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Overtone Chart for Tenor and Bass Trombones

12th Partial (Sharp--Lower Slightly)													
11th Partial (Very Flat--Raise Much First Position Unusable)													
10th Partial (Flat--Raise Slightly)													
9th Partial (Sharp--Lower Slightly)													
8th Partial (Normal)													
7th Partial (Very Flat--Raise Much First Position Unusable)													
6th Partial (Sharp--Lower Slightly)													
5th Partial (Flat--Raise Slightly)													
4th Partial (Normal)													
3rd Partial (Sharp--Lower Slightly)													
2nd Partial (Normal)													
Fundamental (Normal)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
					Gb1	Gb2	F1	Gb3	F2	Gb4	F3	Gb5	F4
										Gb6	F5	D3	
												D4	
													D5

Fingering Guide:
 Number Only -- Open. No valves engaged.
 Gb(number) -- Position with G-flat attachment engaged.
 F(number) -- Position with F attachment engaged.
 D(number) -- Position with D attachment (combined F and G-flat attachments) engaged.



Chromatic Slide Position Chart for Tenor and Bass Trombones

Note: Only the most commonly used positions are listed here. The overtone chart provides comprehensive information about available alternate positions. Preferred positions are listed first. If the first position listed for a note uses an attachment not available on the instrument being used, move to the next position listed.

Positions for the open instrument, as well as with F, G-flat, and D attachments engaged are included here. Players that lack one or more of these attachments should disregard the positions using those attachments. Typically tenor trombones will have the F attachment only, or no attachments. "Independent" bass trombones will have F, G-flat, and D attachments available in addition to the open instrument (the D "attachment" is achieved by combining the F and G-flat attachments). "Dependent" bass trombones will have only F and D attachments. On these instruments, the second valve is mounted in the instrument in such a way that the this valve (the would-be G-flat attachment) cannot be used by itself.

Fingering Guide:

Number Only -- Open. No valves engaged.
 Gb(number) -- Position with G-flat attachment engaged.
 F(number) -- Position with F attachment engaged.
 D (number) -- Position with D attachment (combined F and G-flat attachments) engaged.

F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat
6 F1 Gb2	5 Gb1	4	3	2	1 D5	D4 F4 (false tone) 7 (false tone)
C	C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat
D3 F6 6 (false tone)	D2 F5 Gb6 5 (false tone)	D1 F4 Gb5 4 (false tone)	F3 Gb4 3 (false tone)	7 F2 Gb3	6 F1 Gb2	5 Gb1
G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C	C-Sharp or D-Flat
4 F6	3 F5 Gb6	2 F4 Gb5	1 F3 Gb4	7 F2 Gb3	6 F1 Gb2	5 Gb1
D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat	G	G-Sharp or A-Flat
4	3	2 7	1 6	5	4	3 7
A	A-Sharp or B-Flat	B or C-Flat	C	C-Sharp or D-Flat	D	D-Sharp or E-Flat
2 6	1 5	4 7	3 6	2 5	1 4	3 short 6
E	F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat
2 short 5	1 short 4 6	short 3 5	short 2 4	3 5	2 4	1 3
B or C-Flat	C	C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F
2 4	1 3	2 5	1 short 3 4	short 2 3	2	1



Overtone Chart for Euphonium B.C.

The differences between compensating and non-compensating instruments on fourth-valve combinations are clearly indicated.

The chart displays the overtone series for various valve combinations of a B♭ euphonium. The vertical axis lists partials from the Fundamental (Normal) to the 12th Partial (Sharp--Lower Slightly). The horizontal axis lists valve combinations: 0, 2, 1, 1-2/3, 2-3, 4, 2-4, 1-3, 1-2-3, Compensating: 1-4, Compensating: 1-2-4, Compensating: 2-3-4, Compensating: 1-3-4, and Compensating: 1-2-3-4. For each combination, the chart shows the pitch of the overtone series. For the 'Compensating' series, the 4th partial is consistently lower than the 3rd partial. For the 'Non-Compensating' series, the 4th partial is higher than the 3rd partial. The 12th partial is consistently higher than the 11th partial across all series.

Partial	0	2	1	1-2/3	2-3	4	2-4	1-3	1-2-3	Compensating: 1-4	Compensating: 1-2-4	Compensating: 2-3-4	Compensating: 1-3-4	Compensating: 1-2-3-4
12th Partial (Sharp--Lower Slightly)														
11th Partial (Very Flat--Unusable)														
10th Partial (Flat--Raise Slightly)														
9th Partial (Sharp--Lower Slightly)														
8th Partial (Normal)														
7th Partial (Very Flat--Unusable)														
6th Partial (Sharp--Lower Slightly)														
5th Partial (Flat--Raise Slightly)														
4th Partial (Normal)														
3rd Partial (Sharp--Lower Slightly)														
2nd Partial (Normal)														
Fundamental (Normal)														

Legend for Compensating/Non-Compensating labels:

- Compensating: 1-4
- Non-Compensating: 1-4
- Compensating: 1-2-4
- Non-Compensating: 1-2-4
- Compensating: 2-3-4
- Non-Compensating: 2-3-4
- Compensating: 1-3-4
- Non-Compensating: 1-3-4
- Compensating: 1-2-3-4
- Non-Compensating: 1-2-3-4
- Non-Compensating: (Not present. False tones only.)



Chromatic Fingering Chart for Euphonium (Bass Clef)

Note: Only the most commonly used fingerings are listed here, in order of preference. The overtone chart provides more comprehensive information about available alternate fingerings. The differing fingerings for certain lower-register notes on compensating versus non-compensating instruments are clearly indicated.

F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C
4 1-3	2-3	1-2 3	1	2	0	Non-Compensating: 1-2-3-4 (false tone) Compensating: 1-2-3-4	Non-Compensating: 1-2-3-4 Compensating: 1-3-4
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat	G	G-Sharp or A-Flat
Non-Compensating: 1-3-4 Compensating: 2-3-4	Non-Compensating: 2-3-4 Compensating: 1-2-4	Non-Compensating: 1-2-4 1-4 Compensating: 1-4	2-4 1-2-3	4 1-3	2-3	1-2 3	1
A	A-Sharp or B-Flat	B or C-Flat	C	C-Sharp or D-Flat	D	D-Sharp or E-Flat	E
2	0 1-2-4 1-4	2-4 1-2-3	4 1-3	2-3	1-2 3	1	2 2-4 1-2-3
F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C
0 4 1-3	2-3	1-2 3	1	2	0 2-3	1-2 2-4 1-2-3	1 4 1-3
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat	G	
2 2-3	0 1-2	1	2	0	2-3	1-2	
G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C			
1	2	0 1	2 1-2 1-2-3 2-4	0 1 1-3			
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F			
2 2-3	0 1-2	1	2	0			



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Overtone Chart for Euphonium T.C.

Sounding pitches are a major ninth lower than written. The differences between compensating and non-compensating instruments on fourth-valve combinations are clearly indicated.

12th Partial (Sharp--Lower Slightly)												
11th Partial (Very Flat--Unusable)												
10th Partial (Flat--Raise Slightly)												
9th Partial (Sharp--Lower Slightly)												
8th Partial (Normal)												
7th Partial (Very Flat--Unusable)												
6th Partial (Sharp--Lower Slightly)												
5th Partial (Flat--Raise Slightly)												
4th Partial (Normal)												
3rd Partial (Sharp--Lower Slightly)												
2nd Partial (Normal)												
Fundamental (Normal)												
	0	2	1	1-2 3	2-3	4 1-3	2-4 1-2-3	Compensating: 1-4	Compensating: 1-2-4	Compensating: 2-3-4	Compensating: 1-3-4	Compensating: 1-2-3-4
								Non-Compensating: 1-2-4 1-4	Non-Compensating: 2-3-4	Non-Compensating: 1-3-4	Non-Compensating: 1-2-3-4	Non-Compensating: (Not present. False tones only.)



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Overtone Chart for BB-Flat Tuba

The differences between compensating and non-compensating instruments on fourth-valve combinations are clearly indicated.

The chart displays the following partials and their characteristics:

- 12th Partial (Sharp--Lower Slightly)
- 11th Partial (Very Flat--Unusable)
- 10th Partial (Flat--Raise Slightly)
- 9th Partial (Sharp--Lower Slightly)
- 8th Partial (Normal)
- 7th Partial (Very Flat--Unusable)
- 6th Partial (Sharp--Lower Slightly)
- 5th Partial (Flat--Raise Slightly)
- 4th Partial (Normal)
- 3rd Partial (Sharp--Lower Slightly)
- 2nd Partial (Normal)
- Fundamental (Normal)

Valve combinations and compensating behaviors:

- 0: Fundamental
- 2: Fundamental
- 1: Fundamental
- 1-2, 3: Fundamental
- 2-3, 4, 1-3: Fundamental
- 2-4, 1-2-3: Fundamental
- Non-Compensating: 1-2-4, 1-4
- Compensating: 1-4
- Non-Compensating: 2-3-4
- Compensating: 1-2-4
- Non-Compensating: 1-3-4
- Compensating: 2-3-4
- Non-Compensating: 1-2-3-4
- Compensating: 1-3-4
- Non-Compensating: (Not present on four-valve instruments. False tones only.)
- Compensating: 1-2-3-4



Chromatic Fingering Chart for BB-Flat Tuba

Note: Only the most commonly used fingerings are listed here, in order of preference. The overtone chart provides more comprehensive information about available alternate fingerings. The differing fingerings for certain lower-register notes on compensating versus non-compensating instruments are clearly indicated.

F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C
4 1-3	# 2-3 b	1-2 3	# 1 b	2	# 0 b	Non-Compensating: 1-2-3-4 (false tone) Compensating: 1-2-3-4	Non-Compensating: 1-2-3-4 Compensating: 1-3-4
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat	G	G-Sharp or A-Flat
Non-Compensating: 1-3-4 Compensating: 2-3-4	Non-Compensating: 2-3-4 Compensating: 1-2-4	Non-Compensating: 1-2-4 1-4 Compensating: 1-4	2-4 1-2-3	4 1-3	2-3	1-2 3	# 1 b
A	A-Sharp or B-Flat	B or C-Flat	C	C-Sharp or D-Flat	D	D-Sharp or E-Flat	E
2	# 0 1-2-4 1-4 b	2-4 1-2-3	4 1-3	# 2-3 b	1-2 3	# 1 b	2 2-4 1-2-3
F	F-Sharp or G-Flat	G	G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C
0 4 1-3	# 2-3 b	1-2 3	# 1 b	2	# 0 2-3 b	1-2 2-4 1-2-3	1 4 1-3
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F	F-Sharp or G-Flat	G	
2 2-3	0 1-2	1	2	0	2-3	1-2	
G-Sharp or A-Flat	A	A-Sharp or B-Flat	B or C-Flat	C			
1	2	0 1	2 1-2 1-2-3 2-4	0 1 1-3			
C-Sharp or D-Flat	D	D-Sharp or E-Flat	E	F			
2 2-3	0 1-2	1	2	0			