

Neptune

Satellite Demodulator



Neptune is the latest generation of satellite demodulator fully compliant with the DVB-S, DVB-S2 and DVB-S2X standards. It is a high-performance demodulator for advanced DVB satellite reception supporting all DVB-S2X configurations over up to 8 ASI outputs as well as over 2 Ethernet ports with its dual L-Band inputs with independent LNB controller on each RF input.

Dense chassis

Neptune 1U Rack chassis is equivalent to 8 independent demodulators running with their own carrier frequency with one or two RF inputs. Objectives are: 1/ reduce cabling in front of the rack when several carriers over same polarization 2/ keep RF sensitivity to always extract signal even if low C/N margin.

Full implementation of DVB-S2 & S2X standard

Neptune integrates the latest satellite technologies required to perform high quality modulation based on the DVB-S, DVB-S2 and DVB-S2X standards up to 256APSK and 80/125/250/500Mbps/s.

Ready for efficient DTT distributions

Neptune is able to extract up to 8 ISI in parallel with a smooth process to respect the ETR-290 requirements. Each MPEG-TS stream (identified by its ISI label) can be route either to ASI and/or TSolP outputs. These outputs feed terrestrial modulators by respecting the SFN constraint. By adding an embedded MPEG-TS matrix, Neptune allows terrestrial modulator inputs redundancy.

Flexible demodulator

Neptune is a high-performance demodulator for advanced DVB satellite reception supporting all DVB-S2/DVB-S2X configurations up to 210Mbps/s over 8 ASI outputs as well as 500Mbps/s over 2 Ethernet ports with its dual L-Band inputs with independent LNB controller on each RF input. Neptune allows lot of possible configurations for MPEG-TS over ASI/IP for broadcast applications as well as MPE and GSE IP de-encapsulations for broadband applications.

Hybrid demodulation

Neptune is able to manage MPEG-TS from ASI and IP traffic from Ethernet on the same carrier. Also MPEG-TS contents as well as IP data content could be demodulated and out over ASI/IP. A typical use case is to mix digital radio contents and digital TV video contents for an efficient DTT distribution (OPEX and CAPEX reductions).

The most flexible and cost-effective DVB-S/S2/S2X demodulator.

Applications

- Satellite distributions
- Satellite contributions
- DSNG applications
- DTT distributions
- DTT distributions
- DAB/FM distributions

Benefits

- Top class of RF signal performances for a better QoS
- Dense solution with 8 independent demodulators
- Outputs over ASI as well as IP
- Hybrid architecture

INPUT

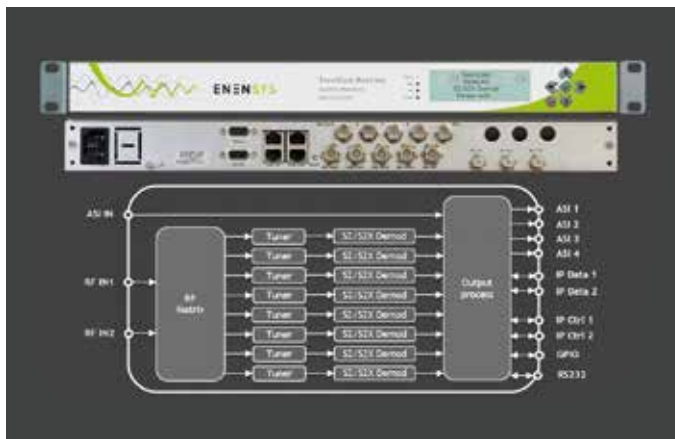
2 Connectors F - 75 Ω
2 LNB independent DiSEqC Control (off, + 13/18 Vdc, 22 KHz)
L-Band: From 950 MHz to 2150 MHz
Minimum input signal power: (-80+Es/No+10log(SR)) dBm where SR=Symbol Rate (Mbaud) & Es/No=value (dB) for QEF reception.
Noise factor: less than 5dB with Maximum input power: - 40 dBm

OUTPUT

4 x ASI outputs or 8 x ASI outputs (option) - BNC - 75 Ω
• MPEG-TS over ASI, up to 200 Mbps
2 x Ethernet DATA ports - RJ 45, 10/100/1000Base-T
• MPEG-TS over IP, RTP/UDP, up to 500Mbps
• GSE-HEM over IP, RTP/UDP, up to 500Mbps
• BBFrames over IP Jumbo frames, RTP/UDP up to 500Mbps

PHYSICAL

Power Supply	Rack 90 to 240 VAC
Dimensions	(D x W x H) 250 x 483 x 44 mm
Weight	Rack 2.5 kg
Temperature	0°C to 50°C



FEATURING

Standards

DVB-S2/S2X: EN 302 307 part I & II
DVB-S: EN 300 421
DVB MPEG-TS over ASI: EN50083-9, ETSI TR 101 891
DVB MPEG-TS over IP: ETSI TR 102 034
DVB Generic Stream Encapsulation (GSE-HEM): ETSI TS 102 606-1
DVB-CID: ETSI 103 129

Modulation

DVB-S	<ul style="list-style-type: none"> Outer/inner FEC: Reed Solomon/Viterbi Roll-off value: 0.35 QPSK: 1/2 to 7/8
DVB-S2/S2X	<ul style="list-style-type: none"> Outer/Inner FEC: BCH/LDPC Operating modes: <ul style="list-style-type: none"> - CCM: Constant Coding and Modulation, - VCM/ACM: Variable/Adaptive Coding and Modulation, Pilots ON or OFF PL Scrambling codes [0, 262141]
DVB-S2	<ul style="list-style-type: none"> Roll-off value: 0.20, 0.25, 0.35 52 MODCODs (short & normal frames): QPSK: from 1/4 to 9/10, 8PSK: from 3/5 to 9/10, 16APSK: from 2/3 to 9/10, 32APSK: from 3/4 to 9/10
DVB-S2X	<ul style="list-style-type: none"> Roll-off value: 0.05, 0.10, 0.20, 0.25, 0.35 53 MODCODs (normal frames): QPSK: from 1/4 to 9/10, 8PSK: from 3/5 to 9/10, 16APSK: from 26/45 to 9/10, 32APSK: from 32/45 to 9/10, 64APSK: from 11/15 to 5/6, 128APSK: 3/4; 7/9, 256APSK: 32/45; 3/4 13 Linear MODCODs (normal frames): 8APSK-L: 5/9; 26/45, 16APSK-L: from 1/2 to 2/3, 32APSK-L: 2/3, 64APSK-L: 32/45, 256APSK-L: from 29/45 to 11/15 41 MODCODs (short frames): QPSK: from 11/45 to 8/9, 8PSK: from 7/15 to 8/9, 16APSK: from 7/15 to 8/9, 32APSK: from 2/3 to 8/9

Control & Monitoring

2 x 10/100/1000 base-T Ethernet ports IPV4/IPV6
Keyboard and display on front panel
SNMP and Web Browser Control & Monitoring

Process

DVB-S, DVB-S2 & DVB-S2X Single Stream management
DVB-S2 & DVB-S2X Multi-Stream management
Up to 8 virtual channels (demodulation) in parallel
Support Multistream up to 8 ISI in parallel over ASI & IP
Symbol rate 1 to 36/72/125 step 1MBaud
Annex M up to 4 slices in parallel

ORDERING CODES

Neptune		Satellite Demodulator
Hardware	<ul style="list-style-type: none"> XSSR-NEPO-3000 XSSR-NEPO-3001 XSSR-NEPO-3010 XSSR-NEPO-3011 	<ul style="list-style-type: none"> S2X/S2/S Satellite demodulator - 2xRF inputs - 4xASI outputs - 4 Eth ports - 1U Rack S2X/S2/S Satellite demodulator - 2 PSU - 2xRF inputs - 4xASI outputs - 4 Eth ports - 1U Rack S2X/S2/S Satellite demodulator - 2xRF inputs - 8xASI outputs - 4 Eth ports - 1U Rack S2X/S2/S Satellite demodulator - 2 PSU - 2xRF inputs - 8xASI outputs - 4 Eth p
Software	<ul style="list-style-type: none"> XSSO-NEPO-16AM XSSO-NEPO-32AM XSSO-NEPO-64AM XSSO-NEPO-128AM XSSO-NEPO-256AM XSSO-NEPO-36MB XSSO-NEPO-72MB XSSO-NEPO-VCMO XSSO-NEPO-TSIP XSSO-NEPO-MCDS XSSO-NEPO-125M XSSO-NEPO-250M XSSO-NEPO-SNMP XSSO-NEPO-GSEH XSSO-NEPO-MPEO XSSO-NEPO-DUAL 	<ul style="list-style-type: none"> DVB-S2/S2X modcods up to 16APSK DVB-S2/S2X modcods up to 32APSK DVB-S2/S2X modcods up to 64APSK DVB-S2/S2X modcods up to 128APSK DVB-S2/S2X modcods up to 256APSK BaudRate up to 36 MBauds BaudRate up to 72 MBauds Multistream demodulation (4 ISI in parallel) TSolP over 2xEthernet data ports Multichannels mode (up to 8 demodulators) Up to 125Mbps over 2xEthernet data ports Up to 250Mbps over 2xEthernet data ports Full product control via a SNMP server GSE unencapsulation MPE unencapsulation Mono channel per RF input