Grace Design Felix

Acoustic Instrument Preamp & Blender

Grace have long been associated with sublime studio preamps — and now you can take that superlative sound with you on stage.

BOB THOMAS

As an acoustic guitarist, I've spent most of my professional life searching for an amplification system that would enable me to bring a true representation of the sound of my acoustic stringed instruments to an audience's ears. Very early on I realised that the only way to do that is to be in an acoustically excellent environment, standing in front of a high-end, large-diaphragm condenser microphone running into a top-flight analogue mixing console and on to a studio-monitor quality amplification system. Anything other than that is, inevitably, a compromise — of which I have made many over the years!

To compound matters, rising FOH volume levels, the accompanying stage monitor issues, and performance

presentation have all conspired together to force most acoustic instrumentalists to fit piezo or magnetic pickups and, in many cases, microphones (internal or external) to their acoustic instruments. The input impedances that piezo transducers need to see means that suitable preamplifiers are essential to ensure accurate reproduction. Magnetic pickups are much more forgiving than piezos, but the more sophisticated models, especially those that carry additional coils designed to give their output an acoustic character, can have their own specific preamplification requirements.

Unfortunately not all pickups have been created equal, which means that finding the pickups that best suit the individual acoustic instruments in your arsenal (and the preamps that work with them best) is likely to be an ongoing process of trial and error. In my own case, since I like to fit an onboard microphone in addition to a pickup wherever possible, my collection of external preamps is made up almost entirely of various manufacturers' pickup/microphone blenders. Which ones I use on a gig depends entirely on the pickups and microphones in the instruments that I take along.

It seems to me that microphones and pickups — both piezo and magnetic — have reached the stage where, apart from some tinkering round the edges, we're probably at the point where what we've got is as good as we're ever going to get. Alongside this, analogue amplification has seemingly also reached a performance plateau, with the highest-performing examples of that technology carrying appropriately stratospheric pricing.

Grace Designs, from Colorado, USA have a stellar reputation for audio excellence and are no strangers to high-performance analogue preamps — and the corresponding price tags. Their latest product, the nattily named Felix, is a two-channel floor-mounted unit combining microphone and pickup preamplification, EQ and blending, with operational features designed to make it ideal for use with acoustic stringed instruments.

Grace Design Felix
£954

PROS

- Superb sound quality.
- Optimised for use with any combination of onboard microphones, piezo transducers and magnetic pickups.
- Can be set up to match perfectly the requirements of a specific instrument and its pickup system.
- Perfect in the studio and ideal on stage.
- Reassuringly expensive yet offers real value for money overall.

CONS

- Requires careful setting up.
- Exposes any shortcomings in pickups and/or onboard preamplifiers.
- No matter how you look at it, it is expensive — and you might want more than one...

SUMMARY

Studio quality in a stompbox format, with features optimised for the job in hand and capable of the highest sound quality, the Felix is, without doubt, the finest preamp/blender available on the market today.

The Box

If you've seen or used a Grace product before, the Felix will come as a bit of a culture shock, as it is presented in an anodised aluminium and steel stompbox format, the top panel of which carries the controls for both input channels and three function-switching footswitches.

The two identical sets of channel controls sit in parallel, horizontal lines. From left to right, you'll find gain (with a signal/clip LED alongside it), a variable filter (20Hz to 1kHz) switchable between high pass (12dB/octave) and Notch (-35dB), and a three-band EQ featuring a fully parametric mid-range and low- and high-frequency shelving cut and boost. The range of the mid section can be switched individually for each channel, between 70 to 880 Hz and 670Hz to 8kHz. Individual, user-adjustable, internal jumpers set each channel's low EQ turnover frequencies to either 125Hz or 250Hz.

On the extreme right, you'll find three additional knobs arrayed in a triangle. The first sets the level of the variable of the global boost function (from 0 to 10 dB). The second one is the common level control for the mono headphone output and the unbalanced amplifier and tuner outputs. The last knob sets the mix between the two channels when the Felix is in Blend mode.

The left-hand footswitch toggles between channels 1 and 2 when the Felix is in A/B mode, the boost is switched in by the centre switch, and the final switch mutes the amp and twin DI outputs, leaving the headphone and tuner outputs unscathed. The mute and either the boost or toggle functions (selected by an internal jumper) can be controlled by a remote, third-party, two-button momentary footswitch, for situations where the Felix is either stand-mounted or sitting with the player's backline.

The back panel carries the connectors and switching for all the I/O, apart from the headphone output. On the input side, channel 1 can be switched between either a balanced XLR microphone input (with switchable 48V phantom power) or an unbalanced TS jack 'line' socket, which can actually accept any pickup, electret mic or line-level source. The channel 2 TRS jack input accepts the same unbalanced sources as channel 1, and its ring connection is normalled through to the tip of the »

The notch/high-pass filter modes, mid-EQ ranges, 12V phantom power, and A/B and blend modes are governed by six DIP switches on the side panel.

» channel 1 input jack socket. This enables the Felix to handle a dual-source pickup system connected to the channel 2 input. Since dual-source pickup systems often incorporate a miniature electret microphone, internal jumpers are used to route 12V power to the required terminal on either jack socket.

Crucially (from my personal perspective at least), the two jack inputs also feature switch-selectable input impedances — 10MΩ, 1MΩ or 10kΩ for channel 1, and 20MΩ, 1MΩ or 332kΩ for channel 2. If you're feeding the Felix with the output of an onboard preamp, this feature won't be of much interest to you. However if, like me, you run your acoustic instruments' pickups to external preamps, then having these impedances available means that you can run (say) a Sunrise magnetic pickup that needs to be looking at 1MΩ in channel 1 alongside an undersaddle piezo in channel 2 that gives its flattest response driving into 20MΩ. It's a bit sad, but life doesn't get much better than that!

Next to the input section sit four jack sockets. Two are TRS jacks, one of which accepts the remote footswitch whilst the other forms the I/O of the mixed signal's effects loop. The two remaining jacks, tuner and amp out, are unbalanced, with the tuner carrying the blended, post-insert mix output (which also feeds the headphone output) while the amp out can be switched between that signal and the output of channel 2.

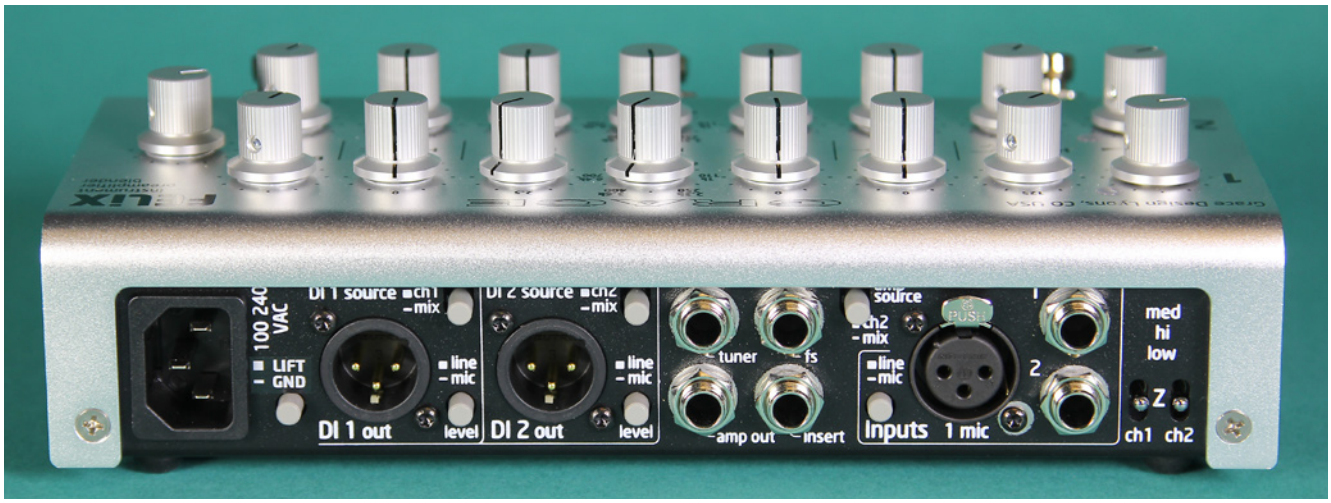
The last two outputs are the two transformer-balanced DI outputs, both of which can be switched to send either the blended, post-insert Mix output or the individual outputs of their respective channel numbers, and to output these at line or mic levels. A ground-lift switch is provided to help deal with any earth-loop hum issues on these two outputs, and an IEC mains socket completes the back-panel picture.

To round out the hardware inventory, the left-hand-side panel carries the mono headphone output and also the switches for channel 1's XLR phantom power, and the polarity reverse switches for either channel. A six-position DIP switch sets the filter/notch modes and mid-EQ ranges for either channel, applies 12V electret power, and puts the Felix into either mix or A/B mode.

Setting Up

As you have probably guessed by now, this is no ordinary acoustic instrument preamp. An exemplary bandwidth of 20Hz to 65kHz (-3dB), a mic input EIN of -128dB and a THD+N figure of 0.005 percent (at 40dB input gain and +10dB output) simply serve to reinforce my earlier assertion that analogue preamplification has reached a performance plateau that we have now need to move beyond.

Given its comprehensive facilities, »



The Felix's input options are comprehensive, accommodating mic, line and instrument signals at a range of different impedances.

» exploiting the Felix's features and tailoring it precisely to your instrument and your pickup system could be a complex task. In my case, that system is a combination of an Alister Atkin slope-shoulder dreadnought, fitted with a K&K dual-source system comprising a Pure Western Mini bridgeplate piezo transducer and a Trinity internal electret condenser microphone. However, in reality, the steps are fairly straightforward, although tweaking settings to the max may take considerably longer.

The first stage was to set channel 2's input impedance to 1MΩ (the recommended value for K&K pickups) and the channel 1 input to 10kΩ for the microphone. Because I would be taking as much low end as possible out of channel 1 in order to avoid low-frequency feedback, I set its mid-range to high and left channel 2's at its factory (low) setting. I then high-pass-filtered channel 1 at 1kHz and channel 2 at approximately 50Hz. For stage use, I'd have set up channel 2 with the notch filter in case of amplifier feedback problems and would have left the 50Hz high-pass to the FOH mix engineer.

All that remained was to open the Felix up (a simple matter of removing the screws and separating the anodised aluminium top section from its base), identify and position the jumper that routed 12V to the ring of the channel 2 input jack, take an admiring glance at the beautiful circuit layout and high build quality, close the case, switch on the 12V via the side-panel DIP switch, plug in my guitar and headphones, amplifier, mixer and PA cabinet, and start playing.

In Use

The first thing I noticed about the Felix is how amazingly quiet it is compared to almost every other preamp system that I own. It also has an exceptionally transparent sound, with a level of detail that I personally have never found in any external preamp, blender or otherwise, from one of the major manufacturers. The EQ is effective and musical and having the two ranges available allowed me not only to effectively EQ the upper frequencies in my guitar's electret microphone, but also gave me more control over the higher sound of a mandolin and fiddle when I experimented with those.

Although obviously ideal for use in a recording situation, a correctly configured Felix is a pleasure to play through on stage, where the variable and instantly adjustable boost function allows you to cut through when necessary in order to emphasise a part or to take a solo. The only operational downside that I came across is that once you've set up the Felix's channels to work perfectly with one particular instrument's pickup/microphone system, it probably won't be right for any other. That's fine if you play only one instrument on stage, but if you play two or more, as I do, you might well find yourself having to purchase the Felix in multiples.

It's also worth noting that the Felix ruthlessly exposes the limitations and shortcomings of your pickups, microphones and any onboard preamps you may have fitted to your instruments. There is nothing happening inside it that will mask any imperfections in your sources. On the plus side, if you have a high-quality installation in your instrument, the Felix is more than capable of helping it shine.

Conclusion

Whilst the Felix isn't absolute perfection in my eyes — separate notch and high-pass filters, an insert loop on both channels and an additional 10MΩ input impedance option on channel 2 would get it there — it is so far ahead of other preamp/blenders in terms of sound quality, features and facilities that it is essentially irresistible. The price is going to be an issue for some but, when you consider the cost of top-flight acoustic instruments, the Felix doesn't sit out of context. You'll also be hard-pushed to duplicate its audio performance without spending considerably more money on decent rack gear, so the Felix's value-for-money index is extremely high.

In terms of its overall performance, you really do need to think of the Felix as a pair of high-end channel strips with studio-grade piezo input setups available on their front end, rather than comparing it to a standard preamp/blender. The only comparable preamp that I can think of is one that I just happen to own. That is the Pendulum Audio SPS-1 Stereo Preamp, which is even more reassuringly expensive than a pair of Felixes and which, in conjunction with a Pendulum pickup/mic preamp module, delivers a similar level of performance.

Should you consider buying your very own Felix? If you play a high-end acoustic instrument that is fitted with a pickup or pickup/microphone system of comparable quality then, in my opinion, the question is a no-brainer — of course you should. I've been waiting for a Felix to arrive for a long time, and this one is not leaving.

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