

AES standard for professional audio equipment - Application of connectors - Miniature XLR-type polarity and gender

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Abstract

This standard is intended to apply to three- and five-pin circular connectors, commonly and generically known as miniature XLR-type, used for the balanced interconnection of all categories of sound system components for professional audio, commercial, recording, broadcast, and similar applications, regardless of function, type, or level of the signal. It specifies the application and polarity of analog signals for these connectors and is intended to avoid the inversion of absolute polarity among the items in the analog signal chain.

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Foreword

This Foreword is not a part of the AES66-2012 *AES standard for professional audio equipment - Application of connectors - Miniature XLR-type polarity and gender*.

In 1992, after many years of confusion in the absence of a polarity standard for balanced audio over XR connectors, the AES first published AES14, *AES standard for professional audio equipment - Application of connectors, part 1, XLR-type polarity and gender*. Largely as a result of this, XLR usage in the field has become substantially stable and interoperable to the extent that equipment and XLR cables are routinely connected together correctly without surprise or dismay.

The later introduction of miniature XLR connectors, increasingly used to economize on panel space in compact equipment, prompted a revisit of this area. Miniature XLR connectors, sometimes called “tiny XLR”, have a different pin-numbering scheme, and a different keyway, however the need for predictable standard for gender and polarity remains necessary for professional applications.

The AES Standards Working Group SC-05-02 on Audio Connectors developed this standard under project AES-X205.

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Chair, SC-05-02 Working Group on Audio Connectors
2012-12-18

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”.

AES standard for professional audio equipment - Application of connectors - Miniature XLR-type, polarity and gender

Introduction

In sound systems it is often necessary to connect pieces of equipment from different manufacturers. This standard provides a common scheme for wiring the connectors used - particularly to avoid the inversion of absolute polarity among the items in a signal chain. Consistent usage regarding positive-polarity and return terminals will also provide more stable interoperability when balanced and unbalanced interfaces are combined.

1 Scope

This standard shall apply to three- and five-pin circular connectors, commonly and generically known as miniature XLR-type, used for the balanced interconnection of all categories of sound system components for professional audio, commercial, recording, broadcast, and similar applications, regardless of function, type, or level of the signal. It specifies the application and polarity of analog signals for these connectors. This standard does not pertain to the dimensions of the connectors.

NOTE – Use of this connector may be restricted by safety regulations.

2 Normative references

No normative references are required to implement this standard.

3 Definitions

3.1

Positive sound pressure

shall designate that portion of the sound wave during which the pressure is in excess of the atmospheric ambient.

3.2

Positive polarity

shall designate an electrical signal voltage which acquires a potential that has a phase angle within 90 degrees with respect to a positive sound pressure peak.

3.3

Positive-polarity terminal

shall be that terminal on which a positive signal shall be measured with respect to the oppositely polarized terminal when a positive-polarity signal is applied as observed with an oscilloscope or similarly functioning instrument.

3.4

Return terminal

shall be that terminal which is polarized opposite to the positive-polarity terminal, that is, the negative-polarity terminal.