

# Test Notes

Thursday, March 21, 2019 6:12 AM

4/5/2019

## Test #1 - Basic Hum Test

### Setup:

- All knobs to Zero
- No guitar plugged in

### Tests/Results:

- Trem/Vib switch set to Vib
  - Nasty Hum is Gone
  - Quiet with a very slight hum, almost not noticeable, but noticeable if powered off
- Switching Trem/Vib switch to Vib
  - Still quiet
- Plugged guitar into Nor Input
  - Turn Nor Vol up to 4
  - Still quiet
  - Guitar Plays normally
- Plugged guitar into Vib Input
  - Turn Vi Vol up to 4
  - Still quiet
  - Guitar Plays normally

### Conclusions/Follow-up:

So far so good

## Test #2 - Basic Hum Test with knob/switch changes

### Setup:

- All knobs to Zero
- No guitar plugged in

### Tests/Results:

- Trem/Vib switch set to Vib
  - Quiet
- Turning Top Cut knob up from 0 to 10 and back down
  - Quiet
  - I can hear the treble is increasing through the slight hum
- Turning Nor Vol knob up from 0 to 10 and back down
  - Quiet most of the way, EXCEPT
  - Passing through 2.5 there is a slight crackle
  - Around 8.5 up there is a loud squeal, starts almost like feedback, sometimes cutting in and out, almost like tube oscillation
- Turning Vib Vol knob up from 0 to 10 and back down
  - Quiet most of the way, EXCEPT
  - Passing through 1.5 and 2.5 there is a slight crackle
  - Past 2.5 the slight hum goes away
- Switch Trem/Vib knob to Trem
  - The slight hum goes away
- Turning Depth knob up from 0 to 10 and back down
  - Quiet
- Turning Speed knob up from 0 to 10 and back down
  - Quiet

### Conclusions/Follow-up:

Turning Nor Vol knob up from 0 to 10 and back down

- Passing through 2.5 there is a slight crackle  
\*\* Debug: See if any conditions change this behavior
- Around 8.5 up there is a loud squeal, starts almost like feedback, sometimes cutting in and out, almost like tube oscillation  
\*\* Debug: See if any conditions change this behavior

Turning Vib Vol knob up from 0 to 10 and back down

- Passing through 1.5 and 2.5 there is a slight crackle  
\*\* Debug: See if any conditions change this behavior
- Past 2.5 the slight hum goes away  
\*\* Debug: See if any conditions change this behavior

Switch Trem/Vib knob to Trem

- The slight hum goes away  
\*\* Debug: See if any conditions change this behavior

### **Test #3 - Basic Functionality Test (does everything work)**

#### **Setup:**

All knobs to Zero

#### **Tests/Results:**

- Guitar plugged into Nor Input  
Turning Nor Vol knob up from 0 to 10 and back down
  - Works as expected
  - Note: The slight crackle passing through 2.5 is gone
  - With volume above 2.5 there is a hum (180 Hz)
    - Goes away by unplugging the guitar
    - Nothing makes this hum go away
- Changing Top Cut setting
  - Works as expected
- Changing Brilliance setting
  - Works as expected
- Guitar plugged into Vib Input  
Turning Vib Vol knob up from 0 to 10 and back down
  - Works as expected
- Trem/Vib switch set to Vib or Trem  
Vib Vol set to 5  
Depth set to 7  
Speed set to 3
  - Effects not working, even when moving knobs around and trying footswitch.

#### **Conclusions/Follow-up:**

- Turning Nor Vol knob up from 0 to 10 and back down
  - With volume above 2.5 there is a hum (180 Hz)
    - Goes away by unplugging the guitar
    - Nothing makes this hum go away
  - \*\* Debug:
- Trem/Vib switch set to Vib or Trem
  - Effects not working, even when moving knobs around and trying footswitch.
  - \*\* Debug:

### **Test #4 - Normal Channel Deep Dive**

#### **Setup:**

All knobs to Zero

No guitar plugged in

#### **Tests/Results:**

- Trem/Vib switch set to Vib

(From Test #1) Turning Nor Vol knob up from 0 to 10 and back down

- Quiet most of the way, EXCEPT
- Passing through 2.5 there is a slight crackle
- Around 8.5 up there is a loud squeal, starts almost like feedback, sometimes cutting in and out, almost like tube oscillation

- Trem/Vib switch set to Trem

(From Test #1) Turning Nor Vol knob up from 0 to 10 and back down

- Works as expected

- Trem/Vib switch set to Trem

Guitar Plugged in

Turning Nor Vol knob up from 0 to 10 and back down

- Works as expected

#### **Conclusions/Follow-up:**

Nothing new

### **Test #5 - Vibrato Channel Deep Dive**

#### **Setup:**

All knobs to Zero

No guitar plugged in

Trem/Vib switch set to Vib

#### **Tests/Results:**

- (From Test #1) Turning Vib Vol knob up from 0 to 10 and back down
  - Quiet most of the way, EXCEPT
  - Passing through 1.5 and 2.5 there is a slight crackle
  - Past 2.5 the slight hum goes away
- (From Test #1) Switch Trem/Vib knob to Trem
  - The slight hum goes away
- (From Test #1) Guitar plugged into Vib Input
  - Turning Vib Vol knob up from 0 to 10 and back down
    - Works as expected
- (From Test #1) Trem/Vib switch set to Vib or Trem
  - Vib Vol set to 5
  - Depth set to 7
  - Speed set to 3
    - Effects not working, even when moving knobs around and trying footswitch.

#### **Conclusions/Follow-up:**

Nothing new

### **Test #6 - Volume Knob Noises**

#### **Setup:**

All knobs to Zero

No guitar plugged in

Trem/Vib switch set to Vib

#### **Tests/Results:**

- (From Test #1) Turning Vib Vol knob up from 0 to 10 and back down
  - Passing through 2.5 there is a slight crackle  
\*\* Debug: See if any conditions change this behavior
  - Around 8.5 up there is a loud squeal, starts almost like feedback, sometimes cutting in and out, almost like tube oscillation
- Turn Top Cut up to 3
  - Quiet, no crackles around 2.5
  - Quiet, no loud squeal at 10
- Turning Vib Vol knob up from 0 to 10 and back down
  - Passing through 1.5 and 2.5 there is a slight crackle

- Past 2.5 the slight hum goes away
- Turn Top Cut up to 3
  - Quiet, no crackles

**Conclusions/Follow-up:**

\*\* Why does the Top Cut knob affect the Vol knobs noises?

**Next Steps:**

- 1) Major Items
  - a. Effects Not Working
- 2) Minor Items
  - a. Some Nor/Vib Vol Noises
    - i. The noises are eliminated by setting the Top Cut above 2.5
    - ii. This is similar Top Cut behavior when the loud Hum issues was present