

User Manual - Scale

Hivemind

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System components:

- **Wireless Talking Scale** (one pair of cleats per hive, see figs. 1, 2, 3 & 4)
- 2 AA batteries (in the scale)

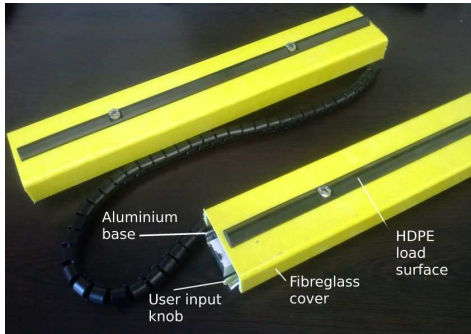


Fig. 1. Wireless talking scales items

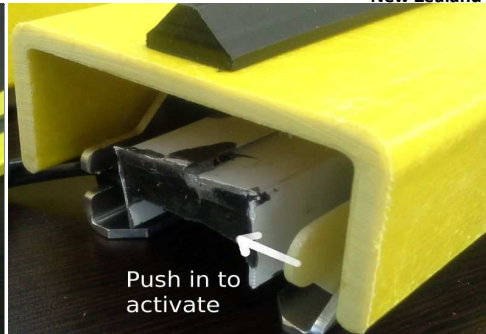


Fig. 2. User input button

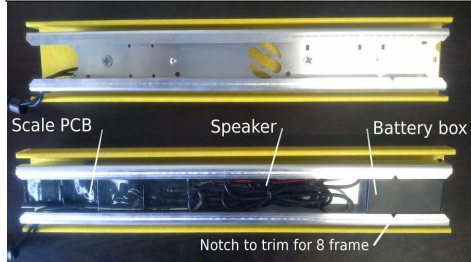


Fig. 3. Underside of scales



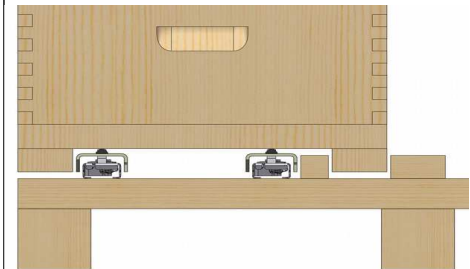
Fig. 4. Close up of battery box

Getting Started

1. **Scale mounting:** Install each scale under the hives as shown below. Note: there is only one user button (or knob) per scale so ensure it is accessible.



Scales under single hive



Scales under palletized hive

2. **Connection Setup:** For each scale press the button (turn knob on older scales) three times to establish communication with the hub. The scale will beep each time the button is pressed/turned. It will then establish communication with the hub and read out the signal level (percent) between it and the hub. For reliable operation, the signal level should be greater than 20 percent. Relocate the hub if necessary. Repeat this process for each scale at the site. **This step should be repeated every time scales are moved in relation to the hub to ensure continued operation.**
3. **Talking scale function:** Press the user button (turn knob on older scales) once and the scale will read out the weight on top of it and the scale battery condition (Good, OK, or Bad). The scale batteries should be replaced annually or immediately if scale reports "battery bad". The hub batteries should be replaced every year.
4. **Tare:** If the scale accuracy drifts over time, you can re-tare (zero) the scale by removing all load off the scale and pressing the button 10 times. It will beep each time you press the button and after 10 times it will say "Okay" and then it will zero the reading.
5. **Metric and Imperial:** switch between these by pressing the button at least 18 times (ignoring its speech) until it says 'pounds' or 'kilograms' as you desire.

Maintenance

Scale batteries: Slip black battery box out past retainer (see fig.5). Remove the lid (four Phillips-head screws) and install two AA batteries, as shown here. The scale will beep twice. Replace the lid and four screws. Insert battery box into scale wire-end first otherwise wire slack will get caught.



Specifications – Hive Scale

Dimensions: pair of 405 x 70 x 50 mm to fit 8- or 10-frame Langstroth hive; others on request

Weather proofing: IP67

Operating temperature: -20 to 40°C

Battery Life: 1 year; replaceable with 2 x AA 1.5V Lithium or Alkaline

Resolution: 0.1 kg

Maximum distance device to hub: 10m to 50m typical (signal depends on what objects are in between)

Absolute accuracy: ±1 kg + 2% of hive weight (not legal for trade)

Max weight: 300 kg (damage occurs above 1,000 kg)

Regulatory Compliance

This device complies with the following compliance regimes:

- US FCC: CFR Parts 15 and 25
- Industry Canada (IC) 7084A-SM220
- CE (Europe Aus/NZ): EN 300 328 Version 1.8-1, AS/NZS CISPR 22: 2009 + Amendment 1: 2009 as a class B device

FCC Notice: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Device contains SM220 FCC ID: U9O-SM220

Warranty

1. Purchased product warranty is 12 months from the date of purchase, day / month / year as follows. Repair or replacement will be made to any faulty product returned to the purchasing location within that time. Hivemind will bear the cost of repair unless the product has been mistreated or operated outside specification. Hivemind will pay transit costs for only the transit of the product between the purchasing location and the repair facility.
2. Leased products have a perpetual warranty as follows. Hivemind will cover repair and shipping costs for damage from ordinary wear and tear. If the product has been mistreated or operated outside specification then the customer is liable to pay for the cost of the product and return shipping.

Other details of warranty are specified in the Hivemind Terms and Conditions at <http://hivemind.co.nz/agreement>.

