

Address by Dr.H Nakajima, Chairman

On December 7, 2002 Iraq submitted a report on the nuclear and like problems (documents of 60 volumes/10,000 pages) in the form of 12 CD pieces.

As I carefully watched and examined related photos appearing on TV, newspaper, etc., I noticed the letters of “CD-R80”.

It is impressive that such a thing was prepared in Iraq in the midst of ever more serious international situations. While I could not identify the country of origin, I thought Iraq must have used expensive,

high-quality CD-R. As one who had engaged in the development of this medium

together with you, I was much pleased at the sight of the CDs handed over from Iraq. I felt at the same time that we may need to improve further the product quality in view of increasing appearances of CD in the international arena.



The Asahi Newspaper of the December 10 issue carried an article that recording companies are anxious to protect the source of sound and are transforming tens of thousands of tapes to database to prevent possible reproduction failures.

In other words, recording tapes are nearing the limit of capability making it an urgent matter to transplant their contents to CD-R and the like. For transplanting of archives, 20 pieces per day is the current maximum. Complicated work is being carried on at present such that the contents of tapes are once transplanted to hard disc and then after due checks, they are brought into CD-R, etc. I think if the members of CDs 21 Solutions would tackle the work with earnest, this type of work could proceed more smoothly. It is not major recording companies alone who are planning such projects. For broadcasters who frequently use tapes, they are faced with grave situations that due to reliability, tapes are becoming incapable of storing music and video archives accumulated since around 1955. Therefore now is a turn for CD-R and DVD-R to come to the front.

Quality of CD-R

What I'm going to touch on next is a story somewhat disagreeable to the ear. According to one of my acquaintances, his son bought CD-R for ¥300/10 pieces at Akihabara and tried run. Unfortunately, due to bad copying performance, some pieces were found unusable while others caused noise, thus putting his son to much trouble. When I heard the story I could not help thinking this way. "Is it all right for us to leave the current CD-R situation as it is? Shouldn't we aim at higher-quality CD-R even at the sacrifice of some output reduction?"

To accomplish this aim, various matters may come up for which we should consult both the media and writer circles. I am anxious to figure out a new shape of CD-R together with you. By so doing, CD-R may be able to prolong its life and business chances may be broadened accordingly. I think our business may likely get a new bridgehead if we can effectively utilize both media and writer by considering a handy capacity for each CD-R and DVD-R.

From phonograph to digital, 20th anniversary of CD marketing

This December 6 commemorates the 20th anniversary since CD was put in the marketplace. This means that one medium has lived through 20 years. According to the often cited "25 years theory", the mechanical phonograph which made its debut as the first runner lasted 25 years, followed by the electric phonograph and the stereo, which respectively lasted 25 years. And now the digital has lived up 20 years. If we believe in the "25 years theory", the digital will keep on living for five more years. I am sure CD has certainly marked an epoch for the past 20 years.

Today we celebrate the 20th anniversary of CD, so let me first refer to the characteristics of CD and then touch on the current status of audio. By the way, what are the characteristics of CD? Large, heavy, high cost, low reliability and unhandy use. Only the sound is good. The initially appearing digital audio was something like that. But CD successfully resolved those problems and has been favorably accepted by the general public.

What comes first regarding the merits of digitalization is a "high sound quality". This salient quality has driven out bad sounds. Then comes "upgraded handiness" with respect to the operational productivity, quick access and portability. A non-contact design and

signals to be recorded on the disc inner surface have increased the reliability significantly. In addition, ever more compactness and lower pricing have further prompted the increase of audio population.

One more merit is “multi-functionalism”. Regarding data, CD-ROM, DVD-ROM and image that are closely related to our business, they have moved on from Video-CD to DVD to create a big market now. Behind the prosperity of Video-CD stands CD-R. CD-R has supported software making up to now.

Features of CD
- Advantage of digitalized audio -

- **High-Quality sound**
 - Frequency Response : 0-20kHz Flat
 - Dynamic Range : 90dB
 - Wow and Flutter : 0.1%
- **Easy handling** — Increase audio listeners
 - Easy operation
 - High reliability
 - Small and Low cost
 - Quick access and portability
 - Contactless pick up
 - Internal recording layer
- **Varieties of CD format** — Easy contents production by CD-R
 - Data storage format : CD-ROM → DVD-ROM
 - Visual data format : Video-CD → DVD

Audio market today
- For the bright future -

- **Prosperity of compressed audio** — Though it is not Hi-Fi...
 - Audio : Playback on PC and distributed via network (Not only function but also Quality)
 - Audio with Video : Correlation with quality of Visual? (Available high-quality for high-quality Video)
- **Agony of content holders**
 - Cause by illegal copying on CD-R and illegal distribution via Internet
 - Protection against illegal copying : Introduction of Secure Disc (But we must think about user convenience also)
 - New Business model : Prepaid Discs by CD-R, Higher-quality broadcasting than 8-track
 - Attractive Contents : Users pay for “Being touched”

I am speaking loudly about this. I am doing so for those people who have engaged in CD-R for the past 10-odd years and who feel small despite their significant contributions. Perhaps Hamada-san(*) may be an exceptional person who was praised for the CD-R job (laughing among audience).

Here, let’s estimate the total output of CDs for the past 20 years. In terms of media, the output of CD may roughly be 27 billions, followed by 7 billions for CD-ROM and 30 billions for CD-R.

I would like to move on to the present status of audio. The title is “Heading for a bright future”. As a matter of fact, the initially conceived title was “The current audio status; dream is receding”. But other people claimed saying, “That title is too featureless. Change it to ‘Heading for a bright future’ ”. Hence the present title.

I think there are two notable topics about the current audio situations. One is a remarkable increase of compressed audios. The other is a “distress of copyright holders” that reflects the copy control problem. As for the compressed audio, while it has attained an appreciable level of sound quality, priority is always given to the function in the realm of PC and net audio. Thus the sound tends to be treated rather lightly.

How about the TV sound? In the past, even in the case of BS, the transfer-rate sound that excels the CD sound could be obtained in the A and B modes. Today the sound quality has fallen down in some way or other including the high-vision.

All TV sounds have become the compressed audio itself in terms of quality. The TV sound thus falls short of satisfaction. Indeed, since most of what is telecast today is thin and frivolous, we may not need to care too much about such sound-provided images. Still, in the case of special TV programs such as ballet, musical and opera, I do point out that ever higher-quality sounds should be provided together with images.

Distress of Copyright Holders, New Ideas

The next item is the distress of copyright holders. Since a pretty long time ago, it has been said that "All evils can be traced to net audio and CD-R. For myself, I make a point of stressing that "It is CD-R that has offered a big weight for CD-ROM." When talks come to the copyright holders' problem, CD-R is immediately blamed. Voices are heard also that "Net audio and CD-R Due to these two devils, the recording industry is suffering great losses!" Thus when referring to the current status of audio, we can no longer evade this matter.

Emerging, for instance, as a countermeasure is a copy control CD, or CD provided with a function to prevent copying. This sort of CDs, which in no way fit to the Red Book are now circulating. They say that the recording industry is inclined to admit them. While we have brought up CD-R based on the Red Book and the Yellow Book standards, we cannot help consider at this stage the introduction of something like a secure disc if we are to look forward to further progress of CD-R. Thus far, 1,200 millions units have come out for CD players and 1,500 million units for CD-R and DVD-R players. We now have to figure out the introduction of secure discs applicable to such players. Regarding this issue, I would very much like to ask Sony and Philips to lend a helping hand.

Suppose some commercial article is left unchecked on the one hand while the same item is secured by scrambling, on the other. There is no doubt that users prefer the former free condition. Then how to resolve this matter? If the secure disc is to be employed, we should take the user's merit into account at the same time. If this is done in a proper way, then hopefully, a new audio market having a high value of existence may come out. As ones engaged in CD-R, we should duly contemplate this user's merit.

Therefore let's rack our brains together. For example, let's see if it is possible to produce a prepaid CD-R disc which would afford no more than three musical numbers. I would very much like to urge our business circles to think over including such matters. It

may also be a good idea to materialize high-quality broadcasting that excels the B mode. Incidentally, December 6 is the “Sound Day”(**) when Edison succeeded in the reproduction of recording for the first time by use of a wax cylinder. How about appealing this Sound Day on a far larger scale and make available a card type CD-R similar to Valentine chocolate? By so doing, chances are that the audio sector will be revitalized. Thus I am eager to devise new and novel ways jointly with all of you.

After all, what is important is to create attractive software. The past three years has seen a five percent continuous decrease of CD sales, but as for this September 2002, more than 10 percent rise of sales was achieved. Why? Very fortunately, there appeared three million-seller discs during that period. Thanks to just three discs, sales jumped up as much as more than 10 percent.

Then it follows that if only recording makers try hard and come up with excellent software pieces that move people’s heart, we can do well without resorting to secure discs and things of that sort. I am thinking this way half seriously.

So there are lots more things for us to think over and do for CD-R, and this disc will continue to grow up as an ever more amusing and significant medium. To this end, for the next year, I am determined to put myself more on such things.

I hope CDs 21 Solutions may prosper further accordingly.

Thank you!

(Note *) “Hamada-san” : Dr. Emiko Hamada, TAIYO YUDEN CO., LTD.

(Note**) “Sound Day” : Japan Audio Society (JAS) calls December 6
“Sound Day” after Thomas Alva Edison (U.S.), holding a
JAS conference every other year.
Dr. H. Nakajima assumed chairman of JAS until last year.