Jewish Community Alliance of Southern Maine
Speaker Circuit Loading and Maximum Length Calculations

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

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 40 Watts
(Assume all speakers @ 1 watts)

Fire Command Center

Flr/Circuit	Speakers @ x Tap			Ckt Total Watts	Ckt Watts from Amp1	Ckt Watts from Amp2	Max Ckt Length (16AWG) Feet	Remaining % of Ckt Capacity
	0.50	**1**	**2**					
1-1		7		**7**	7		5184	82.50
1-2		7	4	**15**		15	2419	62.50
1-3		13		**13**	13		2792	67.50
Total Watts per Amp				**20**	**15**			
				50.00	**62.50**			
				% of Amp Remaining	% of Amp Remaining			