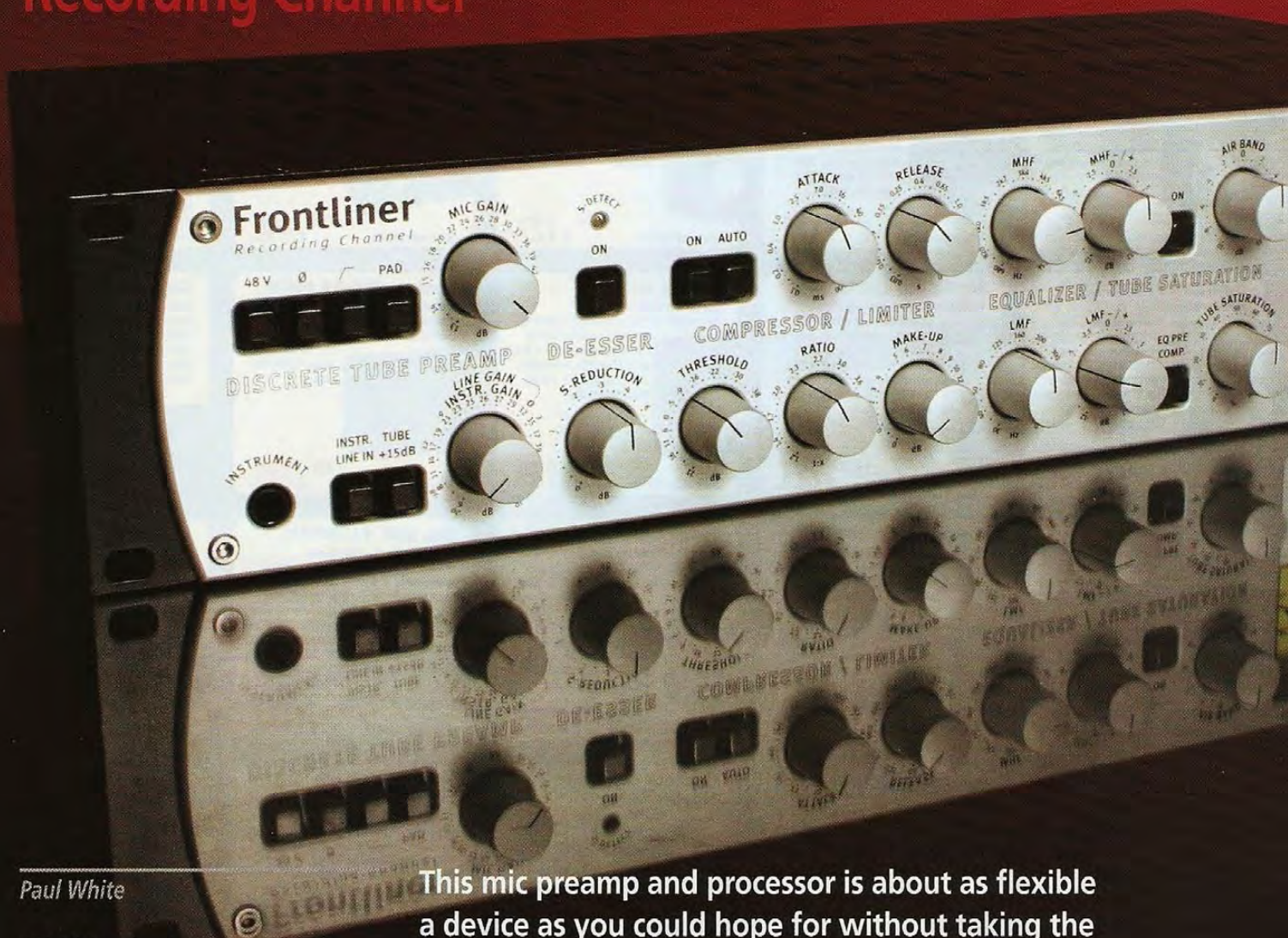


SPL Frontliner 2800

Recording Channel



Paul White

SPL's Frontliner is based on some of their existing outboard processors, and includes elements taken from their DynaMaxx compressor, De-Esser and preamplifier modules.

This new device is ostensibly a recording channel and, as with other such channel strips, it can be whatever you decide to make it: the mic/line amp at the start might be followed by additional processing stages such as EQ, compression or de-essing, for example. Unlike many similar devices, though, the Frontliner also offers you direct access to each processor, should you need it (separate analogue input and output connections for each are presented on the back), so it's

This mic preamp and processor is about as flexible a device as you could hope for without taking the modular route — and all in the space of a 2U rack.

much more than the mere recording front end implied by the name: you could quite easily use each stage as a separate outboard processor, each operating on different signals, during mixdown.

Design & Construction

In the Frontliner, SPL have started out with a discrete-component, solid-state microphone preamp, using a Lundahl transformer to provide a 14dB voltage step-up. Elsewhere in the circuit, Burr-Brown op-amps are used for all critical parts of the signal path, and the

capacitors are also very high-quality types, reportedly chosen via listening tests.

There follow a compressor, a de-esser, adjustable tube saturation and equalisation, each with an on/bypass button. The unit is entirely analogue, but a plug-in A-D converter card (model 2376) is available as a cost option, and operates at up to 24-bit, 96kHz. When that is fitted, an LED shows if the maximum converter input level is exceeded.

Conceptually, the Frontliner is very similar to SPL's Channel One, but it has extra features and more complex circuitry. Each element



has a specialised job to do, but the design avoids over-complication by using innovative control ideas from existing SPL products. For example, the de-esser is adjusted via a single 'amount' knob. I have an SPL de-esser in my own studio, and it works extremely well. Unlike other de-essers I've tried, it doesn't need a threshold control (it varies its own threshold according to the input signal) and works at all but the lowest signal levels — where it would be unnecessary anyway. It tracks the frequency of the sibilance, extracts it, then sums it with the original signal after polarity inversion, to cancel out only the problem part of the spectrum, so side-effects such as lisping are pretty much eliminated.

The mic/line preamp is based on the SPL GoldMike Mk2's hybrid design, in which the initial gain comes from semiconductors plus the transformer, and a triode tube stage follows, to provide further amplification and variable tube saturation. An unbalanced front-panel jack handles the high-impedance 'Inst' input, and balanced XLRs for mic and line

are located on the rear panel, along with the other connectors relating to the main outputs and the I/O for the various sections, all on balanced XLRs. Plugging into the 'Inst' input disables the rear-panel line input.

Four front-panel buttons in the preamp section control the phantom power, phase, low-cut and 20dB pad functions, while the mic preamp gain control offers up to 68dB of gain. Further buttons select between the mic and line/inst inputs, and govern the tube's gain contribution, switching from its normal setting to 15dB. The solid-state gain is automatically reduced to compensate: pressing the switch simply pushes the tube a little harder without changing the overall preamp gain.

There's another pair of phantom-power buttons on the rear panel, as well as on the front panel — the idea being that if you use the preamp specifically for ribbon mics or unbalanced mics of some kind, you can either disable the phantom power on the rear panel to stop it being activated by accident, or you can lock the power on. If both rear-panel buttons are in the 'out' position, the front-panel phantom-power switch works as expected.

I use a Mk1 SPL GoldMike and a Channel One in my own studio, and have always been impressed by the clarity of sound I can achieve with them. The tube manages to flatter without sounding mushy or spongy, although you can deliberately crank up the tube drive on the Channel One if you want to use mild distortion as an effect. The concept is taken further here, as you have both the switchable tube gain in the preamp and variable tube drive in the EQ section. It's also worth noting that the tube circuitry runs with a full 250V HT rail — which is required for correct performance but doesn't feature on every tube processor out there!

Compressor

The compressor section is based on circuitry used in SPL's Kultube, and includes that processor's signal-dependent attack- and release-time automation parameters (which can also be influenced manually, using the expected set of compressor controls). The compressor uses SPL's double-VCA drive circuitry, in which a differential stage cancels out many of the side-effects of conventional designs, reducing distortion. Here, you get the full set of attack, release, threshold, ratio and gain make-up knobs, with a single button to engage the auto assistance (which SPL describe as being a little like a cruise control).

This merging of manual and auto control is unusual but works surprisingly well when the

program material involves a lot of dynamic changes. A moving-coil meter can be switched to show compressor gain-reduction or output level, and there's the option to reduce the sensitivity by 10dB when in 'levelling' mode, to better show the hot levels required to feed some digital systems. There's also the option to switch the meter between VU and PPM characteristics.

EQ

The EQ section comprises two swept band-pass filters, covering the low and mid-range band (30-700Hz and 680Hz to 15kHz), and an 'Air' filter, which provides a broad boost centred at 17.5kHz to bring out high-end detail on sources like vocals or acoustic guitar. The Tube Saturation control is located in this section, and there's a switch to place the EQ section 'pre' or 'post' compressor. Both sweep controls have a ± 12 dB range, while the Air EQ offers ± 10 dB.

High-quality audio circuitry can only give of its best if the circuit layout — and, in particular, the grounding — is done correctly, and the power supplied delivers adequate amounts of clean current. The Frontliner benefits from a star ground-wiring scheme, where the audio ground is kept separate from that of any control circuitry. The generously rated PSU uses two toroidal transformers, one for the solid-state audio circuitry and the other for the tube heaters and control circuitry.

Modularity

SPL's recent efforts have included a modular rack system (the Rack Pack, reviewed in *SOS* June 2009), and they've also borrowed ideas

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SPL Frontliner 2800 £1299

pros

- Sounds really sweet, and can be varied from pristine cleanliness to deliberate tube warmth in a very controllable way.
- Excellent on-board processing.
- Flexible routing.
- Great attention to engineering details.

cons

- None, really, although a dedicated variable low-cut filter would be a useful addition.

summary

SPL's Frontliner offers just about everything you could wish for in a front end, and its flexible structure is a refreshing change. Although it isn't exactly cheap, it rivals the performance of products costing much more.

SPL FRONTLINER 2800

► from that, specifically the ability to connect to the individual processing elements. Modules may be grouped in any combination, a feature SPL would like us to visualise as being equivalent to analogue plug-ins: for example, you can use the unit as a channel strip when recording, but then hive off the compressor to be used in one part of your mix, and the de-esser on another channel.

A digital switch-controller governs relays to divert the input of each section so that it comes in via a separate XLR connector, rather than taking the input from the preceding module. Pressing and holding the relevant button for a few seconds makes the switch. This allows each processor to be accessed separately. The mic/line/instrument front end uses the main inputs but has its own dedicated output.

In addition to the various section I/O XLR connectors on the rear panel, there's a ground-lift switch, as well as a TRS jack

on the input set to +15dB, again getting very close to the GoldMike sound.

The Frontliner works well as an instrument DI, and its extended low-end response makes it a good choice for bass guitar. The EQ section is flexible enough to polish a miked acoustic guitar, or to rescue a DI'd acoustic, so although this will be perceived mainly as a vocal preamp, it's a very capable all-rounder.

The de-esser section works just as well as SPL's stand-alone de-esser. It was possible to tackle even quite high levels of sibilance without introducing any lispy artifacts. In fact, I found it very hard to hear that any processing was taking place, even with the de-ess control set to maximum.

Similarly, the compressor has the same unassuming character as that in the Channel One, in that it can thicken and control vocals very effectively without the result actually sounding as though it is compressed. Once you have the best attack and release settings,

Alternatives

SPL's Channel One offers a similar sound, but there are some nice hybrid channel strips by TL Audio and Mindprint, amongst others. Alternatively, you could opt for a modular system like SPL's Rack Pack.

bumps, or add a hint of body or presence. That leaves the Air controls, which add an attractive breathiness to the highs without harshness or stridency. If you have a vocal mic that's a little too warm for the singer, this Air control might just save you.

The icing on the cake is the fact that you can gain access to the separate sections of the Frontliner, so you can split its functions when mixing or recording.

On The Line

My experience with the Frontliner suggests the character of a more sophisticated SPL Channel One, but with the same ease of use and an update to its sonically excellent



The Frontliner has balanced inputs and outputs for each processor that forms the recording channel.

input to connect the output from a second unit, to make use of the second channel of the A-D card, if one is fitted. Power comes in on a standard IEC lead with a rear power switch, and there's an audio Mute button at the output that mutes both XLR audio outs. SPL provide two separately-buffered versions of the output, so that one can be used to feed a DAW input and the other a monitoring system, for example.

Testing

To test the Frontliner, I used a selection of capacitor mics and compared the results with my own SPL GoldMike, which I've always regarded as being an exceptionally good preamp for the price. With the gains matched, the sound was broadly similar, but the Frontliner has a slightly more 'open' character. Dialling in some tube saturation on the Frontliner brought the sound much closer to that of the GoldMike — and would allow you to go much further if you want to, so this is a much more versatile preamp. The Frontliner also warms up slightly with the Tube switch

selecting Auto enables the compressor to adapt to the dynamic of the input, making its own adjustments either side of your own settings. This is more useful than a purely automatic mode, as it still enables you to be involved in the decision-making process. If you really do want to relinquish responsibility for the attack and release settings, you can do a lot worse than setting them both midway and then pressing Auto.

That just leaves the EQ, which has a wonderfully analogue quality. That may not be surprising, as it is all analogue, but those brought up on plug-ins will find it refreshing to hear how a good analogue EQ behaves, and this one is particularly good, given that it's not fully parametric. The two bell filters devoted to the low and mid parts of the spectrum cover a lot of ground, and in most cases you don't need to apply much in the way of cut and boost to get the job done. The sound is all you could wish for: at the low end it's warm without being flabby, while in the mid-range you can carve away unwanted lumps and

on-board processing. If you just need a clinically clean preamp, there may be better choices, but if you want the versatility to morph from clean and transparent to smooth, musical tube coloration and would also use the de-esser, compressor and EQ functions, the Frontliner offers incredibly good value. SPL's designs are always well thought-out and innovative, and the quality of what they produce is most definitely up there with companies selling far more costly pieces of kit. If you already have a Channel One, you may not feel the sonic difference sufficient to make you want to sell it and upgrade, but if not, the Frontliner is a very attractive and versatile front end that offers more than you'd expect at the price. **50%**

Information

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