

These kits are specifically designed for **the REC260PE-US black frame** panel, with the exception of the camping kit. They are pre-designed for the Magnum and Outback off grid inverters. The kits include everything except batteries and cables, regular hardware store items needed like conduit and wire, and materials for the battery rack and box if needed. The solar panel cables with ends are included. The basic function of these systems is to have a solid power system for off grid use. The Magnum and Outback inverters have high output battery chargers built in for use with a generator, and the Outback are grid tie capable. See pictorial diagram at end

Top Hat Energy offers field support to self-installers on these kits.

Off Grid Stand Alone Systems

60W off grid kit CAMPING -----

- This is our portable camping size kit that is self-contained and complete, and comes ready to put in the sun for portable power. It has circuit breaker built in for protection. It has a DC power port and comes with USB adapters for charging the most common devices. It's meant for setting in a convenient location (hopefully in the sun) when camping or picnicking or whenever it is needed, and providing a small power source that automatically recharges itself. No assembly required. Warranty per mfg. Panel – 25 yr, charge controller – 5 yr, inverter – 2 yr, volt meter – 2 yr, batteries – 1 yr
- (1) 60W solar panel
- (1) Samlex 300W 12V pure sine wave inverter, 2 yr warranty
- (1) Morningstar Sunkeeper charge controller 6A - 12 VDC, 5 yr warranty
- (2) 18aH sealed AGM batteries
- (1) Digital Voltmeter
- **Total - \$950**



-This kit provides power anytime and is convenient for camping and taking a picnic
 -The tough 300W inverter will power almost anything you would need in these cases
 -The sealed battery packs provide approx 468 watt-hours of usable energy when full
 -Preinstalled circuit breakers protect equipment
 -DC power port lets you plug directly to DC



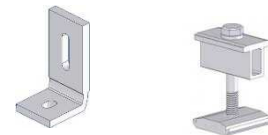
The rugged SunKeeper charge controller is mounted on the side of the panel j-box out of the way





260W off grid kit MICRO -----

- This is our micro size kit that could be run off a single 12V car battery.
- (1) solar panel, REC260, 1 row, 1 string
- (1) Samlex 600W 12V pure sine wave inverter, 2 yr warranty
- (1) Morningstar SunSaver charge controller 15A MPPT 12 or 24 VDC, 5 yr warranty
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (4) L feet
 - (1) panel rail set
 - (4) end clamps, universal or top mount
- Panel grounding system
 - (1) panel grounding lug
- Solar panel cables
 - (1) 20' cable
- **Total - \$1074**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit, possible some DC wiring
 - Batteries and cables (typical for this size system – 120Ah @ 12V)
 - Misc fuses for connecting inverter
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Wiring schematic - ADD \$50 if purchased with system
 - Display unit for MS SunSaver 15 MPPT – ADD \$75
 - Samlex 1000W 12V sine wave inverter substitute (no charger) – ADD \$175
- **Use**
 - Portable kit that can be taken to cabin, etc, and run off standard battery, perfect for RV



780W off grid kit TINY -----

- This is our tiny size kit that could be run off only 2 of any 12V battery
- (3) solar panels, REC260, 1-2 rows, 1 string
- (1) Samlex 1000W 24V pure sine wave inverter, 2 yr warranty
- (1) Morningstar Tristar charge controller TS MPPT 45A, 5 yr warranty
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (6) L feet
 - (4) end clamps, universal or top mount
 - (4) mid clamps
- Panel grounding system
 - (3) panel grounding lugs
- Solar panel cables
 - (1) 20' cable
- **Total - \$2245**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring fuses and charge controller
 - Misc fuses for connecting inverter
 - Batteries and cables (typical for this size system – 4 x L16 380Ah or 4 golf cart batt or 2 car batt)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Wiring schematic – ADD \$50 if purchased with system
 - Display for Tristar charge controller – ADD \$95
 - Magnum MS2024 2000W pure sine inverter with charger and Magnum mini panel – ADD \$1350
 - Magnum ME-RC50 display controller for Magnum inverter add on – ADD \$150
- **Use:**
 - Semi portable solar kit for use on a cabin, RV, or other off grid power need



1560W off grid kit TINY -----

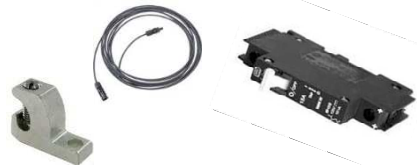
- (6) solar panels, REC260, 1-2 rows, 2 strings
- (1) Samlex 1500W 24V pure sine wave inverter, 2 yr warranty
- (1) Morningstar Tristar charge controller TS MPPT 45A 12/24/48V, 5 yr warranty
- (1) Midnite 3 circuit DC combiner MNPV3 NEMA3 outdoor rated
- (2) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (12) L feet
 - (2) extra rail splices
 - (8) end clamps, universal or top mount
 - (10) mid clamps
- Panel grounding system
 - (6) panel grounding lugs
- Solar panel cables
 - (2) 30' cables
- **Total - \$3891**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring fuses and charge controllers
 - Misc fuses for wiring inverter
 - Batteries and cables (typical for this size system – 8 x L16, 420Ah @ 48V or 8 golf cart batt)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to 1500W 48VDC Samlex pure sine inverter, SAME COST
 - Display for Tristar charge controller – ADD \$95
- **Use:**
 - Little solar kit for use on a house, cabin, or other off grid power need



1560W off grid kit SMALL -----

- (6) solar panels, REC260, 1-2 rows, 2 strings
- (1) Magnum MS-4024PAE 4000W 120/240VAC 24VDC inverter/charger, 5 yr warranty
- (1) Magnum mini panel for inverter with prewired main battery and bypass breakers
- (1) Outback 60A MPPT FlexMax charge controller, with battery temp sensor
- (1) Magnum display controller for basic monitoring ME-RC50
- (1) 63A output breaker, and 40A input breaker
- (1) Midnite 3 circuit DC combiner MNPV3 NEMA3 outdoor rated
- (2) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (12) L feet
 - (2) extra rail splices
 - (8) end clamps, universal or top mount
 - (10) mid clamps
- Panel grounding system
 - (6) panel grounding lugs
- Solar panel cables
 - (2) 30' cables
- **Total - \$5940**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 8 x L16, 420Ah @ 48V or 8 golf cart batt)
 - Battery Box and Rack (We can supply the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Change to Magnum MS2024 2000W 24VDC and 60A Tristar – REMOVE \$300
 - Magnum AGS Auto Gen Start – ADD \$230 (need to add router)
 - Magnum Network Router for AGS or future multiple inverters – ADD \$250
- **Use:**
 - Little solar kit for use on a house, cabin, or other off grid power need

OutBack
Power Systems™



MAGNUM
ENERGY

SnapNrack
PV Mounting System

3120W off grid kit SMALL / MEDIUM -----

- (12) solar panels, REC260, 2-4 rows, 4 strings
- (1) Magnum MS-4448PAE 4400W 120/240VAC 48VDC inverter/charger, 5 yr warranty
- (1) Magnum panel for inverter with prewired main battery and bypass breakers
- (1) Outback 60A MPPT FlexMax charge controller, with battery temp sensor
- (1) Magnum display controller for basic monitoring ME-RC50
- (1) Midnite combiner MNPV6 NEMA3 outdoor rated
- (1) 63A output breaker, (1) 60A input breaker
- (4) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (24) L feet
 - (4) extra rail splices
 - (16) end clamps, universal or top mount
 - (24) mid clamps
- Panel grounding system
 - (12) panel grounding lugs
- Solar panel cables
 - (4) 30' cables
- **Total - \$8438**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 8 or 16 of L16, 420 or 840Ah @ 48V)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Change Magnum inverter/panel/controller to Outback Radian 8000W/panel/MATE3/HUB4 – ADD \$3300
 - Magnum AGS Auto Gen Start – ADD \$230 (need to add router)
 - Magnum Network Router for AGS – ADD \$250
- **Use:**
 - Solar kit for use on a house, cabin, or other off grid power need



4680W off grid kit MEDIUM / LARGE -----

- (18) solar panels, REC260, 2-5 rows, 6 strings
- (1) Magnum MS-4448PAE 4400W 120/240VAC 48VDC inverter/charger, 5 yr warranty
- (1) Magnum panel for inverter with prewired main battery and bypass breakers
- (1) Outback 80A MPPT FlexMax charge controller, with battery temp sensor, 5 yr warranty
- (1) Magnum display controller for basic monitoring ME-RC50
- (1) Midnite combiner MNPV6 NEMA3 outdoor rated
- (1) 80A output breaker, (1) 60A input breaker
- (6) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (42) L feet
 - (6) extra rail splices
 - (20) end clamps, universal or top mount
 - (36) mid clamps
- Panel grounding system
 - (18) panel grounding lugs
- Solar panel cables
 - (3) 30' cables
 - (3) 40' cables
- **Total - \$11,611**
- Shipping Options
 - Shipping extra, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 16 x L16, 840Ah @ 48V or sealed FLA or gel)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Change Magnum inverter/panel/controller to Outback Radian 8000W/panel/MATE3/HUB4 – ADD \$3300
 - Magnum AGS Auto Gen Start – ADD \$230 (need to add router)
 - Magnum Network Router for AGS – ADD \$250
- **Use:**
 - Solar kit for use on a house, cabin, or other off grid power need



6240W off grid kit LARGE-----

- (24) solar panels, REC260, 2-6 rows, 6 strings
- (1) Outback Radian GS8048 8000W 48VDC 120/240VAC off grid / grid interactive inverter/charger, 5 yr warranty
- (1) Outback GSLC prewired junction panel with bypass and battery breakers for GS, *no Flexnet*
- (2) Outback 60A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback MATE3 network controller / display
- (1) Outback HUB4 for network
- (1) Outback 12 circuit DC combiner NEMA3 outdoor rated
- (2) 63A output breakers, (2) 60A input breakers
- (8) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (48) L feet
 - (6) extra rail splices
 - (24) end clamps, universal or top mount
 - (48) mid clamps
- Panel grounding system
 - (24) panel grounding lugs
- Solar panel cables
 - (8) 40' cables
- **Total - \$18,266**
- Shipping Options
 - **Shipping FREE to 48 states**, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 16 or 24 of L16, 840 or 1260Ah @ 48V or gel etc)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to Outback GSLC prewired junction box with GFDI breakers and Flexnet DC monitoring – ADD \$250
- **Use:**
 - Solar kit for use on a house, cabin, or other off grid power need



7800W off grid kit LARGE -----

- (30) solar panels, REC260,3-7 rows, 10 strings
- (1) Outback Radian GS8048 8000W 48VDC 120/240VAC off grid / grid interactive inverter/charger, 5 yr warranty
- (1) Outback GSLC prewired junction panel with bypass and battery breakers for GS, no Flexnet
- (2) Outback 80A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback MATE3 network controller / display
- (1) Outback HUB4 for network
- (1) Outback 12 circuit DC combiner NEMA3 outdoor rated
- (2) 80A output breakers, (2) 60A input breakers
- (10) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (64) L feet
 - (8) extra rail splices
 - (28) end clamps, universal or top mount
 - (54) mid clamps
- Panel grounding system
 - (30) panel grounding lugs
- Solar panel cables
 - (9) 40' cables
- **Total - \$20,370**
- Shipping Options
 - **Shipping FREE to 48 states**, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 16 or 24 of L16, 840 or 1260 Ah @ 48V or gel etc)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to Outback GS prewired junction box with GFDI breakers and Flexnet DC monitoring – ADD \$250
- **Use:**
 - Solar kit for use on a house, cabin, or other off grid power need



9360W off grid kit XLARGE -----

- (36) solar panels, REC260,4-7 rows, 12 strings
- (1) Outback Radian GS8048 8000W 48VDC 120/240VAC off grid / grid interactive inverter/charger, 5 yr warranty
- (1) Outback GSLC prewired junction panel with bypass and battery breakers for GS, no Flexnet
- (2) Outback 80A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback MATE3 network controller / display
- (1) Outback HUB4 for network
- (1) Outback 12 circuit DC combiner NEMA3 outdoor rated
- (2) 80A output breakers, (2) 60A input breakers
- (12) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (76) L feet
 - (6) extra rail splices
 - (28) end clamps
 - (66) mid clamps
- Panel grounding system
 - (36) panel grounding lugs
- Solar panel cables
 - (12) 50' cables
- **Total - \$23,376**
- Shipping Options
 - **Shipping FREE to 48 states**, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 16 or 24 of L16, 840 or 1260 Ah @ 48V or gel etc)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to Outback GS prewired junction box with GFDI breakers and Flexnet DC monitoring – ADD \$250
 - Upgrade to dual Radian inverter with GSLC, and upgrade to HUB10 for network – ADD \$4860
- **Use:**
 - Solar kit for supplying power to single or multiple houses, cabins, or other off grid power needs



10920W off grid kit XXLARGE -----

- (42) solar panels, REC260,5-8 rows, 15 strings
- (1) Outback Radian GS8048 8000W 48VDC 120/240VAC off grid / grid interactive inverter/charger, 5 yr warranty
- (1) Outback GSLC prewired junction panel with bypass and battery breakers for GS, no Flexnet
- (2) Outback 80A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback 60A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback MATE3 network controller / display
- (1) Outback HUB4 for network
- (2) Outback 12 circuit DC combiner NEMA3 outdoor rated
- (1) Outback 8 circuit DC combiner NEMA3 outdoor rated
- (2) 80A output breakers, (3) 60A input breakers, (1) 63A output breakers
- (14) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (88) L feet
 - (6) extra rail splices
 - (32) end clamps
 - (76) mid clamps
- Panel grounding system
 - (42) panel grounding lugs
- Solar panel cables
 - (14) 50' cables
- **Total - \$26,990**
- Shipping Options
 - **Shipping FREE to 48 states**, shipped to location or will call at Redding Warehouse
 - Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 24 or 32 of L16, 1260 or 1680 Ah @ 48V or gel etc)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to Outback GS prewired junction box with GFDI breakers and Flexnet DC monitoring – ADD \$250
 - Upgrade to dual Radian inverter with GSLC, and upgrade to HUB10 for network – ADD \$4860
- **Use:**
 - Solar kit for supplying power to single or multiple houses, cabins, or other off grid power needs

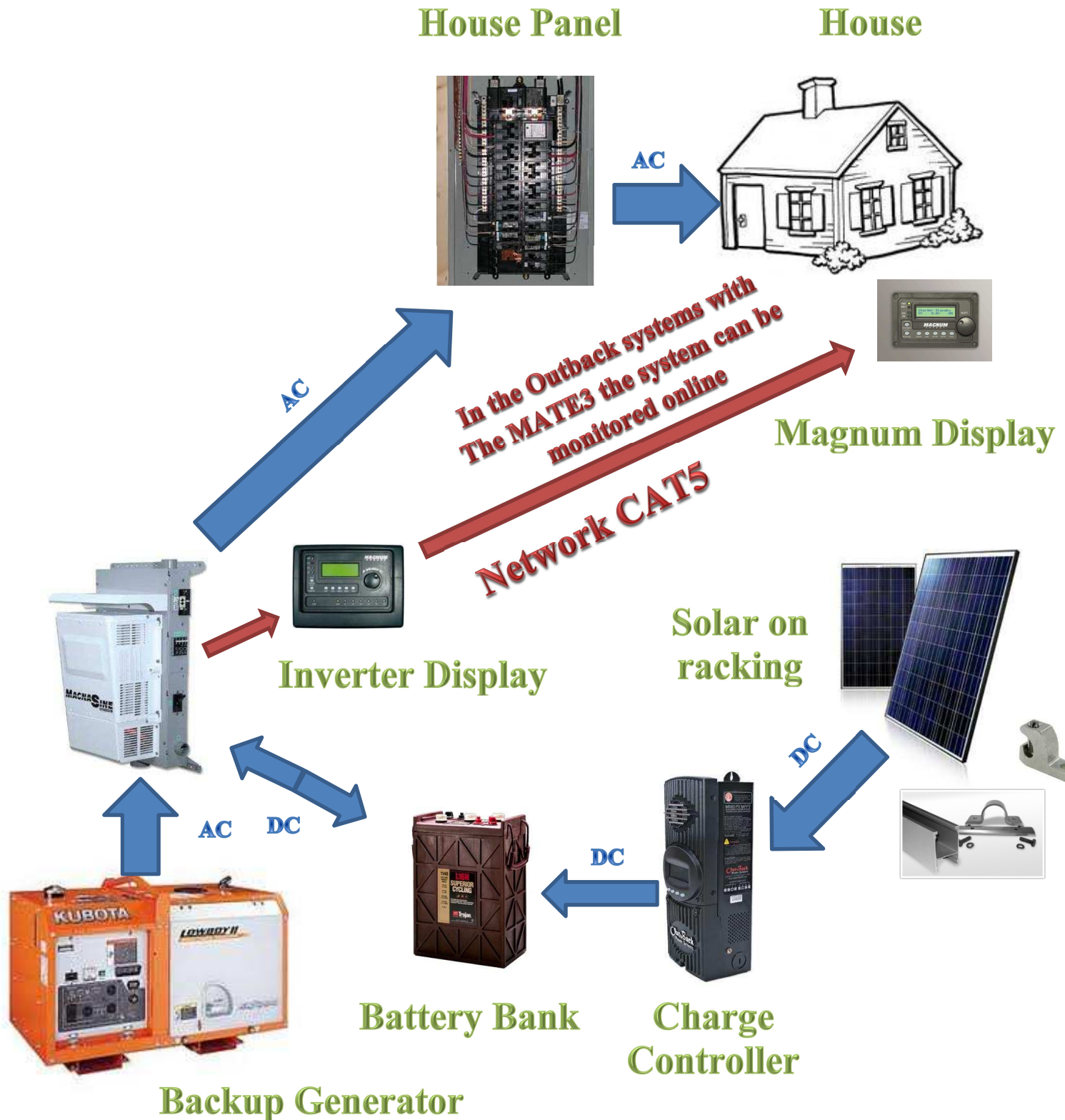


12480W off grid kit XXXLARGE -----

- (48) solar panels, REC260, 5-8 rows, 16 strings
- (2) Outback Radian GS8048 8000W 48VDC 120/240VAC off grid / grid interactive inverter/charger, 5 yr warranty
- (2) Outback GSLC prewired junction panel with bypass and battery breakers for GS, no Flexnet
- (3) Outback 80A MPPT FlexMax charge controller with battery temp sensors, 5 yr warranty
- (1) Outback MATE3 network controller / display
- (1) Outback HUB10 for network
- (2) Outback 12 DC combiner MNPV6 NEMA3 outdoor rated
- (1) Outback 8 DC combiner MNPV6 NEMA3 outdoor rated
- (3) 80A output breakers, (3) 60A input breakers
- (16) 15A 150VDC PV input breakers
- Snap N Rack roof mount racking (aluminum and stainless steel)
 - (96) L feet
 - (6) extra rail splices
 - (32) end clamps
 - (90) mid clamps
- Panel grounding system
 - (48) panel grounding lugs
- Solar panel cables
 - (16) 50' cables
- **Total - \$34,997**
- Shipping Options
 - **Shipping FREE to 48 states**, shipped to location or will call at Redding Warehouse
 - FREE Local Pickup in Sacramento, CA
- Sales Tax in CA
- **Customer Will Need:**
 - AC wiring and conduit
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Some DC wiring for panels cables to combiner and combiner to charge controller
 - Misc DC wiring for wiring breakers and charge controllers
 - Batteries and cables (typical for this size system – 24 or 32 of L16, 1260 or 1680 Ah @ 48V or gel etc)
 - Battery Box and Rack (We can provide the batteries, depending on type)
- **Optional Items:**
 - Flashed L feet, ground mount racking, tile roof mounts, standing seam roof, tilt up hardware
 - Upgrade to Outback GS prewired junction box with GFDI breakers and Flexnet DC monitoring – ADD \$250
 - Upgrade to triple Radian inverter with GSLC – ADD \$4810
- **Use:**
 - Solar kit for supplying power to multiple houses, cabins. Suitable for groups of off grid cabins or houses, or large single house or business.



Pictorial Example of Off Grid Stand Alone System



Copyright 2012 Designed by Jeremy Hufft -- Top Hat Energy inc. cannot take responsibility for the implementation of these kits by the installer and offers them as a recommendation. Please observe NEC and local codes.