

# DRUM TRIGGERS

## ***What are they?***

In essence, a drum trigger is basically a shock sensor. We set triggers up on our kits, either clamped onto (see diagram, right) or stuck down on a drum, where it senses a vibration. (in our case a hit of the drum) The trigger then sends an electronic signal to whatever we may have it plugged into.

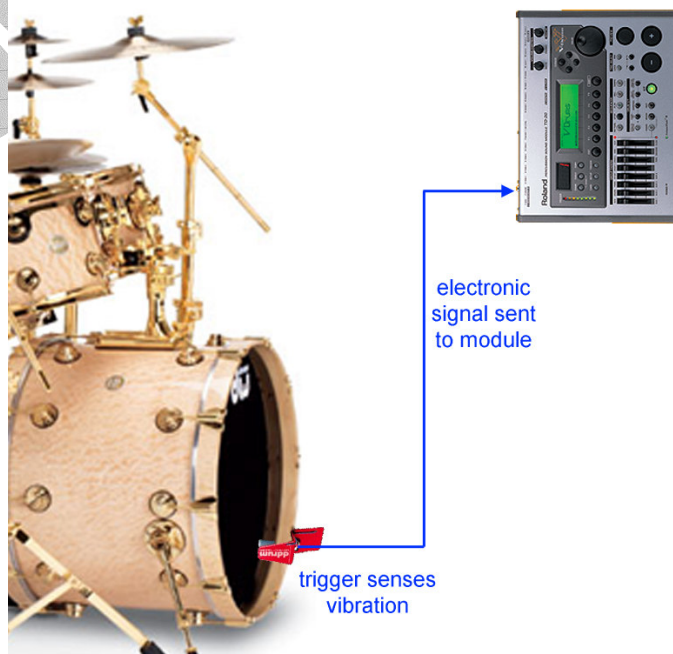


The most important pieces of equipment needed are the triggers themselves and more importantly the 'sound-module'. (For the module itself, I have chosen to work with diagrams of the Roland TD-20, which I feel is perhaps the best and most widely available module on sale to date). The sound-module is an electronic memory-bank of sounds, which when pre-selected and assigned to different channels, will play the desired sound set by the user.

For example, let's say we have a kit with three triggers on it. We can plug the triggers into the module and set it so that trigger one sets off a bass drum sound in the modules memory, the second trigger sets off a snare, and the third sets off a floor tom. So the trick is to plug the triggers into the module and make sure that you have the right sounds assigned to the right triggers. You don't want your kick drum trigger giving off a snare sound!

## ***How it works...***

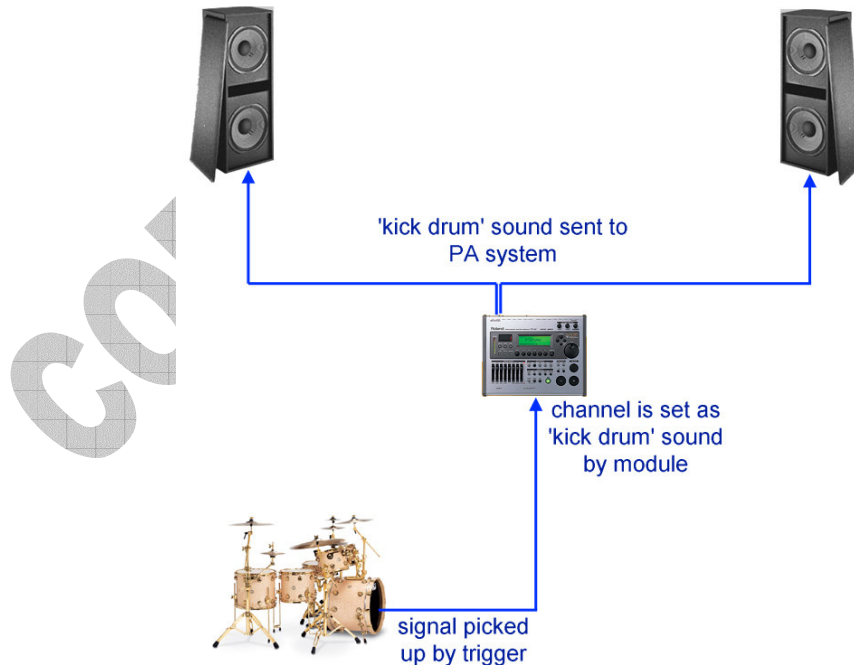
- When a drum is struck, the trigger (which is either taped or clamped onto the drum) senses the vibration of the drumhead and sends an electronic signal to the module....



- Once the signal enters the module it registers the signal and sends out whatever sample is required. If we look at the back of the TD-20 module, we can see that bass drums have their own dedicated channel, so that's where we'd most likely want to plug in the bass drum trigger!



- You can see that modules not only have labelled channels for kick drums, but also for snares, toms, cymbals and more! Every trigger we decide to use must plug somewhere into this module. In addition, we have to 'assign' (choose) the sounds for each channel. If, for example, we have a tom trigger plugged into channel number 2, then we must set the module to play a **tom** sound when channel number 2 is triggered.
- The module outputs the desired sound to some sort of audible device. PA system, speakers, headphones, etc... so the listener hears the sample.



- In more complex systems, it may be an entire drum kit that is triggered. In these cases, each trigger is plugged into its respective channel, and the sound to use for each channel has to be set. This means that prior to using triggers, the player must go into the module's memory bank and select which sound he'd like to use for each channel.

As an example. A player plugs the kick drum trigger into channel 1. He/she then searches through the module's memory-bank and finds a good kick drum sound to use, which he/she then assigns to channel 1. That way, whenever channel 1 receives a signal from the trigger, the module will send that chosen kick drum sound to the PA system. The player will then do the same for the snare, perhaps using channel 2, and assigning a good snare sound for channel 2.

So it's a matter of plugging in the triggers, and selecting the sound you wish to use from the module, depending on which channel is being triggered.

### ***So what do triggers do again???***

They sense the vibration i.e. the hits from your playing, and send a signal to the module - which will in turn play (whatever sound you have set it to play) to the PA system. Triggers are therefore useless without a module to give the listener sounds to hear.

- *Triggers tell the module what's being hit...*
- *The module chooses the sound to use for each hit and sends that sound out to the speakers.*

### ***What advantages do triggers have?***

- **More than just sound effects:** Being electronic devices, they can be used to set off things other than sounds in a module. They can trigger everything from sequences/loops, to lighting effects and even pyrotechnics!
- **Enhancing live sound:** Used in conjunction with microphones, triggers can be placed onto drums in the recording studio and the module can add whatever sound may be lacking from micing alone. For example, in the studio you may like the sound of your floor toms but find they don't have the thundering bottom-end you would like. After micing the floor tom, triggers can be used to set off a low rumble. (a sample saved in the module's memory bank) When the floor tom is hit, the mic picks up the natural sound of the drum, but the trigger module also sends out a deep low rumble which combines with the mic'd drum sound adds to the overall depth of the recording.