

Shawbury Village Players

Technical Lighting Overview

The lighting is a DMX (Digital Multiplex) system. There are two types of DMX cable and connector. One uses a 5-pin connector, the other uses a 3-pin connector. There is no difference in the cable as the 5-pin connector doesn't use pins 4 and 5! The SVP collection of cables include both types and also several converter cables from 5-pin to 3-pin and vice versa. The 3-pin DMX Cables look identical to Audio Cables as both use a 3-pin XLR connector. There are different lengths of cables for different uses - from very long lengths to 1 metre ones. Try to use the shortest possible to avoid excessive trailing cables. DMX systems use a single cable to control a number of lights. The light is daisy chained - plugged from one to another. For example we connect from the DMX output sockets in the Enttec DMX USB Pro interface into the rear wall of the hall, then from the DMX socket in the lighting cupboard into the first dimmer pack, then from there to the second dimmer pack then from there to the first LED footlight lighting bar, then the second, then maybe the strobe light, then third LED bar and then the fourth. It is important that any daisy chain of lights (even if just the two dimmer packs and no LED bars) are terminated at the last device in the chain. Therefore, on the last output socket we connect a special terminating plug. We have both 5-pin and 3-pin terminating plugs and using them at the end of the daisy chain ensures that we have correct signalling on the cables with no spurious signalling.

The stage lighting comprises of many different parts:

- The DMX Theatre Sound and Lighting Control software on the laptop.
- The Enttec DMX USB Pro interface.
- 3-pin male to 5-pin female adaptors.
- 5-pin to 3-pin female adaptors.
- DMX Dimmer Packs (to control the halogen lights on the lighting bar)
- Halogen Fresnel Lights on the lighting bar.
- DMX Leads.
- LED Footlight Bars (if required).
- Strobe, (if required).
- DMX Terminator Plugs.

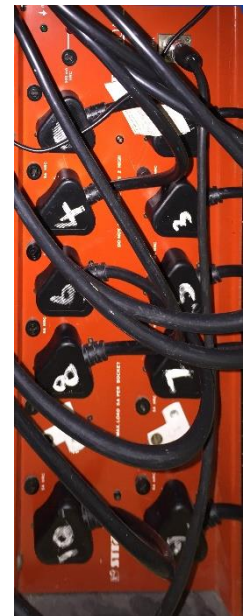
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Programming the DMX system.

In the electrics cupboard there is an analogue lighting system which is the one the village hall uses. This consists of the small orange-red analogue control desk and one orange-red analogue dimmer pack. The numbered 15Amp plugs (shown right) must be disconnected and the dimmer pack and control desk left in-situ. These plugs look similar to domestic mains plug-tops but with round pins). Each one is connected to lights on the lighting bar (numbers 1 to 10) with the last two (numbers 11 and 12) connected to the flood lights above the stage behind the proscenium arch. Our dimmer packs are placed stacked on the



floor on the right-hand side of the lighting cupboard. The two packs give a total of 12 channels for halogen lights so each 15amp plug can occupy a numbered bank (each bank actually has two sockets but we only use one plug per bank to give more control). Each dimmer pack has a 32amp mains plug which needs to be plugged into the 32amp socket in the cupboard. The 32amp sockets are switched on by rotating the large circular switch to the right (and off by rotating left). Note, in some previous years the 32-amp sockets have tripped the hall power supply for an unknown reason. The mains cut-out trips are in the corner electrics cupboard located in the Green Room (Hall Meeting Room). There are also trip switches fitted to each output of the Dimmers so ensure these are in the ON position.



The dimmer packs, LED bars smoke machine, and strobe light have all had their DMX addresses pre-set so you should not have to adjust them. It is worthwhile noting that all DMX equipment (including the dimmer packs – each one has a block of 6 DMX addresses equating to 6 channels per pack) must have individual addresses, the equipment can be daisy-chained in any order. They do not have to be connected in the order of their addresses. The pre-set addresses are:

DMX Dimmer Packs	001 (giving addresses 001, 002, 003, 004, 005, 006)	
	007(giving addresses 007, 008, 009, 010, 011, 012)	
Led Bars	013 , 017, 021, 025	Each bar needs 4 channels Red, Green, Blue, and Dimmer
Smoke Machine	029	
Strobe Light	030	
Moving Head Lights	031, 040	Each light needs 9 channels for Pan, Tilt, Dim, Red, Green, Blue, White, Speed and Reset. Read the Moving Head light manual as the Dim value is not straightforward!

Hall Lighting Bar

There are some halogen Fresnel lights fitted to the Lighting Bar. The lights are secured to the lighting bar via 'G' clamps and for safety, a chain is to be fitted to the light and the bar. In the front of the light can, behind the Barn Door Flaps there is a safety grill to protect from glass breaking due to lamp heat. Once the light has been fitted and plugged in you can check to see it works. If a specific colour is required then a colour gel can be installed in the holder that is between the barn doors and the safety grill. The barn doors are used to restrict light to a specific area of the stage, but be careful as the lights only have to be on for a very short time before they get too hot to touch. Once the light

has been adjusted to the correct position it can also be focused. This is done by the slide nut underneath the Light Can. This lets the light become more intense in a smaller area or less intense over a wider area. This means if you have two identical lights shining next to one another one light could be a lot brighter than the other. There are some spare lamps in the tech store. More can be purchased off the internet but need approval from the SVP committee unless an emergency.

Over-Stage Lights

There are over-stage lights located above the curtain track behind the proscenium arch. They use channels 11, and 12 and can be used to light a scene and also used when the curtains are closed while the stage crew are working on the stage – only light them dimly though as they can show up through the main curtain and are not suitable for use when the stage crew are working behind the middle black curtain.

LED Bars

Fit however many bars are required. They slot into the stage extension using the brackets and bolts already attached. Link them with DMX cables. Link them together with an incoming 240vac mains cable, then daisy chain the mains leads one to another. They DO NOT have to be daisy chained; it just saves the amount of 240v sockets required.

Terminator End Plug

When you have finished linking all the DMX cables to the various items, on the final item to be plugged in, is the Terminator End Plug. This is to be plugged into the final DMX OUT socket.

Follow Spots

These lights are DMX capable lights, but can also work on the own Dimmer Packs with their own control by an operator. These lights are plugged into normal 13amp sockets.

UV Lights

There are 2 UV lights that are located by the over stage lights, behind the curtain. If these are to be used, the plastic covers need to be removed first as the covers stop the UV light! They are switched on and off via two switches at the rear of the hall, located left of the TV aerial sockets and DMX /audio patch sockets.

LED Fresnel Lights

The SVP has four LED Fresnel lights. These can be connected directly to DMX cables and not the dimmer pack sockets. The lights use 240v PowerCon connectors that twist and click into place. These 240v power leads can then be daisy chained from one light to another. The power consumption is many times lower than halogen lights and 20 of these lights could be powered off one 13amp sockets with any risk of overloading the socket. Each light only uses 130W of power. Their DMX addresses have been pre-set to use 001, 004, 007 and 010 as they are intended for use at Acton Reynald Hall instead of the dimmer packs and halogen lights. The lights could be used in the Village Hall but you would need to change the DMX addresses accordingly. Each light uses 3 DMX channels. They are for:

- Master Dimmer
- Fine Dimmer
- Strobe (As you can see these LED lights do have a strobe function)

LED Colour Settings

The LED Footlights and also the LED Moving Head Lights if used with 100% Red, 100% Green and 100% Blue will give a very bright, very white light. To give a warmer white, try using a mix of 100% Red, 95% Green and 87% Blue. Also, the footlights are more effective if kept below 50% dim value; otherwise, you get noticeable patches of light by the footlights.