

The most integrated and cost effective DSNG & DVB-S/S2 modulator ready for:

- Satellite contribution
- DSNG applications
- Satellite distribution
- Direct To Home (DTH) applications
- LOS/NLOS digital data transmission
- Test systems

Satellite **Vyper**

DVB-S, DVB-DSNG & DVB-S2 Modulator



Key features :

- Output frequency range: L-Band or IF Band
- Full compliance with DVB-S, DVB-DSNG and DVB-S2 standards
- Either ASI inputs or MPEG over IP input (SMPTE-2022)
- Better bandwidth efficiency with the 68 Mbaud rate
- Variable symbol rate from 1 to 68 Mbauds with 1 baud increment
- Low roll-off (5/10/15%) to increase the useful bitrate
- High performances
- Internal PRBS generator for test
- Physical Layer Scrambling according to EN 302 307 standard
- Embedded Web Browser
- SNMP control & monitoring

Description

Vyper is a state-of-the-art DVB-S, DVB-DSNG and DVB-S2 modulator designed for applications over satellite in full compliance with the DVB-S, DVB-DSNG and DVB-S2 standards. Vyper modulator covers the full L-Band (950/2150 MHz) or IF Band (50/180 MHz) and offers a useful bit rate up to 160 Mbps. Depending on the applications, Vyper can be used in conjunction with professional IRDs and satellite demodulators such as the Syper S/S2 demodulator, or consumer set-top boxes.

Performance & Reliability

Vyper DVB-S2 modulator has been designed to deal with the requirements of the ETSI EN 302 307. It can operate in CCM (Constant Coding Modulation) as well as VCM¹ (Variable Coding Modulation) and ACM¹ (Adaptative Coding Modulation) modes. Several modes of inputs bit rate adaption are possible: PCR adaptation, Padding insertion, Null Packet Deletion & Padding Insertion and Dummy BBFrame insertion, providing the unique Vyper's flexible rate adaptation. Vyper offers a high baudrate (up to 68 Mbaud) to fully feed a 72 MHz transponder and to increase the OPEX of the satellite link. An internal PRBS generator can be used to generate a RF spectrum without any valid signal input. Vyper offers, without option, the possibility to receive the incoming MPEG-TS stream either over ASI or Ethernet inputs.

Vyper integrates the complete technology core required to perform high quality modulation based on the TEAMCAST high level knowledge. It provides designers with a best of class performance, providing a high SNR value, excellent shoulder levels and lowest phase noise. Designers can easily control this equipment using the friendly embedded Web Browser.

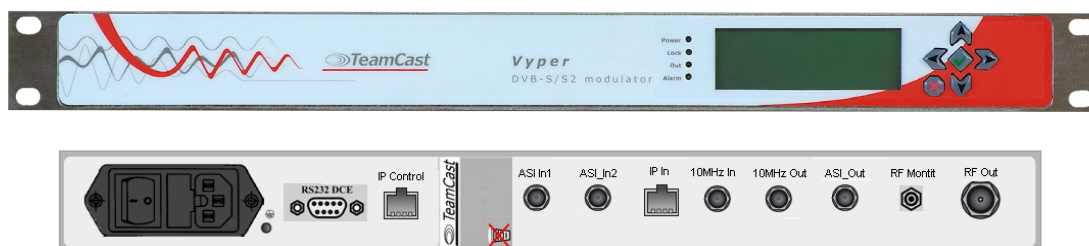
Vyper's GUI allows choosing the standard to be used: DVB-S, DVB-DSNG or DVB-S2, the modulation configuration, the signal input management, the control of the mute/unmute conditions for the RF output signal, etc. The GUI also offers the monitoring of the input stream (input format, useful bit rate...).

¹system consideration, so extra devices are required.

Vyper

DVB-S, DVB-DSNG & DVB-S2 Modulator

Front and rear panels



Specifications²

■ Standards

- o DVB-S2: EN 302 307
- o DVB-S: EN 300 421
- o DSNG: EN 301 210
- o DVB-ASI: EN50083-9, ETSI TR 101 891
- o MPEG-TS: ISO/IEC 13818-1

■ Inputs

- o 2 x ASI - BNC connectors, 75 Ω
 - MPEG-TS (188/204 bytes)
- o 1 x MPEG over IP - RJ45
 - SPTS over IP (RTP/UDP) follow SMPTE-2022
- o Flexible bit rate adaptation
 - PCR adaptation/NPD/Padding/Dummy frame

■ RF Outputs

- o L-Band: from 950 MHz to 2150 MHz, step 1 Hz
- o IF-Band: from 50 MHz to 180 MHz, step 1 Hz
- o SNR > 34 dB @ 0 dBm -16 APSK - 45 Mbaud
- o Spurious: < -65 dBc @ 0 dBm for the whole useful frequency range, -60 dBc outside
- o Main RF output
 - N connector, 50 Ω , 0 dBm to -20 dBm, step 0.1 dB
- o Monitoring RF output
 - SMA connector, 50 Ω , -20 dBm to -40 dBm, step 0.1 dB

■ Clock & Synchronization

- o High performance internal oscillator
- o 10 MHz for RF synchronization

■ Modulation

- o DVB-S:
 - Outer/Inner FEC: Reed Solomon/Viterbi
 - QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
 - Roll-off value: 0.35

o DSNG:

- Outer/Inner FEC: Reed Solomon/Viterbi
- QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
- 8PSK: 2/3, 5/6, 8/9
- 16QAM: 3/4, 7/8
- Roll-off value: 0.35

o DVB-S2:

- Outer/Inner FEC: BCH/LDPC
- QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
- 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10
- PL Scrambling codes [0, 264143]
- Supported DVB modes:
 - CCM: Constant Coding and Modulation,
 - VCM: Variable Coding and Modulation,
 - ACM: Adaptive Coding and Modulation
- DVB-S2 Short frames: 16 200
- DVB-S2 Normal frames: 64 800
- Roll-off values: 0.05, 0.10, 0.15, 0.20, 0.25, 0.35
- Pilots ON or OFF
- Variable symbol rate up to 68 Mbaud, step 1 Baud

■ Control & Monitoring

- o 1 x 10/100/1000 base-T Ethernet port
- o RS232 control port with ASCII protocol
- o SNMP and Web Browser Control & Monitoring
- o Keyboard and display on the front panel

■ Physical

- o Power supply: 90 to 240 VAC - 50 Hz
- o Dimensions: 450 x 350 x 44 (LxHxH)
- o Weight: 3 kg
- o Temperature: 0 °C to 50 °C

Order Information

XSSR-DTM2-1501

DVB-S/DSNG/S2 Modulator - 950 MHz to 2150 MHz RF output - 1U Rack

XSSR-DTM2-1571

DVB-S/DSNG/S2 Modulator - 50 MHz to 180 MHz RF output - 1U Rack

²Specifications are not contractual and are subject to revision without notice.