Power

This section could be very short and read something like, if you don't know what it does don't touch it. But that wouldn't be any fun so here is a quickfire guide to power in the entertainment industry.

Rule 1 - If you don't know what it does don't touch it. (Sorry, had to be done)

Rule 2 - See rule one.

Rule 3 - Don't try and fix ANYTHING electrical yourself, go and have a cup of tea and let an electrician do it for you. Note - it normally helps to bring said electrician a cup of tea.

Rule 4 - Don't place or consume any fluids in proximity to electicals, especially power sources. Notify the electrician of this rule and they will usually work much faster or else the nice tea you made in rule 3 will go cold.

Now that thats out of the way, here are some of the most common power related items found in the entertainment industry:

Powercon cable. Most moving heads and high end LED fixtures run using a powercon cable. They are good as the connectors twist inside the fixture to lock it in place and so it is very rare for a connector to fall out unless damaged. This is far preferable to standard IEC cables. Lots of fixtures have powercon In/Out and so you can daisy chain power between fixtures, though be careful not to overload your power source as this may trip a circuit braker

There are many ways to distribute power around you rig, though by far the favourite is through the use of distro boxes. Think of these as a kind of extension lead, they save you having to run miles and miles of cable for no reason and also covert your power source into different sized sockets so that you aren't having to use masses of converters. A common input to a 'distro box' would be a 32 Amp socket and it might have 4, 16 Amp outputs on it. Now remember what I was saying earlier about overloading things here is a prime example about why you need to think about power mathematically. Obviously 16 does not go into 32, 4 times so you cannot fully load each socket on the distro box. Therefore you need to calculate the power draw of each fixture in your power line (it will say in the manual) and work out how many fixtures you can safely power from one socket, as always leaving a bit of wiggle room.

When mounting a distro box to a truss it is recommended that you sit it inside the truss (triangular truss) or on top of or inside of box truss, you should then scure it using a U bolt if provided or industrial strength cable ties if not. When choosing cable ties it's often worth getting the slightly more expensive metal ones as they are often reusable and tend to be stronger.

Generally speaking there are two main types of power source. Three phase and Single phase. There are many differences between the two and people have written Phd's on the subject so I'm not going to go into detail. Basically when you see a red socket or plug it is

three phase, the plug will have more pins inside of it than a single phase plug and will usually be plugged into a distro box that will convert it from three phase to single phase. If you read up on anything about three phase let it be phase overloading as this can be very dangerous. Three phase in general is better not messed around with and so you should always be working with an electrician or someone with very good electrical knowledge when using three phase power and always remember rule one.