



# Self Determination

The making-of of "Arthur" – an interview  
with Stephan Schertler

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Among the few spectacular novelties at this year's music fair was a mixing desk – however a special one. Not just another digital mixer with 1,000 functions of which 980 simply fire the illusion of technical feasibility and only 20 are really needed. A console with an analogue layout whose features, owing to the modular design, are freely configurable. This console is as individual as the music produced on it. "Arthur", as it's been named, stands up to the popular digital trend in such a polarising manner like the "Occupy" movement defies the IWF.

"Arthur" is designed and manufactured by Schertler in Switzerland. Not only the actual product is an exciting factor with such a product launch, but also the story behind it. Because an interesting concept always has its origin in an idea that takes time to mature until its final realisation. We wanted to learn from Stefan Schertler when "Arthur" first crossed the line between the idea and the concrete project – until its presentation at this year's music fair.

**tools 4 music:** Presenting an individually configurable analogue mixing desk in the days of digitalisation is a bold, maybe even a visionary project. Mr Schertler, does "Arthur" symbolise the reduction to the essential in a world of digital abundance which only a few of us need?

**Stephan Schertler:** In my work, I've always cared exclusively about the emotional sound. Like a dream, a childhood experience, I don't know. It's a fact that analogue electronics is easier to operate. Certainly it allows only little "logistics" and therefore it is limited as to the scope of functions, but if the job is done well, it can't be beaten soundwise. Hence my counter question: Why should I offer a digital console if someone doesn't need "logistics" and only wants to amplify or record two voices, some instruments plus drums - and that with punch and drive and that unexplainable effect which gets you thrilled? Isn't this the normal case, somehow?

**tools 4 music:** Perhaps the "normal case" with its simplicity of operability has faded from the spotlight with

quite a few products in the course of digitalisation. With the modular concept of “Arthur“ the user and his needs have priority. How long did it take to bring the idea to the “production stage“?

**Stephan Schertler:** Already ten years ago I hit on this idea and was nurturing it ever since. Then in February 2015 we really buckled down at full steam. 15 months later we were able to present the 0 series in Frankfurt. Considering the complexity, this happened in record time, at least that's what we felt. I also needed ten years of “respite“ for a consistent realisation of all electronic details.

**tools 4 music:** The modular concept also allows subsequent expansions, for example with additional channel strips. Very easy, in just a few simple steps, without a soldering gun and no diploma in precision engineering. The technical hurdle for the user, which often comes along with such a flexibility, is virtually non-existent in the “Arthur“. I can imagine that this simplicity in the realisation of the modular concept swallows up quite a bit of development time.

**Stephan Schertler:** Absolutely. The motto was clear: world-class sound and total flexibility. And here we were sometimes desperate of our own ambitions. Just one detail to give you an example: the head profiles of the modules need to be milled down to 1/100 of a millimetre so they won't turn a larger console into a “snake“. Our eye is very fussy here. By the way, all profiles are an in-house development and extruded using our own tools. For the switch and pot knobs we also came up with something distinct because we couldn't find anything really delightful in the catalogue. Of course, this generates high initial costs. On the other hand, every detail is boiled down without compromise.

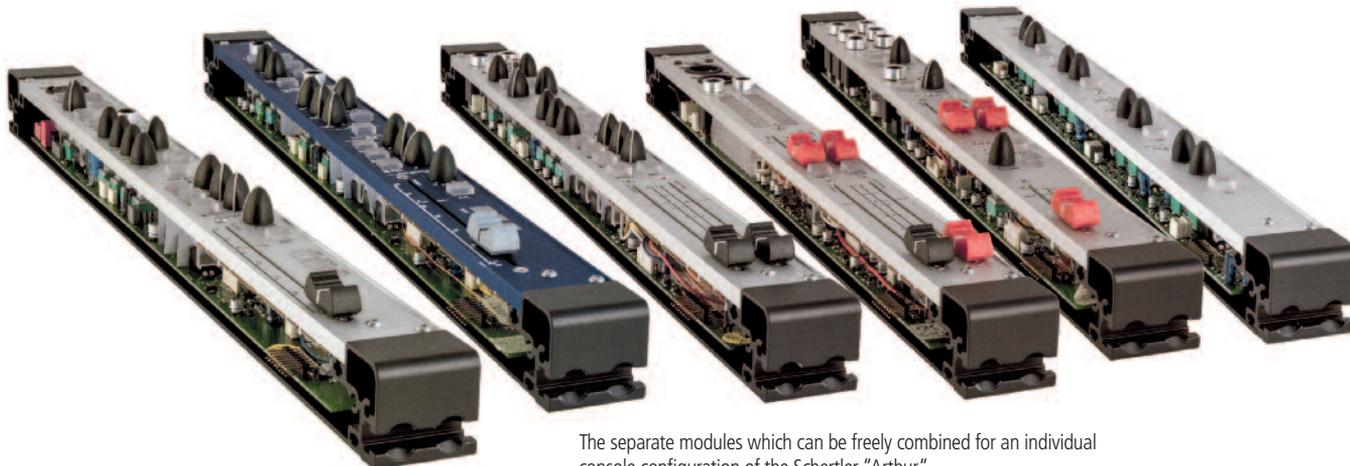
**tools 4 music:** The audio quality achieved by the “Arthur“ also depends on the signal path from input to output being void of negative feedback (NFB). What exactly does that mean?

**Stephan Schertler:** NFB is a standard architecture in 99 % of audio electronics which enables simple and elegant (mostly integrated) circuits. A large portion of the amplified signal (up to 99.99 % in OP amps) is

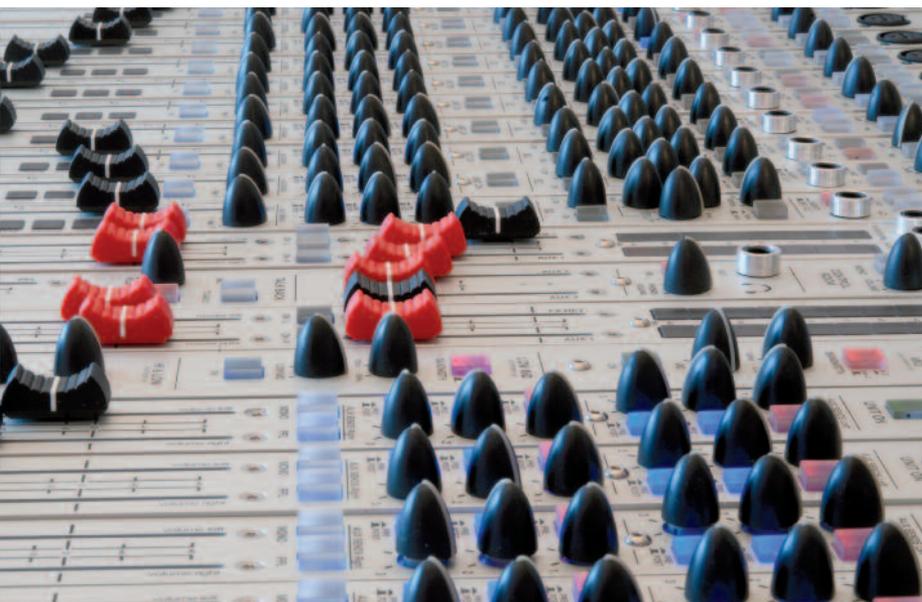


fed back phase-inverted (i. e. rotated by 180°) to the input to “cancel“ distortions, non-linearities or also hum. Of course, the whole thing can change into a religious matter. Yet the directness and emotionality of a signal is largely determined by the attack time which is significantly reduced by NFB. Everything sounds duller and less punchy with NFB, despite a “clean sound“. Open-loop circuits, i. e. Without NFB, sound fresh, crisp, multi-faceted, more colourful and unlimited in dynamics. Save that such circuits demand a multiple of development effort and experience. With the creation of NFB-less circuits the designer is leaving the cosy nest of schoolbook electronics. The architecture in the “Arthur“ is innovative and unique on all levels and can't be found in any other product on the market. Furthermore, all circuits are pure DC amps (no capacitors in the signal path) and, due to the high voltage class A design (50 volts), offer well above 30 dBs of headroom.

**tools 4 music:** Beside the audio quality, the modular design is an essential feature of the “Arthur“ consoles.



The separate modules which can be freely combined for an individual console configuration of the Schertler “Arthur“.



The "Arthur" concept also allows larger desk configurations with up to 60 modules.

Which module types offering what functions will be available from the official launch of the model series in July 2016? (NB CR: Is that true?)

**Stephan Schertler:** Three input and three output modules. Inputs for microphone, stereo sources and one innovative instrument channel with adjustable impedance for musical instruments from acoustic guitar to electric bass. Regarding the outputs we have a Left/Right Master with an aux way and effects return as basic equipment, an Aux Master for three more aux ways and more features as well as an EQ Master with a sophisticated, fully balanced EQ for the main outputs to compensate for the room acoustics. Other modules such as an Aux Expander, a digital-analogue reverb unit, a Power-in module, a Phono Input for those round, black discs and a DJ Master are planned to come out by the end of the year. Owing to the modular design, we will therefore be able to fulfil many customer requests.

**tools 4 music:** An instrument channel strip with adjustable impedance?

**Stephan Schertler:** Yes, this does make sense. Adjustable from 20 kilohms to 1 megaohm. Active pickups produce the lowest noise on low-Z inputs, magnetic pickups can be tuned "acoustically" between ca. 50 k and 200 k (warmer or brighter sound), and with high-Z sources like piezos the impedance is increased towards 1 megaohm.

**tools 4 music:** During our conversation at the music fair came the remark that "Arthur" should remain affordable. Now let's come clear: a basic outfit with two microphone inputs, two instrument inputs and the L/R master out module including external power supply would cost how much?

**Stephan Schertler:** Less than 1,200 euros. The high-end microphone channel is 219 euros, the instrument channel is 259 euros and the L/R Master is 249 euros plus 39 euros for the small power supply which can feed up to 12 modules. There is also a 10-ampère high-end power supply for up to 60 modules which is priced at 790 euros and meets even the highest demands in the fully professional sector (broadcasting, studio).

**tools 4 music:** The group of users who expect at least 20 input channels complete with a parametric EQ, multi-band limiter, mute groups and a powerful remote app for iOS and Android devices at this price, is definitely not the intended target audience for "Arthur". On the other hand, there may be a percentage of "renegades" which must not be underestimated – of musicians who, in an A/B shootout, would neglect the merely quantifiable differences as to the features on paper and come to appreciate the qualitative ones of the "Arthur".

**Stephan Schertler:** That was also our first evaluation from the "bakery". Following initial presentations during the past few weeks, also at the Frankfurt Music Fair, we got a keen interest and pre-orders for larger consoles as well (technically the number of modules is unlimited), particularly in the recording sector. We rely on top sound, a clear layout and total modularity. The formula goes like this: "I buy what I need" and often this won't be 20 channels – in many cases this solution is not only superior in quality, but also more attractive in price. I think our customers don't fall into the category of users who calculate the price for a single channel and then go out and get the largest possible mixer with this budget. The higher price also relativises by the fact that the device is expandable, hence it won't have to be sold or "scrapped" in case of an expansion. Moreover we grant a three-year warranty and give our promise to offer and further develop "Format 48" modules for as long as we exist. By the way, like all our other products "Arthur" is distributed in Germany through "Noble Guitars" and will be available at many important music shops. Moreover, we will soon offer the option on our website to virtually configure your "personal Arthur" and order it directly.

**tools 4 music:** Thank you very much for your interesting insights into the "making-of" of this exceptional product. One last question: in view of such ambitious projects like the "Arthur", do you still have time to play your own music, to dust your double bass now and again?

**Stephan Schertler:** This is an embarrassing question and I really feel a little ashamed of it: actually I only play drums. But joking aside, I'm watching TV for five minutes each day on average. This makes a lot of hours together which I could use otherwise then ...

[www.schertler.com](http://www.schertler.com)

*(Annotation by the editorial team: In the upcoming tools issue 4/2016 Frank Pieper is going to put one of the first "Arthur" mixing consoles through its paces in an exclusive review.)*