

vision

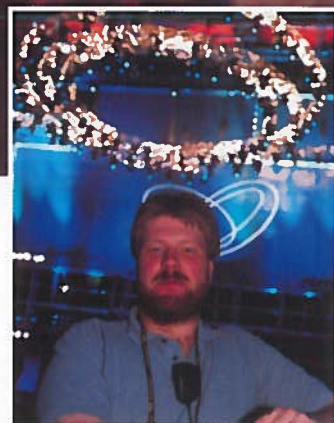
Euro

After a gruelling round of auditions and heats, the voting panel in Eastbourne eventually selected Steve Moles to wave the L&SI flag in Copenhagen

It's easy, almost too easy, for the likes of Terry Wogan to cock a snook at the Eurovision Song Contest (ESC). The early years of boom-bing-a-bong established the Euro-formulaic approach that blighted it for so long. Long indeed - did you know the first Melody Grand Prix, as it was known, was broadcast in 1956? But anyone from our industry who dismisses the ESC with a shrug and says, 'can't be bothered' is a fool.

The show is big, can be well-funded (see below), and to be frank, on present standing has an open-ended life expectancy, so it's not to be ignored. Besides, look at the viewing figures, 100 million in Europe alone. Whether through Nationalistic ardour, the morbid voyeurism that makes watching car crashes so compelling, or a European propensity for masochism, everybody watches it.

That all said, the event at Copenhagen was a benchmark event; significant in several important ways. The overwhelming factor was scale. Who would have thought it sensible to stage a TV show like this in a 36,000-seater football stadium? "They must be mad!" was my first thought as my plane touched down in sunny Kastrup. By the time I left the Parken (the National Stadium) that first evening - a full two days before broadcast - several things had become clear. Not only was it possible - a given really, considering the historical precedents of, say, Live Aid - but also the little nation of Denmark (with a smaller population than Ireland, I might point out) has the infrastructure, resources, equipment, and pool of talented people, to pull it off all by themselves. And I'll tell you something else as well, I interviewed all sorts of people, right up to Jorgen Ramskov, the show's executive director and a happier, more contented, unflustered, unstressed group of people you couldn't hope to meet. And at this point I should like to extend L&SI's special thanks to Poland for adding five minutes of hysterical laughter to our evening's entertainment. See? Bet you wished you watched it now.



LD Lars Nissen of Seelite

Production

I posed the question, "Did anyone think you were completely bonkers staging the ESC in a stadium?" directly to Jorgen Ramskov. "When I went to the International ESC Committee, I knew straight away they were good guys. They weren't concerned about the idea, just two things - 'Would the roof be on in time?' and 'How would it sound?' I was in a position to guarantee the roof, and also that we would employ the best sound engineers available." You gather straight away that Ramskov is a man not to be intimidated by considerations of scale.

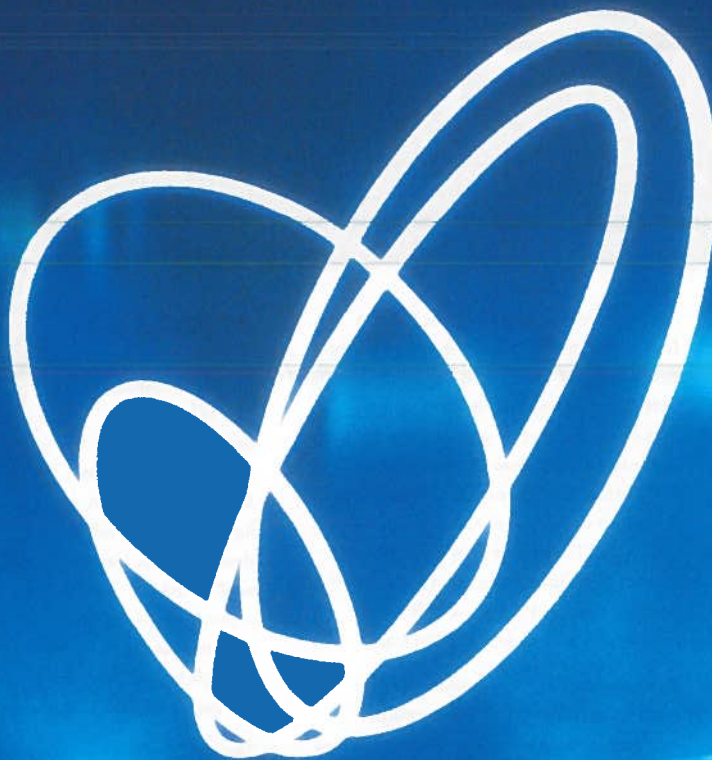
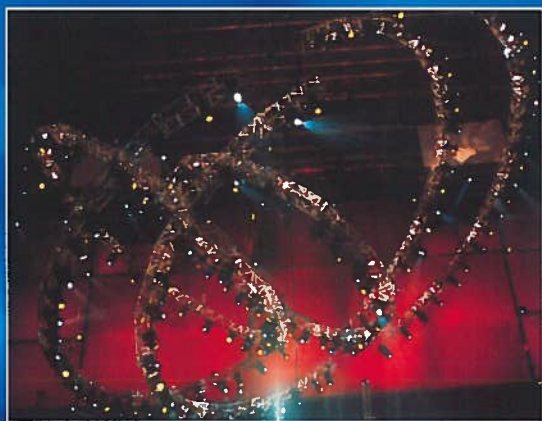
The two considerations voiced by the committee were well made; the roof for Parken, a retractable device across the existing grandstands, commenced construction just last October. As for the sound, Jens Elsborg of audio contractors Lydkompag9et (no, that's not a misprint), told me: "The decay in the stadium, especially at the low end, anything below 200Hz, lasts many seconds." Nine point five seconds, I was later informed by Claus Hansen, Scandinavia's d&b audiotechnik dealer, who supported Lydkompag9et, not least by rendering an EASE plot of the venue.

I don't want to dwell too long on the roof, it's hardly L&SI's domain, but there is one element of great significance that should be brought to everyone's attention. Although retractable, the designers had elected to use air-inflated fabric panels between the retracting roof trusses. The panels



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Left, the winning entry from Estonia.
Inset, a Martin Mac is rigged in preparation for the event.

Facing page, Martin's Brian Friberg and Seelite's Jens Ole Christensen. Centre: Who'd have thought it was a football stadium?
Bottom, Kinovox MD Steen Peitersen with the Sennheiser system.

for 400 moving lights - little did I know we'd end up with almost 900. This was not just the biggest Eurovision show, but the biggest automated light show ever."

Doubling the number of lamps is a measure of the people involved, and their confidence in the big vision. "We did the

Denmark National Show," said Ramskov, "using the lighting elements of what we we'd intended for Eurovision. Playing in front of just 5,000 people we realised straight away we'd be in deep shit." The budget for lighting went from 2M to 4.5M Danish Kroner, "that was a tough negotiation," says Ramskov convivially - it seems like nothing's too much trouble for these Danes. Sponsorship is the modern tool, and it works: Martin and Sennheiser



were among the corporations who put their name, equipment and pocket books, to this show. But some of the money came from show revenue: "Some 80,000 tickets were sold in all," informed Ramskov. "We had nearly full houses for both dress rehearsals, and a sell-out for the actual show." With tickets ranging in price from 85DK (about £7) for the cheapest rehearsal seats, to 1800DK (£145) for VIP seats to the Broadcast show (£32 for the cheapest), this was no small amount of cash.

"Of the 900 moving heads, something like 75% were rented from Procon in Germany," explained Friberg. "We simply didn't have those kind of quantities in the Martin Rental stock. The desks, four Vari-Lite Virtuosos, came from VL in the UK."

"I chose the Virtuoso because you can work on many things at the same time," said Nissen. It was this choice that proved the key to why all concerned with lighting were so relaxed. "The whole stadium has a Niff (VL) DMX ethernet looped around it. This means we can put desks anywhere we like for programming, but more importantly, different programmers can be working on different parts of the system at the same time." As far as Nissen is aware, the Virtuoso is the only desk, with the cue data residing in the DMX universes, where you can programme different parts of a system simultaneously. Although Nissen has trained on the Virtuoso, he wisely chose to wear the director's cap and brought in a team of seasoned programmers from Vari-Lite. Mark Payne, who designs for Rod Stewart among

are self-contained envelopes, with a horizontal planar divide running through the middle of them. The top section is filled with warmed air, the lower with cold air. The result? Both top and bottom skins stay in tension, even against strong winds; a factor that eradicates the flapping noises of the more conventional inflatables used in US stadia. That tense fabric surface did little to ameliorate the sound problems of such a cavernous venue, but it's still arguably better than a flat tin roof.

Ramskov had a clear agenda: "In the eighties and early nineties Eurovision reached a point of absolute kitsch. It was crap, frankly." Ramskov is a renowned plain-speaker. "Several countries tried to re-invent it - to modernise it. They wanted something that could compete with MTV, and to shift the presentation away from a VIP audience of just a 1,000 into a big party." Ramskov took such ideas to heart. "What I wanted was a show with the energy of a rock concert and the excitement of a big sporting event."

So, as Ramskov took up the challenge, all he needed was a venue. "We were offered the Parken by its owners, I didn't even have to ask, and there's no bigger venue in Denmark." (It being the National Stadium, as well as home to Copenhagen FC). "Now we had the venue I could create a large stage, something transparent, scenically." The big open stage was crucial: "Did you know I had no idea of the show content until just 10 weeks before show day?" asked Ramskov. "Most people know the songs aren't picked by each country until March, but even then you don't know the order in which they'll appear. That means you could have the show opening with five consecutive artists who appear on stage seated on a stool, playing guitar. Not very exciting. With the stage open, we could use lighting and graphics to really change the feeling."

Lighting & Production

Ramskov called in Lars Nissen as his lighting designer. Nissen, a partner in Seelite, the Danish lighting rental and design house, has a well-earned reputation in the concert field, but more recently has been doing TV work, mainly rock shows. "It was the combination I needed," explained Ramskov.

The path to Nissen also proved somewhat fortuitous, though in a convoluted way. "We initially talked to Seelite and Vari-Lite Scandinavia, but because Martin is a Danish company, and in Denmark they rent as well as sell equipment, they were in a position to sponsor the show." A thorny issue: as a rental house, Martin was Seelite's biggest competitor, an awkward scenario neatly overcome by Seelite making a reverse takeover of Martin rental on 28th April, just prior to ESC. Cynics will say the ESC revenue funded such a move, others will recognise it for the opportunity it was. "The sale made perfect sense to us," said Brian Friberg, Martin Denmark's managing director. "We don't operate as a rental operation anywhere else in the world, and of course our core business is development, manufacturing and sales."

Simple, but as Frank Paulsen, Seelite's managing director said, it wasn't quite that straightforward. "We had been contracted from the start as the supplier for rigging and trussing, and Martin were still our competitor. There came a point where I suddenly had to turn round to both groups of technicians and say, 'the one you used to hate is now your best friend'."

"Jorgen came to me," continued Friberg, "and said 'I want it bigger than Stockholm' which was around 260 Vari-Lites. We went

others, sums it up best: "Lars has it all very, very well planned out. Two of his guys from Seelite (Leif Hellberg and Frank Beck) pre-plotted the whole thing on WysCAD before the rig even came in. We're using 26 separate DMX universes - Andy Voller is the programming genius who mapped it all out - there are over 1500 conventional lights as well as all the automation, and yet there's never been any confusion about who, or what, is doing what where. Plus the system itself has been rock solid. When you're working with a rig of moving lights this big, you reckon on maybe 20-30 lamp problems a day, there's been nothing like that." An observation endorsed by Nick Barton, another VL man on the scene (usually found nursing the Rolling Stones lighting rig around the world) who reduced this figure: "Some days, there's been just one or two."

Nissen worked with Birger Christian on the set design: "Because of our experience on other TV shows, we knew it would always change," said Nissen. "So I didn't make a physical lighting design until the budget was set, about two months ago." Cool-headed or what? "The important thing was to have a big show, something that filled the hall, not a little black box." Astonishingly, Danish TV gave no benchmark to Nissen for light level on stage, "All the levels were set by me, but I did start out specifying 1200 moving heads with 2000 conventionals, so I knew I would have enough."

Huge numbers of instruments resided out in the Stadium; Nissen put horizontal trussing and floods over every seating area, plus 32 vertical hangs of truss around the huge void above the football field, which did much to make this cavern far more intimate than you might imagine. What helped support the live image, even to the most distant seats, was the rear wall of projection screens, a central piece some 30m wide, plus a plethora of smaller rectangular screens all around it, that stretched to the furthest confines of the stadium's full width. Nissen used a combination of projection from MAC 2000s and VT from the latest Barco DLP projectors, ELM G10s, supplied by Comtech in Copenhagen. "The great thing was that with the control set-up I was able to blend MAC to Barco, to the point where sometimes I found it impossible to tell what is doing what on screen."

Nissen's other big coup was truss movement. The eight semi-circles of James Thomas trussing that comprised the main-stage rig were all mounted to horizontally-moving beam trolleys and vertical lifting motors, all controlled by a Stage Master system (just approved to VBG70 standard in time for this show). The rig reconfigured for all 23 country's performers, which when you

consider just the engineering variables of flying curved trusses, let alone the potential for collision in a tightly-choreographed sequence, makes this another breath-taking display of chutzpah by Nissen. The rig only started fitting up nine days before show day, and a boffin from Stage Master had only been there two days before show day to increase the processing power of the system to cope with the complexity of the moves! Why this worked in such a tight time frame was down to three factors: exhaustive planning by Nissen, the multiple programming ability of the Virtuoso (if you can afford so many at once) and the apparently bomb-proof nature of the lamps.

Sound & Production

"I never doubted we could make a great lighting and TV show," said Ramskov, for the first and only time introducing a hint of reservation, "but sound was a concern." And not just for Ramskov - the



Nation's Press had expressed similar reservations when the Parken was first announced as the venue. "I brought in Ole Liviid, a TV audio consultant from DRTV, and together we chose Lydkompag7et. They've been absolutely great. Right from the start he identified them as having the capability, and they've proved it."

In brief, Lydkompag7et have covered the venue using, in essence, a classic centre cluster approach to ameliorate conflicting reflections as much as possible. Paul Ibsen mixed front-of-house from a Midas Heritage 2000 (XL4 back-up) with Ashley Cook running a pair of XL3s at the stage for monitors, but it's Jens Elsborg who managed the whole project. "The stage was the most difficult," he explained, "nothing could interfere with the cameras or audience

sightlines, so we could put nothing on stage, PA or monitors, and little underneath it. We positioned 24 wedges, MAXs and the new d8b M2s, under stage grilles, but then the director kept moving the performers around. What can you say when you're the lowest part of the food chain?" he commented ruefully. Luckily, sponsors Sennheiser, having handled the mic technology for 16 Eurovisions (and working together with their Danish partner Kinovox), provided a large in-ear system, made up entirely of their 5000 and 3000 RF systems, the move from studio to stadium having prompted the decision to go fully wireless. 48 radio microphones and 16 IEM systems were allocated discrete interference-free frequencies across six separate 24MHz bandwidths.

The low order afforded to live sound considerations carried radically further.

Because the hallowed turf beneath the new roof had to be maintained in peak condition, the roof was opened every day, except the last two before the show, to allow sunlight to the grass. "This meant the roof had to open with everything hanging from it," not least 52 tons of lights, grid and trussing. "So the PA centre cluster was moved from its planned position, to 10 metres out from the stage edge to spread the load."

Time alignment aside, this is what precipitated Elsborg's pointed comment about only being allowed to put a little under the stage. Some of the most expensive seats in the house were now way upstage of the PA, and a row of the usual E3



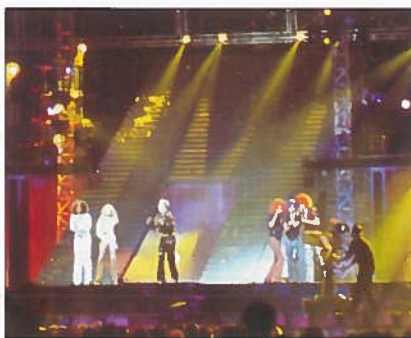
front fills wouldn't be enough. "Luckily, I was able to squeeze in five C7 cabinets, just enough to cover the 30m of stage width that needed front-fill. As with Nissen, Elsborg did much pre-planning to make this as painless as possible. "We have been very fortunate to receive the support of d8b in this venture.

Claus Hansen, who runs their Scandinavian office, used CAD drawings of how the stadium would be when the roof was constructed, to model how we might deploy the sound system to best effect. I must say I'm quite impressed with the results, it might be mono, but that conforms to the EBU standards." (The European Broadcast Union retains the Mono option as many of the recipient countries still broadcast in this format).

Elsborg not only took Hansen's advice for he is himself a veteran of the venue. "I've done shows here using a centre cluster with left/right refreshment. I also attended the U2 Pop Mart show with the big Clair Brothers S4 centre cluster. Those experiences, particularly comparing Pop Mart to shows with conventional left/right PAs, convinced me."

There was an easily perceivable benefit from the centre system approach, namely a single fronted sound wave kept the stadium reverb' from being slappy, plus at Elsborg's request Ramskov had devoted a fair chunk of budget to dressing the concrete- and glass-fronted edifices that sat at each corner of the stadium with large quantities of soft goods.

The centre cluster is a monster: 10 cabinets wide, by eight deep, mainly C4 tops and subs, with sections of the tops rigged to sum in virtual in-line, and project out the 60m to where the delays hang.



"Claus came down and set all the delays for us, (there was a further distributed system of 14 C6 cabinets for the higher, further nosebleeds), and then he and I walked the room for days, tweaking. The result was very, very close to Claus's EASE projection."

To maintain Ramskov's requirement for the 'excitement of a Rock concert', Elsborg was obliged to keep a fair bit of power in the low end, not ideal in the Parken. "Although I had 10 B2 infra sub bass either side of stage on the floor, I kept most of the ultra low energy out of them. Put 50Hz in this room and it's there for at best 6 to 7 seconds. I have TC1128s inserted on the system and keep almost everything up above 200Hz, to compensate. I've also used TC dbMax to put some power and dynamic into the low-mid. The system is set so the mixer only really has to worry about level."

In terms of speech intelligibility you couldn't fault it. I walked the room extensively during the rehearsals (something impossible for the show), and although the stadium was less than full, the rear 20% of the pitch being unoccupied, those irksome rhyming couplets of the compères were irritatingly clear. For music there was what I'd describe as a bass lobe around the centre rear of the pitch, but this seemed to have evaporated for the show proper, as I discovered when I exited that way before the Aqua finale.

Frankly, for a TV show where high house levels are largely unwanted, it was loud. I measured 100dBA throughout the evening, with peaks around 110dB, mainly from the enthusiastic audience. So yes, it was exciting to listen to, and if some of the musical content was questionable, at least the stuff of virtue could be appreciated. Much like the lighting, this success with the audio was down to exhaustive planning by the people responsible, and the equipment, especially the PA system, performing exactly as the computer modelling said it would.

with Eurovision 2001, Denmark proved it could fulfil all necessary requirements for such a show. In my opinion it went way beyond proving itself, as Brian Friberg said: "Denmark has much to be proud of."

photos: Allan Toft/Simon Camper



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