

Tuner specifications Per Instrument

Each Instrument has its own unique sound which produces its own vibration and frequency(Hz). Every Instrument has multiple notes, each note consisting of a pitch with duration and volume.

Frequency is a physical measurement (cycles per second, or Hertz), while pitch is a subjective, perceptual attribute that describes how high or low a sound seems to us. Most Western instruments are tuned to a standard where A4 (the A above middle C) is 440 Hz, with other notes' frequencies derived from this standard, though some instruments may have slight variations.

Below Will Contain: Information of every instrument's note and what each note frequency should be to be considered in tune.

Instrument Name: Alto Saxophone/Baritone Saxophone

E♭ Transposing Instrument

Info:

The alto saxophone is an E♭ transposing instrument, meaning when it plays a written C, it sounds as an E♭ in concert pitch.

Alto Saxophone Notes & Frequencies

Standard Range (B♭₃ to F₆)

Written Note	Concert Pitch	Frequency (Hz)
B♭ ₃	D♭ ₃	138.59
B ₃	D ₃	146.83
C ₄	E♭ ₃	155.56
C# ₄ / D♭ ₄	E ₃	164.81
D ₄	F ₃	174.61
D# ₄ / E♭ ₄	F# ₃	185.00
E ₄	G ₃	196.00
F ₄	A♭ ₃	207.65
F# ₄ / G♭ ₄	A ₃	220.00

G4	B ♭ 3	233.08
G#4 / A ♭ 4	B3	246.94
A4	C4	261.63
A#4 / B ♭ 4	D ♭ 4	277.18
B4	D4	293.66
C5	E ♭ 4	311.13
C#5 / D ♭ 5	E4	329.63
D5	F4	349.23
D#5 / E ♭ 5	F#4	369.99
E5	G4	392.00
F5	A ♭ 4	415.30
F#5 / G ♭ 5	A4	440.00
G5	B ♭ 4	466.16
G#5 / A ♭ 5	B4	493.88
A5	C5	523.25
A#5 / B ♭ 5	D ♭ 5	554.37
B5	D5	587.33
C6	E ♭ 5	622.25
C#6 / D ♭ 6	E5	659.26
D6	F5	698.46
D#6 / E ♭ 6	F#5	739.99
E6	G5	783.99
F6	A ♭ 5	830.61

Instrument Name: Baritone Saxophone

E♭ Transposing Instrument

Info:

The baritone saxophone is an E♭ transposing instrument, meaning when it plays a written C, it sounds as an E♭ in concert pitch. It is just one octave lower than alto saxophone.

Baritone Saxophone Notes & Frequencies

Standard Range (B♭ 2 to F5)

Written Note	Concert Pitch	Frequency (Hz)
B♭ 2	D♭ 2	69.30
B2	D2	73.42
C3	E♭ 2	77.78
C#3 / D♭ 3	E2	82.41
D3	F2	87.31
D#3 / E♭ 3	F#2	92.50
E3	G2	98.00
F3	A♭ 2	103.83
F#3 / G♭ 3	A2	110.00
G3	B♭ 2	116.54
G#3 / A♭ 3	B2	123.47
A3	C3	130.81

A \sharp 3 / B \flat 3	D \flat 3	138.59
B3	D3	146.83
C4	E \flat 3	155.56
C \sharp 4 / D \flat 4	E3	164.81
D4	F3	174.61
D \sharp 4 / E \flat 4	F \sharp 3	185.00
E4	G3	196.00
F4	A \flat 3	207.65
F \sharp 4 / G \flat 4	A3	220.00
G4	B \flat 3	233.08
G \sharp 4 / A \flat 4	B3	246.94
A4	C4	261.63
A \sharp 4 / B \flat 4	D \flat 4	277.18
B4	D4	293.66
C5	E \flat 4	311.13
C \sharp 5 / D \flat 5	E4	329.63
D5	F4	349.23

D#5 / E ♭ 5	F#4	369.99
E5	G4	392.00
F5	A ♭ 4	415.30

Instrument Name: Tenor Saxophone

Bb Transposing Instrument

Info:

The tenor saxophone is an B ♭ transposing instrument, meaning when it plays a written C, it sounds as an B ♭ in concert pitch.

Tenor Saxophone Notes & Frequencies

Standard Range (B ♭ 2 to F5)

Written Note	Concert Pitch	Frequency (Hz)
B ♭ 2	A ♭ 2	103.83
B2	A2	110.00
C3	B ♭ 2	116.54
C#3 / D ♭ 3	B2	123.47
D3	C3	130.81
D#3 / E ♭ 3	D ♭ 3	138.59
E3	D3	146.83
F3	E ♭ 3	155.56

F#3 / G ♭ 3	E3	164.81
G3	F3	174.61
G#3 / A ♭ 3	F#3	185.00
A3	G3	196.00
A#3 / B ♭ 3	A ♭ 3	207.65
B3	A3	220.00
C4	B ♭ 3	233.08
C#4 / D ♭ 4	B3	246.94
D4	C4	261.63
D#4 / E ♭ 4	D ♭ 4	277.18
E4	D4	293.66
F4	E ♭ 4	311.13
F#4 / G ♭ 4	E4	329.63
G4	F4	349.23
G#4 / A ♭ 4	F#4	369.99
A4	G4	392.00
A#4 / B ♭ 4	A ♭ 4	415.30

B4	A4	440.00
C5	B ♭ 4	466.16
C#5 / D ♭ 5	B4	493.88
D5	C5	523.25
D#5 / E ♭ 5	D ♭ 5	554.37
E5	D5	587.33
F5	E ♭ 5	622.25

Flute (C Instrument)

The **flute** is a **non-transposing instrument**, meaning written notes match concert pitch. The standard range is **B3 to C7**.

Written Note	Frequency (Hz)
B3	246.94
C4	261.63
C#4 / D ♭ 4	277.18
D4	293.66
D#4 / E ♭ 4	311.13
E4	329.63
F4	349.23
F#4 / G ♭ 4	369.99
G4	392.00

G#4 / A ♭ 4	415.30
A4	440.00
A#4 / B ♭ 4	466.16
B4	493.88
C5	523.25
C#5 / D ♭ 5	554.37
D5	587.33
D#5 / E ♭ 5	622.25
E5	659.26
F5	698.46
F#5 / G ♭ 5	739.99
G5	783.99
G#5 / A ♭ 5	830.61
A5	880.00
A#5 / B ♭ 5	932.33
B5	987.77
C6	1046.50
C#6 / D ♭ 6	1108.73
D6	1174.66
D#6 / E ♭ 6	1244.51
E6	1318.51
F6	1396.91
F#6 / G ♭ 6	1479.98
G6	1567.98
G#6 / A ♭ 6	1661.22

A6	1760.00
A#6 / B ♭ 6	1864.66
B6	1975.53
C7	2093.00

Clarinet (B ♭ Instrument)

The B ♭ clarinet sounds a whole step lower than written. The standard range is **E3 to C7**.

Written Note	Concert Pitch	Frequency (Hz)
E3	D3	146.83
F3	E ♭ 3	155.56
F#3 / G ♭ 3	E3	164.81
G3	F3	174.61
G#3 / A ♭ 3	F#3	185.00
A3	G3	196.00
A#3 / B ♭ 3	A ♭ 3	207.65
B3	A3	220.00
C4	B ♭ 3	233.08
C#4 / D ♭ 4	B3	246.94
D4	C4	261.63
D#4 / E ♭ 4	D ♭ 4	277.18
E4	D4	293.66
F4	E ♭ 4	311.13
F#4 / G ♭ 4	E4	329.63
G4	F4	349.23

G#4 / A ♭ 4	F#4	369.99
A4	G4	392.00
A#4 / B ♭ 4	A ♭ 4	415.30
B4	A4	440.00
C5	B ♭ 4	466.16
C#5 / D ♭ 5	B4	493.88
D5	C5	523.25
D#5 / E ♭ 5	D ♭ 5	554.37
E5	D5	587.33
F5	E ♭ 5	622.25
F#5 / G ♭ 5	E5	659.26
G5	F5	698.46
G#5 / A ♭ 5	F#5	739.99
A5	G5	783.99
A#5 / B ♭ 5	A ♭ 5	830.61
B5	A5	880.00
C6	B ♭ 5	932.33
C#6 / D ♭ 6	B5	987.77
D6	C6	1046.50
D#6 / E ♭ 6	D ♭ 6	1108.73
E6	D6	1174.66
F6	E ♭ 6	1244.51
F#6 / G ♭ 6	E6	1318.51
G6	F6	1396.91
G#6 / A ♭ 6	F#6	1479.98

A6	G6	1567.98
A#6 / B ♭ 6	A ♭ 6	1661.22
B6	A6	1760.00
C7	B ♭ 6	1864.66

Oboe (C Instrument)

The **oboe** is a **non-transposing instrument**, meaning written notes match their concert pitch. Its standard range is **B ♭ 3 to A6**.

Written Note	Frequency (Hz)
B ♭ 3	233.08
B3	246.94
C4	261.63
C#4 / D ♭ 4	277.18
D4	293.66
D#4 / E ♭ 4	311.13
E4	329.63
F4	349.23
F#4 / G ♭ 4	369.99
G4	392.00
G#4 / A ♭ 4	415.30
A4	440.00
A#4 / B ♭ 4	466.16
B4	493.88
C5	523.25

C#5 / D ♭ 5	554.37
D5	587.33
D#5 / E ♭ 5	622.25
E5	659.26
F5	698.46
F#5 / G ♭ 5	739.99
G5	783.99
G#5 / A ♭ 5	830.61
A5	880.00
A#5 / B ♭ 5	932.33
B5	987.77
C6	1046.50
C#6 / D ♭ 6	1108.73
D6	1174.66
D#6 / E ♭ 6	1244.51
E6	1318.51
F6	1396.91
F#6 / G ♭ 6	1479.98
G6	1567.98
G#6 / A ♭ 6	1661.22
A6	1760.00

Bassoon (C Instrument)

The **bassoon** is also a **non-transposing instrument**, meaning written notes match concert pitch. The standard range is **B ♭ 1 to E5**.

Written Note	Frequency (Hz)
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B ♭ 1	58.27
B1	61.74
C2	65.41
C#2 / D ♭ 2	69.30
D2	73.42
D#2 / E ♭ 2	77.78
E2	82.41
F2	87.31
F#2 / G ♭ 2	92.50
G2	98.00
G#2 / A ♭ 2	103.83
A2	110.00
A#2 / B ♭ 2	116.54
B2	123.47
C3	130.81
C#3 / D ♭ 3	138.59
D3	146.83
D#3 / E ♭ 3	155.56
E3	164.81
F3	174.61
F#3 / G ♭ 3	185.00
G3	196.00
G#3 / A ♭ 3	207.65
A3	220.00

A#3 / B ♭ 3	233.08
B3	246.94
C4	261.63
C#4 / D ♭ 4	277.18
D4	293.66
D#4 / E ♭ 4	311.13
E4	329.63
F4	349.23
F#4 / G ♭ 4	369.99
G4	392.00
G#4 / A ♭ 4	415.30
A4	440.00
A#4 / B ♭ 4	466.16
B4	493.88
C5	523.25
C#5 / D ♭ 5	554.37
D5	587.33
D#5 / E ♭ 5	622.25
E5	659.26

Trumpet (B ♭ Instrument)

The **B ♭ trumpet** sounds **a whole step lower than written**. The standard range is **F#3 to C6**.

Written Note	Concert Pitch	Frequency (Hz)
F#3 / G ♭ 3	E3	164.81
G3	F3	174.61
G#3 / A ♭ 3	F#3	185.00
A3	G3	196.00
A#3 / B ♭ 3	A ♭ 3	207.65
B3	A3	220.00
C4	B ♭ 3	233.08
C#4 / D ♭ 4	B3	246.94
D4	C4	261.63
D#4 / E ♭ 4	D ♭ 4	277.18
E4	D4	293.66
F4	E ♭ 4	311.13
F#4 / G ♭ 4	E4	329.63
G4	F4	349.23
G#4 / A ♭ 4	F#4	369.99
A4	G4	392.00
A#4 / B ♭ 4	A ♭ 4	415.30
B4	A4	440.00
C5	B ♭ 4	466.16
C#5 / D ♭ 5	B4	493.88
D5	C5	523.25

D \sharp 5 / E \flat 5	D \flat 5	554.37
E5	D5	587.33
F5	E \flat 5	622.25
F \sharp 5 / G \flat 5	E5	659.26
G5	F5	698.46
G \sharp 5 / A \flat 5	F \sharp 5	739.99
A5	G5	783.99
A \sharp 5 / B \flat 5	A \flat 5	830.61
B5	A5	880.00
C6	B \flat 5	932.33

Trombone (C Instrument)

The **trombone** is a **non-transposing instrument**. The standard range is **E2 to B \flat 4**.

Written Note	Frequency (Hz)
E2	82.41
F2	87.31
F \sharp 2 / G \flat 2	92.50
G2	98.00
G \sharp 2 / A \flat 2	103.83
A2	110.00
A \sharp 2 / B \flat 2	116.54
B2	123.47
C3	130.81
C \sharp 3 / D \flat 3	138.59

D3	146.83
D \sharp 3 / E \flat 3	155.56
E3	164.81
F3	174.61
F \sharp 3 / G \flat 3	185.00
G3	196.00
G \sharp 3 / A \flat 3	207.65
A3	220.00
A \sharp 3 / B \flat 3	233.08
B3	246.94
C4	261.63
C \sharp 4 / D \flat 4	277.18
D4	293.66
D \sharp 4 / E \flat 4	311.13
E4	329.63
F4	349.23
F \sharp 4 / G \flat 4	369.99
G4	392.00
G \sharp 4 / A \flat 4	415.30
A4	440.00
A \sharp 4 / B \flat 4	466.16

Tuba (C Instrument)

The **tuba** is a **non-transposing instrument**. The standard range is **D1 to F4**.

Written Note	Frequency (Hz)
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D1	36.71
D#1 / E ♭ 1	38.89
E1	41.20
F1	43.65
F#1 / G ♭ 1	46.25
G1	49.00
G#1 / A ♭ 1	51.91
A1	55.00
A#1 / B ♭ 1	58.27
B1	61.74
C2	65.41
C#2 / D ♭ 2	69.30
D2	73.42
D#2 / E ♭ 2	77.78
E2	82.41
F2	87.31
F#2 / G ♭ 2	92.50
G2	98.00
G#2 / A ♭ 2	103.83
A2	110.00
A#2 / B ♭ 2	116.54
B2	123.47
C3	130.81
C#3 / D ♭ 3	138.59

D3	146.83
D#3 / E ♭ 3	155.56
E3	164.81
F3	174.61
F#3 / G ♭ 3	185.00
G3	196.00
G#3 / A ♭ 3	207.65
A3	220.00
A#3 / B ♭ 3	233.08
B3	246.94
C4	261.63
C#4 / D ♭ 4	277.18
D4	293.66
D#4 / E ♭ 4	311.13
E4	329.63
F4	349.23

French Horn (F Instrument)

The **French horn in F** sounds a **perfect fifth lower than written**. The standard range is **B1 to F5**.

Written Note	Concert Pitch	Frequency (Hz)
B1	E1	41.20
C2	F1	43.65
C#2 / D ♭ 2	F#1	46.25

D2	G1	49.00
D#2 / E ♭ 2	A ♭ 1	51.91
E2	A1	55.00
F2	B ♭ 1	58.27
F#2 / G ♭ 2	B1	61.74
G2	C2	65.41
G#2 / A ♭ 2	D ♭ 2	69.30
A2	D2	73.42
A#2 / B ♭ 2	E ♭ 2	77.78
B2	E2	82.41
C3	F2	87.31
C#3 / D ♭ 3	F#2	92.50
D3	G2	98.00
D#3 / E ♭ 3	A ♭ 2	103.83
E3	A2	110.00
F3	B ♭ 2	116.54
F#3 / G ♭ 3	B2	123.47
G3	C3	130.81
G#3 / A ♭ 3	D ♭ 3	138.59
A3	D3	146.83
A#3 / B ♭ 3	E ♭ 3	155.56
B3	E3	164.81
C4	F3	174.61
C#4 / D ♭ 4	F#3	185.00
D4	G3	196.00

D \sharp 4 / E \flat 4	A \flat 3	207.65
E4	A3	220.00
F4	B \flat 3	233.08
F \sharp 4 / G \flat 4	B3	246.94
G4	C4	261.63
G \sharp 4 / A \flat 4	D \flat 4	277.18
A4	D4	293.66
A \sharp 4 / B \flat 4	E \flat 4	311.13
B4	E4	329.63
C5	F4	349.23
C \sharp 5 / D \flat 5	F \sharp 4	369.99
D5	G4	392.00
D \sharp 5 / E \flat 5	A \flat 4	415.30
E5	A4	440.00
F5	B \flat 4	466.16

Euphonium (B \flat Instrument)

The euphonium in B \flat sounds a major ninth lower than written. The standard range is E \flat 2 to B \flat 5.

Written Note	Concert Pitch	Frequency (Hz)
E \flat 2	D \flat 1	34.65
E2	D1	36.71
F2	E \flat 1	38.89
F \sharp 2 / G \flat 2	E1	41.20

G2	F1	43.65
G#2 / A ♭ 2	F#1	46.25
A2	G1	49.00
A#2 / B ♭ 2	A ♭ 1	51.91
B2	A1	55.00
C3	B ♭ 1	58.27
C#3 / D ♭ 3	B1	61.74
D3	C2	65.41
D#3 / E ♭ 3	D ♭ 2	69.30
E3	D2	73.42
F3	E ♭ 2	77.78
F#3 / G ♭ 3	E2	82.41
G3	F2	87.31
G#3 / A ♭ 3	F#2	92.50
A3	G2	98.00
A#3 / B ♭ 3	A ♭ 2	103.83
B3	A2	110.00
C4	B ♭ 2	116.54
C#4 / D ♭ 4	B2	123.47
D4	C3	130.81
D#4 / E ♭ 4	D ♭ 3	138.59
E4	D3	146.83
F4	E ♭ 3	155.56
F#4 / G ♭ 4	E3	164.81
G4	F3	174.61

G#4 / A ♭ 4	F#3	185.00
A4	G3	196.00
A#4 / B ♭ 4	A ♭ 3	207.65
B4	A3	220.00
C5	B ♭ 3	233.08
C#5 / D ♭ 5	B3	246.94
D5	C4	261.63
D#5 / E ♭ 5	D ♭ 4	277.18
E5	D4	293.66
F5	E ♭ 4	311.13
F#5 / G ♭ 5	E4	329.63
G5	F4	349.23
G#5 / A ♭ 5	F#4	369.99
A5	G4	392.00
A#5 / B ♭ 5	A ♭ 4	415.30
B5	A4	440.00