BONUS CHAPTER

Instrument Ranges

When you are composing and arranging for specific instruments, you need to know the range of each instrument, so you don't write notes that are unplayable. Use the following charts to determine each instrument's range as it sounds and as it is written.

String Instruments (Bowed)

Instrument	Range (as Sounds)	Range (as Written)	Open Strings	Transposition
Violin	8 ^{va-¬} ———————————————————————————————————	8 ^{va-¬} ———————————————————————————————————	<u></u>	Sounds as written
Viola	⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕	8va <u>Q</u> ———————————————————————————————————	σ σ	Sounds as written
Cello	<u>9</u> : 0	9 : 6	<u>•):</u> •	Sounds as written
Double bass (string bass)	⊕ 8 ^{vb}	<u>⊕</u> =	9: 0	Sounds as written



In music notation, $8v\alpha$ indicates the note is played an octave above what is written, and 8vb means the note is played an octave below what is written. If you see a $16v\alpha$, that means to play the note two octaves above what is written.

String Instruments (Plucked or Strummed)

Instrument	Range (as Sounds)	Range (as Written)	Open Strings	Transposition
Guitar (acoustic and electric)	8vb- ₁	8 ^{va}		Write one octave above concert pitch
Mandolin	<u>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ </u>	<u>•</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> =		Sounds as written
Banjo	9:000	9: 0 & 0	9: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Write one octave above concert pitch
Electric bass	9: 8vb	<u>•</u> =	9: 0 • 0	Write one octave above concert pitch
Harp	8 ^{va}	8va-,	N/A	Sounds as written

Brass Instruments

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Piccolo trumpet (B)		##	Write a minor seventh below concert pitch
Trumpet (Bb)	<u>•</u>	#=	Write a major second above concert pitch
Cornet	<u>\frac{\text{\tin}\text{\tett{\text{\tetx{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\tint{\text{\text{\text{\text{\text{\tin}}\tint{\text{\text{\tin}}\tint{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\tint{\text{\text{\text{\text{\texi}\tint{\text{\ti}}}\tint{\text{\text{\text{\text{\text{\ti}}}\tint{\text{\ti}}}}}}}}}}}}}}}}}</u>	<u>Ω</u> # ¯	Write a major second above concert pitch
Flugelhorn	φ <u>σ</u>	##	Write a major second above concert pitch
French horn	<u>9</u> : •	9: 0 6	Write a perfect fifth above concert pitch (on treble clef)

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Baritone (concert)	• • • • • • • • • • • • • • • • • • •	9: •	Sounds as written on bass clef; on treble clef, write a major ninth above concert pitch
Trombone	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	Sounds as written
Bass trombone	9: = > \overline{\sigma}	<u>9</u> :	Sounds as written
Tuba	8vb'	9 : 3 : 5 8 *b1	Sounds as written

Woodwind Instruments

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Piccolo	15 ^{ma}	8 ^{va-} ¬	Write one octave below concert pitch
Flute	8 ^{na}	8 ^{na-¬} <u>Ω</u>	Sounds as written
Alto flute	<u> </u>	8va <u>•</u>	Write a perfect fourth above concert pitch
Bass flute	<u>9</u> : ₀	8 ^{va-¬}	Write one octave above concert pitch
Oboe	φ <u>=</u>	<u>=</u>	Sounds as written
English horn	<u>•</u>	<u> </u>	Write a perfect fifth above concert pitch
Bassoon	9: bo	9: 0	Sounds as written

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Contrabassoon	9:) o =	Write one octave above concert pitch
E clarinet	8 ^{va-¬} • • • • •	8va- ¬ • = = = = = = = = = = = = = = = = = =	Write a minor third below concert pitch
B ¹ clarinet		8 ^{va-¬}	Write a major second above concert pitch
A clarinet	# <u>°</u>	8 ^{na-¬}	Write a minor third above concert pitch
Alto clarinet	<u>9</u> :	<u><u><u>e</u></u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> =</u>	Write a major sixth above concert pitch
Bass clarinet	9: 6	<u>⊕</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> <u>=</u> =	Write a major ninth above concert pitch (on treble clef)
Soprano saxophone	<u>Ω</u> =	<u>•</u>	Write a major second above concert pitch

continues

continued

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Alto saxophone	9: bo	= =	Write a major sixth above concert pitch (on treble clef)
Tenor saxophone	9: 0	<u>\$</u>	Write a major ninth above concert pitch (on treble clef)
Baritone saxophone	9: 60	<u> </u>	Write an octave and a major sixth above concert pitch (on treble clef)

Keyboard Instruments

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Piano (acoustic and electric)	15 ^{ma}	15 ^{ma1}	Sounds as written
Organ		• • • • • • • • • • • • • • • • • • •	Sounds as written

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Harpsichord			Sounds as written
Clavichord	<u>9</u>	(<u>9</u> :	Sounds as written
Clavinet			Sounds as written
Celesta	8 ¹²	80b-3	Write one octave lower than concert pitch
Accordion	8va	8va	Sounds as written

Pitched Percussion Instruments

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Glockenspiel (orchestra bells)	8va	<u>•</u> <u>•</u> <u>•</u> <u>•</u>	Write two octaves below concert pitch
Xylophone	8 ^{na-} 7	8vb	Write one octave below concert pitch
Marimba	8 ^{va-} ¬	8va- 7	Sounds as written
Vibraphone (vibes)			Sounds as written
Chimes (tubular bells)	•		Sounds as written
Timpani (20 inches)	9:0	9: •	Sounds as written

Instrument	Range (as Sounds)	Range (as Written)	Transposition
Timpani (23 inches)	<u>9: </u>	9:0	Sounds as written
Timpani (25 or 26 inches)	<u>9:</u> •	9: 0	Sounds as written
Timpani (28 or 29 inches)	9: 0	9: 0	Sounds as written
Timpani (30 or 32 inches)	<u>σ</u>	<u>σ</u>	Sounds as written