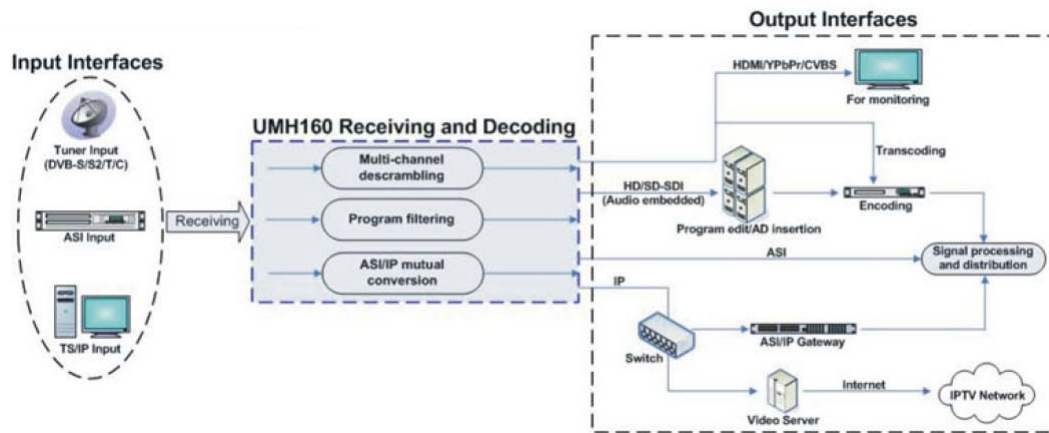**toner**
cable equipment, inc.
www.tonercable.com

UMH 160
H.264 HD/SD Integrated Receiver Decoder

The UMH160 IRD is broadcast quality MPEG-4 AVC video/audio decoder that performs real-time receiving and decoding of HDTV & SDTV over DVB and broadband IP networks. It supports a rich set of input options including DVB-S/S2, DVB-C, DVB-T, DVB-ASI and IP, enabling it to receive and decode programs from different content sources. The output options range from CVBS, YPbPr, HDMI, AES/EBU, DVB-ASI to HD/SD-SDI and IP (Unicast/Multicast/Broadcast), allowing it to integrate with various applications. Controlled and monitored by network managment software and front panel, this user friendly decoder is an ideal equipment for signal conversion and distribution.

Features
• Receive MPEG-2/MPEG-4 signals from various sources including DVB-S/S2/T/C, ASI and IP
• Two common interfaces working simultaneously to support multi-channel decryption
• Program filtering
• Support various outputs including HDMI, YPbPr, CVBS, HD/SD-SDI, ASI and IP
• Optional TS/IP inptut/output enables IP/ASI conversion, IP stream descrambling
• Support multi-channel IP unicast and multicast (SPTS outputs for IPTV)
• Support Pro-MPEG FEC
• Network Management & SNMP support
• BISS I and E support

UMH 160

H.264 HD/SD Integrated Receiver Decoder

TS STREAM INPUT INTERFACES

DVB-S/S2 Inputs
- Constellation   QPSK, 8PSK
- Symbol Rate   1-45 Mbps
- FEC   All rations compliant with standard
- Signal Level   -65~-25 dBm

DVB-T Inputs
- Constellation   COFDM, 2K & 8K FTT
- Symbol Rate   0.45-7 Mbps
- Frequency   45-858 MHz
- Signal Level   -90~-20 dBuV

DVB-C Inputs
- Constellation   QAM (16/32/64/128/256)
- Symbol Rate   3-7 Mbps
- Frequency   50-862 MHz
- Signal Level   32~105 dBuV

DVB-ASI Inputs
- Connector   BNC, 75 ohm
- Packet Length   188 & 204 byte packets
- TS Max Bit Rate   72 Mbps

TS/IP Inputs (optional)
- Connector   100/1000 Base-T, RJ-45
- Error Correction   Pro-MPEG FEC
- Encapsulation Protocol   MPEG-2/MPEG-4 TS over UDP & RTP
- Broadcasting Type   Unicast and Multicast

CONDITION ACCESS
- Interface   Two independent CI slots
- CA Methods   Multicrypt, Simulcrypt
- CAS   Conax, Irdeto, Viacess, Nagravision, CTI, DV-crypt, etc.

Video/Audio Outputs
- 2xCVBS outputs (1 BNC, 1 RCA)
- 1xComponent output (YPbPr)
- 1xHDMI output (with HDCP, 720p & 1080i)
- 1xAES/EBU digital audio output
- 2xHD/SD-SDI outputs (with embedded digital audio)

DVB-ASI Outputs (2)
- Connector   BNC, 75 ohm
- Packet Length   188 byte packets
- TS Max Bit Rate   72 Mbps

TS/IP Outputs (optional)
- Connector   100/1000 Base-T, RJ-45
- Error Correction   Pro-MPEG FEC
- # of Channels   8
- Broadcasting Type   Unicast and Multicast
- Supporting Protocol: DHCP, TCP/IP, ARP, IGMP
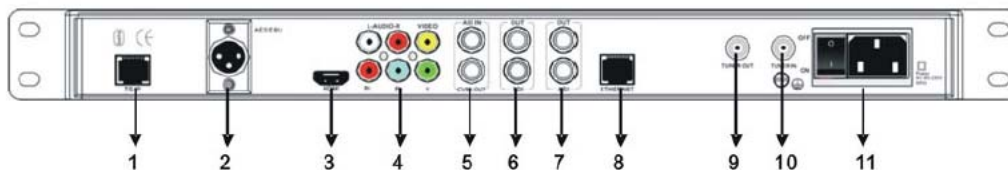
VIDEO & AUDIO DECODING

Video Decoding
- Decoding Formats: MPEG-2 H.264 SD & HD
- Video Formats: 480i, 480p, 576i, 720p, 1080i
- Analog Output   PAL/NTSC/SECAM

Audio Decoding
- 2 stereo pairs audio decoding
- MPEG-1 and MPEG-2 Layer-I, II

PHYSICAL & ENVIRONMENTAL
- Power: AC 90~250V, 50/60Hz, 30W (max)
- Size: 1RU rack mount chassis
- Dimension: 44mm x 484mm x 274mm
- Weight: 3.7 kg

CONFIGURATION & MONITORING
- Front panel keyboard and LCD display
- Network Management Software (SNMP support)

1. Optional IP input/output port (RJ45)
2. AES/EBU digital audio output
3. HDMI output
4. RCA A/V, Component output
5. ASI input & CVBS output (BNC)
6. 2 HD/SD-SDI outputs
7. 2 ASI outputs
8. RJ45 port for network management
9. LNB loop through output
10. DVB-S2 tuner input (DVB-C or DVB-T optional)
11. Power switch