

# GT137

## Session Secret

### *Delay*

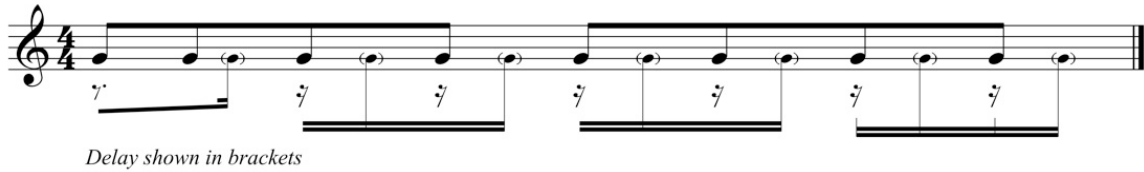
*In the right hands, delay can simply transform a guitar sound. In the wrong hands it can totally destroy the track, so careful with that FX, Eugene...*

The delay is probably the simplest of all FX: it just repeats the signal how many times you want. Ever since its inception, delay has been used in many different ways, and it would need an entire book to describe them all! So, this month we're gonna focus on what is usually called 'rhythmic delay'.

Basically this means that the delay works in time with a song, creating a web of different rhythm accents. The first name that comes to mind is U2's Edge. He has written part of the history of popular music simply by creative and clever use of the delay. But let's start from the beginning and see what kind of controls we find on a delay pedal/rack unit.

- Delay time/tempo: this parameter controls when the delay repeats the signal. In modern pedals or rack units, it's expressed in milliseconds (ms) or with a note value (quarter note, dotted 8<sup>th</sup>, etc.).
- Feedback: this one controls how many times the delay should repeat.
- Volume or mix: this works as a mixer of the original signal and the delay. Usually, 50% means that the original signal and the delay have exactly the same volume, but this may vary with some units.
- EQ: In some units you can also EQ the delayed sound. Note that this doesn't change the original signal.

Now let's set up a delay for a common delay effect. This first setup was first made famous by Albert Lee on his classic 'Country Boy' solo. Nuno Bettencourt with his 'Flight of the Bumble Bee', Van Halen, John Petrucci and many others have also employed this 'trick'. The idea is that you'll play simple 8<sup>th</sup> notes but the delay will 'interject' the 16<sup>th</sup> notes.



To do this we need to set the delay properly, so grab a calculator (back to school!). The formula is 60000ms (milliseconds in one minute) / bpm (beat per minute) of the song = milliseconds for a quarter note (we can call it Q). Then  $Q / 4$  = milliseconds for one 16<sup>th</sup> note (we'll call it S). Then  $S \times 3$  = milliseconds for a dotted 8ths or 3 16ths. For instance: let's say that you have a song at 200bpm, coincidentally, like the first example this month.... The formula would be:

$60000 / 200 = 300\text{ms}$  (a quarter note time)  
 $300 / 4 = 75\text{ms}$  (a 16<sup>th</sup> note time)  
 $75 \times 3 = 225\text{ms}$  (a dotted 8<sup>th</sup> or 3 16ths)

With a modern delay unit, you can just set the note value (dotted 8<sup>th</sup> for instance) and either 'tap in' the tempo with your foot, or just set the metronome speed for that tune. Personally, I don't use a 'tap tempo' device; I don't trust my foot that much! I much prefer to work with a calculator, especially in studio when you're not supposed to waste time. Now you'll hear that if you play 8ths on a single string (at 200bpm) the delay plays a 16<sup>th</sup> note in between! It's a really neat trick because it gives the illusion your playing VERY fast while you're actually playing at half speed! Just make sure that you have only one feedback and that the level of the delay and the original signal is the same.

The Edge from U2 uses a similar idea but with a stereo delay. Each channel has a different note value. One of his common settings is to have a quarter note on one side and a dotted 8<sup>th</sup> on the others with quite high value in feedback and mix. Try to experiment with different tempos and note values, sometimes a very simple thing sounds quite complicated and exciting. I'll see ya next month!

**Ex 1:** Ex 1 is a heavy metal example using the same idea as 'Country Boy' and 'Flight of the Bumble Bee'. Set the delay at 225ms, 1% feedback, 50% mix volumes. I used my Ibanez 7 string with a high gain amp and a compressor. Use a light palm mute throughout the entire example.

♩ = 200

Dm C

P.M.-----

T	14	15	10	12	14	15	10	12	12	14	9	10	12	14	9	10
A																
B																

*Delay is shown in the score; the actual part played is shown in the TAB*

3 Dm

P.M.-----

T	14	15	10	12	14	15	10	12								
A																
B																

5 Bb

P.M.-----

T	7	8	9	10	10	12	9	10								
A																
B																

7 A<sup>7(b9)</sup> Dm

P.M.-----

T	6	8	9	11	6	8	9	11	10	14	9	11	12	14	15	17	14
A																	
B																	

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**Ex 2:** For this one I used my old Gibson Les Paul through a pair of Vox amps with a stereo delay (quarter note and dotted 8<sup>th</sup>). If you play in a trio (gtr, bass and drums) keep this example in mind. Only one guitar and it sounds huge!

♩ = 100

Actual part played; no delay shown

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**Ex 3:** For this one I used my old Gibson 175D through a Fender Deluxe with a digital delay sets on 119ms (one 16<sup>th</sup> note at 126), 1% feedback and 50% mix. I used thumb-pick and fingers (acrylic nails) slightly muting the bass strings. This sort of short delay is also known as 'slap-back echo' and it's typical of country and rockabilly music.

♩ = 126

Actual part played; no delay shown

4

Actual part played; no delay shown

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## **TONE SETTINGS**

On the market there are so many good delay pedals that is quite hard to say which one is best. Very popular choices are the Boss DD3 and DD6. If you are into the quality of the delay you should also check out the Line 6 DL4, T-Rex Replica delay, and the Diamond Memory Lane.

If you are planning to get a mortgage for the fantasy pedal of your dreams, take a look at the Fulltone Tube Tape Echo or at the worldwide standard T.C.Electronic 2290 Dynamic Delay.