Danish microphone company
crosses the frontier of acoustic feedback

New Danish microphone technology ensures an immensely improved live sound, due to the best suppression of acoustic feedback ever achived, and thereby sets an entirely new standard in the field of audio performances at live concerts, live broadcasts and live recordings.

REMIC V5200LB violin microphone for live use mounted on the instrument has a 20dB suppression of ambient sound fields, which is the highest suppression ever achieved compared to other instrument microphones that suppress ambient signals by 9 to 12 dB.

The well-known offs

In any live application, where a violinist, cellist or bass player must play along with other instruments such as horns, electrical guitar, drum kits etc., there is always a lot of compromise to be considered; acoustic feedback from stage monitor or PA, and unintended bleed from other instruments into the microphone on the artist's instrument, etc.

Remarkable innovation

But that's history. By developing new, and revolutionary technologies based on a vast knowledge in instrument acoustics and in close cooperation with instrument builders, artists and sound technichians, a whole new series of microphones for classical instruments has been designed. Designed for artists, by artists.

Perhaps, the most remarkable thing is that this is a series of hi-definition condenser microphones, based on brand new technologies and therefore neither dynamic microphones nor piezo electric elements, which one would initially expect. As REMIC Microphones are condenser microphones, the sound is incredibly honest towards the instrument.

The challenge

"We are well aware of the fact, that there is a long road ahead of us in our mission to introduce these new technologies to artists and technicians," states Mr. Thorkild Larsen, founder and CEO of REMC Microphones. *"We have to retrain people in how to think and act in many aspects regarding perfect*

sound reproduction."
Through the past 70 years, the foundation of microphones and corresponding sound reproduction has been in a state of utter stagnancy, where certain manufacturers have simply mimicked the designs and modus operandi of others. By using older acoustic references and techniques, artists and sound technicians alike have been brought up thinking in these specific, outdated ways. However, the simple thing of changing the artists' and sound engineers' view on the design and the very placement of a condenser microphone, now has to change.

We are taught to know how a condenser microphone is designed, what it is supposed to look like, and the fact that we have to keep it in a certain distance in relation to the instrument in order to capture the complete audible and tonal spectrum.

Completely from scratch

REMIC Microphones are based on the individual instrument groups, and the musicians who utilize these, for example by noting how the sound of a violin essentially occurs, and is amplified in the instrument itself, and which parametres such as construction, use of materials, the technique of the musician, etc. contribute to the final tonal result.

Tailored microphones

In collaboration with instrument builders, musicians and sound technicians, the individual products have been field-tested and adjusted a myriad of times before the final product was ready for production.
The individual REMIC products are truly tailored for each and every single instrument group, and on top of that, in two different versions – a live version, and a studio version. The cause of this dualistic divide is due to fact that these two differ from each other on a fundamental plane; they are two very different acoustic environments, and each model is specifically tailored to secure the absolute best conditions for the instrument, musician and sound technician in their respective environment.

We are aware that this might be a big mouthful for both musicians and sound technicians who have been accustomed to so-called universal microphones, that can be utilized for both strings, piano, drums, horns etc. However, no instrument is the same. The reason for the numerous and specially designed microphones for each instrument is to be found in fact that every instrument behaves wildly different, which entails a different signal-wise treatment of the instrument in question.
We know that musicians invest vast sums in finer instruments, and for the same reason, we believe that they should also have the opportunity to choose the perfect solution for a precise and more refined tonal reproduction.

The early start

It all started in 1996. In a sparse workshop in a back room at Nørgaard Recording Studio near the city of Silkeborg (Denmark), Mr. Thorkild Larsen – at that time under the name 2R Danish AV Research - researched sound and how it behaves. His discoveries would later lead to the establishment of the current REMIC Microphones.
2R Danish AV Research had already in 1998 developed the cartridge technology DBC (Direct Balanced Cartridge), which secures an electrically balanced signal coupling directly between the microphone element and the balanced input of the preamplifier, which secured an improved immunity towards incident radiation noise caused by a ever-increasing number of wireless devices used in everyday life.
The issue was inter alia described in the early project report "The Micromic Project" by 2R Danish AV Research from 2002.

More microphone manufacturers have now, years later, followed up on this field, and the latest Danish DPA Microphones.

Pioneering technologies

REMIC Microphones are also behind the development of the SAM™ (Soundboard Area Microphone), where the sound of an instrument is partly captured immediately after the first air molecules are set in motion by the soundboard of the instrument, and partly captured in a limited and strongly controlled near field, which captures the overtone registry of the instrument. This conclusively means that the sound of the instrument hits the membrane of the

microphone before it is polluted by unwanted sources of sound, such as sound reflections of the environment in which the instrument played, PA, monitor sound and other instruments on stage.

By means of a series of calculation models for linear/non-linear energy displacement processes (in opposition to the utilization of purely acoustic calculation models, which, in connection to instrument acoustics, has its own natural limitations), we also reach technologies such as ACB (Acoustic Channel Bridging).

Overall, these technologies yield an extraordinary result as the near field of the microphone now assumes a series of double half-spherical characteristics, while the strongly subdued ambient sound field is retained as an omni-characteristic, to to avoid any unwanted phase distortion between the microphone on the source instrument, when mixed with signals from other microphones and instruments on stage, sounds from stage monitors and the fact that the musicians often moves around on stage.
The result is a microphone with several polar characteristics at the same time, which currently makes it the strongest microphone tool in live context.

The first series production

In the first production series we have incorporated microphones for the strings instrument group, i.e. violin, viola, cello and double-bass.
Later, microphones for other instrument groups will follow.
The fundamental philosophy and mission behind REMIC Microphones is to give artists the absolute optimal conditions to be able to convey their art to the audience. To us, the optimal conditions for this musical conveyance, is for the artist not to worry about whether the sound is good enough, or being nervous of the frightening chance for the stage monitor to contribute to a loud and defeaning feedback howl.

It has definitely been a long time underway, however, there is not a shed of doubt that the strategy of involving instrument builders, musicians and sound technicians from the very beginning in each and every project, has had a colossal influence in the outcome of the final products.

Find out more:

REMIC Microphones website

Remic Microphones Facebook

Watch the potential of Remic microphones

REMIC Microphones for strings used in a concert in New York City with the American soul singer Erykah Badu & The Brooklyn Philharmonic Symphony Orchestra.

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