

Rehearsal Strategies Employing The Yamaha Harmony Director Keyboard

Jordan Stern

Refining ensemble intonation can be a challenging task for even the most seasoned band director. One of the most mystifying aspects of tuning is the concept of Just Intonation, in which the intervals are taken from the harmonic series, rather than based on equal temperament (ET). Fortunately, tools such as the Yamaha Harmony Director keyboard exist that make it easier to apply the concept of *Just Intonation* to ensemble training. This article will describe some different ensemble rehearsal applications for the Yamaha Harmony Director.

For more in-depth information pertaining to Just Intonation and tuning of wind instruments, I recommend the book *Tuning for Wind Instruments: A Roadmap to Successful Intonation* by Shelley Jagow (published by Meredith Music Publications).

In order to get the most out of these exercises, the band director should be knowledgeable in proper techniques to “bend” pitches properly on each instrument. (i.e., lipping up or down, adjusting the shape/size of the oral cavity, alternate fingerings, air direction on the flute, “shading” open holes on the clarinet, etc.). In general, it is easier to bend pitches downward than upward. Also, it is very valuable for the director to be knowledgeable of the tuning tendencies of the different notes on each instrument. For instance, when playing notes based on the fifth partial of the harmonic series on a brass instrument, the pitch naturally will be 13.7 cents flat. This is useful when playing major thirds

(which should be played 13.7 cents flat to ET), but a hindrance when playing minor thirds (Which should be played 16 cents sharp to ET).

Application # 1 – Drones

One of the simplest ways to use the Yamaha Harmony Director (HD) is to sustain a drone note for the ensemble to use as a tuning reference. The teacher can push the hold button on the HD, and then play the keyboard to sustain any note or combination of notes. The use of a drone is especially recommended for playing a fixed-pitch interval tuning exercise, such as a Remington exercise. The second note should be compared to the sound of the drone, and placed where it sounds most *resonant* and *consonant*. Have your students listen for *beats of interference* between their pitch and the sound of the drone.

The following details will help to make tuning Remington exercises against a drone more efficient:

■ **Do not play the drone too loudly.** We want to use the drone as a reference point, not as a substitute for an internal representation of pitch.

■ **Incorporate singing.** The ensemble can sing the exercise while fingering the instrument to help strengthen paired associations

between intervals and fingerings. It should also be easier for the students to hear the drone while singing than it is while playing as a full band. Sing using a simple syllable, such as Doo.

■ **Split the Woodwinds and Brass up in a question and answer setting.** Rather than having the ensemble play in unison against the drone, have the brass and woodwinds

take turns. This will make it easier for the students to hear the drone, and will help the director accurately assess the intonation and tone quality of each choir. It may also be advisable to split the choirs even further. For example, upper brass could sing while low brass play.

■ **Have the students provide the drone.**

You can have the students split into A's and B's, with one group singing or playing the drone, and the others singing or playing the exercise. This promotes the skill of listening to each other, rather than to the keyboard.

■ **Remove the aspect of rhythm.** Treat each note of the exercise as a fermata in order to give the students time to experiment with adjusting pitch and finding where the interval sounds the most resonant and free from beats of interference. Once your students form strong habits, go back to playing the exercise in rhythm.

Hear more from Jordan Stern at the convention on July 26, 1:30 p.m.: “Refining Ensemble Intonation Using the Yamaha Harmony Director” with a Demo Group from Johnson HS performing some of the exercises discussed here.

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■ **Try to avoid using the drone function and metronome function at the same time.** Some students may have a difficult time attending aurally to a fixed drone and a metronome click at the same time. Instead, try conducting, so that pitch matching is taken care of with the sense of hearing and time reference is done with the sense of sight.

■ **Assess your students' ability to hear beats of interference.** Have students play one at a time or in small groups against the drone. Alternatively, the teacher can model on a wind instrument against the drone. Have the students who are not playing hold their right hand at chest level, and use the hand to show the speed of any beats of interference that they hear between the drone and the player(s). Make sure the students know that as the beats become slower, the closer they are to playing the interval in tune.

■ **Avoid overwhelming your students with superfluous information.** It may be fascinating that the major third should be tuned 13.7 cents lower than ET, but that fact itself has little bearing on playing the interval in tune. Instead, try telling your students that they will need to center that note lower than they would normally, and then prompt them to make it sound resonant and beatless against the drone.

Application # 2 – The Exemplar Chord

Many ensembles play the note Concert F many times a day during rehearsal because for most instruments, it is a note that is easy to play in-tune (with the notable exception of Alto and Bari Saxes) that can be used as a good example of ensemble tone quality. Band directors have often found success by referencing a problematic note (such as concert B) against concert F, and prompting their students to try to achieve the same centered tone quality on this note that they achieve on their concert F.

It is also possible for the band to have an exemplar chord, which they can use as a good example to compare against other chords. Here is an example of a B flat major chord that I scored in such a way that it is naturally resonant and in-tune. All of the instruments playing the third of the chord are on notes that are naturally flat on

their instrument, with all of the roots and fifths on notes that are naturally quite stable.

The image shows a musical score for a B-flat major chord in 4/4 time. The score is divided into two systems. The first system includes Flute, Oboe, Bassoon, Clarinet in Bb, Bass Clarinet, Alto Sax, Tenor Sax, and Baritone Sax. The second system includes Trumpet in Bb, Horn in F, Trombone, Euphonium, and Tuba. Each instrument part shows a single note: Flute (Bb), Oboe (Bb), Bassoon (Bb), Clarinet in Bb (Bb), Bass Clarinet (Bb), Alto Sax (Bb), Tenor Sax (Bb), Baritone Sax (Bb), Trumpet in Bb (Bb), Horn in F (Bb), Trombone (Bb), Euphonium (Bb), and Tuba (Bb). The notes are all whole notes. The Alto Sax and Baritone Sax parts are marked with a '3' and an 'R', indicating a triplet or a specific fingering. The Trombone part is marked with a '3' and an 'R', indicating a triplet or a specific fingering. The Euphonium and Tuba parts are marked with a '5' and an 'R', indicating a specific fingering. The Flute, Oboe, Bassoon, Clarinet in Bb, Bass Clarinet, Tenor Sax, and Baritone Sax parts are marked with an 'R', indicating a specific fingering.

This chord should be refined by tuning each chord member against a drone from the HD, and then memorized. You can then place this exemplar chord next to any other chord that your band is working on in a “comparison exercise.” The band should sustain the exemplar chord for 4 counts, rest for 4 counts, and then sustain another chord for 4 counts, which can be taken from a band’s concert repertoire or chosen by the director for the sake of exercise. The ensemble should strive to make the second chord as resonant, balanced and in-tune as the exemplar chord.

Application # 3 – The Audiation Sequence with the Circle of Fourths

The term *audiation* was coined by music educator Edwin Gordon to refer to the act of imagining a sound that is not physically present. The following sequence will provide pitch internalization opportunities.

- Step One: Teacher sounds a pitch for 4 counts on the HD
- Step Two: The student audiates, or mentally rehearses the pitch for 4 counts
- Step Three: The student sings the pitch for 4 counts

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Step Four: The student audiates once again as they prepare to play their instrument

Step Five: The student plays the pitch for 4 counts

Try applying this drill to a single note, or to a sequence of notes such as the circle of fourths. In his book, *The Creative Director: Alternative Rehearsal Techniques* (published by Meredith Music Publications), Edward Lisk suggests playing long tones through the circle of fourths progression. Try this first in unison, until the band is able to achieve a centered sound on all 12 chromatic pitches.

A more advanced version of this exercise involves splitting the band into two, three or four groups, with the groups playing different notes that form a chordal sonority. The band could start with simple open fifths (i.e., one group beginning on concert B flat, and the other on concert F). The director can utilize the audiation sequence as written above, or omit steps two and three. Once the band can play the sonority of the perfect fifth with beatless tuning through the circle of fourths, split the ensemble into three different groups in order to play major or minor triads. The following suggestions may be useful:

■ At first, always have the lowermost voices (Tubas, Bass Trombone, Low Reeds) play the root of the chord.

■ Make sure the group playing the third of the chord knows whether they are centering lower (Major triads) or higher (Minor triads) than ET.

■ Some chords will naturally be much easier to play beautifully than others. Be persistent with the more difficult chords (i.e., B Major, G flat Major), perhaps comparing them to the exemplar chord from Application #2.

■ Once three-note chords are played successfully, the ensemble can explore four-note sonorities, such as seventh chords. The Dominant seventh is one of the most important sonorities to spend time on. It is beyond the scope of this article to discuss the intricacies of tuning and balancing seventh chords (see Jagow's *Tuning for Wind Instruments: A Roadmap to Successful Intonation* for more

information on this very important subject). The ensemble can also explore sonorities such as Major triads with an added sixth or ninth scale degree.

■ The goal should be for the ensemble to become familiar with a variety of different vertical sonorities, with the director encouraging them to be flexible with their balance and intonation in order to make each chord sound as resonant and colorful as possible.

Application # 4 – Three-Note Chorales

| Part | Scale Degrees | Suggested Instrumentation |
|---------|---------------|--|
| Soprano | 8-7-8 | Flute, Cl. 1, A. Sax 1, Tpt. 1, Euphonium |
| Alto | 6-5-5 | Oboe, Cl. 2, A Sax 2, Tpt. 2, Horn 1, Tbn. 1 |
| Tenor | 4-2-3 | Cl. 3, Tenor Sax, Bsn. 1, Tpt. 3, Horn 2, Tbn. 2 |
| Bass | 4-5-1 | Tuba, Bass Cl., Bari. Sax, Bsn. 2, Bass Tbn. |

The three-note chorale is a useful vehicle to help students refine chordal intonation. The exercise can be taught by rote, with the students finding their notes based on scale degrees in a given key. The key of B flat is a logical starting point.

Direct your students to center scale degrees 3, 6 and 7 lower than they would with ET. The adjustments to scale degrees 2, 4 and 5 are relatively small, so the teacher should use their discretion in regards to how much information to supply their students about these scale degrees.

The ensemble can learn each different part in unison, with the teacher modeling as appropriate on the HD keyboard (making sure that the HD is set to Pure major in the appropriate key). The audiation sequence from Application #3 can be applied, giving the students a chance to audiate these justly intoned intervals. When these melodic lines are performed with Just Intonation, they may sound a little out of tune to the students' ears that are likely more accustomed to ET. The following suggestions may be helpful:

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■ Have the ensemble work on two voice parts at a time, starting with Soprano-Bass. Prompt the students to listen to the counterpoint between the two lines, and try to make the tuning beatless and the sound as colorful and free from extraneous noise as possible.

■ Try having the students perform the three-note chorale for the class in different quartet settings (i.e., trumpet, horn, trombone, tuba; or two alto saxes, tenor sax, bari sax). You could have the students participate in a fun competition in class to see which quartet can play the

three-note chorale the most beautifully, with the students acting as judges.

■ Try having the band play the chorale with only one player per instrument part (One 1st trumpet, one 2nd trumpet, etc.). Then have the full band imitate the clarity that they heard in the context of one player per part.

Hopefully these rehearsal applications for the Yamaha HD keyboard will inspire you to come up with your own variations to best fit your ensemble and your repertoire. I'll see you this summer at the 2018 TBA Convention/Clinic.

Jordan Stern is a lecturer on the Music Education faculty of the Texas State University School of Music. His responsibilities include teaching methods courses, teaching a course on arranging for concert band, instructing the Bobcat Marching Band Drumline, and supervising student teachers. He previously worked as an Associate Band Director at Claudia Taylor Johnson and William Brennan High Schools. During his tenure at Johnson, the marching band distinguished itself with such honors as 1st place at the Bands of America San Antonio Super Regional, 3rd place at the U.I.L. 6A State Marching Contest, and was a recipient of the John Philip Sousa Foundation Sudler Shield. As a concert band director, his ensembles at Brennan and Johnson consistently received first division ratings at UIL Concert and Sight Reading contest. Jordan Stern received Bachelors degrees from Texas State University in Percussion Performance and Music Studies with Teacher Certification, as well as a Masters Degree in Music Education.