

DMX TECH Responsibilities

Role On Set

First and foremost, a DMX Tech is a Set Lighting Technician first. They are to be competent as an SLT and fulfill all the responsibilities of an SLT on set. They should **NOT** take a back seat to regular Set Lighting tasks and duties.

DMX Tech's are a Console Programmer's 1st line of support. They are generally tasked with doing the things that a programmer would otherwise have to step away from the board to do. It is in everyone's best interest if the programmer can stay at the board as much as possible for responsiveness to commands and quick troubleshooting. DMX Tech responsibilities outside of regular SLT responsibilities include:

- Troubleshooting DMX/Wireless related issues
- Creating efficiency and clarity between lighting control and the rest of the lighting department
- Assisting the Programmer with setting up lighting control devices and helping to establish control
- Effective and clear labeling, both long term and short term
- Understanding the network and literacy in networking language
- Understanding the fixtures and how to manipulate them to do what is desired
- Basic competency of board operations to cover the programmer when necessary

Troubleshooting

Troubleshooting comes into play when there is a lack of control between the console and the device. Often times, this is a result of some sort of problem that is not traced back to the console itself, which then may lead to the programmer needing to step away from the board itself. A DMX tech can mitigate these problems by verifying certain points of communication before and during

the time that a light goes in. If, at any point, the board is not communicating with a device, the tech should know how to investigate the problem quickly and effectively. Here's some things a tech can check if a light is not working properly:

1. Make sure there is an established connection between the devices. Most intelligent fixtures will communicate if it is receiving DMX signal or not.
2. Make sure the fixture has the correct *identity*; correct universe, address, profile number, and mode.
3. Make sure the different parts of a fixture are connected correctly. This may include screwing in an antenna, or re-seating a header cable. Sometimes turning a fixture off and then on again fixes some sort of communication issues.
4. Try to make sure that the light is receiving clear signal if using wireless. This can be done by making sure the Antenna is as close to the fixture as it can afford to be. Sometimes fixtures with built-in antennas may not be very strong, and need some external receiver to be plugged in. If in a really congested place, sometimes it is most appropriate for a tech to be able to hardline the DMX in a pinch.
5. In most cases, if the problem is unidentifiable in a relatively short amount of time, it is more important to replace it with a working fixture first and bring the non-functioning light to the console so the programmer can figure out the issue with more time. This keeps the flow of set and the efficiency of the department moving forward.

Creating Efficiency and Clarity

It is remarkably important that certain things are clear and understandable for the rest of the lighting department. For example, the Console Programmer can only control the light when they are given the correlating *fixture number*, thus making it extremely important for that fixture number to be clearly and visibly represented on the fixture. This makes it so that **everyone** in the department can clearly identify the fixture to whoever necessary.

There are many things, similar to this, that a tech should do to make things seamless and clear on set for the whole department. If a fixture is placed in a way that makes it hard to identify, they should write the fixture number on a piece of tape and place it near the fixture. If certain settings on a fixture were changed on

a fixture for a specific shot they should make those settings are re-established to the settings that are uniform across all the fixtures when the shot is over. The tech should make sure that fixtures are communicating properly before taken in (if possible) and make sure they have all the parts necessary for communication. They should have a good understanding of how the network is laid out and can properly communicate to the rest of the crew where data related things need to be plugged in. This is just a few examples of things that make a good DMX Tech.

Assisting the Programmer

Often times, especially on location sets, the programmer is going to need to set up all the devices necessary for quick and clean communication. This can sometimes mean Antenna(s), DMX Cable runs, Data Spiders and networking devices, Console(s), etc. Depending on the needs for controlling the set, this can be a lengthy process, therefore the Tech should be the first person to assist the Programmer. This is one of the only times that helping the Programmer first is more important than your responsibilities as an SLT. Unless, of course, the programmer has the means of doing it quickly by themselves.

While a Console Programmer is setting up the primary devices like the console and main Antenna, it is the Tech's job to run the lines of DMX or Ethernet, place the receivers, or place the Data Spiders to establish connection.

Effective and Clear Labeling

Hopefully, much of the core network will be done and efficiently labeled before we arrive at the set; done by the rigging crew. This may include Nodes, Opto-splitters, Data Spiders, proper and clear cabling, etc. However, if something is unclear on set, then the department relies on the DMX Tech first to make sure things get organized and labeled clearly. This includes Opto-splitters where the Universe feeding it is unclear, Stray or not easily-identifiable cables, fixtures where the fixture ID is unclear, etc. Everything should be easily identifiable to set electricians **and more importantly** the Gaffer without the need of a map.

A map is an incredibly important part of every set that has pre-established fixtures, and this map should be distributed to at the very least the Programmer and the Gaffer. I, however, think it is equally as important for smaller maps to be printed and distributed to Set Electricians so they can easily and quickly identify

where things are. Most times, Maps are made by the Rigging Programmer or Rigging Gaffer. However, sometimes it is applicable for 1st Unit to make these maps, in which case it will fall on the Programmer or the DMX tech's responsibilities. A map should include a diagram (or general layout) of the set. Fixtures and their fixture IDs, Icons and Colors that correspond to fixture types, and a Key that signifies what the icons and colors correspond to. Other helpful information includes where extra gack is, how the distro is laid out, and where the generators are. Sometimes it is efficient to have a DATA map, and a SLT map where the corresponding labels are separated.

Understanding the network and literacy in network language

Obviously, it is quite important that a DMX Tech knows the language of on-set data management and how to utilize these ideas in practice. This includes things like Universes, Addresses, Fixture IDs, Fixture Modes, Nodes, Opto Splitters, DMX, sACN, ART-Net, IP Addresses, Subnet Masks, CRMX, and more. But beyond that, they need to understand how these all fit into the workflow of the show network. They need to know where fixtures fall into the fixture schedule, they need to know the common protocols and practices that the programmer likes to use for establishing a flow of data, they need to know the default settings for things to communicate (such as ethernet protocol), and they need to know how to achieve the intended goal of the programmer with the tools at their disposal.

Understanding the fixtures

In order to effectively troubleshoot and establish proper connections, DMX Techs should have a pretty thorough understanding of the fixtures we are using on set. This is important so the Tech can quickly change settings when needed, as well as identify potential issues when something isn't working as intended. Thoroughly understanding the fixtures also plays a pivotal role in understanding its limitations (CCT range, dimming capabilities, color capabilities, etc.). Sometimes, fixtures require certain settings to be manipulated in order to change them from wireless control to local control and having a good understanding of the fixture allows this to be adjusted quickly.

Basic board competency

There are inevitably going to be times where the programmer needs to step away from their board. And although it is not expected for the DMX Tech to know how to perform complex operations, they should be able to perform the basic adjustments that we commonly utilize on a shot-to-shot basis, such as setting a color temperature and intensity value of a fixture that was just placed. This gives the DMX Tech the ability to cover the programmer while they step away for short periods of time. More in-depth console learning and console literacy done by the DMX Tech would allow them to effectively program Additional Units or cover for Full Days, ultimately resulting in a programmer pay bump for the Tech. This is a valuable goal and asset to the production, but not always necessary.