

Make a Colourset/ColourTec tester

Here's how to make a really simple tester that'll help trouble shoot your Colourset or ColourTec scroller set up.

The tester will identify:

- Whether there's DMX getting to the power supply -see test 1
- Whether there's a control signal coming from the power supply -see test 2
- Whether there's scroller power available from the power supply -see test 2
- Whether there's control signals getting to the scroller -see test 3
- Whether there's scroller power getting to the scrollers -see test 3

Test 1: Check that DMX/Colourset signal is getting to the power supply

1/Unplug the cable supplying DMX to the Colourset power supply (PSU)

2/ Plug the tester into the cable - the two red LEDs should light up without flickering (for DMX) or flickering (for Colourset protocol) , and the green LED shouldn't light if DMX is detected. (unless pin4 & pin5 are used for a second DMX datastream)

3/ Plug the DMX cable back into the Colourset PSU, and plug the tester into the link output. The results should be the same as above.

Test 2: Check that there's scroller signal and power coming from the power supply

1/Make sure that there's a valid DMX or Colourset signal getting to the PSU .and make sure that the thumbwheels are set accordingly.

2/Plug the tester into the first scroller output.

3/ The red LEDs should be flickering, to say that the control signal is present.

4/ The green LED should be lit to say that there's power available to the scroller. If not, check the associated fuse on the PSU front panel.

5/ Plug the tester into the remaining 3 scroller outlets and test that there's power and signal available.

Test 3 - Check that there's signal and power at the scrollers

This test is the same as test 2 except that you're checking that there's power available at the scroller end of the cable - if possible, plug the tester into the output socket on the scroller. If this test fails but test 2 passed then there's a problem with the cables.

Notes on using the tester

1/ After you've finished using the tester make sure that it's unplugged (as it loads the signal lines)

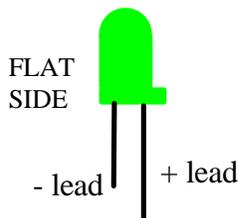
2/ The tester won't identify if the two signal lines are swapped (data + and data -).

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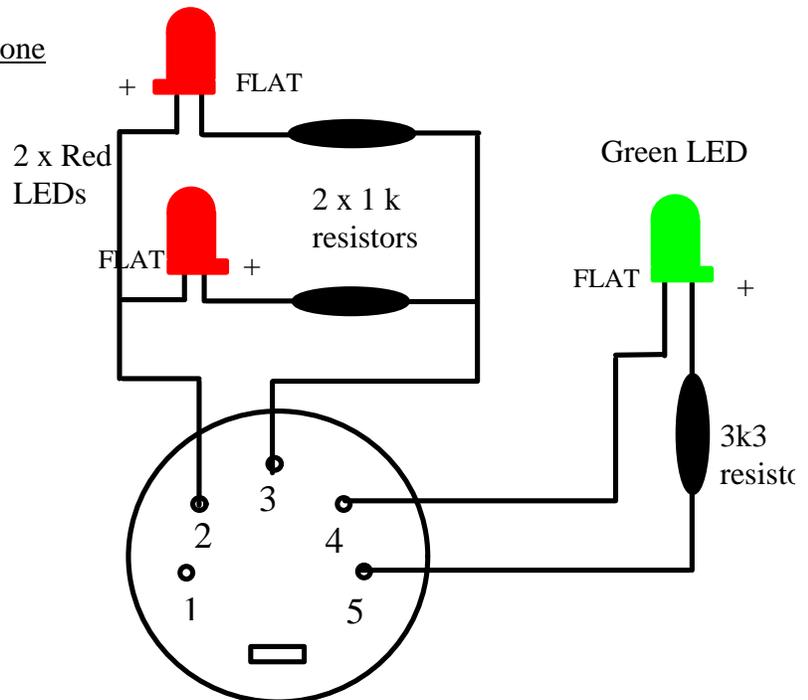
Parts you'll need

1 x 5 pin XLR line plug - not a "twist-to-tighten" one
2 x 3mm red high brightness LEDs
1 x 3mm green LED
1 x 3k3 ¼ watt resistor
2 x 1k ¼ watt resistors
1 x cable tie
Heatshrink: 1.6mm & 3.2mm
Silicone sealer
Multimeter

Note that the LEDs in the drawing have 1 flat side, and the lead on that side is shorter



Pictorial circuit diagram



Rear view of the inline 5 pin XLR plug (Colourset)
For ColourTec (4 pinXLR) swap pin4 to 1 , and pin5 to 4

Construction

Construction is very easy, however all the connections inside must be insulated from each other, otherwise it might blow up output drivers inside the PSU and care must be taken for it to work properly .This construction list is just a guide- you'll have to modify it to suit your XLR.

1/Start by drilling 3 x 3mm holes into the backshell of the 5 pin XLR for the LEDs to stick out .(only 2 holes needed if the plug you're using the plug with the big screw in cord lock).

2/ Cover each wire with heatshrink before soldering so there's no chance they could touch . Solder the LEDs and resistors to the back of the XLR plug, making sure that the green LED is the correct way around, the two red LED's are "back to back" and the resistors are with the right LEDs. Arrange the LED's so that they'll fit through the holes you've drilled into the backshell.

3/ Squeeze the completed circuit into the XLR backshell, using a fine screwdriver to push the LEDs into their correct holes through the cable entry hole in the backshell, being careful not to muck up the soldered connections.

4/ Using a multimeter set to ohms range, test to make sure that there's no shorts to the backshell or between conductors. Give it a quick test on a power supply to see if it's working.

5/ Loop a cable tie through the back of the XLR for a handle and Fill the void inside the backshell with silicone and leave to set for 24 hours- make sure the silicone doesn't leak into the pin section of the XLR . Test it again with the multimeter to make sure that it's still ok inside.

Now it's ready to use!