



Bluetooth® Wireless Serial Port Firmware v2.1.097

A7 Release Note

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Introduction

This document describes the v2.1.097 release of the Bluetooth Wireless Serial Port firmware. This version is comprised of a set of firmware builds based on the same underlying code which can be run on either the eb100-SER or the eb501-SER.

The v2.1.097 firmware is provided in the following builds

Default Baud Rate	Full Build Name	Build Version
1200 bps	ebSerialv2.1.097.010	2.1.097.010
2400 bps	ebSerialv2.1.097.011	2.1.097.011
4800 bps	ebSerialv2.1.097.012	2.1.097.012
9600 bps	ebSerialv2.1.097.001	2.1.097.001
19.2 kbps	ebSerialv2.1.097.013	2.1.097.013
38.4 kbps	ebSerialv2.1.097.014	2.1.097.014
57.6 kbps	ebSerialv2.1.097.015	2.1.097.015
115.2 kbps	ebSerialv2.1.097.016	2.1.097.016
230.4 kbps	ebSerialv2.1.097.017	2.1.097.017
460.8 kbps	ebSerialv2.1.097.018	2.1.097.018

Table 1: Firmware Version Numbers

Host Tool Compatibility

The following host tools are compatible with this firmware release:

Host Tool	Supported OS Versions	Tool Version
DFU Wizard	Windows XP	2.1
RF Tester	Windows XP	1.1

Table 2: Host Tool Compatibility

Functional Changes Relative to v2.0.247

This section describes the significant functional changes made to the firmware relative to build 2.0.247.

ID	Description
164	A new parameter has been added to the LST command to return the device name with the device address.
204	Support for EasyConnect mode has been added through the EASY_CON line. Holding this line low at power on will initiate EasyConnect setup.
233	The command SET TXPOWER has been added to enable you to specify module power in the range of 1 to 10. This allows simple control over range including the distance at which other devices will see you.
361	Timing for the break command '+++' has been reduced so that a delay of one second before and after the command is sufficient.

399	The GET ADDRESS command has been extended to allow access to the remote device address when connected.
518	Support has been added for the following baud rates: 1200, 2400, 4800, and 460800 bps.
527	Support has been added for outbound connections to the DUN profile.
536	An LED output has been added as a visual indication of module status. This line is labeled IND_LED in the eb100-SER datasheet and provides information about both mode and connection status.
567	The default timeout value for the LST and CON commands have been reduced from thirty seconds down to fifteen seconds.
576	The STATUS line has been changed from active high in v2.0 to active low in v2.1.
583	The SET command now persists all settings. The '*' parameter is no longer required and will be ignored if used.
630	Performing a factory reset is now supported by holding the EASY_CON line low for more than five seconds at power on. In v2.0 this was supported by shorting the break and status lines together at power on.
636	The results returned for the VER and VER ALL commands have changed. The VER command now returns the version as major.minor.build. The VER ALL command returns the version number in the new format, firmware type, model number, device address, and copyright statement.
644	The parameters for the SET SECURITY command have changed from off, open, and closed to simply on and off. When set to off the security model is a smart combination of both off and open security from the v2.0 firmware.
646	The up and down arrow keys are now removed when processing commands. This allows the arrows to be used in a terminal application without affecting command parsing.
649	The command parser has been enhanced to accept all commands and parameters either in their full form or as a three letter abbreviation. The commands "lst vis nam" and "list visible name" are now both acceptable.

Table 3: Functional Changes Relative to v2.0.247

Known Issues

This section describes currently known issues for the v2.1.097 firmware.

The severity column provides a subjective assessment of how each issue may affect the firmware's usefulness in real applications.

ID	Severity	Description
283	Low	The SET NAME command will not accept names that included spaces.
286	Low	Link key rollover is not currently supported. A maximum of twenty five devices can be trusted at once and connection attempts with a twenty sixth device will fail. <i>Workaround:</i> Use the undocumented SET TRUSTEDLIST OFF command to prevent new devices from being added to the trusted list.
398	Low	When using hardware flow control if the CTS line is inactive (no data sent to the host) and data is waiting to be delivered to the host, the data will not be discarded if the connection is broken. When the CTS line becomes active again, the buffered data will be delivered to the host.

520	High	When sending large amounts of data without using flow control it is possible to overflow the internal data buffers and cause the device to become unresponsive. This is most likely to occur in an environment with either a poor RF signal (lots of data must be retransmitted) or mismatched baud rates with the slower device receiving the data. <i>Workaround:</i> Use flow control or send data more slowly to ensure that data is not backing up in the buffers.
668	Low	At baud rates of 4800bps or less, the ACK text is partially cut off when issuing a RST command. This command causes the device to reboot and the acknowledgement text is not always received before it does.
669	Low	The RST FACTORY command may send the command complete prompt at the factory default baud rate rather than the current baud rate if the command causes the baud rate to change.
671	Medium	When establishing a connection from an ebSerial device to the Toshiba PC Bluetooth stack, if the inbound port of the Toshiba stack is not currently open the ebSerial device will stop responding until the port is opened. <i>Workaround:</i> Make sure the inbound port is open prior to establishing the connection from the ebSerial device.

Table 4: Known Issues for v2.1.097

Issues Addressed Relative to v2.0.247

This section describes issues that have been addressed relative to build 2.0.247.

The severity column provides a subjective assessment of how each issue may have affected the firmware's usefulness in real applications.

ID	Severity	Description
278	Low	If there are extra parameters passed into a command the parser does not send a NCK. This has been corrected so that parser will return a NCK if extra parameters are added to a command.
319	Low	The SET command always persists the setting when the '*' parameter is specified even if the value has not changed. This has been corrected so that the new value is only persisted if it differs from the value that was previously stored.
388	Medium	Transmission of data very quickly after issuing a successful CON command could result in the loss of one or more bytes. This has been corrected so that ready prompt will not be sent to the host until the firmware is able to transmit data to the remote device.
409	Medium	When using hardware flow control, it's possible for a few bytes to be transmitted after the CTS line has been unsignaled by the host. This timing has been corrected so that no data will be transmitted after the CTS line is unsignaled.
522	Medium	If the break line is driven low prior to a connection being established, commands will not be processed until the break line is driven high and then low again. This has been corrected so that the break line does not need to be toggled if driven low when a connection was established.

600	Low	Extra spaces in commands can cause a NAK in certain circumstances. This has been corrected and extra spaces are now properly ignored in all cases.
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Table 5: Issues Addressed Relative to v2.0.247

Document References

Document Title	A7 Reference
eb100-SER Product Information Datasheet	A7-DS-eb100-SER.pdf
Wireless Serial Port Firmware Reference Manual	A7-UM-ebSerial.pdf

Terms and Definitions

ACK	Positive Acknowledge
Bluetooth®	Short range radio technology used for data transfer
DFU	Device Firmware Upgrade
DUN	Dial-Up Networking
EasyConnect™	Simple pairing, security and connection scheme for Bluetooth devices
Host	Application's microcontroller
NAK	Negative Acknowledge
SDP	Service Discovery Protocol
SIG	Special Interest Group; the Bluetooth SIG controls the Bluetooth specifications
SPP	Serial Port Profile
UART	Universal Asynchronous Receiver Transmitter

Document History

Revision	Date	History
001a	March 31, 2007	Initial publication of this document