DMX512 & RDM Splitters FAQ

When DMX was first created the number of devices found on a DMX cable was relatively small. Now the use of splitters is commonplace and, with more complex and demanding systems, it is important to choose the correct DMX splitter. Below is a list of questions that can help when deciding on which DMX splitter to use and how to use it:

When do I need to use a DMX splitter?

The physical limits of DMX state that there can be a maximum of 32 devices on a single cable. The cable can not be longer than 300 meters and it should be wired in a daisy chain. If you want to exceed the number of devices or cable length, or split the cable in different directions, then a DMX splitter must be used.

Where should I connect a DMX splitter?

This depends on the system. It is normal practice to connect a DMX splitter to the controller and then for all DMX lines to come from the splitter. However there is nothing wrong connecting in line with other fixtures from the controller. The final position is usually dictated by the cable layout.

Can I use two DMX splitters?

Yes. It is recommend that no more than four splitters are cascaded. Cascading a splitter means connecting a splitter to an output of another splitter.

Why should DMX splitters be connected at the same level?

If you cascade splitters and one fails, more of the system will go offline.

Does a DMX splitter count as one device on my DMX cable?

Yes. A DMX splitter should be considered as one device on a DMX cable.

Does RDM require a special DMX splitter?

Yes. RDM works by changing the direction of the DMX line and therefore requires a splitter that can handle this function. As RDM is becoming more widely adopted it is recommended that new splitters should be RDM compliant so that they are future proofed.

Should unused outputs on a DMX splitter be terminated?

No. DMX lines that are being used need to be terminated but unused splitter outputs, unless specified by the manufacturer, can be ignored.

Should the loop-through connector on a DMX splitter be terminated?

Yes. The majority of DMX splitters have a loop-through connection so that they can be used in-line. The loop-through connector should be considered the same as that of a loop-through connector on a fixture.

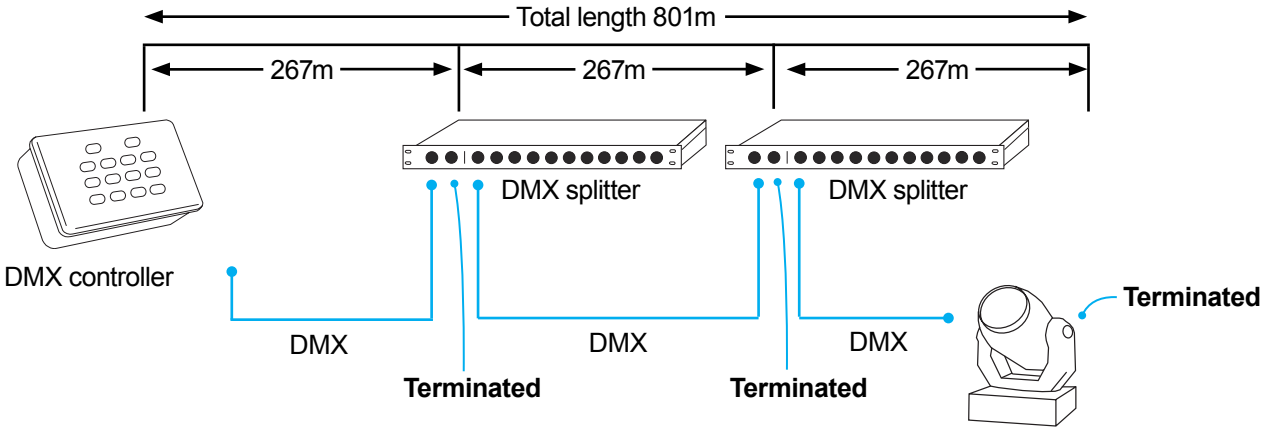
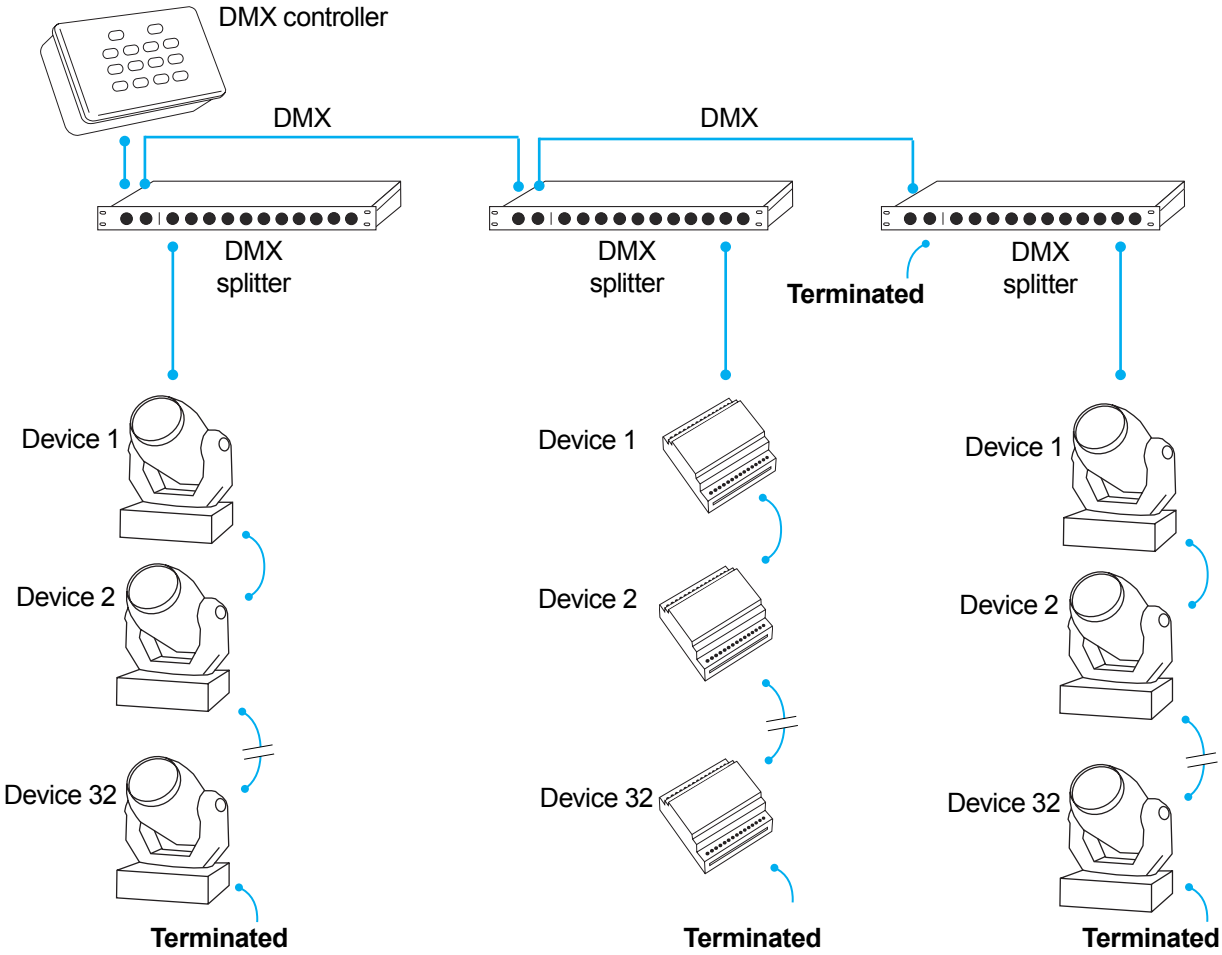
What type of isolation should I use?

All DMX splitters from Artistic Licence have opto-isolation on the input side. This is fine for the majority of systems. This level of protection will prevent any dangerous voltages travelling ‘up-stream’. However if the DMX cable is going to external fixtures it is recommended that a fully opto-isolated device such as versaSplit iso is used. This provides full opto-isolation on all ports so no DMX connectors are linked together in any way.

How do I connect a fixture that is more than 300m away?

DMX splitters are used to extend cable distances. In this situation they are used as DMX boosters. Always ensure an output connector is used for the next line rather than the loop-through connection. Each loop connection must be terminated. Where possible, make the distances equal, so rather than having cable lengths of e.g. 300m, 300m and 201m for a distance of 801m, it would be better to go for 267m for each length.

DMX Splitters used to exceed 300m (note use of outputs rather than loop-through to connect units)



Connection of multiple DMX Splitters (note use of loop-through)