

THE DOGGIE

Issue Eleven | April 2005

W8LC Flies at America West

In this Issue:
Cork Opera House
Display™ Software
AQ goes to HELL
Install Line Arrays



The Martin Experience

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Where to see us

April 06 - 09:	Musikmesse, Frankfurt, Germany
April 24 - 26:	PALME, Dubai, UAE
31 May - 3 June:	CALM, Beijing, China
June 08 - 10:	INFOCOMM USA, Las Vegas, N. America
June 15 - 16:	ABTT, London, UK
June 27 - 30:	Cinema Expo, Amsterdam, Holland
July 14 - 16:	PALA, Malaysia
Sept II - 14:	PLASA, London, UK

Cover: A dramatic aerial view of a W8LC hang at America West, in Phoenix, Arizona. Pic: Jimi G



RIGHT AT THE CUTTING EDGE

In the past few months Martin Audio has won a fiercely-fought tender for the prestigious contract to equip Cork Opera House in Ireland, and this month the new AQ series takes up occupancy in a landmark London site in the trendy Shoreditch area.

Yet this edition says as much about the rest of the world than the British Isles — and the fantastic stories we have received from our global partners — from Mexico to Montenegro, and Holland to Hong Kong. We are pleased to profile — as our Distributor Showcase — the inexhaustible work carried out in the small Baltic state of Estonia by Tiit Terask at Audiotel: a truly superhuman effort.

As Capital Sound Hire, our premier London rental house, embark on a major tour with Kylie Minogue (which sadly beat our press deadlines) we prepare for another Frankfurt Pro Light + Sound.

Since the last edition of *The Edge*, we have successfully launched the AQ Series into the marketplace, fighting to meet demand in the wake of a growing order book. Now we are ready to move on with the next phase in our product development.

In our attempt to satisfy customers worldwide, we now have a downfill cabinet for our W8L rental houses, while for the growing army of contractors, seeking to install line array systems, we are launching adapted versions of our Compact and Mini series.

We also continue to penetrate further into other key markets — notably cinema and stadia. In the past few months our AM enclosures have been specified on an increasing basis by specialist PA contractors with the result that we have added West Bromwich Albion, Glasgow Rangers, Aston Villa and Hartlepool United to our already impressive roster of British football grounds.

Mindful of this, we will shortly add further stadium enclosures to the AM Series.

Whether you are on the festival circuit or confined to site, we wish all our distributors and customers a successful summer, and we look forward to seeing you at one of the expos in which we are participating (listed opposite).

Jerry Gilbert



W8LD Downfill

The new W8LD Downfill makes its world debut with Capital Sound on the current *Kylie Minogue "Show Girls Tour 2005"*.

To complement the now hugely successful W8L is a 120°H x 20°V 'downfill' cabinet that connects directly to the bottom of a W8L array. With a similar all horn loaded format to the W8L, the W8LD has been designed to seamlessly integrate with the output from the W8L's above and continues the extension of the line array at low, mid and high frequencies.

With a typical main left and right PA hang the 120° horizontal dispersion covers front row, central and the extremes of stage left and right with full pattern control maintained right up to 15kHz.

The 20° vertical dispersion allows two W8LD's to cover from the stage barrier out to the first 20m of the arena and importantly allows the main array to be optimised for medium and long throw duties.



W8LCI and W8LMI

With the continued and growing success of the W8LC and W8LM in today's touring market it came as no surprise that the cabinets were being specified in prestigious installs. In response to this demand Martin Audio recognised that the rigging hardware required for fixed installation could be greatly simplified.

The W8LCI and W8LMI feature the same acoustic components and construction as the touring versions with a custom designed integrated flying system tailored to the specific needs of fixed rather than temporary installations, allowing up to 12 cabinets to be flown with a 7:1 safety factor. The W8LM is supplied in passive or bi-amp format.

The W8LCI and W8LMI bring superior line array performance to the fixed installation market at a reduced cost.



AQ's Go To Hell

A remarkable site in London's trendy Shoreditch area has been taken over by Martin Audio aficionado, Stephen Breen.

Breen, who with his partner Fred Nicolay owns a string of bars in Belgium, and has also installed Martin Audio in his West London bar Morrison's (after a blindfold test against other leading brands), is the proud owner of an AQ system in his new venue,

based food and a strong continental flavour. And Stephen Breen knows that the percentage of his £1.5 million spend devoted to the loudspeakers has been a wise investment.

"I think Martin Audio produce great speakers — sonically excellent — and the fact they are a British company is an added bonus."

He had been operating bars

to fitting out Morrison's, the London-based installers were only too pleased to oblige.

"Two years later, the new AQ series has arrived," says David, "and so we have been able to turn him onto that."

Dividing the venue into three sound zones he has specified eight AQ8's, eight AQ5's and a combination of AQ112 (1 x 12in) and AQ210 (2 x 10in) subs. The AQ5's double up

washrooms benefit from continuous sound, courtesy of quantities of Martin Audio's C516 ceiling speakers.

Sound Division also used Martin Audio amplification — MA900's and MA1400's — to power the system, which operates under BSS Soundweb DSP process control. Signal feeds include a Rolec digital music management system, DJ playback — while Soundweb is also configured for open mic nights. Everyone knew that the loudspeaker system needed to be versatile.

David Graham is proud to have introduced the signature Martin Audio sound to Shoreditch, and praised the company's Bradley Watson for exemplary technical support and product advice — and in particular for setting up the site demo.

"I am especially delighted that the service we have given Stephen in the intervening two years has been such that he didn't feel the need to obtain other quotes on this job," David concluded.

"He has been a great client, and placed total confidence and trust in us, a fact that was reflected in the budget."



HELL. This was supplied and installed by London-based Sound Division.

The venue at various times has been a button factory, and most recently the Brick Lane Music Hall. With its 10,000 sq ft footprint and 512 capacity HELL looks set to dominate the leisure landscape of Shoreditch, with its mix of music, all-day, deli-

in Northern Europe and when he moved to London he began the research process. "A lot of the major players were recommending Martin Audio, and in the serious venues I started to notice that more and more people were running Martin rigs."

So when he first met Sound Division MD David Graham at *The Bar Show*, with a view

with the AQ112's in the restaurant zone, AQ8's and AQ210's (recessed under the benches), are found in the 'hotspot' area facing the DJ booth, and in the multimedia area further AQ8's, either side of the projection screen, create a sound bias.

The DJ benefits from having a Martin Audio Blackline F8 reference monitor — and those using the expansive



David Graham (left) with Stephen Breen



Top Rental Houses Boost Line Array Fleets

Two leading British rental companies have expanded their rental stock by investing heavily in Martin Audio line array technology.

London-based FX Music have remained at the forefront of public address technology since brothers Dave and Alan Beck set up the business 20 years ago.

Back then, they adopted the legendary Dave Martin-designed Philishaves — and have continued to run the classic Martin Audio LE series floor monitors throughout the two decades.

Three years ago they returned to Martin Audio as their preferred FOH speaker, buying 20 of the Wavefront W8C and 24 WSX subs. And delighted with the signature sound of the Wavefront, have now celebrated their 20th year by making a substantial investment in Martin Audio's Line Array technology, with 18 x W8LC and 12 x W8LM.

Commented Dave Beck, "I think you have to be able to offer a Line Array system these days — and for us, Martin was the obvious choice. We demo'd the system at a classical show back in the summer, and it came through with flying colours." FX Music also have a close relationship with Capital Sound Hire, and the fact that the latter has a large inventory of W8L's was also a deciding factor, says Beck.

He added that the right combination of W8LC and W8LM enclosures was an important factor in FX Music's decision. Since both are stand-alone systems in their own right, FX increased the number of W8LM's to provide more versatility on



*Hawthorn's rig on duty in Rhodes
Inset: Dave and Alan Beck*

shows where they would be able to supplement the larger footprint boxes with W8LM's as underhangs, to increase nearfield coverage.

Dave and Alan Beck are delighted with their new purchase. "While we wouldn't normally have upgraded our rental fleet this quickly — it was purely a technology issue, and the investment has already proved well justified."

Meanwhile, up in the Midlands, sales and hire company, Hawthorn Theatrical, have made their first investment in line array technology, consolidating a relationship with Martin Audio that extends over a decade by purchasing 16 x W8LM Mini Line Array enclosures and six WLX subs.

Hawthorn's head of sound, Iain Reinhold, said the acquisition made perfect sense. "It creates

compatibility with our already comprehensive inventory of Martin Wavefront systems and will allow us to expand our work portfolio by quoting for more outdoor work."

This portfolio is already substantial, as Martin Hawthorn's Leicestershire-based company has carved out an enviable share of the large-scale corporate event market since setting up the business 18 years ago as sound and lighting specialists.

"As we were being asked to service more arena-style conferences we decided to demo the Martin system last October — and later compared it alongside an alternative system."

The criteria that had to be met, continues Iain, had as much to do with the system's physical attributes as its sonic performance. "Aside from

the compatibility issue, the Martin system was more compact — and able to be flown above the sightlines. The advantage with the Wavefront W8LM is that it cuts down a lot of rigging time with trussing, and dispenses with delays entirely."

Further to that, he says, the ViewPoint™ predictive software is a major advantage. "It means that someone who doesn't have Martin Line Array knowledge can get the system up in the air with the array measurements spot on. You can look at a room and predict exactly where the boxes will need to go."

Iain Reinhold believes that the presence of the W8LM in their hire fleet will enable Hawthorn to service more large-scale events in the future.



DISPLAY™ Revealed

Introduction

Frankfurt Musikmesse will see the first beta release of a new Martin Audio software tool called DISPLAY™ (Direct Sound Prediction of Line ArraYs). The program is intended to equip users of W8L Series Line Arrays with a powerful yet simple to use analysis and design virtual 3D environment. With the aid of DISPLAY™, guesswork regarding coverage and SPL is removed, enabling confident rapid deployment of arrays in any venue. This software is the first fruit of the dedicated software development section within R+D and establishes a framework for the future.

Features

2D and 3D modes

Allows new users and particularly those who use ViewPoint™ to rapidly generate venue models.

OpenGL rendering

Smooth, fast and precise manipulation of views.

SPL Distribution

Variable spatial and frequency resolution over different planes.

Frequency response

Resolution down to 1/36 oct, smoothing up to 1/1 oct at user defined microphone position.

Polar plots

Multiple frequencies at a user defined distance from the geometrical center of the array

Comprehensive rigging/setup information

All the information needed to deploy the arrays, including mechanical, safety, patching and controller parameters.

Environmental effects

Temperature and humidity dependant air absorption.

Standalone Operation

Efficient data storage, accurate interpolation and fast calculation enables DISPLAY™ to run well on any modern laptop without any complicated client-server requirements

Calculation Method

The complex (magnitude and phase) sound pressure of each component of each box is measured over a sphere of radius large enough to be deemed far field for that component. This data is stored locally to the program. The directional point source technique is then employed using a fully complex interpolation scheme. The complete soundfield is formed from the complex summation of all component contributions.

Further information regarding the calculations can be found in the 'technical area' of the Martin Audio website under the 'Papers' heading.

Case Study : Royal Albert Hall

As an example application we have selected a simple deployment of W8Ls in a 'difficult' venue. The first step is to approximate the venue with complex planes (complex planes are defined by 3 or more coplanar vertices).

With this in place we can consider the arrays. 2 columns of 12 either side of the stage angled outwards seems a reasonable starting point. Figure 1 shows the 1/3 oct 4kHz band SPL distribution. It is apparent that the splay between the columns is too great and a reduction of this splay produces better results as can be seen in Figure 2. In this plot we notice that coverage on the periphery of the audience planes of the highest balcony should be improved. A way to achieve this is to pull both arrays back. Figure 3 displays this distribution which is respectably even over a large area. An informative overview of the venue is shown in Figure 4 where 4 separate views are displayed, this time at 8kHz.

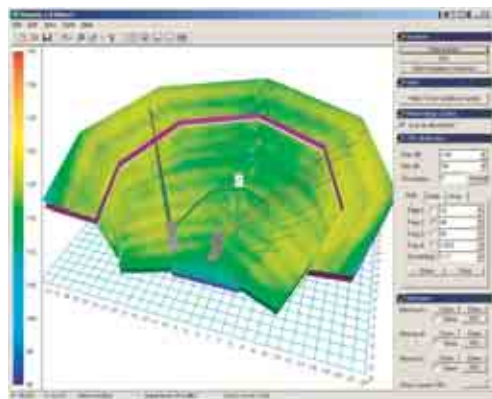


Figure 1, 4kHz 1/3oct SPL – incorrect array aiming.

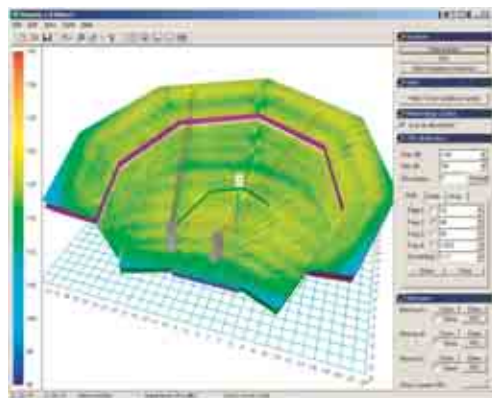


Figure 2, 4kHz 1/3oct SPL – not covering quite enough.

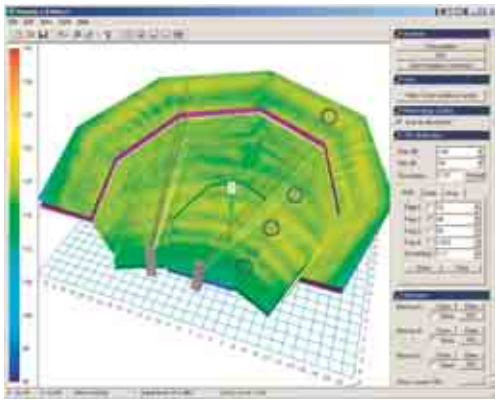


Figure 3, 4kHz 1/3oct SPL – workable solution.

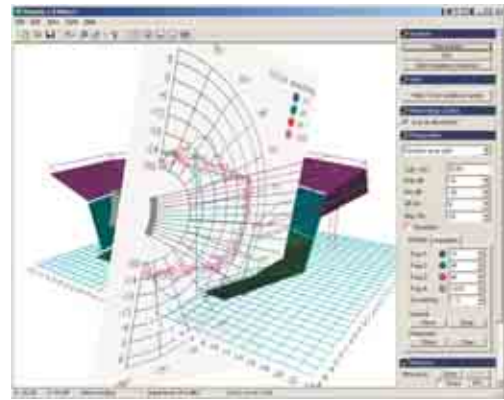


Figure 6, 1/3oct Polar plots

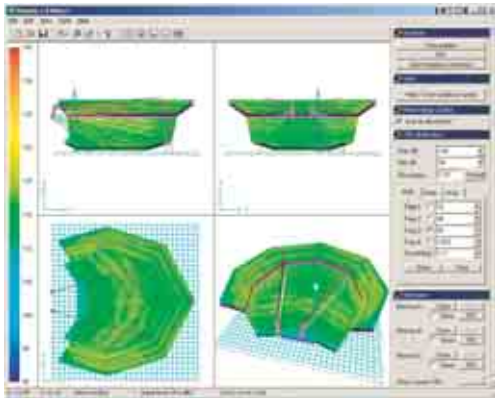


Figure 4, 8kHz 1/3oct SPL – multi view.

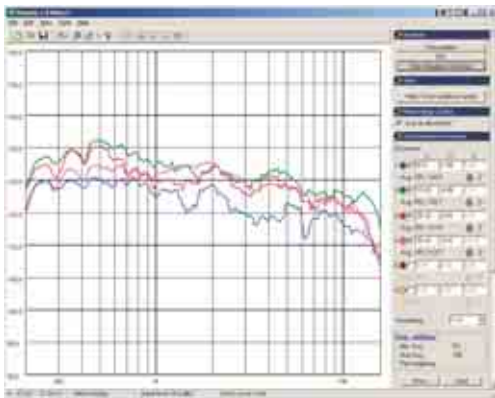


Figure 5, 1/3oct Frequency responses

Using spot frequency response analysis at various positions in the venue we can assess the variation of the output. Figure 5 depicts the frequency responses at the microphone positions marked by circles in Figure 3. We can see that the responses are smooth and similarly shaped, indicating a consistent sound throughout the venue. Another interesting view of the output is the aligned polar (at a distance of 20m) shown in Figure 6, where different frequencies are plotted on a polar graph aligned to the array axis. Once again the smoothness and controlled dispersion characteristics are apparent.

This iterative approach to the sound system design can be refined further, the above being an illustration of what is possible in a short time. All the splay angles are determined automatically and controller presets are standard ones. This fulfils an important aim of ours which is to not involve the user in low level details such as cabinet splay angles and let the software do most of the work. Full access to all the parameters in the controller-amplifier-loudspeaker chain is available to expert users or those wanting to learn. If space permitted in this article, we could demonstrate further tweaks to this venue by introducing small eq changes to the controllers.

Conclusion

The advent of line array technology has witnessed a new level of soundfield control which, in order to be fully harnessed, requires partnering setup software. This is due to the non-intuitive nature of some aspects of line arrays and the ability of achieving similar coverage goals with quite different looking arrays. For instance, whilst it is possible to achieve a particular dispersion using purely acoustic techniques, this may dictate an array that is too big and interferes with other constraints such as sight line requirements. What is needed in this instance is a smaller array driven intelligently. Factor in variable environmental conditions and the case for a flexible system approach using DISPLAY™ is unassailable.

It is becoming increasingly common for authorities to require information about SPL beyond the perimeter of an event - granting licences only when the nuisance impact can be assessed. DISPLAY™ has already proved that it is capable of fulfilling this requirement during internal testing with some users.

As a powerful yet simple to use system analysis and design tool, DISPLAY™ is destined to become central to the user training activities of the Martin Audio applications engineers.



Synco's Classic Solution

RG Jones are old hands at providing sound reinforcement for Raymond Gubbay's Classical Spectaculars at London's Royal Albert Hall, having been servicing the event for more than a decade. For a recent four-day season they again deployed their full inventory of Synco Martin W8LC Compact line array enclosures in 16-deep hangs either side of the stage.

Experienced sound engineer Simon Honeywill had also been on duty at the same event the previous year when the W8LC's (and W8LM Mini enclosures) had made their debut — and he is in no doubt that the Synco Martin set-up offers the best solution for the type of show which features the wide variation

of sound produced by a cast of over 250 performers.

The four-day firework spectacular saw appearances by the Royal Philharmonic Orchestra, with Anthony Inglis conducting, the Royal Choral Society, the London Philharmonic Choir, Band of the Welsh Guards and Muskets & Cannon of the Moscow Militia — taking up 96 inputs on the new Digidesign Venue mixing console, which was making its debut.

"Before taking on the Synco Martin system we had been using another rig, 12 boxes a side; but in order to achieve the required vertical coverage we found we had to open it out considerably — and that's not what it's all about! With cannons and fireworks, this show is loud, and with 2 x 15 in the low end of the old system there was always an issue controlling the bass in the orchestra.

"However, the horn loaded 12's of the Synco Martin system fits the picture perfectly because you get really tight, clean low-end control, which is ideal for classical music. We are not dealing with

'death by kick drum' here, but we do want people to feel the music."

The characteristics Simon is looking for in a PA are presence and warmth. "In that respect the W8LC works really well. The directional control in the low frequency range is very good with 16 enclosures a side — and from RG Jones' point of view the system represents a really good purchase."

Having worked other orchestral shows with the W8LC Simon Honeywill knows the system is ideally specified. "It certainly has the power ... and the whole ergonomics and physical profile fit well. It's sufficiently lightweight and small to enable us to hang ten boxes on a single mast structure in the open air with no problem." The systems are arrayed for

optimum performance using the Martin ViewPoint™ predictive software

Simon believes that it is Synco's attention to detail at every stage, right down to the cabling, that makes the system so easy to use and fantastic at what it does.





Waves On Ice in Innsbruck

The refurbishment of the legendary Olympia Ice Hall in Innsbruck was met with a new type of combination show being presented — with both live music and ice artists... all together onstage. The grand Opening Gala was attended by international stars including Chris de Burgh and Victor Petrenko.

The entire sound and lighting production for this event was in the capable hands of Franz Buttinger's company Video + Show Veranstaltungstechnik GmbH — the biggest hire company in Upper Austria.

For the public address they used exclusively Martin Audio components, with hangs of 16 x W8L and 16 x W8LM, supported by eight

WSX sub woofers. A further ten Wavefront W3's, a pair of W8T and two W8S provided the necessary fills and ensured even distribution

throughout the Ice Hall. The system was under XTA management and powered by Crest amplification.

In addition, Video + Show provided proprietary lighting from the catalogues of Clay Paky, Pulsar and Litec, with Sanyo video projection.



Giving Out Good Vibrations

Bollwerk, the well-established Austrian disco chain, recently decided to install a new sound, lighting and video system in its location at Graz — the regional capital of Styria. The city centre is known for the high standard of gastronomy provided by a number of different restaurants.

"The main focus of this new installation was to fulfil the highest level of sound quality," stated Reinhardt Altenburger, owner of Proton Austria, the installer and sound designer for this project.

First some sonic and acoustic difficulties had to be solved, since the room construction is based on four massive columns, placed around the centre dancefloor. Thus Proton developed imaginative positioning of the main enclosures, providing, a "differential dual level dancefloor". This offers in the centre area (within the columns) a full-on SPL, and in the outer, surrounding dancefloor area, a pleasant lower level sound. "This provides a satisfactory solution, and accommodates everybody's taste," observes Reinhardt.

In addition to the impressive subwoofer arsenal of 12 x Blackline S218's, six WT3's — described as "the absolutely best compact system" — are used in the main area. In view of the massive amount of energy inherent in the system, additional safety measures were required, as after the first night, bottles and glasses dropped from the shelves, and big bar mirrors shattered because of the unexpected 'good vibrations' of the sound system.

The remainder of the dancehall has been infilled with six Blackline F8's, balancing the sound image to the outer recesses of the venue.

Supplied by Austrian distributors Technik Design AG, the Martin rig was under XTA (DP6i) system management, with Crest and Digam amplifiers providing the power.





Rea Sound pull Cork's Opera House

Cork's designation as 2005 European Capital of Culture means that the famous Opera House will be busier than ever this year presenting a diverse programme of music, theatre and dance events.



Lawrence White, Cork Opera House's Head of Sound, chose Martin Audio loudspeakers, controllers and power amplifiers after looking at many loudspeaker manufacturers, auditioning other sound systems and gauging industry opinions on current touring and theatre systems.

The new Cork Opera House sound system, installed by Martin Audio distributor Rea Sound, boasts an impressive line-up of Martin Audio loudspeakers and electronics:

Main sound system

16 W8LM mini line arrays

4 WLXGS Hybrid™ subwoofers

Fills and delays

4 AQ5 dual ICT™ units for apron fills

2 AQ5 for corporate box delays

Surround System

6 F10 Blackline cabinets for rear effects

Fold-back

12 LE12JB for floor monitors

1 LE12JB + 1 S18 subs for drum fills

2 H3T + 2 S218 subs for side fills

Martin Audio DXIs provide system control via Martin Audio EI300 and MA Series power amplifiers.

Main left-right system design

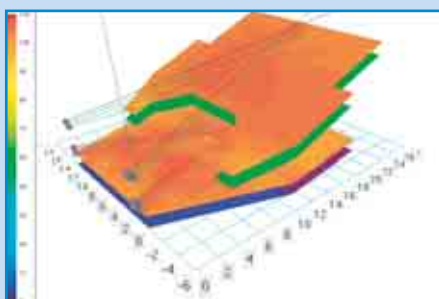
Cork Opera House is a classic 1000 seat musical theatre with a horse-shoe balcony supporting the dress circle and upper circle. In line with other orchestral venues of the period, Cork Opera House has a large, acoustically reflective balcony edge for orchestra "fold-back". The mix position is often placed deep under the balcony so split W8LM arrays were designed to avoid sound shadows and make the system more versatile. The final layout comprises four ground-stacked W8LMs per side to cover the stalls and under-balcony and four low-flown W8LMs per side for the dress circle and upper circle.

The floor W8LMs are placed on two WLXGS subs per side. These systems may be floor or stage mounted depending on set designs. The dress circle and upper circle W8LMs are flown fairly low and tilted up to the rear (upper circle) seats to maintain stage imaging.

The rear walls of the opera house are treated with acoustic diffusers which reduce slap-back whilst maintaining a nicely balanced reverberant "tail" for orchestral work.



Cork Opera House – view from stage



DISPLAY™ 3-D coverage prediction

Upper and lower W8LM heights and angles were calculated using Martin Audio's ViewPoint™ software.

Coverage was optimised using Martin Audio's new DISPLAY™ 3-D prediction programme.

Sub bass system

W8LMs can either be used full-range for general sound reinforcement or coupled to WLX Series subwoofers for very high power applications.

Cork Opera House is used for a very wide variety of musical events (including the very popular New Year's Eve Party) so Martin Audio WLXGS Hybrid™ subwoofers were specified to extend the low bass response to below 40Hz.

The stalls/sub-woofer system can be positioned on the floor either side of the orchestra pit or on the stage wings – depending on set requirements.

Fills and delays

Four Martin Audio AQ5 loudspeakers are used as stage apron and corporate box fills.

These new Architectural Series loudspeakers are ultra-compact, wide coverage, dual ICT™ units. Their 120° coverage produces smooth sound distribution along the stage apron without the usual hot-spots.

System Versatility

Different control presets have been programmed into a Martin Audio DXI Speaker Management System to cater for different stalls stack positions whilst ensuring that sound images are locked to the stage for the balcony audience.

With productions varying from stand-up comedy to drama and from rock concerts to musicals like *Fame* and *The Ha'penny Bridge*, the moveable W8LM/WLXGS stalls stack and low-strung circle systems have proven to be both very powerful and extremely versatile for their relatively small size.



Getting Trendy in Antwerp

Martin Audio enclosures now feature in two fashionable new Antwerp venues.

ASB Sales have provided EM boutique speakers to Darkawa, a trendy club-restaurant serving pan-global cuisine. Located in the fashionable area known as 't Zuid, it converts into a popular lounge after 10pm, attracting a chic crowd of designers,

musicians and people from the fashion industry. This is when the Martin Audio house system, comprising 14 x EM15's (finished in white) and pair of EM150 subs come into their own.

Elsewhere in the city ASB Sales have also fitted out fashion boutique HIT in Kammenstraat with a further 12 x EM15's to handle the in-store music.



Dee Undertake Major Theatre Tour



Rental company DEE Sound & Light has embarked on a nine-month tour with theatre group Needcompany, for the play *Isabelle's Room*. The tour started with six performances at the prestigious Avignon Theatre Festival before travelling throughout Europe, with additional shows in Ohio and New York.

The PA configuration supplied by DEE Sound & Light includes 24 x Synco W8LM by Martin Audio, powered Martin Audio amplifiers, and controlled by a Yamaha DM2000 FOH console.

"We have a long relationship with the Needcompany Group, in fact we have catered for various theatre productions for 20 years now," says André Schneider, managing director of DEE



Sound & Light. "This was our third year at the Avignon Festival — for *Isabelle's Room* we provided amplification for a seated audience of 1,500."

Schneider says sound reinforcement for theatre plays requires optimum audibility, especially when the



play is not in the audience's native language.

For his company, a major Synco/Martin Audio rental house, theatre productions are responsible for around 30% of the client portfolio, along with live concerts and trucking.

The company has undertaken Benelux tours with artists such as Seal and Van Morrison, and André Schneider now hopes to invest in a Synco/Martin Audio W8LC line array system for use at larger venues.



DM's Mozart Soundscape for Nobel Banquet

DM Audio AB provided sound reinforcement for the divertissement at the Nobel Banquet in Stockholm recently, using a Martin W8LM Mini Line Array for the main PA hangs.

This year the theme was: *Homage to Wolfgang Amadeus Mozart (1756-1791)*.

The idea for this year's divertissement emanated from creative designer Tore Blomberg and director, Eva Haglund — as a result of which DM Audio's Lars Wern was given the opportunity to design the sound for a very special

make use of the existing reverberation in the Stockholm City Hall when replayed.

The recording itself was made by Rune Sundvall a senior, classical tonmeister working with Swedish Radio. Conductor was David Björkman, with the Stockholm Sinfonietta, led by Anders Kimby.

To the multitrack recording, DM Audio also added all the vocal parts. Lars Wern explained: "Even though the vocals were to be performed live, we wanted to have them recorded as a back up. This also forced the singers to be ready with their



hangs of seven W8LM Line Arrays.

The line arrays were carefully angled to fire over the heads of the artists while still providing a full sound for spectators closest to the stage. DM Audio achieved this so well that they actually had to add a few Martin Audio LE12JB floor monitors for the singers.

To create some additional ambience for the special effects, Lars positioned four Martin Audio WT-UB speakers — flown from the sides of the hall, and taking individual feeds from the TC 6000.

A further pair of Martin Audio WT-2 cabinets (positioned Left and Right Rear) reproduced the sound effects from the back of the hall.

As the show also included some heavy rain and thunder effects DM Audio used four Martin Audio WSX subwoofers to enhance the low end of the system. These were fed individually from an Aux send of the mixer, and were only used for the acoustic bass, timpanis and sound effects.

Reviewing the show, Lars said, "The young artists did a fantastic job. It is tough to sing live to a pre-recorded classical track without a conductor to lead them and considering they were also new to singing opera-style music using wireless head mics they did exceptionally well.

"For me it was a challenge to have them all staying in front of the speakers — but we managed to get a very good balance. The orchestra was routed to the four front channels so the impression was of a larger than life orchestra hidden behind the wall.

"Together with the sound effects it turned out to be a highly appreciated audio experience."



Pic: Peter Wahlberg

version of pieces from *The Magic Flute*.

Together with lighting designer, Fredrik Jönsson, Lars began working on the project as far back as the early part of last summer, knowing that "from the designer's point of view this was going to be a spectacular sound experience."

It was to incorporate a pre-recorded 30-piece symphony orchestra (using very close microphone technique). The reason for this, explained Lars, was to achieve a 'dry' recording, that would

rehearsals and interpretation well in time for the live performance." As the City Hall experiences heavy usage, opportunities to rehearse live were restricted.

The speaker system consisted entirely of Martin Audio enclosures powered by QSC PowerLite amplifiers, with Martin Audio DXI processors used as dedicated system controllers for the line arrays.

The main PA consisted of four

Turning Estonia onto Martin

Tiit Terask's company Audiotel have been doing outstanding business with Martin Audio products — both in concert touring and fixed installations — since taking on the business for Estonia.

The company started life in April 1998 — immediately after that year's Frankfurt Musikmesse. The timing, says Tiit, coincided with a massive nightclub building programme in Estonia. "Over a two year period between 1996 and 1998 a lot of nice nightclubs were built, but with terrible sound systems! So I decided to introduce them to high quality systems."

Tiit undertakes every project single-handedly — from spec'ing the system, installing it, tuning it and commissioning it, using B+K measurement gear.

Audiotel like to use top models from the Martin Audio range, such as Wavefront and Blackline, tuned with state-of-the-art digital controllers from XTA, Martin Audio or BSS. "And there is no point using Martin speakers with poor-sounding, under-powered amplifiers," he reasons. "If the budget to do a project isn't there, I would rather walk away from it."

Tiit Terask remembers his introduction to the Martin Wavefront system. "A club owner, Urmas Past, had visited PALA in Singapore and asked my opinion about different systems — one of them being the Martin W8/W8S. Although I didn't have listening experience I trusted the philosophy of the 4-way active system, using small format drivers and cone midrange. I ended up flying the W8/W8S with custom-built extra low sub bass under the stage.

"Three years later Martin launched their 18in horn loaded



WSX, and the best-sounding nightclub in Estonia was born." Today he reckons that around 75% of Estonia's nightclubs are based on Martin Audio, which he believes "is the best form of promotion".

Audiotel have expanded along the way and in 2002 moved to a new office and warehouse space in a beautiful location close to a large outdoor venue.

Today Audiotel also represent BSS, Eighteensound, Adam Audio, Gotham cables, Digigram and Oktava. Their inventory of Martin kit includes 100kW of Martin Audio amplification, 32 stacks of W8LM, 12 stacks of W8C, eight stacks of WT3 and 32 x LE12JB floor monitors.

The distributor's work portfolio includes major outdoor festivals, symphonic concerts and other spectaculars. "In 2002 we supported DM Audio with a monitor system at the Eurovision Song Contest in Tallinn and I was the only Estonian in an otherwise totally Swedish sound crew," he says. In April they will take the W8LM system out with Richard Clayderman (having this month fielded 32 stacks of W8LM with DJ Tiesto).

"The W8LM fits perfectly in terms of both cost and its physical size into any situation in Estonia. Sound engineers and promoters who were initially suspicious that it looked too small now love the system — and so do I."

Pictured two of the venues in which Audiotel have installed Martin Audio: Parlament and Club Privé.



Butterfly Floats to New Heights

When you think of Martin Audio, you tend to associate the name with live environments because their systems have always been employed with world famous pop/rock artists.

Martin Audio's reputation in the live arena was extended recently with the presentation of Opera Lirica's *Madama Butterfly*, staged recently by the Arna di Verona and held at the new exhibition premises Brixia Expo in Brescia.

To undertake a difficult sound installation Giorgio Sarti and his company IES were called in to work in close collaboration with long time Martin Audio user, Phoenix Audio of Mestre. Together they decided to use the W8LC and W8LM Line Array for the first time in an opera setting.

Several days were needed to optimise the audio system, and this was carried out with great professionalism by Enrico

Casagrande and Luca Morson. Both took great care in rigging a system, that comprised of 12 W8LC Compact Line Array (main PA system), 12 W8LM Mini Line Array (first Delay position) and 12 W8LM Mini Line Array (second Delay position in stalls). All speakers were powered by Lab Gruppen FP series

amplifiers, controlled by digital XTA DP226 processors.

The level of audio quality achieved was excellent — a fact confirmed by the Arena di Verona's own sound engineers, and backed up by the reviews printed in the local main papers *Brescia Oggi* and the *Gionale di Brescia*.



Gigi Proietti Serata D'onore



After his great success at the Teatro Brancaccio in Rome — with more than 30,000 people attending 22 shows — Gigi Proietti has been taking his *Serate D'onore* one man show around the sports halls of Pesaro, Florence, Genoa, Turin and Bologna.

The *Serate D'onore* tour celebrates 40 years of a brilliant theatrical career of someone loved as very few in Italy are — a great show that takes the audience through some of the most famous and magical moments of the actor's life on stage ... moments that made history in the Italian show and theatre business.

The non-stop show (pictured in Pesaro) runs for nearly three hours — staged in sports halls which are made to look like a theatre for the occasion.

Sound and lighting were provided by Fumasoli Service of Aosta, who for this employed a Martin Audio W8L Line Array — based on two main clusters of 12 W8L's and two side clusters of six W8L's for the bleachers.

Covering the front rows are a further six Wavefront W1's, run 2-way, and four W3's, run 3-way bi-amp.

For stage monitoring a mixed solution was



chosen, with several Martin Audio LE12JB bi-amp floor monitors, and wired ear monitor systems for the orchestra.

All loudspeakers are powered by Lab Gruppen FP series amplifiers.

As usual, the entire system is controlled by a network of XTA DP226 and 224 devices, radio controlled via Reco by TEQSAS and Audiocore.



Tsunami Relief in Anaheim

Even if it wasn't quite Live Aid 2005, the *Music for Relief* concert at the Arrowhead Pond in Anaheim to raise money and awareness for victims of the tsunami in southern Asia inspired a similar coming together of the music community to help those in distress.

Beyond the performances — notably from hard rock band Linkin Park, rapper Jay-Z and modern rockers No Doubt — the clear message of the show was that unity works. The event, for which tickets cost \$85 to \$125, is expected to generate between \$1 million and \$1.5 million for UNICEF and Habitat for Humanity to help survivors rebuild their homes and their lives.

The sound reinforcement for this momentous event was provided by Delicate Productions, providing the PA to cover the two stages (designed in a turntable arrangement) from their Martin Audio hire stock.

Main clusters comprised 12 x W8L, with four W8LC's (per side) underhung as downfills. Covering the side bleachers were 12 x W8LC's per side and audiences in the side-to-rear bleachers were reached by four W8CS and four W8C's per side (the short throw providing 270° coverage). Six W8LS subs were flown on either side of the stage, with eight BSX subs (per side) ground stacked, under four pairs of W8LM, which acted as front fills.

The monitors comprised two F2B and two F2 Combis per side

(flown), with four FIB's and four FIT's as drum fills and 27 x LE700's as the floor wedges.

The house sound was mixed through a pair of Yamaha PM5000's, with Midas Heritage H3000's at the monitor station. The FOH System EQ comprised a TC EQ Station in 8 x 8 matrix mode.

The lineup impressively crossed the genre boundaries that govern most rock shows. But the enthusiastic reception given to each act proved again that people's tastes aren't nearly as limited as today's radio playlists would suggest.

No Doubt generated a hometown heroes' welcome, playing a characteristically energetic hour-long hits-heavy set in the Anaheim-bred quartet's backyard, the band's first performance in seven months since singer Gwen Stefani launched her solo career.

But the greatest anticipation was for what was only the second live collaboration between Linkin Park and Jay-Z. Linkin Park set up the *Music for Relief* organisation only three days after the tsunami hit. Jay-Z emerged from his self-imposed retirement for this performance.

Between each performance, video footage of the tsunami's devastation was shown over the three video screens above the open arena floor, and various participants gave straight-from-the-heart pitches, live and on tape, urging concert-goers not to let the issue slip from their minds now that it is no longer front-page news on a daily basis.





W8L Flies World Class to America West

Five years ago, as a significant part of a massive \$50 million upgrade and 'evolution,' America West wanted to replace its fourth audio system with something entirely new in terms of concept and design, a system finally capable of delivering 'performance level' audio for the frequent musical sequences during Phoenix Suns and Arizona Rattlers games ... plus over 200 events a year.

When the arena's technical staff approached Jim Jorgensen of Genesis Audio Systems, a leading audio integrator in Phoenix, they had problems to solve. Jim was asked, "Why can we have concerts in here, and it sounds fine, but we go back to sporting events and we have uneven coverage with transitions from one piece of music to another that are virtually indistinguishable, with lots of noise? There's no definition to the PA, it gets loud but it doesn't sound right!"

Having successfully completed the audio upgrade on the Pavilion and Paseo background systems outside of the arena, Jorgensen was ready to start on a legacy system that was compatible in terms of design and components. Genesis had already used Martin Audio's new W8LM Mini Line arrays to distribute the sound through a large, diffuse architectural area with reflective surfaces such as glass and concrete to where the people were.

As Jorgensen explains, "The W8LM helped achieve that with its focused pattern, ease of rigging, and its delivered 'musical' quality. It

wasn't just a speech reinforcement system.

"So Rob Hofkamp went back to the Martin Audio design team headed by Peter Child and they came back with a proposal that resulted in ± 3 dB from the worst seat in the house to the best seat in the house! 3dB in level, 3dB in coverage. We went back to the drawing board and came up with a new proposal within America West's budget."



Looking at a ten-year forecast comparing the cost of maintaining the existing system with its rigging and de-rigging needs added up to more than purchasing a new system that wouldn't require the labour to rig and de-rig.

According to Genesis, this could be done using independently hung clusters, which they could hang from the high steel.

As described by Jorgensen, the system consisted of "eight clusters, with each cluster having different speaker combinations. The four main clusters all have W8LC Compacts, and there are two clusters with four WLX Subs and eight W8LM Minis, and two clusters with eight W8LX Subs and two W8LM Minis. We originally designed it with four clusters of W8LCs hung exactly dead centre in the room.

"But we ran into some design challenges with the scoreboard in the centre of the room. The speakers and the scoreboard couldn't be in the same place for obvious reasons. The original design worked off a 22ft concentric circle for speakers. The scoreboard is 32ft in diameter, so we 'exploded the orange,' as we call it, and expanded it out to 33ft, which didn't quite clear the scoreboard. Then we took it out to 36ft, which cleared the scoreboard but were told that the building couldn't structurally support rigging at 36ft. As it turned out, we wound up at 44ft. We had to use fill speakers to compensate for the added distances."

Thus the biggest design challenge was going from ± 3 dB to every seat in the house to the potential coverage issues of exploding it out to 44ft off-centre. "This is where we really began to appreciate Martin Audio big time," continued Jim. "They offer a lifting bar designed to accommodate a single-motor hang, and this single point lifting bar allowed us to create a downward angle of 10°, which tipped the array to face down so



Pics: Jimi G



that the bottom cabinet is almost pointed straight down at the ground.”

Asked about the audio quality, Jorgensen quickly counters, “The audio results exceeded the client’s expectations. This system brings the word *fidelity* back to arena sound.”

The Martin Audio system also represented substantial cost savings for America West. A multi-purpose venue or destination of this kind needs a sound system for all kinds of events, not just centre-point in the round seating for basketball games. The arena will also host *March of Dimes* fund-raisers, with 20 inflatable floats and 500 kids and parents, which would normally require a local PA costing anything from \$2500 to \$5000.

Genesis sold America West on the fact that, with this system, they would be able to de-rig two of those clusters in the centre of the room and re-hang them at the end of the bowl to cover the floor, allowing two people to re-hang the PA they already owned for use in multipurpose events.

A Crown IQ wireless network with a graphic interface (Lake Contour system with laptop-controllable zone-configuring for the arena to allow control of the PA from the floor, a value-added feature). Any production manager for a major music act going into America West Arena can feel confident that the house system can act as his speakers for that night.

As described by Will Lewis of installers Peacock/Jorgensen/Lewis, the installation had to

be quick: “Once we had all the gear in, we had a two-week window to get it up and going before they started playing basketball games. Then there were last minute adjustments in terms of where the speaker hangs were going to be as it relates to the structural engineer and the hang points that actually worked.

“We chose the Martin Audio line arrays because they offered intelligibility, clarity and performance level in terms of dynamic capability. You could hear the old system, but it didn’t knock your socks off like today’s audio systems need to do. And the line array added a level of consistency, horizontally, that was much better than the existing system.

“That, plus the other aspect of being able to get sheer horsepower in the arena — keeping it off reflective surfaces and aimed at the audience — were other important factors, along with the flexible set-up capability. With this, they can drop half the system to the floor — down to the half where the stage goes — then take it back up with a 24-box-a-side line array.

“The music reproduction really is exceptional now,” Lewis concluded. “These basketball teams have all kinds of intro music, dance performances and theme music, and most of these arenas were set up with public address systems, for the announcers. They have all kinds of events that require high fidelity and low end. Real rock and roll systems, which this is.”



Line Array Baptism for Highland

Douglas Hood first received a call from Highland Avenue Baptist Church after one of the members read about the AVL system his company CSD Inc had designed and installed for Calvary Chapel Chino Valley in Chino, CA. While this church was a new construction project, Highland was an existing space with an aging system, looking for a major upgrade.

Initially the intent was to wait to renovate the technology at the same time as the other major construction items — raising the ceiling, adding new carpet, and theatre seats with stadium seating. “Unfortunately, the ailing PA system did not cooperate with that plan,” says Douglas. “Week by week, it was failing to deliver reliable results and the years of audio band-aids were no longer holding it together.”

The loudspeakers thus assumed priority with the two primary design goals being: (a) balanced coverage and (b) impact and clarity. It was agreed that a line array solution would be the best fit.

Working directly with Martin Audio and utilising their ViewPoint™ software, CSD designed a line array system using two main left/right hangs, one centre fill, and two side fills to adequately cover the extremely wide room.

“To maximise the value of the system, we used a combination of the W8LC and W8LM modules,” reports Douglas.

“Each left/right array uses six W8LC boxes on top with two W8LM Mini’s suspended underneath. The front of the stage is lined with eight Martin WLX horn-loaded subwoofers — which deliver many smiles at the FOH position.”

On stage, four Blackline F15’s are used as flown stage monitors, and the entire system is powered by 17 Martin Audio amplifiers. Speaker processing is handled by a series of three BSS Soundwebs, with the Jellyfish remote so the client can easily access presets created by CSD for speech and music.

“Our biggest challenges were delivery of product and the time-frame for the

install.” Douglas continues. “Once the decisions were made the project went full steam ahead and Martin delivered product in just a few weeks — which was great considering they are based in the UK.”

To help achieve their deadline, all the racks were pre-built and tested at CSD prior to the install. The church’s electrical contractor supplied new conduit runs to service the vast amounts of new speaker wire required for the line arrays and subs. The church also built a substantial new sound booth to house the new equipment and give the technicians adequate room to work within.



Praise From Grammy Producers

Mixing music in Surround is a growing phenomenon, most recently expressed at a special GRAMMY Producers Surround Table 5.1, held at the Anaheim Marriott Ballroom during the Winter NAMM Show.

Presented by the Recording Academy Producer and Engineer’s wing, this panel discussion involved an elite group of producers and engineers including Ed Cherney, Bob Clearmountain, Doug Sax, Elliott Schneider, Al Schmitt, Martin Walters and BT, a DJ who mixes in 5.1.

Most of the panelists are nominated for GRAMMYS in Surround Mixing, a new category for this year’s awards which bodes well for the future of the format.

Audio was provided by LA Sound, with Richard Ralke as System Tech, Steve Lehman as Audio Production Manager and Jeff Van Ness as Engineer. To provide the highest sound quality as what can only be termed a “Surround PA” system, they chose Martin Audio WT3 discrete 3-way cabinets as the Left, Centre, Right, Left Rear and Right Rear components of the system.

All the participants commented on how great the system sounded in terms of clarity, depth and impact, particularly Al Schmitt, Elliott Schneider and Ed Cherney.

To keep the audio up to the same high standards, LA Sound and Lehman plan on using a combination of Martin W8L’s and W3’s for a series of GRAMMY parties being held at the Los Angeles Convention Center.



MHA at The Bush Inauguration

It's not easy to get hold of Mike Scarfe, principal of MHA Audio in the Washington DC metro area and surrounding states, because he and his crews are always busy working.

Having completed the challenge of providing broadcast quality audio in a variety of different venues for the Bush campaign (see *Sidebar*), MHA Audio capped off the process with more high-calibre audio for *A Celebration of Freedom*, the opening celebration of the 2005 Inauguration outdoors on the Ellipse, just beyond the south lawn of the White House.

The star-studded event included *American Idol* winner, Ruben Studdard, who sang the National Anthem, *CSI NY* star Gary Sinise who introduced the salute to America's space programme and the Apollo astronauts with moving testimonials from Neil Armstrong and Buzz Aldrin. Musical artists included the Gatlin Brothers, Kenny Chesney, Patti LaBelle, Yolanda Adams with the Eastern High School Choir of Washington, DC and opera singer, Andrea Bocelli. After President Bush and Vice President Cheney addressed the audience, fireworks sparkled above the White House and the Washington Monument.

Mike Scarfe designed the audio system and worked as production manager for this event in conjunction with Blayne Candy and Ajay Patil, owners of Showcall, Inc — and George Schlatter Productions, the event producers.

The sound system was designed for an audience of



Pics: David Gray and Bruce Nelms

65,000 on the Ellipse and consisted of a full complement of Martin Audio line array with 40 x W8L cabinets in the main L/R hang and 24 x W8LC's distributed in four groups of six for the delays.

Nine Martin Audio WSX horn loaded subs were deployed each side of the stage and used to great effect during the video segment saluting the Apollo astronauts. In addition, two Martin W8C enclosures were used for front fill.

All speakers were driven by

Martin MA4.2s power amplifiers and controlled using XTA DP226 processors via XTA Audiocore. The delays received their signal via Lectrosonics Digital 400 Series wideband UHF systems. Monitor speakers were either Martin Audio LE700 or LE12JB, all Crown driven.

FOH engineers were Trueman Montfort, Jr. and Charlie Emmons; monitor engineers were Bruce Nelms and David Colella. Robert Bowers, Keith Suffecool and Chuck Wells were the stage crew.



Winning The Challenge of Campaign Audio

Charged with the responsibility of providing exceptional audio for both the broadcast feed and the live event in a number of widely different venues for the Bush campaign, MHA Audio in conjunction with Delicate Productions of Camarillo, CA provided Martin Audio sound systems for four teams, each with two semi's.

The fact that the audio had to be clear and articulate was a given. The system was designed to cover venues ranging from town halls, city parks, airfields, arenas and football stadiums of up to 10,000 people inside and up to 20,000 people outdoors. Most of the events, which averaged two per week, were rally style, held outdoors with the speakers stacked four to six high on 6 ft. high platforms. The speakers were stacked on the ground initially and then lifted into place using a fork lift (being able to fit 20 x W8LC's in 3 feet of the truck was also a bonus). Part of the challenge was to keep the speakers out of camera shot.

The standard procedure for the White House Communications Agency (WHCA) is for them to receive all incoming signals related to the President which consists of two Shure SM57's from the podium, two from the Instant Replay (announcements and rope line music) and two for offstage announce. WHCA then sends two feeds, one main and one backup to the sound company. In addition WHCA sends feeds to the White House over a secure phone line, another one to the press room and one more to a monitor backstage in the offstage holding area.

"We couldn't have done it without the Martin W8LC line array," said Mike Scarfe.



Premier Stadiums Turn to New AM Series

Martin Audio's new AM Series of enclosures has quickly found favour in some of the British Isles' leading football grounds, and is fast becoming a highly-specifiable system among stadium installation specialists.

Over the past few months AM Series speakers have gone into Premiership clubs Aston Villa and West Bromwich Albion (Argus Services) Blackburn Rovers (Romers Electronics) and Scottish Premiership champions, Rangers' Ibrox Stadium (Scotia Sound Services), while Advance Integrated Systems have installed into Hartlepool United's Victoria Park stadium.

Seven of the specially-designed weather-proofed AM15 cabinets were commissioned for West Bromwich Albion FC's Hawthorns stadium in the West Midlands. Jerry Matthews of Argus Services explains that "it's a deep tiered stand, and, although there was already a single row of speakers at the front, the further you went up the rows, the less you could

Meanwhile, north of the border, Glasgow Rangers FC have replaced the public address system in their 8,000-capacity Main Stand at Ibrox Stadium with nine of Martin Audio's AM10 enclosures.

The system was requisitioned by the club's head of AV, Stevie Scott of Scotrae Productions, as part of a multimedia upgrade, and purchased from local dealer, John Murdoch of Scotia Sound Services — a long-standing Martin reseller.



Ibrox Stadium



Ewood Park



The Hawthorns

hear. We've had to mount a row of Martin Audio AM15's about 25ft up the stand, just about where the directors sit!"

All the AM15's have been suspended on custom-built brackets. "These enable us to do everything from the roof; once the speakers are in place, about 40ft above the crowd, we don't need to gain access from below."

Argus is building a fine portfolio of football and other sporting grounds, installing PA, CCTV, voice alarm, and any other audio requirements. They have equipped Walsall FC and Birmingham City FC with AM Series, and are currently working with Aston Villa FC on the first phase of an upgrade programme at Villa Park. Once again, the AM Series loudspeakers feature prominently, with ten AM15's being installed into the first of the stands to be refurbished. "We've tried other makes of cabinets, but the Martin Audio boxes just deliver what they say they're going to deliver," continues Jerry.

Says Matthews, "These cabinets conform to BS5839, which sets out the voice evac system standards, and they really are fully weatherproofed. But they also deliver excellent performance audio-wise: we've compared them to older systems running flat out, and the Martin AM boxes only need to be ticking over, they really are efficient cabinets."

Commented Stevie, "We had experienced difficulty projecting to the back of the stand with the existing system. We knew Martin had brought out a stadium speaker that was more directional, and when we contacted John he confirmed that the AM Series offered a superior reach." Stevie Scott undertook the installation himself — a simple replacement into the roof of the stand, facilitated by hardwired cable through grommet holes.

"Everyone has commented on the clarity of the system," reports Stevie Scott.

Working closely with the manufacturer, Romers Electronics have installed six custom H3/AM3 in the home stand at Blackburn Rovers' Ewood park Stadium. MD John Caton said the reasons for the Martin Audio solution being favoured was that "it offered greater control of the mid/high and low frequencies increasing the quality of the music playback while maintaining speech intelligibility and it met the cost requirement. As a result the H3/AM3 is doing the job asked of it very well."



EM's for Riverfront Complex

A colour-matched Martin Audio architectural PA system has been specified and fitted in the new Riverfront Theatre in Newport.

Containing a 493-seat main auditorium and 150-seat studio theatre, gallery and conference facilities, the audio installation work in the arts complex was undertaken by AJS Theatre Services, working to a tender document produced by Carr & Angier to a sound system design by Peter Mapp.

"Martin Audio is our preferred loudspeaker for an installation such as this," confirmed AJS project manager, Chris Coates. "It produces good quality sound — crisp and round — and is perfect for this kind of environment. On top of that the support we receive from Martin Audio has been extremely impressive."

This support included décor-matching the EM enclosures in 'Black Red' (a kind of deep maroon). Four EM76's are arranged in a flown central cluster with a further four set randomly at left and right of the proscenium arch. A further four EM56's are mounted on the lighting bridge, acting as delays (programmed into a SymNet DSP) and angled down into the balcony. Martin WS2A subs are ground stacked on a perch to the sides of the pros. arch.

To provide versatility, the Studio Theatre features a further six flown EM56's which can be moved within the complex.

The Riverfront will bring top acts to the city as well as offer the opportunity for local people to get involved in creative workshops. Thanks to the Martin Audio system the theatre is adequately equipped to present a diverse programme of comedy, opera, dance, music and drama.



AQ's Take Over in Bristol



Two high-profile Bristol venues have been earmarked for the newly-launched Martin Audio AQ architectural series.

Installer Mike Brice from Bristol Architectural Sound Services (BASS) has fitted Martin Audio enclosures into the new Brownstone (*pictured above*) and the chic Bar Pam Pam's.

With product support from Howard Williams at Stroud-based CAV, Mike Brice cleverly designed the former venue to enable a pair of the new Martin Audio AQ12's to replace the

temporary front-facing Wavefront W2's. Elsewhere, a pair of low-profile WTUB's, designed for front fill, handle the vocal range, a Blackline S218, recessed into the concrete DJ booth, looks after the low frequencies and a series of tiny 5in ICT-principle EM15's cover the peripheral areas in the hard-surfaced rectangular room — stripped back to its original brickwork as part of an interior design makeover by Interaction.

Also owned by A3 Leisure Bar Pam Pam — designed by Alison Weaver to include a champagne bar and private snug in the basement — follows a similar Martin Audio formula, with a further pair of AQ12's added to the configuration. Again Mike Brice has built the rest of his design around a pair of WTUB's for front fill in the main bar, this time using a combination of EM26's and EM15's to provide coverage throughout the multi-zone venue, which includes the stairwell and main bars/dancefloor. A pair of twin 10in EM150 ultra-compact subs provide the LF rumble, and the playback is routed and EQ'd by an Allen & Heath DRI28.

"We can find every loudspeaker we need in the Martin Audio catalogue," says Mike. "Their systems are sufficiently versatile for transparent reproduction of speech, background music and full-on dance music. We are particularly excited by the arrival of the new AQ series and had been looking forward to getting them into these two flagship venues."



Flying Sparks in Munich

The first *Flying Sparks Festival* (*Funkenflug*) in the sold-out Munich Tonhalle, featured German bands such as Puke, Fiddlers Green and Schandmaul. The technical equipment was provided by the Rain Age Veranstaltungstechnik GmbH and the main PA consisted of a W8LC line array, with WSX subwoofers.

The nearfield monitor system was made up of Wavefront W8C and W8CS subs, in combination with Blackline F 12 systems. The stage monitoring also featured exclusively Martin Audio

equipment, with eight LE12JB floor monitors, a Blackline F215 (drum fill) and pair of Blackline H3's (as side fills).

The systems were powered by Crest amplification and the controller was the popular XTA DP226.

"This type of power rack is compatible with other Martin Audio equipment houses in Germany," says Joe Kuel, from the company's German distributors, Atlantic Audio.



Touring Classics



The highly-experienced sound engineers from German company EVE (Event & Veranstaltungstechnik Enchelmaier) have successfully deployed different Martin Audio line arrays in a number of recent classical productions. The Bendorf-based company used different configurations of the W8LC and W8LM line arrays, depending on the size of venue and the stages.

Two spectacles were performed: The Verdi Opera Nabucco at the Festhalle Frankfurt and a touring version of Petr Tchaikowsky's *Nutcracker Suite*, performed by the state ballet of St. Petersburg.

The line arrays were augmented by WSX subwoofers, with the entire system powered by Crest amplification and XTA DP226 digital loudspeaker management system. The audio distribution systems comprised of six XTA DS 800 (handling 48-channels).

Further EVE productions and spectacles coming up this year include: State ballet of St. Petersburg's European tour of *Swan Lake*; *Rhein in Flammen* (*Rhine in Flames*), main stage in Bonn with Kool & the Gang, Jefferson Starship and Ten Years After, and the main stage at the *Truck Grand Prix*, Nürburgring.



Bourgonje Goes Mini

Based in the west of Holland, Bourgonje Rental & Sales BV has been a strong force in lighting and sound for many years. This rental and sales company is well-known for delivering consistent high quality and professionalism, built over 25 years of experience.

Newly acquired production work

recently increased the need for a professional line array system, which would be suitable for theatres, clubs and other venues.

Because of its flexibility, sonic qualities and good acceptance among audio professionals, Fred Bourgonje Jr. and his staff decided

on a Martin Audio W8LM system.

In early January a 24-enclosure system, including 12 x MA2.8s amplifiers and all flying hardware, was delivered, and immediately earmarked for use by a wide range of clients in the field of corporate events, theatre, leisure and pop.

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The Martin Experience



Bill Clinton Holds The Kee

Martin Audio amplifiers and loudspeakers have been installed in the Kee Club, a two-storey venue situated on Lan Kwai Fong a popular bar strip in the Central district of Hong Kong.

While the upper floor is devoted to the restaurant and bar, underneath can be found the VIP rooms and dancefloor, under the musical direction of Vincent Quek.

Patrick Lau, from Martin Audio's Chinese distributors Dah Chong Hong, says that the club has changed its system from a Clair Brothers rig, adding four Blackline F15's and an S18 to the existing subs on the dancefloor, powered by MA2.8s amplifiers.

In the restaurant they have added eight Blackline F8 speakers and three S12's,

powered by a pair of MA900's and an MA1400.

This place has already become the talk of the town, since former American president Bill Clinton dined there during his visit to Hong Kong. "While it is the favourite lunch hang-out for bankers and government officials, movie stars and celebrities gather here on weekends," says Patrick.



American Idol

Audio Resource provided a hang of 16 x W8LC on each side of the Singapore Indoor Stadium when *American Idol in Singapore* was staged there recently. The show took place before an audience of 8,000 people.

The final contestants of *American Idol 3*

performed their first-ever Asian concert at the venue, while the *American Idol Live!* concert — presented by Citibank — is the only Asian stop outside the finalists' 50-city US and Canada summer tour.

Responsible for the sound design was Richard Ong, who reports that there was

plenty of headroom in the system, and that the sound reinforcement was both loud and clear.

Martin Audio products are distributed in Singapore by Swee Lee Corporation.





Christ's Resurrection Church

The reconstruction of Christ's Resurrection Church (Prisikelimio Baznycia) in Kaunas — which commenced in 1995 — was completed last year at a cost of 12 million Litass, complete with a new Martin Audio public address system.

The original construction dates back to 1932, but when Lithuania was annexed by the USSR in 1940, the unfinished church was confiscated and the words 'Praise to the Communist Party' later slapped on top.

During the German occupation

it was used as a paper warehouse, and in 1952 the building was given to the Banga radio plant, which established a workshop in the 30-metre-high central nave. The 63-metre-high belfry of the modernist church is a major landmark on the Zaliakalnis (Green Hill) above Kaunas.

In 1988 the building was given back to the Catholic church and work began on restoring this national symbol of liberation, which is the largest basilical church of monumental architecture in the Baltic States.

Eight Martin W8LM Mini Line Array enclosures now provide the main PA, infilled with 12 tiny EM15T loudspeakers, 36 Audiotonas AMC MCS-20 metal column speakers and eight AMC MSH30 weatherproof plastic horns.

The Martin Audio element of the system is driven by an MA2.8S amplifier and the system is under Biamp Nexia sound processing.

All the equipment was supplied by Audiotonas, Martin Audio's Lithuanian distributor.



Lithuanian Energy

The Lietuvos Energija (Lithuanian Energy) Conference Hall also saw Audiotonas working in conjunction with the architects and client to deliver a full multimedia solution (incorporating video, conference and cinema facilities).

Lithuanian Energy had announced the tender for the renovation of the main conference room back in June 2004, with Audiotonas beating off fierce competition in conjunction with the construction company, Avona from Kaunas.

Work commenced on site in July and finished in early December.

The hall contains a full digital cinema system, utilising Martin Audio cinema loudspeakers and amplifiers. The components included three Screen 2's, eight Effect 3R's and two Screen SUB1A's — driven by three MA1400 and two MA200Q amplifiers. Processing is carried out by a

dedicated CMX3A cinema controller, plus Biamp Nexia, with the entire installation under Crestron touch screen operation.

Audiotonas also installed the video wall consisting of six 67in Lanetco video cubes, on

which Lithuanian Energy personnel can make their presentations, using Dolby Digital 5.1 or DTS sound. The wireless IRP discussion system plays back through the Martin Audio loudspeaker system, along

with a DIS interpretation system.

This now becomes Lithuanian Energy's main centre for local personnel meetings and international business conferences.





Marijampole Culture Centre

Audiotonas has also supplied Martin Audio sound reinforcement for the renovation of the Marijampole City Government's old Soviet-style Cultural Hall. Work began in 2003, and last year the construction company, who won the tender, invited Audiotonas to design the complete stage system, sound and lighting.

The outgoing equipment was antiquated and thus the system had to be redesigned to accommodate the needs of a modern multifunctional

municipal hall. Audiotonas completed the planning in two months and carried out the installation over the following three months, using four Martin Audio WT3's, two WS2A's and two WT-UB under-balcony fills. This is powered by three MA2.8S, two MA1.6S and an MA900, and processed using a Biamp Nexia system.

The main 500-seat hall is now a fully-functional public venue, catering for the local 60,000 population with a range of conferences, live concerts and theatre shows.



Breaking Into Belgrade

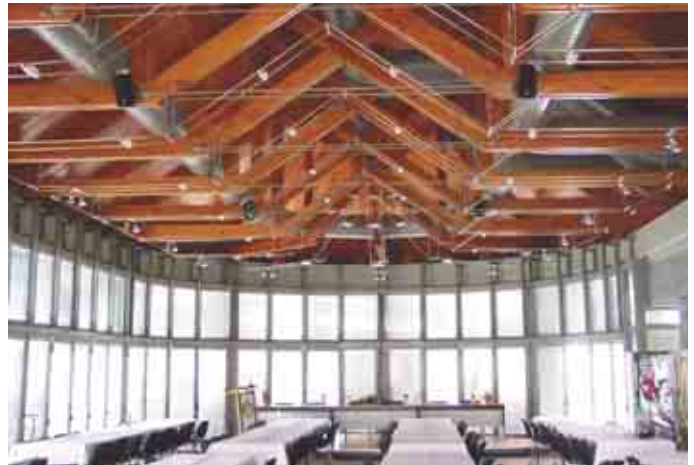


Novi Sad-based distributors, Globoks, have carried out two installations in Serbia & Montenegro, using Martin Audio equipment.

In fact Mouvi Bar is the first Martin Audio installation in the capital city of Belgrade. Situated in the city centre, it has immediately become the focus of the fashion industry, who have recognised it as the best place to stage promotions. Other events held in the venue include jazz concerts and house parties.

The sound reinforcement system comprises a pair of Martin Audio Blackline F12's, underpinned by an S18 sub; providing coverage in the peripheral areas are a pair of EM15 architectural speakers and an EM120.

Meanwhile, in their home city of Novi Sad, Globoks have carried out an audio installation for the Institute for Agriculture Congress Centre



Built in 2002, it won a prestigious award for architecture. However, when it came to staging lectures and other presentations the acoustics were found wanting.

The problem facing the owners was to find an audio system that could blend seamlessly into the architectural environment but also produce good sound.

"We were the only company who could offer an acceptable solution," says Globoks director, Glogovac Dragan. The system he recommended was based on four of Martin Audio's ultra-compact (2 x 5in) full-range EM15's, supplied with Crest amplification, Cloud mixer and a pair of Audio Technica mics.

"We call that system 'stelt' ... which means that the speakers are almost invisible, and it is not possible to detect the direction of the sound source," he explains.



W8LM Flies In Hungary

After introducing 20 W8LC enclosures on last year's annual *Summer Rock Festival* in Budapest, Hungarian distributors RMS Audio have enjoyed immense success with Martin Audio's line array systems.

Back in the summer the Compact Line Array had reinforced performances by famous bands such as Twisted Sister and Cradle Of Filth. Both the musicians and sound engineers professed to have been extremely satisfied with the new equipment — especially favouring the high SPL and clarity of the sound.

This set the scene for three of Hungary's significant stars — Charlie, Tamas Somló and Ferenc Demjen — to try out the W8LM Mini Line Array system on a monster concert this Spring in Szekesfehervar.

Again the results were so positive that RMS Audio report that both line array systems have subsequently been on further duty

this year in the corporate sector.

In the Budapest Congress Center the Suzuki car company held an event to launch the new Swift, for which 12 x W8LC, eight W8LM, six WSX and a pair of WTUB's were specified, processed via three of Martin's DXI dedicated system controllers and powered by two MA4.2s and eight MA2.8s amplifiers.

RMS Audio add that this event had provided a great introductory showcase to the Martin Line Array systems and that no fewer than three rental companies have ordered W8LM systems.

These are Laszlo Magyar, whose new system will comprise four each of the W8LM, WSX and W8LC enclosures; Laszlo Szatmari, who ordered 12 x W8LM and six WSX enclosures, along with Martin Audio power amps, and Rockgolyo, who have bought 12 x W8LM cabinets, six WSX subs — and Martin Audio power amps.



The Bush-Putin Summit

Rock Centrum provided two hangs of six W8LC Compact Line Arrays during the recent summit meeting between George Bush and Vladimir Putin — which was held in a mediaeval castle by the Danube River in Bratislava.

During the evening the stage was set for a programme of live performance and cultural activities. The production marked a co-operative effort between Rock Centrum, Slovakian distributors for Martin Audio, and rental company, Electronic Plus.



Sony Tropfest

"As a filmmaker, there's no other forum like *Sony Tropfest*. All you want to do is get your film seen by the biggest audience and it's here at the largest short film festival in the world. Winning this festival opens doors, it's a dream!" Thus spoke Luke Eve the first prize winner at this year's *Sony Tropfest* for his comedy/drama *Australian Summer* about two homeless guys going on a surfing safari – in their minds.

In 2005 over 130,000 watched as the 16 finalists'

above the stage. As all three screens showed the same movie simultaneously the audio requirement was essentially for 360° of coverage, with patrons spread up to 300metres from the stage.

Event specialists 3200 Lighting were on hand with an arsenal of Martin Audio Wavefront cabinets. The venue was split into six audio zones each receiving a mono signal. The three zones directly facing the screens were treated to four Wavefront Compact Line

virtually redundant, and an unnecessary line of sight interference.

An array of W8C's on stage delivered full impact to the enthusiasts in the 'pound seats', who turned up early or even camped overnight. Three banks of four WSX monster subwoofers were also stacked at the stage and provided enough bass reinforcement for the entire 100,000 — quite a tribute for Martin Audio's horn-loading and coupling technology.



"Every year we receive accolades for the system and this year was no different," commented Iain Reed,



films were beamed live via satellite to venues in Sydney, Melbourne, Canberra, Perth, Hobart and Brisbane.

The number in Sydney's Domain was estimated at somewhere close to 100,000 so production and services were all on a grand scale. A triangular stage occupied the middle of the park with live bands and announcers including host Adam Spencer. Three videowalls were suspended from a truss tower

Arrays, each delivering 90° of coverage. The off-screen axis zones received audio from a combination of W8CT and W8CM Longthrows and standard W8C cabinets depending on the length of throw required for each zone.

In previous years, 3200 had utilised a design that relied heavily on delay towers, however, the ability of the W8LC's and W8C Longthrows was so effective that the delays became

"The flexibility of the Wavefront family really makes it ideal for an event like this." Explained 3200 Production Manager Ojay English. "Because the voicing of the Line Array, W8C and W8C Longthrow cabinets is essentially the same, they can easily be mixed in a single system. As you walk through the 360° degrees and six audio zones the sound remains remarkable constant — even in the few small zone overlaps."

Technical Director of 3200 Lighting."

An Allen & Heath ML5000 occupied FOH with a GL2200 feeding foldback to Martin LE350 and LE400 Monitors. The total of 40 Wavefront cabinets was ably powered by 30 QSC PowerLight 2's with Martin Audio DX1 digital processors providing system limiting, control and delays.



Dual-Mode Debut for H3H

Perhaps the furthest flung part of the Roman Empire, Club Marconi is a tribute to the Italian community in Sydney. From humble beginnings as a meeting place for Italians in the Western suburbs of Sydney the club now provides sporting, entertainment, educational and social facilities for a whole community of varying cultures and origins.

Set on 31 acres of parkland and playing fields, and including a 12,000 seat soccer stadium, Club Marconi is not only the home of State soccer club, Marconi Stallions, but a multi-facility sports and leisure mecca.

Inside the imposing club building are two auditoriums, six bars, four restaurants, a kid's centre, a pre-school, a function centre, an entertainment lounge ... and most recently the 1,050 capacity Casa Nightclub.

Consequently a supreme sound system was one of the first parameters Marconi outlined to Sydney's leading AV contractor Total Concept Projects (TCP). TCP's capabilities were already very well known to the club management, having worked with the company over several years to integrate an increasingly complex AV system of paging, music and entertainment throughout the club.

TCP quickly recommended Martin Audio, not only to deliver the audio goods but also because they offered the profile that Marconi sought.

Consulting with TAG, Martin Audio's representatives in Australia, TCP proposed a system based on the new Blackline H3H. The Blackline speaker range was already hugely popular in Australia with a series of high profile applications including One World Sports, Arthouse Hotel and The Establishment ... but Marconi was the first application in Australia for the H3H.

Built in a horizontal configuration specifically for club applications H3H puts an unprecedented amount of audio power into a satellite cabinet. No fewer than ten of these monster cabinets were proposed for Casa.

Casa Nightclub's venue, The Auditorium, is a dual function auditorium which, as well as providing a venue for the night club, is used to stage concerts for the numerous high-profile local and international artists who perform at Club Marconi. The design brief consequently specified a split system that could be used



equally effectively as a front of house concert system or a high powered club system with music sources surrounding the dance floor.

In FOH concert mode four H3H's provide the main speakers stage left and right and are arrayed to effect even coverage of the front and middle sections of the auditorium. A further two, half way down the auditorium, are delayed, providing coverage of the rear. For Casa Nightclub the two H3H's covering the front section of the auditorium are complemented with two H3H's located with the delayed concert H3H's but pointing back to stage. A further two are located at the sides of the dance floor. Additionally, eight Blackline F8's cover the perimeter areas for both.

Five S218 double 18in front-loaded subs are located under the stage, each driven by a single 1600W bridged amplifier. Due to some past structural issues the rigidity of the stage was under suspicion. Consequently

three tonnes of acoustic dampening material were positioned around and on top of the subs to isolate the stage area. To ensure that most of the low frequency energy was directed away from the walls and on to the middle of the dancefloor an electronically tapered bass-array format was implemented with each section of the subwoofer array receiving separately processed and time aligned signals.

The system is powered by QSC amplification, while an Allen & Heath iDR-8 handles signal routing and gain settings.

Casa Nightclub, promoted as having 'the best audio system in Sydney', opened to rave reviews, with the FOH system receiving accolades from patrons and performers alike. To 'get right' both FOH and Club systems in a single venue is a rare trick and pays tribute to the quality of the audio componentry, the system design and the technical installation.



It All Adds Up

Club Add has been opened by Koichi Kase, a supporter of the Japanese club scene for years. The venue is located in Sendai, the largest city in Northern Japan and the music spans a wide variety, from House, Trance, Techno, Hip-hop and Jazz.

A Martin Audio sound system was chosen over a number of other candidates. Koichi Kase explains, "The appealing point of Martin Audio was the 'speed' of response — particularly to the low frequencies, which is something you can't find in other products. The amount of information delivered is also amazing. In fact I can't think of any sound system better than this. The audience loves it, and so do all our DJs."

Four H3's, four S218's, four F15's, four F12's and four S18's form the main floor speakers, with F12 as monitors and ten C115 in the lounge. The system is driven by the DX1 dedicated processor and MA series power amps.

The equipment was supplied by Ballad



Co Ltd, who have also installed Super Deluxe, an elegant gallery and lounge in Tokyo, with a Martin Audio system.

This comprises two W2 enclosures, two ICS300's and also a pair each of the Blackline F12 and S15. The system operates under dedicated DX1 control and is powered by MA2.8s and MA1.6s amplifiers.

Super DeLuxe, which functions as a complete space, is owned by architects Astrid Klein and Mark Dytham in conjunction with the design team of Michael Frank and David Duval Smith. Their goal is to provide "a network of creative minds" in a chameleon venue which is at various times a gallery, bar, kitchen, jazz club, film studio, cinema, concert hall and theatre.

Chainsaws in the Gardens

Martin Audio equipment was used to reinforce the ten day 2005 *Hamilton Gardens Summer Festival*, which was attended by more than 50,000 people.

The event was given its traditional boost on the Saturday night, when around 3,000 people attended the finale, the popular Turtle Lake concert. The concert started with a bang — a fire ball shooting out from the centre of the lake into the air, which surprised many festival goers.

Almost all the entertainers came from the Waikato region. Highlights included singer Kristina Olsen, Tim Berridge's New York New York concert, Lakme and the finale concert by Polynesian musicians and dancers, Te Vaka.

Driven by two diesel generators, the main concert rig featured four W8Cs hanging above six WSX subs, while on the facing stage, 90 metres away, four W8Cs were suspended 17m out over

the lake from a Merlo Telehandler (the multi-core had to travel around the lake — a distance of 150m). Martin Audio LE400C's and Blackline F12's were used for foldback and the whole system was under the control of a pair of DX1 system controllers.

According to PK Sound, the PA company responsible, the sound was thrown 100m across the water, up an 80-metre grassy slope, and then off across the Gardens, over the Waikato River and could be heard clearly 4.5km away in the still summer night air.

Martin W3s were used throughout the rest of the Festival concerts, including the *Concerto for Chainsaw & Orchestra* (featuring 36 piece orchestra and one Stihl chainsaw)!

In all, PK Sound was involved in 30 events over the festival period.

With thanks to the Waikato Times newspaper





FI2 'Chandelier' in County Assembly

Mioli is the mountain county in central Taiwan, where 80% of the population speaks Hakka.

The Mioli County Assembly has been renovated twice in last ten years to correct extreme echo, reverberation and howling. Taisheng Trading, Martin Audio's Taiwan distributor, assisted the sound contractor, Yangming Pro-audio Inc, of Taipei, to achieve the best possible solution by flying a central speaker cluster with eight Martin Blackline F12 enclosures, to provide the shortest direct sound transmission (four of these are used by the councillors and four by the county officers). A further 16 of Martin Audio's elegant C115 surface-mount loudspeakers have been installed on the second floor, facing the audience. The result is a smooth and clear sound, with both the chairman and councillors expressing their satisfaction at the beautiful speaker cluster 'chandelier'.



Blackline in Taipei Stadium



Just 20 minutes south from central Taipei the 8,000-seat domed County Stadium is now the most important event venue in northern Taiwan.

A new Blackline system has been installed by the local Kailay Engineering Co., Ltd under the technical supervision of Taisheng Trading Corporation, with acoustic analysis conducted by Peter Child, senior application engineer at Martin Audio.

Four main clusters point north, south, east and west, from the huge central LED screen gantry, with four H2's and an S218 complemented by two F15's (underneath the cluster). Augmenting the clusters are a total of 16 x H2's, 16 x S218's and eight F15's. Providing the delays are 18 x F15's (for the far rear surround seats), four F15's (for north and south) and five F15's (for east and west).



Ceramic Speakers

Vichai Trading of Bangkok have hung a cluster of Blackline F12's and groundstacked S18 subs at the Dynasty Tyetop Company. Although Dynasty are a ceramic manufacturer they needed a separate space in which to entertain their own clients.

The size of the room is around 20m x 25m — which presents little problem for the F12's and S18's — more than adequate to reinforce a small band.

"We won this project because our competitors were unwilling to arrange a speaker demonstration — or perhaps they were simply too afraid to compete with Martin Audio," reasons Vichai Trading director, Suthichai Sopchokchai

Dynasty have a second Karaoke room at their facility, where they now intend to reinvest by replacing their old unbranded speakers.





Cuisillos Join Line Array Family

Mexican Band Cuisillos have joined the Martin Audio family by purchasing 16 x W8L Line Array enclosures replacing a total of 48

conventional cabinets used previously.

The first contact between the band and Martin Audio

was made last year, during a demonstration by Audioacustica, the company's Mexican distributor, when they had the chance to compare the W8L with other brands of line array.

The difference in sound quality was the main reason for the purchase, says Audioacustica's Eric Tapia. The band — who generally play to audiences of between 20,000 and 40,000 — were impressed with the overall power and sound quality, not to mention the perfect horizontal coverage.

Their last show was in front of 35,000 — in a field measuring 160 metres by 100 metres. Two other bands with different systems from other manufacturers appeared on the bill, and the general opinion was that the Martin system offered the most power and optimum sound quality on the day —

providing complete customer satisfaction.

Audioacustica say that the change from 48 conventional cabinets to sixteen W8L has resulted in lower cost of transportation and technicians. In addition, Arturo Macías — the man behind the band — is an expert in studio recording and he is completely convinced by the sound quality and definition of the Martin system. FOH engineer Rodrigo Sánchez remarked on how quickly the new set-up was rigged and ready while production manager, Mr Luis commented on the energy saving characteristics (since a smaller power plant was required) and the additional space in the trucks.

Now Cuisillos are considering purchasing even more cabinets to enable them to play even larger venues.



Training in Tehran

Martin Audio recently supported a training day in the offices of Zir O Bam, their local dealer in Tehran, at the instigation of director, Faramarz Rafiei.

"It was felt necessary to make companies in Iran much more aware of our products and provide a better understanding of audio," said Martin Audio's Peter Owen, explaining the underlying reasons. "The day took the form of a training course and was used to promote Martin Audio, providing background

information on the company and the product ranges."

Held in conjunction with VTI, the Martin Audio agent in the Middle East, the event attracted some of the top audio companies in Iran.

Ziro O Bam have taken stock of a W8LM Mini line array system for demonstration.

Mr. Rafiei reports that the seminar is all ready starting to see success, with many companies showing a high degree of interest in the products.



Wavefront Rental Companies Around the World

● = W8 ● = W8L/W8LC/W8LM

AUSTRALIA

• 3200 LIGHTING	+ 61 2 9693 1777
• ANDY J SOUND	+ 61 8 8376 2771
• AVL ELECTRONICS	+ 61 3 9387 1055
• AVLA	+ 61 8 9221 1888
• AVSOUND PRODUCTIONS	+ 61 2 9949 9000
• CENTRESTATE PRODUCTIONS	+ 61 2 6362 0587
• DAVIDSON AUDIO SERVICES	+ 61 2 9368 1159
• DERRINGERS	+ 61 8 8371 1884
• ENTERTAINMENT INSTALLATIONS	+ 61 2 4324 3873
• JAZZRIGHT PRODUCTIONS	+ 61 2 9311 1197
• JOHNSTON AUDIO	+ 61 3 9329 3311
• MARTIN PARKS PRODUCTIONS	+ 61 2 6360 4411
• MASTER SOUND PRODUCTIONS	+ 61 2 9683 4971
• PHASE ONE AUDIO	+ 61 8 9227 7979
• SIMON STAVENUITER AUDIO PRODUCTION	+ 61 425 795 492
• STEPHEN SOUND	+ 61 3 9436 8981
• TOP END SOUNDS	+ 61 8 8981 7744

AUSTRIA

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• KRAEXBERGER VERANSTALTUNGSTECHNIK	+ 43 7242 45193
• LTV - LICHT/TON/VIDEO	+ 43 662 828 989
• MAYRHOFER VERANSTALTUNGSTECHNIK	+ 43 7667 6090
• SHOWPARTNER VERANSTALTUNGSTECHNIK	+ 43 676 4004404
• SHOWTECH	+ 43 699 11594540
• SOUNDRISE	+ 43 699 11722838
• TOPLAK MOBILE POWER	+ 43 22 39 50 58
• VIDEO & SHOW	+ 43 7229 81717

BELGIUM

• ALL AUDIO ACOUSTICS KORK BVBA	+ 32 475 5745 17
• BIG DYNAMIC	+ 32 56 72 31 50
• BSL	+ 32 93 48 80 20
• DEF	+ 32 38 44 092
• DELTARENT NV	+ 32 50 49 00 81
• D-RENT	+ 32 3 324 02 97
• FLASHLIGHT/APR	+ 32 11 60 91 92
• LGR (RENCKENS)	+ 32 11 73 44 16
• PFL	+ 32 14 44 08 70
• PHILIPPO AUDIO BVBA	+ 32 3 491 91 76
• S2 RENT	+ 32 89 819250
• SBE	+ 32 56 35 48 09
• SOUND & LIGHT SYSTEMS	+ 32 59 27 66 46
• SOUND ART PA & LIGHT SERVICES	+ 32 50 81 61 30
• STAGE PROJECTS BVBA	+ 32 75 721710
• STUDIO 2000 BVBA	+ 32 89 30 89 54

CANADA

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• SPL SOUND	+ 1 250 763 3855

CHINA

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• GUANGZHOU TV STATION	+ 86 20 8667 1161
• HUIFENG PERFORMANCE EQUIPMENT CO., LTD	+ 86 20 8481 1388
• KUNMING YIFENG INDUSTRY AND TRADE CO.	+ 86 871 316 1287
• POWER MAX (ASIA) ENGINEERING LTD.	+ 852 2661 0527

CROATIA

• NIKING	+ 385 48 270 103
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CYPRUS

• Y&M AUDIO	+ 357 22313088
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CZECH REPUBLIC

• AV CENTRUM	+ 420 602 227357
• SOUND SERVIS	+ 420 235364098

DENMARK

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• RINGSIDE TOURPRODUCTION	+ 45 3645 0701

EGYPT

• ACOUSTIC AUDIO CO.	
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ESTONIA

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FINLAND

• RMC TAPAHTUMATEKNIKKKA OY	+ 358 3 3123 7900
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FRANCE

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• ATC	+ 33 5 56 69 60 60
• AUDIO CONCEPT	+ 33 563 39 67 86
• AVANT SCENE	+ 33 534 63 02 60
• BALLOON FARM STUDIO	+ 33 2 99 32 11 11
• BGM	+ 33 466 84 39 34
• COTE BASQUE SONORISATION	+ 33 559 41 20 91
• EURO LIVE	+ 33 296 743 326
• FRANCK SONO	+ 33 164 29 26 79
• GPS	+ 33 251 686 900
• L & S PRODUCTION	+ 33 384 79 00 96
• LA COMPAGNIE DE LA LUMIERE ET DU SON	+ 33 437 40 21 60
• PRODUCTION 44	+ 33 2 40 52 07 07
• REGIETEK	+ 33 134 59 32 31
• REGI-SON SONORISATION	+ 33 555 06 20 20
• RICHARD LAURIAUT ECLAIRAGE	+ 33 385 391 535
• SCENIKAL	+ 33 473 77 19 62
• STARS	+ 33 810 56 66 66
• TECHNISCENE	+ 33 2 35 88 86 86

GERMANY

• ART VERANSTALTUNGSTECHNIK	+ 49 2332 149093
• BIG BEAT PA SERVICE	+ 49 172 4304717
• COMPLETE AUDIO BERLIN GERMANY	+ 49 30 661 00 45
• EVENT&VERANSTALTUNGSTECHNIKGHELMWIER	+ 49 2601 913116
• GS LICHT & TON	+ 49 7561 986712
• JA BESCHALLUNG	+ 49 5722 1342
• KAFER PA	+ 49 7721 408333
• KLEMENT MEDIENTECHNIK	+ 49 5626 8475
• LIVEAUDIO EVENT TECHNIC GMBH	+ 49 531 2335592
• LWS	+ 49 228 946760
• MEGATEC	+ 49 351 8386811
• MUSIK BIRKHOLZ	+ 49 2227 82753
• NEW NOISE TECHNIK FUR SHOW & EVENT	+ 49 201 8686010
• PA VERLEIH CALIMBA	+ 49 8441 6866
• PINK NOISE CORPORATION	+ 49 2405 95441

• RAIN AGE VERANSTALTUNGSTECHNIK GMBH	+ 49 8191 305858
• SAL EVENT TECHNIK	+ 49 5132 4823
• SCHALLDRUCK	+ 49 3531 65300
• SIRIUS SHOWEQUIPMENT AG	+ 49 6101 609500
• STATION AUDIO	+ 49 8225 958134
• TAMP GMBH	+ 49 6533 1794

GRAND CANARIA

• RS SONOCOM SL	+ 34 928 77 62 14
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GUADELOUPE

• SLP PRO SARL	+ 590 80 15 80
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HONG KONG

• POWER MAX (ASIA) ENGINEERING LTD.	+ 852 2661 0527
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HUNGARY

• MABA COLOR BT.	+ 36 1 29 051 03
• RMS AUDIO	+ 36 1 340 1361
• ROCKGOLOYO BT.	+ 36 96 358 867
• SZATJI LIGHT & SOUND	+ 36 66 415 606

INDIA

• THUKRAL PRODUCTIONS	+ 91 11 4311011
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INDONESIA

• E PRO	+ 62 21 7077 9399
• GEMA SWARA	+ 62 21 4517 417
• RAM AGUNG	+ 62 21 626 5329

IRAN

• ZIR O BAM	+ 9821 878 6625
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IRELAND

• REA SOUND	+ 44 (0)28 8676 4059
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ITALY

• ALIBI MUSIC SERVICE	+ 39 011 9084998
• ALIVE MUSIC SERVICE	+ 39 0173 509701
• ALL MUSIC SERVICE	+ 39 0584 770097
• ALL SERVICE	+ 39 0521 694348
• B.S.B.	+ 39 051 720625
• BIG TALU SERVICE	+ 39 0174 45314
• BLU STUDIO	+ 39 079 293179
• BOTTEGA DELLA MUSICA	+ 39 081 992509
• CINQUANTASEI	+ 39 051 6153339
• CLAPS	+ 39 0434 26882
• CORSINOTTI RINALDO	+ 39 011 6193784
• DIESIS	+ 39 0187 738354
• ELECTRA SERVICE	+ 39 0375 82919
• ELETTRA SERVICE	+ 39 0141 855405
• EMPORIO ON STAGE	+ 39 055 720794
• FAST SERVICE	+ 39 081 8237009
• FUMASOLI SERVICE	+ 39 0165 35806
• IMPERO MUSIC SERVICE	+ 39 0984 741 38
• JAMS AUDIO	+ 39 0833 782363
• LA.TO. SERVICE	+ 39 095 7442448
• MAFFEI SERVICE	+ 39 0461 707852
• MEZZANOTA	+ 39 0444 695507
• MICROFASE	+ 39 0172 389277
• MICROSISTEMI ALLESTIMENTI	+ 39 039 6093910
• MUSIC LIGHT INSTRUMENTS	+ 39 0566 56356
• MUSIC SERVICE	+ 39 0577 306022
• MUSICA E MUSICA	+ 39 0984 76800
• PHOENIX AUDIO	+ 39 041 5342349
• PIANO & FORTE	+ 39 0522 661506
• PIU SOUND	+ 39 030 2511722
• PLANET SOUND	+ 39 010 6515952
• PRO SOUND SERVICE	+ 39 0422 460241
• PROCOPPIO NICOLA	+ 39 0967 86718
• RADIO SATA SERVICE	+ 39 051 6332440
• SPRAY RECORDS	+ 39 085 975031
• T.S.S.	+ 39 0521 776810
• W.M AUDIO SERVICE	+ 39 0962 865013
• ZOH0 MUSIC SERVICE	+ 39 011 6645754

JAPAN

• ISY MUSIC HOUSE	+ 81 3 3836 3552
• USAGIYA	+ 81 88 652 2715

KOREA

• OCEAN SOUND	+ 82 2 6001 1155/6
• TM SOUND	+ 82 31 977 8157
• UTO SOUND	+ 82 31 977 8532

LEBANON

• ELTEK	+ 961 1 265048
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MALAYSIA

• WAN LEE MUSIC	+ 60 87 412 896
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MEXICO

• ARCHIBALD WOLF PRODUCTIONS SA DE CV	+ 52 4621 9170
• LARA POLANCE Y ASOCIADOS SA DE CV	+ 52 2213 1983
• MEGALITIC PROYECTS SA DE CV	+ 52 5519 3967
• SISTEMAS INTEGRALES	+ 52 5762 5941

MOROCCO

• KILMI MUSIQUE	+ 212 332 44 23
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