

# STRAND News

September 2003



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## An Overnight Change in Hawaii

By Jim Ripley

The POLYNESIAN CULTURAL CENTER recently upgraded the theatrical lighting system in their 3000 seat amphitheater virtually overnight. In order to make the change-over to a new dimming system the production staff, and a team from Attco (the Strand Dealer in Hawaii) and Strand Field Service staff worked during their single dark night;



*The main dimmer room installation*

starting immediately after the show on Saturday night at 9 PM. The new system was completely operational for the show on Monday evening at 6 p.m. The project was conceived and designed by Sakariah Yalimaiwai and George Pasi with the assistance of the Strand Team of Peter Dawson of Sunburst Design and Jim Ripley of Attco.

After the Saturday show, a small army consisting of the electrical contractor and Polynesian Cultural Center lighting crew began removing the old racks and installing the new SLD racks. By Sunday afternoon rack testing and dimmer module installation was started by Strand Lighting field service. This is now the third-generation of Strand Lighting equipment in this theater provided by Attco.

The new equipment consists of six full SLD racks at two locations with four non-dim relay control cabinets. The entire system is controlled by two Strand 520I consoles, running full tracking backup mode, the system also has a remote console in a backstage office, and a PC running Reporter Pro software over the ShowNet network. At the same time as the dimmer installation was under way a network team expanded the existing system to include five new DMX nodes and direct Ethernet access to the new dimmer racks. The system is rounded off with a Strand Wireless PDA for dimmer checks and focus remote.

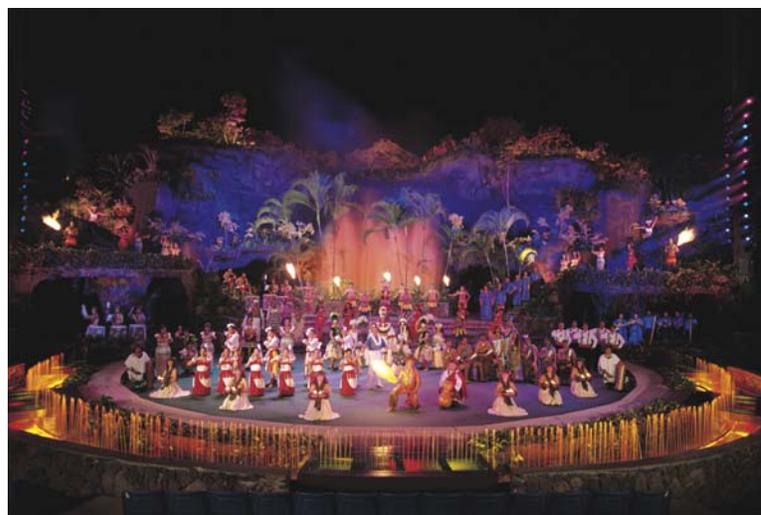
The Polynesian Cultural Center Theater performs one or two shows an evening six nights a week year-round. The

system includes nearly 1000 luminaires including a large complement of SL spotlights. The 520i control



*Joel Savoie looks on as Otto Alvarado of Strand Lighting and George Pasi use the control console to test the system*

consoles also control moving lights, strobes, smoke machines, black lights, waterfalls, water curtains, and water cannons, gas flame explosions and follow spots with remote iris, color and dowsler control. The dimmer system is monitored full-time over the Ethernet network to a reporting computer that provides the light board operator with immediate feedback on lamp status during the show.



*The Polynesian Cultural Center main production -  
Horizons  
Where the Sea meets the sky*

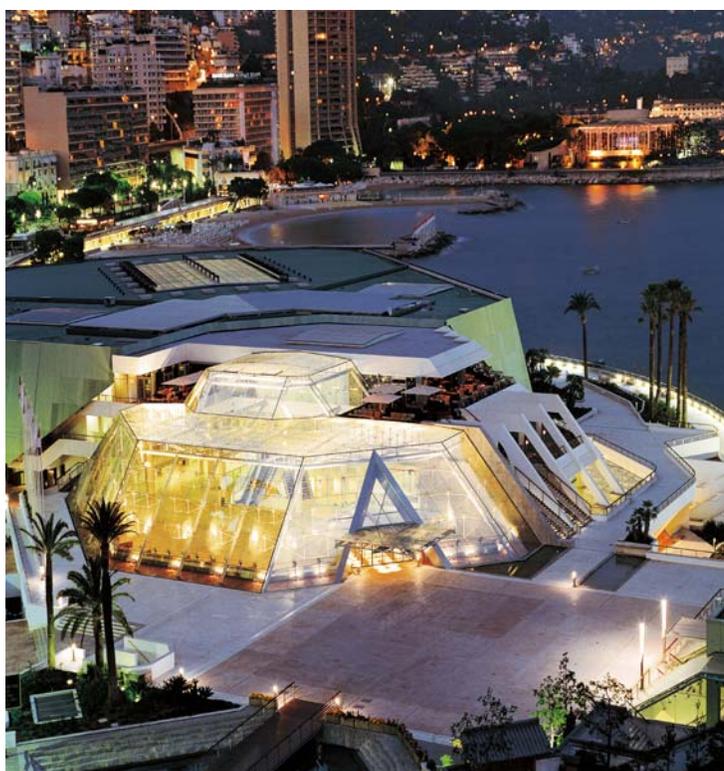
The installation at the Polynesian Cultural Center represents the most advanced lighting system in the State of Hawaii. It was sold and serviced by Attco, Inc., a specialty contractor for rigging, drapery, theatrical dimming and lighting. The company is a full service locally owned and operated theatrical design, sales, specialty contractor and service organization working exclusively in Hawaii for 39 years.

## LE GRIMALDI FORUM MONACO

de Bianca Marafioti

Situé au cœur de la Principauté de Monaco, le Grimaldi Forum Monaco - à la fois centre de congrès, lieu d'exposition et espace culturel - compte environ une vingtaine de salles qui abritent manifestations professionnelles et événements culturels dont le succès est assuré grâce à la présence des technologies les plus avancées.

Pour continuer dans cette direction M. DI AMORE, responsable du service électrique du Grimaldi a opté pour 2 systè-



*Photo copyright and courtesy of MGTO USA*

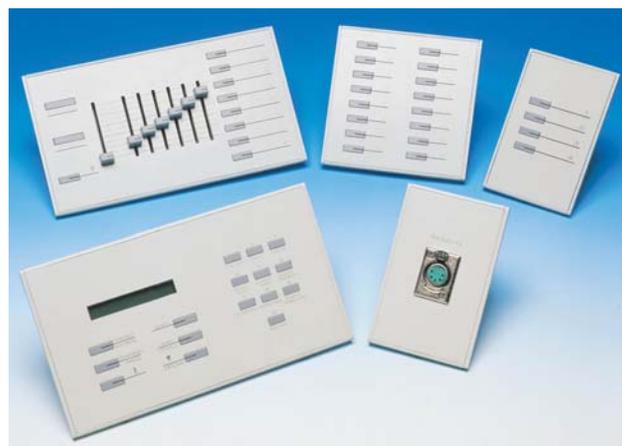
mes Première et 3 platines Outlook Strand Lighting, afin de permettre un contrôle d'éclairage performant de 5 salles. Des références telles que l'Auditorium de Dijon, Eurodisney et l'Acropolis de Nice ont décidé M. DI AMORE, qui cherchait un système souple et facile d'utilisation, tout en ayant de grandes possibilités de programmation.

La Salle des Princes (1000 m<sup>2</sup>) et l'Espace Ravel (4000 m<sup>2</sup>), consacrés aux concerts et aux expositions ont été équipés du système Première, les plus petites salles Prince Pierre, Camille Blanc et Niginski (300 m<sup>2</sup>), utilisées pour les congrès ont été équipées de la platine Outlook. Chaque salle est pourvue d'une unité centrale (Outlook ou Pre-

mière), d'un pupitre de programmation, et d'un ou plusieurs pupitres de sélection et restitution des états lumineux. Le pupitre de programmation, dont la configuration est adaptée à chaque salle, permet de changer le contenu des mémoires ou d'en créer de nouvelles avec des temps de restitution; les platines maîtres sont équipées de gestion de priorité; les systèmes Outlook et Première sont entièrement autonomes, ils n'ont pas besoin donc de connexion avec un ordinateur.

La société Panadiffusion, notre distributeur dans le sud de la France a effectué l'étude et la programmation, l'installation a été réalisée par la société Arpèson & Lumière. M. Philippe Picard, directeur technique de Panadiffusion a mis en avant la polyvalence des systèmes: « les pupitres sont mobiles et peuvent se connecter indifféremment à l'endroit désiré par l'utilisateur; les systèmes Première et Outlook permettent une multitude de possibilités en ajoutant des cartes interfaces, des pupitres et des logiciels; les interfaces permettent la réalisation de platines personnalisées; puissance mêlée à la simplicité d'utilisation, voici les atouts d'un système qui est évolutif et qui satisfait les besoins de tout type d'installation, dans des salles de congrès et auditoriums, mais aussi dans les théâtres et les salles de cinéma ».

Located in the heart of the Principality of Monaco, the Grimaldi Forum Monaco is an extremely versatile building used as a meeting centre or exhibition venue. The most advanced lighting technologies guarantee the success of events taking place in its 20 spaces.



*Premiere control stations are available in a wide range of configurations to meet the needs of facilities of all sizes.*

Mr. DI AMORE – the manager responsible for the Grimaldi Forum – chose 2 Première systems and 3 Outlook controls systems to provide sophisticated lighting control for 5 rooms. Previous projects such as the Auditorium of Dijon, EuroDisney and the Acropolis of Nice convinced Mr. DI



*Photo copyright and courtesy of MGTO USA*

AMORE to choose Strand to meet his requirements for a flexible, easy to use and lighting control system with a wide range of control functions.

The *salle des Princes* (1000 m<sup>2</sup>) and the *Espace Ravel* (4000 m<sup>2</sup>) - devoted to concerts and exhibitions – have been equipped with Première systems. The smaller spaces *Prince Pierre*, *Camille Blanc* and *Niginski* (300 m<sup>2</sup>) - used as meeting rooms use Outlook control stations. Each large space is provided with a central processor (Première), a control station and one or more stations configured to select and recall the lighting scenes. The control stations are set up to match the different requirements of the room and enables users to select lighting scenes or to create new lighting ones. All scenes can have individual programmable fade times. Master control stations are equipped with priority management allowing users to lock out or enable local preset recall stations.

Panadiffusion, one of our French distributors, designed and programmed the project, while the installation was done by Arpège Son & Lumière. Mr. Philippe Picard – technical director of Panadiffusion – appreciated the flexibility of the systems: *“The Strand control stations are mobile and can be connected anywhere, according to the user’s needs; the addition of interface cards, stations and software allows a wide range of possibilities and even personalised stations can be created. An easy to operate user interface allows us to create a system which is evolutionary and which suits users with different needs in multiple applications including congress rooms, auditoria, theatres and cinemas.”*

## New 300/500 Console software Released

We are pleased to announce the release of version 2.6.10 of our console and node software. This maintenance release features:

- Submaster bump mode now includes latch options.
- Version numbering scheme slightly changed to replace the trailing build letter with a number (v2.6.6 would be v2.6f in the previous scheme).
- <chan list> UPDATE GROUP n \* & UPDATE GROUP n \*, will update group n & apply group n to the updated channels whilst keeping any active channel control intact.
- Special groups show remote console name, user name & main console name as remote:user@main to match status window.
- -To save 300 disk space a backup file per show is no longer saved, instead a single backup file backup.ssf is saved per directory.
- Add PB n CUT/GO/STOPBACK syntax.
- Support added for the new R140 wired hand held remote with backlit key legends. (Available October 2003)
- Show channels going to zero in a XF/AF as green zeros rather than blank.

SN110 node software has also been updated with new display features

- The LCD now has two heartbeat displays one indicating that the node is active on the network and a second showing the presence of at least one other node on the network.
- Arrows now indicate whether the node is receiving DMX from the network or supplying DMX to the network

The new software should be available for download the week of September 8 from our Website at: [www.strandlighting.com](http://www.strandlighting.com). Look under the Support tab for Software to check for the availability of this new release.

## ACN A new control protocol for the Entertainment Industry



Over the last few years ESTA has been working with a group of companies to create a new method for interconnecting all of the elements of an entertainment lighting system.

Developing the Advanced Control Network (ACN) is the most complex project ever undertaken by the ESTA Technical Standards Program and the Control Protocols Working Group. ACN will define the standard for device control for entertainment systems well into the next century. The protocol is an enabling technology, which exists to allow manufacturers to incorporate features hitherto impossible into their products.

What is ACN? ACN is a protocol - it defines the vocabulary and syntax which equipment will use to communicate. The ACN protocol suite and the TCP/IP protocols are quite complex; the results for the end user are simplicity and ease of use. The end user will see none of the complexity. It is hidden "under the hood." Here are the benefits to the user:

- "Plug and Play" setup and configuration
- Optimum control of each device
- No arbitrary limits on system configuration
- Scalable, from small to large systems
- Status monitoring
- Fault-tolerance and recovery

An important feature of fault tolerance is the ability for backup controllers to shadow primary ones and take over virtually instantaneously and seamlessly.

Behind the scenes, the ACN task group has been working to insure that application of the new protocol will be consis-

tent among manufacturers and that ACN equipment will not interfere with or be affected by other equipment that might be on the network. These steps will also allow manufacturers to respond more quickly to market demands for compatible equipment.

The ACN developers suite will be made available to manufacturers as "source code" which may be adapted to their particular systems. With all ACN implementations running from the core ESTA reference design, interoperability will be maximized. ACN is designed to use as much computer industry standard technology as possible. The Task Group monitors the state of the art in networking standards to make sure that the ACN suite is compatible with the world at large. Strand Lighting has funded the creation of much of the early "proof of concept" test software and our programmers have made a significant contribution to the development of the ACN Developers suite.

The ACN suite will offer users a simpler and more manageable way to control their systems, while providing for high performance. The ACN suite, TCP/IP, and Ethernet protocols are complex, but the Task Group, the Control Protocols Working Group, and equipment manufacturers are the ones who will deal with that. End users will reap the benefits of simplicity and reliability.

The system illustrated below shows how ACN compatible devices plug directly into an Ethernet hub. Each ACN device will identify itself automatically to a compatible control console for immediate patching. Traditional DMX devices will be connected using ACN Ethernet Nodes.



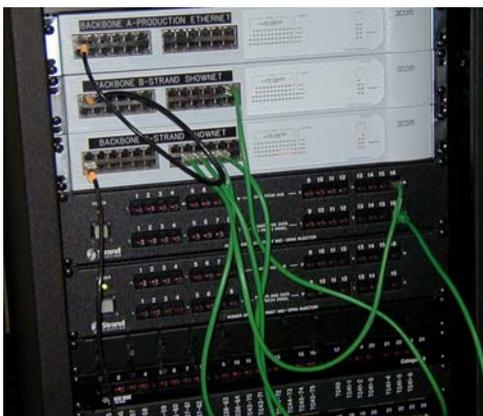
## ACN Protocol continued from page 5

Strand will be phasing in the implementation of this new protocol as soon as it is ratified on all of our network based products. In November at LDI we will participate in an industry wide technology demonstration at the ESTA Interoperability Pavillion. Visitors will be able to see a 500 series console connecting seamlessly to an ETC dimmer rack, a Pathway node and a Martin Automated luminaire via Ethernet.

Many users will be asking how they can prepare for a plug and play future when we will see all lighting equipment connect over a network. Our engineering and sales staff across the world will be pleased to assist you in the layout and planning of your lighting systems. Anyone developing a system today should look at the design of a modern office computer network. In these systems Ethernet taps or plug in points are located throughout a facility and wired back to a series of Ethernet patch fields. Office designers install many more connection points than there are office computers so that users can plug in anywhere they need to both now and in the future. Ethernet Hubs are added to match the number of computers (or in our case luminaires, consoles and dimmer racks) and they are connected using patch fields to hubs using Ethernet cables as needed whenever a user is added to a system.

Wireless access points are also being added to systems for users who must move freely throughout a facility. Wireless network applications are growing in the theatre with the use of wireless focus remote devices, and wireless notebooks providing designers with remote console video displays.

Power over Ethernet is another technology making its way into performing arts venues. This technology currently is used to provide power over a network to conventional DMX data nodes. This allows technicians to plug a portable DMX node anywhere on a network and get its power supply directly from the network. These nodes will remain in use for the foreseeable future as a bridge between the new communications protocol and DMX.

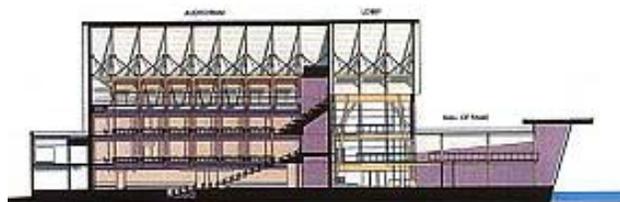
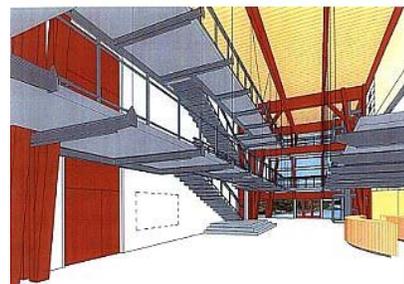


*Strand Lighting engineered this system with two mid-span power injectors to support up to 32 SN110 nodes.*

## The Charles W. Stockey Centre for the Performing Arts

by Richard Goode

The City of Parry Sound in Ontario, Canada had the challenge of providing a world class performing arts centre with an intimate, 480 seat capacity with the warmth of a Georgian Bay cottage. The theatrical system had to be flexible and scalable to suit a variety of regional or touring performances.



Mr. John MacDonald of MacDonald Hart Associates produced the final lighting specification after carefully evaluating the client's needs. It was critical to maximize the performance of the system using industry recognized equipment.

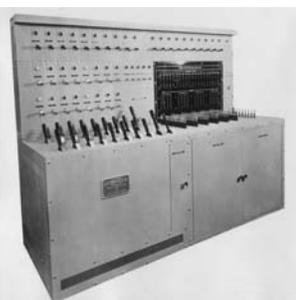
Ethernet networking was chosen to distribute the information from the lighting console to the design and performance positions, dimmers and grid positions for colour scrollers and moving lights. The network needed to be flexible enough to connect a road console on stage to run the house dimmers or moving lights "today" and then provide a DMX feed for a rolling rack "tomorrow". Without networking and SN110 Ethernet nodes the DMX cabling system would be hardware defined rather than software defined. It's a cost effective "one cable" solution.

The system was sold and commissioned by Q1 Production Technology. Jason Wagner and Rob Kennedy of Q1 worked closely with MacDonald Hart and Richard Goode, National Sales & Marketing Manager for Strand Lighting Canada to utilize an already installed infrastructure of conduit to make a working system. It was a short time scale and a design build project that was completed on time and on budget.

## Introducing SST dimmer modules for SLD dimmer racks

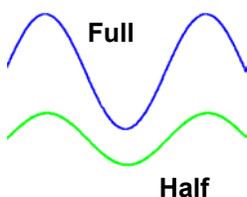
Strand Lighting will introduce their new Solid State Transformer (SST) series Sinewave dimmer modules at the PLASA show in London this month.

Ever since electric lighting was first used in theatre over a century ago, controlling the intensity of lamps was a challenge. In the early days, various sorts of devices were used, from barrels filled with salt water to large variable resistors placed in series with the lamps. These techniques dimmed the lamps by reducing the amount of voltage delivered to them. This worked, but at the cost of waste heat and a large, bulky control.



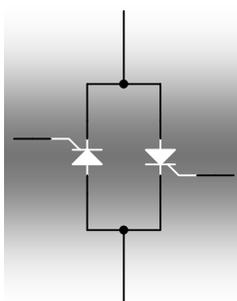
When alternating current became standard, autotransformers replaced the resistance plate dimmers. An autotransformer is a special type of transformer with a sliding tap that allows the output voltage to be adjusted from zero to full. The autotransformer was still large and bulky. It did not, however, produce nearly as much heat as the series resistance dimmer.

While these types of dimmers had the drawbacks of size and waste heat, they did have one big advantage: no lamp noise. The autotransformer produces an output that is a Sinewave with variable amplitude.



A dimmer set to half, for example, produced a Sinewave with half the amplitude of the input voltage.

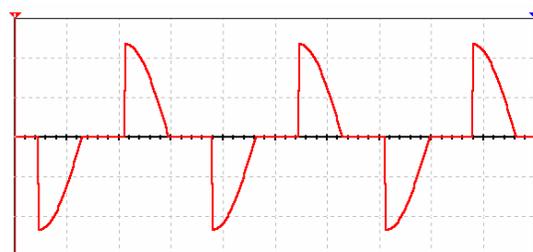
By the 1960's the marketplace wanted smaller, cooler dimmers that could be remote controlled by low voltage signals. The emerging semiconductor industry had produced the thyristor, the solid-state equivalent to a latching relay. A type of thyristor which conducts current in one direction only, called a silicon-controlled rectifier, or SCR, was used to build a new type of dimmer. A pair of SCRs, connected in "back to back" to control current flow in both directions, produced a different type of output.



The SCR dimmer works by controlling when in the power

line half-cycle the SCR is turned on. If it is turned on half way into the half cycle, it will remain on until the current falls to zero when the polarity of the power line reverses in the next half cycle. The process repeats in this half cycle, producing a "chopped" waveform. If the timing of the turn-on is varied from zero to 100% of the half-cycle, the output power to the load varies from zero to full. This type of dimmer is called a "phase controlled" dimmer. The phase control dimmer has been the dominant dimming technology since the 1960's. Strand Lighting has shipped over 2 million phase control dimmers in the successful LD90, EC90, CD80 and SLD families.

Phase controlled dimmers are compact, produce little waste heat, and are inexpensive. They are remotely controlled from DMX or Ethernet and offer



*A typical forward phase control waveform with a dimmer set to half exhibits severely chopped output.*

many advanced features. Unfortunately, the phase control waveform that makes them so efficient is their Achilles heel. The chopped waveform produces audible noise in lamps due to the sharp turn-on. Large chokes are used to smooth out the sharp changes. These chokes add bulk, weight and heat to the system. They can reduce, but not eliminate the lamp noise.

The phase control waveform also has another undesirable effect. The chopped waveform produces discontinuous current flow in the power distribution system. In a standard 3-phase power system, these harmonics can result in currents in the neutral conductor up to 1.4 times the rated current. Harmonics can cause audible noise and overheating in the distributing wiring and feeder transformers, and possible penalties from the utility company. In the EU, pending legislation may require dimming systems to produce lower levels of harmonics than are possible for phase control systems.

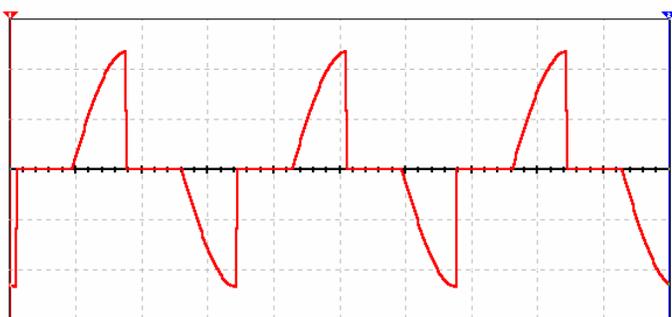
The drawbacks of phase control dimmers are becoming more important in the marketplace. More and more loads are not simple incandescent lamps. They

and a host of other non-traditional sources. All of these have one thing in common: the phase control waveform is far from ideal for dimming them. In many cases the load will perform poorly; in extreme cases the load (and possibly the dimmer) will be damaged.

In the last decade, more advanced types of phase control dimmers have been produced using a type of power semiconductor called an IGBT.

The IGBT (Insulated Gate Bipolar Transistor) has been widely used in motor controllers due to its ruggedness and ease of control.

Some of these new dimmers operate in reverse phase control where the dimmer is turned on at the line zero-crossing point, then turned off at the desired output voltage. The bulky choke is eliminated in favor of a controlled turn-off by



*A typical Reverse Phase control waveform exhibits "chopping" similar to forward phase control dimmers*

the IGBT. These systems still suffer from many of the same problems as any phase control dimmer.

The market for silent dimming has always existed, however achieving this goal has been difficult. The new SLD SST Sinewave dimmer is a modern Solid State Transformer and may be used in any application where an early autotransformer dimmer might be used. Any load that can be dimmed by a transformer can be dimmed by the SLD SST module.

The dimmer is not load sensitive and the output will remain stable at all times making the dimmer ideal for dimming any electronic ballast track light, most LED loads and a wide range of neon and cold cathode loads.

Any application where silence is important and system designers want to eliminate all lamp sing should consider using a Sinewave dimmer as there will be no audible lamp filament noise from any luminaire connected to these dimmers. Since the Sinewave module can be mixed with regu-

lar dimmers system designers can choose SST Sinewave modules for House lights and Concert lighting and use conventional dimmers backstage and in all less noise sensitive spaces.

The new SST dimmer module will be available for 230 volt applications as a single 13 amp dimmer and for 120 volt applications as a single 20 amp dimmer.

Key system features include:

- True Sinewave output for quiet lamps and accurate control.
- SST dimmer modules can dim a wide range of loads including incandescent, inductive and capacitive devices from a fraction of a watt to full capacity.
- Built-in micro-controller based short circuit and overload protection.
- SLD status reporting and advanced waveform compensation is standard.
- Available with Single Pole, Double Pole and RCD circuit breakers.
- The SST Solid State Transformer dimmer produces less than 1% harmonic distortion

## Tomb Raider Opens in Hollywood with Strand Lighting

*By Paul Dexter*

In 1977, President/owner John Chuck started ELS—Entertainment Lighting Services with a movie premier night niche market. Packing set pieces, chrome stanchions, red carpet and portable lighting high on a stake bed truck to prepare for early morning setup, John had a prescient view of a burgeoning market.

Today as the leading supplier to Hollywood ELS is the established industry leader in helping to create the magic that is a Hollywood film premier. ELS and Strand have worked together throughout this time.



The famous Grauman's Chinese Theatre was the site of the Tomb Raider Premiere in Hollywood. ELS chose Quartzcolor Daylight Pars to light the event.

## Console Programming Tips *by Rob Halliday*

### Macros

How many times have you typed '@0'? Wouldn't life be easier if this was a single keypress....With macros, it can be.

A macro is a collection of keystrokes that can be repeated at any time without the need to re-key. There are thousands of potential uses for macros, whether it be that 'off' key, applying reference groups (to allow one-button selection of gobos and colours in moving lights), or grabbing commonly-used combinations of lights.

There are two ways of storing a macro: you can either have the console learn your actions as you type the command - which means that you can check that the command works as you're typing it - or you can 'blind edit' the macro, specifying the command sequence without actually carrying out the actions.

To record a macro 'live', you type:

```
[MACRO][number]{LEARN}
```

where the number can be any macro number in the range 0-2999 or one of the console's macro keys (USER or P1-P7 on all consoles, P8-P14 on 520 consoles, or the softkey-style macro buttons in the centre of 500-series consoles). The console will display 'MACRO LEARN' on the right-hand side of the screen, and whatever you then type will be recorded into the macro. To finish recording, press [MACRO][MACRO].

To create a macro blind, switch to the macro screen by pressing the [MACRO DISPLAY] key (ctrl-F10 in off-line editors). You can select a macro by scrolling up and down using the trackball or by typing [MACRO][number] then pressing [\*][\*]

to create the macro and start editing it. As you type commands they now appear in the macro but do not have any immediate effect. Press [MACRO][MACRO] to finish editing; you can also give the macro a text label as a reminder of it's function.

However you store your macro, there are some things to consider. General purpose' macros (@0) are often more useful than 'specific' macros (1@0). But some console commands change depending on the Channel Control Mode the console is set to - @0

would turn off a light in Direct 1 Digit but not in Command Line - so changing this setting will affect some macros.

Also, remember that macros are just sets of commands with no intelligence. Switch to the SETUP screen then record a macro that changes a setting. Switch to the LIVE screen and run that macro - you won't see the result you expect because the macro doesn't contain the keypress to switch the console to SETUP mode. Be sure to make your macro do everything it needs to do - including switching to the right mode first.

Macros that change console settings need particular care because the macro will just record cursor movements rather than absolute cursor positions and, if you're not careful, will change whatever setting the cursor happens to be on next time it's used. The console includes functions to help with this: in any SETUP screen press [\*] and the cursor will jump to the top left-hand setting; press the {DEFLT} softkey and that setting will jump to its default value. Your macro could then step through the various settings to get to the one you want. So, for example if you wanted a macro that always switched CC Auto Hold Mode to ON, the safe version would be:  
[SETUP][\*][TRACKBALL  
DOWN][DEFLT][+][LASTSCREEN]

Other useful tricks? Well, the little-known SHIFT-NEXT command is great in macros. Switch to the GROUP PREVIEW display and create group 1 and group 2. NEXT and LAST will move the cursor between them. Now select group 2 then press [SHIFT][NEXT]; the command line will show GROUP 3 even though group 3 doesn't exist - the console has picked the next available whole group number (and will do the same for cues, effects and more).

This allows for a 'store position in next available group' macro. Say 500 is the highest group you want to use for positions, try the macro:

```
[UPDATE]{ADD  
ALL}{GROUP}[500][LAST][SHIFT][NEXT][  
@ATT]{position}[*]
```

Playing back macros is also easy. Consoles

have either 7 or 14 'P' keys providing direct macro playback of macros P1-P7/P14. You can also use the SHIFT key with these P keys to give a further seven or fourteen macros - 'SP' in the macro screen. 500-series consoles have four (520) or six (530, 550) macro keys in the centre of the console called macros LCD1-4 or 6 because on 530/550 console the macro's text label will appear in the LCD screen above the key. All consoles also have a USER macro key; SHIFT-USER is also a macro. You'll also find HH1-4 listed; these are the macro keys offered by some handheld remotes. V macros are those on the screens of LCD-monitor 300-series consoles.

Not enough macro keys? Well, holding [SHIFT] and pressing the 0-9 keys will run the corresponding macro number. If you need more, the submaster bump keys can also trigger macros. In the Submaster Display screen, set 'Bump' mode to say 'Mac'; that submaster's flash button is now a macro button completely independent of the submaster, and will run macro 100+sub number (ie. sub 1, macro 101). The [SHIFT] key can be used here, too: holding shift plus the sub button runs macro 300+sub number (shift-sub-1, macro 301). The gap of 200 is because 300-series consoles can have up to 196 submasters fitted.

You can also use submaster faders to run macros - set the macro number under the 'Mac' column in the submaster screen. That macro will be run when the sub is lifted from 0 or its flash button is pressed, provided the bump button is not turned off or set to 'Mac' mode (in which case it would be running an entirely different macro from the sub fader). When you do run out of keys you can run macros by typing [MACRO][number][\*] Or you can run macros from the various external Macro tablets that are compatible with the console - perhaps allowing you to create an active visual representation of your rig.

Cues can also run macros. In the cue preview screen, move the cursor across to the 'Cmd' column and set it to 'M' then the number of the macro you want to run. The macro will be triggered when the cue is run or after the specified delay time. This makes for some very interesting possibilities. Need a 99-step chase, 1 channel per step? Write a macro that adds an effect step then adds the next channel to that step. Trigger the macro from a cue. And write a second cue that loops back to the first 99 times. Run the cues and watch your effect create itself!

Incidentally, if macros run from cues ever seem not to work, try changing the 'Cue Sheet Macros' setting ([REPORT]{ADV SETUP}{SHOW SETUP}) from 'Last Hand-held' to 'Main Console'....

As with all elements of a show, you can move macros from show to show (renumbering them if necessary) via the ARCHIVE screen - the numbers corresponding to macro keys are listed in the HELP screen. In the very latest software versions you'll also find a few more macros are pre-defined. You can change these macros, of course, but by default SP1 has always been a function to print a copy of the screens. SP2, SP3 and SP4 are now pre-defined as CHANSTEP, ODD and EVEN; these are commands that have been in the console for a while for selecting ranges of lights (all odd, all even, every third light and so on) but which don't have 'real' buttons so haven't been discovered by many people! Now you can move them to the macro key of your choice, then:

```
[1][THRU][20][CHANSTEP][3][@][6][*]
to set every third light between 1 and 20 to 60%.
```

### An Update on Update

In the June 2003 newsletter we looked at the use of UPDATE for selectively storing information from lights into reference groups. This could become tedious because of the need to specify lights in the update command having already selected them while setting them - in other words, to have to type:

```
[1][+][3][+][5][+][6][+][9]
[UPDATE][GROUP][1][@ATT]{position}[*]
```

The latest software versions (from 2.6.6 - note the new naming scheme) offer a quicker alternative. Set your lights as before then just type: [UPDATE]{ADD ALL}[GROUP][1][@ATT]{position}[\*]

Any lights that had been selected - ie. showing in red on the channel display of a main console - will have their position stored in group 1, as they would always have done, but will now also automatically set to group 1.

The only potential risk with this is of storing information for other lights you'd been adjusting or had accidentally selected. In that case, you can still specify channel numbers before the UPDATE

command. Or store those changes first then press [SHIFT][CLR] on an empty command line before positioning the lights; this sets any 'red' channels back to being unselected: their new levels will be preserved but they will now be ignored by the UPDATE command.

## Unlock the power of your Laptop



*Our new software can be used on any Mac or Windows PC with a network card*

Introducing our new USB Key drive with Designer Remote software. Plug the new drive into the USB port on a PC or Mac notebook with a wired or wireless Ethernet connection and within minutes users will be able to access displays and controls on any Strand 300 or 500 series console.



*Our new drive is small enough to carry with your keys*

Our new Designer Remote Software is stored on a USB memory drive and allows designers to use their notebook as a convenient remote display or even a remote console. Each drive is small enough to fit on a key ring with the rest of your keys and stores a complete set of software for use with Mac OS X or Microsoft Windows. Start the software and you can connect to any console and access video displays and if enabled from the console channels and cues.

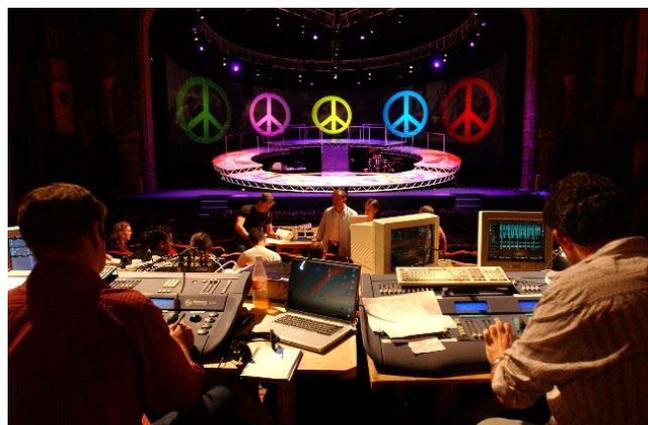
Connections are easy to set up and can be via a conventional wired network or via wireless Ethernet. The new software will be available in September and can be ordered under part number 67525

## HAIR in Australia

By Rob Halliday

It was one of the surprise smash hit musicals of the sixties - and even now, in the next century, the musical *Hair* delivers a message that many still consider relevant, which is why the show remains popular around the world. One of the most recent productions was in Australia, where lighting designer Gavan Swift applied some of the latest lighting technology to the production - including a highly versatile Strand control system.

The production began life as a concert version in Melbourne in 2002; the acclaim for that show resulted in it being expanded to a full-scale staging this year, opening at Sydney's Capitol Theatre and then touring to Her Majesty's Theatre in Melbourne. The production, directed by David Atkins - the man behind the Sydney Olympics Opening Ceremony - and designed by Eamon D'Arcy with projection by Tim Gruchy featured a considerably ex-



*Photography by Branco Gaica*

panded set design with a wrap-around rear-projection screen and a 13m circular truss configured as a peace symbol.

Having programmed the concert version using 500-series consoles, Swift opted to use Strand control again, allowing him to start with the concert showfile and then adapt it to suit the lights in use, these including seventeen Vari-Lite VL2000 Washes, eleven Martin Mac2000s and eleven High End StudioSpots,

all supplied by Bytecraft. "However, given that we had just a week from bump-in to first preview, we decided to use two 530i consoles to speed up programming," the LD explains. "Hugh Hamilton was the programmer for the show; his console was configured as the main. I then had a remote console



Photography by Branco Gaica

that I used to fiddle with ideas while Hugh did the hardcore programming." Once the show was pre-viewing, the system was re-configured with the 530is as main and backup consoles. "At the same time we added a WiFi base station to the Strand network, and I then used my Macintosh PowerBook G4 laptop as a wireless remote console. This meant that I enjoyed the freedom to sit anywhere in the auditorium while still being able to see what was happening on the lighting console - and that we never had to pull the console out of the control room."

The show opened to sensational reviews, with one reviewer even describing the second act as "perfect"!

*(other Macintosh users wanting to connect their laptops to Strand consoles should check out our guide 'The Apple Macintosh in a Strand World', which can be downloaded from the Strand website)*

*The Light plot and ShowNet control riser for Hair can be downloaded from our Website at:*

[www.Strandlighting.com](http://www.Strandlighting.com) under the Support tab select Newsletter and you will find files for downloading.

**The Strand Newsletter is published electronically four times a year. If you received this copy from a friend or associate and would like to receive a copy directly please email us at: [newsletter@strandlight.com](mailto:newsletter@strandlight.com)**

## Cats Run Away To The Circus...And Korea by Rob Halliday

500-series consoles have controlled shows in some unusual venues in their time. One of the most unusual was possibly the black tent emblazoned with the familiar symbol of two yellowy-green eyes that toured Australia between December 1999 and February 2001, providing a roving home for the Andrew Lloyd Webber musical *Cats*.

*Cats Run Away To The Circus*, as the tour was called, was a huge hit, providing another variation on the twenty-one year old musical and allowing it to be enjoyed by audiences away from Australia's main cities. Now the show is back - but this time it's a white tent, and it's in Korea!



Re-uniting the creative team from Australia, the familiar *Cats* set, by John Napier, and lighting, by David Hersey, are re-created by associate

scenic designer Lats Hoffman and associate lighting designer Richard Pacholski. For the Australian tour Pacholski had moved to a largely automated rig to cut down the amount of manual focussing required; for Korea he has maintained the core of the rig (fifteen Martin Mac500s, twenty-one Mac 600s) and then added two Mac2000s and five Atomic strobes.

The entire rig, supplied by Chameleon Touring Systems, is controlled by a 520i console, with a second 520i as backup, Pacholski choosing the consoles after his long experience with them on



many productions of *Les Misérables* around the world. The show was programmed in Australia and Korea by Hugh Hamilton, with Ed Cymerman as production electrician. Mr Park is the local head electrician and console operator.

*Cats* opened in Suwon, 30km away from Seoul, and is now in Pusan, on South Korea's south coast. The show will then play in Kwangju and Taegu, with the tour currently scheduled to run until early 2004.