STANDARDS AND INFORMATION DOCUMENTS

AES54-2-2008
(r2019)

AES standard on interconnections - Grounding and EMC practices - Shields of balanced audio wiring within fixed and portable passive connector panels, jack fields, and passive microphone splitters

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AES standard on interconnections - Grounding and EMC practices - Shields of balanced audio wiring within fixed and portable passive connector panels, jack fields, and passive microphone splitters

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Abstract

This standard specifies requirements for, and summarizes general considerations relative to, the shielding of balanced audio interconnections within fixed and portable connector panels, jack fields (patch bays), and passive microphone splitters, taking into account measures commonly necessary for the preservation of electromagnetic compatibility (EMC) at both audio and radio frequencies.

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Foreword

[This foreword is not part of the AES54-2-2008 *AES standard on interconnections - Grounding and EMC practices - Shields of balanced audio wiring within fixed and portable passive connector panels, jack fields, and passive microphone splitters.*]

This draft standard was developed under project AES-X147B by task group SC-05-05-C headed by J. Brown, and with the following members: R. Chinn, K. Fause, N. Muncy, B. Olson, R. Rayburn, J. Schmidt, T. Waldron, B. Whitlock, and J. Woodgate.

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Note on normative language

In AES standards documents, sentences containing the word “shall” are requirements for compliance with the document. Sentences containing the verb “should” are strong suggestions (recommendations). Sentences giving permission use the verb “may”. Sentences expressing a possibility use the verb “can”.

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0 Introduction

The shielding of cables connecting audio equipment, including those connecting microphones to audio equipment, can be critical for electromagnetic compatibility (EMC). The improper connection of these shields can allow noise current to flow on the cable shield, coupling that noise onto the signal pair by the mechanism commonly known as shield-current-induced noise (SCIN) (see references A.3 and A.6). When that shield is connected to equipment exhibiting a common design defect identified as “the pin 1 problem,” the noise is also coupled into signal circuitry by common impedance coupling within the equipment (see AES48 and references A.3, and A.5). This design defect is quite widespread in mixing desks.

1 Scope

This standard specifies requirements for, and summarizes general considerations relative to, the shielding of balanced audio interconnections within fixed and portable connector panels, jack fields (patch bays) and within passive microphone splitters, taking into account measures commonly necessary for the preservation of electromagnetic compatibility (EMC) at both audio and radio frequencies. Active splitters are not covered by this standard. This standard does not address issues of safety.

2 Normative References

AES48-2005 *AES standard on interconnections - Grounding and EMC practices - Shields of connectors in audio equipment containing active circuitry*, Audio Engineering Society, New York, NY., US.