

# Modular Composition

How to Write Music in Any Style *Effortlessly*

by David Mann

## Introduction

This book is designed to provide you with the tools necessary to compose music. These tools will hopefully allow you to turn your creative ideas into a finished product. The methods presented here are very useful and can cover hundreds of different situations. They have been tested under the harshest conditions possible and have delivered many a finished product on time. I hope you will enjoy learning them as much as I have.

We are mainly interested in *techniques*, that is, specific step by step methods used to get a particular job done. Realize that technique is not a dirty word. It is not the opposite of creativity. It goes hand in hand with the creative process to turn ideas into concrete things. Mastering the techniques given here will not limit you, but instead will free you and inspire you with new ideas.

This material is highly condensed. Each chapter is worthy of at least a month or a year of study. For that reason, take the time to really investigate the meaning of what is being presented. Experiment with the ideas. Try them out in different contexts. Develop them further and add your own creative spark. After you've done this, revisit them in the future.

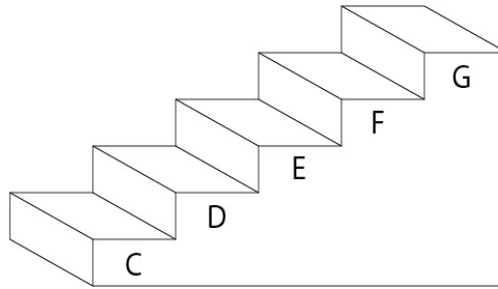
Realize also that you do not have to be a musical expert in order to use this book. The first few chapters are designed to help you build a solid foundation so that even if you are a beginner, you can be writing beautiful melodies within a few weeks.

For additional music theory resources, please download the following Apps:

UltraMusician  
Rhythm Flashcards

## Scales, the Foundation

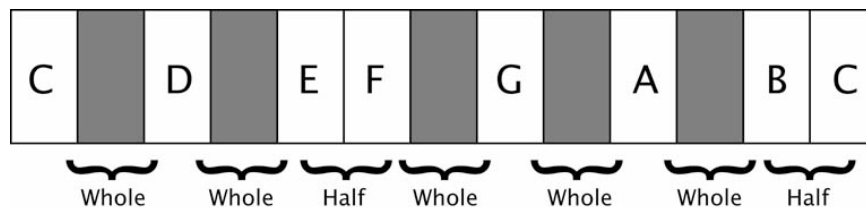
An understanding of music theory, and of composition, starts with an understanding of scales. A scale is a series of closely spaced notes in order from low to high, or high to low. Scale means “staircase”.



In Western music, the most common scale is the C Major Scale. The major scale is also called the *Diatonic* (seven note) scale. The major scale can be thought of as the ruler by which everything else is measured. By understanding the structure of the major scale, we can easily understand how all other scales and chords are named.

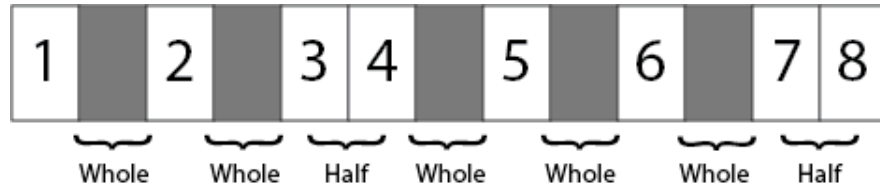
When we move from one note to the next in a scale, it is called a *step*. As we mentioned before, the major scale can be thought of as a ruler. Unlike an ordinary ruler, however, the elements of a major scale are not evenly spaced. There are two sizes of steps called a *half step* and a *whole step*. A half step is the smallest unit in our musical system. It is the distance from one note to the nearest neighboring note. On the piano it is usually the distance from a white key to the nearest adjacent black key. On the guitar, it is the distance from one fret to the neighboring fret. A whole step, on the other hand, is twice as large and is equal to two half steps.

The C major scale is created by starting on C and following the pattern whole whole half, whole whole whole half. Notice that most of the notes are separated by a whole step, except between E/F, and B/C where you find half steps.



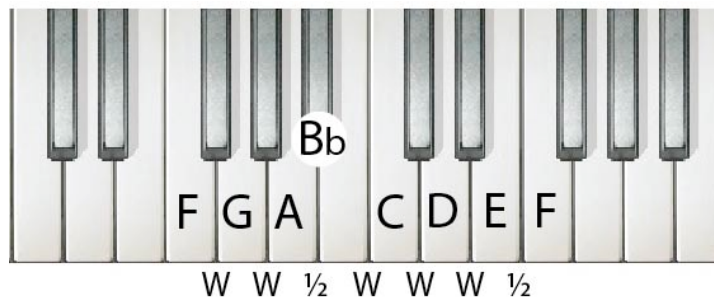
This pattern is so fundamental to Western music that it is literally built in to the structure of the piano and many other instruments. If at any time you forget the pattern of half steps and whole steps, simply look at the piano keyboard.

What gives any group of notes its particular sound, as well as its name, is not the notes themselves, but how those notes are spaced. Similarly what makes a major scale major is not the notes it contains, but the spacing of those notes. As long as the notes follow the pattern whole whole half, whole whole whole half, the notes will form a major scale. If we replace the letters with numbers in the picture above we get a more general representation of a major scale:



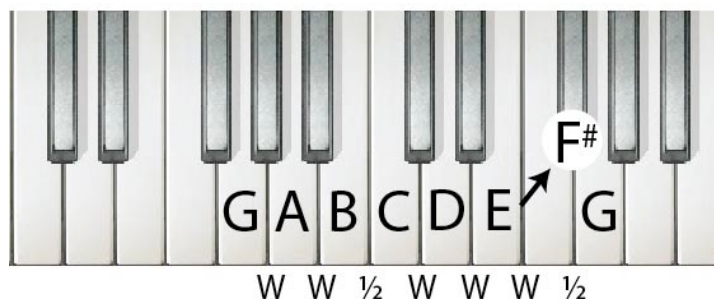
Now we can see that the half steps are between 3/4 and 7/8. Each number is called a *scale degree*. The distance between any two scale degrees is called an *interval*. If the major scale can be thought of as a musical ruler, then intervals can be thought of as musical inches. The term *interval* will be used again and again throughout this book.

There are twelve uniquely different notes in our musical system. As mentioned before, it is the spacing between notes that is important. In the first scale, we used C as our starting point. If we start on a different note but use the same spacing, we will get a different scale. For example, to create an F major scale, we start on the note F and go whole whole half, whole whole whole half:



Look at the interval from A to Bb. We know that in order to keep the pattern of whole whole half, whole whole whole half we require a half step here. However, in its natural state the interval from A to B is a whole step. By choosing Bb instead of B, we force the interval to become a Half Step.

Now let's look at another example. We will form a major scale by starting on G and following the pattern of whole whole half, whole whole whole half.



Look at the interval from E to F#. We know that in order to keep the pattern of whole, whole, half, whole, whole, whole, half we require a whole step here. However, naturally the interval from E to F is only a half step. Therefore we replace F with F#, forcing the interval to become a whole step.

In the following exercise, use the pattern of whole steps and half steps to determine the notes for every possible key:

## Notes in Every Key

Key	1	<i>W</i>	2	<i>W</i>	3	$\frac{1}{2}$	4	<i>W</i>	5	<i>W</i>	6	<i>W</i>	7	$\frac{1}{2}$	8
C Major															
G Major															
D Major															
A Major															
E Major															
B Major															
F# Major															
Gb Major															
C# Major															
Db Major															
Ab Major															
Eb Major															
Bb Major															
F Major															

### Instructions:

Each row represents a different key or scale. The numbers represent which note you are on in the scale. One represents the first note in the scale, two the second note, etc. The symbols “W” and “1/2” indicate Whole Step or Half Step so that you know between any two notes how far to go up. For example, in the key of G, between 6 and 7, it says “W”. That means you need to go up a whole step to F#.

Fill in every cell on the worksheet.

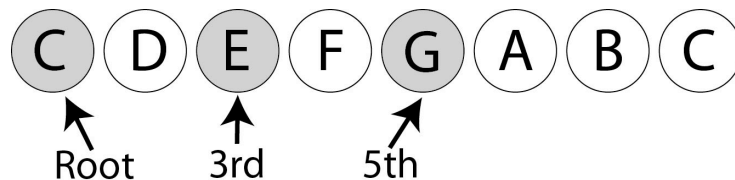
For keys with lots of sharps or flats, it may be necessary to have unusual notes such as Cb (which is equivalent to B) or E# (which is equivalent to F). These are ok in special situations.

### Rules:

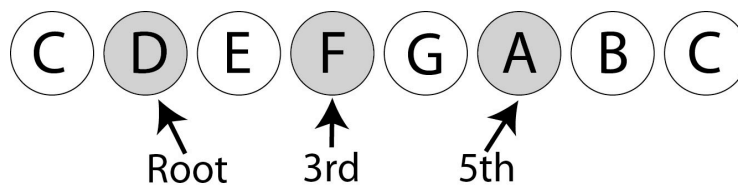
- 1) The notes MUST follow the order of the alphabet! For example, you cannot go from an C *something* to an E *something*. After C follows D. After D follows E, etc. For the keys with lots of sharps or flats, watch out!
- 2) A key can have sharps, OR it can have flats, but not both.
- 3) There can never be more than one of any letter name. For example, there cannot be D and D# in the same key.

## Chords

A *chord* is a group of notes that can be played together at the same time. The most common chords are called *triads* because they contain three notes. Typically, a chord is constructed by first choosing a scale, then choosing three notes from the scale. To do this, we choose a starting note, which we call the *root*, and then choose the third and fifth notes above that starting note. Another way to think of this is that we choose *odd numbered* notes. For example, if we were using a C major scale, we would choose a starting note, which in this example is C. Then we select the third and fifth notes above it. Now we have selected three notes, C E G, which form a *C major triad*.



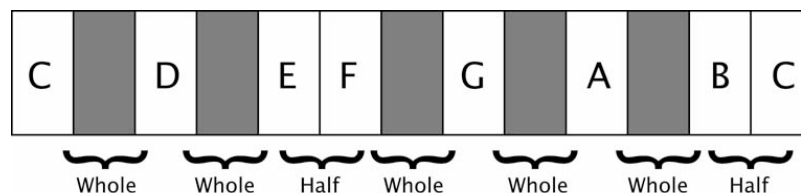
In the next example, we will choose a different starting note D. In this case, the root, third, and fifth would be D F A which forms a *D minor triad*.



You may have noticed that the first chord was a *major* triad and the second chord was a *minor* triad. In order to understand the difference between major and minor, we must look at the spacing of the notes. As with scales, the spacing of the notes is what determines what type of chord it is. Remember that the notes in the scale are not evenly spaced, and that means that if you start on a different note of the scale, you will get a different result. We will learn the names of two new intervals:

- A *Major 3<sup>rd</sup>* is equal to two whole steps (or four half steps).
- A *Minor 3<sup>rd</sup>* is equal to a whole step plus a half step (or three half steps).

With triads, it is the third which determines whether the chord is major or minor. (Note that terms like *third* can refer to a note, or they can refer to the distance between notes. Pay attention to the context in which the term is used to know which meaning is intended. Typically when we say *the* third, we mean a note. When we say *a* third, we generally mean an interval.) If the third is major, the chord will be major. If the third is minor, the chord will be minor. There are a few exceptions, but these will be discussed later. Let's look again at the basic structure of the C major scale:

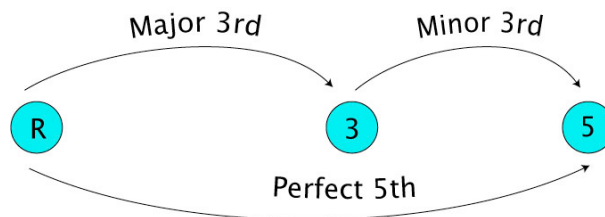


From C to E, this distance is two whole steps. That means C to E is a major third. From D to F the distance is a whole step plus a half step. That means the interval is a minor third. This is why when we

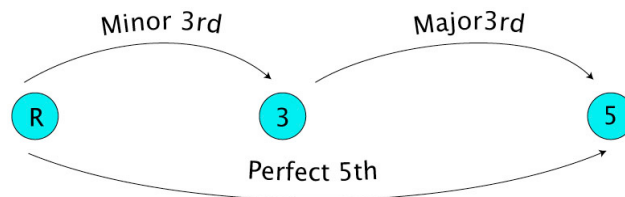
build a triad with the notes C E G, it is a *major* triad, and when we build a triad with the notes D F A we get a *minor* triad.

There are many other intervals contained within a triad. From the root to the fifth forms a so called *perfect 5<sup>th</sup>*. Also notice that from the third to the fifth forms another interval. Like the distance from the root to the third, this interval is also a third. However, it will usually have the opposite quality. For example, if the interval from the root to the third is a major third, then the interval from the third to the fifth will be a minor third.

Major Triad:



Minor Triad:



There are two other types of triads which are used less frequently called a *diminished* triad and an *augmented* triad. A diminished triad is made by stacking two minor thirds. An augmented triad is made by stacking two major thirds. Their structure is as follows:

Diminished    1 <min 3rd> b3 <min 3rd> b5  
 Augmented    1 <maj 3rd> 3 <maj 3rd> #5

Let's review:

We learned two new intervals called a major third, and a minor third.

Major Third = W + W

Minor Third = W +  $\frac{1}{2}$

We learned that a triad is formed by starting on a note in the scale and taking the 3<sup>rd</sup> and 5<sup>th</sup> notes above it.

The members of the chord are therefore called Root, Third, and Fifth based on the scale they came from.

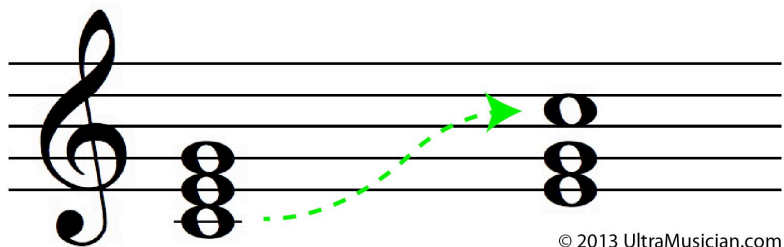
Fill out the worksheet below to determine the triads in the key of C. For each triad write down whether it is major, minor, or diminished.

## Chords in the Key of C

Scale Degree	Root	Third	Fifth	Major/Minor/Diminished
1				
2				
3				
4				
5				
6				
7				

### Inversions

*Inversions* are variations of a chord formed by moving the bottom note up an octave, thereby changing the order of the notes. For example, when we start with a C major triad, we can invert the chord by moving the bottom note up an octave as follows:



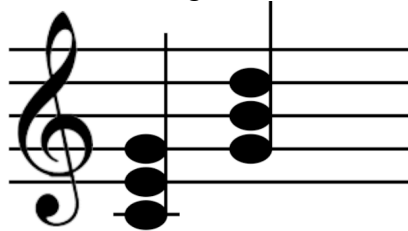
We call the basic form of the chord *root position*, the next form *first inversion*, and the next *second inversion*, etc.

When a chord is inverted, it will retain the same basic emotional quality as the original chord. It may be slightly different due to being in a higher register, but the chord will still “work” in the same context. Root position chords tend to have a more stable feeling. First inversion chords tend to have a more *colored* sound, and second inversion chords (with the fifth in the bass) tend to create a slight feeling of being “top heavy” as if the chord wants to tip over. This can be used to add dramatic tension.



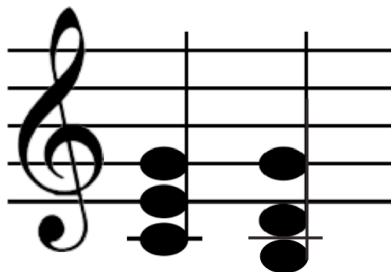
## Voice Leading

*Voice leading* is a composing technique in which the composer seeks to connect one chord to another by the shortest and most logical route. One uses inversions when changing to a new chord to make the transition as smooth as possible. By selecting the optimal inversion, the new chord can be reached with little effort. For example, suppose we wanted to transition from a C major chord to a G major chord. If we simply use brute force, it would look something like this:



Here we have gone from one root position chord to another root position chord. This is hugely problematic for many reasons. Firstly, it sounds harsh and primitive. Even if we ignore aesthetics, there are practical issues as well. If it is being played on the piano, the pianist must unnecessarily raise his entire arm and move it across the keyboard. If we enlist live musicians to play it, such as a string quartet, the players must work harder than necessary. It also means that the chord is in a new register now, and may compete with other instruments in the mix. An addition, it creates so called *parallel fifths*, yet another unpleasant sound to be avoided.

The correct way to transition from C major to G major is as follows:



We try to imagine that each note in the chord is an independent melodic line. We call each of these lines *voices*. The idea originated from early vocal music in which a individual singer in a choir was responsible for each note in the melody.

By selecting the G major in first inversion (rather than root position), we are able to create a shorter overall movement from the first chord to the second chord. The top voice moves to a so called *common tone*, or shared note. The middle voice and lower voice each move down by step.

In order to choose the optimal inversion for correct voice leading, first look for a common tone between the two chords. If one can be found, then the other voices should be chosen based on their closest neighbor. If a common tone cannot be found, then choose the inversion which yields the minimal amount of overall motion.

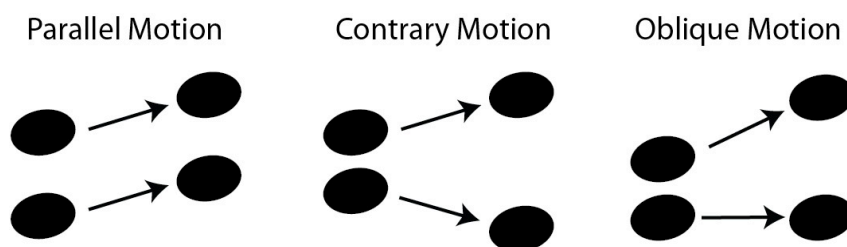
There is one important exception which occurs quite often. If the root moves by second (for example from C major to D minor), the bass should follow the direction of the root, while all other voices should move *contrary* to the direction of the bass.

Now that we have a general understanding of the concept of voice leading, let's look at some specific situations. Consider you are using only chords that fit within a particular key. In that case, there are seven chords to choose from. We use large roman numerals for major chords, and small roman numerals for minor chords. The diminished chord has a small roman numeral with a degree symbol. In the key of C, for example, the chords would be as follows:

I	C major
ii	D minor
iii	E minor
IV	F major
V	G major
vi	A minor
vii°	B diminished

If you are currently playing one chord, then there are six remaining chords to choose from. This is important to remember because it greatly simplifies the process of chord selection. Again, *there are only six chords to choose from*. Of course, in more complex situations there are hundreds of exceptions to this rule, but for a large percentage of the time it holds true.

When we are choosing a particular voice leading, it is also helpful to know whether the voices are moving in the same direction, opposite directions, or a hybrid of the two. When voices move in the same direction, we call it *parallel motion*. When they move in opposite directions we call it *contrary motion*. When one voice is stationary but another voice moves, we call it *oblique motion*.



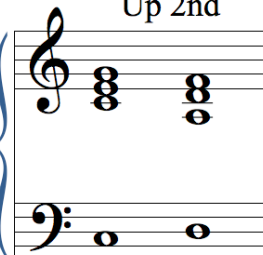
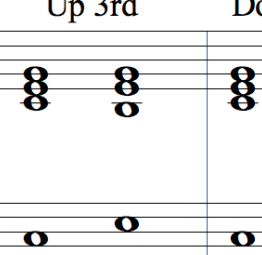
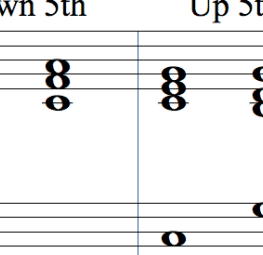
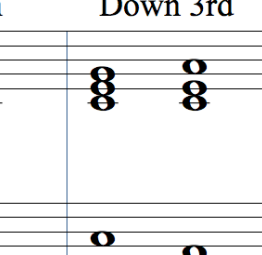
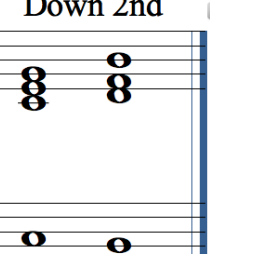

Generally, contrary motion is preferred. This is especially true between the upper voices and the bass. Contrary motion tends to sound richer and more refined than parallel motion. In no way should this be taken to mean that the other two options are forbidden. In fact, they can be quite useful at the right time. However, one should always be conscious of what type of motion is being used and why.

Because at any moment there are generally only six chords to choose from, we can easily categorize the different types of voice leading situations we will encounter. Simply by looking at the root of the chord, we can make an educated guess about what type of voice leading we will need.

All root movements can be classified as moving up or down by a 2<sup>nd</sup>, 3<sup>rd</sup>, or 5<sup>th</sup>. For example, from C major to A minor, we might be tempted to call this an ascending 6<sup>th</sup>. However, it can be also be classified as a *descending* 3<sup>rd</sup>. Similarly, from C major to F major, we might be inclined to call it an ascending 4<sup>th</sup>. However, it can also be thought of as a *descending* 5<sup>th</sup>. In this way, every chord movement is either a 2<sup>nd</sup>, 3<sup>rd</sup>, or 5<sup>th</sup>.

If we adhere to this logic, we can formulate a very simple rule. Whichever direction the root is moving, the other voices should move in the *opposite* direction. Common tones are excluded because they stay

in the same position when the chord changes. Let's look at several examples which demonstrate this point:

Up 2nd	Up 3rd	Down 5th	Up 5th	Down 3rd	Down 2nd
					

In every example, you can see that the upper voices move in the opposite direction of the root. This even holds in more challenging cases, such as when the root moves by a 2<sup>nd</sup> and there are no common tones.