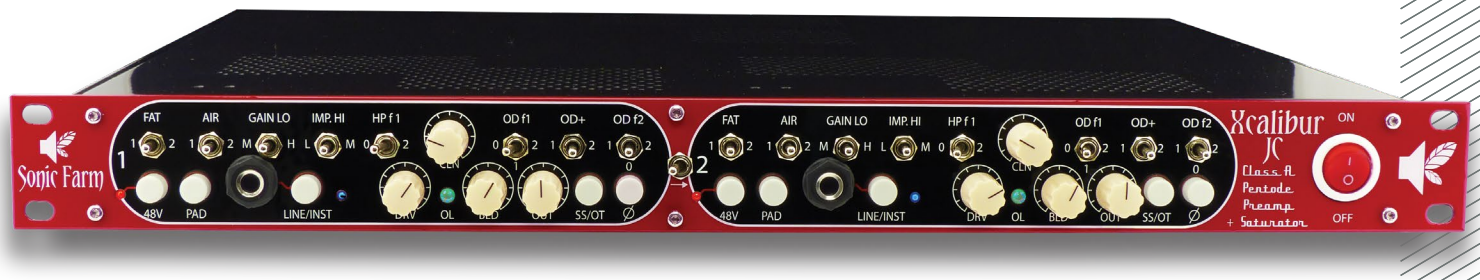
Sonic Farm Pro Audio Xcalibur JC

By Barry Rudolph



Introduced in 2018, the Xcalibur JC is a new variant of Sonic Farm Pro Audio's Xcalibur Pentode Preamplifier and Saturator. The "JC" model includes custom modifications specified by engineer/producer Joe Chiccarelli. Xcalibur is a sorcerer's apprentice; you can easily concoct a "shaman's potion" of tube-based saturation and filtered, overdriven sounds.

ANALOG INSIDE AND OUT

The Xcalibur JC has two identical channels of mic/line/instrument pre-amplification packed into a 1U steel cabinet. It has 38 front panel controls, jacks and switches, and the ability to serially cascade Channel 1's output into Channel 2's input. While in cascade mode, both channels' line outputs remain available.

The interior of the Xcalibur JC is a marvel of construction. There is a shielded power supply and voltage regulator board—all DC voltages, even the tubes' filaments supply, are regulated. The rear panel has XLR inputs for both line and microphone sources, XLRs for the line outputs, a ground lift switch, fuse holder, and AC power selector switch. All switches are from Ningbo KLS Electronics.

The heavy output transformers are securely mounted to the steel chassis, and the two main boards, one for each channel, have vertically mounted daughter boards with two EF86s per channel plugged into ceramic sockets. The four EF86s are NOS Svetlana "Winged C" tubes sourced directly from Russia or Ukraine.

Each channel has three input path choices selectable from the front panel. There are inputs for balanced microphone, line level, and a front panel ¼-inch jack with 2.2 meg-ohm impedance for unbalanced keyboard instruments or guitars and bass. The rear XLR line level input automatically changes over to the ¼-inch Instrument input when you plug into it.

With the Line/Instrument Input button switched out, the mic input is active along with a large Cinemag CMMI-10 CPC input transformer. Cinemag also makes the Xcalibur's CMLI-15B line input and CM-13104 output transformers. You may order the unit fitted with iron core output transformers (as my review unit came) or Cinemag nickel/iron core transformers. Iron core transformers offer a softer high-frequency sound.

There are front panel switches for +48-volt phantom and three different mic input impedance choices: 10-kohms, 900-ohms and 2,400-ohms. Input impedance, along with the switchable -15dB attenuator pad placed before the transformer, affects the load presented to the microphone. I have found that changing impedance affects the sound and tone of dynamic microphones but not condensers.

THREE STAGES

Each channel of the Xcalibur JC has three sections, or stages. The signal chain order is: a clean gain stage, overdrive, and the summing/mixer/output section.

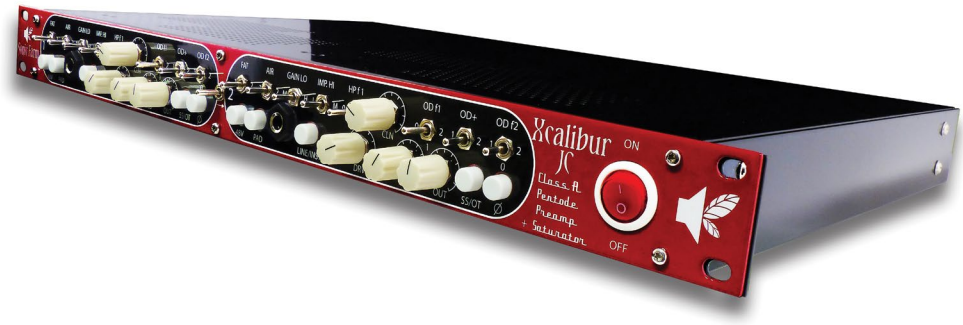
The clean microphone preamp stage uses an EF86 tube and sounds similar to Sonic Farm's Creamer preamp in pentode mode. There is a three-position microphone Gain toggle switch with Lo, Mid and High positions. The three positions differ in gain by about 7 to 9 dB, but final gain depends on the settings of the Fat and Air filters built into the clean preamp circuit itself—they are not a separate EQ.

The well-named Fat filter is a preset (6dB/octave) low-frequency shelving boost equalizer. It has a three-way toggle switch with a center flat position. Switching it to the left boosts from 400 Hz downward with maximum boost of 9 dB. When the Fat switch is set to the right, both the Fat and Air filters are bypassed and the maximum clean preamp gain is available. I liked the sound of the Fat filter—it uses an LCR filter circuit with its coil made in-house.

The Air filter is an RC circuit, a 6dB/octave high-frequency shelf boost EQ with a three-frequency switch: left is 1 kHz, center is off, and to the right is 8 kHz with up to 9dB of boost. The amount of overall Fat and Air boost is adjustable via separate trim pots accessible through holes in the unit's top cover, but there is little

PRODUCT *SUMMARY*

COMPANY: Sonic Farm Pro Audio
WEB: www.sonicfarm.com
PRODUCT: Xcalibur JC
PRICE: $2,200 MSRP
PROS: Completely malleable analog coloration in one amazing tool.
CONS: Can be daunting and a bit fiddly at first—you have to learn it.



need to ever adjust it.

At the output of the clean preamp is a 6dB/octave highpass filter called HPf1. HPf1 has three cutoff frequency choices. Position O is off, 1 is 160 Hz, and position 2 is 80 Hz.

After the HPf1 filter, the clean preamp output signal splits and goes to a clean output level called CLN and also to the DRV control that sets the drive level or distortion of the EF86 Overdrive stage. There is a two-color, LED signal presence/overload indicator that monitors level at this split.

CLN sets the clean signal level going to the Summing/Mixer/Output stage, and the BLD, or Overdrive Blend control, sets the Overdrive stage's output going into the Summing/Mixer/Output stage.

OVERDRIVE STAGE

The Overdrive stage uses a second EF86 tube in an overdrive circuit with an input highpass filter called ODf1 and an output lowpass filter called ODf2—another update in the JC version.

The pre overdrive ODf1 highpass filter is bypassed when set to the left (0); the middle position (1) rolls off the bass and most of the midrange; and the right (2) position rolls off bass only.

The new (also in the JC Model) OD+ overdrive gain toggle switch is a FET-based stage used in conjunction with the DRV control. OD+ will add more saturation, level and harmonics, and has three choices of gain: medium, low and high, with the latter mode adding the FET stage up to the point of fuzz.

Next is the ODf2 lowpass filter for filtering out fizzy distortion; it has three corner frequency choices. Position 1 is 5.5 kHz @12dB/octave; at 0 is18 kHz, or essentially flat; and position 2 is the darkest sounding position at 1kHz @ 6dB/octave.

SUMMING/MIXER/OUTPUT STAGE

Using the CLN, BLD and DRV controls, Xcalibur JC has the ability to carefully control the amount and color of added saturation using its third stage, a mixer/summing/output stage.

The summing/mixer/output stage in the JC has a variable Output level control and uses a TI OPA2604AP op-amp chip for summing and mixing. Another op-amp drives the Output XLR directly when the OT/SS switch is set to SS (Solid-State). In the OT mode (Output Transformer), the chip drives the 1:1 primary of the output transformer that adds no gain.

Because of a compact 1U front panel with not enough space to spell out the controls' full names, I quickly learned the abbreviations and the signal chain order. It is a "tweaker's paradise" that begs to be explored on a quest for just the right tone and overdriven, saturated sound. I found it well worth the effort.

It turns out that these (mostly) center-positioned switches serve as default starting settings when building sounds. Suffice to say there is a lot of interaction with all the controls because in actual fact, you will be designing the unit's gain staging. Everything you touch affects the sound, tone and level coming out of Xcalibur JC. The DRV, CLN, BLD, and Master Output level controls are all conveniently clustered together in the center of each channel, which aids in the setup speed.

IN THE STUDIO

My first Xcalibur JC live recording session was setting up a recording chain for a singer/songwriter demo. I used one channel for a Roswell Delphos II condenser vocal mic and the other channel for a Jensen Iso-Kit Direct Box to record his Taylor acoustic.

A good practice is to set the CLN and Output controls in straight up positions and keep DRV and BLD fully CCW (off) for now. I put all the toggle switches in the center positions, except the Gain switch on both channels was "H," and I switched HPf1 off on the vocal channel and to position 2 (80Hz) on the guitar DI channel.

I juggled the CLN along with the Out control to set final recording level directly into Pro Tools. I preferred the SS position on the guitar DI channel, while the transformer OT path sounded great on the vocal channel.

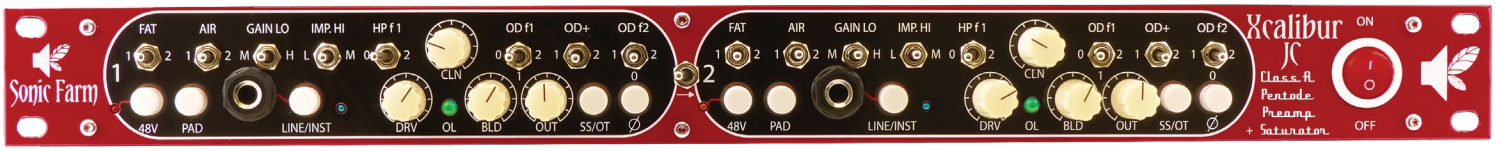
I did try saturating the acoustic guitar channel with a touch of the DRV and BLD controls—but the CLN level was the main show here. It is a bit tricky trying to set up saturation for live performance; I'd rather "re-amp" the clean track playing back later when I can spend time tweaking it. My singer remarked on "how present and upfront the vocal sound was without being overly bright!"

OVERDRIVING

So far I'd been only using the clean preamp section, and now I wanted to jump into the Overdrive section! I zeroed out the CLN control, put BLD straight up, and turned up the DRV control no more than a quarter of its range. DRV seems a little sensitive, and I think its range could be broadened out—I found it all comes on within the first 25 percent of its range, and reducing the BLD level in the mixer helps.

I did some re-amping during a Pro Tools mix using Xcalibur JC as a line in/out insert processor. On either close-miked snare drum tracks or on the two overheads it produced a larger-than-life drum sound—something like extreme compression but much more adjustable and interesting. It also blended better in the mix than just squashing the drums. You could also set up Xcalibur JC as a send/return effect, like a reverb or delay in your mix. This is one of Joe Chiccarelli's methods when mixing.

On the single snare drum track, switching the Air boost to the right produces a pleasant treble lift, and setting the Fat over to the left gives you slightly more low frequencies. Keeping Fat and Air at these settings, and changing Gain from low to medium, necessitates re-matching the mix level back in Pro Tools. But that drum became bigger and more present, with a "gained up" sound, yet still was clean and retained its



sharp transients.

I think of OD+ as a range switch for the DRV control, and I found switching from either low or medium to high offers an extreme change in level and overloading. You'll need to adjust the level of the BLD and the Output control. Caution: Watch your monitoring/headphone level when searching for sounds!

In addition to the snare drum going through Channel 1, I also had a clean guitar track playing through Channel 2 and relied on ODf2 to remove buzz and fizz from a special high gain treatment I achieved. It was invaluable.

Next, I had my guitar player come over and plugged his Strat right in the front panel jack of the left channel. He has a high-output humbucker pickup at the bridge, and the clean tone was the best tube direct box I've ever heard.

I set the "1 into 2" cascade switch and had sound coming out of both Channel 1's and Channel 2's output. In this simple way you can get a wide range of different sounds recorded on two separate tracks. I got a crunch sound coming out of the Channel 1, and Channel 2 produced a more fuzzy and distorted tone.

You can pan these two channels hard left and right at your own peril, and the (ø) polarity button is useful here for centering the stereo image or to invoke tonality changes similar to a split pickup coil switch on an electric guitar. My guitar player remarked that he could now "forget about lugging his Fender Deluxe amp to our next session." I agree!

Recording a vintage Fender Precision bass was also excellent in that we could dial in the exact ratio of clean to distortion tone so easily. Re-amping the bass track is also a cool edge you can add to it in a mix.

It is amazing that all possible analog colors from saturated tubes, FET transistors and transformers are combined and infinitely adjustable in a single unit! The Xcalibur JC is a "one-stop," magical studio overdrive processor and a must-have for me. So far it has proved useful in some way on every session. ■