Subject: Phase shifters and Phlangers
Posted by Wayne Parham on Thu, 08 Jul 2004 21:49:58 GMT
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I used to play keyboards in a little band, seems like a million years ago. I had a Korg synthesizer at one time, and a Mini-Moog on another. Even had a Moog Liberation for a while. But that's the extent of my experience with musical instruments.I always wondered what exactly was in phase shifters and phlangers, but never bothered to open one up or look at a schematic to see. It isn't just a device that shifts phase of the entire audio band by a fixed amount, 'cause that wouldn't be audible. It sounds like it shifts a certain frequency range and then varies the shifted amount in relation to the rest of the band so that the interaction becomes audible.Undoubtedly you guys know the answer. Just out of curiosity, what kinds of circuits are used in those things?

Subject: Re: Phase shifters and Phlangers
Posted by hitsware on Tue, 14 Dec 2004 15:53:45 GMT
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A phasor uses a series off all-pass filters with voltage (or current) controlled parameters. Jfets, LDR's, or transconductance amps can be the active elements. Then (at the output) the shifted (by a continuously varying amount (via a LFO driving the elements)) signal is mixed with the raw signal giving the comb filtering effect.A flanger uses a bucket brigade device to time delay the signal. The clock to the delay device is varied by a LFO and then the signals mixed as above.
http://www.generalguitargadgets.com/diagrams/mxr_p100_sc.gif

Subject: Re: Phase shifters and Phlangers
Posted by Wayne Parham on Wed, 15 Dec 2004 04:21:28 GMT
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Thanks, I was always curious, but never enough to look and see. I could hear them and visualize one of a few circuits that it might have been, but just never confirmed it. I knew one of you guys here would know. Thanks for saying.

Subject: Re: Phase shifters and Phlangers
Posted by hitsware on Wed, 15 Dec 2004 16:07:49 GMT
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From previous thread:

Subject: Re: Phase shifters and Phlangers
Posted by Wayne Parham on Thu, 16 Dec 2004 06:29:44 GMT
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Good article, thanks.The writer did a good job of illustrating how it is the frequency anomalies that we hear, not the phase. The nulls produced and the shifting of the nulls is what's audible. It's interesting to me to see the different approaches of the phlanger and the phase shifter, and how some devices don't even combine phased signals to do it at all, and instead use filters generate a notched response curve to provide the same effect.

Subject: Re: Phase shifters and Phlangers
Posted by Chris R on Wed, 20 Apr 2005 21:49:32 GMT
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About these things, at one point I had a Ibanez (think so) analog delay box for guitar. It had a dry and delayed output. In one mode,you set up a fairly short delay and modulated the delay time slowely. Ifyou hooked both outputs to a stereo, the chours effect was reallynice. It was BBD based, so it was rather noisy, but cool none theless. I've still have a Boss CE-1 (or-2) that quit working years ago.I've looked inside but couldn't see how it worked. Come to thinkof it, now that I have a 'scope I should try again.Chris