



# ELECTRONIC AUDIO EXPERIMENTS

*TOUCHÉ AMORÉ*<sup>®</sup>

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## Technical Manual

Limelight

Version 2

February 21, 2022

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# 1 Introduction

Thank you for purchasing the Electronic Audio Experiments x Touché Amoré Limelight. This manual is an in-depth guide for properly understanding and enjoying your pedal. Below is the story and context for this pedal design. If you would like to skip forward to how the pedal works, begin reading at the Operation section on the next page.

Limelight is a collaboration with the Los Angeles post-hardcore band Touché Amoré, originally conceived prior to the recording of their 2020 LP *Lament*. I met the band a few years back at a show in Boston that Zach’s old band opened (RIP Animal Flag). In 2019 they approached me about doing a “signature” overdrive that would be developed in tandem with the record and shape its overall sonic direction.

TA is a band I’ve enjoyed since discovering their 2nd LP, *Parting the Sea Between Brightness and Me*, which I still consider an exemplary record in the genre. One of the things that particularly struck me was their unique approach to guitar sounds. The guitarists, Nick Steinhardt and Clayton Stevens, both use single coil pickups with American-voiced amps, which means their tones are very low gain and chimey relative to typical punk and hardcore tones—this lets them carry more melodic parts with maximum clarity while the rhythm section rages behind them.

All this to say, I was very familiar with their tonal goals when they approached me. At the time Nick and Clayton were using Bluesbreaker and Tubescreamer style pedals. We considered adapting an existing EAE pedal, but the Longsword was too beefy and the Halberd was too raw/uncompressed. So, I used the BB as a starting point. Despite the shortcomings of the original I think it’s a great circuit design; in particular, it has an extremely clever clipping amp design where one potentiometer controls two op amp gain stages in tandem<sup>1</sup>. From there I flipped some circuit topologies around, made the clipping louder and more dynamic, and grafted on some different tone controls to better suit the band. The Focus toggle is my favorite part—in prototyping we called it the “Nick/Clayton” switch! To round it out, we added an independent front end boost with a slight low cut to provide a versatile 2nd gain stage.

Technical stuff aside, I delivered the band a prototype in early 2020, right before they went into the studio to track *Lament*. That prototype formed the core guitar tone throughout the record, and with a couple minor tweaks we were ready for production. Since the first release it’s found favor with both fans and non-fans alike, which was a really pleasant surprise. This year we made a new version with all the improvements of our current generation of pedals, so now it can be more widely available than ever.

We are extremely proud of the Limelight and hope you enjoy it. Thanks for reading!

- John (EAE) and Touche Amore

PS—Special thank you to Nick Steinhardt for all his hard work on the graphic design for this pedal. TA has such a strong visual language, and we’re thrilled to carry that on with this pedal.

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<sup>1</sup>This same circuit block forms the core of the Shredmaster too; as a Radiohead fan that was all the more reason to take a whack at it. And, interestingly enough, this circuit block is ALSO found in the Ampeg VH140c, a cult classic death metal amp.

## **2 Product Changelog**

### **Version 2**

Released in February 2022

- New mechanical form factor; rotated to portrait orientation
- Various improvements to the circuit including noise reduction and refined bypass switching functionality

### **Version 1**

Original release in 2020.

## 3 I/O and Power

**Bypass:** Independent boost and drive circuits with relay-based true bypass switching which defaults to bypass in the event of power loss.

**Input impedance @ 1KHz:** 500k $\Omega$  (same for Boost and Drive sections)

**Output impedance @ 1KHz:** <1k $\Omega$  (Boost), <5k $\Omega$  (Drive)

**Power:** 9VDC, 2.1mm center negative barrel. The current draw is 80mA with both channels engaged.

To power your Limelight, use a standard regulated 9VDC center-negative supply with a 2.1mm barrel tip. We recommend a supply rated for 100mA minimum. The current draw is 80mA with both channels engaged. We suggest the use of an isolated power supply when using the Limelight in a signal chain with several pedals. Recommended brands include Truetone™, Voodoo Lab™, Cioks™, etc.

The power input is protected against reverse polarity conditions. The unit will not turn on if an incorrect polarity power supply is used. Please note that all Electronic Audio Experiments products do not use batteries.

Use standard shielded 1/4" cables to patch the Limelight into a pedal chain. The input jack is on the top right and the output jack is on the top left. The power jack is at the center.

## 4 Controls

**Boost** Adjusts the Boost channel from 0dB to +21dB of clean gain when turned clockwise.

**Gain** Simultaneous control of two gain stages, with a natural midrange boost as you turn it clockwise. Achieves approximately 50dB at the maximum setting.

**Tone** Low pass filter with an adjustable cutoff frequency; turn clockwise for more treble and counterclockwise for less treble.

**Volume** Output level control, turn clockwise for more volume.

**Focus** Variable low cut in the drive section, adjusts the amount of chime and midrange presence. Use in tandem with the Focus toggle.

**Drive (Left Footswitch)** Engages Drive circuit.

**Boost (Right Footswitch)** Engages Boost circuit.

## 5 Detailed Operating Instructions

The Limelight is extremely straightforward to operate. It is two independent pedals in one, with the Boost side routed before the Drive side. We'll address the Drive side first.

The Drive side features a classic gain/tone/volume arrangement which most guitarists should be familiar with. The Gain knob controls two gain stages simultaneously for a broad range from light drive to full distortion. There is a natural midrange focus as the Gain is turned up, which keeps things from getting muddy. The Tone and Focus controls work together to control the high and low frequencies, respectively. The Tone knob is a basic low pass filter which lets you choose how much treble is allowed through the output. The Focus controls the pre-gain bass which lets you do a tight, chimey drive or a more full-range, smooth drive. At brighter Focus settings the Tone knob can be used to compensate if things get too harsh. The volume is self explanatory, of course. In classic EAE fashion the Limelight can get quite loud!

The Boost is fairly basic— it adds up to 21dB of clean gain to overload whatever is downstream, whether that is the Drive side or the input of your amp. It has a gentle low cut below about 200Hz, which becomes more pronounced as the Boost amount is increased. This cut keeps your tone sounding full but removes bass flub when stacking gain together. When the Boost control is at its minimum setting, this stage serves as a completely transparent buffer. This is a handy trick if you don't already have a buffer on your pedalboard. Together with the Drive, you can get 3 levels of gain in one pedal: boost alone, drive alone, or stacked. All together, this makes for a highly versatile drive solution.

## Document Revision History

Version	Changes
1	Release for Limelight V2