

# LIGHTING+<sup>+</sup>SOUND *International*

THE ENTERTAINMENT TECHNOLOGY MONTHLY



CIRQUE DU SOLEIL FIND THEMSELVES IN DEEP WATER WITH 'O'.

PHOTO: JOAN MARCU

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PLASA

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# CIRQUE DU L'EAU

Rob Halliday heads off to the Bellagio Hotel in Las Vegas to discover how the innovative Canadian circus troupe have reinvented the water show

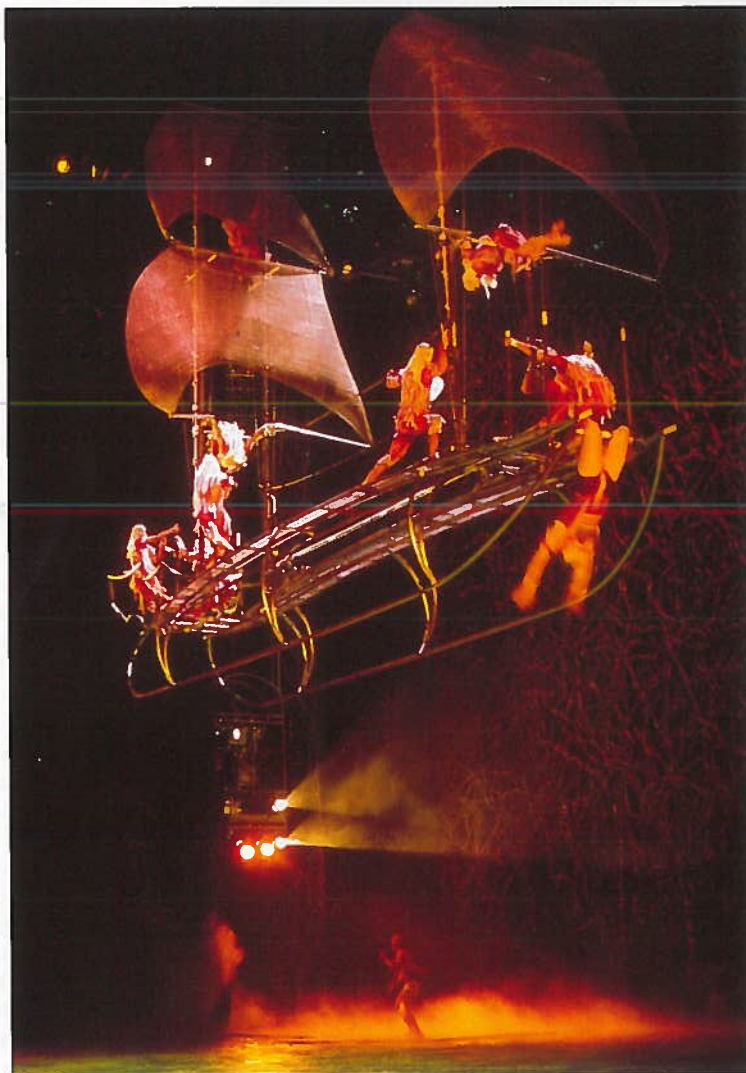
If you're a performing troupe that has taken an innovative approach to an old performance style and, in doing so, swept to success all over the world, the main question must be: what do you do next? And if you're a company whose shows have amazed and stunned their audiences through their spectacular use of space and flight, the question must be: how do you top it the next time?

The company in the difficult, but enviable, position of having to deal with these questions is Cirque du Soleil, the French-Canadian troupe who have reinvented circus performance in a more theatrical-style, free from animals with spectacular acts linked together to form some sort of coherent evening, all set in stunning venues, sets and costumes with sound and lighting of the highest order. Cirque are now 14 years old; from their early days as a collection of street performers they now employ 1350 people in Montreal, Amsterdam, Las Vegas, Tokyo and Singapore. Their press pack lists yet more incredible statistics, noting that on a typical weekend during 1998, 50,000 people will see a Cirque show somewhere in the world.

The company have already altered and expanded their style and scale of performance over the years: their 'classic' productions still appear in big tops, but in 1993 the company were lured to Las Vegas to create a permanent show for the then-new Treasure Island hotel. The company designed their own theatre in the hotel, expanding on the style of the big-top and adding the kind of technology that would never be possible in a tent. The result was *Mystère*, which was covered in the January 1996 issue of *L+S* and which has had a dramatic effect on the Las Vegas entertainment scene ever since: any number of hotels are now desperately advertising that they have 'spectacular, circus-style productions'.

Five years on, and Cirque have managed to out-do themselves by taking probably the only approach they could and adding the final element to the fire and air which have featured in their previous production: water. The show is *O*, a play on the French word eau, which opened at the new Bellagio Hotel on October 19th. With it, Cirque have attempted to reinvent the water show as they re-invented the circus all those years ago.

As with *Mystère*, the company have created a new home specifically for their new



production, an auditorium now known as the Bellagio Theatre. Designed by Cirque's set designer Michel Crête with Michel Aubé and theatre consultants Sceno Plus of Montreal, this is quite unlike any of Cirque's previous performance spaces. Traditionally they have had their audiences largely surrounding the stage, whether in the tent, the *Mystère* theatre or in temporary performance spaces such as the Albert Hall, now their regular London home. Here they have what is essentially a proscenium arch, albeit a very wide and open one, facing an 1800-seat auditorium that is a beautiful homage to a grand 14th Century European opera house with the seating split between stalls and circle levels and with traditional boxes on the side walls, though these actually house musicians and singers rather than audience members. One of the most stunning features is the domed roof: viewed close up, this is nothing more complex than high-tech chicken wire, but once lit by the M16 battens that surround it under the control of lighting designer Luc Lafortune it becomes a spectacular luminescent entity that is beautiful to behold.

The grand opera style was clearly intended to make the theatre feel like an integral part of the Bellagio, with the hotel aiming to re-create the grand culture of Europe and coming complete with an exotic collection of fine art: "Because you can't sleep at the Louvre," as the publicity has it. The hotel's other design theme is water: the building is fronted by an enormous lake that has a spectacular dancing fountain show every hour. It was this theme that led to *O*'s main feature and this, in turn, led to the pro-arch design of the theatre.

The reason is that the stage contains a 150' by 100' by 25' deep swimming pool that contains 1.5 million gallons of water. Based on this, Crête and writer/director Franco Dragone have created a magical watery world, a tropical island upon which a young boy is washed up to discover that it contains a hidden history of theatre. If it wasn't being used by Cirque, it would make a fascinating set for a production of *The Tempest*.

However, the Cirque team also realised that a water tank wouldn't be able to sustain a 90-minute show. The pool therefore contains seven hydraulically-operated scissor lifts, four downstage that can rise and fall by 17 feet and three upstage with four feet of vertical travel, at speeds ranging between one and 20 feet per second. Each 4' x 8' section of floor contains around 5,000 holes that allow the water to pass through the lifts as they rise and fall, and all of the lifts have safety edges to prevent anyone from becoming trapped beneath them. The variations possible with this combination are endless and spectacular, with people rising from below the water, appearing to walk on water, floating effortlessly across it on giant icebergs, umbrellas or horses or, on one occasion, spectacularly sinking while playing a full-scale grand piano.

More conventional staging surrounds the pool, with an upstage area containing a 'vegetation cloth' created from Lexan using a 45' x 60' mold that swings into place on two vertically mounted curved trusses. There is also a cyclorama cloth upstage that is used both as a backing and for shadowplay; at one point this allows a cute visual pun on Cirque's animal-free status, with projected silhouettes of buffalo and elephants. Curved solid staging also extends around the front of the pool.



Mark Dennis and monitor mixer Pascal van Strydonck at the FOH mixing position.

Overhead, there is a spectacular contrast to the natural feel of water and vegetation in a giant metallic creation called the 'telepherique' - essentially a giant gantry crane which can track up and down stage at three feet per second, and containing an enormous revolve which can rotate at up to 2rpm and has four 1000 pound winches; the revolve also has a hole in the middle through which performers and props disappear. This device serves many functions during the show, the most spectacular being the slow appearance of four carousel horses which track lazily downstage while lowering to land gently on the water, where they become boats and sail off under their own power courtesy of propellers under their tails.

Above all of this is the theatre's grid, containing a fully automated counterweight-assist flying system installed for the show, plus some manual sets "added when we ran out of motors," according to the technical team, who describe how "the company arrived with a basic plan, they knew that they were going to do certain acts, but they didn't know how they were going to get from one act to another or what the order of the acts would be, so basically we had to be ready for anything!" Since Cirque performers are often found in the grid prior to high-level entrances, all of the rigging and cabling had to be rigged overhead leaving the grid floor clear. Rigging for the show was overseen by Joe McGeough and covers all levels of technology: the show uses two automation operators, one to run the telepherique and one for the other automated elements, including the 'BFR', the "Big effing (or something like that!) Roller" that contributes to the show's spectacular opening. In traditional pros-arch style, the show opens with a front-cloth hiding the magical world beyond from view. But instead of flying out this is lifted from the bottom and appears to be sucked out at an incredible rate, seeming to suck air into the stage. Lines from the bottom of the cloth run through the telepherique to the BFR, which looks like an enormous bobbin which runs at 14 feet per second on cue, pulling the whole curtain up and wrapping it around itself.

At the other end of the technological scale is the giant anchor - simply dropped into the pool from the grid at one point. Between these two extremes are the 'comets', red flashes of

material that shoot across the stage. Thread from these runs across the stage to the stage-right fly floor, where it is attached to sandbags that are held up by solenoids. On cue these release, the sandbag falls and the material shoots across the stage. A favouring of 'lower tech' is also indicated by the running crew of 64 (including a wardrobe department who have to deal with a show where "practically everything gets wet!" Costume designer Dominique Lemieux still manages to inject the usual Cirque style into swimwear!) supporting 72 performers.

Of course, the biggest challenge to all of those involved with the show was the pool. Quite apart from the usual swimming-pool style considerations of temperature (a constant 86 degrees) and cleanliness (the water is completely filtered every six hours), Cirque and Sceno Plus also had to deal with the extremes of temperature and humidity that the water created, while keeping the performers warm and the audience cool. The air-conditioning system stratifies the air, providing two 'micro-climates' in an attempt to achieve this, though the conditions are still keeping the sound and lighting teams on a fairly steep learning curve. They also solved the problem of the noise of waves hitting the edge of the pool, creating a gutter filled with different sized pebbles which dissipate the waves. And, of course, of setting and clearing performers while ensuring safety all round: the pool is equipped with air feeds to allow performers to remain submerged before or after their appearances (or even, in some cases, during them), and the water is constantly policed by divers during the show.

The show's designers also had to learn about the new environment: as head of sound Mark Dennis points out, no-one else had ever done anything like this before and there were therefore no books they could turn to for advice. Fortunately, the show has been gestating for a long time, and all of those involved have been using that time to experiment and learn about the new environment. Lighting director Jeanette Farmer, who has transferred to the new show from *Mystère*, recalls the mock-up tank that she and Cirque's lighting designer Luc Lafortune had to play with. There they experimented with the refractive index of water, which leads to the possibility of total internal reflection of light - a

new consideration when choosing lighting angles. They also made all kinds of useful discoveries, particularly the way that water absorbs red light. "Luc doesn't normally use a lot of red," Farmer notes, "but there is quite a lot in this show because of the way it seems to disappear when it hits the water." They also quickly realised that one of their biggest problems would actually be the water being too transparent, with the audience able to see the performers and safety divers moving beneath the surface. This led to the creation of an aquatic masking system, perforated tubes which force air into the bottom of the pool creating 'bubble curtains' that, for the most part, keep things nicely hidden from view while also allowing the water's surface to be varied from glassy-smooth to stormily turbulent.

To house the majority of the underwater lighting, Lafortune and Farmer opted to create 'the fishbowl', a circular corridor beneath the pool walled with 11 x 4" plexiglass windows that contains the majority of the underwater lighting rig, including 2.5k and 4k HMIs fitted with colour scrollers. But some units were still required in the pool itself, and this need for absolute safety led Bob Barbagallo of Sceno Plus on a long search for the perfect earth-trip (or ground fault, in American parlance) system that would provide reliable protection, free from the nuisance tripping that often plagues such systems. In conjunction with Production Arts and Strand Lighting, the solution was eventually found by creating custom cables with the live and neutral cables enclosed in a shield separating them from the earth wire. 288 dimmers out of a total of 1800 CD80s provide ground-fault protected power to the pool.

Strand were also selected to provide the backbone of the lighting control system, which was installed by Production Arts. A 550 console runs the conventional lighting under Jeanette Farmer's control, with a second console providing full back-up - though Farmer prefers to keep the two desks running separately and change the Ethernet data feed over manually if required, rather than relying on Strand's active tracking networking system. Further along the spacious control room which, with its huge windows overlooking the stage from the rear of the circle, resembles the control room of a science-fiction space cruiser, a Strand 520 runs the water effects in the pool through a collection of Gray interface cards and relays. The desk was an unusual choice for this application, but seems to have fulfilled its function well.

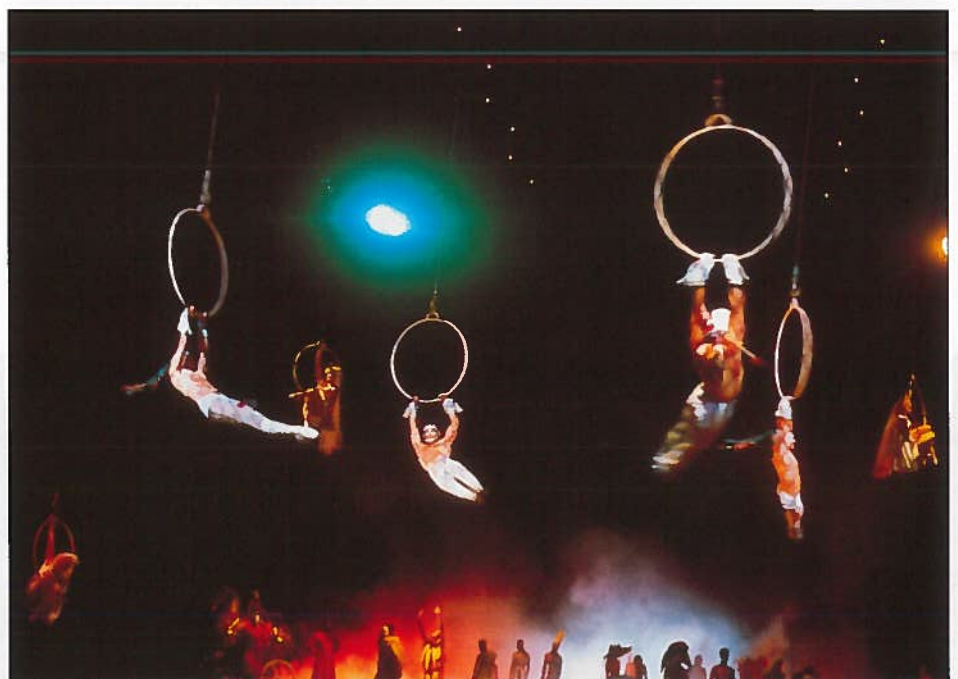
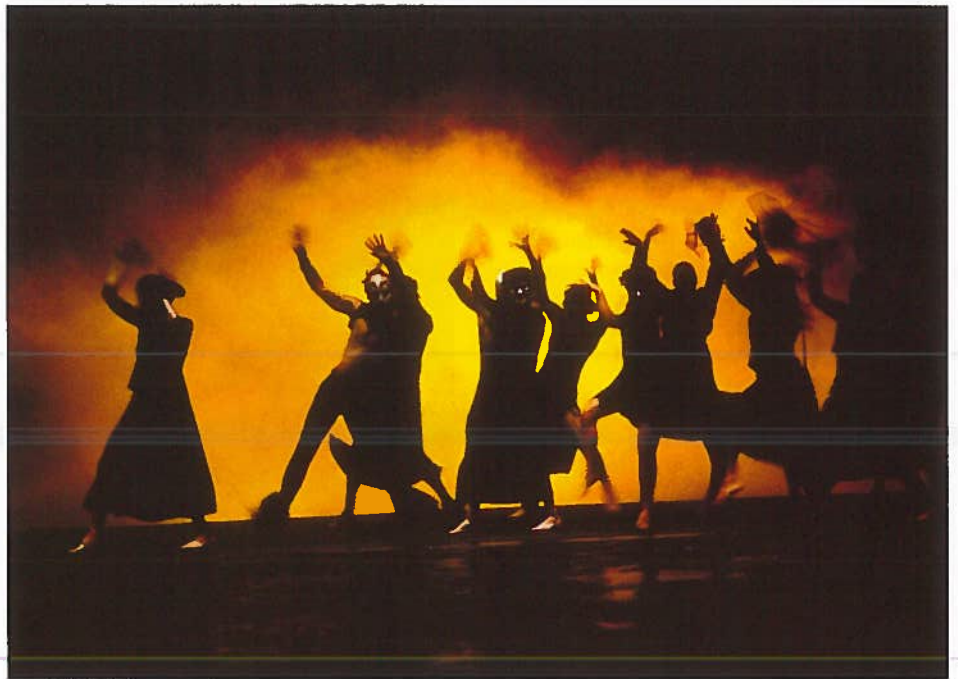
Farmer was clear in her choice of the 500-series, describing the possibility of returning to separate scroller and channel numbers on a show of this scale as "unthinkable". However she also feels that the desk is still really a "theatre lighting console, rather than a moving light desk," and the show's automated rig - a mixture of moving mirror scanners and StudioColors - is controlled from a Whole Hog 2, with a second Hog as back-up: Cirque know that disappointing a Vegas audience who've paid \$100 dollars per ticket would be unthinkable, and everything therefore has a back-up. You'd be hard pressed to tell that moving lights were present unless you were looking for them, since Lafortune rarely moves

them in any kind of 'obvious' way. But his design is as eclectic and effective as ever; the conventional rig is a mixture of ETC Source Fours with scrollers (500-ish lamps with 230 scrollers), Par cans, transparent Unipars used as a decorative feature of the rig and Robert Juliat profiles providing big, clean shots of light; the show also uses eight Robert Juliat followspots with all of the Juliat equipment provided by Production Arts.

The equipment provides for truly beautiful lighting; Lafortune is a master of the big picture, of giving distance by lighting haze and smoke while also keeping even the big acrobatic moments tightly focused and picking out the details, such as the beautifully crosslit figures hanging upstage. The overall feel is of exaggerated naturalism, picking up the 'enchanted island' feel of the overall production and amplifying it. But Lafortune is also not afraid of letting darkness do the work for him: some scenes are lit purely from light through the backcloth, with the rest of the stage in complete darkness save from the image reflected on the water. Any 'tricks' are a result of the lighting team's experiments: the red toplight that lights a performer in the water then vanishes, for example. The red may not feel completely appropriate for the moment in the show, but it makes the moment possible and works well. O's lighting is beautiful, and is a clear reflection of the open-minded inquisitiveness and inventiveness of Lafortune, and of the patience and support of his team: "Luc would just come in and say he'd decided to re-rig the first electrics bar," Jeanette Farmer recalls, "and I'd have to persuade my team that this was a normal and worthwhile part of the process! In the end they saw what I meant!"

Sound designers Jonathan Deans and François Bergeron also had a steep learning curve. The core of their rig is familiar, based around a 64-input Cadac F-type console mounted in a glorious operating position right in the middle of the stalls. The Cadac receives signals from the band and singers, located in glassed-in boxes on either side of the auditorium. This is something of a departure for Cirque, where the musicians and singers have traditionally been in the same space as the performers. According to the head of sound, Mark Dennis, that was also the intention here, but eventually humidity presented too much of a problem to the instruments - which include cello, guitar, triquet, African koras, an assortment of reed instruments, bagpipes, an accordion, saxophones and a flute - and the band were sealed in.

The direct output of each Cadac input feeds a Level Control System LD-88, creating an 80 x 80 matrix which allows the apparent location of sound to be moved around the auditorium - sometimes used subtly, sometimes used dramatically depending on the requirements of a particular piece and the dynamics of Benoit Jutras' music. Sound is fed out through eight Aphex Expressors, 10 x 6222 expander/gates to Crest Audio amplifiers monitored and controlled with a NexSys network and on to a discretely concealed system of Renkus-Heinz loudspeakers split into left and right, upper and lower clusters of Trap 42s and C2 sub-base units. The circle receives sound from a delay



ring of Trap 40s, with a further two of these units providing centre downfill. Custom speakers based on the SR-81 were created by Renkus Heinz for front-fill duty. Effects are sourced from Akai DR8 and S2000 samplers as well as DAT, cassette and CD players and fed through an effects/surround system of Trap 40 and SBS15-2 sub-base units.

While Dennis handles this main mix, monitor mixer Pascal Van Strydonck runs a Crest LMX console providing separate mixes to the 10 musicians, each of whom has their own Yamaha Pro-Mix to give them a degree of control over what they hear.

In addition, the sound team were responsible for a comms and communication system that includes 29 cameras providing 24 views (with nine underwater views) to 45 video monitors, a Clearcom system so large that, according to Van Strydonck, it had Clearcom themselves scratching their heads at times, and a custom underwater PA system called the Neptune System which, along with custom underwater speakers designed by Clark Synthesis, allows music and safety announcements to be relayed to performers and support divers who are submerged. Set movements also directly trigger a Roland AR-100 sampler which feeds a unique sound for every lift movement or corresponding to certain emergencies into the underwater system via a Soundcraft Spirit mixer and Crest 1600 amplifiers. Two of the underwater speakers are mobile, allowing divers to position them close to particular performers to overcome the disruption to sound caused by



Head of lighting Jeanette Farmer.

the bubble curtain: the lighting department may love it, but it is unpopular with both the sound and diving teams!

The result, all round, is a stunning technological achievement: a beautiful looking, great sounding show in a style that wouldn't be possible in any other venue in the world - all held within a spectacular auditorium. Curiously, at the moment, the content of the show doesn't quite match its presentation: if the Cirque norm is "performer enters, does something spectacular, something more spectacular, tops that, tops that again then link into next scene", O currently feels like

"performer does something, does something else then bows, long link into a link into scene". That is somewhat churlish: the feats unfolding before your eyes are incredible whether helped by props (the trapeze bars disguised as a flying boat) or effects (the burning clown, more of his newspaper, then chair, then entire body catching fire without him realising all while upstaging the 'real' fire act) but somehow always seem to end slightly earlier than you'd expect, while the links, though beautiful to behold, seem to go on longer than you'd expect.

"Its all been brought together, now it needs to be allowed to simmer," seems to be the general summary from those who've been through the Cirque creative process before; they recall that it took a year for *Mystère* to warm into the work of theatrical perfection that it became. The Las Vegas show environment, for all of its faults and oddities, is actually ideal for nurturing a show in this way and, with O having an anticipated 10-year run, it will be nurtured and will mature as all live performances should.

Meanwhile, in the increasingly-busy world of Cirque, the creative team have moved on, to a new show for Disney in Orlando, then to a permanent residency for *Alegria* (as performed at the Albert Hall this year and last) and on to still more projects. It will be hard for any to top the technical brilliance of the water, or the elegant magic of that first drape cue. But top them they no doubt will - if only because that seems to be the Cirque tradition!

Performance photos: Joan Marcus

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