

**IRIS Network - Portland  
Booster Power Supply Standby Battery Calculations**

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**Strobe Booster Panel (BPS6A)**

	G1RF-HDVM Horn/Strobe (20v)				G1RF-VM Strobe (20v)			495S	Quiescent Current	Alarm Current	Remaining % of Ckt Capacity	
	15cd	30cd	75cd	110cd	15cd	30cd	75cd	n/a				
	88	109	193	248	71	98	188	350				
Panel									0.0700			
Circuit1	4		5		2					1.4590	51.37 %	
Circuit2	2	1	7		4					1.9200	36.00 %	
Circuit3										0.0000	100.00 %	
Circuit4										0.0000	100.00 %	
									<b>0.0700</b>	<b>3.3790</b>		
<b>All currents are expressed as mA. Max current per ckt = 3.0 Amps. Max current per panel = 6.5 Amps.</b>									<b>Total Quiescent</b>	<b>Total Alarm</b>	<b>48.02 %</b>	<b>Remaining % of Panel</b>

Total Quiescent Amp x Time Required (24 Hours)      1.680 AmpHr  
 Total Alarm Amp x Time Required (5 Minutes)      0.282 AmpHr  
 Total Battery Required      1.962 AmpHr  
 Total Battery Required + 20%      **2.354 AmpHr**  
 Battery Supplied      **7.2 AmpHr**

**NAC Circuit Voltage Drop/Maximum Length Calculations**

**Formulas Used:**  $R_t = (D) \times (R_w) / 1000'$

$V_d = (R_t) \times (I_t)$

Substitute for  $(R_t)$  and solve for  $D$

$D = ((4.0) \times (1000)) / ((R_w) \times (I_t))$

- Notes:**
- 1 NAC Circuit terminal voltage 24Vdc.
  - 2 A maximum allowable voltage drop of 4Vdc will provide a minimum of 20 Vdc per circuit.
  - 3 Current values listed per device are based on 20Vdc.

$R_t$  = Total Circuit Resistance  
 $D$  = Total Circuit Length (Feet)  
 $R_w$  = Wire Resistance ( $\Omega$ ) per 1000' Pair (Ohms)  
 $V_D$  = Circuit Voltage Drop (Max allowed is 4.0Vdc)  
 $I_t$  = Total Circuit Current

	G1RF-HDVM Horn/Strobe (20v)				G1RF-VM Strobe (20v)			495S	Total Circuit Current	$\Omega$ per 1000' Pair	
	15cd	30cd	75cd	110cd	15cd	30cd	75cd	n/a		12AWG (3.5)	14AWG (5.2)
	88	109	193	248	71	98	188	350			
Circuit 1	4	0	5	0	2	0	0	0	1.1790	969.34 Ft	652.44 Ft
Circuit 2	2	1	7	0	4	0	0	0	1.9200	595.24 Ft	400.64 Ft
Circuit 3	0	0	0	0	0	0	0	0	0.0000	#DIV/0! Ft	#DIV/0! Ft
Circuit 4	0	0	0	0	0	0	0	0	0.0000	#DIV/0! Ft	#DIV/0! Ft