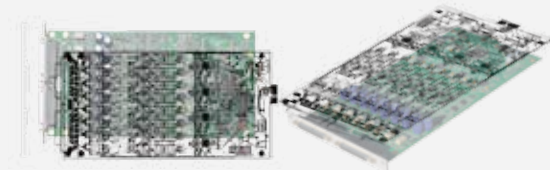## Hapi Key Features
• 8x AES/EBU + 8x ADAT or 2x SPDIF (Optical)
• Works from 44.1kHz to 192kHz (Premium up to DXD/DSD256)
• Signal routing from any input to any combination of outputs
• RAVENNA / AES67 Compatible
• Browser-based remote access using any web enabled device
• AC or DC power supply options
• Modular design for additional analog and Digital I/O
• Near-zero latency from in to out (<1ms)

AD8D/AD8DP Key Features
• 8 x exceptionally transparent, Swiss designed pre-amplifiers
• Analog Direct Output Before A to D Stage
• Completely remote accessible for all parameter changes
• Phantom Power/Phase/Low Cut switchable per channel
• Better than 120dB dynamic range

AD8D/AD8DP Mic-Pre Analog Section
Frequency response +0/-0.5 dB, Line	5 Hz - 75 kHz
Frequency response +0/-2.0 dB, Line	2.5 Hz - 150 kHz
Frequency response +0/-0.5 dB, Mic	10 Hz - 100 kHz
Frequency response +0/-2.0 dB, Mic	5 Hz - 200 kHz
THD+N (1 kHz), Line/Mic at G=0dB	<-115 dB (0.00018 %)
THD+N (20 Hz-20 kHz) , Line/Mic at G=0dB	<-112 dB (0.00025 %)
Interchannel Crosstalk @ 1kHz, typ.	-135dB
5° low-end in-channel Ø deviation pt: Line	13 Hz
5° low-end in-channel Ø deviation pt: Mic	35 Hz
Interchannel phase 10 Hz - 100 kHz	< ±0.1°
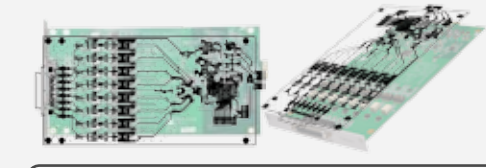
DA8/DA8P Key Features
• Auto-mute circuitry for "no-pop" power cycling
• Digitally controlled trims for line up procedures
• Dynamic range of 126dB (A-weighted, typ.)
• Easy to set dip switches for international operating levels

RAVENNA / AES67 Key Features
• Sub-millisecond Latency
• Over 400 bidirectional channels @1FS on one CAT5e /CAT6
• Sample-accurate play-out alignment
• QoS support
• Full network redundancy
• Utilizes standard protocols on IP layer
• Operate on existing networks (PTP-aware switches recommended)
• Operation in shared traffic environment (with QoS in place)
• Easy to configure and maintain Ravenna networks

Hapi Specifications
Case Material	Powder Coated Steel
Front Panel Material	Brushed Aluminum
Weight (excluding redundant PS)	4.5 kg / 10 lbs
Dimensions (1U rack mounting)	483 x 320 x 44 mm
Voltage (AC)	90V–260V, 47–63 Hz
Voltage (DC)	10-14V
Power Consumption (Max)	< 30 Watts
Front Panel TFT size/resolution	OLED (160x128 px)
Headphone Monitor Jacks	
Max output Level (Unbalanced) Load = 300 Ohms	+14.5 dBu
Output Impedance	75 Ω
Dynamic Range (A-weighted, typ.)	112 dB
THD+N (1 kHz) @ -2 dBFS	< -100 dB (0.001 %)
Gain Range (software controlled)	-∞ dB to +12 dB
Gain Step/Precision	1dB / ±0.05 dB
Connectors	
"Sync" Cable (LTC/Video Ref/MIDI)	D-Sub 15Pin
LTC In & Out (via "Sync" Cable)	Balanced XLR
Video Reference In (via "Sync" Cable)	BNC
MTC (I/O via "Sync" Cable)	5-Pin DIN
Word Clock Input (Switchable 75 Ω Termination)	BNC, 0.5Vp-p min
Word Clock Output (Zout = 35 Ω)	BNC, 5Vp-p
AES-EBU type/pinout	DB-25 (Tascam Dig.)
ADAT / SPDIF	Optical Toslink
Heaphone Jack 1&2	6.3 mm(1/4")/3.5mm
RAVENNA Primary / Secondary (GbE)	RJ45

AD8D/AD8DP Mic/Line Option Card Specifications
MIc Pre-Amp + ADC
|	
Mic Pre Max Input (Pad On / Pad Off)	+24 dBu / +13 dBu
Input Impedance (Differential)	>2 kΩ
Dynamic Range (A-weighted, typ.) , ref +13 dBu	122 dB
Gain Range (software controlled)	0 dB to +66 dB
Gain Step/Precision	0.5 dB / ±0.2 dB
THD+N Pre + A/D (20 Hz-20 kHz) @ -2 dBFS (AD8/AD8P)	0.0016 % / 0.001 %
Interchannel Crosstalk @ 1kHz, typ.	-125 dB
EIN @ >40 dB Gain (150Ω Source Impedance, A-weighted, typ)	-128 dBu
Common Mode Rejection Rate @ 1kHz, typ.	75 dB
Phantom Power (Software Switchable Per Channel)	+48V
Phase Reverse (Software Switchable Per Channel)	YES
Low Cut filter (Software Switchable Per Channel)	-12 dB/octave, 80 Hz
Line Input	
Max Line Input for 0 dBFS	+24 dBu
Input Impedance (Differential)	6.5 kΩ
Dynamic Range (A-weighted, typ.), ref +24 dBu	122 dB
THD+N Line+A/D (20 Hz-20 kHz) @ -10 dBFS, typ.	-106 dB (0.0005%)
Interchannel Crosstalk @ 1kHz, typ.	-125 dB
Sensitivity Range for 0 dBFS (software controlled)	+4 dBu to +24 dBu
Gain Step/Precision	0.5 dB / ±0.2 dB
Common Mode Rejection Rate @ 1kHz, typ.	75 dB
Connector Pinout	DB-25 (Tascam Ana.)

## DA8/DA8P Line Output Option Card Specifications
Max Line Output @ 0 dBFS (jumpers on +24 dBu)	+24 dBu +0/-0.5 dB
Frequency response +0/-0.3dB @ fs = 48000 Hz	6 Hz – 20 kHz
Frequency response +0/-0.3dB @ fs = 2.8224 MHz (DSD)	NA / 6 Hz – 20 kHz
Frequency response +0/-3.0dB @ fs = 2.8224 MHz (DSD)	NA / 2 Hz – 50 kHz
Line Output Impedance (Differential)	100 Ω
Dynamic Range (A-weighted, typ.)	126 dB
THD+N D/A (1 kHz) @ 0 dBFS (IOM-HORUS-DA8)	< -113dB (0.00022 %)
THD+N D/A (1 kHz) @ 0 dBFS (IOM-HORUS-DA8P)	< -115dB (0.00018 %)
Interchannel Crosstalk @ 1kHz, typ.	-135 dB
Connector Pinout	DB-25 (Tascam Ana.)

Software Specifications
RAVENNA 32bit MassCore Driver	Pyramix 8.0 or Higher / Win7 32bit
RAVENNA 64bit MassCore Driver	Pyramix 9.0 or Higher / Win7 64bit
Windows Driver/OS	ASIO 2.2 / Win7 32 or 64bit
Mac Driver/OS	CoreAudio / MacOS 10.8.5 or higher (Intel)
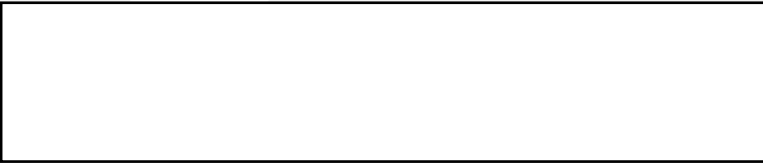
HAPI
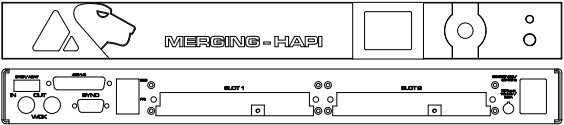
RAVENNA - AES67 NETWORK I/O
Ultimate Portability & Total Flexibility

MERGING - HAPI

MERGING

Small is Beautiful...

Meet Hapi, the son of Horus. Born from the most flexible and sonically transparent audio interface and providing the same RAVENNA / AES67 connectivity as its father, Hapi is both the perfect primary interface for smaller systems as well as the ultimate accessory for a system using Horus where control room I/O is required.

The Hapi Base Unit

Horus Quality, Hapi size.
Able to hold both the standard and premium analog cards from the Horus means that Hapi owners get the exact same sound that Horus users have been winning awards with for almost 2 years now.

RAVENNA and AES67
Using RAVENNA (AES67 compatible), Hapi is able to provide flexible connectivity of every single input and output across standard networks, using off-the-shelf network equipment. The future is most definitely networked audio, and Hapi provides it today.

Complete Control over LAN
Hapi is designed to fit into hard to reach places. So, Hapi comes with the same web-browser based control interface allowing any web-enabled device to access all the parameters of each Hapi unit over the network.

Synchronize your Network
Hapi can be synchronized to video input (black burst or trilevel HD), word clock, network (PTP), AES-EBU, ADAT, SPDIF, MADI or internal clock. It can also serve as network grandmaster (PTP).

The Option Cards

AD8D/AD8DP Mic/Line Input Card
These remotely controlled cards have set a new benchmark in analog circuitry design and come with Analog Direct O/P as standard. Available in models that work up to 192kHz (**AD8D**) and DXD/DSD256 (**AD8DP**)

DA8/DA8P Analog Output Card
The **DA8** (up to 192kHz) and the **DA8P** (up to 384kHz/DXD/DSD256) have consistently shown in testing to be one of the quietest and most transparent multichannel D/A conversion modules in the world

MADM/MADS MADI Option Card
The MADI option card (**MADM**: Multimode/ **MADS**: Singlemode) offers 64 channels of both coaxial and optical MADI I/O for use at sample rates from 44.1 up to 384kHz/DXD

What is In the Box?
8 (4 Stereo) AES/EBU I/O
8 ADAT I/O or 2 SPDIF I/O
Wordclock I/O
LTC/MIDI/Video Reference
RAVENNA / AES67 Port
2 Option Slots for AD, DA or MADI
AC and DC (optional) power input

Detachable Rackmounting Brackets

Example Hapi Configurations

HAPI 16|18:   Digital Only *

HAPI 24|26:   8 Mic/Line Analog Inputs + 8 Analog Outputs *

HAPI 16|26:   8 Analog Outputs *

HAPI 24|18:   8 Mic/Line Inputs *

HAPI 32|18:   16 Mic/Line Inputs *

HAPI 16|34:   16 Analog Outputs *

HAPI 80|90:   64 MADI Coaxial/Optical + 8 Analog Outputs *

HAPI 24|26P: 8 Mic/Line Inputs + 8 Analog Outputs DXD/DSD*

* All units come as standard with 8 AES/EBU + 8 ADAT or 2 SPDIF I/O

The Perfect Solution For:

Control Room I/O for RAVENNA Studios
When Horus is doing the heavy lifting in the live room, let Hapi be the perfect complement to your RAVENNA or AES67 connected control room by providing pristine talkback and multichannel speaker outputs.

3rd Party Workstations Welcome
Mac or PC, users now have access to one of the most sonically impressive mic preamps and ADDA interfaces the audio industry has ever seen. Using dedicated RAVENNA/AES67 drivers, users of any software on either the Mac or PC platform are able to use Hapi as their I/O solution.

Small I/O Stage Box
For recording setups where smaller amounts of inputs or outputs are needed in a variety of locations around the room, Hapi provides a cost-effective solution with mind-blowing results.

The Ultimate Mastering Interface
With analog option cards that match a level of quality never heard of before (no pun intended) and one of the only converters ever to be known for "not having a sound at all", Hapi is able to provide just the right amount of I/O without pushing budgets too far.

Post-Production I/O
The perfect post interface has arrived. Just enough analog and digital I/O and a comprehensive set of referenced sync options including LTC/MTC and video reference, all connected using nothing more than a simple CAT5E/CAT6 cable. And, matched with the IRIS Networked Post System, Hapi provides a professional I/O solution for the truly networked post studio.

Installation AV with Ovation
Match the power of Merging's multichannel audio and show sequencer with Hapi units placed strategically around the installation to provide the ultimate flexibility in creative AV.