**Features**

- Decodes ASI and/or IP to Analog, HDMI, or HD-SDI video
- Companion decoder for our Futura III™ encoders
- Inputs: DVB-ASI input, IP input (UDP/IP or RTP/IP)
- Transcoder with MPEG-2 to H.264 or H.264 to MPEG-2
- Outputs: HDMI, HD/SD-SDI video, Composite (CVBS), Component (optional)
- Ultra Low latency – 100 milliseconds
- 4:2:2 (10 bit) AVC decoder
- Digital, Analog and SDI/HD-SDI embedded audio outputs with 4 audio pairs
- Aspect ratio conversion (4:3, 16:9)
- Magnum chip based – results in incredible quality
- Control of Frame rate, Image enhance, Phase Noise, Correction of Color, Control of Gamma
- Audio decoding: Dolby® Digital® (AC-3), MPEG-1 Layer II, AAC-LC, HE-AAC
- CBR or VBR outputs
- User selectable resolution and bit rate
- Resolutions: 480i 29.97, 576i 25, 720p 50/59.94, 1080i 25/29.97, 1080p 25/29.97
- Supports NTSC or PAL
- Control and monitoring via web browser, front panel, or SNMP

**Applications**

- MPEG-2/4/H.264 HD Decoder
- Decoding analog, HDMI, or HD/SD-SDI video after transmitting over IP
- Converting IP streams to HD-SDI

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**Overview**

MPEG-2 is still the de facto standard codec for Broadcast, Satellite, and Cable content distribution in many parts of the world. H.264 is the emerging standard for broadcast "contribution".

Important events are generally created with 4:2:2 quality since the content may be needed far into the future.

The Furano IP/HDMI-HD SDI™ is a Broadcast oriented low latency MPEG-2 and H.264 decoder with the ability to transcode that supports all of the standard broadcast formats used throughout the world, including all North American standards.

The unit supports ASI and IP input, and HD-SDI, HDMI, and CVBS outputs. The ten bit decoding results in richer color spaces and super crisp video.

Support for embedded audio includes Dolby® Digital® (AC-3), MPEG-1 Layer II, AAC-LC, and HE-AAC.

The Furano is Magnum chip based. Magnum Semiconductor now produces one of the world’s best quality encoder chips.

This unit implements 4:2:2 decoding or transcoding at 100 milliseconds latency. This is unusual since low latency is hard to implement. 4:2:2 color space is often specified for contribution type video distribution.

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**Sample GUI**
### Specifications

**DVB-ASI Input**
- **Transport Stream:** DVB-ASI, one port
- **Packet Format:** 188 Bytes
- **Connector:** BNC (75\(\Omega\))
- **TS Bit Rates:**
  - MPEG-2: 2.5–55 Mbps
  - MPEG-4 AVC: 2.5–55 Mbps

**IP TS Input**
- **IP Stream:** One port
- **Connector:** RJ-45
- **Ethernet Type:** 10/100/1000 Base-T
- **Format:** UDP/IP, RTP/IP
- **IP Address Format:** Multicast, Unicast
- **TS Bit Rates:**
  - MPEG-2: 2.5–55 Mbps
  - MPEG-4 AVC: 2.5–55 Mbps

**RF Input (Optional)**
- **Frequency Range:** 54–864 MHz (Options for 8VSB, QAM, DVB-T, DVB-S)
- **Input Channel:** One channel
- **Impedance:** 75\(\Omega\)
- **Input Level:** -25 dBmV
- **Return Loss:** \(\geq 17\) dB
- **Noise Figure:** VHF 7dB, UHF 9dB

**Video Decoding and Transcoding**
- **Decoding/Transcoding:**
  - MPEG-2 HP@HL, MP@HL , MP@ML
  - MPEG-4 AVC HP@L4, MP@L3
- **Bit Rates:**
  - MPEG-2: 2–50 Mbps
  - MPEG-4 AVC: 0.5–50 Mbps
- **Chroma Formats:**
  - 4:2:0 (8 bit), 4:2:2 (10 bit)
- **Bit Rate Modes:** CBR, VBR
- **Latency:** 100 milliseconds

**Audio Decoding**
- **Sampling Rate:** 32, 48 KHz
- **Dolby® Digital® AC-3 (5.1 Ch):** 128, 192, 256, 384, 448, 512, 576, 640 Kbps
- **MPEG-1 Layer II:** 192, 224, 256, 320, 384 Kbps
- **MPEG-4 AAC-LC:** 32–384 Kbps
- **MPEG-4 HE-AAC v1:** 32–192 Kbps
- **MPEG-4 HE-AAC v2:** 32–96 Kbps

**Audio Output**
- **Analog Output:** Output: One stereo
  - **Frequency Range:** 20 Hz ~ 20 KHz
  - **Impedance:** 600\(\Omega\)
- **Digital Output:** Output: Embedded SDI/HDMI (4 stereo/8ch)
  - **Sampling Rate:** 32, 48 KHz
- **Optical Input:** SPDIF (7.1 Channel) (Pass Through)

**Video Output**
- **Analog Output:** Composite (CVBS), Optional Component
- **Digital Output:** HDMI, SDI (NTSC or PAL)
- **Resolutions:**
  - 480i 29.97, 576i 25, 720p 50/59.94, 1080i 25/29.97, 1080p 25/29.97
- **Aspect Ratio:** 4:3, 16:9

**Ethernet**
- **Connector:** RJ45
- **Interface Type:** 10/100 Base-T
- **Protocols:** SNMP

**Control and Monitoring**
- **Local:** Front panel operation, LCD display
- **Remote:** SNMP, HTTP (Web Interface)

**Physical and Power**
- **Power Supply:** AC 90–230V, 50/60 Hz
- **Power Consumption:** Max. 100W
- **Dimensions – WxHxD:** 19x1.7x15 inches (48 x44x383 mm)
- **Weight:** 8.82 lbs (4 Kg)
- **Operating Temperature:** 14 to 122 ºF (-10~50°C)
- **Conformities:** FCC, CE, LVDS, RoHS

### Ordering Info

**Furano IP/HDMI-HD SDI**
**Furano IP/HDMI-HD SDI/CVBS:** With optional component (YPbPr) output
**Furano IP/HDMI-HD SDI/RF:** With optional RF input – choice of 8VSB, QAM, DVB-T, or DVB-S

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