

Full control and maximal artistic freedom

Interview with sound engineer Anders F. Dalmose, who utilized REMIC Microphones with the Århus Symphony Orchestra at the film concert "Pirates of the Caribbean".

All sails were set in connection with the film concert "Pirates of the Caribbean" with Århus Symphony Orchestra on the 30th and 31st of May 2014. The technicians at Musikhuset Århus had chosen to utilize instrument microphones from REMIC Microphones for the entire string section.



In the following, FOH Anders F. Dalmose, who was in charge of the live sound at the concert, shares his experiences with these somewhat different microphones.

What was your experience of working with the REMIC microphones for strings?

My experience was all in all of positive nature. There were some unexpected elements that I had to work with, especially when I began adding up instruments. There were a lot of string instruments (around 38), so they summed "hard" in some areas, where the sound was very "rich". Especially the film music of "Pirates of the Caribbean" contains very hard and massive passages, so there was no immediate sensation of a "natural reverb", which we are used to when working with amplification of bowed instruments.

When the musicians stopped playing with the bow, the note stopped right then and there. There wasn't the usual reverberation of, for example, the violins, which we are used to, so this was something I had to generate. Besides having to attribute a nice reverb to the string instrument, you had to adapt the reverb "what is really missing?". It is a short reverberation, not a long one.

At first I applied a short reverb to achieve this "natural" reverberation; or rather, the reverberation we've been accustomed to expect and experience when amplifying strings in a live setting. Afterwards, I applied a larger and longer reverb to achieve a certain fullness.

I was very unfamiliar with this way of controlling the sound, but I found it quite interesting and fun to be able to be so deep down in the sound and being able to play around with such intricate details. On the second day after rehearsals, we began displacing the instruments in time as well. Here I could displace much more than I had expected, without it being difficult or strange to mix. It was great. I found it really awesome. But something surprised me; the sound being so accurate and exact. From the very first sound test I experienced this accuracy.

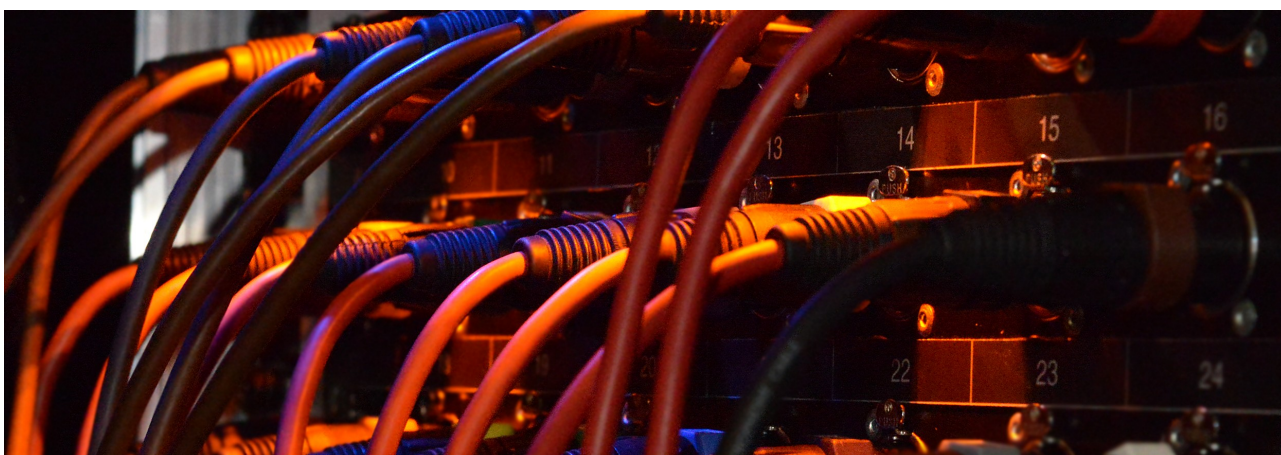
It is crystal clear that the REMIC microphones has been built with an entirely different mindset and way of thought, than, say, the DPA4099. The REMIC primarily collects the sound in a well-defined area right around the instrument, so only a fraction of the reflected sound from the actual room or the direct sound from the PA is amplified. Under "normal" circumstances – when, for example, one utilizes the DPA4099s – both the reflected room sound and direct sound from the PA, are contributing factors to the aforementioned reverberation, that we are used to experience.

With the REMIC it feels as if the instrument itself has been moved to the forefront of the speakers, so this is something one has to become accustomed to. It makes perfect sense, however; it is not necessary to re-amplify the reflections of the room and the sound from the PA again and again, which is what happens with other microphones. This is why the REMIC microphones grant a far bigger sense of control. And the fact that the individual string instruments are acoustically sensibly separated in the orchestra hall also contributes to there being no phase problems between them in connection with, for example, time-displacement and adding up instruments. It is evident that the instrument rather than the microphone has been kept far more in mind in the design of the REMICs.

Was the alternative DPA clip-ons or something else?

At this size and what we normally have in our arsenal of microphones at the venue (Musikhuset Århus), it would have been an overhead mic; a 4011 over every second artist, which we did at the first arrangement of "Pirates of the Caribbean" last year (2013).

But that was totally different to work with, when there was so much ambience, percussion and wind instruments. It becomes something very else to mix.



Lots of connections to the stagebox.

Did it give you any advantages, it being so accurate in comparison to headroom, or other pluses you can mention with this working method?

Yes, I think so. Especially with this type of film music, where there were many different effects from percussion, and where there were a lot of passages for the wind instruments, that were hard, long and grandiose. In these cases, you always lack the ability to turn up the highest-tuned violins or the deepest cello- and double bass passages, without having to turn down the other groups. But being able to just take my VCA and push it, was simply a pleasure.

You weren't nervous about that?

No, no, not at any time. I just pushed and pushed until I thought the volume was too high!

Did you at any point hit a barrier in connection with the desired sound level, seeing as there were quite a number of microphones open simultaneously?

No. Or yes, I hit a natural barrier for what I would expose the audience to. But the numerous effect tracks from the actual soundtrack of the film created a natural level, as it was calibrated with the vocals, and also because I had put all dialogue in the center cluster and all music in the sides.

No, I didn't experience a level, where I thought "Oh no, it's about to wrong!". I was at no point afraid of turning up the volume, because the mics behaved exactly as they did during rehearsals, where I could feel that it was an entirely different level of control.

This meant that I could go on controlling it, and focusing on doing more artistic things, such as experimenting with tonal reverberation effects. I used a lot of time on the 6000 system, where I was able to test out all sorts of different things. It was really awesome.

Did you have to filter differently for example in relation to the first and second violins?

Time during the rehearsals made me able to start doing EQ on some of the first violins, and copy it out on the other strings, so I had this as a basis.

Afterwards, I sent them all through a stereo group to do some mastering, and to be able to quickly filter them, if anything happened.

That is, all strings as one single group, so I could move quickly, because I didn't know how they would behave or where I would end up.

Did you end up needing to move quickly?

No. I actually ended up putting a lot back on the channels and applied the EQ to the group at the end. I lowered the area 200-300 Hz a few dB and raised a little bit around 2 KHz. That was actually it.



Preparation of equipment in the orchestra grave prior to the first rehearsals.

You ended up utilizing the red REMIC series. Some months prior to the rehearsals, you experimented with both the red and the green series in a set-up with a quartet. What experiences did you have during this experiment?

We picked the red studio model from REMIC on the basis of it being more "airy", in comparison to the green model, which sounded more "dry" and "woodish".

I believe the green model is really good in connection with some set-ups where you really need to separate the instruments, or where a solo instrument really has to stand out in a larger context.



The first experiment underway at Musikhuset Århus with Anders Dalmose in the foreground.

As a reference during the experiment, we utilized some DPA4099s, that were also mounted on the instruments of the quartet. By doing it this way, we had some material for comparison, and some material we knew before and had experience with. For the quartet, the red REMIC model absolutely excelled.

I was at no point under the impression that the red model would cause problems on "Pirates of the Caribbean", even though the musicians were situated very closely in the orchestra grave, together with wind instruments and percussion. I also never experienced any problems in regards to interference by the other groups.

We had the experience that the red model reproduced the instruments in the most natural way, with an amazing attack and at same time, the microphones were almost invisible on the instruments.

We could actually play a whole lot louder with REMIC microphones before acoustic feedback would occur, than we were used to with some of the other microphones we have at the venue. This being despite the other microphones having a cardioid characteristic, and the red REMIC series having an omnidirectional characteristic.

Unlike other instrument microphones with an omnidirectional characteristic, the REMIC has succeeded in controlling the sensitivity within a defined area, so it primarily collects the sound exactly around the instrument, and thereby secures excellent sonic isolation from the neighbouring instruments and the PA speakers. It's quite impressive.



The quartet playing with full force during one of the many phases of the experiment.

What are your thoughts on the visual element of utilizing REMIC products, rather than other brands? Or is it something that you as a sound engineer don't give much thought?

This is something I think about, especially in regards to symphony orchestras and string instruments. You definitely enter the work sphere of the musicians, and many musicians can be a little anxious or afraid of microphones. One thing is, that many times, these types of musicians connect microphones and speaker with something "bad". Naturally, it annoys them, if there is – say - a gooseneck clamp or something else that sticks out, that they can accidentally hit. It also annoys them if a microphone is situated in their field of view.

They weren't the least scared of the REMIC microphones, and they quickly embraced them.

The microphones are so light, so they weren't afraid of their instruments getting scratched, and the microphones fit on their instruments instantly. They are very easy to mount. I was under the impression that it worked really well for them.

I think that it makes perfect sense, purely aesthetically, for the individual musician that a microphone is not clearly visible on their instrument.

They were very disciplined during the entire course, and I didn't have to go down to them one single time. At the start I listened to the tracks on my headset, and I could hear that everyone had mounted the microphones, so that was really good.

And that the totality of the entire set-up take on an aesthetic expression, is of course something that the music director Palle Kjeldgaard thinks about a lot. When you enter the stage dressed to the nines with your beautiful violin, it is important that there isn't that hideous rock music tripod or something else poking out from the instrument, making you anxious. It really means a lot.



The musicians from the Århus Symphony Orchestra received the REMIC microphones very well, and helped each other with mounting.



A violinist with a mounted REMIC microphone during rehearsals for "Pirates of the Caribbean" film concert at Musikhuset Århus.

Do you have any comment on the cable lengths for the microphones?

No, I found it quite good. I had made an arrangement prior to the set-up, where an XLR jack was mounted at the bottom of one of the chair legs by each musician, so the microphone could be easily connected. This secured that there was no danger, if someone forgot to pull out the mic after the concert, as it would just fall out, and there would be a piece of foam on the floor!

All in all, I think the product presents itself as complete and thoroughly thought through.

How did you feel about the product not being split up in different pieces, but it being a total, comprehensive product specifically tailored to one single instrument? Are there enough advantages in comparison to the flexibility?

The fact that the microphones are specially tailored to the individual instrument groups, provides a series of advantages that you cannot achieve with more traditional microphones.

But at our venue, it is obvious that some situations demand a certain flexibility, as we have many different set-ups with different instrument configurations.

If we, in connection with set-ups that are changed somewhere during the course of the production, have 50 REMIC microphones vs 50 DPA microphones, the flexibility is largest with the DPAs. It can be difficult to adjust to offbeat productions with the REMIC microphones, seeing as they are adapted to each single instrument group, such as violin, cello or bass. But again, seeing as it is such a specific instrument product, you could just as easily imagine that each individual musician would bring their own REMIC microphone, which we often experience today with other microphones.

Do many musicians bring their own microphones?

Yes, many do. A lot of string players and bass players from the Aarhus Conservatory of Music bring their own DPA4099s.

And that's okay with you technicians and schedulers? You just utilize what the musicians bring?

Yes, usually. But in some cases, we also use something else, typically an overhead microphone. But we never remove the microphone the musician him- or herself uses, because they're comfortable with it, and that's important. When working with classical musicians, the need for comfortability and security is very high.

But then again, the musicians on the "Pirates of the Caribbean" set-up instantly felt comfortable and secure with the REMIC products. Thorkild Larsen, CEO of REMIC MICROPHONES, was present at the first rehearsal and showed some of the musicians how to mount the microphones. The musicians helped each other with mounting, and after that they took care of it themselves.



Rehearsal with the Aarhus Symphony Orchestra in progress.

Purely practically speaking, do you save any time by using REMIC products compared with other products? Do the musicians themselves mount the DPA clip-on microphone, for example?

Yes, they do. But where the time factor could really play a role, would be when working with the DPA, for example, where the position of the microphone can be changed, which naturally affects the the final timbre. You could save the time spent running back and forth between the stage and the mixer to make small positional adjustments on the microphone. Here, the REMIC wins without a doubt, as it can only be mounted on a few select places on the instrument, and thereby has the same timbre from time to time. The REMIC microphones are far more useful in comparison to clip-on microphones, that can be changed in distance as well as angle to the instrument, when dealing with productions where set-up time and sound check time play a vital role.

So in connection to a tour-production, where you have many things to keep in mind in regards to the set up, etc. it could be an advantage to have a set-up like this with REMIC microphones, which is almost “recallable”?

Yes. In such a case, the REMIC would be extremely friendly and time saving. It would definitely be easier to reuse earlier settings on the mixer, so if we see it in that way, naturally there is a lot of time to be saved here.

We also talked about the several flying jobs we have with “Safri Duo” (a Danish duo, percussion band). For example, when we made it to Portugal with a lot of equipment, lots of drums, and other things, we were all very tired. At that point it would have been nice to have REMIC microphones for quick and easy mounting.

Could you have used the same amount of microphones from another brand? Would it have been an option to use clip on microphones, or would you have picked an overhead solution?

In regards to this specific set-up, it made really good sense to have this high level of inter-instrumental isolation. I don't think it would have been as good an experience, if we had utilized the DPA4099s, for example. They would have been way too hard to control; too much undefined interference. I would definitely have picked an overhead solution instead.

Could you imagine utilizing REMIC microphones in connection to recording the entire symphony orchestra, as an alternative to overhead micing?

Not as such. When recording classical works, the selection of the right location is paramount, as the acoustic environment of the room itself plays a very large role in regards to the soundscape.

To achieve a very exact picture of the transients of the instruments, you could do both a close field mic up, and an ambience mic up, and then mix the two sources. Often you would pick out a series of soloists in connection with close micing and simultaneously record the entire symphony orchestra with some ambience microphones.



A REMIC microphone is mounted on a violin.

Did you use an ambient signal to achieve a room effect?

Originally, yes, but I quickly muted it again. We had two U87s hanging on the edge of the orchestra grave. It made the entire soundscape muddy. It didn't fit at all, neither temporally. I had originally intended to include some ambient sound, but it didn't end up that way.

Did you use a lot of compression to keep the dynamics under control?

I didn't compress them on the individual channels, but I did compress them a little hard on the actual group, as far as I remember. Although I am not entirely certain. There was enough output from them, even in the quieter passages, so the compression was just a safety precaution, so the sound level didn't just suddenly run amok. It is a dynamic piece of film music, and the fine nuances of the string section were powerful enough. It worked really well. There was still plenty of fullness in the sound, when the strings played at their quietest.

Did you have a similar experience on all the string groups?

Yes, but I was most satisfied with the cellos. They came to sound warmest and widest.

The double bases were astonishingly deep, almost scary, it was really good. With the DPA mics, you are used to pre-amps where you're able to pick between it being low-cut or not. In Musikhuset Aarhus, we once bought a batch of these, that were all with low-cut, but around a year ago, I ordered some without the low-cut. However, I ended up returning these, as the sound became too rumbly. I didn't experience this with the REMIC. It was pure all the way. So it is definitely an advantage that the REMICs are so attack-accurate. It really gives control, especially in the deep end. The microphones are extremely well-defined over the entire tone register. It is often difficult to create a proper low-end without there being a muddy sub, but the fact that the tone itself was clear too, really worked excellently.

On a side note, it is the first time I've ever applied reverb on double bases, at least to the degree I did during "Pirates of the Caribbean", but it worked really well.

Would the alternative to micing the double bass have been a DPA4099 or do some of the players play with piezo pick-ups?

No, nobody in the symphony orchestra plays with pick-ups. I don't use the DPA4099 on the bass. But at the venue (Musikhuset Århus) and in connection with amplified symphonic pieces, we've always used the AKG 414 in order to get a good sub. I think it delivers that quite well. Alternatively we would have used the DPA4099 or 4011, but I think they "takes off" too quickly.

Did you reach a satisfying result acoustically speaking? Both in relation to the short and the long reverb that you attributed to the strings?

Yes, absolutely. However, I would have liked to have had just one more day, i.e. two more concerts, to have been able to create even more impressions. But I feel that I reached something that I found acceptable, at least during the actual concerts, as the last rehearsals were a bit hectic.



Århus Symphony Orchestra ready at the first rehearsals of "Pirates of the Caribbean".

Can you mention some negative points, where the REMIC does not work optimally?

Well, the double bass slap. The REMIC microphone picks up the actual impact extremely well, making it very loud. But this was during "Drum Day", where different bass players played as well. It was one of those double bass guys who had brought his own REMIC. It was quite hard on the equipment.

The attack response for the REMIC microphone is a lot quicker than other microphones, which makes the peak levels go very high. In connection to the actual placement of the REMIC microphone on the double bass, we've found that positioning the microphone underneath the tailpiece gave us a better result in relation to the "slap effect". It also made the subsonic area even more well-defined.

The entire débâcle is caused by the physical size of the instrument, which makes the vibration pattern of the "belly" (soundboard of the instrument) extremely lively.

Do you have any wishes in relation to changes or future products from REMIC?

What I would like with the REMIC is being able to use it with a wireless system, especially for soloists, coming on stage in the middle of an orchestra.

Interview with sound engineer Anders F. Dalmose, who utilized REMIC Microphones with the Århus Symphony Orchestra at the film concert "Pirates of the Caribbean" 2014.