

ZERO TUNING & PAD BASS

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As a High School Band Director, I wrestle with tuning and intonation everyday. Students don't seem to understand the technique of tuning. We spend many rehearsal hours pouring over this simple problem. I acquired the most expensive tuner, with all of the whistles and bells. I tell my students, "Make the needle stand straight up! Tune to this note and you will be in tune for the rest of the day."

I was wrong. I knew there had to be a better way to get the students to listen. It took a composer to show me the answer.

It is a rare opportunity for a Band program to commission a composer and then have him come to prepare the group for its premiere. The Goddard High School and Roswell High School Bands of Roswell, New Mexico joined forces and had the privilege to invite Stephen Melillo. The result was ***KOLDOON***, "wizard" in Russian.

Watching Stephen work the combined ensemble was truly wizard-like. His approach to educating the students on harmonic integrity (Mix), intonation and structure encompassed a truly remarkable means that is a must for every Band Directors to embrace. This approach involves his use of the ***PAD Bass*** and then ontologically, his ***Function Chorales***.

He asked the ***PAD Bass*** player to sound a concert F, a low, resonant sound that enveloped the entire ensemble. He invited each group of instruments, beginning with the lowest in each family, to become a part of the concert F, providing the listening goal that "*tuning produced the only straight line in music.*"

As the students made adjustments, he invited them to listen for the second overtone in the series (*the fifth*). Remarkably, this overtone became readily apparent! To my simultaneous frustration and delight, the students were learning to tune. Stephen brought the huge problem of playing in tune to an easily understood, and quickly observable level with the use of the ***PAD Bass***. My kids were getting it!

He then invoked the image of an Architect, urging the students to look at the engineering of the room rather than the walls. He used ***Function Chorales*** to illustrate this inner "*engineering, architecture, geometry*".

One of the pieces he rehearsed was in G major, a key unfamiliar to Bands. He had the students rediscover the notes of this key, transposed to their instrument's key signature and ascribed scale tone functions.

Once the students were comfortable with scale degree and function, read a ***Function Chorale***. The ***Function Chorale*** is an SATB chorale written numerically. Now the students could see and hear the

structure of the progression, paying attention to the nuances of tuning horizontally and intoning the intervals vertically.

Mr. Melillo redirected this newly acquired knowledge into the piece he was working on. taking one section, he invited the students to “*see the functions represented by the music notation*”. I stand as a delighted witness to the incredible event that happened as the students played the passage again. The integrity of the harmonic (Mix) and the intonation of the intervals was incredibly improved, so much so, that everyone in the room, directors, students and even parents had a surprised look on their face.

You might wonder what *PAD Bass* and *Function Chorales* are. Following is a description from Stephen Melillo’s website.

See STORMSite for the quoted excerpt.

All of us are familiar with Francis McBeth’s book *Theories Of Theory* and the pyramid he uses to illustrate proper balance. Low instruments are at the base of the pyramid and provide the tuning and dynamic reference for the entire ensemble. As the pitch of the instruments get higher, they command a smaller part of the pyramid. I have often heard many of my colleagues using this pyramid analogy. They ask students to listen down to the fundamental pitch.

Instead of using the pyramid, Mr. Melillo uses a *snowman* to illustrate this important concept. The snowman is round, in fact as he said, “spherical” as the sound should be, and offers a a more graphic delineation of parts to the students. I realized the importance of this as it relates directly to the harmonic series. The lowest sound in the Band is still an octave **above** the lowest sound in the Orchestra.

If tuning to the tuba, we would find that the fundamental is still one octave *above* **C Zero**. If we could provide the ensemble with the lowest audible fundamental at **C Zero**, we would then have the proper base to provide a “richer” overtone palette.

With C3 being the normal designation for middle C, **C Zero** is three octaves lower.

To accomplish this goal, Mr. Melillo uses the *PAD Bass*. *PAD Bass* is a synthesizer with a warm, low sound, similar to Contrabass in the orchestra minus the bowing noise. It sounds an octave or two lower. Most synthesizers have a PAD sound similar to this; hence Mr. Melillo’s generic naming of the instrument, “*PAD*”-*Bass*.

The synthesizer must be amplified and speakers placed behind and on either side of the ensemble. If possible, the amplifier should be stereo with both channels of the synthesizer separated to the left and right sides. I recommend using this sound on every piece of music.

Stephen Melillo writes this instrument into all of his band works, and, while hoping other

composers will eventually join him in the educational benefits of using the instrument, advises caution in respecting the original and intended orchestration of the composer.

The benefits of using *PAD Bass* are enormous. First of all, the ensemble now has a constant and unchanging fundamental for tuning and overall mix. Since the *PAD Bass* is scored with the winds, the stream of tuning continues throughout the piece. Properly “mixed” with the group, the *PAD Bass* is not dominant, but subtly provides the depth and resonance we all crave in our band’s tone quality.

Not only can the *PAD Bass* provide the **Zero** level fundamental, it can also be programmed to play even lower. These huge undertones reinforce and amplify the harmonic structure of the piece being played and give an incredible depth to the sound of the ensemble. Students will be amazed at their new found ability to hear the fundamental and tune to it. They will seek to imitate the rich tone quality they hear in the *PAD Bass* . The overall quality of the ensemble improves.

There is only one composer I know of who has pioneered, implemented and has consistently written for *PAD Bass* in Wind Band today. He is Stephen Melillo. His music is composed with the *PAD Bass* as an integral part of the ensemble for the reasons described above, namely musical and educational strategies. His music embodies the depth and warmth this instrument helps to provide by engaging the new overtones as only provided for when the Zero-fundamental is present. The optimum system is described on his website at **stormworld.com**.

I began using *PAD Bass* after investing in one of Stephen’s works. I was completely confounded when I saw the part for *PAD Bass*. Fortunately, Mr. Melillo provides a primer on each of his scores to educate us on the use of the *PAD Bass*. He follows this up with detailed descriptions on the website and representative recordings where small ensembles do indeed take on orchestral dimension.

Once I began using it, there was no question that its contribution to my ensemble was enormous. My students appreciate having the sound wrap around them and provide a security and tuning center they have never had before.

Tuning has improved dramatically. As a matter of fact, I no longer use a tuner. The *PAD Bass* is always in tune. We use it in our daily warm ups.

The *Function Chorales* are a logical extension. The students refer to it for consistency in tuning and overall mix of the band colors.

Try using *PAD Bass* in your ensemble. Read about its proper usage. If you don’t have a synthesizer, someone close to you does. Borrow it, amp it, plug it in and enjoy the benefits. Your ensemble will not be the same. Tuning accuracy will increase. The overall quality of your band’s sound will improve and you and your students will feel much better about the music you play.