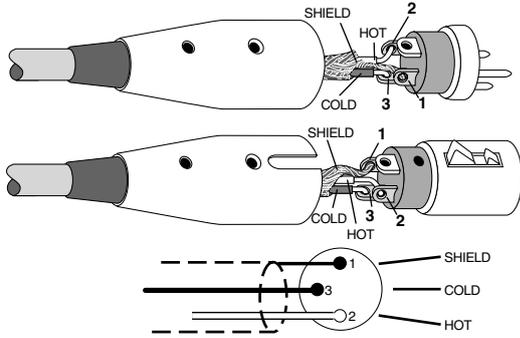


# Appendix B: Connections

## XLR Connectors

Mic/Line 4 cards use 3-pin female XLR connectors on the MIC inputs. They are wired as follows, according to standards specified by the AES (Audio Engineering Society).



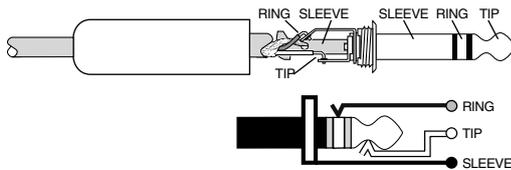
### XLR Balanced Wiring:

- Pin 1 = Shield
- Pin 2 = Hot (+)
- Pin 3 = Cold (-)

## 1/4" TRS Phone Plugs and Jacks

"TRS" stands for Tip-Ring-Sleeve, the three connection points available on a stereo 1/4" or balanced phone jack or plug. TRS jacks and plugs are used for balanced signals and stereo headphones:

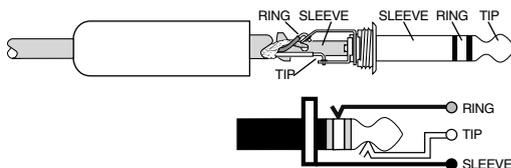
### Balanced Mono



### 1/4" TRS Balanced Mono Wiring:

- Sleeve = Shield
- Tip = Hot (+)
- Ring = Cold (-)

### Stereo Headphones

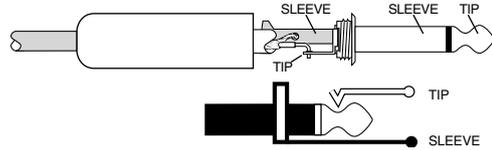


### 1/4" TRS Stereo Unbalanced Wiring:

- Sleeve = Shield
- Tip = Left
- Ring = Right

## 1/4" TS Phone Plugs and Jacks

"TS" stands for Tip-Sleeve, the two connection points available on a mono 1/4" phone jack or plug. They are used for unbalanced signals.

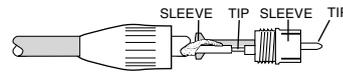


### 1/4" TS Unbalanced Wiring:

- Sleeve = Shield
- Tip = Hot (+)

## RCA Plugs and Jacks

RCA-type plugs (also known as phono plugs) and jacks are often used in home stereo and video equipment and in many other applications. They are unbalanced and electrically equivalent to a 1/4" TS phone plug.



### RCA Unbalanced Wiring:

- Sleeve = Shield
- Tip = Hot (+)

## Unbalancing a Line

In most studio, stage, and sound reinforcement situations, there is a combination of balanced and unbalanced inputs and outputs on the various pieces of equipment. This usually will not be a problem in making connections.

- When connecting a balanced output to an unbalanced input, be sure the signal high (hot) connections are wired to each other, and that the balanced signal low (cold) goes to the ground (earth) connection at the unbalanced input. In most cases, the balanced ground (earth) will also be connected to the ground (earth) at the unbalanced input. If there are ground-loop problems, this connection may be left disconnected at the balanced end.
- When connecting an unbalanced output to a balanced input, be sure that the signal high (hot) connections are wired to each other. The unbalanced ground (earth) connection should be

wired to the low (cold) and the ground (earth) connections of the balanced input. If there are ground-loop problems, try disconnecting the unbalanced ground (earth) connection from the balanced input ground (earth) connection, leaving the unbalanced ground connected to the balanced input low (cold) connection only.

In some cases, you may have to make up special adapters to interconnect your equipment. For example, you may need a balanced XLR female connected to an unbalanced 1/4" TS phone plug. Many common adapters can be found at your local electronics supply store.

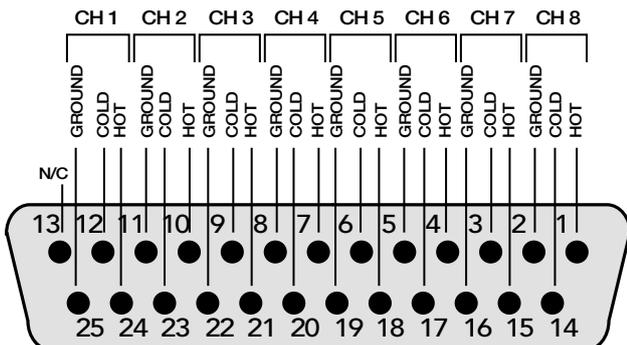
The balanced-to-unbalanced connection has been anticipated in the wiring of Mackie jacks. A 1/4" TS plug inserted into a 1/4" TRS balanced input, for example, will automatically unbalance the input and make all the right connections. Conversely, a 1/4" TRS plug inserted into a 1/4" unbalanced input will automatically tie the ring (low or cold) to ground (earth).

## DB25 Connectors

Not all DB25 connectors are alike. Some provide analog audio signals and some provide digital audio signals. In addition, there are a variety of digital formats that use the DB25 interface, which are not compatible with each other. So when you are connecting the dXb I/O cards to other equipment, make sure you know what flavor DB25 connectors you have and that they are compatible with each other.

### Analog

The inputs and outputs on the Mic/Line 8 card and the Line card provide eight balanced line-level signals per DB25 connector. These connectors are pin-for-pin compatible with the analog (not TDIF) DB25 connectors found on TASCAM DTRS recorders, which has become an industry standard for many professional audio manufacturers. They are also the same pinout as the analog cards for the Mackie D8B and hard disk recorders.



Analog DB25 Output

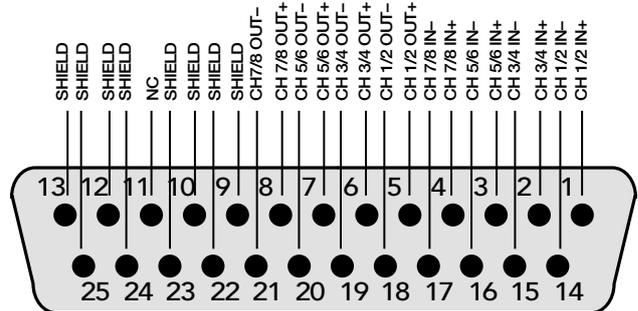
Several companies make DB25-to-DB25 cables specifically for audio, with proper shielding to reduce crosstalk and noise.

DB25 cables that break out to XLR, 1/4" TRS, or TT connectors for connecting to other mixers or audio gear are also readily available. See your Mackie dealer for details.

### Digital

#### AES/EBU

The AES card has a DB25 connector that provides digital I/O for eight channels in the AES/EBU format. This connector is wired as follows:

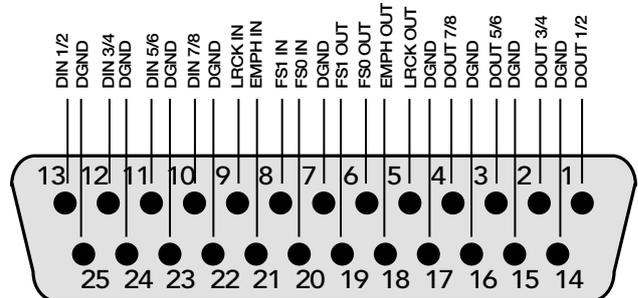


Digital DB25 AES/EBU Output

**Note:** A variety of alternate pin-out configurations have been developed by various manufacturers for the AES/EBU DB25 interface. Make sure the device you are connecting to has the same pin-out configuration as the dXb AES card. If not, you will need to make a conversion cable so the signals arrive at the correct pins on the receiving end of the cable.

#### TDIF

The DIGI card has a DB25 connector that provides digital I/O for eight channels in the TDIF format. This connector is wired as follows:



Digital DB25 TDIF Input/Output