









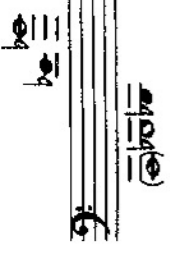
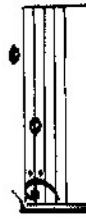
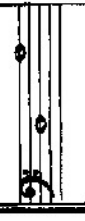

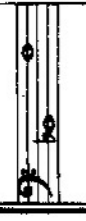






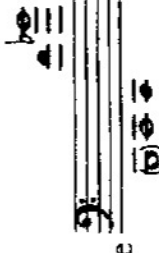
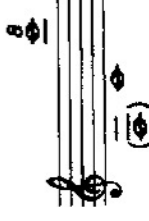
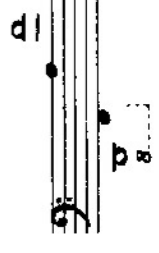

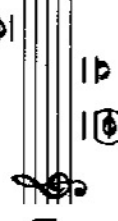





# Ranges of Instruments

In each case the limits of the extreme possible range are shown in open notes, the limits of the practical or commonly used range in black notes. These are written ranges.

Instrument	Written Range	Actual Sound	Instrument	Written Range	Actual Sound
WOODWINDS					
Piccolo		8ve higher	E♭ Clarinet		minor 3rd higher
Flute		as written	Clarinet in B♭		major 2nd lower
Alto Flute		perfect 4th lower	Clarinet in A		minor 3rd lower
Oboe		as written	Bass Clarinet		major 9th lower*
English Horn		perfect 5th lower			

\*For notation in bass clef, see text.

<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>	<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>
Bassoon		as written	<b>PERCUSSION</b>		
Contra-bassoon		8ve lower	20"		
<b>BRASS</b>			23"		
Horn in F		perfect 5th lower	Timpani 26-25"		as written
Trumpet in B $\flat$		major 2nd lower	29-28"		
Trumpet in C		as written	32-30"		
Tenor Trombone		as written	Roto-tom†		as written
Bass Trombone		as written	Xylophone		8ve higher
Tuba		as written	Marimba		as written
			Glockenspiel		2 8ves higher
			Vibraphone		as written
			Bells (Chimes)		8ve higher
			Crotales		2 8ves higher

†This is a composite range. For the range of individual roto-toms, see Chapter 13.

<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>	<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>
Antique Cymbals		8ve higher	Piano		as written
Almglocken		8ve higher			

**STRINGS**

Flexatone		as written	Violin		as written
Musical Saw		as written	Viola		as written
			Cello		as written
			Double Bass		8ve lower

**EXTRAS**

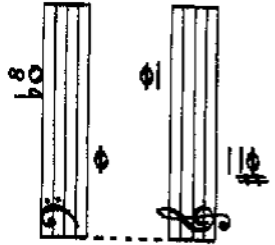
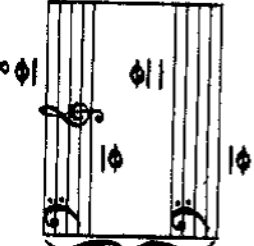
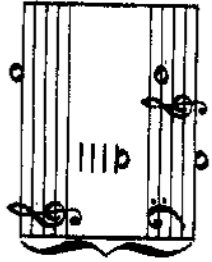


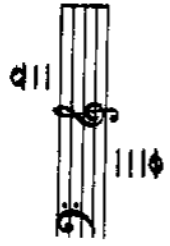


Celesta		8ve higher
Harp		as written

**INFREQUENTLY USED INSTRUMENTS**

<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>	<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>
E <sub>♭</sub> Soprano Saxophone		minor 3rd higher	E <sub>♭</sub> Alto Saxophone		major 6th lower
B <sub>♭</sub> Soprano Saxophone		major 2nd lower	B <sub>♭</sub> Tenor Saxophone		major 9th lower

**SAXOPHONES**

<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>	<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>
<b>BRASS</b>					
E $\flat$ Baritone Saxophone		8ve and major 6th lower	Piccolo Trumpet in B $\flat$ -A		minor 7th or major 6th higher
B $\flat$ Bass Saxophone		2 8ves and major 2nd lower	or Trumpet in B $\flat$ -A		major 2nd or minor 3rd lower
<b>WOODWINDS</b>					
E Flute		minor 3rd higher	Trumpet in E		minor 3rd higher
Bass Flute		8ve lower	Trumpet in D or E $\flat$		D: major 2nd higher E $\flat$ : minor 3rd higher
Oboe d'Amore		minor 3rd lower	Cornet (in B $\flat$ )		major 2nd lower
Heckelphone		8ve lower	Flügelhorn (in B $\flat$ )		major 2nd lower
E $\flat$ Alto Clarinet		major 6th lower	Bass Trumpet in E $\flat$		major 6th lower
Basset-Horn (in F)		perfect 5th lower	Bass Trumpet in C		8ve lower
Sarrusophone		8ve lower	Bass Trumpet in B $\flat$		major 9th lower

<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>	<i>Instrument</i>	<i>Written Range</i>	<i>Actual Sound</i>
Baritone or Euphonium		as written	Manually Organ Pedals		depends on registration
Tenor Wagner "Tubas" Bass		major 2nd lower perfect 5th lower	Harmonium		as written
<b>EXTRAS</b>					
Guitar		8ve lower	Harpichord		as written
Mandolin		as written	Viola d'Amore		as written

**STRINGS**