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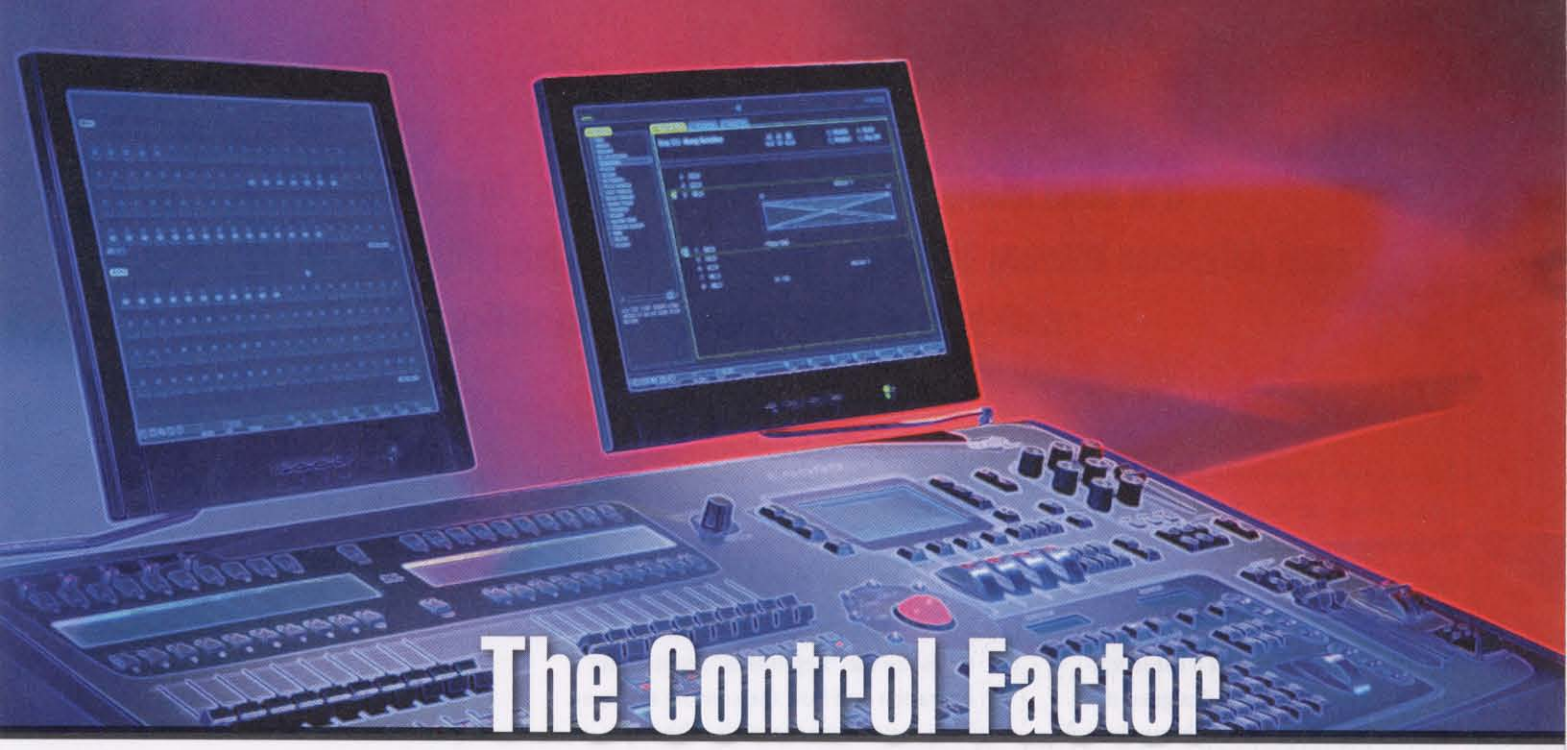

The Control Factor

Which lighting control board is right for your church?

By Greg Persinger

"And God said 'Let there be light' and there was light. God saw that the light was good, and He separated the light from the darkness. God called the light 'day' and the darkness 'night.' And there was evening and morning — the first day."

Genesis 1:3-5

When God said that "the light" was good He wasn't kidding and based on this premise, that light is good, we mortal lighting people try to reproduce the beauty that God creates in nature in the theater, the TV studio, our churches, the local auditorium, or any place else that requires the goodness of light. And once you start adding artificial lighting mechanisms, you also need a way of controlling them.

In the late sixties and early seventies lighting control consoles started to come into play with the advent of solid-state dimming. Electronics advanced in performance, availability, and price to the point that it was feasible to incorporate solid-state components into basic lighting control consoles. As the technology advanced, better and more sophisticated consoles were developed. Today's advances in microprocessors, memory, and storage devices as well as the advances in the complexity of dimming, automated lighting fixtures and console-controlled lighting effects have brought the current generation of control consoles to a new level of sophistication. But is a highly sophisticated console the correct console for you?

Today's consoles tend to fall into two main categories based on the primary lighting operations the console performs. These categories are theatrical-oriented consoles, and moving light-oriented consoles.

Theatrical consoles tend to have a feature set that is primarily oriented toward controlling conventional incandescent lighting fixtures and the associated automated effects such as color changers, gobo rotators, and smoke machines, while moving light consoles have a feature set that is primarily oriented toward controlling automated lighting fixtures or moving lights. Now it is true that any console that outputs the lighting industry standard DMX communications protocol is capable of controlling any DMX controlled device. This means that a theatrical console has the

It is about having the correct tool for the job. An apparent small difference between lighting consoles can make a huge difference in the time required to program a lighting presentation.

ability to run a moving light and a moving light console can run dimmers. The differences come into play as to the speed and ease with which each type of console handles the various lighting tasks.

In a theatrical application a theatrical-based lighting console is designed to handle many individual lighting control channels which in turn control the dimming systems that dim fixtures to the desired levels. These control channels can be manipulated in a standard two-scene preset fashion, stored in submaster memories for submaster playback, or saved as cues in a cue stack for playback. Generally the console is designed in such a manner that allows easy access to individual channels making programming or on-the-fly light intensity changes quick and easy.

In a moving light console, the console is designed to handle control channels in blocks, with each block of channels consisting of a moving light. These blocks of channels will vary in size from six to 25 or more channels per block depending on the make and model of the moving light being controlled. Typically each channel will control a different parameter of the moving light such as pan, tilt, intensity, color, patterns, shutter, and so on. These control channels are generally mapped to control palettes where the changes to their values are made. An example of some control palettes would be color, intensity, and position, which would encompass pan and tilt. This palette format allows for individual moving light parameters to be quickly manipulated and stored by function instead of by control channel. Once the parameters have been set, the settings are stored in cues or memories to be played back.

The primary differences in the console types are the "keystrokes" required for operation and how the console manipulates the control channels. Although this seems to be a small difference, it can make a huge difference in the time required to program, as well as the quality of your lighting presentation. It is all about having the correct tool for the job. A screw can be installed with a hammer—but not as easily as with a screwdriver. The same can be said for lighting consoles. It is much easier to drive a theatrical lighting system with a theatrical console, and moving lights with a moving light console.

So what are some examples of these different types of consoles, and what can you expect to pay for the functionality?

Let's start with theatrical-oriented console first. The simplest of all theatrical consoles is the single-scene console. This console type generally has one set of channel faders, a grand master to control overall lighting levels of the entire system. In this configuration, whatever channel faders are pushed up are on the channels that are turned on. There are no memory functions and the consoles are extremely easy to use. Typically these consoles control four to sixteen channels of dimming and run in price from $200 to $500. These consoles are ideal for lighting systems that have minimal control needs or low budgets.

Next we have the two-scene preset console. With this console there are two sets of channel faders, one set placed over the top of the other, that represent two different "scenes" of various lighting levels to be set, as well as A/B scene faders and a grand master. Typical use of this console has one scene on while a second scene is set up in the inactive bank of faders. At the appropriate time the A/B fader is moved and a crossfade from scene A to scene B takes place. Typically these consoles control four to 24 channels of dimming and run in price from $200 to $1,000. These consoles are ideal for lighting systems that need more flexibility than a single-scene console but still only have basic control needs or lower budgets.

A memory console is the next type of theatrical console. These consoles come in all different shapes and sizes as well as price ranges. A typical memory console will have a two-scene preset layout; submasters, which are groups of channels set to various levels and recorded to a handle for playback; cues, which are sequences of groups of channels set to various levels and recorded to a memory for playback out of a cue stack. Typically these consoles can control 512 to 2,048 channels of dimming and run in price from $1,500 to $30,000 depending on the complexity and the amount of control required. These consoles are ideal for lighting systems that need medium to high control flexibility. Some theatrical memory consoles

feature hardware or software expansion that allow moving lights to be controlled.

Now, on to moving-light consoles. What can you expect to pay for the various levels of functionality in moving light controllers?

The simplest of all moving light consoles is the small DJ light controller. This is usually a very limited controller that allows you to manipulate the basic functions of a moving light. Typically you are limited by the number of moving lights you can control: usually 16 or less, as well as a limited number of functions you can control. They don't usually have any conventional dimming options. Typically these controllers run in price from $800 to $2,000.

Most mid-line moving light consoles run in price from $3,000 to $12,000 dollars and are fully functioning consoles, although some of the most popular options may be software packages that run on a computer. These consoles are usually limited by the number of DMX channels that they can control, usually a minimum of 512 channels to a maximum of 2,048 channels. These consoles also have capability to control conventional theatrical fixtures.

The price on top-of-the-line moving light consoles range from $15,000 to $38,000 for the base package with various expansion options available at an additional cost. These consoles are typically dedicated console hardware with upgradeable software packages providing all of the latest features and functionality. Typically these consoles provide 2,048 to 4,096 channels of DMX control stock out of the box with almost unlimited channel expansion capability. These are usually the consoles that allow for the most flexibility of control if large numbers of moving lights are used in conjunction with a large number of conventional fixtures.

Today there are more console options on the market than ever before. Which console you choose to use in your system will depend on what kind of lighting system you have, how much automated technology is in the system, how you use the system, as well as how much you can afford to spend. Each option has a different feature set and price, and it is worth checking out as many as you can to find out what you think will work best for your situation. Trade shows such as ETS-LDI are a great way to get demos of lighting consoles.

You want your lighting to be good and the control console is a major part of this goodness. Having the correct console for the type of lighting you do can make your job a lot easier.

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