

# Common clock problems

## Common problems with radio-controlled clocks

The MSF signal transmitted from Anthorn (in Cumbria, UK) provides a signal strength in excess of 100 microvolts per metre at a distance of 1000 km. This level should be sufficient to allow the time and date code to be received without difficulty, and in all areas of the UK radio-controlled clocks have been found to synchronise correctly to the signal.

Difficulties receiving the MSF signal are generally due to a combination of factors. These include attenuation of the signal due to location of the antenna inside a building or close to power lines or other large metal structures, and background interference which may be from a local source such as an electric motor, fluorescent tube, or CRT monitor or TV, or more pervasive in the environment.

If you have reception problems, check whether the signal has been turned off for maintenance at our [MSF Outages](#) page.

## Improving reception

The following suggestions, in order of increasing difficulty, may help to improve reception of the MSF signal:

- Consult the manual for the clock before turning it on. There may be a set procedure which if not followed, will result in the clock showing the incorrect time.
- If the clock uses both mains power and a battery, remember to switch on the mains power and allow the clock to set before inserting the battery. If this is not done, the clock may well run an hour fast or an hour slow. (If the clock's manual indicates a different procedure to this, follow that instead.)
- If the clock is not functioning correctly, check that the battery (or other power supply) is in full working order. Change the current one for a fresh battery and reset your clock. It can take quite a few minutes for the clock to pick up the MSF signal, so be patient.
- Try rotating the clock. Most radio-controlled clocks have an internal antenna that picks up the signal most effectively when it is facing directly towards or away from Anthorn. Some clocks have a signal strength indication that helps in finding the best reception.
- If this does not change anything, try moving your clock to a different location. Objects such as televisions, electric motors and fluorescent lights can interfere with the signal. A steel-framed or reinforced concrete building, or large metal objects such as metallic window frames, will reduce the signal inside. Externally, pylons, scaffolding or overhead power cables can also screen the signal.