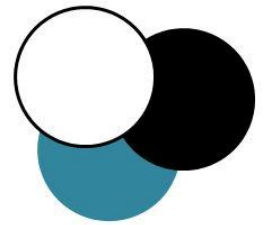


DMX



Digital Multiplex, or DMX512 is the industry standard system used to control lighting products as well as many other related products; all modern lighting control desks use DMX ports as the way of controlling fixtures. It uses an XLR-5 connector but if you take off the connector you will see that only 3 of the 5 pins are connected so some lighting fixtures will use a standard XLR-3 as means of data communication. Male connectors are for receiving data and female connectors are for transmitting it.

A DMX network consists of a **controller** (lighting desk or software controller) and a chain of nodes (fixtures) strung together in a daisy chain, DMX can be routed through one or more fixtures to form a data line; these fixtures can be anything from a moving light to a hazer. Each fixture will have an IN and OUT connector to allow you to run a DMX signal through them, thus joining up multiple fixtures - this is where the term daisy chain comes from.

A single DMX network is called a Universe; each connector coming out of the control desk is a single universe - they will sometimes be labeled but on more advanced desks they can become user assignable. Each universe has 512 control channels in it, this means that a single universe can control up to 512 [generic fixtures](#) or multiple [LED fixtures](#) which require more than one channel to operate. To operate an [LED or Intelligent fixture](#) you will need to assign it a DMX address. Each fixture will need a different number of DMX channels to allow it to operate its attributes such as movement, colour and intensity. You will also need to patch in the DMX address of your fixture in to your [control](#) console. This is so that your control console can send a signal to the fixture telling it what to do. Think of this like an email address, if you send a message to the wrong address it won't get through so it is important to ensure that when you patch your fixtures in they are addressed correctly. On most fixtures you will be able to assign an address through the LED display or through dip switches.

Top Tip - To easily work out which switches need to be 'dipped', you can use a DMX dip calculator - available on IOS and Android - to save working it out the hard way. These apps can also be useful when individually addressing fixtures in the design phase as they often have functions that allow you to add the number of channels a fixture has, giving you the start address for your next fixture!