

Buzz doesn't suck, you do!

INTRODUCTION

Ok, so you've learned that shift-click connects machines, you've figured out how to make noises in Buzz, and your friends all have heard your first .BMX masterpiece. But it sounds like crap! Maybe it's cause Buzz sucks...or maybe it's just YOU!

This is the first in a series of articles that will go from generators to effects, to placing things in a mix, to making your mix the best it can. First of all, don't take the title seriously. Hopefully you will soon realize that I have a bit of a sense of humor, so don't take everything I say seriously. Second of all, don't take everything I say seriously. If I bust on your genre, it's just me busting on your genre. Don't get mad at me if your genre sucks. Seriously, I actually enjoy most styles of music, so if I say something disparaging, it's only cause I'm trying to be funny. The keyword is "trying."

Who is this guy, you might be asking yourself right now. Well, I've been Buzzing for over four years now, so I don't qualify as a newbie anymore. I've also used many other pieces of software, like Cakewalk, Soundforge, Protools, Acid, etc, since even before I discovered Buzz. I have been involved with music ever since I began the saxophone at the age of 9. I've read hundreds of articles, magazines, and books about recording and music, and nearly everything I've read can be used in Buzz. I've been involved in the Buzz scene for most of that time, mostly as a lurker, downloading other people's work, seeing what made a good track and what made a bad track. I've even sat down with several people to teach them this incredible program. I'm not trying to brag, in fact, I would sound really lame if I was bragging. I'm just trying to add some credibility to what you're going to read.

So, after listening to people complain about Buzz, and watching my Buzz students scratch their heads when they couldn't make anything good come out of it, I've decided to write these articles. Enough blather, let's go!

First things first:

- 1) Change that tempo! How many Buzz tracks are going to run at 126 BPM?
- 2) 4TPB is not too bad, you can do a lot with it. Guess what, last time I checked, Cubase runs at 19,200TPB. Don't be afraid to change the TPB. Drum 'n bass producers especially will want to switch it to 16TPB, it's really hard to run with anything less.
- 3) Turn the volume sliders on your generators DOWN! My rule of thumb (this doesn't necessarily have to be your rule of thumb) is to turn the master volume down just a smidgen, and I adjust the volumes so that the meter rarely goes in the red. Some generators (Jeskola basses and MX7 to name two) seem to have really loud outputs. If

you're using distortion, you'll probably need a limiter, which I'll get into more in a future article.

4) Use the blah blah blah section! You can right out a too-do list in your song, sketch out the structure, put your lyrics in, take notes. If you're uploading a track somewhere, put your contact info in there! How else can your new fans tell you how much they love your song?

5) Above all, learn to live with frustration! It's the musician's way of life. Some days you'll feel like everything you make is crap, some days you'll feel like you can't even make crap. Buzz itself is a very difficult program to learn, it's even more impossible to make "pro" sounding tracks. It can be done, just not overnight. Especially if you're just starting out and don't know a synthesizer from a sanitizer.

Enough of this crap, let's go!

GENERATORS

Buzz has some great generators! Almost all of the major types of synthesis are represented: analog, FM, granular, etc. Most people starting out on Buzz don't have much experience with synthesis, which is alright. Buzz is a great place to learn (since it's FREE!) but you have to be willing to put a lot of time in. Otherwise you get the dreaded "buzz sucks!"

I'm not going to tell you how to program any of these synths. That alone would make a separate set of articles. Besides, much has already been written about the subject, and it is all better than what I could have done. So, grab a cola, fire up the ol' internet, and start looking for resources on "subtractive synthesis" (the easiest and most popular) and "frequency modulation" (a little more difficult but very flexible). Once you get a hang of those, try additive synthesis, granular synthesis, noise synthesis and many of the other cra-a-azy types of synthesis out there.

Yes, it's a lot of hard work and learning to get simple sounds this way. And this is the reason I think Buzz turns off a lot of newbie producers. There are not that many presets! Don't get me wrong, the presets that we have are wonderful, and it's obvious that the developers have put a lot of time into making them. Included presets are becoming more popular, which is a very good thing. But at the same time, presets are lacking on a lot of machines, presets for a lot of the "popular" genres are few in number, and the Buzz preset interface is a little rough around the edges. It would be nice to have a better system for keeping track, organizing, and exporting presets, though a big thumbs up to all the developers for what we have now!

Why am I making such a big fuss over presets? I mean, presets are for losers who don't take the time to learn how to make their own sounds! Presets make everyone sound the same! Buzz doesn't want preset-babys! Ok, I'm exaggerating a little, but this idea seems to be a small part of the Buzz community. Let me be the first to say that I agree about

presets being "the easy way out". We should always be striving for individual sounds, and learning the basics of synthesis is very rewarding. However, presets do have their place.

Obviously, the most useful aspect of presets is when you're going to make, say, a trance tune. I know when I'm making a trance tune, I already have an idea of the type of bass I want. I don't want to have to make a trance bass from scratch every time I make a trance tune, so I have my trance bass presets, I pick one that's close to what I want, and tweak it from there. A classical music composer will think to himself and say, "I think an oboe should go there." He doesn't build his own instruments every time he composes a new piece.

Presets are also very useful when you're learning synthesis. After a while, you start to learn what things make what sounds the way they are, but when you're first starting out, things can be very confusing and intimidating. You can scratch your head for months trying to figure out how they make that trance bass, or you can pull a trance bass preset out and find out right away. Go ahead and use it, young Buzzer! In time, you will learn how to make your own trance basses!

Finally, there are some people who are simply interested more in composing than sound design and engineering. They have ideas for songs, they want to make them sound good, and they'd rather spend their time learning the fundamentals of songwriting and composition rather than learning about oscillators and LFO's. Their path is just as valid as anyone else's.

So if you think Buzz sucks, the lack of presets is probably a leading culprit. If I changed your mind, excellent! Let me just sum up and add some tips to making Buzz suck less :)

- 1) Learn as much about sound synthesis as you can. You can never know too much.
- 2) Don't be afraid to use presets! If you happen to make a groovy sound, make a preset out of it. Don't be afraid to use the same sound in all your songs. If it's a groovy sound, it's a groovy sound.
 - 2a) When you name your presets, I highly recommend doing like most of the developers have done. Put your name in front of the preset, then the name of the preset after. This helps tremendously if you ever wish to share your presets. It keeps all our preset lists nice and neat, and lets us know who makes good presets and who makes bad ones :)
 - 2b) Tweak your presets! I know I'm kind of retracting what I said earlier, but I'm not. You just don't want your presets to start to sound tired or overused.
- 3) Use effects (see below)
- 4) If it still sounds like crap, you're probably using too many generators...or not enough. Seriously, try either slimming down the amount of generators you have and work on

making the existing ones sound better, or layering different generators playing the same or similar thing to beef up the mix.

5) Use velocity, dammit! Velocity=volume. Sometimes you want everything the same velocity, but rarely do you want EVERYTHING the same velocity. Different velocities make the sound more interesting, more rhythmic, and more musical. Start off by accenting certain notes to draw emphasis to certain beats or notes. Another thing to try is to make subtle variations in the volumes of the notes. This can make it sound like there is a real person playing the instrument, and not a machine.

6) Music theory is your FRIEND. I can understand the points of the anti-music theory crowd, and sometimes they are right. Sadly, you are probably not a musical prodigy (I know I'm not!) and music theory can only help you. Besides, it's far better to know the rules before you break them. I believe that a lot of the anti-music theory sentiment comes from a misunderstanding of what music theory is. Music theory is NOT a set of rules. It does not say, "if you play this note, you have to play this note next," or "never finish a progression with this chord." Music theory is a way of understanding music, of explaining music. Music theory is the backbone of communicating between musicians, of understanding where music has been and where it can go. You can study music theory every day and never learn it all. Electronic musicians should not ignore music theory; in fact, they probably need to know MORE theory than other musicians, as well as sound theory. So hit the net or go to your local library and start learning!

7) Learn to play other instruments. Obviously, if you can play other instruments, you can record them and use them in your songs, making your Buzz songs sound unique and better. Even more, learning to play on other instruments opens up many creative doors for you. Each instrument has its own system of playing, and consequently you will find that you take a different approach to composing on different instruments. You can NEVER have enough approaches to composing. If you learn guitar, for example, you can come up with riffs that you would never have thought of by sitting in front of Buzz. Translate what you're playing onto your instrument into those little generator columns and you will start to see the possibilities. Keyboard or piano is the obvious first choice for most electronic musicians, as most synths come in keyboard form. Guitars are great for coming up with new chord progressions and unique synth riffs. String basses will advance your synth basslines by light years. Oh, and how can I forget drums? Rhythm is such an essential aspect of most musical genres that learning how to play a trap set or a hand drum will make you sound a lot groovier and funkier. Don't stop there, as there are tons of different and wonderful instruments out there waiting to be learned. Even learning to scratch on a turntable will help your composing in Buzz.

8) Oh yeah, and generators can have more than one track in the sequencer window. You can have one for all your note patterns and one for all your parameter changes.

EFFECTS

Buzz does have some great generators. Hardware equivalents of some of them can set you back hundreds, even thousands of dollars. So why does it often seem like a recording from a crummy "real" keyboard sounds better than those wonderful Buzz generators? I chalk it up to two things: effects and air.

Before I delve more deeply into effects, let me discuss what I mean by "air". When you record a keyboard, the sound first goes through digital-to-analog convertors (I know, unless it's a true analog synth), then through the cable to your mixer, then to your recording device. By the time it gets there, it has passed through a lot of "air". Even if you have the highest-end everything, what began as a purely digital signal has a slightly different character to it. Buzz sounds don't travel through air. When you hook a generator up to the master, you're hearing a pure sound. Sure, there is some randomness from aliasing and mathematical rounding, but it's a digital randomness, not an analog randomness that many people find gives the sound "warmth". Now, I realize there are a few genres out there that rely on this pureness of sound, but the rest of producers-whether producing techno, trance, drum 'n bass, hip-hop, industrial, or what have you-are probably in search of something that sounds more "real", which is one of the primary reasons people complain about buzz.

So how do we make Buzz sound more "real", or "phat", or "dope", or "less cheezy"? Simple: you gotta learn how to use effects and use them well. Remember when I said a cheap "real" keyboard sometimes sounds better than the best Buzz generator? Well, besides the "air" I talked about, a lot of keyboard usually have built in effects. The FSM Infector would probably blow any of those \$2000 virtual analogs out of the water if it had built in chorus and reverb, but that's not the point of Buzz. One of Buzz's strengths lies in the fact that it is a modular system, meaning you can hook nearly anything up to nearly anything else. So quit clamoring for a machine that makes better pads and learn how to use effects to do it yourself!

I'm going to start with chorus, since it is pretty basic and near the beginning of the alphabet. Chorus=phat. There really isn't any other way to explain it, and phatness is probably what 90% of people use chorus for. What chorus does is take several copies of the sound and detune them just enough so that the sound still sounds in tune, but thicker. This is great for almost all synth leads, pads, funk basslines, guitar samples, vocals. Keep most of the parameters low so the effect is subtle and tasty. More extreme settings can give you a flange effect (discussed more below) or a vibrato effect.

The flanger is a very similar effect to the chorus, and at certain settings, one can sound like the other. But while a chorus moves copies of the sound up and down the frequency spectrum, the flanger moves sounds back and forth on the time line. The result is a sort of jet-like swooshing that results from phase-cancellation and other sound goodies. Flange is used mostly for special effect sounds, but it is useful on pads too.

Distortion is pretty self-explanatory. There are almost as many different types of distortion as there are colors of pants. In my not-so-humble opinion, distortion is anything that transforms a sound in an unmusical way. My 4 year old cousin can put a distortion pedal on a guitar and sound good. Ok, I'm only kidding, I like distortion just as

much as anyone else, and I know that some distortions can be just as "musical" as anything else. I'm not going to say much about distortion since it is very easy to figure out and most people know if they want to use it or not. Try very subtle settings on leads and drums for a little bit of bite. And for goodness sakes, put a limiter on that thing! (More on that in a future article).

Delay, too, is pretty obvious. I'm sure many people can figure this out on their own, judging by the popularity of Jeskola's Ninja Delay. The X-Delay is a cheap way to get some stereo spread, and there are some tricks for creating a fake-stereo spread with delay, but I'll address stereo spread in a future article (Oh, what a tease!). Let me just remind you all that most of the delay effects have a "dry-thru" switch or volume slider on that. Don't forget that you can turn the dry-thru off and route just the delayed signal through other effects.

Reverb, the golden God of effects! Good reverb is what separates the men from the boys, and the women from the girls. The pros from the Buzzers (hehehe, I couldn't resist! :) Fortunately, Buzz has some good quality reverbs that do pretty well against the hardware equivalents. Hey, if you have a couple thousand dollars to spare, go ahead and buy a "real" reverb, but I digress. Reverb is a sort of echo effect that everyone recognizes when they hear it, but for those who still don't have effect and word matched up, let me describe it as the effect you hear when you yell in a shower, or a cathedral. I'll bet reverb is used on probably 95% of any pro track, so learn to use it and learn to use it well. It's what most gives a track "air" and "space". Too bad for you guys with slower computers; it's also one of the most CPU-intensive plug-ins.

So here's a short list of tips for using reverbs, by no means inclusive:

- 1) Unless you're going for a special effect, the keyword is "subtlety".
- 2) Put lots of reverb on pads to give ambience and depth.
- 3) Though I haven't had much time to experiment with this tip, I've been reading lately that most pros only use two reverbs on tracks. One is a bright, plate reverb for vocals and some leads (there are presets in Sonic Verb and Lars Funkyverb for plate reverbs so you can experiment with those to see what I'm talking about). The other is a warmer, room or hall reverb. Using their fancy mixers with mixer aux's they just set the amount of reverb each track gets. This makes the track sound a lot more cohesive than giving each track a reverb with different settings (though that might be the weird vibe you're going for). If you don't know how to use the Jeskola mixer with mixer auxes yet, there's a tutorial at www.buzzmachines.com and probably several other Buzz sites. If your computer is too slow for that, then it's probably too slow to put a reverb on each separate track with the same settings. You might want to try putting a subtle reverb on the finished wave file in your favorite wave editor.
- 4) The Jeskola Reverb has a yummy, warm sound at high settings that is really good for ambient and pads, but be careful! You're gonna get a lot of DC offset if you do this. I'll

talk about DC offset in more detail in a future article, but for now, just know that it's something you want to avoid in 99% of cases, so put a DC fixer after the Reverb (effects>utilities>fixer in the advanced index).

5) I'm sure I said this before, but the key is subtlety! Too much reverb will muck your mix!

6) PS: some effects can have more than one track! Go to the pattern editor, create a new pattern, and hit ctrl-+ to create more tracks. This is useful, for example, for creating multi-tap delays (where you have a sound repeated every 3rd and 4th and 5th etc ticks) and many other unique effects. Experiment with this feature! The possibilities are endless.

Many other effects exist in Buzz and elsewhere. I will be delving into the dynamics, EQ, stereo, and other "mixing" effects in a future article. All the other effects are what I call "special effects". They have their uses, but most are either self-explanatory or easier to understand by experimenting. I'll leave that part up to you.

SAMPLES

Sampling is probably the earliest-known method of producing music known as man. In fact, music itself began when the first caveman took a sample of James Brown and turned it into the first "song".

Ok, obviously sampling has only been around since the advent of recorded music. But since then, it has matured into a sophisticated artform, even evolving into several forms of synthesis (granular to name one). First of all, when I talk about sampling, I'm not talking about stealing whole chunks of songs and rapping over them. I'm talking about manipulating, looping, transmogrifying and mangling recorded snippets into something you can call your own. Or making songs from sampling cd's. Some people frown on that, but again, it all depends on what you're doing.

The easiest way to get good at sampling is to spend months doing it yourself. Read about how other people sample; almost every interview with a hip-hop producer will give you several ideas for sampling. Really, there is no limit to how creative you can get with sampling. With that in mind, I will try to give you some pointers to start you out:

1) Start with high-quality samples. Garbage in, garbage out, simple as that. If you have your cat say "throw your hands in the air" into a crummy \$5 mic, no amount of effects will cause the party people to wave them around like they just don't care. (It will make your cat pretty famous though.)

2) With loops, you have to pay attention to pitch and tempo (if you don't know what those are, then it's time to learn some music theory :). The Mathilde Tracker and Looper II generators allow you to fit your loops to whatever tempo your song is at, but once you

change the tempo of a loop, you change the pitch. If you have two loops going that don't sound right, chances are that they don't have the same pitch or the same tempo.

3) Layer two or more different drum samples to beef up your rhythm tracks.

4) You can never have too many samples :) Just try to keep them organized on your computer. Otherwise you'll turn out like me and go mad whenever you're trying to find that perfect sound.

5) Chuck D and KRS-One are your friends. Just kidding. Be careful when you use samples. If you are just starting out and you find a really cool drum loop, chances are so has everyone else. If you think it fits, use it, but the key to sampling is creativity and originality. Change the sample into something different, or use it in a totally new way.

6) Don't forget the "C" word: copyright. Copyright is the musician's double edged sword- both a protector and an enemy. There is only one hard and fast rule to copyright: there are no hard and fast rules to copyright. Every copyright case is decided on a case by case basis. Learn as much as you can about copyright laws, and when in doubt, err on the safe side.

That's all for now. Next time, I will have an article on placing things in the mix, which will discuss stereo and EQ and all that good, gushy shtuff.

INFO ABOUT THE AUTHOR

I hope you enjoyed this article. I would love to hear your feedback, as well as any questions or concerns you have. I can be reached via email at hartboy100@yahoo.com. Don't be shy! Please don't ask me to critique songs, as I probably won't have time for that.

As for me, my name is Terry Hart, and I have been producing music in one form or another (rock, roll, electric) since I was 8 years-old. I have been Buzzing for over 4 years now. I go by the name Galactic Boy, and you can check that stuff out at <http://www.ampcast.com/galacticboy>. Especially if you find any of these articles useful (shameless plug!). I also have some tracks at <http://scene.de>, just run a search for Galactic Boy.

INTRODUCTION

Welcome to the second in my series of articles designed to help you make your Buzz sound better. I often think of Buzz as one of the world's best recording studio, except everything is packed up in the boxes it came in and in another room. It's no wonder newbies have such a hard time getting something good out of it!

But enough blather. Last time, I gave you some tips on using generators, effects, and samples more effectively to get you a beefier, more "pro" sound. This time around, I'm going to share my god-like wisdom of equalization (EQ) and stereo to help you get a better "mix". Note that this won't help you write better songs, it will just help you make them sound really good.

I lumped EQ and stereo together because these two techniques are the basis for placing sounds in your mix. Imagine a giant, blank wall. As you go from left to right, imagine that is your stereo field. Up and down is your frequency spectrum, where the bottom of the wall is the bottom of the spectrum, the tubthumping bass, and as you go up, the frequency gets higher till you're at the top with the highest of the faerie tinklebells. Every sound, whether real or generated in Buzz, occupies a place on this wall. Most dry sounds (when I say dry, I mean a sound without any effects) only occupy a skinny left to right area. However, they usually occupy a pretty large top to bottom area, unless you're working with pure sine waves, which only occupy a single point up and down. A good sounding mix will have most of the wall filled up with little overlap.

Did I lose you? Stick with me, I'm going to break this discussion up and deal with the up and down areas and the left to right areas separately.

EQ

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Let's start with the up and down areas first. As I said before, up and down on the wall translates to up and down on the frequency spectrum. Let's start by placing some "real-life" instruments on the wall, courtesy of your friendly neighborhood rock and roll band.

The guitarist goes first since he has the biggest ego. He plays his chords and tired blues riffs, and they get splattered onto the wall. The first thing you'll notice is that he gets splatter almost all the way up and down, since this is a characteristic of almost all real-life sounds. However, the splatter at the very bottom and very top is just a teeny bit of splatter. The real splatter starts around 200hz and gets really thick in the 500-700hz range. It stays pretty thick through the first couple thousand hz range, with a little dark spot near 2000 or 3000hz where the mic picked up his string-picking noise. Then, it gradually gets lighter above that, till it's almost gone by the time it reaches 8000-10000hz.

Next, the bassist comes in. Woah! It really got dark near the bottom of the wall! You can notice splatter starting down near 40-50hz, and it just gets crazy from 80-180hz. There's a good deal of it below 1000hz, and just a tiny dark patch around 1500-2000hz from his finger-picking. Not much is above that.

The drummer finally comes, late as usual, and puts his splatter on the wall. He succeeds in just making a mess. His kick drum covers up the bassist's low splatter, his snare drum goes on top of the already busy 400-700hz area, with the snap of the drum adding splatter in the 2000-3000hz range. To top it off, his cymbals nearly cover the 2000-10000hz part of the wall.

What a mess! And then they start singing! You've got a pretty heavy splatter from 300-2000hz. Who's gonna clean this up? I guess it's up to our friend, EQ.

Of course, you're using Buzz, so you're not making real, er...i mean live, music, but you're going to run into the same mess. Many popular genres will have a bassline and bass drum fighting it out on the bottom, a big mess of harmonies and lead lines in the middle, and not too much on the high end. This ends up sounding like garbage, a big mess of garbage. Many people make their song, it turns out like this, and they realize they can't hear that cool pad, so they turn it up. Then they can't hear their lead, so they turn it up. And their bass drum doesn't have enough punch, so they turn it up. Noooo! Even worse than before!

What to do? Enough crap, Terry, we already know you're going to say "use EQ", it's not like it's a surprise by now! Ok! I hear you! Let's start with the basics of EQ. I highly recommend reading up on EQ as it is one of your most powerful tools for making a good mix. I'm only going to give you the back-of-the-cereal-box version here.

You have two major brands of EQ, which you'll find in Buzz and in real-life studios: Graphic and parametric. If you've ever seen those columns of sliders, you've seen graphic EQ. You can cut or boost specified bands of EQ. Parametric EQ consists of three parts. First is a low cut, which cuts everything below a specified frequency. Next is a high cut, which cuts above a specified frequency. Finally, you can specify specific frequencies to cut or boost, although the amount of specific frequencies you can have in one unit depends on the EQ unit.

I hope I didn't lose you. The internet and your local library has much better resources to learn more about this stuff. If you didn't understand what I've been talking about, don't worry. I'm going to get to the really useful stuff now. Tips on how to use EQ to make a good mix:

- 1) First of all, you should have enough generators to get a good frequency range without any additional effects. That means you should have something in the low end, like a bass, something in the middle, like a pad, and something near the top, like a lead. Most people will be writing their songs like this anyway, unless they're really doing something wrong.
- 2) As a corollary to number 1, you should make sure you don't have too many generators in the same band. Two or three is alright, but the more you add, the thicker you're going to make that area of the frequency spectrum. It will drown out sounds that are lower and higher, and you will have to work harder to make sure you can hear each of the individual sounds. A good rule of thumb is that the lower you go, the less sounds you can have overlapping. That's why you don't see too many bands with two basses, and that's why orchestras have 50 violins and only a few cellos.
- 3) The key to effective EQ is cutting and not boosting. Instead of giving that saw-wave more mid-frequencies, cut the lower and higher frequencies. Remember, you want to add space to your mix since there's probably a lot of overlapping frequencies to begin with.

These are good tips, but you still might be wandering around, scratching your head, and wondering where to start with EQ. So, I have designed a little step-by-step walkthrough. For the purposes of this article, let's say you're producing, oh...trance. You've got your beefy bass drum kicking out on every beat, with snares and hi-hats adding rhythm. You've got a phunky bass line chugging away, with a nice pad overtop of that. You've got a couple acid lines ripping out riffs, and a phat lead blistering away. Let's EQ, shall we?

1) Make your cuts first. Cut everything from 20hz and below! This is inaudible rumble that most speakers can't even pick up. It just makes everything work harder, mucks up your mix and doesn't add anything. Go ahead, be bold and cut everything below 40hz! I heard of a drum 'n bass producer who would cut everything from 60hz and below! But Terry, that's where the BOOOM comes from. True. If you're producing for headphones or regular stereos, you probably don't want to cut that high. Club sound systems might benefit from the cuts, as they add bass to most tracks through sonic processing. Above all, trust your ears, and listen to your mix on as many different sound systems to hear what works and not. I just like adding as much space in my mix to let it breathe and sparkle. Usually what I do is cut everything besides my bassline and bass drum from 80hz and below, as that gives your bass more room to thump.

Your bassline and bass drum are probably feeling left out now since everything else got to be cut. Well, why don't you cut all the high frequencies out of them to make them feel better! Careful though, your bass drum might have a bit of a high frequency at the very beginning to give it some character, so don't cut too high. On second thought, these bass guys might be better off with a different kind of EQ than a high-cut, so we'll save them for later.

Cut the low end from your hi-hats pretty high, even as high as 500-700hz. They still sound like hi-hats, but you're giving the rest of the instruments room to flex their muscles.

Cut the rest of the sounds as you feel fit. If the sound doesn't have much high-end, cut it! Same goes for low-end! You want to give your sounds room to sound. Keep in mind that most sounds have a specific set of frequencies that give them their character and make them recognizable. The rest is usually just noise.

2) Ok, so by now, hopefully all your sounds have enough room to sit in the mix. The pads aren't pushing the bass away, the hats aren't sitting on the lead, etc. This next step I call minor adjustments. Like I explained about the basses before, their power comes from the lower frequencies, but their character actually sits higher in the mix, probably around the lead. If you cut it out, your bass could sound muddy or too quiet. And obviously you can't cut the other sounds out since they're the ones that are supposed to be there. What you have to do now is make minor adjustments to each of the sounds so that even though they overlap in the frequency spectrum, they mix well. Graphic EQ is good for this, as is parametric EQ. One trick: using the Automaton parametric EQ, create a pattern for it and add more tracks using ctrl-+. You can have as many bands of EQ to play with as your computer can handle!

The key to adjusting EQ is figuring out which frequencies are important to sound and which just take up space. Most sounds will have a wide band of sound that gives them their oomph, and then one or more narrow bands of higher frequencies that give them their character. For example, your bassline will have a wide band from 60-180hz for its oomph, and probably a narrow band around 800 or 1000 or sometimes 1500-2000 that gives it some punch. It takes a lot of trial and error to figure all these frequencies out, but it gets a lot easier the more you do it, and there are a lot of resources out there to help you. Just experiment. Hopefully the result will be a very nice sounding mix, with a pumping bass, some nice chunky mids, and sparkling highs.

STEREO

Luckily for me and you, stereo is a lot easier to explain and understand. You probably already have a good idea what it is, so I'll dive right in and tell you how to use it to get a better sounding mix. Let's say you've made a quick song in Buzz. You just plugged some notes into generators, ran them through a few effects and threw them straight into the master. You've even EQ'd them using my tips. But your mix still sounds dull, a little mushy, and not quite "pro". Well, take a look at the wall! You've got a nice up and down spread, but it's all

crowded at the middle of the wall. Remember, to get a really good sounding mix, you gotta cover the whole thing.

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Well, I hope this has been helpful. By now, you're probably realizing that getting a good sound out of Buzz is a lot more difficult and complex than it first seemed. But don't worry, it's very rewarding.

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As for me, my name is Terry Hart, and I have been producing music in one form or another (rock, roll, electric) since I was 8 years-old. I have been Buzzing for over 4 years now. I go by the name Galactic Boy, and you can check that stuff out at <http://www.ampcast.com/galacticboy>. Especially if you find any of these articles useful (shameless plug!). I also have some tracks at <http://scene.de>, just run a search for Galactic Boy.

INTRODUCTION

Welcome to the second in my series of articles designed to help you make your Buzz sound better. I often think of Buzz as one of the world's best recording studio, except everything is packed up in the boxes it came in and in another room. It's no wonder newbies have such a hard time getting something good out of it!

But enough blather. Last time, I gave you some tips on using generators, effects, and samples more effectively to get you a beefier, more "pro" sound. This time around, I'm going to share my god-like wisdom of equalization (EQ) and stereo to help you get a better "mix". Note that this won't help you write better songs, it will just help you make them sound really good.

I lumped EQ and stereo together because these two techniques are the basis for placing sounds in your mix. Imagine a giant, blank wall. As you go from left to right, imagine that is your stereo field. Up and down is your frequency spectrum, where the bottom of the wall is the bottom of the spectrum, the tubthumping bass, and as you go up, the frequency gets higher till you're at the top with the highest of the faerie tinklebells. Every sound, whether real or generated in Buzz, occupies a place on this wall. Most dry sounds (when I say dry, I mean a sound without any effects) only occupy a skinny left to right area. However, they usually occupy a pretty large top to bottom area, unless you're working with pure sine waves, which only occupy a single point up and down. A good sounding mix will have most of the wall filled up with little overlap.

Did I lose you? Stick with me, I'm going to break this discussion up and deal with the up and down areas and the left to right areas separately.

EQ

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Let's start with the up and down areas first. As I said before, up and down on the wall translates to up and down on the frequency spectrum. Let's start by placing some "real-life" instruments on the wall, courtesy of your friendly neighborhood rock and roll band.

The guitarist goes first since he has the biggest ego. He plays his chords and tired blues riffs, and they get splattered onto the wall. The first thing you'll notice is that he gets splatter almost all the way up and down, since this is a characteristics of almost all real-life sounds. However, the splatter at the very bottom and very top is just a teeny bit of splatter. The real splatter starts around 200hz and gets really thick in the 500-700hz range. It stays pretty thick through the first couple thousand hz range, with a little dark spot near 2000 or 3000hz where the mic picked up his string-picking noise. Then, it gradually gets lighter above that, till it's almost gone by the time it reaches 8000-10000hz.

Next, the bassist comes in. Woah! It really got dark near the bottom of the wall! You can notice splatter starting down near 40-50hz, and it just gets crazy from 80-180hz. There's a good deal of it below 1000hz, and just a tiny dark patch around 1500-2000hz from his finger-picking. Not much is above that.

The drummer finally comes, late as usual, and puts his splatter on the wall. He succeeds in just making a mess. His kick drum covers up the bassist's low splatter, his snare drum goes on top of the already busy 400-700hz area, with the snap of the drum adding splatter in the 2000-3000hz range. To top it off, his cymbals nearly cover the 2000-10000hz part of the wall.

What a mess! And then they start singing! You've got a pretty heavy splatter from 300-2000hz. Who's gonna clean this up? I guess it's up to our friend, EQ.

Of course, you're using Buzz, so you're not making real, er...i mean live, music, but you're going to run into the same mess. Many popular genres will have a bassline and bass drum fighting it out on the bottom, a big mess of harmonies and lead lines in the middle, and not too much on the high end. This ends up sounding like garbage, a big mess of garbage. Many people make their song, it turns out like this, and they realize they can't hear that cool pad, so they turn it up. Then they can't hear their lead, so they turn it up. And their bass drum doesn't have enough punch, so they turn it up. Noooo! Even worse than before!

What to do? Enough crap, Terry, we already know you're going to say "use EQ", it's not like it's a surprise by now! Ok! I hear you! Let's start with the basics of EQ. I highly recommend reading up on EQ as it is one of your most powerful tools for making a good mix. I'm only going to give you the back-of-the-cereal-box version here.

You have two major brands of EQ, which you'll find in Buzz and in real-life studios: Graphic and parametric. If you've ever seen those columns of sliders, you've seen graphic EQ. You can cut or boost specified bands of EQ. Parametric EQ consists of three parts. First is a low cut, which cuts everything below a specified frequency. Next is a high cut, which cuts above a specified frequency. Finally, you can specify specific frequencies to cut or boost, although the amount of specific frequencies you can have in one unit depends on the EQ unit.

I hope I didn't lose you. The internet and your local library has much better resources to learn more about this stuff. If you didn't understand what I've been talking about, don't worry. I'm going to get to the really useful stuff now. Tips on how to use EQ to make a good mix:

- 1) First of all, you should have enough generators to get a good frequency range without any additional effects. That means you should have something in the low end, like a bass, something in the middle, like a pad, and something near the top, like a lead. Most people will be writing their songs like this anyway, unless they're really doing something wrong.
- 2) As a corollary to number 1, you should make sure you don't have too many generators in the same band. Two or three is alright, but the more you add, the thicker you're going to make that area of the frequency spectrum. It will drown out sounds that are lower and higher, and you will have to work harder to make sure you can hear each of the individual sounds. A good rule of thumb is that the lower you go, the less sounds you can have overlapping. That's why you don't see too many bands with two basses, and that's why orchestras have 50 violins and only a few cellos.
- 3) The key to effective EQ is cutting and not boosting. Instead of giving that saw-wave more mid-frequencies, cut the lower and higher frequencies. Remember, you want to add space to your mix since there's probably a lot of overlapping frequencies to begin with.

These are good tips, but you still might be wandering around, scratching your head, and wondering where to start with EQ. So, I have designed a little step-by-step walkthrough. For the purposes of this article, let's say you're producing, oh...trance. You've got your beefy bass drum kicking out on every beat, with snares and hi-hats adding rhythm. You've got a phunky bass line chugging away, with a nice pad overtop of that. You've got a couple acid lines ripping out riffs, and a phat lead blistering away. Let's EQ, shall we?

1) Make your cuts first. Cut everything from 20hz and below! This is inaudible rumble that most speakers can't even pick up. It just makes everything work harder, mucks up your mix and doesn't add anything. Go ahead, be bold and cut everything below 40hz! I heard of a drum 'n bass producer who would cut everything from 60hz and below! But Terry, that's where the BOOOM comes from. True. If you're producing for headphones or regular stereos, you probably don't want to cut that high. Club sound systems might benefit from the cuts, as they add bass to most tracks through sonic processing. Above all, trust your ears, and listen to your mix on as many different sound systems to hear what works and not. I just like adding as much space in my mix to let it breathe and sparkle. Usually what I do is cut everything besides my bassline and bass drum from 80hz and below, as that gives your bass more room to thump.

Your bassline and bass drum are probably feeling left out now since everything else got to be cut. Well, why don't you cut all the high frequencies out of them to make them feel better! Careful though, your bass drum might have a bit of a high frequency at the very beginning to give it some character, so don't cut too high. On second thought, these bass guys might be better off with a different kind of EQ than a high-cut, so we'll save them for later.

Cut the low end from your hi-hats pretty high, even as high as 500-700hz. They still sound like hi-hats, but you're giving the rest of the instruments room to flex their muscles.

Cut the rest of the sounds as you feel fit. If the sound doesn't have much high-end, cut it! Same goes for low-end! You want to give your sounds room to sound. Keep in mind that most sounds have a specific set of frequencies that give them their character and make them recognizable. The rest is usually just noise.

2) Ok, so by now, hopefully all your sounds have enough room to sit in the mix. The pads aren't pushing the bass away, the hats aren't sitting on the lead, etc. This next step I call minor adjustments. Like I explained about the basses before, their power comes from the lower frequencies, but their character actually sits higher in the mix, probably around the lead. If you cut it out, your bass could sound muddy or too quiet. And obviously you can't cut the other sounds out since they're the ones that are supposed to be there. What you have to do now is make minor adjustments to each of the sounds so that even though they overlap in the frequency spectrum, they mix well. Graphic EQ is good for this, as is parametric EQ. One trick: using the Automaton parametric EQ, create a pattern for it and add more tracks using ctrl-+. You can have as many bands of EQ to play with as your computer can handle!

The key to adjusting EQ is figuring out which frequencies are important to sound and which just take up space. Most sounds will have a wide band of sound that gives them their oomph, and then one or more narrow bands of higher frequencies that give them their character. For example, your bassline will have a wide band from 60-180hz for its oomph, and probably a narrow band around 800 or 1000 or sometimes 1500-2000 that gives it some punch. It takes a lot of trial and error to figure all these frequencies out, but it gets a lot easier the more you do it, and there are a lot of resources out there to help you. Just experiment. Hopefully the result will be a very nice sounding mix, with a pumping bass, some nice chunky mids, and sparkling highs.

STEREO

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