## Overtone Series Chart for CC Tuba and Cimbasso (Flat Whole-Step Fifth Valve)

Micah Everett University of Mississippi olemiss.edu/lowbrass

22nd Partial arp—Unusable)  22nd Partial Flat—Unusable)  21st Partial Flat—Unusable)  20th Partial Raise Slightly)  19th Partial Raise Slightly)  18th Partial ower Slightly)  16th Partial Ower Slightly)		<u>α</u> =	Δ =	# # # # # # # # # # # # # # # # # # #	<u>9</u>	# <u>Q</u>	<u>a</u>	<u>e</u>	‡0.	a a ba	‡ <del>o</del>	⊕ #a
22nd Partial FlatUnusable)  21st Partial FlatUnusable)  20th Partial Raise Slightly)  18th Partial Lower Slightly)  17th Partial Lower Slightly)  16th Partial (Normal)		<u>Θ</u> = = = = = = = = = = = = = = = = = = =	± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±	<u>\$</u>	<u>a</u>	<u>o</u>	<u>e</u>	b <u>a</u>	٥	مر	•	
21st Partial ata-Unusable) 20th Partial taise Slightly) 19th Partial taise Slightly) 18th Partial power Slightly) 17th Partial power Slightly) 16th Partial (Normal)	<u>a</u> # # # # # # # # # # # # # # # # # # #	<u>e</u>	<u>e</u>	<u>a</u>	<u>o</u>	<u>o</u>	‡o.					#o
20th Partial Laise Slightly)  19th Partial Laise Slightly)  18th Partial wer Slightly)  17th Partial wer Slightly)  16th Partial (Normal)		<u>o</u>	<u>a</u>	<u>o</u> _	<u>e</u>			Ω	‡ <del>o</del>	0	#o	0
19th Partial taise Slightly) 18th Partial power Slightly) 17th Partial power Slightly) 16th Partial (Normal)	<u>***</u>	<u>a</u>	<u>a</u>			Þ <u>⊕</u>						
18th Partial wer Slightly)  17th Partial wer Slightly)  16th Partial (Normal)	<u>\$</u>	<u> </u>		<u>e</u>			٥	Þo	0	‡o	0	0
17th Partial wer Slightly)  16th Partial (Normal)	# <u>Q</u> #		<u>•</u>		<u>&gt;⊕</u>	Ω	‡ <del>o</del>	0	#0	0	0	<b>#</b> Ω
16th Partial (Normal)	<u>•</u>	•		‡o.	Ω	‡ <del>o</del>	0	‡o	‡o	О	<b>#</b> 0	0
(Normal)		<u>e</u>	<b>⊕</b>	<u>a</u>	200	<b>e</b>	<u>‡0</u>	<u>o</u>	<u>•</u>	<u>•</u>	۵	‡ <del>o</del>
	<b>≘</b>	<u>0</u>	<u>a</u>	<b>惶</b>	<del>e</del>	‡ <u>o</u>	‡ <u>&amp;</u>	<u>•</u>	‡ <b>o</b> .	Ω	‡ <del>o</del>	0
aise Slightly)	<u>→</u>	<u>o</u>	) <u>a</u>	<u>e</u>	<u>‡0</u>	<u>o</u>	<u> </u>	Þ <u>⊕</u>	Ω	þ <u>a</u>	•	o
atUnusable)	<b>β</b> <u>α</u>	<u>•</u>	‡ <u>o</u>	<u>o</u>	<u>e</u>	b <u>e</u>	Ω	þa	Ð	0	20	9
Unusable)	<b>≗</b> #	<u>o</u>	<u>o</u>	<u>e</u>	<u> </u>	۵	‡ <del>o</del>	0	0	þo	0	#0
ver Slightly)		i e	<u>&amp;</u>	‡o.	Ω	‡ <del>o</del>	0	O	‡o	е	#0	O
Unusable)	€ #	0	٥	‡ <del>o</del>	0	o	‡o	0	#o	o	\$e-	0
9th Partial 6):	Ω #	i.e.	Φ.	O	þo	0	‡o	0	‡o .	8	o	‡e-
8th Partial (Normal)	•	0	<del>j</del> o	8	ь	o	Įo.	0	0	70		i o
7th PartialUnusable)	20	8	<del>)o</del>	O	bo	0	O	20	e	þe	O	0
6th Partial wer Slightly)	0 5	le le	0	O	ю	9	#0	0	0	<b>þe</b>	9	*0
	0	е	0	<b>#</b> 0	0	е	to.	0	to.	9	to to	#0
4th Partial (Normal)	0	9	Þe	0	70				# ·		#6	8
3rd Partial wer Slightly)							#0	0	0	) <del>o</del>	ਰ	<del>‡</del> <del>•</del>
2nd Partial (Normal)	9	0	3	0	)· <del>·</del>	ਰ	<del>‡</del> <del>•</del>	₹	ਰ	) <del>ত</del>	<del>=</del>	# <del>0</del>
		<del>ਹ</del>	) ਚ	<del></del>	<del></del>		= # <del>•</del>	= <del>•</del>			======================================	<u>=</u> # <del>0</del>
(Normal)		2	 	1-2 3	======================================	= = 4	# <del>o</del>	## ## ## ## ## ## ## ## ## ## ## ## ##	======================================	□ □ □ □ □ 0 3-4-5	2-3-4-5 1-3-4-5 1-2-3-4	  # <del>o</del>