

PRO AUDIO REVIEW

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Pendulum Audio Quartet Preamp/Multiprocessor

BY RUSS LONG

I have been a strong believer in the quality craftsmanship and superior audio performance of Pendulum Audio's products for several years now. I purchased the Pendulum 6386 after reviewing it a few years ago and I have used it virtually every day since. The relatively new Pendulum Quartet (\$3,250) is an all in one recording path. It features the tube mic/DI preamp from the MDP-1, the tube opto compressor from the OCL-2 (which uses Pendulum's proprietary opto-electronic cell), a three-band tube EQ with high and low-shelving and a peaking mid band, and a de-esser which uses opto-inductive filtering and a highly selective detector. The box features an all tube signal path with pure Class A, high-voltage circuitry and for significant flexibility, the mic/DI preamp, EQ and compressor/de-esser are completely independent entities that can be separately accessed on the rear panel.



FEATURES

In order to yield the highest-quality sound possible, the 12.5 inches deep, 2RU Pendulum Quartet makes use of gold-plated switch contacts, I/O connectors and tube sockets as well as polypropylene caps and metal film resistors (pairs matched to 0.1%). The Quartet makes use of three ECC83/12AX7A tubes for input and three 6922/6DJ8 tubes for output. On the rear panel of the 14.5-lbs. box, a female XLR connector provides microphone input and a 1/4-inch jack provides DI input. The 1/4-inch jack can also be used to connect the box to an unbalanced patch bay. The microphone preamp's input impedance is 1,500 ohm (transformer balanced and floating), the line input impedance is 100 kohm and the instrument impedance is 10 Mohm on the front panel 1/4-inch jack and 1 Mohm on the rear panel jack.

The rear panel's seven 1/4-inch jacks located between the input and output connectors are used to patch in and out of the mic/DI preamp, EQ and opto compressor/de-esser, or to insert other equipment into the signal chain. The send or mic/DI direct out jack provides a direct output from the preamp. The jack is normalled to the mic/DI insert return. The return or external preamp in jack allows the mic/DI preamp signal to be returned into the

Quartet after outboard processing or allows the output of an external preamp to be patched into the Quartet. This jack is normalled to the mic/DI insert send. The EQ in and out and the opto/de-esser in and out jacks allow the tube EQ and the opto compressor/de-esser to be used independently from the boxes other components. The TRS opto/de-esser link jack allows two Quartet compressors to be connected for stereo operation.

A male XLR connector wired pin two hot provides the Quartet's transformer balanced output and a 1/4-inch TRS jack provides unbalanced output. The Quartet gets its power through an IEC socket that connects to a standard three-prong IEC power cable (included). The voltage selector switch allows the box to easily be switched between 115 and 230 volts. The box features a fully regulated high voltage (300V) and filament power supplies with soft-start warm-up and muting. The Quartet's soft-start sequence gently applies power to the tubes and stabilizes the circuit before engaging the outputs. This ensures the longest possible tube life.

In the mic/DI preamp section, the DI Input switch selects between instrument and line inputs. The mic/DI switch selects the mic input (via the rear panel XLR input connector) or the DI input signals (via the front or rear 1/4-inch input jack). The 48V switch activates

Fast Facts

Applications:
Studio

Key Features:
Mic preamp/DI; optical
compressor; de-esser; three-
band EQ; Class A

Price:
\$3,250

Contact:
Pendulum Audio at
908-665-9333,
www.pendulumaudio.com.

48 volt phantom power and the 0/20 switch inserts a 20 dB pad before the microphone's input transformer. The +/- switch reverses the phase of the microphone signal and the low-cut switch applies a 12 dB/octave low frequency rolloff at either 75 or 150 Hz. The gain control adjusts the gain in three dB steps from +33 to +63 dB for the mic input, +20 dB to +50 dB for the DI instrument input, and 0 to +30 dB for the DI line input. The output control adjusts the output level of the preamp stage. By varying the ratio between the gain and the output control, the harmonic content of the preamp can be varied.

The equalizer section, which is a modified Baxandall design, features three bands of EQ. The high band features ± 10 dB shelving at 7 kHz, 10 kHz, or 15 kHz. The mid band features ± 10 dB peaking at 0.7, 1.6, 2.2, 3.3, 5.0 and 6.5 kHz. The low band features ± 10 dB shelving at 50, 100, or 200 Hz. The EQ Before/After Opto switch determines whether the equalizer is before or after the opto compressor and de-esser. When the In/Bypass switch is set to the "In" position, a blue LED is illuminated and the equalizer is inserted in the Quartet's signal path. When placed in the "Bypass" position, the EQ is removed from the signal path.

The compressor/limiter section features an optical input attenuator and a Class A vacuum tube gain stage. The opto compressor/limiter section features separate Threshold, Ratio (variable from 1.5:1 to 15:1) and output controls. The compressor's tube output stage will supply up to 15 dB of make-up gain. The Mode switch selects the mode of compression. The four options include: Fast (peak-averaged), Average (rms detection), Vintage (program dependent attack and release times), or manual (attack 1-100ms, release 0.1-2s).

The de-esser, which is implemented within the opto compressor, features controls for Threshold (to control the triggering of the sibilance detector circuit), Frequency (sets the detector to trigger selectively at one of 11 frequencies, from 3.4 kHz to 11.5 kHz) and Depth (sets the depth of the notch filter from -2 to -10 dB).

The Compressor/Output switch determines whether the VU meter indicates level of gain reduction or the output signal level. The meter is electronically isolated from the signal path and is calibrated to 0 VU = +4 dBu (1.23Vrms).

Product Points

PENDULUM AUDIO QUARTET

Plus

- + Fantastic sound
- + Great de-esser
- + Preamp, EQ and compressor/de-esser can each be accessed individually

Minus

- No Q adjustment on EQ

The Score

The Pendulum Quartet squashes a load of features, phenomenal sound, extreme flexibility, an all tube signal path with pure Class A, high voltage circuitry and ease of use into a single package.

IN USE

I tried the Quartet's direct input on a wide variety of sound sources and always had good results. Bass guitar sounds big and beefy while retaining its presence and definition. The Quartet worked well recording a Nord Lead keyboard bass as well as a couple of clavinet tracks. I also used the direct input to capture the sound of a drum machine and had good results.

I had excellent results using the box to record snare drum with a Shure SM57, hi-hat with a Neumann KM-86i and tambourine and shaker with a Royer SF-1. The mic preamp and compressor sounded great on an AKG D 112 for kick drum but I had to supplement the EQ with my GML 8200 to get a usable sound. The Quartet's EQ sounded good on the kick, it just wasn't flexible enough to notch out an annoying frequency.

The box yielded exceptional results capturing the sound of a Duncan acoustic guitar with an Earthworks SR-77 microphone. I can't ever remember hearing an acoustic sound so good. The top-end had a wonderful sparkle and shine but was never piercing or harsh and the bottom end was rich and full yet clear and distinct. I even had good results using the de-esser to reduce the noise of the guitarist's fingers sliding on the strings. The box also worked extremely well along with the Royer R-122 to record electric guitars.

I had wonderful results using the box to record vocals, both with the Sony C-800G and the BLUE Cactus. Tubes and vocals are

a wonderful combination and the Pendulum's all-tube path does an amazing job of capturing the sound of the human voice. As an experiment I followed the suggestion of Pendulum's Greg Gualtieri to try bypassing the mic preamp's input transformer while recording vocals. I accomplished this by connecting the BLUE Cactus to the rear panel DI input by using an XLR to 1/4-inch adapter and switching the box to DI input while in instrument mode. The result was a little more noisy than normal but in the case of vocals, the sound is fabulous.

In a tracking situation, I found myself using the Quartet's mic pre on a vocal, the EQ on electric guitar and the compressor on bass. Each section performed flawlessly. The ability to simultaneously use each of an all-in-one box's functions is typically compromised in lower priced boxes (and sometimes in higher priced boxes).

SUMMARY

Pendulum Audio's Greg Gualtieri is not just an excellent designer, he is a fabulous engineer. I have been fortunate enough to hear albums he has recorded and mixed and he truly knows music. It is always nice to hear the sonic difference between a piece of equipment designed by someone who is a great technician and a piece of equipment designed by someone who is both a great technician and a great listener. Gualtieri is obviously the latter.

Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to Pro Audio Review.

REVIEW SETUP

Apple 400 MHz PowerMac G4; Pro Tools Mix Plus v5.1.3; iZ Technologies RADAR 24 hard disk recorder with Nyquist 96kHz card; Lucid Gen-X-96 clock; Mogami cabling; Alesis MasterLink; PMC TB1, Yamaha NS-10M monitors; Hafler amplification; GML 8200 parametric EQ; Brauner VM1-KHE, Sony C-800G, Royer R-122 and SF-1, AKG C 28B, Coles 4038, Earthworks SR77, AKG D112, Neumann KM86i, Shure SM-57 microphones.

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