**HD Digital Encoder / Modulator**

*Headend Ready for High Density Distribution of HD Video and Digital Signage*

**Superior Video Quality**
- Full MPEG2 implementation
- I, P, and B Frames
- Low latency
- Full motion estimation with a wide search range

**High Reliability**
- Low-stress power system
- Full system instrumentation and monitoring
- Official international regulatory approval
- Forced air cooling for effective thermal control

**Ease of Management**
- Powerful, highly intuitive web interface
- On-site or remote management
- Web accessible instrumentation and management
- Single session configures and manages all connected units
- Front Panel Display for on-site status and management at a glance

**Extensible Architecture**
- Easy downloadable firmware updates
- Future enhancements provided regularly
- Emergency Alert System (EAS)
- Bonus information channel for use with small video loops

**A Clean Headend**

- **HD Satellite Receivers**
  - 24 Composite video and analog audio
- **HDb2312 x2**
  - 12 SD Channels Each
  - 24
- **HD Satellite Receivers**
  - 16 Component video and digital audio
  - 16
- **Digital Signage Players**
  - Uuncrypted HDMI
- **HDb2540 x4**
  - 4 HD Channels Each
- **HDb2840**
  - 4 HD Channels

**Single coax wire carries all channels**

8:1 combiner

**MODEL**

HDb2640 / HDb2620

HD DIGITAL ENCODER/MODULATOR

www amt.com
ZvSync

ZvSync is a digital cable tuner with HDMI, composite, and analog RF outputs. Available in both DVB-T and QAM.

It’s small, affordable, and can be used for:
- Projectors
- TVs Without Tuners
- Monitors

GENERAL

**Model Names**
HDbridge Series 2000, HDb2640 | HDb2620

**Part Numbers**
HDb2640-NA | HDb2620-NA

**Power**
100-240 VAC 50/60 Hz, 60W max. 30W typical IEC 60320-C14

**Cooling**
Dual internal cooling fans, Front inlet, Rear exhaust

**Temperature/Humidity**
Operating +32°F to +113°F (0°C to +45°C) / 10% to 80%, non-condensing

**Vibration**
NSTA 1A in carton

**MTBF**
62,000 hours

**Compliance**
FCC Class A, IEC60065, EN61000 (see manual 70-00031-00), CE, RoHS, RCM C-Tick

**Enclosure Type**
Metal

**Mounting**
Rack ears shipped attached, 1RU high

**Enclosure Dimensions**
1.72 in. (H) x 17.33 in. (W) (without rack mount ears) x 9.9 in. (D)

**System Weight**
6.25 lbs. (2.84 kg)

**Carton Dimensions (individual)**
4.25 in. (H) 30.875 in. (W) 12.125 in. (D)

**Shipping Weight**
7.88 lbs. (3.58 kg)

**Warranty**
5 years

**VIDEO INPUT**

**Component Video x4 or x2**
DIN connector HDbridge end, RCA connectors for HD source up to 1080

**Computer VGA (Analog) x4 or x2**
HD-15 connector, 75 Ohm RGB 0 to 0.7V, Separate H and V sync

**VGA Resolutions Supported**
640x480, 720x480, 800x600, 1024x768, 1152x864, 1176x864, 1280x720, 1280x768, 1280x800, 1280x960, 1280x1024, 1366x768, 1440x900 at 60 Hz, 72, 75, 78, 81, 85 Hz. 1860x1050 and 1920x1080 at 60 Hz. VGA resolutions are broadcast centered in the best vertical fit into 1920x1080p30 or 1280x720p60

**Closed Caption**
EIA/CEA-608 captions accepted over composite video input

**Extra Digital Channel**
MPEG2 Program stream file, up to 200 MB

**AUDIO INPUT**

**Stereo Analog and Digital Audio x4 or x2**
Line level input per channel DIN connector HDbridge end, RCA connector or digital SPDIF audio input, 3.5 mm digital connector with VGA

**VIDEO ENCODER**

**Encoder Video Profile**
MPEG2 HD: ISO13818-2 Main Profile @ High Level

**Traffic Shaping**
Variable bit rate

**Video Encoding Data Rates**
Variable, 10 Mbs - 24 Mbs per channel

**Average Encoding Data Rate**
18 Mbs per channel

**Encoding Latency**
Programmable 200 msec to 400 msec

**Color Profile**
4:2:0

**GOP Size**
16

**Video, Audio PID**
Programmable starting value

**Program Information**
Programmable program name, EIT

**AUDIO ENCODER**

**Encoder Audio Profile**
ATSC A/52, Dolby® Digital (AC-3)

**MODULATOR / UPCONVERTER**

**Modulation Types**
QAM 256 and 64 (ITU-T J83 Annex B) Interleaving modes: (64,2) only

**Cable Standard**
HRC, IRC or STD

**Frequency Range**
Up to 4 paired, frequency-agile QAM RF CATV Channels 2-135
- 2 kHz resolution
- +/− 30 ppm accuracy
- +/− 35 ppm stability

**Output Power**
+45 dBmV typical

**Output Level Adjust**
25 - 45 dBmV in 1dBmV steps

**MER**
> 38 dB typical

**I/Q Amplitude Imbalance**
< 1% typical

**Spectral Tilt**
<= 1 dB over 6 MHz typical

**CONTROL SET-UP**

**Network Interface**
10/100 Mb Ethernet via RJ45 connection IP address via DHEP or set by user HTML/JavaScript served web interface for easy configuration Telnet connection for CLI scripting Easy firmware updates All settings saved in NV storage

**Front Panel Color Display**
Quickly obtain status at a glance, basic configurations, software revisions and updates

www.amt.com

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