



What is AES67?

All you need to know about AES67 for audio and AV projects

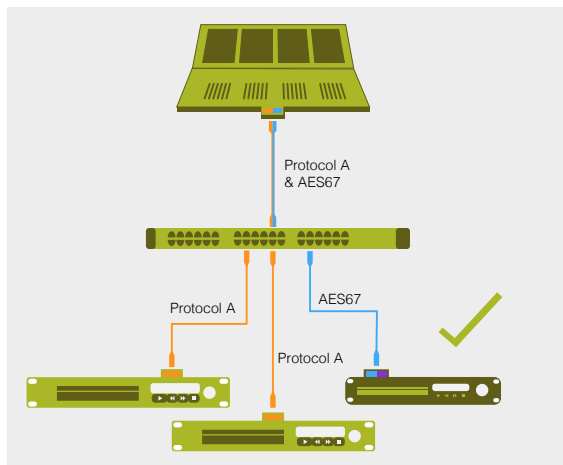
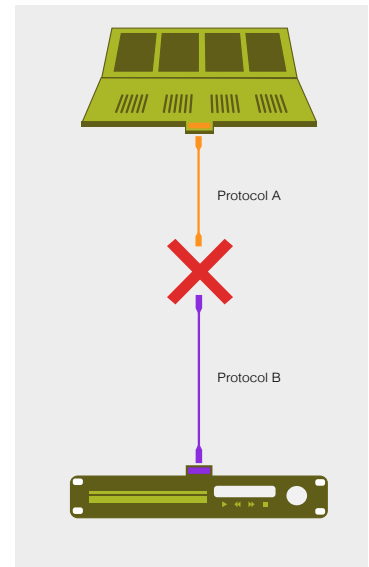
Audio networking has been around for about 20 years and several methods of connecting audio systems together have come and gone. All audio networks work in the same way - they allow you to send and receive many channels of digital audio along one network cable.

The problem has always been that each of these methods of audio networking are different. So if you want to connect two pieces of equipment together then they have to use the same protocol.

If you try and connect equipment using two different protocols it simply won't work.

It's been like this for years. Different protocols have different advantages and disadvantages. There are some widely used industry standard protocols but there are also some proprietary ones where a manufacturer wants to connect only their gear together so they have complete control over the user experience.

The problem is that we don't live in a closed world, we want freedom to connect all our equipment together. So, in 2013 the AES published the AES67 Standard for High-Performance Audio over IP Interoperability. However this wasn't just another protocol. Instead, AES67 is a set of rules for existing and future protocols to follow.



It sets a minimum standard for communication to allow audio to pass between different equipment.

The fact is that many of these audio networking protocols are quite similar. If they make small modifications then they can be AES67-compatible and thus pass audio to equipment using another protocol.

To stay future-proof always ensure you use a networking protocol that is AES67-compliant.

“RAVENNA has AES67 built-in - it is inherently AES67-compatible, but offers a wider range of options and functionality for advanced performance.”

RAVENNA and AES67 Compared

 		 RAVENNA <i>AES67 built-in</i>	
		<ul style="list-style-type: none"> + Discovery + Redundancy 	} More Features
	<ul style="list-style-type: none"> QoS three classes Media Format L16/L24 PCM 48 Samples per packet 1-8 Audio Channels Encoding 48kHz 	<ul style="list-style-type: none"> + Classes Adjustable + AES/EBU, DSD/DXD, Video + 1, 6, 12, 64... + 64, 128... + 44.1, 96, 192, 384kHz... 	} More Options

Implementing AES67 into AV Products

RAVENNA is an open technology. Developed by ALC NetworX in Germany, all the information about implementing RAVENNA is freely available in the public domain. RAVENNA helped develop AES67, ensuring that it is completely AES67-compatible. No firmware updates are required and there are no incompatibilities.

You can implement RAVENNA into products in a number of ways. If you have R&D resources and good networking knowledge, then you can implement it yourself. You may, however, choose to get assistance from ALC NetworX, who can provide you with a number of support packages and can also sell you the right to use the RAVENNA logo.

Alternatively, there are five vendors of RAVENNA networking hardware who can supply you with a variety of complete OEM boards.

In addition to RAVENNA and AES67 they also offer options for control, data tunnelling and USB bridging. There are also free and paid-for software options for virtual soundcards under Windows and macOS.

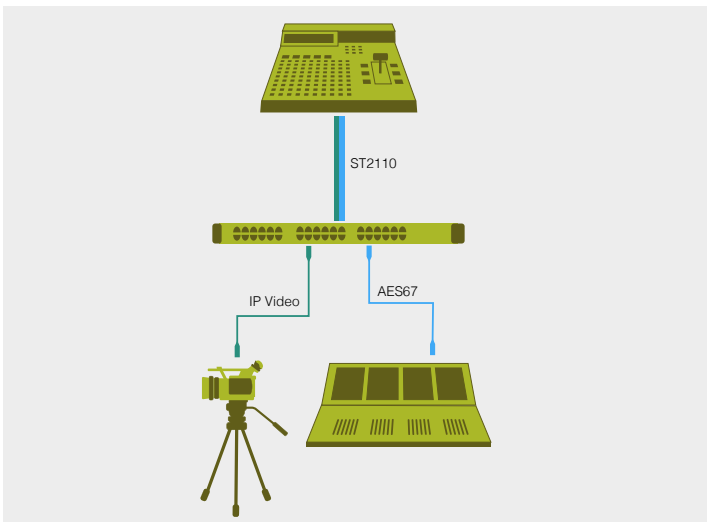
RAVENNA opens your products up to AES67 compliance with a variety of ways of implementing solutions, so you are never dependant on one hardware vendor.

Some of the biggest sports events in the world rely on RAVENNA for rock solid performance. When the world is watching they listen to RAVENNA.

RAVENNA has a thriving community of manufacturers, developers and users. The number of users is expanding from it's roots in the broadcast world to all kinds of projects.

Hardware Solutions

Producer	Name	Channels	AES67 ST 2110
ALC NetworX	COMi.MX	128x128	Yes
ARCHWAVE	uNet Standard	32	Yes
ARCHWAVE	uNet Compact	16	Yes
ARCHWAVE	uNet Mini	4	Yes
DIGIGRAM	LX-IP	128x128	Yes
ROSS Video	BACH-canon	512x512	Yes
ROSS Video	BACH-allegro	128x128	Yes
ROSS Video	BACH-minuet	16x16	Yes
MERGING	ZMAN	Up to 256x256	Yes



AES67 & VIDEO Audio for AV Products

SMPTE ST2110 is the new standard for audio and video transport over IP. It has been agreed that transport of the audio element follows the AES67 standard, making it fully compatible with RAVENNA.

Thus, ST2110 opens up the video world for all AES67-enabled audio products, ensuring video AND audio products connect perfectly together.

“Any RAVENNA device can process AES67 audio streams compliant with ST2110”

Software Solutions

Producer	Name	Channels	Notes	Platform	AES67 ST 2110
ALC NetworX	RAVENNA Virtual Sound Card	8x16	Free Software	Windows 7, 8 & 10	Yes
LAWO	R3Lay Engine	8x8	Application	Windows 7 & 8	Yes
LAWO	R3Lay Engine Pro	64x64	Application	Windows 7 & 8	Yes
LAWO	R3Lay Virtual Sound Card	64x64	Driver / Application	Windows 7, 8.1 & Windows Server 2012 R2	Yes
MERGING	VAD Standard	64	Multichannel version Free with Hardware	Windows & macOS	Yes
MERGING	VAD Premium	128	Stereo version Free	Windows & macOS	Yes



RAVENNA

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