

Tone Color, Part 1

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Note: This technique tip is concerned only with varying the brightness and darkness of the tone. This tip does not cover the many types of tone color and effects—pizzicato, tambor, harmonics, vibrato, etc. that the guitar is also capable of producing.

The color or timbre (preferred pronunciation “**tam**-ber” not “**tim**-ber”) of a sound is determined by the relative strengths, presence, and absence of the different harmonics and frequencies that a sound is composed of. On the guitar, if we emphasize the higher frequencies, a note sounds brighter. If we emphasize the mid-range and lower frequencies, it sounds darker. The manner in which you pluck a string determines which frequencies are amplified and which frequencies are diminished.

The great Spanish guitarist Andrés Segovia once described the guitar as a miniature orchestra. Segovia maintained that one of the great strengths of the guitar was its wide range of tone color. He believed this set it apart from other instruments. The piano for instance, may have a greater range and wider dynamic range, but is not in the same league as the guitar when it comes to variety of tone color. Adding tone color to your music is like orchestration. You choose what instrument or sound quality you want for each passage of music to bring it to life.

Today’s younger generation of guitarists seems to have forgotten this. They play fast, furious, and very accurately. But their music-making is flat. If you try to make Italian spaghetti sauce without garlic and basil, forget about it. It doesn’t taste right. It tastes flat and lifeless. Likewise, when guitarists fail to use a key ingredient of guitar playing—color—their music likewise is flat and lifeless.

The Three Tone Colors

Probably the most common way to alter the tone color is to place the right hand at different points along the string. Major changes of tone color are produced by relocating the right hand toward the bridge or toward the sound hole. For instance, beginners are often taught that there are three tone colors on the guitar:

1. Normal, default tone color. The musical terms are *modo ordinario* (ord.) or *sonido natural*. This means to pluck the strings at the bottom of the sound hole i.e. the edge of the sound hole closest to the bridge.
2. Bright, metallic, thin tone color. The musical terms are *sul ponticello* (at the bridge) or *metalico* (metallic). This means to pluck the strings close to the bridge.
3. Dark, sweet, mellow, thick tone color. The musical terms are *sul tasto* (at the fingerboard) or *dolce* (sweet). For guitarists, this means to pluck the strings over the sound hole or over the fretboard.

When you pluck the strings close to the bridge, the higher frequencies are emphasized which makes the tone sound bright. When you play over the sound hole or the fretboard, the mid-range and lower frequencies are emphasized which makes the tone sound dark. When you play in the default position at the bottom of the sound hole, the sound is a compromise between the bright and dark—a balanced, middle-of-the-road tone that comprises a wide range of high, middle, and low frequencies.

Beginners are taught that the guitar has three tone colors because it is concise and keeps things simple. But it is simplistic. And, moving the arm to play close to the bridge for a bright color, or over the sound hole for a dark color, or at the bottom of the sound hole for the default color, is the coarsest way to change the tone color. The reason I call it “coarse” is that it is like an artist painting a picture using only red, blue, and yellow. I suppose nothing is wrong with that technique, but like most painters, we guitarists don’t want to limit ourselves to just three colors. We want a varied palette of literally an infinite number of tone colors.

Granted, we can move the arm and hand to an infinite number of points along the string length to produce an infinite number of tone colors. But moving the arm and hand can be problematical in many situations:

1. It may be difficult to do in a fast passage.
2. It may be difficult or distracting to move the right arm in a difficult passage for the left hand.
3. It may be difficult if a color change is needed where there is no pause in the music to give one time to move the arm.
4. Moving the arm promotes loss of contact with the strings, leading to mistakes.

Good news! You can produce an infinite number of tone colors without moving the arm at all.

Seven Parameters Determine the Color of a Plucked Note

Seven parameters are primarily responsible for the tone color of a plucked note. Many are so closely linked that some players and teachers don’t distinguish between them. *Most can be used with rest stroke or free stroke, further expanding the palette of color.* Note: The quality of your fingernails (length, shape, smoothness, thickness) will affect the results of each of these parameters. If you have no nails, many of these parameters will do absolutely nothing to change the sound of your tone.

1. Angle of attack (which determines the point of fingernail contact)

A fingernail can contact a string on the nail's left side, right side, left and right side simultaneously (straight on) or anywhere in between by altering the amount of left-right bend in the wrist. The left-right bend of the wrist determines the angle of attack which determines the point on the nail that first contacts the string. Small changes produce pronounced changes of color. Also, the angle of the thumb can be adjusted to produce a flesh/nail, nail only, or flesh only attack.

Video #1. Watch me demonstrate how the angle of attack changes the tone color.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select "Full Screen Multimedia". To return to normal size, right-click on video and select "End Full Screen Multimedia" or, press the escape key on your keyboard.



Video 1 Tone Color Parameter 1 Angle of Attack

2. Plucking the string from above or from underneath

Plucking a string from underneath produces a thin, bright tone. Pushing down on a string from above and then releasing it produces a full, dark tone. Julian Bream referred to this as “playing on top of the strings”.

Video #2. Watch me demonstrate.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 2 Tone Color Parameter 2 Plucking from above or underneath

3. The degree of firmness in the tip joint of the finger

Increasing the firmness of the tip joint will give it an edgier or slightly more percussive attack. Relaxing the tip joint reduces that percussive edge.

Video #3. Watch me.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 3 Tone Color Parameter 3 Degree of firmness in tip joint

4. Flexion of the tip joint

The tip joint can be bent (flexed) to increase brightness. Or, the tip joint can be relaxed enough so that it gives slightly (hyperextends) to increase darkness.

Video #4. This is much easier to understand if you watch the video.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 4 Tone Color Parameter 4 Flexion of tip joint

5. Amount of weight on the fingertip

Increasing the weight from the hand and arm onto the fingertip pushes the string further into the guitar. When the string is released from its pushed-in position, the mid-range and lower frequencies are emphasized, producing a warmer or darker tone.

Video #5. Watch me use this technique.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 5 Tone Color Parameter 5 Amount of weight from the fingertip onto the string

6. Angle of release

The finger can release the string and travel to the left, straight across, to the right, or anywhere in between. Playing straight across the string produces the brightest tone. Releasing to the left or right increases the mid-range frequencies, darkening the tone.

Video #6. Watch me demonstrate.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 6 Tone Color Parameter 6 Angle of release

7. Where the string is plucked along its string-length

This takes us back to whether we pluck the string over the fretboard, close to the bridge, or somewhere in between. To move the hand from point to point on the string, you don't necessarily want to change the wrist or hand position. Therefore, the arm must move the hand. For the arm to move the hand, the arm must slide smoothly along the edge of the guitar. Therefore, it is important to wear a long sleeved shirt, a sleeve, or place a cloth under the arm so it can slide smoothly. Bare skin sticks to the guitar limiting the mobility of the arm. ***Never lift the arm off the guitar to move it.***

Video #7. Watch me.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select "Full Screen Multimedia". To return to normal size, right-click on video and select "End Full Screen Multimedia" or, press the escape key on your keyboard.



Video 7 Tone Color Parameter 7 Where string is plucked along length

We can produce an infinite number of tone colors *at one spot on the string* by manipulating these seven parameters.

Video #8. Watch as I demonstrate how these parameters are used together to color a tone.

Be sure to watch on full screen. Click in video area to activate video. Then right-click and select “Full Screen Multimedia”. To return to normal size, right-click on video and select “End Full Screen Multimedia” or, press the escape key on your keyboard.



Video 8 Using all seven parameters

END OF PART 1.