Unlike conventional signal processors, SPL's Transient Designer is level-independent, altering the attack and sustain characteristics of a signal. BENEDICK GRANT processed some drum signals.

SPL TRANSIENT DESIGNER

SIGNAL PROCESSOR

German manufacturer SPL has become well known for its unusual signal processors — in particular the Vitalizer range. Like their other processors, the Transient Designer is something of a wolf in sheep's clothing: the stark simplicity of the front panel conceals the unique and sophisticated processing power within!

SPL describe the Transient Designer as a dynamics effects processor but, unlike a conventional compressor, the function of which is to control the amplitude of a signal, the Transient Designer is a level-independent processor which can be used as a creative tool to alter the attack and sustain characteristics of a signal.

The unit is housed in a very functional-looking black box (decorated with SPL's hallmark random pattern of blue lines). Front panel controls are kept to a minimum, and are clearly labelled. The four sets of inputs and outputs are electronically balanced, at +4dB, and appear on XLR connectors. The bypass function is a true hard bypass, which switches the signal via relays. Each channel has an LED which lights to show when a signal is present.

There are four discrete channels of processing, which may be linked in pairs for stereo operation. Operationally the unit couldn't be more straightforward: each of the four processors has just two knobs — attack and sustain — and a bypass switch. Two further switches allow channels 1 & 2, and 3 & 4, to be linked as stereo pairs.

How It Works

In essence, the raison d'être of the Transient Designer is to allow radical alterations to be made to the dynamic (attack/sustain) envelope of a signal. Utilising SPL's trademarked Differential Envelope Technology, the Transient Designer is able to apply identical envelope processing to signals, irrespective of their level (whereas a conventional compressor or expander processes signals relative to an amplitude threshold), without the need to adjust the controls.

The attack and sustain controls use separate, parallel processes, to prevent interaction. The attack control circuitry uses two envelope generators. The first of these tracks the envelope of the input signal, and derives a voltage corresponding to the signal envelope. The second also tracks the signal, but with a slower attack, dependent upon the setting of the attack control. A difference signal is then derived from the two envelope signals, and used to control the VCA through which the signal passes. The sustain circuit operates in a similar manner, with one envelope generator tracking the signal exactly, but the second having a longer sustain time, determined by the setting of the sustain control. The difference signal derived from the two controls the VCA.

The control ranges for both attack and sustain allow some extreme effects to be achieved: the attack portion of a signal can be increased or attenuated by up to 15dB, and the sustain portion by up to 24dB.

Operation

Before I tried the unit, I treated with a healthy scepticism SPL's statement to the effect that using the Transient Designer on live drum signals could produce effects akin to re-miking the kit! In fact, what can be achieved is little short of miraculous. Where drums have been recorded in a very live acoustic, shortening the sustain setting can be very effective in removing unwanted ambience to create a dry sound.

There are many other creative possibilities. Shortening the attack on a bass drum can produce an extremely dynamic and snappy sound — taken to extremes this allows 'synth drum' sounds to be created.

Although the Transient Designer is most at home working with percussive sources, it can be used to good effect on a variety of other program sources: shaping attack, and adding sustain to guitars and basses is one of the more obvious examples.

The facility to shorten or remove reverb tails is likely to prove useful for removing unwanted reverberation from speech or vocals — or indeed any instrumental track.

Because this is an envelope processor, it will only remove reverb tails, leaving any blurring of the signal caused by the 'body' of the reverb; so it will not allow every trace of reverb to be removed from a signal recorded in an aircraft hangar! Less herculean tasks are carried out extremely competently.

The Transient Designer, unlike many dynamics processors, is extremely easy to use. Because the process is independent of signal level, it is also consistent throughout the dynamic range, and for each section of processing there are just two controls: attack and sustain. Sound quality is very good, and the signal suffers minimum degradation from passing through the processor. The process is best used on individual instruments, but can be effective on a whole drum kit. For obvious reasons it is not suitable for use as a mix processor.

Conclusion

This really is a remarkable processor: what it can achieve seems little short of miraculous, and to the best of my knowledge there is no device with similar capabilities. I feel sure that anyone who works with percussive sounds (and there are few of us who don't!) would very quickly come to find the Transient Designer indispensable. It is very simple indeed to set up and operate, performing one task extremely well. ❑

INFORMATION

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