Jixis™ *Graphical Music Systems*

Fretted Fingerboard Version

Instruction Manual

The Jixis system is not a progressive music course. Only the most basic music concepts have been described here in order to better explain the method and use of the Jixis system for learning how to graphically correlate written music to fingering positions on your instrument. A professional teacher, or a self-instruction music course will be required to teach you how to properly play your instrument. Numerous online sites can also assist you in learning various playing techniques for your instrument.

If you are already generally familiar with basic music concepts and your fretted fingerboard instrument, and are simply seeking an easy way to interpret the relationship between the written notes of ordinary black and white music and their fingering positions on your fingerboard, you might want to refer instead to the *Quick Start Guide for Fretted Fingerboards*.

The Basic Parts of a Fretted Fingerboard Instrument

The term *fretted* simply means that a fingerboard has transverse cross wires called *fret wires,* or just *frets*, that a string might lay over when depressed against the fingerboard. The term fretted is used to distinguish stringed instruments with frets from those that are *fretless*, or *unfretted*, such as a cello or violin. If you are not familiar with the names and functions of your stringed instrument parts, please have it available to view as you consider what you are reading here. The main parts of a fingerboard instrument are the *tuning head* (at the top), the *neck* below the tuning head, the *fingerboard*, attached to the length of the neck, and the lower *body* of the instrument. The *strings* of the instrument run from the *tuning keys* on the *tuning head*, across a raised cross strip, called a *nut*, and on down and across the length of the fingerboard and pass over a lower, raised cross strip called a *bridge*, after which the string ends are respectively attached to the body with *pegs* or a *retaining plate*. When the tuning keys are turned to tighten the strings, the *pitch* (or *tone*) of the strings rises.

As noted above, on a fretted fingerboard, raised metal cross strips, called fret wires or just frets, are embedded across the fingerboard at various intervals along the length of the fingerboard. If an *open* (untouched) string is struck or strummed, it will sound out the tone to which it has been tuned. When a string is pushed down at any point along the fingerboard, it will fall across one of the frets and then can only sound out the distance between that fret wire and the bridge. This is what produces the different tone sounds along the string length.

The open areas between the fret wires where the fingertips are placed are either called *frets* or *fret spaces*. To avoid confusion, this manual will only refer to the open areas as “fret spaces.” The space between the nut and the first fret wire is thus called the *first fret space*, and the distance between the first and second fret is then the *second fret space*, and so on down to the end of the fingerboard. There are typically 13 to over 20 fret spaces on a stringed instrument. Stringed instruments which have no fret wires, such as violins or cellos, are played by using finger pressure against the fingerboard to simulate the effect of fret wires. This is called *stopping* the string.

Fretted instruments typically have top and/or side inlaid markers, called *fret space markers* at the 3rd, 5th, 7th, 9th, 12th, 15th, 17th, 19th and 21st fret spaces along the length of the fingerboard. These markers are also simulated on the Jixis labels for your instrument fingerboard.

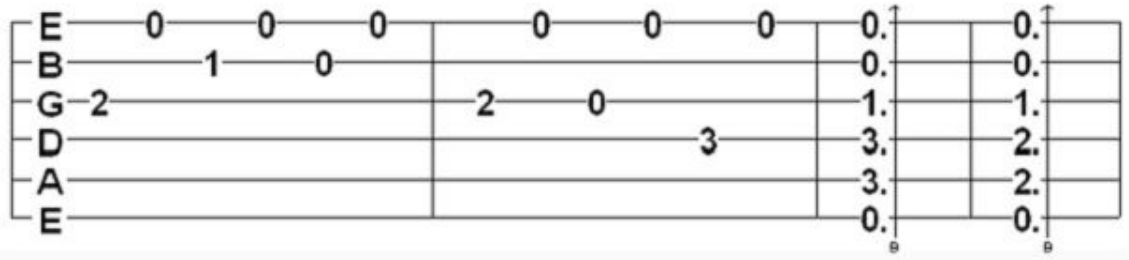
Easier Ways to Play Music by Graphical Correlation

Jixis is a relatively simple way to learn how to play your stringed instrument using a *graphical correlation method*. However, it is not the simplest graphical correlation method for use with stringed instruments. Two other graphical correlation methods currently in use are far simpler to use. But, unfortunately, neither one will teach you much about the reading and playout of standard written music.

Conversely, Jixis was designed to teach you how to read ordinary black and white music by using graphical correlation methods directly between the musical note positions and your fingerboard fret spaces.

Nonetheless, if you fail to acclimate to (or like) the Jixis graphical correlation method of playing your stringed instrument being taught here, be assured that you can learn to play your stringed instrument using the graphical correlation methods explained below.

The simplest graphical correlation method for musical notation for a stringed instrument is called *tablature*. Tablature music is written differently than standard written music.

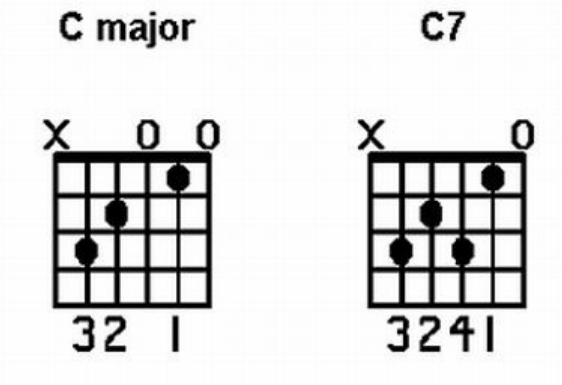


As shown in the diagram above, in tablature music, parallel horizontal lines represent the strings, and numerical markers placed on the lines indicate the numbers of the fret spaces, to be fingered along the length of the fingerboard. Tablature music is read out from left to right.

Other symbols may be inserted into the diagram before the fret space numbers to indicate the playing technique in which the strings are to be

activated. The vertical number sequences represent *chords*. A *chord* is a set of tones on your instrument that is either played out simultaneously, or played out separately as individual notes.

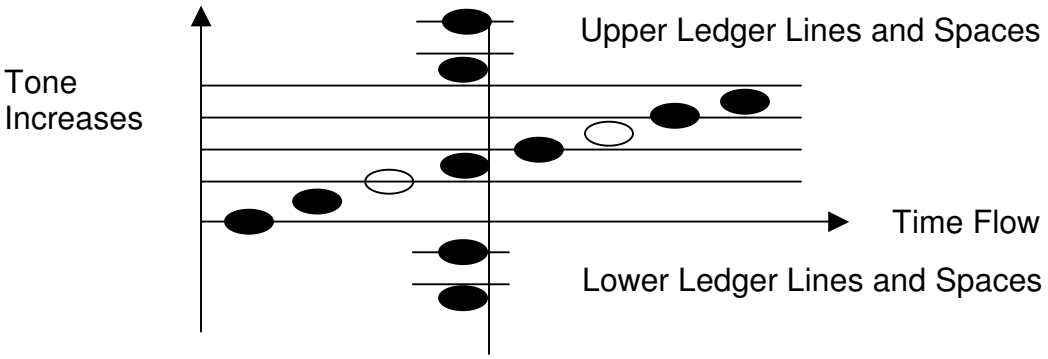
The other graphical correlation method for playing your stringed instrument also uses graphical diagrams, called *chord diagrams* or *chord charts*. As shown in the two diagrams below, a chord chart is given in a graphical format wherein vertical lines are used to represent the instrument strings, and wherein horizontal cross lines are used to enclose the fret spaces in a top down order from the top string bridge piece called the *nut line*. The notes of the chord are placed on the string lines within the fret spaces as circular dots to indicate their respective fingering positions.



In the written music for your particular fretted fingerboard instrument, you will often find that chord charts appear above the left-to-right flow of the written musical notes. Often, a chord diagram will display fingering positions on the circular dots or below the chord diagram. The fingering positions are marked 1 through 4, for your index 1, middle 2, ring 3, and little 4, fingers. And often the strings will be marked with symbols, such as X for “Do not play this string,” or an O for “Play this string open,” and it is also understood that whenever multiple finger positions appear for the same finger number, that your finger should be placed flat on the fingerboard so that all the strings will sound.

Having said the above, we will now consider how Jixis is a graphical music system completely different from either tablature music or chord charts.

Orientation



Conventional music is written in a *vertical graphical format*, that is, in a series of ascending horizontal lines and spaces, each of which designates a portion of an ascending range of musical tones. Oval graphical markers called *notes* are written on these lines and spaces to indicate the tones to be played out on a musical instrument.

Fingerboards are not typically provided with markings that display the vertical musical graph primarily because such markings are considered to be an objectionable distraction to the proper teaching of music theory. *There are good reasons for these objections.* Normal teaching procedures for note location on a musical instrument are done in terms of the *letter names of the notes* so that the transposition of notes to a higher or lower tone position on the instrument may be easily done.

For example, an instrument may be tuned to a lower set of tones and the music written for the instrument may be written to a higher set of positions on the vertical staff format. Also, to simplify the reading of the music, various musical notations such as “8va,” or “8vb,” are often used indicate where the written notes are to be played out higher or lower in the tonal range of the instrument than the actual notation suggests, as is discussed in detail further below.

What this means for any graphically coded labeling system is that the system will only positionally correspond to the notes *as written* in the music. Thus, the transposition of notes to a higher or lower tone fingering position on the instrument cannot be done until you learn the letter names of the notes. Despite these reasonable objections, when you are first learning to play your keyboard, a graphical correlation system such as Jixis can be of great benefit in simultaneously teaching you both the fingering positions and the letter names of the written notes. Once you know the written note names and their various fingering positions, you will be able to override the label system and make note transitions to other equivalently named higher or lower note sequences.

Jixis coded label sets have been prepared for each specific instrument in terms of the way in which music is typically written (by conventional notation) for that instrument. Thus, you may find that your instrument is required to be tuned to different tone settings relative to the label codings for the notes. This should not present problems. However, if you find that the label set for your particular stringed instrument is inconsistent with the music you actually want to read and play, you may easily devise an appropriate label set with higher or lower tone codings for your instrument by following the directions in the PDF download titled, *Making Your Own Jixis Label Set Sheet.* You can also make your own *Note Letter Name Chart*, as is discussed below.

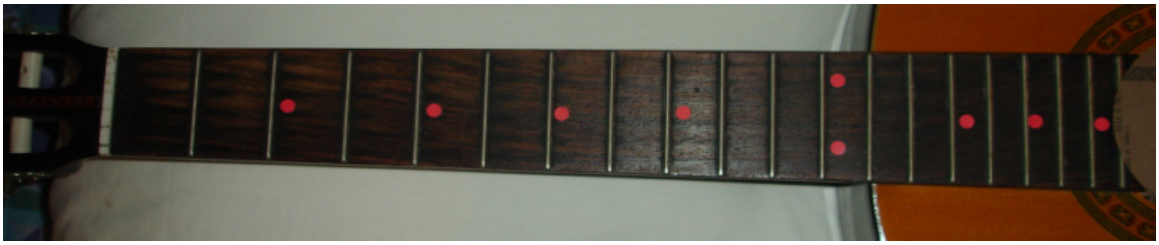
Jixis is thus only a *temporary* learning aid, and is not intended to be used with your instrument any longer than it takes for you to learn the basics of reading and playing out written music *by note letter names*. To hasten this process, it is helpful to develop the habit of *saying each note name aloud or in your mind* as you use the graphical labels to play out the written note fingering positions on your fingerboard.

Jixis is also helpful in resolving the early difficulty of *directional orientation*. Since most musical instruments require the musician to make a mental transformation of the music from its vertical orientation to a crosswise playing orientation, this directional alteration can be a difficult adjustment for a beginning student of music. The Jixis system will teach you how to see your fingerboard as having a hidden graphical format

that directly corresponds to the written music. And Jixis will then show you how to correlate these two corresponding graphical formats so that the individual note positions in the written music may be seen as being equivalent to specific fingering positions on the revealed graphical layout of your fingerboard.

In this learning process, you will *not* have to mark your fingerboard with Jixis labels or any other removable labels, and you will not have to use any music other than ordinary black and white music. But you will have to learn how to use your *fret space markers* in order to count out the number of the fret spaces to locate specific notes using the Jixis system. Fret space markers are a set sequence of small inlaid dots (or other symbols) on your fingerboard. Simple ways of doing this counting are explained further below. If you later decide to mark your fret spaces with numerals or apply the labels with numerals to your instrument, please see the PDF download titled, *Applying Fret Space Numbers and/or the Label Set to a Fretted Fingerboard.*

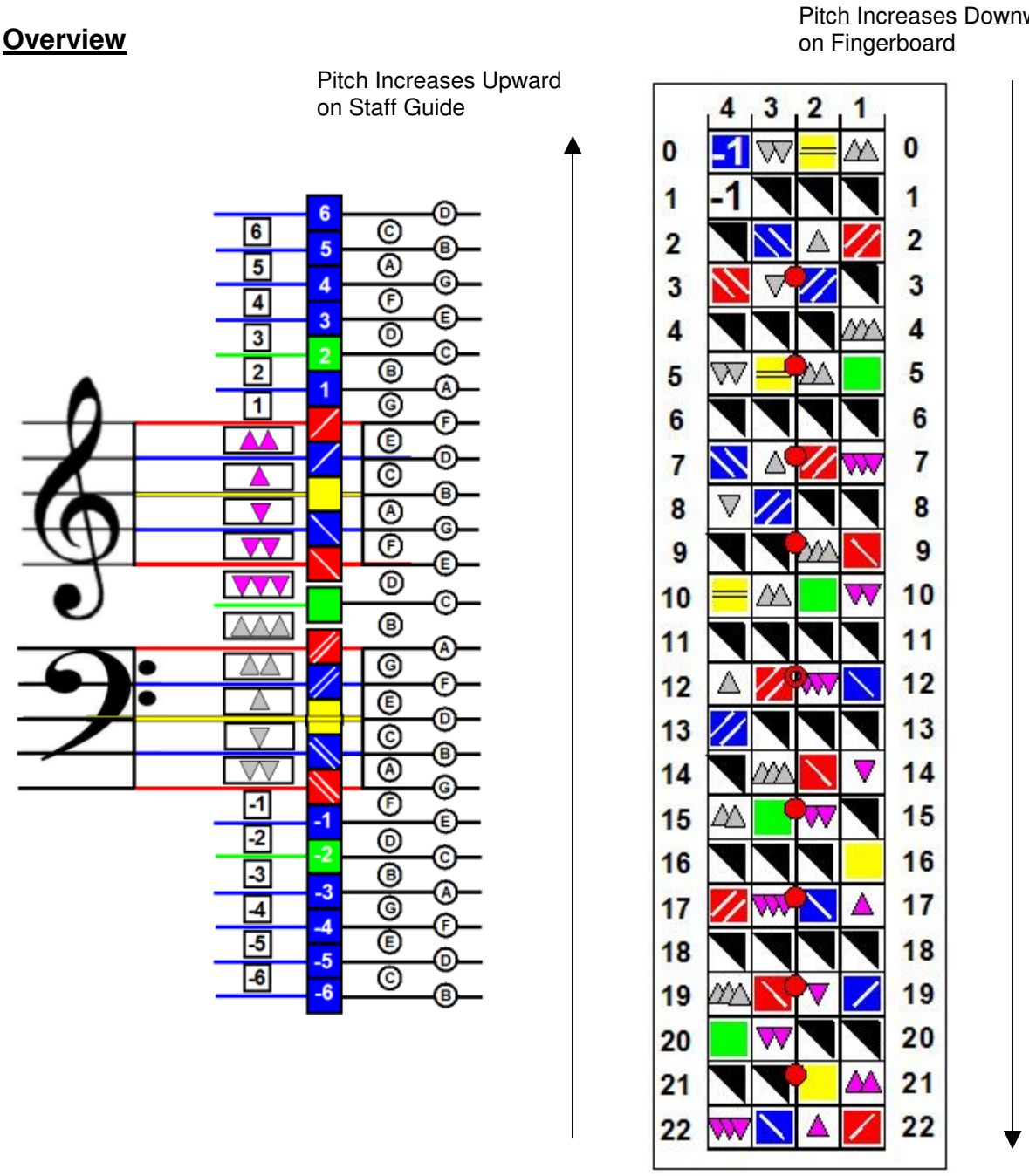
If your fingerboard does not have inlaid markers, removable markers may be added to assist you in locating the fret space numbers, as shown in the photo below.



Consider that when using Jixis system, you will almost immediately be experimenting with the playing of virtually any piece of music written for the tonal range of your instrument, and not just “easy play” colored or numbered music. And you will be learning as you play! The more that you play, the more that you will learn about what it means to play without using the system—because your entire effort will be toward attempting to *override* the system and using your playing experience to guide you.

At that point you may begin to play and learn musical techniques using more traditional methods, that is, by taking lessons from a professional teacher, or by using a progressive self-taught musical course.

Overview



On the first Label Set sheet for your instrument there is a *staff guide* on the left, and a *label set* on the right. The staff guide corresponds to the way in which music is written in a vertical range of the natural tone line/space note positions. To each of the lines and spaces in the staff guide, small square boxes have been added, each bearing a unique color/symbol coding that designates that particular line or space position.

The layout of the label set corresponds to the layout of your fingerboard. The label set boxes are arranged in *vertical columns* with one numbered column for each string number on your instrument. Each of the small boxes in the label set columns displays a color/symbol coding that correlates to a line or space position (or a sharp/flat position) on the staff guide for that string.

Collectively, the vertical string column boxes of the label set display a number of horizontal boxes in *rows*. Each numbered *label row* represents one fret space number on your fingerboard. The string columns in the label set are conventionally numbered from *right to left* as 1 to 4, 1 to 5, or 1 to 6, and the crosswise row fret spaces, are typically numbered from the top towards the bottom from 0 up to 22 to represent the open strings and the number of possible fret spaces on your fingerboard. Each unique color/symbol coding indicates the strings and fret spaces where a specific note on the staff guide will be found on your fingerboard.

The label set format has been marked with circular red dots for the 3rd, 5th, 7th, 9th, 15th, 17th, 19th and 21st fret spaces, and with a circular red ring for the 12th fret space, because this is the point where the note letter names begin to repeat. The red markers are useful for quickly locating specific fret spaces in the label rows.

Each coded fret space is represented on the label set by the intersection of two numbers lines, the lengthwise string number line and the transverse (crosswise) fret space, or *row number* line. Thus, to play out a written note on your fingerboard, you would use the staff guide to locate the color/symbol code for that specific note position, and then locate the coding on the label set to know where the note is located on your fingerboard, that is, on which string numbers and at which intersecting transverse fret space numbers. For example, on a bass guitar, the middle-C note position, color/symbol coded as a green square, is found on the 4th string at the 20th fret space, and at different positions on the remaining three strings.

The second sheet of the Label Set sheets is a *Note Letter Name Chart* that corresponds to your color/symbol label set. It will be discussed further below.

What you will be first learning here is how the two separate graphical formats of written music and your fingerboard relate to each other, and so how each written note position correlates to one or more fingering positions on your fingerboard. Again, once you clearly understand this graphical association method, all you will have to do to play out a written note is to locate its graphical symbol on the staff guide and then on the label set to know the number coordinates to play the note on your fingerboard.

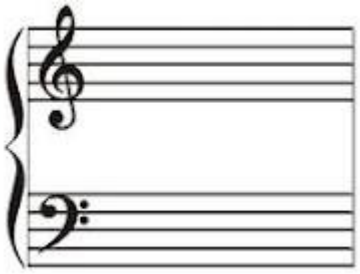
Although you might at first suppose that this is an awkward process of learning how to read and play out music, you will quickly appreciate that it is actually a far simpler method than learning in the current fashion of rote memorization. The graphical symbols used in the Jixis system are not complex symbols. They are simply directional (up and down) positional symbols from a specific midpoint in the musical staff line system, being the middle-C note position, and so require little time to understand and utilize.

There is no immediate need for you to obtain any written music in order to learn how to use the Jixis system as a means of reading music. For the most part, early use of the system is limited to a self-contained consideration of the instruction material. When you feel confident that you understand how to use the Jixis system, written sheet music for your specific instrument may be easily

obtained at various music stores, or from your local library, or from the many online sites that either offer music for sale or free public domain sheet music.

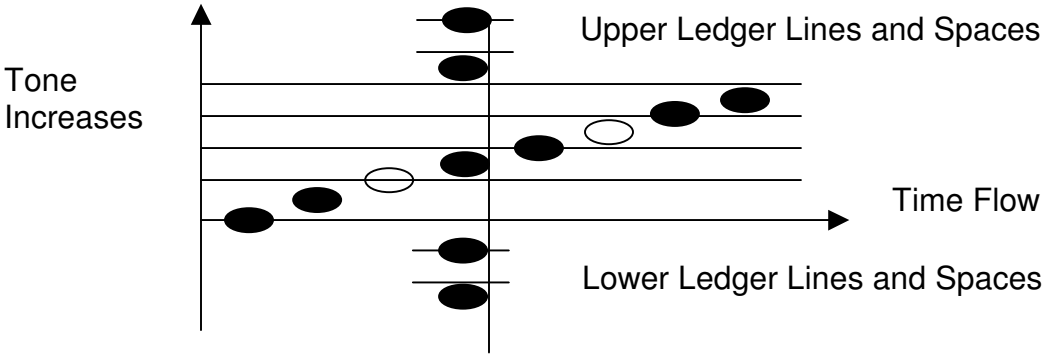
The Standard Music System

Numerous musical notation systems have been developed throughout human history dating back for thousands of years. The Standard Music System is currently the most commonly used method for the writing of musical notation for all musical instruments. As shown below, music in the Standard Music System is displayed by utilizing a *graphical diagram.* Straight, horizontal black lines are arranged in a parallel and evenly spaced manner wherein *pitch* (or *tonality*) increases from the bottom of the graph toward the top. Two separate five line graphs called *staffs* are generally used to record keyboard music.



The upper or *treble staff* is marked by a graphical symbol called a *treble clef.* The lower or *bass staff* is marked by a symbol known as the *bass clef*.

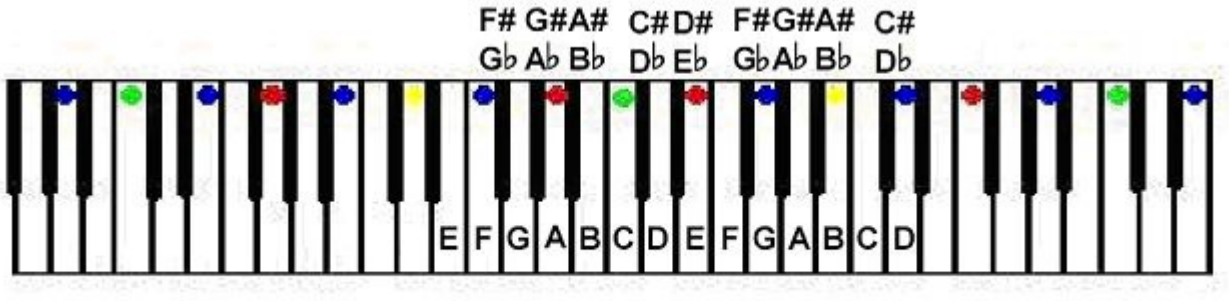
As shown in the diagram below, filled or empty oval markers, called note forms, or just *notes*, are placed on the respective line and space positions to indicate the tones to be played out on a musical instrument, and so represent the fingering positions for the repeating sets of *natural tones*, or A B C D E F G A… tones, on your instrument.



The oval notes may be empty or filled and provided with other indicators such as *stems* and *flags* to indicate their duration, or *time value* in the music. All music in the Standard Music System is written within this vertical graphical format, that is, in a series of ascending horizontal lines and spaces, each of which designates a portion of an ascending range of musical tones. Short lines

placed above or below a staff, called *ledger lines*, are used to indicate a higher or lower note tone to be played out. Notes that are placed in a line above or below one another are intended to be played out at the same time, and are called *chords*. *Time flow*, the playing order and rate of play out of the written notes, moves along an imaginary vertical line in the musical graph from left to right.

Each written note is a part of an *octave*. As shown below for a piano keyboard, an octave is a repeating set of *twelve semitones*, being *eight natural tones*, for example A B C D E F G A, or C D E F G A B C, etc., and five additional semitones called *sharps* and *flats,* or *accidentals*. These five additional tones in a 12-tone scale, or octave, are the tones that are explicitly shown on a piano keyboard by the raised set of five black keys between two C note keys.



Written music, usually called a *musical score,* typically provides many cryptic symbols that need to be properly interpreted in order to play out the music correctly. Some of these symbols will be discussed further below. One of the most difficult things to initially learn is how to directly correlate the written notes (A B C D E F G) to their corresponding fret spaces (A B C D E F G) on your particular musical instrument.

Knowing the exact position of a note and its name on the score does not directly tell you where the exact position will be to play out the notes on your fingerboard. In normal teaching practices, before you can play out any music, you must first learn where these written notes fall on your instrument's fret spaces. Sometimes, to speed up the early correlation process, an instructor will have the written notes' letter names displayed on the written music, and the fret spaces on your fingerboard will be equivalently labeled with the same note letter names.

And while this is of great assistance to a novice player to interpret and play out simple written music, this labeling method nonetheless lacks the exactitude of telling you precisely where a particular note name is to be played out on your fingerboard. Jixis resolves this problem by using an *improved color/symbol coding system* for directly correlating the graphical nature of the music to the graphical nature of your fingerboard. And yet, no colors are actually applied to the black and white music. *The color coding is simply imagined to be present in the written music.*

Colorizing the Music

Jixis is a *color/symbol coded* music system. And all written music in the standard music system is done in black and white, that is, in a horizontal, black line graphical format having white spaces between the lines. So the question immediately arises: *How do you use a colorized coding system with ordinary black and white music?*

The answer is: *by making the color coding and symbol enumeration system sufficiently simple so that it is obvious even though it is not present.*

Please review your Label Set sheet for a moment. In the Jixis system, the following colors are used:

Red line sets for top and bottom staff lines,
Yellow for the middle staff lines.
Blue line sets for the staff in-between lines, and
Green for the middle-C note and two octaves removed positions.

Except for the Green C lines, the lines above and below the staffs, the ledger lines, are all blue. And all the spaces above and below the staffs, the ledger spaces, are all white.

The design of the symbol and number enumeration order in the staff guide for the fingerboard naturally fits into the order of the color lines of the staff as up and down indicators from the highest and lowest red staff line.

The symbols being used are: one to three up-directed or down-directed, rose-colored treble or silver-colored bass triangular space-position markers;
One or two left or right facing, slanted line-position markers; and,
Positive or negative numbered ledger line and space positions.

Since your fingerboard instrument is designed to primarily play out in the tonal range of either the upper treble or the lower bass note series, for the most part, you will actually only be utilizing either the upper or lower portion of the staff guide coding.

As you refer back and forth between the written music, the staff guide, and the labels, after a time the staff guide will not be needed. The color coded symbols will *simply appear* for you as you view the black and white score.

And after your mind adapts to seeing a written note on the black and white score and *instinctively knowing* where its string and fret space numbers are on your instrument, the Jixis system will begin to fade from view, and will be autonomously replaced by your inner knowledge of where to play out the note.

Understanding the Graphical Label Set

In a Jixis label set for a fingerboard instrument, the open positions of the strings are indicated by the first label row marked *Open* or 0. As the label rows progress in higher enumeration as 1, 2, 3, … for each successive row number,

each label number refers to a fret space, where label 1 refers to the first fret space, and where label 2 refers to the second fret space position, and so on. If the labels were actually applied to a fretted instrument, as shown in the examples below, the Open or 0 label would be placed just below the nut, and label 1 would be placed just below the Open or 0 label to mark the first fret space. Label 2 would then be placed *just below the first fret wire* to mark the second fret space, and so on, until all of the labels were applied.

On a fretted fingerboard, your fingers are depressed against the string onto the fingerboard *within* the fret spaces between fret wires, rather than on the fret wires themselves. The labels are applied just below the fret wires to minimize wear when your fingers are depressed into the fret spaces. On some stringed instruments, the labels may not cover all of the possible fret spaces in the high note range, but since the note order repeats at the 12^{th} fret space, the note order for those fret spaces is obvious.

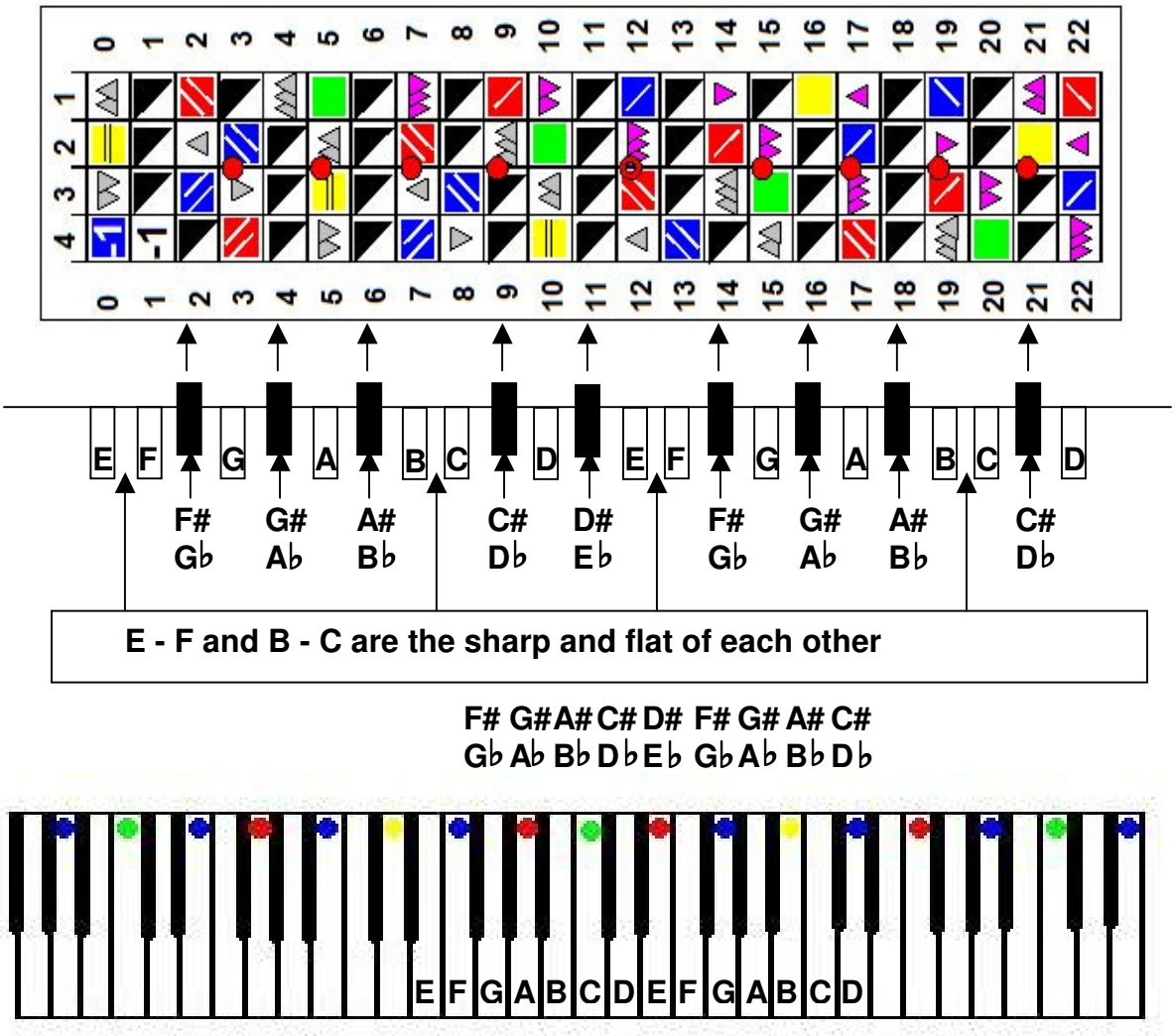
Each successive fret space position produces *half-tones*, or *semitones*, that increase in pitch as you move your fingers down toward the bridge. This is the same rising pitch succession of semitones as would be found on a piano keyboard having white-lower and black-raised keys.

If you play each successive white and black key from left to right in the order that they appear, the pitch rises from left to right, and when you play out each note of a stringed instrument from the Open or 0 position toward the bridge, the pitch rises in semitone increments. And just as there are seven white key semitones (called *natural tones*) and five black key semitones (called *accidentals*) on a piano keyboard in repeating patterns of the white key notes, A through G, called *octaves*, there are a total of twelve repeating semitones within an octave along the length of each string on a fingerboard. The order of *any* set of twelve semitones along a string thus only depends on the initial pitch, or tone of the string (its note name) when it is played open (without being pressed against the fingerboard).

The general rule for accidentals in any 12-note scale is that moving one fret space down a string (toward the bridge) *sharps* the note, and moving one fret

space up the string (toward the nut) *flats* the note. Therefore, every note in the scale order is the *sharp* or *flat* of its adjacent note name. Therefore, every note in the scale order is the *sharp* or *flat* of its adjacent note name. A sharped note is indicated by the sharp symbol, # , and a flatted note is indicated by the flat symbol, ♭ . This will be further explained in detail below.

If you consider the tonal order of the fingerboard when the neck is vertical, the tones rise as you move downward. But if you consider the tonal order of the fingerboard when the instrument is being held somewhat horizontally (with the body backside generally toward you), the tonal order, like a piano keyboard, runs higher from left to right as though the repeating pattern of the white and black keys of the keyboard were all in the same plane, as shown below for a bass guitar.



As shown directly above, the Jixis system is used for the keyboard by color highlighting the line-related white key positions to correlate to the music staff line positions in written black and white music. A similar effect can be

displayed on a fingerboard by utilizing a *color/symbol coded* system to designate the music staff line/space positions in the fret spaces of a fingerboard.

Whereas a piano-type keyboard only has one playing position (white or black key) for a particular written note in music, a fingerboard may have multiple playing positions for the same written note position. These multiple playing positions for the same note appear on different strings on the instrument, but at different fret spaces, and so additional symbol coding formats must be added into the fingerboard color-coding system to properly designate that particular note wherever it appears on a string.

After some practice with correlating the staff guide coding and the label set coding, you should be able to look at a written note position and immediately know where all of the note's possible fingering positions appear on your fingerboard. As you become more familiar with the repeating order of the note letter names on the staff guide, you should find yourself using a process of "reverse comparison" to name the written notes you are playing by graphical correspondence. It will help at that point if you actually say aloud or in your mind the letter names of the notes you are playing in terms of the fret spaces you already know.

As your practice with reverse comparison continues, you will realize that you can view the written note positions in the music and know what their letter names are. Having this knowledge of note names which correspond to fret space names will eventually allow you to remove the labels and to play the unmarked fingerboard. And as you practice different musical pieces, it is helpful to attempt to move the tonal range of what you are playing to different octaves where the graphical codings do not match, but where the note name order is the same.

Using the Fret Space Numbers in the Label Set

The Jixis labels are numbered to correspond row by row with each of the strings and fret spaces on your fingerboard. But since the fret spaces are not numerically marked, it can become difficult for a beginning student to quickly establish exactly where the fret space numbers are on the fingerboard. Most fretted fingerboards have inlaid or raised top and/or side *fret space markers*, typically at the 3^{rd}, 5^{th}, 7^{th}, 9^{th}, 12^{th}, 15^{th}, and 17^{th} fret spaces. Two inlaid markers are typically utilized to denote the 12^{th} fret space, because the open tone note letter names repeat at the 12^{th} fret position. As noted above, these inlaid markers are simulated on the label sets using red dots, and a red ring for the 12^{th} position.

It is also helpful to realize that the markers marking the 15^{th}, 17^{th}, 19^{th}, and 21^{st} fret spaces are one octave higher than the markers respectively marking the 3^{rd}, 5^{th}, 7^{th}, and 9^{th} fret spaces. And as earlier noted, if your instrument does not have inlaid markers, they can be simulated using small, removable labels.

The inlaid markers assist an instrument player to locate the proper fret spaces along the fingerboard in a way similar to the way in which the raised black key sets of a keyboard assist keyboard players to locate their position along the keyboard. Whereas it is obvious which string is which in terms of enumeration comparisons between the Jixis label set and your instrument, for

beginning students of a fretted instrument, the inlaid fret markers are sometimes awkward to use for a quick assessment of a fret space numerical position, which, of course, means that you will be slowed down by counting out each of the fret spaces as you compare them to the Jixis label row numbers.

It can be initially useful to prepare a long strip of masking tape onto which you have applied sequential numbers with pointer-arrow lines spaced out on the tape to target the middle of the fret spaces on your specific instrument fingerboard. The sequential numbers of the arrow lines will reflect both the numbered fret spaces on your fingerboard and the numbered color/symbol coding rows on your label set. The pointer-arrow strip is used by moving your fingerboard adjacent to the strip to compare your fret spaces to the pointer-arrow numbers to obtain your fret space numbers, or by applying the tape to the edge of your fingerboard.

Locating Fingering Positions

The purpose of the staff guide is to allow you to determine what colored symbol matches the note you are viewing in your music so that you can easily locate it on your label set and then on your fingerboard. Here then are the steps to follow:

To play out a written *natural tone* note in the Jixis system, you would first determine the note's position on a line or space of the written music. If you do not recall the color/symbol coding and or note name, A through G, of the position, you would then look at that position on the staff guide to determine its color/symbol coding and letter name and then locate the same color/symbol coding or codings on the label set. If there is more than one coding, determine which one you want to play out, usually the lesser numbered fret space, or the fret space closest to a preceding note. If you do not recall where this coding would fall on the fingerboard, then determine the string and label row number for the coding, and match the string and row numbers for the coding to the string and fret space numbers on your fingerboard using the fret space markers, or tape strip, and depress the string within that fret space position.

If the written note is currently sharped, or flatted in the music, first compare the note position in the music to the same note position on the staff guide to determine the note's unique color/symbol coding, and then locate this coding on the label set. If the note is sharped, the correct symbol on the label set will be the next black triangle (or color/symbol fret space) down on the string. If the note is flatted, the correct symbol on the label set will be the next black triangle (or color/symbol fret space) up on the string. Use the label set's fret space number and string number to locate the fret space number and string number on your fingerboard. Before you depress the string at that fret space, say the note name aloud, or in your mind.

After you have used the staff guide for a while, the simple repetition of seeing the same color line sequences and colored symbol codings and note names will lead to an autonomous or *reflexive projection* of the required symbols for the note in your mind. And after frequent use of the Jixis symbols to locate fret

spaces, the written notes and known location of the symbols on your fingerboard will allow you to play reflexively, and so override the system. This is the same automatic process that occurs when you learn how to type without continuously looking at the letters printed on the keys: After a while, your fingers simply move to type out the letters that are flowing through your mind.

Tuning Your Instrument

Tuning resources for your instrument are easily found online, or you may utilize an electronic tuner, or tuning fork method. Each string on a stringed instrument bears a tonal relationship with its adjacent strings. Each string's open tone is tuned to a set number of semitones away from its adjacent string's open tone (typically five, but also more or less). This fact allows a stringed instrument to be tuned by tuning the lowest string to a desired pitch, and then using the appropriate fret space to tune the next string, and so on to tune the other strings.

Alternately, a fingerboard instrument may be tuned *to itself* (but not at a proper pitch) by tightening the end, thicker string until it is just past a loose vibrational motion when plucked, and then using this string to tune the next string to the highest tonal fret space that bears the next string's note name, and using that string to tune the next in the same way, and so on, until all the strings are tuned. For example, on a guitar, the lowest string (the 6^{th} or E string), has an A note/tone in the 5^{th} fret space. When you depress and pluck the E string in the 5^{th} fret position, this is the tone that you require to tune the next, or A string. The remaining strings in the E A D G B E tone OPEN order of the strings are tuned in an equivalent way, with exceptions. For example, on a guitar the B, or 2^{nd} string is tuned to the 4^{th} fret space on the G, or 3^{rd} string.

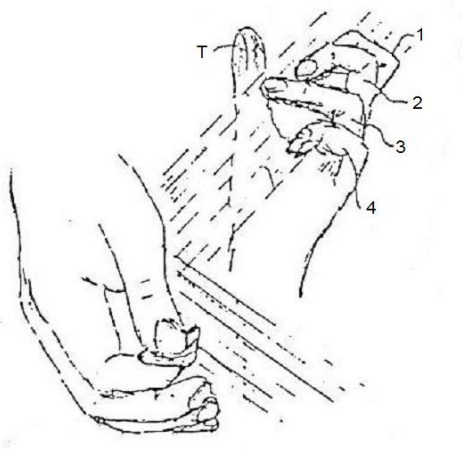
The A B C D E F G order of the notes never changes down a string length, with the *accidental* or *sharp/flat* notes appearing in the same order as the easy-to-remember raised black key set positions on a piano-type keyboard. Once you know the successive note name order on one string, you will know the order on all the strings beginning with the open tones. And since every octave starting with the open tones has 12 semitones, when you reach the 12^{th} fret space the note names will repeat in the same order that they started with at the open tone.

Thus, for example, just as the open strings of a guitar are EADGBE, beginning at the 12^{th} fret space, the same note names appear again as EADGBE. Since this note-name repetition is true for all stringed instruments, it can be useful to imagine that there are a dual set of numbers starting at the 12^{th} fret space that would read out as 12/1, 13/2, 14/3, and so on to the end of the fingerboard fret spaces. This dual-number order can be easily recalled by subtracting 12 from the actual fret space numbers from 12 through 22, e.g., 12-12= 0 through 22-12=10.

Activating Your Strings

A fretted fingerboard instrument is positioned for playing with the strings facing outward or upward. In the diagram below, a right-handed person typically

holds a small plastic *pick*, or uses his fingertips, to individually strike and activate the strings of the instrument at their lower body end, while the left hand holds the neck of the instrument in the arch presented by the thumb T and the first finger 1, with all of the fingers 1- 4 set in a *cupped position* over the strings. The cupped position, supported by the pressure of the thumb against the back of the neck, will then allow the fingertips to fall in a proper hammer-like position over the strings. Play is performed by depressing the strings within the fret spaces against the top surface of the fingerboard, and then *plucking* or *strumming* the respective strings with a pick or the fingers.



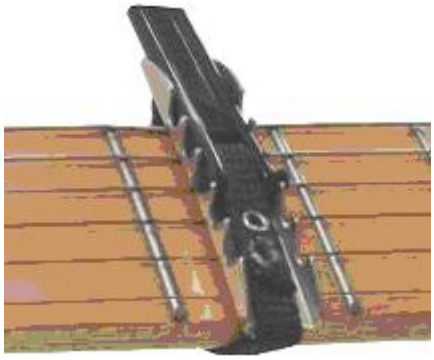
Cupping your fingers properly will allow you to depress the strings without undue pressure. It will also allow you to depress the strings more accurately and without the incidental deadening of strings meant to be played. Initially, sustained practice will generate blisters on your fingertips, whereas a more gradual approach will allow calluses (skin hardening or thickening) to form within a few days of playing time, which then considerably reduces the overall discomfort of playing. And correct posture that avoids hunching over, will also lessen any discomfort. It is also advisable to attempt to rest your lower finger or fingers against the body of your instrument as much as possible to allow your hand more stability, and so that more accurate picking or strumming of the strings may be obtained. It will also be easier to depress the strings if the nut and bridge are set to allow the strings to be as close as possible to the fingerboard without striking the other frets when you depress the strings.

When you first try to play your fingerboard collectively using written music, the staff guide and the label set, you may find that you are making jerking head motions trying to glance back and forth between the reference materials. But once you can eliminate looking at the staff guide, and simply impose the color/symbol codings on your written music, you will only be looking between the music and the coded labels to locate the proper fret spaces. And once you are familiar with the location of the notes on the label set, you will primarily only be looking at the written music and feeling your way around the fingerboard, using the fret markers alone as guides to where your fingering placements should be.

At that point you will have completely overridden the Jixis system and will be playing your fingerboard from the written music without hesitation.

Using a Capo

As shown in the photo below, a *capo* is a clamping device placed on the neck of a stringed instrument to shorten the playable length of the strings in order to raise the pitch of the strings.



A capo is clamped across the strings between any set of fret wires to allow a musician to quickly change the key in which the music will be played. Only the open notes of the strings sounding below the capo are affected. All the fret spaces below the capo will play out in the same tones. Thus, using the label set to locate fingering positions for written note positions is done in the same way with the same results.

Using the Note Names to Change Octaves

You will find that in various compositions a sign called “8va” is used. This sign indicates that you are to switch the tonal range of the written notes up one octave. The sign “8vb” indicates that you are to switch the tonal range of the written notes down one octave. Similarly, the sign “15ma” indicates a two octave up transfer, and a “15mb” sign indicates a two octave down transfer.

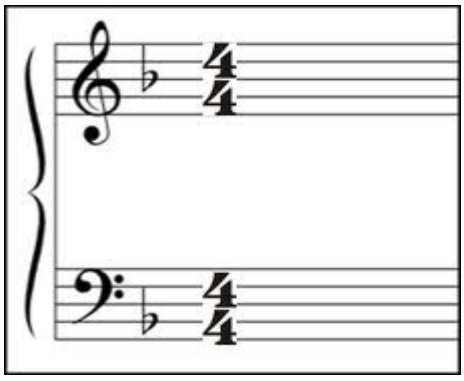
Such note range shifts will bring you to a point where the graphical codings do not match. If you locate the written notes by graphical association and then use the label set to find the same note names in the next octave up (or down) you will be able to easily transfer the note sequence indicated.

There are many issues that affect a proper playout of written music on your fingerboard such as key signatures, time signatures, forms of musical notation and music theory. We will be briefly considering only the most basic issues here.

Key Signatures

Musical compositions often have many sharps and flats. To simplify the writing and reading of music, the composer will often place *sharp or flat signs*

alone on the lines and spaces of the staffs at the beginning of the composition immediately to the right of the clef signs. These sharps and flats number from one to seven and are called the composition's *key* or "*key signature*." For example, here is a key signature with a flatted B note.



What the key signature is telling you to do is this:

• Determine what the name of the note is for the line or space where each of the sharp or flat signs appears near the clefs, and then

• According to the sign (♯ or ♭), *sharp or flat that "note name" every time you see a note with that name appear in the composition.*

Remember that *notes having the same letter name may appear at different locations in the tonal range of the composition, that is, in different octaves, and so on different lines or spaces than the ones used to indicate the key signature of the composition.*

For example, if a key signature is shown that has an F♯ then every F-named note in the composition *must then be sharped* wherever an F-named note position is written into the staffs and ledger line system.

The only time that a note name indicated in the key signature is not to be sharped or flatted in the piece is when its musical note is preceded by a *cancellation sign* known as a *natural sign* which is symbolized as ♮.

The natural sign will then only cancel the sharp or flat status of the note position that it precedes, and only for the remaining distance to the next *vertical bar line* in the music.

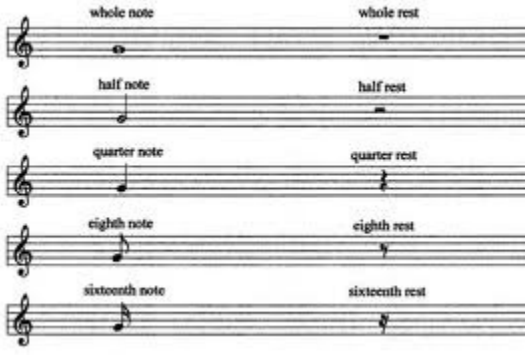
The distance, left to right, *between* the bar lines is called a *measure*. Often an extra sharp or flat sign is needed for use in a measure of music. *This added-in accidental sign only applies for the length of the measure.* The natural sign used for another note in that position within the same measure will then *cancel the sharp or flat for the remainder of that measure.*

In your first attempts at playing out music written in keys other than the key of C (which has no sharps or flats in its signature), you might wish to simply go through the composition and *"pencil in"* the required sharps and flats after locating these note names in the composition through graphical association.

Musical Timing

Musical timing is a complex subject in theory and in practice. Therefore only the most basic issues of the subject will be touched upon here. When you first start to use the Jixis system to play your fingerboard, you should not unduly concern yourself that what you are playing out on your instrument does not closely resemble the intended melody. Once you have successfully used the system as a means of locating the written notes on the playing area of your instrument, it will be far easier to gradually adjust to the idea of timing the length of play for the different notes than if you overly concern yourself with timing while you are first learning to make the necessary graphical associations.

The figure below shows several common note symbols and their respective *rest symbols*.

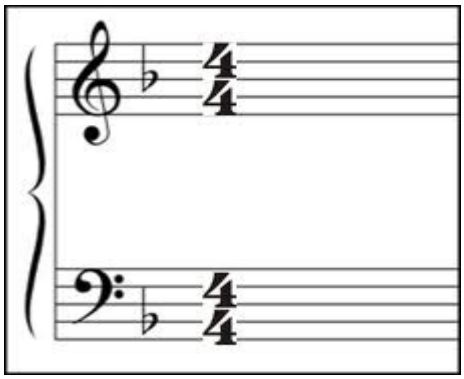


Each note and rest indicates commonly used *time values*, *"counts," or "beats." A rest symbol counts out a period of silence in the music*. The open oval note without a stem is called a *whole note* and typically has four counts; its rest symbol thus indicates four counts. The next open oval note with a stem is a *half note* and typically receives two counts; its rest symbol thus indicates two counts. The next darkened note with a stem is called a *quarter note* and typically receives one count; its rest symbol thus indicates one count. The next sequence of notes with flags on their stems are *eighth* and *sixteenth* notes, and typically receive progressively smaller fractions of time during which the note is held; their rest symbols thus indicate typically lesser fractions of silence.

The timing of the music then depends upon several factors

- The given *tempo* or playing speed suggested for the composition,
- The *time signature* or fractional number at the beginning of the music, and any added-in graphical symbols or notation which affect the length of time the various notes are to he played.

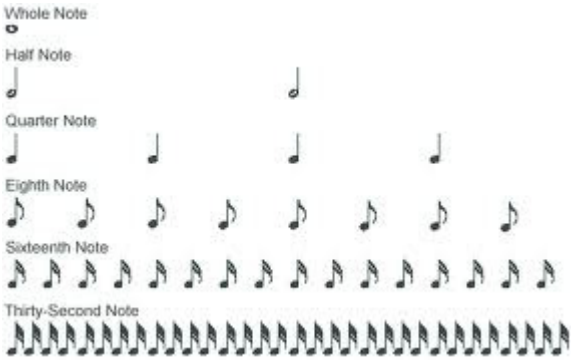
The tempo of the music will usually be given in English or Italian at the beginning of the piece, for example, Fast or *Allegro*, Moderate or *Moderado*, or, Slow or *Adagio*. The *time signature* of the piece appears *to the right of the key signature.*



A time signature of 4/4 is also called "*common time*" and is sometimes replaced by a large C, or simply understood to be the timing of the piece when no time signature appears.

In a time signature of 4/4, the top number indicates that there are to be four counts or *beats* to each measure, and the bottom number indicates that a *quarter note* is to receive *one count*. In common time a *whole note* receives four counts, a *half-note* two counts, a *quarter-note* one count, an *eighth-note* one-half count, and a *sixteenth-note* one-fourth count.

Each of the notes in the diagram below has different flag symbol to indicate a different length of time that the musical note is to be played. A whole not typically has four counts and a quarter note has one count. Each of the notes serves the same purpose in relation to the staff lines and spaces: *To act as a tone position marker, higher in the ascending line/space order when the note tone is higher and lower when the note tone is lower*.



The simplest way to maintain the count or beat of the composition is to *tap your foot while counting* the lengths of play required for the various notes, using the up and down movement to follow along with a mental counting of "One and Two and "Three and Four" and repeating this as you proceed through the music. It is better to keep the tempo slow on whatever you are playing until your foot tapping and counting is a natural procedure.

The length of time that a note is held may also be affected by the placement of a *"dot"* behind the note, or by a *"tie line"* placed between two notes

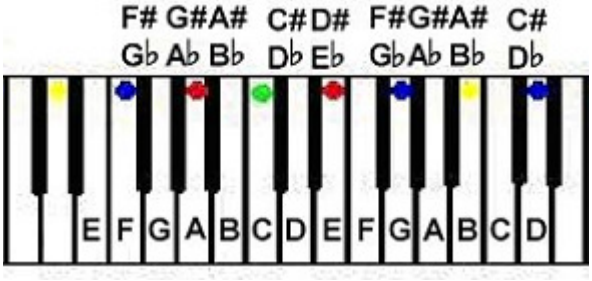
with identical positions. A dotted note or a dotted rest will then have their normal time values *plus one-half* of that time value, that is, in combination as a total length of time for the note to be held. Ties between identical notes *combine two time values* into one length of time for the note position to be held.

More detailed explanations of musical notation and theory should be obtained through a professional teacher, or via self-education as you progress into a further study of music.

The additional downloadable tools indicated just below are for use with the Jixis system, should you choose to utilize them.

The Note Letter Name Strip

Once you learn the note letter name sequence within its set cycle of sharps/flats, you can follow that sequence through any string by starting with its open tone note letter name or any other known tone letter name. It is helpful to learn the note letter names by utilizing the sharp/flat sequencing on a piano keyboard, with the five raised black keys representing the sharp/flat triangles on your label set.

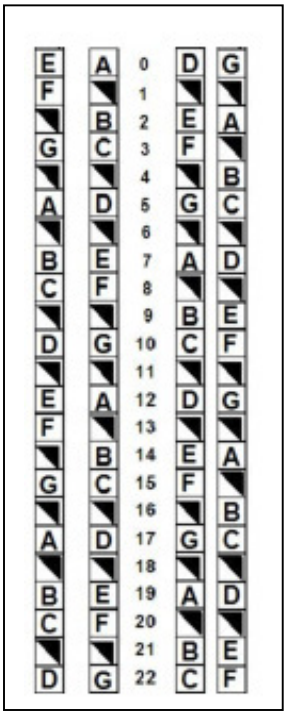


When you understand the precise layout of the sharp/flat pattern in the rising order of the tones down the strings from the open string tones, it will be much simpler to realize the note name letter of the fingering positions on your instrument.

The linear pattern of the A through G note letter sequence will always appear within the same sharp/flat note sequence, irrespective of which string you are playing. If it helps you to more clearly see this order, you may want to download the PDF titled, *The Note Letter Name Strip*. The strip displays the note letter names along with their appropriate sharp/flat positions.

The strip may also be used along with your label set to assist you in quickly naming any note in the label set. To use the note letter name strip, cut it free from the download sheet and align the order of the black sharp/flat triangles in the note letter strip with the linear order of any vertical row of the color/symbol codings. A display of the note letter strip is shown to the right. The strip should be printed out at the same percentage as your label set printout.

How to Make a Note Letter Name Chart



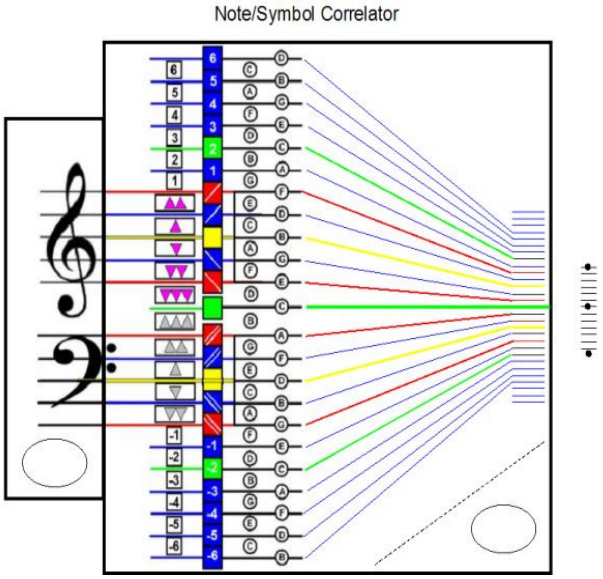
If you have to make your own Label Set, separate note letter name strips and number columns have been provided in the *Note Letter Name Strip* download for the purpose of generating a *Note Letter Name Chart* (with sharp/flat triangles) for your instrument.

You begin the process by determining the open tones of your instrument strings, and then cutting out the individual strips starting with these open tone letter names.

For example, on a bass guitar, you would have the open tones of EADG. So your first string column would begin with G, your second string column with D, and so on. The strips are then laid down in order and taped to a piece of blank paper to form string columns of note letter names with sharps and flats that will correlate to your label set and to your fingerboard. After adding a side or middle number set, the completed chart should look similar to the one in the reduced diagram to the right.

The Note/Symbol Correlator

If you find yourself having difficulty reading out note positions in the written music and/or converting these positions into the correct color/symbol coding, you might want to download the PDF for a useful device called the *Note/Symbol Correlator*. A reduced depiction of the device is shown below.



Last Thoughts

To properly determine the tonal range of your actual instrument (as opposed to the tonal range shown in the label set), count out the number of fret spaces on your fingerboard. Then look at this number position on the "1" string column of your label set. This is the highest note you can play out. The lowest note you can play out is, of course, the open note of your lowest sounding string.

Since the tonal range of your instrument lies between these two notes, it may be helpful to take a copy of the staff guide and the label set and cut both so that only this range shows, and use these cut copies when you use the Jixis system. You can then do the same thing with the note letter name chart if you wish.

Once you become accustomed to recognizing the color/symbol coding on the staff guide as it applies to your label set, it may help you to learn the note letter names if you place the note letter name chart for your instrument next to your label set for easy reference to the respective note names of the color/symbols in the label set.

When you are using chord diagrams, by cross-referencing the chord diagram fingering positions with the staff guide, you will immediately know the letter names of the notes in the chord, and may then use this information to build the same chord elsewhere on your fingerboard.

There is no simple way to musical proficiency. Expert playing requires disciplined practice efforts over extended periods of time. The Jixis system can only assist you by helping you to locate the proper fingering positions for your written music. Jixis cannot replace the professional music teacher. However, if you limit yourself to the graphical playout of relatively simple scores, there will be no actual need to self-learn more than basic music notation and techniques in order to play such pieces well.

When you have chosen an appropriately written score, that is, one that has a limited amount of musical notation, place it before you and do the following. *Relax*. However briefly, it is advisable to stretch and clench your fingers in alternate cycles, and to stretch and rotate your wrists, arms and shoulders to come to a point of relaxed composure. Assume a straight-backed posture and place your hands in position on your instrument.

Concentrate on the graphical relationship between the color/symbol codings and the written music. And concentrate on the fact that each respective note in the written music represents a specific fret space on a color/symbol label.

As you learn to play out various pieces of music, bear in mind that you have three main objectives to fulfill in order to be eventually enabled to *"override"* the Jixis system in order to easily play out music on your fingerboard. These objectives are:

To learn the fingerboard and written note names by graphical association and reverse comparison.

To learn to reference yourself along the fingerboard length by using the fret markers as guides.

To apply basic music notational understandings to the music as you are playing —

When you have achieved these objectives, and your graphical play has become reflexive and natural, you will have achieved the ultimate purpose of the Jixis system, *which is to be able to play out written music without using the system.*

Have fun, and enjoy the wonder of making music! ♪♫♪♫♪♫♪♫

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