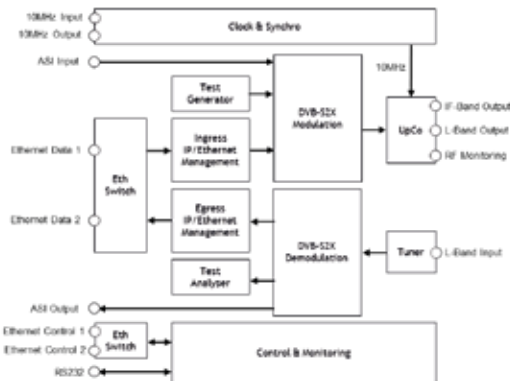
OUTPUT

ASI interfaces

- 1 ASI Output - BNC - 75 Ω

RF output

- L-Band output, N connector 50 Ω
 - 950 MHz to 2150 MHz, 1 Hz steps
 - Power level: -35dBm to +7dBm, 0.1 dB steps
 - Switchable 10MHz insertion
- IF-Band output, BNC connector 75 Ω
 - 50 MHz to 180 MHz, 1 Hz steps
 - Power level: -35dBm to +5dBm, 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/



ORDERING CODES

TeamCast Vyper2Way Satellite Modem

- XSSR-V2W0-2000
- XSSR-V2W0-2001
- XSSO-V2W0-16AM
- XSSO-V2W0-32AM
- XSSO-V2W0-64AM
- XSSO-V2W0-128AM
- XSSO-V2W0-256AM
- XSSO-V2W0-36MB
- XSSO-V2W0-72MB
- XSSO-V2W0-LSNR
- XSSO-V2W0-VECO

- S2/S2X Satellite Modem - IF & L Band, QPSK/8PSK, 15 Mbaud, ACM - 1U Rack
- S2/S2X Satellite Modem - L Band, QPSK/8PSK, 15 Mbaud, ACM, Echo Canceller - 1U Rack
- 16APSK constellations
- 16/32APSK constellations
- 16/32/64APSK constellations
- 16/32/64/128APSK constellations
- 16/32/64/128/256APSK constellations
- Symbol Rate < 36 Mbauds
- Symbol Rate < 72 Mbauds
- Very Low-SNR ModCods
- Echo Cancellation (only applicable on hardware reference XSSR-V2W0-2001)

PHYSICAL

Dimensions	450 x 350 x 44 (LxHxH)
Weight	4 Kg
Operating temperature range	0 °C to 50 °C
Power supply	90 to 240 VAC - 30W

FEATURING

Data process

- Network model:
 - Layer 2 Bridge
 - Layer 3 Router

Advanced filtering:

- Ethernet header fields
- IPv4 header fields

Advanced routing

Internal PRBS sequence generator & analyser

Modulation & demodulation

Channel bitrate up to 230Mbit/s

Symbol rate: 0.05 to 72 Mbaud (1 Baud steps)

Roll-off factor from 5 to 35 % (1% steps)

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

DVB-CID following the standard ETSI TS 103 129

Echo Cancellation

Maximum Symbol Rate: 50 Mbaud

Delay Range: 0 to 300 ms

Power Ratio between interferer and desired: -10 to +10 dB

E_c/N₀ degradation:

- QPSK: 0.14 dB
- 8PSK: 0.37 dB
- 16APSK: 0.60 dB
- 32APSK: 1.09 dB
- 64APSK: 1.21 dB
- 128APSK: 1.77 dB
- 256APSK: 2.15 dB

Clock & Synchronization

Internal 10 MHz Reference Frequency

- High stability: ±5.10⁻⁹ over 0 to 70 °C
- Ageing: ±5.10⁻¹⁰/day and ±7.5.10⁻⁹/year

External 10 MHz input for external clock synchronization

Control & Monitoring

2 dedicated Ethernet ports for

- SNMP (V2C) over Ethernet
- HTTP over Ethernet (Embedded HTML5 web client)

Front panel keyboard & display

Redundancy

1+1/N+1 redundancy Ethernet ports (x2) for Control

1+1/N+1 redundancy Ethernet ports (x2) for Data

1+1 redundancy RF signal with Alarm relays

- connector 9-pin sub-D (F)
- Dry contact management