RAVENNA 2020 Webinar Series

Products & Applications:
AoIP Bridging with Ross IGGY Platform

Tue, July 14, 2020
15:00 h (CEST)

Bill Rounopoulos

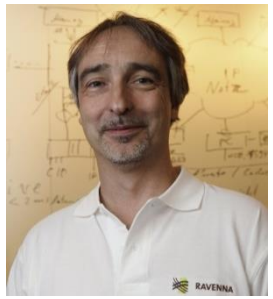
Angelo Santos

Ross Video

ROSS®
LIVING LIVE!

ALC NetworX

Your Host



Andreas Hildebrand, RAVENNA Technology Evangelist

- more than 25 years in the professional audio / broadcasting industry
- graduate diploma in computer science
- R&D, project & product management experience
- member of AES67 TG and ST2110 DG

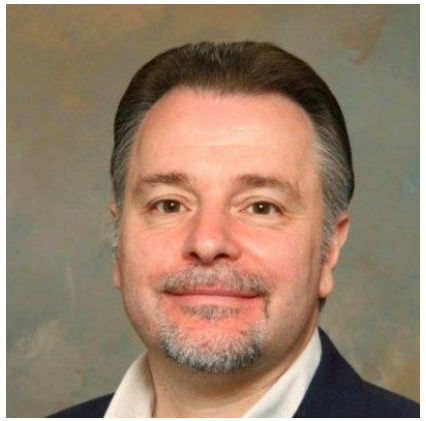
ALC NetworX GmbH, Munich / Germany

- established 2008
- R&D center
- developing & promoting RAVENNA
- Partnerships with > 40 manufacturers

RAVENNA

- IP media networking technology
- designed to meet requirements of professional audio / broadcasting applications
- open technology approach, license-free
- fully AES67-compliant (*built-in*)

Today's Presenters



Bill Rounopoulos

Business Development Manager,
OEM & Partnerships

Ross Video, Canada

bill.rounopoulos@rossvideo.com

Angelo Santos

Solutions Architect,
IP Solutions and Signal Processing Gear

Ross Video, Canada

angelo.santos@rossvideo.com

Products & Applications: AoIP Bridging with Ross IGGY


ROSS
IGGY
You down with it?
IGGY
Broadly Interoperable
AES67/ST2110 Audio Bridges

COMPACT RAVENNA/ AES67/ ST2110 AUDIO BRIDGE PLATFORM

iggy, our family of compact, fully-featured audio-over-IP bridges, offers the most ***broadly interoperable, flexible and robust*** AES67 & ST2110 implementation on the market

The **iggy** convenient form factor provides incredible flexibility to effortlessly deploy IP audio bridging wherever you need it in your studio, truck, on-stage or in a fly-pack.

Don’t let bulky equipment or incompatible AES67/ ST2110 implementations get in your way; ***get iggy and get grooving!***

KEY FEATURES

- **Compact form factor** can easily be deployed anywhere without compromising on channel density
- **Broadly interoperable audio-over-IP** with proven and complete AES67/ST2110 networking, together with versatile clocking features to enable a solid connection every time
- **Robust and flexible design:** effortlessly adapts to your environment with ***flexible*** mounting options, power over Ethernet, redundant power, hitless audio interfaces and ***silent*** for use in-studio
- **Networked audio without barriers**: natively bridge multiple audio networking solutions, such as SAP, RAVENNA, NMOS*, Livewire+, EmBER+, JSON and DashBoard

OPEN CONTROL FEATURES

- Discovery and Registration
  - RAVENNA
  - NMOS IS-04*
  - SAP
  - Livewire+
- Connection Management
  - EmBER+
  - JSON API
  - NMOS IS-05*
  - ANEMAN
  - Livewire+
- Configuration
  - DashBoard
  - JSON API
  - WebUI
- GPIO via RossTalk and TSL
- ***Note**: no support of legacy Dante nor Livewire proprietary transport formats*

AES67 / ST2110 FEATURES

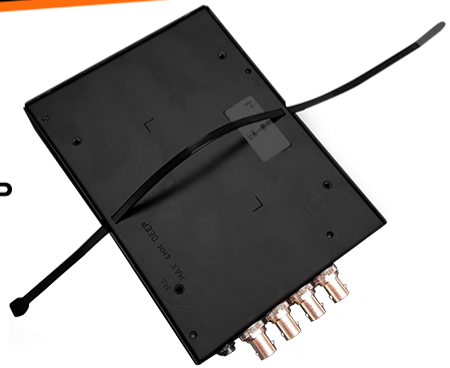
- 64 audio receivers 64 audio senders
  - ST2022-7 hitless 1+1 redundancy per sender and receiver
- Packet times: 125µs, 250µs, and 1ms
  - 6, 12 & 48 samples per packet
- Sample rates: 48kHz & 44.1kHz with ASRC
  - 88.2kHz/96kHz also supported, but without ASRC
- 1..80 channels, configurable per audio stream
- Audio formats: L32, L24, L16, AM824 & ST2110-31 configurable per stream
- Flexible clocking
  - Iggy as PTP Slave with recovered Wordclock out
  - Wordclock input to use Iggy as PTP Master (future release)
  - Multiple supported PTP profiles: ST2059, Media, Default and gPTP

MECHANICAL FEATURES

- 3 x Iggy sit securely on a 1RU shelf
- Studio Quiet (no fans)
- Power-over-Ethernet and optional backup brick
- Locking connectors, including Neutrik Ethernet RJ45 connectors
- Robust throw-down enclosure

iggy IP GEAR

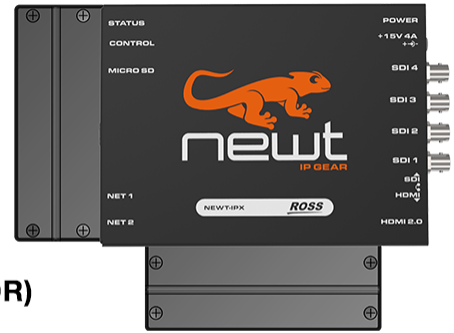
newt IP GEAR



TIE WRAP

MOUNTING EARS
(E.G. UNDER DESK, ...)
ORDERING CODE: GEAR-BRKT-EARS

RACK SHELF
ORDERING CODE: GEAR-SHELF



VESA BRACKETS
(E.G. BACK OF MONITOR)
ORDERING CODE: GEAR-VESA100

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IGGY FAMILY

- IGGY-MADI
- IGGY-AES16.16
- IGGY-1RU
- More to come…

HIGH IMPACT EFFICIENCY

Flexible AES audio-over-IP conversion wherever you want it
Cost effectively and effortlessly satisfy your MADI audio IP conversion needs

CELEBRATING 10 YEARS RAVENNA AES67 & ST 2110 built-in

COMPACT AES67 / ST 2110 TO MADI AUDIO BRIDGE

MADI 64 MADI channels in/ out

- IP Bridge that adapts to any environment
- Cost effective MADI to IP conversion
- Coax, multimode or single-mode fiber
- Broad interoperability
- Robust, w/ redundancy in its DNA

EMBER+ · RAVENNA AES67 built-in Now with ST2110! · networked media NMOS open specifications · TSL · ANEMAN Audio Network Manager · DashBoard · AES67 Livewire+

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HIGH IMPACT EFFICIENCY

Flexible AES audio-over-IP conversion wherever you want it

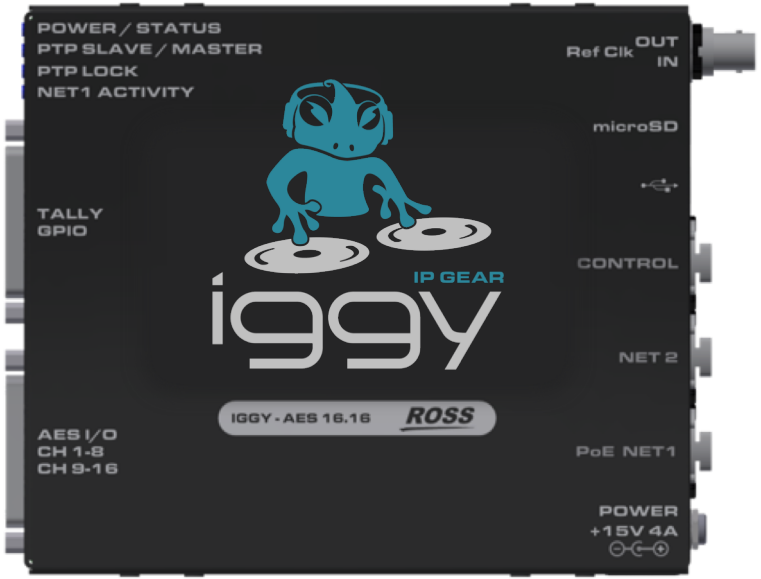
Cost effectively and effortlessly satisfy your AES audio IP conversion needs

CELEBRATING 10 YEARS RAVENNA AES67 & ST 2110 built-in

COMPACT AES67 / ST 2110 TO AES3 AUDIO BRIDGE

AES 16.16 16 AES3 channels in/ out

- IP Bridge that adapts to any environment
- Unparalleled channel density
- Broad interoperability
- Robust, w/ redundancy in its DNA



EMBER+ RAVENNA AES67 built-in Now with ST2110! networked media NMOS open specifications TSL ANEMAN Audio Network Manager DashBoard

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HIGH IMPACT EFFICIENCY

Flexible modularity to optimally align to your audio conversion needs
Combine IGGY's in 1RU or re-use them separately to perfectly meet your bridging needs

CELEBRATING 10 YEARS RAVENNA AES67 & ST 2110 built-in

MODULAR RAVENNA/ AES67 / ST 2110 AUDIO BRIDGE SUPPORTING AES3 OR MADI IN A 1RU

1RU High density Optimum Modularity

- Mix-and-match any three IGGY bridges
- Combine audio flavors: MADI or AES3
- Industry-leading: 36 AES3 channels in a 1RU
- Flexibility: Re-purpose individual IGGY's later
- Buy exactly what you need

EMBER+ · RAVENNA AES67 built-in Now with ST2110! · networked media NMOS open specifications · TSL · ANEMAN Audio Network Manager · DashBoard

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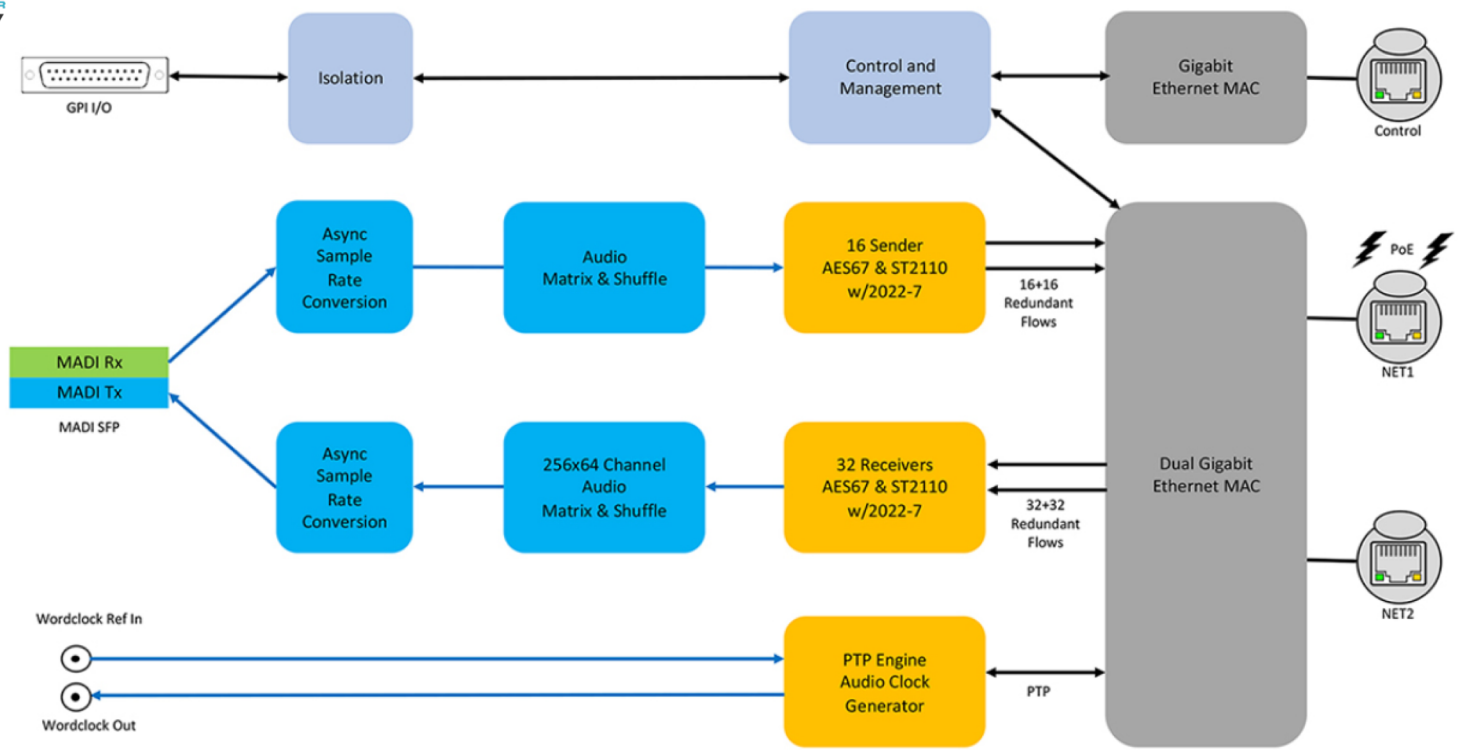
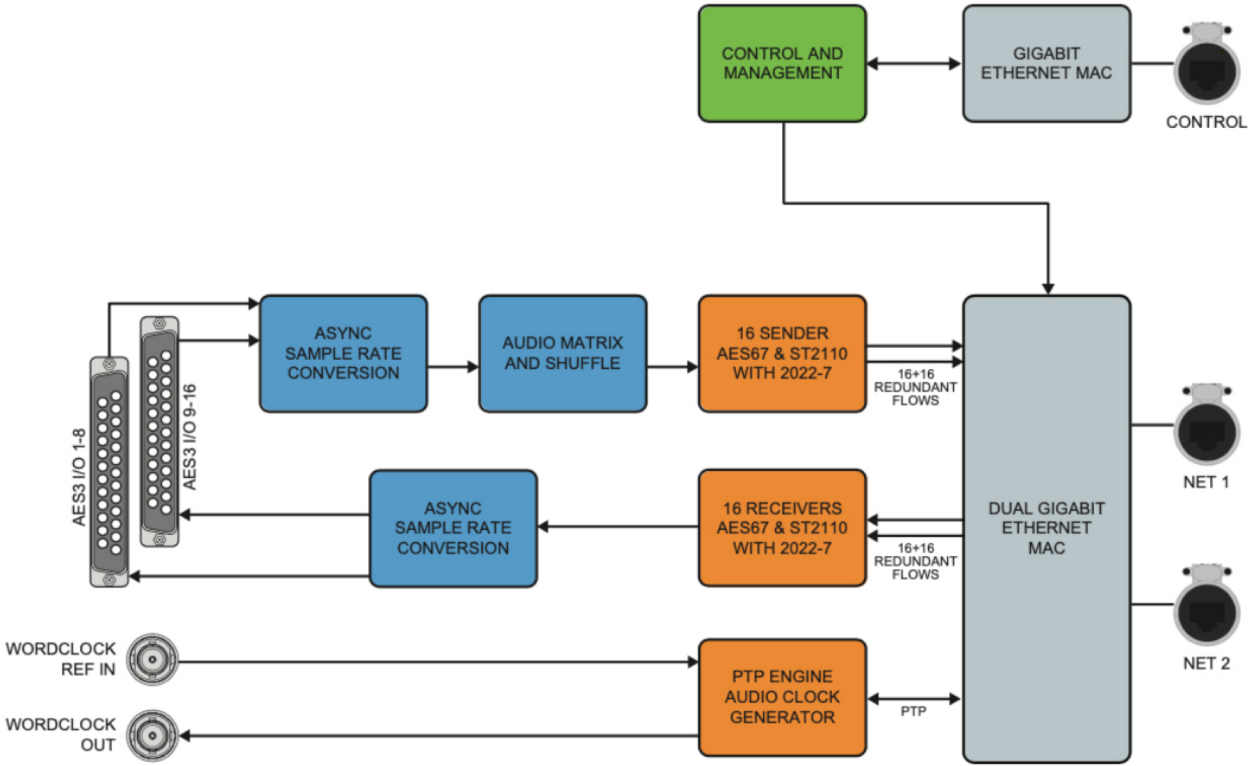
IGGY-MADI BLOCK DIAGRAM



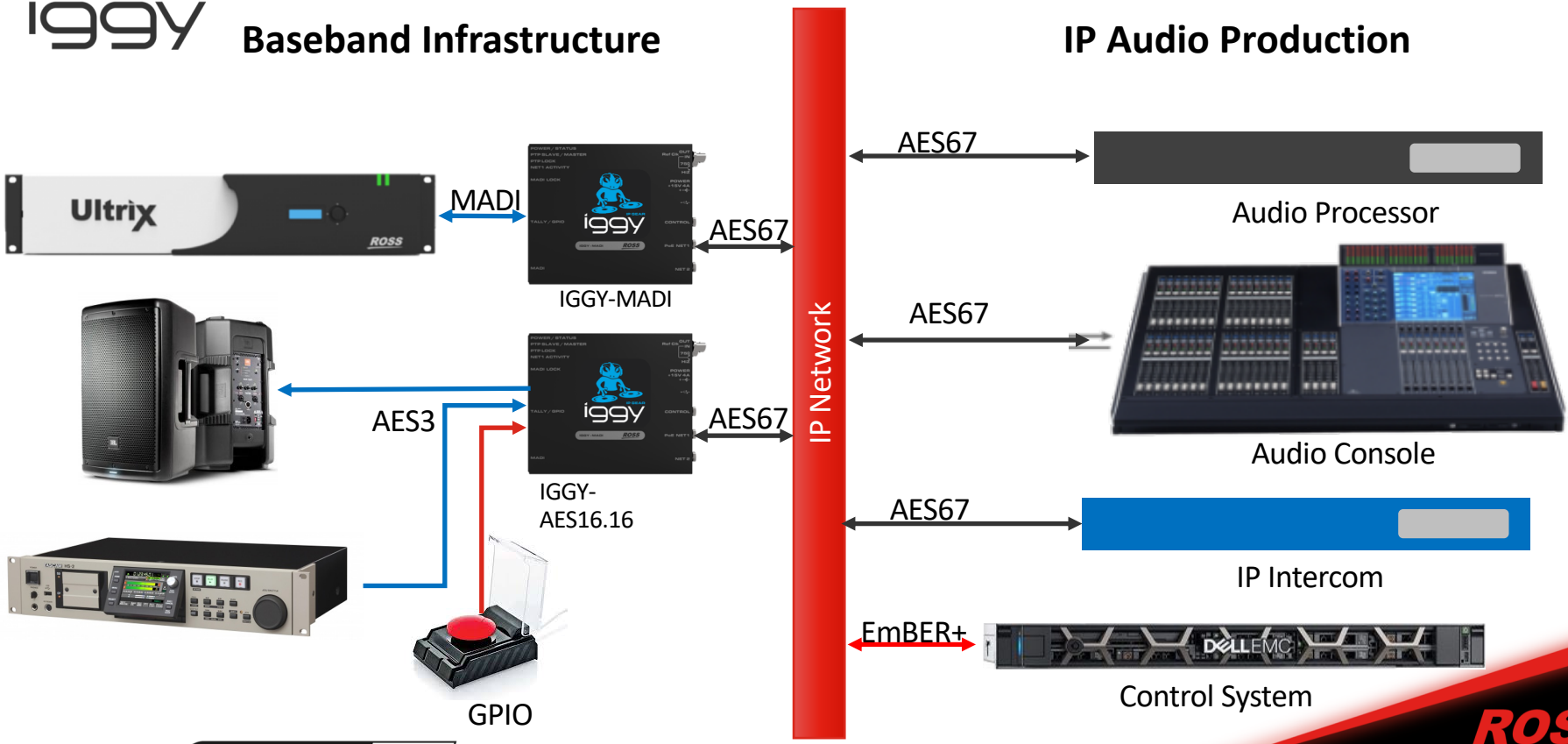
IGGY-AES16.16 BLOCK DIAGRAM



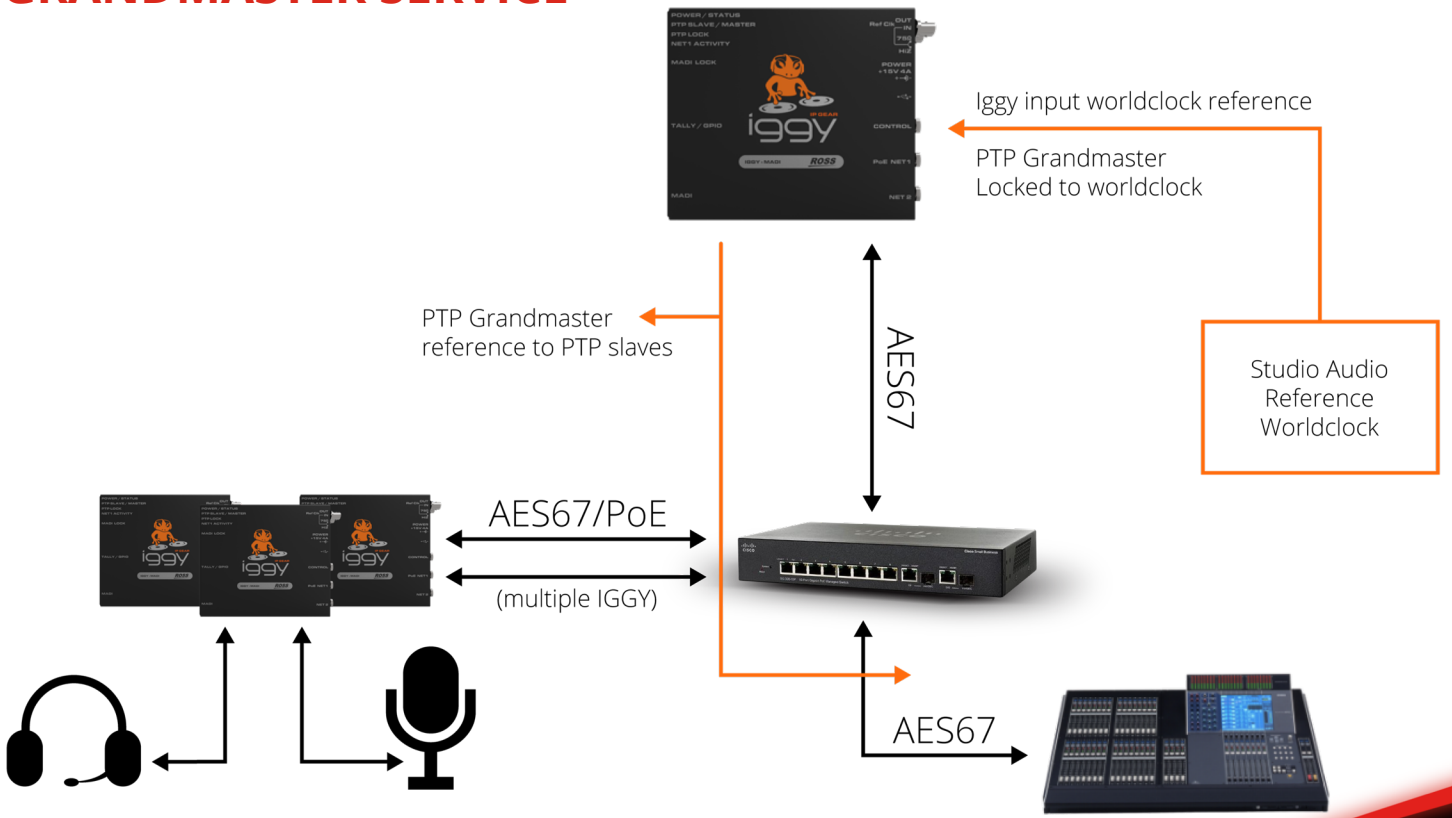
CONNECT YOUR IP AUDIO PRODUCTION

Baseband Infrastructure

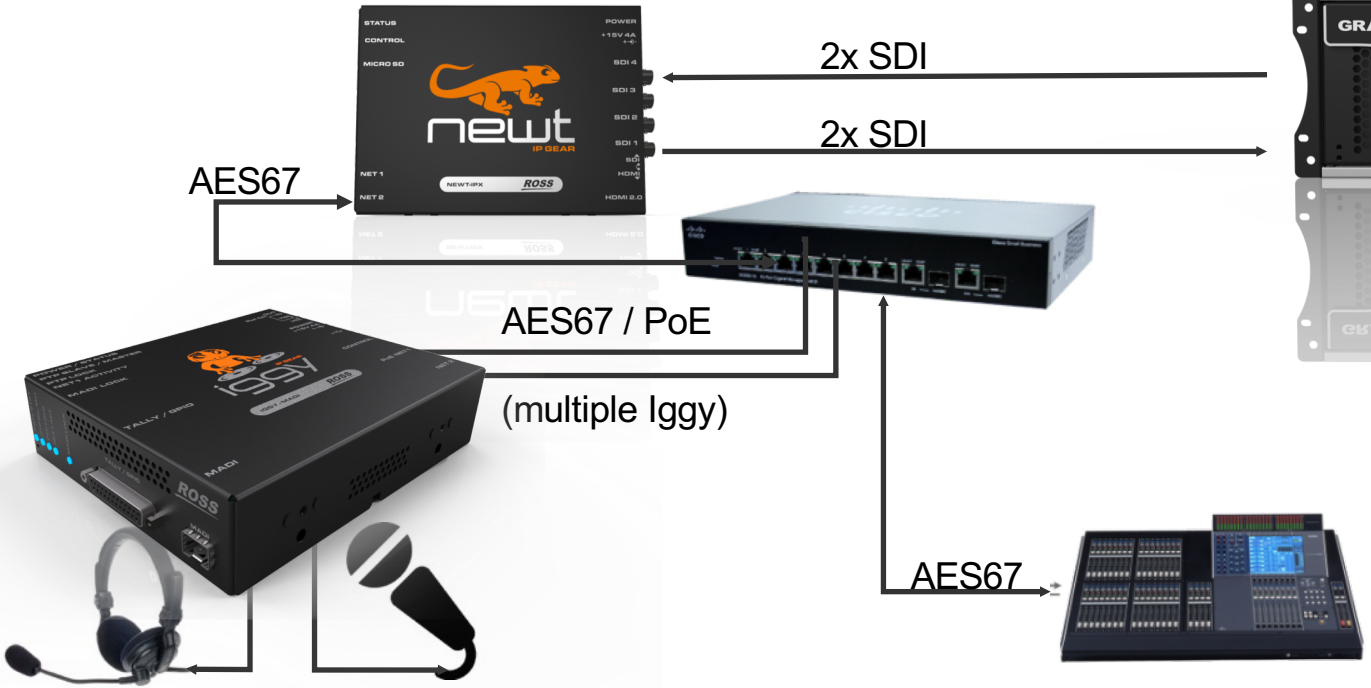
IP Audio Production



SAVES YOU MONEY WITH A BUILT-IN PTP GRANDMASTER SERVICE



CONNECT YOUR AUDIO OVER IP TO YOUR VIDEO PRODUCTION



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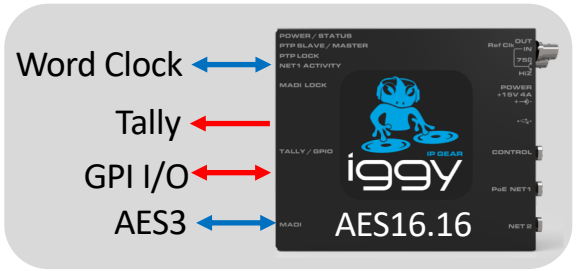
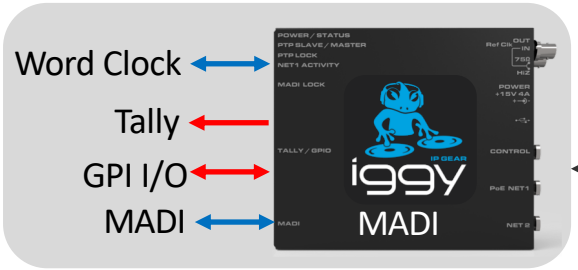
AUDIO AND TALLY TRUNKING



Flypack



Stage Box

Trunk AES67 Audio, Control, GPI and Tally over a single Gigabit Ethernet cable with optional PoE to remote locations

IP Network

TSL Tally

Tally Controller

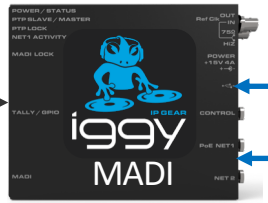
RossTalk GPI

DashBoard

RossTalk GPI

Production Switcher

AES67

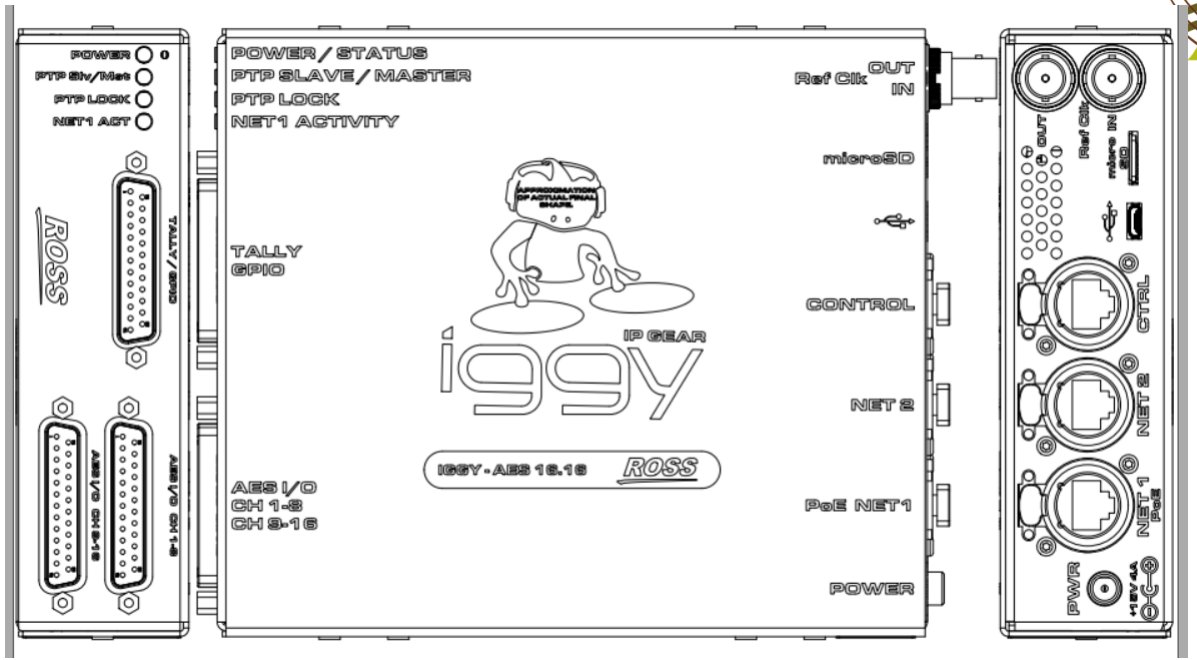


MADI

Word Clock

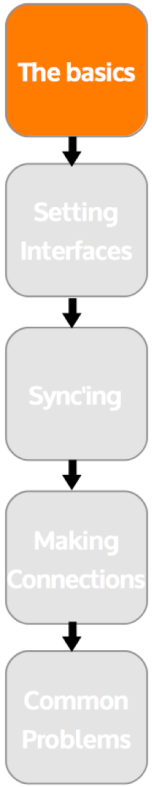
Audio Console

DEMO FLOW



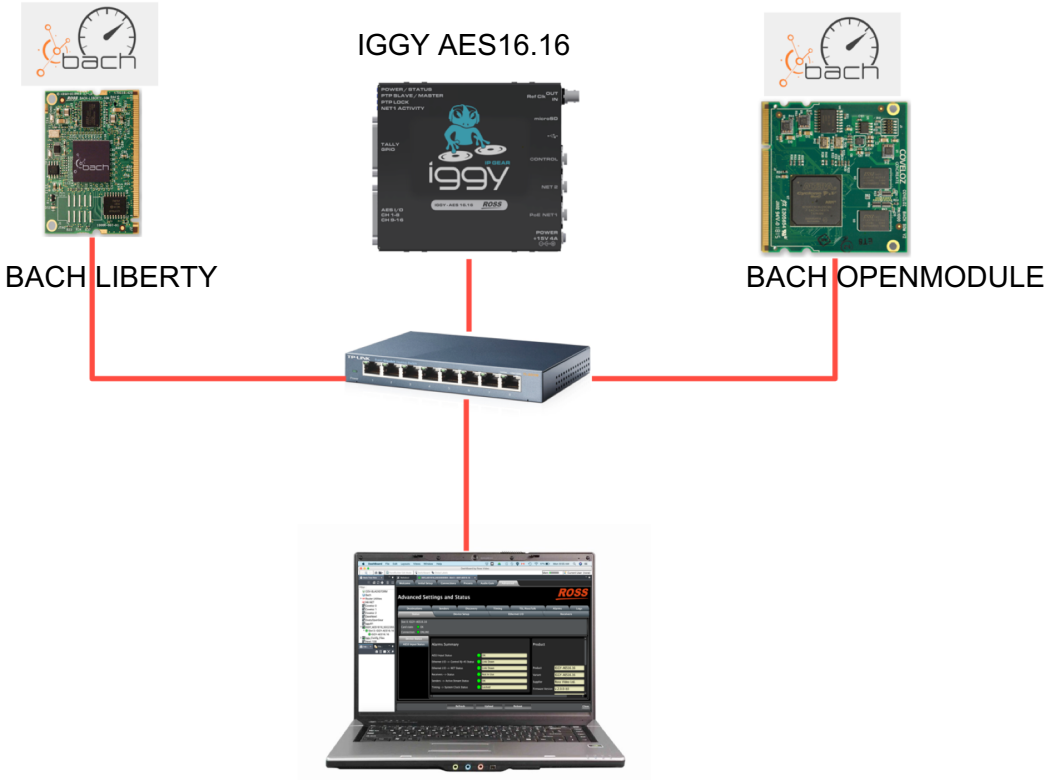
WHO AM I, YOU ASK?

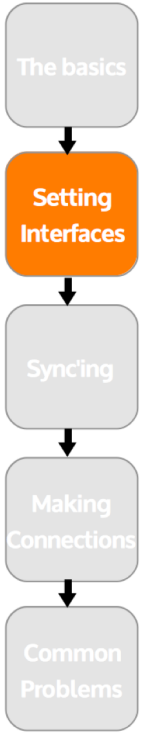
FIND MY MAC ADDRESSES
TUTORIAL VIDEOS AND MORE !!!



1. 15V power supply and POE connectors
2. 1 x 1GE control ethernet port
3. 2 x 1GE media ports
4. 16 x AES in and 16 x AES out (DSUB 25)
5. 8 x Tally/GPIO (DSUB 25)
6. 1 x Ref Clock input and 1 x Ref Clock output
7. 1 x Serial port USB connector

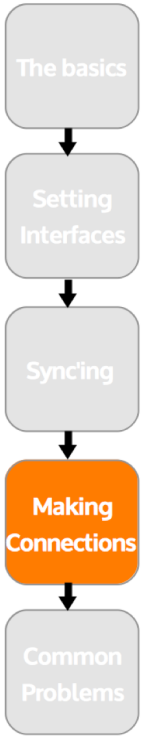
- The basics
- Setting Interfaces
- Sync'ing
- Making Connections
- Common Problems





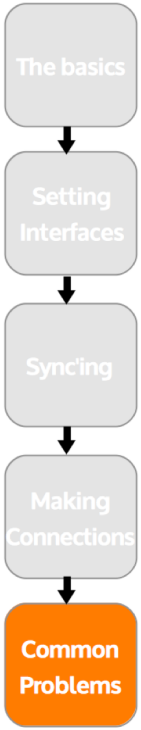
1. Add IGGY to DashBoard
2. Management port IP address (192.168.0.100)
3. I/O IP address
4. AES Status

1. PTP configuration
2. Profile, Domain, Priority1
3. Network Delay



1. Creating senders
2. Adding Network Sources
3. Connecting sources
4. Verifying receivers

WHAT IF IT DOESN'T WORK?



1. Cannot even ping! (wrong IP address, wrong network mask, wrong VLAN)

2. PTP is unlocked (wrong domain, wrong profile)

3. There is no audio or there is glitch… (packet time mismatch between sender and receiver)

WANT TO LEARN MORE….

www.rossvideo.com/iggy
www.rossvideo.com/ip-bridges-converters
www.rossvideo.com/bach
www.ravenna-network.com

Contact us directly:
brounopoulos@rossvideo.com
asantos@rossvideo.com

More answers…

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RAVENNA / AES67 / SMPTE ST 2110 Resources:

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www.ravenna-network.com/resources

You've made it!

Contact information:

Andreas Hildebrand
ALC NetworX GmbH

ravenna@alcnetworx.de

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