



mediaHUB-Pro 02

MPEG 2 Standard & High Definition Encoder

The mediaHUB-Pro 02 is a real-time Contribution-quality MPEG 2 Standard and High Definition encoder. It is designed to support the most demanding Contribution, ATSC, DVB and IPTV MPEG 2 Distribution applications; the Studio version of the mediaHUB-Pro 02 encodes Cable Labs VOD and DPI compliant MPEG 2 Transport Streams. The Pro's auto-detect HD/SD-SDI video input eliminates the need for user resolution and frame rate configuration. It boasts dual stream on-board audio encoding of MPEG 1 Layer 2 audio including support for Dolby E and Dolby 5.1 passthrough. Optional dual stream Dolby Digital AC3 encode can be added with a simple software key either at the factory or in the field. Standard Adtec transport interfaces include three ASI copper outputs with included support for transport over GIGE. Audio inputs include AES3 Digital Audio, SDI and Analog audio. BISS 1 and BISS E encryption is an option that can be field activated with a simple software key, no hardware required. The Pro's user interfaces include a comprehensive easy-to-use front panel interface, on-board Web application server for configuration and monitoring plus SNMP 2.0C MIBS. Unique features of the Studio version include a built-in confidence decoder with HD/SD-SDI, HDMI and D1 outputs.



Benefits

- **MPEG 2 SD Contribution Quality Encoding:** Support for MPEG 2 SD 4:2:0 and 4:2:2 Contribution, distribution and Studio encoding quality with mediaHUB-Pro 02 and mediaHUB-Pro 02-S.
- **MPEG 2 HD Contribution Quality Encoding:** Optional upgrade to MPEG 2 HD 4:2:0 encoding with a simple field upgrade, no hardware exchange required.
- **SDI Plug and Encode:** Automatic SDI detection (HD and SD) of standards and frame rates. (HD required HD feature key)
- **High and Standard Definition Video:** One box - both formats. (HD requires the purchase of MEDIAHUB-PRO-HD-KEY, factory or field upgrade)
- **High Performance Audio Encoding and Passthrough:** Encode two stereo pairs of MPEG 1 Layer 2 audio, passthrough Dolby E, or Dolby Digital 5.1 with optional dual stream Dolby Digital AC3 audio encoding.
- **Easy to Use:** Rapidly and accurately configure mediaHUB-HD Pro via the front panel, on-board web application server or SNMP.
- **Highest quality MPEG 2 HD and SD:** When it comes to the best on-air look, mediaHUB-HD Pro delivers with excellent quality Standard and High Definition video encoding. (HD requires purchase of MEDIAHUB-PRO-HD-KEY, factory or field upgrade)
- **Monitor:** Web Browser, front panel LED and LCD visual alarms, SNMP traps and event logging are all standard.

mediaHUB-Pro 02-S added Features

- **Create VOD and DPI-ready Files:** Create Cable Labs compliant Transport streams for use with VOD and DPI.
- **Control with Accuracy:** mediaHUB-HD Pro can control VTR sources or be controlled by a non linear editor (NLE) via RS-422 for frame accurate mark in/out encoding. (Studio version only)
- **Hard Drive Capture:** Frame accurately capture encodes for VOD and DPI applications.
- **Decode While Encode (DWE):** Built-in confidence decoder nearly eliminates the need for external local decoders.

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Specifications

Encoder Video Profiles

MPEG 2 SD Profile 1: Adaptive Field Frame (AFF)
ISO13818-2 MP@ML
MPEG 2 SD Profile 2: AFF ISO13818-2 422P@ML
MPEG 2 HD Profile 2: ISO13818-2 MP@HL
(1920 x 1080 or 1280 x 720)

Video Encoding Data Rates

MPEG 2 MP@ML SD / 1 Mbs-15 Mbs -
NTSC & PAL
MPEG 2 422P@ML SD / 1 Mbs-50 Mbs -
NTSC & PAL
MPEG 2 MP@HL / 7 Mbs-59.5 Mbs

High Definition Video Frame Formats

720p24, 720p50, 720p60, 1080i50, 1080i60

High Definition Video Encode Resolutions

Horizontal Resolutions 1280, 1920 (1440)
Vertical Resolutions 720, 1080

Standard Definition Video Frame Formats

480i, 576i, 480p, 567p

Standard Definition Video Encode Resolutions

Horizontal Resolutions
720, 704, 640, 544, 528, 480, 352
Vertical Resolutions
480, 576

Video Processing

Encoder Filters (SD Only)
Temporal & Spatial (Median)
Time Base Corrector (TBC) on SDI inputs for SD
only Chroma filtering and scaling for NTSC/PAL

Encoder Video Input

Standard Definition (SD) Video Inputs (Encoder)
Analog NTSC and PAL Composite (BNC)
SDI (SMPTE 259M) with embedded audio
(SMPTE 272M)
Auto detect SD 270Mbps for SD
D1 Encoding Only - no internal up-conversion.

High Definition (HD) Video Inputs (Encoder)

HD-SDI input video, (SMPTE 292M) with
embedded audio (SMPTE 299M)
Auto detect HD 1.485 Gbs.

* SDI and HD-SDI are the same connector with auto
standard (resolution and frame rate) detection.

Encoder Audio Profiles

Dolby Digital 2.0 (AC3) dual stream encoders
option.
MPEG1 Layer 2 dual stream encoders included
Dolby E, Dolby 5.1 and Dolby Digital 2.0 (AC3)
passthrough

Encoder Audio Input

Analog Audio 1 Stereo Balanced (5-Pin
Removable Screw Terminal)
Analog Audio 2 Stereo (SAP) Balanced (5-Pin
Removable Screw Terminal)
AES3-1 digital audio input uncompressed (PCM) or
compressed bit stream passthrough from external
Dolby 2.0, 5.1 or Dolby E encoders (BNC - 75
Ohm). Includes compressed bit stream output.
AES3-2 digital audio input uncompressed (PCM) or
compressed bit stream passthrough from external
Dolby 2.0, 5.1 or Dolby E encoders (BNC - 75
Ohm). Includes compressed bitstream output.
SDI embedded (4 pairs) with video per SMPTE
272M for SD and SMPTE 299M for HD. One user
selectable group.
User-defined analog and digital level control with
sample rate conversion on all inputs

Transport Outputs

ISO13818-1 MPEG 2 Transport Stream
(188 byte only) (x3 mirrored outputs)
MPEG 2 Transport via GIGE (UDP or RTP)
MPEG 2 Transport to local storage Constant
Capture to storage (local or NAS)
ASI, IP and Constant Capture operate concurrently

Transport User Data

SMPTE 334 VANC data extraction for IEEE
708/608. Concurrent
User defined VANC Line 7-32 data extraction
supported
Teletext: (NABTS) DVS053 Rev 6

Conditional Access

BISS 1/E option

Table Compliance

MPEG Program Specific Information (PSI) Table
Compliance: PAT; PMT; DVB Service Information (SI)
Table Compliance (Static); SDT; NIT; TDT/TOT; SCTE
35 Splice Point injection; ATSC A65B (PSIP) Table com-
pliance (Static); MGT (TVCT, STT, RRT, EIT)
- For dynamic DVB-SI use Adtec's DTA-3050 and
DTVGuide web hosted EIT SI Server.
- For dynamic A65B PSIP use Adtec's DTA-3051 and
DTVGuide web service

Pro-02-S Decoder Specifications

Decoder Video Output
- Confidence decode of encode via internal bus,
No ASI loop required
- SD/HDSI SMPTE 259M (SD) and SMPTE 292M
(HD) User definable resolution from D1 to 1080i
including scaler for Up and
Down conversion
- Composite D1 Video (NTSC/PAL) Not concurrent
with HD
- HDMI 1.3 No HDCP
- DVB-ASI Input
- Decoder Audio Output (Decodes only one pair)
- SDI Embedded audio stereo audio pair SMPTE
272M (SD)
SMPTE 299M (HD) User defined PID
- HDMI
- No analog audio output

Decoder Video Profiles

MPEG 2 SD Profile 1: Adaptive Field Frame (AFF)
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MPEG 2 SD Profile 2: AFF ISO13818-2 422P@ML
MPEG 2 HD Profile 2: ISO13818-2 MP@HL (1920
x 1080 or 1280 x 720)

Decoder Audio Profiles

Dolby Digital AC-3
MPEG 1 Layer 2

Physical

1 RU chassis (19 x 14 x 1.75)
14 pounds

Power

Start-up: 72 Watts
Operational: 60 Watts

User Interface Requirements

Supported Browsers
- IE 7 and higher
- Firefox 3.0.0 and higher
- Safari 3.0.0 and higher
- Opera 9.0 and higher

Options

MEDIAHUB-PRO-02: Offers standard definition MPEG 2
encoding.

MEDIAHUB-PRO-02-S: Studio version of encoder adds
confidence decoder, RS422 control and 160GB hard
drive.

MEDIAHUB-PRO-HD-KEY: Enables high definition
MPEG 2 encoding. Software Key. Field Upgradable.

MEDIAHUB-PRO-DOLBY-KEY: Adds dual (two-pairs)
stereo Dolby Digital AC3 encode. Software Key. Field
Upgradable

BISS: BISS 1 and BISS E Encryption