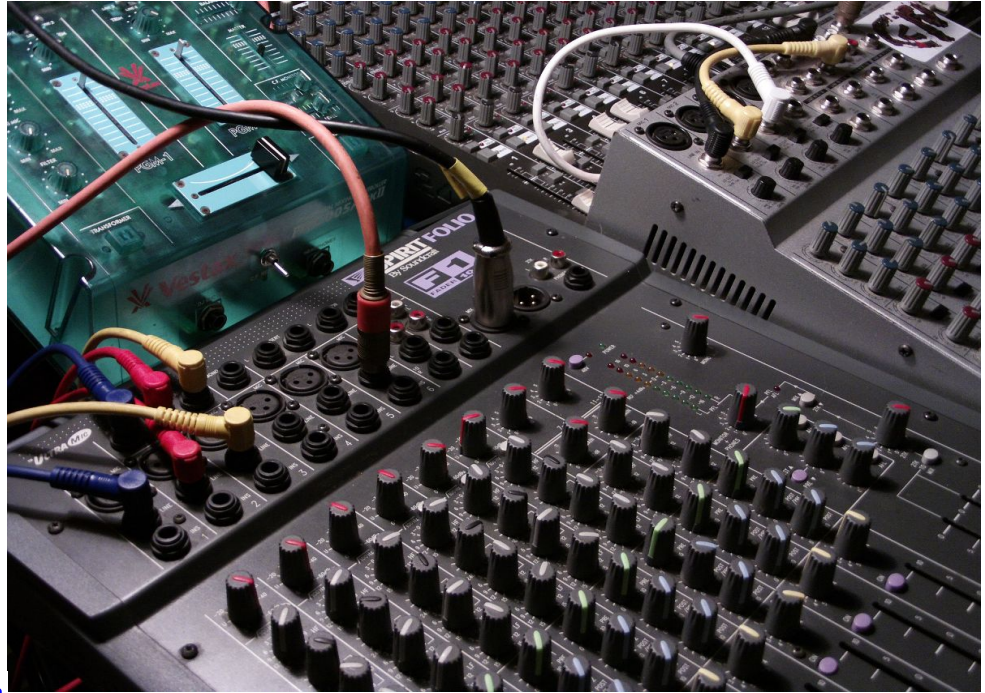


THE NOISE UPSTAIRS

NO-INPUT

WORKSHOP



MARCH 20th and 27th

THE NOISE UPSTAIRS presents a FREE No-Input Mixer Workshop at FUEL Cafe 448 Wilmslow Road, Withington M20 3BW

'No-input' describes the state of an audio mixer fed back into itself. The name is slightly misleading however: there is input to the mixer - the output.

Audio mixers have been in use for decades, although the desirability of feedback as a creative resource is only really a recent phenomena. Electronic music could be very different if mixers were realised as instruments, back in the early days of music technology.

Sound can be generated in any passive audio circuit featuring an amplifier - via any supporting medium (air

or wires for example). When the output of an amplified circuit is fed back fully or partially, with sufficient amplification, oscillation will occur.

Precisely regulated feedback is the fundamental element of analogue sine wave oscillators - typically found in synthesisers and the like.

When an analogue feedback circuit such as an oscillator is switched on, it's initial output is merely background noise produced by components - but within a very small space of time, the noise is amplified, filtered and subsequently characterised by any components or resonances in the signal path (for example

room shapes in acoustic feedback, or frequency filters in analogue oscillators).

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2011

The Noise Upstairs is a free improvisation jam night that has been bringing you some of the most exciting noisicians for the last three years. As part of The Noise Upstairs new proactive facelift, we are offering quarterly workshops, which will run on the weekends preceding the jam night, culminating in a 'featured performer(s)' spot on the night. If you are interested in taking part in the jam night, or the workshop, or for any other Noise related activities, visit the webpage at www.thenoiseupstairs.com and drop us a line, or sign up for the mailing list.



With more obstacles and characterising elements in the signal path of a feedback loop, far beyond simple sine waves can be produced. As the amplification of a loop is increased, the sound becomes more unpredictable and contoured by the equipment in use.

line-level channel inputs - then the relevant level/gain is increased until feedback occurs.

Although there are common traits of feedback, every brand and model of mixer exhibits its own unique characteristics. During the course of this workshop, you will understand how to deal with your mixer as an instrument and begin to utilise its unique characteristics as 'musical' vocabulary. Ultimately each participant of the workshop will contribute to the resulting ensemble. The workshop will culminate in a calculated performance, albeit with space for individual improvisation and exhibition of each mixer's capabilities, at April's Noise Upstairs event in Manchester.

Try it: Frequency beating

Frequency beating is a common audio phenomena which occurs when two independent close frequencies are mixed – resulting in the difference being heard. For example, with 400hz and 402hz, a 2hz 'pulsing' effect can be heard.

Frequency beating can be quite hypnotic, and is easy to produce using a no-input mixer.

You will need two channels set up as feedback loops.

With one channel, find a suitable pitch (using any of EQ, gain, aux send and fader). Try to copy these settings as closely as possible on your second channel – aim for the same pitch.

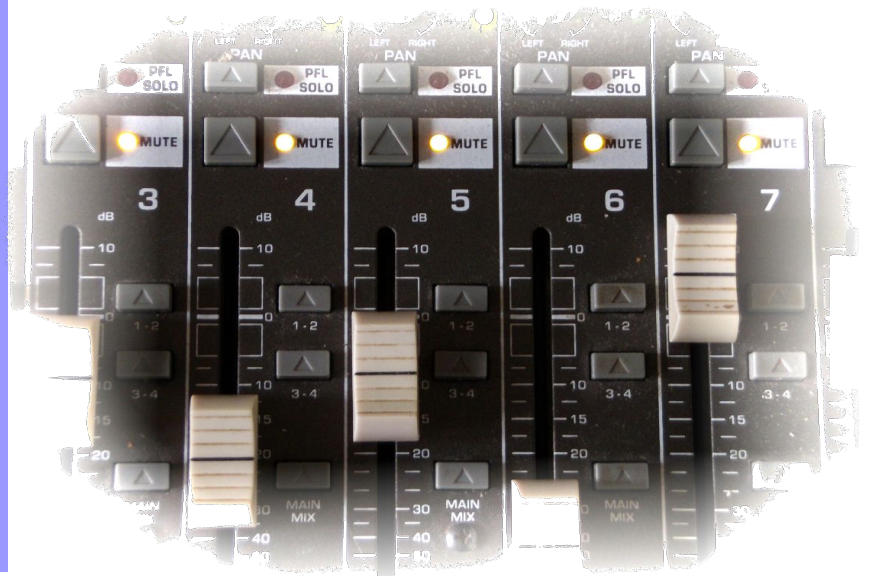
You will have to be mindful of the difference if one channel is using a pre-fader auxiliary and the other is using a post-fade auxiliary.

As the pitches get closer together, you will notice the difference tone get slower. Using EQ and gain on one channel, the beating speed can be quite precisely controlled.

An audio mixer with anything from basic EQ and sufficient outputs/channels provides a diverse palette for experimentation with feedback.

Using multiple channels, different configurations of inputs/outputs and possibly external effects can further extend the range of obtainable timbres.

Typically, auxillary sends, bus outputs and/or master outputs are plugged back into

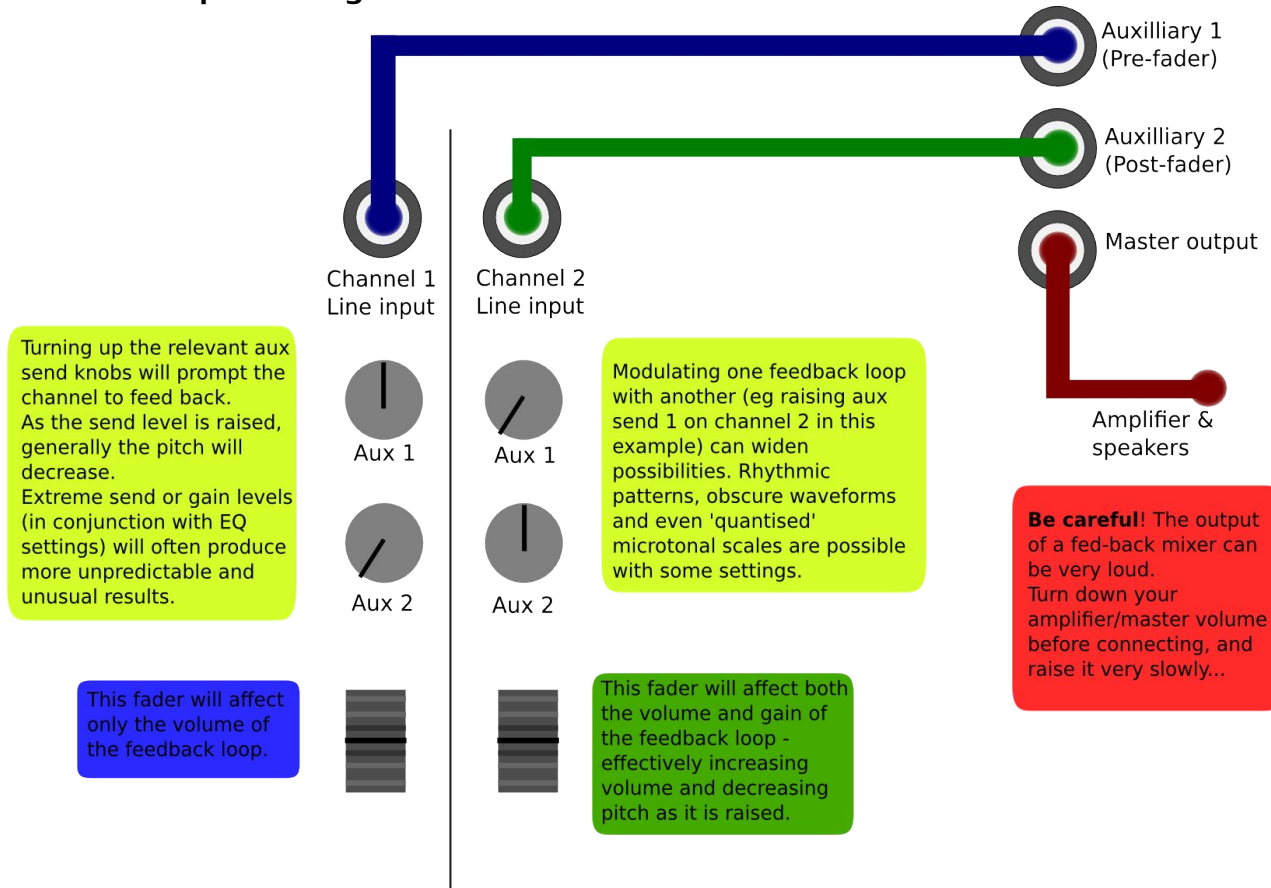


PRE and POST: what's the difference?

'Pre' and 'Post' fader are terms often used on a mixer – for example 'PFL' – pre-fade listen. Also, auxiliary (aux) sends are either pre-fader or post-fader.

This quite simply refers to whether the signal being used is affected by the main volume fader (for the channel). For example, a pre-fade aux sends out the signal before it gets to the fader, whereas post-fade aux sends the signal afterwards – hence a channel's fader affects the signal being sent.

Basic example configuration



In order to take part in the workshop, you will need an audio mixer - preferably a small device with a couple of aux sends, such as the Soundcraft Folio, Behringer Eurorack or Mackie VLZ series.

Also you will need a number of short patch leads in order to connect the mixer to itself, in addition to a longer jack or XLR lead for connecting your mixer to the speakers/PA system. A pair of headphones is also desirable.

However, we can provide both types of lead if you have difficulty bringing them.



Behringer Eurorack 1604a



Soundcraft EFX8



Mackie 1402VLZ

Due to the nature of feedback, often the most extreme signal levels and frequency ranges permitted by the mixer's components are yielded. This may affect the lifespan of certain components and cause a temporary increase of temperature, although no fidelity loss has been reported.

No-input mixer technique is unfortunately not widely documented nor recognised at current. There are few, if any official resources discussing the practise. Some details of artists and resources are listed below:

Toshimaru Nakamura - <http://www.janimprov.com/tnakamura/> - 'popularised' the use of mixer feedback with his minimal style, closely related to the Japanese Onkyoikei scene.

Marko Ciciliani - <http://markociciliani.de/> - Ciciliani has extended the no-input mixer as a concert instrument, producing composed scores and improvisations for the instrument in solo and ensemble contexts.

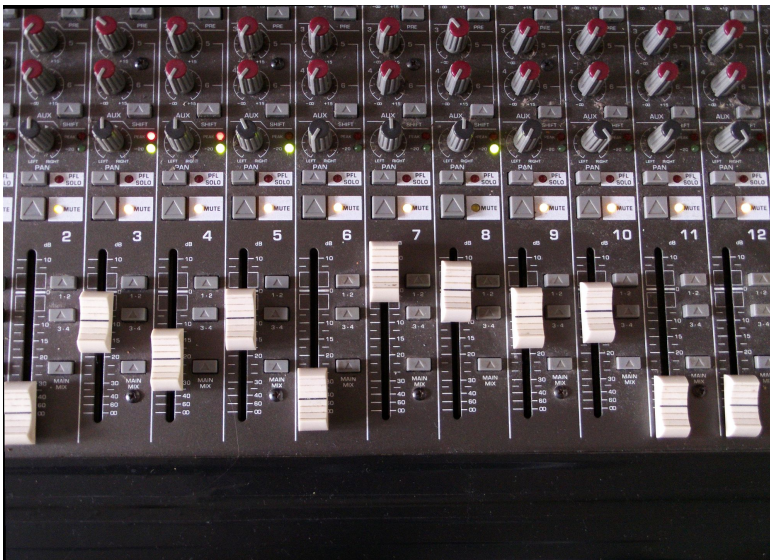
Suggested listening:

Toshimaru Nakamura - No-input Mixing Board (2000)

Marko Ciciliani - 81 Matters in Elemental Order (2008)

Richard Knight - Sleight of NAND (2010)

Suggested reading: Knut Aufermann - 'Feedback Processes: An investigation into non-linear electronic music'.



Richard Knight has been using mixers since a young age, but only realised their potential as expressive instruments within the past few years. During this time he has amassed a formidable collection of audio mixers and investigated their curious musical possibilities. He's interested in using their potential for improvisation, precisely structured 'techno' music, and the diverse area between.

For details on these projects, visit:

<http://www.youtube.com/user/closedcircuits>

<http://www.1bpm.net>

<http://www.concretemoniker.co.uk>

THE NOISE UPSTAIRS

Every month on the second Thursday of each month, at Fuel Cafe in Withington.

www.thenoiseupstairs.com

info@thenoiseupstairs.com

To register for this free workshop, which takes place on 20th and 27th March (2pm-5pm on each day), please send an email to richard@1bpm.net stating what type of mixer you intend to bring, and whether you will need any extra leads, etc.