

## BIOACOUSTIC PROBE OPERATING SYSTEM (BPOS) RELEASE NOTES

### BPOS Released BProber What's new

- 1.5.3 25 Apr 06 1.7.3 **Future compatibility with range-threshold comparisons.**
- IR dialog space allocated for future capabilities.
  - Fix for very uncommon year-boundary wakeup bug.
  - Log filesystem-full percentage at sampling start/stop.
  - Slight improvement in accelerometer noise.
  - BPROBER 1.7.3 REQUIRED; BPROBER 1.7.3 IS INCOMPATIBLE WITH FIRMWARE PRIOR TO 1.5.3.
- 1.5.2 30 Mar 06 1.7.2 **Bugfixes, enhancements.**
- Fixed incorrect and missing timestamps (introduced in 1.5.0).
  - Properly downloads unsaved fast-sample-rate test data.
  - Acoustic file sizes doubled for sample rate > 10159 Hz.
  - Improved compatibility with newer Palms, esp. Palm TX.
  - Update firmware from Palm using Dataviz Word emulator.
  - Download delay increased 1.5 -> 2 s, easier with Windows.
  - Improved immunity to power-failure-on-wake after long sleep.
  - Slightly more accurate time-setting from Palm.
  - Acoustic saturation level (incl. gain) reported in BProber 1.7.2.
  - LED stop alert when attempting download of nonexistent data.
  - Fewer log complaints about bogus infrared transmissions.
  - Improved delayed-start behavior across a new year.
  - Alpha series: improved power robustness.
  - Alpha series: fast sampling couldn't be stopped, fixed.
  - Alpha series: BProber doesn't report disabled-channel data.
  - BPROBER 1.7.2 REQUIRED; NOTE THAT BPROBER 1.7.2 IS INCOMPATIBLE WITH FIRMWARE PRIOR TO 1.5.2.
- 1.5.1 23 Nov 05 1.7.1 **Tag-specific and user-interface improvements.**
- Fixed overflow in zero-drift compensation for s/n 011.
  - Custom LED in s/n 029 defaults to off.
  - New bootloader code, only required for s/n 029.
  - BProber calibrate page only shows data from valid sensors.

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|-------|-----------|-------|---|
| 1.5.0 | 11 Nov 05 | 1.7.0 | <p><b>Conditional acoustic sampling.</b></p> <ul style="list-style-type: none"> <li>• Can sample acoustics conditionally on temperature.</li> <li>• Can compensate pressure offset drift for temperature.</li> <li>• Spurious infrared signals less likely to abort sampling.</li> <li>• Rare crashes during infrared communication may be fixed.</li> <li>• Alarm flashes LED 10s on wakeup to condition battery.</li> <li>• Improved BProber user interface, plus access to new features.</li> <li>• Refuses impossible sample rates rather than attempting them.</li> <li>• Slightly reduced power consumption at fast sample rates.</li> <li>• Fixed rare bug of disregarding alarm and starting immediately.</li> <li>• BPROBER 1.7.0 REQUIRED; NOTE THAT BPROBER 1.7.0 IS INCOMPATIBLE WITH FIRMWARE PRIOR TO 1.5.0.</li> </ul> |
|       | 11 Apr 05 | 1.6.6 | <p><b>Extension to BProber.</b></p> <ul style="list-style-type: none"> <li>• BProber can now request download of accelerometer data.</li> </ul>   |
| 1.4.1 | 25 Mar 05 | 1.6.5 | <p><b>Minor fixes and functionality improvements.</b></p> <ul style="list-style-type: none"> <li>• Log flushed to storage when going to sleep.</li> <li>• Log notes wakeup time (for alarm-based sampling).</li> <li>• Slightly better power-fail transient rejection for B-series tags.</li> <li>• Auxiliary sampling can be turned off or set to 4 Hz.</li> <li>• Infrared notify when ERASE or FORMAT 100% complete.</li> </ul>  |
|       | 13 Aug 04 | 1.6.4 | <p><b>Added functionality to BProber.</b></p> <ul style="list-style-type: none"> <li>• BProber can now request partial downloads.</li> </ul>  |
| 1.4.0 | 15 Jun 04 |       | <p><b>Bugfixes.</b></p> <ul style="list-style-type: none"> <li>• Restored ability to download acoustic data from memory.</li> </ul>   |
| 1.3.9 | 28 Apr 04 |       | <p><b>Infrared-stop enabled in alarm-controlled sampling.</b></p> <ul style="list-style-type: none"> <li>• Timed sampling can now be terminated via infrared.</li> </ul>  |
| 1.3.8 | 10 Apr 04 | 1.6.3 | <p><b>Recommended sensor range reported.</b></p> <ul style="list-style-type: none"> <li>• Reports sensor range, if available, instead of A/D saturation.</li> <li>• Fixed nest overflow bug when aborting pre-sample sleep.</li> <li>• BProber “zero” function provides helpful dialog before acting.</li> </ul>  |
| 1.3.7 | 12 Mar 04 | 1.6.2 | <p><b>Calibration enhancements.</b></p> <ul style="list-style-type: none"> <li>• User can request information on saturation levels.</li> </ul>  |

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- 1.3.6 24 Feb 04      **Additional bootcode protection.**
- Significantly better protection against bootcode corruption.
  - Fix for bogus calibration update times introduced in 1.3.5.
- 1.3.5 19 Feb 04    1.6.1 **Auxiliary sampling improvements.**
- BProber can zero pressure xdcr, BPOS notes temp at rezero.
  - Calibration updates available immediately, no reset required.
  - “Calibration” page reflects 20-sample averages (B series only).
  - Recorded auxiliary data use 4-sample average (B series only).
  - Power-fail handling better in both bootcode and OS.
- 1.3.4 28 Jan 04      **Minor enhancements.**
- Additional improvements to handling of corrupt filesystems.
  - New bootcode tolerates low-battery situations better.
- 1.3.3 27 Jan 04      **Better filesystem recovery.**
- Eliminated infinite loop in certain corrupt-filesystem cases.
  - More detailed corrupt-filesystem information in log.
- 1.3.2 27 Jan 04    1.6    **Faster, fixes. REQUIRES UPDATING BPROBER TO 1.6!**
- Maximum sampling rate now 20 kHz instead of 15 kHz.
  - Better longevity at sampling rates of 10 kHz and below.
  - New bootcode behaves better in low-power situations.
  - New bootcode can be updated via infrared.
  - Formatting now reserves 512KB, not 256KB, for firmware.
  - Fixes and enhancements to calibration-file system.
  - BProber STATUS page reports bootcode version.

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- 1.3.1 14 Nov 03 1.5 **Fixes. REQUIRES UPDATING BPROBER TO 1.5!**
- Doesn't infinite-loop on rebuild when storage is full.
  - Erasing filesystem resets and re-enables logging.
  - Attempting to download nonexistent data (i.e. an empty file or null directory) sends an error alert to the Palm.
  - A full filesystem reports 0 instead of a few kB available.
  - Better log entry when filesystem is full.
  - B-Probe serial number (or nickname if set) is now shown in the Control pane of BProber after the first infrared interaction.
  - The B-Probe's bad-block table can be downloaded.
  - BProber asks for confirmation if the user changes the sampling regime and then gives a "wake" or "start" command without first "send"-ing the new regime.
  - Patched memory leak in BProber.
  - Better filesystem consistency after erase abort.
  - Power-fail routine tries to save unwritten data.
  - Bootcode copes better with power failure.
- 1.3.0 18 Sep 03 1.44 **Monoblock data storage, fast filesystem rebuilds**
- Allow filesystem ERASE even if filesystem is corrupted.
  - Rebuild 30 times faster; 1GB rebuilds in under 2 minutes.
  - More helpful LED flashing during superfast rebuild: one flash for every 8 (rather than 2) MB processed.