Intervals

As atoms are the building blocks of matter, intervals are the building blocks of melody and harmony. A good definition of an interval is “the space between two notes.” Figure 1-1 shows all the intervals from the smallest, the half step/minor 2nd, up to the octave, all based on middle C. The most commonly used term is shown above each interval; alternate terms are shown just below.

Figure 1-1

<table>
<thead>
<tr>
<th>minor 2nd</th>
<th>major 2nd</th>
<th>minor 3rd</th>
<th>major 3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>half step</td>
<td>whole step</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect 4th</td>
<td>tritone</td>
<td>perfect 5th</td>
<td>minor 6th</td>
</tr>
<tr>
<td></td>
<td>augmented 4th</td>
<td></td>
<td>augmented 5th</td>
</tr>
<tr>
<td></td>
<td>diminished 5th</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major 6th</td>
<td>minor 7th</td>
<td>major 7th</td>
<td>octave</td>
</tr>
<tr>
<td></td>
<td>augmented 6th</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The table that follows lists all the intervals, both ascending and descending, as they occur in tunes from the standard jazz repertoire. Unless otherwise noted, the interval in question is the first two melody notes of the song. Sing each interval and then play it on your instrument. If you can sing an interval accurately, you’ll find that the interval is easier to hear when you play it. Footnotes after each song title list a great recording of the tune—in many cases, the original recording.

**Table of Intervals**

▲ ascending minor 2nd
Thelonious Monk’s “Blue Monk”

![Minor 2nd Ascending](image)

▼ descending minor 2nd
Cedar Walton’s “Bolivia”

![Minor 2nd Descending](image)

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**ascending major 2nd**
Miles Davis’ “Four”³

```
\( \triangleleft \)
```

**descending major 2nd**
Miles Davis’ “Tune-Up”⁴

```
\( \triangleright \)
```

**ascending minor 3rd**
Charlie Parker’s “Confirmation”⁵

```
\( \triangleleft \)
```

**descending minor 3rd**
Dizzy Gillespie’s “Groovin’ High”⁶

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\( \triangleright \)
```

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⁴ Miles Davis, *Cookin’*, Prestige, 1956.
⁶ Ibid.
\section*{Chapter One}

\textit{\textbf{\textcolor{red}{△}} ascending major 3rd}
Thelonious Monk’s “Monk’s Dream”\textsuperscript{7}

\begin{equation}
\begin{array}{c}
\text{C} \quad \Delta \\
F \\
B_{b}^{7} #11
\end{array}
\end{equation}

\textbf{major 3rd}

\textit{\textbf{\textcolor{red}{▼}} descending major 3rd}
John Coltrane’s “Giant Steps”\textsuperscript{8}

\begin{equation}
\begin{array}{c}
\text{B} \quad \Delta \\
D \quad 7 \\
G \quad \Delta \\
B_{b}^{7} \\
E_{b}^{\#}
\end{array}
\end{equation}

\textbf{major 3rd}

\textit{\textbf{\textcolor{red}{△}} ascending perfect 4th}
Duke Jordan’s “Jordu”\textsuperscript{9}

\begin{equation}
\begin{array}{c}
D \quad 7 \\
G \quad 7 \\
C_{-}
\end{array}
\end{equation}

\textbf{perfect 4th}

\textit{\textbf{\textcolor{red}{▼}} descending perfect 4th}
Wayne Shorter’s “ESP”\textsuperscript{10}

\begin{equation}
\begin{array}{c}
E_{7}^{\text{alt}} \\
F \quad \Delta
\end{array}
\end{equation}

\textbf{perfect 4th}

\textsuperscript{7} Thelonious Monk, \textit{Monk’s Dream}, Columbia, 1962.
\textsuperscript{8} John Coltrane, \textit{Giant Steps}, Atlantic, 1959.
\textsuperscript{10} Miles Davis, \textit{ESP}, Columbia, 1965.
**ascending tritone**
Joe Henderson’s “Isotope”\(^{11}\)

\[\text{C7} \]

\[\text{tritone}\]

**descending tritone**
Third bar of bridge of Duke Ellington’s “Sophisticated Lady”\(^{12}\)

\[\text{G\(\Delta\) E–7 A–7 D7 B–7 E7\(\flat\top\)9} \]

\[\text{tritone}\]

**ascending perfect 5th**
Milt Jackson’s “Bag’s Groove”\(^{13}\)

\[\text{F–7} \]

\[\text{perfect 5th}\]

**descending perfect 5th**
Woody Shaw’s “Katrina Ballerina”\(^{14}\)

\[\text{G–7 F7} \]

\[\text{perfect 5th}\]

---


\(^{13}\) Miles Davis And The Modern Jazz Giants, *Prestige*, 1954.

° ascending minor 6th
Woody Shaw’s “In A Capricornian Way”¹⁵

\[
\begin{align*}
\text{D–7} & \quad \text{G7} & \quad \text{D–7} \\
\text{minor 6th} & \\
\end{align*}
\]

° descending minor 6th
Second bar of Joe Henderson’s “Serenity”¹⁶

\[
\begin{align*}
\text{Dø} & \quad \text{G7alt} \\
\text{minor 6th} & \\
\end{align*}
\]

° ascending major 6th
Thelonious Monk’s “Misterioso”¹⁷

\[
\begin{align*}
\text{Bb} & \quad \text{Eb7} & \quad \text{Bb} \\
\text{major 6th} & \\
\end{align*}
\]

° descending major 6th
Miles Davis’ “All Blues”¹⁸

\[
\begin{align*}
\text{G7} & \\
\text{major 6th} & \\
\end{align*}
\]

**ascending minor 7th**

Last bar of bridge of McCoy Tyner’s “Aisha” \(^{19}\)

\[\text{E}_b \Delta \quad \text{G}_b \Delta \quad \text{A} \Delta \quad \text{B}–7 \quad \text{E}_7\]

**descending minor 7th**

Fourth bar of bridge of Billy Strayhorn’s “Chelsea Bridge” \(^{20}\)

\[\text{F}^{b}–7 \quad \text{B}7_{\text{alt}} \quad \text{B}–7 \quad \text{E}_7\]

**ascending major 7th**

Second and third notes of Joe Henderson’s “Serenity” \(^{21}\)

\[\text{D} \quad \text{G}_7_{\text{alt}}\]

**descending major 7th**

Wayne Shorter’s “Lady Day” \(^{22}\)

\[\text{A} \Delta \quad \text{E}^{b}7 \quad \text{B}^{b} \Delta \quad \text{A}7^{#11}\]

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\(^{19}\) John Coltrane Olé, Atlantic, 1961.


\(^{21}\) Joe Henderson, In ‘n Out, Blue Note, 1964.

\section*{Chapter One}

\section*{Ascending Octave}

Sam Jones' "Del Sasser"\textsuperscript{23}

\begin{music}
\begin{musicnotes}
\ascnote{F-7}{Bb7}
octave
\end{musicnotes}
\end{music}

\section*{Descending Octave}

Freddie Hubbard's "Philly Mignon"\textsuperscript{24}

\begin{music}
\begin{musicnotes}
\desnote{Db}{Ab7}
octave
\end{musicnotes}
\end{music}

Intervals of greater than an octave rarely occur in tunes, but here are a few examples:

\section*{Ascending Minor 9th}

Bar 11 of bridge of Wayne Shorter's "Wild Flower"\textsuperscript{25}

\begin{music}
\begin{musicnotes}
\ascnote{Gsus}{C-7}{F7}{BbA\textsuperscript{#5}}
\end{musicnotes}
\end{music}

\section*{Descending Minor 9th}

Bar 18 of Benny Golson's "I Remember Clifford"\textsuperscript{26}

\begin{music}
\begin{musicnotes}
\desnote{Aø}{D7alt}{Gø}{C7alt}{F-7}{Bb7alt}
\end{musicnotes}
\end{music}

\textsuperscript{24} Freddie Hubbard, \textit{Here To Stay}, Blue Note, 1962.
\textsuperscript{26} The Jazztet, \textit{Meet The Jazztet}, Argo, 1960.
**ascending major 9th**
Bass part, intro of Joe Henderson’s “No Me Escueca”\(^\text{27}\)

\[
\begin{array}{c}
\text{A–7} \\
\text{major 9th}
\end{array}
\]

**ascending minor 10th**
Bass part, fifth bar, intro of Joe Henderson’s “No Me Escueca”\(^\text{28}\)

\[
\begin{array}{c}
\text{A–7} \\
\text{C7} \\
\text{minor 10th}
\end{array}
\]

**descending 11th**
Bar 15 of Joe Henderson’s “Inner Urge”\(^\text{29}\)

\[
\begin{array}{c}
\text{D♭Δ^4} \\
\text{11th}
\end{array}
\]

**descending major 13th**
Bar 24 of Billy Strayhorn’s “Chelsea Bridge”\(^\text{30}\)

\[
\begin{array}{c}
\text{G–7} \\
\text{D♭7#11} \\
\text{major 13th}
\end{array}
\]

\(^{28}\) *Ibid*.  
Inverting Intervals

An important skill all musicians must have, especially when transposing, is the ability to invert intervals. If you have to transpose a tune “up a major 6th” on the spot, you’ll probably find it easier to transpose it “down a minor 3rd,” which is the same thing. A 3rd is a lot closer than a 6th. In other words, you need to know that a major 6th inverts to a minor 3rd. When you invert an interval, you take the bottom note and put it on top, or vice versa. The result is a new interval, and the rules for inverting intervals are simple.

When you invert an interval

• Major becomes minor
• Minor becomes major
• Perfect remains perfect
• Tritone remains tritone

and the old and new intervals add up to nine.

Look at figure 1-2. If you invert a major 3rd, C with E on top, it becomes E with C on top, a minor 6th. Major becomes minor, and three plus six add up to nine. In figure 1-3, a minor 2nd inverts to a major 7th. Minor becomes major, and two plus seven add up to nine. In figure 1-4, a perfect 4th becomes a perfect 5th. Perfect remains perfect, and four plus five equals nine. In figure 1-5, a tritone inverts to another tritone. Because a tritone is right between a 4th and a 5th, you could say that it is “four and a half,” and four and a half plus four and a half equals nine.

To really internalize this information, and have the sound of all the intervals in your head, you should sing the intervals as part of your daily practice routine. You don’t need your instrument to do this (unless you’re a singer, of course), so you can practice in the shower, in your car, and

31 Going from one key to another.
32 And, if you use the alternate terms “augmented” and “diminished” as shown in figure 1-1, augmented becomes diminished, and diminished becomes augmented.
anywhere else you want. In addition, practice singing along with your favorite records—heads, melodies, solos, and so on, of standards, bebop, and other jazz tunes. As you do so, try to identify specific intervals between notes. This is all part of what’s called ear training. If your school offers an ear training course, take it! There are also some good ear training tapes available.33 You have to train your ears because creating a good solo consists largely of playing on your instrument what you “hear in your head.”

**Triads**

You can play intervals not only individually, but also in combinations. For example, stacking two 3rds on top of one another forms a triad. There are four possible combinations, each forming a different triad:

- A major 3rd with a minor 3rd on top forms a major triad.
- A minor 3rd with a major 3rd on top forms a minor triad.
- Two minor 3rds form a diminished triad.
- Two major 3rds form an augmented triad.

**Figure 1-6** shows all four triads.

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**Figure 1-6**

<table>
<thead>
<tr>
<th>C major triad</th>
<th>C minor triad</th>
<th>C diminished triad</th>
<th>C augmented triad</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ \text{C major triad} ]</td>
<td>[ \text{C minor triad} ]</td>
<td>[ \text{C diminished triad} ]</td>
<td>[ \text{C augmented triad} ]</td>
</tr>
</tbody>
</table>

Play each triad on the piano. Listen and feel the different emotional effect of each triad. In music for TV, movies, and the theater, harmony is often used to enhance the emotional content of a scene. A major triad may sound happy, strong, or triumphant. A minor triad may sound sad, pensive, or tragic. A diminished triad often suggests tension or agitation. An augmented triad has a floating, misty quality, suggesting, among other things, enchantment—like Bambi emerging from the mist at dawn (seriously).

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Although these musical devices have all become clichés, they still work, otherwise composers, including jazz composers, wouldn’t continue to use them. It’s no accident that tunes such as Benny Golson’s “I Remember Clifford,” John Lewis’ “Django,” and Eden Ahbez’ “Nature Boy” are written in minor keys, or that Bix Beiderbeck’s “In A Mist” uses augmented chords. As you play, you elicit an emotional response in your listener, your fellow musicians, and yourself. Be aware of it.

Triads are often inverted. An inversion is a chord with a note other than the root on the bottom. Figure 1-7 shows a C major and a C minor triad in their three possible positions:

- Root position, with the root on the bottom.
- First inversion, with the 3rd on the bottom.
- Second inversion, with the 5th on the bottom.

We’re ready to move on to II-V-I, the basic chord progression in jazz.

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34 The Jazztet, Meet The Jazztet, Argo, 1960.
35 Grant Green, Idle Moments, Blue Note, 1963.