Christian Cappelluti

PDU Prepares for the Recording Session of the Year 2000

Massimiliano Pani, executive producer at PDU Records, in Lugano, Switzerland, was walking into the studio to check with Carmine Di, the sound engineer, on how the new album project was progressing.

"Sorry Max, " said Carmine, "but I am afraid we're not going to have any guitars on Tuesday."

"I just spoke with Minotti, " he further explained, "and he said that they just canceled tomorrow's flight due to bad weather."

"Have you tried to get in touch with Braido?" Massimiliano asked, "I know he's going to cost us more, but he's the best for hard-rock solos, and if he's available. . ."

"Unfortunately we're out of luck, " interrupted Carmine, "I was on the phone with him five minutes ago, and he's got a session scheduled in Paris Wednesday morning. He can't make it."

"We're out of luck indeed, " lamented Massimiliano Pani, "It looks like we will have the whole album project fall behind just because we can't find a guitar player who can be here Tuesday! It's the second time in three months that something like this happens. Is there anything that we can do about it?"

"I guess not, " Carmine answered, "unless we implemented some RR technology. . ."

"Remote Recording technology, you mean?" Massimiliano asked, "I've heard a lot about it, and I think they have something like that in Milan and in London. I know it's extremely expensive but. . . let me think about it."

Remote Recording (RR) was first developed in the late eighties, as a technology that allowed producers and sound engineers to record a live act, e.g. concerts in stadiums, from the comfort of the recording studio, without having to rent the commonly used special trucks that used to "move" almost the entire studio to the physical site of the show. At first the RR concept was just a more powerful version of the already established Radio Microphone, which was simply a microphone that used radio waves, instead of physical cables, in order to transmit sound signals. By the early nineties, however, with the increasing popularity of Satellite Communication Technology (SCT), and the development in Europe of the GSM standard for Cellular Phones Communication, RR designers started to integrate video with sound elements, and they started to think about RR as a way to bring together, in the same musical event, different musicians who may be physically thousands of miles apart.

In 1992 RR was greatly publicized in the professional recording field, when Frank Sinatra and Bono, from U2, joined each other in a mesmerizing "across the Atlantic" version of the song

"I've Got You Under My Skin." The duet was released on a CD that sold million copies worldwide, and that made RR a topic for discussion in most recording facilities and record companies.

About a dozen major European and American studios (among them Abbey Road, the London studio where the Beatles used to make their records, and The Power Station in New York, the largest recording facility in the US) quickly adopted this new technology, turning it into "the recording technology of the future."

A brief explanation of how current RR technology works follows (see figure 1): sound and video signals are captured at a so-called Source Location (SL) by a device called an RR Transmitter, using digital microphones and digital video cameras. Both signals are then communicated to another device at the Recording Location (RL) called an RR Receiver. It must be emphasized that video and audio signals, in order to achieve the best sound quality, have to travel completely different paths: video is transmitted through standard cable/satellite devices (the same that are commonly used to receive cable television), while audio signals are transmitted through a more powerful (in terms of megahertz) version of the Cellular Phones Communication Network. The final step of the RR process is when the RR Receiver converts the sound signal into digital language for digital recording, using any of the most common digital recording standards in the market. The video signal is simply reproduced through a monitor, the RR Video Terminal, for purposes of visual communication, so that one can actually see the musician perform (the same principle as in video conferencing).

There are some obvious benefits that contribute to making RR technology so appealing to many music producers. The most important one is the incredible improvement in the quality of any music project, as a consequence of having access to the best musicians worldwide. If, for instance, an Italian recording artist wants to have a British guitarist perform on his/her record, he can just book some time for a "virtual recording session," where the Italian and the British musician end up performing on the same music track, without ever leaving their respective countries.

Most studios currently have to pay for all the travel-related expenses of their guest musicians, thus making it rather expensive (and sometimes literally impossible) to have foreign artists perform their records. RR technology would make foreign artists as accessible as domestic artists, with the double advantage of realizing huge cost savings, and making superior quality less expensive. Producers could hire "the best kazoo player in the world," no matter where he lives.

Another important advantage, which is a direct consequence of the improvement in quality, would be the creation of a more stimulating and competitive music environment, where musicians no longer need to be "local heroes" to be competitive: if they want to get a contract, they had better be "good" on a worldwide basis!

One last very important aspect of the development of RR technology is the huge potential of its commercial exploitation. The media could broadcast the making of a super-record, where Michael Jackson, Elton John, U2, and Ace of Base might sing and record a song without moving from Los Angeles, London, Dublin, and Stockholm, respectively. The enormous publicity that the Sinatra-Bono duet received shows RR's commercial aspect to be a very promising one.

However, in spite of the tangible benefits that come with RR technology and the positive outlook and enthusiasm that everybody in the field shares about it, there are many hidden

traps that are definitely worth considering. First of all there are two technical problems that need to be addressed.

The first and most important one is the lack of standardization across continents and, to some extent, across nations, for the transmission of audio and video signals. In regard to video systems, Europe uses PAL, the US uses NTSC, and many other countries in the world use SECAM. This problem, however, can be overcome with the aid of expensive devices called Multistandard Real-Time Translators (MRTT). The problem of lack of standardization with audio signals is a much more serious one. European studios, which is where RR technology is most advanced, have started to adopt GSM as their standard of audio signals transmission. This is totally incompatible with all non-EEC countries, where GSM signals cannot be received. As a result, these studios are closing their doors to any non-European collaboration, which is, in fact, a rather limiting constraint.

The second problem, which also results from having sounds and images travel through separate, non-standardized paths, is the lack of perfect synchronization between audio and video. This could be a problem for future public media applications, where the audience would watch their favorite singers move their lips "a little bit off," as if they were singing in "playback."

Other problems with RR include the fact that, for the technology to be successful, everybody has to adopt it. It is totally useless for any individual studio to invest in RR equipment, if there is nobody else to communicate with. This problem is similar to the one faced by video telephoning systems. RR also requires a lot of training and the presence of an RR Specialist in the studio, in addition to the usual sound engineer. If we add to this the fact that an RR system is extremely expensive and time-consuming to install, and that new standards of signal transmission could make any current system obsolete in the future, it then becomes obvious that RR technology is a very risky investment for a producer to make, and only the largest studios can afford it, anyway.

A final consideration is that since local session men (i.e. local players that perform on a record for a fee) would be definitely hurt by RR, at least in the short-run, it is very likely that this group of interest will strongly oppose the development of the new technology, which could run them out of business.

PDU, the medium-size record company located in Lugano, Switzerland, is planning to have a fully developed RR system operating by the year 2000. This system is currently being developed by Database Informatica, a third-party contractor located in Rome, Italy, that will provide both hardware and software components. RR will allow PDU to communicate with two other studios in Milan and in Bologna, Italy, that are also going to adopt the same technology. What will PDU be able to use RR for, besides that? As long as a standard for communication between studios does not exist, we cannot make accurate forecasts.

RR may be the future of the music industry, as many expert say, but how to get there is still unclear.

Sources:

Most of the knowledge that I have about Remote Recording comes from my direct experience, working in the music business. I worked at PDU as an arranger in the summer of 1995, and I was there while they were discussing the possibility of an investment in RR.

Additionally, here are four articles that I have found here in the US, that deal with RR:

1) *Remote Recording Roundup* , by Chris Michie, from Mix Professional Recording Sound and Music Production, January 1996

2) *Computer-Based production* , by Phillip De Lancie, from Mix, January 1996

3) *Bits and Pieces* , by Michael Molenda, from Electronic Musician, February 1996

4) *Cutting Edge* , by Debbie Greensberg & David Battino, from Music & Computers, January/February 1996