roger schult
german audio lab

W2324 phase shifter (api 500 ® System)

The W2324 is a high-precision tool to solve phase problems in sound recording and playback applications. Comb-filtering is a common and usually undesirable effect caused by differences in phase when combining multiple signals from one source, such as a microphone and a DI signal from an electric guitar or multiple microphones on a kick drum. The W2324 phase shifter is the ultimate tool to hone in and correct those phase problems with unheard-of accuracy and sound quality. Alternatively, experienced engineers will appreciate the creative sound design possibilities offered by the module.

Furthermore, the W2324 can be used in the subwoofer path of any playback system to optimize the low-frequency response and remedy room mode issues thanks to the continuously adjustable phase angle.

Within the selectable frequency range of 23 Hz to 1.57 kHz any frequency build-ups or cancellations due to the time delay between multiple sources or (when used in the playback path) due to problematic room acoustics can be addressed by shifting of the phase. Simply select the desired frequency range with the 11-position rotary switch and correct the level and phase. A 3-position flip switch further allows phase angle extension from 190° to 305° as well as providing a bypass position for a quick and easy comparison with the uncorrected signal.

As all Roger Schult products, the W2324 is hand-crafted and precision-engineered in Germany.

Technical Data
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Gain, 41-position rotary control	max. +/- 5 dB
Phase, continuously variable rotary control Mid indent at 90° phase	10° - 125 °
Phase, 3-position flip switch	10° - 125° / 0 / + 180°
phase angle range	10° - 125° / bypass phase / 190° - 305°
Frequency, 11-position switch	23 Hz / 36 Hz / 48 Hz / 73 Hz / 170 Hz / 230 Hz 338 Hz / 470 Hz / 730 Hz / 1 kHz / 1.57 kHz

Input (electronically balanced)

Reference input level	+6 dBu
Maximum input level	+20 dBu
Input impedance	10 kOhm

Output (electronically balanced)

Reference output level	+6 dBu
Maximum output level	+25 dBu (0.003% THD+N)
Output impedance	40 Ohm
Gain at linear setting	0 dB (+0.1 / -0.2 dB)
Signal-to-noise ratio	< 100 dB
Noise level (UWTD / WTD)	< 91 dBq / < 81 dBq
Harmonic distortion	THD+N / 0 dBu 0.007%
Frequency range	20 Hz - 40 kHz (+/- 0.1 dB)
Delay time of hard bypass relais	max. 3 ms
Power supply	+/- 16V / max.120 mA
Module dimensions	115 mm x 172 mm (HxT)
Faceplate dimensions	19“ / 3 RU, 1,5“ x 5,25“ (BxH)
Faceplate finish	Aluminium, chromated
Weight	0.575 kg

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