



The Tuning C.D.

P.O. Box 1703
Cherry Hill, NJ 08034-0090

A State of the Art Intonation Training Tool
www.TheTuningCD.com

This document contains central information found in our eight-page compact disc booklet and has been created for the use of our clients who have purchased an mp3 version of The Tuning C.D. from either itunes.com or amazon.com. All content within this document is protected under copyright.

DEDICATION

- The Tuning C.D. is dedicated to my father and mother, Allen and Nancy Schwartz.

SPECIAL THANKS

- A special thank you to Mr. Donald J. Sinta, Professor of Saxophone at the University of Michigan, for his time, care and inspiration.
- The Tuning C.D. is a culmination through many years of work. Others I would like to thank are: Frank Mazzeo, Harold Karabell, Blair Johnston, Steven Buck, Kelland Thomas, John and Heather Staines, Christy Groves, Mike Forbes, Paul Eachus at Tape One, Glenn Fadool, Eric J. Golden, Roy and Robert Schwartz, my friends and family and the wonderful customers who have shared their suggestions.

INTERVAL INTONATION (examples in C)*



Major 2nd
D is to be performed 3.9 cents sharp.



Minor 3rd
E^b is to be performed 15.6 cents sharp.



Major 3rd
E is to be performed 13.7 cents flat.



Perfect 4th
F is to be performed 2.0 cents flat.



Perfect 5th
G is to be performed 2.0 cents sharp.



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INTERVAL INTONATION (continued)*



Major 6th
A is to be performed 15.6 cents flat.



Minor 7th
B^b is to be performed 17.6 cents sharp.



Major 7th
B is to be performed 11.6 cents flat.



Augmented 4th or Diminished 5th
F# or G^b is to be performed 17.5 cents flat.

CHORD INTONATION (examples in C)*



Major 13 #11

13 th	15.7 flat	7 th	11.7 flat
11 th	9.9 flat	5 th	2.0 sharp
9 th	3.9 sharp	3 rd	13.7 flat



Minor 13 #11

13 th	5.8 sharp	7 th	9.9 sharp
11 th	9.9 flat	5 th	2.0 sharp
9 th	3.8 sharp	3 rd	15.6 sharp



Minor 13 (b7)

13 th	5.8 sharp	7 th	17.6 sharp
11 th	1.8 flat	5 th	2.0 sharp
9 th	3.9 sharp	3 rd	15.6 sharp



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CHORD INTONATION (continued)*



Dominant 13 #11

13 th	15.7 flat	7 th	17.6 flat
11 th	9.9 flat	5 th	2.0 sharp
9 th	3.9 sharp	3 rd	13.7 flat



Dominant 13 b11

13 th	15.7 flat	7 th	30.9 flat
11 th	29.1 flat	5 th	2.0 sharp
9 th	3.8 sharp	3 rd	13.7 flat



Major 6 add 9 (without 3)

9 th /2 nd	3.8 sharp
6 th	5.7 sharp
5 th	2.0 sharp



Suspended Dominant (without 5)

7 th	4.2 – 3.8 flat
4 th	1.8 flat



Suspended Dominant

7 th	4.0 flat
5 th	2.0 sharp
4 th	1.8 sharp

*All numerical figures given are from independent research.

WHY THE TUNING C.D. WAS CREATED

- After spending countless hours with a tuner I came to my graduate studies only to have my professor tell me “You play out of tune!” My gut reaction was that this can’t be because I practice with a tuner every day matching generated tones and placing the needle in the center of the display.



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WHY THE TUNING C.D. WAS CREATED (continued)

- What I did not know was how to place notes in a chord and how to sensitize my ears with an acute sense of pitch. This involves training the ears with an “in tune” environment, the way ears naturally want to hear. Spending over \$150.00 on an electronic tuner that didn’t help is frustrating. What’s the solution?
- The Tuning C.D. is a musician’s intonation learning tool. While the metronome helps train musicians to steady their rhythm, The Tuning C.D. can train the musician to establish an acute awareness of intonation. Instead of using visual skills to line a needle in the middle of a meter, you must listen, using your ear’s natural tendencies, making yourself more aware of pitch.
- The Tuning C.D. contains 34 sets of drones on 34 tracks. The first twelve tracks are drones of tonics and fifths in each key. While the tonics of each drone are equal-tempered, the fifths are just, or pure. This establishes an environment with no waves, or beats. When one performs an out of tune note with such a drone, intensifications will be heard. One must adjust accordingly to minimize these intensifications. It is the repeated process of minimizing these intensifications that will quickly develop one’s ability to identify and adjust out of tune notes.
- It is important to spend time and effort practicing through each of the twelve tonal centers. Within one to two months you will obtain a good awareness of pitch. Also, you may acquire a greater appreciation for performers who play or sing in tune.

THINGS TO KEEP IN MIND WHILE USING THE TUNING C.D.

1. Always blend with the pitches you hear from The Tuning C.D. If you can not hear The Tuning C.D. over your instrument, turn the volume up. Do not be afraid of making the volume of The Tuning C.D. louder than that of your instrument. But, please be aware that prolonged exposure to loud sounds can lead to hearing loss.
2. For best results, do not use vibrato. Play long steady tones.
3. Try experimenting with your instrument at different volumes.
4. Be sure to warm-up at least five to ten minutes with your instrument before using The Tuning C.D.
5. After getting comfortable with the initial exercises in all twelve keys, try using slow lyrical passages with strong tonal centers from etudes, repertoire, or even folk songs such as *Three Blind Mice*, *This Old Man* and *Hot Cross Buns*.



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THINGS TO KEEP IN MIND WHILE USING THE TUNING C.D. (continued)

6. The Tuning C.D. works wonderfully with headphones. With headphones on, be sure to stay conscious of your tone production, perhaps wearing one headphone off to the side.
7. If you are having difficulty placing a particular note in tune, try singing or humming that note.
8. Take breaks after fifteen to twenty minutes.
9. Be aware that moving around while practicing with The Tuning C.D. causes the Doppler effect. You may need to stand still while practicing.
10. Track 34 sounds a major seventh chord four times. The first time it is played in equal temperament (the tuning system found on most pianos). The second time it is pure, or just. The third time it is in equal temperament once again. The fourth and final time it is pure, or just.

BASIC INSTRUCTIONS

1. Play track one. Hear “organ-type” sounds in C concert.
2. On your instrument for eight to ten seconds using NO vibrato, perform a C concert in a comfortable range. Be very careful listening to and blending with The Tuning C.D. Concentrate to get rid of all beats, or waves. Perform this step five times. If you are having trouble hearing The Tuning C.D., raise the volume.
3. Repeat step 2, but perform a concert G with track one, also five times.
4. Now, in the same manner as steps 2 and 3, perform concert F, E, Eb, D, B, Bb and A five times each. If you have trouble, refer to tracks 13 through 19. Be sure to take your time and always blend with The Tuning C.D.
5. Perform slow melodies in C concert, always blending carefully.
6. Now repeat steps 1 through 5 in all other key areas.
7. Try using standard repertoire, ensemble music, or even make up your own exercises. For best results, use The Tuning C.D. at least five to ten minutes daily with the entire range of your instrument. For questions, please refer to our website or a qualified music educator.



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TRANSPOSITION CHART

C instruments (concert)	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
Bb instruments	D	D#	E	F	F#	G	G#	A	A#	B	C	C#
Eb instruments	A	A#	B	C	C#	D	D#	E	F	F#	G	G#
F instruments	G	G#	A	A#	B	C	C#	D	D#	E	F	F#

ABOUT THE AUTHOR



Winner of the 2010 Southeastern Louisiana University President's Award for Excellence in Artistic Activity, Dr. Richard A. Schwartz has been a freelancing musician throughout the United States and Europe for nearly 20 years. As a freelance artist and member of the American Federation of Musicians, he has performed featured solos with such pop musical legends as Ray Charles and Aretha Franklin and has shared the stage with major jazz artists backing up Tom Scott, Byron Stripling, Diana Krall, Steve Tyrell, Ernie Watts, John Clayton, Dave Grusin, Roy Hargrove, Bob Mintzer, The Turtle Island String Quartet, Paquito d'Rivera, Justo Almario, Don Menza, Bud Shank, and Bill Watrous. Having also performed in orchestras, most notably the Mobile and Gulf Coast Symphony Orchestras and the Boston Pops, Dr. Schwartz has worked with an array of renowned commercial composers, conductors, and performers including Linda Ronstadt, Johnny Mathis, Keith Lockhart, Dennis Green of The Temptations, Nathan Scott, Johnny Mandel, Peter Boyer, Jack Elliot, Mitchell Glickman, Frank Proto, Charles Floyd, Samuel Adler, Frank Battisti, H. Robert Reynolds, Ray Pizzi and Patrick Williams.

As a classical saxophonist, Dr. Schwartz has commissioned and/or premiered over twenty-five new works and has performed at regional and national conventions. After performing the Boston premiere of Jan Curtis' *Transformations* for voice, piano, and alto saxophone in Jordan Hall, The Boston Globe declared, "...Richard Schwartz displayed extraordinary talent on the saxophone, sympathetically mirroring the voice and contributing his own improvisatory imagination." As a woodwind doubler, Dr. Schwartz has performed in pit orchestras including the national tours of *Kiss Me, Kate*, *The Color Purple* and *The Producers* and has recorded projects for Public Television and the Toshiba label.

Awarded two United States patents, Schwartz also authored the internationally recognized intonation tool *The Tuning C.D.* and instructional guide *Circular Breathe Now* with published contributions in *Saxophone Journal* and *International Trumpet Guild Journal*. He has performed for United States senators, governors and President Ronald Reagan. With degrees from Temple University, the University of Michigan and Boston University, Dr. Schwartz has offered lectures on intonation and extended woodwind techniques at select conferences. His saxophone students have performed at regional, national and international conferences and have won concerto competitions and named scholarships.



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TRACKS

- | | | |
|------------------|------------------------------|---------------------------------------|
| 1. C | 13. C Maj. 2 nd | 25. C# Min. 7 th |
| 2. C#/D \flat | 14. C Min. 3 rd | 26. C# Maj. 7 th |
| 3. D | 15. C Maj. 3 rd | 27. D Maj. 2 nd |
| 4. D#/E \flat | 16. C Perf. 4 th | 28. D Min. 3 rd |
| 5. E | 17. C Maj. 6 th | 29. D Maj. 3 rd |
| 6. F | 18. C Min. 7 th | 30. D Perf. 4 th |
| 7. F#/G \flat | 19. C Maj. 7 th | 31. D Maj. 6 th |
| 8. G | 20. C# Maj. 2 nd | 32. D Min. 7 th |
| 9. G#/A \flat | 21. C# Min. 3 rd | 33. D Maj. 7 th |
| 10. A | 22. C# Maj. 3 rd | 34. C Maj. 7 th Chord with |
| 11. A#/B \flat | 23. C# Perf. 4 th | Equal Tempered, Pure, Equal |
| 12. B | 24. C# Maj. 6 th | Tempered and Pure Intervals |

* Tracks 1 through 12 are three minutes each. Tracks 13 through 34 are roughly twenty seconds each.