

# Using loops in worship

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“How do I successfully integrate loops (and other pre-recorded material) into a live situation?”

Other related questions:

1. What kinds of sounds or loops do you use?
2. Where do you get these or how do you create them?
3. How do you get them to fit into a song? That is do you decide on a song structure first and plan loops to fit that structure, or do just play over a set loop that runs throughout the song?
4. What kinds of equipment can be used to play loops in a live situation?
5. How do you make sure that the band members who need to can hear the loops?

Before we start thinking about this, let's get over the “but that's cheating” thing. I think in this age of glorified karaoke on television, many musicians are a bit frustrated at seeing “live” performances that are anything but, with dancers lip-syncing to a backing track. Personally I am a fan of seeing real musicians playing their instruments, with all of the risk and excitement that can bring in a live setting, and can think of bands who still perform like this, just them and their instruments. But let's face it, the production values of music have changed since guitars were invented, and there are a lot of new soundscapes worth exploring that can add hugely to the expressive power of music in any context. This is especially in worship, where with the demise of the church organ we are sometimes lacking the sounds to express our response to the grandeur, the awesomeness, the otherness of God. Certainly, using acoustic guitars, piano, flute, drums and such instruments as are usually found in the churches I am used to attending, we can express a lot of fantastic things. But no matter how proficient we get at playing our instruments, there are places where we just run out of vocabulary – and part of being made in our Creator's image is that we get to make something new, to chase after what we hear in our heads! So we can invent new instruments, or use instruments from other cultures, put together unusual combinations of instruments, use orchestras, choirs ... and then if we're recording, it is possible to manipulate these sounds to create even more possibility. But when it comes to producing these sounds in a live situation, it becomes more complex. It's not always feasible to have a choir, a percussionist, an orchestra – and even if you could, it is still just plain impossible to create some sounds in a live context that you can in a studio. I recently went to a Peter Gabriel concert and was blown away by the breadth and depth of the sounds that I heard in one evening – four people singing an acapella introduction to one song, just PG and a piano on another, all the way to the densest, hugest, most organic sound I have ever heard live, with a vocal sample from the fantastic Pakistani singer, Nusrat Fateh Ali Khan, many layers of percussion, other sound loops, and all of this integrated into a band – drummer, bassist, keyboard player, two guitarists, a backing vocalist and PG – of great musicians. It was an amazingly creative, diverse and inclusive sound, drawing from many cultures and styles of music, and I couldn't help but contrast this feast with the generic sound of so much of our worship music. Now I don't know the details of Peter Gabriel's faith, but the sounds he creates point to something way bigger than himself. I long for such sounds to be more a part of my musical expression of worship of our big, wild and tender God.

If you're still thinking “this is all unnecessary, why can't we just worship” that's fine too; we know that God is more interested in our hearts than in the sounds we make. But if you know this and still want to increase your sonic vocabulary, read on.

So firstly, what kinds of loops can be used? The most common are drum or percussion loops, which can be used either on their own as an accompaniment to other instruments if you have no drummer, or as something that a drummer plays along with to add texture and colour to the music. Because most drum loops are relatively free of pitched elements – that is, sounds that are tuned to a particular note – the same loop can still be used if the song is played in a different key. Other kinds of loops such as keyboard riffs, arpeggiator-type effects, vocal samples, ambient sounds etc can also be used, but these are less flexible and need to be used more carefully. But generally, to answer the question about what kind of sounds to use, use whatever grabs your imagination and works with the music!

Now let's get onto the specifics. There are simpler and more complicated ways of going about using loops, depending on how much detail and flexibility you want in the song structure and

arrangement.

- If you are happy always doing a song the same way, possibly working with the same team of musicians regularly, and able to rehearse carefully, you have a lot of freedom in the amount of detail and variation in the loop elements that you use.
- If, on the other hand, you are happy using very simple, unvarying loop elements that can run from start to finish in a song no matter what the structure, then you can easily have a lot of freedom to spontaneously change songs as you are playing them, or to work with different bands and still retain a recognisable feel in a song.

We'll consider these scenarios first before getting onto the more difficult one: trying to have the flexibility to have a lot of variation in the loop elements as well as in the structure of songs.

### **Scenario 1: the same loop running from start to finish throughout a song.**

The simplest situation is where you have one loop that runs throughout the song. Here you need to be able to find a suitable loop, find something to play it on, be able to start it at the beginning of the song, end it at the end, and have everyone in the band and audience hear it. Finding a suitable loop is a matter of taste. Many modern keyboards have a selection of built in loops which can be played back at different tempos, and this is probably the easiest way to start doing this: the keyboard player starts the loop when necessary, everyone hears it through their monitors, and begins to play along. Although this is simple it can be very effective – a change too from starting every song with acoustic guitar. A little rehearsal is needed to make sure that the tempo is correct, and that everyone – especially the drummer - can hear the loop. For many drummers who've played for years with live musicians, it can initially be a bit surprising to realise how much loops can speed up and slow down over the course of a song, when you would expect them to stay at more or less the same tempo.

Similar to this scenario is using a dedicated drum or loop module, although with these you often have a bit more flexibility in being able to alter loops.

Next up from this in the complexity scale is using a loop from one of the many excellent sample CD collections out there, or from an old jazz record, or anywhere else that you can think of. The added complication here is that you may end up only having one or two bars of something you like, and it may be at the wrong tempo. Here you need use of a sampler or a computer with sound editing software, to turn that snippet into something that repeats itself over and over – ie a loop – at the correct tempo. This is quite simple to do – just ensure that the snippet you have is a whole number of bars to start with to avoid weird lurches as it repeats.

There are two main techniques for adjusting the tempo of a loop: changing the pitch or timestretching. To do this you need a sampler or a computer. - If it is something like a drum or percussion loop, and has no important pitch elements in it, the tempo can be changed by using a sampler to play back the loop at a different pitch – higher pitch for faster tempo, and vice versa. This technique is great too in that it can give a normal sounding drum loop an unusual sound. - Alternatively, the tempo can be adjusted by using audio-editing software on a computer to timestretch the loop. This works equally well on any kind of loop, as the pitch remains unaltered; the downside is that it only works subtly for small changes – trying to slow a loop down to halfspeed doing this will introduce weird digital “artifacts”, which, if you don't want them, can be very annoying.

Then there are some more advanced techniques, some of which involve cutting a loop into little slices, lengthening each slice individually by stretching and/or looping it, and then playing back each little slice at exactly the right moment to recreate the feel of the original loop. It sounds quite complicated, but the technique has been automated in such software as

. Many sample CDs too come with “Groove Control” loops, which are basically a pairing of a loop sample and a midi file that is used in a sequencer to play back the sample. This system enables audio samples to be played back at varying tempos, and even slowed down and sped up within a song – something which is impossible to do just using whole one or two bar loop and traditional techniques. However there is other software available such as which is great for this – it will enable you to construct a loop track with various short loops, layering them, matching tempos, and finally outputting the sound as a file that can be burned to a CD.

So let's assume that you've chosen your loops, adjusted the tempos if necessary to fit the song, and made a track long enough to play for the duration song (with a bit extra to give some room for manoeuvring). The next step is to record it to something that can be used to play it back. Minidisks were a favourite for a long while, as well as DAT machines but more recently something like an mp3 player would be a good option; if using a CD to play back from, use a CD walkman with good shock protection to avoid the loop jumping. This can be very unsettling to try and play along with.

A few tricks:

1. to avoid having to fiddle about stopping and starting a loop, if you want to use a loop on only one song in a set, record a really long piece of it and run it through a volume pedal, starting it running with the volume down at some convenient time. Then when you need it, as if by magic ... step on the pedal and it appears to materialize right before your very ears.
2. to get away from having to have the loop start at the very beginning of a song, split the signal, and have one signal with a separate on-off switch running to a separate, secret monitor such as a walkman earplug. Then leader or drummer or whoever needs to can begin to play along in tempo to the loop in his or her ear, and bring it into the main mix when needed, again by a volume pedal.
3. if you want to use a different loop on each of two songs in one set, record separate loops on the left and right stereo channels, and either run each side to separate mono volume pedals or to a little mixer and continue as above.
4. to get away from the boredom factor that can set in when the same one bar loop runs from start to finish through a four minute song, run the loop through some kind of easily switchable sound processor like a guitar pedal and vary the loop's sound between various parts of the song. Experiment a little with distortion, flanging, phasing – whatever you have lying around.

### **Scenario 2: using a variety of loops but a set structure in a song.**

If you are able to always do a song in the same way, then there is no limit to what kinds of sounds you can use. What you want to end up with is essentially a track that the band will play along with. The challenge here is the same as in recording a song – to find the musical and rhythmic elements that are going to enhance and structure the song – and it is easiest to approach this as you would a recording in order to create the loop track. It is helpful to start first with a map of the song – what bits follow what bits, the time signatures and tempos of different sections (if these happen to vary – otherwise just the time signature and tempo of the song). Then lay down a click track as a reference and begin to build up the pieces – what's going to happen in the intro, what in the first verse, and so on. The techniques mentioned earlier for matching the tempos of loops to the song will be useful here too.

Using this kind of loop track is a little more complicated too, as now starting a bar early or late is soon going to mess you around when the loop track kicks into the chorus at a different time to the rest of the band. And once you're in, you're in, so if all goes wrong either you need to stop the song and start again, or drop the loop track and finish the song without it, neither of which is a good solution. So the motto here is PRACTICE, and have a very clear, unambiguous signal for when the band will come in. If you plan to run this in stereo off a two track, it will be necessary to have some rhythmic element running all the way through. You don't want to be breaking down to an ambient pad for 4 bars, with the whole band trying to guess when the loop is going to come back in. But it's not always essential to be running loops in stereo live – in many settings the PA is run in mono anyway, so you might as well use one of the two tracks for a click or reference track to send to the drummer and anyone else who needs it to. This can open up options for the arrangement of a track, allowing for bars of silence or less tempo-specific loops to be used.

Moving up the complexity scale again, this time in terms of the equipment used to play the loops back, something that can add a lot of flexibility is actually having a multitrack recorder on stage. Having more than two tracks available can enable a stereo loop track to be running as well as a click track for the drummer, and perhaps another optional loop layer that can be brought in if necessary. There are loads of little standalone recorders which would be great for this – some even have built-in drum machines and faders for hands-on mixing of your loop layers. This may be restating the obvious, but the more this all begins to get, the more important it is that the band is well rehearsed, and that all the necessary switching on and off of loops etc is done seamlessly. If you intend this being a big part of your sound, it may be worth thinking of having someone dedicated to running all this extra stuff. DJs are usually great at this, as well as being clued up on where to get the best beats, and how to muck about with them. It bears mention to that the person

running these things doesn't necessarily even have to be on the stage, just near enough to communicate easily with the band members.

### **Scenario 3: Using a variety of loops in flexible song structures.**

The next step up in terms of flexibility is to have a computer on stage. Running the right software, this can be used to do anything that has been discussed above, as well as opening the door to even more flexibility of tempo, structure etc. In terms of what computer to use, this is a matter of personal preference. With the faster, Firewire-based audio interfaces now available, laptops can now do pretty much anything a desktop can, and are easier to travel with and set up. Personally I have found Apple Macs more stable and trustworthy than PCs for using in both live and recording environments, but I'm sure there must be someone out there who disagrees. Essentially use what you have and what you're comfortable with, but if you are buying something specifically for this, get a Mac!

So why have a computer onstage? For one thing it can function as a multitrack recorder as discussed above, running pre-arranged tracks from software like Logic Audio or Pro Tools with an appropriate audio interface. This could enable you to run several different kinds of loops layered with one another, and to switch these in and out appropriately to match the dynamic of the song. If all of the loops used are Groove Control loops, or are sliced up using software such as Recycle, the tempo can be varied in real time too – very useful in a worship context, where a song may be used in a variety of ways.

Another very clever piece of software is [Ableton Live](#). It is advertised as “an audio sequencer that you can play like an instrument” and will enable any loop to be dropped in or out of a sequence as it plays, effects to be added and tweaked, even the tempo to be varied – all in real time. Really, in terms of using loops in a live situation, this is the most versatile piece of software available. It even enables you to record a live performance, and so works as a very intuitive, inspiring arranging tool – often when arranging loops it is easy to forget the best ideas because they take so long to implement. With “Live” this kind of arrangement can be done seamlessly, on the fly.

So “Live” brings us to this point: any loop that you have on the computer can be instantly integrated into a song as it plays, and altered using the built-in effects. This enables a song to be done slightly differently each time it is played, with the ability to improvise moods and structures – played like an instrument, in other words, but one that can manipulate and play back any sound you can lay your hands on.

What often puts people off using loops live is the fear of losing spontaneity, and there always seems to be this tension between being tied into a rigid structure and having the freedom to change your mind halfway through a song. It is up to each of us as musicians and worship leaders to decide on the values we see as important in how we play and lead, but the variety of techniques and equipment available means that if you do want to explore using loops, there are ways to do it that will fit in with almost any musical context. Have fun, and worship with all of your imagination.