

# SHOWLED



## How to make a ShowLED Classic starcloth

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## Tools

Pre confectioned fabric (Molton Trevira CS) and lining (Satinac Dekotaft)

LED strings

Velcro washers

Wire cutter

Wire stripper

Soldering iron with solder

Gaffa tape

Insulation tape

Heath shrink tube, various sizes.

Chalk

Lighter

Cable ties

## Spreading the LEDs

Divide the cloth in 2 virtual cloths of the same dimensions. The best way to do this is to divide the cloth in the width. E.G. if you have a cloth of 5m x 7m, it's best to make 2 cloths of 2,5m x 7m. Normally they should have confectioned the cloth in such a way that the Velcro straps to attach the cabling to the cloth are at the bottom of the cloth.

Place the Velcro patches randomly over the 2 virtual cloths. The LED strings are controlled over 8 DMX channels, 4 channels per XLR plug (with a maximum of 32 LEDs per channel).

A standard Classic starcloth (5m x 7m, 3m x 12m and 4m x 9m) contains 208 LEDs in total; 12 strings of 12 and 4 strings of 16 LEDs.

In this example each virtual cloth must have 6 strings of 12 and 2 strings of 16.

The Velcro patches of the LED strings must have the same color. Both of the virtual cloths have for example one string with red Velcro patches, one string of 16 with orange Velcro patches and so on.

In a Classic starcloth there are approximately 3 constellations of 3 LEDs. To achieve this effect you need to place 3 groups of 3 LEDs, each from a different DMX channel close to each other.



When you've placed the LED strings you it's necessary to measure out the cables so there's not too much cabling inside the starcloth. You can stick the end of the LED cable to the Floor with tape, then the cable continues to the place where the XLR cable will be attached to the strings.

Here you can tape the cable again and you can mark the color of the Velcro patches at the end of the cable with a little Velcro dot.



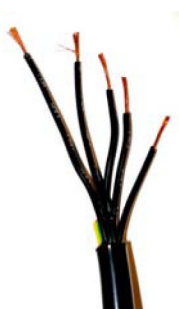
When you're finished doing this , and all the cables are marked and placed next to each other, you can divide the positive and negative wire from the cable. You can do this quite easily by cutting a small incision with the wire cutter and pull the wires further from each other for another 10 cm. The negative pole can be recognized by the dotted line, the positive pole is marked with some text.

## Preparing the cabling

Turn on the soldering iron so it can heat.

Next you can strip all the positive and negative poles with the wire stripper. Please note that the wire stripper is adjusted in the correct way so you don't strip any of the conductor wire.

Now you can also prepare the XLR plugs. Strip the protective wire from each cable individually (around 10 cm.) and cut the 5 cables gradually. You have to do this to make sure that, if one of the connections isn't protected anymore by shrinking tube, a short circuit doesn't occur. Subsequently you can strip the 5 numbered wires, the white and green/yellow cables aren't used by the system so you can cut these.



Now cut five pieces of shrinking tube of average size and one large piece. You can slide the large piece of shrinking tube over the 5 cables and the smaller pieces you can slide over each piece of cable of the XLR plug individually (you can bend the wires a little bit so it doesn't slide off)

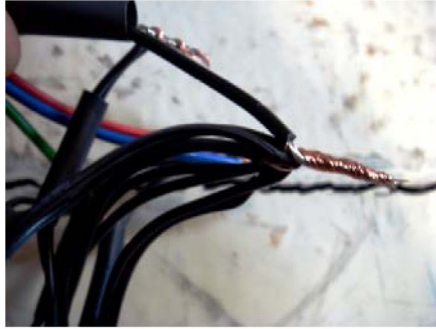
## Wiring the cables

Now you can connect the LED strings to the XLR cable.

First you need to consider which LED strings you'll attach together to one channel. For an equal spreading of the channels it's important that you connect the strings of 12 together with the strings of 16 LEDs. So choose a string of 16 from the first virtual cloth and connect it to a string of 12 from the second virtual cloth by attaching the negative poles to each other. Repeat this procedure for the second string of 16. The remaining amount of strings you can attach to each other by connecting the negative pole selecting them by color (e.g. connect a string of 12 LEDs with red Velcro's from the first virtual cloth to a string of 12 with red Velcro's from the second virtual cloth).

When you've determined what strings you need to connect to the first XLR plug (in this example a total of 6 strings of 12 LEDs and 2 strings of 16 LEDs, so 2 sets of 12 LEDs and 16 LEDs and two sets of 2 strings of 12). Then you can connect all positive cables of the different LED strings to each other (just twist them

together until you have 1 cable) and you can connect them with cable number 5 of the XLR plug.



Now you can divide the negative poles of the strings that you've connected per 2 over cable 1-4 of the XLR cable.

Take the soldering iron and solder all the connections.

Cut the end of the wires you've soldered to make sure there are no sharp edges.



Slide the shrinking tube over all cables and use the lighter to shrink it.

Repeat this procedure for the second plug.

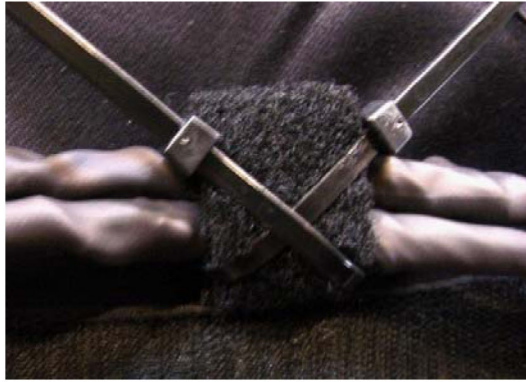
Now you can integrate all the cabling inside the starcloth by using the Velcro straps that are confectioned inside the cloth.

Connect the ends of the XLR cables with the metal D-rings that are confectioned inside the cloth. Strap these cables with 2 tiewraps.

Make sure all the cabling is integrated nice and tight at the bottom of the cloth. Should you have too much cabling you can fold the cabling back again so it's attached in a tidy way.



You can strap the cabling crosswise with the tie wraps, just roll the cabling inside the velcro straps and secure with the tie wraps. .

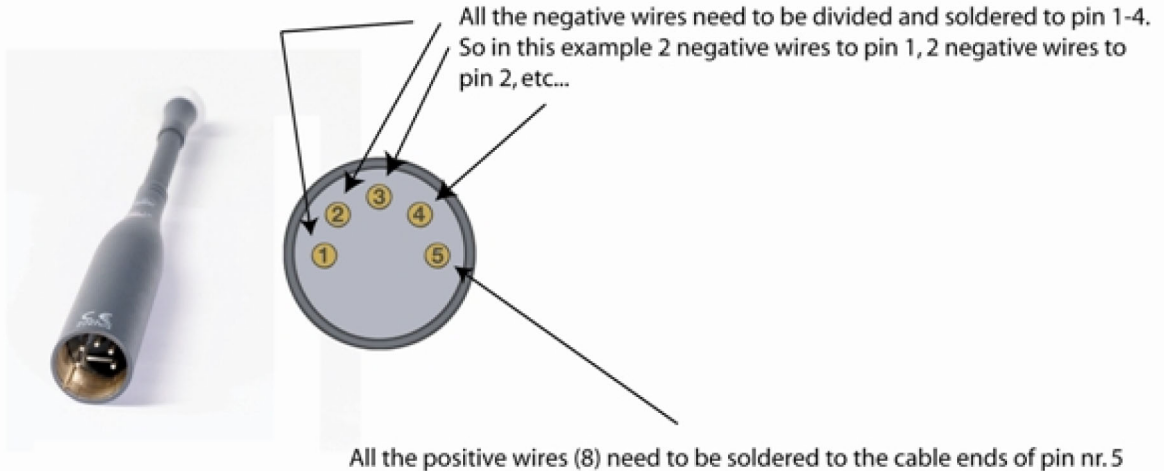


After attaching the cabling inside the cloth you can cut the tie wraps close to their point of attachment. Make sure there are no sharp edges on the tie wraps, they can damage the lining.

Attach the lining and test the starcloth. Run through the different programmes and make sure the channels are divided evenly throughout the Classic starcloth.

## How to connect LED cables to the XLR 5 pin cable.

This example is for maximum classic controller capacity. So 16 string of 16 LEDs.  
First strip the ends of the LED string and detect the positive and negative wires.  
The negative wire is marked with a big black stripe.  
Then unscrew the XLR plug and detect what pin is connected to what cable end (marked with colours e.g. pin nr. 5 is has a black wire).



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