



# Listening with a **System**

What would you like: active or passive, with or without digital correction?

And if correction – Scottish or German?

A journey from the world of Linn to the world of Manger.

*Michael Lang*

**T**he Scots from Linn are regarded as a digitally leading flagship company, although their nimbus is based on the analog legend LP 12. After all, founder Ivor Tiefenbrun and his team were the first to propagate and establish streaming as THE source for high-quality music listening in the future and consequently terminated production of their globally acclaimed CD players. Justification: streaming in hi-res sounds better. It took some time before the world understood and the equation streaming = MP3 quality had been erased in the heads of music lovers, but at the end of the day economic success proved Linn's strategy to be right. Today the Scots belong to a globally small group of hi-fi manufacturers, whose production processes can cope with those of the automobile industry and adhere to the currently prevailing, strict, and globally accepted ISO standards. An achievement which is even more impressive when you consider that Linn is still an independent, owner-operated, medium-sized company and not a listed enterprise.

## **Opposing Concepts in a Team**

The small Manger manufactory from lower Franconia is structured and orientated completely differently, however. It has been founded in the 70s by Josef W. Manger, father of today's CEO and product development manager, graduate engineer, and physicist Daniela Manger.

Manger's motivation to develop a novel loudspeaker was his awareness, that an instrument being reproduced over loudspeakers loses a great deal of his natural sound. The main reason for this was the mechanical storage of energy with dynamic loudspeakers. Consequently he developed a sandwich diaphragm, which electrically behaves like a resistor, but is able to play in a time correct way. A big disadvantage of the first prototypes was their inefficiency – the efficiency factor was only 74dB. A magnitude which on one hand required amplifiers with lots of power, on the other hand imposed strict mechanical limits on the potential maximum level.

With good reason Daniela Manger proudly points out, that the Manger sound

**Franconians  
and Scots  
are different  
– and then  
again not**



**Basically the Manger P1 is a fullrange loudspeaker with an additional subwoofer in a sealed enclosure.**

transducers from current production have an efficiency factor of 91dB and therefore utilize power very efficiently. The frequency range has also improved considerably and now ranges from 360Hz to 45kHz. It can even reproduce maximum levels of up to 116dB over a short period without distortion – a specification which we didn't test in practice to protect our ears ...

**Handicraft in Franconia ...**

While in Scotland devices are being produced in super-modern production facilities and in large quantities by using a lot of handicraft at a high level of in-house production, in Franconia the clocks are ticking differently. Here, each chassis is completely handcrafted by a small team. The voice coils are meticulously wound by hand, the

membrane material, the membrane and the magnetic system are built in-house autonomously. And everything is about precision in the micrometer range. Even the type and amount of applied glue has to be taken into account when calculating and measuring tolerances. In contrast to dynamic chassis the Manger transducer can do without a centering spider or the like.

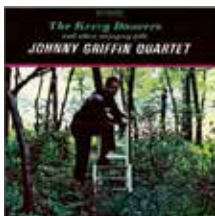
**German Thoroughness**

In order to get as close as possible to their goal of building a time correct loudspeaker with natural-neutral reproduction, the Manger team thoroughly developed suitable appliances and machines by themselves as well. Daniela Manger puts it this way: We are building loudspeakers free from colorants and flavor enhancers.

A high standard, which the graceful but vigorous and determined CEO aims for. But when you consider that a reputable scientist like professor Milind N. Kunchur, physicist and astronomer at the University of South Carolina, has published studies in which he provided evidence, that the human ear responds to time deviations as small as six microseconds, you're apt to believe that Manger's explanations are correct. The pro-

**WHAT WE USED FOR LISTENING**

**Johnny Griffin Quartet:  
The Kerry Dancers**



A tenor saxophone not of this world – artistically and tonally excellent!



**Looks, function and performance of the unique Manger sound transducer are really different.**



**Activity in the center: a Manger special version for optional active and passive operation.**

fessor's topics range from superconductors and nano-structured materials up to his hobby: high-fidelity and everything audio.

For our test series Manger brought a preciously venerated P1 floorstanding loudspeaker to our editorial office. It had been equipped especially for our project with a connection terminal for optional active or passive operation available at a surcharge.

So why did we choose the Manger as game partner for the Linn system instead of complementing it with Linn loudspeakers? Because as one of few manufacturers Manger succeeded in adapting the Linn Exakt system exactly to the Manger speakers by programming proprietary software and not relying on the programming of their Scottish peers. Linn itself has written accordingly adapted programs for all of its own and several third party loudspeakers. In addition there is data available – called the “space optimization” program - for circa 1000 loudspeakers from different manufacturers which can be used to electronically adapt loudspeakers to different room and setup conditions. Linn also cares for multi-channel fans and offers a DSP board for 7.1 systems at a moderate surcharge of 1430 euros. All devices come with a warranty of 5 years which will be extended by another 5 years when you purchase an upgrade.

As you can see, Linn's mindset regarding the hi-fi world is pretty unusual – at least at the moment. Although Linn already realized more than two decades ago that loudspeakers should preferably be active – even then passive crossovers were suspected to be the source of sound degradation. The Exakt system meant a huge progress. Active crossovers were digitized and programmed for a large number of proprietary and third party loudspeakers to make up for speaker and chassis shortcomings as well as production tolerances. To provide even more flexibility Linn's servers can be used by manufacturers to add proprietary correction curves to their loudspeaker profiles.

The signal stays digital until it reaches the output of the active crossover before the power amplifier where it will be converted into an analog signal again that drives the loudspeakers.

To check how everything works and how the interaction with different loudspeakers coaxes new tonal virtues out of them, STEREO premium partner and Linn specialist Reiner Pohl brought an entire Linn set consisting of an Akurate DSM streaming preamp, an Akurate Exaktbox 6 active crossover and an Akurate 4200 4-channel power amp into the editorial office and set up the complete system together with Daniela Manger in our large listening room. The streaming preamp costs 8900 euros, the active crossover 5900 euros and the power amp an additional 6250 euros. With an active Exakt system the D/A conversion takes place in the Exaktbox. That's why a streaming preamp version without D/A conversion and analog output stage is available under the name of System Hub for only 3225 euros.

### Active or Passive

After all the probands had been meticulously set up and connected, everyone in the listening room became excited – such an experiment was rather unusual even for the STEREO staff. We started convention-

### TEST EQUIPMENT

**CD Player:**

T+A MP3100 HV

**Streaming Preamp:**

Linn Akurate DSM

Linn System Hub

**Active Crossover:**

Linn Akurate Exaktbox 6

**Power Amp:**

Linn Akurate 4200

**Loudspeaker:**

Manger P1 active/ passive;

Progressive Audio Pearl

**Cable:**

Linn; Audioquest



The 4-channel power amp is compact and powerful with a level control on each channel.



**The PreDac provides plenty of analog and digital inputs, while the Exakt active crossover provides XLR and cinch outputs.**

ally with a passive setup. The music came from Qobuz and from CD. As a peculiarity the system ran in bi-amp mode, meaning all four power amp channels with 200 watts sine power were used.

During the first minutes the writer of these lines made the same experience as always when listening to a Manger speaker: it takes a while before your ears get accustomed to the Manger sound characteristics, what might have to do with the different way of sound generation and radiation. With dipole radiators, preferably magnetostats or electrostats it's a similar situation. But after this short adaptation phase the Manger proved that it is rightly

esteemed special and that it has improved significantly compared to older versions, according to the motto: "Only the best is good enough." The current P1 version plays pointedly relaxed and serene, without any nervousness or strain. At the same time it isn't indifferent or unemotional at all, rather a committed provider of music. The P1's resolution has increased as well. It sounds open and smooth. As expected the Manger starts collecting bonus points when it comes to spacial imaging. After a loudspeaker has been optimized as consequently as only a few competitors for time correct reproduction, you have a right to expect a precise depiction of the recording situation and the irresistible compulsion to tap your feet. An expectation which the Manger fulfilled outstandingly well. Particularly the tonality with acoustic instruments, such as violin, piano, guitar, saxophone, and trumpet, was perfectly correct throughout the genres and the bass was reproduced with punch and contour over the fullrange Manger transducer. At this point we would have been more than satisfied already, if we hadn't remembered the active option and its alluring call.

### A Small Step?

We didn't have to listen for a long time, but take a deep breath, when we heard the pieces played before with the settings written by Linn for the Manger. The differences were clearly noticeable. A large step towards more grip, more dynamics, and attack. With the passive version the sound had been homogeneous and as if cast from one mold, but this step demonstrated how greatly the performance of the Manger could be improved by Linn's active crossover. Let's take Cecilia Bartoli as an example: thanks to her singing mastery the "Lascia ch'io pianga" by Händel heard over a decent audio system is a great pleasure already. But most of the time there are shortcomings: contours are blurred, sounding bodies are depicted either too frail or too bulky, instruments with different tonal colors sound very similar or are deprived of their typical character by colorations which tend to be too soft or too harsh. The passive

version of our audio system already avoided these impressions. But the surcharge of almost 6500 euros for the Akkurate Exakt Box 6 active crossover proved to be a rewarding investment right away. The Johnny Griffin Quartet, for example, performed “Kerry Dancers” with even more fire and seemed to have charged its energy tanks to the limit. Responsible for this was the now emerging ability to depict the subtlest dynamic nuances in a much more differentiated manner. We didn’t have to turn up the system and challenge its enormous power and volume reserves – it definitely sounded more authentic and accurate this way. Moreover, the bass was once again more contoured, cleaner and more punchy than before.

The differences between the Linn and Manger finetuning of the crossover seemed marginal to us – almost in the realm of personal preferences. Nonetheless it should be appreciated that manufacturers are trying to preserve as much of their product’s basic character as possible within the Linn system and are not relying on Linn’s linear phase filters with constant group delay. The relatively small difference between the two finetunings probably had two reasons: the high neutrality and great performance of the Manger loudspeakers and the large leap in quality between active and passive. After all, the Linn system has another trump up its sleeve: its implemented “Space Optimization” software, which can process data of the room, compensate for difficult setup conditions and improve sound quality even further. In any case, we have broadened our horizons and enjoyed a system combination which was widely applicable and performed very convincingly. ■

## Manger P1

**Price:** starting at 25000 € (active version with Linn electronics; passive version starting at 9600 €; various types of finishes and veneers at a surcharge)

**Dimensions:** 10.6” x 46.5” x 9.5” (WxHxD)

**Warranty:** 5 years

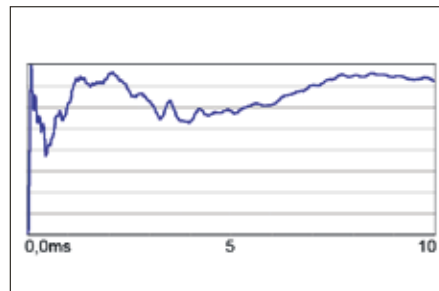
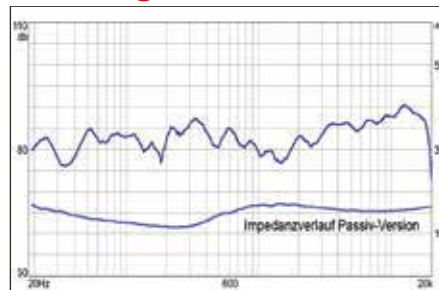
**Contact:** Manger

Phone: +49 9776 9816

www.manger-msw.de

The passive version of the Manger loudspeaker already performs excellently. The active version in combination with the Linn electronics provides another significant sound enhancement, which is worth a visit to your dealer. Versatility and workmanship are outstanding.

### Measuring Results



<b>Lower Cut-off Frequency (-3dB SPL)</b>	32Hz
<b>Distortion at 63/3k/10kHz</b>	0.2/0.1/0.1%
<b>Power Consumption. Standby/Idle (at)</b>	/20W

### Lab Comments

As expected, step response is perfect. Frequency response is well-balanced even in the listening room. Distortion is on the measurement limit.

### Features

Can be operated as a passive version as well as an active version with external Linn electronics. Available in matt and high-gloss finishes and various wooden veneers. Can be tested at home at a rental rate of 180 euros.



### STRUCTURED

Clearly laid out and prepared for all tasks: the remote control.

STEREO - TEST	
SOUND QUALITY	97%
PRICE/PERFORMANCE	
★★★★☆	
EXCELLENT	