

## Generator supplement system

Many remote electrical systems consist of a generator only. If the generator is running, you have more power than you know what to do with. If the generator is off, you are in the dark. This was the old way of doing things. By combining a generator with an alternative energy system you get the best of both worlds – plenty of power when needed & the life-changing convenience of having power available to you 24 hours per day, regardless of if the generator is running or not.

Energy Alternatives generator supplement systems are designed to help improve the electrical service for people who have an existing generator only system in place. There are many options for generator supplement systems, mainly the capacity of the inverter and battery bank.

This packaged system operates on the following principals:

- The battery bank is the energy storage part of the system. The larger the battery bank, the longer you will be able to go between generator runs, and be able to operate larger loads.
- An inverter converts the energy stored in batteries to 120 or 240 Volts AC for use with conventional appliances
- The size of the inverter will dictate how many appliances you can operate at once.
- Inverters are rated on their continuous duty, and will have a surge capacity from 2-4x that. For instance, a 1500 watt inverter will run at 1500 watts continuously, but can surge to upwards of 4000 watts for short periods of time. This is different than a generator – for instance, a 5 kW generator will have no more than 5 kW available. Often times a smaller inverter will outperform a larger generator for starting loads such as washing machines and power tools.
- The generator will be operated to charge batteries and to run some of the larger loads. Depending on the size of the generator, you may find you are able to start the generator to charge batteries and run large loads such as washing and power tools at the same time.
- The system can be completely automated, or manually activated. Using a DR series inverter will require manual operation. SW series inverter features generator start/sop features (requires a remote-start capable generator)
- The system can be easily expanded to include other battery charging sources such as solar, wind or microhydro that will further reduce the required generator running time.

Golf-cart batteries (6 volt cells) have a life expectancy of 5 years. Global-Yuasa 2-volt cells have a 20-year life expectancy. As with any battery, the harder it's worked, the shorter it's lifespan. Generally recommended to discharge no deeper than 50% on a regular basis. All our systems include a system meter (TriMetric), which will inform you of the battery condition. Running a battery system without a meter is like driving a vehicle without a fuel gauge.

These enclosed systems can be customized with many options that you may like. Examples include built in solar controllers to accommodate future expansion without having to re-wire the power panel; 240 volt transformers to power larger loads; stacking a second inverter to double the capacity and provide 240 volt power.

The following pages will give you details on a few pre-designed systems. Choose a system that fits into your budget and performance expectations. We can easily customize these systems to the particulars of your site

Each system is pre-assembled for your convenience. Installation times will vary depending on your skill level and site particulars, but typically less than one day. Each system comes complete with full installation instructions and is backed by no charge phone support to get you up and running.

**Generator Supplement # 1      1.5 kW, 24 Volt, 6.28 kW/h      \$4152**

This system utilizes a Xantrex DR1524 inverter (1500 watts continuous, 3500 watt surge) pre-mounted on a power panel (contains disconnects, enclosures, cables, etc for a code compliant installation). Battery bank has 6.28 kW/h capacity (245 amp hours @ 24v) and is contained in a sealed battery box. Installation hardware includes battery box ventilation.

**Generator Supplement # 2      2.4 kW, 24 Volt, 12.56 kW/h      \$5378**

This system utilizes a Xantrex DR2424 inverter (2400 watts continuous, 5500 watt surge) pre-mounted on a power panel (contains disconnects, enclosures, cables, etc for a code compliant installation). Battery bank has 12.56 kW/h capacity (490 amp hours @ 24v) and is contained in a sealed battery box. Installation hardware includes battery box ventilation.

**Generator Supplement # 3      4.0 kW, 48 Volt, 25 kW/h      \$10,593**

This system utilizes a Xantrex SW4048 inverter (4000 watts continuous, 12,000 watt surge) pre-mounted on a power panel (contains disconnects, enclosures, cables, etc for a code compliant installation). The SW series inverter can automatically control operation of your generator according to several criteria. Ideal for people who want the electrical system to take care of itself and not having to worry about the generator. Battery bank has 25 kW/h capacity (490 amp hours @ 48v) and is contained in a sealed battery box. Installation hardware includes battery box ventilation.

**Generator Supplement # 4      4.0 kW, 24 Volt, 45 kW/h      \$15,071**

This system utilizes a Xantrex SW4024 inverter (4000 watts continuous, 12,000 watt surge) pre-mounted on a power panel (contains disconnects, enclosures, cables, etc for a code compliant installation). The SW series inverter can automatically control operation of your generator according to several criteria. Ideal for people who want the electrical system to take care of itself and not having to worry about the generator. Battery bank has 45 kW/h capacity (1725 amp hours @ 24v) and is contained in a sealed battery box. Industrial 2-volt batteries have a life expectancy of 20 years. Installation hardware includes battery box ventilation.