

**Armory Building - UNE  
Portland, Maine  
Speaker Circuit Loading and Maximum Length Calculations**

$$\text{Max Length} = \frac{59.25 \times \text{Amplifier Output Voltage}^2}{\text{Wire Resistance} \times \text{Circuit Load}}$$

Where: Amplifier Output is 70Vrms  
 Wire Resistance is 8.0Ω / 1000 Ft pair (16AWG)  
 Circuit Load is Total Watts per Circuit  
 Maximum load per circuit is 35 Watts  
 Maximum Amplifier output is 95 Watts  
 (Assume all speakers @ .5 watts)

Electric Room 128

Flr/Circuit	Speakers @ x Tap			Ckt Total Watts	Ckt Watts from Amp1		Max Ckt Length (16AWG) Feet	Remaining % of Ckt Capacity
	0.50	1	2					
1-1	25			12.5	12.5		2903	64.29
1-2	22			11	11		3299	68.57
1-3	20			10	10		3629	71.43
1-4	6			3	3		12097	91.43
2-1	19			9.5	9.5		3820	72.86
2-2	6			3	3		12097	91.43
Total Watts per Amp					49			
					48.42			
					% of Amp Remaining			