

How to connect MultiTasker to Balanced / Unbalanced Audio

Introduction

During design of AV systems, it is necessary to connect balanced or unbalanced audio sources and power amplifiers to audio switchers or distribution amplifiers. Understanding the proper connection of these types of signals will assure proper performance of Altinex audio equipment.

Making proper audio connections

Balanced Audio cables have two conductors, both of which have equal impedance to ground. Typically these wires are twisted together to improve line balance. The Normal Polarity (“+”) wire and Inverted Polarity (“-”) wire are used to transmit audio signals with opposite polarities. Some Balanced Audio cables also include shielding to minimize external noise interference. In many cases shield is connected on the transmitting or receiving end only.

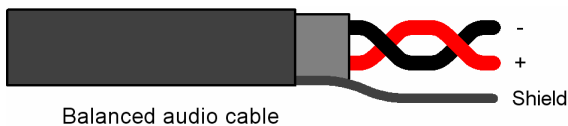


Figure 1 Typical balanced audio cable

An Unbalanced Audio line has 2 conductors, one of which is the Normal Polarity and the other is shield.

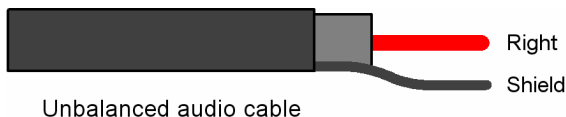


Figure 2 Typical unbalanced audio cable

Most of the MultiTasker based audio cards employ terminal block connector that allow easy way of interfacing to balanced or unbalanced audio signal.

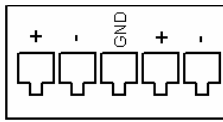


Figure 3 Typical MultiTasker audio input/output connector

A five pin terminal block provides a convenient way of interfacing to audio cards in a MultiTasker. Audio cards provide high impedance balance input and low impedance output. To prevent any unwanted noise, make sure that unused input pins for unbalanced connection are shorted to ground.

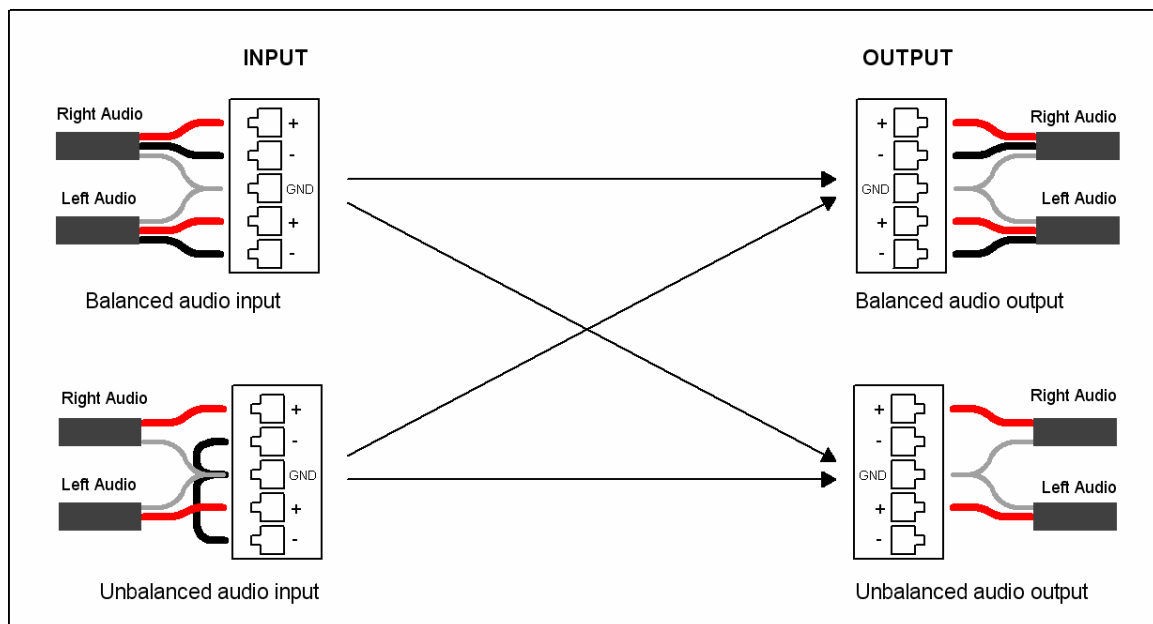


Figure 4 Typical configuration for balanced and unbalanced signals

To connect balanced stereo audio to the MultiTasker audio cards, make sure to match positive and negative inputs with incoming signal. For unbalance signals, only positive side of the input or output is used.

Conclusion

It is very important to understand the different type of conductor cables required for balanced or unbalanced audio inputs and outputs. Also, knowledge about the connections between the conductor cables and the connectors will help in proper functioning of Altinex products.