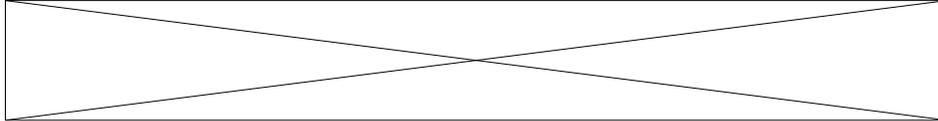


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Playing it cool

12 October 2009

Following our call for reader submitted case studies, Swedish integrator Fremlab responded with a story in Lund, southern Sweden. Chris Fitzsimmons reports on a full AV system integration including digital signage at one of the country's newest multipurpose sporting venues.

The Färs and Frosta Sparbank Arena was built in preparation for the country hosting the 2011 Handball World Championships. It is Sweden's most modern sporting venue, boasting not just a the main handball court, but two ice rinks including a training rink and a collection of VIP lounges and press facilities.

The handball court can accommodate 3000 spectators for a match or 4000 for a live music event. Meanwhile the Ice rink has capacity for 500 spectators. Fremlab AB and director Carl-Fredrik Malmgren were initially approached by the main contractor's consultant to provide a second opinion on a proposed solution for the public address segment of the project.



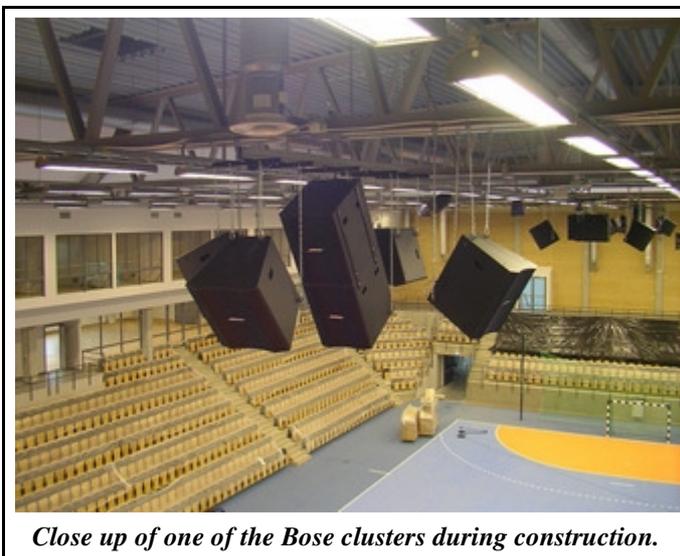
The handball arena in use. The Sanyo XF47s are being used to display advertising logos.

Working with supplier Bose, they came up with a counter proposal, which was eventually adopted. Fremlab also won bids for the digital signage and video distribution sides of the installation. The Bose sound system was designed by the manufacturer and Fremlab to be as simple to use as possible. The designers robust XLRs and 100v sound distribution for the public address system within each arena. The main handball arena is gifted with the largest sound system, comprising three clusters of Bose's LT Panaray cabinets. These are spaced down the left, centre and right hand ends of the ceiling, firing down into the front of the crowd. The left cluster also directs sound into the area behind the goal and contains seven cabinets – five LT6400s and two LTMB24s (for bass reinforcement). The centre cluster

covers the middle area of seating on either side with its five. There is no seating on the right beneath the scoreboard so only six more cabinets (including two LTMB24s) were required.

Eight Bose 4400 amplifiers and accompanying 100v transformers weigh a total of 350kg and is two metres tall. Adjacent to the main handball arena is the so-called B-Hall. This is a 40m x 20m practice space, divided off from the main space by a partition wall. It's served by a combination of Bose 802 and 402 cabinets. These are driven from the same rack of Entero 4400 amplifiers as the main arena, with signals again supplied over 100v. Levels in hall be can be controlled using a CC.64 wall panel, linked to the controlling ESP88 matrix.

In the two ice rinks sound is provided by more Bose 802s and 402s. The main rink contains ten 802s putting sound out onto the rink itself, with a quintet of 402s covering the 500 capacity stand one side of the arena. These are again driven by a rack of Entero 4400 amplifiers (three in this case) via 100v. The smaller rink's audio needs are met by eight 402's driven from the same amplifier rack, and levels are controlled via another CC.64 wall panel controller.



Close up of one of the Bose clusters during construction.

Available to serve either rink is a small control kiosk. This contains a CD player, wireless microphone system (from Sennheiser) for announcements and a radio tuner. Also included in both rinks are XLR input connectors allowing the use of a mobile mixing position should the need arise. Each rack of Entero 4400 amplifiers is controlled from a central Bose ESP88 processor. Two are used in total, one for the handball arenas and a second for the two ice rinks. These are not performing any audio distribution, simply acting as controllers. They respond to commands

from the wall mounted panels, and are also assigned a number of pre-sets depending on what the various spaces are being used for.

The other main zones in the building are the VIP lounges, the foyer and the changing rooms, these are all served by runs of Model 32 and Freespace DS16F ceiling speakers. The video distribution system plays a vital part in the operation of the centre as an international sports venue. There are a couple of different sub-systems to it. Firstly there is a site wide digital signage system driven by five DISE servers, and distributed over Magenta Research signal extenders. The displays used were Sharp 46" and 65" IDP series

LCD screens. The DISE servers are on the input end of a 16x16 Sierra Video SP1616V56S. Other inputs include a Marantz DVD player a TVB-D tuner and feeds from the outside broadcast van as well as the mobile production desks. There are two of these desks for use around the site. One is for the audio content, and one for video production. The video desk contains a Kramer VP727T T-bar controller, the VP727 seamless switcher itself, a pair of camera controllers and a pair of preview monitors, as well as assorted scalers.

Also attached to this video solution are a pair of Sanyo XF47 projectors, mounted in the ceiling of the handball arena. At a whopping 15000 lumens a piece they can be used to show video replays, or any content from the Sierra matrix. They each project on to a Bjurab 4.5m x 3.75 motorised screen.

The audio desk carries a Yamaha 01V96 mixing desk, a pair of Denon CD players and a pair of Sennheiser EM500-G2 wireless microphone receivers, with accompanying SKM935 microphones. There is also a smaller mobile audio desk, which is used for the ice rinks. This includes a small Alesis iMultimix9R, another EM500-G2 from Sennheiser and a set of CD mixing decks.

The final zone of the installation is the VIP lounges. Each of these is fitted with a Sharp LC42X20S 42" LCD display. However, instead of using professional grade products here, Fremlab specified the consumer models, reasoning that they will not experience the same levels of use as the digital signage system. Each of these (and there are nine in total) is fitted with a Kramer VP-211DS backup switcher. This means that the display will automatically show a back up VGA signal should the main signal fail.



The mobile video production desk showing Kramer 727 switchers and the 727T t-bar controller.

Talking to Carl-Fredrik it's clear that this installation was carried out with a mixture of common sense and pragmatism. The intention was always that the operator would be relatively unskilled on a day-to-day basis. There's no point in presenting an ice hockey announcer with a bewildering array of options that human nature dictates he will play with. However, on the occasions when more control is required, there is plenty of scope for more advanced use of what remains a relatively powerful system.

The ability to plug in local production desks in the Isrink and handball arenas will mean that come 2011, when the world championships kick off, handball fans the world over will be able to enjoy a thoroughly modern venue.

Contact Details and Archive...

- [DMi Professional Europe](#)
- [Bose NV - Professional Systems Division](#)
- [Sanyo Europe Ltd](#)
- [Sennheiser Uk Ltd](#)
- [Kramer Electronics](#)
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