braille primer

For The Sighted Music Educator

By Brett EE Paschal

During the spring semester, a visually impaired student who sang in the concert choir asked if I would consider having him in my pre-theory course at Lewis & Clark College, Portland, Oregon. He mentioned how he already knew Braille music notation and told me there was software that would take a music XML file and convert it to Braille notation. This was very exciting to me, and I accepted the challenge.

Later that summer, I was informed that Lewis & Clark College was willing to buy *Dancing Dots* (software conversion tool to convert XML to Braille) for my class to help my visually impaired student. With eagerness and excitement, I contacted the student to tell him the good news. He responded, "I am looking forward to learning how to read Braille music!" After taking a step backward, I reminded him that he had told me he could read this notation already. "I meant to say that I can read print Braille and thought I could learn music Braille along the way," he replied. So I did what any other dedicated music educator would do: I learned how to read Braille notation—in one week! Here is how I did it. And *you can too!*

A short study session to dedicate information to memory is the most effective and efficient way to learn the basics of Braille music notation. The easiest way to do this is to make note/flash cards. On one side of the flash card, draw the cell, or grouping of six dots, (see Example 1) you are trying to learn. On the other side, notate the meaning of the cell, as well as any information you used to commit it to memory. Do this every time you learn a new cell; add a flash card to your set.

I started with pitch names and note values, and these were the first set of flash cards I created. Immediately I discovered one major difference between Braille music and standard notation: In Braille, pitch names and note durations occupy the same cell (Example 1). Specifically, dots 1, 2, 4 and 5 (the top 4) indicate the pitch name. The remainder, consisting of cells 3 and 6, specifies the note duration (Example 2). Example 3 shows the seven pitch names and their cells. Note that cells 3 and 6 will be blank because only the top four dots indicate pitch.

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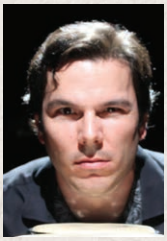
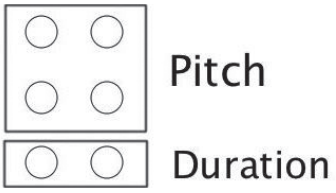
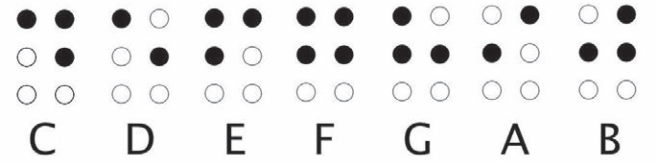


Example 1

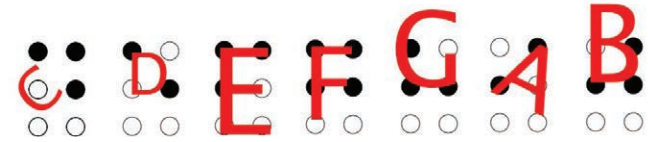


Example 2



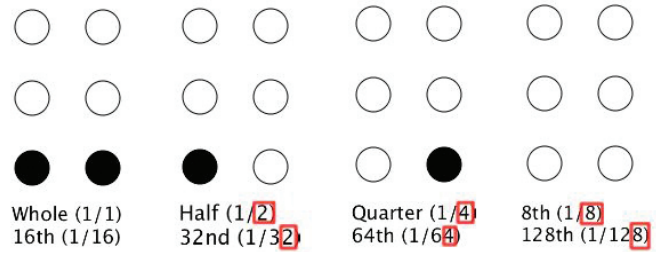
Example 3

At first, this might seem very daunting to memorize, but try the trick shown in Example 4 to help you remember pitch names.



Example 4

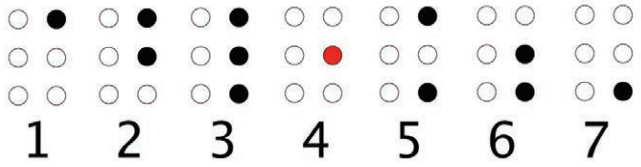
The next step was to understand how note durations work. In Example 5, we can see that each cell has two duration meanings. The cell for whole notes is also the cell for sixteenth notes. Remembering the combinations is simple with the following association: First, memorize the control, whole and sixteenth note. For the rest, the last number is the same (red squared numbers) for corresponding durations. If a cell with only dot 3 follows a pitch/duration cell, it is a dotted note and follows the same rules as a dotted note in standard notation. The same rule applies to rests, which will be explained later.



Example 5

How do you know if it is a whole note or a sixteenth? Deductive reasoning. If you are in 4/4 and you see the cell for a whole/sixteenth note four times, you know it can't be whole, because it would not fit into one 4/4 measure. There are some cases when it can be a bit confusing, especially in 20th- and 21st-century music. If deductive reasoning doesn't work, the visually impaired can either listen to a recording of the music or ask a sighted person to look at the standard notation. These are the only options.

Braille music does not have a clef, so octave identification is extremely important. The octave sign is present at the start of each line of music. Within the cell, only dots 4, 5 and 6 (the three vertical dots on the right of the cell) indicate particular octaves. Example 6 shows the octave signs.



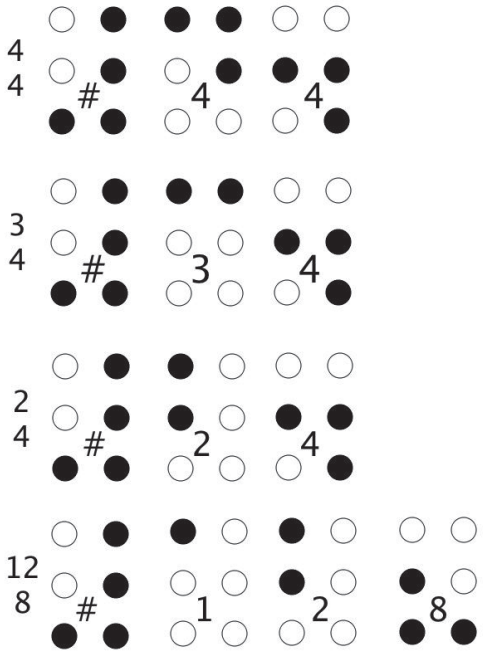
Example 6

Notice the pattern of stacking and subtracting dots from the right side, top to bottom. To remember octave 4, I think of its location. Octave 4 is the middle dot on the right, just like middle C, the middle octave.

Rules for the octave sign:

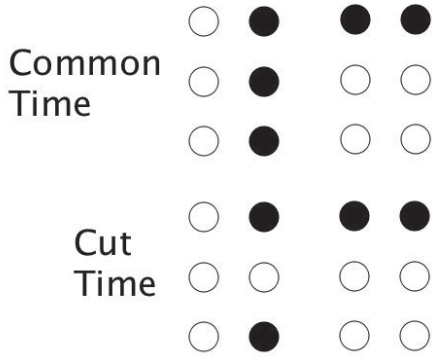
1. Always required at the beginning of each line.
2. If the interval between notes is a second or third, no sign is needed.
3. If the interval is a fourth or fifth, an octave sign is needed *only* if you change octaves.
4. If the interval is a sixth or greater, an octave sign is always used.

The time signature is always preceded by the # sign, then the top number followed by the bottom for a total of three cells. When the top number has two digits, for example 12, there is a cell for the 1 and a cell for the 2, then a cell for the bottom number. Once you have learned the numbers, their placement will be top or bottom, but the pattern will look the same. Example 7 shows some of the most common time signatures. Notice how the top number of the 4/4 time signature looks just like the bottom number. The top four dots represent the top number, and the bottom four represent the bottom.



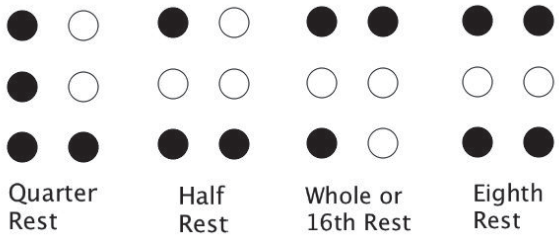
Example 7

Cut time and common time are unique. The second cell is the same for both. The difference is in the first cell. My memory device: In cut time, we "cut" out dot 5 (Example 8).

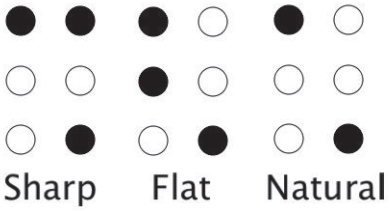


Example 8

Before we are ready to start reading music, we need to learn rests (Example 9), and accidentals (Example 10). Remember, the accidental comes before the pitch.



Example 9



Example 10

From this point on, I recommend purchasing a book on Braille music notation. There are also a lot of good sources online for free. If your budget permits, I would recommend purchasing Braille notation software, such as *Dancing Dots*. With this software, you can input music into *Finale* and have the software convert it to Braille and print to an embosser, a printer that prints Braille. The nice thing about this option is you can also print out a sighted copy.

There are a few roadblocks I have found as a sighted educator reading print Braille. The first is having the sighted person read from the embossed copy. The difficulty here is that the unused dots are omitted. In the sighted version the dots being used are dark, and the unused are light. Why is this a problem? When you see dot 1 and 4, it can look like dot 2 and 5, or even 3 and 6 on the embossed version. The visually impaired student can feel the difference. For the sighted, it is much harder.

The second roadblock is reading musical terminology. Braille music is quite different from print Braille. They both use a six-dot cell (there is actually an eight-dot cell too). To read a crescendo, you would need to know how to read print Braille. There is no need to worry, however. I have found once a student can read pitches, note duration, octave identification, rests and time signatures, he or she usually can figure out much of the rest with little help from the teacher.

As music educators, we try to reach all our students and help them succeed. I believe I was able to do this by taking the time to learn Braille music notation. I hope this primer will demystify Braille music notation and motivate you to teach visually impaired students to read music.

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