

## Ragtime! #18 - Electrical Budget Worksheet - SHTP 08

<b>1</b>	<b>DC Loads:</b>			
	<b>Lighting</b>	Amps	Hours	Ah/Day
	Masthead TriColor (LED)	0.5	10	5.0
	Strobe Light (has own batteries)	0.0	0	0.0
	Cabin Lights (LED)	0.3	4	1.2
	Total Ah/Day - Lighting			<b>6.2</b>
	<b>Galley</b>	Amps	Hours	Ah/Day
	(None)			0.0
	Total Ah/Day - Galley			<b>0.0</b>
	<b>Electronics</b>	Amps	Hours	Ah/Day
	Autopilot	2.0	18	36.0
	VHF (receive)	0.3	24	7.2
	VHF (transmit)	3.8	0	0.0
	SSB (receive)	2.0	2	4.0
	SSB (transmit)	28.0	0.25	7.0
	SSB Digital Controller	0.2	2.25	0.5
	Instruments	0.4	10	4.0
	AIS and GPS	0.4	24	9.6
	Computer (screen off)	1.0	0.5	0.5
	Computer (screen on)	1.4	2	2.8
	Total Ah/Day - Electronics			<b>71.6</b>
	<b>Plumbing</b>	Amps	Hours	Ah/Day
	Bilge Pump	5.0	0	0.0
	Total Ah/Day - Plumbing			<b>0.0</b>
	<b>Inverter</b>	Watts	Hrs/day	Ah/Day
	DC Adapter (incl. w/computer)			0.0
	Total Ah/Day - Inverter			<b>0.0</b>
	Gross Energy Consumption - Ah/Day			<b>77.8</b>
<b>2</b>	<b>Alternative Energy Sources:</b>	Amps	Hrs/day	Ah/day
	43 watt solar panels (2)	5.0	7	35.0
	Contribution of AES - Ah/Day			<b>35.0</b>
<b>3</b>	<b>Net Energy Consumption, Ah/Day</b>			<b>42.8</b>
<b>4</b>	<b>Desired Hours Between Charging</b>			<b>24</b>
<b>5</b>	<b>Range Battery Use (50-85% charge state)</b>			<b>0.35</b>
<b>6</b>	<b>Recom. Battery Capacity (I have 2x92 Ah = 184Ah)</b>			<b>122</b>
<b>7</b>	<b>Alternator Output, Amps (measured output = 34.5A)</b>			<b>30</b>
<b>8</b>	<b>Charge Efficiency Factor (AGM batteries)</b>			<b>0.95</b>
<b>9</b>	<b>Minimum Minutes to Charge (at full output)</b>			<b>90</b>

Fuel: Engine uses < 1/4 gal/hour x 12 gal tank = 50+ hours charging