



Effects Workshop



Workshop Goals

- **Should be able to answer**
 - What is an effect (FX)?
 - How, when, why should I use FX?
 - What makes a good FX unit?
 - Is there such a thing as too many?
 - Digital vs. analog?
 - What FX for live and recording situations?
 - Are FX for more than guitar?



Lets get started

- **Context**

- No such thing as ‘stupid questions’ or ‘bonehead opinions’ in this workshop!
- The only stupid question is the one you do not ask !!!
- We all bring our own diverse views and wouldn’t it suck otherwise? Share them! Calling out your thoughts is both welcome and encouraged!



Introductions

- **Sound Luthiers is a retailer of unique, locally built, high quality products**
- **We are “the Home of Tone”**
 - Fat One Tube Amplifiers, designed & built in Ottawa
 - GoudieFX Pedals, designed & built in Ottawa
 - Eastwood Guitars, designed in Georgetown, built in Korea and China
- **We are providing free workshops to meet folks, share ideas, get the word out**
- **If you found today useful, please tell your friends about us**



Basics

- **Effects are anything that intentionally alters the original sound**
 - Time Based; delay, reverb, phaser, flanger...
 - Tone; overdrive, distortion, ring modulator...
 - Frequency; EQ, Wah, pitch, whammy, chorus, vibrato...
 - Dynamics; boost, compressor, tremolo, noise gate...

Beyond Basics – Tone

- **Distortion adds harmonics to the sound – making it richer, fatter all the way to fuzzy**
 - Overdrive is a subtle distortion - ideally driving tubes to compress or clip just slightly
 - Distortion is driven harder, more of the signal is being cut off. This adds additional odd-order harmonics, creating a "dirty" or "gritty" tone
- **So popular that there are pedals are labelled as: overdrive and distortion**
 - Overdrive: Blue Daddy, Marshall Blues Breaker, TS808, TS9, G drive, etc. attempt to mimic tube power amp distortion
 - Distortion pedals include Fuzzy, Fuzzface, Big Muff, Rat, Heavy Metal, HM2, OTP
- **How can one obtain this state of tone nervana ?**
- **Most common way is FX units**
 - Most FX units employ diodes & op amps
 - Advantage? happens at lower volume levels
 - Aka the Stompbox!!



How Else can I get “clipped”?

- **Tube Amps**
 - from cranking the preamp and/or power amp
 - An amp with 2 or more volume knobs is designed for creating overdrive at controllable volumes
- **What about solid state amps?**
 - Distortion created using transistor "clipping" stages behaves differently than tubes; when the input voltage falls outside its operating region of the amplifier, the signal is clipped without compression, known as "hard clipping", to most a “harsh” sound
 - Most solid state amps are modeling or sampling the sound of a tube amp (ie a digital copy) If you had the solid state amp loud enough to clip, it would sound terrible
 - Some solid state amps include a tube preamp, fewer still a tube power amp to generate distortion
- **Hotter pickups (boost) can also get you there**

Summary



- **Sweetest distortion sound?**
 - Tube amp distortion is the king in our opinion
 - Right at the edge so that just picking harder does it! Or maybe a quick twist of the guitar volume knob
 - Or 2 amp setup with A/B switch is pretty sweet
 - One set up clean, one overdriven
- **So a 5-20watt amp, cranked is it.**
 - 100watt amps is way too loud by the time its got tone
 - Need more volume? Use the PA
 - Need less volume? Stompbox or modeling is okay

Distorted Pedal History



- **Tube Screemers**

- TS808 – the SRV sound
- TS9 came next 1982-1985. Same as TS808 except the magic JRC4558 was not always there.
- TS10/STL briefly
- TS5 until 1999
- TS7 Tone LOK
- 1993 TS9 started production again but with TA75558
- 2004 TS808 reissue with JRC4558
- Newer TS7 (4 knobs) not too bad JRC4558, extra mode but not as rugged

- **GoudieFX 808+ differences**

- True electrical bypass
- Less/more mod
- Asymmetrical/symmetrical diode clipping



How, When, Why

- **How**
 - FX before preamp
 - Line6 Guitar, Pedals, PODs
 - FX between preamp and amp
 - FX loops, separate preamp & amp
 - A higher signal level here, time based FX happiest in a loop
 - FX after the amp
 - Not often, for example in the PA or post recording
- **When**
 - If you like it
 - Use to add to your sound, not to hide poor playing
 - Experiment and find your unique sound
- **Why**
 - If you need it (to cut through, to sound like...)
 - Extends what is possible with one guitar, one amp
 - But don't forget that a lot is possible with one guitar, one amp
 - Because they are fun!



What Should I Hear?

- **When off**
 - It should be off
 - True bypass (mechanical vs. electrical switch)
 - Both tone altering and noise inducing are possible
 - Plug and unplug and listen
 - Quality in metal cases vs. plastic, and in cables and components
 - After that, it is subjective to the ear
 - How long you can listen is a good test particularly for overdrive pedals



How Many

- **As many as you like, but ...**
 - Too many can..
 - Lead to a non-distinctive, “over produced” sound
 - More likely to have noise
 - Risk of a problem exponential
 - Beyond 2ish probably want to use a pedal board
 - Power supply
 - Battery is a clean noiseless supply but \$
 - Good power supply is a good investment



Does Order Matter?

- **It really does change the sound..**
- **There are no rules**
- **Recommendation?**
- **Which Chain Of Effects Makes Life Easy?**
 - Which – Wah (frequency filters, wah, phaser)
 - Chain – Compressor
 - Of – Overdrive
 - Effects – EQ
 - Makes – Modulation (pitch, vibrato, chorus)
 - Life – level (volume, boost)
 - Easy – Echo (reverb, delay etc..)
- **More detail on our effects page**
www.soundluthiers.com/effects.html



Pedal Board

- **Tames the setup and maintenance problem**
- **Key bits?**
 - Industrial velcro
 - Power supply
 - Rugged
 - Roomy



Pedal Snakes

- **An unknown hero**
- **Particularly if using 2 amps or effects loops**
- **Because they...**
 - Consolidate all cable between guitar and amp
 - Make setup a breeze



Digital vs 'Analog' FX

- **Really only 'analog' distortion is from tubes**
- **FX boxes use R,C,L, with Op Amps or DSPs**
 - Recommend the stompbox (non-DSP)
 - Flexible order of effects
 - Generally have the “tone”
- **MultiFX pedals**
 - Tend to use DSPs (sampled)
 - Cheaper alternative
 - Good way to see which effects you want
 - Patch memory? Avoid LED
 - But high end eg Line 6, Roland are pretty good



Live vs. Recorded FX

- **Live**
 - FX for Guitars already covered
 - On a PA might want a compressor, definitely a limiter
- **Recording**
 - Use minimum effects to get 'your' sound because you can't edit the FX out once recorded
 - Suggestion; record clean, apply FX later
 - Lots of computer based sampled patches but can still send to a FX box and back in

Beyond Guitar



- **FX used in PA**
 - Limiter for sure prevents meltdown
 - Compressor to handle dynamic range.noise
 - EQ to remove feedback
- **FX for bass**
 - In theory very little component differences
 - In practice some FX sound really bad on lower frequency so a “bass” pedal often splits and applies effect on higher frequencies but really if it sounds okay, its okay
- **And we could go on, but that’s enough...**

Open Mic



- **Other opinions, favourite stories, missed opportunities, incredible FX machines you almost owned,...**
- **Can you repeat that part about... ?**
- **Eg. What did Jimi use?**



Wrap Up

- **Content will be posted to website**
 - www.soundluthiers.com
- **Next Workshop**
 - What would you like to learn?
- **How else can we help?**
 - More Amp, Guitar & Effects Samples on the web page
- **Open Mic – try the gear**
 - 3rd Thursdays at Louisannie's but check the website
- **Questions? ... call anytime**
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