

## 'BatStat' heated bat box

The 'Bat Stat' heated bat box is a thermostatically controlled, mains-operated system for providing artificial heating for bats such as pipistrelles, which roost in roof crevices. If required, the box temperatures can be programmed to give monthly control throughout the year.

The Bat Stat is intended as an off-the-shelf mitigation solution aimed at bat consultants working on development projects where additional flexibility is needed, over and above more conventional measures.

A Bat Stat box can be externally and internally wall mounted, or fitted against rafters in an open roof space. It provides a supplementary mitigation solution where loss of, for example, a pipistrelle breeding roost to development is unavoidable. The box can be used to provide a warm roosting space where a comparable temperature regime to the former roost cannot be achieved through building design or orientation.

The boxes have been used on some 50 major development projects and their low-maintenance design has resulted in recommendations to developers by SNCOs and licensing authorities, including Scottish Natural Heritage.

We offer two types of box – the simpler Bat Stat 'Basic' unit at £595.00 and a fully programmable, temperature controlled Bat Stat 'Premium' box at £795.00.

### Summary

- A simple off-the-shelf solution which is intended to be used in conjunction with conventional measures on complex mitigation schemes
- Accepted by Natural England and Scottish Executive as part of licensed mitigation solutions
- Highly flexible – especially suitable where it is not possible to orientate a new replacement roost building so as to maintain a previous temperature regime
- Fully controllable monthly temperature up to 35° C which can if required be set to mimic real roost conditions throughout the year
- Maintenance free, with proven reliability and a service backup
- FSC (Forestry Stewardship Council) grade ply
- Low running costs
- Operational status indicated by an LED on the wall-mounted external control unit
- Monthly temperature can be set by laptop (Bat Stat Premium only)

### Temperature control (Bat Stat Premium box only)

One of the problems with cheaper existing heated roosts is that they may need to be manually switched on in spring and off again in autumn. However, as developers are rarely able to guarantee this once a development is complete, our design uses an innovative software solution to automatically switch the heater on at a user-determined date (for example in spring) and off again in autumn. This saves energy and more closely mimics real roost conditions. In some circumstances it may be appropriate to leave the unit on year-round (but modifying the winter temperature regime) providing a locally warm environment for bats active during milder spells in winter.

A weather-proofed external connection socket enables monthly temperatures to be checked in the field once the Bat Stat unit is in use, via a laptop.

A 'blue tooth' modular add-on is in development, as is a version incorporating a moderate night-time temperature drop, similar to that found in warm building roosts.



*Freestanding box on twin poles.  
New school building, Devon*



*Bracket mounted box set clear of  
telephony equipment on a chimney.  
Hotel refurbishment, Devon*



*Newly wall-mounted box at a historic  
building refurbishment, Scotland*

### Construction

Externally, the box is constructed of FSC grade exterior ply, with joints fully weather-proofed with non-toxic sealant to ensure longevity. The box has a hinged baffle at its base in order to minimise internal temperature fluctuation in cool and windy conditions, but to facilitate internal inspection and/or removal of the heater mat in the very unlikely event that replacement is required.

The box interior consists of three internal chambers, spaced around 20mm apart; rough internal surfaces allow bats to move freely within all parts of the box.

## Heating system and thermostat

The Bat Stat uses a flat heater pad of around 20 watts power, situated internally on a removable, flat, mesh-covered panel (in the case of the Bat Stat Premium). Temperatures are controlled by a side-mounted, weather-sealed, thermostatic control unit, which in the case of the Bat Stat Premium includes twin internal temperature probes to ensure maximum reliability and long life. The Bat Stat Premium unit provides full control over internal temperature, up to a maximum of 35°C. Monthly temperatures can be set to any annual profile before shipping. An LED on the box base is visible to observers below and indicates heating status.

The Bat Stat Basic unit comes pre-programmed at 30°C.

The rear of the box is un-insulated, resulting in an internal temperature gradient from the heated front zone to a cooler rear area when set against a cool wall. This ensures that bats can retreat from the warmest section in the event the box is sited in full summer sun. A front raised baffle minimises heat conduction to the lower part of the box if it is sited in full sun.

## The Control Unit - BatStat Premium

The Bat Stat Premium is shipped with the monthly temperatures set at the default values (below). These can be changed if needed to suit local environmental conditions (perhaps after a period spent monitoring the old roost internal temperature profile). The cheaper Bat Stat Basic unit comes pre-programmed at 30°C.

## Default settings

January	box automatically switched off; temperature at ambient
February	box automatically switched off; temperature at ambient
March	box automatically switched off; temperature at ambient
April	20°C
May	23°C
June	28°C
July	30°C
August	28°C
September	23°C
October	16°C
November	box automatically switched off; temperature at ambient
December	box automatically switched off; temperature at ambient

An internal clock maintains the control unit at or very close to the correct time, and a lithium battery maintains accurate time without mains input for up to a year, allowing the box to be put into short-term storage on site prior to fitting.

**The control unit contains an internal LED at its base, visible to ground observers, which displays two active states:**

LED's unlit	No power supplied to box
Flashing GREEN/RED	Clock settings out or faulty; call 01392 490 152
Flashing GREEN	Power delivered, but temperature greater than 2 degrees either side of set point – typical display seen soon after switching on whilst box is heating up. Flashing green will also be displayed during the winter months when power to the heater pad is not delivered.
Flashing RED	Measured temperature stable within 2 degrees of set point.

## BatStat Technical specification

### Weight

18-25 kg depending on finish

### Construction

FSC certified exterior grade ply plus finish

### Dimensions of roost chamber

850 x 450 x 100mm

### Full box dimensions

1035 x 450 x 100mm

### Heater unit power

21 Watts

### In line fuse required

3 Amp

## Prices

BatStat Premium box	£795 + VAT packing and delivery per box £60
Software CD & cable for above	£23 including shipping
BatStat Basic	£595 + VAT packing and delivery per box £60
Box exterior finish options	POA

## Included in cost of all units

Technical phone support	01392 490152	free
Guarantee repair/replace of electronics		free for 2 yrs, thereafter at cost
	'Do not switch off' stickers x2	Supplied