

IMPROVED IMPACT BEATER

(KICK DRUM)

There are many types of Kick Drum Beater Balls on the market today, virtually every size, shape, and construction. The need for an improvement of the Beater for the kick drum has been felt for some time.

For every action there is a reaction. For the action of the Beater striking the head of the drum, the reaction is for the head to throw the beater backward. The result of this reaction is a diminished low frequency projected resonance and sore legs.

The marriage of Physics and Acoustics has developed a new Beater Ball for today modern drum player. This " Ball " utilizes weights which slide freely in chambers which are mostly perpendicular to the surface of the Beater. These weights are removable and changeable in calibrated mass increments so that the secondary-successive impact momentum may be custom tailored to the energy of the music and kit performance. In addition to the customized weight selection, the access caps on the weight chambers are hollow and internal cavity length selectable so that the increment of the time delay between the initial face impact of the Beater and secondary-successive impact of the weights may be fine tuned for performance. Personalized combinations of the selectable weight mass and the time delay feel of the secondary impact, give the player a totally customized feel for the kick drum action. Due to the secondary-successive impact, the drum head does not have the chance to throw back the Beater. This action makes the contact swing more positive and virtually buzz less and bounce less. These qualities produce a more lengthy and stable contact time and better tonal resonance.

The better impact feel and perceived lower tonal quality is produced by the following events.

Upon initial contact of the beater to the head of the drum, the weights are being carried in the rear caps of the beater. Milliseconds after the beater impacts the drum head, the weights slide forward. With the customized selection of mass and time delay, the successive impact keeps the Beater in contact with the drum head. This increased time constant produces an increased head and air compression time. This increase in air compression time means that the low frequency resonating air will remain compressed and resonant in front of the head, and will travel further in distance, at a higher SPL, and for a longer period of time. This increase in resonant time allows the ear or the microphone to react and register over this extended time period.

Due to the poor low end frequency response of the ear, this longer resonance time of low end energy is much more readily perceived and understood by the ear. Interferometry in spectral time graphically depicts this Psycho-Acoustic perception. The equivalent electrical circuit is mathematically verified. Until now, this lower end energy went mostly unnoticed. Massive amplification would normally be required to produce even a lessor effect on the player and listener. This perception of lower frequency energy is accomplished without the use of excessive wattage, or cabinet weight.

There are many other benefits to this improved Beater.

Louder Sound Perception

Lower Note Perception

Longer Pedal Life

Less Leg Fatigue

Fully Customized Balance and Feel

Customized Action To Suit Floor Feel

Available Fuzzy Face Covers

Truly this advancement in Beater Balls is not just a new design, but an actual technologic break through.

Prototypes Available

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