

# Types of trombone

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There are many different types of trombone. The most frequently encountered trombones today are the tenor and bass, though as with other Renaissance instruments such as the recorder, the trombone has been built in every size from piccolo to contrabass (see pitch of brass instruments).

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### Cimbasso

The **cimbasso** is a brass instrument in the trombone family, with a sound ranging from warm and mellow to dark and menacing. It has three to six piston or rotary valves, a predominantly cylindrical bore, and in its modern incarnation is most often pitched in F, though models are available in E ♭, C, and occasionally B ♭. It is in the same range as a tuba or a contrabass trombone. Technique on the cimbasso can be much quicker than the contrabass trombone due to its use of valves.

The modern cimbasso is most commonly used in opera scores by Giuseppe Verdi from *Oberto* to *Aida*, and by Giacomo Puccini, though only in *Le Villi*, though the word also appears in the score of Vincenzo Bellini's *Norma*, which premiered in 1831. Outside of the operatic context, the British composer Brian Ferneyhough has used it in his large orchestral work *Plötzlichkeit*. It can also be commonly heard in motion picture soundtracks.

The early use of "cimbasso" referred to an upright serpent of a narrower bore than the "basson russe",<sup>[1]</sup> usually made of wood with a brass bell. Later, this term was extended to a range of instruments including the ophicleide. In general, after the advent of the more conical bass tuba, the term cimbasso was used to refer to a more blending voice than the "basso tuba" or "bombardone", and began to imply the lowest trombone. Giuseppe Verdi, who at times specified a preference for the blending timbre of a low trombone over the heavier-sounding tuba, developed an instrument with the firm Pelitti, which was a contrabass trombone in B $\flat$  wrapped in tuba form and configured with 4 rotary valves.<sup>[2]</sup> In most of Verdi's operas the cimbasso used nowadays are the common types of the 'buccina' form: designed in the 1950s by Hans Kunitz,<sup>[2]</sup> the mouthpipe and middle section are placed in front of the player, and the bell section is forward pointed, in a downward angle. This causes a very direct, concentrated sound to be projected towards conductor and audience.



A modern cimbasso in F

The cimbasso (its name derived from 'corno basso' contra-basso pitched in C $\flat$ <sup>[3]</sup>) in its original form had a bell pointed upwards like the wider-bored tuba, the FF, EE $\flat$  and BB $\flat$  basses. Verdi disliked the wide-bore "damned Bombardoni Austriche!", not only because of the hoarse, broad tone, but also because of the Austrian origin of those wide-bore 'Bombardone-tubas'. This attitude was inspired by the hated Austrian occupation of northern Italy in the years before the Risorgimento. These instruments were, however, well appreciated in the military brass and reed bands, playing the bass role of the string basses.

It is a challenge for instrument builders and players of low-brass, to get copies of the cimbassi Verdi used. To begin with the 'Bas-valve' horns were derived from 'Basson Russe' until the tuba formed 'Trombone Basso' as used after 1867 until Otello/Falstaff (1884). Another challenge is, following the initiative of John Eliot Gardiner, to accompany 19th century operas, including Verdi's juvenilia and early period pieces until his mid-life period, to perform with a 'Period' orchestra. This includes the most discussed instruments of that era, also used by Verdi, the cimbasso / low brass instruments, and the 3-string contrabasses described by musicologist Bonifazio Asioli in about 1820s. The cimbasso in its original form as developed by Verdi and atelier Pelitti, included the diapason A $_4$  on 430 Hz instead of the norm around 1848, 435 Hz.

## Contrabass trombone



Contrabass trombone in B $\flat$ /F

The contrabass trombone is usually pitched in 12' F a perfect fourth lower than the modern tenor or bass trombone and has been through a number of changes in its history. Its first incarnation during the Renaissance was in 18' B $\flat$  as the "Octav-Posaune", while it was the Bass Trombone that was pitched in F, E $\flat$ , or D.<sup>[4]</sup> During this period the Contrabass Trombone was built with a long slide and extension handle to reach the lower positions. This horn was generally unsatisfactory with players, being unwieldy and incredibly taxing to play.



Range of Contrabass Trombone in B $\flat$ /F

The innovation of the double slide took place in 1816, proposed by Gottfried Weber in which he described its construction. In 1830 the first double-slide trombone was produced (pitched in F with very short slide positions) by Halary in Paris.<sup>[4]</sup> The slide was wound back on itself to produce four tubes, each of which moved in tandem with its partner and halved the usual length of the slide shifts. During this time, the contrabass trombone enjoyed a revival and it was constructed according to the double slide principle. As with developments in the other members of the Trombone family at the time, the bores were enlarged and bell flares were widened to give a more broad, darker tone. The application of valves was first applied to the Tenor and Bass Trombones, with the older bass in F being replaced by a horn pitched in B $\flat$  with F and D triggers.<sup>[4]</sup> At the turn of the 20th century, Conn manufactured a small number of contrabass trombones, of which three are known to survive.<sup>[5]</sup>

Wagner's *Der Ring des Nibelungen* (1876) employed the contrabass trombone for the first time in the opera house. He had a horn with double slides built in 18' B $\flat$  (without a valve) in Berlin, by C.A. Moritz.<sup>[4]</sup> This horn had only 6 positions,<sup>[6]</sup> and the low E $_1$  called for in *Der Ring des Nibelungen* was only possible by lipping down. This type of contrabass trombone has lasted into the 20th century, and is complemented by a valve which changes the pitch of the horn to F $_1$ . The double-slide contrabass trombone has less resistance than a tuba, but takes more air to produce a tone, and despite its modern innovations over the Renaissance horns, it remains somewhat taxing to play.<sup>[6]</sup>

D'Indy used this instrument several times; in his *Symphony No. 2 in B $\flat$ , Op. 57* (1902-3), *Jour d'été à la montagne, Op. 61* (1905), *Souvenirs, Op. 62* (1906), *Symphony No. 3 (Sinfonia Brevis - de bello gallico), Op. 70* (1915), and *Poème des rivages, Op. 77* (1919–21). The contrabass was also used in Strauss's *Elektra* (1908), and Schoenberg's mammoth cantata *Gurre-Lieder* (1913), with the latter scored for a section of seven trombones including alto and contrabass. Puccini's last opera *Turandot* (1924) also employed the contrabass trombone, albeit that they were scored for the Italian-valved contrabass instrument (the "*Cimbasso*"). Although the contrabass trombone has not proven to be a permanent addition to the opera or concert orchestra, and is only required in a small number of mainly 20th century works, it has become increasingly used in film scores in recent years. Pierre Boulez wrote for the contrabass trombone in his work *Pli selon pli* ("Fold By Fold").

In 1921, Ernst Dehmel, a German inspector of orchestras and bass trombonist from Berlin, patented a new design of contrabass trombone, utilising the old German military band bass trombone in F, equipped with two independent rotary valves to replace the handle required on the long slide and to fill in the missing notes between the first partial (fundamental) in closed position and the second partial with the slide fully extended. This bass-contrabass instrument is the precursor of the modern contrabass trombone,



Contrabass trombone in F

which is still largely constructed according to the same principles and, to all intents and purposes, completely replaced the older double slide variety, which is very rarely seen today. Bore sizes for the slide of the contrabass trombone are typically in the 0.567 to 0.635 inches (14.4 to 16.1 mm) range; the most common sizes on contrabass trombones in F are between 0.567 and 0.580 inches (14.4 and 14.7 mm) as the larger sizes are usually reserved for the contrabass trombone in low B $\flat$ . The bell diameter is typically 10 to 11 inches (25 to 28 cm).

Since World War II the contrabass trombone in F with two valve attachments has been primarily in use in orchestras, though the 18' B $\flat$  version is still used by many. Originally due to reasons of limited space conditions in opera orchestra pits, the bell section was provided with a coil to reduce the length of the bell bow, but since the 1970s the long, straight form has taken precedence. Through the combination of both valves, the extension handle on the outer slide also became redundant and the instrument is provided with five or six working positions on the slide. Instruments today are typically built in two configurations: the traditional style with two valves lowering the pitches to E $\flat$  and B $\flat$  (combined placing the instrument in A $\flat$ ) and the "American" style

with two valves in C and D $\flat$  (combined to place the horn in A.) Some instrument makers provide special tuning slides that allow for changing the instrument to either configuration.<sup>[4]</sup> Technical passages on the horn are generally able to be played with more agility than the double-slide contrabass trombone in B $\flat$ , since for much of its range it requires a shorter column of air to vibrate and has two valves instead of one, enabling more alternate positions. Nonetheless, the instrument is best suited to more harmonic material, not unlike a tuba, rather than virtuosic melodies.<sup>[7]</sup>



Range of Contrabass Trombone in F

The range of the contrabass trombone (excluding fundamentals or pedal notes) demanded by Wagner is from E<sub>1</sub> to E<sub>4</sub>, though composers since then have required even lower notes – even as low as B $\flat_0$ . Given that the older B $\flat$  contrabass is less common nowadays in professional ensembles, the F contrabass trombonist produces notes below G $\flat_1$  as fundamentals, allowing full access to the range of the older B $\flat$  contrabass trombone and extending the range even lower.

The use of a contrabass trombone almost always requires the addition of a fourth player to the trombone section and while in the past parts of the instrument were sometimes played on a tuba or, more recently, a bass trombone, it is nowadays considered unacceptable to use anything but a contrabass trombone to play these parts, at least in professional settings. Most opera house orchestras and some symphony orchestras require the bass trombonist to double on the contrabass trombone.

## Bass trombone



Bass trombone with F trigger and dependent D trigger

The modern bass trombone is pitched in B $\flat$ . It has the same length of tubing as the tenor trombone (9 feet (2.7 m)) but has a wider bore and a larger bell, and uses a larger mouthpiece, making it more suited to playing in the low register. Typical specifications would be a bore size of 0.562 inches (14.3 mm) in the slide and 0.580 inches (14.7 mm) through the valve attachment tubing, with a bell from 9 to 10 $\frac{1}{2}$  inches (23 to 27 cm) in diameter. Modern bass trombones have one or (more commonly) two valves which, when engaged, lower the pitch of

the instrument. The first valve lowers the key of the instrument to F. There are two types of second valve—one type lowers the key to G $\flat$ , the other, less common, type lowers it to G. An instrument with two valves may be configured in either a dependent or independent system. In a dependent system, the second valve can only be engaged when the first valve is engaged—this combination lowers the key to either E $\flat$  or D. In an independent system the valves can be used individually or in tandem.<sup>[8]</sup> Bass trombones from the 19th- and early 20th-century were sometimes made with a valve attachment in E rather than F, or with an alternative tuning slide to lower the pitch to E $\flat$ . Bass trombones with one valve often have a tuning slide that is long enough to lower the pitch by an additional half-step, changing the key to E instead of F.

The range of the modern bass trombone is fully chromatic from the lowest fundamental with the valve attachment tubing deployed. A bass trombone with the second valve in G $\flat$  is capable of playing from a B $\flat_0$  (or even A<sub>0</sub> with valve slides extended), up to C<sub>5</sub> – many professionals are capable of extending the range even higher, though such demands may be taxing and/or unreliable to the player. Older or more conservative compositions often shy away from extremes, and will infrequently stray above an F<sub>4</sub>/G<sub>4</sub> or below a B $\flat_1$ . Contemporary orchestral and solo classical pieces, as well as modern jazz arrangements, will often further exploit the wide tonal range of the bass trombone.

There is usually one bass trombone in a standard symphony orchestra performing works in the Romantic period or later. It is also seen in military bands, brass bands, jazz bands, wind ensembles, and a variety of brass groups; the bass trombone is usually played by the third trombonist in a symphony orchestra trombone section, the first two parts usually being played by tenor trombones. In jazz, the most notable uses of the bass trombone are in two of pianist Herbie Hancock's recordings, *Speak Like a Child* (1968) and *The Prisoner* (1969), which employed the instrument for purely voicing purposes.

## Bass trombones in G, F, E $\flat$

Older, now obsolete versions of the bass trombone were of smaller bore than the modern bass trombones described above. They were usually pitched in G, F, or E $\flat$ , and had a longer slide with a handle attached to the outer slide stay to allow for full extension of the slide. They were mainly used in Europe and the British Empire. They were sometimes called *Terzposaune*, *Quartposaune*, and *Quintposaune* (from the German name for the intervals third, fourth, and fifth lower than B $\flat$ ), though sometimes *Quartposaune* was used generally to refer to any of these.

[9]

The oldest of these instruments were the E, D and C bass trombones, which were used in Europe during the Renaissance and early Baroque periods; by the 18th century the F and E $\flat$  bass trombones were used in Germany, Austria and Sweden and the E $\flat$  bass trombone in France, though these fell out of favour in the early nineteenth century and began to be replaced by the tenor trombone, later (after 1840) the *tenorbass* trombone with F rotary valve attachment.

The bass trombone in G (the orchestral version was in G equipped with a rotary valve attachment actuating D or C, extending the range to A $_1$  or A $\flat_1$ ) enjoyed a period of extended popularity in France during the second half of the nineteenth century, and in Great Britain and the British Empire from approximately 1850 to the 1950s, though it lingered on in some parts of Britain until the 1970s and 1980s and is still occasionally to be seen there in brass bands and period instrument orchestras.

The range of the E $\flat$  bass trombone is A $_1$  to B $\flat_4$ , that of the F bass trombone is B $_1$  to C $_5$  and that of the G bass trombone is D $\flat_2$ , or A $_1$  or A $\flat_1$  with a D or C valve attachment (the C attachment being used expressly for playing parts written for the contrabass trombone), to D $_5$ .

## Tenor trombone

The tenor trombone has a fundamental note of B $\flat$  and is usually treated as a non-transposing instrument (see below). Tenor trombones with C as their fundamental note were almost equally popular in the mid-19th century in Britain and France. As the trombone in its simplest form has neither crooks, valves nor keys to lower the pitch by a specific interval, trombonists use seven chromatic *slide positions*. Each position progressively increases the length of the air column, thus lowering the pitch.



Bass trombone in G with D valve



Bass trombone in F



Bass trombone in E $\flat$

Extending the slide from one position to the next lowers the pitch by one semitone. Thus, each note in the harmonic series can be lowered by an interval of up to a tritone. The lowest note of the standard instrument is therefore an  $E_4$  – a tritone below  $B_b$ . Most experienced trombonists can play lower "falset" notes and much lower pedal notes (first partials or fundamentals, which have a peculiar metallic rumbling sound). Slide positions are subject to adjustment, compensating for imperfections in the tuning of different harmonics. The fifth partial is rather flat on most trombones and usually requires a minute shortening of the slide position to compensate; other small adjustments are also normally required throughout the range. Trombonists make frequent use of alternate positions to minimize slide movement in rapid passages; for instance,  $B_b_3$  may be played in first or fifth position. Alternate positions are also needed to allow a player to produce a glissando to or from a higher note on the same partial.



Tenor trombone in  $B_b$

While the lowest note of the tenor trombone's range (excluding fundamentals or pedal notes) is  $E_2$ , the trombone's upper range is theoretically open-ended. The practical top of the range is sometimes considered to be  $F_5$ , or more conservatively  $D_5$ . The range of the C tenor trombone is  $F\sharp_2$  to  $G_5$ .

## F attachment

Many modern tenor trombones include an extra attachment of tubing – about 3 feet (0.9 m) in length – which lowers the fundamental pitch from  $B_b$  to F. There are two different forms of this tubing, open wrap and traditional, or *closed*, wrap. The traditional wrap is curved and fits inside the main tuning slide while the open wrap extends past the main tuning slide and only has one curve in it. The F attachment is engaged by using a trigger which operates a valve (this is different from the three-valved valve trombone). This type of trombone is typically built with a larger bore size (0.525 or 0.547 inches (13.3 or 13.9 mm)) and is known as a  $B_b/F$  trombone, F-attachment trombone, or trigger trombone.<sup>[11]</sup> Trombones without this feature are known as *straight* trombones.



Trombone with F attachment slide position second harmonics.<sup>[10]</sup>

The F attachment originated in an instrument developed by German instrument maker Christian Friedrich Sattler during the late 1830s and patented in 1839. It gained popularity at a time when the older German  $E_b$  and F bass trombones had fallen out of favour with orchestral players and were being replaced by a  $B_b$  tenor trombone with a wide bore and large bell proportions. This instrument was known as the *tenorbass* trombone (German *Tenorbassposaune*)—it was a tenor trombone in  $B_b$  with the bore and bell dimensions of a bass trombone, and was used to play both tenor and bass trombone parts.

Sattler used the rotary valve attachment to provide a way to play the notes between the fundamental  $B_b_1$  (first position) and the second partial  $E_2$  (seventh position). The valve allowed players to produce low  $E_b$ , D,  $D_b$ , C (and, with adjustments, B), thus making the full range of the old bass trombone in  $12' F$  available and extending the chromatic range of the tenor trombone through the fundamentals to  $E_1$ .

Sattler's intention was not to create a trombone that would replace the older F and  $E_b$  bass trombones, but rather to provide an instrument with the ability to cover the range of the bass and tenor trombones seamlessly. The tenorbass trombone did replace the older bass trombones, however, and the bore and bell size were increased later in the nineteenth century to allow for models designed specifically to cope with bass trombone parts; modern bass trombones are derivatives of these late nineteenth century  $B_b/F$  trombones that are used to play



Tenor trombone with a traditional wrap F attachment

parts originally intended for the bass trombone in G, F or E $\flat$ . Since engaging the valve changes the tubing length, additional alternate positions for notes become available. The resulting increase in facility and the addition of the low E $\flat$ , D, D $\flat$ , C and B make these instruments popular among experienced orchestral tenor trombonists.

As the tubing length increases by a factor of one-third, the distance between each position must be one-third longer when the valve attachment is engaged. This results in only six positions being available, as the slide is too short for what is effectively a bass trombone in 12' F. Because of this, the B two ledger lines below the bass staff can only be played by extending the slide past seventh position.

## Alto trombone

The alto trombone is pitched in E $\flat$  (occasionally with a D or B $\flat$  rotary valve attachment) or F, a perfect fourth or fifth higher than the tenor trombone and was commonly used from the 16th to the 18th centuries as the highest voice in the brass choir.



E $\flat$  alto trombone by Arno Windisch

Until recently, little was known about trombone repertoire from the 18th century. In recent years, the discovery of new repertoire and emerging information regarding the Austrian alto trombone virtuoso Thomas Gschladt demonstrates that the alto trombone enjoyed a period of prosperity between 1756 and 1780. In the 1960s an incomplete concerto by Georg Christoph Wagenseil was recorded by conductor Nikolaus Harnoncourt: this Concerto demands advanced technique from the performer and is the first known concerto form work for the trombone.<sup>[12]</sup> Shortly after this recording was released, another concerto, written by Leopold Mozart was discovered. But due to the advanced technique required in this concerto (particularly the lip trills), it was considered too difficult for the trombone and musicologists concluded that it was instead most likely written for the French horn.<sup>[13]</sup> New information regarding Gschladt demonstrates that music of this difficulty was written for the alto trombone during the mid-to-late 18th century and that music we previously thought impossible on the instrument was certainly possible. Like Bach's trumpet soloist Gottfried Reiche and Mozart's horn soloist, Joseph Leutgeb, Gschladt then represented the best of contemporary trombone soloists. Gschladt was very close to Leopold Mozart who wrote a Serenade especially to be performed only by him, and when Gschladt was unavailable, Mozart preferred using a viola soloist over another trombonist.

In addition to Leopold Mozart and Wagenseil, Michael Haydn's Serenade in D (1764) with its extended range, trills, technique, and endurance demands contributes to this idea that there was perhaps a golden age of the alto trombone between 1756 and 1780 and was this piece was also most likely written for Thomas Gschladt. The Serenade joins these few works that remain from an era of alto trombone virtuosity.<sup>[14][15]</sup>

It declined in popularity from the early 19th century, when the trumpet acquired valves and trombones became an established section in the symphony orchestra, and it was replaced by a tenor trombone as the range of the parts can usually be covered by the tenor instrument. While some first trombonists have used the alto trombone as indicated, it was unfashionable from the mid-19th century to the late 20th and has only recently enjoyed something of a revival.

As the slide is shorter, the positions are different from the tenor and bass trombone slide positions most players are familiar with. The tone of the alto is more brilliant than that of the tenor or bass trombone. The bore of an alto trombone is similar to that of a small tenor trombone – usually around 0.450 to 0.500 inches (11.4 to 12.7 mm) with a 6½ or 7 inches (17 or 18 cm) bell.

The range of the E $\flat$  alto trombone (excluding fundamentals or valve attachments) is A $_2$  to B $\flat_5$ , though it is typically not scored any higher than F $_5$ .

The alto trombone is primarily used in choral, orchestral and operatic settings, although it has enjoyed a history as a solo instrument, primarily in 18th century Vienna. Modern composers have rediscovered the instrument and the alto trombone has begun making more appearances in modern small-scale compositions like the chamber opera *The Burning Fiery Furnace* written by Britten in 1966. Today, first-chair professional orchestral tenor trombonists are expected to play the alto trombone when required.

Notable orchestral, choral, and large operatic works scored for this instrument include:



<b>Composer</b>	<b>Work</b>	<b>Year</b>	<b>Type</b>
Monteverdi	<i>L'Orfeo</i>	1607	opera
Bach	<i>Christ lag in Todes Banden, BWV 4</i>	1707	Kantata
Bach	<i>Aus tiefer Not schrei ich zu dir, BWV 38</i>	1724	Kantata
Gluck	<i>Alceste</i>	1767	opera
Mozart	<i>Great Mass in C minor</i>	1782–1783 (unfinished)	concerted mass
Mozart	<i>Requiem</i>	1791 (unfinished)	concerted mass
Mozart	<i>Don Giovanni</i>	1787	opera
Mozart	<i>Idomeneo</i>	1781	opera
Mozart	<i>The Magic Flute</i>	1791	opera
Haydn	<i>The Creation</i>	1796–1798	oratorio
Haydn	<i>The Seasons</i>	1801	oratorio
Beethoven	<i>Symphony No. 5</i>	1804–1808	symphony
Beethoven	<i>Symphony No. 6</i>	1804–1808	symphony
Beethoven	<i>Symphony No. 9</i>	1817–1824	symphony
Beethoven	<i>Missa Solemnis</i>	1823	concerted mass
Schubert	<i>Symphony No. 7</i>	1821 (unfinished)	symphony
Schubert	<i>Symphony No. 8 "Unfinished"</i>	1822 (unfinished)	symphony
Schubert	<i>Symphony No. 9 "The Great"</i>	1826–1827	symphony
Schubert	<i>Mass No. 5 in A<math>\flat</math> major</i>	1822	concerted mass
Schubert	<i>Mass No. 6 in E<math>\flat</math> major</i>	1828	concerted mass
Berlioz	<i>Symphonie Fantastique</i>	1830	symphony
Mendelssohn	<i>Lobgesang ("Symphony No. 2")</i>	1840	symphony-cantata
Mendelssohn	<i>Symphony No. 5 "Reformation"</i>	1830	symphony
Mendelssohn	<i>Elijah</i>	1846	oratorio
Mendelssohn	<i>Overture in C Minor "Ruy Blas"</i>	1839	overture
Schumann	<i>Symphony No. 1 "Spring"</i>	1841	symphony
Schumann	<i>Symphony No. 2</i>	1845–1846	symphony
Schumann	<i>Symphony No. 3 "Rhenish"</i>	1850	symphony
Schumann	<i>Symphony No. 4</i>	1841, revised 1851	symphony
Brahms	<i>Symphony No. 1</i>	1876	symphony
Brahms	<i>Symphony No. 2</i>	1877	symphony
Brahms	<i>Symphony No. 3</i>	1883	symphony
Brahms	<i>Symphony No. 4</i>	1885	symphony
Brahms	<i>Academic Festival Overture</i>	1880	overture
Brahms	<i>Tragic Overture</i>	1880	overture
Brahms	<i>Ein Deutsches Requiem</i>	1868	vocal orchestral work

Composer	Work	Year	Type
Schoenberg	<i>Gurre-Lieder</i>	1911	vocal orchestral work
Schoenberg	<i>Pelleas und Melisande</i>	1903	symphonic poem
Berg	<i>Wozzeck</i>	1922	opera
Berg	<i>Three Pieces for Orchestra</i>	1913–1915	orchestral work
Stravinsky	<i>Threni</i>	1958	vocal orchestral work

## Soprano trombone



Soprano trombone

The soprano trombone is usually pitched in B $\flat$  an octave above the tenor. Whether the soprano trombone ever really was used at all in history is still to be proven. The earliest known surviving example dates from 1677. Johann Sebastian Bach composed three cantatas (No. 2, 21 & 38) around 1723, where four trombones are required. There is never an exact name for the first trombone part, but it is quite possibly written for a "Diskant-Posaune". It was used in German-speaking countries to play the treble part in chorales, and this tradition survives in Moravian trombone choirs. Most probably, the "Stadt-Pfeiffer", who were supposed to play all instruments, had no problems in changing sizes of the trombone. Perhaps it was easier for them to play fast and high (soprano) melodies on a cornetto than on a trombone, hence the reason that the soprano trombone "disappeared". During the 20th century some soprano trombones—dubbed *slide cornets*—were made as novelties or for use by jazz cornet players, but the instrument has never been widely used. It is easily replaced by the cornet or woodwind instruments and it is difficult to play in tune. Modern Soprano trombone slides are short and often have only six positions rather than seven and built with a bore size of between 0.450 and 0.470 inches (11.4 and 11.9 mm) and a trumpet-sized bell. The

soprano trombone's high pitch and narrow, tight embouchure usually prompt bandleaders to assign its playing to a trumpeter, albeit at the risk of detriment to intonation and note selection accuracy if the trumpeter is less than fully familiar with slide work. Modern trombone-players are not keen on the idea of playing Soprano-trombone; the mouthpieces used today are usually trumpet mouthpieces, which also make the instrument sound somewhat like a trumpet.

The range of the B $\flat$  soprano trombone is originally that of a good soprano-singer; C $_4$  to C $_6$ . E $_3$  is the lowest note of the instrument.

## Sopranino and piccolo trombones

The sopranino and piccolo trombones are even smaller and higher instruments than the soprano; they are also extremely rare. Sopranino and piccolo are pitched in high E $\flat$  and B $\flat$  respectively, one octave above the alto and soprano trombones. They are called for in some trombone choir literature, the sopranino, for example, being used in the Moravian trombone choirs in the US. Bore sizes vary between 0.430 and 0.400 inches (10.9 and 10.2 mm) respectively, with bells approximately 4 inches (10 cm) in diameter. Owing to the very high pitch of these instruments and their use of trumpet mouthpieces, they are played primarily by trumpeters.



Piccolo trombone made by Wessex

The range of the E $\flat$  sopranino trombone is A $_3$  to E $\flat_6$ ; that of the B $\flat$  piccolo trombone is E $_4$  to F $_7$ .

## Other variants

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### Valve trombone



Vienna Valves on a valve trombone

The valve trombone has been built in every size from alto to contrabass just as a regular slide trombone has, though it is the tenor valve trombone which has seen the most widespread use. The most common valve-trombone has three valves. It plays just like a trumpet (an octave lower). They are built in either short or long form.



A valve trombone

The valve trombone enjoyed its greatest popularity in the 19th century when the technology of rotary valve and piston valve instruments

was developing rapidly. By the end of the 19th century, mass production of reliable, higher quality slide trombones led to a return of its popularity. Despite the continuing popularity of the slide trombone, valve trombones have remained popular in, for example, Austria, Italy, Bohemia, Moravia, Slovakia, Spain, Portugal, South America and India, almost to the exclusion of the slide trombone.

A bass or contrabass version of the valve trombone is the cimbasso and is used mainly in operatic works by Giuseppe Verdi and Giacomo Puccini.

Some passages, particularly fast musical figures, are easier to execute on a valve trombone than on a slide trombone. Many players consider the tone of a valve trombone to be stuffer and less open. Therefore, it is not common in orchestral settings, though Giuseppe Verdi in particular made extensive use of the ability of the valve trombone to negotiate its way through fast passages. As the B $\flat$  tenor valve trombone uses the same fingering as the B $\flat$  trumpet, it is occasionally a doubling instrument for jazz trumpeters. Notable jazz musicians who play the B $\flat$  tenor valve trombone include Maynard Ferguson, Bob Brookmeyer, Clifford Thornton, Juan Tizol of the Duke Ellington Orchestra, Rob McConnell and Bob Enevoldsen.

A valve trombone made by Adolphe Sax has a different system from that which is normally used. Instead of three valves in the style of the trumpet, it has one for each position on the trombone slide.

### Superbone

This unusual variation of the trombone has both a slide and valves. Different types of valve-slide trombone hybrid combinations were first manufactured in the early 20th century. One of the best known early types was the valide trombone invented by jazz trombonist and reedist Brad Gowans, which featured a slide on the inside on the valves which did not lock, forcing the player to actively use both hands. The most popular valve-slide trombone combination today is the superbone, which achieved fame and popularity thanks to the influence of jazz musician Maynard Ferguson, who used it in his band. The Superbone has a slide on the outside of the valves which locks, meaning its use is optional, and the player can play the Superbone valves with either hand. Despite versatility from combining the two mechanisms, however, the instrument was limited in that it could only be played using one of them at a time. In other words, it forced players to choose between the valves or the slides, rather than being able to use both at once. Recently, Jazz Artist James Morrison solved this problem in crafting his own Superbone in conjunction with the company Schagerl. By manipulating its design, Morrison created an enhanced

Superbone that allowed players to play using both valves and slide at the same time. More truly versatile than previous models, this allowed for the clean articulation from the valves as well as for glissandi from the slide, removing any restraint from their full capabilities.

## Tromboon

The tromboon was created for humorous purposes by musical parodist Peter Schickele by replacing a trombone's leadpipe with the reed and bocal of a bassoon. The name of the instrument is a portmanteau word of "trombone" and "bassoon". Schickele called it "a hybrid—that's the nicer word—constructed from the parts of a bassoon and a trombone; it has all the disadvantages of both." It is called for in the scores of Schickele's fictional composer P. D. Q. Bach in the oratorio *The Seasonings*, in *Serenade (for devious instruments)*, and in *The Preachers of Crimetheus, II. The Lamentations of Jerry Maja*.

## Sackbut



Four sackbuts: two tenors [left & mid], alto [top], bass [right]

A sackbut is a type of trombone from the Renaissance and Baroque eras, characterised by its small bell.

## Buccin



Bell of a buccin (MDMB 369), 1800–1860, in the musical instrument collection of the Museu de la Música de Barcelona.

A distinctive form of tenor trombone was popularized in France in the early 19th century. Called the buccin, it featured a tenor trombone slide and a bell that ended in a zoomorphic (serpent or dragon) head. It sounds like a cross between a trombone and a French horn, with a very wide dynamic range but a limited and variable range of pitch. Hector Berlioz wrote for the buccin in his Messe solennelle of 1824.

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## External links

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- [International Trombone Association \(http://www.trombone.net/\)](http://www.trombone.net/)
  - [British Trombone Society \(http://www.britishtrombonesociety.org/\)](http://www.britishtrombonesociety.org/)
  - [Online Trombone Journal \(http://www.trombone.org/\)](http://www.trombone.org/)
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