

# *Basic Tonal Concepts for the Saxophone*

by Michael Tracy, University of Louisville

## Overtones

Anyone seriously interested in developing a quality saxophone tone, regardless of style, must work on overtones. As with long tones, repeated practice will assist in developing a concentrated core to the sound. Definition, clarity, intonation, control, resonance, dynamics, timbre, and flexibility will all be enhanced. Work on the overtone series will take patience and committed effort. Results will take time but will eventually pay great dividends. Knowledge of and skill in producing the overtone series will also be necessary for successful playing in the altissimo register.

Producing overtones (also known as harmonics) begins with playing what is known as the fundamental. Being able to produce the fundamental with a controlled, clear tone is essential. Once this is accomplished with confidence and repeated success, it is time to begin producing overtones built upon the fundamental. *Example 6* gives the fundamental with the related modes (also known as partials).

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The image displays five rows of musical notation, each representing an overtone series for a specific fundamental note. Each row consists of eight measures: the first measure is the fundamental note, followed by seven measures representing the 1st through 7th overtones. The notes are written on a treble clef staff. The fundamental notes and their corresponding overtones are as follows:

- Row 1:** Fundamental: B $\flat$ . Overtones: 1st (B $\flat$ ), 2nd (D), 3rd (E $\flat$ ), 4th (F), 5th (G), 6th (A $\flat$ ), 7th (B $\flat$ ).
- Row 2:** Fundamental: D. Overtones: 1st (D), 2nd (F $\sharp$ ), 3rd (A), 4th (B $\flat$ ), 5th (C $\sharp$ ), 6th (D), 7th (E $\flat$ ).
- Row 3:** Fundamental: F $\sharp$ . Overtones: 1st (F $\sharp$ ), 2nd (A), 3rd (B $\flat$ ), 4th (C $\sharp$ ), 5th (D), 6th (E $\flat$ ), 7th (F $\sharp$ ).
- Row 4:** Fundamental: A. Overtones: 1st (A), 2nd (C $\sharp$ ), 3rd (E $\flat$ ), 4th (F), 5th (G), 6th (A $\flat$ ), 7th (B $\flat$ ).
- Row 5:** Fundamental: C. Overtones: 1st (C), 2nd (E $\flat$ ), 3rd (F), 4th (G $\sharp$ ), 5th (A), 6th (B $\flat$ ), 7th (C).

Next it would be wise to use a piano or keyboard to hear the intervals between the fundamental and its modes. Try singing these intervals with and without the keyboard reference. Remember when using a keyboard one must consider the transposition needed to sound appropriate pitch. If a reliable, in tune keyboard is not available, use your own instrument. Once the intervals can be heard internally and sung, strive to produce the first mode by playing the fundamental then 'hearing' the next mode (interval). Then by internally adjusting the oral cavity, tongue position, and air pressure attempt to sound the next pitch. Using a 'kuh' or 'kah' attack from the back of the throat helps produce the desired response. Remember all of this should be done without changing or altering the embouchure. Continue until at least five modes can be produced.

An excellent way to begin work with overtones is outlined in *Example 7*. Begin by:

1. Sound the fundamental
2. Without stopping the air or attacking the note, strive to produce the first mode (partial) in the manner described above and hold
3. Without stopping the air or attacking the note, sound the fingered note with matches the mode and hold
4. While holding, listen and compare how the overtone (mode) and fingered note sound, try to match them to each other without changing or altering the embouchure (this can be accomplished by adjusting the oral cavity, throat, tongue placement, and with a strong understanding of how the note 'sounds')
5. Without stopping the air or attacking the note, go back to the overtone and hold
6. Without stopping the air or attacking the note, return to the fundamental and hold
7. Repeat with all fundamentals and modes (partials)

⑦ Fundamental      Overtone (mode/partial)      Actual Fingering

The diagram shows a treble clef staff with three notes. The first note is a whole note on the second line (G4), labeled 'Fundamental'. The second note is a whole note on the second space (B4), labeled 'Overtone (mode/partial)'. The third note is a whole note on the second space (B4) with a circled '1' below it, labeled 'Actual Fingering'.

1st mode      continue

The 1st mode exercise is shown on a treble clef staff. It consists of four measures. The first measure has notes G4 (circled 1), B4 (circled 1), G4 (circled 1), and B4 (circled 1). The second measure has notes B4 (circled 1), D5 (circled 1), B4 (circled 1), and D5 (circled 1). The third measure has notes D5 (circled 1), E5 (circled 1), D5 (circled 1), and E5 (circled 1). The fourth measure has notes E5 (circled 1), F#5 (circled 1), E5 (circled 1), and F#5 (circled 1). Fingerings are indicated by circled numbers below the notes.

2nd mode      continue

The 2nd mode exercise is shown on a treble clef staff. It consists of four measures. The first measure has notes G4 (circled 1), B4 (circled 1), G4 (circled 1), and B4 (circled 1). The second measure has notes B4 (circled 1), D5 (circled 1), B4 (circled 1), and D5 (circled 1). The third measure has notes D5 (circled 1), E5 (circled 1), D5 (circled 1), and E5 (circled 1). The fourth measure has notes E5 (circled 1), F#5 (circled 1), E5 (circled 1), and F#5 (circled 1). Fingerings are indicated by circled numbers below the notes.

3rd mode      continue

The 3rd mode exercise is shown on a treble clef staff. It consists of four measures. The first measure has notes G4 (circled 1), B4 (circled 1), G4 (circled 1), and B4 (circled 1). The second measure has notes B4 (circled 1), D5 (circled 1), B4 (circled 1), and D5 (circled 1). The third measure has notes D5 (circled 1), E5 (circled 1), D5 (circled 1), and E5 (circled 1). The fourth measure has notes E5 (circled 1), F#5 (circled 1), E5 (circled 1), and F#5 (circled 1). Fingerings are indicated by circled numbers below the notes.

Being able to produce overtones accurately and with control will take dedicated practice. It will be easy to give up because results will not be immediate or obvious. Be patient and continue to sing and listen. The best way to work overtones would be to incorporate small amounts ( 5 - 10 minutes) of focused practice as part of a daily routine. Excellent books on this important topic include: Rosemary Lang - Beginning Studies in the Altissimo Register, David Liebman - Developing a Personal Saxophone Sound, Robert Luckey - Saxophone Altissimo - High Note Development for the Contemporary Saxophonist, Sigurd Rascher - Top Tones for the Saxophone, Eugene Rousseau - Saxophone High Tones, Donald Sinta/Denise Dabney - Voicing, and Larry Teal - The Art of Saxophone Playing.

It is wise to begin incorporating overtones in scale/chord practice and when playing melodies. Using overtones in this manner will assist in hearing and producing the desired sound. A number of the books on overtones and altissimo playing have excellent suggestions for this type of practice.

*Example 8 and 9* incorporate the use overtones within a chromatic scale. It can be a challenge but one which can be accomplished with success because the overtone can be heard with the context of a familiar scale. The difficulty comes from having to return to the fundamental for new notes. *Example 8* begins with the regular fingerings until the octave. At the octave, the fundamental(s) (written in whole notes) will be fingered but the overtone should be sounded, thus continuing the chromatic scale but with the overtones. It will be necessary to return to the fundamentals as shown to complete the chromatic scale. Notice how the number of fundamentals needed to complete the scale decreases as one continues.

First try to complete one octave. Then try adding additional notes as skill is gained. An excellent goal would be to able to complete the chromatic scale from low Bb to high F. Also try reversing, beginning on high F (as an overtone) and descending until low Bb (*Example 9*). Descending is far more difficult.

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