

# Refining Techniques

## How do you play harmonics?

When a note is written in the shape of a diamond or has a small *o* above it, it is meant to be played as a harmonic. There are two types of harmonics: natural and artificial. Natural harmonics are created by striking the string with the right hand while a left-hand finger presses lightly against the third, fourth, fifth, seventh, ninth, 12th, 16th, or 19th fret. The chart below shows what pitches you get from touching these frets on each of the six strings:

### FIRST STRING

3rd fret 4th fret 5th fret 7th fret 9th fret 12th fret 16th fret 19th fret

### SECOND STRING

fret: 3 4 5 7 9 12 16 19

### THIRD STRING

fret: 3 4 5 7 9 12 16 19

### FOURTH STRING

fret: 3 4 5 7 9 12 16 19

### FIFTH STRING

fret: 3 4 5 7 9 12 16 19

### SIXTH STRING

fret: 3 4 5 7 9 12 16 19

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Clarity is important when playing harmonics. To be sure that your left-hand finger is pressing against the most resonant spot, move it slightly up and down from each fret while striking with the right hand. Carefully note the optimum location and try to hit it each time you play the harmonic. It will also help if your right hand strikes the string about midway between the edge of the soundhole and the bridge. You'll notice that the sound gets fuzzier and clunkier the further you venture toward the fretboard.

You can also create some of the pitches from the previous chart by playing above the 19th fret. Remove your left-hand finger from the string and touch the string lightly with the index finger of the right hand (over the soundhole and on toward the bridge) while striking the string with either your thumb or *a* finger (ring finger). Since there are no frets to guide you in this region, you have to estimate and experiment to find the sweet spot for your index finger to produce the harmonic.

You can create artificial harmonics by fingering the note an octave lower with the left hand (pressing against the fret as you would normally do when playing) and then touching the string lightly at its midpoint with the index finger of the right hand while striking with the thumb or *a* finger. You could create an F# harmonic on the first string, for example, by fingering the second fret with your left hand, touching at the 14th fret with your right-hand index finger, and striking that string. The *a* finger is generally easier to use than the thumb. But when playing bass strings, remember that the thumb is often more desirable because it won't scrape against the coils. Also, use a light touch with either technique to avoid excess nail noise.

### How do you know when to play rest stroke instead of free stroke?

There are no set rules regarding rest and free stroke. In a rest stroke, the right-hand finger moves with a slight downward pressure onto the string it is striking and then continues in the direction of the string behind it. After "resting" momentarily on that string, the finger returns to its forward position for the next attack. Rest stroke with the thumb is similar, except that when it is combined with the return, the entire gesture creates a circular motion. Free stroke, however, is quite different. To avoid touching the adjacent string, one should move the finger upward at an angle toward the palm or wrist. If the finger moves upward in a vertical or perpendicular motion, the string will bounce vertically onto the frets and produce an ugly snapping sound.

If you were to ask ten professional guitarists to play the same piece of music, each would most likely use both strokes in totally different combinations. Also, an individual's interpretation often varies from one performance to the next. Each stroke produces a specific musical effect, and players not only differ in their musical goals but use their techniques in highly personal ways to achieve them. The issue is complicated further when you consider that there are also strokes in between free and rest, such as those

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that lightly graze the adjacent string or that vary in their upward angle and distance from the string.

Projection, articulation, phrasing, rhythm, color, and musical character all influence one's choice of stroke technique. For example, since strong rest strokes are louder than strong free strokes, you might choose to use more of the former in situations where projection is important, such as when playing single lines and scale passages unamplified in large halls or with an orchestra.

While a series of loud, consecutive rest strokes can be very effective in passages requiring a percussive effect, in more melodic phrases it can sound crude and hammered, like a graceless dancer stomping about in hiking boots. For a truly legato and lyrical playing style, the overall majority of your strokes should be free stroke, with rest strokes used for textural variety, melodic and dynamic shaping, and rhythmic emphasis. When using both types of techniques (and their "in between" counterparts) within a phrase, the blend should be fluid, natural, and seamless. Do not use rest strokes when the adjacent strings must continue ringing, however.

To become technically adept at moving effortlessly from free to rest stroke (and vice versa), try the following exercise. When practicing it, keep your right hand still. Only your fingers should move. Use the chord progressions from Villa-Lobos' Etude #1.

The image shows a musical exercise on a single staff in treble clef. It consists of four measures, each containing a sequence of notes and rests. Above the staff, four boxed 'R' characters indicate rest strokes. Below the staff, four boxed 'R' characters indicate rest strokes. The notes are: Measure 1: a, i, a, i; Measure 2: m, i, m, i; Measure 3: i, m, i; Measure 4: i, m, i, m. The notes are marked with 'a' or 'm' above them. The rests are marked with 'p' below them. The exercise is divided into two pairs of measures by a double bar line with repeat dots.

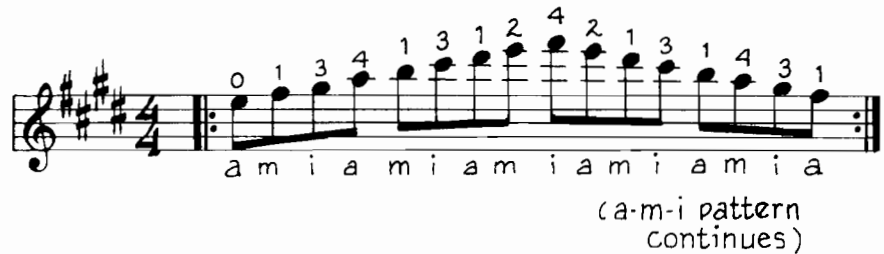
Keep your right hand relaxed. Play all notes with equal volume and good tone quality.

Though rest-stroke technique is generally associated with powerful projection, a very light, *piano* rest stroke can also create a beautiful effect. To hear this, place your hand over the soundhole and play four notes of a line softly, first free and then rest stroke. Also experiment with the amount of nail and flesh you use and the angle at which you approach the string. Since all of these factors influence your palette of colors, you should cultivate as fluent and versatile a right-hand technique as possible.

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**What exercises do you recommend for developing a strong tremolo?**

Using the *a m i* pattern (ring, middle, index finger), practice a major scale on a single string at least five times in a row without pause. Have a metronome mark the first of every four notes:



Repeat this exercise on each string. When this entire sequence is perfect, increase the metronome speed by a notch and repeat the process. Continue until you achieve your maximum tempo without mistakes.

Another technique is to practice a tremolo piece very slowly, using a rest stroke only for the *m* finger. Increase the speed gradually with a metronome. When you can no longer use a rest stroke, use free strokes for all the fingers but continue to accent the middle finger. As the tempo increases, the accent will diminish, but the correct rhythmic placement should remain. Practice to your maximum tempo, keeping all the notes clear and even.

To maintain a clear articulation, use only the nail when striking with the *a*, *m*, and *i* fingers. And never bounce from the flesh to the nail—it will sound like a cat prancing on parquet.

**What is the best way to damp a bass string when you don't want the sound to continue?**

There are three basic ways to stop a ringing bass string: with the right-hand thumb; with a left-hand finger; and with the right-hand *i* (index), *m* (middle), or *a* (ring) fingers if one of them is playing rest stroke. A fourth alternative does exist when all else fails, but you need a relatively agile nose to try this one. In a recent recording session of the last Walton *Bagatelle*, I had no choice but to stop the low E with my nose, because my left-hand fingers were busy flying from the 13th to the 19th position, and I needed my thumb for an intense rest stroke on the fifth string. I don't recommend this method—strange harmonics often sound, the tip of your nose blackens after a few tries, and sneezing is common.

The first three techniques are clearly the most practical, and you can choose whichever is most comfortable and effective for a given situation. The most common approach is to use the right-hand thumb, but there is more than one way to do so. Although some people like to strike a new string and then return to silence the old one, this can be very

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awkward, both musically and technically. For example, if the low E of a dominant harmony is ringing and you wish to play the tonic harmony with a low A, the momentary dissonance that sounds while both strings ring is undesirable. If you are playing in a fast tempo, it may also be awkward to move the thumb back to E, or even impossible if it is needed somewhere else.

A far more effective technique is to stop the low E with the back of the thumb (just below the lower left corner of the cuticle) at the exact moment you touch the A with the nail and/or flesh. You can segue with either a perfectly smooth legato from E to A, or shorten the E, depending on the desired articulation. If you are moving in the opposite direction, say from A to E, you can silence the A by playing the E with a rest stroke thumb. Or if you desire a shorter articulation and there is time for a second motion, stop the A with your thumb before striking the E.

When you use a left-hand finger to stop an open string but do not continue with another pitch on that string, avoid landing on one of the loud natural harmonics (located over the fourth, fifth, seventh, ninth, and 12th frets). If you are stopping a fingered bass string with the left hand, lift your finger vertically to avoid unwanted glissandos or open string noises.

Finally, there may be situations where *i*, *m*, or *a* rest strokes are convenient for stopping an adjacent lower string. This approach will work, however, only when you desire a legato articulation between the two notes.

**I find cross-string trills with *i*, *m*, and *a* to be musically fascinating but technically very difficult to play. Can you recommend any exercises?**

Cross-string fingerings are most commonly used for Baroque ornaments that call for extra clarity and articulation, dynamic control, and/or lyricism (see Critical Notes and performance scores of Lute Suite BWV 996 and Lute Suite BWV 997 as edited by Rosalyn Tureck with fingering by Sharon Isbin, G. Schirmer; available through Guitar Solo Publications, 514 Bryant St., San Francisco, CA 94107). Cross-string trills, mordents, and turns use right-hand articulation on two or more strings rather than left-hand pull-off and hammer strokes on a single string.

A Baroque trill characteristically embellishes the main note from above:



If you play a trill moving from a lower string to a higher string, the right-hand fingering becomes *i m i a*.

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A mordent starts on the main note, moves to its lower neighbor, and returns to the main note:



A turn is played as follows:



Because cross-string ornaments require such extraordinary dexterity and speed, it is essential to learn the technique first with exercises. I've developed three that work very effectively. Exercise 1 (see page 45) trains you to use four fingers on three strings. This is not as easy as it sounds, because we are used to playing arpeggios with four or more strings. Play the exercise with an even rhythm and work it up to your fastest possible speed with a metronome.

Using the same pattern of changing strings as in Exercise 1 (i.e., moving from playing the sixth, fifth, and fourth strings to playing the third, second, and first strings, and back again), play the following exercise with an even rhythm and work up to your maximum speed with a metronome.



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Again using the same string pattern and approach as in Exercise 1, play the following exercise:



When you have mastered all the above, add a rhythmic variation to your routine by also playing the previous two exercises in short, fast bursts:

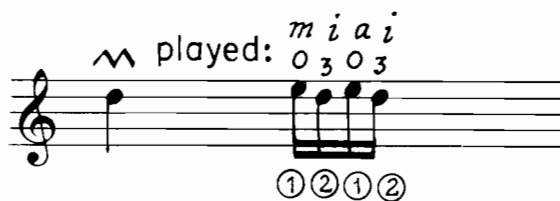


When sounding the last note of a cross-string embellishment, it is necessary to damp the previous note or notes in order to avoid harmonic confusion. You can accomplish this either by releasing a finger (or fingers when more than two strings are used) of the left hand or by damping the nonharmonic ringing with a right-hand finger. In the cross-string mordent below, the most effective way to stop the A is to release the second finger just after sounding the last B:

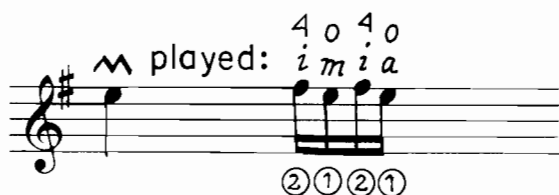


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In other situations, it is more convenient to use a right-hand finger to stop the nonharmonic ringing. In the example below, which shows the basic right-hand trill pattern when going from a higher string to a lower string, use either the *m* or *a* finger to stop the final open E:



When the cross-string ornament is a mordent with an open string for the lower pitch, it is best to stop the nonharmonic ringing with the right-hand finger that would have played the next note had the ornament been a trill. The basic right-hand trill pattern when going from a lower string to a higher string is as follows:



Therefore, use *a* to stop the open G in the mordent below:



With practice, cross-string damping eventually becomes second nature, and your fingers instinctively choose the most convenient and effective technique. Listen attentively at all times, and let your ear be the ultimate guide.



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## Exercise 1

The image shows a musical score for Exercise 1, consisting of four staves of guitar notation. The first staff begins with a treble clef, a common time signature (C), and a dynamic marking of 'p'. The notation includes various rhythmic patterns, including eighth and sixteenth notes, and rests. The score is divided into measures by vertical bar lines, with repeat signs (double bar lines with dots) indicating sections to be repeated. The overall style is technical and rhythmic, typical of a guitar exercise.

### What percussive techniques do you use in performance?

Tapping on the soundboard or bridge of the guitar is the most frequently used percussive technique. The guitar lends itself well to this effect because pitch and timbre vary throughout the instrument's body. Tonal Spanish composers, like Turina in his *Sevillana* and *Fandanguillo*, used it to recall the *golpe* of flamenco guitar. William Walton used tapping in his third *Bagatelle* for rhythmic color and emphasis. More recent composers use the technique to add new textures and coloristic effects. Leo Brouwer's *Canticum*, for instance, has passages that flutter improvisationally up and down the soundboard. His *Elogia de la Danza*, *El Decameron Negro*, and *Danza Caracteristica*, in contrast, all use tapping in a more rhythmic context.

Brouwer's *La Espiral Eterna* is the most adventurous of his percussive-style works. Here you'll find *pizzicato à la Bartók* (where the string is pulled up and snapped in its release), fingernails grating vertically across bass strings, and hammering with all ten fingers on the fingerboard. The effects are magical, especially in live performance. Other composers have employed spoons, bottle-necks, and other creative accoutrements to complement the sonic arsenal.

Even concertos use percussive effects. One of the most fascinating uses of tapping I've seen occurs in Lukas Foss' *American Landscapes*. In a beautiful slow-movement variation of "Wayfaring Stranger," the guitarist imitates the tune by tapping on three parts of the instrument while playing it at real pitch in canonic delay. John Corigliano's *Troubadours* concerto uses a snare drum-like technique, where the fifth and sixth strings are crossed by a left-hand finger and plucked with the right (a technique popularized by the Russian composer Nikita Koshkin). *Troubadours* also employs pitch-varied tapping and *pizzicato à la Bartók* to imitate tambourines and hand drums of 12th-century French dance bands.