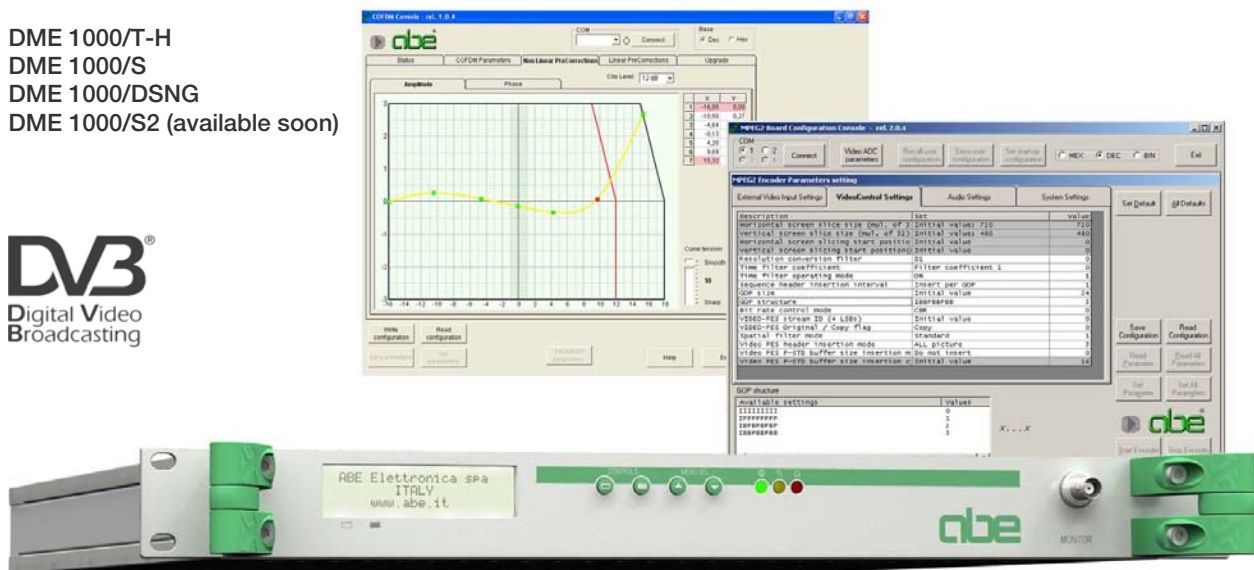


MPEG-2 ENCODERS + MULTIPLEXER/REMULTIPLEXER + DIGITAL MODULATOR

The high quality, professional and cost-effective solution

DME 1000/T-H
DME 1000/S
DME 1000/DSNG
DME 1000/S2 (available soon)

DVB[®]
Digital Video
Broadcasting



The “**DME 1000 series**” is a high quality, professional, flexible and really cost-effective solution that combines one or more high performances MPEG-2 Encoders, a Multiplexer and a choice of latest generation Digital Modulators (OFDM DVB-T/H; DVB-S; DVB-S2; DVB-DSNG).

Applications

- Digital TV Terrestrial Broadcasting;
- Digital satellite Uplinks for Distribution and Contribution;
- DSNG Mobile news gathering;
- Digital Microwave Links (Mobile and STL).

Features

- 1 to 4 real time MPEG-2 video/dual audio Encoders (Main Profile @ Main Level – 4:2:0) and Multiplexer;
- Up to full D1 encoding resolution with up to 720 horizontal pixels;
- User configurable Encoders settings through RS232 port (GOP size and structure, resolution, filters, bit rate, ...) + four easy to recall pre-defined

factory settings;

- Teletext or Closed Captioning extraction from video input and reinsertion in the transport stream (option for models with multiplexer board);
- QPSK Modulator compliant to **ETS 300 421 (DVB-S)** – Symbol rate up to 30MS/s – Bit rate up to 48Mbit/s – Automatic Transport Stream adaptation (with PCR time restamping). Other modulation options: 8PSK; 16QAM (DVB-DSNG) with 25 and 35% roll-off;
- Synthesized “L” band output (950 to 1900MHz) with combined 10MHz reference clock;
- User-friendly local control with front panel LCD display and keypad;
- RS485; RS232; Ethernet 10/100 Base-T (SNMP and web server support) remote control interface options.



MPEG-2 Encoder

VIDEO INPUTS

Video input format:	Analog: Composite PAL / SECAM / NTSC, Y-C (S – video) Digital: D1 (ITU-R 656) 8 Bit Parallel (internal connector) Option: SDI (Serial Digital Interface with embedded audio or with AES/EBU audio input)
Composite video input:	1Vp-p / 75Ω / BNC socket
Composite video filter:	Notch of Comb (selectable)
Pre-processing:	TBC (Time Base Corrector) Noise Reduction Filter

VIDEO ENCODING

Standard:	ISO / IEC 13818-2 MP@ML (MPEG-2 4:2:0)
Bit rate:	Up to 15Mb/s
Supported resolutions:	Full D1, 3/4 D1, 2/3 D1, 1/2 D1, SIF, QSIF
Picture size:	Horizontal: up to 720 pixel in 32 pixel steps. Vertical: PAL – up to 576 pixel in 32 pixel steps NTSC – up to 480 pixel in 32 pixel steps
Picture encoding type:	I, P, B
GOP Structure:	Flexible
Minimum latency:	Around 200mS, according to settings (GOP structure, bit rate etc.)

AUDIO INPUTS AND ENCODING

Audio input format:	Analog: Two (mono, stereo, dual, joint stereo) Digital: LR Multiplex Serial (I2S) (internal connector) Option: SDI (Serial Digital Interface with embedded audio or with AES/EBU audio input)
Analog audio inputs:	0dBu (adjustable) / 600Ω balanced / mini-DIN 6 pole
Sampling frequency:	32KHz, 44.1KHz, 48KHz
Encoding standard:	ISO / IEC11172-3 (MPEG-1 audio) layer 1/2 – compliant
Bit rate:	Max. 448Kb/s

STREAM AND INTERFACES

Stream type:	Transport stream
System multiplexing:	ISO / IEC 13818-1 (MPEG-2) – PAT and PMT tables

OTHERS SPECIFICATIONS

Pre-settings:	Nº4 Factory preset + Nº4 User configurable (by software, via RS232 port)
Teletext / Closed Captioning data:	Extraction from analogue video input

Multiplexer

INPUTS AND ENCODING

Tables:	Add / modify (NIT, SDT, TDT, EIT...)
Settings:	Fixed or by software via RS232 port
Optional Input:	DVB Transport Stream (ASI interface – PID Filtering and MHP support)
Optional output digital interface:	DVB – ASI
Teletext / Closed Captioning data:	Optional insertion in the transport stream

Digital Modulator

DVB-T/H COFDM (DME 1000-T/H version)

IFFT / Bandwidth:	2K, 4K and 8K selectable / 5, 6, 7 and 8MHz selectable
Data scrambling / Code rates / Guard intervals:	per ETSI EN 300 744
Modulation schemes (constellations):	QPSK, 16QAM and 64QAM selectable (hierarchical modes supported)
Bit rate:	Up to 31.67Mb/s (according to bandwidth, constellation, guard interval and code rate)
Network mode:	MFN or SFN selectable (SFN mode needs GPS receiver option)
Digital precorrection and clipping:	Linear and Non Linear up to 8 stored presets; PAR clipping adjustable
Inputs:	Up to N=4 MPEG/DVB Transport Streams with manual or automatic near seamless switching
Output frequency:	IF 36MHz ±1MHz in 1Hz steps

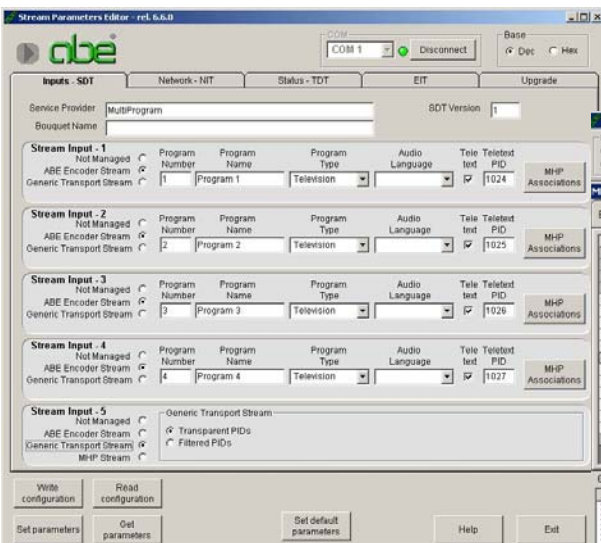
DVB-S DVB-S2 DVB-DSNG Modulator (DME 1000/S DME1000/S2 DME 1000/DSNG versions)

Modulation, FEC encoding and data scrambling:	as per the standard (EN 300 421 DVB-S; EN 301 210 DVB-DSNG; EN 302 307 DVB-S2)
IF output frequency:	70 MHz – option: Frequencies up to 2700 MHz
Output level, impedance and connector:	0 dBm (Typ. adjustment range: -10 to +5 dBm) 75Ω BNC socket (option: 50Ω)
Inputs:	Up to N=2 MPEG/DVB Transport Streams with manual or automatic near seamless switching
Input Transport Stream Bit Rate:	Up to around 50 Mb/s (according to modulation scheme, Symbol Rate and Code Rate)
Symbol Rate:	Up to 30 MS/s in 1KS/s steps

FOR MORE DETAILED SPECIFICATIONS, PLEASE REFER TO DVM 1000 SERIES BROCHURE

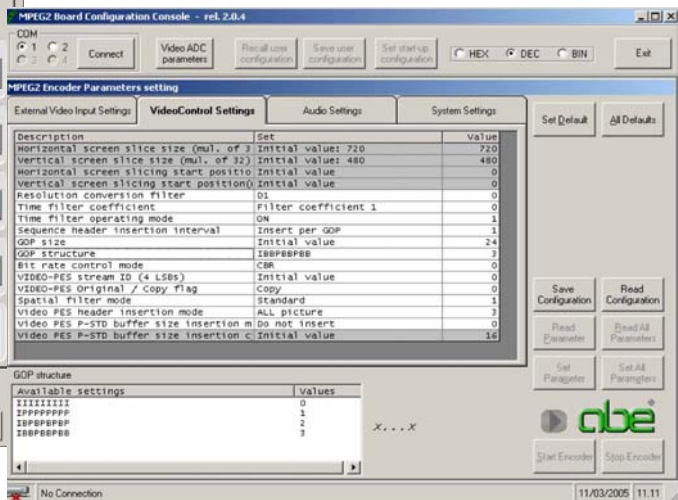
GENERAL SPECIFICATIONS

Power supply:	85 to 264Vac 50/60 Hz (Different power supplies available on request)
Remote control interface options:	RS232; RS485; Ethernet 10/100 Base-T (SNMP and web server support)
Housing:	Rack drawer 19" 1U
Operating temperature range:	0 to 45° C.

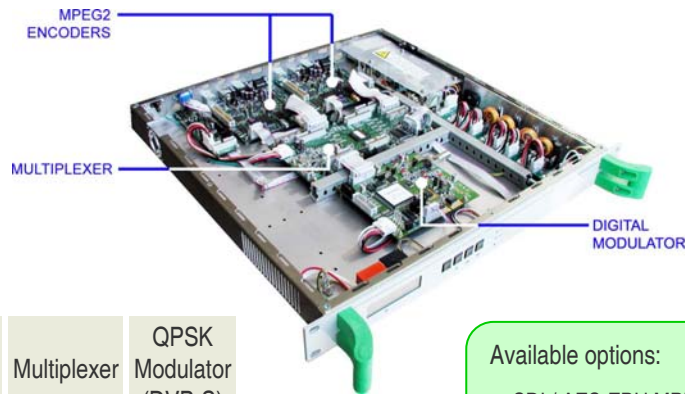
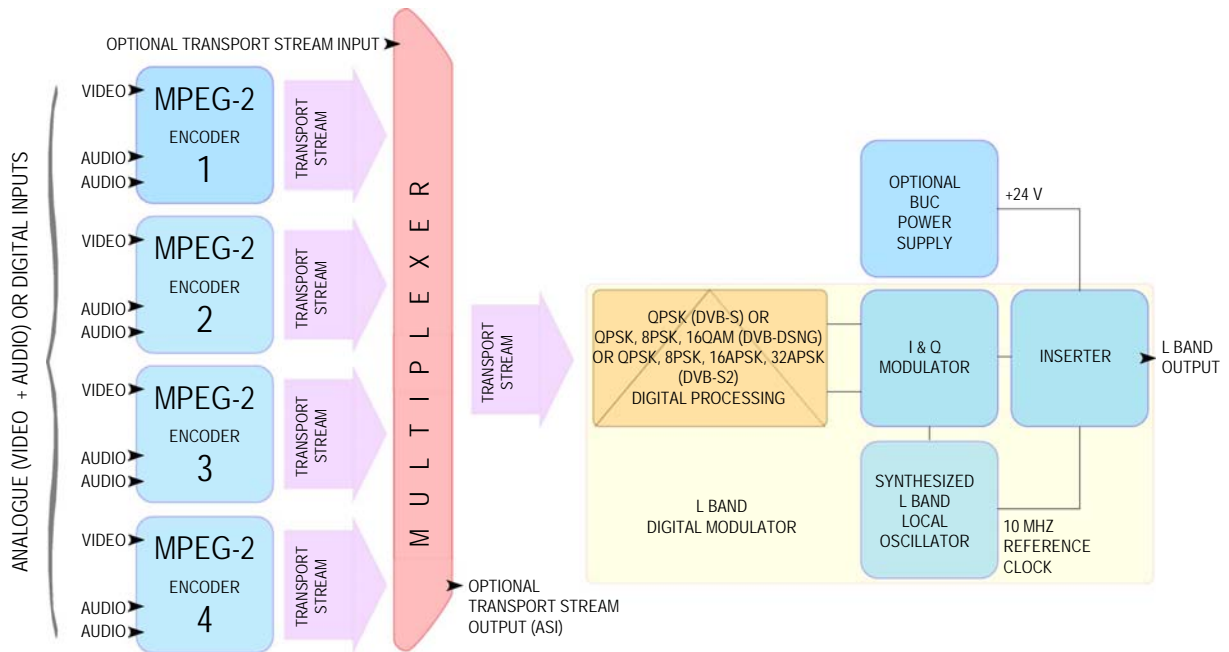


A screenshot of the Multiplexer / Remultiplexer configuration software

A screenshot of the MPEG-2 Encoder configuration software



DME 1000/SL Series MPEG-2 encoders + digital Modulator general block diagram



Model	Number of MPEG-2 encoders	Multiplexer	QPSK Modulator (DVB-S)
DME 1001-B/SL	1		✓
DME 1001/SL	1	✓	✓
DME 1002/SL	2	✓	✓
DME 1003/SL	3	✓	✓
DME 1004/SL	4	✓	✓

Available options:

- SDI / AES-EBU MPEG-2 encoder input
- DSNG (add 8PSK and 16 QAM modulation schemes)
- S2 (add QPSK, 8PSK, 16APSK and 32APSK modulation schemes – available soon)
- BUC power supply (24V 1.9A – on request different versions)
- Hi stability 10MHz reference oscillator



All specifications contained in this document may be changed without prior notice.