

DiviCom[®] High Definition Encoder MV 450

Product Description

The DiviCom[®] family of broadcast quality video encoders from Harmonic features a compact one rack unit design, full MPEG-2 compliance, unmatched picture quality, NMX Digital Service Manager™ support and the endorsement of major broadband service providers worldwide. The product line offers the efficiency, features, and performance to address the needs of every service provider.

The MV 450 delivers the highest quality 4:2:0 and 4:2:2 MPEG-2 compression for HDTV applications. It supports multiple formats, including 1080i, 720p, and 480p, to meet the requirements of different transmission systems and markets. The MV 450 encoder is also capable of HD variable bit rate (VBR) encoding using a DiviTrackXE™ multiplexer.

DiviTrackXE is the industry's first statistical multiplexing system that allows for HD, SD, and data to participate in the same stat mux pool. The result of this advanced bandwidth management system is the ability to obtain maximum bandwidth efficiency while maintaining superior video quality.

Inside, the MV 450 uses multiple compression chips and Harmonic's MotionTrack™ technology to apply full-field motion estimation to the entire video image, producing pristine HD pictures.

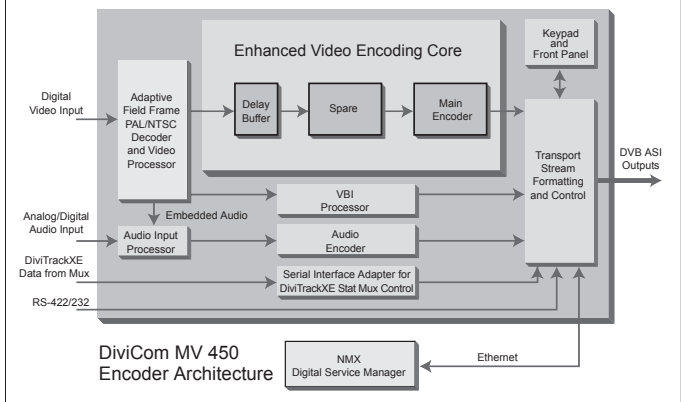
Support of inverse telecine mode conserves precious bandwidth for film-based content, while flexible GOP structures preserve video quality where scene cuts occur.

In addition, the MV 450 encoder supports up to five stereo pairs of audio encoding, including MPEG audio Layer II and native Dolby Digital™ encoding.

The MV 450 encoder is integrated with Harmonic's NMX Digital Service Manager, which adds a full range of configuration, monitoring, and redundancy. Maintenance functions, such as software upgrades, are easy to perform.

Alternately, the MV 450 encoder can also be configured for standalone operation, alleviating the need for external network management. In standalone mode, the MV 450 is shipped pre-configured with settings for a specific application, arriving ready to use right out of the box.

Standard Configuration



Based on the industry's most widely implemented standards, Harmonic broadcast systems are easy to expand and upgrade. With over 17,000 encoders shipped worldwide, Harmonic has a proven reputation for outstanding performance and superior service.

Features

- CBR and VBR encoding capabilities
- Multi-format support (1080i, 720p, 480p)
- 4:2:0 and 4:2:2 encoding
- EIA 708 VANC Closed Caption extraction
- Supports statistical multiplexing (HD, SD and data in the same stat mux pool)
- Single rack unit chassis
- Seamless MotionTrack image processing
- MPEG-LII and Dolby Digital (AC-3) audio encoding
- Dolby E in pass-through mode
- ATSC and DVB compliance
- Inverse telecine mode
- Analog and digital audio input
- Plug and play standalone operation
- NMX Digital Service Manager support

System Management

Local control panel 24-button keypad with hot keys

2X20 vacuum fluorescent display

NMX Digital Service Manager

Software upgrade via Ethernet or PCMCIA flash card

Physical

Dimension 1.75" H x 19" W x 24" D
4.45 cm H x 48.26 cm W x 61 cm D

Weight 22 lbs./10 kg

Power

Input Voltage Range 85-132 VAC or 170-264 VAC
(auto selected)

Line Frequency 47-63 Hz

Typical Consumption <130 W

Environmental

Cooling Dual fans; air flow front to right side

Operating Temperature 32° to 122° F/0° to 50° C

Storage Temperature -4° to 176° F/-20° to 80° C

Operating Humidity < 95% non-condensing

Electro-Magnetic Compliance FCC Part 15 Class A, EN 55022
Class A, EN 50082-1:1997,
CE mark (89/336/EEC)

Safety UL/cUL 1950, EN 60950,
CE mark (73/23/EEC)

Video Specifications

Input Formats Serial digital:
SMPTE 292M (1080i, 720p, 480p)

Aspect Ratio 4:3 and 16:9

Inverse Telecine Mode Auto-detect (24+23.976 fps)

Closed Captioning VANC per EIA-708 or via external
server per SMPTE 333M

MPEG Profile and Level 4:2:0 MP@HL
4:2:2 HP@HL

Video Formats 1080i, 720p, 480p

Resolutions 1080i x 1920, 1440, 1280 pixels
720p x 1280 pixels 480p x 720,
704, 640 pixels

Frame Rates 25, 29.97 & 30 fps (1080i)
59.94 fps (720p & 480p)

4:2:0 Encoding Rate 3 to 45 Mbps

4:2:2 Encoding Rate 10 to 45 Mbps

Flexible GOP Structures Dual B-frame support and
adaptive I-frame insertion

Test Pattern 100% color bars

Audio Specifications

Number of Channels 1, 3 or 5 stereo pairs

Input Formats Digital (AES3/EBU or S/PDIF) or
analog (balanced/unbalanced)

Audio Formats MPEG Audio Layer II and
Dolby Digital (AC-3)
2 Ch. encoding or 2/5.1 Ch.
pass-through mode
Dolby E in pass-through mode
2 AAA cards for 5 pairs of Audio

Analog Input Digitizing Resolution 18 bits (24 bits with AAA)

Analog Input Level Adjustment 0 to +20 dBV in 0.5 dBV steps

Operating Modes Mono, dual channel, stereo,
joint stereo

Encoding Bit Rate MPEG Audio Layer II - 56 to 384 kbps
Dolby Digital (AC-3) - 56 to 448 kbps
Dolby E - 1920 Kbps, 2304 Kbps

Analog Sampling Frequencies 32 kHz, 44.1 kHz, 48 kHz

Digital Sampling Frequency 48 kHz

THD + Noise < 0.05% at 1 kHz with 48kHz
sampling

Frequency Response < 3 dB 20 Hz to 20 kHz

Ordering Options

MPEG-LII, AC-3, VANC standard on all models

MV 450CBR-C (4:2:0, 3 stereo pairs)

MV 450CBR-CC (4:2:0, 5 stereo pairs)

MV 450CBR-CE (4:2:0/4:2:2, 3 stereo pairs, Dolby E)

MV 450CBR-CCE (4:2:0/4:2:2, 5 stereo pairs, Dolby E)

MV 450VBR-C (4:2:0, 3 stereo pairs, DiviTrackXE VBR)

MV 450VBR-CE (4:2:0/4:2:2, 3 stereo pairs, DiviTrackXE VBR,
Dolby E)



Harmonic Inc.
549 Baltic Way
Sunnyvale, CA 94089

Tel: +1.408.542.2500
Fax: +1.408.542.2511
www.harmonicinc.com

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