

Standards project report - AES67 Interoperability PlugFest - Washington 2015

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Abstract

This report summarizes the AES67 interoperability test event ("plugfest") held at the headquarters of National Public Radio (NPR), Washington DC on 1 to 5 November 2015. Eleven companies tested 13 products against each other to confirm interoperability. The results are presented, together with the results of a range of tests of optional operational modes described in the standard.

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Foreword

The inter-operability tests described here were discussed and formulated by AES standards task group SC-02-12-M under the leadership of Kevin Gross.

The members of the task group that produced these results are: Roberto Barbieri Carrera, Claudio Becker-Foss, Fredrik Bergholtz, Johan Boqvist, Dave Breithaupt, Dominique Brulhart, Gregoire Diehl, Johannes Freyberger, Kevin Gross, Terry Holton, Sonja Langhans, Ralf Michl, Masaaki Okabayashi, Bruce Olson, Kelly Parker, John Pruitt, Greg Shay, Keiichiro Soma, Peter Stevens, Nicolas Sturmel, Mark Yonge.

We would like to express our appreciation to Dennis Byrnes of NPR for valuable help with organizing this event, and to his colleague Gene Gerhiser who assisted the tests. Sonja Langhans of the Institut für Rundfunktechnik (IRT), Fredrik Bergholtz and Johan Boqvist of Swedish Radio, and Peter Stevens, Dave Walters, and Jamie Laundon of the BBC, also provided material help, especially in data analysis.

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0 Introduction

0.1 Purpose

The purpose of this interoperability test was to demonstrate functional compatibility - interoperability - between a number of different implementations of the standard AES67-2015, "AES standard for audio applications of networks - High-performance streaming audio-over-IP interoperability". They were not intended to be exhaustive compliance tests.

This report follows the same pattern as the AES-R12 report of the 2014 AES67 plugfest, held in Munich.

0.2 Approach

An interoperability test is not the same as a product shoot-out. The purpose is to allow engineers from different companies to meet in a commercially-neutral context to connect their equipment with equipment from other developers and to confirm, through testing, that signals are transmitted and received correctly according to the standard. The spirit is of technical enquiry, not point-scoring, and this is in the practical interests of all participants.

For this reason, this report has been prepared under the Chatham House Rule, which states: "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."

0.3 Participation

The following manufacturers participated in this plugfest.

ALC NetworX GmbH
Archwave Technologies BV
Digigram SA
DirectOut GmbH
Lawo AG
Meinberg Radio Clocks GmbH & Co. KG
Merging Technologies
QSC LLC
Telos Corporation
Wheatstone Corporation
Yamaha Corporation

A total of 13 separate and independent products implementing AES67 were tested. Implementations varied from software implementations on a PC to hardware-based FPGA solutions.

Compared with the Munich tests where a number of products were based on prefabricated hardware and firmware sub-systems, the products in these Washington tests used largely-independent implementations of AES67.

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