

Inter BEE 2009

International Broadcast Equipment Exhibition

C O N T E N T F O R U M

Audio Symposium

**The Current State of Music Production and
Future Trends - What is the Future after CDs?**

■Coordinator

The Current State of Music Production and Future Trends - What is the Future after CDs?

Mr. Mick M Sawaguchi

Advisor, Pioneer Corporation,
Fellow M / AES / IBS



Profile:

After graduating from the Faculty of Electronics Engineering, Chiba Institute of Technology in 1971, Mick Sawaguchi joined Japan Broadcasting Corporation (NHK) in the same year and was assigned to the Yamagata Bureau. He worked as a mixer for audio drama productions at the Program Production Engineering Department in NHK Broadcasting Center. After serving as Director of Program Production Engineering Department starting in 2003 and retiring from NHK in 2005, he joined Pioneer Corporation, working in audio promotion at the Technical Strategy Department, Research & Development Group. Currently, he conducts research activities, seminars, lectures and papers about the development of audio technologies.

Since April 2006, he has been in charge of sound design in the Musical Creativity and the Environment Course, Faculty of Music, Tokyo National University of Fine Arts & Music. He launched the jazz label UNAMAS in September 2007 as a tool for production activities.

His expertise is in sound design for drama productions. Since 1985, in particular, he has focused on designing studios and developing software for multi-channel surround-sound audio, setting a premise for the digital age. From 1987 on, he worked on an FM radio drama in Dolby Surround, and from 1992, was engaged in developing surround production software for 3-2 surround HD-TV drama series, while developing production guidelines to spread the technology and studying next-generation audio. More recently, he has overseen the planning and operation of the sound category of the Inter BEE International Symposium, and serves as a member of the judging panel for the mixing category of the JPPA-Awards. He is a board member of AES' Japan section as well as the JAS, in addition to serving as Vice Chair of the AES Technical Committee on Studio Practices & Production.

In 2002, he was awarded a fellowship from the AES for his contribution to surround-sound, and was similarly recognized by Europe's IBS in 2003. In 2004, he was recognized by the ABU for the Best Technical Paper of FY2004, and in 2005, to observe the 10th "Day of Sound," JAS declared Sawaguchi a "Master of Sound" for his many years of work on surround audio.

Overseas

A Fellow of the Audio Engineering Society (AES), an international audio organization

Currently Vice Chair of the AES Technical Committee on Studio Practices & Production (TC SPAP)

A Fellow of the Institute of Broadcast Sound (IBS), a European organization for broadcast sound

With a history spanning 20 years since its launch in the early 1980s as a digital music contents medium, current market rates for the CD have shifted from slow growth to decline. Music production and its supporting pro audio and consumer audio are undergoing significant changes in an effort to link-up. Major music labels are entering into mergers and alliances in a bid for survival; prestigious recording studios have started to bring the curtain down on their illustrious pasts; and million-seller hits have all but disappeared. On the other hand, mobile digital audio players known as DAP that target young generations, have introduced a new way to enjoy music contents. Together with the decline of the major labels, distinctive minor labels and manufacturers of high-quality audio products have started to launch their own labels, and prestigious orchestras are carrying out their own productions. Recent hot news has emerged about new business models in Europe and America that distribute HD-video and high-quality sound concert performances worldwide.

It would not be an exaggeration to say that the current situation has literally reached a historical turning point for music production business models. Based on the items below detailing these turning points, the 2009 Acoustic Forum aims to give an overview of current circumstances while introducing examples of new business models for the future.

The main points are:

1. Current state of the music industry
 - State of mergers and alliances between global record companies
 - Current state of downloading business
 - The rise of DRM Free software to curb copyright infringement
 - Backdrop to a new era of individual creators
2. What is the future after CDs?
 - Packaged software – protect CDs or instigate conversion to BDs?
 - Unpackaged-style compressed and simple distribution support
 - Lossless 96/24 HD distribution support
 - Quest for new business models starting from minor labels
 - How should major labels approach the next step?
 - How to specialize in the rights business?
3. Music hasn't lost its popularity!
 - How to build business models that provide flexible support for diversifying music needs?
 - What leading examples are there; what is the reality; and what are the issues?
 - What digital and network application examples are there?

Audio Symposium

To answer such questions, 4 presentors from Japan and overseas will each provide a lecture injecting their own viewpoints.

Mr. Junzo Suzuki (Victor Entertainment, Inc.) will provide an overview of the overall state of the music industry to the present day, and talk about issues and predictions concerning new business models in the future.

Mr. Morten Lindberg (2L Records, Norway) has agreed to give a demonstration and lecture relating to a new post-CD media approach they have focused on looking at HD audio and sound by Blu-Ray Disc, as well as details concerning business models and production techniques compatible with the online distribution of HD audio and sound.

Mr. Mark Waldrep (AIX Records / iTrax), who is with a US west-coast based label, will be giving a lecture on various compressed sound sources such as DTS/Dolby/MP-3 from linear 5.1ch surround to provide the same contents, in addition to discussing details and issues about a business model that offers a wide range of choice to users through a format and package service renewable according to cost and quality from packaging to distribution. This concept, which shifts focus from standard one-way package provision to diverse user-centered services, will undoubtedly provide food for thought for music production in our nation.

Mr. Yukinari Tanaka (Onkyo Entertainment Technology Corporation), who launched one of the first PC-Audio businesses and pioneered HD distribution through "e-onkyo music" in 2005, will provide a lecture on future music needs and new approaches from a user-perspective.

* "Terakoya" refers to small-scale private classes often taught in the teacher's private home that were common before the introduction of a national compulsory education.

Japan

A member of the Acoustical Society of Japan, the Institute of Image Information and Television Engineers, and Japan Audio Society

Inter BEE International Symposium Steering Committee member, member of the judging panel for JPPA Award mixing category

His recent written work, Surround Seisaku Handbook (Surround Production Handbook) from Kenrokukan Shuppan, is a compilation of engineering know-how from around the world (available in Japanese, Chinese and Korean).

He is currently holding monthly surround-sound classes at his home studio in order to bring the world of surround production to composers, artists, designers, engineers and others.

Surround TERAKOYA:

<http://hw001.gate01/mick-sawa>

■Coordinator

The Current State of Music Production and Future Trends - What is the Future after CDs?**Mr. Toru Kamekawa**

Associate Professor,
Tokyo University of the Arts' Department
Musical Creativity and the Environment



Profile:

Mr. Kamekawa joined Japan Broadcasting Corporation (NHK) after graduating from the Kyushu Institute of Design's Department of Acoustical Design in 1983. He worked on program production (audio), which involved overseeing music program production such as NHK Symphony Orchestra concerts, as well as research into new recording production techniques including hi-vision 5.1 surround.

In October 2002, he took up the post of Assistant Professor (currently Associate Professor) at the Tokyo University of the Arts' Department of Music. He supervises research of audio and recording technology at the Department of Musical Creativity and the Environment and Graduate School Music Culture Program for Music and Audio Creativity.

He is a board member of the Audio Engineering Society (AES) Japan Section; and a member of the Acoustical Society of Japan, the Japanese Society for Music Perception and Cognition, the Japan Audio Society and the Japan Association of Professional Recording Studios.

His field of specialty is surround music recording. This includes a number of projects such as surround music mixing for television, film and games. He is also currently conducting research on space expression through surround sound recording, and ways to listen to music in public spaces.

In October 2009, he received a Board of Governor award from the AES head office for his activities on behalf of the AES Japan Section.

■Presenter

Current state and future of the music industry**Mr. Junzo Suzuki**

Manager, Technical Development /
Victor Studio Soft Engineering Division,
Victor Entertainment Inc.

Since the launch of CDs in 1982, recording industries in Japan and worldwide have shown steady progress. Even during the post-bubble Japan of the 1990s, the recording industry was able to sustain strong economic performance and enjoy an unparalleled level of prosperity. However, as CD production reached its peak in 1998, production decline started to set in and this trend has continued to the present date. Poor CD sales is not restricted to Japanese, it is a worldwide phenomenon. In addition to the recording industry, sluggish sales have also had a significant impact on audio equipment manufacturers and this industry now faces an unprecedented crisis. It is argued that poor CD sales have also been affected by CD piracy, illegal music file distribution and sharing, and advancements in digital and network technology.

On the other hand, when one looks back at the history of the recording industry to the present date, a number of technological transformations have taken place such as 1) switch from SP to LP; 2) start of radio broadcasting; 3) start of television broadcasting; 4) the emergence of the tape cassette recorder; 5) switch from LP to CD; and 6) the start of music distribution via the Internet. This demonstrates that despite experiencing temporary slumps due to technological change, the recording industry has overcome such problems and continued to grow.

Current digital and network advancements may have caused an unprecedented crisis due to previously unseen technological changes but one could also say that it is an opportunity for the music industry to explore new avenues.

Therefore, first I would like to outline the current state of CD and music distribution in Japan and across the globe. Then, I want to take into account the positive effects of technological changes caused by digital and network advancements (such as high-quality sound, multi-channels and music distribution). Lastly, I will consider the theme of this symposium: "what is the future after CDs?"

Profile:

He is currently serving as a Manager in the Contents Technology Division at Victor Entertainment, Inc.

- 1986 Entered Victor Company of Japan and was assigned to the General Research Institute. There he was involved with the development of authoring systems utilizing MPEGs such as video CD and Sega Saturn.
- 1996 He became a member of WG-3 (file format) DVD Forum, where he was involved with development of authoring system for DVD-Video.
- 2000 Transferred to Victor Entertainment, Inc., joining the Multimedia System and Contents Technology Divisions. He worked on the launch of music distribution for PCs and cell-phones.
- 2002 Started developing software for Victor Company of Japan and high-quality sound technology (netK2).
- 2003 Worked on the development of ring-back tone (RBT) authoring systems for NTT DoCoMo and KDDI.

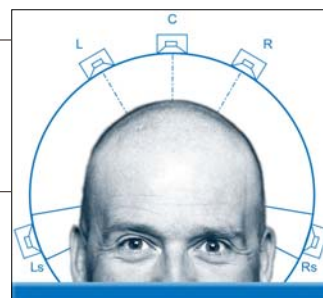
In addition, from 2003, he became member of Recording Industry Association of Japan's information and technology committee. His responsibilities include taking measures against CCCD, DDP and the illegal distribution of music.

■ Presenter

Recording music for Blu-ray

Mr. Morten Lindberg

President,
Lindberg Lyds As (2L)



Profile:

Morten Lindberg (b. 1970) started his professional career as recording engineer in 1993, educated in the classical tradition of two-track venue recording.

Frustrated by stereo not being able to recreate the depth and spatial resolution experienced live on stage, surround sound presented a great relief. Morten's work as a balance engineer and recording producer has now resulted in five nominations at the American The Recording Academy's GRAMMY-awards, including "Best Engineered Album" and "Best Surround Sound Album". Morten is the founder of the audio production company Lindberg Lyd AS and the publishing label 2L.

Blu-ray is the first domestic format in history that unites theatre movies and music sound in equally high quality. The musical advantage of Blu-ray is the high resolution for audio, and the convenience for the audience as one single player will handle music, films, their DVD-collection and their old library of traditional CD.

What we are seeing is a completely new conception of the musical experience. Recorded music is no longer a matter of a fixed two-dimensional setting, but rather a three-dimensional enveloping situation. Stereo can be described as a flat canvas, while surround sound is a sculpture that you can literally move around and relate to spatially; with surround you can move about in the aural space and choose angles, vantage points and positions.

By developing one common format the surround technology that we have been working with for years finally becomes accessible to the general public. Fairly soon almost all disc players will be Blu-ray devices, and already now a majority of the sound systems that come off the shelf are 5.1 surround systems. People buy the equipment for the sake of film entertainment, but with it they get access to the unique musical experience that we are offering. Stereo is still possible of course, but the fact is that the resistance towards surround is mostly based on ignorance. People just don't know what they are missing out on.

A senior Norwegian HiFi journalist visited our studio recently. Prior to our listening session I explained to him how we recorded MOZART and DIVERTIMENTI with the orchestra in a circle, all musicians facing each other – surrounding the listener. He rose from his chair and wanted to leave. I begged him to listen - and he stayed for three hours; leaving us with the conclusion: "Now I need to go home and write an article apologising all my readers for the thirty years I have misguided them in stereo. Surround sound is the real thing."

The musical and technical process of recording and editing are identical for SACD and Blu-ray. When I started as a recording engineer in 1990 there was no focus on surround sound in classical music. It was the introduction of SACD that made us aware of this magnificent perspective. Surround sound gave us the solution to the depth and spatial resolution we experienced live on stage in a concert house, but were not able to recreate in stereo.

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We prefer to record in spacious acoustic venues; large concert halls, churches and cathedrals. This is actually where we can make the most intimate recordings. The qualities we seek in large rooms are not necessarily a big reverb, but openness due to the absence of close reflecting walls. Making an ambient and beautiful recording is the way of least resistance. Searching the fine edge between direct contact and openness; that's the real challenge. A really good recording should be able to bodily move the listener.

This core quality of audio production is made by choosing the right venue for the repertoire, and balancing the image in the placement of microphones and musicians relative to each other in that venue.

Planning and discussions with the musicians create trust and a sense of occasion and excitement that translates onto the recordings. What we insist upon in the recording phase is time. We usually spend from four to six days of recording on a 60-minute repertoire. In credit of the musicians I need to say that this is not in need of getting the score right, but in order to bring forward the right mood and dimensions.

At most projects the entire first day is spent bringing the dimensions down from a 1500-people hall to the proximity encountered on a home-visit to your living room. The challenge of this process is to get the volume down, keeping the intensity and energy up, without being intrusive. There is no method available today to reproduce the exact perception of attending a live performance. That leaves us with the art of illusion when it comes to recording music. As recording engineers and producers we need to do exactly the same as any good musician; interpret the music and the composer's intentions and adapt to the media where we perform.

About 2L

Norway is blessed with many churches and cathedrals and most of 2L's recordings are made in these wonderful spaces. The music captured by 2L features Norwegian composers and performers, and an international repertoire reflected in the Nordic atmosphere. The traditional way to illuminate and enhance an identity is to define the borders to operate within. This Norwegian label has chosen a different path as the products are developed without fences, originating from classical European art music and traditional folk music, recognizing the fundamental values of musical performances and excellent sound production.

It's never too late to uncover original music. Such a reward is always worth the wait. 2L is proving precisely that. Lindberg Lyd AS is the full name. Lyd,

in Norwegian, means audio, or sound. The young founder Morten Lindberg was born in 1970. While still in the recording academy, he already got a head start by moonlighting in recording studios. He got the leverage from his classical music training, trumpet and choral. While most of his classmates were just preparing themselves to work in pop music industry, Morten was gaining experience and earning references from classical musicians and recording in churches and concert halls. One year after graduation, he already had accrued 45 recordings to his credit as balance engineer, and contributed to The Grieg Edition, awarded MIDEM Classical Award - Best Special Project in 1994.

In the classical music world, 2L is still a young label. But the team definitely has an edge since all the players are both keen musicians and engineers.

Lindberg Lyd was nominated for the US GRAMMY-award 2007 for their production of Immortal NYSTEDT (2L29SACD) in categories "Best Surround Sound Album" and "Best Choral Performance", followed by yet three Three GRAMMY-nominations in 2009 for DIVERTIMENTI (2L50SABD) as "Best Small Ensemble Performance", "Best Engineered Album" and again "Best Surround Sound Album".

Fifteen years ago, when their studio came into operation, all of the Lindberg Lyd projects were services provided to other labels, which included EMI/Virgin, Naxos, ASV, Hyperion, Linn and Philips, among others. Currently half of Lindberg's studio output is for its own label 2L, totaling 70 classical and traditional releases and the projection is 12 per year from 2009 onwards.

The core quality of audio production is made by choosing the venue for the repertoire and balancing the image in the placement of microphones and musicians. Lindberg Lyd travels all over Scandinavia for the right cathedral or chapel. However, it is the team's attitude to surround sound, which they started working seriously in 2000, that puts them in a completely different league from most multi channel classical engineers. They're not scared to experiment and to put the listener in the thick of the music rather than in a seat at one end of the hall. They've made recordings with the orchestra in the front and the choir behind and the musical results are remarkable.

Planning and discussions with the musicians create trust and a sense of occasion and excitement that translates onto the recordings. "The tools we have, even with a good surround set up, is not a perfect way to bring an audience to the concert hall; we still have to work the art of illusions," says Morten Lindberg.

"This is one of the ways to do that – to bring the

Audio Symposium

listener into the music and in among the musicians to be a part of it." That's not to say that they won't record in a more traditional surround format but they allow the venue, repertoire and musicians to suggest a configuration to them. It's a healthy attitude towards multi channel that doesn't hide behind the usual excuses of worrying about integrity of listener's loudspeaker layout. They're recording surround for those who want to listen in surround and the stereo layer of the hybrid disc is there for those who don't.

The 2L label is best described as a premium brand with very high production and packaging values. "We are in a very fortunate position in Norway because we have cultural grants from the government to help preserve and re-vitalize our cultural heritage and that means Norwegian repertoire both in a historic and contemporary perspective," explains Morten. "Our strength is where we live, where we have grown up and where we have our local knowledge and culture.

We also have a choice of venues that other countries do not have. You might consider this an invitation to other labels to visit Norway, make their recordings and publish worldwide."

Lindberg Lyd has been passionate about SACD and since the year 2000 has been making serious investment in the new format through advanced equipment and pioneering technology like DXD. Now exploring the possibilities of Blu-ray proves that 2L is not committed to format. Their heart lies with music in high resolution multi channel audio, distribute on the carriers that at any given time reach the largest audience.

Their approach to recording is somehow different from the others. They would not shy away from using the surround channels to their full potential, dedicated to actual instruments or vocal parts instead of just the ambience. The music seems to be more engaging and more involving, putting the listener right in the centre of music making. Most multi-channel projects are all discrete 6-channel recordings employing six microphones and six recording tracks (sometimes augmented with back up or fill in microphones and tracks). Depending on the repertoire and the recording venue, but whenever possible, they would avoid cardioid microphones that have narrow directional characteristics. In the recording of Mozart's concertos for violin and orchestra (2L38SACD) the members of the orchestra formed a circle, with the five microphones set up in the middle. That places the listener into the position of the conductor. Vibrancy is in the air. Tone of the instruments is vividly natural.

The Gregorian Chant recording by Consortium Vocale Oslo (2L43SACD) also conjures lifelike presence without exaggerating hi-fi excitement. Both these titles are DXD processing. The result is sonic quality that exemplifies high definition and fine, smooth texture. The signal path is as simple and short as it is technically advanced and the company has devised a formula which Lindberg Lyd describe as: "Fantastic musicians and adventurous music in a beautiful venue!"

■Presenter

HD Surround Music: Optical Discs or Downloads?



Mr. Mark Waldrep

President / CEO,
AIX Records and iTrax.

Profile:

Mark Waldrep is founder, president and CEO of AIX Records and iTrax.com, which are wholly owned subsidiaries of AIX Media Group. AIX Records and iTrax.com produce and distribute High Definition audio/video music recordings on discs and through the Internet.

Dr. Waldrep has been a pioneer in the integration of digital multimedia technologies and the entertainment industry for over 30 years. He was instrumental in the development of the enhanced format (The Rolling Stones, Britney Spears, 311), produced and released the very first DVD-Video titles in March of 1997, is the producer/engineer of the largest catalog of HD Audio recordings, and developed the first and only exclusively HD 5.1 surround music download site on the web. He has worked with Neil Young, Bad Company, The Rolling Stones, The Allman Brothers and the San Francisco Symphony on multimedia and HD Audio projects.

Dr. Waldrep holds a Ph.D. in music from UCLA, an M.S. in computer science from CSUN, an M.F.A. in composition from Cal Arts, a M.A. in music from CSUN, a B.A. in 3-dimensional art and a B.M. in music from CSUN. Dr. Waldrep lives in Pacific Palisades, California with his wife, Mona. They have three children.

AIX MEDIA GROUP

Los Angeles-based AIX Media Group is an award-winning new media production company that specializes in high-end, surround music productions for AIX Records and for other artists. AIX Records has developed a line of 58 "ultimate fidelity" recordings that have been used by Acura, Creative Labs, Meridian, Porsche, Maserati, Ferrari, Microsoft and Intel to demonstrate the next level of audio reproduction.

**HD Surround Music:
Optical Discs or Downloads?**

What is HD Music, how is it produced and how is it distributed?

Presented by Mark Waldrep, Ph.D.
AIX Records and iTrax.com

**HD Surround Music:
Discs or Downloads?**

An overview

- What is High Definition Music and how is it produced?
- What is audio resolution and why does it matter?
- Audio Spectragrams – A 3D View of Audio Quality
- Stereo vs. Surround Playback: Presentations of Space
- Audio Provenance – Tracking the Entire Signal Path
- HD Surround Audio: The Distribution Dilemma
- Blu-Ray vs. Downloads for Music Servers
- HD Music: Hardware and Software
- Summary

1

**HD Surround Music:
Discs or Downloads?**

What is High Definition Music and how is it produced?

- High definition music is recorded music that when reproduced meets or exceeds the capacity of human ears in terms of frequency/dynamic range, accuracy of tonal balance and spatial distribution.
- **Analog tape, vinyl LPs & compact discs are NOT HD!!**
- Production of HD Music requires PCM digital recording at 96 kHz/24-bits or higher (DSD or DXD...while lacking is acceptable as HD.)

2

**HD Surround Music:
Discs or Downloads?**

What is music resolution & why does it matter?

- There are three levels of audio resolution:
Low resolution, Standard Resolution & High Resolution
- Low resolution music files are MP3, AAC, WMA and are heavily compressed.
- Standard resolution music formats are vinyl, analog tape, compact discs or files at 44.1/48 kHz/16-bits
- High resolution or HD music formats are capable of reproducing sound that meets or exceeds the "fidelity" of human hearing

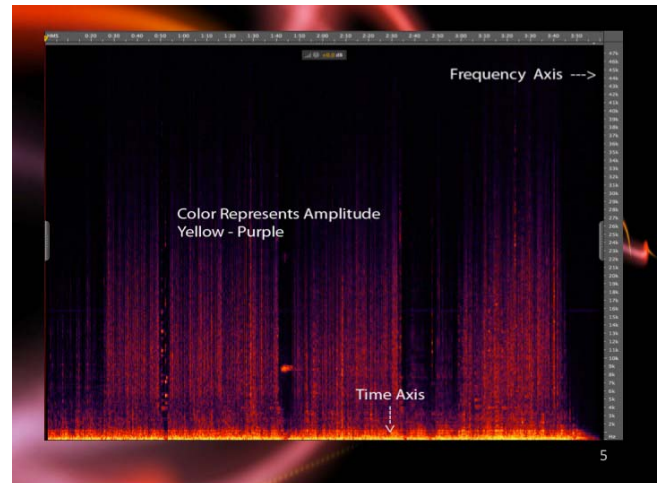
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HD Surround Music: Discs or Downloads?

Audio Spectragrams – A 3D View of Audio Quality

- A computer spectragram can plot time, frequency response and amplitude
- The presence and amount of energy at a particular frequency can be determined from an audio spectragraph.
- Noise components can be identified as low amplitude “haze” within an audio spectragraph.

4



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HD Surround Music: Discs or Downloads?

Stereo vs. Surround Playback: Presentations of Space

- Stereo presents a single front perspective
- Surround provides an immersive listening perspective
- Stereo has a well-established mixing model
- Surround is in its infancy...realism vs. music enhancement
- Surround mix alternatives: “stage” vs. “audience” POV

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HD Surround Music: Discs or Downloads?

Audio Provenance – Tracking Entire Signal Path

- Traditional sessions take place in a dead studio
- Multichannel overdubbing adds additional parts
- Signal processing controls dynamics, timbre and reverb
- Multiple or minimal microphone techniques
- Monaural microphone techniques

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HD Surround Music: Discs or Downloads?

Audio Provenance – Tracking Entire Signal Path

- Mixing down: Establishing a sound space
- Transfers to a master tape or digital file
- The distribution chain & transcoding for delivery formats
- Playing back...keeping HD Music in HD
- Conversion and connections: Analog, Digital and HDMI

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HD Surround Music: Discs or Downloads?

HD Surround Audio: The Distribution Dilemma

- Optical disc formats: SACD, DVD-Audio, DVD-Video, DVD-ROM, Blu-Ray
- HD Digital Downloads: iTrax.com, HDTracks, Linn Audio
- DVD-Audio/Video & SACD players, BD players
- HD Music Servers: Qsonix, Sooloos, Transporter, Squeeze
- Computer Playback to HD DACs: Mac, Benchmark etc.

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HD Surround Music: Discs or Downloads?

Blu-Ray vs. Downloads for Music Servers

- Blu-Ray "Pure Audio" could be the HD Music format
- Blu-Ray is known as an HD Movie format
- HD Music...especially surround music works NOW on BD
- HD Surround Downloads are challenging to playback
- HD Surround music servers are needed and are coming

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HD Surround Music: Discs or Downloads?

HD Music: Hardware and Software

- Hardware is largely computer-based
- Blu-Ray as an audio only format is not the future
- Dedicated Music Servers aren't available and lack surround capability
- Major labels aren't interested in HD Music
- Audiophile labels are releasing most of the true HD Music

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HD Surround Music: Discs or Downloads?

Summary

- HD Surround Music is the future of audio reproduction
- Audio resolution can be defined from Lo-Res to HD Music
- Just because you put standard definition audio in an HD container doesn't make the resulting transfer high definition
- The entire recording chain must be HD for the result to be HD
- HD Surround Music Servers (and possibly full A/V BD) are the future of HD Music
- Large labels are not going to supply the recordings

12

HD Surround Music: Discs or Downloads?

Contact

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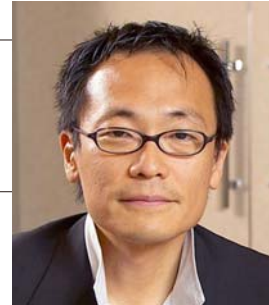
www.itrax.com

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■Presenter

Future Music from the Viewpoint of Users**Mr. Kosei Tanaka**

General Manager,
e-Business Division Division,
Onkyo Entertainment Technology Corporation



We have reached an era where the role of audio manufacturers demands re-examination. From audio equipment to PCs, from CD to music distribution and so on, ways to enjoy music are changing.

The Onkyo Group has pioneered such changes, working on the development of surround-related PC peripheral equipment and sales of sound cards, speakers for PCs, USB digital audio processors and so on over the past 10 years. Since 2006, we have been involved in the sales and manufacturing of specialized PCs for audio.

Our field of specialization is not limited solely to audio hardware business. We have also been involved in contents creation, launching the high-quality sound music distribution service, "e-onkyo music." This differs from standard music distribution services which supply compressed sound sources. Instead, it distributes 24bit/96kHz sound sources with greater audio information than CDs. It achieves this with the WMA Lossless format, which utilizes so-called lossless technology founded on an idea of bringing sound closer to the original.

This presentation will give an outline of this service and discuss its characteristics and future goals while providing an audio demonstration of the sound source distributed by e-onkyo music.

Profile:

1962 Born in Kobe, Hyogo Prefecture
1999 Joined Onkyo Corporation

Mr. Tanaka is primarily involved with music related business at Onkyo Corporation, and established the artist support site "Artist-Debut.net" in 2002. In the same year, he also launched the indie record label "Premium stones."

In 2005, he launched the high-quality sound music distribution service "e-onkyo music store" (currently named "e-onkyo music"), which provides the discussion theme for today.

He is currently working on a wide range of online business for the Onkyo Entertainment Technology Group.

Services managed by Onkyo Entertainment Technology:

1. Onkyo official shopping site - ONKYO DIRECT
<http://onkyodirect.jp/>
2. High-quality sound music distribution site - e-onkyo music
<http://music.e-onkyo.com/>
3. Online mahjong site – Topuso (Club East Wind)
<http://mj.giganet.net/>
4. Online medal game site – Webu-arkedo (Web Arcade) <http://webarcade.giganet.net/>
5. Yomiuri Giants official fan site - Orenji-tokonkai (Orange Fighting Spirit Association)