

# ‘BatStat’ twin panel roost heater

The ‘BatStat’ flat-panel type roost heater is a thermostatically controlled, mains-operated system for providing artificial heating for bats such as long-eared and horseshoes which roost in open roofs. If required, the unit can be programmed to give monthly temperature control throughout the year.

The BatStat panel unit 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.

The twin BatStat panels can be mounted either side of a ridge beam, within an open roof space, and are especially suitable as supplementary mitigation where loss of, for example, a long-eared breeding roost to development is unavoidable. The panels 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 positioning.

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

## 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
- 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

## Temperature control

One of the problems with existing heated roosts is that they often 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. Alternatively the panels can be left on year-round, providing a locally warm environment for bats active during milder spells in winter.

A weather-proofed exterior connection socket enables monthly temperatures to be checked in the field once the panels and BatStat unit is in use, via a laptop.

A ‘blue tooth’ modular add-on will be available shortly, as will a version that incorporates a moderate night-time temperature drop, similar to that found in warm building roosts.

## Heating system and thermostat

The BatStat thermostat uses twin flat heater pads of 20 watts power each, fitted to flat, mesh-covered panels. Temperatures are controlled by a wall-mounted, weather-sealed, thermostatic control unit which includes twin internal temperature probes set against the heater pads to ensure maximum reliability and long life. The unit provides full control over temperature, up to a maximum of 35°C. Monthly temperatures can be set to any annual profile before shipping. An LED on the thermostat unit indicates heating status.



## The Control Unit

The BatStat is shipped with the monthly temperatures set at the default values (below). These can be changed if needed to suit local environmental conditions (for example when based on the old roost internal temperature profile).

### Default settings

*Nb. these settings are slightly higher than for our heated bat boxes. As the heated panels are exposed to the air and there is some heat loss into the adjacent atmosphere, a higher temperature setting is required to maintain temperature.*

January	heater automatically switched off; temperature at ambient
February	heater automatically switched off; temperature at ambient
March	heater automatically switched off; temperature at ambient
April	20°C
May	25°C
June	35°C
July	35°C
August	35°C
September	25°C
October	20°C
November	heater automatically switched off; temperature at ambient
December	heater 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 LED is visible to observers and displays two active states:

LED's unlit	No power supplied to heater
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 the heater 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	5kg
Construction	FSC certified grade ply
Each panel dimension	approx 1100mm x 450mm
Total output power	c40 Watts
In line fuse required	3 Amps

### Prices

Pre-programmed heated bat box (BatStat Basic)	£595 + VAT packing and delivery across the UK: per unit £60
Programmable heated box (BatStat Premium)	£795 + VAT packing and delivery across the UK: per unit £60
Programmable dual flat panel heater	£399 + VAT packing and delivery across the UK: per unit £55
Software CD and connection cable for bat box	£23 including shipping

### Included in cost of all units

Technical phone support	01392 490152	Free
Guarantee repair/replace of electronics	Providing the unit has not been damaged or modified in any way	Free for 2 yrs, thereafter at cost