

| Keys | Db | Ab | Eb | Bb | F | C | G | D | A | E | B |
|------|-----|-----|-----|----|----|----|----|----|-----|-----|-----|
| | b b | b b | b | b | | | # | # | # | # | # |
| | b b | b b | b b | b | | | | # | # | # | # |
| | Bbm | Fm | Cm | Gm | Dm | Am | Em | Bm | F#m | C#m | G#m |

Major Key = 1, 2, 3, 4, 5, 6, 7 Minor Key = 1, 2, 3b, 4, 5, 6, 7b
 Major Pentatonic = 1, 2, 3, 5, 6 Minor Pentatonic = 1, 3b, 4, 5, 6, 7b

Below the "Keys" reference you'll find four items related to keys. You'll see that the notes in a Major Key are simply numbered, and these steps correspond to the numbers on the tap scale of the slide rule (1 through 7). So if the slide rule is set with any note name under the "1" (including sharps and flats), the Major Key will include the notes below the numbers.

The Minor Key includes a "3b" and a "7b" which means that the Key includes a couple of flatted notes. In the illustration below, they key of F# Minor would include the following notes: F#, G#, A, B, C#, D#, E.

| 1 | 2 | 3 | 4 | 5 | 6 ^m | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----|----|----|----|----|----------------|----|----|----|----|----|----|----|
| F | G | A | B | C | D | E | F | G | A | B | C | D |
| F# | G# | A# | B# | C# | D# | E# | F# | G# | A# | B# | C# | D# |
| Gb | Ab | Bb | Cb | Db | Eb | Fb | Gb | Ab | Bb | Cb | Db | Eb |

The final bit of handy information on the back of the slide rule shows the notes on the staves of the most common clefs. The clef (the symbol at the left end of the staff) indicates how the notes of the staff are to be read.

| Treble Clef | Bass Clef | Tenor Clef |
|-----------------|---------------|---------------|
| E G B D F A C E | G B D F A C E | F A C E G B D |
| F A C E G B D | A C E G B D F | A C E G B D F |

The Transpos-o-Matic is a useful tool for many musicians, both professionals and hobbyists. It's not intended to be a substitute for learning applied musical theory, but an aid to those who may not use these basic principles regularly.

And, as noted, there are many theoretical principles behind the practice of transposition and musical arranging that are not addressed with the Transpos-o-Matic. It does what it does!

The Transpos-O-Matic measures 2" x about 9" long. It fits easily into any instrument case or notebook. Its thin construction even lends itself to use as a book mark! Please share your experiences and opinions with us.

A bit of practical Music Theory and how to use the Transpos-o-Matic to apply it.

A handy guide for

- Students
- Teachers
- Composers
- Arrangers
- Hobbyists

This publication includes a Transpos-o-Matic Music Sliderule so the information can immediately be put to use.

Take a look at our "How-To Video" for more information!



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The Amazing Transpos-o-Matic Music Sliderule

- Easy Key Changes
- Chord Progressions
- Chord Spelling
- Handy References

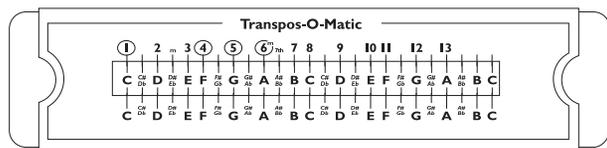


by David M. McCord

This guide will teach you how to use the Transpos-o-Matic to help with...

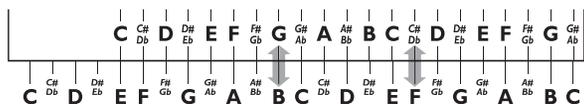
- Key Changes
- Chord Progressions
- Chord Spelling
- References for Key Signatures and Scales

Let's start with the front side of the Transpos-o-Matic, where the real work gets done.



The body or frame of the slide rule is the part you hold onto, and the slide is the inner piece that moves the scale inside the little window. (Obvious, right?) You'll see on the slide and just below the window the chromatic musical scale, the "C" on the left and another on the right two octaves away, plus all the sharps and flats in between.

One of the fundamental uses for the Transpos-o-Matic is transposing chord progressions from one key to another. Let's say you've got the chords for a song in G, but it's a little too low for your voice. It would be easier to sing in B, for example, but what's that C#m become in the key of B?

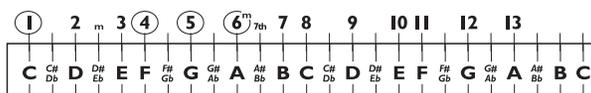


Move the slide to align the original key in the window (G) with the new key (B) on the lower scale. Now, looking at the C# in the window, we see that the C# aligns with F on the bottom. Any chord in the original key (in the window) will align with the correct new chord (in the scale below).

The same principle applies when transposing individual notes, of course. Say you have music in C but you want to accompany a Bb Clarinet. Or maybe you have music written for Eb sax that you want to play on a G harmonica? Simply align the "name" of the original key with the "name" of the new key, and all the notes in the scale will align with their corresponding transposition.

Position the slide rule to display your key relationship and set it on the music stand. You can glance quickly from sheet music to the Transpos-o-Matic and change keys in a heartbeat!

At the top of the rule (see next column) you'll see the "Chord Aid." The numbered intervals help you find the notes that are used in different types of chords.

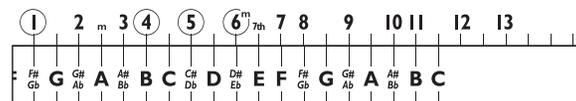


Use this along with the chord-spelling chart on the back to determine what notes are used to make almost any chord you'll need.

| Chord Spelling | |
|------------------------|------------------------------|
| Major = 1, 3, 5 | Major Seventh = 1, 3, 5, 7 |
| Minor = 1, 3b, 5 | Minor Seventh = 1, 3b, 5, 7b |
| Seventh = 1, 3, 5, 7b | Diminished = 1, 3b, 5b, 6 |
| Ninth = 1, 3, 5, 7b, 9 | Augmented = 1, 3, 5# |
| Suspended 2 = 1, 2, 5 | Suspended 4 = 1, 4, 5 |

For example, to spell a C-Major chord, you look up the Major in the spelling chart and see that it is made with the notes 1, 3, & 5. Flipping back to the slide rule, you set the "C" to the 1 on the top scale (the "root name" of the chord) and look under the 3 and the 5 for the other two notes in that chord.

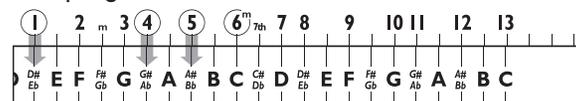
Let's try something a little more challenging. What notes are in an F#9 chord?



Again, consult the Chord Spelling chart on the back of the device. We see that a "ninth" chord contains 1, 2, 5, 7b, and 9. Sliding the rule so that the F# is at "1" we see the notes F#, A#, C#, E, and G#.

Another handy feature is also found on the upper scale above the window. This is the definition of Chord Progressions.

The two most common standard progressions are circled. Many songs use the simple I-IV-V chord progression. (For those unfamiliar with Roman numerals that are usually used in music theory, that's 1-4-5.) Another classic progression is I-VIm-IV-V (1-6minor-4-5).



These chord combinations can be easily transposed to any key with a quick slide of the center scale. Many a folk song can be played in C-F-and-G (arguably the most basic I-IV-V there is). But there may come a time when you need to play that in Eb. (Yes, it does happen.) Just move the center to align the Eb with the "1" and there you have the related chords (Eb, Ab, Bb as shown above).

The mathematics of music make all these conversions universal from one key to the next. There is a theoretical basis for what it does and why it works which goes beyond these few common applications.

When transposing any chords or notes from one key to another, the lower scales on the slide rule will work every time, preserving every interval and harmonic.

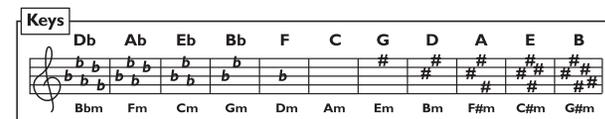
There are however, some quirks in music theory that are not accommodated in the Transpos-o-Matic, such as "true minor" keys and double-flats.

Each vertical line on the slide rule scale represent a "half tone" change in pitch, also called a "half step." Any two vertical lines represents a "whole tone" interval, also called a "whole step." Harmonic intervals are easy to pick out by moving the slide so that the root note is at "1" and the standard interval will be under the corresponding number (3rd, 5th, and so on).

There's also the trick of the "enharmonic" notes — those that are the same pitch but have different names due to the key signature. For example, a Bb and an A# sound alike. The note is the same audio frequency but the name changes depending on the key. To learn more about this phenomenon you'll have to look elsewhere.

But, when spelling chords, you can be sure that a Bb chord will sound the same as an A# chord. Again, the theory ensures that all the notes used in spelling a Bb (Bb, D, F) are the same pitch as all the notes used in spelling an A# (A#, D, F).

The back of the Transpos-o-Matic also provides charts for other musical principles.



Major Key = 1, 2, 3, 4, 5, 6, 7 Minor Key = 1, 2, 3b, 4, 5, 6, 7b
Major Pentatonic = 1, 2, 3, 5, 6 Minor Pentatonic = 1, 3b, 4, 5, 6, 7b

The Key Signature reference (above) is a quick way to identify those keys with multiple sharps or flats. The key is noted above the staff. Also note the corresponding minor keys are shown below the staff. Working with minor keys introduces an entire set of additional rules beyond the function of the slide rule. Again, you should consult a more authoritative source for that information.)

(continues...)