

<https://Rav2Sap.AES67.audio>



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www.Ward-Beck.Systems



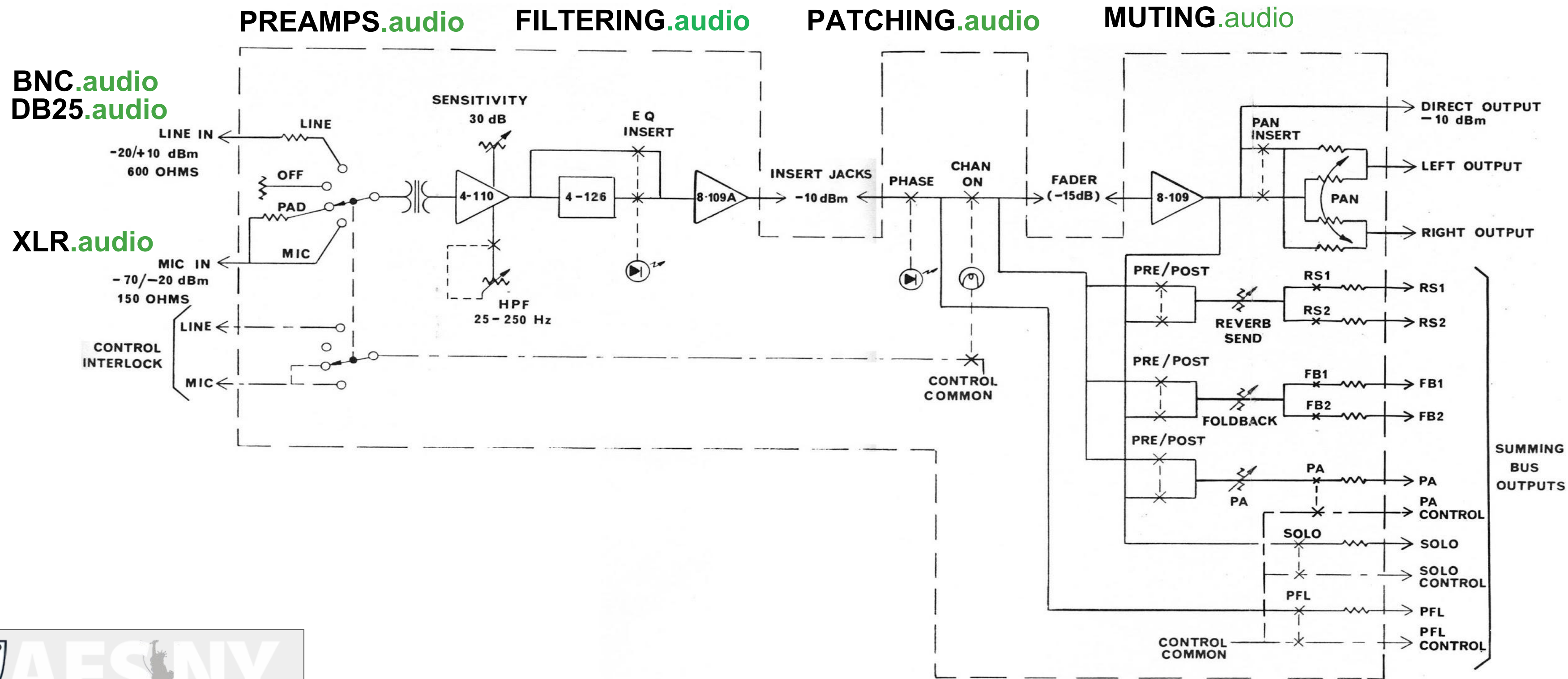
WARD-BECK SYSTEMS

TorontoAES.org

Vice-Chair



Audio Domains



VUMETERS.audio

MATRIXING.audio

BUSSING.audio

SUMMING.audio

AMPLIFY.audio

GROUNDING.audio



NETWORKING.audio

Device Control

Control & Monitoring

Discovery

Connection Management

Connection Management

Session Description

Transport

Transport

Quality of Service

Encoding & Streaming

Timing

Synchronization

Media Clock

AES70.audio

PATCHING.audio

MATRIXING.audio

SWITCHING.audio

MULTICASTING.audio

IGMP.audio

ROUTING.audio

AES67.audio

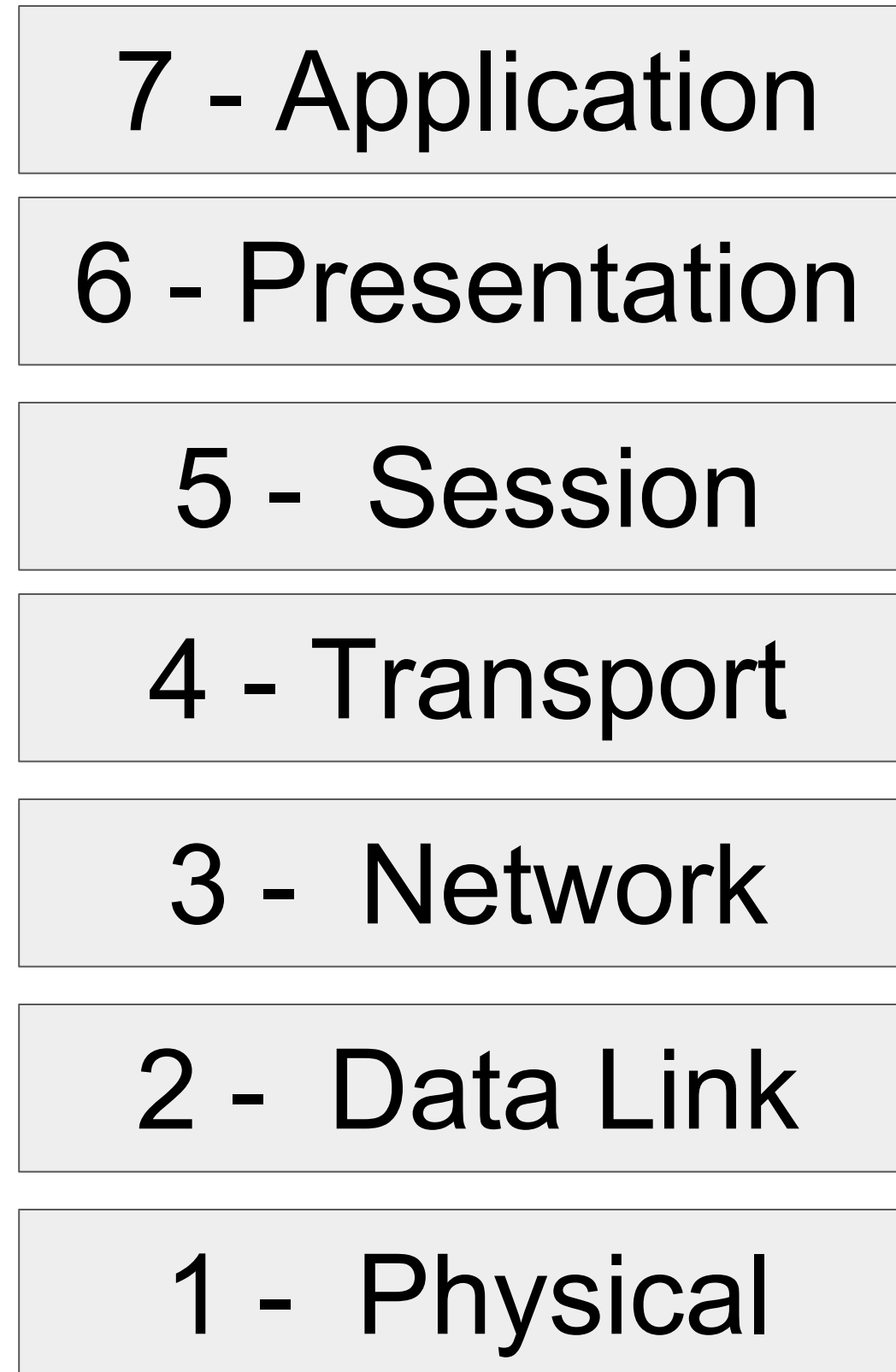
CLOCKING.audio

AES67.audio - Click to view Presentation

[AES67.audio](#)
[2110-30.AES67.audio](#)

[IGMP.audio](#)
[CLOCKING.audio](#)

TX
DATA



RX
DATA

[PATCHING.audio](#)
[MATRIXING.audio](#)
[BUSSING.audio](#)

[ROUTING.audio](#)
[SWITCHING.audio](#)
[MULTICASTING.audio](#)



[RJ45.audio](#)



AES67

AES67-2013

Standard for audio applications of networks:
High-performance streaming audio
over-IP



AES67

***AES67-2018 Standard for
audio applications of networks:
High-performance streaming a
udio-over-IP interoperability***

References

Audio Engineering Society, New York, NY., US.

AES11 - AES recommended practice for digital audio engineering
Synchronization of digital audio equipment in studio operations

Institute of Electrical and Electronics Engineers (IEEE)

IEEE 1588-2008 - IEEE Standard for a Precision Clock Synchronization Protocol
for Networked Measurement and Control Systems, July 2008

Internet Engineering Task Force

RFC 768 – User Datagram Protocol”
RFC 791 – Internet Protocol
RFC 1112 – Host Extensions for IP Multicasting
RFC 2236 - Internet Group Management Protocol, Version 2
RFC 2474 – Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers
RFC 2616 - Hypertext Transfer Protocol - HTTP/1.1
RFC 2974 – Session Announcement Protocol
RFC 3190 – RTP Payload Format for 12-bit DAT Audio and 20- and 24-bit Linear Sampled Audio
RFC 3261 - SIP: Session Initiation Protocol
RFC 3264 - An Offer/Answer Model with the Session Description Protocol (SDP)
RFC 3376 - Internet Group Management Protocol, Version 3
RFC 3550 – RTP: A Transport Protocol for Real-Time Applications
RFC 3551 - RTP Profile for Audio and Video Conferences with Minimal Control
RFC 4566 – Session Description Protocol
RFC 5939 – Session Description Protocol (SDP) Capability Negotiation
RFC 7273 – RTP Clock Source Signalling



**Host RF
Co-Host RF
VO**

**OB
Ambience
Camera Mic**

**Transmission
Reception
Record**

**Guests
Backup**

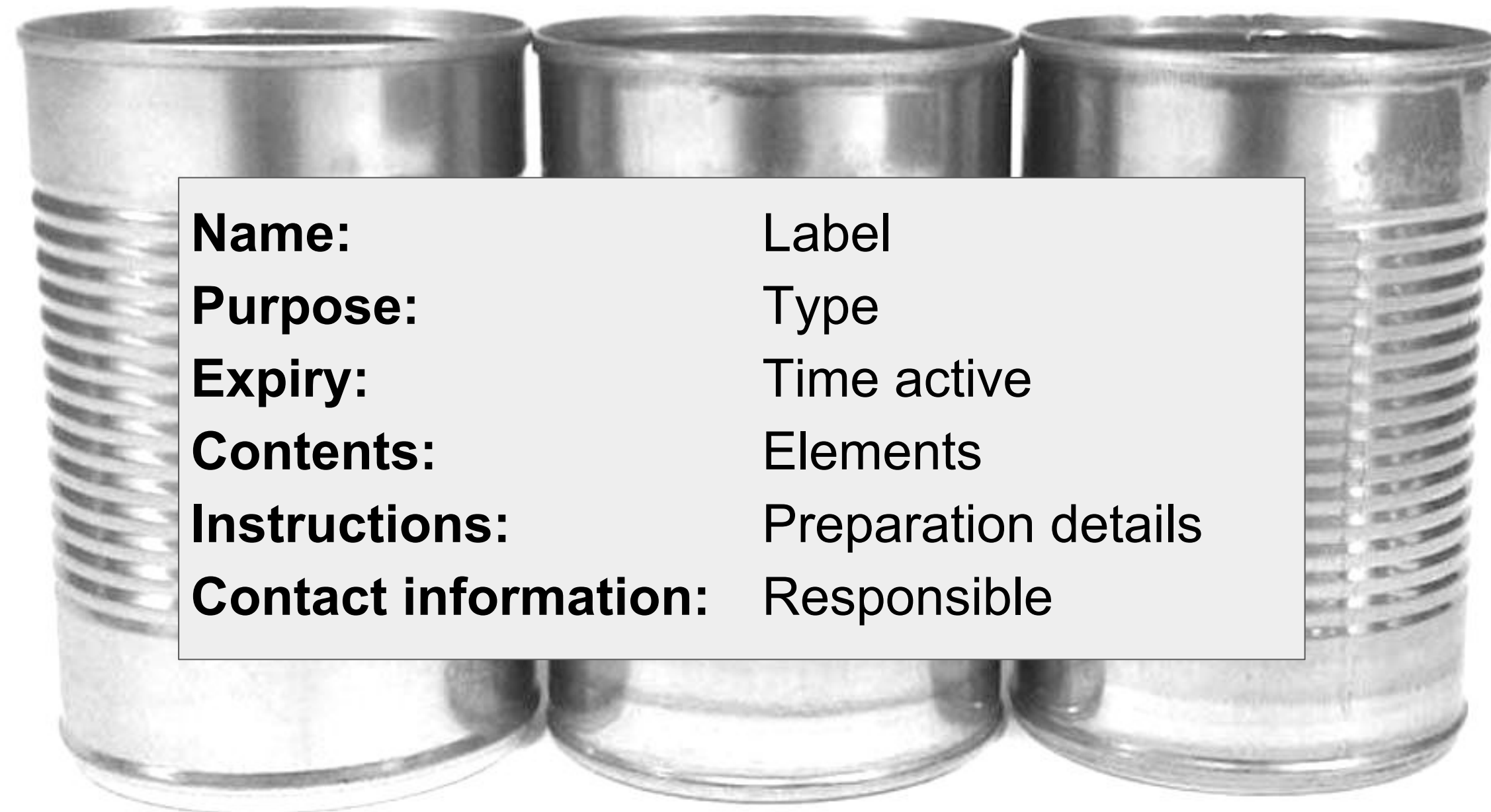
**Production
Sources
Playback
Live Music**



SDP: SOUP DESCRIPTION PROTOCOL

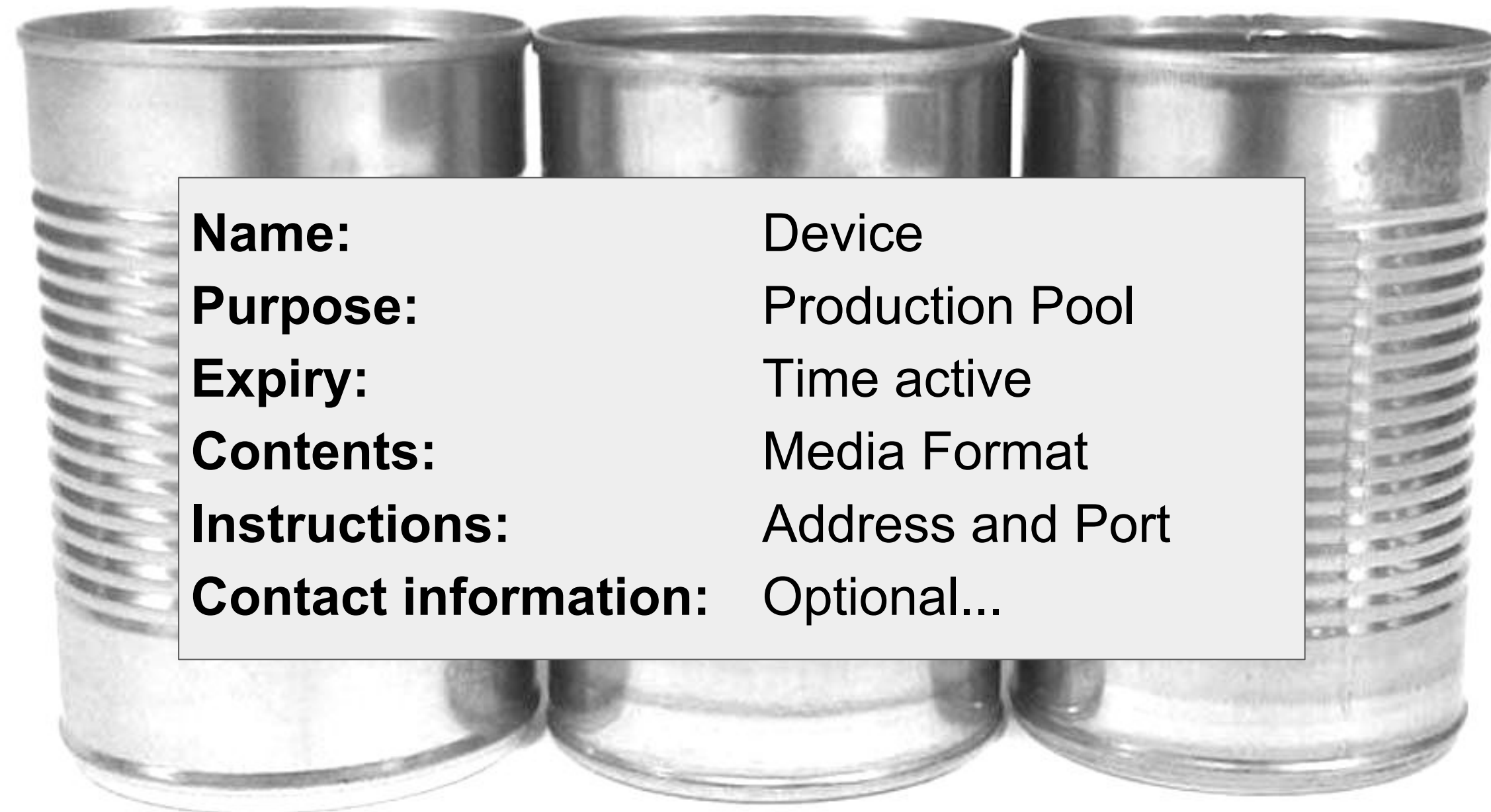


SDP: SOUP DESCRIPTION PROTOCOL



Name:	Label
Purpose:	Type
Expiry:	Time active
Contents:	Elements
Instructions:	Preparation details
Contact information:	Responsible

SDP: SOUP DESCRIPTION PROTOCOL



Name:	Device
Purpose:	Production Pool
Expiry:	Time active
Contents:	Media Format
Instructions:	Address and Port
Contact information:	Optional...

AUDIOLAN AES67 Networking

19 devices found in network

MOBILE-32ME Ward-Beck Syst... 32ME-N	APK-AMS2-42-0... Ward-Beck Syst... AMS2-N	APK-BENCH-W... Ward-Beck Syst... 32ME-N	APK-WBS-AMS8 Ward-Beck Syst... AMS8-1AN	FRONT-ROOM-... Ward-Beck Syst... 32ME-N	FRONTTESTuN... 192.168.11.119	MOBILE-AMS-2X2 Ward-Beck Syst... AMS-2X2	MOBILE-AMS81 Ward-Beck Syst... AMS8-1AN	MOBILE-GUEST... Ward-Beck Syst... preMO-222	MOB... Ward preM
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MOBILE-32ME

Stream consumer | Stream provider | General settings | **Advanced** | Discard changes | Clear all | Apply all

Channel 1 Receiving

Name: RX via RAVENNA

Source stream: Front Room - DARS

Channel number: Channel 1

Show advanced settings

Manual SDP | Show current SDP > >>

Channel 2 Receiving

Name: RX via SAP

Source stream: sap:Front Room - DARS

Channel number: Channel 1

Show advanced settings

Manual SDP | Show current SDP > >>

Channel 3 Receiving

Name: RX via Manual SDP

```

v=0
o=- 4 0 IN IP4 192.168.11.109
s=Front Room - DARS
c=IN IP4 239.1.11.109/1
t=0 0
a=clock-domain:PTPv2 0
m=audio 5004 RTP/AVP 98
a=rtpmap:98 L24/48000/8
a=recvonly
a=framecount:48
a=sync-time:0

```

Normal Mode



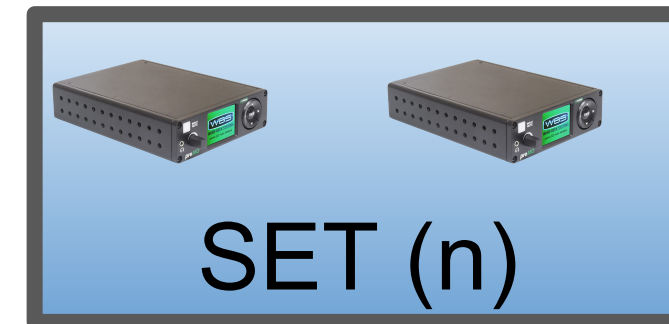
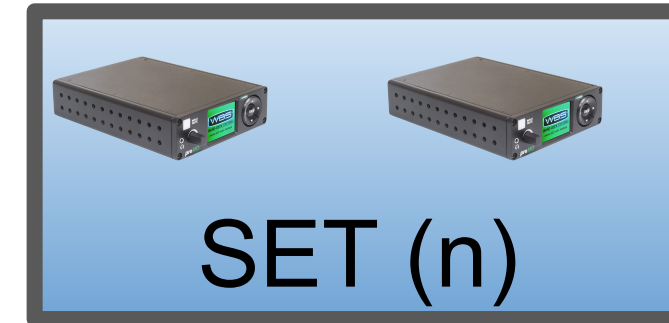
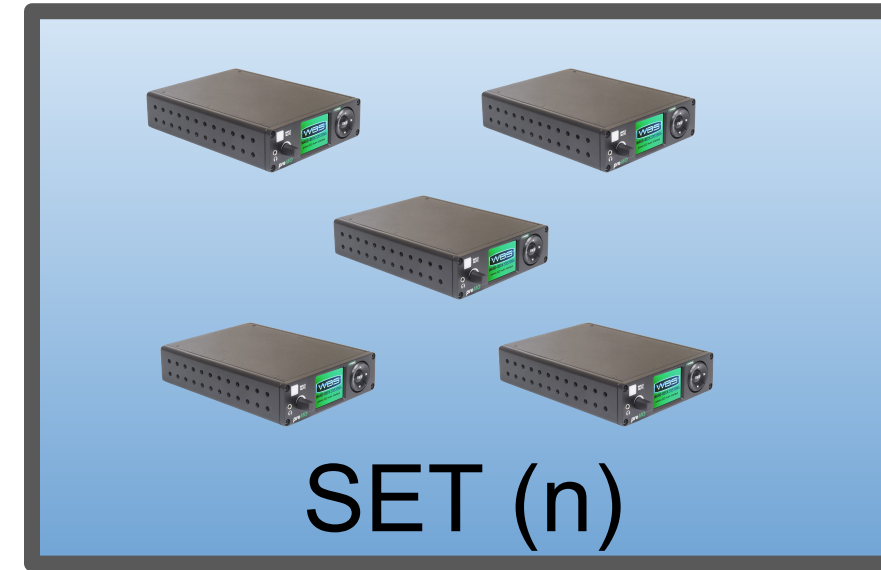
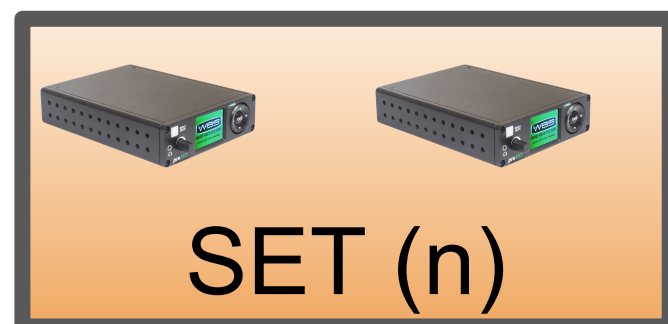
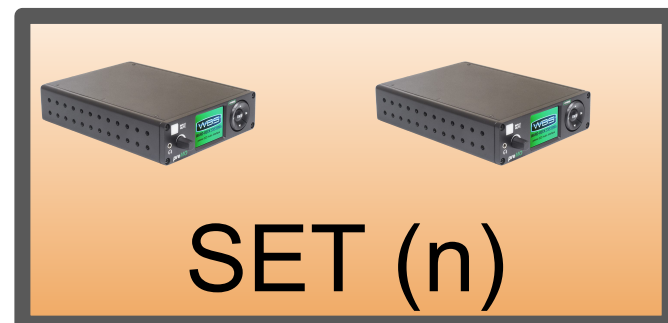
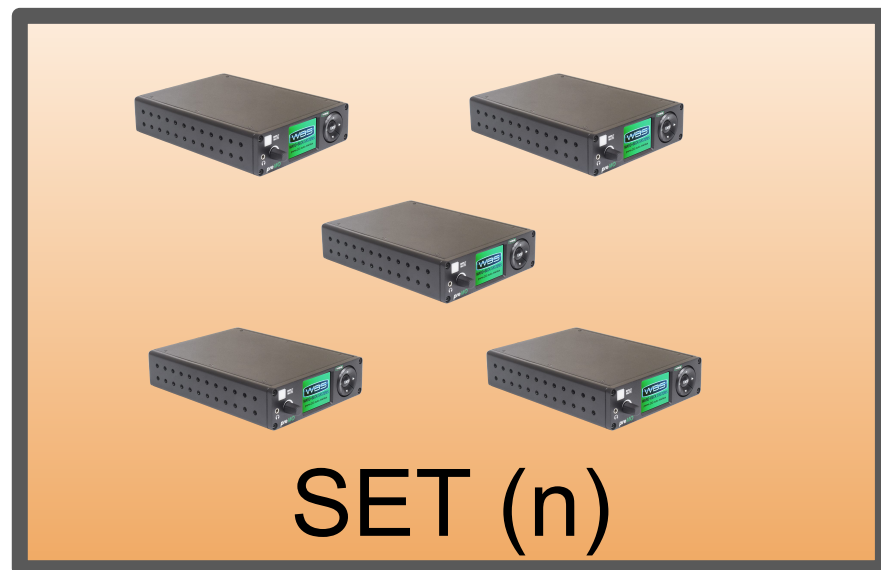
RAVENNA

Now with AES67

Dante™



TelevisionSet.AES67.AUDIO



AES from RF Mics + to IFB



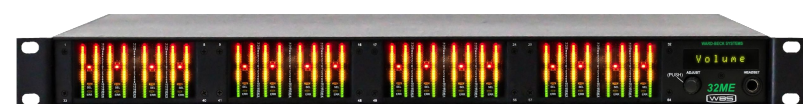
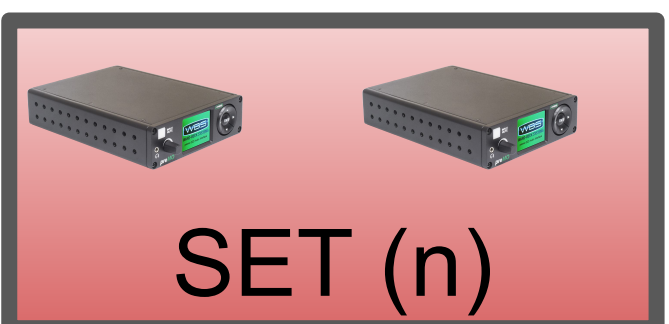
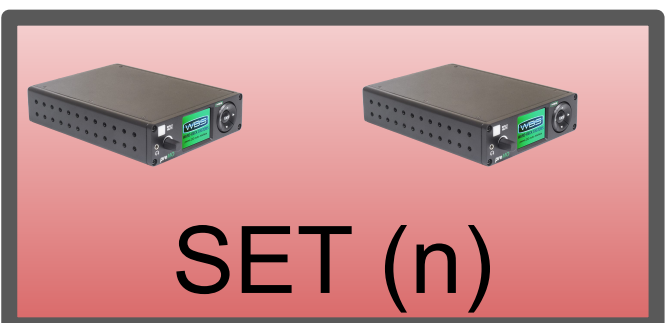
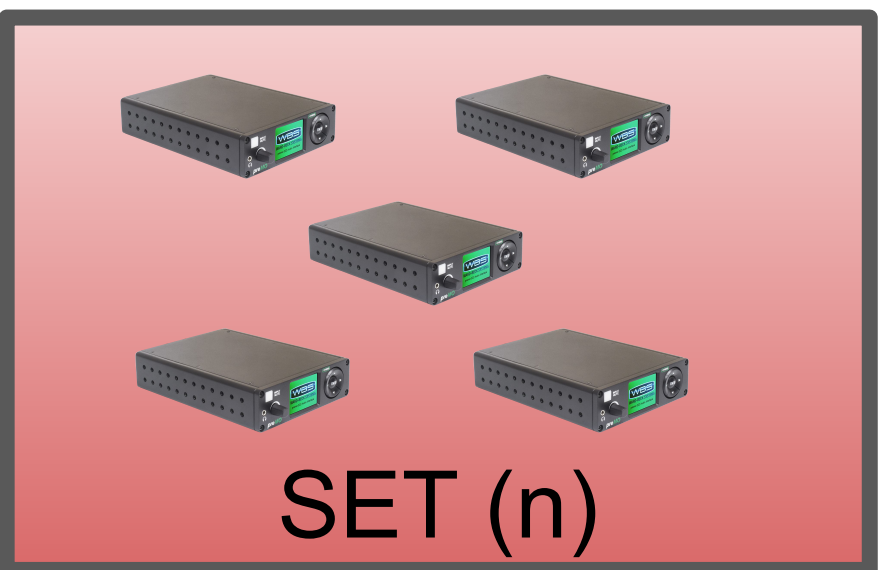
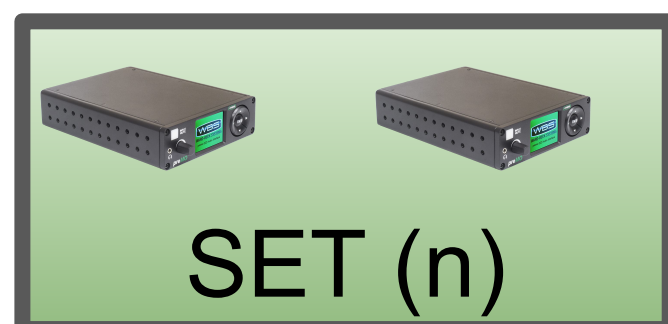
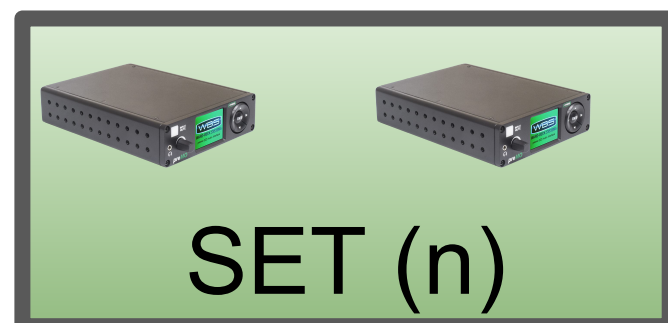
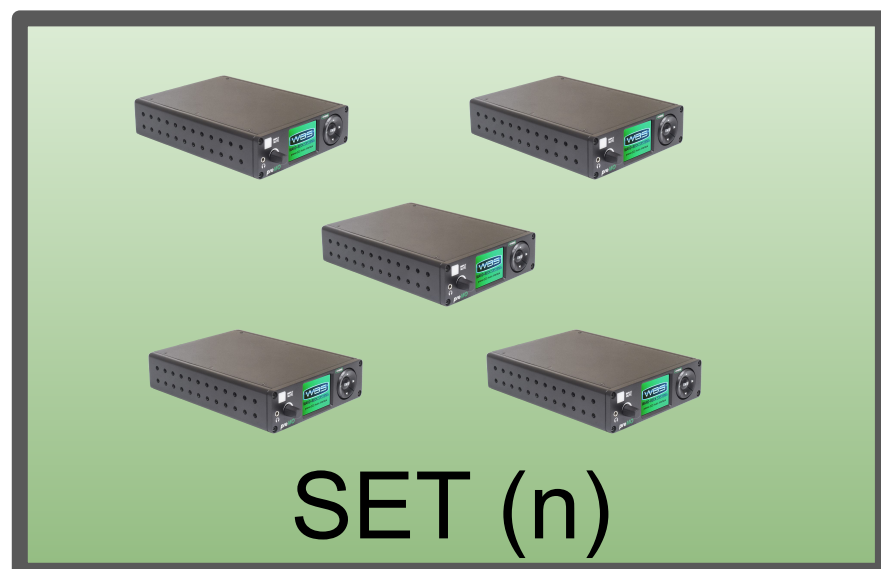
AES from RF Mics + to IFB

CRTL A

CRTL B

CRTL C

CRTL D

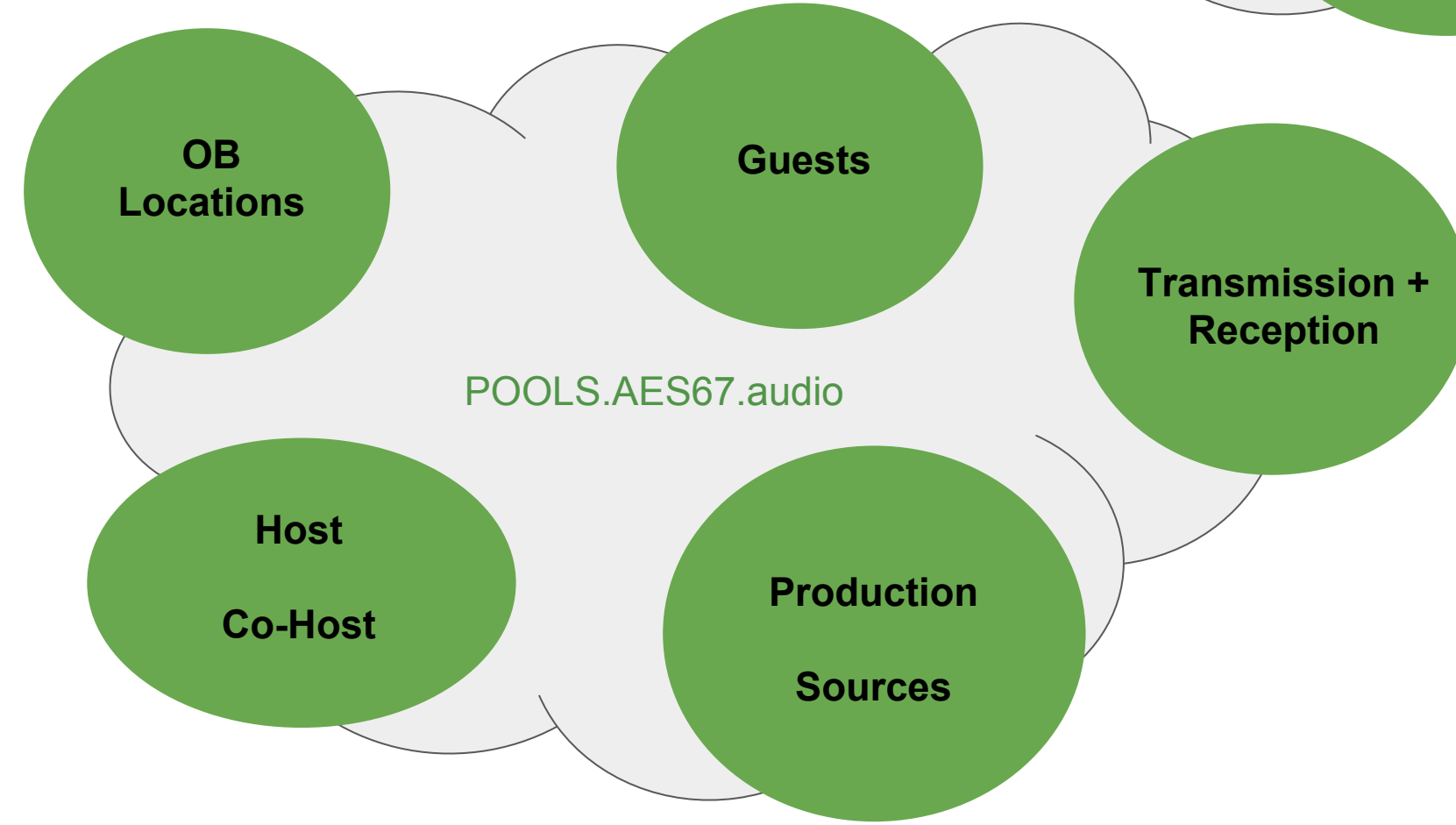
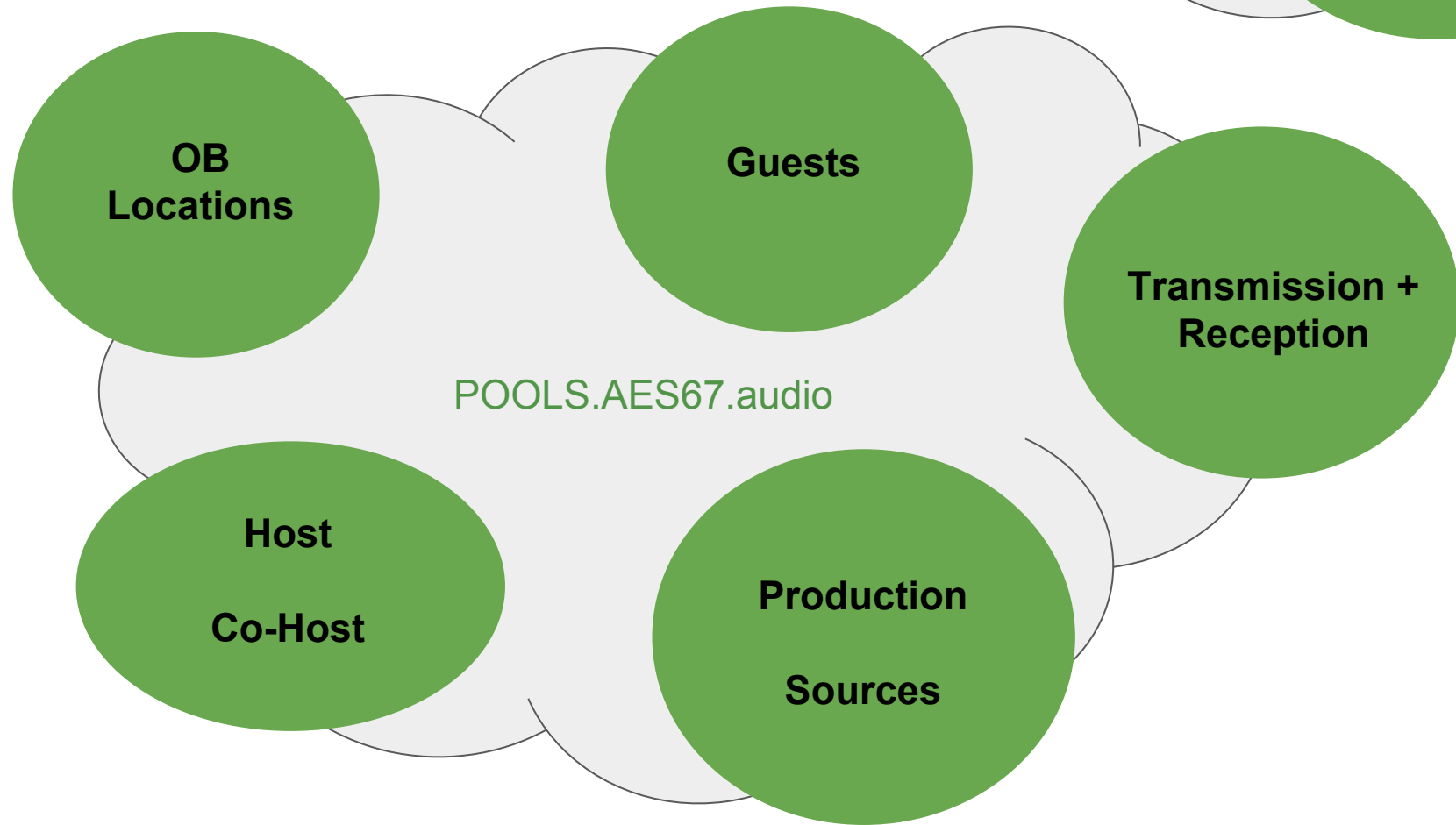
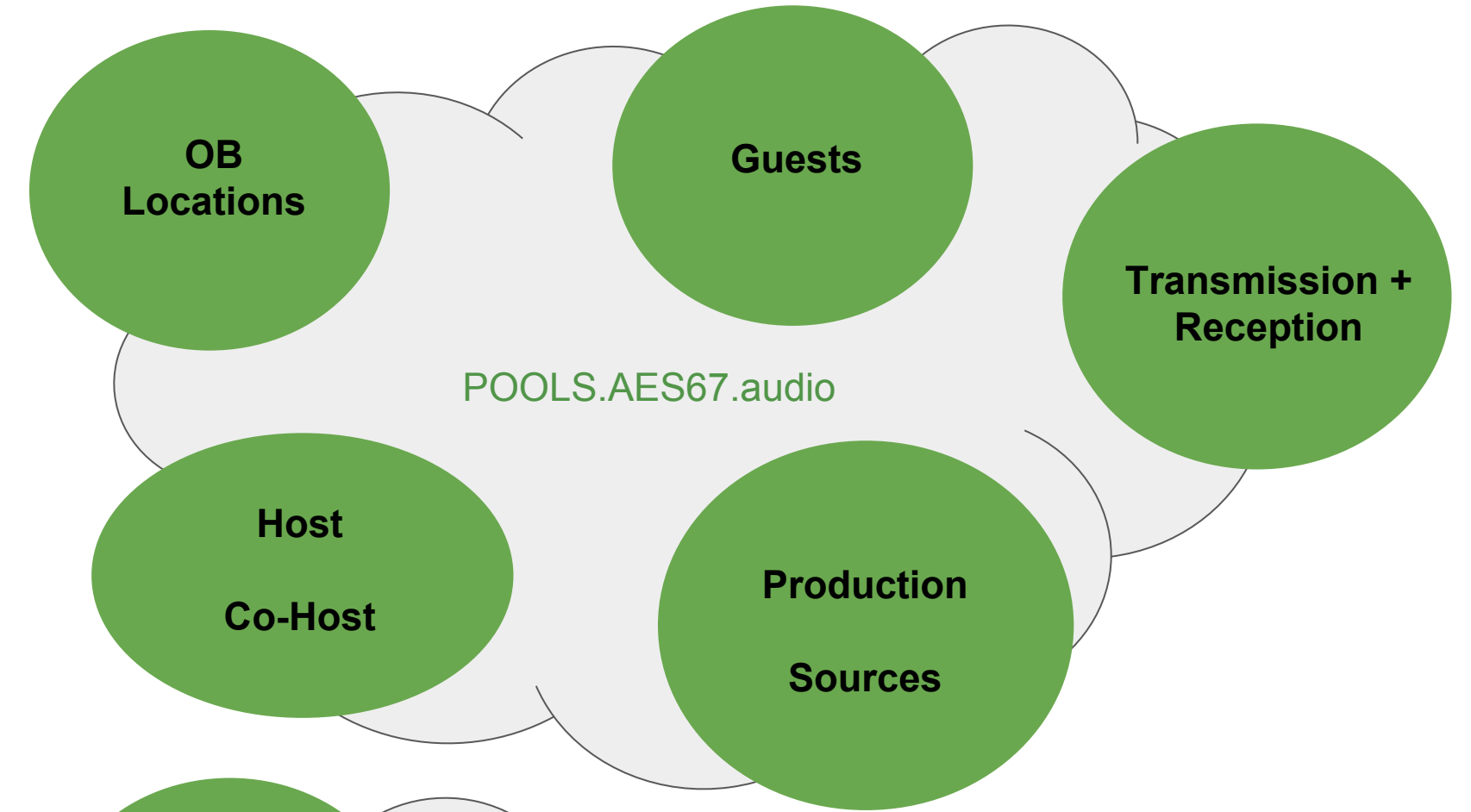
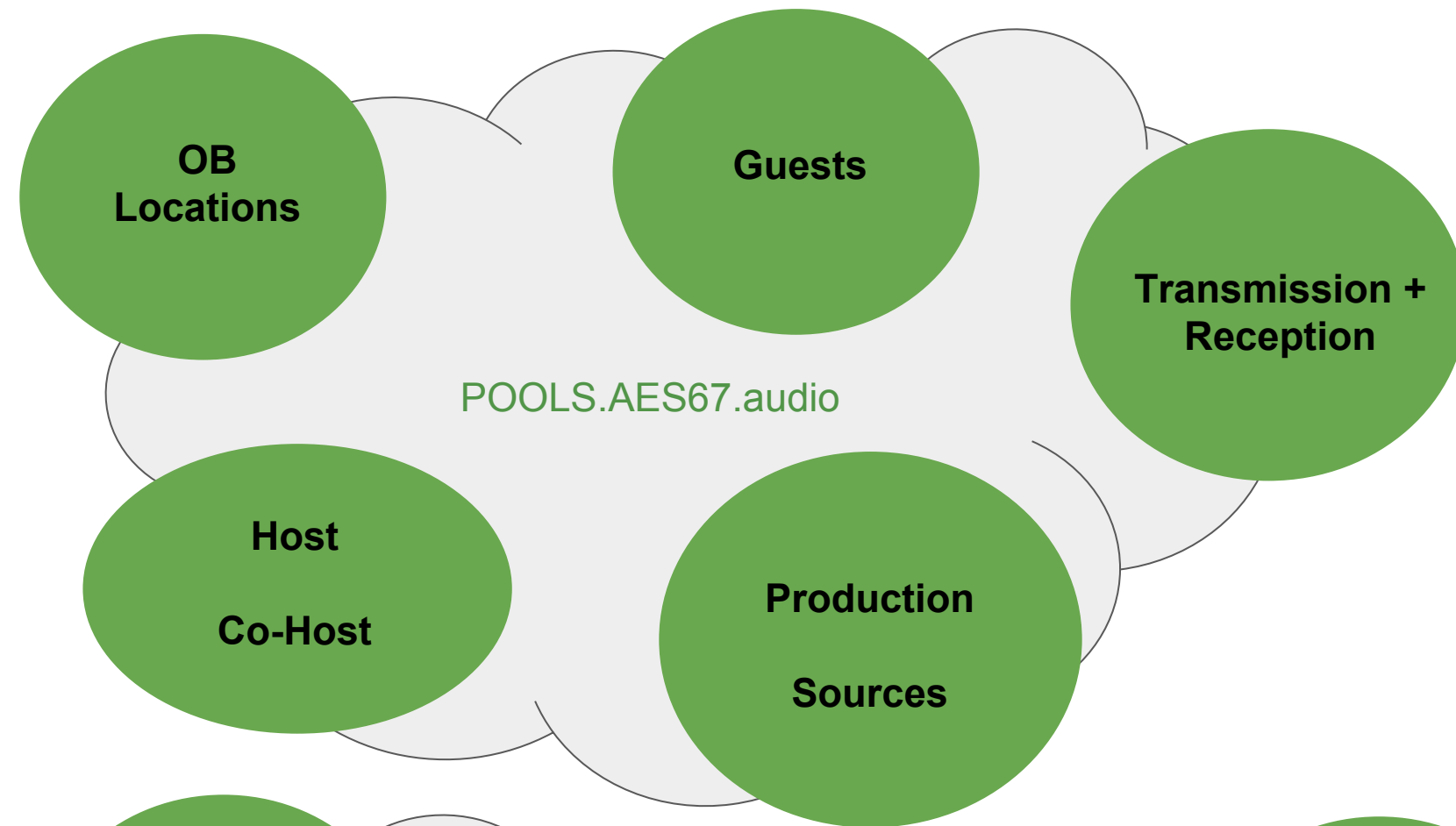


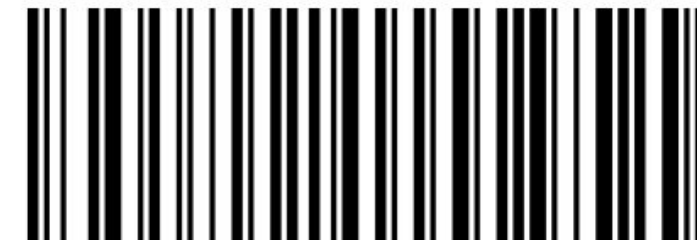
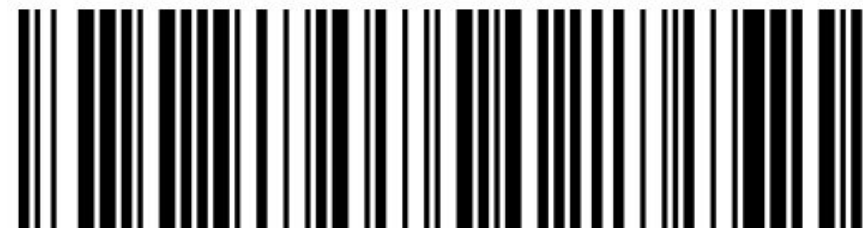
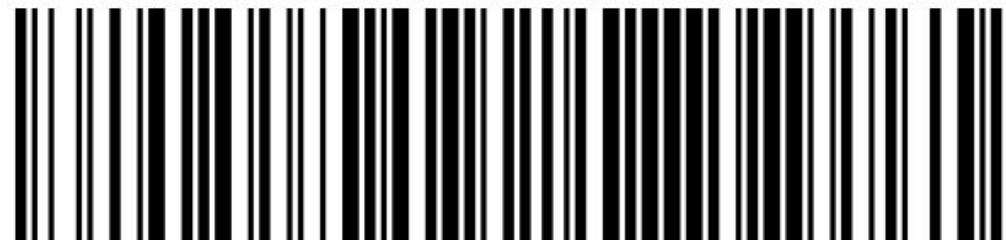
AES from RF Mics + to IFB



AES from RF Mics + to IFB

POOLS.AES67.AUDIO

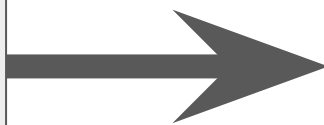




TALENT ID



POSITION ID

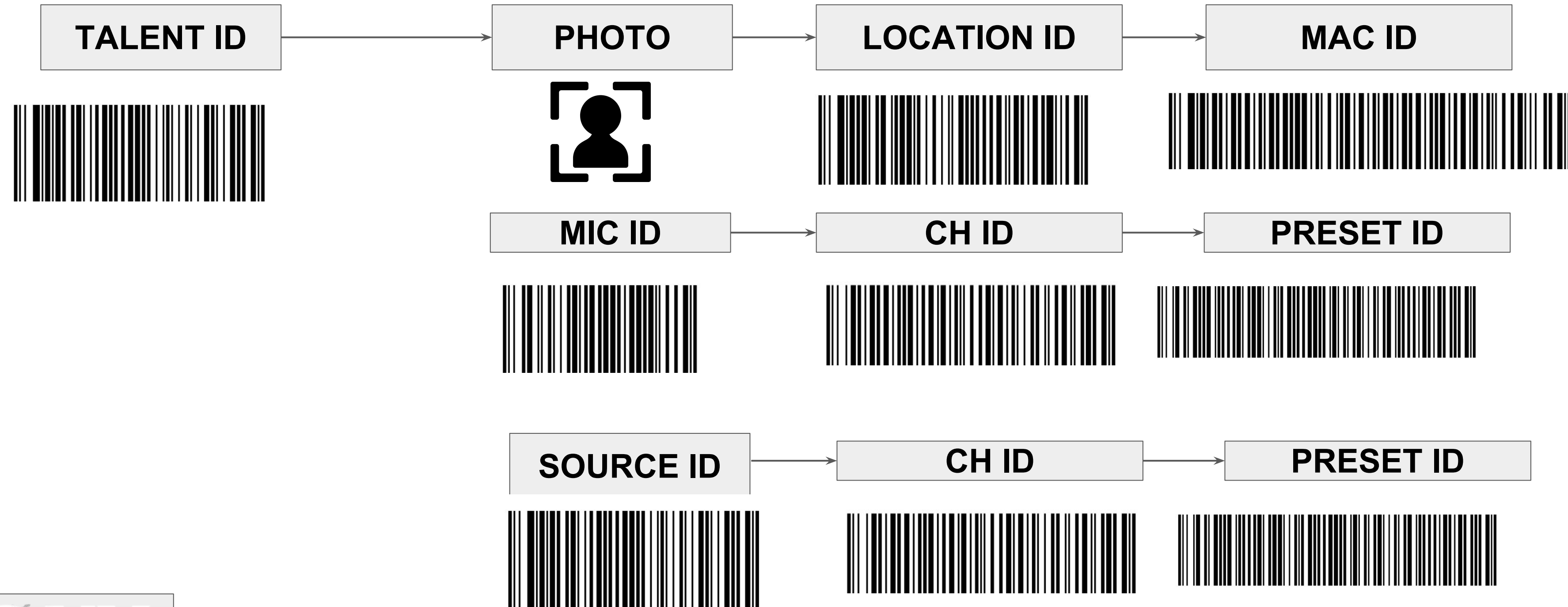


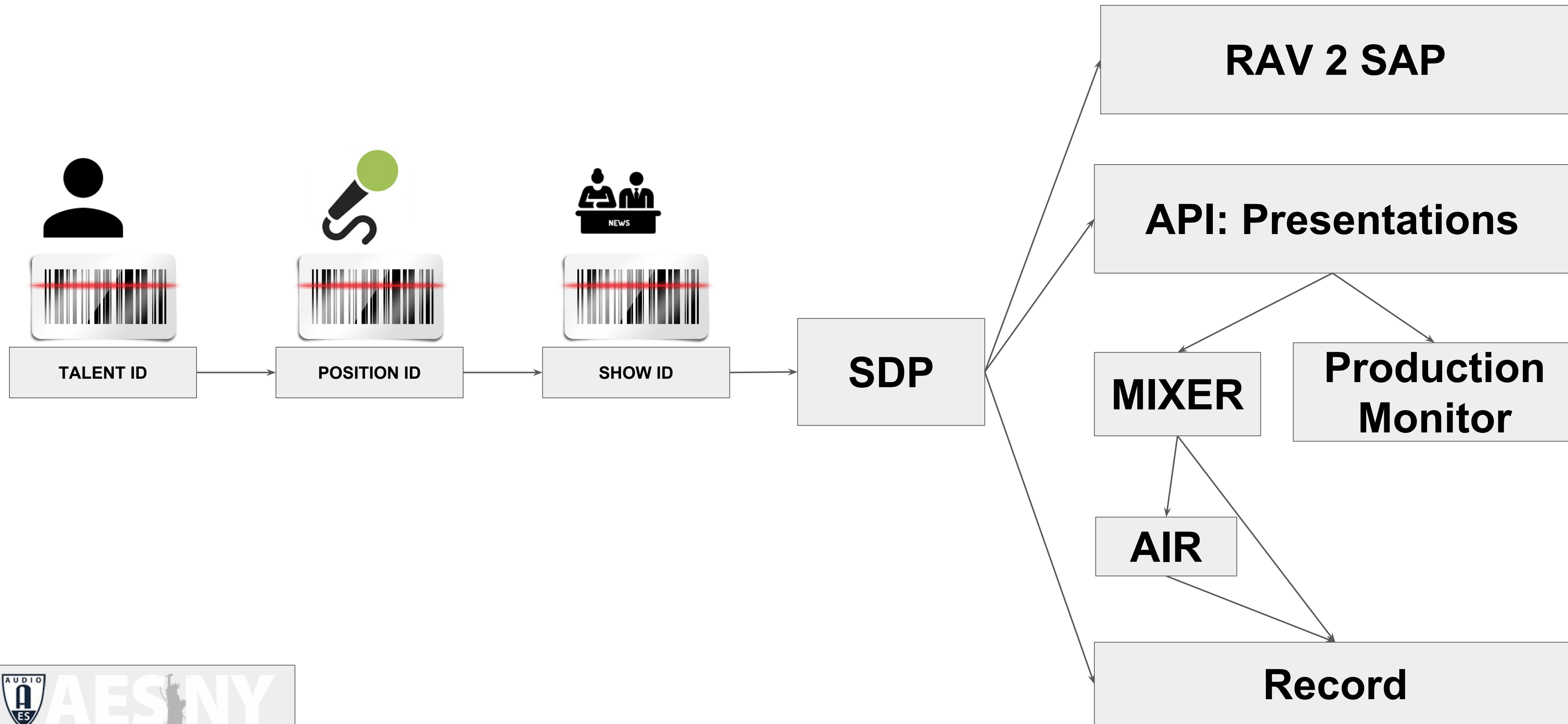
SHOW ID



SDP

TALENT POOL / SOURCE POOL





SESSION DESCRIPTION PROTOCOL

Time description (mandatory)

t= (time the session is active)

r=* (zero or more repeat times)

Media description (if present)

m= (media name and transport address)

i=* (media title or information field)

c=* (connection information — optional if included at session level)

b=* (zero or more bandwidth information lines)

k=* (encryption key)

a=* (zero or more media attribute lines — overriding the Session attribute lines)



session DESCRIPTION PROTOCOL

v= (protocol version number, currently only 0)

o= (originator and session identifier : username, id, version number, network address)

s= (session name : mandatory with at least one UTF-8-encoded character)

i=* (session title or short information)

u=* (URI of description)

e=* (zero or more email address with optional name of contacts)

p=* (zero or more phone number with optional name of contacts)

c=* (connection information—not required if included in all media)

b=* (zero or more bandwidth information lines)

*One or more **Time descriptions** ("t=" and "r=" lines)*

z=* (time zone adjustments)

k=* (encryption key)

a=* (zero or more session attribute lines)

*Zero or more **Media descriptions** (each one starting by an "m=" line)*



DISCOVERY.AES67.audio

- WWW
- EMAIL
- **DATA BASE**
 - *Private*
 - *Public*
- SIP
- **SAP (DC)**
- **BONJOUR (AC)**
- AES70
- NMOS
- SNMP
- KLV within stream
- FAST METADATA



EMAIL and WWW Announcements

- Email: SDP
- WWW Distribution <DEVICE>/../SDP
- MIME (Multipurpose Internet Mail Extensions) content type "application/sdp"



session DESCRIPTION PROTOCOL

v=0 v= (protocol version number, currently only 0)

o=- 2 0 IN IP4 192.168.110.178 (originator and session identifier : username, id, version number, network address)

s=WardBeck 32ME s= (session name : mandatory with at least one UTF-8-encoded character)

t=0 0 t= (time the session is active)

a=clock-domain:PTPv2 0 a=* (attribute Clock version and domain)

m=audio 50000 RTP/AVP 98 m= (media name and transport port and IP address / RTP profile 98)

c=IN IP4 239.30.178.1/100 c=* (connection information/TTL)

a=rtpmap:98 L24/48000/8 a=* (attribute RTP profile / Bit Rate / Sample Rate / Channels)

a=framecount:48 a=* (attribute)

a=sync-time:0 a=* (attribute required by ST2110-30)

a=ptime:1 a=* (attribute: Packet Time)

a=ts-refclk:ptp=IEEE1588-2008:EC-46-70-FF-FE-00-8F-C8:0 a=* (attribute)

a=mediack:direct=0 a=* (attribute)



AES70 - Extended SDP

a=OCA:1000:1.1.3:OcaBlock:0:1:BLK_Library=Library

a=OCA:1001::OcaLibrary:0:1e6:Application= 222

a=OCA:1002::OcaLibrary:0:1e6:Preset= 57575

a=OCA:1003::OcaLibrary:0:1e6:Microphone=23452345

a=OCA:10000:1.1.3:OcaBlock:0:5:preAMP 1=Kick Drum

a=OCA:10001:1.1.1.4:OcaSwitch:0:1:Phantom=1

a=OCA:10002:1.1.1.4:OcaSwitch:0:1:Phase_Invert=0

a=OCA:10003:1.1.1.4:OcaSwitch:0:1:Input(MIC/LINE)=0

a=OCA:10005:1.1.1.5:OcaGain:0:63:Pre Amp Gain=45

a=OCA:10100:1.1.3:OcaBlock:0:3:DSP Input 1=2

a=OCA:10101:1.1.1.4:OcaSwitch:0:1:HPF Enable=1

a=OCA:1000=Library

a=OCA:1001= 222

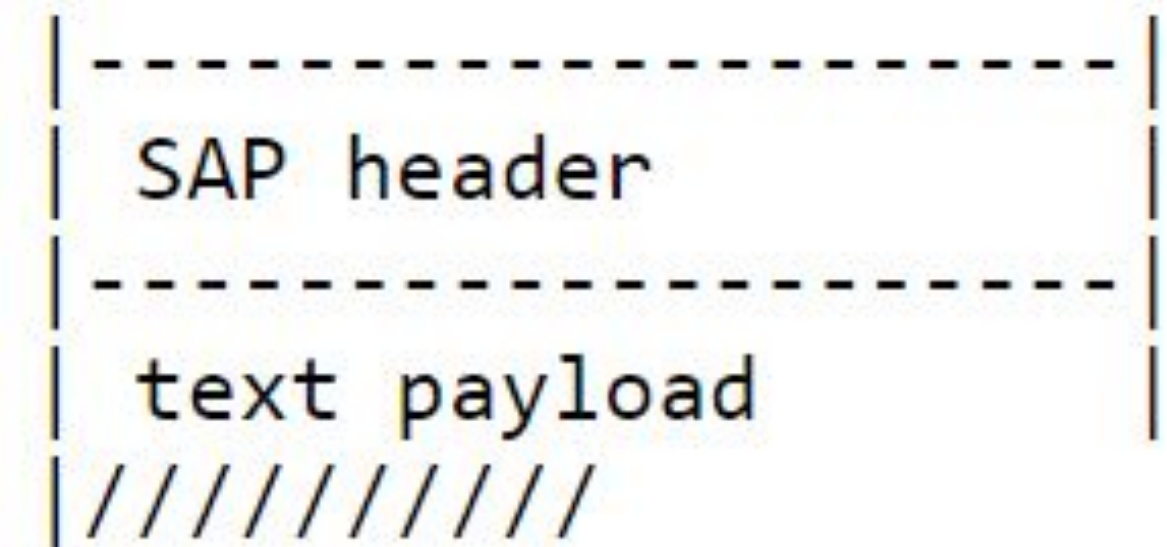
a=OCA:1002=57575

a=OCA:1003= 23452345

SAP session announcement PROTOCOL

Session (information) announced

- Session information **broadcasted** to all devices on a well-known multicast address. 224.2.127.254
- Devices Listen to globally scoped multicast sessions
- Devices receive periodic information on available sessions.
- Devices receive an updated “business card” from any participating device from time to time.



BONJOUR



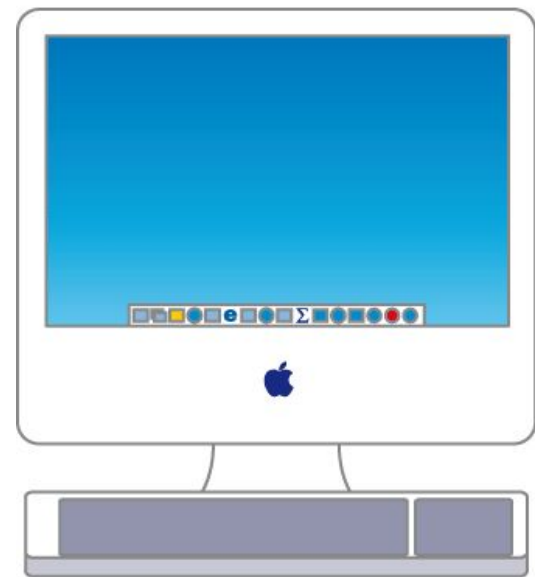
- Bonjour zero-configuration networking techniques by **Apple** - freeware.
- **advertise/discover devices** such as printers on a local network.
- **Simple networks**, wasn't really designed for large ones.
- Multicast DNS (mDNS) described in an RFC 6762 and DNS service discovery (DNS-SD) described in an RFC 6763

Discovery

1. **Service request** Anyone provides service of AirDrop?
2. **Service response** AirDrop service instance: 9c5e3d2

Resolution

3. **Hostname request** Where is AirDrop service instance 9c5e3d2?
4. **Hostname response** It is on Jeffs-iPhone.local: 8770
5. **IP address request** What's the IP address of Jeffs-iPhone.local?
6. **IP address response** Its IP address is fe80::xxxx



RAVENNA-to-SAP Converter



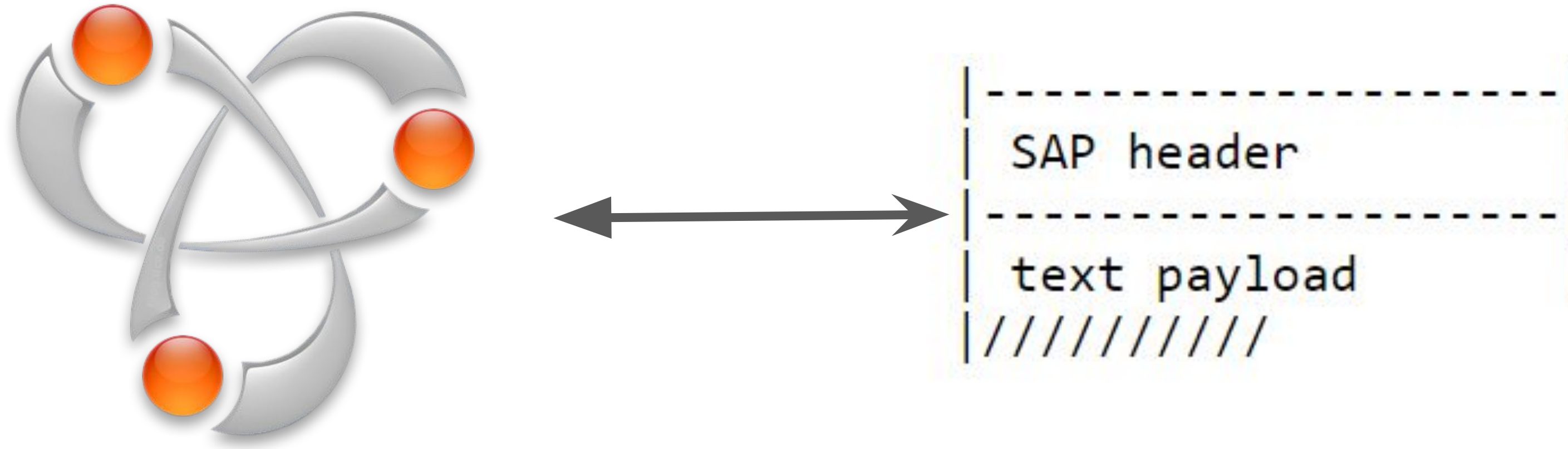
```
V=0
o=- 1311738121 1311738121 IN IP4 192.168.1.1
s=Stage left I/O
c=IN IP4 239.0.0.1/32
t=0 0
m=audio 5004 RTP/AVP 96
i=Channels 1-8
a=rtpmap:96 L24/48000/8
a=recvonly
a=ptime:1
a=ts-refclk:ptp=IEEE1588-2008:39-A7-94-FF-FE-07-CB-D0:domain-rmbr=0
a=mediaclk:direct=963214424
```



Overview on IP Audio Networking - A. Hildebrand



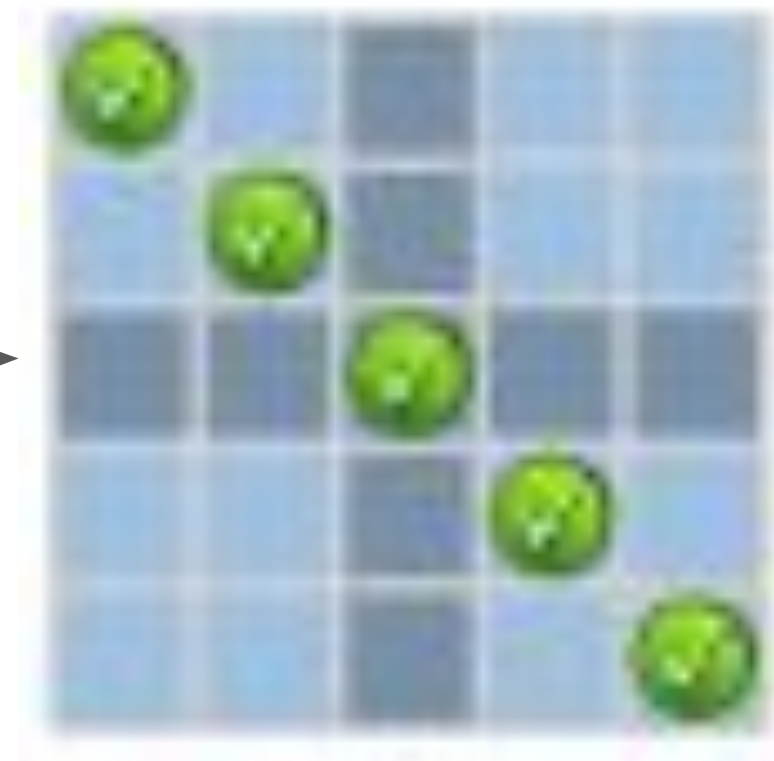
RAV 2 SAP



RAV 2 SAP



RAVENNA

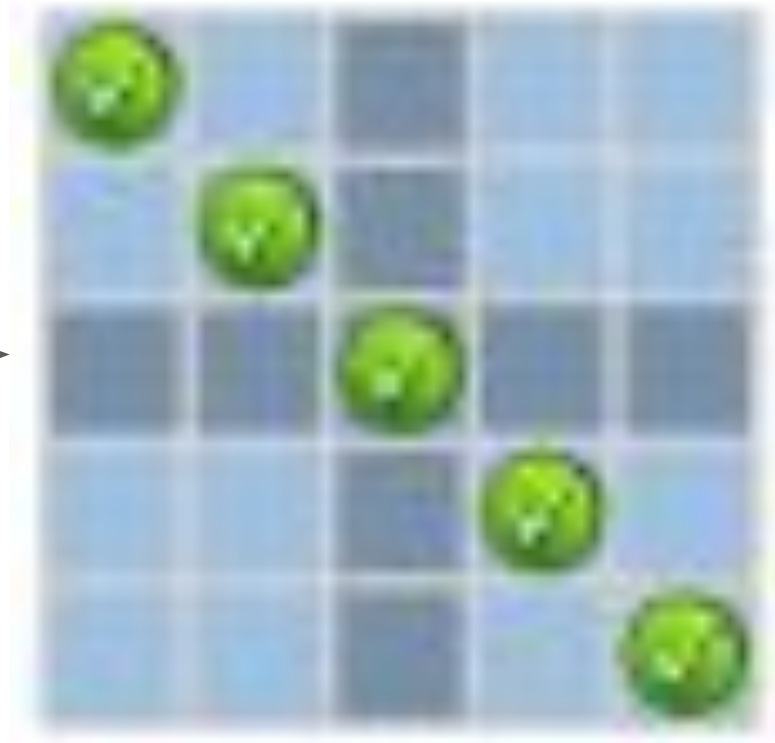


Dante®

RAV 2 SAP



RAVENNA



Dante



MANUAL SDP

YAMAHA CO

An Introduction to AES67

AES 67



SAP



Manual



RAV2SAP.exe

Routing | Device Info | Clock Status | Network Status | Events

Dante®

Filter Transmitters:

Filter Receivers:

Dante Transmitters

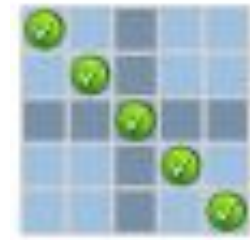
Dante Receivers

<input type="checkbox"/>	239.1.1.1.53 @ WBS pro MO-222 (00-53-CB)	01	02
<input type="checkbox"/>	239.1.1.1.84 @ WBS pro MO-222 (00-53-26)	01	02
<input type="checkbox"/>	239.1.1.1.95 @ premo005	01	02
<input type="checkbox"/>	239.1.1.1.104 @ Tim221	01	02
<input type="checkbox"/>	239.1.1.1.104 @ Tim221	01	02
<input type="checkbox"/>	239.1.1.1.125 @ WBS pro MO-222 (00-54-72)	01	02
<input type="checkbox"/>	239.1.1.1.136 @ APK - BLENH PREMO	01	02
<input type="checkbox"/>	239.1.1.1.138 @ WBS pro MO-222 (00-53-F7)	01	02
<input type="checkbox"/>	239.1.1.1.139 @ WBS pro MO-222 (00-54-78)	01	02
<input type="checkbox"/>	239.1.1.1.146 @ WBS pro MO-222 (00-54-07)	01	02

RAV 2 SAP



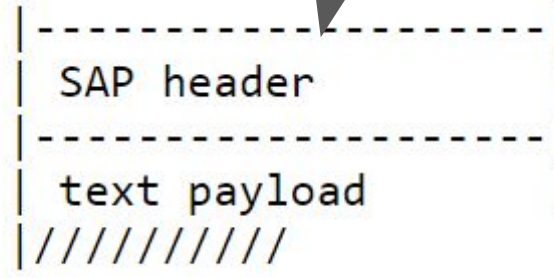
RAV 2 SAP



SAVED SDP



MANUAL SDP

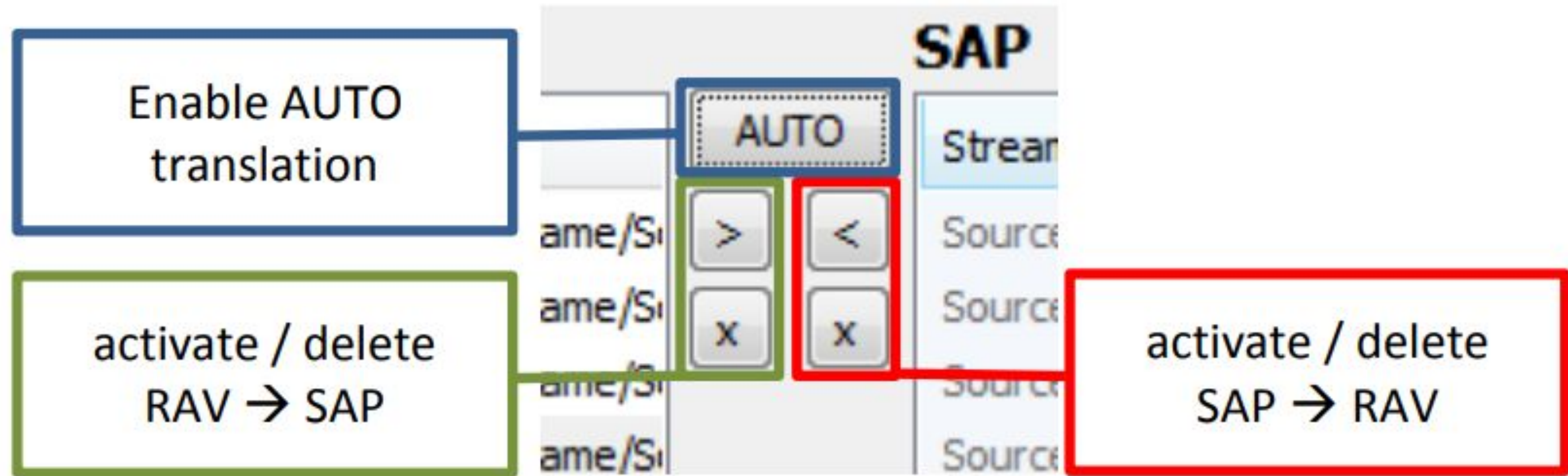


The screenshot displays the RAVENNA and SAP software interfaces. The RAVENNA window shows a list of streams with columns for Streamname, Origin, Multicast, SAP, and RTSP. The SAP window shows a list of streams with columns for Streamname, Origin, Multicast, and RAV. The LOC window shows a list of streams with columns for Streamname, Multicast, Source, RAV, and SAP. A log window at the bottom shows system messages.

Streamname	Origin	Multicast	SAP	RTSP
Pebble Beach Systems Dolphin	192.168.17	239.31.176.1/1		
PESA Fusion Encoder	192.168.21...	239.31.184.1/1		
PHABRIX SxTag - EnCap/DeCap	10.10.203.6	239.2.203.6/1		
Radio-Canada / SPL Dell server / Gstreamer sender	10.10.203.6	239.2.203.6/1	W	
Riedel Artist64	192.168.11...	239.1.203.6/1		
Riedel Micron IP	192.168.11...	239.1.203.6/1	W	
Rohde&Schwarz VENICE	10.10.203.6	239.3.203.6/1		
Ross Bach	192.168.11...	239.3.203.6/1	W	
Ross Bach VSC (not ready to transmit)	192.168.21...	239.31.201.1/1		
Ross Minuet	192.168.11...	239.32.35.1/1		
Ross Raptor-Edge	192.168.9.32	239.32.32.1/1		
Ross XPrision	192.168.9.50	239.32.50.1/1		
Shure Axient Digital Receiver	192.168.62	239.32.56.1/1		
Shure P300	192.168.62	239.32.60.1/1		
Snell Advanced Media IQMIX	192.168.62	239.32.58.1/1		
Solid State Logic Net I/O S88.8	192.168.9.61	239.32.61.1/1		
Solid State Logic T25 Tempest Engine	192.168.9.65	239.32.65.1/1		
Sony ST2110 Gateway	192.168.62	239.32.83.1/1		
Sony ST2110 Gateway 2	192.168.62	239.32.85.1/1		
TAG V.S. MCM-9000	192.168.9.88	239.32.88.1/1		
Tektronix Prism Now Generating Bars and Tone	192.168.62	239.32.96.1/1		
Telos Alliance AMS	192.168.62	239.32.97.1/1		
Telos Alliance RAQ mixer	192.168.9	239.32.104.1/1		
Telos Alliance xNode	192.168.9	239.32.104.2/1		
Utah Scientific Utah-2110Gateway	192.168.22...	239.32.112.1/1		
Video Clarity Venue Player IP	192.168.30	239.32.144.1/1		
virt ViEngine	192.168.9	239.32.152.1/1		
Ward-Beck Systems 32ME	192.168.30...	239.32.160.1/1		
Ward-Beck Systems AMS-2	192.168.30...	239.32.185.1/1		
Ward-Beck Systems MLC8	192.168.30...	239.32.186.1/1		
Ward-Beck Systems preMO-222	192.168.30...	239.32.187.1/1		
Ward-Beck Systems preMO-A1	192.168.30...	239.32.188.1/1		
WBS preMO-222 (00-52-2C)	192.168.11...	239.1.11.136/1		
WBS preMO-222 (00-52-D2)	10.10.203.21	239.1.203.21/1		
WBS preMO-222 (00-54-70)	10.10.203.21	239.1.203.21/1		
WBS preMO-222 (00-54-7C)	10.10.203.16	239.1.203.16/1		
WBS preMO-22 (00-54-83)	192.168.30...	239.32.188.1/1		
Wheatstone Blade	192.168.11...	239.1.11.136/1		
Xytech Systems MediaPulse NMO5 IS-04	10.10.203.21	239.1.203.21/1		
Yamaha QL1 Mixing Console	192.168.11...	239.1.203.21/1		



RAV 2 SAP



https://www.ravenna-network.com/resources/

RAVENNA

Streamname	Origin	Multicast	SAP	RTSP
Pebble Beach Systems Dolphin			W	rtsp://192.168.11.114:8080/by-na...
PESA Fusion Encoder			W	rtsp://192.168.11.114:8080/by-na...
PHABRIX SxTag - EnCap/DeCap			W	rtsp://192.168.11.114:8080/by-na...
Radio-Canada / SFL Dell server / Gstreamer sender			W	rtsp://192.168.11.114:8080/by-na...
Riedel Artist64			W	rtsp://192.168.11.114:8080/by-na...
Riedel Micron IP			W	rtsp://192.168.11.114:8080/by-na...
Rohde&Schwarz VENICE			W	rtsp://192.168.11.114:8080/by-na...
Ross Bach			W	rtsp://192.168.11.114:8080/by-na...
Ross Bach VSC (not ready to transmit)			W	rtsp://192.168.11.114:8080/by-na...
Ross Minuet			W	rtsp://192.168.11.114:8080/by-na...
Ross Raptor-Edge			W	rtsp://192.168.11.114:8080/by-na...
Ross XPression			W	rtsp://192.168.11.114:8080/by-na...
Shure Axient Digital Receiver			W	rtsp://192.168.11.114:8080/by-na...
Shure P300			W	rtsp://192.168.11.114:8080/by-na...
Snell Advanced Media IQMIX			W	rtsp://192.168.11.114:8080/by-na...
Solid State Logic Net I/O SB8.8			W	rtsp://192.168.11.114:8080/by-na...
Solid State Logic T25 Tempest Engine			W	rtsp://192.168.11.114:8080/by-na...
Sony ST2110 Gateway			W	rtsp://192.168.11.114:8080/by-na...
Sony ST2110 Gateway 2			W	rtsp://192.168.11.114:8080/by-na...
TAG V.S. MCM-9000			W	rtsp://192.168.11.114:8080/by-na...
Tektronix Prism Now Generating Bars and Tone			W	rtsp://192.168.11.114:8080/by-na...
Telos Alliance AMS			W	rtsp://192.168.11.114:8080/by-na...
Telos Alliance RAQ mixer			W	rtsp://192.168.11.114:8080/by-na...
Telos Alliance xNode			W	rtsp://192.168.11.114:8080/by-na...
Utah Scientific Utah-2110Gateway			W	rtsp://192.168.11.114:8080/by-na...
Video Clarity Venue Player IP			W	rtsp://192.168.11.114:8080/by-na...
vizrt VizEngine			W	rtsp://192.168.11.114:8080/by-na...
Ward-Beck Systems 32ME			W	rtsp://192.168.11.114:8080/by-na...
Ward-Beck Systems AMS-2			W	rtsp://192.168.11.114:8080/by-na...
Ward-Beck Systems MLC8			W	rtsp://192.168.11.114:8080/by-na...
Ward-Beck Systems preMO-222			W	rtsp://192.168.11.114:8080/by-na...
Ward-Beck Systems preMO-A1			W	rtsp://192.168.11.114:8080/by-na...
WBS preMO-222 (00-52-2C)				rtsp://10.10.203.45:8080/by-name/...
WBS preMO-222 (00-52-D2)				rtsp://192.168.11.114:8080/by-na...
WBS preMO-222 (00-54-70)				rtsp://10.10.203.16:554/by-name/...
WBS preMO-222 (00-54-7C)				rtsp://10.10.203.20:554/by-name/...
WBS preMO-222 (00-54-83)				rtsp://10.10.203.9:554/by-name/W...
Wheatstone Blade			W	rtsp://192.168.11.114:8080/by-na...
Xytech Systems MediaPulse NMOS IS-04			W	rtsp://192.168.11.114:8080/by-na...
Yamaha QL1 Mixing Console			W	rtsp://192.168.11.114:8080/by-na...

SAP

Streamname	Origin	Multicast	RAV
PESA Fusion Encoder	192.168.17	239.31.176.1/1	
PHABRIX SxTag - EnCap/DeCap	192.168.21...	239.31.184.1/1	
Playback Livewire Performance	10.10.203.6	239.2.203.6/1	
Playback Livewire Performance	10.10.203.6	239.2.203.6/1	W
playback Livewire TimeCode	10.10.203.6	239.1.203.6/1	
playback Livewire TimeCode	10.10.203.6	239.1.203.6/1	W
Playback RF MICS	10.10.203.6	239.3.203.6/1	
Playback RF MICS	10.10.203.6	239.3.203.6/1	W
Radio-Canada / SFL Dell server / Gstreamer sender	192.168.21...	239.31.201.1/1	
Riedel Artist64	192.168.62	239.32.35.1/1	
Riedel Micron IP	192.168.9.32	239.32.32.1/1	
Rohde&Schwarz VENICE	192.168.9.50	239.32.50.1/1	
Ross Bach	192.168.62	239.32.56.1/1	
Ross Bach VSC (not ready to transmit)	192.168.62	239.32.60.1/1	
Ross Minuet	192.168.62	239.32.58.1/1	
Ross Raptor-Edge	192.168.9.61	239.32.61.1/1	
Ross XPression	192.168.9.65	239.32.65.1/1	
Shure Axient Digital Receiver	192.168.62	239.32.83.1/1	
Shure P300	192.168.62	239.32.85.1/1	
Snell Advanced Media IQMIX	192.168.9.88	239.32.88.1/1	
Solid State Logic Net I/O SB8.8	192.168.62	239.32.96.1/1	
Solid State Logic T25 Tempest Engine	192.168.62	239.32.97.1/1	
Sony ST2110 Gateway	192.168.9.	239.32.104.1/1	
Sony ST2110 Gateway 2	192.168.9.	239.32.104.2/1	
TAG V.S. MCM-9000	192.168.22...	239.32.112.1/1	
Tektronix Prism Now Generating Bars and Tone	192.168.9.	239.32.123.2/1	
Telos Alliance AMS	192.168.62...	239.32.131.1/1	
Telos Alliance RAQ mixer	192.168.62...	239.32.129.1/1	
Telos Alliance xNode	192.168.62...	239.32.128.1/1	
Utah Scientific Utah-2110Gateway	192.168.22...	239.32.136.1/1	
Video Clarity Venue Player IP	192.168.30	239.32.144.1/1	
vizrt VizEngine	192.168.9.	239.32.152.1/1	
Ward-Beck Systems 32ME	192.168.30...	239.32.160.1/1	
Ward-Beck Systems AMS-2	192.168.30...	239.32.185.1/1	
Ward-Beck Systems MLC8	192.168.30...	239.32.186.1/1	
Ward-Beck Systems preMO-222	192.168.30...	239.32.187.1/1	
Ward-Beck Systems preMO-A1	192.168.30...	239.32.188.1/1	
WBS preMO-222 (00-52-2C)	192.168.11...	239.1.11.136/1	
WBS preMO-222 (00-52-D2)	10.10.203.21	239.1.203.21/1	
WBS preMO-222 (00-52-D2)	10.10.203.21	239.1.203.21/1	
WBS preMO-222 (00-54-70)	10.10.203.16	239.1.203.16/1	

LOC

Streamname	Multicast	Source	RAV	SAP
Nevion Media node 3	239.31.134.1/1	SDP	A	A
NewTek NC1 ip IO	239.31.136.1/1	SDP	A	A
Nextera Video Gateway Codec	239.31.144.1/1	SDP	A	A
PacketStorm AA and AV alignment test	239.31.152.1/1	SDP	A	A
PacketStorm ST 2022-7	239.31.153.1/1	SDP	A	A
Pebble Beach Systems Dolphin	239.31.168.1/1	SDP	A	A
PESA Fusion Encoder	239.31.176.1/1	SDP	A	A
PHABRIX SxTag - EnCap/DeCap	239.31.184.1/1	SDP	A	A
Radio-Canada / SFL Dell server / Gstreamer sender	239.31.201.1/1	SDP	A	A
Riedel Artist64	239.32.35.1/1	SDP	A	A
Riedel Micron IP	239.32.32.1/1	SDP	A	A
Riedel Micron IP	239.32.33.1/1	SDP	A	A
Rohde&Schwarz VENICE	239.32.50.1/1	SDP	A	A
Ross Bach	239.32.56.1/1	SDP	A	A
Ross Bach VSC (not ready to transmit)	239.32.60.1/1	SDP	A	A
Ross Minuet	239.32.58.1/1	SDP	A	A
Ross Raptor-Edge	239.32.61.1/1	SDP	A	A
Ross XPression	239.32.65.1/1	SDP	A	A
Shure Axient Digital Receiver	239.32.83.1/1	SDP	A	A
Shure P300	239.32.85.1/1	SDP	A	A
Snell Advanced Media IQMIX	239.32.88.1/1	SDP	A	A
Solid State Logic Net I/O SB8.8	239.32.96.1/1	SDP	A	A
Solid State Logic T25 Tempest Engine	239.32.97.1/1	SDP	A	A
Sony ST2110 Gateway	239.32.104.1/1	SDP	A	A
Sony ST2110 Gateway 2	239.32.104.2/1	SDP	A	A
TAG V.S. MCM-9000	239.32.112.1/1	SDP	A	A
Tektronix Prism Now Generating Bars and Tone	239.32.123.2/1	SDP	A	A
Telos Alliance AMS	239.32.131.1/1	SDP	A	A
Tektronix Prism Now Generating Bars and Tone	239.32.124.2/1	SDP	A	A
Telos Alliance AMS	239.32.131.1/1	SDP	A	A
Telos Alliance RAQ mixer	239.32.129.1/1	SDP	A	A
Telos Alliance xNode	239.32.128.1/1	SDP	A	A
Utah Scientific Utah-2110Gateway	239.32.136.1/1	SDP	A	A
Video Clarity Venue Player IP	239.32.144.1/1	SDP	A	A
vizrt VizEngine	239.32.152.1/1	SDP	A	A
Ward-Beck Systems 32ME	239.32.160.1/1	SDP	A	A
Ward-Beck Systems AMS-2	239.32.185.1/1	SDP	A	A
Ward-Beck Systems MLC8	239.32.186.1/1	SDP	A	A
Ward-Beck Systems preMO-222	239.32.187.1/1	SDP	A	A
Ward-Beck Systems preMO-A1	239.32.188.1/1	SDP	A	A
Wheatstone Blade	239.32.176.5	SDP	A	A

```

07.09.2018 20:47:09,790 Send SAP announce for: LAWO vremote
07.09.2018 20:47:09,791 Send SAP announce for: Nevion Media node 1
07.09.2018 20:47:09,793 Send SAP announce for: Ward-Beck Systems preMO-A1
07.09.2018 20:47:10,119 Received SAP announce for: Embrionix emSFP-GATEWAY-ENC
07.09.2018 20:47:10,425 Received SAP announce for: LAWO c100-Tx3
07.09.2018 20:47:10,427 Received SAP announce for: LAWO vremote
07.09.2018 20:47:10,429 Received SAP announce for: Nevion Media node 1
07.09.2018 20:47:10,431 Received SAP announce for: Ward-Beck Systems preMO-A1
07.09.2018 20:47:10,433 Received SAP announce for: WBS preMO-222 (00-54-7C)
    
```



AUDIOLAN AES67 Networking

19 devices found in network

MOBILE-32ME Ward-Beck Syst... 32ME-N	APK-AMS2-42-0... Ward-Beck Syst... AMS2-N	APK-BENCH-W... Ward-Beck Syst... 32ME-N	APK-WBS-AMS8 Ward-Beck Syst... AMS8-1AN	FRONT-ROOM-... Ward-Beck Syst... 32ME-N	FRONTTESTuN... 192.168.11.119	MOBILE-AMS-2X2 Ward-Beck Syst... AMS-2X2	MOBILE-AMS81 Ward-Beck Syst... AMS8-1AN	MOBILE-GUEST... Ward-Beck Syst... preMO-222	MOB... Ward preM
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MOBILE-32ME

Stream consumer | Stream provider | General settings | **Advanced** | Discard changes | Clear all | Apply all

Channel 1 Receiving

Name: RX via RAVENNA

Source stream: Front Room - DARS

Channel number: Channel 1

Show advanced settings

Manual SDP | Show current SDP > >>

Channel 2 Receiving

Name: RX via SAP

Source stream: sap:Front Room - DARS

Channel number: Channel 1

Show advanced settings

Manual SDP | Show current SDP > >>

Channel 3 Receiving

Name: RX via Manual SDP

```

v=0
o=- 4 0 IN IP4 192.168.11.109
s=Front Room - DARS
c=IN IP4 239.1.11.109/1
t=0 0
a=clock-domain:PTPv2 0
m=audio 5004 RTP/AVP 98
a=rtpmap:98 L24/48000/8
a=recvonly
a=framecount:48
a=sync-time:0

```

Normal Mode | Chanr



RAVENNA

Now with AES67

Dante™



Thank You



Anthony P. Kuzub

IP Audio Product Manager

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TorontoAES.org

Vice-Chair

