

Release Notes

BT900

Version 9.1.10.3

October 2015

This document provides release notes for the Laird BT900 *smartBASIC*-based dual-mode Bluetooth firmware.

These release notes are a summary of new and enhanced features, resolved issues, and known issues present with this release.

Note: BT900 firmware version numbers consist of four numbers in the format W.X.Y.Z which can be read back from the module by submitting the command AT I 3 when it is in command mode.

- W:** Indicates the module (9 signifies that the firmware is for the BT900).
 - X:** Used to indicate the underlying dual mode stack version.
 - Y:** Indicates the build number. An even number indicates a production image and an odd number indicates an engineering image.
 - Z:** Sub-build number. A 0 or an even number signifies that the firmware image has been fully regression tested. When both X and Y are odd numbers, it typically means that the firmware image was released to do a quick field test and a full regression test has not yet been performed.
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New Features

The following are new features in the current version, refer to manual for usage:

Version 9.1.10.3 – October 2015

- **BTC SSP** – Added Modem Status Control functions and events to allow sending of RTS/CTS and BREAK.
- **BLE** – Added ability to return both the 16bit and full 128bit UUIDs from handles.
- **Module** – Added config to delay checking of DTS for autorun applications.

Version 9.1.9.1 – September 2015

- **Stream** – Add config function to stream bridges and idle timeout event.

Version 9.1.7.5 – July 2015

- **HID** – Enhanced Bluetooth HID API and added report construction and extraction functions.
- **BTC INQ** – Obtain class of device when doing inquiries.
- **BTC** – Querying remote device friendly name.
- **UART** – Support for Odd/Even parity.

Version 9.1.7.3 – June 2015

- **HID** – Added pre-release HID functions.

Version 9.1.7.1 – April 2015

- **BLE** – Ability to change the Bluetooth address type.
- **BLE ADV** – Ability to specify channels to advertise on.
- **BTC COD** – Class of Device functions.
- **BTC SSP** – Full range of Secure Simple Pairing options.

Version 9.1.2.0 – Initial Release

Resolved Issues

The following are previous known issues which have been fixed in the current release or new features that have been added:

Version 9.1.10.3 – October 2015

- **Timers** – Fix to bug where a timer event might not be transmitted if the timer was set up as a one shot timer and there were other higher priority timers running at the same time.
- **SPIOpen** – Fix to bug where the nMode parameter had been implemented incorrectly. Values of 0 and 1 would actually result in SPI Modes 2 and 0 respectively being configured. The nMode parameter now matches the table shown in the core and extension manuals.

Version 9.1.10.0 – September 2015

- **RADIO** – Adjusted crystal drive strengths to ensure stability at higher temperatures.

Version 9.1.9.1 – September 2015

- **SPP** – Race condition with fast connects and disconnects before channel status is received.

Version 9.1.7.5 – July 2015

- **BTC SPP** – Delayed signaling open SPP port until channel signals clear to send.
- **SPI** – Extended supported frequencies.
- **RADIO** – Radio powers down in deep sleep mode, achieving lower power consumption.
- **UART** – Removed 1200 Baud from configuration, not supported.
- **BLE GATT Server** – Using a central device as a GATT server, with two bonded peripheral GATT clients can result in unexpected CCCD data.

Version 9.1.7.1 – April 2015

- **UART** – On power-up RTS line asserts when ready.
- **SIO18** – After a reset this line will be configured as an output and output a high level, 3.3V.

Version 9.1.6.4 – March 2015

- **BTC SPP** – The BT900 can now accept more SPP connections from other BT900's.
- **BTC SPP** – Added ability to configure SPP parameters in smartBASIC, setting values larger than the default will limit the number of maximum opened SPP connections.
- **BTC SPP** – Resolved SPP data events getting out of sync with data availability.

- **BTC SPP** – Resolved an issue regarding a limit of maximum outgoing SPP connections.
- **BLE / BTC SPP** – Issues regarding incorrect handle generation in some circumstances have been resolved.
- **BLE GATT Server** – Ensure notifications are queued properly.
- **BLE GATT Client** – Resolved a memory leak in BleGattcWrite.

Version 9.1.4.0 – February 2015

- **BT900** – RTC timer module added to *smartBASIC*.
- **BT900** – General improvements to the overall stability of the module.
- **StreamUnBridge** – StreamUnBridge now works as expected and no longer requires module restart.
- **BTC Pairing** – BTC failed legacy pairing now gives a failure response in the form of a timeout event.
- **BTC Pairing** – BTC pairing when the database is full now results in a device being correctly added to the rolling database.
- **BTC SPP** – SPP now successfully connects to six concurrent connections.
- **BTC SPP** – SPP 900 to 900 RTS now clears properly, ensuring continuous data flow.
- **BTC SPP** – Improvements to SPP throughput and reliability.
- **BLE GATT Server** – Encrypted CCCD values can now not be read and written without bonding.
- **General** – Coexistence now uses the correct pins and polarity.

Version 9.1.2.0 – Initial Release

Known Issues

The following are known issues in the current version:

- **BTC SPP** – SPP from Apple Mac to the BT900 is slow (approximately 33 kbps). Because communication on both Windows and Linux operates at expected speeds, this issue appears to be an Apple Mac artifact. The Apple Mac appears to wait 250 ms after receiving RFCOMM credits from the BT900 module before sending data. Apple Mac receiving is unaffected.
- **BTC** – Inquiry results may appear after the timeout event as the radio clears up.
- **BLE Connection/Disconnection** – BLE connection and disconnection in quick succession after approximately 300 cycles may result in the radio attempting an unexpected connection.
Workaround: Slow the connection / disconnections.
- **BLE GAP Device Name** – The BLE GAP service device name is not writable.
- **BLE VSP** – Inbuilt service does not include ModemIn/ModemOut characteristics.
- **1.8v support** – 1.8v operation is not supported in this firmware release. You must use 3.3v.