

How to Use Reflex Bursts to Learn a Fast Scale

By Douglas Niedt

People use the words “speed bursts” to refer to a variety of practice methods, usually done with a metronome. Scott Tennant refers to speed bursts in his *Pumping Nylon* series and Lee F. Ryan refers to them in his book *The Natural Classical Guitar*. What I will describe in this technique tip is the use of a practice technique I call “reflex bursts” or “reflex practice”. The main thing that distinguishes the practice of reflex bursts from speed bursts is that my technique eliminates the use of the metronome. Instead, reflex practice trains the player to rely on the use of their relatively unconscious (but very fast) reflexes rather than the conscious effort of “keeping up” with a metronome.

Say we want to learn to play this scale at high speed:



In the old days, you might have been instructed to learn the scale and then practice it with a metronome, beginning at a slow speed and over a period of several days, weeks, or months gradually bring it up to the desired fast tempo. That does work, but it takes a lot of time and often results in an unfortunate consequence. As the tempo is increased to high speeds, the effort to “keep up” with the metronome can produce tension in the hands and mind of the player. In trying really hard to keep up with the metronome, various psychological barriers are created and the player forever identifies the scale passage as an obstacle or tough spot that he plays on pins and needles during a performance. A much better way to learn a scale (and many other musical passages and techniques as well) is to use reflex practice.

The guiding principle of reflex practice is to reduce a larger passage down to small note groups that can be played perfectly and effortlessly at extreme speed. The individual, small note groups are then connected together into larger note groups and eventually into the entire passage. The note groups and passage are learned at a tempo faster than that required by the piece. Mastery of each note group is

very quick, usually a matter of minutes. Mastery and memorization of the entire passage by stringing the note groups together is achieved in days or less.

In explaining how to use reflex practice, I am assuming you already have the ability to produce a good tone, know how to properly execute a rest stroke, have good left hand-right hand coordination, and play in a generally relaxed manner.

HOW TO LEARN THE FIRST HALF OF THE SCALE

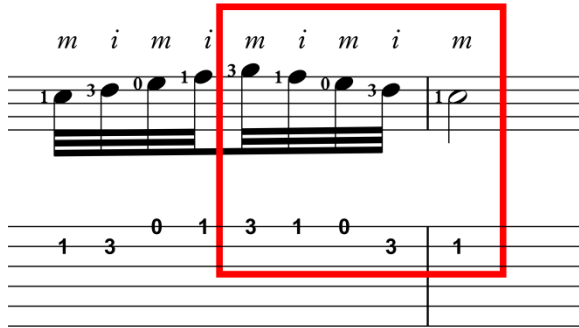
This scale can be divided into two halves. Think of the first half as being the first four notes plus the G.



Think of the G as the downbeat:



The second half of the scale is the second four notes of measure one plus the downbeat C in measure two:



If you are an advanced player, you could probably learn the entire first half all at once, then the entire second half all at once, then put the two halves together and have the scale mastered in 30-60 seconds! We will come back to that approach later. First, for those who are new to this, let's walk through the process step by step.

How to Play the Scale at Warp Speed, Step By Step

To learn our scale with reflex practice, we will begin with a note group consisting of just the first two notes! It is important not to bite off more than you can chew. If you try to practice too large a note group, you will make mistakes, try too hard, and build up tension. Tension is an enemy of playing with effortless speed. Start with two notes. Your patience will be rewarded very quickly as you shall see.



Think of the last note of any reflex burst, whether it's two notes or ten notes, as the destination point—the downbeat:



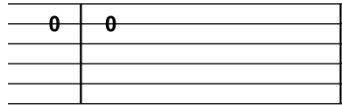
1. First, play the note group rather slowly. Know your left-hand and right-hand fingering. Know that you are starting with “m”. Starting with “m” produces good string crosses throughout the entire scale. Know that you are playing rest stroke (fast scales are usually played rest stroke). Play C to D a few times slowly until the notes and fingerings are clear in your mind.

2. Then, play the two notes as fast as you can. Play the notes in the blink of the eye. Don't *try* to play fast. Don't think, “I have to play this fast.” Just do it without thinking. It's supposed to be a *reflex*, not conscious effort. We are building the scale on a foundation of effortlessness. Use light left-hand finger pressure. Accent the D so it feels like the downbeat or arrival point.

3. After playing the D, lift the 3rd finger and “i” off the string. Let the muscles in both hands relax. Wiggle the fingers around, stretch them, or shake them out—whatever it takes to rid them of any residual tension. In fact, be sure *all* of you is free of tension. Check your neck, shoulders, jaw, etc. The rest period (a count of 2-5 seconds) is very important. Continuously repeating a note group at high speed over and over builds up tension resulting in mistakes, conscious effort, and slower execution. You will defeat yourself. Pausing between repetitions allows the muscles to recover and the mind to clear so that each repetition is always done from a state of repose, relaxation, and effortlessness.

4. Repeat. If you get confused on fingerings, play the note group slowly until the fingerings are clear.

5. If the right-hand fingers feel sluggish, rehearse the right hand alone on the open string:



Play the two open notes as fast as you can. Again, don't try to play fast. Let it happen. Don't force it. Just do it. Stop after playing the note group. Relax the fingers. Shake them out. Repeat, but always from a state of repose and absence of tension.

6. Then, try again with both hands together. If you are practicing correctly, within 60 seconds you should be playing the note group at extreme speed with no effort and no mistakes. After playing the note group over and over, you have automatically memorized the notes and fingerings.

Always think of each note group as a single thing, as a single movement, or a single gesture. Don't think about each individual note.

When you say a word, you don't think about each letter. You simply say the word. Same thing here.

Watch this short video as I demonstrate the basics of executing a reflex burst:



Reflex Bursts for Scales

Add One Note

Add *one* note to the note group:

The musical notation consists of two staves. The top staff is a single melodic line with notes and fingerings: *m i m i m i m i m*. The bottom staff shows the fret numbers for each note: 1 3 0 1 3 1 0 3 1. A red rectangular box highlights the first three notes and their fret numbers (1 3 0).

Think of the last note of the note group as the downbeat or destination note:

Relax
muscles

1 3 0

1. Walk through the group to familiarize both hands with the fingerings. Be sure to begin with “m”. That will result in good string crossings throughout the scale.
2. Play the 3 notes as fast as you can. Don’t think about it. Don’t try. Let it happen. Just do it. Remember; think about playing the note group in a single movement or gesture, not as individual notes. Accent the E so it feels like the downbeat or arrival point.
3. Rest. Wiggle the fingers around, stretch them, or shake them out so no residual tension remains.
4. Repeat. If you get confused on fingerings, play the note group slowly until the fingerings are clear.
5. In this note group we have a string cross or string change from the 2nd string to the 1st string that might trip up the right hand. So, if the right hand is sluggish or has a problem with accuracy, practice the right hand alone. Often, problems with the left hand are actually caused by the right hand!

Right hand alone:

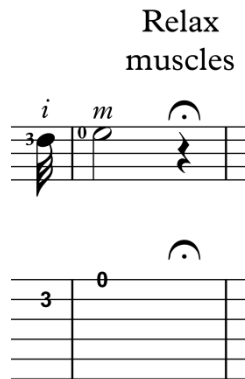
Relax
muscles

0 0 0

6. Finally, put both hands together again. If you are practicing correctly, within 60 seconds you should be playing the note group at extreme speed with no effort and no mistakes. After playing the note group over and over, you have automatically memorized the notes and fingerings.

Break the note group down into its component parts

If the string change from the D to E still gives you trouble, you may need to break down the note group into smaller parts. In this case, we could practice just the string cross:

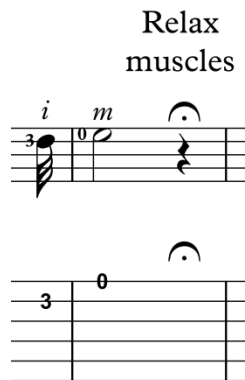


Then, perhaps practice the right hand alone again. Finally, put both hands back together.

In other words, if you can play segment A (the first two notes):



And if you can play segment B (the second two notes):



You should now be able to play segment A + segment B (all three notes of the original note group):



Once again, you will accomplish all this within a matter of minutes. You will play the note group effortlessly, confidently, and accurately. It will be memorized. And, you will play the three notes faster than you will need to play them in the complete passage.

Instant Gratification

One of the many wonderful things about reflex practice is that you receive almost instant gratification. Gone are the days of practicing for weeks, hoping you will be able to keep up with the metronome at the higher speeds. From the get go, you will be playing accurately at extreme speeds with little effort.

Learning the Rest of the Scale

Using these same principles, let's learn the rest of the scale.

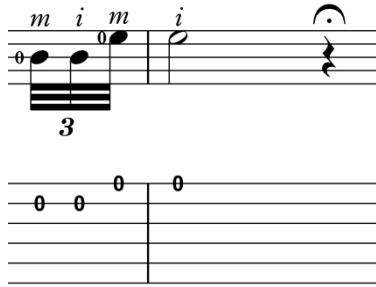
Add the next note of the scale. Now we have a note group of four notes:



Think of the final note of the note group as the downbeat:



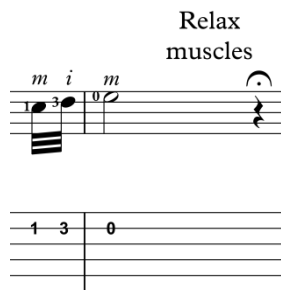
1. Walk through the group to familiarize both hands with the fingerings. Be sure to begin with “m”. That will result in good string crossings throughout the scale.
2. Play the 4 notes as fast as you can. Don’t think about it. Don’t try. Let it happen. Just do it. Remember; think about playing the note group in a single movement or gesture, not as individual notes. Accent the F so it feels like the downbeat or arrival point.
3. Rest. Wiggle the fingers around, stretch them, or shake them out so no residual tension remains.
4. Repeat. If you get confused on fingerings, play the note group slowly until the fingerings are clear.
5. If the right hand is sluggish or has a problem with accuracy, practice the right hand alone. Remember, if the *left* hand is having a problem, often it is caused by the *right* hand.



6. Finally, put both hands together again. If you are practicing correctly, within one to two minutes you should be playing the note group at extreme speed with no effort and no mistakes. After playing the note group over and over, you have automatically memorized the notes and fingerings.

If the passage still gives you trouble, you may need to break down the note group into smaller parts. Depending on where the problem is, we could practice:

First Practice Part A:



Then Practice Part B:



Play Part A + Part B together:



Or, break it down into these components:

Part A:



Part B:



Part A + Part B:

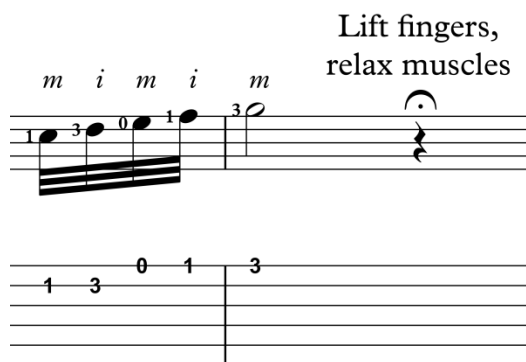


Once again, you will accomplish all this within a matter of minutes. You will play the new note group with extreme speed effortlessly, confidently, and accurately. It will be memorized. And, you will play the four notes faster than you will need to play them in the complete passage.

Add the next note of the scale. We have a note group of five notes. WE ARE NOW AT THE MID-POINT OF THE SCALE!

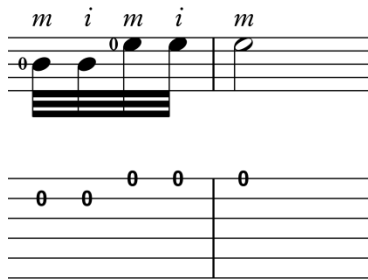


Think of the final note of the note group as the downbeat:



You know the drill:

1. Walk through the group to familiarize both hands with the fingerings. Be sure to begin with “m”. That will result in good string crossings throughout the scale.
2. Play the 5 notes as fast as you can. Don’t think about it. Don’t try. Let it happen. Just do it. Remember; think about playing the note group in a single movement or gesture, not as individual notes. Accent the G so it feels like the downbeat or arrival point.
3. Rest. Wiggle the fingers around, stretch them, or shake them out so no residual tension remains.
4. Repeat. If you get confused on fingerings, play the note group slowly until the fingerings are clear.
5. If the right hand is sluggish or has a problem with accuracy, practice the right hand alone:



Try both hands together again. If you are practicing correctly, within a few minutes you should be playing the note group at extreme speed with no effort and no mistakes. You will have memorized the notes and fingerings.

If the passage still gives you trouble, you may need to break down the note group into smaller parts. In this case, we could simply divide it in half:

Part A:



Part B



Part A + Part B



CONGRATULATIONS! YOU HAVE LEARNED THE FIRST HALF OF THE SCALE!

You have accomplished all this within a matter of 5-20 minutes. You can now play the entire ascent of the scale with extreme speed effortlessly, confidently, and accurately. It is memorized. And, you are playing the first half of the scale faster than you will have to play it in an actual passage of music.

HOW TO LEARN THE SECOND HALF OF THE SCALE

Use the same process to learn the second half of the scale:



Play G to F as a reflex burst.

Add the open E and practice G-F-E as a burst.

Add the D and practice G-F-E-D as a burst. Here, you have a string cross or string change from the open E to the D on the second string. Therefore, you might want to practice E-D alone to rehearse the string change.

Finally, add the final C.

If you have problems playing all five notes as a burst, break it into two halves, then put the two halves back together:

Part A



Part B



Part A + Part B



If you experience sluggishness in the right hand in any reflex burst combination, practice the right hand alone.

For each burst, follow your six steps:

1. Walk through the note group to familiarize both hands with the fingerings. Be sure to begin with the right-hand finger that will result in the greatest number of good string crossings throughout the scale.
2. Play the note group as fast as you can. Don't think about it. Don't try. Let it happen. Just do it. Remember; think about playing the note group in a single movement or gesture, not as individual notes. Accent the last note of each burst so it feels like the downbeat or arrival point.
3. Rest. Wiggle the fingers around, stretch them, or shake them out so no residual tension remains.
4. Repeat. If you get confused on fingerings, play the note group slowly until the fingerings are clear.
5. It will usually be necessary to individually practice the note groups involved in a string crossing or string change. If the right hand is sluggish or has a problem with accuracy, practice the right hand alone.
6. Finally, put both hands together again. If you are practicing correctly, within seconds or just a few minutes you will be able to play each note group at extreme speed with no effort and no mistakes. By playing each note group over and over, you will automatically memorize the notes and fingerings.

CONGRATULATIONS! YOU HAVE LEARNED THE SECOND HALF OF THE SCALE!

As with the first half of the scale, it will take about 5-20 minutes to learn the second half. You can now play the entire descent of the scale with extreme speed effortlessly, confidently, and accurately. It is memorized. And, you are playing the second half of the scale faster than you will have to play it in an actual passage of music.

THE MOMENT OF TRUTH: PLAYING THE ENTIRE SCALE

The concept is simple. You have learned the first half of the scale as a reflex burst:



You have learned the second half of the scale as a reflex burst:



Practice each half by itself a few times, review any snags, and then put them together into one long reflex burst:



If you hit a snag, extract the notes involved and practice the note group as a reflex burst until the problem is solved. Then, plug it back into the entire scale.

Save Time—Practice Larger Note Groups

As I noted toward the beginning of this technique tip, advanced players may be able to learn the entire first half of the scale, then the entire second half of the scale, and then connect both halves together within minutes. That's great.

But for everyone, in order to save time, practice the largest note group you can handle. But, don't bite off more than you can chew. In other words, in this scale, try playing the first half of five notes as a note group. If you can't do it in three or four attempts, reduce it to a note group of four notes. If you can't do that, reduce it to a group of three notes. If you can't do three notes, begin with a note group of just two notes. Then, build back up from there.

MORE ON HOW TO PRACTICE REFLEX BURSTS

Reflex burst practice is fun and rewarding. As I mentioned earlier, you get instant gratification in being able to play at extreme speeds with very little effort, tension, or worry. However, reflex burst practice can frazzle the brain. I don't recommend doing reflex practice for more than 20 minutes at a time. If you aren't used to this type of practice, don't overdo it. In the scale we worked on here, if you're a newbie, I would recommend learning the first half of the scale on day #1, the second half of the scale on day #2, and then combining the two halves on day #3.

This advice is very important when learning longer and more complex passages. If you try to learn too much at one sitting you will find yourself getting confused and making mistakes.

SOME BAD NEWS

You will find that your reflex practice of a passage will be very successful the first day. However, the next day when you sit down to practice, you will probably not be able to play the passage very well.

Sometimes it will feel like you're starting over. That is normal. It will take a few minutes of review to get the passage back into tip-top shape. It takes a few days for the reflexes to "stick". Usually, after two to three days (more if the passage is long or complex), you will be able to play the passage perfectly on the first try.

WOW, THIS IS GREAT

Reflex practice is not just about learning to play notes at warp speed. Here is a list of its impressive benefits:

Efficiency

You learn to play a passage in a short period of time with reflex practice.

Play Effortlessly

You learn to play the passage from a state of relaxation and effortlessness. The habit of playing with zero tension is maintained from the first two notes you play.

Extreme Speed

You learn to play the passage at a speed exceeding what is required in the actual piece.

Play With Precision

You learn to play without making mistakes. Practicing in small note groups develops the habit of playing perfectly almost every time.

Effortless Memorization

You can easily memorize the passage. Because small note groups are practiced over and over, each note group and ultimately the entire passage are automatically memorized as they are learned.

Builds Confidence

Reflex practice builds confidence. You will be amazed when you realize you can play a short reflex burst effortlessly and accurately at extreme speed. You will really be amazed when you begin stringing together the small bursts into larger bursts and are able to play the entire passage accurately at high speed with little effort. Knowing you can play the passage faster than the piece requires gives you confidence. It eliminates the thought: "Uh oh, here comes the hard part."

Test New Fingerings

Reflex practice is ideal for testing out fingerings on both hands. No longer do you have to spend hours, days, or weeks learning a new fingering and bring it up to tempo with a metronome notch by notch only to find out weeks later that it doesn't work for you. With reflex practice you get instant feedback. You

will know within minutes whether a new fingering works or not. To find the best right-hand fingering for a given passage, practice the options with the right hand alone on open strings.

Test Hand Positions

Reflex practice can give you instant feedback on whether a different hand position (left or right) helps or hinders your performance of a passage. You can do a reflex burst 10 times with your old hand position and 10 times with a new hand position. Whichever position produces the greatest number of perfect bursts wins!

Reflex practice is not only a technique for learning fast scales. It can be used to learn other types of passages too. I will explain how in a future technique tip.