

## Neon Flea Circus - Whimsical Popsicle

### Tracking Details

Guitar and Lead Vocals: Dan McLoughlan  
Keyboards and Backing Vocals: Fergal Coulter  
Bass and Backing Vocals: Brian Hennessy  
Drums: Niall Honohan

Lyrics: Fergal Coulter  
Composition: Neon Flea Circus  
Recording/Mix Engineer: Josh Fairhead (87602)  
Mastering Engineer/Assistant recording engineer: Darren Jennings (78188) [unmastered version presented]  
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Interface: Digidesign 002 (Desk)  
Pre-amps: Focusrite Saffire pro 26i/o and TLAudio Ivory II (12 Channels without use of 002 Pres).  
Converters: Focusrite Saffire bypassing 002 through ADAT, TLAudio Ivory II (line) converted by the 002.  
Software/DAW: Pro Tools 8.0  
Computer: Macbook Pro 2.33ghz, 3gb RAM.  
Operating System: Mac OS 10.5

Kick: AKG D112	- Placed inside the shell close to the beater head at the side.
Kick 2: AKAI old sampler mic	- Placed outside on the beater into a DI for XLR input.
Snare Top: Sure Beta 57	- Pointing close to the center at about 70° from vertical.
Snare Side: C1000s	- Side of snare about 5" away from the body.
Rim: MIDI sample	- From Structure Free
Toms: 3x AKG C418s	- Clip on mics (barely used)
Hi-Hats: AKG C1000	- Pointing from above at the edge.
Overheads: AKG C2000s	- Spaced cardioids both equal distance from kick drum.
Ambient: Neumann TLM 103	- About six foot back from kit medium height
Bass 1: AKG D112	- On axis.
Bass 2: Sure Beta 57	- Off axis.
Guitars 1: Studio Projects B1	- Off axis a foot from grill
Guitars 2: AKG D112	- On axis
Guitar Solo: Studio Projects B1	- Off axis a foot from grill
Guitar Solo 2: AKG C1000	- Off axis about 1-2" from grill
Guitar Solo 3: AKG C1000	- Placed about 5-6ft as ambient
Rhodes amp 1: Neumann TLM 103	- On axis a foot from grill
Rhodes amp 2: Sure Sm57	- Off axis 1-2" from grill
Rhodes amp 3: AKG C1000	- Off axis 1-2" from grill on speaker two
Rhodes ambient: AKG C1000	- Placed about 5-6ft away in the stairwell
Organ amp 1: Neumann TLM 103	- On axis a foot from grill
Organ amp 2: Sure Sm57	- Off axis 1-2" from grill
Organ amp 3: AKG C1000	- Off axis 1-2" from grill on speaker two
Organ ambient: AKG C1000	- Placed about 5-6ft away in the stairwell
Organ DI:	- Direct Stereo
Lead vocals left: Neumann TLM 103	- One to three foot (dependent on mic technique)
Lead vocals right: Neumann TLM 103	- One to three foot (dependent on mic technique)
Lead vocals (singer 2): Neumann TLM 103	- One to three foot (dependent on mic technique)
Harmonies: Neumann TLM 103	- One to three foot (dependent on mic technique)

Final mix format: 44.1kHz, 24bit. (Not redbook as competition format was recently changed)

## Intro

This track was recorded as part of a free Creative Commons release; due to this nature the track/album which was entirely self funded by the band and was recorded on a very tight/shoe string budget. The rooms used for recording were selected from a handful of possibilities but was generally in the homes of the band members. All the equipment was either personally owned, borrowed, rented on the cheap or generally cobbled together from a variety of sources. *Whimsical Popsical* is probably the most musically ambitious track on the bands album which also provided the most production opportunities and an interesting mix.

The setup consisted of my Focusrite Saffire (as ADAT preamps/converter), Digidesign 002 and Macbook Pro paired with my peers TLAudio Ivory II. The microphones at hand were an AKG D112, 2x AKG C1000s, a Sure Beta 57, a Sure Sm58, a Studio Projects B1 and a rented/not always available Neumann TLM 103 with a pair of AKG C2000s.

## Drums

These were recorded in an oddly shaped living room that had a slanted ceiling and plenty of natural diffusion from items such as books, records and other assorted objects. Luckily the flooring of the recording space also consisted of a non-uniform wooden surface that contributed to an acceptable room tone. As we had been allowed to nail up blankets of varying densities on a previous recording session we did so again to reduce unwanted comb-filtering as the walls were pretty much bare.

The drums were placed on a rug in a position chosen through using the floor tom to find the most desirable resonance after which they were then tuned<sup>1</sup>. The drummer expressed that he wanted a soft kick and a looser sound to his kit than normal as the band (and myself) felt the track should have a 'modern yet retrospective' sound. This was somewhat lucky as our equipment was by no means top of the range (contributing to a slightly trashy sound) but a lot of the room/kits character was captured from the overheads and the ambient mic (placed about 5 ft away from the kit; which on older recordings would have been the predominant technique due to the technological limitations of the era).

One problem I encountered was that I felt the snare sounded a little bright in the overheads although taking out 2-3k which contained most of the drums high end killed the kits overall character and so was left in (retrospectively this was possibly due to boost in frequency response around 10k). Although I initially viewed this as a problem, I would no longer regard it as something that is detrimental to the sound; had it been removed it would've subtracted from the kits overall character.

The kick had a D112 inside the shell, placed to one side capturing the majority of the drums sound while an old AKAI dynamic mic was used on the beater; this was only used because it was the last spare mic while there were still inputs available for use.

The top snare was a Shure Sm57 and a bottom was not used; instead a AKG C1000 on the side which I feel captures the drum sound in a more natural way that seems to have more definition and presence. One reason for this could be that the waveform caught by a side microphone contains a more complex signal better representing the timbre created from interactions between the two membranes, the drums shell and the room.

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<sup>1</sup> Stavrou, M. (2008) Mixing with Your Mind, p53 - Hyde Park Press Pty Ltd. Australia

Although the C1000 may not be the perfect mic it was the best condenser available for side miking. I would normally consider a C1000 as having a bright and slightly brittle character, however in this case it worked quite well capturing a tone that didn't appear overly thin. This is possibly due to a boost in frequency response centered around 5kHz, followed by a dip centered around 7kHz and due to the psychoacoustic effect that low frequencies mask high this could account for the perceived sound quality. The ride was also recorded with a C1000 angled so the cymbal would block excess spill and provide further options during the mix process.

The tom microphones (AKG 418s) were barely used, they sounded like paper being hit with a stick and so were heavily filtered and shaped in order to just provide a small amount of backup to the overheads if automating them up on fills sounded unnatural.

One problem in the mix was the side stick used in the pre solo and so a sample was layered with the recorded version to enhance the sound. A number of approaches for generating MIDI notation to trigger these samples were tested, including using threshold dependent applications such as Toontrack's DrumReplacer. After this experimentation it was still seen as the best option to instead manually edit in the MIDI notes using a 'tab-to-transient' function in ProTools. The sample used was from a royalty free sample pack loaded into Structure free, a Virtual Instrument that comes with ProTools.

## **Bass**

This was recorded in the guitar players flat which was an open plan carpeted room with an adjacent kitchen and bedroom totaling somewhere around an oddly shaped 25 sq/m space. The small dimensions of this space could be seen as advantageous to recording this instrument due to inherent room modes existing in higher registers in comparison to a bass guitars usual range. This was recorded in mostly one take with a few drop ins replacing slight mistakes. The only microphones used were an AKG D112 and Sure Beta 57 positioned on and off axis respectively with the aim of giving blending options in the mix. Most of the midrange comes from the Sm57 while the D112 was used mostly for low end.

## **Keys**

As the band lived above a doctor/dentist and were the only occupants of the building past 6pm (besides their flatmates) it meant we had access to record in a large stairwell spanning three floors. The keyboard used was a Nord Electro II running into a gigging Vox amplifier positioned halfway down the stairwell while he played beside the recording rig at the top in order to separate movement/performance noise etc. The amp was stacked on a chair to decouple it from the ground and placed away from the room boundary (although there wasn't much leeway for movement). The microphones used were a TLM 103 placed on axis about a foot from the grill with an off axis Sure Sm57 and AKG C1000 placed on separate speakers 1-2" from the grill along with a C1000 as an ambient mic. The same setup was used for the organ sound with the addition of a stereo DI signal.

The main sound throughout the track is a Rhodes setting on the Nord which was very usable in the mix requiring only volume automation, small amounts of eq and compression for tonal shaping and some reverb (though not excessive amounts as it already sounded quite 'drifty' which was the keyboard players sound specification...). There was one other addition which was an automated leslie plugin which I had the keyboard player 'play' controlling the rotation speed during a mix session using a control surface. The end has a double tracked section with two Nord settings to add to the timbral change and general musical progression of the song.

The organ sound that comes in for the solo was left unprocessed except for on the group channel where there is minimal eq and compression, though the channels are panned slightly to increase the sense of stereo width by a fraction.

## **Guitars**

There are seven different guitar parts, six of which use the same set up with various tonal changes; while the solo section was setup differently (see mic list) due to the drastic change in timbral requirements. The majority of the track is based on one main guitar source with extra layers to add texture while being recorded separately for added control. For instance in the sections with 'gotta run now' (1:49) there is a main soft tone that carries throughout the track and what I would consider a 'Johnny Cash' bright tone playing the same thing on top; then when it stops for breaks a wah-wah pedal was added doing different fills for the sake of interest. Any strikes in the rhythm guitar that were overly transient were leveled manually with automation; this I mostly consider a necessity as its impossible to either ask a musician to control their dynamics in an unnatural manner or depending entirely on a compressor to fix drastic level variations.

The pre solo was recorded with the same set up of a D112 and Sm57; there are two layers of backwards guitar that was created from the guitarists effect pedals for the sake of the performance (as opposed to a later manipulation done in ProTools). As there was an organ and rhodes under the main solo we felt little need for another rhythm guitar part, although the solo was tracked differently for a contrasting and less-confined character. The main addition being an ambient mic placed closer to a critical distance of 5-6ft away from the amp in the stairwell we were recording in, this was mixed with delay and reverb to fill out it's own 'space'.

## **Vocals**

All the vocals were tracked with a rented Neumann TLM 103. This immediately gave a usable vocal tonality because it matched the singers voice quite well and was easily the highest quality piece of equipment we had at our disposal. After an intro verse sang by the guitarist the keyboard player takes over which has a paralleled leslie effect to add movement to the voice, hide a few flaws and to introduce the listener to a low-fi sound before removing the effect for the harmony section. By doing this I believe the perceptual effect of the harmony section is more striking with the contrast serving to create interest as a result of the denser spectrum.

This leads into a chorus sang by the guitarist leading out into a second harmony part between the singers with the keyboard player finishing the lead vocalists lines. Here on the words obsessive (2:22) and regressive (2:33) I automated up a reverb send to make them fade into the distance a bit (same thing the second time on the words possessive and impressive).

Every vocal part was double tracked with the keyboard and bass players singing prolonged parts of the main vocal at various intervals. The double tracking procedure was to record one good take as a guide and have the band harmonise to that replacing it with a better take and repeating the process once more to gain a 'second' track. This approach ensured better takes as the musicians felt more comfortable recording to their own singing especially if the guide was good. This is probably my favorite part of the arrangement especially at the end with all the instruments; I really enjoy the changing textures created on the 'choo-oose your own direction' outro.

### **Mix aims**

The first and foremost theme was to have a 'modern approach' but 'slightly retro' sounding recording for the track as this was most fitting to the group personality of the band; this mostly involved an ambient drum sound with predominantly 'small' guitars but was only achievable as the keys and harmonies could fill out the rest of the sound stage in a more modern or 'hi-fi' manner.

Secondly I wanted to maintain the sense of journey in the music as the song is about heartbreak and moving on. As the music contained so many moving elements I wanted to parallel this in the mix and so automation was used heavily throughout consisting of volume, eq, rotary and reverb changes. The volume automation was used to keep the instruments balanced with each other and to focus in on an interesting musical component that a given musician might play. Eq automation was used on the drums to pull out the 'click' and soften the kick drum sound. This was then bypassed for the solo section where it was brought back to better define the drum and cut through in the mix.

There were certain sections the keyboard player decided that a leslie would suit and so he was let automate them himself by twisting a rotary controller on my interface as the track played; giving a performance element to the mix process. Finally there was reverb send automation used to change the acoustic space in different passages and as an effect on the end of some vocals and the very end of the track. Towards the end a reverb send is gradually automated up to 'make the band disappear into the distance' much like that found on The Doors track *Ship of Fools* from the album Morrison Hotel.

The last aim was to retain the dynamic nature of the music; I did not want to heavily compress in order to avoid negative byproducts from over-processing and to somewhat retain the musicians intentions. The byproducts of compression can be very useful at times but if pushed too hard they can be quite harsh and so my main approach the the track was to lightly compress (in a mostly transparent way) and then to manually automate the instruments level on different passages.

With hindsight there are many things I would do differently now, but as a result of continuing in education this was somewhat inevitable. The main thing I would do differently would be to write pre-compression automation, bounce out a waveform without radical level changes on the macro and micro scale, follow this with compression for tonal shaping and then write the macro dynamics back to their intended level. This creates an even compression level across the track on a micro scale while retaining the dynamics between sections.

Lastly I would be less liberal with my equalisation due to the phase ripple effect inherent in IIR filter design (this was created with only the bundled Pro-Tools plugins and one spectral delay); this is something I'm becoming increasingly aware of and would like to avoid as much as possible. However as everybody is happy with the end result I'm not too worried

## Neon Flea Circus - *Whimsical Popsicle* lyrics

Who-doo Baby,  
You Drive me crazy : don't you know,  
That you have me going far outside my mind,

Ice cold lover, quite like no other don't you know  
That you're next, not, near impossible to find...

Sometimes faces you might remember  
bring you names that you want to forget  
Didn't happen with you  
Oh so fresh and so new, Quickly gone...

There'd be times that you'd grab attention,  
But you'd aimlessly turn away,  
There was sense that you'd speak, Concentration was weak,  
Quickly Gone...

*(But you were)*  
Wanton : Lazy  
Listless : Crazy  
Running free stop acting hazy,  
Don't you see how happy it could've been?  
Bright-eyed : Deaf-nut  
Polished : Rough-cut  
Visionary, out of your rut  
Now you see, no time for synergy.

~Gotta go now,  
Gotta leave it all behind  
Gotta leave it all behind  
I gotta try, I gotta find,  
No I can't stay, there's no other way,  
Static life just has me going blind.

Change of plan now,  
Its not time for me to run  
There's no time for me to run  
Dont ask no questions I have to run  
No I can't stay, there's no other way  
It's leaving here I am resigned.

Cheerful days with clear blue skies,  
Perfect light to read your eyes,  
You talk, you baulk, you're equally obsessive.

Looking's fine, its all that's mine, but what you needs that certain sign,  
Do you think to dream is so regressive?

~Gotta go now.....

Fearful ways of senseless fights,  
Your in's gone out, you see bright lights  
Then you try and question who's possessive

Looking's fine, its all thats mine,  
and what you need's a certain sign,  
But no-one thinks your tricks are so impressive.

~Gotta go now.....  
.....Aaaaah, Balls!

I just tend to cause confusion,  
No one gets inside my brain,  
Though this leads to disillusion,  
I'm unique in my own reign,  
Maybe it's delusive or deceptive or benign...  
But my thoughts will cast no shadows,  
All impressions say I'm...  
Fine. I say I'm fine.

Though I do not mean to hurt you,  
I don't think you feel the same,  
Let me shrug it off by jesting,  
Play the joker, act profane.  
I'll show you what I mean after I smoke away my pain,  
And see your eyes cast no remorse,  
On what goes on inside your brain.

I say I'm fine, yeah say I'm fine.

Choose your own direction,  
Go live and don't get phased,  
You can shrug it off by jesting,  
Or stop with all your whimsical popsicle ways.

Room the drums were recorded in (minus lighting)



Floor plan

