

Common Analog Cables

The XLR cable (3 prong) This is a common microphone cable. May also be used as a line level cable for gear that has balanced ins and outs. These cables can go long distances, even to another room if required



The TRS "Tip-ring-sleeve" cable (2-conductor plus ground) This is a cable for balanced signals just like the XLR above, it just has different connectors. Note that TRS cables are typically used for mono, not stereo, signals in most studio gear. The exception being the headphone jack.



CBI makes a nice 20 gauge TRS cable (below) and a less expensive 24 gauge. Like the XLR these cables can go long distances, even to another room if required.



CBI 16 X 4 Audio Snake with Neutrik Connectors

The TS "Tip-sleeve" cable

(2 conductor "phone jack") This cable is for unbalanced signals. These cables should be kept as short as possible. Keep them under 12 feet and away from power transformers (wall warts) or they may pick up dreaded hum and ruin your audio signal.



The RCA Cable ("home stereo" cable) Because each cable in the RCA pair (as shown below) only has 1 conductor plus ground, it is for unbalanced signals, just like the TS cable above. Keep them as short as possible.



CBI 8-Channel TRS to TRS Snake

Tweak: I recommend these with no hesitation. Great for 8x8 audio interfaces

The Insert Cable (TRS to mono "Y" cable). Insert jacks on mixers are not balanced. Basically, on the TRS end, it carries both the input and the output of the mixer channel with a common ground. These cables allow you to insert a device in the channel's path, like a compressor or EQ or to carry the signal to a patchbay where devices can be conveniently patched in.

A variation on this is the Soundcard 1/8" stereo plug to dual RCA. Its very helpful with consumer grade soundcards and some laptops. Keep them as short as possible.

What is a Snake? A snake is a bunch of cables bundled together in one casing. This helps keep the cable jungle a little more under control by only having one thick cable to step on or trip over, rather than 8 or 16. High quality snakes for XLR cables are expensive and include a "stage box" where the mics and other instruments are connected. Multi track snakes can be found in many types from TRS to TRS, to TS to



Keep them as short as possible.



TS, RCA to TS, and TRS to TS (an insert snake). These come in varying qualities. One problem with inexpensive snakes is that one of the 8 cables may go bad and you are stuck with loose ends hanging out. I really like the CBI snakes for wiring mixers to audio interfaces



You can also roll your own if you are good with a soldering iron

Insert to direct out cable. Sometimes we want to use the inserts on our mixer as a direct out and only take the signal going out of the channel and not return a signal to it (like when we want to connect a soundcard to the mixer). You can do the old trick of sticking in a TS cable halfway (to the first click) or get one of these.



The Elco Cable (56 pin connector to 16 TRS) For professional multi-track recorders



What is a combo jack?



Note that the combo jack allows you to connect either XLR -or- 1/4" cables. (The 1/4" connection might either be HiZ (high impedance, i.e., "instrument level" like guitar or "line level" like keyboards, tape decks, external processors, etc.)



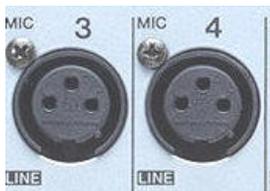
How do I connect a Patchbay?

Here's the standard normal procedure. Connect an insert cable in the insert jack of the mixer. The output of the Mixer goes in the bottom rear of the bay and goes out the top rear of the bay back to the Mixer. If nothing is connected to the front jacks of the patchbay, this signal will just pass through and back. To take the output of the channel from the front of the bay, you insert a cable in the bottom front jack. To patch another signal into the mixer to replace the existing signal, you patch a cable into the upper front jack.



Most Dangerous Cable. TS to Dual TS. Never use this to connect 2 sources to 1 input. You can use it to split 1 output to two outputs.

What is an XLR jack?



What is a 1/4 " Line Input



What is an RCA line input?



Common Digital Cables

Stereo (2 channel) digital cables

A: These are all different methods of sending 2-channel (stereo) digital audio data down a cable to another device. Note, this is DATA, not an analog signal. The data bypasses all analog circuitry to make the perfect clone of the



original data. AES/EBU requires a cable with microphone

(XLR) connectors. This method is used a lot with pro gear. Common lengths for these pathways is from 3-15 feet. Can you use a Mic cable as an AES/EBU cable? We are advised not to. If you are in a jam, video-rated cable may work.

S/PDIF: (Stands for the Sony/Phillips Digital Interface) There are two types: Coaxial and Optical. So when some says they are connecting via S/PDIF, you should then ask, Coax or Optical? Coaxial requires a cable with RCA connectors. They look just like common "home stereo" connectors.



In fact, sometimes you can get a high quality stereo cable to work if the run is short. The limit on length is 6 meters or 19.8 feet which is fine for the home studio.

Optical is another flavor of S/PDIF and has the square connectors called TOSLINK connectors. These are also known as ADAT lightpipe cables and Fiber Optic Cables

