



Going with the flow



Phil Ward explores the volcano-inspired Harpa Conference & Concert Centre in Reykjavik . . .



L-R: Gunnar Gunnarsson, Kristján Magnússon (project managers for Exton) and Ingvar Jónsson (Harpa technical manager of sound engineering) with one of the four Midas PRO9 consoles.

Iceland - Funny thing, basalt. It spews out of volcanoes and often cools into polygonal columns, defining the geology in excitable landscapes like Iceland: a grumbling ice cube plonked into the restless drink of the North Atlantic. The most iconic columnar basalt is hexagonal, so if you're designing a trophy cultural centrepiece for Reykjavik, Iceland's snug capital, what better signature motif than thousands of interlocking, six-sided perspex blocks - sheer walls of see-through lava to dominate the harbour, the city and the whole island's civic focus. This is how the exterior of the Harpa Conference & Concert Centre is conceived.

True to form, the technology infrastructure inside the Harpa is all about flow too: work flow. The city fathers turned to US consultancy Artec to specify acoustics, sound isolation, theatre design and AV equipment, and in turn local installation and rental company Exton won the contract to supply and equip the molecular details. Naturally, the most flexible and modular brands du jour have been employed, from network-friendly digital consoles to fibre-optic comms. Whatever happens in the Harpa's four different sized, multi-functional arenas, the walls have ears.

Audio is chiefly managed by Midas and Meyer Sound kit; the former claims to be the largest installed Midas and Klark Teknik digital network in the world. There are four networked PRO9 consoles with DL431 mic splitters, DL371 audio system engines, I/O boxes, a Klark Teknik DN9696 hard disk recorder, Klark Teknik DN9650 network bridges, all connected via AES50, and Klark Teknik Square ONE mic splitters. Two of the consoles are relatively static: one on hydraulic lifts that bounce it in and

out of a cellar beneath the stalls to create a temporary FOH position in the main hall; and one in a broadcast/recording control room at the side of the main stage. The other two are supremely portable, for monitors and other duties wherever needed, under the careful auspices of the Harpa production team.

This main concert hall is called Eldborg, meaning 'fire castle' and named after a neighbourhood volcanic crater. It's now the permanent home of the Icelandic Symphony Orchestra, acoustically primed by Artec: a 1,500-seater on four levels, with motorized panels to vary the response and to adjust exposure to external reverberation chambers capable, it is said, of almost doubling the overall volume of the auditorium. A ceiling canopy is also adjustable above the stage.

The room's PA system consists of left, centre and right Meyer Sound clusters, flown, with several auxiliary fills. Each left-right hang has 10 MICAs with five 600-HP subwoofers behind them, while the centre cluster is eight MICAs. The clusters can be partially or wholly winched out of view, at which point a Tannoy announcement system made up of Q-Flex units and recessed ceiling speakers becomes the house PA.

The hall also has a removable monitor system made up of Meyer Sound MJF-212s, UM-100P wedges and 600-HP subs. Side and down fill is covered by seven CQ-2s and one UPA-1P; the choir balcony gets two CQ-1s; the auditorium balcony has four UP Juniors; while front fill is from two CQ-2s stacked left and right and

seven UP Juniors recessed into the front of the stage. Not surprisingly, Meyer's Galileo processing brain is in charge.

Eldborg's mixing system exploits the Midas PRO series to the full. There are 96 input channels from the stage platform and orchestra pit, plus another 24 channels wired from the attic of the hall: these go to Midas DL431 input units to provide four independent preamps and A-D converters per channel. The moveable FOH PRO9 carries up to 88 inputs into 32 mix busses, while the control room PRO9 can record up to 96 channels at 96kHz to the Klark Teknik DN9696 multitrack recorder.

Ingvar Jónsson, Harpa's technical manager of sound engineering, confirms that the choice of Midas PRO series brought a specific quality to the audio while dovetailing into the many and varied facets of the building's technical demands. "The networking is key to the mixing and routing, of course," he says, "but this has now been combined with the sound quality of the previous analogue mixers. Midas has somehow managed to get the Heritage 3000 sound into a digital console, so you're no longer losing out in terms of space or connectivity in order to have that level of analogue audio. We also have two racks of XL8 inputs, so that's a combination of preamps and consoles that really does justice to the excellent acoustics of the building and the high quality of PA systems in each room."

"There's a lot of continuity between spaces," points out Exton owner Sverrir Heidarsson, referring to the complement of Midas and Meyer

Sound audio equipment, Barco projectors, Da-Lite screens and ETC lighting that maintains a very high-end grip on every room in the Harpa used for entertainment and conference events. "For the people who work in the building, there's a consistent standard and type of products that makes it easier for them to operate efficiently."

Uniquely, Exton's bid for the tender included sound, light, AV and communications - covering everything except voice evacuation. "We put a lot of emphasis on there being just one contractor for all of this," reveals Kristján Magnússon, Exton's project manager, "because we will be involved in further development for the next 10 years or more. The system is very integrated, with all the control systems on touch panels, which is much more difficult to do with separate parties. It was also financially attractive for them, of course!"

The success and prestige of the Harpa installation is definitely bringing Exton right out of the other end of the financial collapse suffered by Iceland's economy three years ago - the one followed by the rest of Europe, of course. Cash: that's another kind of flow. Exton's achievements here prove that the company knows exactly how to go with that one, too.

- > www.midasconsoles.com
- > www.meyersound.com
- > www.exton.is
- > www.artecconsultants.com

Integrated Systems Europe Hall 5, Stand 5R92
RAI Centre, Amsterdam
31th Jan - 2nd Feb 2012

Product	Consumption (kWh)	Energy Cost (\$)	Efficiency (%)	Annual Elec. Penalty (\$)
Product X	5855 kWh	\$120	102%	\$182/18%
Product Y	6750 kWh	\$945	101%	\$152/12%
Product Z	1034 kWh	\$156	105%	\$253/16%
Green option - "ENERGY STAR 2.1 COMPLIANT!"	3392 kWh	\$492	50%	\$29/8%

Lab.gruppen E Series: Cost effective solution.

Simple economics, brilliant IDEEA™

The compact and ultra-efficient E Series power amplifiers offer renowned Lab.gruppen performance to a market concerned with spiralling global energy prices and environmental pressures, delivering ample output with very low power consumption, and so reducing the cost of ownership for the end customer.

The new install-centric range comprises three 1U two-channel power amplifiers, all incorporating Lab.gruppen's IDEEA™ (IntelliDrive Energy Efficient Amplifier) technologies.

Certified as Energy Star 2.1 compliant, E Series power amplifiers are extraordinarily efficient both in terms of net operating efficiency and typical current draw. This reduced power consumption results in lower long-term cost of ownership – a key 'sellable' advantage for contractors and a tangible benefit for end-users at a time when energy standards are an increasingly important factor.

Compact, flexible and environmentally friendly amplifier design that makes sound economic sense? Now there's a brilliant IDEEA.

LAB.GRUPPEN
WWW.BRILLIANTIDEA.COM