

Making Your Own Microphone Cables:

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Tools Needed:

Canare Microphone Cables (#L-4E6S)

Neutrik Connectors

∞2 Male: Black/Gold - (# NC3MX-B)

∞2 Female: Black/Gold - (# NC3FX-B)

Soldering Iron

Solder – Rosin Core

Multimeter w/ Leads

Wire Stripper

Clamp/Third Arm

Shrink wrap & heat gun (optional)

Before we begin:

Take note of how large the connector is on each end of the cable. In doing this you will find out how much wire should be stripped off of each end. In the picture below I have taken of about 3/8th of an Inch. This proved to be a good rule as the chuck then had a great deal of un-sheathed cable to clamp hold to. (If this doesn't make sense. It will).

Note:

Each cable will take 2 different connectors!!

1 Male(NC3MX-B) & 1 Female(NC3FX-B)!!!

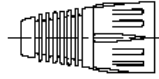
Your cables/connectors may differ based upon preference.

First – Getting comfortable with your connectors:

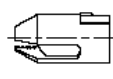
Your connector comes in four pieces. These pieces are as follows.

1. Bushing - This is the rubber & plastic piece with female threading.
2. Chuck – This has 3 prongs with teeth to clamp down on the cable.
3. Insert - This piece contains the 3 Gold pins or 3 gold Inserts.
4. Housing – This piece is the solid black metal housing.

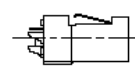
NC*FX



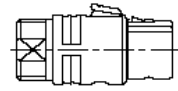
bushing



chuck



insert



housing

NC*MX

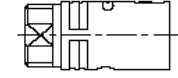
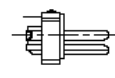
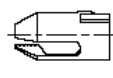
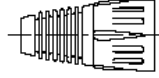


Image taken from Neutrik.com. ©Neutrik

Together these will be assembled to make your XLR connector. These pieces attach to the wire in the order they were described. See **Image #1** Below.



Image #1: Pieces of a Neutrik Male Connector (NC3MX-B).

Second – Preparing The Cable Ends:

First we want to place the bushing, chuck and heat shrink (optional) around the cable(bushing will be fat end out). Make sure to give yourself some room near the end of the cable as you will need it when preparing the wires inside. With the bushing and chuck in place (these will slide up when finished) we want to strip the end of the cable. A good rule for stripping the wire, is to take a ruler and strip each end the same amount, this will keep your cables uniform in length.

I took about $\frac{3}{8}$ th of an inch off each end(See **Image #2**). This will be a little tight and more difficult to work with if you are not practiced with a soldering iron, so you might give yourself about $\frac{1}{2}$ inch or slightly more. Being careful not to cut the inside wires, strip away the outside housing. This will expose a braid of silver wire, this is your shield(See **Image #3**).



Image #2: Placing the connector & determining strip placement.



Image #3: Exposed shield from stripped end.

Next, You want to somehow twist the shield so that it itself is a wire. I did this by taking an exact-o-knife and slicing (very carefully as to not cut the inside wires) a line down the shield. This allowed me to pull it away and gather it to one side for twisting. This will expose the white paper inside as well as the 2 Blue and 2 White wires along with some cotton threads.

Using your wire strippers, strip away a fair amount of the blue and white housings, and twist both blue wires together, then twist both white wires together. Use a set of snips to cut away the paper and cotton threads. You should now have something similar to **Image #4**.



Image #4: Wires inside the Cable. Blue & White & Shield.

You will want to make sure that you tin these cables with your soldering iron and solder.

Now we are ready to connect the Insert to the cable. The pin placements go as follows:

- 1: Silver Shield Wires
- 2: Blue Wires
- 3: White Wires

Place a small piece of heat shrink around the wire, enough to cover any exposed copper. This will aid in deterring shorts between pins.

Note: You may want to place some solder inside each pin before you insert the wires. This will allow you to heat up the pin and slide the wires inside. The only downfall to this approach is that it can create cold solder joints. Use your best technique/judgment.



Image #5: Connecting the wires to the Insert.

Once you have soldered down all wires, use a heat gun to shrink the heat shrink tubing around the pins. Your wire should now look something like **Image #6** below.

Here you will want to use the multimeter to test for continuity and shorts between pins. If you think everything is alright, then move on to **Connecting the Connector Together**.



Image #6: All Pins soldered & heatshrinked to the Insert

Connecting The Connector Together:

Once you have finished this, slide the chuck up and match up the guide pins. Next we take the housing and using the guide notches, match them up, and slide the housing down over the insert and chuck. Slide the bushing up and screw the bushing to the housing. When you get close to the end, you will have to apply some force. This is okay as we are causing the chuck to dig into the cable so it will not let the cable slip.

Now comes the moment of truth. If you didn't check before, you will want to check the continuity of the pins. Using the multimeter, place one lead on each corresponding pin. One lead on Pin 1 Male, and one lead inside Pin 1 female. Make sure that you can get signal from one end of the cable to the other, and not in between pins. IE. Pins 2 <-> 2 should send signal. But from 2 <-> 3 should not. If you don't get signal, you will have to go back and check all connections, maybe reflow the solder in the pins.

If everything went okay, and you have no shorts across pins, then you should have something like **Image #7!!!**



Image #7: Finished Microphone Cables!!!

Thats It! Congratulations on your new Microphone Cable(s)!

Note: All steps are the same for the female connectors. To make sure you have them connected correctly, the release lever should be pushed up and tense.

Special Thank You to Brian Skalinder and TS.com.