



THE GUITAMMER COMPANY INC.

...leaders in low frequency sound...



Feel what you've been missing

Post Office Box 82 / Westerville, Ohio 43082
info@guitammer.com phone: 888.676.2828 fax: 815.346.9532

User's Guide

CONCERT
ButtKicker®

Feel what you've been missing

The Guitammer Company Inc.
Post Office Box 82 - Westerville, Ohio 43086

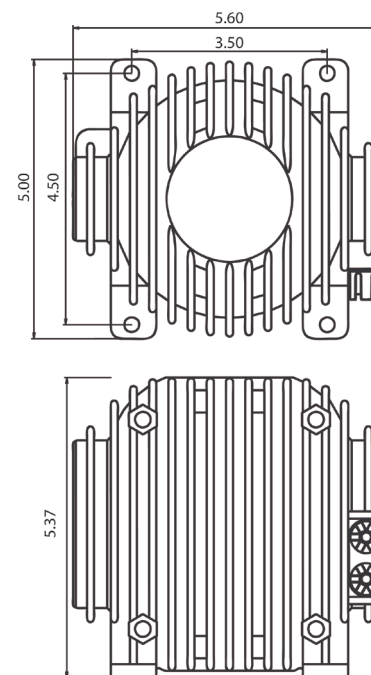
Thank you for your purchase of the ButtKicker® Concert the most powerful, musically accurate and long lasting low frequency audio driver available today.

This User's Guide is designed to help you install and use the ButtKicker in order to receive the most possible enjoyment.

If after following these instructions you are not COMPLETELY THRILLED with the ButtKicker, please contact us. Call, email or fax us. We will do everything possible to make sure you are completely satisfied.

Specifications.

Dimensions:	5.375" h x 5.5" w
Frequency Response:	5 – 200 Hz
Weight:	11 lbs. / 5 kg.
Nominal Impedance:	2 ohms, inductive
Power Handling:	400 watts min. / 1500 watts max.
Wiring polarity:	Red terminal is "Hot"
Thermal Limit (internal):	150 F. (70 C.)



ButtKicker Concert Dimensions
All measurement in inches

Contact Information

The Guitammer Company Inc.

PO Box 82

Westerville, OH 43086

support@guitammer.com

Voice: 888-676-2828

Fax: 815-346-9532

Please visit our website www.thebuttkicker.com for additional technical information, specifications and FAQs.

Thermal Protection

If the ButtKicker® is driven too hard (i.e. given too much power for too long of a period) it may overheat. For this reason, each ButtKicker contains a thermal switch. This switch will automatically disconnect the ButtKicker from the amplifier if the internal temperature of the shaker reaches a preset limit. This should happen only rarely, and only when the unit is overdriven. In most situations, the level of "shake" that is produced by the ButtKicker, until it overheats, will be far more than needed. This is also related to the "flexibility" and size of the surface you are endeavoring to shake. However, if tripped, the thermal switch will automatically reset after the unit has cooled sufficiently. Then the ButtKicker will resume normal operation. Cooling off time can be 5 - 20 minutes, depending on ventilation. While in thermal protection mode, the ButtKicker may feel quite warm to the touch, but the cutoff point has been set to avoid damage.

Warranty

The Guitammer Company products are warranted against defects in materials and workmanship for a period of two (2) years from date of purchase by the original end-user. Items returned for repair under warranty will be repaired or replaced at the sole discretion of The Guitammer Company without charge for materials or labor, providing such items are returned for inspection, transportation prepaid, to The Guitammer Company or an authorized service center. All repaired or replaced items will be returned freight collect. Warranties do not apply to products that have been subjected to abuse, accident, modifications, improper handling or installation, or repairs made by anyone other than The Guitammer Company or an authorized service center. The Guitammer Company shall be the final authority in the determination of all warranty service claims.

Please contact us before returning any defective products to the store where they were purchased.

Product Description	1
Quick Setup	2
Integration into Your Sound System	3
Power	3
Low End Roll Off	3
Source Material	4
Source Hookup to Amplifier	5
Stereo System	5
No "Preamp Output"	5
Signal Levels	6
Signal Source	6
Vertical vs. Horizontal Mounting.....	7
Drummers	8
Standing Performers-Bass, Keyboard, Etc.....	10
Thermal Protection	11
Warranty	11
Specifications	12
Contact Information.....	12

Product Description

The ButtKicker® Concert is a patented 2 ohm low frequency audio transducer that features a 3^{1/4} lb (1.48 kg) magnetically suspended piston. The ButtKicker is musically accurate, has powerful low frequency response, and is virtually indestructible and maintenance free. With a natural working range of approximately 5-200Hz, it is designed primarily to move structure, not air, and to provide a much more direct method of sound perception. The ButtKicker is an ideal solution for musician monitoring, especially when combined with the use of an in ear monitoring system. Drummers, bass players, keyboard players, other performers, DJ's and engineers have found that using the ButtKicker as part of their monitoring system enables them to play tighter and better than they ever have before. Additionally, the ButtKicker is ideal for recording studio use for accurate low frequency sound monitoring and mixing.

For home theater use, we recommend using the ButtKicker® LFE which features extended low frequency response for special effects. Additionally, the ButtKicker Power Amplifier can power up to four (4) ButtKicker LFE units for simplified installation and reduced overall cost in a multi-seating environment. Please refer to our website, www.thebuttkicker.com for further information.

Standing Performers – Bass, Keyboard, DJ's, etc.

Platforms

The ButtKicker® is an ideal monitoring solution for standing performers – bass players, keyboard players, other performers and DJ's – who need accurate low frequency reproduction without increasing SPL (volume). In these situations, we recommend using a simple platform (plywood is fine), mounting the ButtKicker on top and attaching rubber isolator feet to the bottom. An example of this can be found in the enclosed "Quick Start Guide." The main key to making and using a platform is to make sure that the platform itself is sturdy enough to support the performer's weight without sagging and that the platform is isolated (separated) from the floor by rubber feet so that the platform freely vibrates. Rubber feet can be purchased from ButtKicker dealers around the world.

Signal Processing

No signal processing is necessary to energize the ButtKicker, but some circumstances may warrant extra measures.

Gate

If the signal contains a lot of “garbage” between beats from other picked up stage noises, you may want to gate the signal.

Hi-Pass

Your kick drum signal could easily include infrasonic (below the hearing range) signals that are not relevant to your need and could cause excessive excursion within the ButtKicker. This is not damaging, but it could result in lack of control, and the possible missing of complete beats. These infrasonic signals are influenced by head tuning and other sound sources in close proximity, etc. Eliminate the infrasonic signals by passing them through a Hi-Pass filter.

Quick Setup

This section is for those who are more experienced with sound system installation. The ButtKicker® is a passive, 2 ohm speaker load, which requires power from an audio power amplifier, which in turn requires an adequate signal feed from your sound system (Figure 1). Shaking forces are produced in the direction of the axis of the shaker as shown (Figure 2). A positive voltage at the red terminal wire will produce a “push” by the ButtKicker toward its feet (red terminal is positive). It can be mounted on the topside of a surface or inverted and mounted to the bottom side of a surface.

Additional details are provided in the following sections.

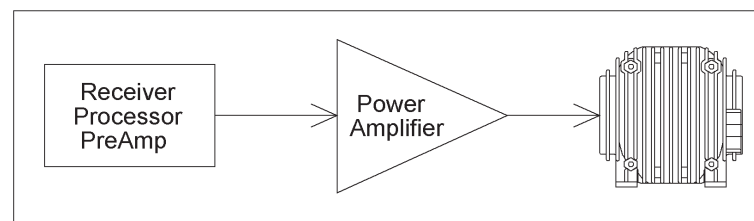


Figure 1. System Integration

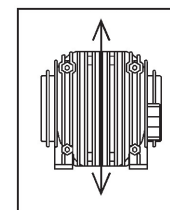


Figure 2. Shake

Integration into Your Sound System

Power

The ButtKicker® is a passive load and therefore requires its own dedicated audio power amplifier. Suggested minimum required power is 400 watts. The use of 14 gauge speaker cable between the amplifier and the ButtKicker is recommended. For cable runs over 25 feet, 12 gauge speaker cable is recommended.

Low End Roll Off

When choosing a power amplifier other than the ButtKicker Power Amplifier (BKA1000-4), please be aware of the low frequency response of the amplifier. Many manufacturers roll off, or cut frequencies below 20 Hz, usually because anything below 20 Hz has been considered unusable and damaging for speaker systems. Therefore, amplifier manufacturers often include additional circuitry to reduce or eliminate those damaging “unusable” signals before they are amplified and sent to the speaker. This roll off of low frequencies (also called “Low Cutoff” or “Hi Pass” filters) is not best for the ButtKicker, although a shallow roll off can be tolerated (i.e. -1.5 dB to -3 dB at 10 Hz). A full cut at 20 Hz and below is not acceptable because it will severely limit some of the remarkable qualities of the ButtKicker. You should find frequency response listed among the amplifier manufacturer’s specifications.

Drummers

The following are considerations when using the ButtKicker with your kit:

ButtKicker® Mounting

When mounted directly to the throne seat, the ButtKicker will deliver the most direct kick. Our “drum throne mounting kit” bracket (DTM-1) as shown on the enclosed “Quick Start Guide” is the ideal solution for easy mounting and removal of the ButtKicker to your throne. It is designed to work on most four hole drum thrones.

However, some thrones’ seats are too small for direct mounting of the ButtKicker. A small platform isolated from the floor with rubber feet can be constructed on which the ButtKicker is mounted and the throne is set.

Signal Source

Kick drumhead tuning determines to a large factor what signal is sent to the ButtKicker (loose vs. tight; low vs. high, etc.). You do not need to change your playing habits or drum tuning in order to take advantage of the ButtKicker.

Microphone

A tap off the kick drum microphone signal used by the sound system can be taken for the ButtKicker system feed.

Pickups

The pickup’s position on the head is a large factor on both the level and frequency content of the output signal.

Mixer

A pre-fader auxiliary send can be used to send a signal to the ButtKicker. This allows a mix of whatever drum or mics you want to feel, though most other drums may have little usable program content within the ButtKicker’s range.

Vertical vs. Horizontal Mounting

The ButtKicker was designed for optimal performance in the vertical orientation, but will function at any angle. If installed in the horizontal axis, some additional internal friction will result in some distortion, best characterized as similar to "crossover" distortion in an amplifier. Some customers, though, have utilized the ButtKicker in the horizontal orientation with satisfactory results. Movement sensation is very different in the two axis, and one should have specific sensations in mind requiring horizontal motion. Please note: horizontal orientation will not damage the ButtKicker.

Source Material

The ButtKicker® responds to a broad range of bass frequencies, including those far below what we hear, or deep down into the feeling range of sound. Today's digital sound sources (DVD's, MP3's, etc.) are capable of carrying signals down to 5 Hz, but it is the producers who determine the content of a sound track. Therefore, the level and range of bass contained within any given sound track will vary. Even though a DVD may show the launch of a rocket, the audio track will contain only what the producers chose to include in the audio track. The ButtKicker responds accurately to the existing low frequency content, much as a subwoofer responds to the signal given it.

Source Hookup to Amplifier

Stereo System

The ButtKicker® works well in a regular, two channel, stereo system. In a two channel stereo system, the low frequency signals are very seldom only on the left or right channel, so a connection to either left or right channel preamp output would produce satisfying results (Figure 3-B).

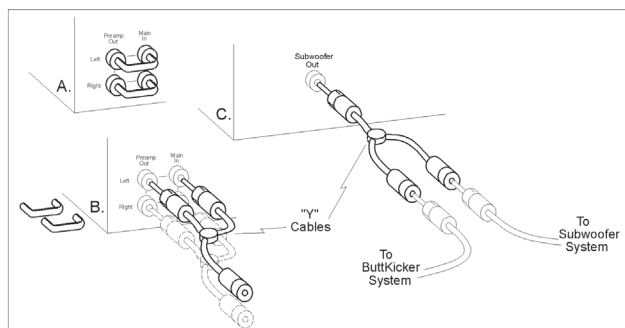


Figure 3-C

No "Preamp Output"

If no "Preamp Output" exists on your receiver/preamp, then the only available signal source would be a "record" output in the tape monitor section. Although this will supply a signal for the ButtKicker, it is less useful because it is not controlled by the master volume control.

Signal Levels

The amplifier you use to power the ButtKicker® will require a specific input signal level from your system's control center (receiver/processor/preamp) in order to deliver full power output to the ButtKicker. The level of input signal required will vary from model to model. There are two standard levels prevailing today. One standard level is 0.15 volt (common in "consumer" equipment) and the other is 1.5 volt (more common in higher power and "professional" equipment). The signal levels reaching the power amp must be able to drive the amplifier to its full power level. If connecting a consumer preamp/processor to a professional amplifier, then a device will be needed to boost the signal level to the level necessary for the power amplifier. Insufficient signal levels from the system control center will not drive the power amplifier to full output power. Please refer to the user manuals of your equipment for specific operating levels. Figure 4 shows a proper system level setup. Please note that if your preamp has nominal output levels of 1.5 volts, then no level conversion is necessary; the preamp should drive the amplifier directly.

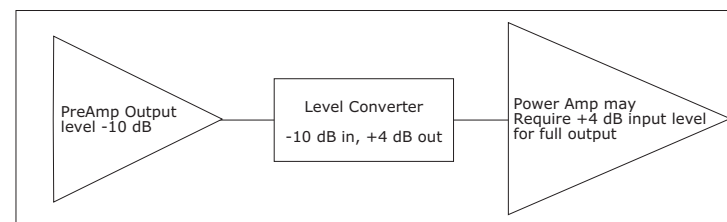


Figure 4. Signal Levels

Signal Source

The ButtKicker responds accurately to any low frequency information sent to it from an amplifier. The source can originate from a mixing console, a processing unit (a bass POD for example), an electronic drum head unit, an acoustic drum pickup via the mixing console, and the line level out from an amplifier.