

Compact midfield monitor for high-end applications

## Studiomonitor in the test: Sonodyne SRP 800

*Written by Anselm Goertz, article from the archive*

**Sonodyne has continued to expand its product portfolio over the past few years and currently offers six models in the SM series and four in the SRP series. There are also four subwoofers and a bass management system.**



Looking at the company profile, the history of Sonodyne goes back to the 1960s. Sonodyne was founded by Ashoke Mukherjee in Kolkata, India, after his engineering studies at the Indian Institute of Technology. In addition to various proprietary products, the company mainly develops and manufactures OEM devices for all areas of audio technology, from consumer goods to live-sound equipment. Today, in India, Sonodyne is considered one of the pioneers of audio technology with a complete range of products for all branches of audio engineering. Over 40 engineers work at the two locations Kolkata and Mumbai.

The smaller models of both series are built with aluminum die-cast housings, the large ones made of MDF and aluminum. All monitors are fully active and equipped with classic Class A / B power amplifiers. The power supply units are also based on proven technology with generously dimensioned NF-ring core transformer. The combination of both should still be the best possible solution from the point of view of measuring technology and sound, since the weight and heat of heat are not so important for student monitors.

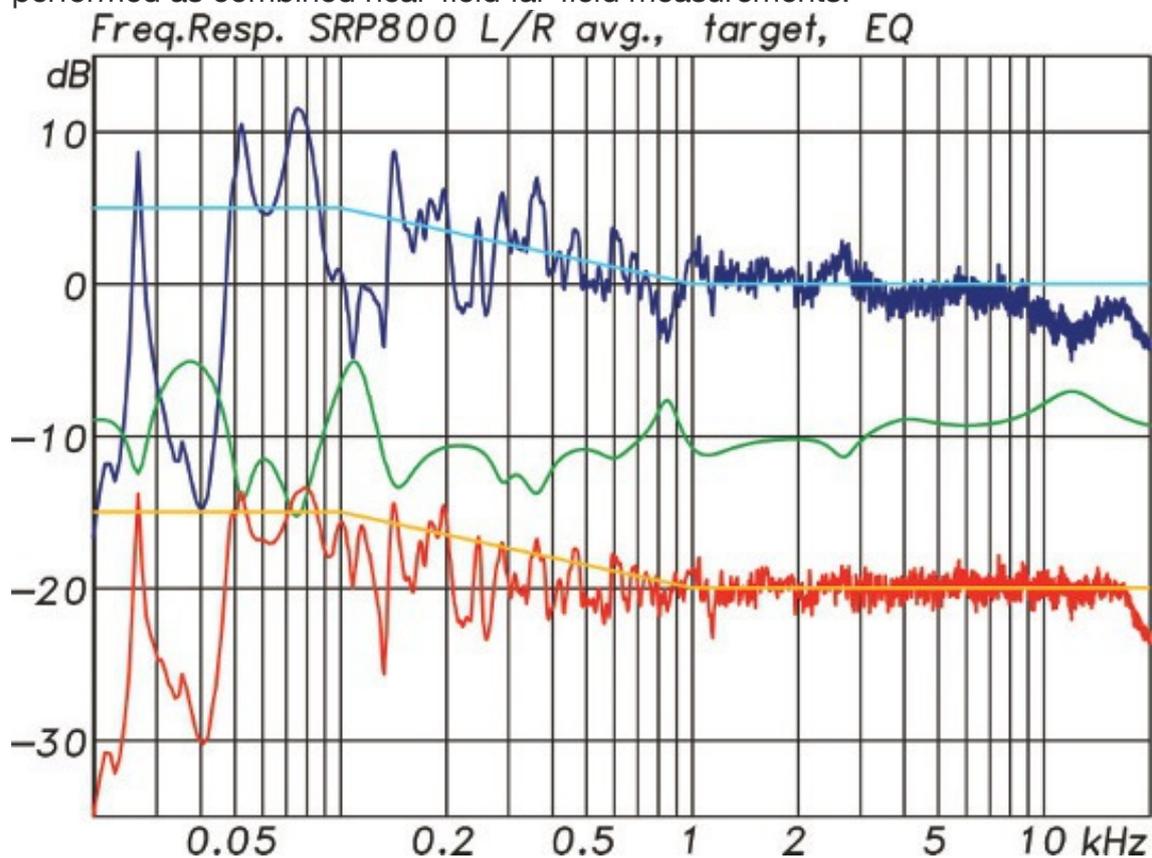


The larger models of both series and thus also the SRP 800 presented here are equipped with a DSP system for signal processing. The best AD and DA converters from Burr-Brown, an analog devices DSP and NE5532 OPVs on the analog side are used. SRP 800 The SRP 800 is equipped with an 8" woofer with kevlar diaphragm, magnetic shielding and aluminum die-cast basket. As a tweeter, a 26 mm Neodymium dome with woven membrane is used.

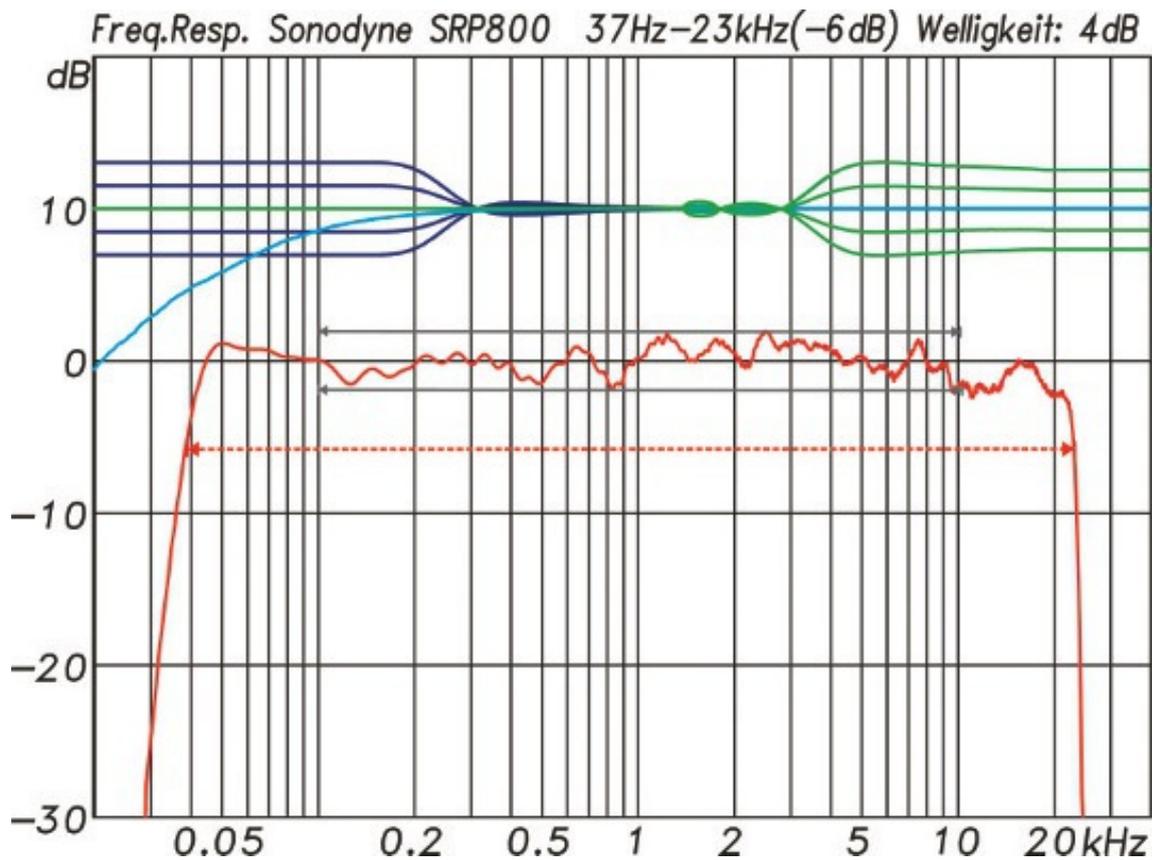
The housing of the SRP 800 is constructed of two aluminum half-shells that are securely held together by five screws. If you look at the housing in detail, you will find various constructive features, which indicate a very well-thought out development. All housing edges are generously rounded, the tweeter has a Waveguide, which really deserves this name and the large Bassreflex tunnel

is equipped with round openings on the outside and inside. If the housing is screwed on, you will also find nice detailed solutions for acoustic optimization. A massive cross braces the front half shell to which the rear shell is bolted. Here, too, there is another tensioned cross brace so that housing wall resonances have no chance. A critical point in resonances in housings of this type can be the extremely long screws that hold both half-shells together. In the SRP 800, the screws are therefore surrounded by plastic tubes so that they are not excited at all to vibrations.

**The following measurements** on the frequency response, the radiation response and the distortion **values are derived from the measurement laboratory under non-reflective conditions**. The class 1 measuring room allows measurement distance up to 8 m and offers free-field conditions from 100 Hz upwards. All measurements are carried out with a B & K 1/4 "-4939 measuring microphone at 96 kHz sampling rate and 24 bit resolution with the Monkey-Forest audio measuring system. Measurements below 100 Hz are performed as combined near-field far-field measurements.



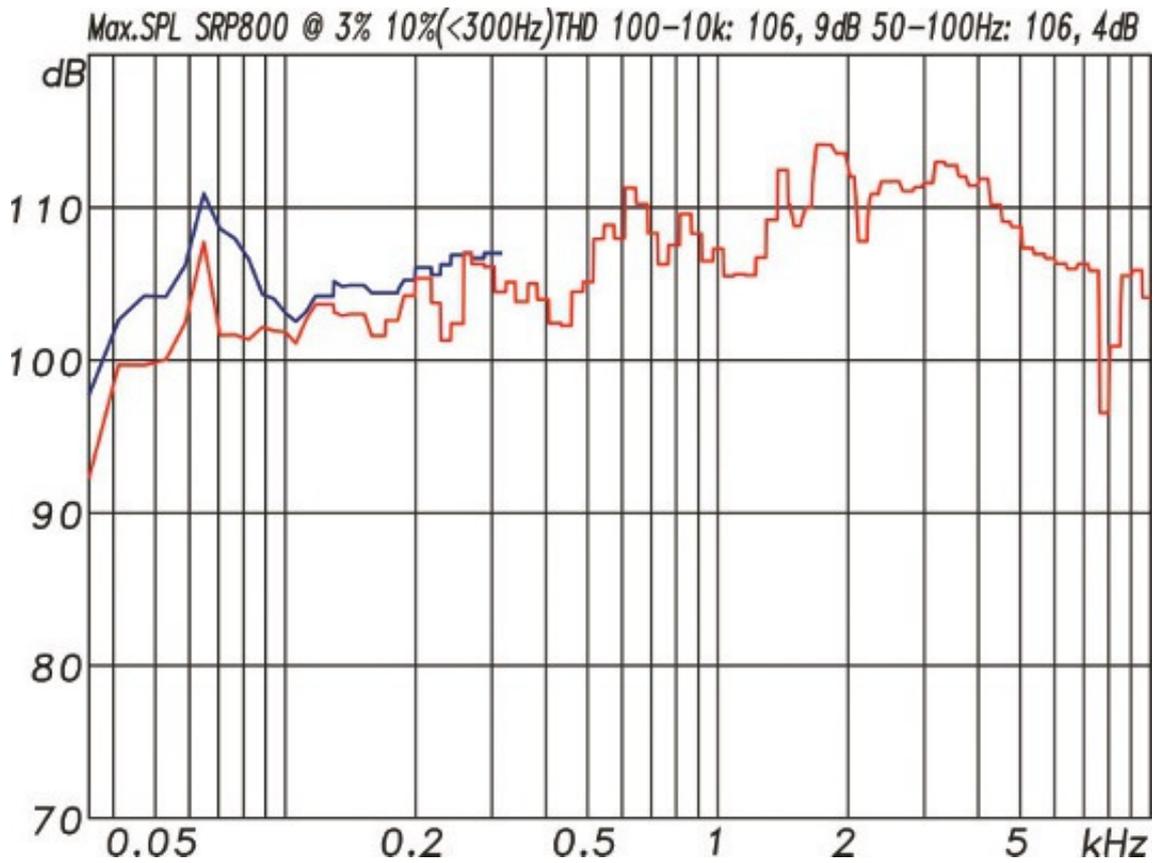
Averaged frequency measurement over 30 positions for the left and right speakers around the listening position (blue). From the measurements, an EQ (green) was derived for spatial correction. Below the average curve with EQ (red) and the target function (orange).



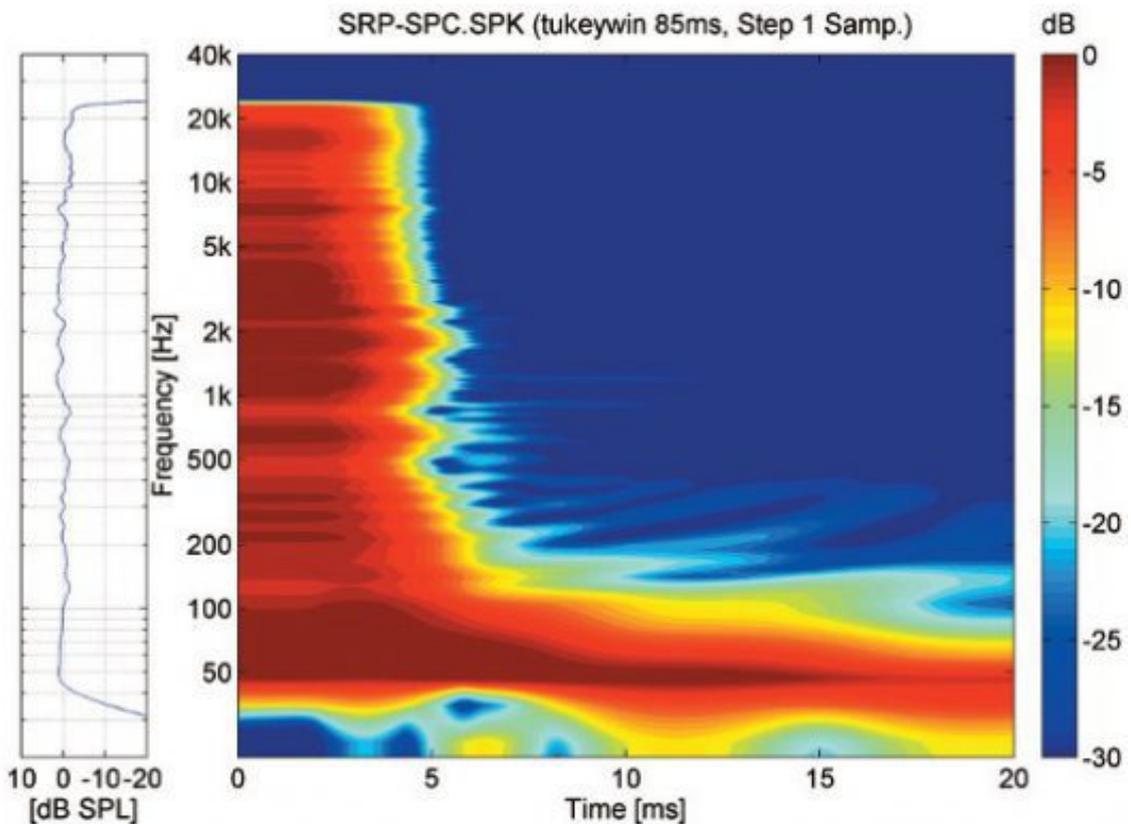
Frequency response on axis measured at 2 m distance (red). The filter curves for the low ( $\pm 3$  dB) and high-shelving filter ( $\pm 3$  dB) as well as the bass roll-off setting. The two gray lines indicate the frequency range from 100 Hz to 10 kHz for the evaluation of the ripples. The orange line shows the transmission range (-6 dB) from 37 Hz to 23 kHz.



2 phases measured on the axis at a distance of 2 m. At the separation frequency there is  $720^\circ$  phase rotation and at the lower end of the transmission range again  $2 \times 360^\circ$  through the electrical and acoustic high-pass filter. For the X-over function very steep-flank filter 8th order is used here.

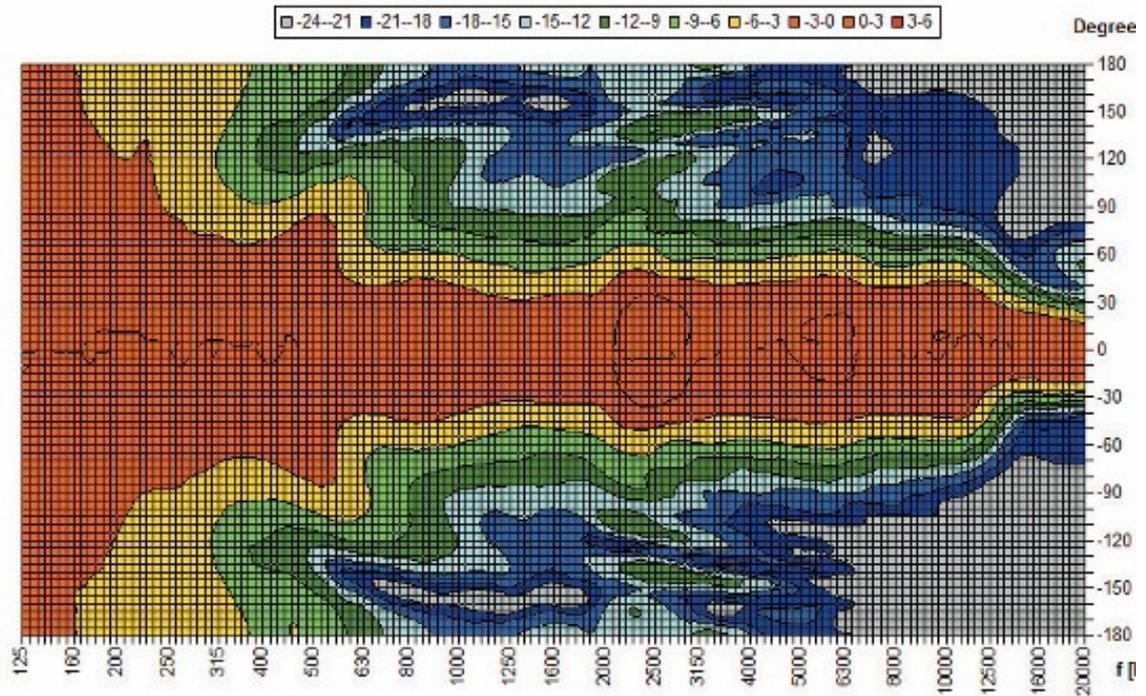


The SRP 800 delivers high levels without weaknesses with low distortions of only 3%. The maximum output level is 1 m at the highest 3% distortion (red curve) and at maximum 10% distortion (blue curve) for the low frequency range up to 300 Hz.



Spectrogram of the SRP 800 with small resonances in the operating range of the woofer, presumably caused by housing modes. The tweeter behaves perfectly.

### Horizontal Isobars of: Sonodyne SRP800



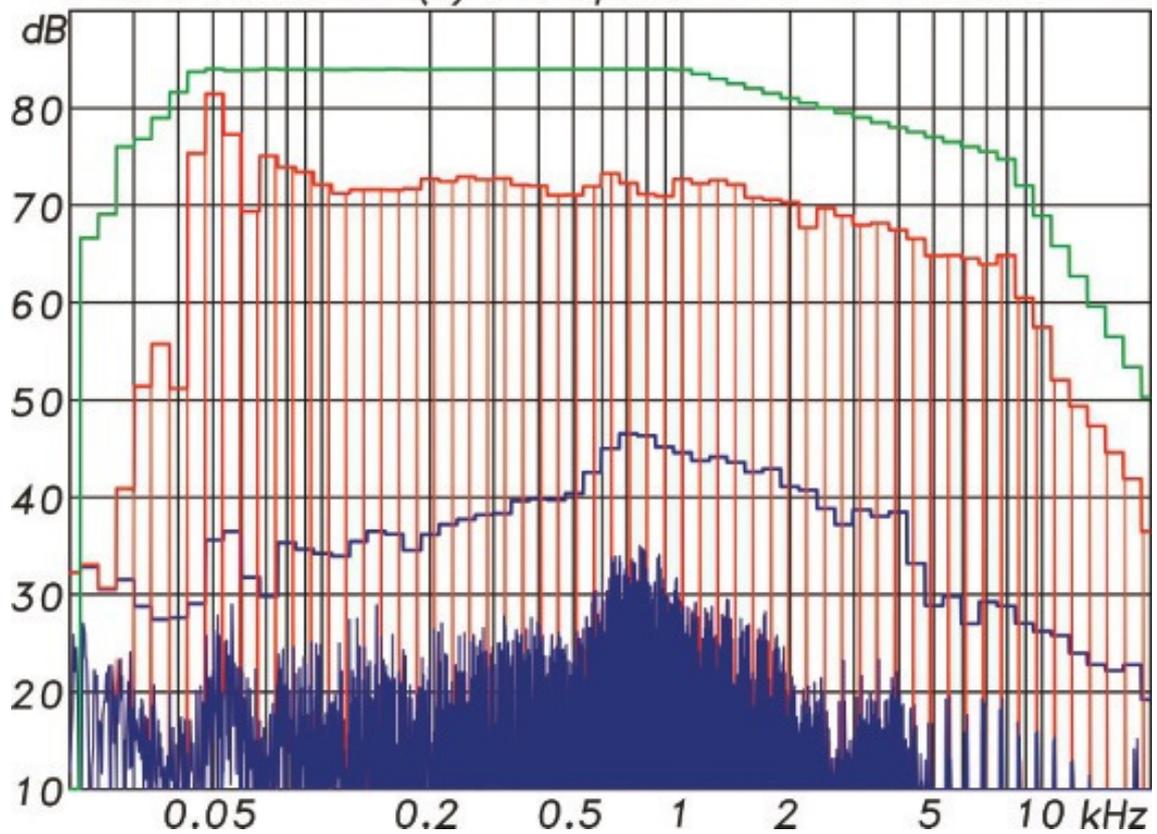
Parameters: Cyclic Move: 0° ; Symmetry: no symmetry ; Freq.Smooth: 1/3 Oct ; Ang.Resol.: 5° ; Rel. to: 0° Axis 0°

5 Horizontal radiation behavior in the isobar representation. The level has fallen by 6 dB against the center axis during the transition from yellow to light green. The average radiation angle between 1 and 10 kHz is 114 ° with a variation width of only 9 °.



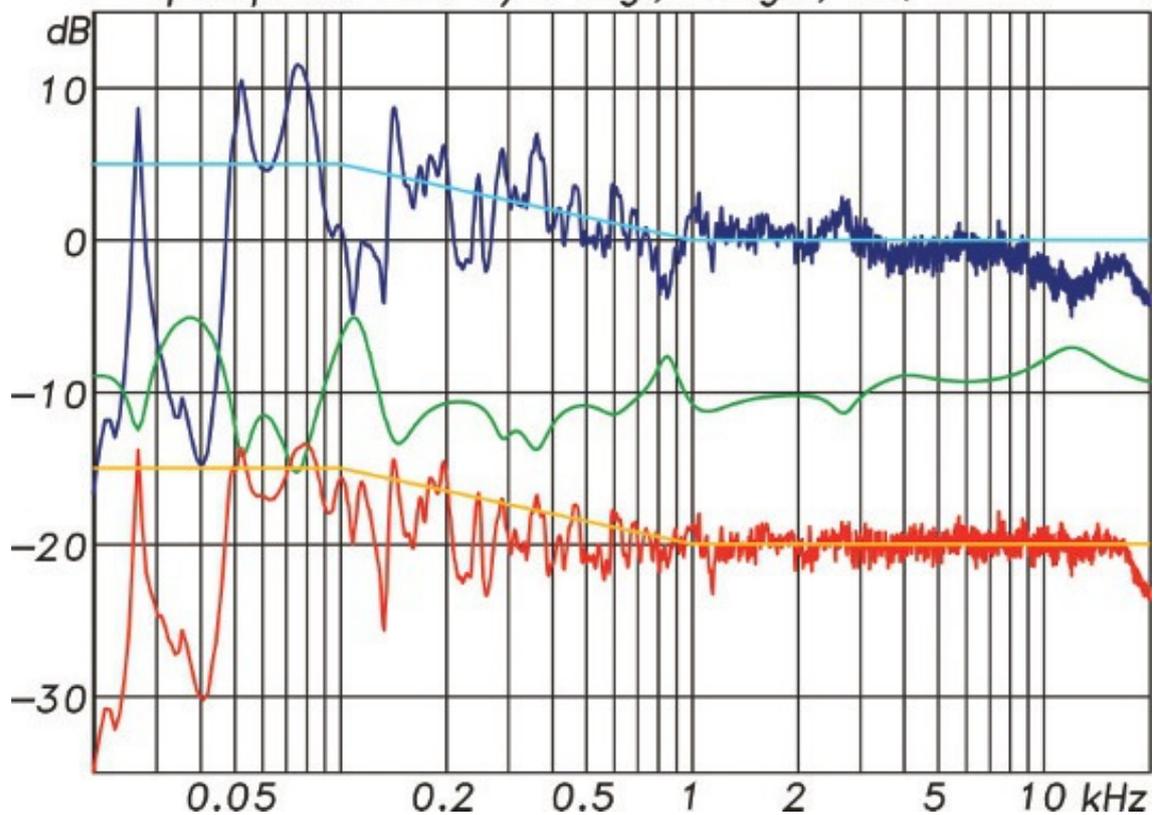
Vertical radiation behavior with a narrow constriction in the vicinity of the separation frequency at 2 kHz

SRP800 IMD @ 85dB(A) 101dBpk in 2m FF Dist.: -30dB = 3%

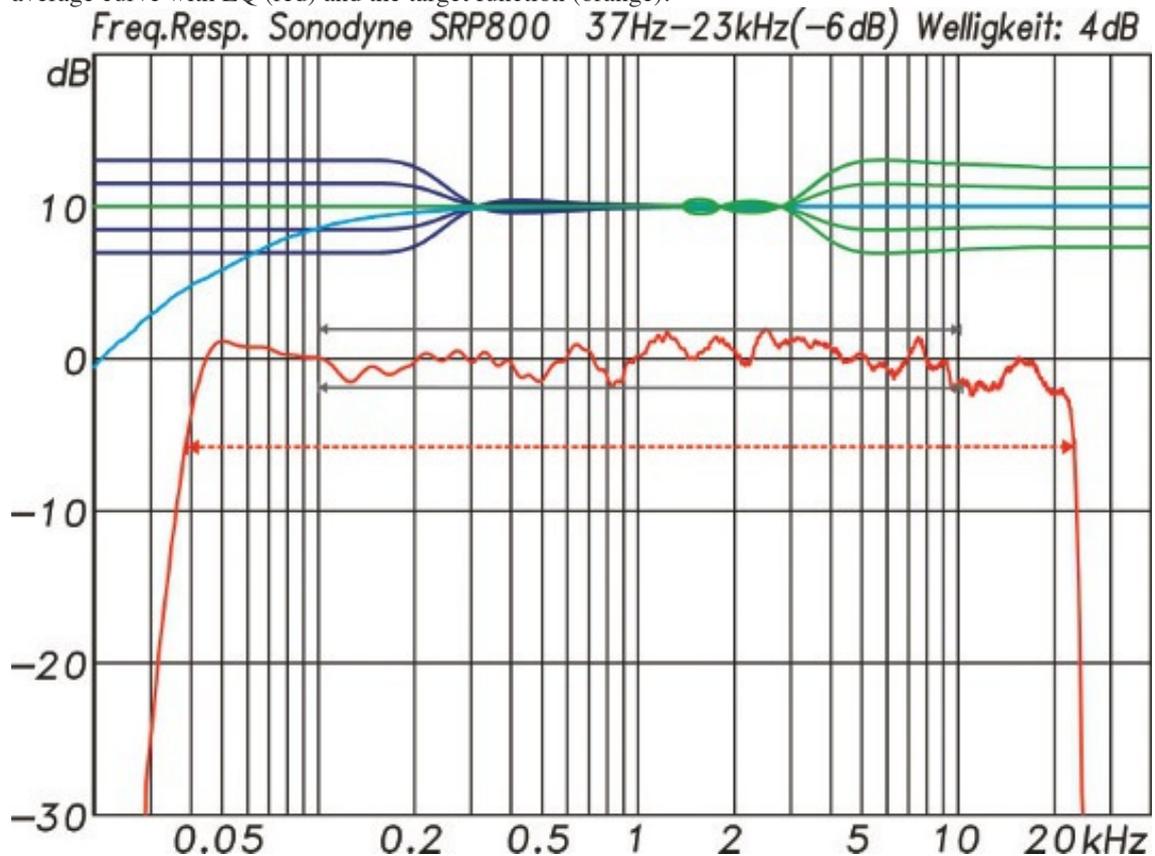


Measurement of the intermodulation distortions with a multi-shot signal with EIA-426B spectrum (green) and 12 dB crest factor at 85 dBA Leq at a distance of 2 m (red curve). The peak level Lpk was 101 dB.

Freq.Resp. SRP800 L/R avg., target, EQ



Averaged frequency measurement over 30 positions for the left and right speakers around the listening position (blue). From the measurements, an EQ (green) was derived for spatial correction. Below the average curve with EQ (red) and the target function (orange).



Frequency response on axis measured at 2 m distance (red). The filter curves for the low ( $\pm 3$  dB) and high-shelving filter ( $\pm 3$  dB) as well as the bass roll-off setting. The two gray lines indicate the frequency range from 100 Hz to 10 kHz for the evaluation of the ripples. The orange line shows the transmission range (-6 dB) from 37 Hz to 23 kHz.

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All cables inside are covered with foam and secured several times with cable ties. Insulation material is plentiful and also available in the right places and also securely fastened.

The electronics are located on a large PCB on which the DSP module is mounted. As control elements, there are two small rotary switches for a low- and high-shelving filter with  $\pm 3$  dB adjustment range (see also Fig. 09). In addition there is a bass roll-off switch. The settings are always exactly reproducible thanks to clearly latching switches. As input, there is only one XLR jack with link output for connecting to possible subwoofers.

The housing of the SRP 800 has four M6 threaded holes on the back and at the bottom, which can be used to attach a monitor to a wall bracket or a swivel arm.

**Details and the inner life of the monitors** were brought to the light of the day outside of the usual outside shots in the test lab.



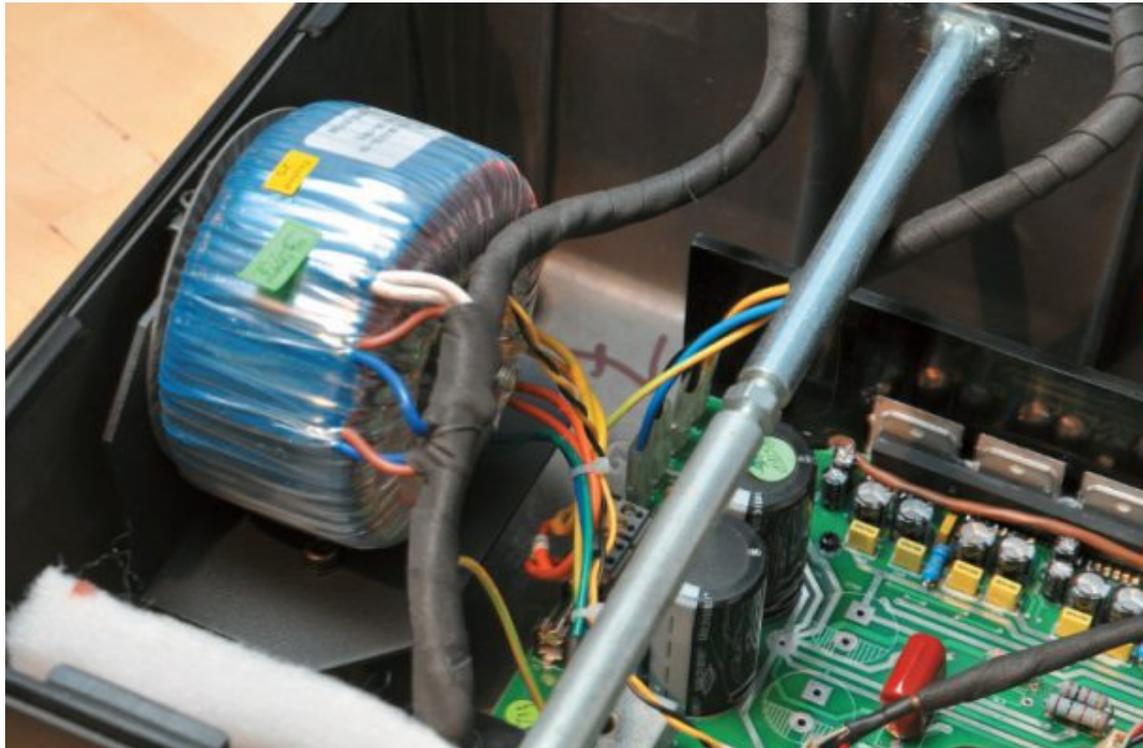
The power supply with a strong ring core transformer; In the foreground a tensionable housing strut



9 The SRP-800 is opened. The interior has also been perfected in detail. Everything is solidly braced and fastened. The bass reflex tunnel is also generously rounded on the inside and the four long housing screws in the corners are surrounded by plastic tubes and thus protected against resonance excitation.



The electronics inside, equipped with five power amplifiers ICs and the DSP board placed at the lower right



The power supply with a strong ring core transformer; In the foreground a tensionable housing strut



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### Hearing test

The measured values already indicated, with the SRP 800 we have to do with a really good and powerful loudspeaker. Despite its still quite distorted dimensions, the SRP 800 covers the entire frequency range loosely to the

deep bass. The subject subwoofer is not really available here. An exception could be film projects, where for the LFE path the octave of 20 to 40 Hz is also needed, for which one should then take a subwoofer.

Otherwise, the SRP 800 plays so comprehensively that you do not miss anything. The playback is very well balanced right away, nothing disturbs or forces itself into the foreground. Thanks to the evenly distributed directivity, the listener also has ample freedom of movement.

It is really fun to have the SRP 800, if it should be louder. The monitor retains its beautiful neutral character unchanged and plays with a tremendous dynamic, which is simply so self-evident. If one did not know the loudspeaker and not see, then the surprise would probably be great when an 8 "box comes to the fore. In short, sound very good, fully suited for the studio and also with great fun factor - thus a full recommendation.

### **Conclusion**

With the SRP 800, Sonodyne has another highly professional monitor in the program. The 8 "system impresses with very good readings and excellent sound characteristics. A comprehensive frequency response, combined with neutrality and the ability to achieve great dynamics, are the foundations. The measured values fully confirm the hearing impression - or vice versa. Users with an inclination to perfectionism or with attention to detail will have their pleasure in the execution and production quality beyond the sound pleasure. Over a pair price of just under 1.800,- Euro does not really have much to be discussed.

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#### Profile Sonodyne SRP 800

Frequency range: 37 Hz - 23 kHz (-6 dB)

Ripple: 4 dB (100 Hz - 10 kHz)

Hor. Opening angle: 114 degrees (-6 dB iso 1 kHz - 10 kHz)

Hor. STABW (standard deviation): 9 degrees (-6 dB iso 1 kHz - 10 kHz)

Ver. Opening angle: 92 degrees (-6 dB iso 1 kHz - 10 kHz)

Ver. STABW: 19 degrees (-6 dB iso 1 kHz - 10 kHz)

Max. Power consumption: 106.9 dB (3% THD 100 Hz - 10 kHz)

Basic stability: 106.4 dB (10% THD 50 - 100 Hz)

Maximum level in 1 m (free-field) with EIA-426B signal at full power: 104 dBA  
Leq and 120 dB peak

Pair deviations: 0.9 dB (maximum value 100 Hz - 10 kHz)

Interference level (A-weighted): 25 dBA (distance 10 cm)

Dimensions: 291 x 434 x 280 mm (W x H x D)

Weight: 17 kg

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+++ Measured values

+++ Sound quality

++ Application possibilities

+++ Processing and value

+++ Value for money