BlueCore™
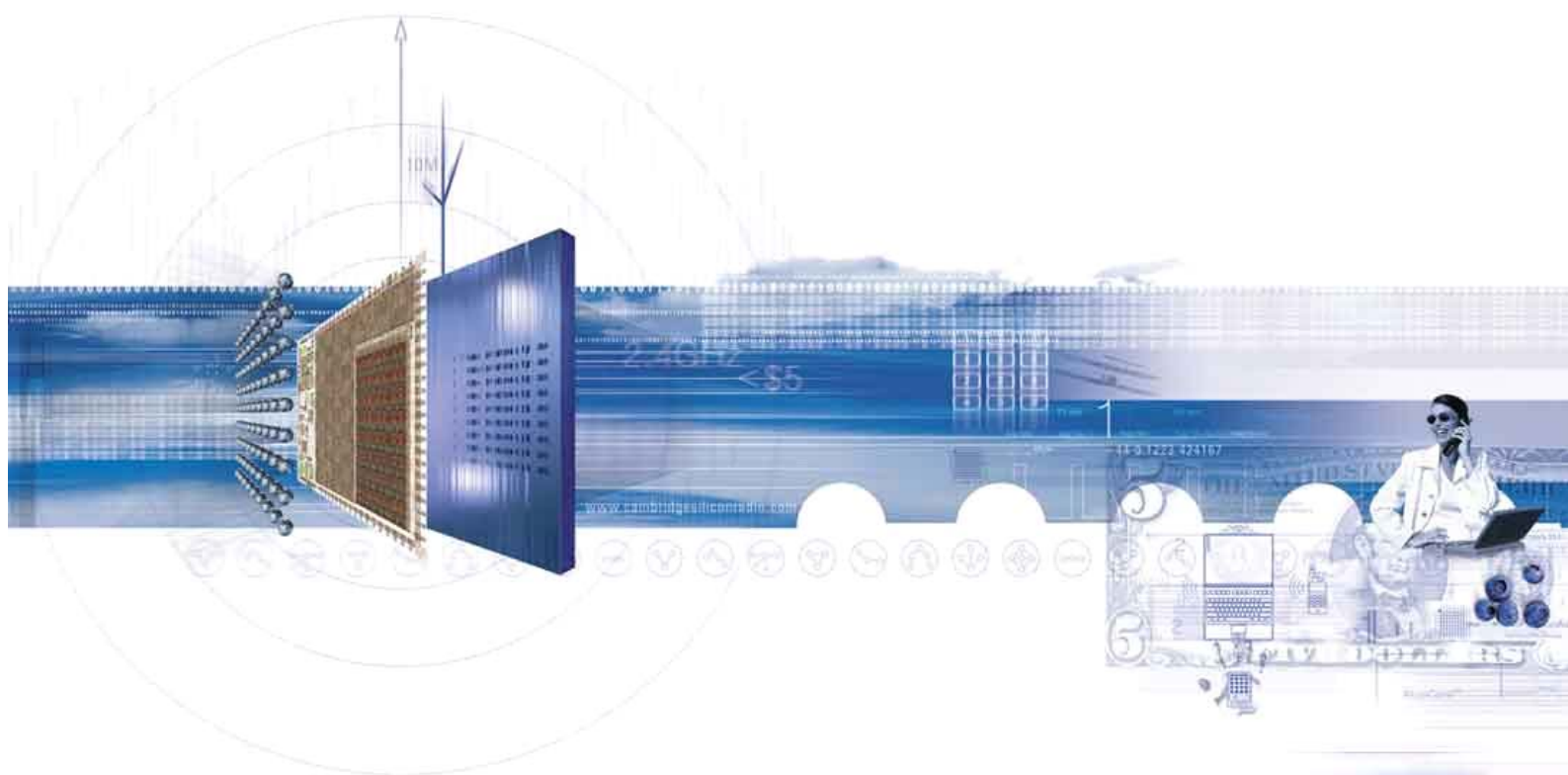
BlueSuite v1.20

Release Note

April 2004

CSR

Cambridge Science Park
Milton Road
Cambridge
CB4 0WH
United Kingdom

Registered in England 3665875

Tel: +44 (0)1223 692000
Fax: +44 (0)1223 692001
www.csr.com

Contents

List of Tables

BlueSuite™ v1.20 Software Release Note

1   Introduction

This document describes software release BlueSuite™ v1.20 for CSR's **BlueCore™** Bluetooth® wireless technology chips. This adds bug fixes and some functional enhancements to BlueSuite v1.19 (the previous BlueSuite release).

BlueSuite™ v1.20 Software Release Note

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.

BlueSuite™ v1.20 Software Release Note

3 Target Software

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

- Windows® NT4

- Windows 2000

- Windows XP Home + Professional

Note:

Windows NT4 does not support USB.

CE versions of the software are supplied for the following CE platforms, but the CE software can be built with the EVC tool chain for other CE targets:

- HPC 2000 (ARM)

- Pocket PC (ARM)

- Pocket PC (SH3)

- Pocket PC (MIPS)

- HPC Pro v2.11 (ARM)

BlueSuite™ v1.20 Software Release Note

4 Components

This release is comprised of the following software components:

- BlueChat
- BlueTest
- PSTool (and PSCLI)
- BlueFlash (and BlueFlashCmd)
- BTCLI
- RFCLI
- E2Write
- E2Util
- SPI device driver
- SPI DLLs
- Test 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 contains all of the components listed above. BlueSuiteCMSira is a strict subset of BlueSuiteCasira and contains the following components:

- 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)
- BTW
- Acrobat
- Microsoft installer
- Documentation
- Readme file
- HCI Source code
- Device Drivers (Widcomm only; Widcom + CSR DFU; CSR)
- Install program

The CD for BlueSuite for NanoSira contains the following components:

- BlueSuite
- DFUWizard
- BTW
- Acrobat Reader
- Microsoft installer
- Documentation
- Readme file
- Device Drivers (Widcomm only; Widcom + CSR DFU; CSR)
- Install program

BlueSuite™ v1.20 Software Release Note

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:

- HCIStack1.1v16.14
- HCIStack1.2v18.0
- HCIStack1.2v18.1 for BlueCore3-Multimedia 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 installation note.

CE code releases (where they were made available) were shown to compile.

5.2 Windows CE

The following hardware was used for Windows CE testing:

- HP Jornada 720 (Windows CE 3.0)
- HP Jornada 820 (Windows CE 2.11)

5.3 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(h)	WinXP(p)	CE3.0
Firmware Version	HCIStack1.1v16.14 HCIStack1.2v18.0	HCIStack1.1v16.14 HCIStack1.2v18.0	HCIStack1.1v16.14 HCIStack1.2v18.0	
PSTool	F	E	E	N/A
BlueFlash	F	F	E	N/A
BlueTest	F	S	S	F
Btcli	F	S	S	F
BlueChat	F	S	S	F

Table 5.1: Testing on Firmware Versions

F = Full test
E = Some tests were completed on every transport
S = Some tests were completed on one transport

BlueSuite™ v1.20 Software Release Note

Appendix A Functional Changes Relative to BlueSuite v1.19

This section lists the significant functional changes made to the software relative to BlueSuite v1.19. See also the list of Known Issues, addressed in Appendix B .

ID	Description
B-256	The addition of AFH to CSR chips broke some of the BlueStack DM prims corresponding to HCI_STATUS commands.
B-301	PSTool has been modified to provide more reliable operation with firmware that has the facility for disabling Shallow Sleep.
B-351	When H4 lost sync (therefore needed a reset), the Host Stack (as used by several applications) used to fail.
B-393	PS Key 976 PSKEY_HOST_INTERFACE_PIO_H4 had an incorrect friendly name.
B-488	BlueChat time-out when attached to a dead chip.
B-515	A header file, testps.h, was missing from the distibution of TestFlash.dll.
B-542	RFCLI: the progam appeared to hang intermittently after data transfer.
B-547	BTCLI's 'memget' command and equivalent bcget functions were broken.
B-556	Using Ctrl-C in RFCLI caused a hang under XP.
B-584	PSTool now displays the presentation or base keys in the description dialog.
B-594	RFCLI had an intermittent null-pointer dereference
B-600	The SPI mutex sometimes allowed a second access to the LPT. This caused applications to crash.
B-643	BTCLI: There were miscellaneous bugs in the HCI 1.2 support.
B-649	RFCLI: bug in link key handling.
B-661	In BTCLI, AFH map, psget, memget, bufget, I2CWrite and E2Write were all broken.
B-670	RFCLI: the transfer time was reported with an incorrect value.
B-672	RFCLI: null pointer dereference when used with multiple slaves.
B-677	The SPI_CLK line remained high after any SPI operation.
B-723	In PSTool, Presentation keys cannot be deleted, so the **Delete** button is now greyed out for Presentation keys.
B-753	RFCLI: the primdebug +raw command had been disabled.
B-754	RFCLI: there was no option for displaying the flow control token independently of the data.
B-755	RFCLI: BC_option primdebug was rewritten. Now called primd.
B-765	CE utilities were edited so they can compile on XScale.
B-802	PSTool: User now has to press a button marked **ENTRY NOT PRESENT - Click to add** before they can edit and add a key that is not present.
B-880	SPI: Changed the clear_clk function on SPI to drive CSB high and MOSI low. This should mean that the lines will be appropriately configured after the first use.
B-881	BTCLI now displays chip debug messages from channel 11.
B-897	RFCLI: there was a bug in the AGP, meaning received packets were dropped.
B-899	PSTool now allows the user to delete from a specific PS layer, per the Stores menu.
B-913	Multiline commands have "flush stdout" inserted at line breaks.
B-1085	In some versions of PSTool, an error in the transport caused an application crash. This has been fixed so the error is now signalled to the application.
B-1103	BTCLI now copes with new-style key lists.
B-1118	Shallow Sleep slowed down PSTool.
B-1125	PSTool used to pop up too many warning dialogs when there was an SPI failure.
B-1183	The ps_clear function in production test used the ClearAll bccmd varid. It now uses the Clear varid.

BlueSuite™ v1.20 Software Release Note

ID	Description
B-1184	RFCLI: BC_option timeout now measured in seconds, not milliseconds.
B-1269	RFCLI can now report the failure modes of the transport.
B-1306	UART related PS Keys cannot be edited in a friendly manner.
B-1394	There was a race condition in the destruction of the Device Controller which meant some data was not received by the applications.
B-1396	BlueTest on CE used to fail if some of the more recent tests were used.
B-1490	BTCLI: inquiry with rssi, results were sometimes garbled.
B-1498	BC_ttrfcomm re-uses parameter 6 (rx_reissue_credits) as transfer_time.
B-1502	BTCLI log was not cleared during some link establishment circumstances.
B-1510	in RFCLI, The SDC_SERVICE_SEARCH_REQ primitive decoder had a problem with the srch_pttrn member.
B-1514	BTCLI was not rejecting broken HCI event packets.
B-1586	Modified the host stack to cope with the Bluetooth v1.2 inquiry result.
B-1663	bccmd handling was changed in the host stack for the new radio test commands.
B-1809	Windows 98 and ME support has been dropped. Csrmfc.dll (which is a customised MFC DLL added to cater for Windows 98 and Unicode) was removed from all the DLLs in BlueSuite.
B-1813	The license agreement was modified to include a "Governing Law" clause.
B-1823	RFCLI: debug instrumentation was stripped out.
B-1908	BTCLI does not decode inquiry_result_with_rssi events correctly.
B-1910	SPI: Sometimes simultaneous access to the SPI port by two separate applications (e.g., PSTool and BlueFlash) used to cause the application to crash.
B-1974	Incorrect/invalid link keys used to be returned under some circumstances.
B-2051	In PSTool (when using BCSP) a reset followed by repeated reads causes a crash.
B-2052	in PSTool, user can now edit the device name in plain text. If access to the raw hex is still needed, use Edit Raw.
B-2275	In PSTool, UTF-8 encoded strings are now nul terminated prior to display.
B-2309	BlueFlash and PSTool now display the long firmware name (where available) on the firmware.
B-2341	BlueFlash: code was refactored for a regular way of reading the symbol look up table.
B-2342	The PSHelp DLL was refactored to allow new implementations of the Persistent Store (that do not need a working chip) to be more easily written.
B-2365	RFCLI: there was a bug in BC_option +agpmode random that resulted in an invalid agp mode.
B-2452	PSTool did not connect to BlueCore3-Multimedia chips running HCIStack1.2v18.x firmware until there had been some UART activity.
B-2458	BlueFlash: fixed a warning in the ReadFiles function.
SLX-46	The packer for the DM_HCI_WRITE_CURRENT_IAC_LAP had a problem with primitive length.

Table 5.2: Functional Changes Relative to BlueSuite v1.19

BlueSuite™ v1.20 Software Release Note

Appendix B   Known Issues

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

ID	Description
B-176	Local loopback mode makes BTCLI crash in USB mode.
B-184	Some copyright fields in software versions contain the wrong date.
B-214	SCO over USB fails; it looses packetisation after four seconds.
B-237	Adding a SCO connection to USB can cause the HCI interface to lock-up.
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, "Recognised AMD on BlueCore 2" displays. This should read ".. BlueCore 3".
B-1273	Allow the USB transport to use the longer internal device names.
B-2284	BTCLI's -p option does not work.
B-2310	In PSTool, the Stores options available from the menu are not comprehensive.

Table 5.3: Known Issues

BlueSuite™ v1.20 Software Release Note

Acronyms and Definitions

AFH	Adaptive Frequency Hopping
AGP	Automatically Generated Payload (in RFCLI; used for data transfer testing)
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
BTW	Widcomm's BlueTooth for Windows software; a PC-based Bluetooth stack offering Dial-Up-Networking, Fax, Object Exchange, Serial Port and Network Access
Casira™	CSR's main Bluetooth evaluation hardware system
CD	Compact Disk
CSR	Cambridge Silicon Radio
DFU	Device Firmware Upgrade
DLL	Dynamically Linked Library
DM	Device Manager
E2Write	Command-line application for writing BlueLab applications to I^2C EEPROM devices over an SPI interface
EEPROM	Electrically Erasable Programmable Read Only Memory
EVC	(tool chain)
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^2C	Inter-Integrated Circuit
Install scripts	Auto-generated programs that perform the installation on Win32 platforms
MFC	Microsoft® Foundation Course
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

BlueSuite™ v1.20 Software Release Note

Record of Changes

Date	Revision	Reason for Change
13 APR 04	a	Original publication of this document. (CSR reference: bcore-srn-040Pa)

BlueCore™

BlueSuite™ v1.20 Software Release Note

bcore-srn-040Pa

April 2004

Bluetooth® and the Bluetooth logos are trademarks owned by Bluetooth SIG, Inc. and licensed to CSR.

BlueCore™ is a trademark of CSR.

All other product, service and company names are trademarks, registered trademarks or service marks of their respective owners.

CSR's products are not authorised for use in life-support or safety-critical applications.

BlueSuite™ v1.20 Software Release Note