

## Syper

The most integrated and cost effective DVB-S/S2 demodulator ready for:

- Satellite distributions
- Satellite contributions
- DSNG applications
- LOS/NLOS digital data transmission
- Test systems

### Key features :

- Input frequency range: 950 MHz to 2150 MHz
- Full compliance with DVB-S and DVB-S2 technology
- CCM, VCM and ACM support
- DVB-S2 Multi-stream compliant, with up to 4 MPTS over 4 + 1 independent ASI or Ethernet outputs
- MPEG-TS over IP output
- Up to 170 Mbps useful bit rate
- Physical Layer Scrambling according to EN 302 307 standard
- Up to two DVB-CI slots for transport stream descrambling
- Embedded Web Browser
- SNMP control & monitoring

Satellite

# Syper

## DVB-S/S2 Demodulator



### Description

Syper is the latest generation of satellite demodulator fully compliant with the DVB-S and DVB-S2 standard. Syper S/S2 demodulator is a high performance demodulator for advanced DVB satellite reception. Syper supports DVB-S as well as DVB-S2 in QPSK, 8PSK, 16APSK and 32APSK, up to 170 Mbps.

Syper can be used either with LNB satellite blocks or with L-band receivers. In both cases, Syper can be configured and driven by the user with the embedded Web Browser.

Syper is the first DVB-S2 demodulator able to deliver up to 4 simultaneous Input Stream Identifier (ISI), corresponding to up to 4 MPTS contents (Multiple Program Transport Streams) over 5 ASI output ports configured as 4 + 1 redundancy output ports, a very useful feature for the DTT distribution by satellite link. Thanks to the RF\_Out output (copy of RF\_In), it is possible to cascade two demodulators to increase the number of ASI. It is particularly useful when there are more than 4 ISIs in the received multi-stream signal.

Thanks to its user-friendly Web Browser, it is possible to map any MPTS stream (identified by an ISI) to any ASI output port. These MPTS, like SPTS (Single Program Transport Streams), are also available on the Ethernet data output port which delivers the MPEG-TS over IP / UDP or RTP port. Depending on the model (see order information), two independent DVB-CI slots (EN-50221) allow a content descrambling. The DVB-CI capacity goes up to 24 PID per DVB-CI slot. These DVB-CI slots can be used either in parallel to descramble two different contents or in serial to double the PID descrambling capacity.

### Performance & Reliability

All the modulation modes of EN 302 307 can be demodulated by Syper. In the most robust MODCOD, the C/N can go below 0 dB and Syper will synchronise and demodulate correctly the input signal with an automatic MODCOD detection. Syper offers a very high input sensitivity.

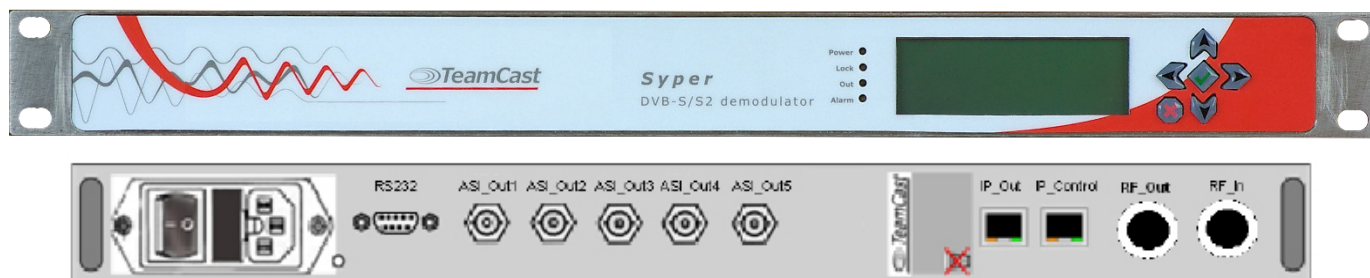
Full error monitoring facilities and signal statistics (C/N, FER, PER) are provided via a simple interface on the Ethernet port (Embedded Web Server and/or SNMP).

Syper offers a dedicated monitoring per content where the MODCOD (constellation, code rate, pilot, frame length and C/N margin) can be different in the case of a VCM modulation.

# Syper

## DVB-S/S2 Demodulator

### Front and rear panels



### Specifications<sup>1</sup>

#### Standards

- o DVB-S2: EN 302 307
- o DVB-S: EN 300 421
- o DVB-ASI: EN 50083-9, ETSI TR 101 891
- o MPEG-TS: ISO/IEC 13818-1
- o DVB-CI: EN50221

#### RF inputs

- o 1 Connector F - 75  $\Omega$
- o L-Band: From 950 MHz to 2150 MHz
- o LNB Control (off, + 13/18 Vdc, 22 KHz)
- o -25 dBm to -65 dBm (sensitivity -100 dBm @ QPSK-1/4)

#### CAM module slot (ref XSSR-DTM2-1911)

- o Max TS input bitrate: 80 Mbps
- o Interface: double PCMCIA DVB-CI Common interface
- o CAS support: Mediaguard, Viaccess, Irdeto, Conax, BISS, with Professional multiprogram CAM (up to 16 or 24 Elementary Streams descrambling)
- o Betacrypt, Cryptoworks, Nagravision with standard consumer CAM (up to 4 services descrambling)

#### Outputs

- o DVB-S2 Single & Multi-Stream management
- o Packet length 188/204 auto-detection
- o 4 x MPTS over (4+1) x ASI & 1 x IP for the XSSR-DTM2-1901
- o 3 x MPTS over (2+1) x ASI & 1 x IP for the XSSR-DTM2-1911
  - ASI : - connector BNC - 75  $\Omega$
  - MPEG-TS over ASI, up to 170 Mbps
  - IP : - connector RJ 45
  - MPEG-TS over IP, RTP/UDP, 1000 base-T, up to 170Mbps
- o 1 x RF\_Out - connector SMA - 75  $\Omega$

#### 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 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, 262141]
  - Supported DVB modes:
    - CCM: Constant Coding and Modulation,
    - VCM: Variable Coding and Modulation,
    - ACM: Adaptive Coding and Modulation
  - Short and long frame
  - Roll-off values: 0.20, 0.25, 0.35
  - Pilots ON or OFF
  - Variable Symbol rate (Mbauds) 1 to 65 Mbauds

#### Control & Monitoring

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

#### Physical

- o Power supply: Rack 90 to 240 VAC - 50 Hz
- o Dimensions: Rack 450x350x44
- o Weight: Rack 3 kg
- o Temperature: 0 °C to 50 °C

### Order Information

|                |  |
|----------------|--|
| XSSR-DTM2-1901 | DVB-S/S2 demodulator - 950 MHz to 2150 MHz RF Input - 1U Rack                    |
| XSSR-DTM2-1911 | DVB-S/S2 demodulator - 950 MHz to 2150 MHz RF Input - 1U Rack - 2 x DVB-CI slots |

<sup>1</sup> Specifications are not contractual and are subject to revision without notice.

Specifications subject to change  
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