

# 3

## INDIVIDUAL BOWED STRING INSTRUMENTS

### VIOLIN

*Violino (IT.); Violon (FR.); Violine or Geige (GER.)*

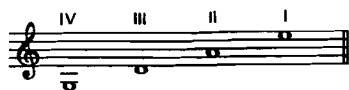
The violin is the soprano instrument of the string section. It is held on the left shoulder, supported by the left side of the chin, and held from underneath by the left arm and hand at the instrument's neck. All techniques and coloristic effects discussed in Chapter 2 are within the scope of this most versatile instrument.



ZVI ZEITLIN, VIOLIN

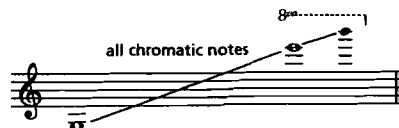
## Tuning, Range, and Fingering

EXAMPLE 3-1. Tuning



All music for the violin is written in the treble clef. The roman numerals above the staff in Example 3-1 give the nomenclature for each string used by string players. Notice that the uppermost string is I.

EXAMPLE 3-2. Range



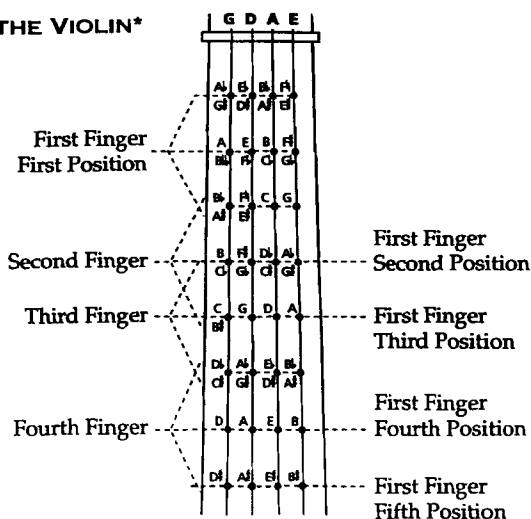
The practical orchestral range of the violin (not using harmonics) extends from G<sup>3</sup> to E<sup>7</sup>, but in solo or chamber music playing, B<sup>7</sup> or even higher is possible. It must be kept in mind that the extremely high range on any string instrument is difficult to control, and only in the past one hundred fifty years has it been used extensively. During the Classical period, the limit of the violin range was A<sup>6</sup> (see diagram). Beyond the seventh position, in which that A is the highest note, the spaces between the fingers become progressively smaller, making left-hand control more and more tenuous as the thumb, which acts as a stabilizing lever on the neck and body of the instrument, loses its hold. The hand must therefore seek the higher notes without the orientation of the thumb's position.

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FINGERING/  
SHIFTING  
ON THE VIOLIN


### Fingering

The fingering for the first five positions on the violin is as follows:

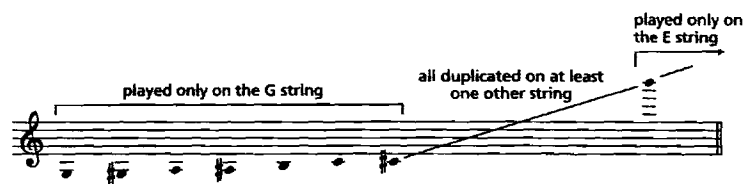
FINGERING ON THE VIOLIN\*



\*Dotted lines on the left of the diagram indicate half positions—that is, alternative fingerings used mostly in first position to perform chromatic or whole-tone passages, or those based on synthetic scales, more easily.

Notice that from the open G to  $C^4$ , and then from  $B^6$  up, the pitches are available on one string only. Starting with  $D^4$   each pitch may be played on more than one string.

**EXAMPLE 3-3. Fingering for First Five Positions**



$D^4$ , for instance, can be played on the open string or with the fourth finger on the G string in first position. It can also be performed with the third finger on the G string in second position, the second finger on the G string in third position, or the first finger on the G string in fourth position. It would be futile, then, to specify where the violinist is to play a particular pitch when it can be duplicated in many places on the instrument. If the composer or orchestrator is very familiar with the fingering of the instrument, he or she may wish to indicate a certain fingering in the score and parts to achieve a desired timbre. Except under special circumstances such as this, the actual fingering is best left to the performer.

Let us examine what we mean by timbral considerations. The open strings have a distinctive sound of their own. They have greater vibrating potential, since they are not under the controlling influence provided by the finger, which presses and oscillates on a string to produce a stopped note with vibrato. In a fast passage the combination of open and stopped strings may not sound jarring, but in slow, expressive passages, one usually wants all the tones to have the same timbre, otherwise the notes that are played on the open strings can stand out peculiarly. But this effect is sometimes exploited, as in the Brahms melody in Example 3-4, in which all notes are played on the G string. Here, listen to the vibrant sound that the open G string creates.

**EXAMPLE 3-4. Brahms, Symphony No. 1, fourth movement, mm. 61–75**

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**Passages Performed Exclusively on a Single String**

We will now focus on the particular properties and sound qualities of each of the violin's four strings. It is virtually impossible to describe the many shades of sound that the violin can produce; it is far more effective to illustrate this almost unlimited potential throughout the violin's entire range with numerous examples from the literature. Suffice to say that if one wishes to have a passage

performed on one string exclusively, the passage should be marked *sul* plus the string name, such as *sul E*, *sul A*, *sul D*, or *sul G*. (The French, however, prefer to use roman numerals, as in Example 3-1.) This practice should be followed for any instrument of the violin family.

### The G String

The G string is the thickest and most sonorous of the four violin strings. As the player moves into higher positions on it, the sound becomes very intense because the vibrating portion of the string is constantly being shortened.

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EXAMPLE 3-5. Tchaikovsky, *Symphony No. 5*, second movement, mm. 111–119



#### ■ ADDITIONAL PASSAGE FOR STUDY

Mahler, *Symphony No. 3*, first movement, mm. 5–8.

### The D String

The quality of this string's sound is probably the least distinctive of the four strings. Yet it can exude warmth and lyricism, as in the passage shown in Example 3-6. Its sound mellows even more in its higher positions as its vibrating length is shortened.

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EXAMPLE 3-6. Rimsky-Korsakov, *Sheherazade*, third movement, mm. 1–8



### The A String

The characteristic sound of the A string is most striking in first position; it loses some of its brilliance and power in the upper positions, which are better suited to soft, lyrical passages. If brilliance in the upper registers is desired, the player should be directed to cross to the E string for the rest of the passage.

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EXAMPLE 3-7. Puccini, *Madama Butterfly*, Act II, at [16]



### ■ ADDITIONAL PASSAGE FOR STUDY

Brahms, Symphony No. 3, third movement, mm. 13–24

#### The E String

This is the most brilliant of the four strings. Notice how luminous it becomes at the top of its range.

EXAMPLE 3-8. R. Strauss, *Don Juan*, mm. 9–17

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One can also elicit a quiet, mysterious quality from this string when playing at a soft dynamic.

EXAMPLE 3-9. Prokofiev, *Classical Symphony*, second movement, mm. 5–13

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#### Multiple Stops

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CD-1  
MULTIPLE STOPS  
ON THE VIOLIN

The multiple-stop technique has already been discussed in general terms for all string instruments. Although we focus specifically on double, triple, and quadruple stopping for the violin, it is important to emphasize that most difficult double stopping is reserved for solo and possibly chamber music. In orchestral writing, only the most easily accessible double stops are usually used, particularly for *secco* chordal effects or particularly sonorous passages. Since a conventional symphony orchestra has at least sixteen first violins and fourteen second violins, passages that would be quite difficult for one performer are quite simple when played *divisi*.

Examples 3-10 through 3-13 give a partial list of the double, triple, and quadruple stops on the violin. Some of these multiple stops are quite difficult to reach with small hands.

### EXAMPLE 3-10. Double Stops

etc.

etc.

all chromatic

etc.

all chromatic pitches also

etc.

etc.

### EXAMPLE 3-11. Chromatic Double Stops

etc.

etc.

etc.

### EXAMPLE 3-12. Triple Stops\*

etc.

etc.

etc.

etc.

etc.

\*Remember that all string triple and quadruple stops are of necessity arpeggiated.

## EXAMPLE 3-13. Quadruple Stops



## Harmonics

In solo violin and some chamber music, composers have required the violinist to produce artificial harmonics in other ways than have been demonstrated in Chapter Two (pp. 46–48). But these alternate ways, given as options 2, 3, and 4 below, are seldom used in orchestral writing because they produce especially weak tones and are extremely risky to carry off. Since the first option given below is easiest to play, it is found most often in orchestral scores.

### “Touch 4th” Harmonics

To review, the most practical way to produce artificial harmonics for orchestral writing is the “touch 4th” method, which results in a note two octaves above the fundamental (the fingered note in Example 3-14).\*

\*In the examples, 0 under a note designates an open string, and 1 indicates the first (left index) finger to finger the note.

## EXAMPLE 3-14. "Touch 4th" Harmonics

Actual harmonics

Lightly touched note  
Fingered note

0 1 1 1 0 1 1 1 0 1 1 1 0 1 1

Detailed description: This musical example shows two staves. The top staff, labeled 'Actual harmonics', displays a series of natural harmonics for a string instrument, with a dotted line indicating the 8th harmonic. The bottom staff shows the corresponding fingered notes for these harmonics, with fingerings (0-4) written above each note. Below the bottom staff, a sequence of fingerings (0, 1, 1, 1, 0, 1, 1, 1, 0, 1, 1, 1, 0, 1, 1) is provided for each note.

## "Touch 5th" Harmonics

The "touch 5th" harmonics produce a tone that is one octave and a perfect 5th above the fundamental.

## EXAMPLE 3-15. "Touch 5th" Harmonics

Actual harmonics

Lightly touched note  
Fingered note

0 1 1 1 1 1 1 1

Detailed description: This musical example shows two staves. The top staff, labeled 'Actual harmonics', displays a series of natural harmonics. The bottom staff shows the corresponding fingered notes for these harmonics, with fingerings (0-1) written above each note. Below the bottom staff, a sequence of fingerings (0, 1, 1, 1, 1, 1, 1, 1) is provided for each note.

## "Touch Major 3rd" Harmonics

The "touch major 3rd" harmonics produce a pitch two octaves and a major 3rd above the fundamental.

## EXAMPLE 3-16. "Touch Major 3rd" Harmonics

Actual harmonics

Lightly touched note  
Fingered note

Detailed description: This musical example shows two staves. The top staff, labeled 'Actual harmonics', displays a series of natural harmonics. The bottom staff shows the corresponding fingered notes for these harmonics, with fingerings (0-1) written above each note. Below the bottom staff, a sequence of fingerings (0, 1, 1, 1, 1, 1, 1, 1) is provided for each note.



### "Touch Minor 3rd" Harmonics

The "touch minor 3rd" harmonics produce a pitch two octaves and a perfect 5th above the fundamental.

#### EXAMPLE 3-17. "Touch Minor 3rd" Harmonics

Actual harmonics

Lightly touched note  
Fingered note

The diagram shows two staves. The top staff, labeled 'Actual harmonics', shows a series of five natural harmonics on a single string, represented by vertical lines with dots at the nodes. The bottom staff shows the same sequence of notes as fingered notes, with fingerings 3, 2, 3, 3, 3 indicated above the notes. A '0' is written below the first note, indicating the open string position.

### Representative Passages from the Literature

Here are some successful orchestral passages using both natural and artificial harmonics.

#### EXAMPLE 3-18. Copland, Symphony No. 3, fourth movement, 3–8 mm. after

128

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INDEX 1 / 0:00

**Allegro**

The notation shows two staves for Violin 1 and Violin 2. Both parts play a series of chords, each containing a natural harmonic (indicated by a vertical line with a dot) and a fingered note. The tempo is marked 'Allegro'.

#### EXAMPLE 3-19. Webern, Six Pieces for Orchestra, Op. 6, No. 5, mm. 20–26 (strings only)

CD-1/TR. 56  
INDEX 2 / 0:17

rit. . . . noch langsamer ( $\text{♩}$  = ca. 60)

20 mit Dmpf. *pp* *verlöschend*

The notation shows six staves for Violin 1 Solo, Violin 2, Viola, Violin 1, and Violin 2. Each part features a series of notes, each with an artificial harmonic (indicated by a circle with a dot). The tempo is marked 'rit. . . . noch langsamer ( $\text{♩}$  = ca. 60)'. The dynamics are marked 'mit Dmpf.' (with damping), 'pp' (pianissimo), and 'verlöschend' (fading). The first measure is marked with '(alle)' and a half note symbol.

EXAMPLE 3-20. Stravinsky, *Le Sacre du printemps*, at 101 (strings only)

The musical score is for the strings of Stravinsky's *Le Sacre du printemps*, Example 3-20, at measure 101. It features the following parts and staves:

- Vln. 1 div.**: Staves 1 through 8. Staves 1-4 are marked "8va." and staves 5-8 are marked "div.".
- Vln. 2 div.**: Staves 9 through 12. Staves 9-10 are marked "8va." and staves 11-12 are marked "div.".
- Vla. div.**: Staves 13 through 16. Staves 13-14 are marked "8va." and staves 15-16 are marked "div.".
- Vlc. 3 soli**: Staves 17 and 18. Both are marked "arco".
- gli altri Vlc.**: Staff 19, marked "unis.".

The score is written in 4/4 time and includes various musical notations such as notes, rests, and dynamic markings.

## The Solo Violin

The violin has long been a favorite solo instrument of many composers. Almost every great master of orchestral music since the Baroque period has written violin concertos showcasing the tremendous range, versatility, and expressive possibilities of the instrument. Everyone should become acquainted with the

masterpieces in this genre by such composers as Bach, Mozart, Beethoven, Mendelssohn, Brahms, Dvořák, Tchaikovsky, Bruch, Lalo, Schoenberg, Berg, Stravinsky, Bartók, Prokofiev, Penderecki, and Rochberg, to name only a few.

The violin has also been greatly exploited as an occasional solo instrument within the orchestra. When one solo violin is called for, the concertmaster will play the part. When two soloists are required, the first stand of the first violins will be called on. Another arrangement would be for the composer to write one solo part for the first violin and another for the second violin, in which case the concertmaster and the principal second violinist will play. Some of the solo parts in the orchestral literature are quite virtuosic; therefore the principal players of all sections must be of solo caliber.

Here are two examples of solo violin passages from orchestral works. See also Example 2-41.

**EXAMPLE 3-21.** Brahms, *Symphony No. 1*, second movement, mm. 91–105

CD-1/TR. 57  
INDEX 1 / 0:00

91 Andante

Fl. *p* *cresc.* *f* *p* *1.*

Ob. *cresc.* *f* *1.*

Cl. *p* *cresc.* *2a 2* *f* *p*

Bsn. *p* *cresc.* *f* *p*

Cbn. *p cresc.* *f*

Hn. *p* *cresc.* *f* *pp*

Tpt. *p* *cresc.* *f*

Timp. *p* *cresc.*

Vln. solo *cresc.* *f* *f*

Vln. 1 *p* *cresc.* *f*

Vln. 2 *p* *cresc.* *f*

Vla. *p* *cresc.* *f*

Vlc. *pizz.* *cresc.* *f* *arco* *pizz.* *3* *f*

D.B. *f* *p*

90

FL. *p* *zu 2* *3* *cre* *scen* *do* *p*

Ob.

Cl. *p* *zu 2* *3* *cre* *scen* *do* *p*

Bsn. *p*

Cbsn.

Hn. *espress.* *p*

Tpt. *p*

Timp. *3* *3* *p* *cresc.* *p*

Vln. solo *cresc.*

Vln. 1 *3* *3* *p* *cre* *scen* *do* *p*

Vln. 2 *3* *3* *p* *cre* *scen* *do* *p*

Vla. *3* *p* *cre* *scen* *do* *p*

Vlc. *arco* *3* *get.* *cre* *scen* *do* *p*

D.B. *p* *cre* *scen* *do* *p*

CD-1/TR. 57  
INDEX 2 / 1:15

EXAMPLE 3-22. R. Strauss, *Don Juan*, mm. 73-81

Andante

73 Vln. solo *molto espress.* *3* *3* *molto espress.*

78 *dim* *3* *3*

### ■ ADDITIONAL PASSAGES FOR STUDY

Grofé, *Grand Canyon Suite*, "On the Trail," beginning (solo violin cadenza)

Respighi, *Feste romane*, third movement, 4 mm. after [25]

Rimsky-Korsakov, *Sheherazade*, first movement, at [C] (cadenza that recurs throughout the work; two other instances are in first movement, at [G], and second movement, beginning)

R. Strauss, *Till Eulenspiegel*, mm. 205–209

## Other Violin Techniques

### Skips

Even though the violin is a most versatile and agile instrument, the problem of fast, wide skips presents real difficulties. They can sound thrilling, especially if the skips are from the extreme low register to the extreme high register, but one must realize that a soloist can execute this sudden shift more accurately than a whole section. The difficulty is that the entire left-hand position has to be completely altered, and sometimes strings have to be crossed silently yet smoothly, or a very high note must follow an extremely low one on the same string. Most skillful players can give a fairly good impression of legato playing when performing a skip, even when there is a string intervening in the skip, but simply hitting the correct pitch can be difficult. Some of these difficulties are demonstrated in the following passages from orchestral violin parts. (Note that recordings are misleading, for when the section does not clearly articulate the skip, the passage is retaped until it is perfect.)

1. Wide skips on the same string:

EXAMPLE 3-23. Wagner, *Die Meistersinger*, Prelude, mm. 33–38

CD-1/TR. 58

Allegro

Vln. 1

34

cresc.

f

stacc.

36

e piu f

2. Wide skips between extreme ranges:

EXAMPLE 3-24. Bartók, *Divertimento*, first movement, mm. 50–52

CD-1/TR. 59

Fast

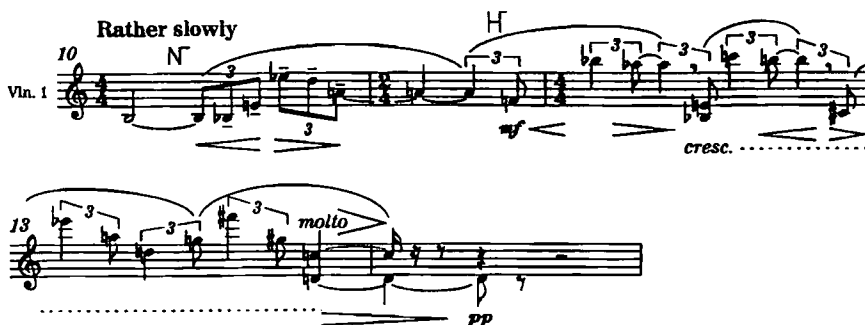
50

Vln. 1

ff

## 3. Wide skips played legato:

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EXAMPLE 3-25. Berg, *Lyric Suite*, fourth movement, mm. 10–14

## ADDITIONAL PASSAGES FOR STUDY

Wide Skips on the Same String:

Shostakovich, *Symphony No. 5*, first movement, mm. 51–62

Wide Skips between Extreme Ranges:

Copland, *Symphony No. 3*, fourth movement, mm. 2–4 after [96]Prokofiev, *Classical Symphony*, first movement, second theme

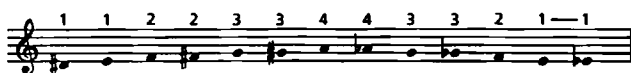
Wide Skips Played Legato:

Stravinsky, *Agon*, *Pas de deux*, mm. 411–418

## Chromatic Passages

Issues surrounding the fingering of chromatic passages should be mentioned here. All chromatic notes from the low G on the G string to the highest register can be produced easily on the violin. Usually, a player fingers a chromatic pitch using the same finger that normally plays the nonchromatic equivalent. For instance, in the following example notice that the finger that normally plays F is also used to play F $\sharp$ .

EXAMPLE 3-26. Chromatic Scale Fingering



Sometimes the performer will choose not to risk the portamento that is inevitable if the chromatic scale is performed as in Example 3-26. In these instances the scale will be played in "half position," in which a different finger is used for every note.

EXAMPLE 3-27. Chromatic Scale in "Half Position"



This method is most appropriate in fast passages, for it minimizes the audible shifting of the same finger.