

P-Theory Made Simple

Pythagorean tuning is used in barbershop singing primarily because our arrangements are written around the musical scales of the Circle of 5ths. On the other hand, a piano is said to be justly tuned, or equal temperament, which means every pair of adjacent notes has an identical frequency ratio. The octave is divided into a series of equal steps. Since our songs are arranged around the Circle of 5ths, P-Theory is needed to accurately tune a chord to a finer degree.

In equal temperament, a written octave would be equally spaced:

Do Re Me Fa So La Ti Do

In barbershop, a written octave would look like this:

Do Re Me Fa So La Ti Do

Note: In barbershop, the 3rd, 6th and 7th of the key are sung on the high side of the note.

When using P Theory, notes can have both positive and negative values. Sometimes you will hear a director or coach say "Add onion skills to that note." or "Sit on that note or make it a dirty note." Knowing how to recognize when and where P-Theory plays a part in the arrangements you are singing will help you raise your game. With it you can develop a higher level of tuning your songs, which equals higher scores. Accidentals play a big role in P-Theory tuning as well. (Accidentals: ♭ # ♮) If an accidental raises the note from how it is marked in the key signature, the note is sung high. If an accidental lowers the note from how it is marked in the key signature, the note is sung dirty.

Flat Key Signature

- ♪ # notes are sung on the high side.
- ♪ ♮ notes are sung on the high side, **if** they are notated as flat in the key signature.
- ♪ ♭ notes are sung dirty, **if** they are NOT flat in the key signature.

Sharpe Key Signature

- ♪ # notes are sung on the high side, **if** they are NOT sharp in the key signature.
- ♪ ♮ notes are sung dirty, **if** they are notated as sharp in the key signature.
- ♪ ♭ notes are sung dirty.

There is a sequence to flats & sharps and they run exactly opposite of each other!

Sequence of Flats: B E A D G C F

Sequence of Sharps: F C G D A E B

Note: The more accidentals there are in a chord, the harder it is to tune.

Finding the Key

Flat signatures - Key is the next to last \flat note in the signature.

Sharp signatures - Key is a half step up from the last \sharp in the signature.

Chart for finding the Key and the 3rd, 6th & 7th
The Key of the song is often referred to as "Do"

Key	Signature	Root/Key	3rd	6th	7th
None	None	C	E	A	B
1 \flat	1 \flat	F	A	D	E
2 \flat	2 \flat	B \flat	D	G	A
3 \flat	3 \flat	E \flat	G	C	D
4 \flat	4 \flat	A \flat	C	F	G
5 \flat	5 \flat	D \flat	F	B \flat	C
6 \flat	6 \flat	G \flat	B \flat	E \flat	F
1 \sharp	1 \sharp	G	B	E	F \sharp
2 \sharp	2 \sharp	D	F \sharp	B	C \sharp
3 \sharp	3 \sharp	A	C \sharp	F \sharp	G \sharp
4 \sharp	4 \sharp	E	G \sharp	C \sharp	D \sharp
5 \sharp	5 \sharp	B	D \sharp	G \sharp	A \sharp
6 \sharp	6 \sharp	C	E \sharp	A \sharp	B \sharp

Bonus Tool – How to find the root of a specific chord. See Addendum #1.

Note by Note

How can you make your music work for you?

Q: You know the notes, you know the plan, you've worked on your vocal product, you've got that all under control, now what can you do to get those scores even higher?

A: You need to know your music inside and out. You need to know not only what your part does but how it affects the other three parts - where can you help them and where do you need them to help you!

Q: What things has the arranger put into the music that you can be more aware of and therefore take better advantage of the spots on the page? Can you, as someone who doesn't know much about music theory or read music, take the written arrangement to the next level?

A: YES! See below to find all those things that can help you make your music work for you and take it to the next level.

Higher level singing is about more than just knowing the right notes and breathing where you are supposed to and having some dynamic variation or vocal texture changes. You want to be able to milk every single point out of the arrangements you are singing. The only way you can do this is by knowing your music inside and out! It's easier than you think it is and you don't need to know how to read music or arrange music, you just need to know how to follow the spots on the page.

Basic Music Marking

- ♪ Octaves – the key to a successfully sung octave is that the part on the higher note cannot over sing the lower note. Rule of thumb – the higher note is sung at 50% of the volume of the lower note. If the higher octave is over sung, the overtones will be diminished and the chord will sound slightly out of tune. See Addendum #1 for help in finding Octaves.
- ♪ Seconds (2nd) Sister Notes, Chopsticks -You may have your own name for them. Notes that are a whole step apart. Successful sister notes are sung at equal volume by both parts. They happen most frequently between lead and bari or lead and tenor. You will have occasional 2nds between the tenor/bari or bari/bass. A chord will sound weak if a 2nd is not properly balanced. See Addendum #1 for help in finding 2nds. A minor 3rd will look like a 2nd on the music however the notes are a step and a half apart on the music and one will have an accidental moving it the extra half step. They are close enough that they should be sung like a 2nd.
- ♪ Tenor below the Lead – Tenors must fill the chord and sing these notes as if they are singing lead. Since tenors are typically greatly outnumbered by the leads, the leads need to take an active role here too. This means that the lead is the highest note of the chord and we all know what that means – the leads need to cone! If the leads do not pay attention to when the tenors are below them, the chord will not balance – not even if the tenors yell! Your tenor(s) will love you leads, if you pay attention to when you are above them.

- ♪ Baritone above the Lead – Bari’s must sing into the overtone of the tenor. Over singing when the baritone is above the lead will diminish the overtone series and cause the chords to sound out of tune and unbalanced.
- ♪ P-Theory – that dreaded concept. (*Please don’t make me do it.*) It can be easier than you think and honestly is not as hard as many seem to make it. See P-Theory Made Simple – you can make it as easy or as hard as you wish!

Intermediate Music Marking

- ♪ Duets – Two parts moving. Two parts holding.
- ♪ Trios – Three parts moving with one part holding or the reverse.
- ♪ Parallel Motion – Two or more parts moving in the same direction with the same interval pattern.
- ♪ Swipe/Slides – Two or more notes sung on a sing word or syllable.
- ♪ Repeats (Echo) – Repeated words that were just sung. Typically sung as an embellishment by a single part or as a duet or trio, however it can also involve all four parts.
- ♪ Walking Line – Progressive notes sung in sequence by a single part within a chord sequence.
Unison – Two or more parts singing the same note. Often one of the parts is already singing the note in the chord prior.
- ♪ Scissors/Opposing Movement – Two parts moving inward, then outward (or reverse) from each other. An octave occurs when they cross each other.
- ♪ Enharmonics – Two notes sung in succession in the same voice part but notated differently. Often notated with a dotted line. Given the accidentals associated with the notes, they may be tuned slightly different from one another.

Tidbits to watch for in the music

- ♪ The bass is lower or high in their sing-able range.
 - Low - the other three parts must balance to the ability of the bass’s dynamic level in that area of their range.
 - High – the bass must not over sing the dynamic of the chord. Remember you are higher and will automatically be heard more naturally. You do not need to sing all out.
- ♪ The Tenor is divorced from the chord.
 - The tenor is high in the range and the other three have a lower voicing. The lower parts must provide a solid foundation for the tenor and sing above the tenor’s singing space and into the overtone series. Typically not a good spot for a soft dynamic.
- ♪ Counter Rhythms
 - Two different rhythm patterns being sung simultaneously. Typically bass vs. the other three parts. Both rhythm patterns must be equally as strong
- ♪ Patter
 - Typically one part with a wordy pattern over the other three parts with fewer word sounds. Both parts must be distinguishable.
- ♪ Pick-Ups
 - One or two notes typically sung by just one voice part to lead into the next musical phrase. You need to know where they are and who has them. Parts without the pick-up

must cover the breath of the part with a pick-up, if they are taking one. The part with the pick-up must breath quickly and come back into the sound already there. Make sure the part with the pick-up is vocally lifted into their pick-up.

♪ Melody Transfers

- Need to be seamless between the parts swapping the melody line.
- ♪ Tiddly – Most often done by baritones (to make them feel more important). True definition of the word tiddly: slightly intoxicated, stupefied or excited by a chemical substance (especially alcohol). “When that baritone sang, I think she was just a little bit tiddly.” Hmm... maybe that’s what really makes baritones sing those extra notes.

You have so much talent and so many gifts,
and you are always busy doing something creative and worthwhile.

Yet you give yourself so little credit,
refusing to accept yourself for what you are - a marvel!

So, I'll just say it for you.

“You are a very talented, very gifted, absolutely amazing person!”

Barbara J Hall

Diagram illustrating finding octaves between the clefs. The treble clef staff shows notes E, F, C, D, A, B, G, F, E. The bass clef staff shows notes G, A, E, F, C, D, A, B, G. Lines connect corresponding notes between the two staves, showing that notes in the bass clef are one space or line below the notes in the treble clef.

FINDING OCTAVES

Between the clefs: The bass clef part of the octave will always be one space or line below where the note is in treble clef.

Diagram illustrating finding octaves within the same clef. The bass clef staff shows notes G, A, E, F, C, D, A, B, G. Lines connect notes that are 4 spaces above or 4 lines above, showing "divorced" notes.

Within the same clef: Look for "divorced" notes. To spot easily, look for a note that is either 4 spaces above a note on a lower line or 4 lines above the note on a lower space.

Diagram illustrating finding seconds within the same clef. The treble clef staff shows notes E, F, C, D, A, B, G, F, E. Lines connect notes on adjacent lines and spaces, showing they are one whole step apart.

FINDING SECONDS - 2nds

Within the same clef: Notes will appear on a line and space right next to each other. One whole step apart.

Minor 3rds will look similar on the sheet music with one of the notes having an added accidently making them one and a half steps apart.

Diagram illustrating finding seconds between the clefs. The bass clef staff shows notes G, A, E, F, C, D, A, B, G. Lines connect notes on a line in the bass clef to a space in the treble clef, showing they are one whole step apart.

Between the clefs: One will be on a line and the other will be on a space. Move the bass clef note to the treble clef to see if the relationship is as above.

Diagram illustrating finding the root of the chord. The treble clef staff shows notes E, F, C, D, A, B, G, F, E. Lines connect notes to show their relationship, with the root of the chord (E) at the bottom of the stack.

FINDING THE ROOT OF THE CHORD

Move the bass clef notes to the treble clef. The root of the chord is always at the bottom of the stack.

Diagram illustrating finding the root of the chord. The bass clef staff shows notes G, A, E, F, C, D, A, B, G. Lines connect notes to show their relationship, with the root of the chord (E) at the bottom of the stack.

All notes should either be on lines or spaces, not a combination of both once you move the notes around. You are trying to make a stack of notes.