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“Many people cannot stand silence anymore.”

DANIELA MANGER has been the director of Manger Audio for more than two decades. Half a century ago her father Josef Manger developed the Manger Sound Transducer – a new way of sound reproduction different from the techniques used by conventional loudspeakers: The company’s products simulate the functional principles of the human ear. A conversation with the chief executive of the Franconian manufactory about the intricacies of our hearing, the courage to think independently, and music that moves you to tears.

INTERVIEW: FLORIAN SCHNEIDER | PHOTOS: RAINER CHRISTIAN KURZEDER

Ms. Manger, what do you think when you see people in the bus listening to music through headphones?

Daniela Manger: For me it is alarming to see that many people simply blank out the sounds of our environment which provide important orientation. There are few who care about the volume and quality of what they hear. In the long run listening to music through headphones at high volumes leads to permanent hearing damage. In addition we’re increasingly relying on our sense of sight and visual information. People forget that mankind would not have survived if we had counted solely on our sense of sight. We would have stayed a marginal note of evolution if nature had not provided us with such an excellent sense of hearing. Nowadays we’re constantly surrounded by noise and become accustomed to a steady stream of entertainment which results in the fact that many people cannot stand silence anymore. This trend is alarming.

You are talking about hearing damage due to increasing music consumption. On the other hand, is it possible to train your ear so that you will be able to hear better or more sharply?

As far as hearing damage is concerned, it is always irreparable. But you definitely can improve your ability to discern the differences between an MP3 file, good analog reproduction, CD quality, or high-resolution sound files. The differences are as obvious as those between canned

and fresh beans. The MP3 developers knew from the start that it would be impossible to restore all the time information, which is an essential part of music, with the required accuracy. Most teenagers don’t know the limitations of the MP3 format and they don’t care when listening to music. But when I listen to a well-recorded jazz or classical concert through an excellent reproduction chain, the differences are extreme. Pop, rock or mainstream music has frequently been produced so poorly that it makes no difference if it is MP3-compressed after all. **Which observations do you make, however, when people listen to music through your loudspeakers for the first time?**

Recently I had a great experience during a trade fair in Hamburg when I played a piece of music to a group of people who go to classical concerts frequently and therefore are used to the natural sounds of instruments. When I told them that our sound transducer reproduces natural sounds better than other loudspeakers, they were immediately thrilled. A woman from the group was moved to tears by the sound and I almost started to cry as well. If someone has been interested in hi-fi for a while, then he is familiar with a certain sound and tries to compare what he hears to what he is used to. And as our sound transducer clearly differs from a conventional loudspeaker, the first hearing impression can sometimes be irritating.

So what are the characteristics of your sound transducer and how does it differ from conventional loudspeakers?

The simplest explanation would be that our sound transducer works like the basilar membrane of the human ear. High frequencies are reproduced in the middle of its flexible membrane while low frequencies are reproduced at the edge. Moreover, at the beginning of his research my father discovered that loudspeakers store a certain amount of energy and that during the reproduction process some of this energy is added to the music signals which actually have a very fine structure. The tone changes. In medicine it has been known for quite some time that the human ear is capable of a time-resolution of five microseconds. Thus it can discern extremely fast events that correspond to a frequency of 100 kilohertz – which is far beyond the human hearing range. This kind of changes is not perceived as sounds but rather as nuances within the time structure.

What does that mean regarding the reception of music?

Music is nothing more than the transmission of time structures. The noise that is generated when you blow a trumpet, strike a piano key or plug a guitar string – every so-called transient in music is being perceived. A loudspeaker which is nothing more than a mass-spring-system generates transients of its own. That’s why different loudspeakers sound

so different. Our sound transducer, however, doesn't have a characteristic loudspeaker sound.

Would it be possible to apply this technology to headphones?

Basically, it's possible and we already took it into consideration. But investment costs are so high that it doesn't make sense to attempt it. The experiences we made during the development of our sound transducer influenced our decision as well. The development was expensive and laborious. My father has invested almost 20 years of research and development before the transducer could be built and was ready to go into serial production later on. Up to the 1990s we constantly improved it until we reached a status that allowed us to establish it without teething troubles in the market. In the longer term I plan to develop smaller sound transducer versions. Not for headphones but to be able to build smaller loudspeaker models. There are still ways for optimizing the sound transducer.

Let's talk about your company structure. Are you employing more women or more men?

Our staff consists of only six people and the majority are women.

That's pretty unusual for a hi-fi company.

Microphone manufacturers, which ask for filigree mechanical skills, are employing mostly women. Not so in the development division, where I'm an exception.

Have you always been interested in technical topics?

In school I liked mathematics and physics a lot and I simply inherited certain talents as well. And as I watched my father develop his sound transducer, my affinity for mechanics blossomed. Being the eldest of his three daughters I was supposed to continue his company. Up to this point, however, I was completely free to pursue my own interests. First I went to junior high school and then to a technical secondary school where I obtained my diploma and subsequently studied electrical engineering. Acoustics has always been one of my favorite studies. After college I had the chance to work for a hearing aid manufacturer in Switzerland. But then I realized that I preferred to join our own company.

Which must have pleased your parents.

Oh yes, they were very happy. Although being born in 1929 my father was a progressive person and didn't cling to conventions. And that's how he raised his children. He was a lateral thinker



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throughout his life. As he never went to college, he used a different approach and dealt with problems very fundamentally. Sometimes people are so narrow-minded or prejudiced, that they don't scrutinize things anymore. Nowadays you rarely get taught how to use your brain and not to take things for granted. Whereas my father believed that you have to learn with your heart. But you don't figure it out until you have grown older and fallen flat on your face a few times.

Did it take long before you could emancipate yourself from your father's legacy?

My father died last year at the age of 87, but he had already withdrawn from the company at 65. As a developer he had always been very present in terms of public image and the sound transducer is his life work, but the products of the last 20 years have been designed by me. Being a curious daughter I used to travel a lot with my father. That's why many people regarded me mainly as "the daughter of Mr. Manger." Over the years I could free myself from this notion and now people treat me the same way as they treat a man. Now and then it happens that customers, who don't know me, ask a male member of the company when they have a technical question, although

I'm standing right next to them. That's a classic (laughs).

Although you could answer their questions at least as competent as he can.

In many cases I can even do better. Not only because I studied electrical engineering, but because I was directly involved in the development of the sound transducer as well. As I'm following in my father's footsteps I can provide first-hand information. 🎧

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