Going for Gold in Torino

Audio excels at the Winter Games

By Mike Clark

Held in February, the 2006 Winter Olympic Games was a showcase for international audio, with both broadcast and live sound utilizing some of the latest technologies to stunning effect. Held in Turin, Italy the Games took over the city for the whole of the month, and while much attention was centered on the Olympic Stadium, where sound designer Gary Hardesty specified an EtherSound-controlled system for the opening and closing ceremonies, other venues around the city were equally demanding from an audio standpoint.

For the duration of the Games, the baroque Piazza Castello was re-christened 'Medals Plaza', as it was the location in which 55 of the Games' medal ceremonies were held, as well as hosting a variety of concerts.

Opposite the gigantic stage supplied by Italstage, featuring a mirror-finish steel set built by Giò Forma, the square also hosted the Media Tower, with the same spectacular mirror finish, which also was home to the FOH control suite for the event.
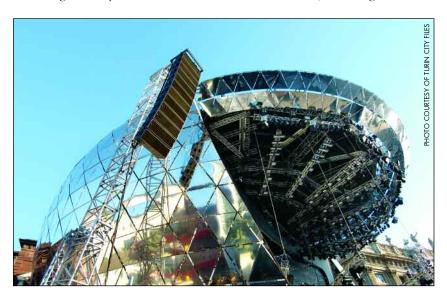
Created, organised and managed by Get Live, a group formed by Clear Channel Entertainment, Four One Music and Set Up, the venue featured the combined work of designer Italo Rota, art director Roberto De Luca, executive producer David J. Goldberg, Italo Lupi, lighting designer Giovanni Pinna and sound designer Daniele Tramontani, who has a lengthy experience of work as both FOH engineer, designer and head of sound on major events in Italy and further afield.

Each day, the stage hosted the Torino Festival, featuring two local bands each evening and three on the last night. The medal ceremonies were then followed by shows from top Italian names such as Andrea Bocelli and Ennio Morricone and international headliners including Duran Duran, Jamiroquai, Anastacia, Whitney Houston, Avril Lavigne, Ricky Martin and Lou Reed.

Agorà of L'Aquila, contractors on the Winter Olympics opening and closing ceremonies, was also called in to supply the large audio system for Piazza Castello and nearby Piazza San Carlo, linked with an AV fiber optics feed to enable the crowd to follow events on the main stage via a huge video screen, which showed RAI TV coverage of the games during the day.

The Medals Plaza audio rig consisted of a main system with a 12-component L-Acoustics V-DOSC hang on each side of the stage and eight L-Acoustics Sub 218s (eight on either side of the stage and two center-stage). Two dV-DOSC downfills were installed either side, atop the subs, and eight more recessed in the stage-front on front-fill chores. Since the audience area wasn't symmetric, the delay systems comprised two towers, each with nine dV-DOSC and three L-Acoustics Sub 218s on the left hand side and a larger system, with thirteen V-DOSC and eight L-Acoustics Sub 218s, on the right, where the majority of the crowd was located.

A pair of DiGiCo D5 112-channel consoles were used on FOH and monitor chores for the headliners, manned respectively by Andrea Corsellini and Massimo Manunza. Meanwhile, for the Torino Festival

The impressive stage at the Piazza Castello, with L-Acoustics V-DOSC in place.

PHOTO COURTESY OF TURIN CITY FILES

Backstage setting up the orchestra on the revolve for Ennio Morricone ... And the finished result as seen from the FOH position.

shows, a pair of 96-channel Digidesign D-Show VENUE consoles were in use, manned by Gianmario Lussana (FOH) and Mimmo Lettini (monitors)

To add to the gear list, for the actual medal ceremonies, a pair of Yamaha 02 consoles were used for broadcast and FOH sound, and for the few headline artists who insisted on an analog monitor board, Agorà also supplied a Midas M4000. The headliner and medal ceremony signals were fed to the TOBO (Turin Olympic Broadcasting Organization) team, who handled the sat uplinks

On-stage, the wireless mics set-up comprised four Sennheiser SKM 5200 with Neumann KK 105S capsules and sixteen Sennheiser Evolution G2 SKM 935 – there were also 86 other assorted mics used for the bands, plus 45 Scheops MK 4 overheads and a combination of Crown and Schertler bugs for the orchestra.

Monitors on the huge (700 square meter) rotating stage platform consisted of sixteen Meyer Sound UM1P and eighteen Outline low-profile H.A.R.D. 212 SP self-powered monitors, plus twenty ultra-compact Outline Micra II SP self-powered monitors for the orchestra and ten channels of Sennheiser EW 300 IEM G2 IEM systems.

Global, the video company, sent an AV feed fiber cable from the main square to the adjacent Piazza San Carlo, where a video screen (used during the day to show coverage of the contests) enabled the crowd to follow ceremonies and concerts.

The sound rig here was exclusively from Italian manufacturer Outline,

using a comination of Butterfly Hi-Packs, Victor Live subs and proprietary amplification and processing. "The Outline arrays sound good, and have been used on other high-profile projects – for example, we also used them used for spot coverage in the huge sound system designed by Gary Hardesty of Panasonic for opening and closing ceremonies," stated Tramontani.

Apart from the scale and importance of the event, there was nothing particularly complicated about the overall project from a technical point of view. However, each section of the audio team had to face and solve a series of problems – the event was beamed out via satellite live for an hour – so there just couldn't be any glitches.

As Tramontani jokingly explained, "The broadcast audio team had a reasonably easy job – apart from ensuring that they played the correct national anthems for the athletes involved in the ceremonies!"

Not the least of the difficulties, ably overcome by veteran stage managers Tony Soddu and Diego Spagnoli and the Clear Channel production team led by Danilo Zuffi, consisted in coordinating three completely different events hosted on the stage: a four-hour event preceded by a morning and afternoon dedicated to the numerous sound checks.

Massimo Manunza, monitor engineer for headline artists, also had the unenviable responsibility of the wireless mic systems. This was no mean

The Italian Job

Italian manufacturer Outline saw great success in Turin, with its systems in use not only at the Olympic stadium (pictured above), but also in the Pizza Castello (Medal Plaza) and Piazza San Carlo where 40 Butterfly CDH 483 Hi-Pack systems were flown on either side of a maxi-screen, backed up by 18 floor-stacked Victor Live subwoofers. Amplification and control hardware consisted of 36 Outline T6.5 digital power amps and two Genius 26 processors. In the Medal Plaza, 20 Outline Micra II SP monitors were specifically requested for the performance of Ennio Morricone alone.

"They say that the Turin 2006 Olympic Games were an opportunity to show off the very best of Italy's excellence on all fronts, from fashion to design, through to our leading edge technology, enthused Outline's Giorgio Biffi. "We've boasted for years that we manufacture totally 'Italian-made' systems, so I can't deny that we're rightly proud of having had the privilege of taking part in such an extraordinary event with a large amount of equipment".

World Stage

Just part of the production team for Turin (from left to right) Davide Grilli, Gianmario Lussana, Daniele Tramontani, Wolfgang May and Andrea Corsellini.

of radio frequency dropout. "Thanks to the indispensable support of Sennheiser's Italian distributor – Exhibo SpA – and backup from the German manufacturer. We were able to use antennas that were on the limit of the frequency band available and there were absolutely no problems whatsoever," added Tramontani.

Logistics were further complicated by the need to get numerous trucks of instrument and backline through a 'hard ring' security system, before the seals were taken off under police control, then transported in smaller trucks to Medals Plaza.

feat, as the square had an impressive concentration of cameras for TV coverage, many of which used wireless links, so there was a considerable risk

The changeover times between band and ceremonies was very limited – six or seven minutes at the most. However, try and imagine what getting a 100-piece orchestra and 80-strong choir on stage (with 107 bugs and monitors) in seven minutes entails, even with a revolve. The snow, rain and sub-zero temperature didn't help matters at all either.

"We showed the world what Italian production teams are able to do," concluded Tramontani. "Both in Medals Plaza and at the Olympic Stadium. It involved months of hard work, but the results were there for all to see …. And hear!" ∎

Mike Clark is a professional audio writer based in Rimini, Italy, and would like to thank Giovanni Pinna and Davide Grilli for their great help in the production of this article. Contact him at mclark@rimini.com.
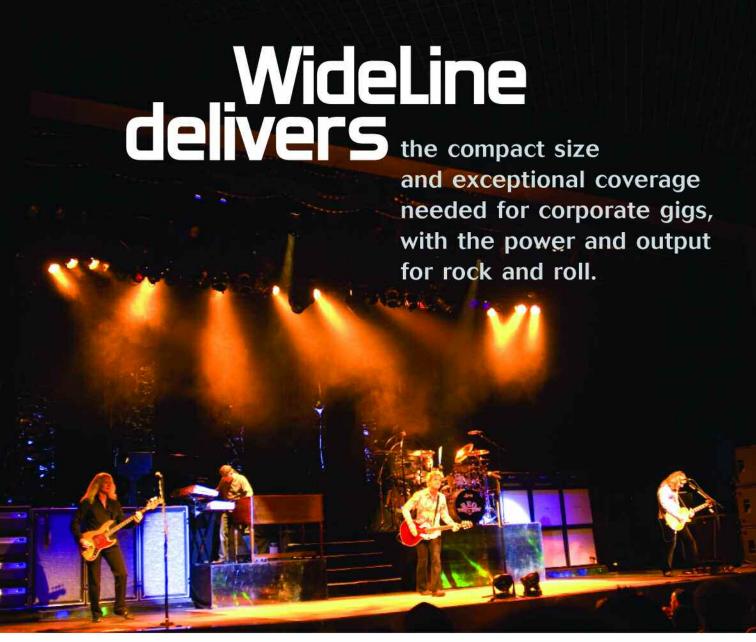
The Hardesty Effect

Gary Hardesty, director of Sound Media Fusion and sound designer for the opening and closing ceremonies of the XX Winter Olympic Games, specified EtherSound as the audio distribution network for a complex audio system within the Olympic Stadium to serve multiple live audience areas and broadcast production feeds simultaneously.

Hardesty is no stranger to the unique challenges of special events that combine live performance and worldwide broadcast: he has worked on the Super Bowl as well as previous Olympics. A pioneer in the use of digital audio distribution for special events, Hardesty was among the first sound designers to distribute audio in digital rather than analog format, previously using CobraNet.

The audio system was one of the most complex ever employed for an Olympic Games. With the audience occupying a full 360 degrees of stadium seating, plus VIP and competitor area in the center of the stadium, with each area having different sound reinforcement, audio program and monitoring requirements.

Hardesty's main speaker system was the high definition line array he designed for Panasonic, which was first used for Athens Olympics competition venues in the summer of 2004. This was augmented by MILO and MICA line arrays from Meyer Sound for the VIP and competitor areas.

With so many sound sources and playback locations spread out over a wide area, Hardesty's design used a 1 GB fiber-optic backbone, with eight distribution zones supported by 1 GB and 100 MB Cat 5e cable. Data traffic and network redundancy were managed by DLink Ethernet switches and transceivers using the Spanning Tree Protocol (STP). PCM digital audio data was transmitted across the network via 15 Digigram ES881 eight-channel AES/EBU digital-input EtherSound interfaces, along with six, eight-channel analog-input ES8in Ethernet Audio Bridges and eight analog-output ES8out Ethernet Audio Bridges. A pair of two-channel ES220-L EtherSound network interfaces, user-switchable as analog inputs or outputs was also used. L'Aquila-based rental company Agorà supplied all the equipment and Hardesty's partner Daniele Tramontani performed the detail audio network design and management for the EtherSound network with the technical support of Prase Engineering.

In addition, Hardesty and Tramontani also utilized XTA DP266 loudspeaker processors on each of the 42 line-array clusters within the total arena system. "The 360° nature of the venue, together with the need to have separate areas of coverage for pitch-level seating areas and stage monitoring, meant that we needed to have separate delay, EQ and other settings for each cluster of speakers," explained Tramontani, who was able to make fine adjustments to the DP226 settings remotely while walking from cluster to cluster around the venue, using a wireless PC tablet and XTA's AudioCore software. An additional desktop PC terminal in the control cabin was also fitted with AudioCore and enabled further fine adjustments to be made alongside the sound system's digital data and audio zoning packages.