SH2 Shape, Spectral Enhancer

The SH2 is a is a combination of a compressor/limiter and a dynamically dependent spectral enhancer.
It works very well as a pseudo stereo device where it can do everything from subtle to extreme spectrally enhanced stereo spreading.
It can also be like an odd take of something almost like a transient designer or a very open sounding distortion. It is an all analoge module. A module for sonic experimentation.

A short description of what the module is doing:
It consists of mainly two parts. A compression part and a calculation part.
The comperssion part is designed to be as transparent as possible. That said, all types of compression adds distortion that can be seen as added upper harmonics that are depending on the signal in.
The calculation part gives you TRAN and TAIL. TRAN can be trimmed via TRIM to be ony the newly produced upper harmonics from the compressor. For a very transient sound this means that you can trim the the TRAN output to be a very short sound just during the transient part of the incoming sound.
The calculation for the TAIL output is the clean sound minus the newly produced upper harmonics from the compressor, but from a different circuit than for Tran. So it is not affected by TRIM.
This makes the sound on TAIL to be mainly the tail of a transient sound.

The effect out on TRIM and TAIL is highly dependent on the nonlinier character of the compression via the drive. The more compression and the more complex signal in, the bigger the effect on TRAN and TAIL.

The SH2 works very well for parralell processing as it has very low internal phase delay.
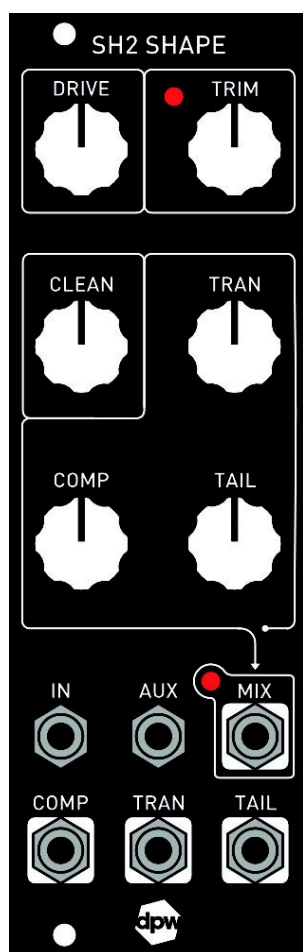
Controls
IN
The signal in.

DRIVE
Level of compression, how hard it is driven. Affects everything in the module. The compressed signal goes in to the mix section and also direct out on Comp.
The maximum compression is 10 times. Because it has that much gain it is designed to brick wall limit to +/-5V. So you will never get ugly clipping no matter how hard you drive it.

TRIM
Is for the TRAN calculation together with DRIVE. It only affects TRAN.

The TRIM LED it there to help you see when only the newly produced harmonics are present on TRAN. Red too low, green too high and amber as close as you can get. The LED is mainly there as a guide. You will have to compensate TRIM if you change DRIVE.
For transient material the LED will flash.

TRIM can be used to get a more open distorted version of your sound on Tran. Experimet and see what you like. It will probably be in the area where the TRIM LED is green.

CLEAN
The ammount of clean signal direct from In to the MIX out.
The MIX out is a combination of CLEAN, COMP, TRAN and TAIL.
The MIX LED shows when the MIX output is higher than 6V. Nothing bad happens when it is lit. It is just a visual help for levels.

COMP

The direct output of the compressor controlled by the DRIVE.
The COMP knob sets the ammount of compressed signal in to the MIX out.

TRAN

TRAN can be set to be only the newly produces upper harmonics from the compressor or a volume dependent distorted version of the signal in depending on how you set DRIVE and TRIM.

TRAN can be set to work in the opposite direction of a normal distortion. A normal distortion compresses the funamental frequencys and make them more pronounced. With the TRIM knob you can almost completely remove the fundamental incoming frequencys.

TRAN has a direct out and a knob for mixing it in to MIX out.

TAIL

TAIL is the clean sound minus the newly produced upper harmonics depending on how you set DRIVE.
TAIL has a direct out and a knob for mixing it in to MIX out.

AUX

AUX mixes in a signal after the compression and goes in to the TRAN and TAIL calculation together with the signal in on In.
If you don't want to use the internal compression in the calculation you can turn down DRIVE completely or mix it in as you like.

The idea with the AUX input is for experimentation.
You will get the most effect out of the AUX input if you use processed versions of what you send to In. Like filters, ring modulators, other compressors, distortion and so on.

Device specs

Module size:	10 hp wide, 29 mm deep with power connector.
Input impedance:	100 kohm
Out impedance:	1 kohm
Power requirements:	+12V. Max power consumption 40 mA
	-12V. Max power consumption 20 mA
	Connect the power cable with the red stripe towards the marking -12V on the board.
	The unit is protected for reverse power.

Use case examples

A few examples, just to get your imagination going.

Cymbal processing

A sound of a cymbal through the module or something very transient and complex sound with a longer tail is a good way to start getting familiar with what the module does.

You could use the separate outputs to separate parts of the sound and send to different destinations.
Like just the TAIL to a spring reverb so the transient doesn't do ploink sound in the reverb and send the TRAN trough a sweped filter. Use the built in mixer to get a good balance of CLEAN and COMP to the MIX out.
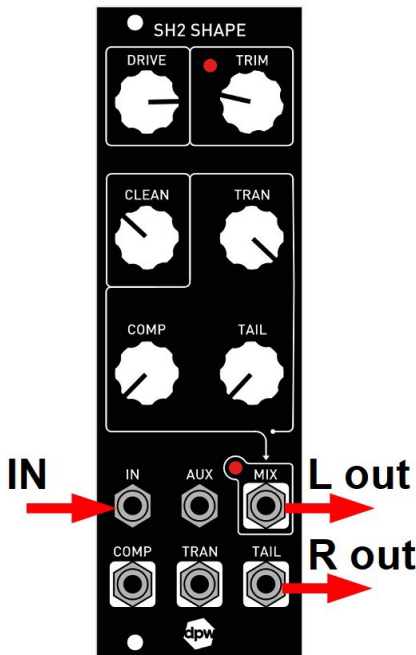Then mix all of it in a separate mixer.

This could be a way to go for re-amping tracks out of your DAW.

Open distortion
This is a way to use just the TRAN as a sort of distortion.
Use just the TRAN out and play with the settings of DRIVE and TRIM.

Pseudo stereo

A slightly gritty stereo maker, but a very nice one.
It adds a sort of slight distortion that is more percieved as definition than distortion.

Try this on drum loops, street sounds recordings, wavetables, FM sounds and other types of complex sounds. This is where it shines the most.

Start simple with CLEAN full on and TRAN, Comp and TAIL off. This way you will only have clean in the MIX out going to the left channel. Set the DRIVE fairly high and connect the TAIL out to your right channel.

If you want a bit more extreme result turn TRAN full up as in the picture and maybe some CLEAN so the left side doesnt get too weak compared to the right.
Set the TRIM knob in a way you like.
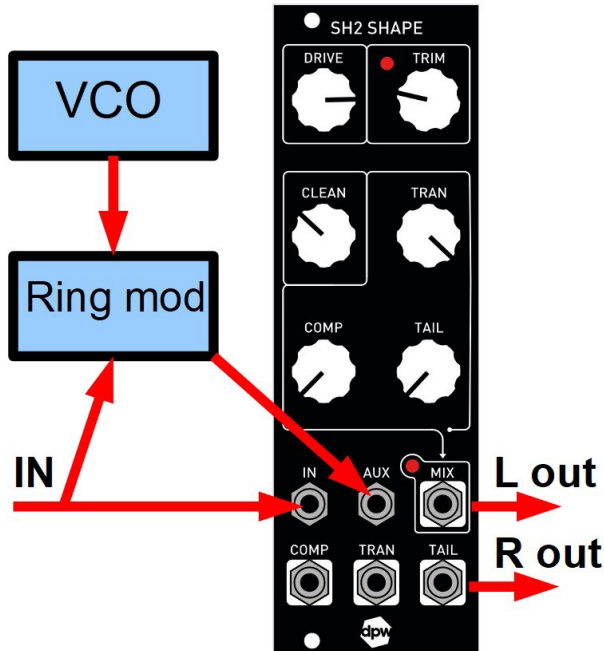
This is a modification of the pseudo stereo patch.

If what goes in is for example a drum loop it could be interesting to CV control the VCO with something relevant to the rest of your patch.

This will add some tonal color that could make the drum loop more interesting. Especially if the sequence controlling the VCO is of a different length than the drum loop.

Please check www.dpw.se for updates to the manual.