



Guiding Students to Intonation Independence

CLINICIAN:

Jason Schayot

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**HENRY B. GONZALEZ CONVENTION CENTER
SAN ANTONIO, TEXAS**

Guiding students to intonation independence:



Integrating the Yamaha Harmony Director, Tonal Energy app for iPad and the Korg TM-50 Tuner + microphone into your band rehearsal.



*Presented by Jason Schayot
Associate Director of Bands, L.V. Berkner High School
Richardson, TX*

*Monday, July 28, 2014
5:15 PM to 6:15 PM*

First Things First:

Before you begin... establish your students' routine. Clearly define your expectations for:

1. How students tune their instruments
2. How students bend individual pitches

These expectations will often differ from instrument to instrument.

Here's what I found works for me:

- All intonation training occurs in a small group setting (usually sectionals in summer band) and continues in band sectionals throughout the year.
- Before you can tune, every student must make a characteristic sound.
Students should also be able to "audiate" a free, resonant sound.
- Each rehearsal begins with a 3-4 minute individual warm-up (concluding with the students tuning on their own)
Band instruments are built to play in tune at body temperature (I call it operating temperature). They are all manufactured to be pulled out slightly (with the exception of double reeds)

WARNING!

Never allow a student to tune their instrument while watching a tuner!



Students should always play tuning notes down the center of the horn.

1. While looking away from the tuner, the student holds the note until they locate the core, resonant note.
2. NOW.... the student may glance at the tuner. They will adjust the length of the instrument to bring the instrument in tune with their core set-up.

Watch a band rehearsal begin. Take note of the following:

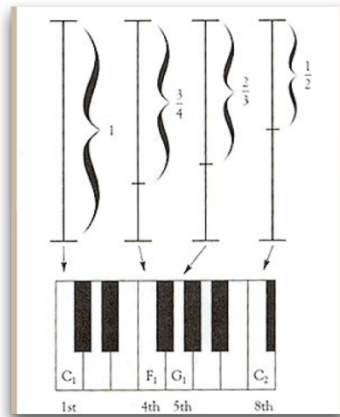
- Individual warm-up /tuning at the beginning of class
- Student engagement in the warm-up
- Set-up of music technology
- Continuous prompts encouraging students to make intonation changes on their own

Notes:

What is Equal Temperament and Pure Temperament?

Pythagorean tuning:

Pythagoras in the sixth century BC tuned intervals based on the pure fifth.



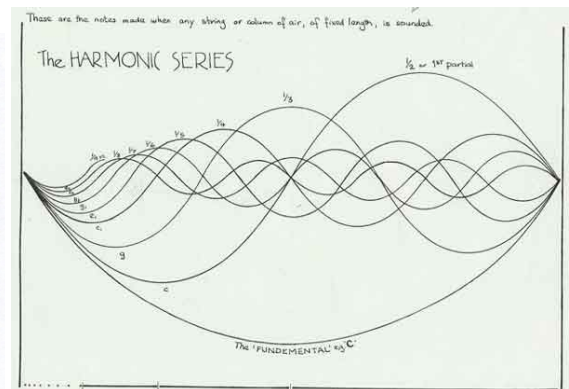
Pure Temperament:

Our version of pure tuning is much like Pythagorean tuning, however all intervals are built from the same overtone series. Overtones are already sounding each time you play a note. Pure tuning adjusts to match the interval already sounding in the overtone series for that particular key.

The Harmonic Series

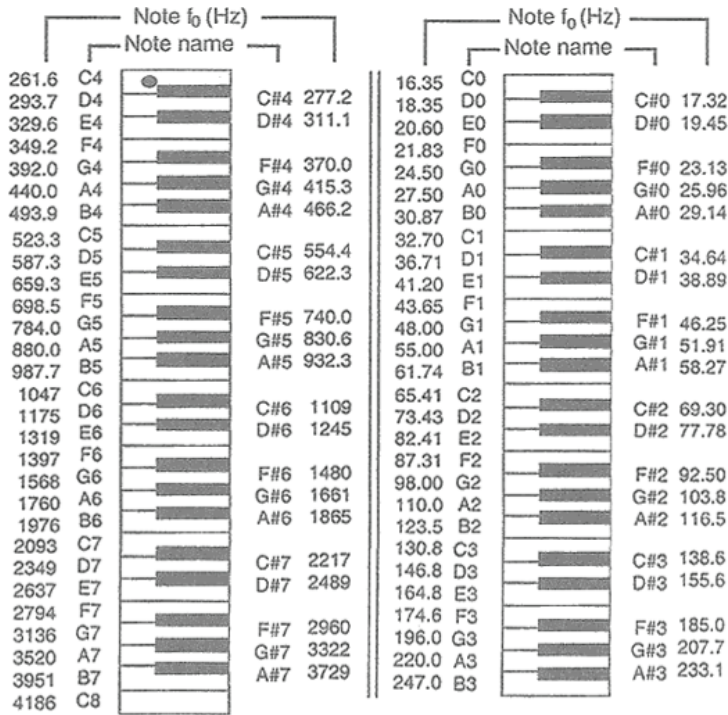
Fundamental = C
Series through the sixteenth harmonic

A musical staff showing the harmonic series of C. The notes are: 1 (C), 2 (C), 3 (G), 4 (C), 5 (E), 6 (G), 7 (B(f)C), 8 (D), 9 (E), 10 (F(s)G), 11 (A), 12 (B), 13 (C), 14 (D), 15 (E), 16 (D(f)).



Equal Temperament:

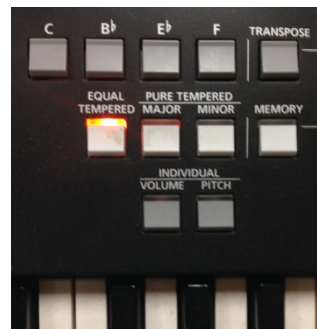
Not found in nature. This man-made compromise called “Equal Temperament” divides the octave into 12 equal parts where each half step is equal. The piano, organ, harp, harpsichord and all percussion mallet instruments are equal temperament. These instruments are inherently out of tune with themselves.



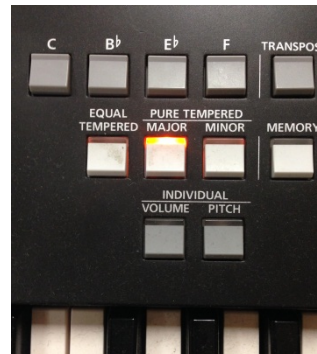
Overview of the Harmony Director:

How to demonstrate “Pure” moments for the students utilizing:

Equal Tempered chord tuning:



Pure Tempered chord tuning:



How Pure & Equal tempered tuning applies to the rehearsal:

Score study to determine "horizontal" tuning vs. "vertical tuning"

This is my personal score from this past 2014 UIL performance of the Persichetti Symphony for Band with my band (Berkner Non-Varsity A)

- Ms. 118-121 is an example of "vertical tuning" where the trombone choir passes an F# minor chord to the clarinet choir entrance on a B minor chord.
- Ms. 122-124 is good example of "horizontal tuning" where Persichetti introduces an equal temperament sequence from the tenor sax/bassoon 1 to the alto 2/oboe 2 to the alto 1/oboe 1.

The image shows a handwritten musical score for measures 118-124 of Persichetti's Symphony for Band. The score is annotated with various markings and notes:

- Measure 118:** Labeled "T. am WW" and "UP BY 4/25".
- Measures 119-121:** Grouped under "EXPO DEVEL." with a bracket. Measure 120 is boxed.
- Measure 122:** Labeled "T. am WW".
- Measures 123-124:** Labeled "UP BY 4/25".
- Vertical Tuning (Measures 118-121):** A large bracket spans these measures. Annotations include "Bmin", "Amin", and "Dmin" with arrows pointing to notes in the Trombone and Clarinet staves.
- Horizontal Tuning (Measures 122-124):** A bracket spans these measures. Annotations include "SEQUENCE!", "EMAS", "Amin", "BSN", "TS", and "TPT".
- Instrumentation:** The score includes staves for Percussion, Flute, Oboe, Clarinet (Soprano, Alto, Bass), Saxophone (Alto, Tenor, Baritone), Trumpet, Trombone, Tuba, and Drums.

Watch Vertical Tuning in the band rehearsal:

Wataru Hokoyama's 'Animas Luminis'

Notes:

Overview of the Tonal Energy App

1. Basic tuner page
2. Tone Generator page
 - Instrument selection – generates very characteristic tones!
 - Recording button (bottom left hand corner) – great for young students learning to match pitch
3. Spectral analysis/ Waveform page
 - Can be used to watch spacing of lifted notes.
 - Blossoming or tapering of long tones is shown.
 - Recording button is very useful in playing back performances for students. The waveform and intonation is all available to them in one place.

Watch the Tonal Energy App used in sectionals:

Notes:

Watch the final step in student intonation independence:

“Taking off the training wheels”:

Stephen Bryant's 'Dusk' in rehearsal - with and without tuners.

Notes:

Questions? Feel free to email me! jason.schayot@risd.org