Colors as Hue, Saturation, and Lightness

Antenna House Formatter can use HSL colors by the hsl() and hsla() functions. Colors that are specified as hue, saturation, and lightness (HSL) values are more intuitive to use or to adjust than colors that are encoded by their red, green, and blue components. It is also easier to make sets of complementary or matching HSL colors by varying one of the hue, saturation, or lightness values to make the different colors. Use hsl(<H>, <S>, <L>) to specify a color, and use hsla(<H>, <S>, <L>, <A>) to specify a color with an additional alpha component representing its opacity. See also hsl() and hsla() in the Online Manual for details.

Hue is represented as the number of an angle of the color circle (i.e., the rainbow represented in a circle), where red is 0° (and 360°), green is 120° , and blue is 240° . Saturation, lightness, and opacity are represented either as 0% to 100% or 0.0 to 1.0. 100% saturation is full saturation, and 0% saturation is a shade of gray. 100% lightness is white, 50% lightness is "normal", and 0% lightness is black. 100% opacity is solid color, and 0% opacity is transparent.

The following example for the "cornflowerblue" named color (#6495ED, equivalent to hsl (219, 79%, 66%)) shows how colors can be adjusted by altering the hue, saturation and lightness values.

cornflowerblue (#6495ED)	20% more saturated	Saturation	20% less saturated			
20% lighter	hsl(219, 99%, 86%)	hsl(219, 79%, 86%)	hsl(219, 59%, 86%)			
Lightness	hsl(219, 99%, 66%)	hsl(219, 79%, 66%)	hsl(219, 59%, 66%)			
20% darker	hsl(219, 99%, 46%)	hsl(219, 79%, 46%)	hsl(219, 59%, 46%)			
219 249 279	309 339 9	39 69 99	129 159 189			

This example is for the "red" named color (#FF0000, equivalent to hsl(0, 100%, 50%)). Note that as "red" is 100% saturated, it cannot be made more saturated, so 120% saturation is clipped to 100%.

red (#FF0000)	20% more saturated	Saturation	20% less saturated			
20% lighter	hsl(0, 120%, 70%)	hsl(0, 100%, 70%)	hsl(0, 80%, 70%)			
Lightness	hsl(0, 120%, 50%)	hsl(0, 100%, 50%)	hsl(0, 80%, 50%)			
20% darker	hsl(0, 120%, 30%)	hsl(0, 100%, 30%)	hsl(0, 80%, 30%)			
219 249 279	309 339 9	39 69 99	129 159 189			

There are numerous "color picker" Internet sites that support picking a color or a range of related colors by HSL values. For example, http://www.workwithcolor.com/hsl-color-picker-01.htm and http://www.workwithcolor.com/mm-color-blender-01.htm.

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H: 0 (0° – Reds) ← S →					H: 30 (30° – Oranges) ← S →						H: 60 (60° – Yellows) ← S →					
100%	75%	← S → 50%	25%	0%	L↓	100%	75%	← S → 50%	25%	0%	L↓	100%	75%	← S → 50%	25%	0%
100%	1370	30%	2370	070	100%	100%	1370	30%	2370	070	100%	100%	/370	30%	2370	070
					88%						88%					
					75%						75%					
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Н					50%						50%					
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											13%					
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					0%			(1000			0%					
H: 90 (90° – Yellow-Greens)							•	Greens)			Н:	•		en-Cya	ns)	
1000/		← S →	250/	00/	T .	1000/		← S →	250/	00/	T .	1000/		← S →	250/	00/
100%	75%	50%	25%	0%	L ↓	100%	75%	50%	25%	0%	L↓	100%	75%	50%	25%	0%
					100%						100%					
					88%						88%					
					75%						75%					
					63%						63%	_				_
Н					50%					_	50%					=
Н					38%						38%					-
		-			25%						25%					
					13%						13%					
					0%						0%					
-		(180° –	Cyans)			H: 210 (210° – Cyan-Blues)								(240° –	Blues)	
1000/		← S →	2.50/	00/		1000/		← S →	2.50/					← S →	2.50/	00/
100%	75%	50%	25%	0%	L↓	100%	75%	50%	25%							0%
					1000/			3070	2370	0%	L ↓	100%	75%	50%	25%	
					100%			3070	2370	0%	100%	100%	75%	50%	25%	
					88%			3070	2370	0%	100% 88%	100%	75%	50%	25%	
					88% 75%			3070	2370	0%	100% 88% 75%	100%	75%	50%	25%	
					88% 75% 63%			3070	2370	0%	100% 88% 75% 63%	100%	75%	50%	25%	
					88% 75% 63% 50%			3070	2370	0%	100% 88% 75% 63% 50%	100%	75%	50%	25%	
					88% 75% 63% 50% 38%				2370	0%	100% 88% 75% 63% 50% 38%	100%	75%	50%	25%	
					88% 75% 63% 50% 38% 25%					0%	100% 88% 75% 63% 50% 38% 25%	100%	75%	50%	25%	
					88% 75% 63% 50% 38% 25% 13%					0%	100% 88% 75% 63% 50% 38% 25% 13%	100%	75%	50%	25%	
					88% 75% 63% 50% 38% 25%						100% 88% 75% 63% 50% 38% 25%					
H: 2	-	° – Blue	-Mager	ntas)	88% 75% 63% 50% 38% 25% 13%	Н	: 300 (3	00° - M	Iagenta		100% 88% 75% 63% 50% 38% 25% 13%		30 (330	° – Mag	25%	eds)
	·	← S →			88% 75% 63% 50% 38% 25% 13% 0%		: 300 (3	00° − N ← S →	lagenta	s)	100% 88% 75% 63% 50% 38% 25% 13% 0%	Н: 3	30 (330	° – Mag ← S →	genta-R	
H: 2	-		25%	ntas)	88% 75% 63% 50% 38% 25% 13% 0%	H	: 300 (3	00° - M			100% 88% 75% 63% 50% 38% 25% 13% 0%		30 (330	° – Mag		eds)
	·	← S →			88% 75% 63% 50% 38% 25% 13% 0%		: 300 (3	00° − N ← S →	lagenta	s)	100% 88% 75% 63% 50% 38% 25% 13% 0%	Н: 3	30 (330	° – Mag ← S →	genta-R	
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	·	← S →			88% 75% 63% 50% 38% 25% 13% 0% L↓ 100% 88% 75%		: 300 (3	00° − N ← S →	lagenta	s)	100% 88% 75% 63% 50% 38% 25% 13% 0% L↓ 100% 88% 75%	Н: 3	30 (330	° – Mag ← S →	genta-R	
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	·	← S →			88% 75% 63% 50% 38% 25% 13% 0% L↓ 100% 88% 75% 63% 50% 38%		: 300 (3	00° − N ← S →	lagenta	s)	100% 88% 75% 63% 50% 38% 25% 13% 0% L↓ 100% 88% 75% 63% 50% 38%	Н: 3	30 (330	° – Mag ← S →	genta-R	