



# BLACKOUTS GLITCHES FLICKER & HUM

## How to deal with common power supply problems

A simple guide produced by the Electricity Supply Association of Australia and your local electricity distributor

### Problem: power goes off

#### What's affected?

#### Some of the lights and appliances in your home

##### Possible cause:

Circuit is overloaded or faulty appliance or wiring has caused a circuit breaker or safety switch to trip (or, in older homes, a fuse to blow).

##### What to do:

Check your switchboard. Switch off or unplug appliances and reset the breaker. Reconnect and switch on one by one.

**Simple overload** — too many appliances on the one circuit. (The last straw is usually a large appliance such as a heater or dryer.)

Beware of multiple power boards which make it easy to connect too many appliances. If you really need all those appliances at the same time, have a licensed electrical contractor install additional power points or circuits.

**Faulty appliance** — switch off or unplug appliances one by one until you've found the culprit. Have it repaired or replace it.

**Faulty wiring** — if you've disconnected everything on that circuit and the problem persists, there's something wrong with the wiring. Call a licensed electrical contractor.

#### All of the lights and appliances in your home

##### Possible cause:

An overload or fault has caused the main switch to trip or the service fuse (out in the street) to blow.

##### What to do:

Check your switchboard.

If the main switch has tripped, reset it and follow the same procedure for simple overloads or faulty appliances.

If your switchboard is okay, look outside to see whether neighbouring houses or street lights are affected.

If just your home is affected, call your electricity distributor. Contact numbers are in your phone book or on your electricity bill. Your distributor may also have a handy fridge magnet with emergency numbers.

#### RESTORING SUPPLY

Switch appliances off but leave or switch on at least one light so you know when supply has been restored. When the power's back, wait a few minutes before switching everything on again.

Resetting clocks and timers is a nuisance but many appliances now include battery backup. Make sure a battery is fitted and replace it regularly.

#### Other homes and street lights

##### Possible cause:

Blackout — an overload or fault on the supply system has caused protection equipment to operate.

##### What to do:

Report blackouts — sometimes your distributor doesn't know there's a problem and your call can help us respond more quickly.

**Lighting** — keep one or two reliable torches with fresh batteries in prominent places around your home where anyone in the family can find them easily in the dark.

**Frozen food** — fridges and freezers are designed to be good insulators. If the power goes off, just leave them alone — even frozen food can maintain its temperature for up to 10 hours or even longer (depending on how hot the day is) if you don't open the doors.

**Backup Supply** — many families in high bushfire risk areas are choosing to install a small generator which can supply part of their home. Normally this is done through a changeover switch which isolates your installation from the power supply. Your licensed electrical contractor should discuss the best arrangement with your distributor.

## Problem: lights dim

When are they affected?

Lights suddenly very dim  
Other appliances stop

### Possible cause:

Brownout – similar to a blackout but some houses will have no supply, others will have very low voltage.

### What to do:

Same as for blackouts. Check your switchboard first and then look at neighbouring houses or street lights.

Call your electricity distributor to report the problem. Switch off your appliances but switch on or leave one light on so you'll know when the problem has been fixed.

Lights go dim over time  
Heating appliances are slow

### Possible cause:

Low supply voltage, usually caused by a growing demand for electricity starting to exceed the capacity of the existing supply system.

### What to do:

Call your electricity distributor to report the problem.

**Air conditioners** — distributors need to know when new large loads are connected so they can ensure adequate supply capacity for all customers. If you plan to install an air conditioner rated at more than 2.5 kilowatts, please notify your distributor. (Units larger than 5 kilowatts must be "hard wired" and the installer is required to inform the distributor of their connection.)

Lights suddenly dim  
then recover

### Possible cause:

Temporary low supply voltage caused by switching on large loads. This could be in your own home — in which case you would notice the two things happening together — or it could be in nearby premises.

### What to do:

Have a licensed electrical contractor install additional power points or circuits to avoid overloads.

If the cause is somewhere else, call your electricity distributor for help.

## Problem: lights flicker

What else is affected?

Lights flicker  
Home computer crashes

### Possible cause:

Power supply disturbances. The cause could be in your own home, in neighbouring premises, or in the supply system.

### What to do:

Note when the problem occurs. Does it coincide with anything (eg, large appliances such as air conditioners switching on)? Are your neighbours also affected?

**Internal causes** — your basic choices are to remove the problem or protect the appliance. Lights flickering when appliances start is a normal condition and causes no harm. More likely you'll be concerned about the effect on sensitive electronic equipment such as sound systems and computers.

The best protection is an uninterruptible power supply (UPS). This device protects your computer — or sound system — from power glitches. It also has an internal battery to maintain supply for 15 to 20 minutes so you can save your files and safely shut down your computer.

**External causes** — eg, neighbouring premises or the supply system. Call your electricity distributor to report the problem. It is not possible to prevent disturbances sometimes happening, so you may need to consider protecting sensitive electronic equipment.

### Surge Protection

Some people are concerned about power "surges". This term refers to a range of sudden voltage increases with various causes ranging from switching operations on the supply network to lightning strikes. If you think you're at risk, surge protection devices are relatively inexpensive. They can be installed on your switchboard by a licensed electrical contractor to protect the entire house or you can buy a multiple-outlet power board fitted with a device.

## Problem: faulty radio or TV reception

Picture interference  
Sound interference

### Possible cause:

Power supply disturbances. The cause could be in your own home, in neighbouring premises, or in the supply system.

### What to do:

Note when the problem occurs. Does it coincide with anything (eg, use of switches, dimmers, or other appliances)? Are your neighbours also affected?

**Internal causes** — small appliances such as hair dryers, food mixers, or power tools are typical sources of interference. Your basic choices are to remove the problem, protect the appliance, or just put up with it while the problem appliance is being used.

As with other disturbances, the best protection for sensitive electronic equipment is an uninterruptible power supply (UPS).

**External causes** — call your electricity distributor to report the problem.

Interference with radio and television reception is sometimes caused by the operation of certain types of equipment in other premises or by problems in the supply network — for example, overhead power lines may crackle in damp weather. Once found, the equipment causing the interference can be repaired or replaced.

Audible noise from  
power line equipment

### Possible cause:

Some power line equipment such as transformers emit an audible hum while they're working. This is perfectly normal and shouldn't be a problem for nearby households.

### What to do:

If you're concerned or bothered by audible noise, call your electricity distributor for help. Distributors are conscious of potential noise problems and can employ a variety of techniques to address them.