

KUDOS+PLUS

The **Mach HD** is a HD motion compensated standards and cross converter with synchronization capability. It has HD inputs and outputs, and is capable of providing upconversion, downconversion, and crossconversion both within and between frame rates.

Mach HD is AFD ready, enabling integration of SMPTE 2016 (AFD) into your workflow.

In addition, the product handles embedded, AES (balanced and unbalanced) and analog audio, with a range of additional features such as Aspect Ratio Conversion (ARC) and color space conversion.

The Mach HD has dual redundant PSU capability and is provided in 1RU rack mounting housing with remote control capability via Ethernet.

Kudos Plus™ Mach HD

HD & SD Motion Compensated Standards Converter with Synchronizer, Up, Down & Cross Conversion



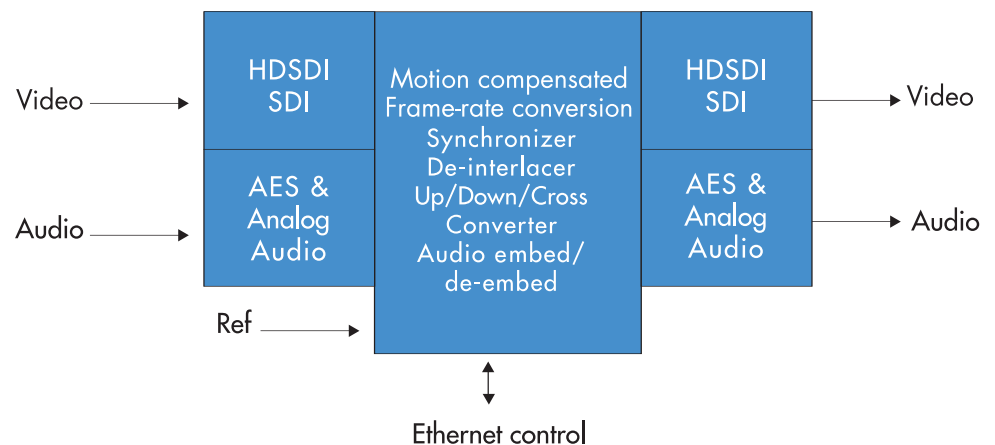
Features

- Motion compensated HD & SD standards conversion
- Advanced format conversion (up, down & cross)
- Automatic Aspect Ratio Conversion (AFD, VI, L23)
- Proprietary multi-point vertical-temporal aperture
- Proc Amp
- Multi-rate HD/SD SDI inputs & outputs
- Two SDI inputs, switchable
- Two SDI outputs
- AES, analog & embedded audio
- Audio processing & routing
- Reference loop through (Bi/Tri Sync)
- Front panel control
- Ethernet remote control
- Compact 1RU form factor
- Dual redundant power supplies

Applications

- Satellite down-link & radio links
- News & events
- Dubbing & duplication
- Audio embedding & extraction
- Ingest / PC capture pre-processing
- Monitoring

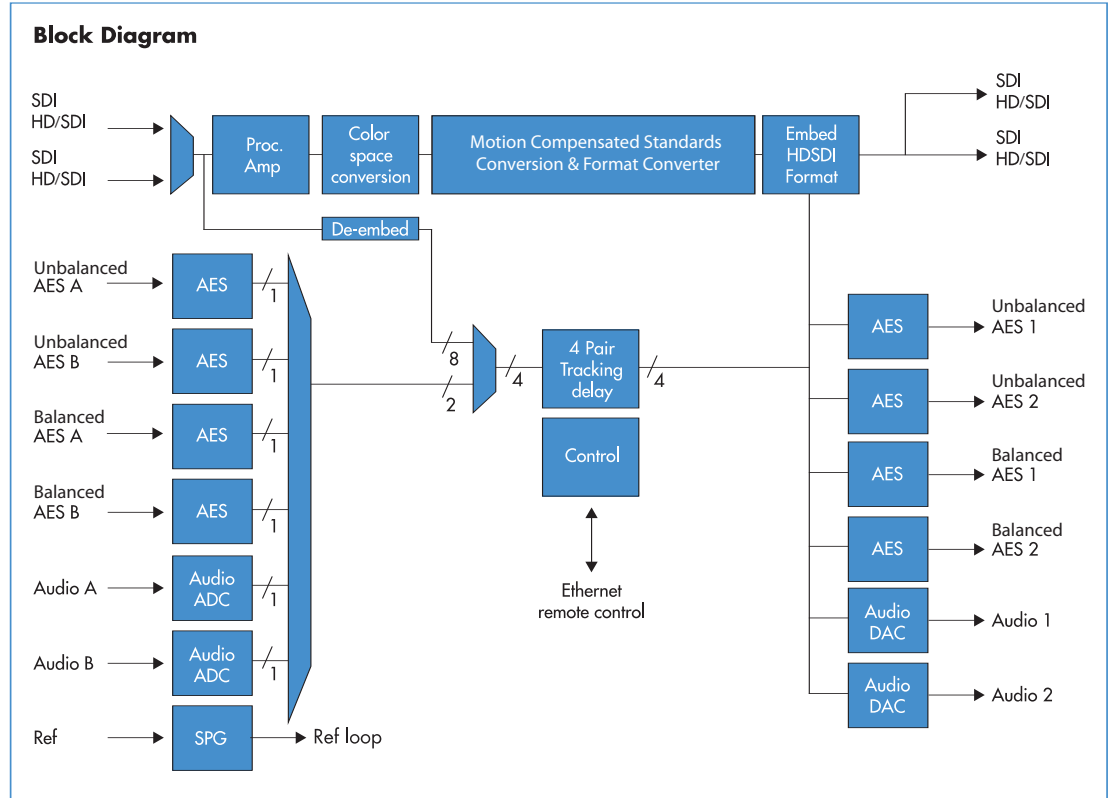
I/O Diagram



Full Product List

Base Model

Kudos Plus Mach HD (5068000)
 HD motion compensated standards converter, format converter and synchronizer with AES (balanced and unbalanced), analog and embedded audio, including redundant PSU.



Mach HD (5068000)



Inputs and Outputs

Signal Inputs

Serial Digital	2 x 75 Ohm SD/HD Serial Digital with embedded audio Input Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s HD-SDI SMPTE259M
Reference	1 x loop-through HDTV Trisync/SD Bi-sync (Black & Burst) SMPTE 240M/274M
Audio AES	2 x Balanced AES inputs - via 25 way D Type 2 x Un-balanced AES inputs – via 2 x BNC
Audio Analog	2 x Stereo Analog inputs via 25 way D Type

Signal Outputs

Serial Digital	2 x 75 Ohm SD/HD Serial Digital with embedded audio Output Standards: 1.5 Gbit/s HD-SDI SMPTE292M/SMPTE299M 270M Mbit/s HD-SDI SMPTE259M
Audio AES	2 x Balanced AES outputs - via 25 way D Type 2 x Un-balanced AES outputs - via 2 x BNC
Audio Analog	2 x Stereo Analog outputs via 25 way D Type

Control

Remote control	10/100 BaseT Ethernet
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Control Functions

Input Select	Input A, Input B
Input Standard	525, 625 720P 50, 59.94 1080i 50, 59.94
Output Standard	525, 625 720P 50, 59.94 1080i 50, 59.94

Conversion Functions

Modes	SD Standards Conversion HD Standards Conversion Up Conversion Down Conversion Cross Conversion
Manual or automatic ARC	AFD (SMPTE 2016) VI (RP186) WSS (L23)
SD Input Format	Normal 4:3 Anamorphic 16:9 Letterbox 14:9 Letterbox 16:9
SD Output Format	Normal 4:3 Anamorphic 16:9 Letterbox 14:9 Letterbox 16:9
Auto Zoom	On/Off
Manual Zoom	Zoom +/- 20%
Safe Area Marker	Off, 16:9, 4:3

Audio Functions

Processing	2 Groups, (4 Stereo pairs, 8 channels) Internal Channel A,B,C,D
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Audio Source Selection

De-embed channel [1:16]
Analog A Left, Analog A Right
Analog B Left, Analog B Right
AESU A Left, AESU A Right
AESU B Left, AESU B Right
AESB A Left, AESB A Right
AESB B Left, AESB B Right
Tone, Mute

Audio Source Routing

Pair or Channel Selectable
Pair A, Pair B, Pair C, Pair D
A Left, A Right, B Left, B Right
C Left, C Right, D Left, D Right

Analog Output

AES Output

Embedded Group A&B

Embedded Group C&D

Analog Headroom

Audio Gain (A,B,C,D)

Analog level

Tone Frequency

System

Pattern

Proc Amp

Pair A & B
A & B
Group1, Group2, Group3, Group4, Off
Group1, Group2, Group3, Group4, Off
+12 to +24dbu (+18dbu) in 05dB steps
+18 to -18dB (0dB) in 0.1dB steps
+12 to +24dbu (+18dbu) in 05dB steps
100Hz to 10kHz in 100Hz steps

Off, Black, Ramp, Bars
Black Level
+100 to -100mV (0) in 0.8mV steps
Contrast
-6dB to +6dB (0) in 0.2dB steps
Saturation
-6dB to +6dB (0) in 0.2dB steps
Y Gamma
0.4 to 1.7 (1) in 0.1 steps
On/Off

Freeze

Genlock

Control Source

Status

About

Reference lock, Input lock (same format), Follow input (same frame rate), Free run
Front panel or remote control
Input Standard
Output Standard
Input Source
Audio Present
Version
Current IP address
MAC address

Communications

Remote Control

DHCP

IP Net Mask

Default IP Address

Default Gateway

IP Multicast

ID Multicast

Power

Input Voltage Range (Primary)

Input Voltage Range (Secondary)

Mechanical

Temperature Range

Cooling

Weight

Case Type

Dimensions

Ethernet control interface for web based applet. Integration into RollCall network (IP) using RollTop PC application
On/Off
255.255.255.255
255.255.255.255
255.255.255.255
255.255.255.255
0 to 126

100 – 240 VAC, 47 – 63Hz 0.4A
via three pin IEC power socket.

100 – 240 VAC, 47 – 63Hz 0.4A
via three pin IEC power socket.

0 to 45° C operating
Internal Fan, side venting
Approximately 3kg
1RU, Rack Mounting
44mm x 440mm x 255mm (h, w, d)

Putting Pictures to Work™

SNELL & WILCOX™

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