PRODUCT DATA SHEET

THOMSON
VIDEO NETWORKS

ViBE CP6000
CONTRIBUTION PLATFORM

THE ViBE CP6000 CONTRIBUTION PLATFORM ENABLES USERS TO TRANSPORT UP TO EIGHT ACQUISITION-QUALITY SD OR HD SERVICES. THE LATEST MPEG-4 4:2:2 10-BIT VIDEO COMPRESSION TECHNOLOGY PROVIDES OPTIMAL VIDEO QUALITY.

The ViBE CP6000 is the third contribution platform generation based on the well-known and widely deployed ViBE modular solution. The ViBE CP6000 features Thomson Video Networks' superior video compression and is designed for maximum operational benefits.

The ViBE CP6000 is suitable for:

- Contribution (backhaul) circuits from occasional venues such as sports arenas
- Carriers providing circuits between regional studios and a central playout facility
- Links from playout centers to regions and affiliates
- Primary distribution to the broadcasting or over-the-top headend

The ViBE CP6000 contribution platform is a future-proof 1RU modular rack, offering four hot swappable slots for processing boards. Its new compact design addresses contribution and primary distribution where space, consumption and compactness are critical.

The ViBE CP6000 used in C&D offers initial compression/decompression operation along with video program life. Perfect video quality delivery during this crucial step, improves end-user experience.

DENSITY

With four slots and dual channels per board, the ViBE CP6000 offers a density of up to eight SD, HD channels per unit. This is a key advantage for contribution application where space is paramount. Thus, density offers significant reduction on channel-cost and power consumption.

SCALABILITY & AGILITY

The MPEG board supports MPEG-2 SD to MPEG-4 HD 4:2:2 10-bit, depending on the selected software license. It allows easy and cost-effective migration from legacy MPEG-2 SD to the latest MPEG-4 HD.

Each of the four slots can house a hot swappable encoder/decoder board able to function as an encoder or decoder depending on the selected software license.

This unique feature coupled with a pool of licenses allows re-utilization of a unit in multiple encoding and decoding schemas. It minimizes investment and simplifies operation and management.

State-of-the-art hot swappable DVB-S/S2/DSNG modulator addresses satellite contribution application. It offers every constellation modes, an extended symbol rate range and low roll-off factor to optimize transmission efficiency.

FUTURE-PROOF PLATFORM

The ViBE CP6000 contribution platform is a future-proof modular rack.

Modular hot swappable architecture and high throughput connection between slots are designed to host any future applications such as 1080p50/59.94, AVC-Intra only and 3D.

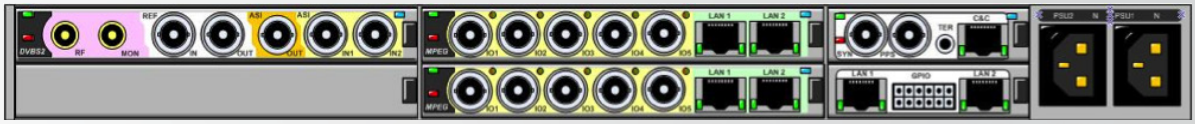
The ViBE CP6000 offers a unique combination of key features that allow the efficient handling of any contribution applications.

- Density and video quality combined with its low latency at a low rate permit mobile contribution without quality compromise.
- MPEG-4 standard 4:2:2 10-bit mode offers the best video quality for premium contribution application.
- Automatic redundancy and automatic configuration perfectly addresses headend-feed application.

KEY FEATURES

- 1RU with four hot swappable slots
- Up to eight SD or HD channels per chassis
- Unique MPEG module for encoder or decoder as permitted by the software license
- Up to two encoders or decoders per board
- MPEG-2 SD/HD, 4:2:0 & 4:2:2
- MPEG-4 SD/HD, 4:2:0 & 4:2:2, 8 or 10-bit resolution
- Software license for migration from MPEG-2 SD to MPEG-4 HD
- Automatic SD, HD configuration
- Dual SDI input per encoder with automatic redundancy
- 1080p50/59.94 ready
- Up to eight audio stereo per video
- Standard and low latency modes
- Up to three ASI and two active Gigabit Ethernet
- Single or dual power supply
- DVB-S/S2/S2X/DSNG hot swappable modulator
- Extended symbol rate from 0.1 to 68MBaud
- DVB-S2X low roll off

ViBE CP6000 BACK PANEL



SPECIFICATIONS

ViBE CP6000 Base Unit

Architecture
- Four slots, hot swappable, able to receive one MPEG board or modulator
- One management board (integrated as default)

Interface
- Gigabit Ethernet for management
- Genlock input (black burst or tri level sync)

Management
- Embedded Web server
- Configuration scheduler
- Alarm database
- Advanced monitoring for setup and troubleshooting
- SNMP agent for configuration and monitoring
- Integrated into Thomson Video Networks XMS Management System

Physical Characteristics
- 1 RU x 19" x 500 mm
- Weight: <10 kg (22 lbs)
- Single or dual power supply
- 110 V to 240 V AC
- -48V DC upon request

Environmental Conditions
- Operating temperature 0° to 50°C (41° to 122°F)
- Storage temperature -25° to 70°C (-13° to 158°F)
- Maximum humidity 90%

Compliance
- CE marked in accordance with the 93/68/EEC (22/07/93) directive
- Safety: IEC 60950 and EN 60950, UL 60950
- EMC: EN 55022, EN 55024, EN 61000-3-2

MPEG Board Features

Unique board software configurable as encoder or decoder. Up to two encoders or decoders per board

Video Format
- 720, 704, 640, 544, 528, 480, 352 x 480i @ 29.97
- 720, 704, 640, 544, 528, 480, 352 x 576i @ 25
- 1280, 960, 640 x 720p @ 50, 59.94
- 1920, 1440, 1280, 960 x 1080i @ 25, 29.97
- Ready for 1080p @ 50, 59.94

Video Encoding
- MPEG-2 SD/HD, 4:2:0 and 4:2:2
- MPEG-4 SD/HD, 4:2:0 and 4:2:2, 8 and 10- bit
- Video rate from 512 kbps up to 80 Mbps
- CABAC, CAVLC

Audio Processing
- MPEG-I Layer II
- AAC-LC, HE-AAC V1 and HE-AAC V2
- Uncompressed SMPTE-302M pass-through
- Up to eight audio stereo channels
- Two MPEGI LII audio stereo by default, other optional

Ancillary & VBI Processing
- WST Teletext, closed captioning 608 and 708
- OP-47, ATC, SCTE104/SCTE35, DPI
- AFD, WSS, Timecode VITC
- Transparent ANC SMPTE-2038

Modes
- Low and standard latency modes
- Scrambling BISS 1/E

Ethernet Interfaces
- 2 x active Gigabit Ethernet
- UDP/RTP or UDP encapsulation
- FEC Pro MPEG CoP3r2 (SMPTE2022)
- Multicast or unicast
- VLANs, route table

Encoder Application

Up to two encoders per board

Input Interfaces
- 4 x SD, HD SDI inputs
- 3 Gbps SDI input HW ready
- 2 x SDI inputs per encoder
- Automatic SDI input redundancy
- Advanced SDI input monitoring
- Automatic SD, HD detection and configuration

Video Processing
- Noise filtering
- Automatic scene-cut detection
- Automatic I frame insertion
- Manual or automatic GOP structure

Transport Stream Multiplexer
- Single program or multiple program transport stream generation
- Up to seven independent TS per board

Output Interfaces
- Up to three ASI outputs
- 2 x active Gigabit Ethernet
- ASI and IP streaming simultaneously

Decoder Application

Up to two decoders per board

Input Interfaces
- Up to three ASI inputs
- 2 x active Gigabit Ethernet
- Configurable IP input buffer up to 200 ms
- Automatic service redundancy
- Advanced IP and TS input monitoring

Output Interfaces
- 4 x SD, HD SDI outputs
- 3 Gbps SDI output HW ready
- 2 x SDI outputs per decoder
- SDI output synchronization based on Genlock

DVB-S/S2/S2X/DSNG Modulator

Input Interfaces
- 2 x ASI inputs
- Gigabit Ethernet through backplane
- Flexible bit rate adaptation
- 10MHz reference clock input

Modulation
- DVB-S:
  - QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
  - Roll-off value: 0.35
- DSNG
  - QPSK, 8PSK, 16QAM
  - 1/2, 2/3, 3/4, 5/6, 7/8, 8/9
  - Roll-off value: 0.35
- DVB-S2/S2X
  - QPSK, 8PSK, optional 16APSK, optional 32APSK
  - 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - PL Scrambling codes [0, 264143]
  - CCM, VCM, ACM modes
  - Short frames / Normal frames
  - Roll-off from 5% to 35%, step 1%
  - Pilots ON or OFF
  - Carrier ID (ETSI 103 129)
  - Variable symbol rate from 0.1 up to 68 Mbaud, step 1 Baud

Clock & Synchronization
- High performance 10MHz internal oscillator

Output Interfaces
- Version L Band from 950MHz to 2150MHz, step 1Hz
- Version IF Band from 50MHz to180MHz, step 1 Hz
- Main RF SMA 50 Ω, +5 dBm to -30 dBm, step 0.1 dB
- Monitoring RF SMA 50 Ω, -15 dBm to -50 dBm, step 0.1 dB
- ASI output
- 10MHz reference clock output

ORDERING INFORMATION

Base System

CP6000-1U-1AC	Chassis 1RU AC, 4 hot swappable slots
CP6000-1U-2AC	Chassis 1RU AC and AC, 4 hot swappable slots
DC upon request	

Hardware Options

CP6x00-OPT-MPG	ViBE CP6000 MPEG encoder & decoder
CP6x00-OPT-MOD-IF	DVB-S2/S2X Modulator board, IF-Band out
CP6x00-OPT-MOD-RF	DVB-S2/S2X modulator board, L-Band out

Encoding Licenses

CP6x00-LIC-ENC-MP2SD-422	License for MPEG2 SD 422 encoding
CP6x00-LIC-ENC-MP2HD-422	License for MPEG2 SD/HD 422 encoding
CP6x00-LIC-ENC-MP4SD-420	License for MPEG4 SD 420 encoding
CP6x00-LIC-ENC-MP4SD-422	License for MPEG4 SD 422 encoding
CP6x00-LIC-ENC -MP4HD-420	License for MPEG4 SD/HD 420 encoding
CP6x00-LIC-ENC -MP4HD-8b	License for MPEG4 SD/HD 422 8-bit encoding
CP6x00-LIC-ENC -MP4HD-10b	License for MPEG4 SD/HD 422 10-bit encoding
CP6x00-LIC-ZIXI-TX-PP	License for Zixi transmission (zFEC & zARQ)

Decoding Licenses

CP6x00-LIC-DEC-MP2SD-422	License for MPEG2 SD 422 decoding
CP6x00-LIC-DEC-MP2HD-422	License for MPEG2 SD/HD 422 decoding
CP6x00-LIC-DEC-MP4SD-420	License for MPEG4 SD 420 decoding
CP6x00-LIC-DEC-MP4SD-422	License for MPEG4 SD 422 decoding
CP6x00-LIC-DEC-MP4HD-420	License for MPEG4 SD/HD 420 decoding
CP6x00-LIC-DEC-MP4HD-8b	License for MPEG4 SD/HD 422 8-bit decoding
CP6x00-LIC-DEC-MP4HD-10b	License for MPEG4 SD/HD 422 10-bit decoding
CP6x00-LIC-ZIXI-RX-PP	License for Zixi reception (zFEC& zARQ)

PROFESSIONAL SERVICES

Our professional services offerings ensure optimal system performance and maximize uptime. These services include call centers staffed around the clock; system planning, design, and commissioning; professional training courses; and technical maintenance programs and service agreements.

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