

## Spiral Electric FX

### Cool Things

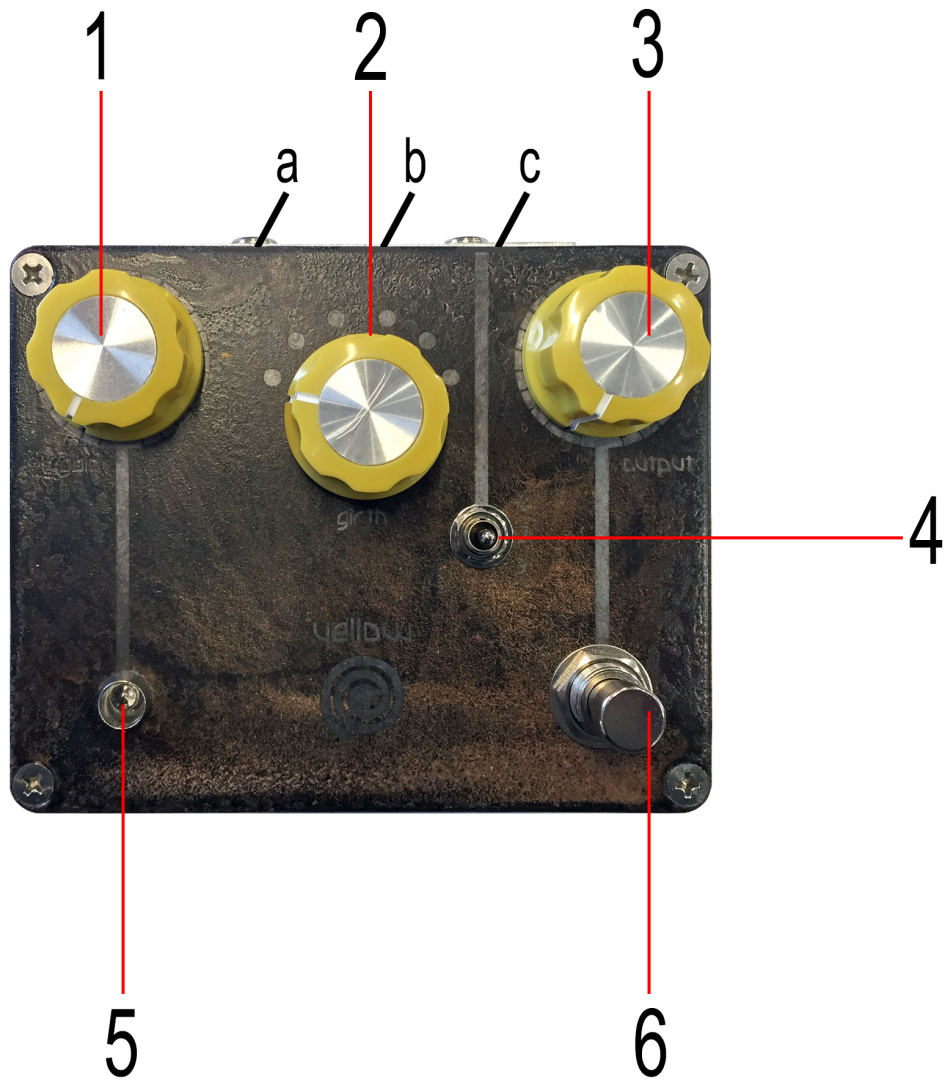
- Family Shop started by Tom Cram, July 2018 (The day after Summer NAMM)
- Designed, Hand Made, Hand Wired, in the USA - All metal work, wood work, assembly, soldering/wiring, etc. is done in-house
- Committed to having every step touched by a human

## Yellow Spiral Drive

### Cool Things

- 6-Position rotary tone network retains your highs but increases low-end “Girth.”
- Very touch-sensitive, goes from chime to grind with just an increase in pick attack
- Excellent clean-up with guitar volume knob
- Circuit Based on DOD 250 Overdrive Pre-Amp with choice alterations
- Nanolog N2 Molecular Junction
- Three-Way toggle Voicing:
  1. N2 + LED
  2. N2
  3. N2 + Silicon
- True Bypass
- 100% Analog
- Industrial, Textural, Chemical Oxide Top
- Laser-Etched Graphics
- Brushed Aluminum Chassis
- High-Quality Parts Throughout
- Mix of classic and high-tech in both aesthetics and sonics

## Yellow Spiral Manual



1. GAIN: Clockwise increases gain, counter-clockwise decreases gain
2. GIRTH: Clockwise increases bass, counter-clockwise decreases bass

3. OUTPUT: Clockwise increases output, counter clockwise decreases output
4. TOGGLE: Adds or removes clipping diodes for different clipping combinations

1. N2 + LED
2. N2
3. N2 + Silicon

5. LED: Indicates whether pedal is engaged or not
6. FOOTSWITCH: Soft-Click true-bypass footswitch, the quietest 3PDT we could find.

- a. OUTPUT JACK: Connect to the input of amplifier
- b. POWER JACK: Connect power here (9v DC Center-Negative)
- c. INPUT JACK: Connect guitar cable here

### HOW CAN I USE THIS THING?

The Yellow Spiral has a wide variety of uses: “Always on” tone sweetener, clean boost, dirty boost, low-gain distortion, mid-gain distortion, amp input punisher, and “unleashing the fury, everything on 10” lead shred-o-rama. Select changes to the basic circuit also make the Yellow Spiral sound fantastic on bass with none of the low-end loss commonly associated with this circuit. The addition of the Nanolog N2 Quantum Junction, the Girth control, as well as selectable clipping sections adds a useful and modern spin to this classic circuit. I have also seen it used successfully as an “underdrive,” we’ll get into that esoterica later in the manual.

### THE WHY’S AND WHEREFORE’S:

At the heart of the Yellow Spiral is the classic LM741 OPA-based Pre-Amp Overdrive. I was able to find a good source of LM741 tin-can Op Amps, while this configuration was never used in the original vintage circuit, it sounded fantastic and looked cool, so in it went.

I have seen several iterations of this circuit where a tone control has been added, and it seems like a logical thing to do. However, once you add a traditional tone-stack to this circuit, it changes the sound in way that I don’t find appealing. It also reduces the output and necessitates a make-up gain-stage. Also, I personally find tone controls to be pretty useless once you get on the darker side of 11:00.

My solution is to allow more bass at the input and to add the **GIRTH** control to control the bass at the output. This is a 6-position rotary capacitor network that doesn’t affect the high-end (the main voice of this circuit), or the output level of the circuit. Counter-clockwise on this control reduces the amount of low-end. This is useful to help keep leads from getting muddy, and to stand out in a mix. It is also great for use with an already saturated amp channel, it keeps the bass from building up and getting “woofy.” As you move the rotary clockwise you begin to allow more bass to reach the output. This really helps thicken your tone while still retaining your pick-attack. This also makes the Yellow Spiral very bass guitar friendly.

While it is tempting to have the **GIRTH** control set fully clockwise, I find that my favorite settings are consistently 3 and 4 for guitar. For bass? Well, those low B’s and today’s love affair with down-tuning mean that the rotary will probably get super-glued to setting 5 or 6.

On to the **TEXTURE TOGGLE** clipping section: As with the Black Spiral I am again using the Nanolog N2 Molecular Junction as the main clipping section of the Yellow Spiral. I then mix Silicon diodes and LED diodes with the N2. This intentionally makes the **TEXTURE TOGGLE** selection more subtle and textural rather than a dramatic volume tonal change. The up position blends the N2 with LED's for an open, loud, aggressive, yet less distorted setting. The middle position is the N2 alone, and it is balanced, neutral, and natural sounding, but not in a bland way. The down position is a blend of the N2 and Silicon diodes that sounds more compressed, distorted, and has some sizzle.

These **TEXTURE TOGGLE** selections in combination with the rotary **GIRTH** allow for a wide range of tones and textures. This is in keeping with my philosophy of attaining a multitude of tones with a limited number of controls, simple and versatile at the same time. In addition to these major changes to this classic circuit, I have also made some minor changes to the power filtering, taper of the pots, and some part values.

Let's move on to some of the suggested uses/settings I mentioned in the first paragraph of the manual:

**Always On Tone Sweetener:**

GAIN: 11:00  
GIRTH POSITION: 4  
OUTPUT: 1:30  
TEXTURE TOGGLE: (1) N2 + LED

**Clean Boost:**

GAIN: 10:00  
GIRTH POSITION: 5  
OUTPUT: MAX  
TEXTURE TOGGLE: (1) N2 + LED

**Dirty Boost:**

GAIN: 2:00  
GIRTH POSITION: 3  
OUTPUT: 3:00  
TEXTURE TOGGLE: (3) N2 + SILICON

**Low-Gain Distortion:**

GAIN: 1:00  
GIRTH POSITION: 3  
OUTPUT: 1:30  
TEXTURE TOGGLE: (2) N2

**Mid-Gain Distortion:**

GAIN: 4:00  
GIRTH POSITION: 3  
OUTPUT: 1:00  
TEXTURE TOGGLE: (3) N2 + SILICON

**Amp Input Punisher:**

GAIN: 11:00

GIRTH POSITION: 6

OUTPUT: MAX

TEXTURE TOGGLE: (1) N2 + LED

**Unleash The Fury, Everything On 10 Lead Shred-O-Rama:**

GAIN: MAX

GIRTH POSITION: 1 or 2

OUTPUT: MAX

TEXTURE TOGGLE: (3) N2 + SILICON

**Underdrive:**

GAIN: 11:00

GIRTH POSITION: 5

OUTPUT: 10:00

TEXTURE TOGGLE: (2) N2

The purpose of underdrive is to *reduce* level and gain when you are using your amp channel for your maximum lead level and gain. The concept is that you run your amp at full tilt, and using a combination of your guitar volume knob, and the Yellow Spiral, to reduce the level going to the amp input. IOW bypassing the Yellow Spiral would be your lead tone, Yellow Spiral engaged would be your rhythm/crunch tone, and Yellow Spiral engaged with guitar volume control reduced would be your “clean” tone.

I hope that the Yellow Spiral enables you to create both social and anti-social sounds, it is born from one of my favorite circuits of all time. Deceptively simple, yet capable of a huge variety of musically interesting applications.

**GO FORTH AND EXPRESS YOURSELF!**

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**SPECIFICATIONS:**Input: 1/4” TS Unbalanced - 2.2 M $\Omega$ Output: 1/4” TS Unbalanced - 1 k $\Omega$ 

Current Draw: 10 mA

Bypass: True Bypass

Power: 9VDC Center Negative