

OLD LYME, CT, September 28, 2013 /**24-7PressRelease**/ -- Launched at last year's IBC, Sennheiser's Digital 9000 wireless system has since become an integral part of the broadcasting, theatre and live audio worlds. The high-end solution is the first digital wireless system that can work without compression, transmitting full HD audio. We take a look back at what we've achieved together with our customers in a year of pristine audio transmission. It's a journey featuring top events such as Eurovision, global superstars like Leona Lewis, renowned theatres, and national broadcasters. And this is only the start...

The Best Sound, the Biggest Broadcast Events:

Praised by engineers and artists alike for its incredible sound, the Digital 9000 system is the perfect solution for music broadcasts. In its first year, Digital 9000 has already powered prestigious shows such as the Eurovision Song Contest and The Voice of Switzerland.

The Voice of Switzerland: Hit show The Voice of Switzerland was produced by Technology and Production Center Switzerland AG (tpc). With a reputation for staying at the forefront of technology, tpc has created a string of spectacular primetime television shows and events, including its award-winning series of live opera broadcasts. One of the first production companies worldwide to use digital desks and optical fibre networks, tpc was quick to invest in Sennheiser's Digital 9000 wireless microphone system: the company's broadcast productions make regular use of its three 8-channel EM 9046 receivers and the associated SKM 9000 handheld and SK 9000 bodypack transmitters.

The Voice of Switzerland was no exception; the show used the full 24 digital channels for the artists plus an additional 16 analogue channels for interviews. With just seven days to prepare the audio - which included the full PA in the venue and managing the broadcast sound in 5.1 and stereo - the show required a seamless blend of technical expertise and teamwork. Audio expert Peter Flückiger of tpc: "We had 160 channels on the main mixer plus an additional 80-channel desk for the band and backing vocals for the broadcast alone. In the venue, we had two FOH desks and a monitor desk for the artists' IEMs. We also used separate PA systems for speech and music."

To familiarise their engineers with the digital wireless system, tpc had organised a test run of both the digital and their existing analogue equipment. The exercise revealed the key differences, both in terms of improvements over analogue and the new skills that were demanded.

"You need to have a certain amount of knowledge about digital wireless systems," explained Peter Flückiger. "They can't be used exactly the same way as analogue microphone systems. For example, you need to be more careful about interference from LED walls and moving lights. By carefully positioning the antenna systems and by using additional and higher antennas we ensured a super reception in High Definition mode. The reward was great sound - it's amazing how much sound you can now get out of a wireless system."

Peter Flückiger: "We used the 9004 capsule for vocals and there was absolutely no handling noise! The sound is transparent, has brilliance, and the sound distortion that is so much a part of analogue systems is no more. It's quite a revelation: with Digital 9000 I can actually hear what I would be able to hear if no microphone were used."

"The psychological effect on the artists is immense: when they hear that they sound just fantastic, they become really confident, and that joy and spontaneity carries across to the audience at home, whether they have a 5.1 system or just a small stereo TV set in their living room."

The 2013 LOGIE Awards, Australia: The first use of a Digital 9000 system in Australia was at the 2013 LOGIE Awards. The Logies are one of the biggest broadcast events in the Australian TV calendar. As with previous years, the wireless microphones and in-ear monitor systems for the event were all Sennheiser and supplied and operated by SSSH! Audio. There were well over 80 channels of wireless microphone systems and another 18 channels of IEM in use on the Red Carpet, at the awards show itself and on Nine's Today show the next morning. All of Sennheiser's top-end wireless microphone systems were deployed, including Digital 9000. Guest artists used SKM 9000 handhelds fitted with a choice of dynamic or condenser capsules from Neumann and Sennheiser. "The Logies get more complex and demanding every year but Digital 9000 was more than a match for everything the event could throw at it," said Brendan Drinan from SSSH! Audio. "The system sounded fabulous - just like the Sennheiser wired mics. Despite the busy RF environment and the constantly changing procession of guest artists and presenters, everything ran perfectly."

Digital 9000 at Wimbledon Presentations: At this year's Wimbledon Championship men's final, all eyes were on Andy Murray and Novak Djokovic. With peak viewing figures at 17.3 million, the televised coverage drew the biggest audience since 1990. The feast was not only visual, but aural as well, with Sennheiser's flagship Digital 9000 wireless microphones used on Centre Court by BBC presenter Sue Barker.

The presentation from Centre Court after the Men's Final is watched by one of the largest annual global television audiences, and the audio has to be perfect. So when Sennheiser UK suggested specialist audio company RG Jones to try the new 9000 system, they jumped at the chance. RG Jones Sound Engineering is the Club's sole provider of audio equipment and services and has been working with Wimbledon for almost three decades. As well as providing equipment on hire to the Club, the company also manages the Club's ever increasing inventory of audio equipment.

RG Jones project manager Tim Speight commented: "By some margin, 9000 was the very best sounding radio mic system I have ever used, it really is as good as they say! We only need two channels for The Championships - a main and a backup - so we didn't really explore the multi-channel flexibility of the 9000 system. We did, however, make use of the multiple audio output options; we took a signal directly from one output and the BBC picked up an identical signal from another output on the device.

"The requirement for The Championships is to deliver a high-quality and reliable audio signal from the centre of the court. It is only required for approximately 30 minutes across the duration of the tournament, but it is heard by a worldwide television audience. Thank you Sennheiser, the 9000 system did exactly what was required."

Digital 9000 Took Centre Court at the US Open: The U.S. Open was the final major Grand Slam tennis tournament of 2013, with a purse of \$34 million and an audience of over 700,000 attending between 26 August and 9 September. The tournament traditionally began with the Arthur Ashe Kids' Day, which was televised by CBS Sports and included a special appearance by the First Lady of the United States, Michelle Obama. In addition to the First Lady, who was introduced by tennis champion Serena Williams and spoke about her "Let's Move" campaign for young people, Arthur Ashe Kids' Day featured performances by The Wanted, and Coco Jones.

Audio Incorporated provided the audio infrastructure, which included eight channels of Digital 9000, used together with 12 analogue channels of evolution wireless 300 G3 microphone systems, six channels of evolution wireless 300 IEM G3 in-ear monitors plus Sennheiser ME podium microphones for Ms Obama. "The Sennheiser Digital 9000 system was selected for its robust construction, audio quality, and the ability to provide us with an amount of frequencies that is not available in the analogue world," commented Michael Sinclair, VP at Audio Inc.

The Digital 9000 system also supplied flawless wireless audio at the opening ceremony, when

dignitaries including New York City Mayor Michael Bloomberg and 39-time Grand Slam winner Billie Jean King delivered opening speeches. The evening also featured a moving rendition of The Star-Spangled Banner, as performed by 11-year old Frenie Acoba, star of Broadway's hit musical Matilda.

"Considering the importance of this live broadcast event and the difficult RF conditions in New York City, the Sennheiser Digital 9000 series really shone and was the professional system that put everybody at ease," Sinclair observed. "The quality and reliability of the wireless audio as well as the overall flexibility of the system were absolutely spectacular. The built-in spectrum analyser on the Digital 9000 helped our techs consistently monitor RF signals as they came on line, keeping the audio clean and interference-free for the duration of the event."

The New First Choice for Broadcasters: Norway's TV 2 became the first broadcaster in northern Europe to invest in Digital 9000. TV 2 selected the system in December 2012 after intensively comparing a range of different digital wireless solutions. Martin Mæland, the sound engineer responsible for the wireless systems testing at TV 2 in Oslo: "Our tests began as early as May 2012, but the shootout began in earnest in autumn of that year. We tested the systems in the live broadcasts of God morgen Norge and Ettermiddagen. All digital wireless systems had their own strengths and certain unique features. Our main requirement was that the new system should offer great sound and that we would be able to handle and manage it as easily and intuitively as our existing system. Digital 9000 was the system best able to meet the greatest number of our requirements and expectations. Its sound - both in High Definition and in Long Range mode - had us convinced."

TV 2 acquired 24 channels of Digital 9000, and installed the system with a special antenna deployment solution developed jointly by Sennheiser Nordic and Sennheiser's international head office.

Televisa Delivers Outstanding Music Programmes: Televisa was the first broadcaster in Latin America to opt for Digital 9000. In November 2012, Televisa acquired a 24-channel system which was immediately used for the second season of The Voice Mexico, and later for Teletón, a popular music and entertainment show that raises money for charity and operates - via the Teletón Foundation - more than 20 rehabilitation centres for children and teenagers across Mexico.

Seeing that the system was ideal for their music shows, Televisa expanded it by another eight

channels in 2013. For each channel, the broadcaster can choose between bodypack or handheld transmitters. Later this year, Digital 9000 will be used for the third season of The Voice Mexico.

Further Digital 9000 highlight projects include the 2013 Swiss Music Awards, the 2013 PRG Live Entertainment Awards, Anugerah Juara Lagu - Malaysia's major annual music competition, and the third series of X Factor in Germany, produced at MMC Film & TV Studios, Cologne.

Further production companies and broadcasters using Digital 9000 include Tele Züri, RTS (Radio et Television Suisse Romande) and SRG SSR (Schweizerische Radio- und Fernsehgesellschaft) in Switzerland, German broadcaster NDR, which has just expanded its existing 16-channel system by 16 more channels for TV OB applications, Grupo Diez in Mexico, Pro Plus in Slovenia, and France Television Nancy, to name but a few.

Taking to the Stage - A Smash Hit in Theatres:

Digital 9000 also proved strong in the theatre world, as can be seen by three recent installations in Finland, open-air events in Switzerland and Germany and pioneering sound design work in the UK.

Transparent HD Sound for Helsinki City Theatre: In Finland, Petteri Murto and Jonas Næsby of Sennheiser Nordic worked to facilitate the installation of Digital 9000 in three prestigious theatres, one of them being the renowned Helsinki City Theatre.

Founded in 1965, the Helsinki City Theatre (Helsingin Kaupungin-teatteri) is the biggest professional repertoire theatre in Finland. Whether Finnish or foreign drama, comedies, children's theatre, musicals or performances by its own Helsinki Dance Company - the theatre attracts more than 350,000 spectators a year, putting on around 1,100 performances and 20 new productions annually.

This year, Helsinki City Theatre upgraded its audio system by investing in a 40-channel Digital 9000 solution. Five EM 9046 eight-channel receiver units were combined with 42 SK 9000

bodypack receivers and ten SKM 9000 handheld transmitters with Sennheiser MD 9235 and Neumann KK 204 capsules. These are in use for the main stage with over 900 seats.

Antti Rehtijärvi, Head of Lighting and Sound of the Helsinki City Theatre: "We already started the planning of the new wireless system in late 2011 due to the legislation change with regard to the frequencies for wireless transmissions. At that time Digital 9000 wasn't ready but we got a chance to view the prototype and it looked really promising. We ended up postponing our project until Digital 9000 was officially released."

At the beginning of 2013, the system was specified, and towards the end of the summer the installation was finished as part of bigger sound system refurbishment.

"Our first season with the new system has just started," continues Antti Rehtijärvi. "We are very pleased with the transparent sound that Digital 9000 provides us with, especially in HD mode. The system is a great tool for our demanding musical and drama theatre productions."

Dear World at Charing Cross Theatre: An all-star cast came together at the Charing Cross theatre for the London production of Broadway musical, Dear World. Sound designer Mike Walker, a longtime Sennheiser user, saw the production as the ideal way to see how the Digital 9000 system sounded.

"I wanted to try the 9000 series on a production with various vocal ranges, to hear it with excellent singers at the top of their game," he said. "The show was using fourteen 5000 series systems - EM 1046 with SK 50 transmitters. After a few weeks of letting the show settle and having got used to how it sounded, I switched to the 9000s."

"I really like the 5000 series - of the existing Sennheiser systems I think it's the best suited to voices and I've been very happy with the quality of audio it delivers," Mike said. "But the 9000 series completely surpassed it - it's the best-sounding digital microphone system I've heard. Because the audio is so transparent, it highlights the way that compression circuitry in analogue systems affects the dynamic quality of the sound."

"It's very straightforward to set up and is an excellent amalgamation of technology, engineering and audio quality, the latter being my priority. It far surpassed what I thought it would be capable of. Compared to any other wireless microphone system I've heard, it's quite amazing!"

Dramatically Better Sound for Merrily We Roll Along:At the Harold Pinter theatre, Sondheim's Merrily We Roll Along was awarded more five-star reviews than any other West End show in history. Sound designer Gareth Owen had first tried the Digital 9000 system on last winter's production of Jack and The Beanstalk in Glasgow - the UK's only arena pantomime - but Sondheim proved a very different challenge.

"The trouble with panto is that there are so many variables regarding how a show sounds, that you can't always tell whether differences in sound are because of different equipment or other factors," said Gareth. "Merrily We Roll Along was a really good test for the system because, with Sondheim, the trick is to make the show sound unamplified, but without losing the excitement. You tend to put so much effort into making a Sondheim musical sound natural that it's easy to make it sound boring."

Gareth's aim was to make the show sound 'cinematic', without it sounding amplified. To achieve this, the quality of the vocal sound was key. "Initially we tried the 9000 series out on less important characters in chorus, but we were so impressed with it that we moved the principals on to it," he said. "I knew it worked, the question was how much better was it than other systems? On Merrily, we instantly realised that it's dramatically better."

The show featured eight Digital 9000 channels working seamlessly alongside 24 channels of EM 3732-II. "We had no problems at all, it was very reliable and the coverage was good. I also really liked the way the monitoring software was integrated between the two systems," Gareth said. "The ease of set-up was excellent - the way the system scans, it looks at what else is going on and works out the best frequency to put each unit on. We also often have opening night troubles where television and press turn up and start running other radio systems. There was none of that this time - the 9000's ability to deal with it was remarkable."

Switzerland Turns a Whole Village Into a Stage:In the Swiss monastic village of Einsiedeln, "Das Einsiedler Welttheater" ("World Theatre of Einsiedeln") celebrated its premiere on 21 June, turning the impressive monastery square into a huge open air stage with 2,700 seats. The play by Tim Krohn is based on a 17th century work by Calderón de la Barca, and describes the individual's quest for happiness and perfection in a world where medicine promises to cure all

physical and mental ailments via genetic manipulation.

300 amateur actors from Einsiedeln were part of "Das Einsiedler Welttheater", and had committed themselves to be available for the full run of the play until 7 September. Music had an important function too, and was played live at all 41 performances. To ensure that all actors and musicians got heard, Sennheiser Switzerland had deployed a 72-channel RF wireless system with 48 analogue 3000 and 5000 Series systems, including two wireless microphone booms with SKP 3000 plug-on transmitters, and a 24-channel Digital 9000 system for the main actors.

Opera at the Lakeside with "Klassik am See": Once a year, the lakeside of idyllic Dechsendorfer Weiher in Germany turns into a fully-fledged open-air opera house. At the end of July 2013, opera enthusiasts enjoyed Verdi's La Traviata in a semi-dramatised production conducted by Ljubka Biagioni. Alongside various wired MKH condenser microphones for the orchestra, the opera made use of a 14-channel Digital 9000 system for the soloists and hosts. While the hosts of the opera night spoke into SKM 9000 with ME 9005 heads, the soloists of La Traviata were fitted with SK 9000 bodypack transmitters and HSP 4 head-worn mics.

Florian Johann Denzler, tonmeister of the opera production, commented on the sound of the wireless system: "The High Definition mode of the Digital 9000 system ensured a truly crystal-clear transmission. Combined with the transparent and direct sound of the HSP 4 headset mics, the audience was treated to a fantastically pure sound. Also, the HSP 4 mics excelled due to their extremely high feedback rejection, which made it possible for the soloists to act in front of the PA and in the auditorium. This would not have been possible with any other microphone solution."

Making Live Audio Come Alive:

In its first year, the Digital 9000 has proved itself with some of the world's top performers.

Benny Ibarra: Benny Ibarra is the first Latin American artist to switch from a Sennheiser 5000 Series system to Digital 9000. In July, the singer, producer and actor from Mexico City acquired an 8-channel system including three SKM 9000 handheld transmitters with MD 9235 capsules and five SK 9000 bodypacks with instrument cables.

Born into a family of artists, Benny began his musical career with the pop band Timbiriche, and after 11 years, kicked off his solo career with the album *Hablame Como La Lluvia* in 1992. Since then, he has published ten more albums, many of them winning gold and platinum, and went on to become Mexico's most popular pop and rock singer.

Benny is currently touring with artist friends Sasha Sokol and Erik Rubin, with whom he has joined forces. The trio released their first album - *Primera Fila Sasha Benny Erik* - in November 2012. Just one week later, this live recording went gold, soon followed by platinum and finally triple platinum in 2013. On their tour, Sasha, Erik and Benny sing their solo hits as well as shared hit singles such as *Cada Beso via SKM 9000 microphones*. The tour started in October 2012 and has continued in 2013, wowing fans across Mexico.

Claudia Lette: One of Brazil's biggest stars, Claudia Lette, brought her unmistakable axe sound to the Montreux Jazz Festival in July. Using a Digital 9000 microphone system, she thrilled the audience in the Auditorium Stravinski with the musical style that originated in Bahia in the 1980s and that quickly spread over the whole of Brazil. In Montreux, she presented some previously unreleased songs from her upcoming DVD, "Axemusic". Roque Almeida, her monitor engineer, was thrilled by the microphone system: "It was fantastic to have the 9000 system for our concert at the Montreux festival. Claudia was very happy to sing with this excellent microphone."

Leona Lewis: British superstar Leona Lewis has become a regular user of Digital 9000, and also used the system on her *Glassheart* tour in May. Complementing the tour's audio system, which was supplied by SW19 Productions, Sennheiser UK supplied SR 2050 and EK 2000 in-ear monitors and a Digital 9000 wireless microphone package. The latter comprised ten SKM 9000 handheld microphones with MD 9235 capsules, seven SK 9000 belt packs for guitars and the show's string quartet, plus a pair of EM 9046 receivers.

The tour's venues ranged from regional concert halls through London's Royal Albert Hall to arenas in Birmingham and Liverpool. Despite playing to an 'Academy' style seating plan in the arenas, the acoustics were obviously very different in the various venues.

Her FOH engineer Dave Wooster is full of praise for the Digital 9000 wireless system. "The remarkable clarity of the 9000 series means that every gig showed off all that's great about Leona's voice. The vocals were truly stunning," he says. "The string section really showed how the 9000 series bodypacks perfectly captured their character. Having a system that fully and accurately captures the full audio spectrum without affecting the audio needs to be heard by all

engineers, the benefits are staggering."

Depended on by Top Rental Companies:

MM Communications:The biggest deployment of Digital 9000 systems with a rental company worldwide is with Berlin-based MM Communications. The company owns twelve eight-channel receivers, each of which is available with eight handheld transmitters or eight bodypack transmitters to ensure optimum flexibility for the customers. Their system was also used at the recent Eurovision Song Contest in Malmö, which featured the biggest Digital 9000 system used to date.

"The systems are used wherever highest audio quality is a must," said MM Communications founder, Markus Müller. "This includes broadcast applications and studio recordings. The fact that the system can transmit encrypted data and is thus tap-proof makes it an ideal choice for my political and industry customers too."

AED Rent:AED Rent - with subsidiaries in Belgium, The Netherlands, the United Kingdom, Germany and France - is a total solutions provider, offering its customers a variety of opportunities in the rental, sale and financing of sound, light and video equipment. The company has prestigious projects such as the Olympic Games, various European Football cups and the 2012 Queen's Jubilee under its belt.

"In 2011, we stocked up on Sennheiser's analogue systems, which proved to be a great success. Our international customers lost no time in contacting AED Rent for hiring Sennheiser products," said Piet Verstraete, sound engineer and account manager at AED Rent. "At the end of 2012, we added a 24-channel Digital 9000 system - each receiving channel with a choice of either handheld or bodypack transmitter - to expand our business in the fields of broadcasting and larger theatre productions."

"Digital 9000 is an extremely promising system and offers excellent audio quality. We have strong faith in Digital 9000's future, particularly due to the brisk expansion of digital applications in the audio industry. At present, Digital 9000 is the only wireless microphone system with totally digital operation, while possessing all the acoustic qualities that we have learnt to expect from Sennheiser."

Jonas Productions: Jonas Productions, Inc. is a specialty audio and backline service company with a primary focus on backline. The company, which has offices in Indianapolis, Las Vegas and Sydney, Australia, is a longtime user of Sennheiser and handles the touring production for Harry Connick jr. and many of the major music festivals in the U.S., Canada, Mexico, Caribbean and Australia. When the company was in the process of expanding their inventory, they also invested in a Digital 9000 system. Ted Jonas: "The timing was right and the system itself was really impressive. Since Digital 9000 works in almost any situation, be it film, broadcast or special events, it seemed like the right investment to make - especially with RF environment getting as busy as it is."

"Sennheiser products have always given us an edge and have been a reliable tool that you can count on. Competition is really tough in the marketplace, and if you can offer something that is better than anything else, it gives you an edge. As an audio manufacturer, Sennheiser has always been able to do that."

"One thing that impressed us about Digital 9000 was the ability to keep the entire signal chain in the digital domain: all the way from the mic to the speaker itself. Currently, we use the Midas interface right out of the Digital 9000, and maintain digital right from the microphone itself all the way to the speaker box. And we can still have the digital split to monitor and front of house. As far as I know, that's something that nobody else can do."

"Sennheiser has always stood behind its product. When I think of Sennheiser, I think of reliability. From a rental perspective, their products may cost a little more than the competition, but you are always going to earn it back over the long run."

Further rental companies offering Digital 9000 to their customers include Tapages & Nocturnes, one of the largest rental companies for broadcast and cinema in France, and SONO Studiotechnik GmbH in Germany.

The Sennheiser Group, with its headquarters in Wedemark near Hanover, Germany, is one of the world's leading manufacturers of microphones, headphones and wireless transmission systems. In 2012 the family company, which was founded in 1945, achieved a turnover of around 584 million euros. Sennheiser employs more than 2,300 people worldwide, and has manufacturing plants in Germany, Ireland and the USA. The company is represented worldwide by subsidiaries in France, Great Britain, Belgium, the Netherlands, Switzerland and Liechtenstein, Germany, Denmark (Nordic), Russia, Hong Kong, India, Singapore, Japan,

Digital 9000 - Sennheiser's Digital Wireless System Makes Waves in Its First Year

Written by Australian Business

China, Australia and New Zealand, Canada, Mexico and the USA, as well as by long-term trading partners in many other countries. Also part of the Sennheiser Group are Georg Neumann GmbH, Berlin (studio microphones and monitor loudspeakers), and the joint venture Sennheiser Communications A/S (headsets for PCs, offices and call centres).

You can find all the latest information on Sennheiser by visiting our website at <http://www.sennheiser.com>.