TeamCast Vyper is a state-of-the-art satellite modulator designed for applications over satellite in full compliance with the DVB-S, DVB-DSNG, DVB-S2 and DVB-S2X standards. One single hardware platform covers the full L-Band range (950/2150 MHz) and IF Band range (50/180 MHz) with a Symbol Rate from 0.05 to 80 Mbaud. It is also able to drive a Block Up Converter (BUC) thanks to its high stability 10 Mhz reference available on the L-Band RF output signal and a DC (24VDC or 48VDC) component (see ordering information).

**All-In-One platform**
One single hardware platform integrates both the full L-Band range (950/2150 MHz) and IF Band range (50/180 MHz) and flexible inputs with 4 Ethernets ports and 4 ASI inputs. It is also able to drive a Block Up Converter (BUC) thanks to its high stability 10Mhz reference available on the L-Band RF output.

**DVB-S, DVB-S2 & S2X modulation**
TeamCast Vyper integrates the latest FPGA technology required to perform high quality modulation based on the DVB-S, DVB-S2 and DVB-S2X standards with a roll off from 5% to 35% whatever the standards.

**Crystal Spectrum**
TeamCast Vyper covers the full L-Band spectrum range (950/2150 MHz) with a Symbol Rate from 0.05 to 80 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. Performances usefull for a best QoS.

**Broadcast flexibility**
TeamCast Vyper can be either as DTH and DSNG and Radio and as well as any kind of satellite broadcast transmissions. TeamCast Vyper is compliant for 99.9% of the broadcast use cases.

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**Applications**
- Satellite contribution
- DSNG applications
- Satellite distribution
- Direct To Home (DTH) applications

**Benefits**
- Top class of RF signal performances for a better QoS
- 2 IP ports & 4 ASI for data for flexible integrations
- Inputs redundancy between ASI & TSoIP
- 1+1 & N+1 management

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INPUT

2x Gigabit Ethernet control ports
2x Gigabit Ethernet data ports
- MPEG-TS (RTP/UDP - SMPTE-2022) over 2 dedicated RJ45 ports
- 4x ASI MPEG-2 TS inputs
- MPEG-TS (188/204 bytes) over ASI (x4) - BNC connectors, 75 Ω

10 MHz input

OUTPUT

1 MPEG-TS (188/204 bytes) over ASI (x1) - BNC connectors, 75 Ω

RF output (Main/Monitoring):
- L-Band output, connector N 50 Ω:
  - 950 MHz to 2150 MHz, 1 Hz steps
  - Power level: -35dBm to +7dBm, 0.1 dB steps
- IF Band, connector BNC 75 Ω:
  - 50 MHz to 180 MHz, 1 Hz steps
  - Power level: -35dBm to +5dBm, 0.1 dB steps

- Phase noise
  - IF Band
    - IF: p10kHz
    - L-Band: p100kHz
  - L-Band: p1kHz
  - IF: p10kHz
  - RF: p10kHz

SNR > 40 dB @ 0 dBm -16 APSK - 30 Mbaud

- 10 MHz input
- 10 MHz output

RS232 control
Dry contact I/O (GPIO) for
- 1+1 redundancy
- 2) 1+1 redundancy

PHYSICAL

Dimensions: (D x W x H) 350 x 483 x 44 mm
Weight: 4.9 Kg
Operating temperature range: 0°C to 50°C
Power supply: 90 to 240 VAC - 50 Hz

FEATURING

Standards
DVB-S: EN 300 421
DVB-S2/S2X: EN 302 307 part 1 & II / DVB-S2: EN 302 307 part I
Carrier ID: ETSI TS 101 129

- MPEG-TS: ISO/IEC 13818-1
- DVB MPEG-TS over ASI: EN50083-9, ETSI TR 101 891
- DVB MPEG-TS over IP: ETSI TR 102 034
- DVB-2 PS Tables (PAT and PMT): ETSI 100 468

Clock & Synchronization
- Internal 10 MHz Reference Frequency
- High stability: ±0.5° over 0 to 70°C
- Ageing: ±0.5°/1°/year and ±7.5°/1°/year

External 10 MHz input for external clock synchronization

Modulation
- Symbol rate: 0.05 to 80 Mbaud (1 Baud steps)
- Standard rolloff and custom rolloff from 5 to 35 % (1 steps)

DVB-S / DSNG
- Symbol rate: 0.05 to 80 Mbaud (1 Baud steps)
- Standard roll-off and custom roll-off from 5 to 35 % (1 steps)

DVB-S2 / DVB-S2X
- Symbol rate: 0.05 to 80 Mbaud (1 Baud steps)
- Standard roll-off and custom roll-off from 5 to 35 % (1 steps)

DVB-S2X standard - High efficency constellations - Up to 256 APSK

Enhanced Satellite Precorrection (E.S.P)
- Static Non Linear preccorection
- Static Linear precorection
- Note: Automated E.S.P possible with RX characterisation transponder

Control & Monitoring
- RS232 control port with SCPI protocol
- 2 dedicated Ethernet ports for
  - SNMP (V2C) over Ethernet
  - HTTP over Ethernet (Embedded web client)
- Front panel keyboard & display

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

ORDERING CODES

TeamCast Vyper

DVB-S/S2/S2X Modulator

Hardware
XXXR-YPP-1006
XXXR-YPP-1010
XXXR-YPP-1020

Software
XXXS-YPPS3300
XXXS-YPPS3310
XXXS-YPPS3320

Options
XXXS-YPPS3006
XXXS-YPPP-LSNR
XXXS-YPPS3310

DVB-S2X standard - Very High efficiency constellations - Up to 256 APSK
DVB-S2X - Very Low SNR Modes - BPSK/QPSK, Short/Normal/Medium
DVB-S2X - Very Low SNR Modes - BPSK/QPSK, Short/Normal/Medium

Enhanced Satellite Precorrection Linear & Non-linear

ORDERING CODES

TeamCast Vyper

DVB-S/S2/S2X Modulator

Hardware
XXXR-YPP-3001
XXXR-YPP-3010
XXXR-YPP-3020

Software
XXXS-YPPS3200
XXXS-YPPS3210
XXXS-YPPP-LSNR
XXXS-YPPS3220

Options
XXXS-YPPS3006
XXXS-YPPP-LSMR
XXXS-YPPS3010
XXXS-YPPS3020

DVB-S2X standard - High efficiency constellations - Up to 256 APSK
DVB-S2X - Very Low SNR Modes - BPSK/QPSK, Short/Normal/Medium

Enhanced Satellite Precorrection Linear & Non-linear

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