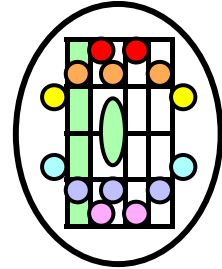


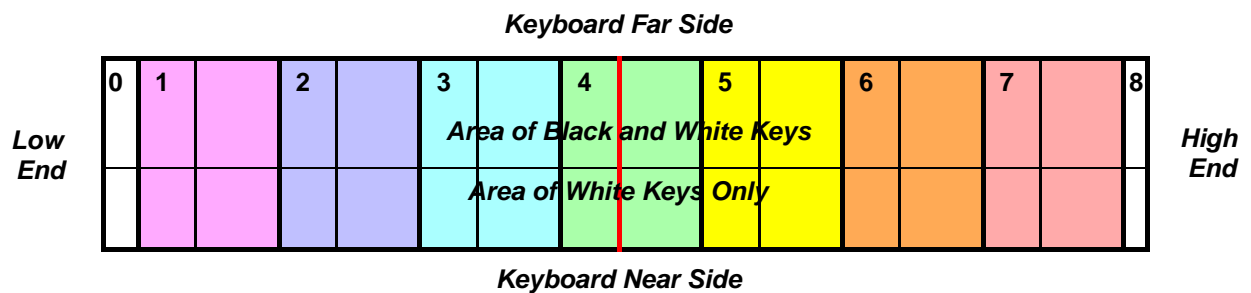
Key Maps Compared With Key Diagrams

KMA



*Notes move left and right in sync with
finger movements and visually identify
which keys to play.*

*Based on a Piano Keyboard Labeled With the Rainbow
Colors of the 7 Identical Octave Groups*

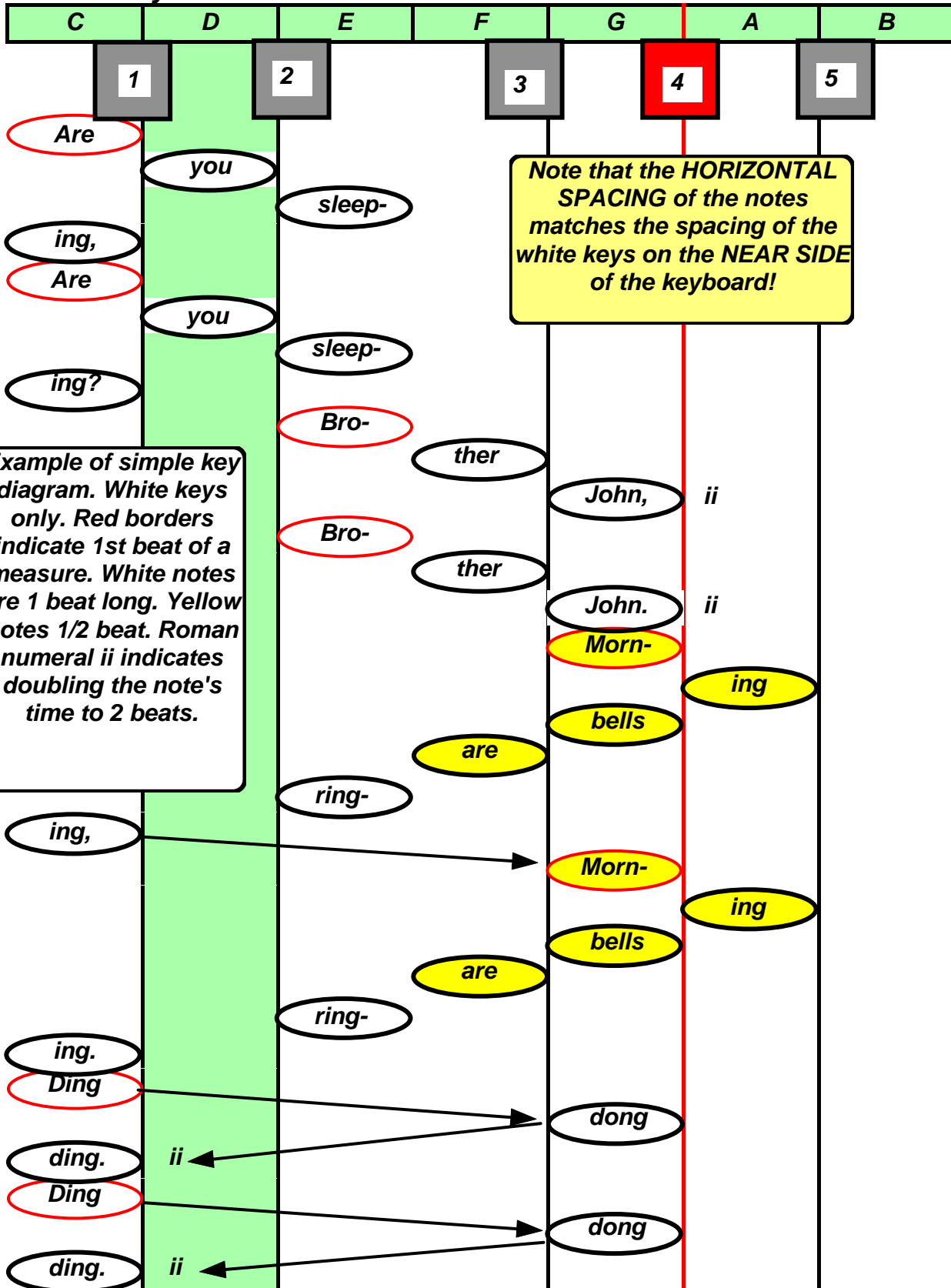


*From the Music
Innovator's Workshop*



Example - Key Diagram - Brother John

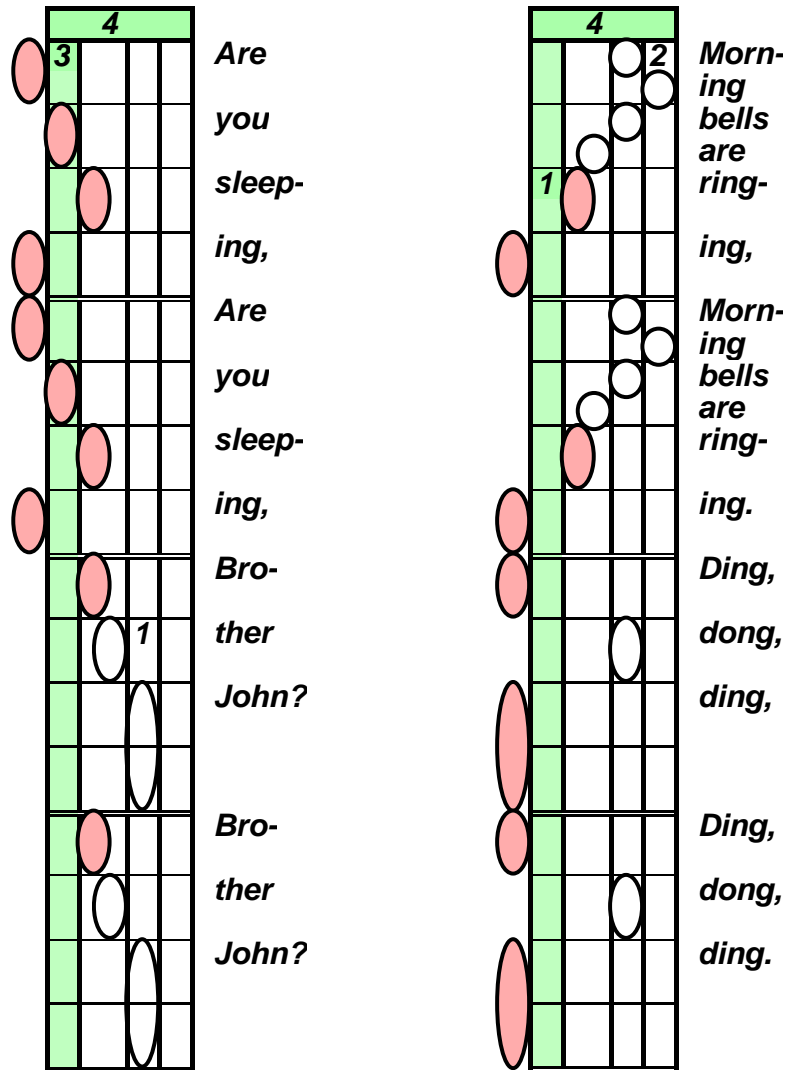
Moderately #/b: 0 Beats: 4



Example - Key Map - Brother John

Example of simple key map. White keys only. Notes with the pink fill are for the left hand.

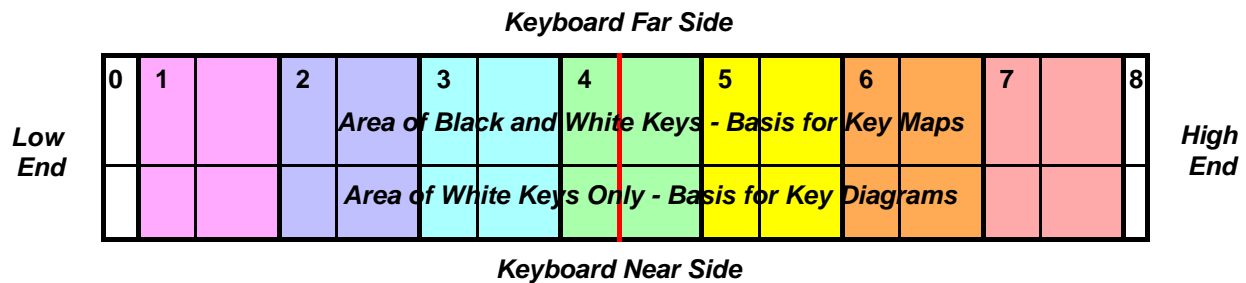
Moderately #/b: 0 Beats: 4



The horizontal spacing of the notes is proportional to spacing of the keys at the far side of the keyboard. The spacing of these keys is, in turn, proportional to the sound intervals that they create when played. At the same time, the vertical length of each note is proportional to the time, in beats, that each note is sounded.

The Near and Far Sides of the Keyboard

We rarely have any need to refer to the near and far sides of the keyboard. They are just there, and we take them for granted. But they have great significance for the notation. Just to be clear, the near side of the keyboard runs across the entire piano closest to the pianist, and contains only WHITE keys. The far side is farther away, as labeled on the diagram below, and contains both WHITE keys and BLACK keys intermingled.



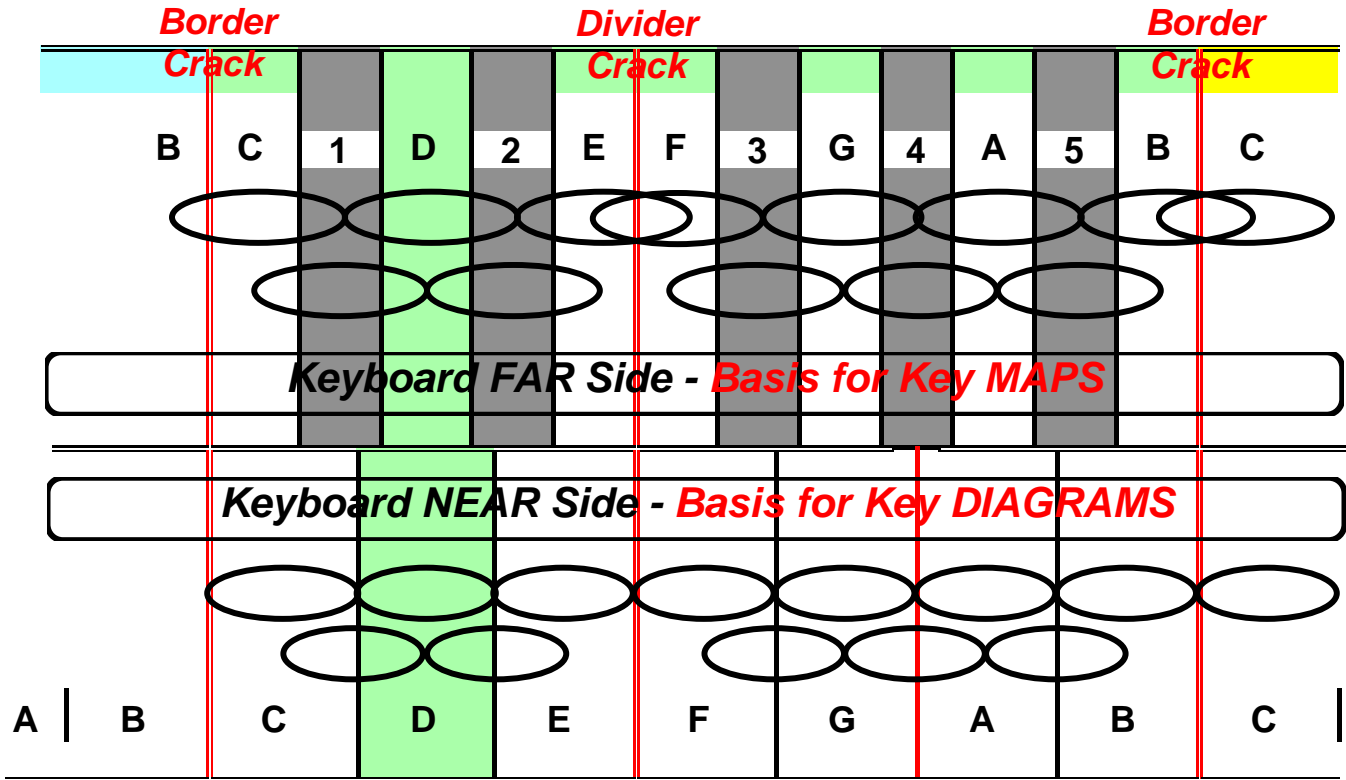
What is the Significance of This Graphic Distinction? Just this - The near side provides the visual basis for the Windows Key Diagrams, and the far side provides the visual basis for the Windows Key Maps. This distinction is what makes the two notation formats possible and useful.

Windows Key Diagrams. The horizontal spacing of the notes on key diagrams matches the spacing of the white keys on the near side of the keyboard. The notes on the sheet music of the key diagrams are physically the same width as the actual white keys on the near side of the keyboard. This spacing means that the vertical black lines that form the musical staff of the key diagrams are spaced a bit differently from the spacing of the black keys on the keyboard. Thus the key diagram format does not exactly match the spacing of the keys and sounds on the keyboard. (See the following pages for further explanation.) The consequence of this mismatch is that one cannot judge the size of an interval just by looking at the notes. Fortunately, this mismatch is of little consequence when playing simple pieces. This format is used mainly for beginning keyboard instruction and for notating lead sheets for songs. A nice benefit of this format is that the notes are large enough so that the song texts can be placed inside of the notes. The large notes are especially helpful for persons with impaired vision.

Windows Key Maps. The horizontal spacing of the notes on the key maps is proportional to the spacing of the keys on the far side of the keyboard. That means that the horizontal spacing of the notes matches the proportional SPACING OF THE ACTUAL SOUNDS PRODUCED - in addition to matching the spacing of the keys. The key maps are the norm for our windows notation. One can determine the size of an interval merely by looking at the notes (rather than having to analyze it as with traditional notation.)

Notes on the Near and Far Sides of the Keyboard

Equally spaced black and white keys are found only on this Far Side.



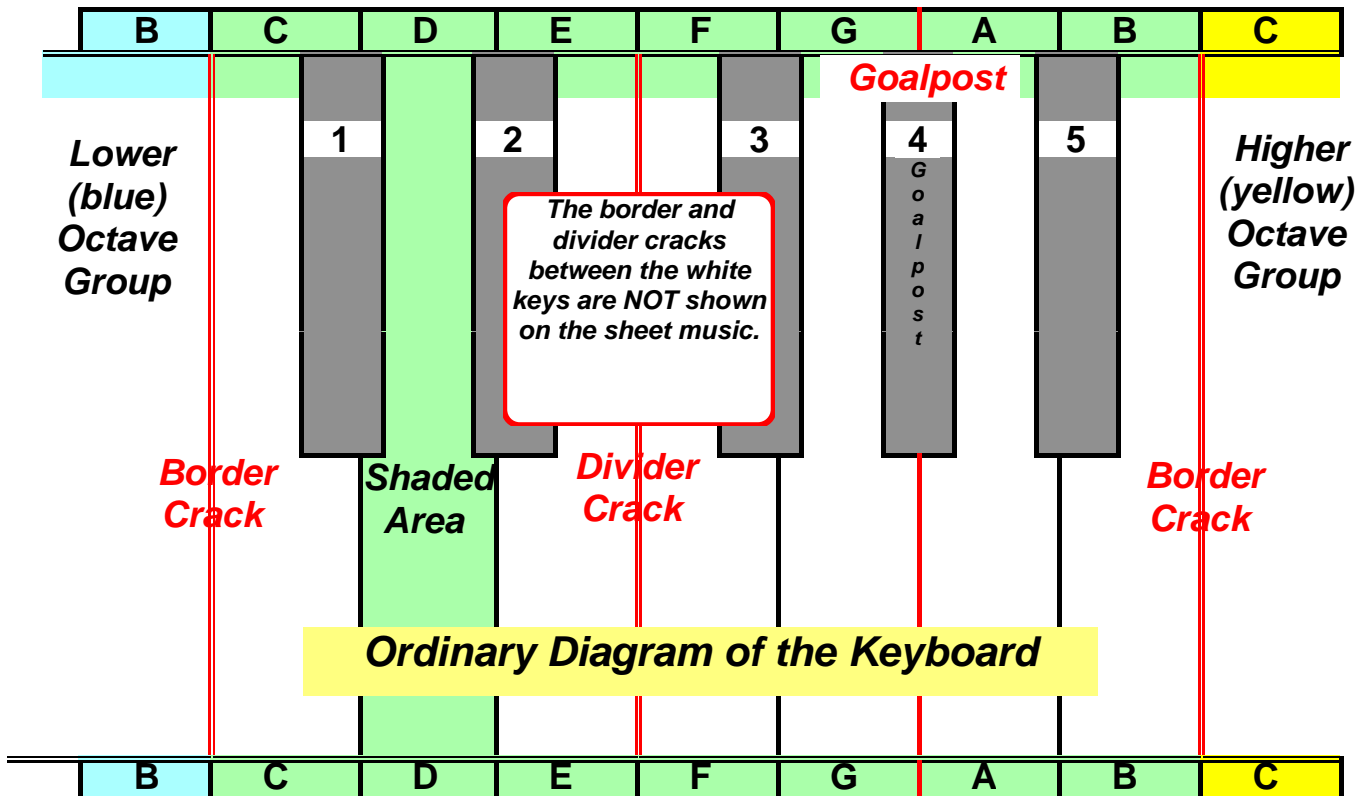
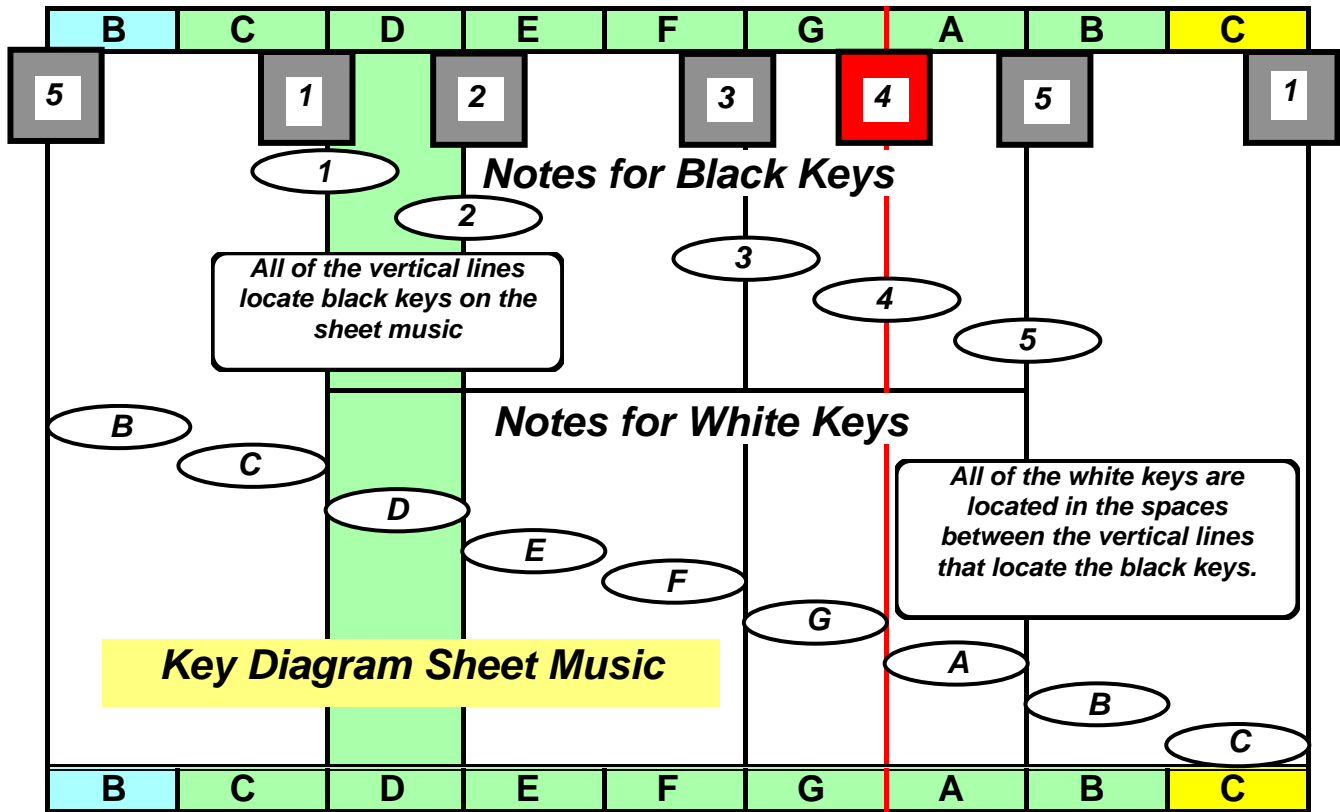
Key maps work because the graphics show which keys to play. Another important part of reading the graphics is having the ability to judge the size of intervals to nearby keys. On key maps this ability is based on knowing the width of each note (a whole step) and on the consistent horizontal spacing of the notes and keys. The space from one key to the nearest key on the far side is always 1/2 step. The space is shown on the key map by an overlap of adjacent notes by 1/2. Two notes next to each other (in the horizontal dimension) are ALWAYS whole step intervals ... and so on with all of the intervals. You can see this in the notes on the above diagram of the far side keys.

As you can see in the notes for key diagrams on the near side, this consistent spacing of intervals does not work out. The notes for E/F and B/C appear to be whole steps but, of course, they're half-steps. This inconsistency affects the judging of other larger intervals as well - but, fortunately, it does not interfere with the easy identification of the individual notes.

How the Key Maps Compare With the Key Diagrams

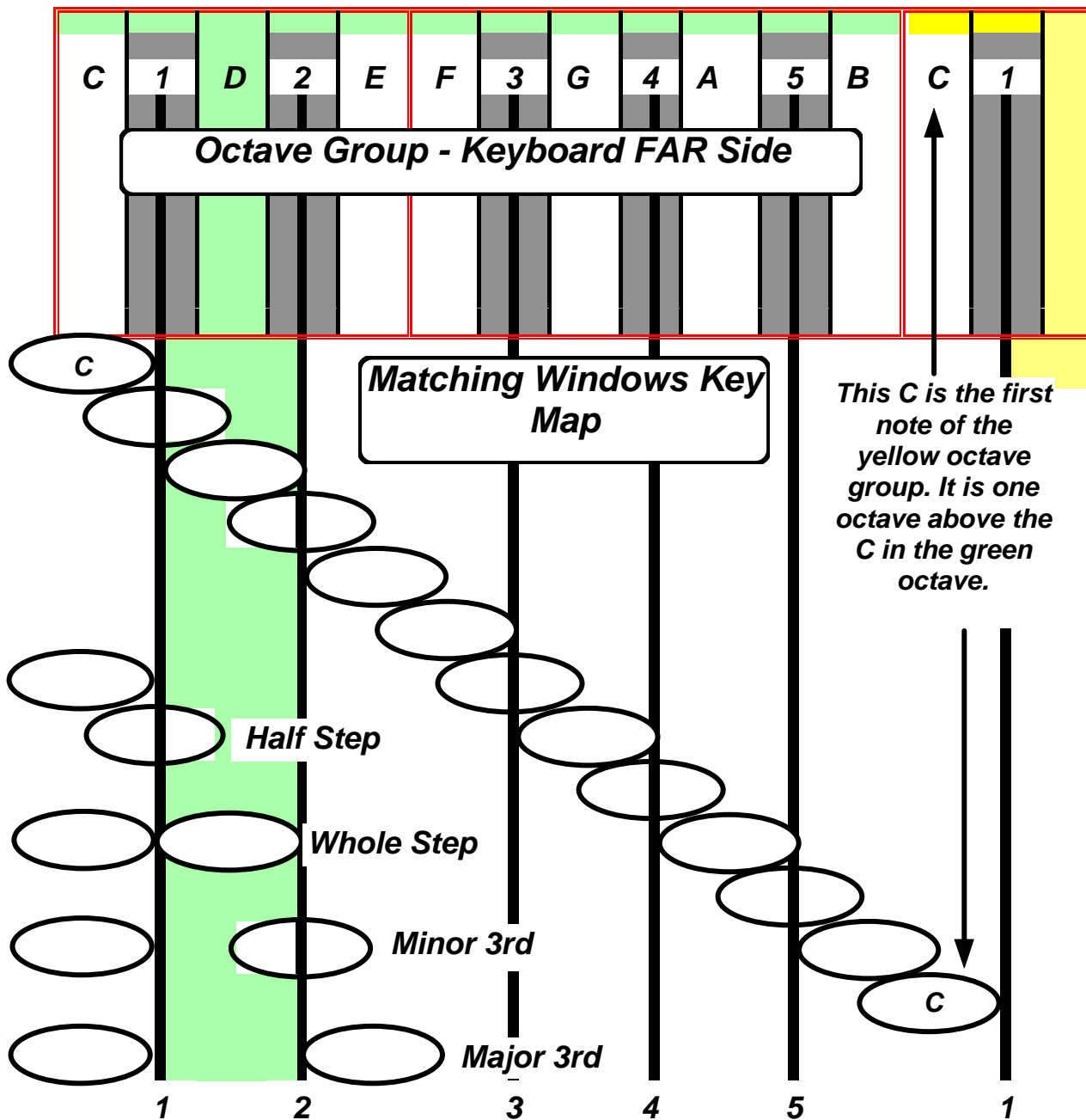
Key Diagrams and Key Maps	<i>It needs to be clear that <u>both</u> formats are diagrams. The <u>key maps</u> are <u>special diagrams</u> that we refer to as maps by the fact that their vertical dimensions act as timelines.</i>
How They Are Alike - <u>Notes for Black Keys</u>	<i>Both formats are horizontally oriented, and work in essentially the same way. The notes on both get their identities from the vertical lines standing for the black keys. The notes placed on these lines stand for the black keys. These keys, lines, and notes are all identified by their ADDRESSES, the numbers 1 through 5.</i>
How They Are Alike - <u>Notes for White Keys</u>	<i>The notes for the white keys get their identities from these same vertical lines by being "attached" to one or two of these vertical lines. This is similar to how the white keys get their identities by their locations next to certain black keys on the keyboard. The notes for white keys are identified as A, B, C, D, E, F, and G, which are the traditional names for these notes and keys.</i>
How They Are Alike - <u>Organized by Octave Groups</u>	<i>In both formats the notes are identified by the colors of the octave groups in which they appear.</i>
How They Differ - <u>Horizontal Spacing of Notes</u>	<i>The horizontal spacing of the notes for the <u>key diagrams</u> is based on the "near side" of the keyboard where only white keys appear. The horizontal spacing of the notes on the <u>key maps</u> is based on the spacing of the "far side" of the keyboard where the black and white keys appear together. The significance of this difference is <u>discussed in the following pages</u>.</i>
How They Differ - <u>Size</u>	<i>The notes on the <u>key diagrams</u> are typically much larger than the notes on the <u>maps</u>. This reflects the fact that the <u>diagrams</u> are designed primarily for younger beginning students and for those who have impaired vision. The notes on the <u>key diagrams</u> are much smaller, to accomodate a great deal more music on each page.</i>
How They Differ - <u>Song Text</u>	<i>Because of their larger note size, it is possible and practical to place the song texts inside of the <u>key diagram</u> notes. The <u>key map</u> notes are typically much too small to accomodate the song texts inside the notes.</i>
How They Differ - <u>Rhythm Notation</u>	<i>This is a <u>significant difference</u> between the two formats. All of the <u>key diagram</u> notes are the same size. Rhythm is color coded with Roman numerals for multipliers. The notes on <u>key maps</u> are on a timeline and are vertically sized to match the length of each note with the number of beats in its rhythm.</i>
How They Differ - <u>Measure Notation</u>	<i>On <u>key diagrams</u>, the beginning of each measure is marked with a red border on the first note. On <u>key maps</u>, the beginning of each measure is marked by a heavy horizontal line crossing the staff.</i>

**Alignment of the Key Diagram
with the Keyboard**



Anatomy of an Octave Group KEY MAP

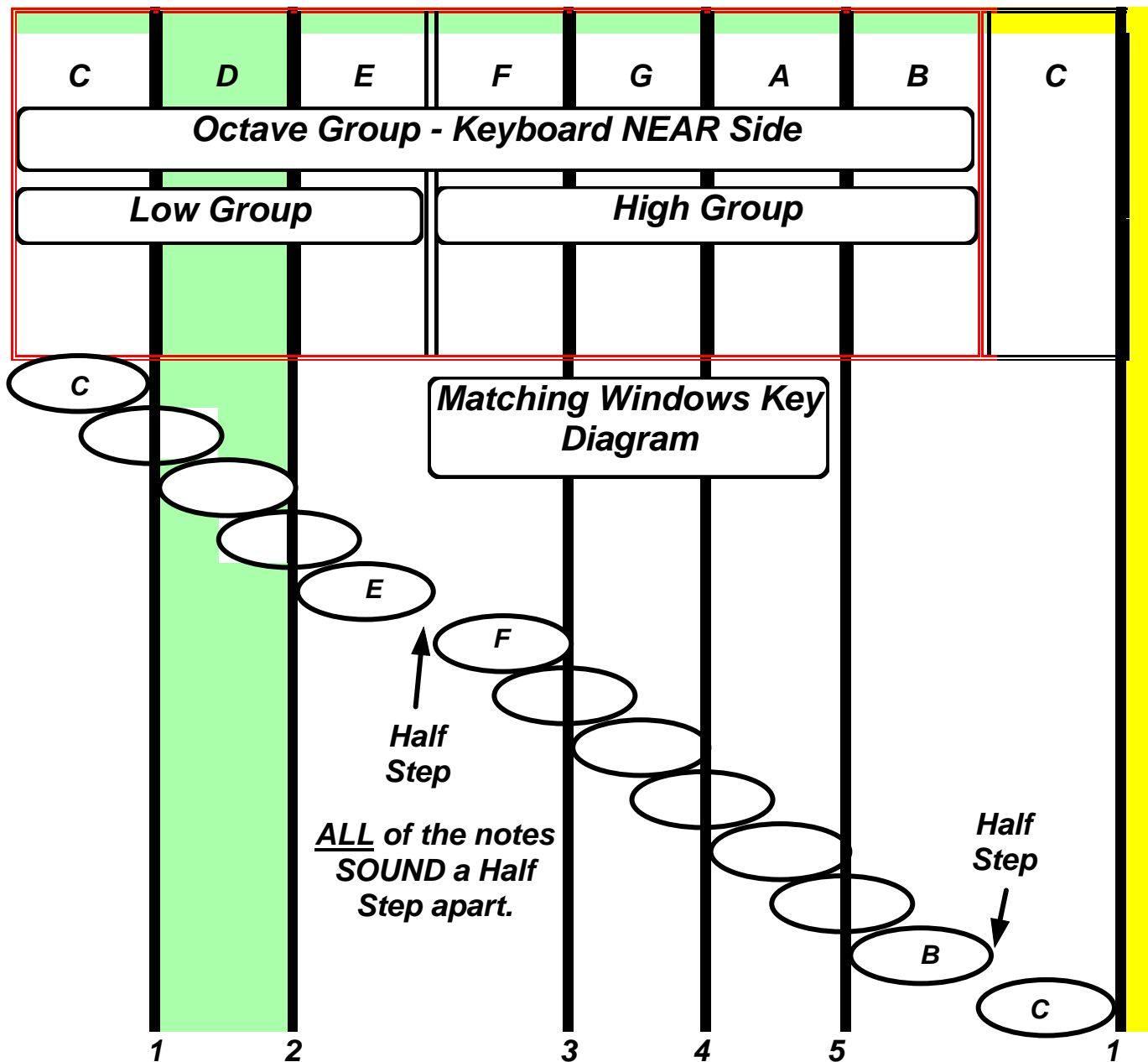
This diagram shows how the staff lines of a key map are extensions of the black keys of the keyboard, and how they get their horizontal spacing from the black keys. (A key map is a minimized version of the lower part of this diagram.) For the notes to show musical intervals accurately, all notes are a whole step in width. Two notes with edges touching are a whole step apart. Two notes overlapping by half are a half step apart. All note intervals are proportional to the sound intervals that they represent. We call this TruScaled.



Anatomy of an Octave Group KEY DIAGRAM

This diagram also shows the staff lines as extensions of the black keys of the keyboard. However, the horizontal spacing of these lines does not quite match the spacing of the black keys on the keyboard. Rather, the spacing of the staff lines on the diagram is based on the spacing of the WHITE keys on the near side of the keyboard, as shown below.

It is worth noting that within the LOW group and within the HIGH group the horizontal spacing of the notes remains the same as in the the key MAPS. The spacing of the notes differs only between B/C and E/F. As you can see below, the space between these notes appears to be a whole step, but the reality, the **SOUNDS** between these notes are only half steps.



The First Noel - First Page Only

Moderately #/b:0 Beats: 3 LH | RH

C	D	E	F	G	A	B	C
1		2		3	4	5	1

This Key Diagram format is useful mainly for helping beginners get started and for notating song melodies.

Example - Key Diagram (first half of song only)

Rhythm is color coded. White notes are 1 beat and its multiples. Yellow notes are 1/2 beat and its multiples. The multiples are shown by Roman numerals next to a note (never above or below the note).

Each note with a red border marks the beginning of a measure.

The diagram shows the first page of 'The First Noel' with notes color-coded by rhythm. A red vertical line marks the beginning of measure 4. Notes with red borders indicate the start of a measure. The notes are: The--- (white, 1), first--- (red, 1/2), No- (white, 1), el, (red, 1/2), the--- (white, 1), an- (red, 1/2), gels (white, 1/2), say, (red, 1/2), ii was (white, 1), to (yellow, 1/2), cer- (red, 1/2), shep- (red, 1/2), poor (white, 1/2), tain (white, 1/2), in (white, 1/2), fields (red, 1/2), as (white, 1), they (white, 1), they (white, 1), in--- (yellow, 1/2), lav: (red, 1/2), in--- (yellow, 1/2), fields--- (red, 1/2), iii (white, 1), where--- (yellow, 1/2), they (white, 1), they (white, 1), lay--- (white, 1), keep- (red, 1/2), sheep, (red, 1/2), ii their (white, 1), ing (white, 1/2), On (white, 1), a (yellow, 1/2), cold (red, 1/2), ter's (white, 1), win- (white, 1/2).

The First Noel

Example - Same Song on a Key Map (whole song)

Traditional tune
This Key Map format is our primary notation for the keyboard.

Pink notes are for the left hand.

Moderately #/b: 0

The diagram consists of three vertical key maps, each representing a 4-measure phrase. The notes are arranged in a grid with 5 lines per measure. Fingerings are indicated by numbers 1, 2, and 5. Pink notes indicate the left hand, and white notes indicate the right hand.

Map 1 (Left): Shows the full song. Pink notes are present in measures 1, 2, 3, and 4. The lyrics are: The--- first--- No- el, the--- an- gels did say, was to cer- tain poor shep- herds in

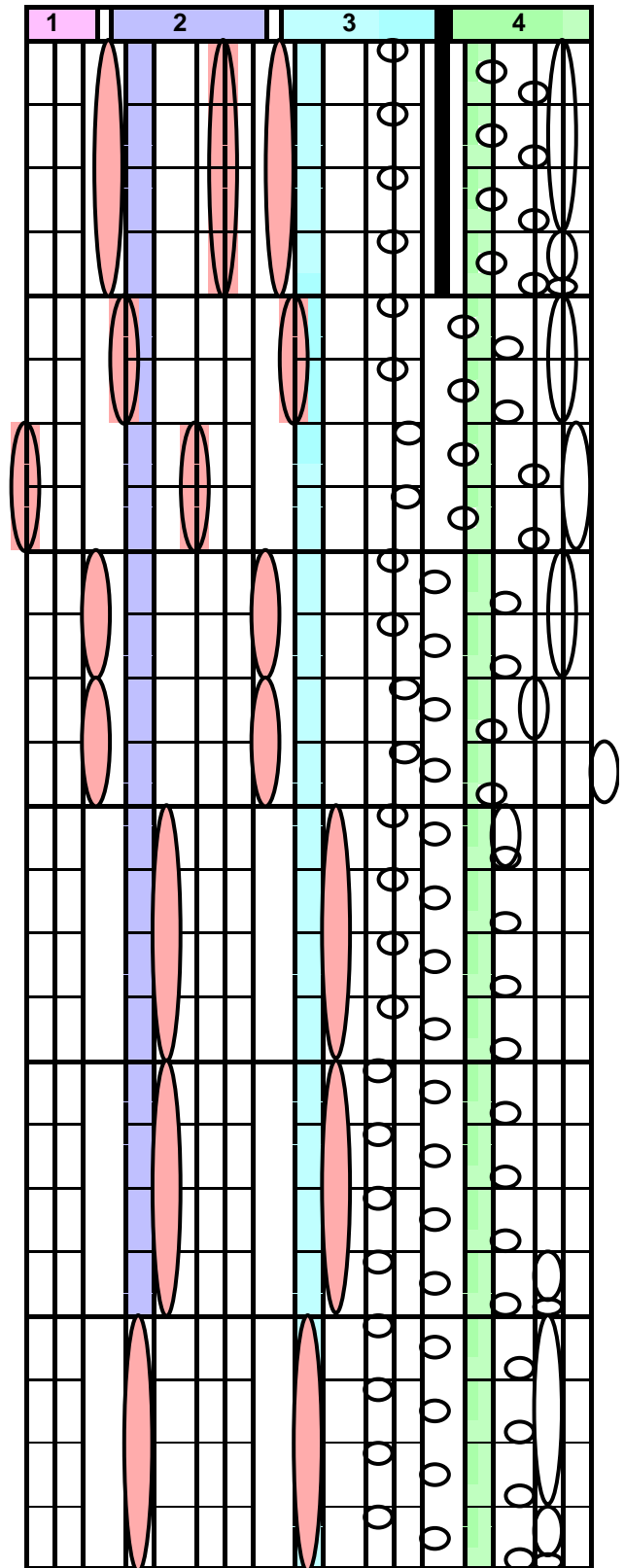
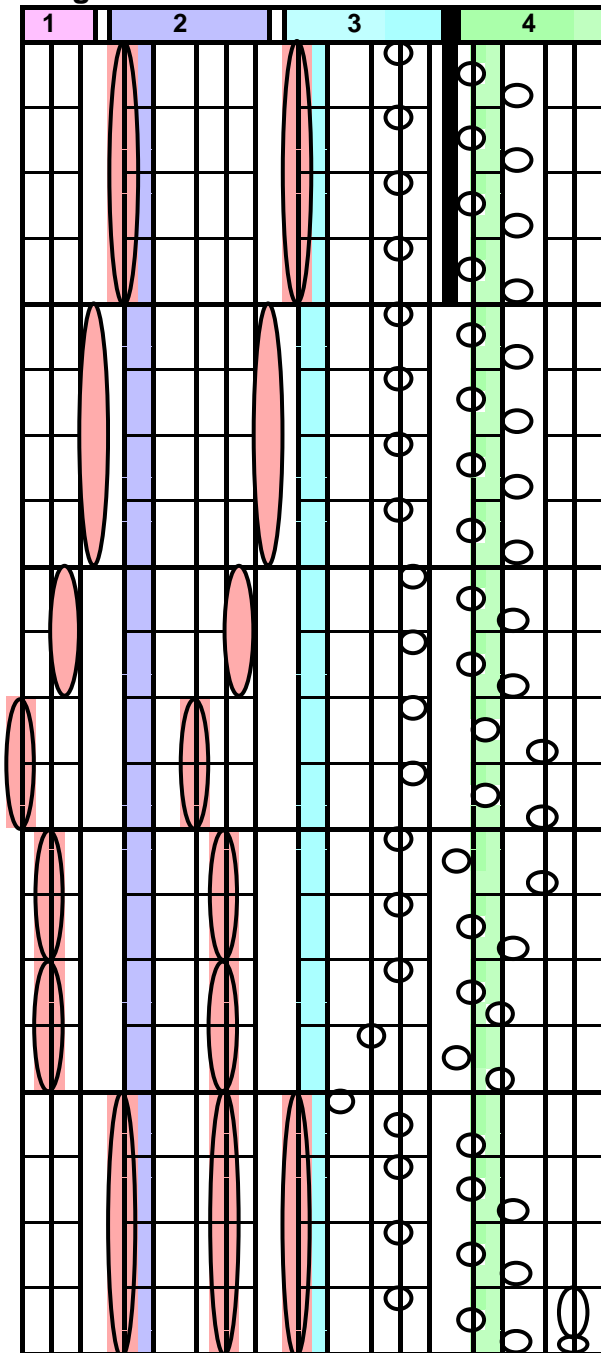
Map 2 (Middle): Shows the traditional tune. Pink notes are present in measures 1, 2, 3, and 4. The lyrics are: fields as they lay; In--- fields--- where--- they lay--- keep- ing their sheep, On a cold win- ter's

Map 3 (Right): Shows the traditional tune. Pink notes are present in measures 1, 2, 3, and 4. The lyrics are: night--- Born is the King--- of Is- ra- el. ---, No- el, No- el,

Example - Windows Key Map

Opening Bars of Beethoven's Moonlight Sonata

Adagio sostenuto #4 Beats: 4 MM: 52



On this key map, the notes with the pink fill are for the left hand. The heavy horizontal lines mark the measures; the light lines, the beats. The physical length of each note is proportional to its time in beats.