

# Overtone Series Chart for Euphonium (Treble Clef)

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

The chart displays the overtone series for the Euphonium in treble clef, showing 12 partials across 12 valve combinations. The partials are labeled on the left, and the valve combinations are labeled at the bottom. The chart includes musical notation for each partial and a diagram of the instrument's valves at the bottom.

Partial	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
12th Partial (Sharp--Lower Slightly)	$\sharp C_4$	$\sharp C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
11th Partial (Very Flat--Unusable)	$\sharp C_4$	$\sharp C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
10th Partial (Flat--Raise Slightly)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
9th Partial (Sharp--Lower Slightly)	$\sharp C_4$	$\sharp C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
8th Partial (Normal)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
7th Partial (Very Flat--Unusable)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
6th Partial (Sharp--Lower Slightly)	$\sharp C_4$	$\sharp C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
5th Partial (Flat--Raise Slightly)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
4th Partial (Normal)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
3rd Partial (Sharp--Lower Slightly)	$\sharp C_4$	$\sharp C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
2nd Partial (Normal)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$
Fundamental (Normal)	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$	$\flat C_4$

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.)