

MPEG-2 ENCODER

Digitizing and converting A/V signals to MPEG-2 compressed IP or ASI streams which can be simply added to the program selection of digital broadcast networks.



Until analogue systems completely disappear, there are numerous applications, where analogue PAL signals need to be converted to digital data streams. In order to avoid excessively high data rates, in the course of the conversion applying some kind of compression procedure (MPEG-2, MPEG-4 etc.) becomes necessary.

The device receives composite video signals or SDI signals at its BNC sockets, asymmetrical or symmetrical audio signals at its RCA or XLR sockets, and after digitizing and compressing them it delivers MPEG-2 single-program transport streams at its IP or ASI outputs.

It is available in duo version (two independent encoder units in one frame) and in quad version (two independent encoder units in one frame).

The MPEG-2 compression can be performed to fixed data rate or to data rate varying with the picture content. The kind of compression and its parameters can be programmed by the user. In the practice data rates between 3 and 4 Mbit/s yield excellent picture quality. The sound channel input signal will be converted by a dual channel encoder performing MPEG-1 layer I/II compression. The sampling frequency is programmable, and the output data rate can be set between 32 and 448 kbit/s.

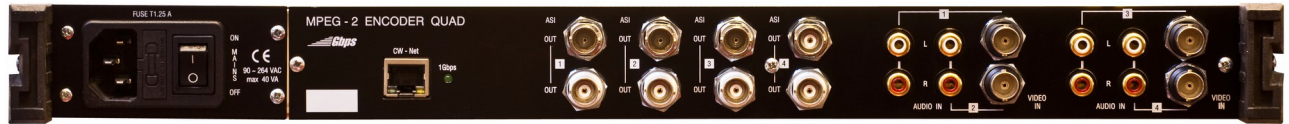
The device can be programmed and monitored with the SW-4888 and the SW-4901 controller software which are available for free download at www.cableworld.eu.

Field of application:

- ✓ feeding composite video signals of analogue program sources (cameras, broadcasters, etc.) or Serial Digital Interface signals to digital broadcast networks

- ✓ CVBS (PAL/NTSC) or SDI inputs
- ✓ dual channel audio inputs (Stereo, joint stereo, dual and mono sound mode)
- ✓ Programmable output picture resolution: D1, 3/4 D1, 2/3 D1, 1/2 D1, SIF, QSIF
- ✓ IP or ASI outputs
- ✓ 2 or 4 independent encoder units in one frame
- ✓ 4:3, 16:9, or WSS-controlled aspect ratio
- ✓ PAT, PMT, SDT, and NIT insertion
- ✓ FPGA circuitry
- ✓ extremely low power consumption
- ✓ high reliability, long lifespan

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Technical data

Video input

| | |
|------------------|---|
| Number of inputs | 2 or 4 |
| Input impedance | 75 Ω (BNC socket) |
| Input signal | 1V _{pp} composite PAL or NTSC or SDI |

Audio input

| | |
|------------------|----------------------------|
| Number of inputs | 4 × Left, Right |
| Input impedance | approx. 30 kΩ (RCA socket) |
| Input amplitude | max 3V _{pp} |
| SDI audio input | embedded audio only |

Video encoding characteristics

| | |
|--------------------|--|
| System | ISO 13818-2 (MPEG-2 video) MP@ML ISO 11172-2 (MPEG-1 video) |
| Picture resolution | max. 720 × 576 |
| Bit rate | max. 15 Mbit/s |
| Aspect ratio | 4:3 or 16:9 (fix or WSS controlled) |

Audio encoding characteristics

| | |
|--------------------|---------------------------------------|
| System | ISO 11172-3 (MPEG-1 audio layer I/II) |
| Sampling frequency | 33 kHz, 44.1 kHz, 48 kHz |
| Number of channels | 2 (mono, stereo, dual, joint stereo) |
| Bit rate | max. 448 kbit/s |

Multiplexer

| | |
|-----------------|--|
| System | ISO 13818-1 (MPEG-2 PS / TS) ISO 11172-3 (MPEG-1) |
| Output bit rate | max. 20 Mbit/s (CBR / VBR) |
| PSI tables | PAT, PMT, simple SDT and NIT table |

ASI output

| | |
|-------------------|---|
| Number of outputs | 4 (CW-4888), 2 (CW-4887) |
| Output connector | doubled (2 × BNC socket) |
| ASI signal | according to EN 50083-9 (DVB-TM 1449 Rec.1) |
| Output voltage | min. 800 mV _{pp} |
| Output impedance | 75 Ω |
| Data rate | max. 20 Mbit/s per encoder |

IP output

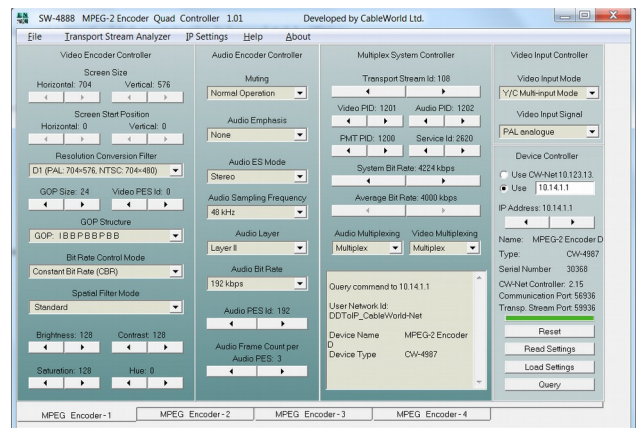
| | |
|-------------------|-----------------------|
| Number of outputs | 1 |
| Output | RJ-45, 100/1000Base-T |
| Operation mode | unicast, multicast |

General data

| | |
|-----------------------------|---------------------------|
| Service | continuous |
| Power requirement | 90 ~ 264 V / 47 ~ 440 Hz |
| Power consumption | max. 35 VA |
| Mass | approx. 3.8 kg |
| Physical dimensions | 19" × 1 HU |
| Width × Height × Depth | 483 × 43.6 × 473 mm |
| Operating temperature range | +5...+40°C |
| Relative humidity | max. 80 % |
| Storage temperature range | -25 ... +45°C |
| Relative humidity | max. 95 %, non-condensing |

Device programming

| | |
|--------------------|---|
| Programming | logically separated data and management port, Windows based softwares |
| Default IP address | 10.123.13.101 |



Ordering data:

- CW-4887** MPEG-2 Encoder Duo Two independent MPEG-2 encoder with CVBS/SDI video input and ASI output
- CW-4888** MPEG-2 Encoder Quad Four independent MPEG-2 encoder with CVBS/SDI video input and ASI output
- CW-4987** MPEG-2 Encoder Duo Two independent MPEG-2 encoder with CVBS/SDI video input and IP output
- CW-4988** MPEG-2 Encoder Quad Four independent MPEG-2 encoder with CVBS/SDI video input and IP output

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