

# PERFORMANCE TECHNOLOGY GOES TO SEA

Tony Gottelier Considers the Sophisticated Technology that keeps Entertainment Afloat



Majestic Launch. 'Monarch of the Seas' slips her moorings for her first voyage across the Atlantic via Southampton.

Cruise holidays have long been considered a sedate and genteel pastime in the UK, fostered by memories of Empire and the great trans-Atlantic vessels of the past. Not so in the US, where ruling the waves when it comes to cruise liners these days, means considerably more than simply carrying a few itinerant minstrels on-board. In the case of Royal Caribbean's 'Monarch of the Seas', it means many tons of sophisticated entertainment technology in fact. L&S's stowaway mole, Tony Gottelier, himself involved in part of the project, reports.

As high as the statue of Liberty (14 decks and 51m), twice as much steel as the Eiffel Tower (14,000 tons or 195,000 sq. metres), 1290 and 65 km of electrical cable and piping respectively and 6.5 kilometres of corridors. The 74,000 ton Monarch of the Seas can

carry 2,354 passengers and is claimed to be the largest cruise liner currently afloat.

These statistics give a graphic indication of what a considerable enterprise the construction and furnishing of such a great vessel really is. Just imagine the tons of food, booze, laundry and waste to be stored or processed! And when it comes to entertaining the facts are equally impressive.

For the market in the US for cruising in the Caribbean and elsewhere is estimated at 4.1m passengers annually and these are definitely not the afternoon tea brigade. The cruises, which generally operate on a short turnaround, covering as many tropical islands in as many days, are today expected to provide the kind of facilities otherwise only found in a Las Vegas hotel. This means not only a casino, as garish as possible, and the

usual shops, bars, cafes, lounges and restaurants but also floor shows and dancing - all aimed at a much younger, or certainly less staid, audience than has come to be synonymous with cruise holidaying from the UK.

Here we still seem to foster the image of stiff Edwardians in evening dress and ostrich feathers, smoking cigarettes through long holders and strolling the deck of the Mauritania, or some other great vessel, on the grand tour down the Nile or across the Atlantic. Well, I am here to tell you that those days have gone and a US based cruise these days is much more exciting stuff.

Built in St. Nazaire by Chantiers de L'Atlantique, whose parent company also manufactures the TGV, Royal Caribbean's 'Monarch of the Seas' and twin ship



Performer's view. The two tiers of the main show lounge.



Excuse the boxes of props, rehearsal in progress. The stage with videowall in place.

'Majesty', currently under construction at the same yard, are truly floating shrines to hedonism. Two show lounges are provided, the largest of which can seat 1050 on two tiers, and with over 100 tables! It provides 'full' stage facilities, including resources for industrial presentations, and the largest video wall afloat which, incidentally, also happens to be trackable. There is also a cinema, a gymnasium, a night club, a discotheque and an interactive entertainment area for younger passengers.

The two show lounges can be looked at together, if only because of the commonality of the performance equipment. (For the record, the smaller lounge seats 450 and has a live performance stage with rather more restricted services.)

To find out how the concept for these areas was put together I talked to Knut Skeisvoll, one of only four in the small department at RCCL which provides supervision of all the technical aspects of equipment used on their vessels.

"Initially we set up a project team including Njal Eide, our architect for these areas, and RCCL's own entertainments people. Then we contacted consultants Jack Rouse Associates based in Cincinnati who came up with an arrangement for the stage, built a model and proposed an equipment list for budgetary purposes," he told me. "Subsequently, this specification was finalized, after further studies, with HMS of Ermont near Paris who became the specialist contractors for the lighting and sound equipment, though not for the video wall."

American specialists Kings Productions designed and produced the production staging, sets and props and designed and programmed the lighting 'looks' for the various shows. King subcontracted the two motorized tabs, of which the proscenium one is an 'Austrian', to Sapsis Rigging of Landsdowne, Penn., who are known in this context for their work on the famous animated video walls at the Palladium in Manhattan. So it was inevitable that they

were also asked to supply and install the mechanics for the Electrosonic video wall, designed and supplied by Miami-based Multivision, of which more later.

For Strand Lighting, who via HMS supplied the control system for both lounges and most of the luminaires, mainly Punchlites and Lekos, it was an opportunity to test out the viability of their new integrated global structure, to be explained more fully in a later issue of L&SI. This was particularly relevant since the ship was built and fitted out in France, the interior architect was based in Norway and the vessel would be operated from Miami. And it seems to have worked well with their offices in LA, London, Scotland and Paris-Courbevoie co-operating together to meet the special requirements of the job. (Other suppliers please note: your international distribution arrangements can often have a negative effect in such circumstances.)

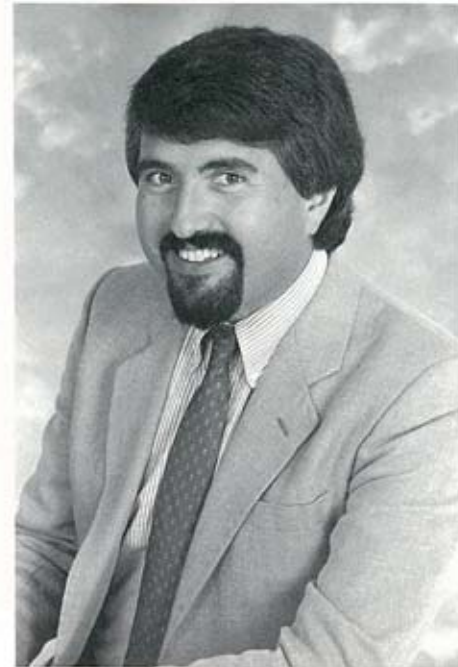
The system decided on was a complex combination of two Light Palette 90s, a Premier PC-based architectural lighting controller and eight EC90 dimmer racks, integrated to allow maximum flexibility of control across the two rooms. This was achievable because the EC90 digital dimmer allows two different multiplex signals simultaneously to the same rack and the output of the performance desk can be connected to Premier so that it knows when the console is off, or to allow tandem operation on a highest-takes-precedence basis.

Thus the auditorium lighting can be controlled solely by Premier during the day, and the Light Palettes take over all the lighting at night. Otherwise, it is theoretically possible to control all auditorium and stage lighting from a combination of either system, or both, with Premier's outstations providing back-up for the Light Palettes.

Additional demultiplexing provides board control of both the High End ColorPros and Martin Roboscans. The total number of dimmer channels in the Sound of Music main

show lounge is 512 and, according to HMS' boss Michel Charles, this may even be expanded by the addition of a further dimmer processing card in the future. Followspots are two Lycian HMI575 'Midgets', smoke is from JEM ZR20s and all control equipment had to be tailored to the 3 phase delta, 220V 60Hz power supply used on-board.

The Premier, which may not be as well known to readers as Light Palette, is capable



**Bob Berkowitz, general president of Miami-based Multivision.**

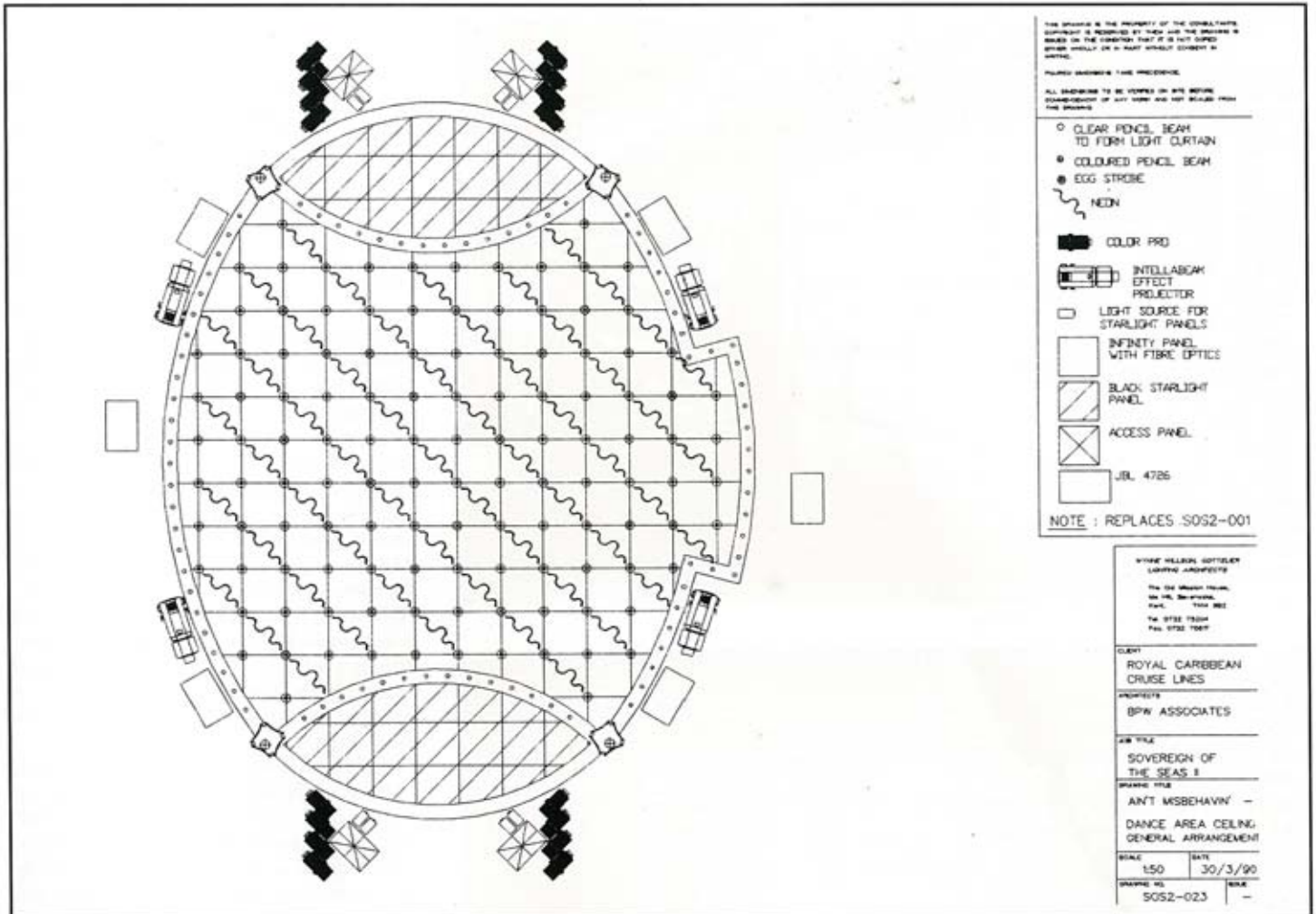
of controlling 512 channels of dimming across 32 different areas, each of which can be programmed to 128 different lighting states selected by astronomical clock. One nice feature of the system is the ability in software to 'write' or change assigned labels of any of the outstations' functions in the language of your choice. This looks like a serious competitor to Electrosonic's Scenaset system which, interestingly, controls all the other architectural lighting throughout the vessel from 15 Digidim racks.

The video wall, designed by Multivision under the genial hand of its President Bob Berkowitz, is also an Electrosonic product. Using their Picbloc technology and four source capability, Berkowitz conceived a split wall of two 5 X 5 displays consisting of fifty 27" RGB monitors, which can be run together for 5 X 10 configuration, singly as a conventional wall, or divided into two parts to provide a 'scenery' dimension. Programmable sources are two 3/4" SP decks and two Laservision video disc players. Multivision also produced and programmed the video software which runs on the wall as well as a TV 'trivia' game which was custom-produced to entertain the passengers.

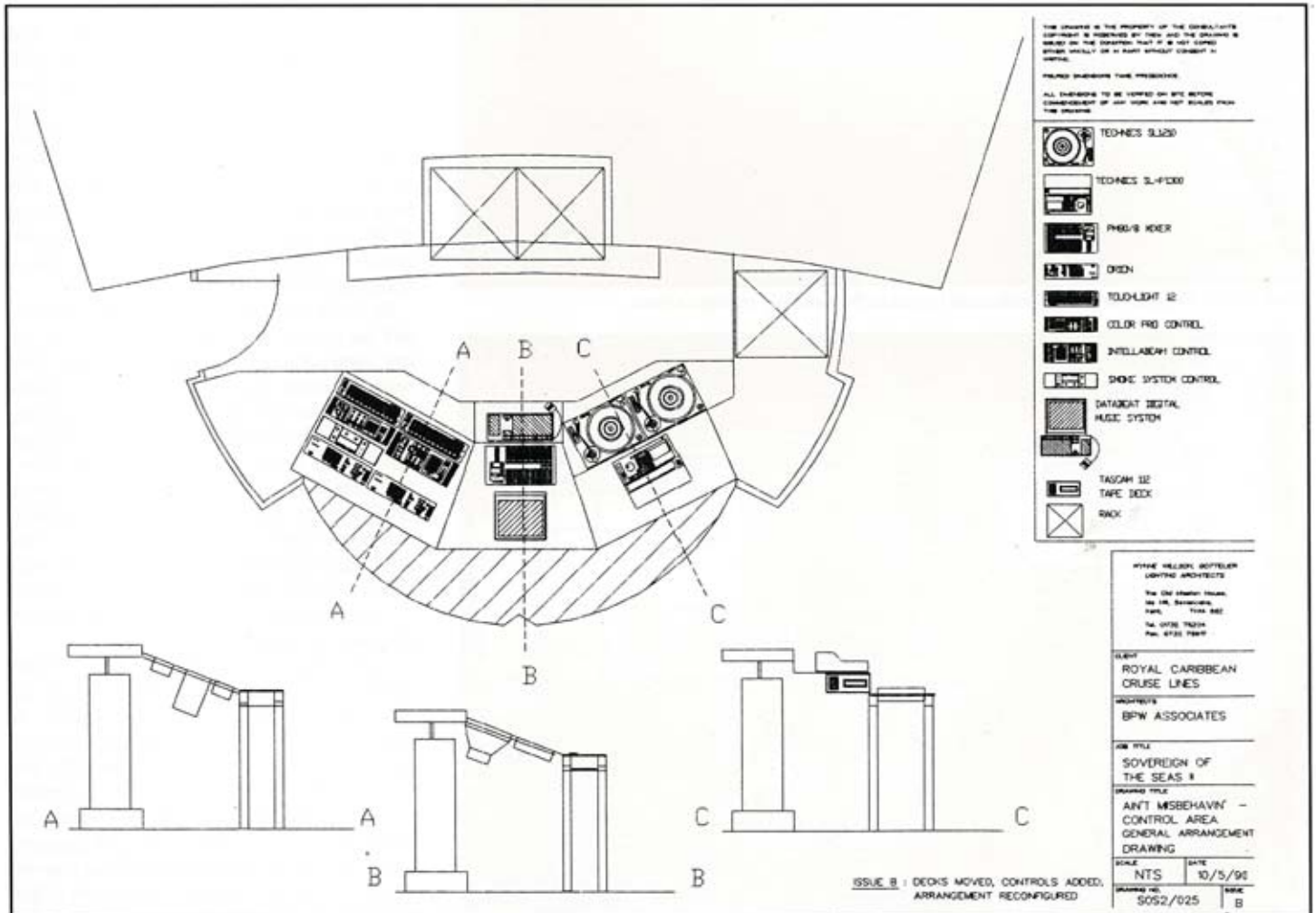
When it came to the mechanics, Bob deferred to the acknowledged experts in the field, Sapsis Rigging, who from their experience at the Paladium were well qualified to tackle the job. Bill Sapsis and his colleagues put together a system consisting of four motorized, 2-ton beam trolleys, with DC motors to enable variable



**Show lounge controls. Light Palette 90 and Yamaha PM 1800s side-by-side in the control point which has moved to the back of the auditorium.**



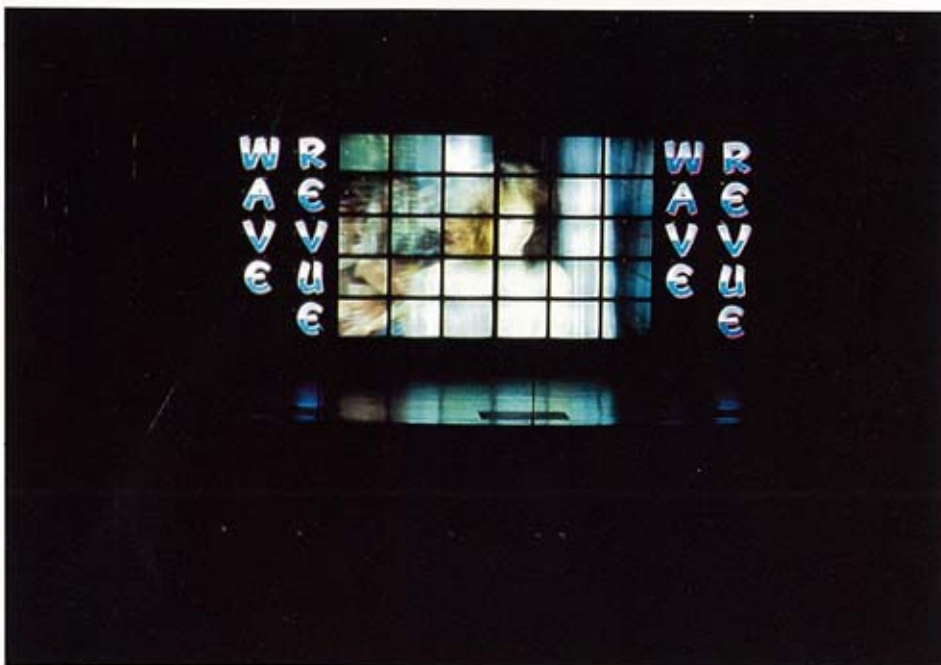
Wynne Willson Gottelier's light plot for the 'Ain't Misbehavin' discotheque ceiling. Support nodes double as downlights for a 'no visible support' effect.



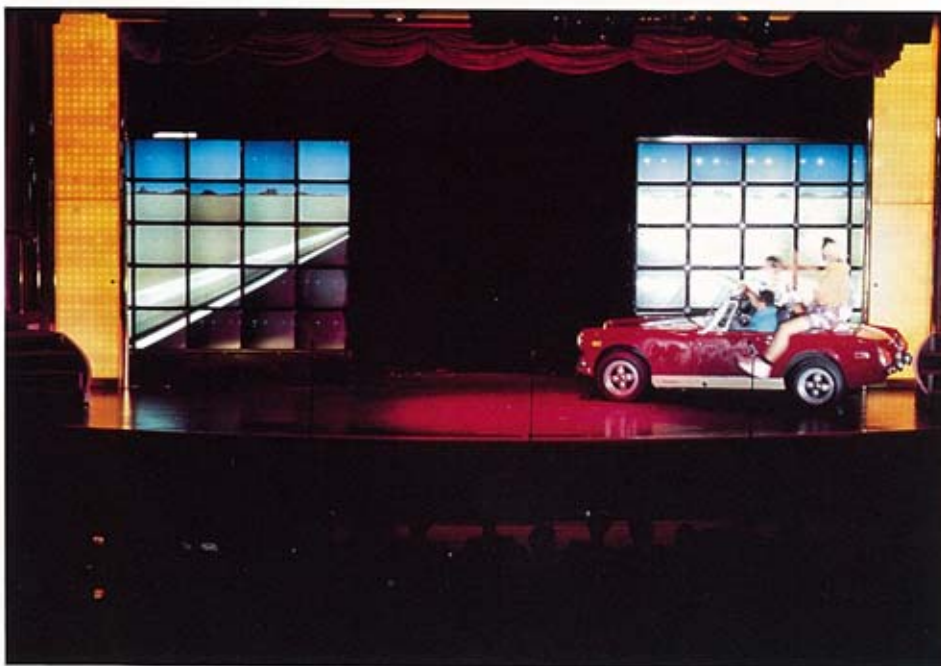
WWG CAD drawing for the discotheque control console on-board 'Monarch of the Seas'.



The mechanics of the videowall revealed.



Multivision's 'Picbloc' controlled videowall in one of the possible configurations.



The trackable videowall as scenery. There were problems with the list of the ship.

speed, from which the two aluminium cabinets each carrying 25 monitors are suspended. Movement control is provided by Goddard Design Inc's AWU motion controllers with ten internal position limits and collision avoidance module. There were problems, however, caused by such an awkward load and since no allowance had been made for the varying pitch of the ship, though Bill Sapsis is confident that this will be overcome.

Inevitably, there is commonality too with the audio systems in the two show lounges. Wireless mics are Samson CH258 or Vega T-38, while Shure SM57, 58s and AKG 451 are hand-held or stand-mounted, head microphones are AKG CK1 and two Sennheiser MKH816 shot guns are also used. Performance speakers are Apogee AE-12, 5's and 2's, driven through their processors by Crown Macrotechs using Klark-Tecnik 30 band, third octave eq. with DBX compressor-limiter and noise reduction. FOH audio processing control in both rooms is by Yamaha PM 1800 desks in two different configurations to suit the technical requirements of each room. The house PA is provided by dozens of Bose 102s recessed in the ceilings.

Nothing to criticize about all of that in fact, considering the difficulties of limited space on such a project the results are exceptional. The only slight black spot on the horizon, which I think all would acknowledge, being the interrupted sight lines which inevitably occur even in a double height space, still under 5m, wherever columns are deemed a necessary part of the interior design.

Mind you it had not all been sweetness and light, if you'll excuse the pun. There must have been a moment of exquisite panic when a visiting senior executive, touring the ship prior to its launch, insisted that the FOH control station, then located behind the stalls in the main show lounge, be moved to the back of the auditorium with a view to creating more seats to put bums on. The fact that the whole thing was already plumbed in, was a complete irrelevance.

So to the discotheque, and I hope readers will excuse me writing briefly about one of my own practice's productions, but this report would be somewhat incomplete without mention of it. This 350 capacity room, with interior design by Bidnell, Phillips Associates with whom Wynne Willson, Gottelier worked closely throughout, was a single height structure, meaning something barely over two metres to play with. Yet, the brief was to provide a sophisticated look, with plenty of 'balls' should the occasion demand it. Ain't Misbehavin' was to be a discotheque disguised in nightclub clothing.

Essentially, our solution was to use fibre optics extensively, both end and edge lit, using the versatile ColorPro as the source. In order to present this in an elegant package, partner Peter Willson came up with the concept of providing a virtually seamless infinity ceiling. This would be achieved by replacing the expected steel grid support, with discreet posts at the interfacing corners of each 60cm square panel. The beauty of this idea was that each of these hollow nodes could double as a downlight and house an

MR16 lamp, thus giving the impression of a mirrored ceiling with no visible means of support whatsoever.

Following a small experiment on a previous project to prove the concept, it was decided to go ahead with the 400 square foot ellipse-shaped feature, using fibre optics and neon in the infinity and peripheral Intellabeams and assorted SFX for added punch. Side emitting fibre was routed into the dance floor in undulating lines to reflect the wave pattern of the turquoise neon in the ceiling above. Partyline Lighting supplied the kit which was fitted by the, by that time, ubiquitous HMS. WWG carried out the programming during the Atlantic crossing specifying Zero 88 Orions and Betapacks for the purpose and a JEM 'Detector' system provided the essential smoke.

Dance area sound was delivered via six JBL 4726 and two JBL 4785 from Crown Macrotech amps controlled by JBL crossovers, limiters and equalizers, processed by a Formula Sound PM80/8 mixer, probably the last one we will use in view of the new model. Support at the periphery was provided by several Control Ones. Sources were a Databeat PC-based CD system with DJ interface, a Technics SL-P1200 CD player, Tascam 112R cassette and two SL1210 decks.

It was certainly an exciting moment to see

'Ain't Misbehavin' throbbing under the feet of a 'thousand' travel specialists, during its one night stopover on a promotional visit to Southampton. Although maybe it may have had more than a little to do with the open bar, even the Scandinavians were staggered at how much alcohol the British can drink, when its free!

The other area, in which we were also involved, was a small space designated for younger passengers, but lacking in specific purpose until late on in the project. A pre-condition was that this room should require minimal operational involvement and eventually an interactive concept was proposed to the client and accepted.

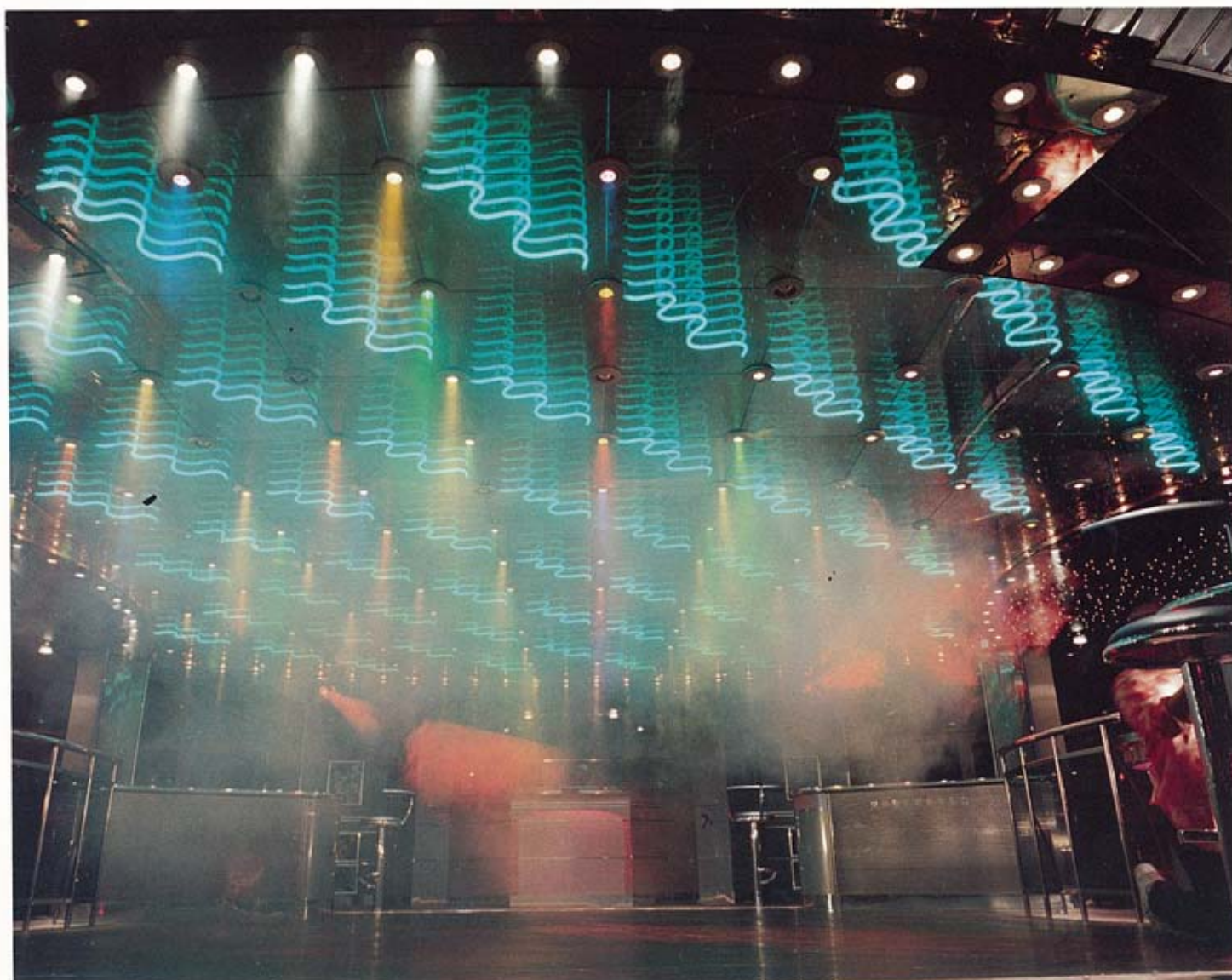
The idea was to provide a room where young people could congregate, play music of their own selection and make their own choice of visual stimulation between various video sources and lighting effects. A big problem was that the age range of the audience could vary from 8 to 18 plus, so it had to be assumed that an older group might be involved also. Also the final system had to operate automatically when not under interactive control.

Finally, it was decided to base the operation around the Databeat DJ system, once again. Giving the young passengers restricted access to a play list, the parameters of which could be designated in advance for

each session by the Youth Councilors on-board, and with a Sony RVP-6000 high-resolution, 60" back-projection screen as the main focal point. The latter was a requirement for this area anyway, in order to be able to provide communal access to sport, via the ships antenna system. Databeat would continue to operate in the background, from its library of some 2500 tracks housed in two synchronized Sony multiplayers, to the designated criterion, when no specific selections had been made.

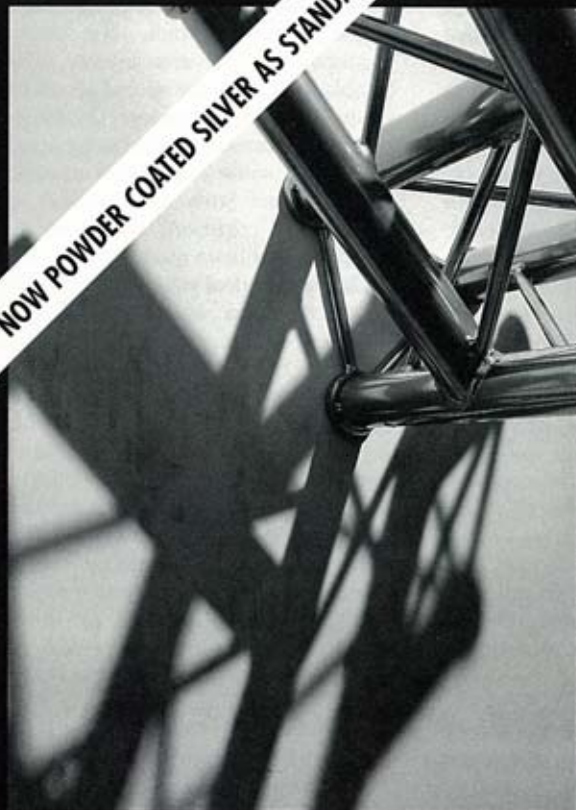
Clearly the ideal way to provide access to choose the music would be through a touch sensitive screen on Databeat's monitor, however their screen information is not graphics-based and in any event the cost of such a one-off development would be prohibitive. Subsequently a solution was found with the Micro-Touch Un-Mouse, a small interactive panel which emulates the behaviour of a conventional 'mouse' by moving the cursor as traced by your finger.

Video choices can be made from antenna, VCR, V-Cam, Nintendo or Innovative Insight's 'Technasound' video graphic system. This latter provides the background imagery when in stand-by mode and it also yielded the possibility of making 'intelligent' choices for the interactive lighting system, so that this too could run automatically when required.



Some of the lights behave in the discotheque. The effect of the 'seamless' concept can be clearly seen.

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The lighting control system too was a complex combination of equipment in order to achieve the desired result, remembering that at the time of design no low-cost, multiplex controllers were available. Zero 88 Orions and Touchlite 12s were interfaced with the Technasound music interpreter, via a Pulsar signal patch.

Most of this equipment was concealed from public access, apart from one Touchlite which gave latest-takes-precedence entree to several pre-programmed lighting sequences, including some WWG uniquely designed 'articulate' lights nicknamed caterpillars because of their undulating, organic form of movement. Some of these devices could also be controlled manually by passengers from joysticks provided.

Other lights in the scheme included PAR16s, Coemar Spartans, neon, rotating MR16 battens custom-made by James Thomas and a revival of the old UV-to-Red fluorescent trick, put together for us by Lighting Technology. Smoke, which also had to be automatic, was the JEM Detector system using 'Stage Haze' fluid to try to maintain a constant background medium for the lights.

As the sound would be running continuously also, it was necessary to provide automatic volume control which was programmable to the time of day and sensitive to the ambient noise generated according to the size of the crowd in the room at any moment. So a Quatro AP100 AVC was selected, and interfaced to the ship's alarm also for muting in case of emergency, with a Citronic SM350 mixer also in the line should operator override be required. Audio Logic equalisers and limiters were assembled together in Xixin racks with Crown Macrotech amps, otherwise as before, JBL components were used for sound transmission.

The jury is out on just how popular this concept will prove with its target audience but we have everything crossed and are very hopeful of its appeal.

I hope this has given a flavour of how complex working on a modern cruise liner can be and the high levels of entertainment technology currently employed by far sighted operators like Royal Caribbean and its charismatic CEO Richard Fain. One thing's for sure, now 'Monarch of the Seas' is plying between Pacific atolls, cruisin' ain't never goin'a be the same again.

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