



Enjoy all the  
comforts of home.



Without  
interruption.

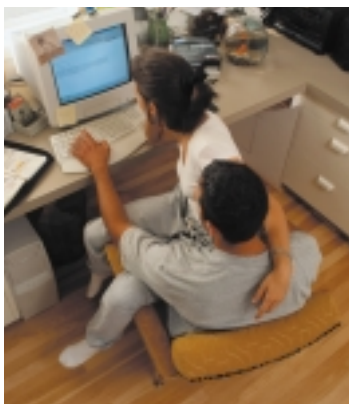




# If the **power** went out today, could you operate **Light** your kitchen? Keep your family **warm**? computer or fax machine and make a pot of co

Using a Trace power system as a source of backup electricity, all this and more is possible. Our team of nationwide dealers are ready to install a turnkey system at your home or office. All you need to do is make the call.

Trace systems automatically provide instant backup electricity from a battery bank when power from the electric utility unexpectedly shuts down. Combine a Trace inverter system with a generator or solar panels for protection against long power outages. Solar panels recharge your batteries silently whenever the sun is shining. A generator only has to run for short periods to recharge the battery bank.



Either way, you get reliable instantaneous power protection from outages of any length.

Trace's finest systems – those in the SW Series – are based on full-featured sine-wave inverters. Available in five different sizes, these models are designed to interface with a generator for automatic starting and system recharging. Four smaller lower cost systems are also available.

To prepare your home or office for power outages, Trace dealers offer everything you need including inverter/charger systems, storage batteries, recharging sources, installation and more.

## WHAT SIZE TRACE SYSTEM DO I NEED?

That depends on the number of appliances you choose to power. A Trace system powers an electric sub-panel (circuit breaker panel), which in turn supplies electricity to home or office appliances in the event of any power disruption. A Trace system can operate almost anything, although it makes sense to be selective about



the items you choose to run from your Trace backup system. For example:

Source: CEMA

## ESSENTIALS

- At home, most users connect essential appliances – such as lights, refrigerators, freezers, water pumps, and gas or oil-fired heating systems – to their Trace backup system. Any gas appliance requiring electricity for operation should also be connected.

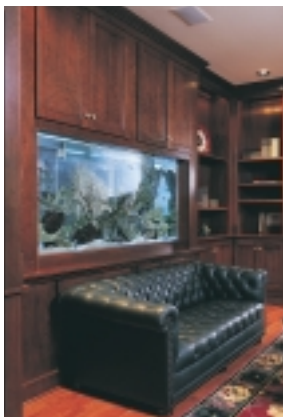
- For the office, a Trace backup system typically operates computers, printers, modems, fax machines, telephone systems, and lighting, as well as any other equipment needed to keep you in business.

# your refrigerator? Run your office office?

## OTHER APPLIANCES

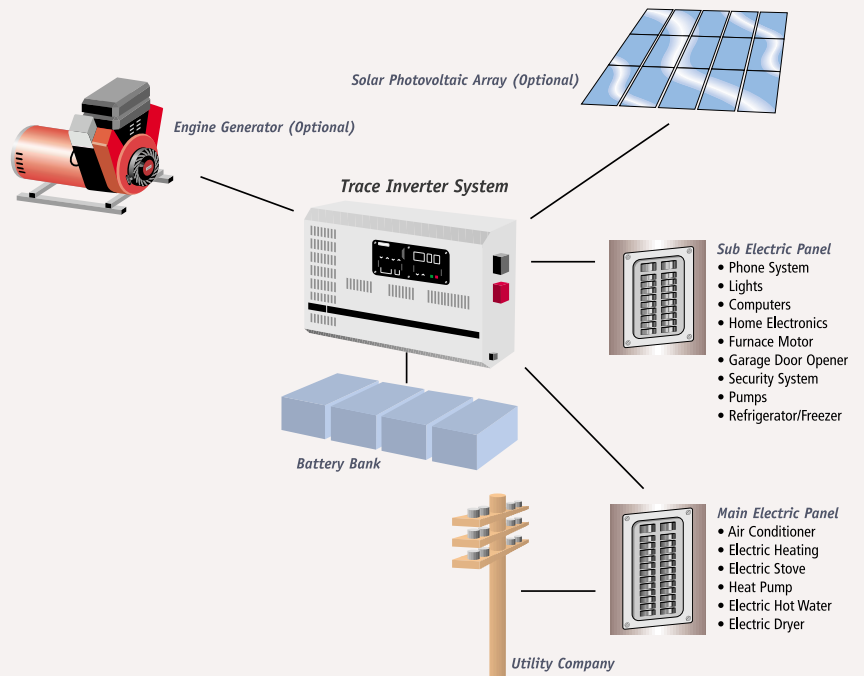
• Electronic items such as TVs, stereos, home theater components, security systems, and communications equipment;

• Comfort and convenience appliances such as fans, garage door openers, coffee makers, microwave ovens and other small kitchen appliances.





## ITEMS TO AVOID


• Central air conditioners and electric space heaters, heat pumps, electric water heaters, electric dryers, and electric ranges – any of which can be run on a properly designed power system but will significantly increase the cost. Gas appliances are a more efficient alternative to electric heating equipment.




## Trace System Components: A to Z


 **Battery Bank:** Stores energy for use during a power outage. The size of the battery bank determines how *long* you can run your appliances during a power outage without recharging. The power rating of the **inverter** determines how *many* appliances you can use at any one time. The power rating of the battery **charger** determines how *quickly* your battery bank can be recharged. We normally recommend sealed deep-cycle batteries – which are easy to install and maintenance-free. Non-sealed batteries may also be used, but require special installation and regular maintenance.

 **Electric Panel:** A distribution terminal for electrical wiring (also called a circuit breaker panel or breaker box). All the wiring in a home or office terminates at a main electric panel and is supplied with electricity from a common source. A sub-panel, a smaller secondary circuit breaker panel, is typically used to isolate those circuits that will connect to a backup electric system.

 **Engine-powered generator:** Uses an engine to generate electricity, typically from natural gas, propane, or diesel fuel. Unlike batteries,

which store only a fixed amount of energy, a generator can produce electricity for as long as it is supplied with fuel. A high-quality generator can be fairly quiet, but never noise-free. Like all engines, generators require periodic maintenance.

 **Inverter/charger:** Converts regular alternating current (AC) from your electric utility or electric generator to direct current (DC) that can be stored in batteries. During a power outage, the inverter/charger converts DC power in the battery bank to clean AC power for use in your home or office. Trace inverters have an efficiency rating as high as 96%, are noise-free, and function as the brains of your fully automatic backup electric system.

 **Solar electric panels:** Convert sunlight directly into electricity used to charge storage batteries. One of the most reliable means to generate your own electricity, solar panels can generate power for decades without requiring any maintenance. The power can be used daily, thus reducing your monthly electric bill as well as providing backup electricity during even the longest outages.

# TRACE Backup Electric System Packages

## SW SERIES BACKUP ELECTRIC SYSTEMS

## LOWER-COST BACKUP ELECTRIC SYSTEMS

Backup Electric System	2,000SW	4,000SW	5,000SW	8,000SW	10,000SW	400TS	1,000DR	2,000DR	3,000DR
Trace Inverter Model	SW2512/S	SW4048/S	SW5548/S	SW4048/D	SW5548/D	TS512SB	DR1524	DR2424	DR3624
AC Output Voltage	120 VAC	120 VAC	120 VAC	120/240 VAC	120/240 VAC	120 VAC	120 VAC	120 VAC	120 VAC
<b>System Rating</b>	<b>2,000 watts</b>	<b>4,000 watts</b>	<b>5,000 watts</b>	<b>8,000 watts</b>	<b>10,000 watts</b>	<b>400 watts</b>	<b>1,000 watts</b>	<b>2,000 watts</b>	<b>3,000 watts</b>
Continuous Power	2,500 VA	4,000 VA	5,500 VA	8,000 VA	11,000 VA	500 VA	1,500 VA	2,500 VA	3,600 VA
Maximum Power	7,200 watts	9,400 watts	9,400 watts	18,700 watts	18,700 watts	1,900 watts	4,800 watts	8,600 watts	12,000 watts
Nominal Input Voltage	12 VDC	48 VDC	48 VDC	48 VDC	48 VDC	12 VDC	24 VDC	24 VDC	24 VDC
Max. Charging Current	150 amps	60 amps	75 amps	120 amps	150 amps	15 amps	35 amps	70 amps	70 amps
Max. Charging Power	1,800 watts	2,800 watts	3,600 watts	5,760 watts	7,200 watts	180 watts	840 watts	1,680 watts	1,680 watts
Number of AC Inputs			2			1		1	
Transfer Relay Rating			60 amps			15 amps		30 amps	
Transfer Time (typical)			16 ms			16 ms		16 ms	
Transfer Time (max.)			34 ms			34 ms		34 ms	
AC Output Waveform			sinewave			modified sw		modified sinewave	
Voltage Regulation			+/- 2%			+/- 10%		+/- 5%	
Frequency Regulation			+/- 0.04%			+/- 0.04%		+/- 0.04%	
Automatic Transfer	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-Stage Battery Charger	✓	✓	✓	✓	✓	✓	✓	✓	✓
Generator Starting	✓	✓	✓	✓	✓				
Generator Support	✓	✓	✓	✓	✓				
Utility Sell Back	✓	✓	✓	✓	✓				
PLC* Compatible	✓	✓	✓						
<b>Battery Bank Sizing</b>									
<b>Minimum Size</b>									
2 hours at 1/2 rated power	2 KWh†	4 KWh	5 KWh†	8 KWh	10 KWh†	400 Wh†	1 KWh†	2 KWh†	3 KWh†
<b>Standard Size</b>									
8 hours at 1/2 rated power	8 KWh†	N/A	20 KWh†	N/A	40 KWh†	1.6 KWh†	4 KWh†	8 KWh†	12 KWh†
<b>Generator Guidelines</b>									
Minimum Size	4.0 KW	5.0 KW	6.0 KW	8.5 KW	11.0 KW	900 watts	4.0 KW	6.0 KW	6.0 KW
Recommended Size	8.5 KW	8.5 KW	8.5 KW	11.0 KW	17.0 KW	2.0 KW	8.5 KW	8.5 KW	11.0 KW

\* Power line carrier control systems for home automation use  
 † Battery bank may be increased in size to meet longer run time requirements

NOTE: Specifications may change without notice



SW Series Power Panel



Power Center with two SW Series inverters.



Complete Power Module System with cover removed

Available from:

### Battery Needs

Trace backup electric systems use special high-quality electric storage batteries. Trace dealers can customize a system based on the amount of power you want in reserve. We normally recommend an eight-hour battery bank to allow operation without a generator, or to keep a generator off for long periods. An adjustable "quiet period" (typically set for nighttime hours) is a standard feature on systems in Trace's SW series.

### Recharging the System

A Trace backup system automatically recharges when utility power is restored. Trace SW (sine wave) inverters can also automatically start and stop a generator as needed during a long outage. Trace systems may also be recharged from renewable energy sources such as solar panels and wind generators, as well as future technologies such as fuel cells.

### Speed of Operation

In a power outage or brownout, Trace systems typically transfer to battery power in less than 16 milliseconds (less than 1/50th of a second). Even the worst-case transfer time, 34 milliseconds (less than 1/25th of a second), is so fast that computers and other appliances will continue operating without a glitch.

### System Installation

A Trace backup system integrates with your home's electric system and must be installed by a qualified technician. Typically, a **Trace Power Panel™** or **Power Center™** is mounted on a wall near your main circuit breaker panel. But it may also be installed elsewhere if another location is more convenient, or even outside using a **Trace Power Module™** enclosure. Ask your Trace dealer to help you select the installation system that best meets your needs.



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All Trace products are Y2K compliant.