

## Electrical Design - MV Example

<b>System Voltage</b>	12 <u>Volts</u>
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<b>Lighting Circuits</b>	No	Watts	Amps	Hrs/Day	A/Hrs/day
Saloon Lts	3	21	5.3	3	15.8
Cockpit Lts	1	21	1.8	0.5	0.9
Owners Cabin Lts	2	10	1.7	0.5	0.8
Fwd Cabin Lts	2	21	3.5	0.5	1.8
Head Lt	1	10	0.8	0.5	0.4
Engine Room Lts	4	10	3.3	0	0.0
Aft Locker Lts	2	10	1.7	0.1	0.2
Boarding Platform Lt	2	20	3.3	0	0.0
Flybridge Lts	2	10	1.7	0	0.0
Riding Lt	1	5	0.4	12	5.0
Other			0.0		0.0
<b>Total</b>					24.8
<b>Pump Circuits</b>					
Fresh Water Pump	1		10.0	0.5	5.0
Salt Water Pump	0		0.0		0.0
Shower Pump	1		5.0	0.5	2.5
Toilet Pump	0		0.0		0.0
Other			0.0		0.0
			A/hrs/person	No of People	
Letrosan	1		14.4	4	57.6
The Letrosan uses 2.4 a/hrs per flush with an allowance of 6 flushes per person per day.					
<b>Total</b>					65.1
<b>Auxillary Circuits</b>					
	No	Watts	Amps	Hrs/day	A/Hr/Day
VHF	1	5	0.4	2	0.8
Log/Depth	1		0.1	24	2.4
Gas Solenoid	1	15	1.3	1	1.3
Stereo/CD	1	30	2.5	4	10.0
D.C. Outlets	2		0.0	0	0.0
Freezer - Electric	0		0.0		0.0
Fridge - Electric	1		2.0	24	48.0
Other			0.0		0.0
<b>Total</b>					62.5

Battery Sizing Sheet - Contd

		<b>230 Volt Circuits</b>		
Fwd Saloon Power Point	0		0.0	0.0
Aft Saloon Power Point	0		0.0	0.0
Owners Cabin Power Point	0		0.0	0.0
Microwave	0		0.0	0.0
Other	0		0.0	0.0
Total				0.0
<b>Total Daily Ampere Hour Usage</b>				<b>152.4</b>

				Factor	
<b>Minimum Battery Capacity Required</b>				<b>2.5</b>	<b>380.9</b>
				<b>3</b>	<b>457.1</b>

Battery Recommendation	Type	Volts	A/Hrs	Quantity	Total A/Hrs
<b>Option 1</b>	<b>R220</b>	<b>6</b>	<b>220</b>	<b>4</b>	<b>440.0</b>
<b>Option 2</b>					

<b>Circuits with Engine Running</b>					
Trim Tabs	2		0.0	0	0.0
Radar	0		0.0		0.0
Freezer Clutch - Eng Driven	1		8.0	3	24.0
Navigation Lts	3	10	0.0	0	0.0
Motoring Light	1	10	0.0	0	0.0
GPS	1	40	3.3	0	0.0
Other			0.0		0.0
Total Running Load			11.3		

<b>Engine Running Time</b>					
Alternator Output			80		
Running Load			11.3		
Charging Amps Available			68.7		
<b>Charging Hrs required</b>			<b>2.7</b>		

<b>Engine Start -</b>					
<b>Engine Type</b>					
<b>Model No/HP</b>					
<b>CCA requirement</b>					
<b>Voltage</b>	12				
<b>Battery Recommendation</b>					

