

110

fundamental rules of effects

Effects processing is the lifeblood of any mix, whether it's used transparently to improve, or creatively to transform. But before you start going crazy with the possibilities, you need a firm grounding...

There's no way we could teach you everything there is to know about using effects – that's an ever-changing process that will continue to evolve for as long as humans (or our descendants) continue to record music. But despite the vast (and ever increasing) number of effects processes and all-but infinite number of specific implementations and techniques, there are a couple of underlining concepts to processing that are simple to explain and vital to be

aware of, even if it's only on a subconscious level.

The fundamental thing to understand about effects is that they have a limited number of uses. First, they can be used to enhance a sound. This might mean addressing fluctuations in volume, correcting flaws (bad notes, hum, feedback), adding sheen, or any one of a number of similar things.

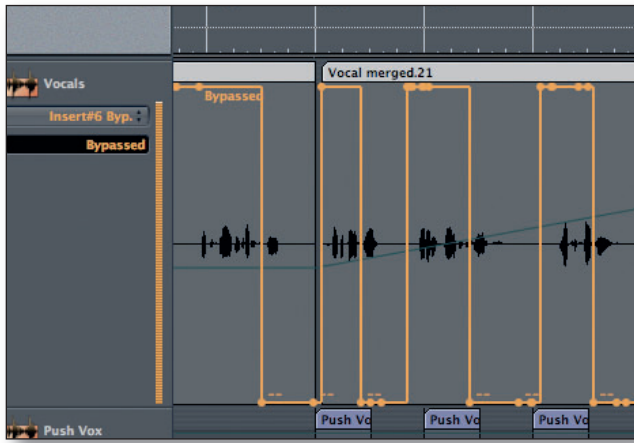
Next, they can also be used to alter the sonic character of a sound, essentially fulfilling a sound design role, too.

Effects can also be used as a compositional tool, the most common example being using delays to create pseudo-arpeggios. This goes for arrangements too – you can have six elements playing constantly for three minutes and use nothing but effects processing to craft an arrangement from them.

Finally, and most crucially from our point of view here, they can be used to help ease all the elements of a mix together, and to carefully place each one within the sonic landscape. In this context, they

might be used to help an element blend in, stand out, move in and out, ease transitions... pretty much anything, really.

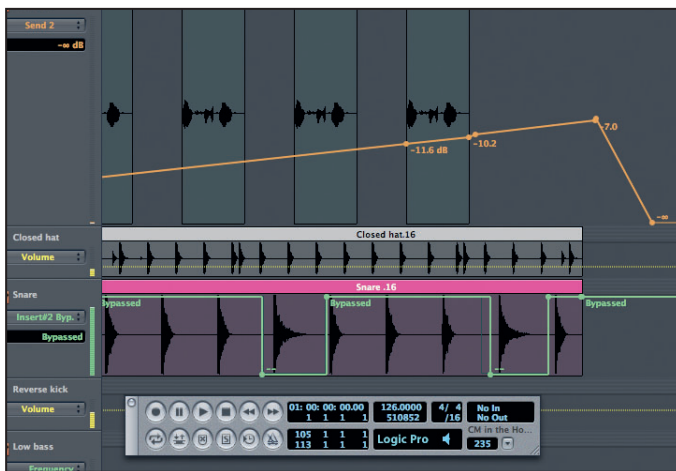
The key to successful processing is knowing what you're trying to achieve with each new insert and send, and to learn the best ways to do it. Over the next few pages we'll take you through some handy tricks to illustrate the different uses, and give you some pointers on how and when they should – and shouldn't – be applied.



01 It's not what you put in, it's what you leave out

The first, last and best thing to try with effects and EQ is also the easiest: leave them out! Simply, do not add processing unless it's necessary. How do you know if it's necessary? Simple, ask yourself the following questions: Is it loud enough? Does it sound too dry? Does it clutter the mix sonically? Is it a bit boring? If, after asking all these questions, you realise you might not actually need that third compressor insert, then take it off. Remember that by leaving some effects dry, or removing the effects at well-chosen times, you can actually make key elements in your arrangement stand out all the more.

◀ As the old maxim goes: less can often mean more – try bringing appropriate effects in and out of the mix rather than leaving them on constantly

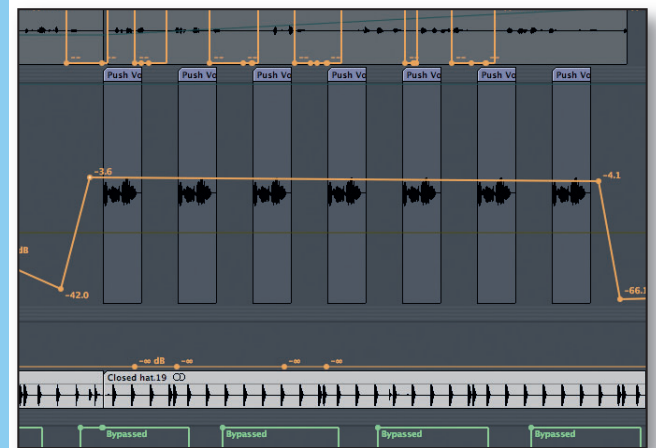


03 The big change

Similar to the modulation of effects, simply taking them out or putting them in for different sections can make a huge change and is a critical arrangement/mixing tool. One of the classic tricks is to feature huge amounts of reverb over a specific section (bridge, chorus, or whatever), but the same end can be achieved with any process that changes the vibe. Another example can be distortion applied to a guitar section in the chorus but not the verses, or lashings of chorusing. One thing worth bearing in mind is that these effects can be quite dramatic, so even if there isn't any reverb or delay on the section being processed, try placing some over the last couple of beats to smooth the transition into the calmer bit.

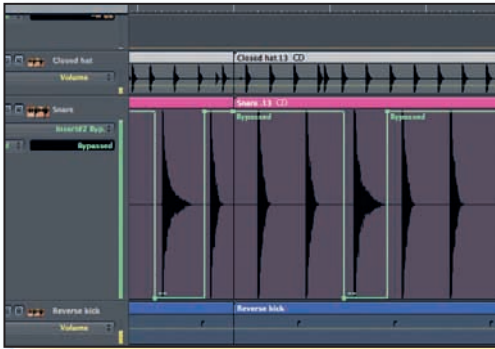
02 Modulating effects

One of the things that characterises amateur mixdowns is a lack of excitement or variation. In the old days, this was understandable, as it was genuinely difficult to set up one kind of effect modulation, let alone many (which meant multi-recording, for most of us). But now it's incredibly easy, so try it! It might be as simple as adjusting the feedback control on a delay to add excitement to a short build, or it might involve adjusting the threshold on a sidechaining lead synth line to change the amount it pumps at different sections of your track, but try to do as much as you can to add useful and/or exciting variation to all of your effects.



04 The phone call

Speaking of radical effects, one of the coolest, and one that speaks volumes about the way we live our lives these days, is the telephone effect. This is when, during a track, the vocal (or whatever) suddenly changes to a narrow, boxy bandwidth. You've probably never noticed it explicitly, but the effect of this is to suddenly make it feel like the singer is further away. It's usually applied when a singer is expressing sadness or a sense of loss or independence (anything associated with being apart or distant), and it works. For the record, the frequency range of phones is 300Hz to 3kHz, so filter everything below and above to recreate the effect. It'll be interesting to see if this one continues to be as effective in the future when phones are CD quality bandwidth or higher...



05 Adding emphasis

One of the main purposes of effects is to reinforce elements of a mix, or to highlight them, but an element needn't be as vaguely defined as 'the bassline' or 'the lead guitar'. It's never been easier to use effects to highlight one word, note or section of a track. Classic examples include adding delays to one snare or rim shot sound, adding phasing or flanging to certain notes or the last bar of eight, reinforcing the reverb on one word or phrase, or even applying a powerful effect like filtering, chorusing (real tracking or digital chorus) or vocoding to certain phrases. Obviously, such effects should be used sparingly, or else they'll cease to add emphasis, but they can be stunningly effective.



06 Real-life effects

Phone calls aren't the only real-world effects you can recreate, of course. One great trick is making it sound like something is going on behind a wall. Any dance producer worth their salt will tell you that if you place a low-pass filter over a track with normal speech (leaving the speech filter-free), it will sound like the music is coming from next door. Throw in some street noise sound effects and you make it sound like a conversation outside a nightclub. Obviously, this is an extreme example (a less extreme technique is placing lots of reverb on a sound to make it sound like it is in a large room or auditorium), but the point is that creative processing can actually place a mix in an evocative and realistic sounding environment.



07 Syncing and sidechaining

One of the surest ways to inject some groove into your productions is to attach some tempo-based processing to everything. This might be as simple as some tempo-synced delays; or try using sidechaining to make elements such as reverb, basslines or anything audible and consistent pump rhythmically in time with the music (for more on sidechaining, see our dedicated feature on p36). And it needn't stop there – you can sync panners and other modulation effects such as phasers and choruses to your track's tempo to give it consistent rhythmic movement, and even sync the LFOs on your filters and choruses. Don't go overboard and make each too apparent though, as the final combined effect can be quite dramatic.



08 Buss it

Newcomers who've never been restricted by hardware limitations all too often forget about their busses. In addition to being great places to build up and individually control effects chains, busses can also be used to collectively process groups of sounds. You can send all your synths to one buss and process them together, for example. Now, apart from the convenience of processing them together and reducing CPU loads, sometimes the resulting sound will be different to what could be achieved when processing them separately. Compressors, especially, will react differently to a collection of summed parts than they will to any of the individual parts.



Insert vs send

One of the key decisions to make when applying any sort of processing is whether to use it as an insert or to place it on an effects buss and send some of the signal to be effected to it.

Generally speaking, any kind of sound shaping or altering effect is best applied as an insert. This, of course, includes dynamic effects, such as compression or gating, because otherwise your effected version will simply be layered with the original, which largely negates the effect of any such dynamics processing,

and may even result in some weird phasing issues. Of course, if that's what you want for a special effect, then go for it, but it's certainly not the best standard technique.

Phasers, flangers and choruses are also often inserted directly into the signal chain, as they're designed to completely alter the sound in question. But these also often come with a wet/dry balance control to make the effect subtler. Likewise, EQ is almost always applied as an insert, too, for similar reasons as with dynamics effects.

Reverb, delay and other similar effects can generally be applied to an effects buss without making any real difference to the sound. The main advantages of this are ease of use (raising a send level is easier than inserting a new instance of the same reverb into every new track and trying to match the settings) and much-reduced CPU consumption, particularly when using processor-hungry algorithms. At the end of the day, it's about trying out different ways of working and seeing what impact they have on the sound, and when each is useful.

09 Order please

One of the coolest and most useful things about effects is the way they can interact. For example, compression placed after a delay or reverb can be used to control, intensify and extend the effect. Similarly, chorus, phasing, tremolo and other modulation effects can be applied to reverb busses to give them identity, soften them or make them more exciting and variable. Distortion can be applied to almost any kind of effects buss to grunge things up, and EQ is so vital to tailoring effects like delay and reverb that the units themselves often feature some built in – but don't let that stop you inserting your own into the chain for precise control. All of these types of combinations can be used to subtle or overt effect, but all of the best productions will have a smattering of both.



Instantly dated

The funny thing about effects techniques is that any fresh and exciting ideas will quickly be copied by practically every other producer in the genre. In this way, anything radical and recognisable has a very short lifespan before it becomes utterly overplayed and cheesy. Some of the most common examples are gated reverb on drums, talkbox vocals, vocoded vocals, big, cheesy digital reverb over everything, extremely time-stretched vocals, intense slapback delay and/or chorus on vocals and, of course, the now-classic Auto-Tuned vocal.

The main thing all of these effects have in common is that they're very widely associated with a specific period of time. Slapbacked vocals instantly

recall the 70s, talkbox vocals the 80s, cheesy digital reverb brings to mind the 90s, and Auto-Tune the turn of the Noughties. So much so, that records that feature them will often be dismissed as period novelties, even as soon as six months to a year after their release.

Of course, the other thing such effects have in common is that after a while, almost all of them will come back into vogue (much like bell-bottoms and long hair on men), so it's just that difficult first five to ten years when your track will be out in the wilderness. After that, it will probably be a timeless example of the genre (provided it's good!), when these special processes come back into fashion and start cropping up everywhere again.

Fitting FX into the mix

In the latter part of the 90s, when hardware synths ruled the roost and technology had advanced enough to allow each to feature its own effects section, a terrible habit was born. Synth manufacturers began slathering huge amounts of effects all over each patch. They did this for one reason and one reason only – to make their synths sound more

impressive than they really were, so that people would buy them.

Unfortunately, this terrible trend has continued into the soft synth era – unfortunate because such effects almost invariably ruin any chances of getting the synth to sit properly in a mix. Whether they muddy the waters for everything else, or push the sound into the background, they will almost

always have a detrimental effect, and so the effects should be turned down or off, at least for the periods when everything else is in.

The same goes for any sound with radical amounts of processing. Remember that your sounds might be great in isolation, but they won't be heard in isolation by anyone but yourself, so you may need to reduce the

effect, even if it's only when lots of parts are playing simultaneously. In addition, you should remember that even the most radical effects become 'just another sound' after a short while, so not only will you be making your mix clearer by changing the amount of effects used depending on what else is playing, but you'll be making things more exciting too.

10 Rack 'em up

By this point you ought to be itching to take some of these techniques for a whirl, and will no doubt have a few choice effects chain combos in mind. And once you get stuck in, you will come up with ever more – some useful, some workhorse, some guaranteed to spice up a dull mixing session. Once you have a few tried and tested chains like this, it's extraordinarily helpful to save them as such. Most sequencers now allow you to save chains of effects – sometimes even with the ability to route them to one combined interface and save multi-patch presets – so take advantage of that. Then the next time you want to platten up your bass, simply load your bass multi – rather than individually inserting a compressor, maximiser, EQ, bass exciter, low-cut and low-pass filter. Happy chaining! **cm**

