**NetMod-DTMB**

DTMB Broadcast Modulator (DMB-T/ADTB-T/DTMB standard)

NetMod-DTMB: Broadcast grade modulator designed for direct interfacing with power transmitters thanks to a wide set of features and outstanding performances.

**NetMod-DTMB broadcast modulator** has been designed to provide a cost effective solution for Chinese broadcast network operators, as well as for system integrators facing this new efficient standard. NetMod-DTMB conception ease also the integration in any kind of system thanks to an intuitive Graphical User Interface and dedicated test modes.

NetMod-DTMB is fully DTMB chinese standard compliant (GB20600-2006), and takes benefits from years of experience of ENENSYS in the Digital Broadcast Network Solutions design.

NetMod-DTMB offers various high grade features such as MFN+SFN, Digital Pre-Distortion (optimizing overall broadcast transmission), built-in GPS receiver option, etc...

On top of that, NetMod-DTMB is also featured with a set of modes that will ease installation and maintenance for network operators and broadcasters, as well as a set of configurable failover behavior to secure regular broadcast operations.

### Applications
- DTMB Digital TV Broadcast
- RF or IF Transmitter integration
- MFN or SFN synchronized transmissions

### Key Points
- High grade IF or RF output quality
- Outstanding MER, phase noise and stability
- SFN adaptation thanks to SIP packet parsing
- Linear and Non-Linear Digital Pre-corrections (DPC)
- Smooth network integration
- User configured failover behavior
- Intuitive Graphical User Interface
- Fast and simple integration in NMS
- FPGA based HW for Robustness and reliability

### Characteristics
- 2 ASI inputs (seamless switching on failover)
- RF or IF main output
- RF or IF monitoring output
- 10 MHz / 1PPS external references inputs
- 10 MHz / 1PPS clock output
- Fast Ethernet (10/100bT) management ports
- Embedded SNMP v2 server
- Embedded HTTP v2 server
- Digital Pre Distortion capabilities
- Failover dry relay switch

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### Diagram Description

The diagram illustrates the main input and output interfaces of the NetMod-DTMB, including ASI, 1MHz, 1PPS, GPS Antenna, Control and Monitoring, Power Management, and RF Up-Conversion. It also highlights the integration of various functionalities such as Digital Pre-Distortion, Failover behavior, and installation and maintenance support.

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### Input interfaces

**Transport Stream inputs**
- 2 DVB-ASI (BNC 75 Ω)

**Signal processing**
- SIP Control
- Input Stream Monitoring
- PCR restamping (MFN)
- TS bit rate adaptation (MFN)
- Static delay (SFN)

### Clocks and Synchronization

**Inputs**
- 10 MHz, 1 PPS and optional built-in GPS

**Output**
- 10 MHz, 1 PPS

**Internal clock**
- 10 MHz (Temperature Controlled oscillator)

**Internal clock precision**
- 5 ppb

**Internal clock stability**
- 2.10^-8 per year

### Control & management

**Web (HTTP)**
- 10/100 Base-T
- Rich client interface with live statistics, monitoring and intuitive configuration

**System Administration**
- Full SNMP v2

**Front panel display**
- IP settings & alarms

### Output interfaces

**RF Outputs**
- Main RF output (SMA 50 Ω)
- Monitoring RF output (SMA 50 Ω)
- 100 MHz - 870 MHz (step 1 Hz)
- +2 to -20 dBm (step 0,1dB)

**MER**
- Over 42 dB

**Shoulders**
- Over 55 dB

**IF Outputs**
- Main IF output (SMA 50 Ω)
- Monitoring IF output (SMA 50 Ω)
- 20 MHz - 85 MHz (step 1 Hz)
- 0 to -10 dBm (step 0,1dB)

**MER**
- Over 44 dB (from 20 to 85MHz)

### Modulation

**DTMB modes**
- Single- or Multi- carrier modes

**Constellations**
- QPSK, 4QAM-NR, QAM16, QAM32 and QAM64

**Channel bandwidth**
- 8, 7 or 6 MHz

**Time Interleaver**
- 240 or 720 symbols depth

**Guard Interval**
- PN420, PN595, PN945

**Outer Inner FEC**
- BCH / LDPC

**Code Rate**
- 0.4, 0.6, 0.8

**Network type**
- MFN and SFN capable

**Digital Pre Distortion**
- Linear & non-linear pre distortion

**Field I & M test modes**
- Intuitive settings via the GUI
- Single tone, PRBS generation, central carriers cancellation, Null symbol insertion

### Physical

**Height/Width/Depth (mm)**
- 43/440/263 mm

**Format**
- 19” 1RU

**Power supply**
- 100-240VAC

### Environment

**Operating temperature**
- 0 to 50°C / 0 to 122 °F

**Storage temperature**
- -20°C to 70°C / -4°F to 158°F

**Humidity**
- 0 to 95%, non condensing

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Preliminary datasheet