

About AES67 Standard And What It Means For The AV Industry



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Many of you would have heard about the AES67 standard that was developed by the Audio Engineering Society and published in September 2013. To promote the adoption of AES67, The Media Networking Alliance (MNA) was formed in October 2014. *SI Asia* speaks to **Andreas Hildebrand, Senior Product Manager at ALC NetworX GmbH**, the company that is responsible for RAVENNA networking technologies and also a member of MNA, to know more about AES67.

What is AES67 all about? What loophole or space is this meant to fill which was not previously available?

AES67 is a standard published by the Audio Engineering Society on September 11th, 2013, addressing "High-performance Streaming Audio-over-IP Interoperability". It defines a set of guidelines which provide a basis for achieving interoperability between different IP-based audio networking solutions.

There are several audio networking solutions and technologies for professional applications. While earlier solutions were based on Ethernet layer (i.e. CobraNet, EtherSound), more recently introduced solutions and technologies were all based on IP (i.e. Livewire, Dante, WheatNet, Q-LAN and RAVENNA). However, despite being based on IP, there was not enough common ground to establish interoperability among them, mostly due to varying synchronization mechanisms, transport protocols or data formats employed. This motivated the AES to establish a Work Group to research and define potential interoperability

guidelines. A prerequisite was not to invent yet another, completely new solution, but to try to identify commonalities among the existing solutions and use available technology standards and protocols already employed. The idea was to allow current solution providers to adopt AES67 with as little effort as possible and provide AES67 interoperability either via a special mode of operation or through native support. In other words: AES67 is not intended to replace existing solutions, but to offer means for interoperability among them.

In the overall audio ecosystem, how does AES67 and the solutions fit into the picture?

The advantage of having an interoperability standard for various solutions is obvious: while there may be a sound ecosystem of products already available for individual solutions, none of these solutions can fit all application areas. And as convergence continues to increase between different application areas or markets, like installed sound, live, broadcast, recording etc., direct interoperability on a networked basis



Figure 1: An example of how AES67 can help with interoperability between a RAVENNA-equipped OB van, Q-LAN equipped venue and a Livewire equipped radio station.

(not just bridging, employing MADI or other digital / analog signal means) is increasingly demanded. Just think of the case where a RAVENNA-equipped OB van wants to connect to a Q-LAN-equipped venue and production signals are sent back to a Livewire-equipped radio station (see **Figure 1**). Plus, it gives system integrators more freedom to choose their equipment based on important product features rather than on the networking technology they adhere to.

What advantages does it bring to the AV industry?

As stated before, interoperability of systems from different manufacturers / brands is now possible and provides a much larger freedom of choice. Bridging between system segments utilizing "legacy" technology can now be avoided, enabling unified signal flow throughout a complete system. And since the AES Work Group maintained a liaison with the SMPTE Work Group defining the new SMPTE 2059 standard on synchronization, the respective technology and protocol definitions were closely aligned, so that Video-over-IP and Audio-over-IP based on SMPTE 2059 and AES67 can work nicely together on the same network.

What has been the response from the industry?

The industry interest was exceptionally high: already during the Work Group phase we had participation not only from the respective network solution providers, but also from system integrators, consultants, service providers and end customers (mainly large broadcasting companies). After publication, interest came from all areas of the professional audio industry, including stakeholders from the broadcast, installed sound, live or recording & production industries. While not everyone is immediately aware that AES67 is "just" an interoperability standard, lacking important features typically comprising a full solution (like advertising & discovery, control functionality etc.), basically everyone acknowledges the importance of this standard.

How soon will we see AES67 being implemented ?

As far as the solution providers are concerned, they either are already fully AES67 compliant (i.e. RAVENNA, Livewire+) or are in the process of offering AES67-compliant operation modes in their systems. First installations are already fully operating in AES67 mode, although they usually use the additional benefits from the solutions or technologies they natively adhere to.

A good example is the sound installation in a multi-purpose / multi-zone restaurant complex in Finland, which utilizes AES67-enabled gear from MNA members ALC NetworX, Telos Alliance (Axia), Genelec and Finnish company Jutel (see **Figure 2**). AES67 mode has also been used in RAVENNA-based systems during Soccer Championship 2014 in Brazil, Asian Games 2014 in Incheon or the Eurovision Song Contest 2015 in Vienna. Once we will see more AES67-enabled gear from

QSC and Dante licensees, connectivity and product diversity will increase significantly and I expect more projects based on AES67 interoperability to become visible by the end of this year.

What if anything will hold this back and why?

I simply can't imagine why somebody would hold back AES67 interoperability in their products. This definitely would exclude him from the advantage of participating in a rapidly growing market for networked audio applications. While early solution providers may see an advantage in preserving their niche through a closed-solution business model, history has shown that only open standards have the potential to survive in the long-term. The growing membership of the MNA certainly demonstrates the willingness and also the need to adopt the AES67 standard.

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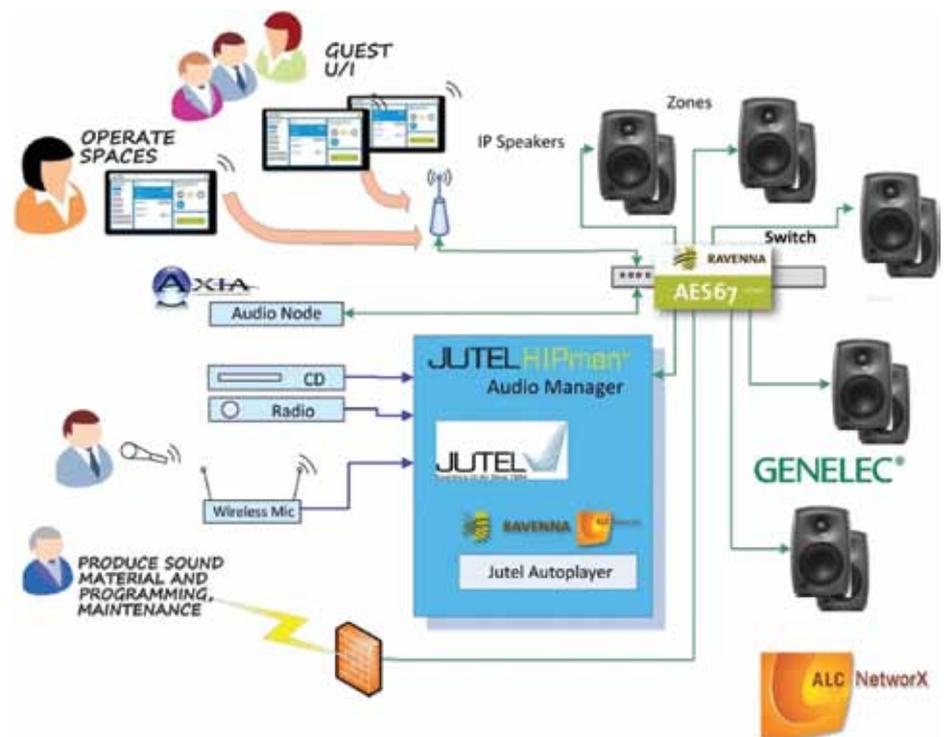


Figure 2: A multi-purpose / multi-zone restaurant complex in Finland utilizing AES67-enabled gear from MNA members.