Cross-Rhythms for Bass Drum

By Jerry Leake

This article examines cross-rhythm and phrase rotation for the bass drum to an unchanging African-inspired groove played by the hands. What you will discover is a profound shifting of rhythm gravity as the bass drum navigates through time, challenging the player's perception of the downbeat and "where is the 1?"

Origins:

As told to me by friend and colleague, Ben Paulding, the pattern played by the hands is of Ashanti origin (central Ghana) and is called Mpintin. The traditional instruments are small dondo (bell), large dondo (lead), mpintintoa, and gyamadudu. In this article the gyamadudu pattern has been adapted to a contemporary treatment of cymbal, snare and two toms. Bass drum cross-rhythms are derived from existing theory and phrase rotation.

Meter:

Although set to 4 bars of 6/8, the phrase could have been notated as two bars of 12/8, or as one bar of 6/4 for a binary implication. Multiple metric approaches can create diverse platforms for composition and arrangement. In the examples that follow, the smaller bar width of 6/8 aids in the visual "unlocking" of the shifting bass drum pattern.

Cross-Rhythms:

Cross-rhythms (also known as "polyrhythms") in the ternary meters of 6/8 and 12/8 can be broken down into categories. The number "24" (the total 8th notes in the 4-bar phrase) can be divided by 2, 3, 4, 6 and 8 to represent the various cross-rhythms. Each cross-rhythm can be rotated (displaced) to different starting points, thereby shifting the phrase's overall center of gravity.

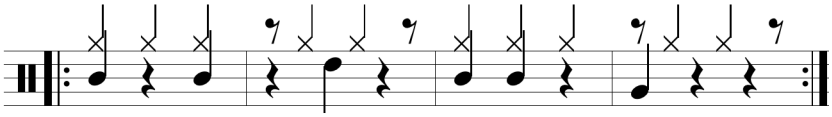
The number of possible bass drum rotations is determined by dividing 24 by the cross-rhythm being explored. For example: 24 (8th notes) ÷ 2 (cross-rhythm) = 12 (number of rotations). Therefore: 24 ÷ 2 = 12 / 24 ÷ 3 = 8 / 24 ÷ 4 = 6 / 24 ÷ 6 = 4 / 24 ÷ 8 = 3.

Practice Suggestions:

To begin our work, leave out the bass drum to master the phrase played by just the hands (below). Once the hands are locked in with "muscle memory," the bass drum will follow with relative ease and flow. Repeat each example numerous times until the composite phrase is fully internalized. Move your eyes away from the notation to hear the melody

of tones, and to ultimately "own" the phrase. Start slow and increase in tempo as you feel comfortable.

Pattern for the Hands:



2 Cross-Rhythm — Ex. 1-4

As shown in the examples below, the bass drum 2 cross-rhythm shifts position by a consecutive 8th note as it gradually moves farther away from the "1." In this particular approach, 12 variations are derived. The floor tom stroke on the downbeat of the fourth bar should help you to keep your place as the bass drum rotates.



2 Cross-Rhythm — Ex. 5-8



2 Cross-Rhythm — Ex. 9-12



3 Cross-Rhythm — Ex. 1-4

Four variations using the 3 cross-rhythm are shown below. As with the previous series, other variations are possible by rotating every 8th note, as opposed to the quarter notes represented.

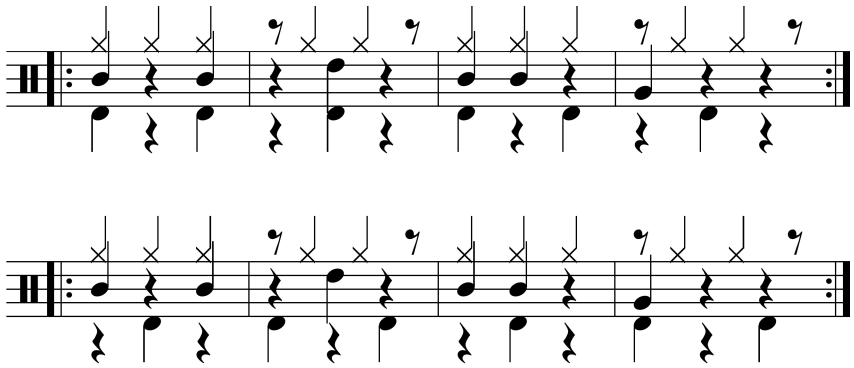


4 Cross-Rhythm — Ex. 1-3

Three variations on the 4 cross-rhythm are shown below. As before, others can be achieved by rotating every 8th note.



6 Cross-Rhythm — Ex. 1-2



8 Cross-Rhythm — Ex. 1-3

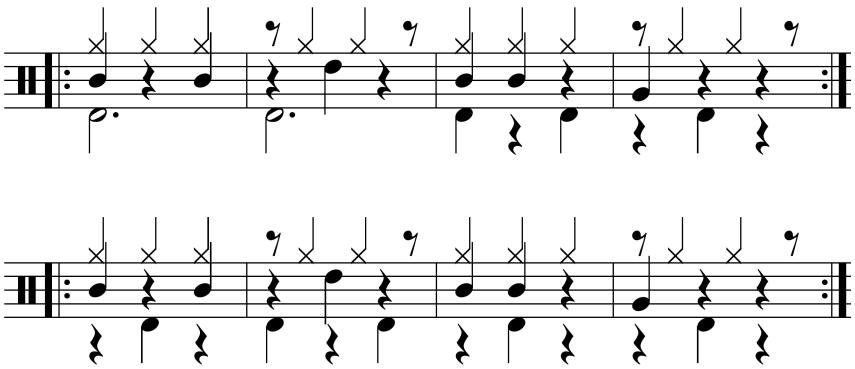
Although the 8 cross-rhythm may seem daunting, it is actually easier to play than it appears in notation. In example 1, look at the cymbal and bass drum alignment in the first two bars (which is also repeated in the last two bars). The dotted quarter bass drum has four hits in the first two bars with the first and the fourth hits aligning with the cymbal, thus providing a helpful anchor point to build the phrase. In the second example it is the 2nd and 3rd bass drum hits that align with the cymbal. The third example will be discovered once the first two are attained.



Combinations:

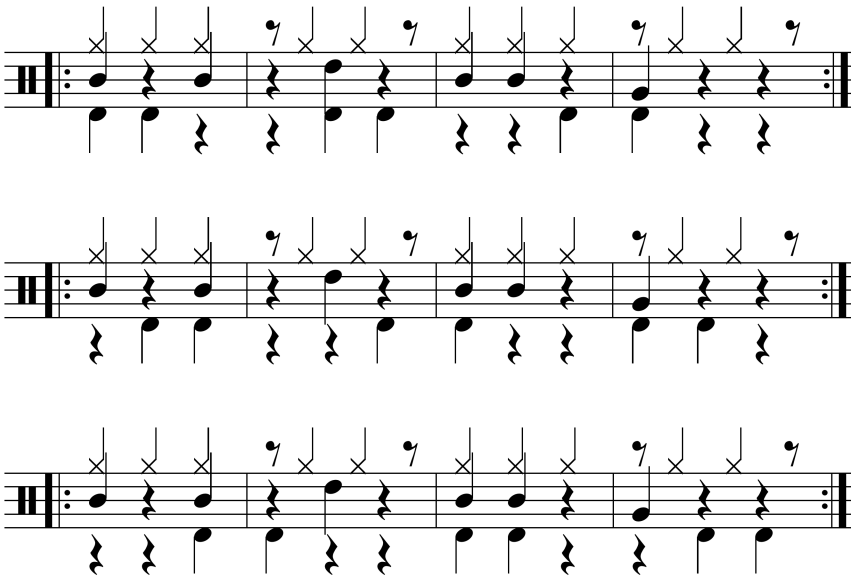
Ultimately it is the combination of cross-rhythms that produces more possibilities, with two shown below.

On-beat 4+6 / Off-beat 6+4



Double Hits:

Applying double hits to the bass drum yields even more variations, with the 3 cross-rhythm shown below. This approach can be threaded into all of the previous examples.



Video:

Refer to the online video for a demonstration of each cross-rhythm.

Conclusion:

I have developed extensive classroom and private lesson curricula using the concept of ternary cross-rhythm and phrase rotation. Every day I discover new possibilities and applications that challenge my skill with limb independence and feed my creative soul. Three decades of researching the art and science of cross-rhythm has proven that the possibilities are as infinite as the stars in the universe. All you need to do is take a look and use your imagination.