

Contemporary Tapping Techniques

The Left Hand

By Cliff Engel

1

1 2 3 4 3 2 1 2 3 4 3 2 1

3

3 3 3 3 3 3 3 3 3 3 3 3 3

5

3 3 3 3 3 3 3 3 3 3 3 3 3

7

3 3 3 3 3 3 3 3 3 3 3 3 3

9

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

T
A
B
3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4

11

T
A
B
5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 6 6 6

13

T
A
B
3 4 5 6 4 5 6 7 5 6 7 8 6 7 8 9

15

T
A
B
7 8 9 10 8 9 10 11 9 10 11 12 10 11 12 13

17

T
A
B
11 12 13 14 12 13 14 15 15 14 13 12 14 13 12 11

19

Musical notation for measures 19 and 20. The top staff is in bass clef with a key signature of one flat. The bottom staff is a guitar tablature with strings labeled T (top) and B (bottom). Measure 19 contains notes G2, F2, E2, D2, C2, B1, A1, G1. Measure 20 contains notes G1, F1, E1, D1, C1, B0, A0, G0.

21

Musical notation for measures 21 and 22. The top staff is in bass clef with a key signature of one flat. The bottom staff is a guitar tablature. Measure 21 contains notes G1, F1, E1, D1, C1, B0, A0, G0. Measure 22 contains notes G0, F0, E0, D0, C0, B-1, A-1, G-1.

23

Musical notation for measures 23 and 24. The top staff is in bass clef with a key signature of two sharps. Fingerings 1, 2, 3, 4 are indicated under the first four notes of measure 23. The bottom staff is a guitar tablature. Measure 23 contains notes G1, F1, E1, D1, C1, B0, A0, G0. Measure 24 contains notes G0, F0, E0, D0, C0, B-1, A-1, G-1.

25

Musical notation for measures 25 and 26. The top staff is in bass clef with a key signature of two sharps. The bottom staff is a guitar tablature. Measure 25 contains notes G1, F1, E1, D1, C1, B0, A0, G0. Measure 26 contains notes G0, F0, E0, D0, C0, B-1, A-1, G-1.

27

Musical notation for measures 27 and 28. The top staff is in bass clef with a key signature of one flat. Fingerings 2, 1, 3, 4 are indicated under the first four notes of measure 27. The bottom staff is a guitar tablature. Measure 27 contains notes G1, F1, E1, D1, C1, B0, A0, G0. Measure 28 contains notes G0, F0, E0, D0, C0, B-1, A-1, G-1.

29

Musical notation for measures 29-30. The top staff is a bass clef with a key signature of one flat (B-flat). The bottom staff is a guitar TAB with two lines labeled 'T' (treble) and 'B' (bass). Measure 29 contains a melodic line in the bass clef and a corresponding guitar line with fret numbers 4, 3, 5, 6, 4, 3, 5, 6. Measure 30 continues the melodic line and guitar line with fret numbers 4, 3, 5, 6.

31

Musical notation for measures 31-32. The top staff is a bass clef with a key signature of one flat. The bottom staff is a guitar TAB. Measure 31 contains a melodic line in the bass clef with fingerings 3, 1, 2, 4 and a guitar line with fret numbers 5, 3, 4, 6, 5, 3, 4, 6. Measure 32 continues the melodic line and guitar line with fret numbers 5, 3, 4, 6, 5, 3, 4, 6.

33

Musical notation for measures 33-34. The top staff is a bass clef with a key signature of one flat. The bottom staff is a guitar TAB. Measure 33 contains a melodic line in the bass clef and a guitar line with fret numbers 5, 3, 4, 6, 5, 3, 4, 6. Measure 34 continues the melodic line and guitar line with fret numbers 5, 3, 4, 6.

35

Musical notation for measures 35-36. The top staff is a bass clef with a key signature of one flat. The bottom staff is a guitar TAB. Measure 35 contains a melodic line in the bass clef with fingerings 4, 1, 2, 3 and a guitar line with fret numbers 6, 3, 4, 5, 6, 3, 4, 5. Measure 36 continues the melodic line and guitar line with fret numbers 6, 3, 4, 5, 6, 3, 4, 5.

37

Musical notation for measures 37-38. The top staff is a bass clef with a key signature of one flat. The bottom staff is a guitar TAB. Measure 37 contains a melodic line in the bass clef and a guitar line with fret numbers 6, 3, 4, 5, 6, 3, 4, 5. Measure 38 continues the melodic line and guitar line with fret numbers 6, 3, 4, 5.

39

1 2 3 4

T
A
B
3 4 5 6 3 4 5 6 3 4 5 6 3 4 5 6

42

1 2 3 4

2 1 3 4

T
A
B
3 4 5 6 3 4 5 6 4 3 5 6

44

3 1 2 4

4 1 2 3

T
A
B
5 3 4 6 5 3 4 6 6 3 4 5 6 3 4 5

46

1 2 1 3 1 4

3 4 3 5 3 6 3 4 3 5 3 6 3 4 3 5 3 6

48

2 1 2 3 2 4

4 3 4 5 4 6 4 3 4 5 4 6 4 3 4 5 4 6

50

3 1 3 2 3 4

5 3 5 4 5 6 5 3 5 4 5 6 5 3 5 4 5 6

52

4 1 4 2 4 3

6 3 6 4 6 5 6 3 6 4 6 5 6 3 6 4 6 5

54 Maj7

8 7 10 9 10 7 8 8 7 10 9 10 9 12 16 12 9 10 9 10 7 8

57 m7

8 11 10 8 10 11 8 8 11 10 8 10 13 12 15 12 13 10 8 10 11 8

60 7

8 7 10 8 10 7 8 8 7 10 8 10 9 12 15 12 9 10 8 10 7 8

63 m7^b5

63 64 65

8 11 9 8 8 11 9 10 13 11 15 11 13 10 8 9 11 8

Detailed description: This system contains three measures of music. The top staff is a bass clef with a key signature of two flats. The notes are: m63 (F2, A2, Bb2, D3), m64 (F2, A2, Bb2, D3), m65 (F2, A2, Bb2, D3). The bottom staff shows guitar fret numbers: 8 11 9 8 | 8 11 9 10 13 11 15 | 11 13 10 8 9 11 8.

66 dim7

66 67 68

8 11 9 7 8 11 9 7 10 13 11 14 11 13 10 7 9 11 8

Detailed description: This system contains three measures of music. The top staff is a bass clef with a key signature of two flats. The notes are: m66 (F2, A2, Bb2, D3), m67 (F2, A2, Bb2, D3), m68 (F2, A2, Bb2, D3). The bottom staff shows guitar fret numbers: 8 11 9 7 | 8 11 9 7 10 13 11 14 | 11 13 10 7 9 11 8.

69 mMaj7

69 70 71

8 11 10 9 8 11 10 9 10 13 12 16 12 13 10 9 10 11 8

Detailed description: This system contains three measures of music. The top staff is a bass clef with a key signature of two flats. The notes are: m69 (F2, A2, Bb2, D3), m70 (F2, A2, Bb2, D3), m71 (F2, A2, Bb2, D3). The bottom staff shows guitar fret numbers: 8 11 10 9 | 8 11 10 9 10 13 12 16 | 12 13 10 9 10 11 8.

72 7sus4

72 73 74

8 8 10 8 8 8 10 8 10 10 12 15 12 10 10 8 10 8 8

Detailed description: This system contains three measures of music. The top staff is a bass clef with a key signature of two flats. The notes are: m72 (F2, A2, Bb2, D3), m73 (F2, A2, Bb2, D3), m74 (F2, A2, Bb2, D3). The bottom staff shows guitar fret numbers: 8 8 10 8 | 8 8 10 8 10 10 12 15 | 12 10 10 8 10 8 8.

75 Maj7#5

75 76 77

8 7 11 9 8 7 11 9 10 9 13 16 13 9 10 9 11 7 8

Detailed description: This system contains three measures of music. The top staff is a bass clef with a key signature of two flats. The notes are: m75 (F2, A2, Bb2, D3), m76 (F2, A2, Bb2, D3), m77 (F2, A2, Bb2, D3). The bottom staff shows guitar fret numbers: 8 7 11 9 | 8 7 11 9 10 9 13 16 | 13 9 10 9 11 7 8.

78 Maj7 \flat 5

78 Maj7 \flat 5

8 7 9 9 7 8 | 8 7 9 9 10 9 11 16 | 11 9 10 9 9 7 8

81 7 \sharp 5

81 7 \sharp 5

8 7 11 8 11 7 8 | 8 7 11 8 10 9 13 15 | 13 9 10 8 11 7 8

84 7 \flat 5

84 7 \flat 5

8 7 9 8 9 7 8 | 8 7 9 8 10 9 11 15 | 11 9 10 8 9 7 8

87 C Major Scale

87 C Major Scale

H S H H H S H H | H S H H H H H

8 10 12 13 10 12 14 15 | 12 14 15 17 14 16 17

89

89

H P P H P P S P | P P S H P P S

17 16 14 17 15 14 12 15 | 14 12 10 13 12 10 8

91 Country

Musical notation for measures 91-94. The top staff is a bass clef with a treble clef sign above it. The bottom staff is a guitar tablature with a 'T' above and 'A' and 'B' below. The music consists of quarter notes in the top staff and fret numbers (3, 3, 3, 3, 3, 3, 3, 3, 5, 2) in the bottom staff.

95

Musical notation for measures 95-98. The top staff is a bass clef with a treble clef sign above it. The bottom staff is a guitar tablature with a 'T' above and 'A' and 'B' below. The music consists of quarter notes in the top staff and fret numbers (3, 3, 3, 3, 3, 3, 3, 3, 5, 2) in the bottom staff.

99

Musical notation for measures 99-102. The top staff is a bass clef with a treble clef sign above it. The bottom staff is a guitar tablature with a 'T' above and 'A' and 'B' below. The music consists of quarter notes in the top staff and fret numbers (3, 3, 3, 3, 3, 3, 3, 5, 1, 2) in the bottom staff.

103

Musical notation for measures 103-106. The top staff is a bass clef with a treble clef sign above it. The bottom staff is a guitar tablature with a 'T' above and 'A' and 'B' below. The music consists of quarter notes in the top staff and fret numbers (3, 3, 3, 3, 3, 3, 2, 3, 4) in the bottom staff.

107

Musical notation for measures 107-110. The top staff is a bass clef with a treble clef sign above it. The bottom staff is a guitar tablature with a 'T' above and 'A' and 'B' below. The music consists of quarter notes in the top staff and fret numbers (5, 5, 4, 3, 3, 5, 1, 2) in the bottom staff.

111

Musical notation for measures 111-114. The top staff is a bass clef with a treble clef below it. The bottom staff is a guitar tablature with a treble clef and a bass clef below it. The music consists of a sequence of eighth notes in the bass clef and corresponding fret numbers in the guitar tablature. The fret numbers are 3, 3, 3, 3, 3, 3, 3, 3, 5, 2.

115 Latin

Musical notation for measures 115-118. The top staff is a bass clef with a treble clef below it. The bottom staff is a guitar tablature with a treble clef and a bass clef below it. The music consists of a sequence of eighth notes in the bass clef and corresponding fret numbers in the guitar tablature. The fret numbers are 3, 5, 5, 5, 3, 5, 5, 5, 3, 5, 5, 5, 3, 5, 5.

119

Musical notation for measures 119-122. The top staff is a bass clef with a treble clef below it. The bottom staff is a guitar tablature with a treble clef and a bass clef below it. The music consists of a sequence of eighth notes in the bass clef and corresponding fret numbers in the guitar tablature. The fret numbers are 3, 5, 5, 5, 5, 5, 5, 5, 3, 5, 5, 5, 5, 5, 5.

123

Musical notation for measures 123-126. The top staff is a bass clef with a treble clef below it. The bottom staff is a guitar tablature with a treble clef and a bass clef below it. The music consists of a sequence of eighth notes in the bass clef and corresponding fret numbers in the guitar tablature. The fret numbers are 3, 5, 5, 3, 3, 5, 5, 3, 3, 5, 5, 3, 3, 5, 5.

127

Musical notation for measures 127-130. The top staff is a bass clef with a treble clef below it. The bottom staff is a guitar tablature with a treble clef and a bass clef below it. The music consists of a sequence of eighth notes in the bass clef and corresponding fret numbers in the guitar tablature. The fret numbers are 3, 5, 5, 5, 5, 5, 3, 3, 5, 5, 5, 5, 5, 5, 3.

Blues

131

Musical notation for measures 131-134. The top staff is a bass clef with eighth notes and triplets. The bottom staff is a guitar tablature with fret numbers and a 'T' above the staff.

135

Musical notation for measures 135-138. The top staff is a bass clef with eighth notes and triplets. The bottom staff is a guitar tablature with fret numbers and a 'T' above the staff.

139

Musical notation for measures 139-142. The top staff is a bass clef with eighth notes and triplets. The bottom staff is a guitar tablature with fret numbers and a 'T' above the staff.

143

Musical notation for measures 143-146. The top staff is a bass clef with eighth notes. The bottom staff is a guitar tablature with fret numbers and a 'T' above the staff.

147

Musical notation for measures 147-150. The top staff is a bass clef with eighth notes. The bottom staff is a guitar tablature with fret numbers and a 'T' above the staff.

151

Musical notation for measures 151-154. The piece is in a key with one sharp (F#) and a common time signature. The melody is written in eighth notes. Below the staff is a guitar tablature with fret numbers and picking directions (T for thumb, B for bass).

155

Musical notation for measures 155-158. The time signature changes to 12/8. The melody is written in eighth notes. Below the staff is a guitar tablature with fret numbers and picking directions.

159

Musical notation for measures 159-162. The melody is written in eighth notes. Below the staff is a guitar tablature with fret numbers and picking directions.

163

Musical notation for measures 163-166. The melody is written in eighth notes. Below the staff is a guitar tablature with fret numbers and picking directions.

Jazz

167

Musical notation for measures 167-170. The time signature changes to 4/4. The melody is written in quarter notes. Below the staff is a guitar tablature with fret numbers and picking directions.

171

175

To continue our systematic analysis of two-handed tapping techniques on electric bass, we will now explore the technical aspects required by your left hand (fretting hand). In this lesson, we will break down left hand tapping technique in a step-by-step fashion beginning with discrete finger isolation exercises utilizing hammer-ons and pull-offs on single strings, followed by string crossing exercises using arpeggios and scales, and then finish with an overview of common grooves often played by the left hand using two-handed tapping techniques.

The most efficient method of two-handed tapping employs the one-finger-per-fret concept. By using each finger independently, you will be able to achieve maximum proficiency with two-handed tapping techniques. Through the coordination of both hands and by developing your finger dexterity, you will be able to play completely independent voicings.

The technique required of your left hand in standard playing position remains essentially the same with tapping. Your thumb should be positioned on the back of the neck between your first and second fingers, and your fingers should be slightly arched over the fingerboard. To activate a note, simply hammer down the string to the fingerboard with the tips of your left hand fingers. Hammer the strings just behind the fret wire to produce the clearest, most articulate tone possible. To end a note, just lift your left hand finger off the fingerboard. The small amount of force required to press the strings to the fretboard should be generated from your fingers and not your wrist. Initially, your third (ring) and fourth (pinky) fingers may seem a little weak in performing this action. With time and diligent practice, all of your left hand fingers will feel equally comfortable in articulating each note in every position on the fingerboard. Try to be as precise as possible with your left hand attacks especially on the lighter gauge D and G strings which are more challenging to hit accurately. Hammer the notes directly to the fingerboard, and be careful not to accidentally sound adjacent strings or bend notes out of tune. Continually remain aware of extraneous string-related noise and ringing. Mute the strings with available fingers to help eliminate unwanted noise. Only the notes that you are articulating should sound. Try to attain clear, articulate notes and consistent dynamics in every position across the entire range of your instrument.

Each of these exercises should be articulated using a series of hammer-ons and pull-offs (and slides when applicable) to sound the desired note. Your right hand will not be used to articulate any of the notes in these exercises. When ascending a passage, hammer-on from each preceding note, and while descending, pull-off from the note above. With this technique, at least one finger should remain in contact with the string at all times. For example, if you hammer down a note with your index finger and then hammer-on a note above with your middle finger, your first finger will remain in contact with the string. If you hammer-on a note from your third to fourth finger, your first, second, and third fingers should all remain in contact with the string. To execute pull-off's (the opposite motion of hammer-ons), your left hand fingers will be required to lift off of notes as necessity dictates. As you perform pull-offs on the G-string, you won't need to worry about higher pitched strings getting in your way and inadvertently sounding, but special attention should be made to muting the adjacent strings when playing pull-offs on the lower strings (E, A, or D-strings). When moving across the strings, keep each finger in place unless you have to shift it in order to complete the passage or mute strings. The position of your left hand should remain constant as you shift up the fingerboard. Your left hand tapping technique should consist of a very fluid motion with a minimal amount of movement from your hand. The resulting benefits of your efforts will include greater strength, endurance, and dexterity in your left hand fingers.

Play these exercises as legato as possible, and hold each note for its full rhythmic value. For the purposes of these exercises, allow each note to ring right up until the subsequent note sounds. Don't forget to incorporate expressive devices such as vibrato into your left hand technique. By utilizing vibrato and dynamics, you can make even elemental examples such as these sound alive and much more musical as opposed to mere technical exercises.

For ease of reference, the fretting hand will be referred to as the left hand. The left hand fingers will be identified as such throughout the notated examples:

- 1 = first or index finger
- 2 = second or middle finger
- 3 = third or ring finger
- 4 = fourth or pinky finger

Left hand articulations will include:

- H = Hammer-On
- P = Pull-Off
- S = Slide

Measures 1-8 consist of an exercise using single-note hammer-ons while alternating the fingers on your left hand. The listener shouldn't be able to differentiate between your fingers. Strive for even tone and volume throughout these measures. If each note is consistent, the listener shouldn't be able to tell when a particular finger activates a note. Record yourself and see if you can hear when a specific finger is being used. Transpose this exercise to every fret on your fingerboard.

The exercise in measures 9-12 is similar to the previous example, but now we ascend up the strings. Continue this exercise past the notated example until you reach the end of your fingerboard.

In measures 13-22, the passage ascends and descends a full octave on a single string using the one-finger-per-fret concept. Take this concept and transfer it to the other strings on your bass.

Measures 23-38 contain simple exercises utilizing several one-finger-per-fret, 4-note sequences. Experiment with as many fingering combinations as possible over the entire range of your instrument to further develop your finger independence. Below you will find every permutation of one-finger-per-fret sequence in a single position:

1-2-3-4	2-1-3-4	3-1-2-4	4-1-2-3
1-2-4-3	2-1-4-3	3-1-4-2	4-1-3-2
1-3-2-4	2-3-1-4	3-2-1-4	4-2-1-3
1-3-4-2	2-3-4-1	3-2-4-1	4-2-3-1
1-4-2-3	2-4-1-3	3-4-1-2	4-3-1-2
1-4-3-2	2-4-3-1	3-4-2-1	4-3-2-1

In the previous examples, we played four consecutive notes on the same string. Beginning at measure 39, we expand this concept to adjacent strings, and then in measure 42, we take this idea one step further with several string crossing examples that incorporate some very challenging finger placement through independent movements. Again, transpose these exercises to all the other positions on your fretboard.

The exercises in measures 46-53 demonstrate how to pivot from a finger on a single string through a series of hammer-ons and pull-offs.

Measures 54-86 are comprised of eleven different one and two-octave arpeggios. Arpeggios are excellent string crossing exercises and great chops builders for all musicians. Due to the vertical form of arpeggios, you will be required to play across your fingerboard in a different fashion as compared to the more horizontal or linear structure of scales. Depending on where you shift from one note to the next on a 4-string bass, keep in mind that there are several other ways to play a two-octave arpeggio, and you should definitely experiment with as many permutations as possible. For the extended range bassist who plays a five or six-string instrument, these exercises may be played across the fingerboard without the necessary shifting required to play these exercises on a 4-string bass. On an extended range bass, these arpeggios can be easily applied to three-octaves. You should also take these arpeggios and practice them in all their inversions (CMaj7 - 1st inversion: E-G-B-C, 2nd inversion: G-B-C-E, and 3rd inversion: B-C-E-G) and even practice arpeggio extensions (tensions) by adding compound intervals: the 9th, 11th, and 13th. The biggest challenge faced when tapping arpeggios is muting. When notes are tapped in a fast succession, you need to make sure strings are not left ringing. As with all the previous examples, transpose all the arpeggios to every position on your fingerboard.

In measures 87-90 we will play the C Major scale using hammer-ons, pull-offs, and slides. There are many different ways to play scales on your instrument depending on where you shift so feel free to experiment with other fingerings, and apply these tapping techniques to all the scales you already know in every position on your fretboard. You should feel equally at ease playing in every position.

Measures 91-178 consist of several common country, latin, blues, and jazz-related grooves that you will often hear bassists play as part of chordal and melodic accompaniment using two-handed tapping techniques.

If you find any of these exercises too difficult to play in the positions notated, simply move them up to an area where the frets are closer together to lessen any strain on your left hand. For the extended range bassist who plays 5, 6, or more strings, you will want to expand all of these exercises to every position of the fingerboard. The possibilities for variations on these examples are limitless so continue to experiment with these examples until you have exhausted many of the combinations.

Try to execute all of these exercises without making visual reference to your fingerboard. If you have been playing bass for a long time, you already have a strong sense of muscle memory with your left hand through standard bass technique. Later on when we add right hand tapping techniques, this will allow you to pay more attention to your right hand without having to worry about the notes underneath your left. Although some of these exercises may seem impractical, they are conditioning your left hand fingers to hammer-on and pull-off notes in a precise fashion that we will later combine with our right hand to create contrapuntal music on bass. It is crucial that the left hand be able to perform these hammer-ons and pull-offs before introducing the right hand.

Before using a timing device such as a metronome or drum machine to play along with these exercises, make sure you can play these examples perfectly at a slow rate using these left hand tapping techniques. Once you feel comfortable with the techniques, start at a comfortable pulse and then gradually increase the tempo on your metronome or drum machine. If you feel any strain at all with your left hand as you are playing any of these exercises, take a break before proceeding. Allow the muscles in your left hand to get accustomed to playing these left hand tapping techniques. As your left hand fingers acquire more strength and independence, all of these exercises will become easier. With these tapping exercises, and all technique-based examples, particular attention must be paid to the precise execution of the subtleties involved with these techniques before any thought is given to speed. Keep in mind that the end goal is not to play fast just for the sake of speed. The primary objective with all of these exercises is to develop a consistently accurate and completely independent left hand tapping technique that will allow you the melodic, harmonic, and rhythmic freedom to perform flawlessly in any musical setting regardless of the degree of difficulty.