

How to use a lighting desk – part two

In this second part to **John Black's** guide to using lighting desks, we explore the different ways to recall lighting looks

IN THE FIRST ARTICLE IN THIS series, the basic components of a lighting system were laid out, and we took a look at the concept of patching lighting fixtures in the control desk. I hope that, perhaps with the assistance of the manual, you were able to successfully navigate the patching operations of your lighting desk and gain control of the lighting fixtures in your rig.

In this article, I would like to move forward with a couple of important programming principles that you will be able to take advantage of immediately in the control of lighting for your house of worship. Once you've successfully patched your lighting fixtures, you will want to be able to create lighting looks for various portions of your service programme and have the ability to easily and quickly recall those looks as needed. I'm going to walk you through a number of different options for recalling lighting looks and which method you choose to use will depend on the nature of your service programming, as well as the specific lighting desk that you have to work with.

The first two methods that we'll look at deal with situations in which total manual control is needed. This may be because the service programme either fluctuates or the action on stage is not consistent in terms of where on stage the presenter(s) stand. The third method will then look at situations in which the service programme is known and rehearsed, and presents with little deviation from the prearranged plan (similar to a theatrical production). Each control

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John Black serves as the theatre manager for Seoul Foreign School in Seoul, South Korea. Holding a degree in Theatre Design, he provides technical production support and design in three state-of-the-art performance venues on campus for over 40 major concerts and productions a year in the areas of sound, lighting, video and staging. John especially enjoys sharing his passion for entertainment technology with high school students each year through his student production team, *Crusader Live!*, giving students the opportunity to learn and work with professional-level technologies in a demanding production environment.



John Black, theatre manager for Seoul Foreign School

(fader) for each channel, this may be how you operate lighting for your services. Many older lighting desks, such as the ETC Express series (see Image 1), feature channel control faders that allow this easy method of controlling channels. While patching, you may have assigned channels based on a logical, organised plan. For example, Channel 1 may be your houselights, Channel 2 your whole stage front lighting, Channel 3 your pulpit spot, and so on. As the service progresses, you'd simply raise and lower the channel associated with the general lighting you want to bring up or down.

Though this may be the simplest method, it does come with its limitations. First, you must remember

method builds on the previous, and chances are likely that you will actually use elements of each during a given service.

Individual channel control

At its simplest, you may opt to control your lights simply by bringing individual control channels up and down. If your facility uses only a handful of conventional lights, this is the simplest method of control. During the patching process, lighting fixtures were assigned to a control channel, and it may be that you need to operate only three to five control channels at any given time. Assuming that your rig does not include any multi-parameter fixtures, and your control desk features a physical control handle

that while many lighting fixtures can be patched to the same channel, a single lighting fixture cannot be patched to multiple channels. Therefore, if you want lighting fixture 'X' to be part of three different looks, you will need to patch that fixture such that you can control it independently of each look it is a part of.

Second, this method becomes cumbersome when dealing with lighting rigs that have lots of fixtures or that include multi-parameter fixtures. When changing between lighting looks, it may be impossible to physically move large quantities of faders simultaneously. In the case of multi-parameter fixtures, it may be impossible to manually control all of the various parameters the fixtures feature by hand.

Finally, many modern lighting desks no longer feature dedicated channel control faders, and instead rely on touchscreen or keypad control of channel controls or recorded memories (which will be covered in a later article) to recall settings.

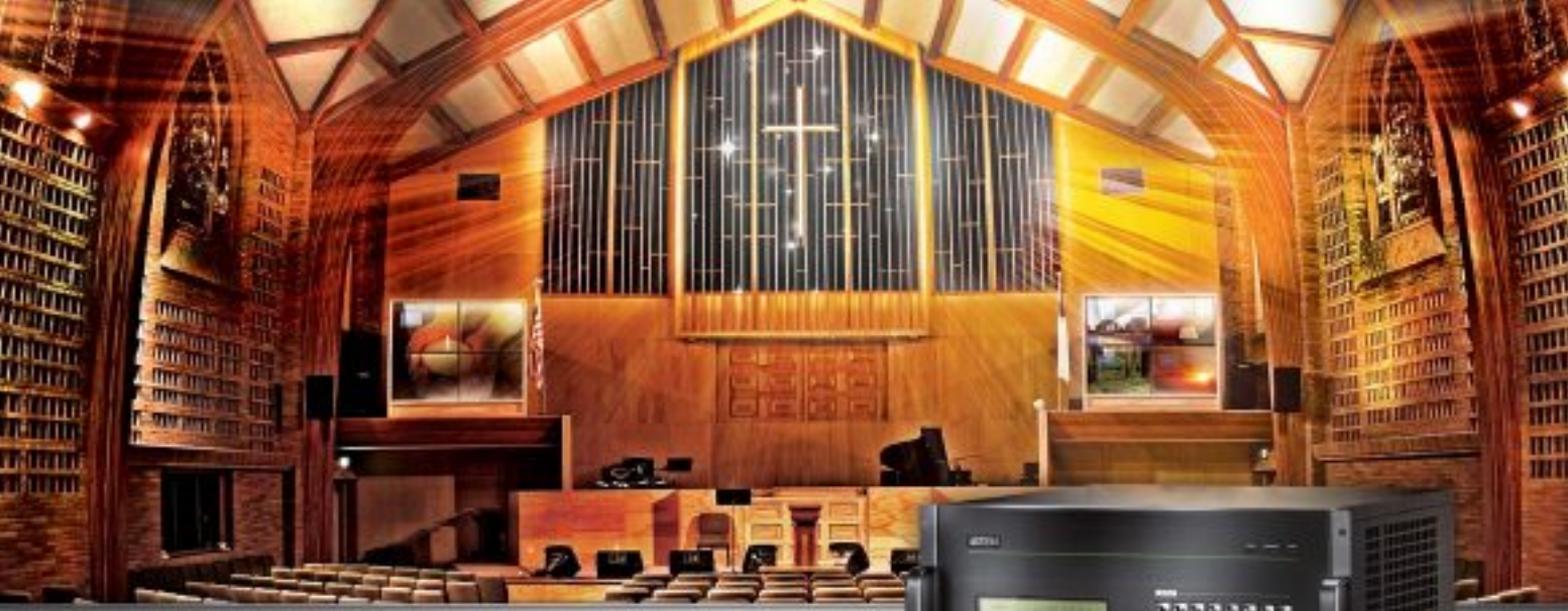
It is important to know, however, how to control individual channels manually as you will do this to build lighting looks that are then stored in the following types of console memories for later recall.

Submaster control

Submasters are memories in the lighting desk that allow you to recall many channel control settings at the same time. To give you a picture of this, let's start again at patching. An individual lighting fixture can be patched to a single control channel (it can only have one mailing address using the postal system analogy). Many lighting fixtures can be patched to the same control channel (if a family of five people lives in the same house, mail addressed to all five



Image 1 - The ETC Express allows individual channel control



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Know HOW

individuals will arrive in the same mailbox). As previously mentioned, the disadvantage of patching multiple lighting fixtures to a single channel, however, is that you lose individual control of each fixture. It is therefore more common practice to patch individual lighting fixtures to unique control channels, which is where the benefit of submasters comes in. A submaster allows you to send a control signal to many channels simultaneously, as if the lighting fixtures shared the same 'mailing address'.



A submaster allows you to send a control signal to many fixtures simultaneously

Let me demonstrate this using one of my facility's lighting desks. I have over 300 lighting fixtures in my rig, not all of which are used for every programme. During a single presentation, I may be asked to wash the stage in three colours, but the order of and timing of those colour washes may not be known. It would be inefficient for me to take control of all of my colour wash fixtures manually as the presentation is taking place. Instead, I record a submaster memory that contains all of the wash fixtures of each requested colour (in this example, three separate submasters). Now, while the programme is running, all I have to do is use the appropriate submaster that recalls the preprogrammed colour wash that I want at that given moment.

I use submaster control for many of the day-to-day events that happen on my stages. I have preprogrammed a variety of lighting looks that use large quantities of lighting fixtures according to what I find being frequently requested. These looks are recorded to submasters so that I can manually bring them up and down according to the needs of the programme as it is happening. For example, Image 2 is taken from one of my lighting desks with some of my submasters listed.



Image 2 - Submasters listed on a lighting desk

fewer than 12 channels, and recalling these is as simple as operating the associated fader.

To record a submaster, you first need to create the lighting look you want to recall. Use individual channels to create the lighting look with as many channels as you desire, and then follow your control desk's manual for how to record a submaster. If your control desk has a fader wing, I would recommend assigning frequently used submasters to the control faders to allow fast and easy access to the submaster when needed.

Cue control

The above two methods of controlling your lighting fixtures excel in situations where the service programme may not be entirely known, or where you need flexibility to follow what is happening on the stage. Many large houses of worship, however, follow a very planned out service programme that resembles a much more linear or chronological timeline you would expect from a theatrical production. If this describes your service programme, it may be that



Submaster control can be used for many of the day-to-day events that happen on stage

recording lighting cues makes sense for your workflow.

A lighting cue is another type of memory the lighting desk uses to recall control information for channels. Typically, unless specifically programmed otherwise, a cue stack is recalled sequentially (from cue 1 to cue X). Unlike manual control of submasters, cues can be programmed to execute over specific quantities of time that, when played back, remain consistent. Lighting cues can also be programmed to playback automatically based on automated 'follow' times, or based on a clock source (either internal or external) so that any lighting cues needing to be in sync with other production elements can be executed precisely.

To record a lighting cue, create a lighting look that you want to recall in the same way you did prior to recording a submaster. Once the lighting look is established, follow your control desk's manual for how to record a cue. You will be able to assign the cue a unique number. Remember that your lighting cues will be played back sequentially, so as you program be sure to record cues in order of playback.

Once you have recorded several cues, follow your control desk's manual for recalling, or playing back, your cues



Different types of service call on different ligh

(using the 'Go' button). Your lighting looks will crossfade between each other at first, similar to a crossfade between two video clips or PowerPoint slides. Image 3 shows the cue stack I programmed for a production in one of my facilities.

At this point, you can begin to take advantage of many of the features of cue memories. I will highlight a few of the many operations you may find helpful.

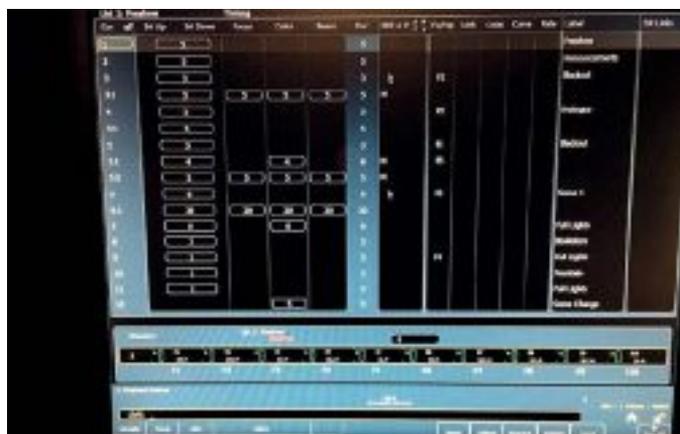


Image 3 - A programmed cue list

Fade time: this is the most common feature you will adjust. The fade time is the quantity of time (in seconds) it takes to fully recall the cue from the previous (the length of the fade). A fade time of 0 will snap instantly between the cues, while a fade time of 15 minutes may be more appropriate if trying to replicate the effect of a sunrise. Many desks allow you to program a variety of different fade times that allow even more precise control of your cues. For example, the down time enables you to control how long it takes to fade out the previous cue, while the up time enables you to control how long it takes to fade



to control the lighting fixtures that you previously had patched in your lighting desk. As I mentioned before, regardless of the make or model of your lighting control desk, the purpose of all of these systems is simply to control lighting fixtures. You've learned how to communicate with fixtures, and now you've hopefully learned how to program and recall lighting

looks. Those are the basics that are used time and time again. The rest of this series will look more in depth at techniques and features of lighting desks that you can use to increase the organisation and efficiency of your desk and that will hopefully allow you more creative time and freedom to create the lighting looks for your house of worship.



Fader wings, such as the Avolites Expert Touch provide fast and easy access to the submaster when needed

ting looks



execute the cue either sequentially or according to the link commands that have been inserted.

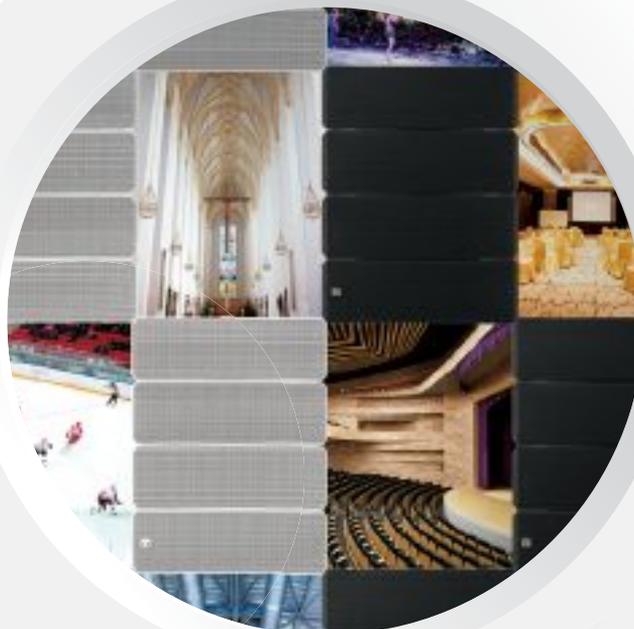
These three methods all allow you

Lighting fixtures are assigned to a control channel during the patching process

up the new cue. These times can be different, allowing you to customise the look of the fade from one cue to the next. If your cues contain channels that control moving lights, you will be able to manipulate beam time, colour time, focus time and others that enable you to individually program the time it takes between cues for those specific features to change state.

Follow time: this is the quantity of time (in seconds) after pressing the 'Go' button that the next cue in the cue stack will automatically be executed. This is useful if you have a series of lighting cues that you want to playback automatically and at the same interval every time without wanting to manually execute the playback. For example, you may use this if you want your praise band lighting to come up exactly 5s after the auditorium lights have faded out.

Link: if you do end up needing to change the order of cues (for instance, if the service programme changes), you don't need to reprogram the entire cue stack. Simply insert a link and you will be able to jump around to different cues within the cue list as needed. The operator will only need to press the 'Go' button as normal, and the console will



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