

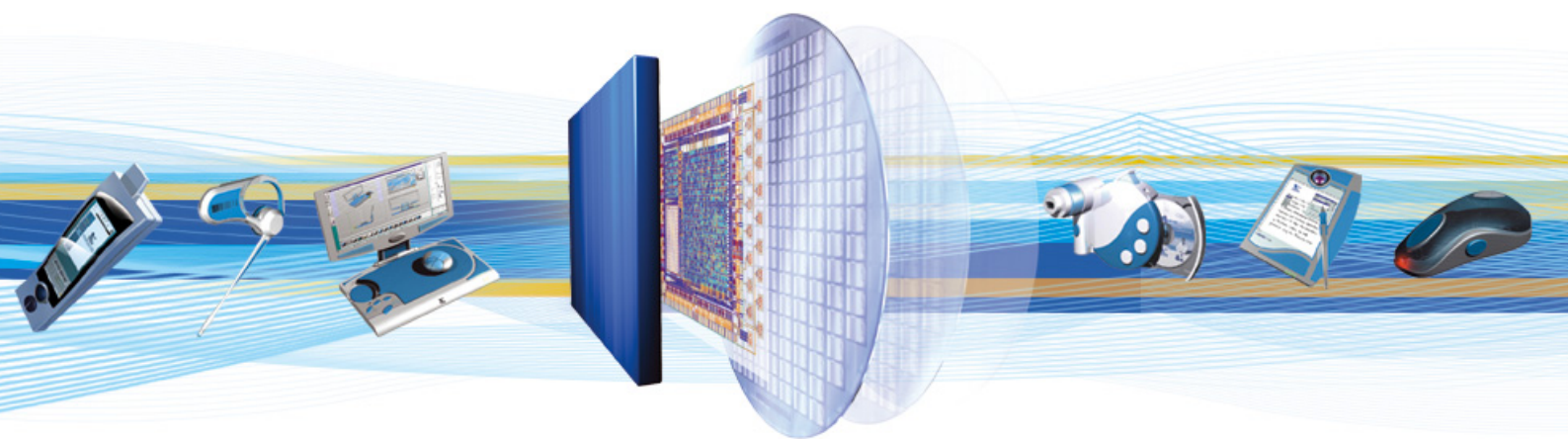


BlueCore™

BlueSuite™ v1.21

Release Note

February 2005



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1 Introduction

This document describes software release **BlueSuite™** v1.21 for CSR's **BlueCore™** Bluetooth® wireless technology chips. This adds bug fixes and some functional enhancements to BlueSuite v1.20, the previous BlueSuite release.

2 Target Devices

The release runs with all previously released versions of the BlueCore chip, and all firmware releases. Some features present in this software, including some new Persistent Store keys, may not be pertinent or present on all firmware releases.

3 Target Software

Apart from the CE versions, the software is able to run on the following Win32 platforms:

- Windows® 2000
- Windows XP Home + Professional

BlueSuite v1.21 has not been developed for Windows CE. CSR will continue to support the 1.20 version of BlueSuite for Windows CE.

4 Components

This release comprises the following software components:

- BlueChat
- BlueTest
- PSTool (and PSCLI)
- BlueFlash (and BlueFlashCmd)
- BTCLI
- RFCLI
- E2Write
- E2Util
- Test DLLs
- SPI device driver
- SPI DLLs
- HCI source code
- USB device driver
- Install scripts
- Windows CE versions of BlueChat

BlueSuite is presented in two release versions, BlueSuiteCasira for use with Casira™ and BlueSuiteCMSira for use with NanoSira™. BlueSuiteCasira is a strict superset of BlueSuiteCMSira, and contains all the above components. BlueSuiteCMSira contains:

- BlueChat
- PSTool
- USB device driver
- Install scripts
- Windows CE version of BlueChat

CSR provides software releases on compact disk (CD) for inclusion with its hardware products. The CD for BlueSuite for Casira contains the following components:

- BlueSuite
- DFUWizard
- BlueLab (including Cygwin and Java RE)
- Acrobat
- Microsoft installer
- Documentation
- Readme file
- HCI Source code
- USB Device Driver
- Install program

The CD containing BlueSuite for MicroSira contains the following:

- BlueSuite
- DFUWizard
- Acrobat Reader
- Microsoft installer
- Documentation
- Readme file
- USB Device Driver
- Install program

5 Testing

5.1 Win32

The software has been tested in the following environments:

- Windows 2000
- Windows XP

Testing was performed with the following HCI firmware builds:

- 16.14
- 18.0
- 18.1 for BC3MM and PSTool

No formal testing was performed on RFCLI, E2Util, E2Write or BTCLI. However, these applications were smoke tested outside in addition to the script test.

The HCI source code release was shown to compile successfully under the environment described in its install note.

5.2 Scope of testing

Not all firmware versions were tested with all components on all platforms. Table 5-1 shows which firmware versions were tested with which components.

| | Win2K | WinXP(p) |
|------------------|---|---|
| Firmware Version | HCISStack1.1v16.14 HCISStack1.1v18.0 | HCISStack1.1v16.14 HCISStack1.1v18.0 |
| PSTool | F | F |
| BlueFlash | F | F |
| BlueTest | F | F |
| BTCLI | F | F |
| BlueChat | E | F |
| RFCLI | E | F |
| PSCLI | F | F |

Table 5-1: Testing on Firmware Versions

F = Full Test

E = Some tests completed on every transport

Appendix A Functional Changes Relative to BlueSuite v1.20

This section lists the significant functional changes made to the firmware relative to BlueSuite v1.20. See also the list of Known Issues addressed in Appendix B.

| ID | Description |
|--------|--|
| B-27 | The USB device driver was not releasing bandwidth on close. |
| B-214 | SCO over USB fails. It loses packetisation after 4 seconds. |
| B-237 | Adding a SCO connection to USB can cause the HCI interface to lock up. |
| B-364 | BlueCore2 with stacked flash had chip erase problems in BlueFlash. |
| B-584 | PSTool now displays the presentation or base keys in the Description dialog. |
| B-655 | There is no facility to access the Factory store from within the Stores menu on PSTool. |
| B-657 | On a Kalimba Plug-and-Go module, you get "Recognised AMD on BlueCore 2". This should read "... BlueCore 3". |
| B-699 | Some tools were incorrectly decoding and reporting the air mode from the HCI_Synchronous_Connection_Complete event. |
| B-1273 | Allow the USB Transport to use the longer internal device names. |
| B-1487 | In BlueFlash many of the chip variants were not correctly identified. |
| B-1708 | The Canned Operations for Baud rate have been modified to cater for the new baud rate PS Key in HCI 18 and newer firmware. |
| B-2284 | BTCLI's -p option does not work anymore. |
| B-2310 | Additional Stores options were added to PSTool |
| B-2368 | There is an undocumented mode of behaviour in BlueFlash's Firmware ID function. If the chip is stopped, the Firmware ID will report the ID of the DFU Loader (if present). If the chip is running, the Firmware ID will report the ID of the main Bluetooth Stack. |
| B-2461 | There were some apparent memory leaks in a few of the Test Engine functions. |
| B-2511 | The host code did not perform peer restart detection. |
| B-2565 | Broadcast mode of BlueFlashCmd.exe mis-programmed flash device on port #3 occasionally. |
| B-2604 | BlueFlash now reports more BlueCore chip variants. |
| B-2612 | In PSTool, some Presentation keys were missing from the list in for HCI 18 and newer Firmware. |
| B-2681 | Refactor the on-chip application from BlueFlash for future maintainability. |
| B-2878 | Usbpurger.exe has a fixed list of VIDs + PIDs it purges on. You can now add a specific VID+PID on the command line, so you can purge the drivers for custom BlueCore applications. |
| B-2938 | The key list in PSTool now gets refreshed when the user clicks on Reconnect. |
| B-3151 | The btclctrl application, used to start up BTCLI, is missing the H5 transport. |

| | |
|---------------|---|
| B-3388 | Improved the flash size measurement in BlueFlash to use the CFI data if available, and a look-up table if not. |
| B-3467 | Incorporated several fixes to the USB device driver from IVT. |
| B-3555 | When you reset the chip using USB as a transport, the transport failed to reconnect. |
| B-3597 | The delay for some applications to enumerate the COM ports has been reduced. |
| B-3620 | BlueCore2 Stacked Flash devices can now perform the Chip Erase operation. |
| B-3742 | Improved the command line help for PSCLI. |
| B-3834 | BlueFlash and BlueFlashCmd now support Kalimba Stacked Flash. |
| B-3889 | Selection of non-standard port settings (especially multispi) has been improved. |
| B-4150 | Changed algorithm, for determining sector write in BlueFlashCmd -broad so there is an additional CRC calculation. This means sectors are now correctly written to after partial flash erases. |
| B-4499 | In BlueFlashCmd -broad mode, we are now more sensitive to the timeouts on potentially failing devices. |
| B-4699 | SPI transports failed on fast (>2.1GHz) machines. The problem was caused by a signed integer being used for storing the clock speed. |

Table 5-2: Functional Changes Relative to BlueSuite v1.20

Appendix B Known Issues

The following issues are known and unresolved at the time of release.

| ID | Description |
|--------|---|
| B-176 | Local loopback mode makes BTCL I crash in USB mode. |
| B-184 | Some copyright fields in software versions contain the wrong date. |
| B-287 | BlueChat's Chat mode may stop after about a minute. |
| B-3231 | BlueFlash can contain more than one reference to the same filename, but which can contain different or old versions of the file. This may be confusing. |
| B-3259 | In the event of an SPI failure, PSTool still displays too many warning messages. |
| B-4574 | Command-line tools should display version information as a matter of course |

Table 5-3: Known Issues

Abbreviations and Definitions

| | |
|------------------|--|
| BCSP | BlueCore Serial Protocol |
| BIST | Built-In Self-Test |
| BlueChat | Software for demonstrating and exercising BlueCore chips |
| BlueCore™ | Group term for CSR's range of Bluetooth wireless technology chips |
| BlueFlash | Software for programming BlueCore's associated flash device |
| BlueLab | CSR's development toolset for building applications to run in the firmware's VM |
| BlueSuite™ | BlueCore family of software utilities for Bluetooth evaluation and development |
| BlueTest | Software for executing BlueCore's BIST functions |
| Bluetooth® | Set of technologies providing audio and data transfer over short-range radio connections |
| BTCLI | Command-line based software for exercising the HCI layer of BlueCore |
| Casira™ | CSR's main Bluetooth evaluation hardware system |
| CD | Compact Disk |
| CSR | Cambridge Silicon Radio |
| DFU | Device Firmware Upgrade |
| DLL | Dynamically Linked Library |
| E2Write | Command-line application for writing BlueLab applications to I ² C EEPROM devices over an SPI interface |
| EEPROM | Electrically Erasable Programmable Read Only Memory |
| HCI | Host Controller Interface |
| HCI Source Code | Source code for CSR's implantations of BCSP, H4 and USB, along with primitive conversion and device management |
| I ² C | Inter-Integrated Circuit |
| Persistent Store | Storage of BlueCore's configuration values in non-volatile memory |
| PS Key | Persistent Store Key |
| PSTool | Software for manipulating the BlueCore's Persistent Store |
| RFCLI | Command line application to communicate with RFCOMM firmware |
| RFCOMM | Protocol layer providing serial port emulation over L2CAP; element of Bluetooth |
| SPI | Serial Peripheral Interface |
| USB | Universal Serial Bus |
| VM | Virtual Machine |
| Windows CE | Embeddable version of Microsoft's Windows operating system |

Record of Changes

| Date | Revision | Reason for Change |
|-----------|----------|---|
| 28 FEB 05 | a | Original publication of this document. (CSR reference: bcore-srn-064Pa) |

BlueCore™

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