

John Shaughnessy's Guitar Synth Tutorial

Chapter 1: Introduction

It's hard to think of another instrument that has been both so acclaimed and so reviled; Has inspired the greatest minds in the music instrument industry to risk everything to perfect it, yet doomed nearly all attempts to financial ruin; Has been hyped as the "future" of the instrument, yet continually shrouded in mystery; Has played on hit records and stadium tours, and gathered dust under the bed or in the pawn shop as "unusable"; Has been the subject of more myths and misconceptions among users and non-users alike about it's abilities and shortcomings...than the guitar synthesizer.

The goal of this series is to address some of these misconceptions and give you a practical, functional guide to using your synth and keep it from becoming your expensive new paperweight.

I hope to make sense of the jungle of cables and menus and terms, both for those who own a guitar synth, and those who think they might want to own one. If this series keeps even one synth from being sold on eBay because "it doesn't work", then I've done my job.

A quick note: This is not a "history of guitar synths" or "An EE's guide to building/hacking synths". Since I am neither a historian nor an engineer, It's (hopefully) written from a player's perspective, in plain English. As such I'm going to skip over the technical details, except where you absolutely NEED to know them.

Also, I'm not going to go into serious technical detail on specs or menus, or tell you which is the "best one" to buy. Not only would that be impractical; but from a players perspective, you don't need to confuse yourself with knowing what this or that button does if you'll never use it! So I'm keeping all of that stuff on a "need to know" basis. Once you get the hang of it you can explore the advanced features on your own.

With that in mind, let's get started with the most obvious question:

Why should I buy/use a guitar synthesizer?

Glad you asked! A guitar synthesizer is basically a tool that allows your guitar or bass to access sounds and control other devices in a way that is usually only available to keyboardists, drum machines, samplers, and the like. The basic idea is that your string pitches are either: Processed like a synthesizer tone (for analog/pre MIDI synths), or converted into MIDI information and used to communicate with other MIDI instruments (for MIDI synths).

What can you do with a guitar synth? Well you could:

- Use a synth to cover ANY synth part from any song using just your guitar. – such as the steel drum part on “Margaritaville” (burned into my brain from a gig I saw once);
- You can answer an ad for “keyboardist wanted”.
- You can avoid hiring one (or more) extra band members, with less money and (fame) to split.
- You can use it to lay down “pads” underneath as you play a guitar solo or accompany another soloist.
- You can use it to play drums (as The Flecktones “Futureman” Wooten does).
- You can play bass/chord/melody solo guitar by setting the first two strings an octave lower on your synth, and playing the rest normally (GREAT sound, BTW);
- You can play bass/chord/melody solo guitar by setting the first two strings an octave lower on your synth, and setting the rest of the strings to a different sound or sounds.
- You can play a different synthesizer sound module or keyboard on each string.
- You can use it to turn your guitar into a bass, a bass into a guitar, and/or double your natural sound an octave apart.
- You can have THE fattest, funkier bass synth sounds (better than ANY pedal) at your fingertips – whether you play bass or guitar - and control parameters like pitch or filter in a way pedals can’t match.
- You can use it to transcribe music to a computer transcription program. Play your guitar, and both note AND Tab will print out instantly.
- You can generate MIDI files that can later be turned into transcriptions, or turned into audio using any sounds you want.
- You can save a lot of money and studio time by creating MIDI files at home, and playing them back/recording through someone else’s studio quality sound generators.
- You can use virtually ANY MIDI device to control the parameters of your sound – knobs, buttons, sliders, wheels, strips, breath controllers, etc. can all be programmed and reprogrammed to do whatever you want.

- You can use it on solo gigs, to give yourself an instant “backing track” or “change” instruments.
- You can use it to trigger samples – either “one shot” or multitimbral - just like MPC style trigger pads do.
- You can use it to make crazy sounds that no one has heard of.
- You can use it to play sounds and “tweak” them on the fly, just like an analog synth.
- You can switch between natural and synth sounds and “trade licks” with yourself.
- You can use it to control the sounds and parameters of virtually any MIDI device connected to it.
- You can play other keyboard synthesizers using only your guitar.
- You can convert your guitar pitches into “control voltages” and play analog synths.
- And almost anything else you can think of.

That’s pretty amazing stuff. In fact, I would suggest that the first step is not getting the guitar synth to work; it’s in figuring out what YOU want it to do.

What happens is that guitarists think like, well, guitarists – they take the thing out of the box, plug it in, play whatever licks they always play when trying out FX pedals, and expect the London Symphony Orchestra to jump out of the speakers, accompanying their every nuance while playing “Smoke On The Water”. When that doesn’t happen, they then deem it to be “junk” and stick it back in the box until they sell it for a loss. I’ve seen this scenario play out over and over again, which is why I’m writing this.

So, let’s call this John’s First Rule of Guitar Synthesis :

A guitar synthesizer is not – repeat NOT – an FX pedal. It is NOT “plug and play”. It is an instrument, and like any instrument, it takes some time to learn how to play it well. Treating it like an FX pedal will virtually GUARANTEE that it will not work as you want it to.

Patience and an open mind are the keys here. Accept that there’s a learning curve to this, and it will go much quicker.

I'd like you to consider a couple more concepts before this section ends:

First, as you have seen, there are an awful lot of things you can do with a guitar synth. Almost TOO MANY things.

The FIRST question you should ask yourself then, is "What do I want this thing to do?".

The reason is, although you CAN do a lot of things with a guitar synth, each thing takes a specific approach, and one configuration may not be compatible with another or easily accessible on the fly. For example, using your guitar synth to trigger analog synths, transcribe parts, play a solo gig, and play bass each take a completely different approach and setup. You can use one synth for all of these applications, sure. But the way it's configured, the way the guitar is set up, the patches you'll need to write, and the other gear you'll need, make each situation unique.

So think about what it is you want to do with your synth BEFORE you plunk down the cash. You can have more than one thing in mind, but initially, I'd go with "3 Ideas Or Less".

And when I say "seriously think about it", I don't mean "fantasize about all they ways you can impress your friends with wacky sounds and tricks". Are you buying it to get more sounds for your group without hiring another player? Are you buying it to distinguish yourself from the other guitarist in the band? Are you buying it to transcribe all of your songs? Are you buying it to experiment? Are you buying it to impress your friends with wacky tricks? Be honest about your goals, and you'll be able to achieve them quicker...or save yourself a lot of money, instead of buying something you'll never use.

Second, I'd like to briefly mention something called the "80/20 Rule". This is a commonly used term in the engineering and software fields, It states: 80 percent of the end users will use 20 percent of the features of any given product.

This rule is perfectly applicable to guitar synths. There are so many possible ways to configure these things (including options that cancel out other options), so many different SOUNDS and ways to edit the sounds, so much POTENTIAL – it seems like people get completely overwhelmed in scrolling through menus that they forget how to just play the thing. If your setup gets too complex to deal with, or you're spending hours trying to access some feature you know in your heart you'll never need, remember the "80/20 rule"

Continuing that thought, I'll make my last point:

Occam's razor: "All other things being equal, the simplest solution is the best." .

Honestly, This is really THE key to my whole approach. It's very easy to scale your rig up to a level of complexity you would never dream of with your standard axe (I know - because I've done it). It's easy to have 5 different MIDI devices that need to play nice, and don't – or to get NOTHING at all when you flip on your synth for the big solo...

The temptation in these situations is to panic, to replace stuff, etc. My advice is to stay calm and follow Occam's razor. Check the most obvious things; simplify your system as much as possible – 1 MIDI module instead of 5 for example. Set the synth up for ONLY those elements which you CURRENTLY need. Use 5-10 patches you know well instead of 50 that you don't.

I often get panicked calls from players needing help with their synth setup, and Occam's Razor is my first approach...

I know much of this may not make sense now; but as we proceed through the chapters you should get the hang of it, and using and diagnosing your system should get easier and easier. (PS: I'll cover troubleshooting in more detail later).

So don't leave that GR-whatever in the box; dust it off and put it to work!

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