Temix MOD-SS2-L-30-C 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) from 0.05 to 72 Mbaud.

**Features:**

- **DVB-S/DSNG/S2/S2X standards**
- **L-Band and IF Band outputs**
- **Symbol rate from 0.05 to 72 Mbauds (1 baud steps)**
- **Roll-off:** (5 to 35%, 1% steps) for DVB-S/DSNG/S2/S2X
- **ASI/IP inputs**

**Standards**

- DVB-S: EN 300 421
- DVB-DSNG: EN 301 210
- DVB-S2: EN 302 307 part I
- DVB-S2X: EN 302 307 part II
- Carrier ID: ETSI 103 129
- MPEG-TS: ISO/IEC 13818-1
- DVB MPE-G-TS over ASI: ENS0083-9, ETSI TR 101 891
- DVB MPE-G-TS over IP: ETSI TR 102 034
- MPEG-2 PSI Tables (PAT and PMT): EN 300 468

**Inputs**

- MPEG-TS (188/204 bytes) over ASI (x2) - BNC connectors, 75 Ω
- MPEG-TS (RTP/UDP - SMPTE-2022) over 2 Ethernet ports RJ45
- Multistream up to 4 ISI selected between:
  - 2 MPTS over ASI,
  - 4 MPTS over Ethernet.
- Flexible bitrate adaptation:
  - PCR adaptation,
  - Padding insertion,
  - Dummy PL frames.
- BISS Encryption (single/multiple programs): mode 0, 1, E

**RF Outputs**

- 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
- SNR > 40 dB @ 0 dBm - 16 APSK - 30 Mbaud
- Shoulders rejection < -50dB @ 0dBm & f/fN=1.5 for roll off 20%

**Spurious:**

- < -65 dBc @ 0 dBm for 50 to 180 or 950 to 2150 MHz
- -60 dBc outside the useful band
- Switchable 10MHz insertion on L-Band RF output:
  - @1Hz < -85 dBc/Hz
  - @10Hz < -115 dBc/Hz
  - @100Hz < -140 dBc/Hz
  - @1kHz < -145 dBc/Hz
  - @10kHz < -150 dBc/Hz

**Clock & Synchronization**

- Internal 10 MHz Reference Frequency
  - High stability: ±5.10-9 over 0 to 70° C
  - Ageing: ±5.10-10/day and ±7.5.10-8/year
- External 10 MHz input for external clock synchronization
# DVB-S/S2/DSNG/S2X Modulator
## MOD-S2X-L-72-E

### Modulation
<table>
<thead>
<tr>
<th>DVB-S / DSNG:</th>
<th>Outer/Inner FEC: Reed Solomon/Viterbi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>QPSK: 1/2, 2/3, 3/4, 5/6, 7/8</td>
</tr>
<tr>
<td></td>
<td>8PSK: 2/3, 5/6, 8/9</td>
</tr>
<tr>
<td></td>
<td>16QAM: 3/4, 7/8</td>
</tr>
<tr>
<td>DVB-S2:</td>
<td>Outer/Inner FEC: BCH/LDPC</td>
</tr>
<tr>
<td></td>
<td>QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 4/5, 5/6, 8/9, 9/10</td>
</tr>
<tr>
<td></td>
<td>8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10</td>
</tr>
<tr>
<td></td>
<td>16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10</td>
</tr>
<tr>
<td></td>
<td>32APSK: 3/4, 4/5, 5/6, 8/9, 9/10</td>
</tr>
</tbody>
</table>

### Operating modes:
- CCM: Constant Coding and Modulation,
- VCM: Variable Coding and Modulation,
- ACM: Adaptive Coding and Modulation (seamless).

- Frame length: Short & Normal frames
- Pilots insertion
- Variable symbol rate from 0.05 to 72 Mbaud (1 Baud steps)

### DVB-S2X Broadcast & DSNG profiles
- Same features as defined for DVB-S2
- All new MODCODs for QPSK/8PSK/16APSK/32APSK
- 5 MODCODs for new 64APSK constellation

### DualCast
- Opportunistic Push Data Service Insertion.

### Enhanced Satellite Precorrection (E.S.P)
- Static Non Linear precorrection
- Static Linear precorrection

### Control & Monitoring
- RS232 control port with SCPI protocol
- SNMP (V2C) over Ethernet
- HTTP over Ethernet (web browser)
- Front panel keyboard & display
- Alarm relays:
  - connector 9-pin sub-D (F)
  - Dry contact management for 1+1 redundancy

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

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