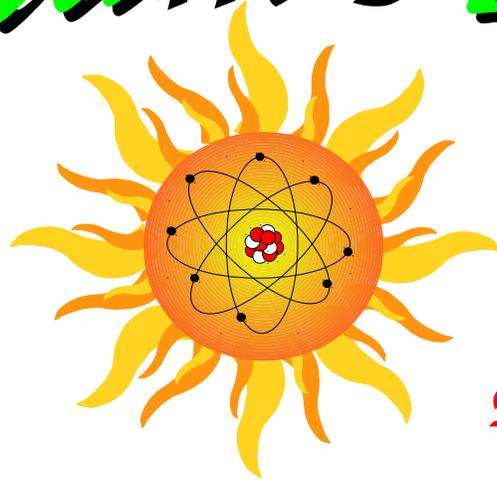


# Quantum Harvest<sup>®</sup>

*Faraday  
Enclosures*



*Portable Solar  
Power Stations*

## Operator's Manual

### Quantum Harvest Model 6000-ST



## Introduction

Congratulations on your purchase of a Quantum Harvest EMP protected\*, Sun-tracking portable solar power station! These units have been carefully designed and hand-crafted to provide many years of trouble-free operation. In the unlikely event of malfunction, we offer a 1 year warranty on the batteries (if provided by us.); 3 years on the inverter and charge controllers; 5 years on everything else. For warranty details, see page 34.

To obtain maximum performance and long life from your new power station, it is important to gain a basic understanding of how such units operate and their limitations. The heart of the unit, and it's main component, is the battery bank. This is where the energy from the solar panels or the included 120 volt AC battery charger is stored for later use. The particular batteries I have selected are state of the art deep-cycle Absorbed Glass Mat (AGM) batteries. These batteries are maintenance free and can be stored and used in any position. Since they do not give off gases as they charge, there is no danger of fire and they never need to have water added.

To obtain maximum life from these, or any other batteries, it is important to try to avoid deep cycling, that is, drawing them down flat before allowing them to recharge. Sometimes this cannot be avoided, but if at all possible, strive to avoid doing so.

Another important component is the inverter. This is the device that converts the low voltage DC current from the batteries into the high voltage AC current that we are familiar with. (All Quantum Harvest power stations also have 12 volt DC receptacles and USB charging sockets for the appropriate devices, in addition to standard 120 volt AC house current.) The inverter is protected internally from overheating and low battery voltage, and externally from over-current draw by a 400 ampere ANL type fuse. This model's inverter will sustain a continuous 6000 watts of current, and will provide up to 18,000 surge watts for 20 seconds to start motors and other inductive loads.

## *\*A quick note on EMP*

*An EMP, or **E**lectro-**M**agnetic **P**ulse is a devastating phenomenon that, while harmless to living things, absolutely destroys anything electronic. It consists of extremely powerful electromagnetic fields building and collapsing hundreds of thousands of times per second. This induces potentially huge electric currents in anything that conducts electricity, causing components connected to said conductor to burn out. An EMP can be caused by either a deliberate, high-altitude nuclear warhead detonation, or can be caused naturally by a solar event called a Coronal Mass Ejection, or CME.*

*All Quantum Harvest power units are built into a specially designed enclosure, more properly called a Faraday Cage, named after Michael Faraday, an early pioneer in electromagnetic research. The purpose of a Faraday cage is to intercept and divert electromagnetic energy away from the box's interior, thus protecting the contents.*

*The principles involved are fairly simple, but the proper execution is critical. In order for the enclosure to be useful, it must have a door, but any opening larger than a square centimeter or so allows too much energy to penetrate the interior, thus defeating the purpose of the Faraday cage.*

*The solution to this conundrum is to gasket the door with a special type of conductive gasket, mated to a copper or silver strip that is electrically bonded to the main box. The key is to have very low electrical resistance between the door and the enclosure, with no gaps. This is not as easy as it sounds, and requires special materials designed specifically for this application.*

*My experience with Faraday apparatus comes from 8 years experience with very powerful industrial machines called RF welders. These machines use extremely powerful and focused bursts of electromagnetic energy to weld and form plastic parts. These machines basically create a local EMP every time they fire, and it is critical that stray energy be confined and dissipated safely to avoid damage to other sensitive electrical machinery.*

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# Base Unit Specifications

<b>Assembled Dimensions:</b>	124” Long, including tongue, with the rear stabilizers retracted. 90“ Long, not including tongue 79” Wide by 68” High
<b>Assembled Weight:</b>	3,480 lbs.
<b>Inverter:</b>	AIMS PICOGLF60W24V230VS True sine-wave, 24 volt
<b>Battery Bank:</b>	20 AGM Deep-Cycle Batteries, 110 amp/hrs each.
<b>Battery Bank Capacity:</b>	2200 Amp/hours; 26,400 Watt/hours
<b>AC Charger:</b>	50 Amp Smart Battery Charger
<b>Solar Charger/Controller:</b>	Outback 80 amp MPPT

## In this manual, the following symbols are used to highlight important facts:



Denotes circumstances where failure to follow the procedures outlined in the manual may result in property damage.



Denotes circumstances where failure to follow the procedures outlined in the manual may result in personal injury or death.

Always remember that electricity is utterly devoid of mercy and never grants second chances!

### Note on Batteries

This Quantum Harvest power station is designed to use AGM batteries that measure 12.91” Long, by 6.77” Wide by 9.29” High.



**\*Caution\*** Although the low voltage at the battery terminals means that electrical shock or electrocution is impossible, nonetheless, batteries store an enormous amount of potential energy, that if accidentally released by a short-circuit, can melt metal tools, start fires and cause personal injury. Eye protection **MUST BE WORN** whenever working with batteries of this size, and extreme care must be exercised at all times. Anything electrical is unforgiving of mistakes.



**!Warning!** Note that although the voltage at the battery terminals is insufficient to shock a person, the current coming from the inverter receptacles is 120 volt house current, and that is indeed capable of inflicting a severe, potentially fatal shock. Always be sure that extension cords are not frayed or worn, and that all equipment plugged into the inverter is in a safe condition.

# Section 1: Capacities and recommended usages

This 6,000 watt model is the largest true sine-wave unit we currently produce, and with it's premium, marine-grade AIMS inverter with proven soft-start technology, will reliably start and power anything within it's capability, even fussy items that will not run with cheaper, modified sine-wave inverters. It will run full-size refrigerators and freezers, table saws and chop saws, as well as any hand-held tools, such as drills, grinders and circular saws, etc. It will also, of course, power smaller items such as TVs, cell phones, laptops, tablets, etc.

This Model will reliably start and power up to to a 5 hp air compressor, or a 2 hp submersible well pump. It is NOT recommended to power large resistive loads like central air-conditioners, water heaters and electric space heaters.

Used within it's limits, this unit will provide many years of trouble-free service, and be a joy to own and use. But like most things, if you push it beyond it's limits, you will be plagued by expensive repairs and poor performance.

This machine contains a battery bank of twenty, 110 amp/hour batteries, for a total capacity of 2200 amp/hrs. How much real power is that? If we multiply the 2200 amp/hours by the nominal voltage (12 volts), we get a capacity of 26,400 watt/hours (watts = volts times amps).

On the next page is a partial list of common electrical appliances and their approximate loads, provided in part by the good folks at: <http://www.energy.gov>

Appliance	Watts used	Load type R= Resistive I= Inductive	Notes	Quantum Harvest Model		
				1500	2500/2505	3000
Aquarium	50-1210	R	1	X	X	X
Clock radio	10	R	2	X	X	X
Coffee maker	900-1200	R	2	X	X	X
Clothes washer	350-500	I		X	X	X
Clothes dryer	1800-5000	R				
Dishwasher	1200-2400	R				X
Dehumidifier	785	I		X	X	X
Electric blanket (Single/Double)	60-100	R		X	X	X
Fans:						
Ceiling	65-175	R		X	X	X
Window	55-250	R		X	X	X
Furnace	750	R		X	X	X
Hair dryer	1200-1875	R	3		X	X
Heater (portable)	750-1500	R	3		X	X
Clothes iron	1000-1800	R	3		X	X
Microwave oven	750-1100	R	2	X	X	X
Personal computer (desktop w/LCD monitor)	150	R		X	X	X
Radio (stereo)	70-400	R		X	X	X
Refrigerator (frost-free, 16 cubic feet)	725	I		X	X	X
Televisions-CRT (color)						
19"	65-110	R		X	X	X
27"	113	R		X	X	X
36"	133	R		X	X	X
53" - 61" Projection	170	R		X	X	X
Flat screen	120	R		X	X	X
Toaster	800-1400	R		X	X	X
Toaster oven	1225	R	3	X	X	X
VCR/DVD	17-21 / 20-25	R		X	X	X
Vacuum cleaner	1000-1440	R	3	X	X	X
Water heater (40 gallon)	4500-5500	R		NR	NR	NR
Water pump, 1/3 to 1/2 hp (120 volt)	500-1100	I	4		X	X
Water pump 1/2 to 1 hp (220 volt)	1000-3000	I	4		X	X
Water bed (with heater, no cover)	120-380	R		X	X	X

Notes: 1=Higher wattage indicates use of an aquarium heater. 2= May have difficulty with Modified sine-wave inverters  
3= High power usage, but usually short duration. 4= High surge requirement for starting.

## Section 2: Controls/Circuit Protection Devices

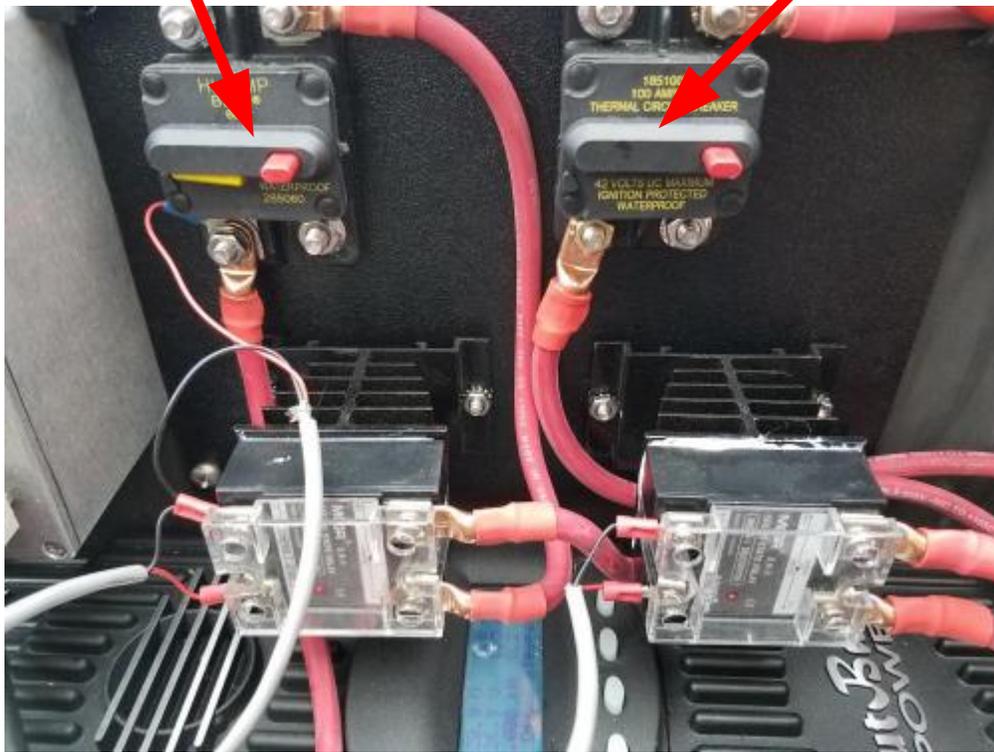
There is one main fuse, a 400 ampere ANL type fuse, shown to the right, located in back of the inverter. There is one spare fuse included in the spare parts kit. To replace the fuse, first, be sure the main switch is turned off, then, using a 9/16" wrench, remove the two nuts. Lift the fuse out and place the new one over the studs; reapply the nuts, being careful to not over-tighten.



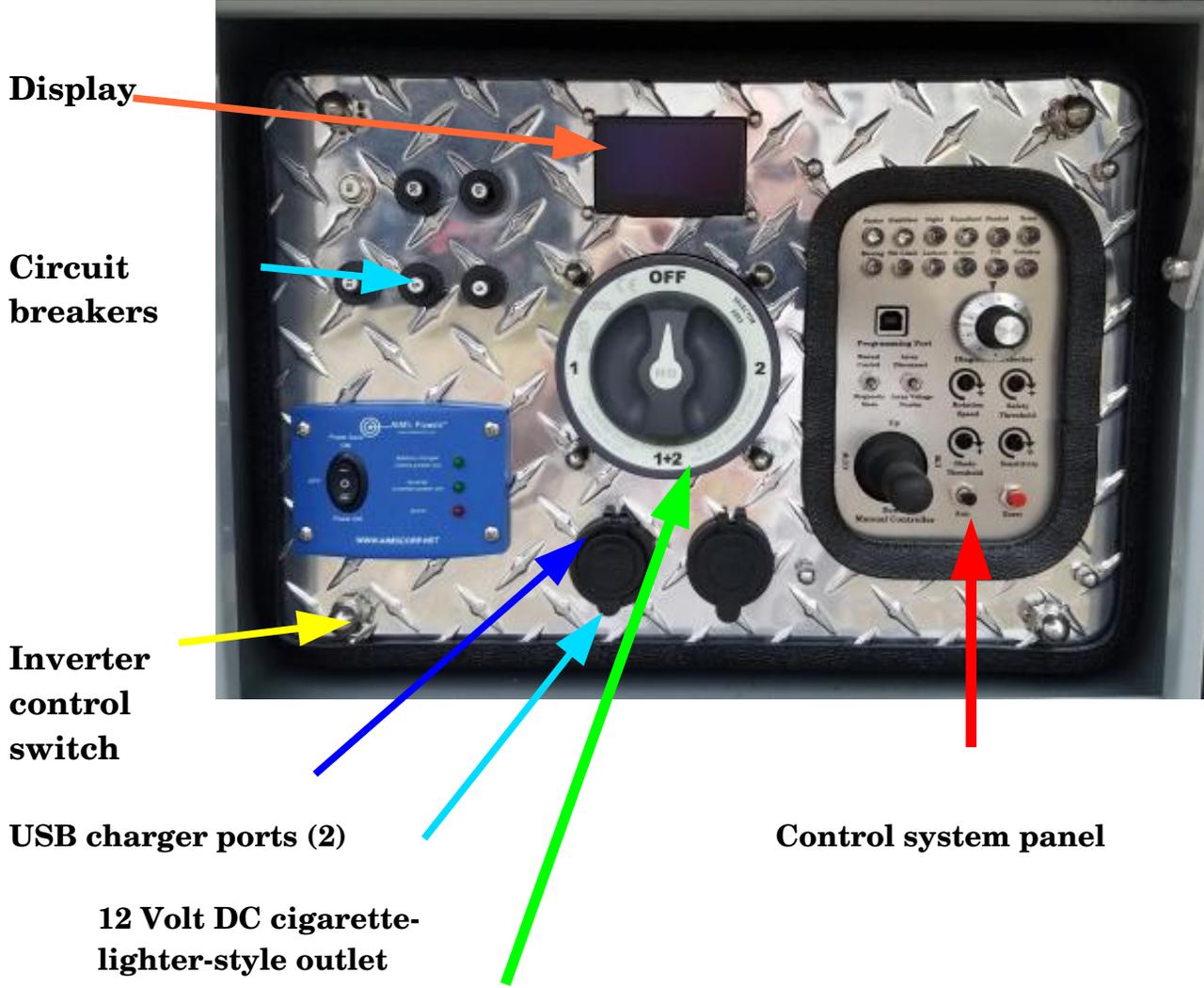
There are also 2 switchable circuit-breakers in the cabinet:

**Array breaker (60 amp)  
battery-  
(100 amp)**

**Charge controller to  
bank breaker**



# Control Panels



## **Main Switch; 4 positions available.**

**Off position isolates the inverter and control panel from the batteries.**

**Position #1 is the normal use position in which the unit draws from the internal battery bank.**

**Position #1&2 is the position used when using an external battery(s), and allows the unit to run from both the internal battery bank and the external source .**

**Position #2 is not normally used, and allows the load to be run directly from an external source, bypassing the internal battery bank.**

# Detail of Main Panel Circuit Breakers

Control system main breaker (60 amp)

Tilt motor breaker (30 amp)

Rotator motor breaker (40 amp)

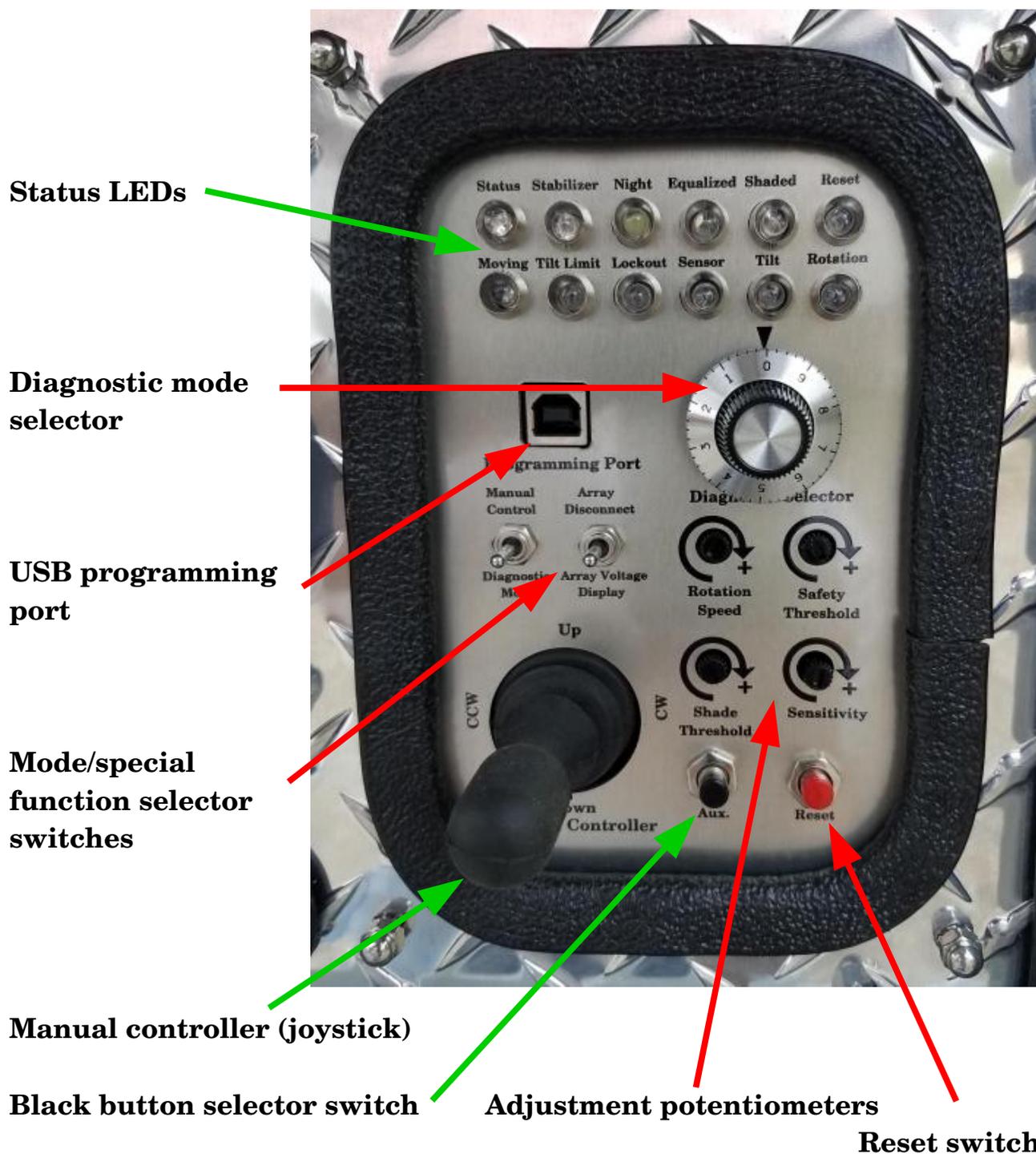


12 volt outlet breaker (10 amp)

USB charger breaker (5 amp)

ECU and cooling fans breaker (5 amp)

## Detail of Control System Panel



*Note: Red arrowed items are rarely used, and are there for reprogramming, trouble-shooting and diagnostic procedures, all of which are covered in the separate Service Manual*

## Detail of AC Charger

40 amp automotive-style fuses

There are no adjustments or maintenance required for the AC charger; all its functions are fully automatic.



## Details of Solar Charger/Controller and related circuit-breakers

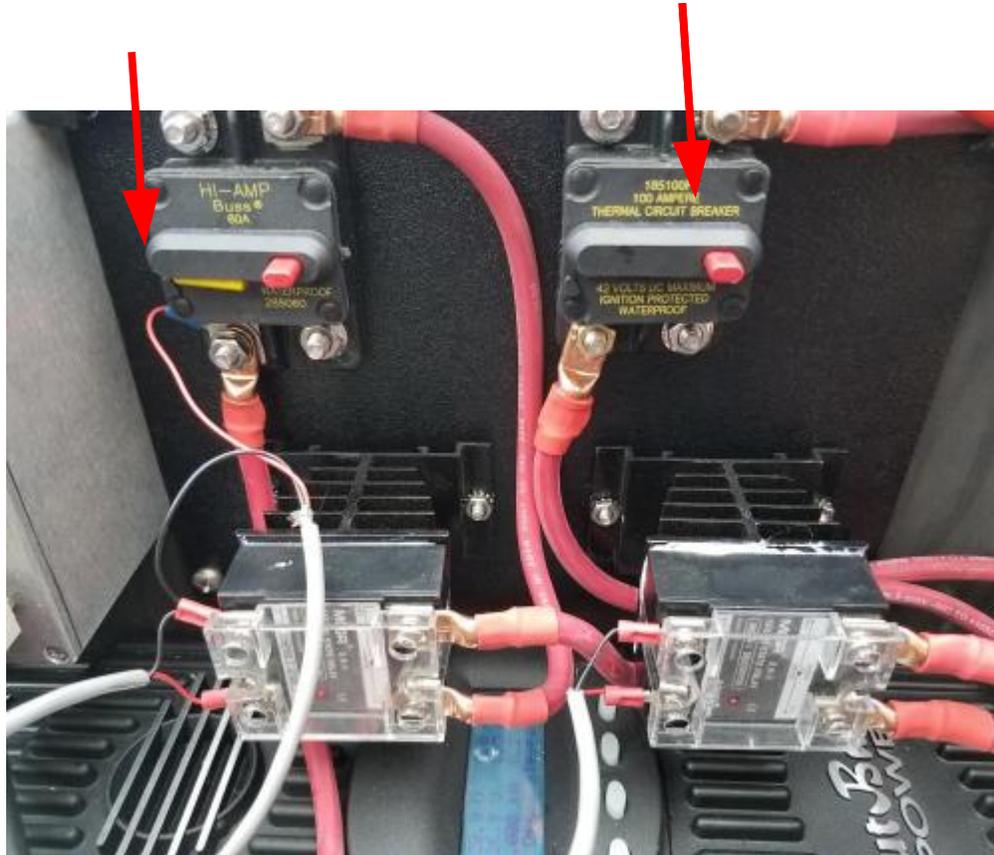


There are no adjustments or maintenance required for the solar charger; all its functions are fully automatic.

**Below;** The solar charge controller is protected by a 100 amp breaker to the battery bank, and an 60 amp breaker to the solar array.

*Solar array breaker*

*Controller to battery breaker*



There are also 2 solid-state relays beneath the breakers, the one on the left controls the flow of power from the solar panels, and the one on the right controls the power to the motor controller.

## Section 3: External Connectors

*(Right)* The connectors for attaching the power cord for the AC charger and the inverter output are located to the right of the larger control box.

120 volt outlets

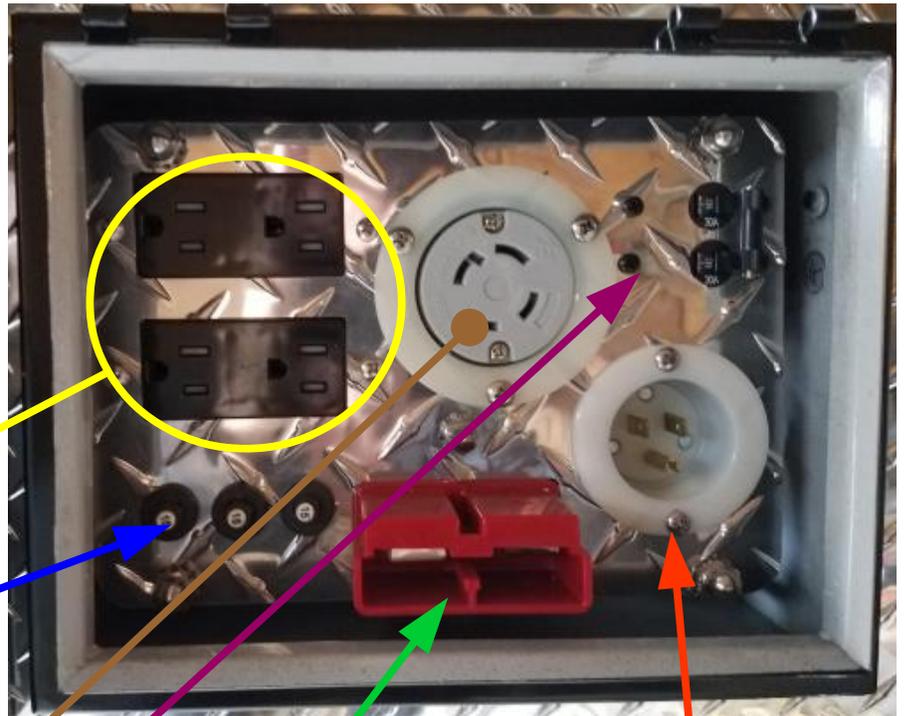
15 amp circuit-breakers for 120 volt outlets and AC charger.

240 volt twist-lock outlet

30 amp 240 volt breaker

350 Amp DC Connector

AC input for AC charger



## Section 4: Setup

The Model 6000 ST is currently the largest of our power stations, and is the first of our machines to feature a large, integral solar panel array that can move in 2 axis. Because of its size, weight, and susceptibility to wind forces, it is very important to follow the setup procedure outlined below. There are safety systems designed to help prevent damage to the machine; nevertheless, the best safety feature has always been a careful operator.



**!BECAUSE OF THE LARGE SURFACE AREA OF THE PANEL ARRAY, HIGH WINDS CAN CAUSE DAMAGE, EVEN PERSONAL INJURY.**



**ALWAYS BE SURE TO FOLLOW THE PROCEDURES OUTLINED BELOW TO ASSURE MAXIMUM STABILITY, AND DO NOT DEPLOY THE PANELS IN HIGH WINDS, OR WHEN SUCH WEATHER IS ANTICIPATED!**

**Step 1;** Park the unit such that it will be out of the way of any vehicular traffic, in an area with as much Sun exposure as possible. The direction it faces is irrelevant, but it should be a level as is reasonably possible. Once it is unhitched from the towing vehicle, raise the pole until the unit is slightly nose-up.

**Step 2;** *Right,* Starting with the rear stabilizers, unlatch the side latch and pull the strut straight out until it locks in place. Rotate it while holding up the top latch, and lock it into place with the strut 45 degrees from the longitudinal axis of the trailer. Repeat for all 4 struts.



**Step 3;** *Right,* Once all 4 struts have been extended, rotated into place, and locked; unpin and drop the front jacks-legs, and repin them. (Pull the struts upward to allow the legs to drop as much as they can. They will be at nearly full extension in most situations). Once both front jack-legs are extended and pinned, let the pole down, and rotate the pole-jack out of the way.



**Step 4;** *Right,* Unpin and rotate rear jacks into place, and repin. Raise the rear jacks enough to level the unit and place all 4 struts under tension, but not enough to raise the tires. A solid 6-points of ground support is desirable.



***Right, Unit shown with all struts properly deployed***

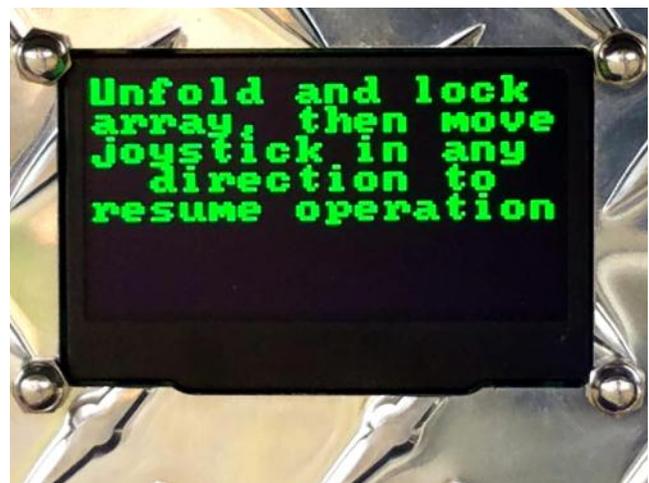


**Step 5;** Unstrap the array from the transport rack.

**Step 6;** Open the control box, and prop it open with the strut. Turn the Main switch to position 1, and wait while the control system boots and does its pre-operation checks. When it is finished, the system will prompt you through the rest of the setup process. Follow the prompts on the display from here on out.



*Move the joystick in any direction, and once the array starts to move, you can let go of the joystick. The array will be raised to the vertical position, and the screen will prompt you to unfold and lock the array panels.*



***Right; Array in raised position, ready for the side-panels to be unfolded and locked.***



**Step 7; Below, Unfold the arrays as shown. The panels are secured in the closed position with a rubber latch, and secured in the open position with a lynch-pin on the bottom, and a spring-loaded pin latch at the top.**



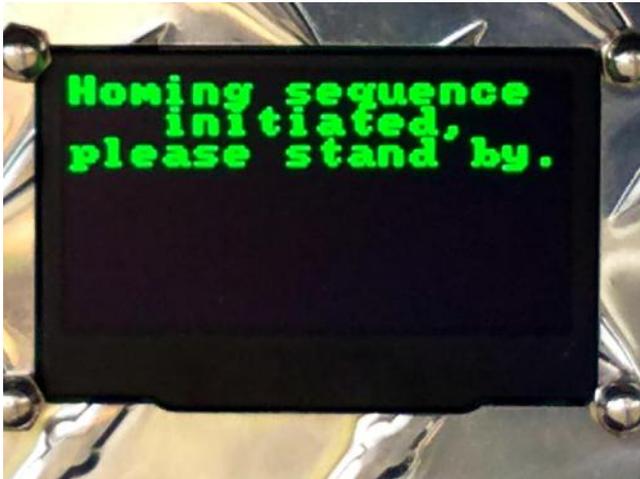
***Clockwise from top; Rubber latch, lower lynch-pin, and top spring-pin with lanyard.***

To open, unhook the rubber catch, and swing the panel around; unlatch and pull out the lower pin, and pull down on the lanyard securing the lower pin to the machine to retract the spring-loaded pin at the top. Pull the panel into the fully open position and release the lanyard. The top pin should go into position with an audible click. Replace and secure the lower pin. Repeat for the other panel.

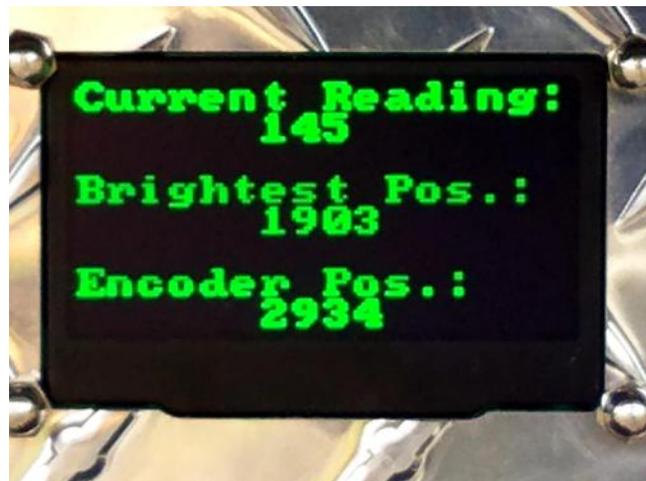


*(Above) First panel shown secured in the open position.*

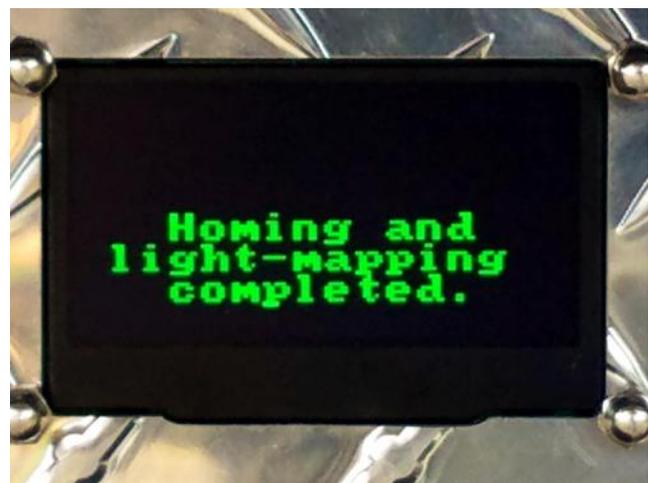
**Step 8; Right,** Once the panels are locked in the open position, move the joystick again, and the homing sequence will begin....The rest of the setup is automatic, and requires no further user input.



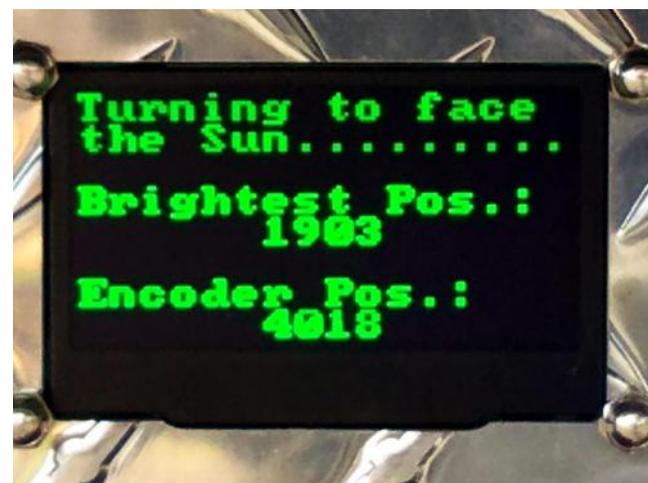
The array will first turn fully counter-clockwise, then when the limit has been found, it will then turn fully clockwise, scanning for the brightest light as it goes.



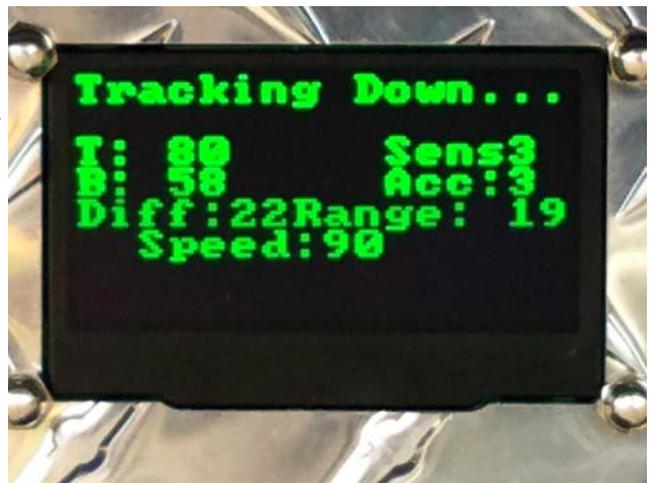
Once that is complete...



The array will return to the brightest position.....



.....and then will adjust the tilt to obtain the most light onto the panels.



Once that is complete, and the array is positioned in the proper position, the system will display the System Status display. This shows the current battery-bank voltage, the amount of power flowing into the batteries, the 4 photocell readings, the average reading, and 3 more values that will be fully explained in the Service Manual.

The setup is now complete, and will not have to be repeated unless the unit is moved to a new location. At the end of the day, the machine will adjust the panels to about a 25 to 30 degree angle, turn to face East, and shut down the processor until morning. In the morning, it will wake up and resume operation until nightfall. No further user intervention is required. The inverter may now be switched on, and any power cords connected.

## Section 5: General operation

Note that it is not necessary to have the solar panels deployed in order to use the power station, but if they are not deployed (and in direct sunlight), you will only have what power is in the batteries. There is no easy way to tell exactly how much charge remains in the batteries, so the best measure we have is to watch the battery bank voltage, which is shown on the control panel's digital display.

Battery voltage gradients change over time as the batteries age, but a good rule of thumb is that anything higher than about 25.6 volts is a reading for a battery bank pretty much fully charged. When the voltage drops to 25.2 to 24.8 volts, the batteries are usually about one half to two-thirds discharged. Voltage of 24.5 to 24.1 mean that the battery is pretty much exhausted, and voltages below 24 will cause the inverter to shut off. These numbers are only approximate, experience is still the best teacher!

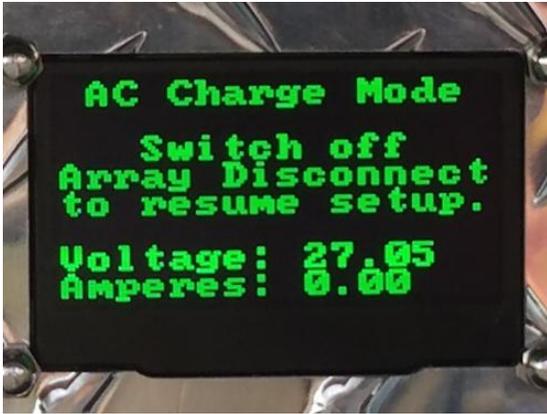
**Please be aware that the voltage readings, to be accurate, must be read under a no-load condition. The voltage will be lower when the batteries are under load.**

### AC Charger operation

For medium and long term storage, or for those situations where there is insufficient sunlight, and an alternate source of AC power is available, the dedicated AC charger may be used to charge and/or maintain the batteries. The Sun-tracking units have a mode that allows the AC charger to charge the batteries while the main switch, and thus the computer is on. The AC charger will also work with the mains switch off, but using the AC charge mode means that the normal operation can be resumed without going through the setup and homing process again.

**NOTE; To use the AC charger, you must either shut the main switch off, or switch the unit into AC charge mode (preferred), as explained on the next page.**

To use the AC charger in AC charge mode, flip the toggle switch on the control system panel up into Array Disconnect position.



Next, plug a regular AC extension cord from the AC supply into the appropriate socket in the AC connector box. The AC charger will automatically charge and maintain the batteries at the optimum voltage as long as it is plugged in. There is no need for further intervention. When finished, unplug the extension cord, and switch the Array Disconnect switch back to the middle position.



## Inverter

Like the Model 5000, the Model 6000 uses the excellent, marine-grade AIMS 6000 watt, True sine-wave, Split-phase 24 volt inverter. This machine is what converts the 24 volt DC power from the batteries into the 240/120 volt AC power identical to what you get from the grid (only cleaner!). This inverter has many built-in features detailed in the manual that comes with it. It is beyond the scope of this manual to detail them all here, except to note that the inverter has an AC charger function built in to it. I have elected to not use this feature because I wanted the inverter completely isolated from any contact with grid power in the event of an EMP. In the event that an EMP event has damaged the dedicated AC charger detailed above, the input cord for that unit may be connected to the inverter, if desired. The hookup and operating instructions for that are found in the inverter's manual.

The operation of the inverter is very simple; simply turn the main switch on, and switch on the inverter's start switch on the control panel.



**Right;** The inverter start switch is on the bottom left of the control panel. Note that there are 2 positions: The power-saver mode puts the inverter in standby mode, conserving power. When the control circuitry senses a load greater than 20 watts or so, the inverter switches fully on, supplying power until the load is removed, at which point, the inverter reverts to standby mode. The power-saver off mode disables this feature, and the causes the inverter to stay fully on.



## **Outback charge controller**

The charge controller's job is to convert electricity from the solar panels into a form that is safe for the batteries, and also to cycle through 3 different voltage parameters in order to keep the batteries optimally charged and maintained.

This model uses the excellent Outback 80 amp MPPT solar charge controller. This controller is internally protected from overheating, and externally protected from over-current situations by a 60 amp switchable circuit breaker between the array and controller, and by an 100 amp switchable circuit breaker between the controller and the battery bank.

This unit can accept array voltage up to 150 volts DC, and convert it to up to 80 amps at battery-bank voltage, in this case, 24 volts nominal. The arrays on the Model 6000 are electrically grouped into 3 banks of 2 panels each, connected in series, to provide a nominal 48 volts to the controller. Please note that while not dangerous to a person or animal in reasonable health, nonetheless, this is sufficient voltage to give an unpleasant jolt, especially with wet hands. However, in normal operation, there is no easy way to get in contact with this current.

Like the AIMS inverter, this premium-quality unit has many features and capabilities which are beyond the scope of this manual, but are detailed in the Outback manual included. The controller is already preprogrammed with the necessary data to perform it's job, and no further user intervention is necessary.

## **Cabinet ventilation system**

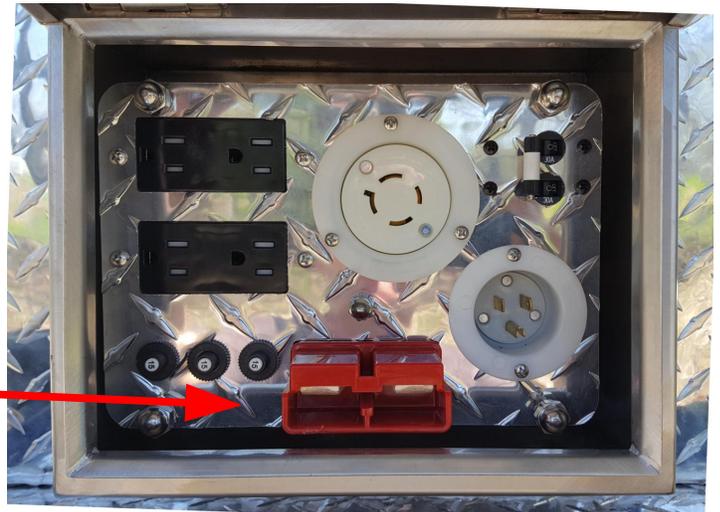
Unlike our other units, the Model 6000 must, by virtue of it's size, be operated outside, possibly in adverse weather conditions, therefore, again, unlike our other units, the Model 6000 may be used with the cabinet door sealed closed to protect the contents from the elements. To obtain the proper cooling for the components, an automatic ventilation system is installed that automatically comes on when cabinet temperatures exceed 100° F, and goes off when temperatures drop below 85° F. The ventilation openings are protected from EMP ingress and animal intrusions by an electrically bonded stainless steel screen, and from water intrusion by aluminum downward-facing vents on the exterior.

The fans are controlled by a small thermostat located to the upper right of the charge controller, and operate independently of the other systems, meaning that no switches need be on, and no intervention by the user is needed, other than being sure the ducts on the outside remain unobstructed. The fans are protected by a 5 amp circuit-breaker on the control panel.

## Auxiliary battery system

All of Quantum Harvest's power stations from the Model 1500 on up have a system to accommodate additional, external batteries. The Model 6000 is no exception. The system consists of a dual-position main switch, and a connector. To use the feature, a cable with the appropriate ends is connected to the external batteries on one end, and the other plugs into the red Anderson connector to the left of the control panel. Then, the main switch may be turned to position #1&2 to use or charge with solar power both the internal and external batteries, position #1 to use/charge only the internal batteries, or position #2 to use/charge only the external batteries. ***(Please note that in order to use the AC charger to charge the external batteries, it must be plugged in, it's breaker on, and the main switch must be in position #1&2 No other combination will work)***

***Right, detail of the 350 amp Anderson connector used to connect external batteries to the Model 6000. The heavy (2/0 Ga. Cable needed is a custom-ordered item)***



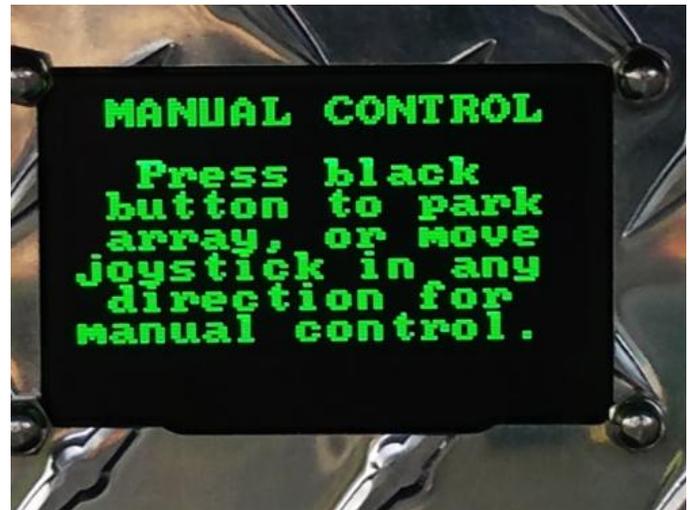
**!While Quantum Harvest's smaller power stations may be used to boost an automobile's battery to start**



**the engine, the Model 5000 and Model 6000 use 24 volt battery banks. The use of these more powerful units to boost a car will severely damage the very expensive electronic control systems in the car!**

## Section 6: Manual Operation

This model has a manual control mode that lets the operator override the computer's control of the motors. To use it, simply flip the Manual Control/Diagnostic Mode switch up into the Manual Control position. The screen on the right will come up. Move the joystick in whichever direction you want to move the array. The rotation speed may be controlled by turning the potentiometer labelled *Rotation Speed*; clockwise makes it go faster, and counter-clockwise makes it go slower, for fine adjustments.



*Manual Control switch*

*Rotational Speed dial*

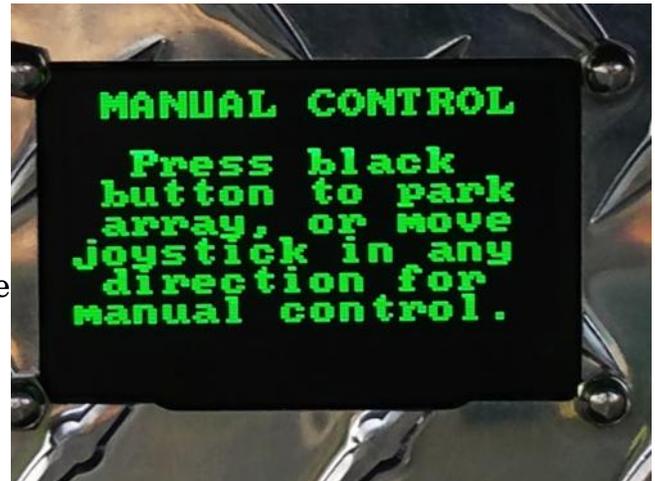


When you are finished, flip the Manual Control switch back to the center position, allowing the computer to retake control.

## Section 7: Ready for Transport

To ready the unit for transport, there is a function that automates much of the process. To initiate it....

*Right and below;* Flip the Manual Control/Diagnostic Mode switch up into the Manual Control position, and press the black button marked **Aux.** on the lower right of the control system panel. Move the joystick in any direction to start the sequence.....



The first thing to happen is that the array is raised vertical....*Right.*



Once the array is vertical, it will automatically rotate into the park position, *Right*;



*Right*; When the array is rotated into position, it will prompt you to unlock, fold, and secure the side panels. Once that is done, the support may be raised, and the array lowered onto it by holding the joystick in the down position. Once the array touches the support, release the joystick. ***(Do not force the array down against the support, it should just lightly touch it.)*** Attach the hold-down strap, and ratchet it up snug, but not too tight. The purpose of the transport support is not to hold the array up, but to secure it from bouncing and wobbling from side to side, stressing the drive system.



Once the array has been stowed, raise the rear jacks until they can be unpinned and swiveled into the horizontal transport position. Unlatch the top latches on the rear struts, and swing them against the inner stops.

Now, lower the pole-jack and raise the pole up until the pressure is taken off the front jacks, unpin, and raise them into the transport position. Unlatch the top latches, swing the front struts around until they are against the stops, and parallel to the trailer body. Unlatch the side latches and push the each front strut in until it latches in the retracted position. Repeat for the rear struts.

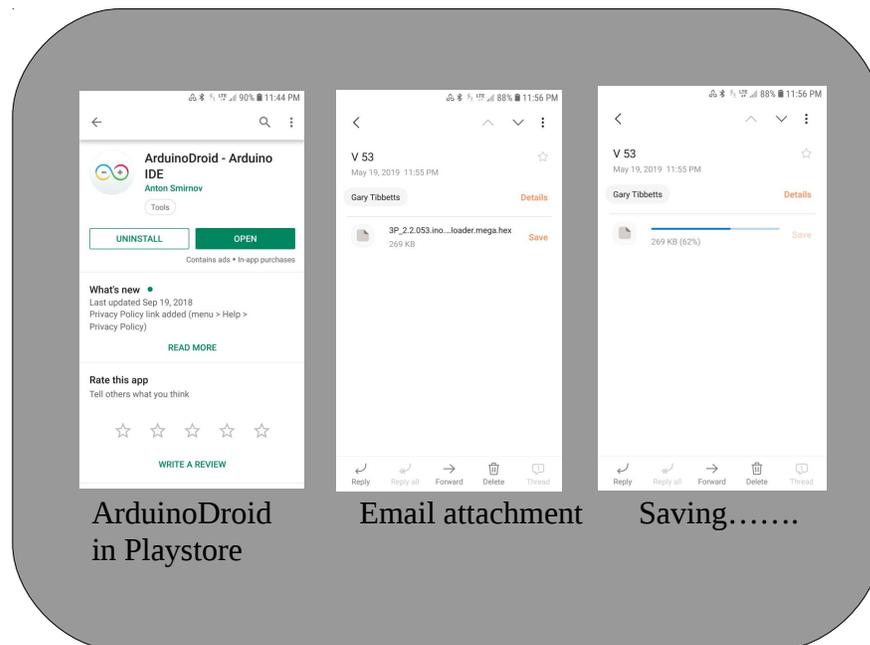
***Note! Stow the struts in exactly the above order, or they will not go back under the trailer!***

## Section 8: Programming (Android devices)

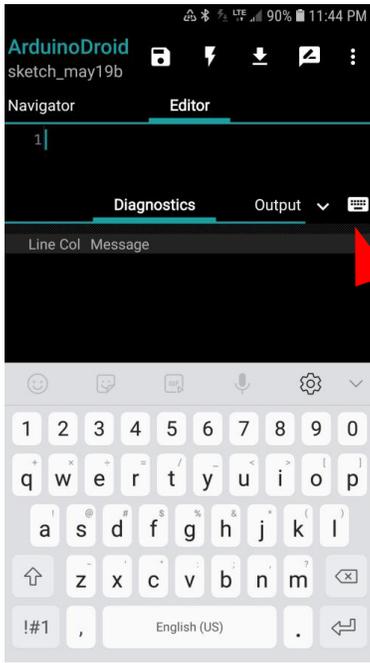
Because we are constantly developing and improving the instruction set for the controller, it may be beneficial to update the operating system from time to time.

It is very easy, and requires only an Android-powered smartphone or tablet. The updated software will be an emailed attachment in the form of a .hex file.

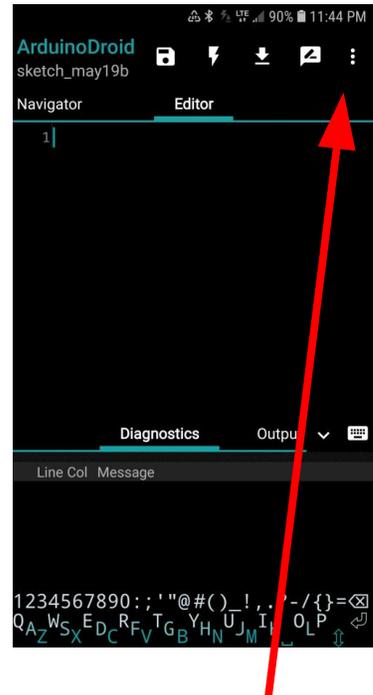
First, go to the Play Store and download an app called *ArduinoDroid*. It is free, and will take only a small amount of memory. Once it is installed, open the email containing the software, and save the attached file to your device. The default location the device puts downloads is in the appropriately named folder, **Downloads**. (Remember this, as we will be navigating to it later.)



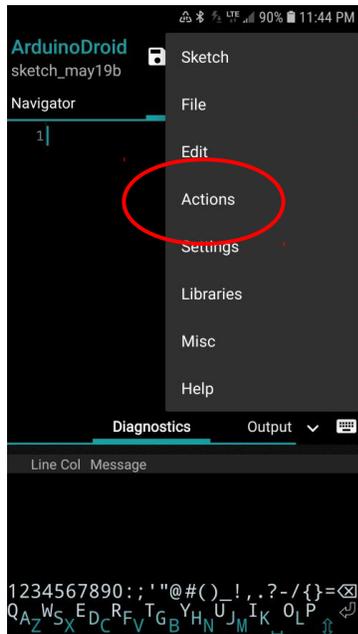
Connect the supplied OTG cable with the blue USB cable to your device, and the programming port on the control panel. The main switch can be on or off, but I prefer to leave it on....



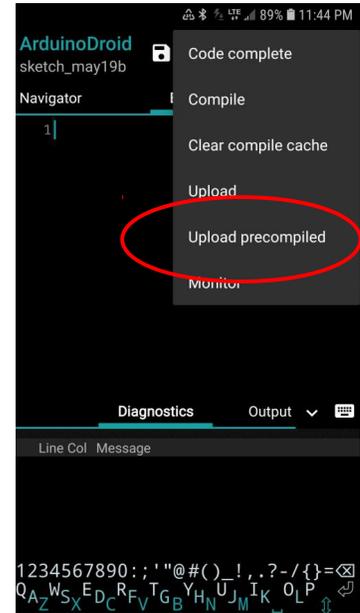
Open ArduinoDroid and touch the keyboard icon to hide the keyboard, as it will not be needed.



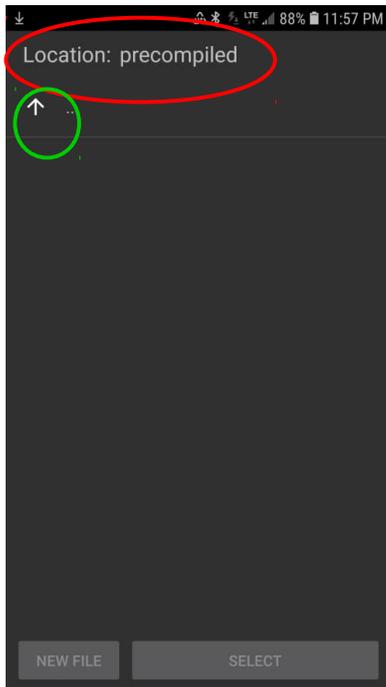
Keyboard hidden, now touch the 3 vertical dots in the upper right corner.



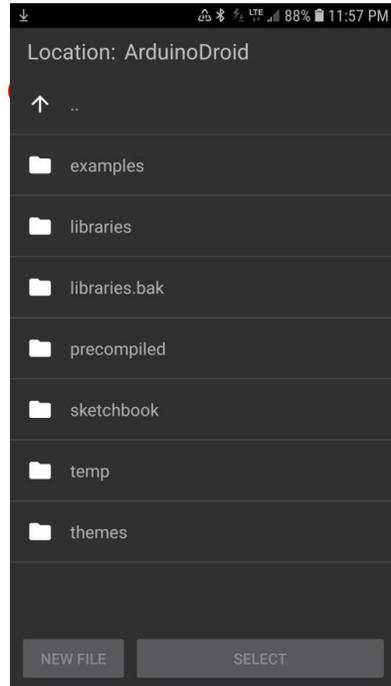
*Touch Actions....*



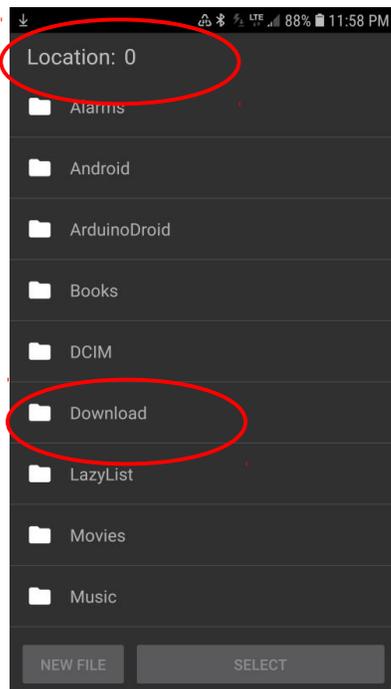
*then touch Upload Precompiled*



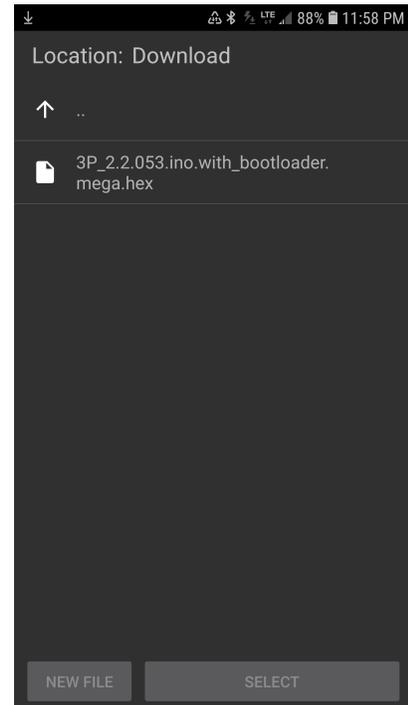
This brings us to the default *precompiled* folder. Touch the arrow in the upper left corner.....



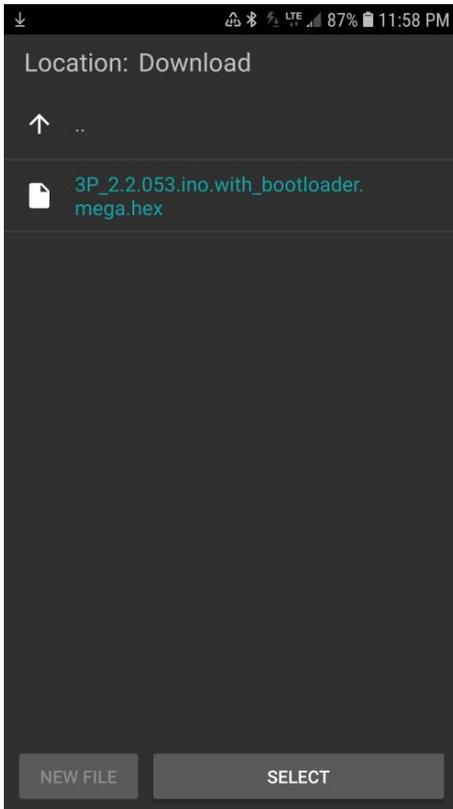
This brings us to the *ArduinoDroid*; folder; touch the arrow again.....



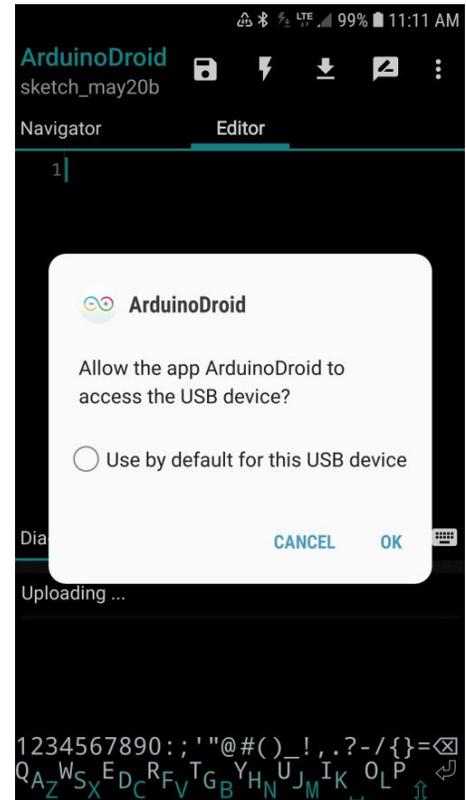
Which brings us to Location 0. You may have to scroll down to see the *Downloads* folder. When you see it, touch on it....



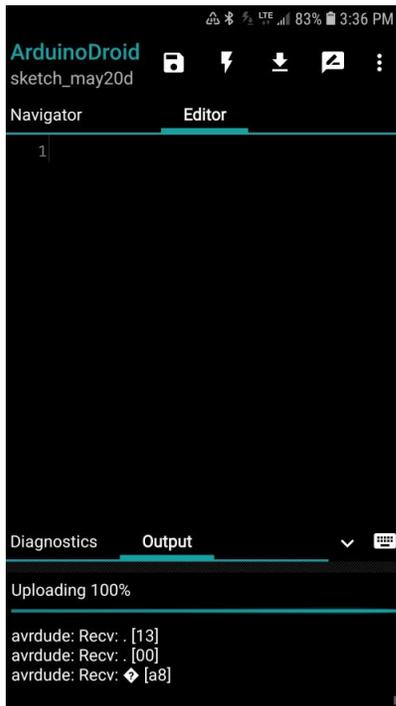
This is the file from the email we downloaded earlier; touch on the file...



Which turns it blue, now touch the SELECT button on the bottom right.....



...and this pop-up should appear, asking permission To use the USB device. Touch OK.....



....and you will see some rapidly scrolling lines on the bottom as it uploads the program. It will tell you when it is finished, and you will see the display screen on the control panel start it's boot -up sequence. That's it!

# Contact Information

**Quantum Harvest, LLC  
89 Chapman Ridge Rd.  
Athens, ME 04912**

**Email: [support@quantumharvest.net](mailto:support@quantumharvest.net)**

# Warranty Information

All Quantum Harvest power station base units and mobile solar panel units are warranted to be free of defects in materials and workmanship for:

- Batteries, if provided by us.....1**  
year
- Inverters, AC chargers and solar charger/controllers.....3**  
years
- Everything else, including solar panels.....5**  
years

To obtain warranty service, contact us at: [support@quantumharvest.net](mailto:support@quantumharvest.net) for instructions. We will assist in diagnosing the affected component(s), and/or furnish an RMA. Shipping both ways is on us. You won't pay a cent for warranty service.

**In addition to the above warranty, we are so confident of our products, we will never, as long as you own it, charge you labor for repairs. Even after the warranty period, if a component fails or gets damaged, just contact us at the above email address, and we will assist in diagnosing the problem and either arrange to send you the part at cost, or have you ship us the affected module, where we will diagnose the problem and contact you with the cost of the replacement part(s). You will pay what we pay, no more.**

## **What is NOT COVERED under the warranty:**

Physical damage to the solar panels, including, but not limited to; broken glass or broken or bent parts.

Physical damage to the power station itself.

Water damage to the internal components of the power station.