HDb2540 / HDb2520-NA
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

Easy Setup
Simple Installation
Quick Rollout

It’s Done.
HDb2540 / HDb2520
HD Digital Encoder/Modulator

GENERAL
Model Names
HDb2540 / HDb2520

Part Numbers
HDb2540-NA / HDb2520-NA

Power
100-240 VAC 50/60 Hz, 60W max. 30W Typical IEC 60332-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
4.25 in. (H) x 30.875 in. W x 12.125 in (D)

System Weight
6.25 lbs. (2.84 kg)

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

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

Warranty
5 years

VIDEO INPUT
Component Video x4 or x2
DIN connector HDb2540 end, RCA connectors for HD source up to 720p

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, 1176x964, 1280x720, 1280x768, 1280x800, 1280x1024, 1360x768, 1440x900 at 60, 70, 72, 75, 85 Hz.

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 HDb2540 end, RCA connector or digital SPDIF audio input. 3.5 mm digital connector with VGA

VIDEO ENCODER
Encoder Video Profile
MPEG2 HD. ISO/IEC13818-2 Main Profile @ High Level

Traffic Shaping
Variable Bit Rate

Video Encoding Data Rates
Variable, 10 Mbs - 25 Mbs per channel

Average Encoding Data Rate
18 Mbs per channel

Encoding Latency
Programmable 200 msec to 400 msec

Color Profile
4:2:0

GDP 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 DHCP 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