

GT138

Session Secret

Phaser & Flanger

This month, Dario's challenge is to write an entire article about phasers (and flangers) and not mention setting them to stun...doh!

The 70's saw the explosion of guitar effects where virtually every guitarist started to use them! Consequently, the boffins got busy and a bunch of new pedals and effects appeared on the market. Chorus and delay were the first ones, but very soon the phaser and flanger made their entrance to the guitar world. Although these effects were very common in funk music they soon became popular in different styles like country (Waylon Jennings), rock (Van Halen) or the sophisticated pop of Steely Dan.

For this article I contacted some of the most famous 70's players and asked them for a few tips and tricks. Mr Jay Graydon (a Los Angeles top songwriter, recording artist, guitarist, producer, arranger and engineer who's been awarded two Grammy's with 12 top five Grammy finalist nominations) gave me this explanation on how these effects came about;

"Flanging came about quite by accident. The folklore is a DJ played two identical 45 rpm records at the same time for whatever reason. If the folklore is true, he 'cued' the up both records using the old school DJ trick of finding the start point of the record then backing off a full turn (one rotation of the disk). When going on 'air' the DJ hit the 'on air' switch activating both turntables motors and audio at the same time.

The effect is simply two identical sound sources with a very short delay of one of the sources swimming (moving) forward and backward over time. The audio jet airplane effect was born.

Again, if the story is true, he would have set the starting point of the records near perfect and the 45-rpm turntable motors were accurate.

On the other hand, the flanging may have been born by an engineer that played

a mix from a tape recorder routing the output to two identical tape recorders with both those recorders in record mode. The two recorder outputs (in record mode) would have been routed through a mixer. The output levels were set to the same level.

If monitoring the signal off the 'repro head', since the two recorders are on their own (the reel motors very slightly slopping around), the mixed sum of the audio outputs from both machines would cause the swimming factor of short delay as noted with the 45 rpm record example.

The engineer then experimented by putting a finger on the flange of the take up reel on one of the two recorders as to slightly slow down the tape speed, and then let go. The procedure would be repeated to taste. (In this era of electronic flangers, that would be the oscillator speed and depth setting). Yea, the term flanging came about from putting a finger on the flange of one of the take up tape reels.

Regarding electronic outboard flangers, one thing can't be accomplished which is crossing the signal back and forth over the zero cross point. This is because the flanger can't see in the signal in the future. The result is getting very close to the cross point but not going under and back over. Crossing the zero point is huge if wanting the 'JET AIRPLANE' sound."

The common knobs for these effects are:

- Speed: the speed of the modulation
- Depth or feedback: the depth of the modulation.
- Level or Mix: the volume of the effects or the mixing between the effects and the dry signal.

In the effects chain phaser and flanger are usually placed after the volume pedal and chorus and before the delay and reverb. Most of time they are used in the effects loop of the amp.

A special thanks to Dave Marks for the low end on GT tracks and to Jay Graydon, Phil Upchurch and Steve Trovato for their help and advice.

Ex 3: This example shows a common country approach to the phaser: this is known as the 'Waylon Jennings' style. Grab a Tele, set the phaser with a slow, wide modulation and, if you have a feedback knob, set it at about 70% and the FX at full volume. Use a clean amp (Fender Deluxe) and a short delay (100ms, 40% feedback, 25% volume). This example is drop D tuning and should be played with hybrid technique.

♩ = 90

Chords: D, G, A, D

String positions (E, B, G, D, A, D):

System 1: 0 0 3 5 0 3 2 0 4 | 5 0 0 2 0 3 2 0 2 (2)

System 2: 0 2 0 3 4 2 3 2 0 3 | 0 3 0 2 0 3 2 0 3 | 0 3 0 2 0 3 3 0

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Ex 4: Jay Graydon suggested this particular example. Record a dry guitar track for the source (we won't use this track in the mix). Copy the track and move it 10ms earlier in time (let's call it Copy #1). Copy again the dry track and move it 10ms later in time (Copy #2). Use a flanger plug-in on Copy #1 and set the flanger mix control to 'wet' and adjust speed and depth to taste. Use the same volume for both tracks. This is a 16th notes shuffle and again keep all the ghost notes in the rests.

Swing ♩ = 100

Chords: Dm7, Am7, Gm7, x4 Dm7

String positions (T, A, B):

System 1: 5 7 | 5 7 10 10 9 9 8 8 8 8 6 6 6 5 7 | 5

System 2: 5 7 | 5 7 10 10 9 9 8 8 8 8 6 6 6 5 7 | 5

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TONE SETTINGS

The most common phaser choices are the MXR Phase 90, MXR Phase 100 or Boss Phase Shifter. If you're looking for vintage type take a look at the Ibanez Flying Pan or Mu-Tron Bi-Phase.

The most common choices for flanger are the MXR Flanger (Van Halen), TC Electronic Chorus/Flanger or the great Fulltone Choral/Flange. If you're looking for a vintage pedal try the A/DA Flanger. The Line 6 MM4 has simulations of most of these pedals.

SUGGESTED LISTENING

Phaser: Van Halen (Eruption); Stuff w/Eric Gale (Do You Want Some of This Stuff); Brothers Johnson (Get The Funk Out My Face); Waylon Jennings (Luckenbach, Texas); Mark Chesnutt (A Hard Secret To Keep).

Flanger: Steely Dan (Peg), Extreme (It's a Monster). Flanger and Phaser are also very common for keyboard players.