AMWA NMOS IS-08

Individual Audio Channel/Track Manipulation in NMOS Systems with Multi-Channel Essence Streams
What Problem does IS-08 Solve?

• IS-04 and IS-05 treat audio streams as monolithic essences – mixes or tracks to be kept together in the network, and switched together to the receiver.

• Sometimes, operationally, there is a need to route the individual tracks more specifically – at the “mono” level.

• IS-08 provides an open/public API for controllers to manipulate the individual tracks on receivers and senders, while retaining the general efficiency of keeping related tracks organized together into streams.
Why not just make every mono channel into a separate multicast audio stream?

• Making each audio track its own stream is possible, except...
  – It creates a more complicated system overall because of the very large number of streams
  – Some receiving devices don’t have a lot of separate audio stream receivers, so it limits their use
  – Overall signal switching time can suffer because of the number of separate stream “joins” in every operation
Audio Stream Routing

• What is Stream Routing? It’s what 2110-30 + IS-05 does by default
  • Routes logical groupings of content easily
Audio Stream Routing

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Audio Stream Routing

- What is Stream Routing? It's what 2110-30 + IS-05 does by default
  - Routes logical groupings of content easily
  - Break-away routing at the stream level
  - But how do you integrate signals that are not consistent?

What do I do with these?
They are different for every show.
And they are not organized like the others.
Audio Stream Routing + Track Routing

- System can treat the internal audio channels as the routing destinations
- Controller manages the device’s stream receivers using **AMWA IS-05**
- Controller manages the device’s audio mappings using **AMWA IS-08**
- User can have *total control in a logical way* through control system using both

![Diagram showing audio stream routing and track routing](image-url)
Audio Stream Routing + Track Routing

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### Playout System A (SRCA)
- 2110-20 video
- 2110-30 audio (5.1 mix)
- 2110-30 audio (2.0 mix)

### Playout System B (SRCB)
- 2110-20 video
- 2110-30 audio (5.1 mix)
- 2110-30 audio (2.0 mix)

### Sat IRD7 GW (RX7)
- 2110-20 video
- 2110-30 audio (chan 1..8)
- 2110-30 audio (chan 9..16)

**Operator can “wild map”** the audio:
- RX7 A2.3 → MCR1-2 A.1
- RX7 A2.4 → MCR1-2 A.2
- RX7 A1.7 → MCR1-2 A.3
- RX7 A1.8 → MCR1-2 A.4
- RX7 A1.1 → MCR1-2 A.5
- RX7 A1.2 → MCR1-2 A.6

**IS-08 can also control the output sender mappings**:
- SRCA.a1 → MCR1-1.a1
- SRCA.a2 → MCR1-1.a2

**IS-08 enabled Device**
- Stream RX 1
- Stream RX 2
- Stream RX 3
- Stream RX 4
- MCR transition processing
- Audio MAP
- Stream TX 1
- Stream TX 2
What is the Status of AMWA IS-08?

• IS-08 has been tested at a workshop, and a last-call for comments was issued

• The comments in the last-call were addressed

• The Specification has been approved by the AMWA Board and is a published AMWA Interface Specification, IS-08

ALL AMWA Specifications are available for FREE at https://amwa-tv.github.io/nmos/
IS-08 Demo Participants

Adeas
ARISTA
Atos
Imagine Communications
Nextera Video
RIEDEL
Tektronix
A Special Thanks to

For System Integration Services