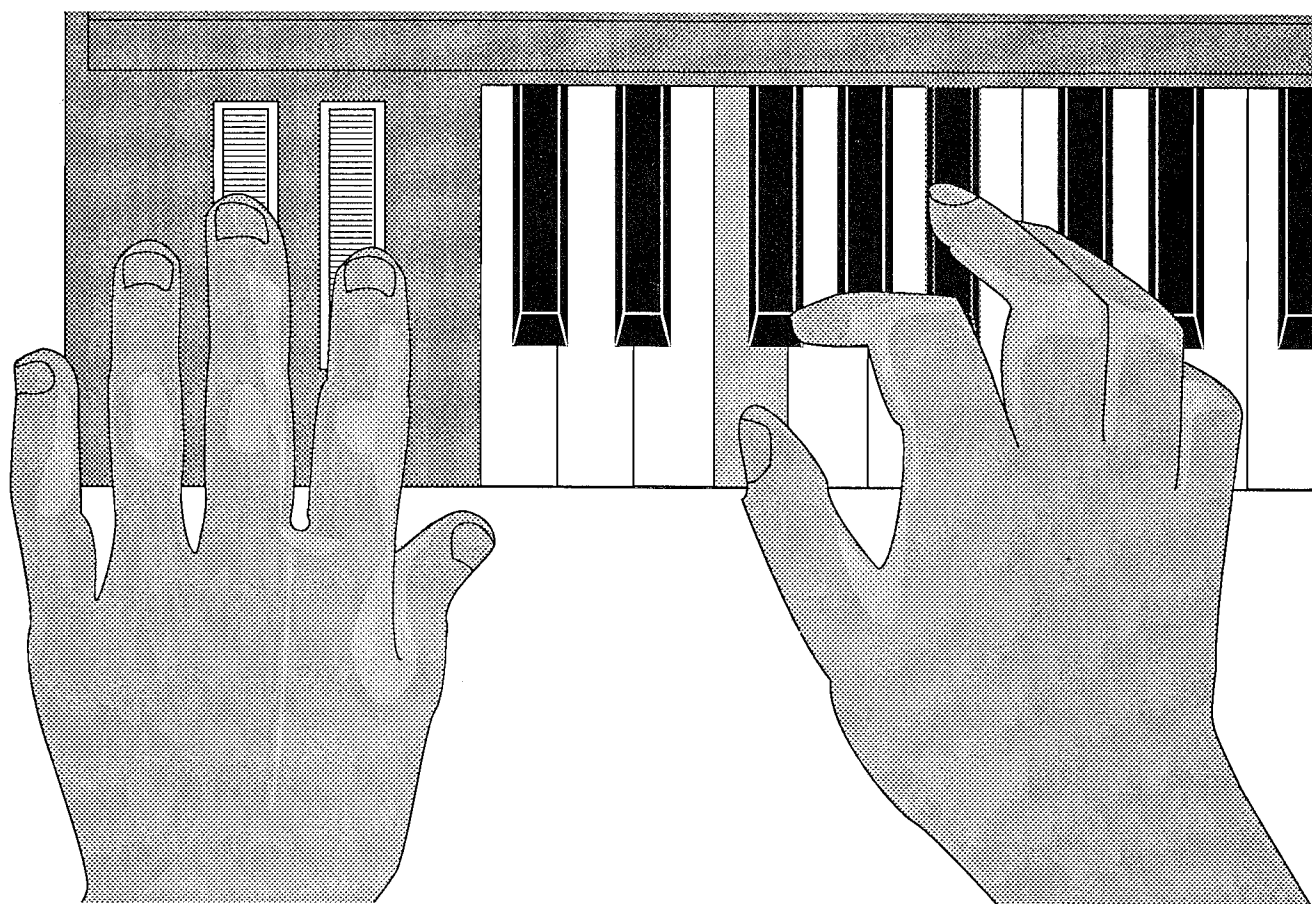

Part 2: PITCH BENDER PERFORMANCE



Part 2: PITCH BENDER PERFORMANCE

Pitch Bender Techniques

About Pitch Bending...

The DX7 II, like virtually all synths and electronic keyboards these days, has a pitch bender. On the DX7 II, this is a spring loaded wheel on the left side of the keyboard. Although pitch benders have become a "must have" feature, precious little has been written about how to use them. Most players can reach over and bend a whole note or two in the middle of a blistering lead line, but the bender is capable of adding a lot more expression than that to your playing. I, for one, would be lost without it. It would literally be like playing with one hand tied behind my back. (And that's the only way you could keep my hand off the wheel!) In this section, I want to show you the basic performance techniques for using the pitch bend wheel. Later on, we'll look into the three different bend modes on the DX7 II.

How to Play the Wheel

There is no right or wrong way to play the wheel. This is certainly an area that is open for you to define your own style. Here are some of the things to consider when working up your own approach to playing the wheel.

- You'll want to be able to move your left hand quickly from the keys to the wheel and back, without having to think about, or look at your hand position.
- Your hand position on the wheel should be the same every time you play it. This way, you can work up a repeatable, accurate bending style.
- You will need to move the bender quickly and accurately to any point above or below its normal, centered position, as well as its upper and lower limits.
- You may want to switch quickly from the pitch bend wheel to the mod wheel or vice versa. Your hand position should allow you the freedom to do either with a minimum of readjustment.

Playing the Wheels with your Thumb

Many players play the wheel with their thumb. To do this, lightly grasp the left edge of the DX7 II with your left hand and let the tip of your thumb settle in the notch of the wheel (*Figure 15*).

You can bend up or down by flexing your thumb. For vibrato, flex your thumb rapidly with a slight back and forth movement. If you need to, use your fingers to hold the edge of the DX7 II for stability. An alternative approach from this position is to keep your thumb stiff and use your upper arm to "shake" the forearm, hand, and thumb back and forth in one smooth motion. You may find that shaking this way gives you more control over the motion needed to perform vibrato with the wheel, while flexing the thumb is more comfortable for bending larger intervals.

You can switch from the pitch bend wheel to the mod wheel by simply shifting your thumb to the right. You'll find it easy to go back and forth between the two wheels. You will find it awkward should you want to play both wheels at once. (For example, you may want to bend a note up and then add pitch modulation to it.)

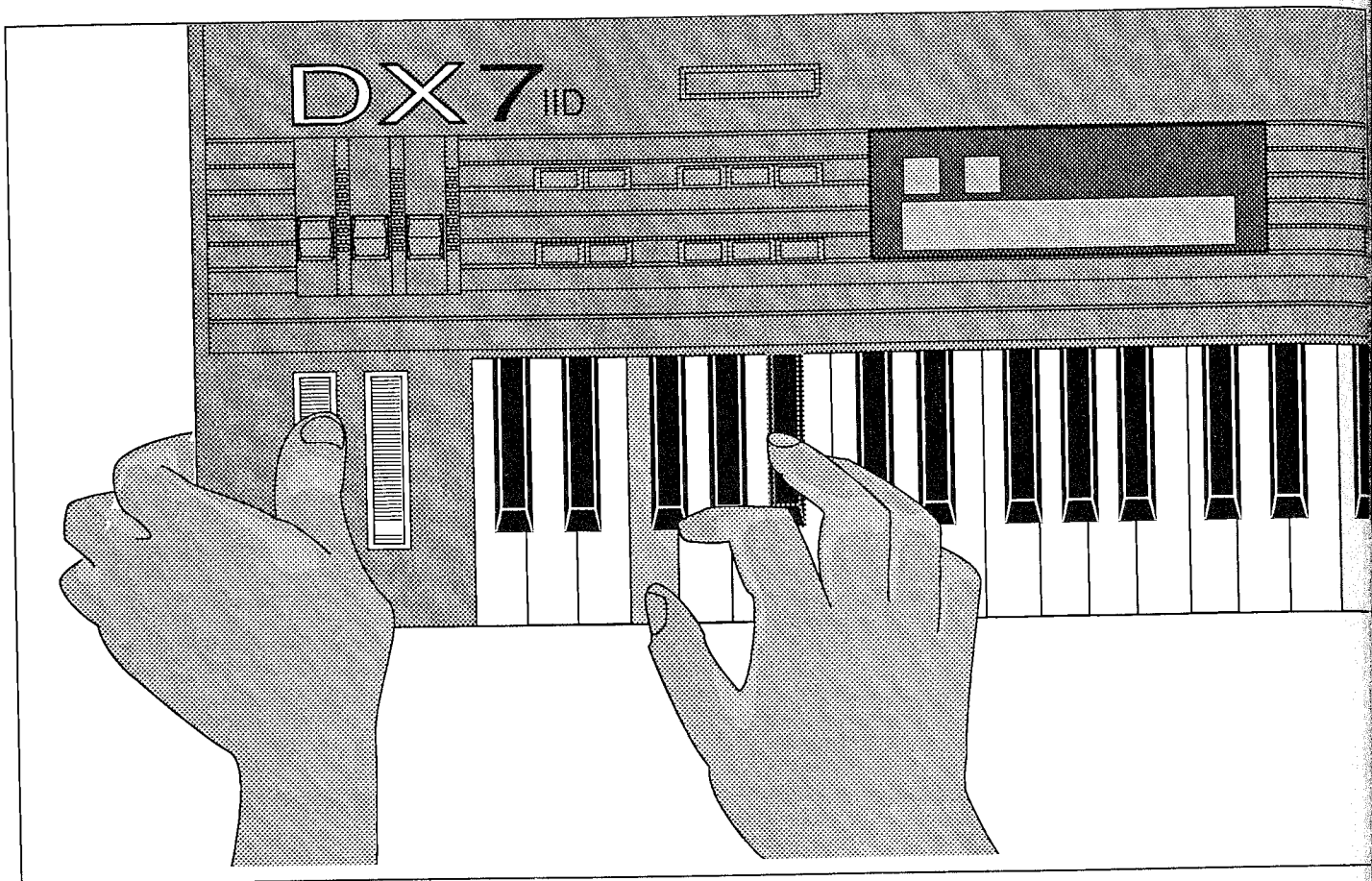


Figure 15: Left-hand position for playing the pitch wheel and mod wheels with the thumb.

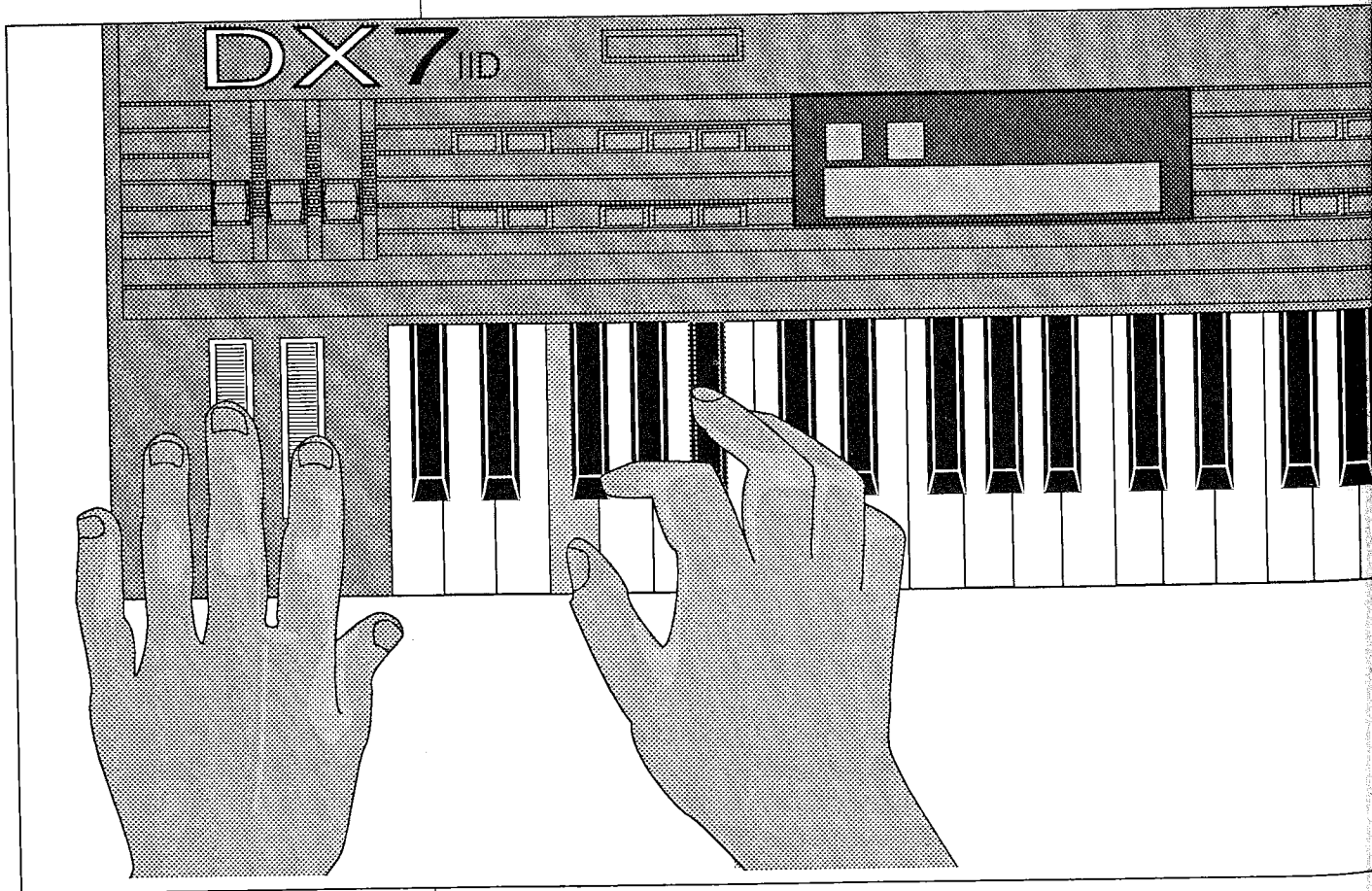


Figure 16: Left-hand position for playing the pitch and mod wheels with the fingers.

Playing the Wheels with Your Fingers

I prefer to play the wheels with my fingers, instead of my thumb. There are three reasons for this. I can move the wheels with more speed and precision. I can play both the pitch bend and mod wheels simultaneously. The shift from keyboard to wheels and back again is very quick and natural.

To get into position, just move your left hand over the pitch wheel so that it's under your middle finger. The motion is the same one you would make to play an F# below the low C on the DX7 II keyboard (*Figure 16*).

I like this as a basic bend position since my left hand never breaks the normal keyboard performance position. (If you play with your thumb, you have to readjust your hand and arm positions. Not only must you learn to be comfortable with the new positions, but you have to move farther to play with your thumb and that takes more time.) To play bends, all you have to do is flex your finger. Place the tip of the middle finger on (or slightly above) the notch. Keep your finger bent when you first place it. Now, to bend sharp, simply straighten out the finger by pushing the tip away from you. To bend a note flat, bend your finger by pulling the tip towards you. Experiment to find a spot that lets you bend to the upper and lower limit of the wheel with one continuous motion. You can rest your fourth and fifth fingers on the DX7 II to give you some stability. For vibrato, just flex your finger more rapidly over a smaller distance. For some bending techniques you can also use the alternative of shaking your forearm and hand with your upper arm. In that case, keep your fingers extended (like you would for a karate chop) and let the wheel roll under your middle finger.

If you're already used to bending with your thumb, this position may feel a little awkward when you first try it. Don't be discouraged. Ultimately, it will give you much more speed and control than the thumb technique. You use the same muscles to flex your fingers as you do to move them up and down when you play the keys. These muscles are already well developed from your keyboard playing. (This isn't true of the muscles that flex the thumb.) You can play much faster with your fingers than you can with your thumb, so it stands to reason that you can bend much faster with your fingers as well.

Another advantage of bending from this position is that you can play both wheels in combination or *at the same time* without altering the placement of your hands or fingers at all. With your middle finger on the pitch bend wheel, you'll find that your index finger falls quite naturally over the mod wheel. Play the mod wheel just like the pitch bend wheel. Put the finger tip in the notch and flex. Extend the finger to add modulation and contract it to decrease modulation. In fact, you can play both wheels at the same time with ease. You can even move the wheels in opposite directions simultaneously.

Bender Articulations

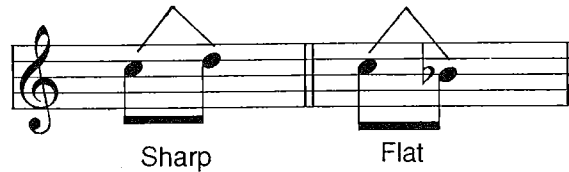
Pitch bending is part of the basic vocabulary of Rock, Blues, Jazz, and virtually all other musical styles. Although you might not think so at first, there are a lot of ways to bend from one note to another. Each different bend articulation has its own characteristic quality and musical frame of reference. You can perform just about any kind of bend articulation with the DX7 II's pitch bend wheel.

There is no standardized way of notating pitch bend articulations for keyboard players. Since the bulk of our bending techniques are borrowed from guitarists, it makes sense to borrow the bending notation and terminology they use. You can learn a lot about bending articulations by listening carefully to recordings of your favorite guitarists. There are many high quality note-for-note transcriptions of rock and jazz guitar solos in print. Get a hold of some by player with a style you admire and

listen to him/her while you follow the transcription. Even if you're not a strong sight reader, you'll be able to learn a lot of tricks and techniques that can carry over to your keyboard playing. You'll find the notation I've used here is consistent with most transcription books.

Below are descriptions of how to play the various bending articulations and examples of how they'll be notated throughout this book.

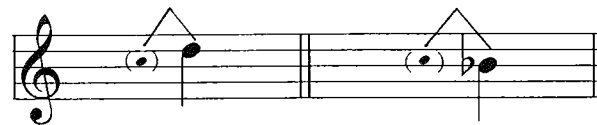
Example 44 Bend



Bend

A key is played. Then the wheel is moved smoothly to bend the note up or down to the next pitch. The wheel is held at the new position and the key is released. The motion of the bend is one way only (either up or down). Both the starting and ending pitch are heard clearly. The rhythm of the bend is shown by the notation. (*Example 44*)

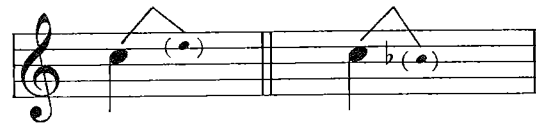
Example 45 Ghost Bend



Ghost Bend

The wheel is moved smoothly sharp or flat at the same time the key is played, bringing the note to the written pitch. Since the bend begins immediately with the attack of the note, there is no clear impression of a starting pitch. (Hence the name, ghost bend.) (*Example 45*)

Example 46 Spill

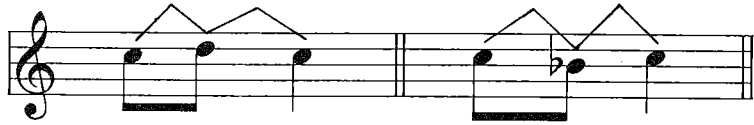


Spill

The opposite of a ghost bend. Here the note is played and then the wheel is moved smoothly sharp or flat. The key is released before the wheel stops, so there is no clear impression of an ending pitch. (*Example 46*)

Example 47

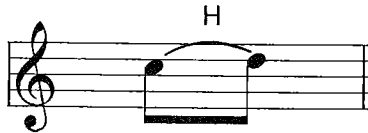
Bend - and - Return

***Bend-and-Return***

The written note is played. The bender is moved smoothly up or down to the next pitch and held. Next, the bender is moved back to the starting pitch. The key is not released until after the bender has been returned to the starting position. The rhythm of the bend-and-return is shown by the notation. (*Example 47*)

Example 48

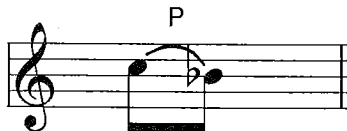
Hammer-on

***Hammer-On***

Technically, this isn't a true bend. The pitch jumps up without reattacking the note. Guitarists do this by picking a string and then striking a higher fret to get the pitch jump. You can do this with the wheel by moving the bender sharp as quickly as you can. If you move it fast enough the pitch will seem to jump instead of slide. (We'll also look at a way to do true hammer-ons with the high key bend mode.) (*Example 48*)

Example 49

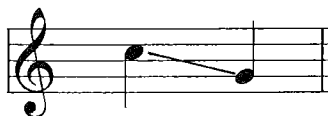
Pull-off

***Pull-Off***

This is the opposite of a hammer-on. In this case, the pitch jumps flat instead of sharp. The bender is used to move flat from one note to the next as written. Unlike a normal bend, however, the wheel is moved as quickly as possible so that the pitch seems to jump to the new note. (I'll show you an alternative way of doing this with the low key mode.) (*Example 49*)

Example 50

Slide



Slide

This is similar to a normal bend except the pitch change is emphasized by drawing out the bend. (Slide guitar, pedal steel and trombone make frequent use of this kind of articulation.) (*Example 50*)

Example 51

Mod Wheel Vibrato

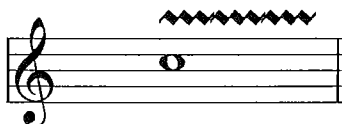


Mod Wheel Vibrato

Mod wheel vibrato (or tremolo, etc.) is indicated with a wavy line. (*Example 51*)

Example 52

Pitch Wheel Vibrato



Pitch Wheel Vibrato

Vibrato performed by wiggling the bender is indicated with a triangular line. (*Example 52*)

Example 53

Scoop



Pitch Wheel Scooping (Dive bombing)

This is the keyboardist's equivalent of a guitarist's use of the "whammy Bar" (vibrato arm). A note is played and the bender is pulled sharp or flat to its maximum limit and then returned to normal while the note is held. The pitch isn't held steady during the bending. The rhythm of the bending as well as the amount is a matter of feel. The angled line in the notation gives you a basic idea of how to play the scoop. In general the pitch bend interval is a third or more. The bend and return is usually played fast/slow or slow/fast. It is also common to add vibrato to long scoops. (This is where it's handy to be able to play both wheels together!) (*Example 53*)

Example 54

Unison Bend

**Unison Bend**

This is a very dramatic guitar lick that you can play on the DX7 II. Two notes are played together, and the lower one is bent sharp to be in unison with the upper note. Standard keyboard benders can't bend one note while leaving the other one unchanged. The DX7 II has a special bend mode (low key) that makes this (and other things) possible. I'll show you how to set up for unison bends later in *Low Key Bending*. (Example 54)

Working Up Your Bender Technique

Your playing will improve immensely if you take the time to work on your bender chops. There are two aspects of bending that you'll want to practice—pitch control and timing. Pitch control is the ability to bend to specific pitches with the bender. You can set the pitch bend range to a specific interval with the range parameter, and then just move the pitch bender all the way sharp or flat to hit the pitch. That will work fine if you always want to bend the exact same interval. Most bends, however, require you to slide up or down to the next nearest scale or chord tone. This means that you'll have to be able to hit either half or whole steps with the pitch bender for most of the music you'll play. For most music, you'll need to bend to more than one interval in a given phrase. That means that one (or more) of the intervals will be inside the limit you've set with the bend range parameter. Within the phrasing of any given melody, you will frequently want to bend one, two, three, or more semitones. You definitely won't want to change the bend range setting while you're in the middle of a solo, so you should learn how to bend to the inside intervals with the wheel. Also, if you use the pitch bender for vibrato (and you should, it sounds great), you'll want to be able to vary the pitch by an interval smaller than a half step. That's smaller than the minimum bend range (1 semitone) so here again, you'll have to learn how to use the pitch bender at its inside positions. I've found that setting the bend range to three semitones gives me the flexibility to hit the kind of bends I need for most styles. If bending is new to you, you might find this interval to wide to control at first. (I've given you some exercises that will help you work up to it.)

Timing is the ability to control the motion of the wheel so that you hit the correct pitch in the right spot, rhythmically, within a phrase or lick. There are two common problems—the timing of the notes played on the keyboard is correct but the timing of bending is off. (Sometimes you may be early, sometimes you may be late.) The other problem is when the timing of the notes played on the keyboard is thrown off because your concentrating on moving the wheel. In general, once you get the feel for bending you'll rarely have trouble with the timing. The key, of course, is to get that feel! (I've included some exercises that focus in on getting the timing right.)

Pitch Control and Timing Exercises

The first thing to practice with the wheel is hitting half and whole step bends with rhythmic precision. Before you worry about hitting the intervals ear, practice by setting the bend range to the desired interval and move the pitch bender to the maximum sharp or flat positions. This will help you to hear the intervals while you're developing the finger technique to move the pitch bender rhythmically.

Here are some bending exercises that will help you develop the basics of bending with the wheel (*Example 55*). In these exercises, the target pitch is alternated with the bent note, so you can compare the two pitches. You'll find it very easy to tell when your bending is in tune. Don't worry about speed. That will come in time. Instead, concentrate on playing the rhythm correctly and having the bend sound consistent from note to note. Don't forget to try each example with different bend articulations like hammer-ons and slides.

Once you're comfortable with the rhythm of the exercises, and you know what the intervals should sound like, you can work on hitting those inside intervals. With the bend range set for two semitones, practice half step bends. You'll only have to move the pitch bender part of the way to hit the pitch. Your ear will tell you when to stop. The amount of motion required will be exactly the same for any note(s) you play at the bend range setting. Increase the bend range to three semitones (minor third) and practice half and whole step bending at that setting. Then try increasing the bend range to four semitones (major third) and practice half step, whole step, and minor third bends at that setting.

Example 55

Half-Step Sharp

Learn with Bend Range at 1, then practice with 2, 3, and 4

Half-Step Flat

Whole-Step Sharp

Learn with Bend Range at 2. Then practice with 3, and 4.

This section contains three staves of musical notation. The first staff is in G major (one sharp) and features a sequence of eighth notes with downward bends. The second staff is in A major (two sharps) and continues the sequence. The third staff is in B major (three sharps) and concludes the exercise. Each staff contains 16 measures of music.

Whole-Step Flat

This section contains three staves of musical notation. The first staff is in F major (one flat) and features a sequence of eighth notes with downward bends. The second staff is in E-flat major (two flats) and continues the sequence. The third staff is in D-flat major (three flats) and concludes the exercise. Each staff contains 16 measures of music.

Flat 3rd Sharp

Learn with Bend Range at 3, then practice with 4.

This section contains three staves of musical notation. The first staff is in F major (one flat) and features a sequence of eighth notes with downward bends. The second staff is in E-flat major (two flats) and continues the sequence. The third staff is in D-flat major (three flats) and concludes the exercise. Each staff contains 16 measures of music.

PITCH BENDER TECHNIQUES

Three staves of musical notation in treble clef, featuring a key signature of one flat (Bb). The music consists of eighth-note patterns with various accidentals, including sharps and naturals, indicating pitch bends. The first staff starts with a Bb and includes a sharp on the second measure. The second staff includes a natural on the second measure. The third staff includes a sharp on the second measure and a natural on the sixth measure.

Flat 3rd Flat

Five staves of musical notation in treble clef. The first staff is in a natural key signature. The second staff has a key signature of one flat (Bb). The third staff has a key signature of two flats (Bb, Eb). The fourth staff has a key signature of one flat (Bb) and a sharp on the second measure. The fifth staff has a key signature of two flats (Bb, Eb) and a sharp on the second measure.

maj3rd Sharp

Learn with Bend Range set to 4.

A single staff of musical notation in treble clef, featuring a key signature of one flat (Bb). The music consists of eighth-note patterns with various accidentals, including sharps and naturals, indicating pitch bends.

maj3rd Flat

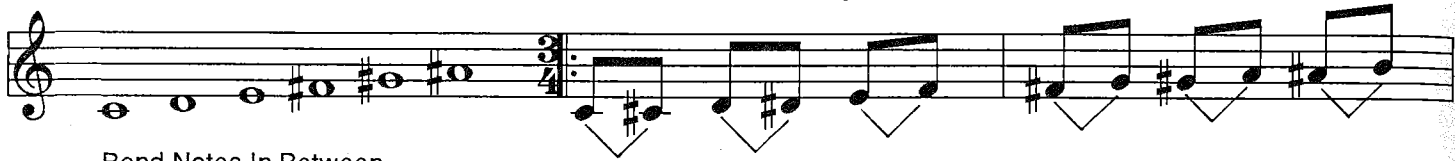
Here are some more exercises to try when you can comfortably hear and hit different intervals with the pitch bender (*Example 56*). In these examples, the bend is part of a scale. There is no pitch to compare to the bent note. You'll have to trust your ear to get it right. At first, move the bender while holding down the key. You will hear the pitch slide. Stop moving the wheel when you've hit the new pitch. When you can do that, make your bender move *before* you push down a key. This way you will learn to bend to a new pitch by feel alone. This ability is essential for hammer-on and pull-off bending styles.

Example 56

Half-Step Bend Exercise

Play Whole-Step Scale

Learn With Bend Range 1, 2, 3, 4



Bend Notes In Between



Whole-Step Bend Exercise

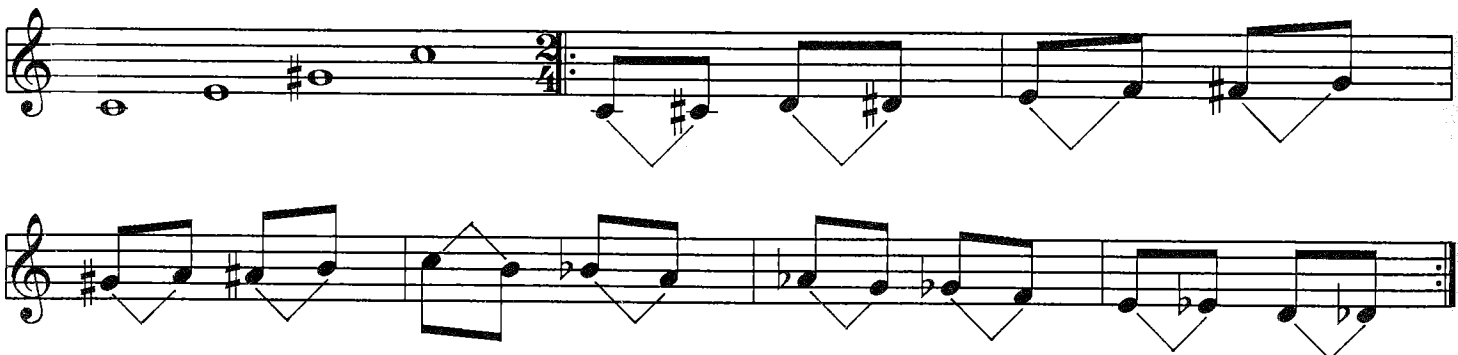
Play Augmented Triad

Learn With Range At 2, 3, 4



Flat 3rd Exercise

Learn with Range at 3 and 4



Vibrato Phrasing with the Pitch Bend Wheel

Why use the pitch bend wheel for vibrato when you can use the mod wheel? Two reasons come quickly to mind.

1. The speed and phrasing of the vibrato should be related rhythmically to the music. Typically, vibrato rates of vocalists, guitar players, wind players, etc. matches the peaks and dips of pitch with sixteenth notes or sixteenth note triplets. The rate of the mod wheel vibrato and the locations of the peaks and dips are randomly related to the tempo and rhythm of the music.
2. Phrasing vibrato with the pitch bend wheel is the performance equivalent of wiggling the finger tips on the neck of a violin or guitar, and is a very natural and intuitive means of musical expression. Simply put, it feels better. I find it's much more satisfying and expressive to actually play the vibrato with the pitch bender, than to simply control its depth with the mod wheel.

The trick to pitch bend wheel vibrato is learning how to move the wheel rapidly and repeatedly, over a very small range. Here's how to work up the technique.

- Set the bend range for a whole step. Play and hold a key. Bend to the wheel's maximum position.
- Slowly bring the bender back until you hear a definite (but very small) change in pitch.
- For vibrato, wiggle the bender between that spot and the wheel's maximum position.
- Practice wiggling this small interval so that the top and bottom of the bend is in time with eighth and sixteenth notes (straight and triplets).

Once your comfortable with the motion at the top of the wheel's range, practice adding vibrato to inside intervals. You can add vibrato to notes that are bent sharp or flat with the wheel. Finally, practice adding vibrato to notes that aren't bent at all. To do this, move the wheel just past the center position—to a point where you hear a small pitch change. Wiggle the pitch bender between this spot and the center position to get vibrato.