

## Design Criterion

Multi-stream, multi-codec contribution links for satellite, microwave and IP delivery. Chassis accepts **two** upgradable video cores to support coding requirements like 10-bit, OTT and future HEVC compression.

### primary applications:

DSNG flyaways, vehicles and mobile production trucks that require light-weight, silent, low power consumption and dynamic adaptive QoE / QoS. Integrates easily on DSAT-QD Series VSAT for 1 Broadcast Distribution networks that require high availability and integration with a management platform

## Interfaces

### SDI Video Input

SD/HD/3G SDI - BNC X 1 75 Ohm jack  
SD/HD/3G SDI - SPF X 1 with optional Optical Fiber jack  
Auto sensing with rapid auto resolution and frame rate detection.  
SD-SDI (SMPTE 259M - 270 Mbit/s) with embedded audio per SMPTE 272M  
HD-SDI (SMPTE 272M - 1.485 Gbit/s) with embedded audio per SMPTE 299M  
3G-SDI (SMPTE 424M - 2.97 Gbit/s) with embedded audio per SMPTE 299M  
SFP (SMPTE 297-2006)

### Analog Video Input

Analog NTSC or PAL - BNC X 1: 75 Ohm (SMPTE 170M, ITU-R 624-4)

### DVB-ASI Input

DVB-ASI - to 160 Mbps - BNC X 1. Requires optional EN100-REMUX-KEY. Allows two more ASI devices to be linked together for MPTS output via IP, ASI or RF interfaces.

### Audio Inputs

XLR X 4 balanced mono analog (with optional DB15-to-XLR cable)  
AES-2 Digital stereo audio - NBC x 8  
SDI Embedded - 8 lower channels + 8 upper channels (optional) for total of 16 phase-aligned mono channels.

### DVB-ASI Output

DVB-ASI - to 160 Mbps - BNC x 3 mirrored.  
SO13818-1 MPEG 2 Transport Stream per EN 50083-9:1997 (188 byte only)

## Ethernet Output

UDP/IP, RTP/IP, and SMPTE2022 FEC - GigE with support for 4 concurrent destinations. Reliable TCP/IP support planned for 2014.

## Satellite Modulation (hardware option)

Newtec OEM modules factory configured for either L-band or IF output (choose one).  
DVB-S/S2 QPSK/8PSK 1-30Ms (standard)  
DVB-S2 16APSK, 32 APSK, 45 megasymbols and 5% rolloff with optional licenses.  
IF 50-180MHz output - F-style X 2  
L-Band 950-2150 MHz output - F-style X 2  
10MHz reference input (standard with L-band)  
10MHz reference generator/combiner (option)

## Video Compression

### Resolutions

1080i59, 720P59, 1080i50, 720P50, and D1. NTSC and PAL with support for down scaled HD and SD video resolution options.

### Standards - VE1 Processor only

HD H.264 - MPEG 4 (AVC): MP@L3.0, MP@L3.1, MP@L3.2, Hi422P@L4.0, Hi422P@L4.1, MP@L4.2.  
SD H.264 - MPEG 4 (AVC): MP@L3.0, MP@L3.1, MP@L3.2.

### Entropy Coding (lossless modes)

Selectable CABAC / CA VLC lossless coding at all data rates (VE1 8-bit / VE2 10-bit).

### Adaptive QoE / QoS

Dynamic Adaptive Bit Rate with continuous incremental adjustment. (VE1 only). Requires EN100-ABR-KEY.

### Standards - VE2 Processor only

Multi-stream, Multi-Resolution capable.  
MPEG-2 MP@ML, MP@HL 422P@ML, 422P@HL. Rates from 2Mb/s to 80Mb/s.  
H.264 10-Bit HD/SD 420 422

## Audio Compression

### Standards

PCM/Dolby-E passthrough aligned with video.  
MPEG-1 Layer 2 - 32/44.1/48kHz sample rates range: 32Kbps to 384Kbps  
Dolby AC3 - 48kHz sample rate, range: 64Kbps to 640 Kbps (optional license)  
AAC-HE+ - 32/44.1/48kHz sample rates range: 32Kbps to 384Kbps (optional license)

## End-to-End Latency

### Proprietary Modes

Ultra-low ~33 milliseconds or 1 video frame.  
Dynamic long GOP of Index/Predictive frames.  
Requires VE1 core and EN100-LAT-KEY

## Core Features

### Test Signal Generation

(Video)  
Color bars  
User-definable OSD  
Black Burst (Audio)  
User-definable Tone frequencies 440Hz to 2.5KHz.  
Bar graph loudness indicator  
L/R Mute

### Web-browser Monitoring

Video Thumbnail images (15 fps MJPEG)  
Audio Signal Visual + Auditory

### System Integration

SNMP v3 MIBs  
GPIO on-air monitoring - 1 x DB9  
RS422 serial control - 1 x DB9  
DVC - programmable - 1 x DB9  
embeds SCTE35 opt-out cues

## Physical and Power

### Weight and Dimensions

1 RU chassis - 19" x 18" x 1.75" - 5 lbs  
48.2 x 4.4 x 45.7cm - 4.3 Kg

### Electrical and Mains

Dual 90W AC Power Supplies with auto switching 70-240VAC mains

### Power Usage

35 Watts start-up / 12 Watts steady  
Generates < 10 BTU/hr heat

### Cooling and Loudness

Video Processor Core operates at 10C over ambient.  
Dynamically controlled silent ventilation  
Generates ~ 0 dB of ambient noise

## Service

Adtec Productions Inc.  
2231 Corporate Square Blvd  
Jacksonville, FL 32216  
+1 904-720-2003

## Sales

Digisat International Inc.  
Phone: +1 321-676-5250  
e: sales (at) digisat.org  
www.digisat.org

