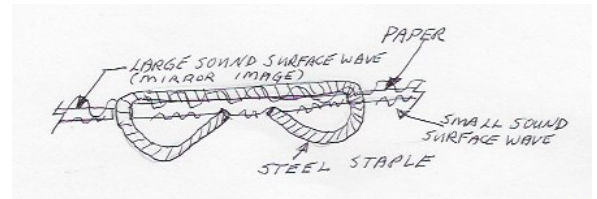
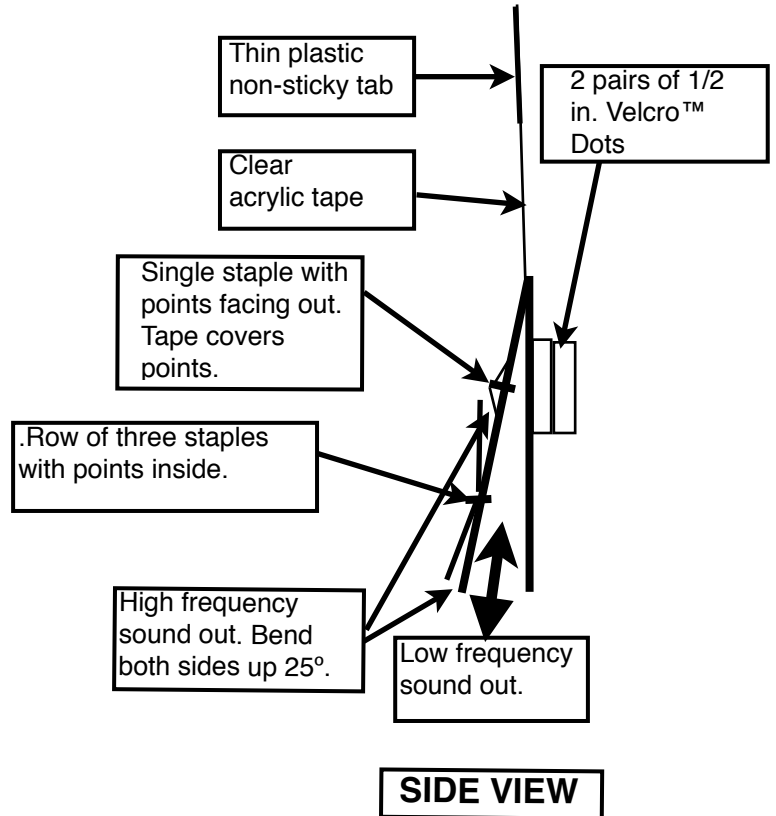


**THEORY AND INSTRUCTIONS (Rev 1)**  
**GEIGER BANJO BASS & ENHANCER AMP (Pat. Pend.)** Page 1 of 2  
**(Best Performance Occurs When Used With the Geiger Movable Banjo Tone Amp)**

1. **General.** Our “Banjo Bass & Enhancer Amp” is a banjo sound surface wave powered, low frequency amplifier with an attached high frequency amplifier. The low frequency amplifier is a fold of Kraft paper approximately 2 inches high and 2-5/8 inches wide along its fold. The high frequency amplifier consists of a row of three steel 1/2 inch staples centered along the main axis of a rectangle of 20-pound paper of dimensions 1 x 2-5/8 Inches. The purpose of the high frequency amplifier is to improve sound quality of the low notes by amplifying the harmonics of their low frequencies. Audible outputs of these two amplifiers are located one on top of the other so that their audible outputs mix. The audible outputs of both face and are located approximately 1/2-inch from the banjo head. This close proximity is believed to cause the head to resonate strongly under their influence, further amplifying their outputs and increasing their sound duration (“sustain”).
2. **How It Works.** Two pairs of Velcro Dots secure the device to the banjo rim in any location near the bottom of the rim that places the audible outputs approximately 1/2-inch from the banjo head. The clear acrylic tape is then stuck to the banjo rim at a 45-degree angle to the circumference and sound surface waves circling around the banjo rim. The tape can bend over the bottom of the rim if necessary however contact with metal parts should be avoided. The 45-degree angle amplifies the waves entering the tape. Why this occurs is explained in a Blog entry on our website.
3. **Facts Used By The Invention.** (1) Waves of the same or similar frequencies which meet coming from different directions will add; (2) The same waves on connected diverging planes across a diverging air space will (“squeeze”) the air between them to create a growing air wave of audible sound in the air space between them.



**STAPLE AMPLIFIER**

Four steel staples are used on the invention to amplify sound surface waves and move their mirror image to the other side of the same paper or another paper under the flat of the staple. The latter configuration is used create a diverging air space audible sound emitter.

**THEORY AND INSTRUCTIONS (Rev 1)**  
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**4. Instructions.**

(1) Before placing the Bass & Enhancer Amp look at the three photos below. The left photo shows the proper placement of the Bass & Enhancer Amplifier when used with our Movable Tone Amplifier for All Banjos. The combination of the two amplifiers delivers better performance than either used singularly. Note that the two amplifiers are on opposite sides of the banjo rim with the tone amp at the inside top of the rim and the Bass & Enhancer Amp at the inside bottom of the rim when the banjo is held in the playing position.



(2) Remove the Bass & Enhancer Amp from its shipping envelope but do not remove the red plastic protector from the tape. **Slowly** and **carefully** peel (from their ends) the foam tape that covers the points of the four staples. (The foam tape protects the staple points from damage during mailing.) After removing the two foam tape pieces (keep them for future use) look at all staples from the side to **ensure that all staple points are touching the paper**. Their contact is necessary to ensure that they perform as amplifiers. Also, examine the single staple which has its points covered with the clear input tape to ensure that in removing the foam tape you did not pull the clear tape from the staple. If you did, reattach the clear tape to both staple points. This is important because this staple will amplify the sound surface waves that are on the adhesive layer of the input tape and, concurrently, transfer them to the two inside facing surfaces of the Kraft paper, which is the low frequency amplifier.

(3) Before placing the Bass & Enhancer Amp in the banjo loosely crease the white paper rectangle along its longitudinal centerline which is along the line of three staples. After creasing the paper push both sides back down so that they form an angle of about 25-30 degrees with the brown Kraft paper below the white paper. Creasing the white paper helps keep the angles from returning to the flat position.

(4) The Velcro dot connectors are extremely strong and for this reason and to keep their locations visible, they are attached to each other using only one-half of their surfaces. Their adhesive is also extremely sticky so you may want to practice placing them before exposing their adhesive by removing the clear plastic squares covering the adhesive. **Placement Suggestion:** Place the banjo, resonator removed, in your lap face down with the bridge between the knees. Hold the Bass & Enhancer Amp in an arch as shown in the photo on the above right to keep the Velcro dot adhesive off the rim. When the top of your finger touches the banjo head and your fingertip touches the rim, press down and let go so that the Velcro Dots stick to the rim. Finally, remove the red plastic protector from the input tape and stick the tape to the rim. Carry the tape over the bottom rim edge if needed.

Thanks for your order. Check our web page Blog for the latest information, and please let us know how you like it! *Frank Geiger*

