THE METRONOME IS YOUR FRIEND
How to use the metronome to improve practice and performance

By Douglas Niedt

PART 1. Control of Tempo

You probably do not want to hear this, but the metronome is one of your best allies in improving your guitar playing.

Many condemn the use of the metronome. Some call it an anti-artistic instrument. One reason we hate the metronome is that in the back of our minds we know the metronome is right. The metronome is almost perfect, we are not. We do have errors in our timing.

But are you one of those who thinks he does not need a metronome? Do you think you have a stellar sense of tempo and don't *need* to read this technique tip? Okay hotshot, go ahead, make my day. See how you do on the tempo tests beginning on page 17.

Almost Perfect?

Notice I said the metronome is *almost* perfect. I'm fascinated by the science of devices and came across some interesting facts.

We know that the traditional pendulum-style metronome clicks unevenly if it is not on an absolutely flat surface. If you have ever tried to level *anything* perfectly, you know how difficult it is to find a perfectly level surface. In 1977, Frederick Franz (inventor of the first plug-in electric metronome) significantly improved the old-style pendulum metronome by suspending the working parts in the case so they levelled themselves, eliminating the "limp" on non-level surfaces. However, I believe Franz metronomes are no longer manufactured and to the best of my limited knowledge, no other manufacturer uses the design.

Plus, the pendulum depends on the force of gravity which means the metronome will work differently if you are practicing at sea level on a beach in the Caribbean or playing a concert at the top of Mount

Everest for your Sherpa guides. Pendulums also expand slightly on warm days and contract on cold days which results in a variation in their performance.

Even digital metronomes (and watches) that rely on a quartz crystal that vibrates at 32,768 times each second are affected by changes of temperature plus imperfections and friction in the gearing of the devices.

What about software metronomes? Surely, they are perfect. Alas, no. I was shocked to discover after spending $100 on it, that the Soundbrenner Pulse Metronome which comes as a phone app, and wearable version (it vibrates against your skin, so you can literally feel the beat) clicks unevenly! I bought one when they first hit the market. Maybe they have fixed the problem, but the one I have (and the phone app) is useless.

But all silly nitpicking aside, for the most part a good physical digital quartz/electronic metronome or well-designed online or phone app metronome is far more perfect than we are!

Are You For It or Against It?

The fact is, you will find many teachers and performers very much opposed to using a metronome. Composers such as Felix Mendelssohn, Richard Wagner, Giuseppe Verdi, and Johannes Brahms have disparaged it.

But this guy loves his metronome.

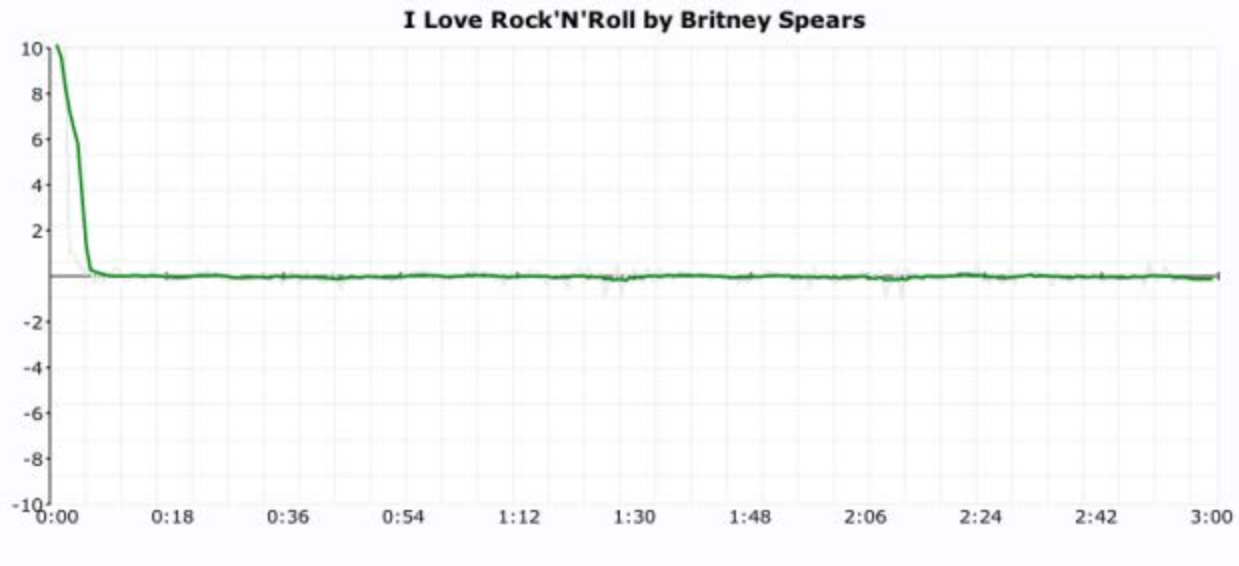
Detractors say that because the metronome can only provide a fixed and rigid pulse, a student cannot learn the living and breathing pulse, swing, or groove of music. They say a metronomic performance conflicts with the expressive performance of real music which by nature is often irregular.

But their argument is faulty. Nearly all the criticisms of metronome practice are based on the idea that we are going to play with the metronome indefinitely or for a significant part of our practice session. Or that we always want to play in metronome-like rhythms. This is totally wrong.

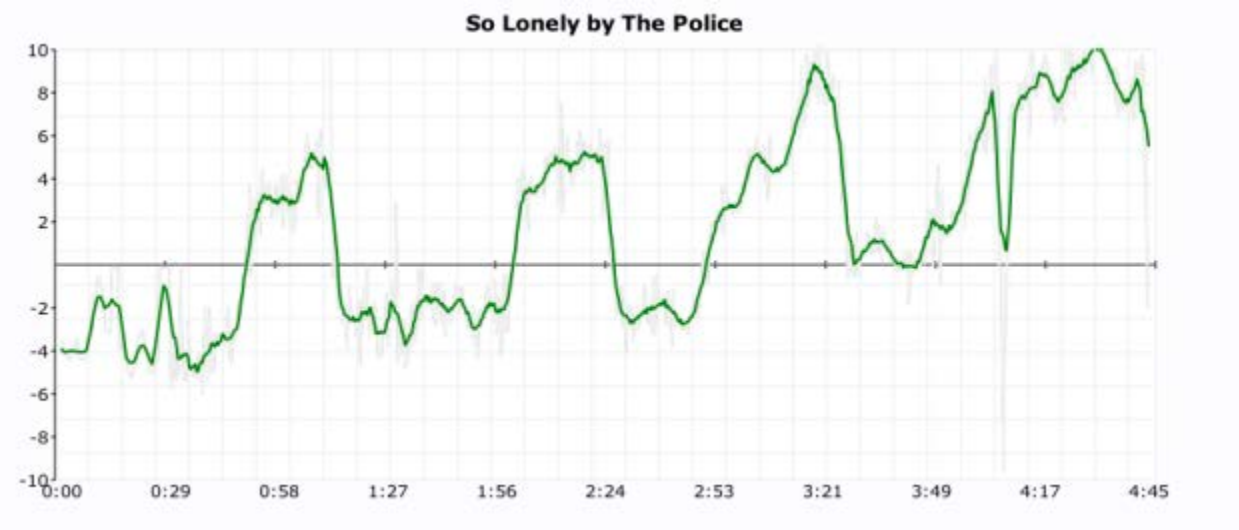
Probably the only people who want to play/perform/record/compose music in near-mathematical precision, are producers of military marches and of electronica, disco, synth-pop, techno, and similar forms of popular music. I do not mean to say that critically. That is the aesthetic of those forms.

In fact, music technologist Paul Lamere documents the use of the click track (syncing the recording and/or performance of music to an electronic metronome) in popular music. He produced graphs of the tempo variation within songs recorded by Britney Spears, The Beatles, Metallica, The Police, Elton John, and many others.

Here are two examples. First is a plot of *I Love Rock n' Roll* by Britney Spears. The plot shows the tempo deviations from the average song tempo over the course of the song. The plot shows that there is virtually no deviation at all. Britney is using a machine to set the beat.



Now compare Britney's plot to the click plot for the song *So Lonely* by the Police:



Here we see lots of tempo variation. There are four main humps each corresponding to each chorus where Police drummer Stewart Copeland accelerates the beat. Over the course of the song there is an increase in the average tempo that builds tension and excitement. In this song the tempo is maintained by a thinking, feeling human, whereas Britney is using a sterile machine to set the tempo for her song. But both are okay because each is the intended style of those two artists' work.

The bottom line is: One must learn how to use the metronome correctly and for the right reasons!

- No, we are not going to use it all the time.

- No, our goal is not to play like a metronome.
- For a classical guitarist, the metronome is used on a limited basis and only for very specific reasons to accomplish very specific goals, none of which is to play like a machine.

Our goal is to stop using the metronome as quickly as possible, so we can rely on our own well-developed inner sense of rhythm and tempo*. If we use the metronome correctly, we can develop or greatly improve our inner pulse.*

THE METRONOME IS USED IN THREE WAYS

Function #1. To set an absolute tempo.

Function #2. As a tool to help us develop and improve our inner pulse. This enables us to play "in the pocket" or groove and to accurately hold a precise and steady tempo.

Function #3. As a practice and diagnostic tool to improve the efficiency of our practicing and therefore, the quality of our final performance.

Note: we do not condone the use of the metronome for these purposes:

1. Using metronomes as door stops.

2. Using the old-fashioned pyramid-shaped wood metronome for kindling to start a fire.

3. Annoying your cat. Well okay, go ahead and join the other 100,000 viewers of this cat vs. metronome video.

FUNCTION #1: Use the metronome to set an absolute tempo as a tool to specify and measure tempos

Use the Metronome to Play a Piece at the Performance Tempo Intended by the Composer

The original purpose of the metronome was only to provide a way to accurately measure or specify the tempo of a piece. The metronome was invented in 1816. Before that, composers such as Bach, Handel, Milan, Dowland, etc. had no reliable way to accurately specify the tempo at which they wanted their pieces to be played.

Early Attempts

Relative tempo indications were used, for example the Italian system of largo, moderato, allegro, presto, etc. (more on that coming up). *The names of dances were* used to imply the tempo: Allemande, Courante, Gigue, etc. But the tempo of these dances varied from country to country and decade to

decade. *Early pendulum devices* were in experimental use from the late 1600's into the 1700's but were inaccurate and unwieldly. Some were six feet tall!

A quantum leap in the history of musical timekeeping came in the early 1800's with the invention of the pendulum metronome by Dietrich Nikolaus Winkel in 1812. His design was stolen and patented in 1816 by a shady character named Johann Nepomuk Mälzel (or Maelzel).

Several years earlier, Maezel had made the acquaintance of Ludwig Van Beethoven. Though unscrupulous, Maezel was a gifted inventor and had made some ear trumpets to help Beethoven deal with his increasing hearing loss. After some serious disagreements and a lawsuit over other matters, Maezel sought to get back into the good graces of Beethoven and presented him with his new invention, the metronome.

Beethoven became an early adopter and wrote, "So far as I am myself concerned, I have long purposed giving up those inconsistent terms 'allegro', 'andante', 'adagio', and 'presto'; and Mälzel's metronome furnishes us with the best opportunity of doing so. I here pledge myself no longer to make use of them in any of my new compositions."

It can never be simple

Once the metronome came into use, composers finally had a tool they could use to accurately specify performance tempos. Or so we thought.

In Beethoven's case for example, the metronome markings he specified for his symphonies and other pieces have come under heavy attack by musicians and musicologists. It is said many of them are ridiculously fast or slow. Entire websites, dissertations, and research projects are devoted to supporting or debunking Beethoven's metronome marks. Some scholars say the markings are wrong because he could not hear, his eyesight was so poor he could not read the metronome scale markings, or his metronome was seriously out of calibration. They believe it had been damaged during Beethoven's frequent tantrums when he dropped or threw his metronome to the floor. In fact, the American Mathematical Society published a fascinating paper in which mathematical formulas are presented to show how the functionality of Beethoven's metronome would have been affected if it had fallen to the floor on its base versus had it fallen on its top end. Read the entire paper here. Others say the markings are correct. They say that Beethoven was a revolutionary and the extreme tempos bring out the extreme contrasts, accents, and quick dynamic shifts of his music.

Contradictions abound even in modern times. In 1959, Igor Stravinsky remarked that "a piece of mine can survive almost anything but wrong or uncertain tempo." But in 1963 he explains: "The metronome marks one wrote forty years ago were contemporary forty years ago. I would be surprised if any of my own recent recordings follow the metronome markings."

Many other examples of similar conundrums and contradictions could be cited.

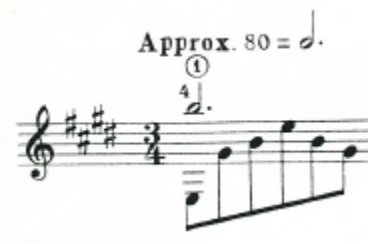
But all that aside, if a composer provides us with a metronome mark, at least we have somewhere to start.

It is important to note that on some music, especially pre-20th century, the metronome markings may not be those of the composer. For example, among guitar composers Sor, Giuliani, and Tárrega did not use metronome markings. Napolean Coste did. In the piano scores of *Leyenda (Asturias)* by Isaac

Albéniz, metronome markings for the quarter note (crotchet)=132 at the beginning of the piece and quarter note (crotchet)=80 for the slow middle section were added by editors after Albéniz' death.

Always keep in mind that if metronome markings have been added by someone other than the composer, they may differ greatly from the composer's intentions.

There is also the problem of misprints. Sometimes the wrong note value or none at all is specified in the metronome marking. In the popular *Cavatina* by Stanley Myers, the metronome marking is given as:



Of course, that makes no sense. The correct note value is a quarter note (crotchet). Thankfully, most misprints are obvious.

Use a metronome to determine the tempo that others play a piece.

I find it instructive to learn the tempo various artists perform a piece. By doing so we learn there is a *range of suitable tempos* at which a piece may be played.

Some of today's handheld digital metronomes, online metronomes (such as that on DouglasNiedt.com), and many phone app metronomes have something called the "tap" feature. As one listens to a song, the metronome is tapped with a finger, or a key on the computer keyboard is tapped along with the beat and the device gives a readout of the tempo.

Caution: Even if the performer seemingly plays the piece at the same tempo all the way through, it is advisable to check several sections of the music. Usually, there are fluctuations in the tempo whether intended or not.

Use a metronome to check the tempo consistency of your own playing.

When you practice at home:

If you record yourself playing a piece, you can listen back and use the metronome tap feature to check the consistency of your tempo from beginning to end. Be sure to check it within several different sections of the piece. Many times, a player will discover they are speeding up in the most difficult parts of a piece or passage. What a relief to discover the difficult passage should be played slower! Unfortunately, it can work the other way around too.

This is important: Be sure to write down the metronome markings in your music! If the piece is in sections, write in the metronome speed for each section. This will be a useful reference as a record of your progress, experiments with different tempos, comparison to other artists, and comparison to your public performances.

Public performances.

If you record a public performance, you can listen back later to check if your tempos in the live

performance match those you practiced at home. You wrote the metronome markings in your music, right?

You will often find that *the tempos of the live performance are quite a bit faster* than those at home due to the additional adrenaline produced by nervousness and excitement (see my Technique Tip, *Adrenaline and Altered Perception of Tempo*). This is probably the main cause of poor performances. If you correct the problem, your next performance will be far more secure and confident because you will perform at the correct tempo that you have rehearsed at home—the speed at which you are comfortable and are confident you can play well.

Here are two fixes for the adrenaline rush.

1. Follow Doug's Rule of Life #12 from the aforementioned Technique Tip:

> Under the stress of public performance, adrenaline causes you, the performer, to lose perspective of the tempo at which you are playing a piece. As you are playing, if it feels like you are really cooking along and you think, "Man, I'm really smokin", you are playing WAY too fast. If it feels like you are breezing along at a good tempo, *you are still playing too fast*. **If it feels like you are playing a little too slowly or that it is a little draggy, it is just right!**

2. As you are warming up before the performance (preferably on stage), get your metronome out and play the difficult pieces or passages *at the metronome settings you practiced at home*. Invariably, they will seem slow. But that is good! The pieces or passages will seem to be easier to play which will inspire confidence and greatly reduce anxiety. If there is an intermission, check your tempos offstage for the difficult pieces in the second half.

Use the metronome to internalize tempo memory and relative tempos

The ability to remember and recall a tempo is a very useful skill to develop. Some musicians and especially conductors can recall tempos to within a few beats per minute. If you can accurately remember a tempo, it will help prevent you from starting a piece at too fast or too slow a tempo.

One way to develop your tempo memory is by association with familiar music. Neuroscientist Dr. Daniel J. Levitin found that nonmusicians could rarely remember the melody of their favorite songs in the correct key or at the correct pitch. But they were able to recall the tempo of the original recordings very accurately.

Therefore, if you know the tempos in B.P.M. of several familiar pieces of music, you can use those as dependable references. You do not have to use classical music for your associations. Use whatever sticks strongest in your memory: pop songs, nursery tunes, jingles, television themes, anything.

Here is the process:

1. Sing or play your reference tune. It is helpful to tap your foot or use body language such as head nods, tapping your leg, tapping your foot, shoulder movements, etc.
2. As you sing, use the tap feature on a metronome to determine your B.P.M. If you play the example on the guitar, record it and check the tempo afterward.

3. Repeat the first two steps *at different times of day* over a period of a few days. Keep a written record of the tempos. For many of us, our tempo sense varies at different times of day, so you might want to choose the times of day you are most likely to practice or perform.
4. Compare the tempos from your tests. If the tempos are within a few B.P.M. of each other that song is a good reference. If the tempos are not very close, try other songs.
5. Test your reference songs every week or two for a month to see if they remain accurate.

After you have done the five-step process, just for fun you can use the tap metronome feature to check the tempos of the original recordings of your reference pieces. However, it does not matter if your reference tempo is different. If the tempo in your head is consistent, you have a reliable reference.

If you know that you always sing *Happy Birthday* at 100 B.P.M., you can use that reference to find the starting tempo of any other pieces in your repertoire that fall close to 100.

If you build up a collection of songs, you will have 10-15 internalized tempos to draw upon as references.

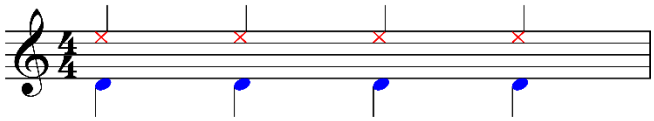
Relative Tempos

Or, if you internalize only a few reference tempos, you can use those to find other tempos by using note subdivision. Here is an example of simple subdivision. From one reference song that has a tempo of 60 bpm, we can determine three more relative tempos:

Our reference song has a tempo of ♩=60 bpm.
The metronome clicks on each quarter note.
If we pluck each note, we are plucking at 60 bpm.

Metronome clicks at 60 bpm are in red.

Reference bpm: ♩=60

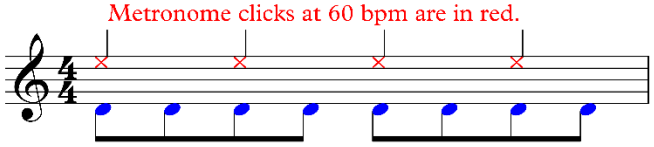


The notes are also being played at 60 bpm.

We subdivide each quarter note into two eighth notes.
If we keep the metronome clicking at 60 but we pluck
the eighth notes, we are plucking at 120. (60 bpm x 2).

Metronome clicks at 60 bpm are in red.

Subdivision of each beat
into 2 eighth notes (quavers)

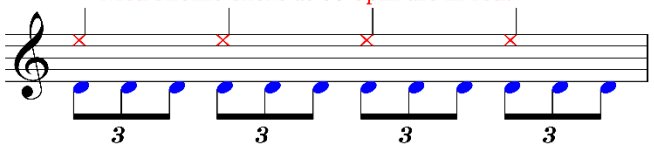


The eighth notes (quavers) are being played at 120 bpm (60x2).

We subdivide each quarter note into three eighth-note triplets.
If we keep the metronome clicking at 60 but we pluck
the eighth notes, we are plucking at 180. (60 bpm x 3).

Metronome clicks at 60 bpm are in red.

Subdivision of each beat into
3 eighth-note (quaver) triplets

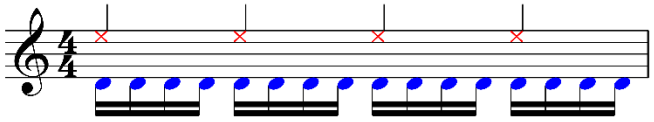


The eighth-note (quaver) triplets are being played at 180 bpm (60x3).

We subdivide each quarter note into four sixteenth notes.
If we keep the metronome clicking at 60 but we pluck
the sixteenth notes, we are plucking at 240. (60 bpm x 4).

Metronome clicks at 60 bpm are in red.

Subdivision of each beat into
4 sixteenth notes (semiquavers)



The sixteenth notes (semiquavers) are being played at 240 bpm (60x4).

Use the metronome to establish the approximate tempos of Italian notations

It is impossible to assign specific metronome markings to the traditional Italian tempo terms such as Largo, Larghetto, Adagio, Andante, etc. Yes, tempos are indicated on metronomes and one can find charts of metronome settings for the terms.

But, the problem with all of them is that conceptions of tempo varied throughout musical history from country to country and even within regions of the same country. They also change over time, both within cultures and within individuals.

For example, the term *Andante* appears to have become faster even within Bach's lifetime. In 1700, my great-great-great…grandfather Friedrich Erhard Niedt (whose *Musical Guide* Bach used to teach his students) described it as being "gantz langsam" (very slow). Only 39 years later Mattheson wrote that it was "nicht zu langsam, nicht zu geschwind" (neither too fast nor too slow).

Therefore, *the charts and any attempt to associate Italian tempo markings with specific metronome settings are nothing more than wild guesses*.

But I know that people like answers. Here is a chart that is better than most:

ITALIAN	BPM	FRENCH	GERMAN
Larghissimo	40 or less	Extrêmement large	Sehr breit
Solenne or Grave	circa 40	Grave	Schwer
Largo	42-66	Large or Largement	Breit
Lentissimo	48 or less	Très lent	Sehr langsam
Adagissimo	circa 52	Lentement modéré	Sehr ruhig
Lento	52-68	Lent	Langsam
Larghetto	56-64	assez large	etwas breit
Adagio	60-80 (66-76 on metronome scale)	à l'aise	gemächlich
Adagietto	68-76	assez vite	ziemlich ruhig
Tranquillo	circa 80	tranquil	ruhig
Andante	80-100 (76-108 on metronome scale)	allant	gehend
Moderato	88-112	modéré	mässig
Allegretto	100-128	Assez vite	Ein wenig schnell
Allegro	112-160	Allègre or Vite	Fröhlich or Lustig
Vivace	circa 140	Vif	Lebhaft
Presto	140-200 (168-208 on metronome scale)	Rapide	Lebhaft
Allegrissimo	circa 168	Très vite	Geschwind
Vivacissimo	circa 200	Extrêmement vif	Sehr rasch
Prestissimo	188-220	Très rapide	Äusserst schnell

FUNCTION #2: USE THE METRONOME TO HELP DEVELOP AND IMPROVE OUR INNER PULSE.

This enables us to play "in the pocket" or groove and to accurately hold a precise and steady tempo.

PLAYING IN THE POCKET OR GROOVE

Musicians talk about playing "in the pocket" or being "in the groove". When a performance of any style of music in a steady tempo sizzles or swings or seems to have a certain magic or drive about its rhythm, you can be certain the musician is playing in the pocket.

The ability to play precisely in the pocket with the metronome requires a guitarist to relate to the time of the metronome clearly and precisely at the millisecond level. The guitarist must be able to intentionally play right on the beat, slightly ahead of the beat, and slightly behind the beat.

The goal is not to play like a metronome, but to use the metronome to help internalize a precise sense of time in oneself. Smart practice with a metronome does no harm to musical expression in timing and rhythm. When practice with a metronome is done correctly, we become more sensitive to nuances of time and rhythm and we feel them more strongly internally.

When we have a precise sense of the passage of time, we can then choose for ourselves how to use this in our musical performance. We will have the ability to play in a musically expressive fashion with a continually changing tempo and beat if that is what we desire. And, as a result of our work on the precision of our timing with the use of a metronome, we will always be aware of what we are doing.

THE VANISHING CLICK

Robert Walker, inventor of the downloadable Bounce Metronome came up with the term, "The Vanishing Click". When practicing with a metronome, it is a very interesting phenomenon and fun to experience.

Walker writes that the metronome click may seem to vanish when we hit the click exactly. The paradox is that the further *off* we are from the click, the more clearly we hear the metronome! When we are playing the guitar, it can be described as a sweet spot where the sound of a plucked note and the click of the metronome are exactly in sync. The click disappears into the plucked note. We only hear the plucked note, not the click. The only time we do hear the click is when our plucked note is ahead or behind the click! It is a strange but wonderful sensation. We are playing, and we see that the metronome is still working, but we are not hearing any clicks because we are in the pocket, precisely in sync with the metronome.

But it can be frustrating. If we play several notes in a row exactly in the pocket, there is a natural tendency for our brain to help us hear the clicks, causing us to drift out of time until we hear the clicks more clearly again. It is difficult to keep our playing so exact that the clicks vanish for more than a few clicks. No one can "bury the click" all the time.

How do I improve my ability to play in the pocket?

To consistently find the pocket or groove, we must learn to make the click vanish or "bury the click". This will be very helpful if we have timing and tempo glitches, an unsteady sense of tempo, or issues of rushing or dragging.

Begin WITHOUT the guitar.

THE SETUP:

In this Technique Tip, I will provide you with metronome videos to follow as you work on the exercises. When you cannot use my metronome videos, this is how to set up your metronome:

- Use an accurate digital metronome—online, handheld, or phone app. NOT an old-school pendulum type.
- At first, do NOT practice with your guitar. Instead, use something like a drumstick to produce a short percussive hit. A ruler on a book works well. Or tap your hand on a table. If you use any kind of tap that produces a longer sound, you will bury the click even if you are ahead of the click.
- Certain metronome click sounds work much better than others for this exercise. If the sound of the click is totally different from the sound of your percussive hits, it will be difficult to make the click vanish. It is important to choose a click sound that is very short. If the click tone rings over (like a cymbal sound) or has a reverb tail, it will be impossible to make the click vanish.
- The volume of the metronome should not be too loud. If the volume of the click is too loud, it will be difficult to make it vanish.
- Set the metronome so that there are no accents on any beats. On many metronomes this is done by setting the time signature to 1/4 rather than 4/4, 3/4, etc. On others you can leave it on another meter but adjust the volume of each beat, so they are all the same.
- An important part of playing in the pocket is to be loose and relaxed. If you get tense and try too hard to stay with the clicks, you will never find the pocket. The clicks will not vanish.

EXERCISES:

First, we are going to learn to play ahead of and behind the beats.

All of the tapping video exercises use a square click. It is much easier to hear when you are ahead or behind the beat with this click. It is also easier to make this click vanish than other types of clicks.

Some people find they do better if they listen to the clicks and do NOT look at the video.

1. Set the metronome to 45. To achieve a relaxed state, you will begin by NOT trying to tap on the clicks. Alternate your taps with the metronome clicks. Tap anywhere *between* the clicks. Do not try to play on the "ands" that fall precisely between the beats. In other words, do not think "1 & 2 & 3 & 4 &". Instead, tap out your hits very freely and simply stay away from the metronome clicks.

Watch video.

2. Next, intentionally make your hits AFTER each click. The metronome is set at 60. Hear the click, then tap. Hear the click, then tap. Not too close, and in no recognizable rhythm. This should feel effortless, no big deal.

Watch Video.

3. Now reverse it. Intentionally make your hits BEFORE each metronome click. Make your tap, then hear the metronome click. Tap, then hear the metronome click. Again, this should feel effortless, no big deal.

Watch video.

4. Next, alternate between tapping before the click and after the click. Do four or five hits BEFORE the clicks. Stop. Let the metronome keep ticking. Breathe. Do four or five hits AFTER the clicks. Effortless, no big deal.

Watch video.

5. Now, alternate between tapping before the click several times and then after the click several times without stopping. Again, stay away from the clicks. You want to feel confident that you can tap before the click or after the click at any time you choose.

Watch video.

You have now learned to play ahead of the beat whenever you want to, and behind the beat whenever you want to. In this way, you are developing a clear sense of where the beat is. In other words, you have learned to play on either side of the beat—before and after.

Now we need to learn to merge our tap and the click into one, producing the vanishing click.

Zeroing In. We will use the idea of an echo to play IMMEDIATELY after and IMMEDIATELY before the clicks. Then we will zero in to play precisely ON the beats, making the clicks vanish.

Play closer and closer to the click, before and after. Keep the metronome at 60. Some people find they do better if they only listen to the clicks and do NOT look at the video.

1. Make your hits IMMEDIATELY *after* each click. Hear the click, then tap IMMEDIATELY. Hear the click, then tap. Think of your tap as an extremely fast echo of the click.

Watch video.

2. Make your hits IMMEDIATELY *before* each click. Hear a click, then tap IMMEDIATELY before the next one. Tap, then hear the click follow immediately. Think of the metronome click as an extremely fast echo of your tap.

Watch video.

You are now tapping milliseconds ahead or behind the clicks!

Now, we are going to begin to make some clicks vanish. Turn the volume of the metronome down.

If the volume of the click is too loud, it will be difficult to make it vanish.

Experiment with subdividing the beat into two, three, or four parts. For example, say you are hearing the metronome clicks as quarter notes (crotchets) and counting 1, 2, 3, 4. Subdivide into eighth notes (quavers) and count 1 & / 2 & / 3 & / 4 &. Or, use the syllables: "tah kah / tah kah / tah kah / tah kah".

Or, subdivide into sixteenth notes (semiquavers) and count 1 e & a / 2 e & a / 3 e & a / 4 e & a. Or, use the syllables: "tah-kah-dee-mee / tah-kah-dee-mee / tah-kah-dee-mee / tah-kah-dee-mee.

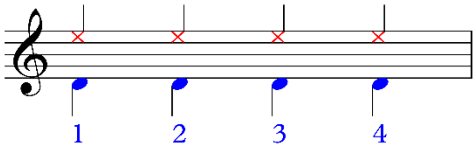
By breaking the rhythm into smaller values, the larger values become more precise.

I also recommend that you tap your foot or use body language such as head nods, tapping your leg, tapping your foot, shoulder movements, etc. to physically feel the rhythm and internalize it.

Subdivide the Beat

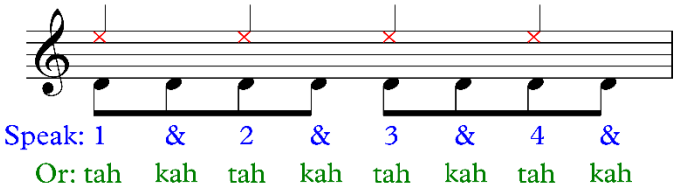
If you hear the clicks as quarter notes (crotchets)

Metronome clicks are in red.



Subdivide into eighth notes (quavers)

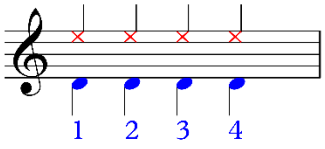
Metronome clicks are in red.



OR:

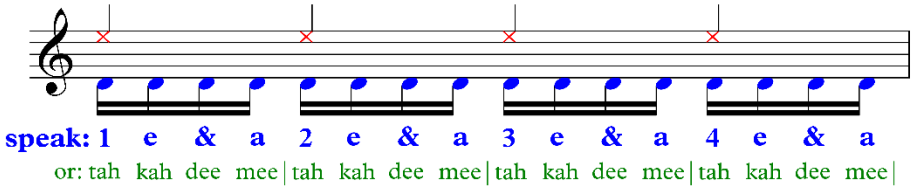
If you hear the clicks as quarter notes (crotchets)

Metronome clicks are in red.



Subdivide into sixteenth notes (semiquavers)

Metronome clicks are in red.



3. Listen to a click, tap ON the next click, listen to a click, tap ON the next click.

Watch video.

4. Tap ON each click.

Watch video.

Soon, every one of your taps will be within a few milliseconds of each click. You should experience a vanishing click with every 5-10 taps or even better. You may also experience the wonderful phenomenon of several vanishing clicks in a row where it seems as if the metronome has stopped clicking. It is disorienting, and there will be a strong pull to make you play a little behind or ahead of the click to hear the metronome again.

Now, let's do the exercises WITH your guitar.

For the click to vanish, the volume of the metronome must be lowered because the tone quality of the guitar is very distinct from the click of most metronomes. To make the metronome click vanish more easily, you will need to experiment with different playing styles to see what works best with your metronome's click tone: single note rest stroke, single note free stroke, what note to play (higher or lower pitch), or even plucked chords.

In the next practice video, I have chosen a Clave Click which **blends really well with the guitar if you play the high C# on the first string at the 9th fret**. With practice, it is not too difficult to make the click vanish. Some people find they do better if they listen to the clicks and do NOT look at the video.

Practice the exercises from the preceding two sections. Do exercises 2-5 from "*Learn to Play Ahead of and Behind the Beats"* and then all four exercises from "*Zeroing In"*.

Watch video.

HOLDING A TEMPO

Another important skill is to be able to stay in tempo. Some call it, "hold a tempo". In other words, you must **develop the ability to play with a steady beat (maintain the same speed) over the course of several measures or an entire piece**.

When used correctly as in the following exercises, the metronome truly shows its strength as a partner to help you develop and internalize a conception of steady time—your inner pulse.

In this exercise, you will tap/play along with the metronome clicks for several measures. The metronome will go silent and disappear as you continue to tap or play the beats at an unwavering, steady tempo. The metronome will reappear after one or more measures of silence. If you hold the tempo successfully, your ongoing tap and the first re-entry click of the metronome will be perfectly in sync. If your tap and the metronome click are not together, you failed to hold the tempo.

The purpose of the exercise is to develop your ability to maintain an inner pulse when the metronome goes silent. Some people find they do better if they only listen to the clicks and do NOT look at the video.

Tap only, WITHOUT the guitar:

Watch video.

If you have been humbled, stay on DouglasNiedt.com and sit in with the Rhythm Section. You will find fantastic practice videos I have put together with different tempos, click sounds, and levels of difficulty.

Try this one in 3/4 time WITH your guitar. In this video I have chosen a Clave Click which **blends really well with the guitar if you play the high C# on the first string at the 9th fret**. Hold a steady tempo throughout AND try to make the click vanish. Some people find they do better if they only listen to the clicks and do NOT look at the video.

Watch video.

The exercise becomes progressively difficult as the tempo is slowed. The ultimate test, 40:

Watch video.

Again, if you have been humbled, stay on DouglasNiedt.com and sit in with the Rhythm Section. You will find fantastic practice videos I have put together with different tempos, click sounds, and levels of difficulty.

If you successfully did the preceding exercise at 40 with eight measures of silence, you have an exceptional ability to hold a steady tempo. Job opportunities will be plentiful: be a live replacement for Britney Spears' click track, conduct the London Symphony, replace Lars Ulrich in Metallica.

The preceding videos were produced using the Bounce Metronome developed by Robert Walker (I will discuss the different types of metronomes and their features below). This type of training is called "Go Silent Briefly" in the Bounce Metronome. It is called the "Rhythm Trainer" in the Pro Metronome phone app. The basic idea is that the metronome plays X number of measures and then goes silent for Y number of measures. Some advanced metronomes such as the Bounce Metronome have countless play/go silent options from which to choose.

One More Test

This last video tests your ability to maintain an even beat as the metronome changes from ticking quarter notes to half notes to whole notes to tied whole notes. Continue to tap or play the beats with your guitar at an unwavering, steady tempo as the metronome changes note values. In other words when the metronome changes, do not change with it. Continue your own steady tap of 1, 2, 3, 4. Some people find they do better if they only listen to the clicks and do NOT look at the video.

Watch video.

Okay, were you one of the hotshots who thought they could jump right to these exercises, ace them, and wait till next month for Part 2? What's that? You didn't do so well on these tests? Okay hotshot, go back to the beginning and read the entire tip like you should have in the first place.

FEATURES AND TYPES OF METRONOMES

For those who don't keep up with the latest technological advances of metronome science, here is a brief rundown of what features are now available and the different types of metronomes.

Features

1. **Notches.** Traditional metronomes and even many digital metronomes are marked with increases of approximately 5% for each notch or setting. That is why:

From 40-60 each notch increases by 2 bpm (beats per minute)

From 60-72 each notch increases by 3 bpm

From 72-120 each notch increases by 4 bpm

From 120-144 each notch increases by 6 bpm

From 144-208 each notch increases by 8 bpm

Many digital metronomes can be set in increments of 1 bpm. Some can be set in even finer increments with decimal entry. (My online metronome on DouglasNiedt.com has single-digit increments).

Some guitarists prefer the 1 bpm increments so that at high speeds they can increase the setting by 5's or less instead of being stuck with having to skip by 8's in the 144-208 range.

2. **Tempo Range.** The standard bpm range of metronomes is 40-208 bpm. But one can find digital metronomes with ranges that begin at 1 bpm and go into the 1000's bpm. (My online metronome on DouglasNiedt.com has a range of 15-480).

3. **Volume.** Some metronomes are louder than others. Loud is usually better. But it is best to have a volume control. Some hand-held metronomes have a volume control. Phone app metronomes of course can be controlled by the volume control of the phone, but some have independent controls as well. Many online metronomes do not. My online metronome on DouglasNiedt.com does have a volume control. An ear bud jack is always handy.

4. **Click Tone.** Some people are sensitive (my wife for instance) to the tone of the click. She refused to use one of my metronomes in her piano practice because she could not stand the sound of the click. After rummaging through my collection of metronomes I have accumulated over the years, I finally found one she found agreeable. That is one good thing about a lot of software and phone app metronomes. They usually give you options of click sounds from which to choose. Some have a huge variety from which to choose. Most handheld metronomes only have a choice of one or two sounds.

Many metronomes have the same click for every beat. On others you can choose to have certain beats accented or played with a different sound. This can be helpful if you're having difficulty feeling the subdivisions within a meter or beat. But sometimes it can lead to confusion. You just have to try it.

5. **Practice Modes.** Some phone app metronomes and desktop metronomes can be programmed to gradually increase their speeds, either by specific numbers of beats or by ratios over a set period of time. Most make the tempo changes in stairstep fashion. The complex devices and desktop versions can also make the changes gradual over a specified time that you choose. The developers say these features are for warmup, cool down, building speed, or changing between fast/slow practice. I have never used these features. I find that reaching over and changing the speed manually does not require a great expenditure of energy on my part…

6. **Go silent mode, practice mode, play/mute mode.** The name varies from metronome to metronome. Not many metronomes have this function. You program the device to click for X number of measures and then go silent (mute) for Y number of measures. Then it comes back on, goes off, etc. It is actually very useful to check if you are holding your tempo steady. Most metronomes can only be set to one X

and one Y value. Complex desktop metronomes can be programmed to play/mute in any combination of numbers of measures (or time).

7. **Crazy Stuff.** From there, things get crazier. You will find choices of LED or LCD lights, light patterns, choice of complex compound/multiple time signatures, ability to communicate with musicians in other solar systems, choice of complex beat patterns you will never play, complex subdivision, programmable rhythms, Wi-Fi and/or Bluetooth connected units, auto off, timer functions, tone generators, upbeat and downbeat indicators, vibrating metronomes, networking capabilities, programmable practice routines, and other features that will keep you up at night wondering how you can use them.

Types of Metronomes

1. **Traditional pyramid-shaped wood or plastic.** MUST be used on level service. You will need to keep a level in your guitar case! Even on a level surface they are not very precise. Newer versions have options to accent selected beats with a different tone. Overall a poor choice, but their old-school charm does have a certain appeal.

2. **Handheld digital.** Many guitarists prefer the portability of a handheld metronome. Usually these are very accurate and rugged. Beethoven could have thrown one around during a tantrum and it would never have missed a beat. Basic models with a tuner, light-only switch, and earbud jack are inexpensive. More advanced models have additional bells and whistles such as volume control, choice of click tones (including voice), ability to choose time signatures, choice of which beats to accent with varied tones, choice of specific rhythm patterns, auto-off, timer functions, tap tempo, tone generator, pre-beat (upbeat) function, downbeat indicator, etc. etc. etc.

3. **Hand-held talking metronome.** Some people already hate the metronome. When it talks to them, they go bonkers. Give one to someone you don't like as a gift. But seriously, they are VERY effective in correcting rhythm problems. I use one frequently in my teaching.

4. **Online live (as opposed to downloadable) metronomes** are surprisingly limited and are often computer security risks. Many operate with flash which is no longer supported by most browsers unless you specifically allow it. Personally, I would not. Some of the online metronomes I tested contain malware or attempt to direct you to malevolent websites. The online metronome on DouglasNiedt.com is safe, and very easy to use.

In the United States, if you type in "Online Metronome" into Google Search, a metronome will appear at the top of the page. It is very basic, but it works and is safe.

5. **Online downloadable metronomes** are also available, usually with increased functionality. The only one I have tested is the Bounce Metronome. It is very good, does just about everything but cook your dinner, but is VERY complex. Power user tip: You will need to click "File/Reset Nearly Everything" quite often as you try out all the various functions, do the wrong things, and make a hopeless mess of it!

6. **Phone apps.** I am an Android guy and I began counting how many metronome apps are in the Google Play Store. I gave up after 120. I have only tried a few. Some are simple (nothing wrong with that) and others have tons of features, many of which you will never use. I like Pro Metronome from EUM Lab for iOS and Android. It is a little complicated, but the complexities can be ignored and the app used in a basic mode. *The downside to metronome phone apps is that they can seriously drain your battery power.*

7. **Vibrating metronomes.** Some guitarists have difficulty playing in sync with the click of the metronome. Or, they (or others in the household) don't want to listen to interminable clicks. Vibrating metronomes were invented for these people, so they can *feel* the beat. I am familiar with two: Soundbrenner and Peterson. Soundbrenner is terrible. It clicks unevenly in both the hardware and phone app versions. The Peterson is excellent.

For $30-40, one can purchase just the Peterson BodyBeat Pulse Solo metronome *accessory.* "Connect it to the audio output of your smartphone for use with metronome apps or to a traditional metronome's headphone output. The BodyBeat Pulse Solo converts the click into a clear pulse that you can clip to your belt, shoe, or other desired location. For situations where you can't or don't want to audibly hear your metronome."

Actually, you *can* hear the vibratory pulse. It is very quiet. But I was hoping for absolutely silent.

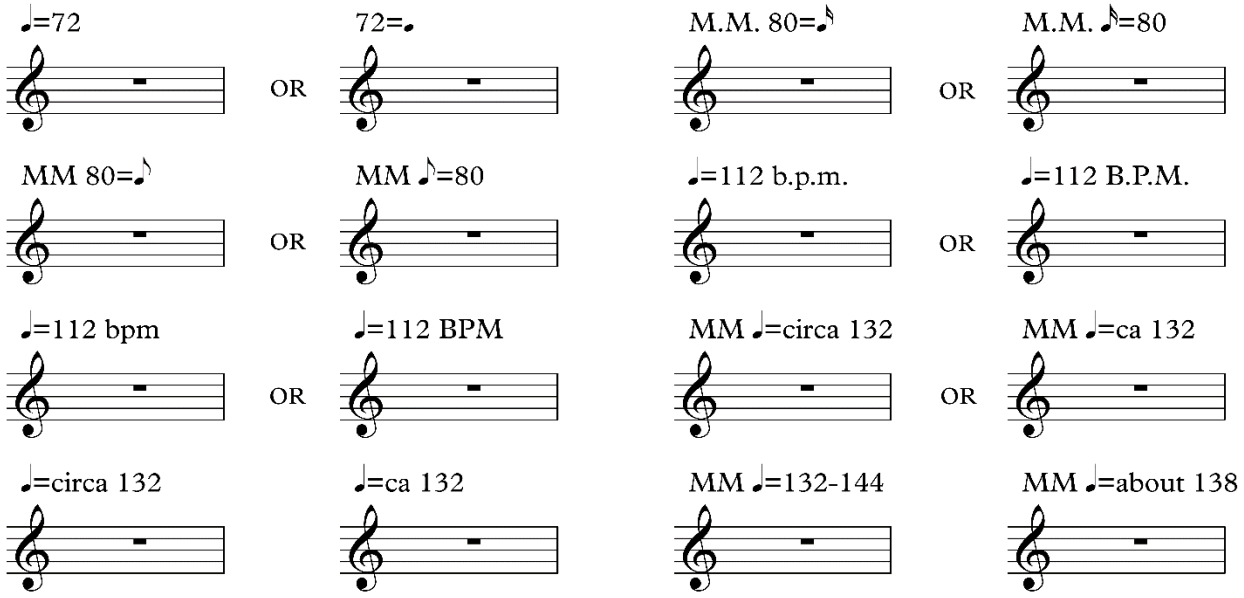
Or, for those who love advanced and amazing gadgets, for $140 you can purchase the physical Peterson metronome in the full-featured Peterson Body Beat Sync. They tell us The Body Beat Sync® represents the ultimate in musical tempo reference devices and transmits the beat by visual, aural and tactile means. It can be networked with multiple devices onstage for a music ensemble. It can store presets and tempo maps. It too can communicate with musicians in other solar systems.

8. **Drum machines** (hardware and software versions). These are advanced metronomes obviously designed for percussionists but very useful for any musician. They tend to be higher in price, have every feature imaginable, and are programmable.

METRONOME NOTATION

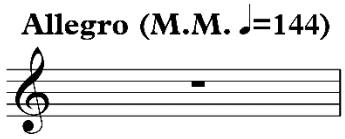
No universal "correct" notation exists. Any and all variations of the styles below are fine. In these examples, the musical note value tells us what kind of note gets one beat or click on the metronome. MM or M.M. means Maelzel's Metronome (not metronome mark). BPM or bpm means beats per minute. "Circa" means approximately.

Styles of Metronome Notation

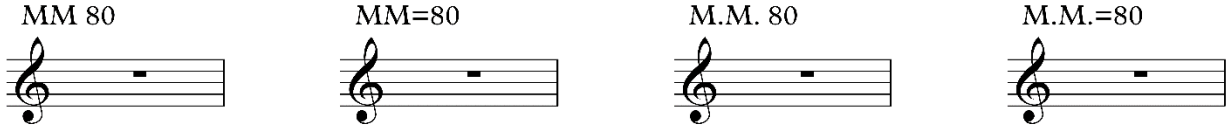


Any descriptive word in any language may be used before or after a marking.

This style of notation is found in older music.



These four are not recommended. It is always best to specify the type of note that receives one beat.



An alternative measure of tempo is measures (bars) per minute.

Or, some contemporary composers specify the total playing time of a piece to give a feel for the overall pacing of the piece. American avant-garde composer John Cage took this to the extreme. A performance of his piece for organ, *As Slow As Possible*, was begun at St. Burchardi church in Halberstadt, Germany in 2001 and is scheduled to have a duration of 639 years, ending in 2640!

If you already have the ability to count out loud as you play the guitar, you may skip the next section. You are done! See you next month.

Next month, we will examine Function #3 of the metronome as a practice and diagnostic tool to improve the efficiency of your practicing and therefore, the quality of your final performance. We will discuss **specific examples** of how to practice your pieces and exercises with and without the metronome. I will include examples from the repertoire, both intermediate and advanced.

THE FINAL FRONTIER: LEARN TO COUNT AS YOU PLAY WITH THE METRONOME.

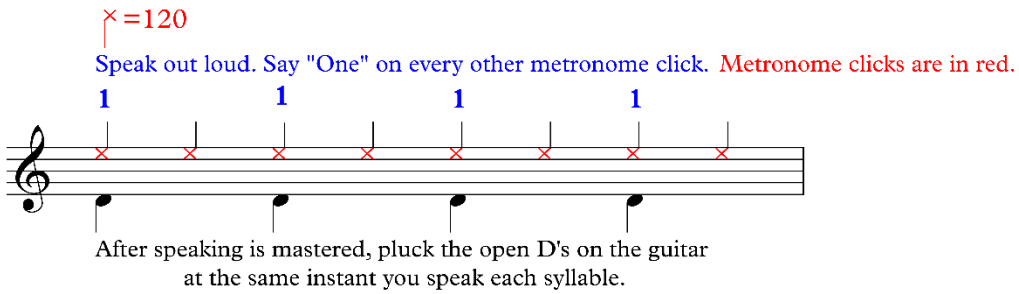
In my many years of teaching, I have come to realize that for the beginning and intermediate student, rhythmic weakness or uncertainty is at the root of countless technical and musical problems. In fact, a student will never progress to an advanced level of playing if their rhythm is insecure or faulty.

The ability to count out loud as one plays is extremely important not only to working with the metronome and understanding rhythm, but also to understanding music and how to practice your pieces. If you have not spent much time playing and counting out loud with a metronome, check out my technique tip *Counting Out Loud*. As I explain in the tip, the skill to be able to count out loud will improve your playing more than almost anything else. The most important skill you can learn has nothing to do with hand positions or sitting positions. Nothing to do with your fingernails. Nothing to do with dexterity or speed exercises. Counting out loud—that is it. Counting quietly or to yourself will not work. You must *count out loud*.

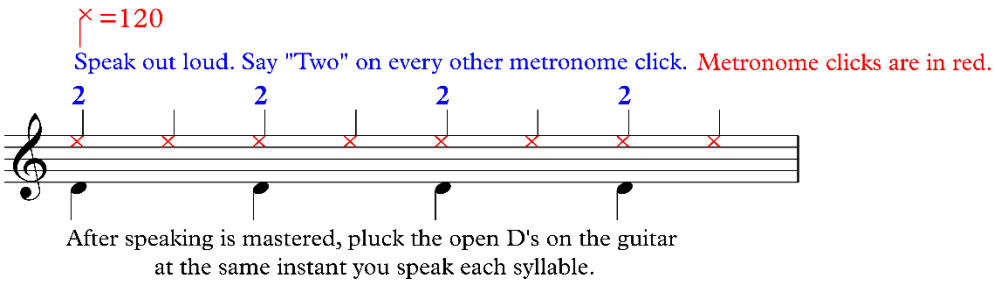
Following is a bare-bones streamlined beginner's guide to learn to count (OUT LOUD!) and play with the metronome. When you count, *be sure to use very short, staccato syllables*. If you are new to this, at first try counting *without* playing the guitar. Once you are comfortable counting, add the guitar.

1. Begin by setting the metronome at 120 with no accented clicks and all the clicks making identical sounds.

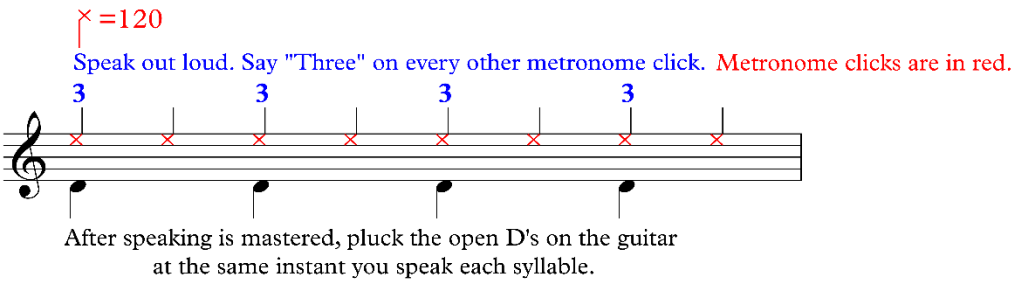
Say "One" OUT LOUD on *every other click*. After you are confident in your counting, count out loud and play the guitar at the same time.



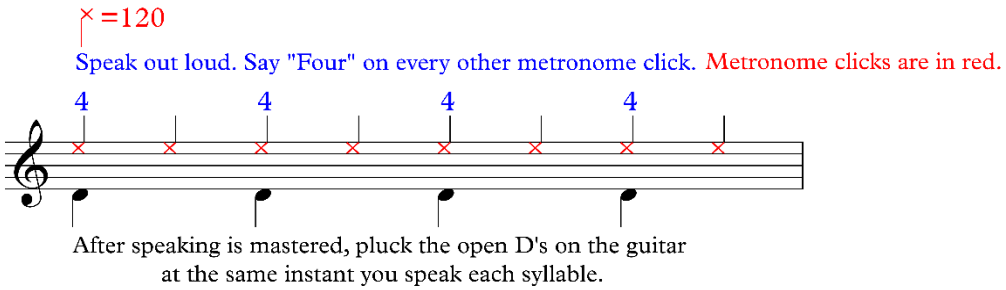
Then say out loud, "Two" on *every other click*. After you are confident in your counting, count out loud and play the guitar at the same time.



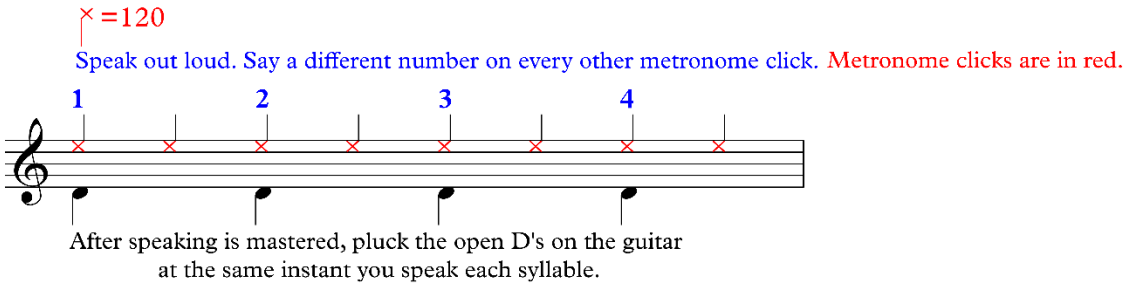
Then say out loud, "Three" on *every other click*. After you are confident in your counting, count out loud and play the guitar at the same time.



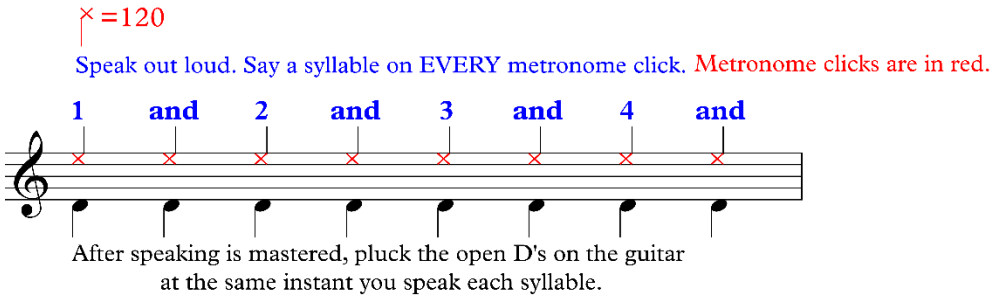
Then say out loud, "Four" on *every other click*. After you are confident in your counting, count out loud and play the guitar at the same time.



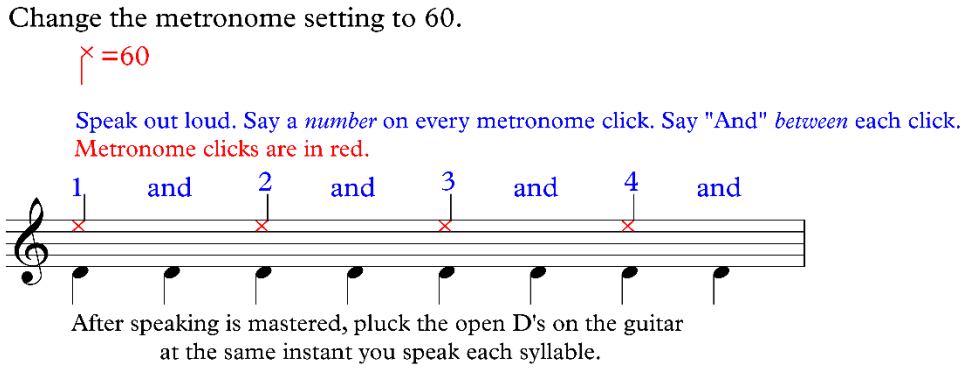
2. Next say out loud, "One, Two, Three, Four" but again, say the numbers on *every other click*. After you are confident in your counting, add the guitar, plucking on every other click at the same instant you say a number.



3. Next, on the clicks you were not speaking on, say, "And". Say out loud, "1 and 2 and 3 and 4 and", speaking a syllable on every click. After you are confident in your counting, add the guitar. Pluck on every click at the same instant you speak each syllable. Keep your spoken syllables short.



4. Change the metronome to 60. Say out loud, "1 and 2 and 3 and 4 and" with the numbers spoken on the clicks and the "ands" *between* the clicks. After you are confident in your counting, add the guitar. Pluck the string at the same instant you speak each syllable.



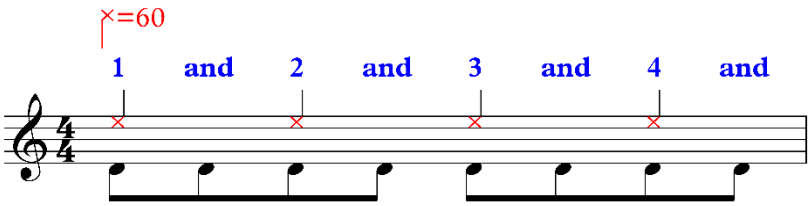
5. **To be certain that your syllables and guitar plucks are staying even when you switch to 60, try this next exercise.** Keep counting/plucking, "1 and 2 and 3 and 4 and" evenly as the metronome switches back and forth between 120 and 60.

It will give you an introductory measure of four quarter notes (crotchets) and then you will begin playing and counting eighth notes (quavers):

Watch video.

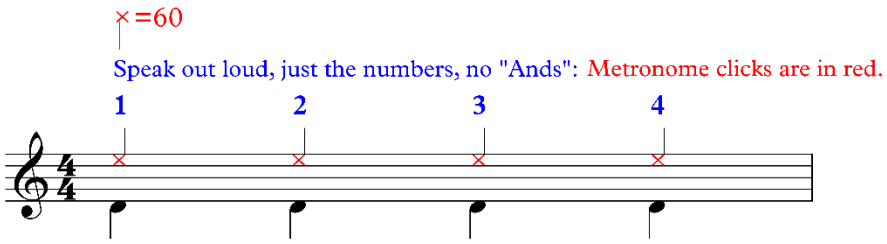
Congratulations:

You have been counting/plucking eighth notes (quavers) in 4/4 time:



Now, count quarter notes (crotchets) in 4/4 time:

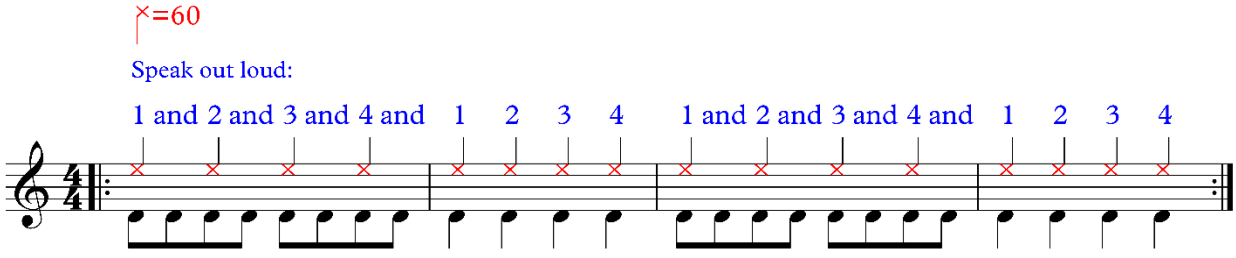
Count quarter notes (crotchets):



After speaking is mastered, pluck the open D's on the guitar
at the same instant you speak each syllable.

6. Next, alternate between counting eighth notes and quarter notes (quavers and crotchets):

Alternate counting eighth notes and quarter notes (quavers and crotchets):

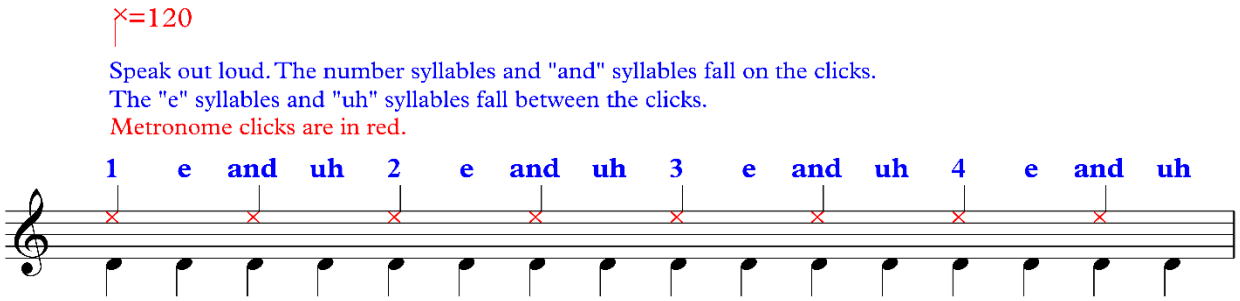


After speaking is mastered, pluck the open D's on the guitar
at the same instant you speak each syllable.

7. Next, we will learn to count sixteenth notes (semiquavers). We count sixteenth notes with four syllables: a number for the beat, "e" for the second sixteenth note, "and" for the third sixteenth note, and "uh" for the fourth sixteenth note.

Reset your metronome at 120 and try this exercise. Count without the guitar first. The number syllables and the "and" syllables fall on the metronome clicks. You have to speak fast!

After you are confident in your counting, add the guitar. Pluck the string at the same instant you speak each syllable.

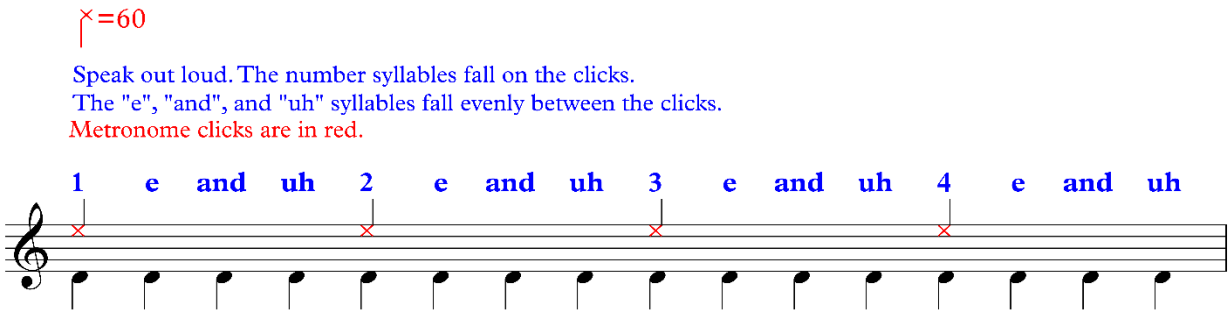


After speaking is mastered, pluck the open D's on the guitar
at the same instant you speak each syllable.
You may need to pluck with "im" if you cannot play
fast enough with only the thumb.

8. Reset the metronome to 60. Count without the guitar first. The number syllables fall on the metronome clicks. You will fit the "e", "and", and "uh" syllables evenly between the clicks.

After you are confident in your counting, add the guitar. Pluck the string at the same instant you speak each syllable.

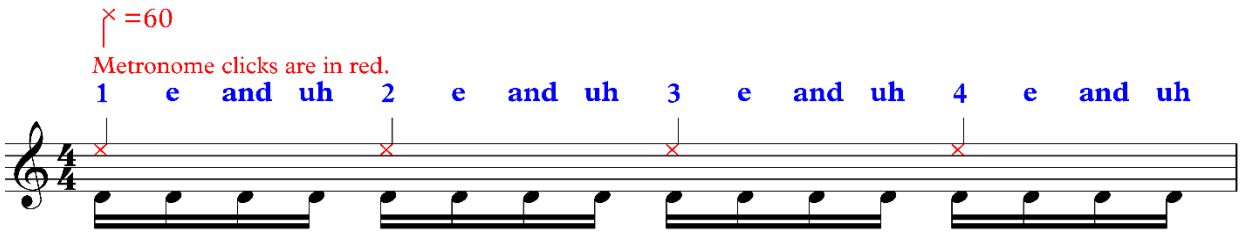
Reset the metronome to 60.



After speaking is mastered, pluck the open D's on the guitar
at the same instant you speak each syllable.
You may need to pluck with "im" if you cannot play
fast enough with only the thumb.

Congratulations:

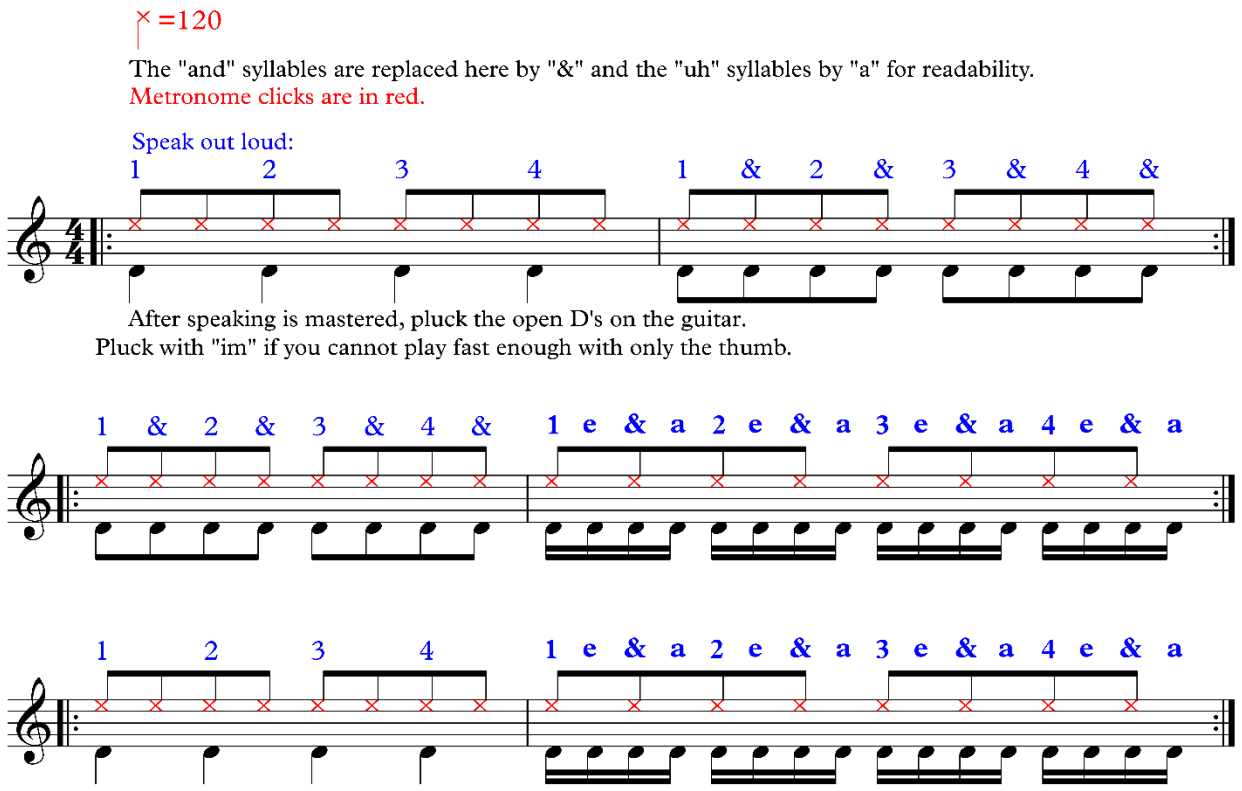
You have been counting/plucking sixteenth notes (semiquavers) in 4/4 time:



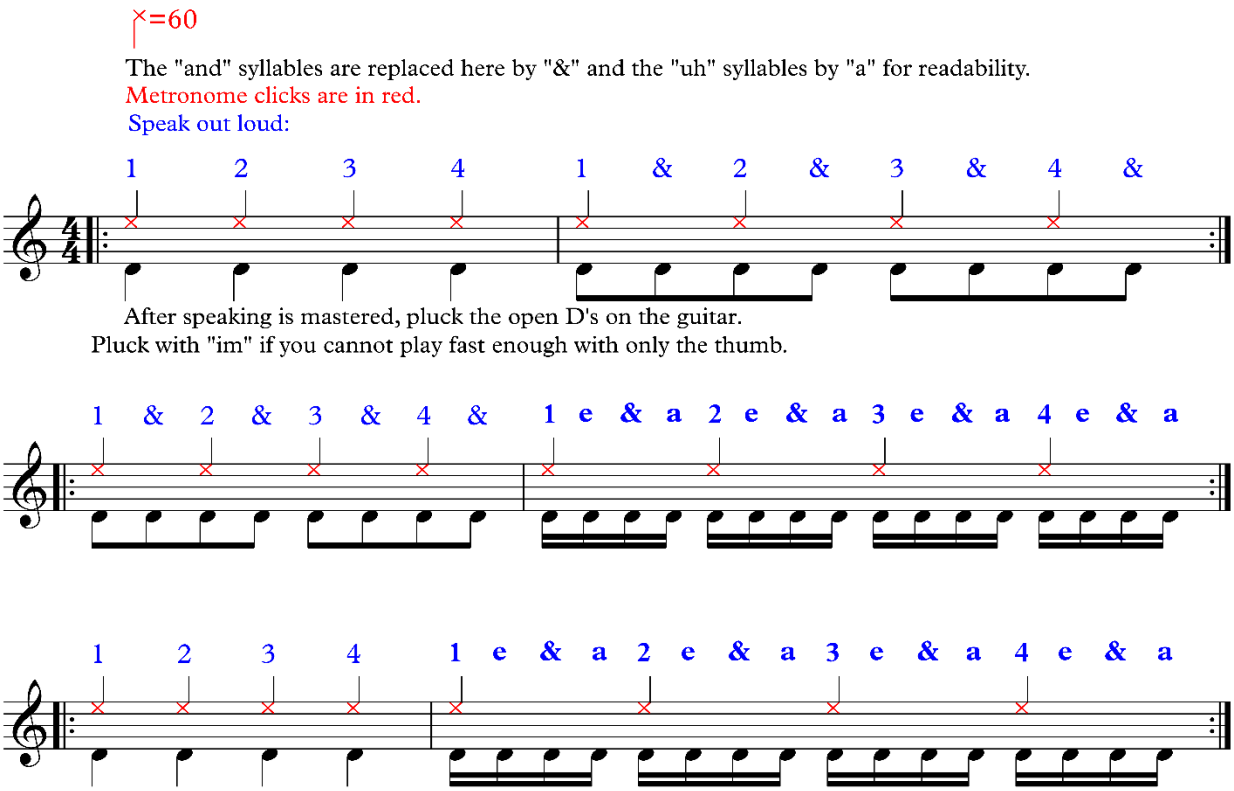
9. Now, mix it up and switch from quarter notes (crotchets) to eighth notes (quavers) to sixteenth notes (semiquavers) back and forth.

Try these exercises with the metronome set at 120. After you are confident in your counting, count out loud and play the guitar at the same time.

Notice that in the notation, I have replaced the "and" syllables with "&". And I have replaced the "uh" syllables with "a". This is for readability and is the most common notation used in U.S. textbooks. You may also see "+" instead of the "&".



Now reset the metronome to 60. After you are confident in your counting, count out loud and play the guitar at the same time.



As I said earlier, the preceding exercises give you the ability to count only the most basic rhythms out loud in sync with a metronome and your guitar playing. If you make it a habit to write the syllables to count in your music, you will soon develop the ability to count, understand, and accurately play complex rhythms.

Next Month:

We will examine Function #3 of the metronome as a practice and diagnostic tool to improve the efficiency of our practicing and therefore, the quality of our final performance.