

7880MD

DVB-S/DSNG/S2/S2X L-Band and IF Modulator



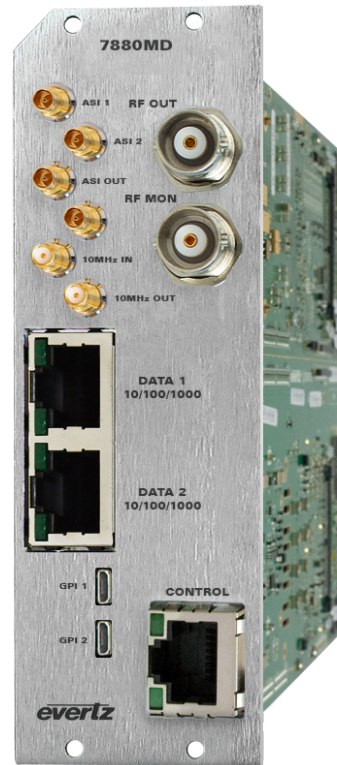
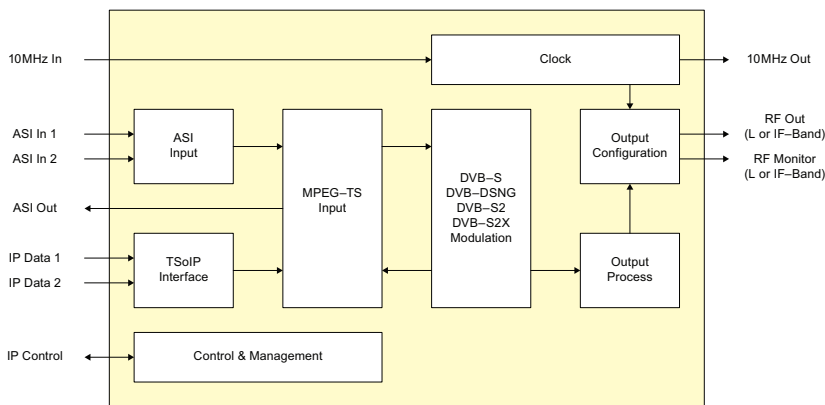
The 7880MD is a professional satellite modulator for DVB-S/S2/S2x (Broadcast and DSNG profiles) signals. Hardware equipped for higher-order modulation schemes up to 256 APSK, data rates up to 300 Mbps and flexible inputs/outputs, the 7880MD is a future-proof solution.

Selectable L-Band and IF outputs are available on the same module to support different work flows, thus protecting your investment. An RF monitoring port is also provided for a convenient means of locally monitoring your signal.

Internal 10MHz reference and external 10MHz reference support is available to drive a Block Up Converter (BUC) as well as external clock synchronization. The 7880MD also provides selectable ASI and IP input with automatic redundancy management.

When paired with Evertz' encoders and various 7800 series modular products, the 7880MD rounds out a best-in-class and highly flexible encoder to up-link solution.

Monitoring parameters such as input bit rate, occupied bandwidth, output level and transmit status provide extensive information on modulator status and signal quality. These parameters as well as full control of the modulator are relayed over SNMP, for intuitive remote access using Evertz' own VistaLINK® PRO SNMP monitoring and control package.



Features & Benefits

- Full DVB-S/S2 and DVB-S2X compliant with modulation schemes available up to 256APSK (optional)
- L-Band and IF Band outputs
- Symbol rate from 0.05 to 80 Mbauds (1 baud steps)
- Internal and external 10MHz reference
- BISS-1, 0 E and BISS-2 CA scrambling
- Up to 64 embedded profiles

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Specifications

IP Input:

Number: 2 (1+1)
 Standard: MPEG-TS (RTP/UDP — SMPTE ST 2022-1)
 Supports: Unicast/multicast, IGMP V2/V3
 Connector: RJ-45 10/100/1000GbE
 Max. Bit Rate: 300Mbps
 Input Formats: ETSI TR 102 034
 MPEG-2 PSI Tables (PAT and PMT): EN 300 468

ASI Input/Output:

Inputs: 2, selectable (ASI 1/2)
 Output: 1, selectable (ASI 1, ASI 2, IP or active stream)
 Standard: DVB-ASI, MPEG-TS (188/204 bytes)
 Connectors: Mini DIN 1.0/2.3
 Return Loss: >15dB
 Input Formats: EN50083-9, ETSI TR 101 891
 MPEG-2 PSI Tables (PAT and PMT): EN 300 468
 Multistream: 4x ISI selected between ASI and IP
 Bit Rate Adaption: PCR adaption, padding insertion Dummy PL frame
 Encryption: BISS (single/multiple programs) mode 0, 1, E and BISS-2 0, 1, E, CA

RF Output (General):

Main: 1 (selectable between L- or IF-Band)
 Monitoring: 1 (selectable between L- or IF-Band)
 Connector: BNC or SMA (optional)
 Impedance: 50Ω
 Return Loss: >12dB
 P1dB: +20dBm
 Cable Tilt Correct.: ±0.1dB/MHz

L-Band Output:

Frequency Range: 950-2150MHz
 RF Power Level: 7dBm to -35dBm
 Monitor Output: -20dB below main signal

IF-Band Output:

Frequency Range: 50-180MHz
 RF Power Level: 5dBm to -35dBm
 Monitor Output: -35dB below main signal

Clock & Synchronization (L-Band):

Input: 1x external 10MHz input for external clock synchronization (L-Band mode only)
 Output: 1x internal 10MHz output for external devices synch.
 Connectors: SMA, 50Ω
 Return Loss: >15dB
Generates internal 10MHz reference frequency with high stability

Modulation:

Symbol Rate: 0.05-80 Mbaud (1 baud step)
 Roll-Off Factor: 5-35% (1% step)
 Test Modes: Off, Dummy PL frames and PRBS
 Carrier ID: DVB-CID — ETSI 103 129, DVB/NIT compliant

Modulation Support

Operating Mode	DVB-S/DSNG	DVB-S2	DVB-S2X
QPSK	1/2, 2/3, 3/4, 5/6, 7/8	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
8PSK	2/3, 5/6, 8/9	3/5, 2/3, 3/4, 5/6, 8/9, 9/10	3/5, 2/3, 3/4, 5/6, 8/9, 9/10
16QAM	3/4, 7/8	—	—
16APSK (optional)	—	2/3, 3/4, 4/5, 5/6, 8/9, 9/10	2/3, 3/4, 4/5, 5/6, 8/9, 9/10
32APSK (optional)	—	3/4, 4/5, 5/6, 8/9, 9/10	3/4, 4/5, 5/6, 8/9, 9/10
64APSK (optional)	—	—	5/6, 4/5, 7/9, 11/15, 32/45-L
128APSK (optional)	—	—	3/4, 7/9
256APSK (optional)	—	—	29/45-L, 2/3-L, 31/45-L, 32/45, 11/15-L, 3/4

Ordering Information

7880MD

DVB-S/S2/S2X/DSNG modulator with L-Band and IF outputs. QPSK/8PSK constellation support up to 15 Mbaud symbol rate. Software upgradeable up to 256 APSK constellations, 80Mbaud symbol rate.

Ordering Options:

7880MD-FK-16APSK

Software feature key to enable 16 APSK constellations for DVB-S/S2/S2X on the 7880MD

7880MD-FK-32APSK

Software feature key to enable 16/32 APSK constellations for DVB-S/S2/S2X on the 7880MD

7880MD-FK-64APSK

Software feature key to enable 16/32/64 APSK constellations for DVB-S/S2/S2X on the 7880MD

7880MD-FK-256APSK

Software feature key to enable 16/32/64/128/256 APSK constellations for DVB-S/S2/S2X on the 7880MD

7880MD-FK-36MB

Software feature key to enable symbol rates up to 36 MBauds on the 7880MD

7880MD-FK-80MB

Software feature key to enable symbol rates up to 80 MBauds on the 7880MD

7880MD-FK-BISS

Software feature key to enable BISS-0/1/E encryption on the 7880MD

7880MD-FK-BISS-2

Software feature key to enable BISS-0/1-E and BISS-2 CA encryption on the 7880MD

+S50

50ohm SMA connectors

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Specifications (continued)

DVB-S/DSNG:

Operation Mode: *Refer to table*
Outer/Inner FEC: Reed Solomon/Viterbi

DVB-S2:

Operation Mode: *Refer to table*
Outer/Inner FEC: BCH/LDPC
PL Scrambling Codes:
0, 264143
Modes: CCM, VCM, ACM
Pilots Insertion
Frame Length: Short and normal frames
Multistream: Up to 4x MPTS over one carrier, per EN 302 307

DVB-S2X Broadcast &

DSNG Profiles (optional):

Same features and MODCODs as DVB-S2
DSNG Profile: *Refer to table*
All new linear MODCOD for QPSK, 8PSK, 16/32/64/128/256APSK (optional)

Configuration and Control:

- Web browser (HTML5)
- SNMP V2
- VistaLINK® PRO
- Front panel (optional)
- Rest API

Electrical:

Voltage: +12V DC
Power: 27W

Physical (Number of Slots):

7800FR, 7801FR: 2