Tiptop™ Audio | CB808



User Manual

www.tiptopaudio.com

Introduction.

The CB808 is Roland's TR-808 cowbell sound generator adapted for modular synthesizer use. The front panel contains all of the controls found on the original TR-808 drum machine, allowing you full control over the sound's volume levels to mix with other drums, and accent levels. In addition to that, the CB808 includes a pitch-modulating LFO with control over the LFO rate and modulation depth.

About the Making of the CB808.

The CB808 is a one-to-one clone of the original circuit found in Roland's TR-808 drum machine. During the design phase, we created additional features only when implementation would not compromise the original signature sound, add excessive costs, or sacrifice panel space. Cloning a circuit that was designed and produced in the early 80's was not an easy task. A variety of obstacles including availability of the original parts, the modern SMT manufacturing process, the differences in +/-12V Eurorack power versus the +/-15V of the original 808, and far many more were addressed in the creation of this module. To learn more about the process of remaking the sound generator in this series please refer to the BD808 user guide.

Let's get started.

To start using the CB808, just plug a gate signal into the GATE IN and plug the CB OUT to your sound system and set the LEVEL half way.

Dynamics and Gain.

Level Explained:

The CB808 offers an enhanced output gain stage over the original 808 design. This addition allows the output signals to get very hot so that anything flowing from the module will be overdriven, generating additional harmonics through distortion and clipping of the sound. This capability is one of the most useful ways to get more sounds out of this circuit. This effect is easily noticeable by sending the audio output with both LEVEL and ACCENT set to max into line level instruments such as computer audio interfaces, outboard multi-effects, mixers, and even low level devices like guitar pedals, mic preamps etc. This enhanced gain stage will also make any synthesizer module operate at peak levels while adding interesting harmonics or digital artifacts in the case of digital processing modules.

On the other hand, if all you want is a nice, clean 808 sound, setting the range of the LEVEL knob somewhere between 0 to 70% will cover that.

Dynamics and Gain.

Accent and Levels:

Dynamic Accent and Level control of any drum sound in the mix is a big part of making a beat sound right. Dynamic Accent provides emphasis on a particular note through loudness. In analog circuits like the CB808, the accent pulse physically "hits" the internal VCA circuit harder and provides not only a louder sound but also slightly more attack (much like if you were to hit a real drum harder or softer with a drum stick.)

While the original 808 has one global accent knob affecting all of its sounds simultaneously, the CB808 (and all other drum modules in this series) offers an independent accent level control. This feature adds far more dynamics than what was possible with the original machine.

Accent Explained:

The accent input is a gate/trigger signal.

While the accent input is not in use, the incoming gate input is routed (normalized) to both the accent input and the gate input. This serves for two purposes:

1. To allow you to reach the hottest drum sound possible even when there is no accent input signal connected.

2. It makes the ACCENT knob act as a fine control of the output gain level. This is very useful in situations where the level knob range is too coarse for setting precise levels in a mix with other drum sounds.

Connecting a gate signal into the accent input will break the internal routing mentioned above and will allow for independent control over accent regardless of the incoming gate signal. In this case as long as there is no accent signal present, the drum sound will be set to the minimum accent level set internally, and once the accent input gets hit by a gate signal, the drum sound will get louder in proportion to the accent level set by the accent knob. In short: the higher the knob setting, the larger the difference will be in gain levels between the accented notes and the un-accented notes.

Pitch-Modulating LFO explained.

In the CB808 we have added an analog pitch-modulating LFO that was not originally found in the TR-808. It is used to modulate the pitch of the cowbell sound, giving it a slightly unbalanced and inconsistent texture, yet in the boundaries of the original sound without extremes and noise. This effect can be turned on or completely off using the DEPTH control and the RATE control is used to change the LFO speed.

Tips & Tricks:.

Creative Gate Sequencing with the Z8000:
Please see BD808 User manual for in depth information.

Step Sequencing the traditional way:
Please see BD808 User manual for in depth information.



www.tiptopaudio.com