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General DMX Design Guide for LSI CONTROLTrack

Designed to the same industry leading standards as all LSI Track Systems, CONTROLTrack allows the user to integrate DMX controlled track fixtures anywhere along a CONTROLTrack run. This allows designers and end users the ability to individually control fixtures for Intensity, Tunable White (CCT change) or Full Color change.

While the user interface of each DMX control system operates slightly differently and each track layout is unique to the venue, the process of commissioning and re-commissioning LSI DMX or DMX/RDM fixtures is always the same. LSI DMX track fixtures are available in two configurations:

1. Single Channel DMX fixtures (single address static white fixtures), have three rotary encoders. Those encoders are used to set the DMX "address" of that fixture from 1 to 512. These encoders can also be used to set the intensity of a fixture manually when DMX is not available or when stand-alone control is required.
2. Multi-Channel DMX fixtures (4 address multi color fixtures) for Intensity, CCT, Saturation, Hue. To set the address of a four channel DMX fixture the user will need to use an RDM enabled controller to set the starting address of those units. The DMX "address" of multi-channel fixtures are also from 1 to 512, however, the beginning address of each fixture has to skip by 4 (i.e. 1,5,9,13, etc.)

When an end user is ready to move their fixtures, they can reset all DMX addresses to "1", or if they prefer, they can leave the address as it was last commissioned and use that address to control the fixture in its new position. Once reinstalled in a new section of track, the end user will set the address using one of the methods described above.

Each section of CONTROLTrack can be fed by only one DMX line, this DMX line can belong to only one DMX Universe. The control system, and the track layout will be critically important for the end user to know and understand to ensure installing or moving a fixture does not place that unit into a new universe with multiple fixtures set to the same address. Having multiple fixtures set to the same DMX address will not harm the fixture, but it will create a situation where the lighting may not operate as expected.

Things to know:
*   One DMX Universe has 512 addresses. Each address controls an attribute of a fixture (Intensity, Saturation, Hue, CCT, etc.)
*   One DMX home run can control up to 32 fixtures.
*   One DMX Universe can be split into multiple home runs via an Opto Splitter, each output can control up to 32 fixtures
*   DMX must be daisy chain topology only, it cannot have "Y's", "X's", or "T's".
*   DMX must be terminated at the end of the line with a 120-ohm resistor between the Data+ and the Data -, (LSI offers a stationary end feed terminator and a moveable terminator)
*   DMX, as a protocol, has a maximum run distance of 1,640 feet.
*   LSI CONTROLTrack has a maximum single run distance of 300 linear feet when using DMX.