



# Getting Started

Bluetooth Application Tool Kit  
LZT 108 3894 R3A

## History

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Thursday, 26 <sup>th</sup> April, 2001	1.4	This document updated to kit revision R3A
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Wednesday, 28 <sup>th</sup> June, 2000	1.2	This document updated to revision R1B
Tuesday, 30 <sup>th</sup> May, 2000	1.1	New release of PC HOST RS and USB driver
Tuesday, 14 <sup>th</sup> March, 2000	1.0	Creation of this document

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LZT 108 3894 R3A

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## CONTENTS

<b>1. LICENSE FOR THE BLUETOOTH APPLICATION TOOL KIT FROM ERICSSON .....</b>	<b>1</b>
1.1 LICENSE AGREEMENT FOR THE SOFTWARE AND THE DOCUMENTATION .....	1
<b>2. GENERAL .....</b>	<b>2</b>
2.1 INTRODUCTION .....	2
2.2 HOST PLATFORMS.....	2
2.3 SUPPORT .....	2
<b>3. PACKAGE CONTENTS .....</b>	<b>3</b>
<b>4. CIRCUIT BOARD DESCRIPTION .....</b>	<b>4</b>
4.1 BOARD JUMPER AREA .....	5
4.2 BOARD UART CONNECTOR .....	5
4.3 BOARD USB CONNECTOR .....	5
4.4 CONNECTING TO ANOTHER POWER SOURCE THAN USB .....	5
<b>5. INSTALLATION AND SET-UP.....</b>	<b>6</b>
5.1 INTRODUCTION .....	6
5.2 INSTALLATION PROCEDURE .....	6
5.3 USB DRIVER INSTALLATION .....	8
5.4 NEW USB DRIVER AND OLD HARDWARE.....	8
<b>6. BLUETOOTH PC REFERENCE STACK .....</b>	<b>9</b>
6.1 BLUETOOTH PC REFERENCE STACK APPLICATIONS.....	9
<b>7. EC-DECLARATION OF CONFORMITY.....</b>	<b>10</b>

## 1. License for the Bluetooth Application Tool Kit from Ericsson

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## **2. General**

### **2.1 Introduction**

The Tool Kit is a product for development and/or demonstration purpose only and it has not been formally tested for compliance with the Bluetooth specifications. Qualification for the Tool Kit is based upon a declaration of compliance with the Bluetooth Specification 1.0B except critical erratas. It is listed as a qualified product on the Official Bluetooth Website.

On this version (R2A) of the Bluetooth PC Reference Stack, you may select either USB or UART as the HCI transport layer.

If UART is selected, the communication is assumed to be free from line errors. RTS/CTS flow control has to be used. The first decoded HCI command received by the Bluetooth module through either of the USB or UART ports determines which port to be selected. The other one is switched off, until next hardware reset.

The supply current for the Bluetooth Module is through the USB cable or through an alternative separate connector (see section 4 below).

Source code supplied with the Tool Kit should be seen as an example with no warranties regarding fitness for any particular purpose.

The Tool Kit does not support transmission of voice data.

### **2.2 Host platforms**

The Bluetooth PC Reference Stack requires Windows 98 (ed. 2) or 2000 environment for USB. If only UART support is required, Windows 98, 2000 or NT may be used.

### **2.3 Support**

For support, please contact:

Sigma ComTec AB  
Trade Center  
Kristian IV:s Väg 3  
302 50 Halmstad

E-mail: [info@comtec.sigma.se](mailto:info@comtec.sigma.se)

Internet: <http://www.comtec.sigma.se>

#### **NOTE!**

Ericsson Microelectronics or its agents do not support this Tool Kit. They do however support the Bluetooth Module (ROK 101 008).

### 3. Package Contents

- Tool Kit board complete with Bluetooth Module, on board inverted-F antenna and with connectors for USB (Type B) and RS232 (pin header)
- Type A to Type B USB Cable
- 9 way female to female RS232 cable
- RS232 adapter cable
- CD\_ROM including:
  - A PC ported executable of the Bluetooth Reference Host Stack with a few demo applications. This software contains selected higher layers of the Bluetooth protocol stack (HCI-Driver, L2CAP, SDP and RFCOMM), together with a uniform interface and some sample applications.
  - Bluetooth USB driver
  - User's Manual – Bluetooth PC Reference Stack by Ericsson
  - Datasheet of the Bluetooth Module (rok101008.pdf)

## 4. Circuit board description

The hardware consists of a two-layer printed circuit board equipped with a UART buffer, a voltage regulator, a few passive components and the Bluetooth Module of Ericsson. This Bluetooth Module (ROK101 008) includes the Ericsson Baseband device, a Flash Memory and the Ericsson Radio Module device.

For technical details of the Bluetooth Module please look in the datasheet rok101008.pdf included on the Tool Kit CD.

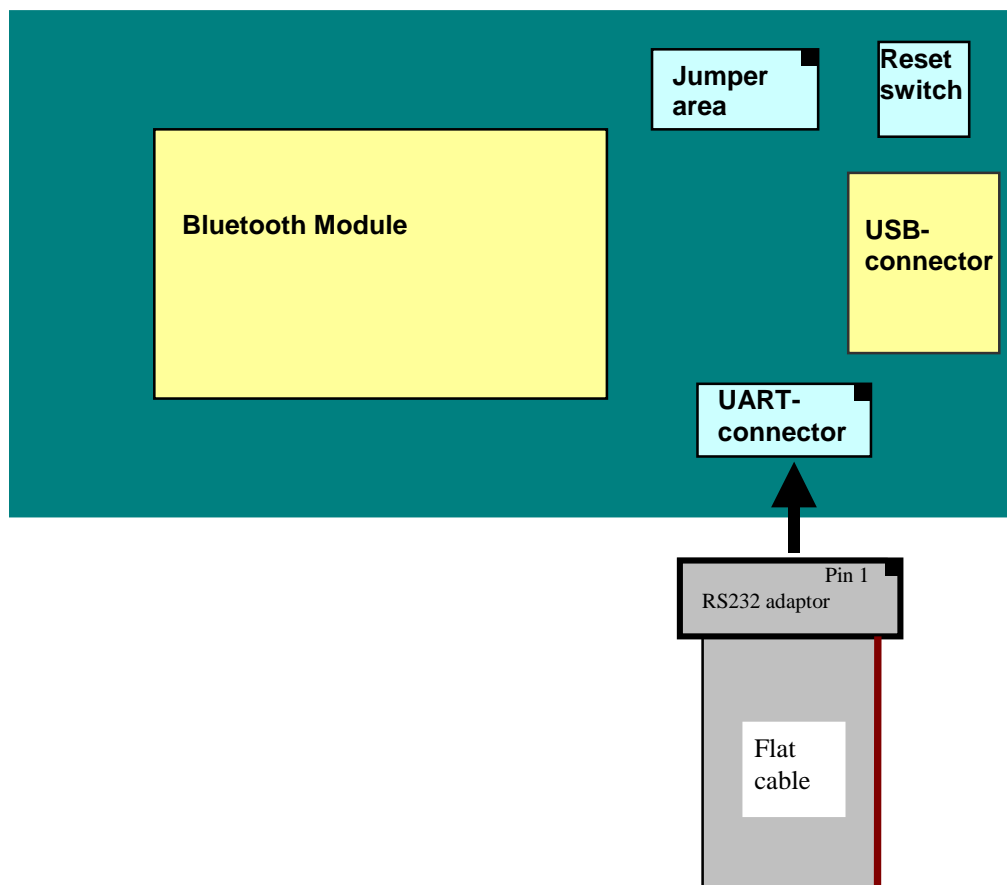


Figure 2: The Tool Kit circuit board

To make easy access possible to certain signals, a jumper area is included on the Tool Kit. The signals in this jumper area and in the other two board connectors are listed in the tables below. Designators within brackets refer to the pin description for the Bluetooth Module in its data sheet.

PCM enables voice use together with an external CODEC-system, but there is no support for this implementation in the Tool Kit.

Note that pin 1 of the connectors is marked with a square dot in the previous layout picture.

#### 4.1 Board Jumper area

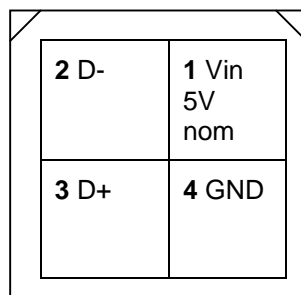
<b>9</b> RESET (R3)	<b>7</b> PCM_IN (A1)	<b>5</b> PCM_OUT (A2)	<b>3</b> WAKE_UP (B4)	<b>1</b> Vin 5V nom
<b>10</b> GND	<b>8</b> DETACH (C1)	<b>6</b> VCC 3.3V * (C2, C4 and C6)	<b>4</b> PCM_SYNK (A3)	<b>2</b> PCM_CLK (A4)

\*) Pin 6 is an output with a load capacity of a few milliamps only.

#### 4.2 Board Uart connector

<b>9</b> GND	<b>7</b> not used	<b>5</b> TXD (B5)	<b>3</b> RXD (A5)	<b>1</b> not used
<b>10</b> not used	<b>8</b> not used	<b>6</b> RTS (A6)	<b>4</b> CTS (B6)	<b>2</b> not used

#### 4.3 Board USB connector



Note: The USB functionality of the Bluetooth Module (ROK 101 008) is present, but not included in the data sheet (rok101008.pdf).

#### 4.4 Connecting to another power source than USB

If an alternative to the power supply through USB is preferred, the requirements are listed below:

- Supply voltage: min +4.4 V, max +5.25 V connected to Jumper area pin 1 (relative GND pin 10)
- Minimum supply current: 100 mA



## 5. INSTALLATION AND SET-UP

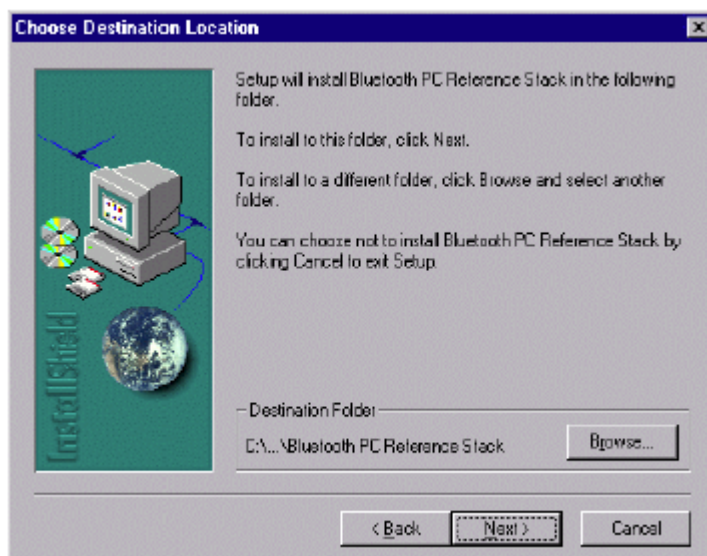
### 5.1 Introduction

This chapter describes installation procedure of the Bluetooth PC Reference Stack.

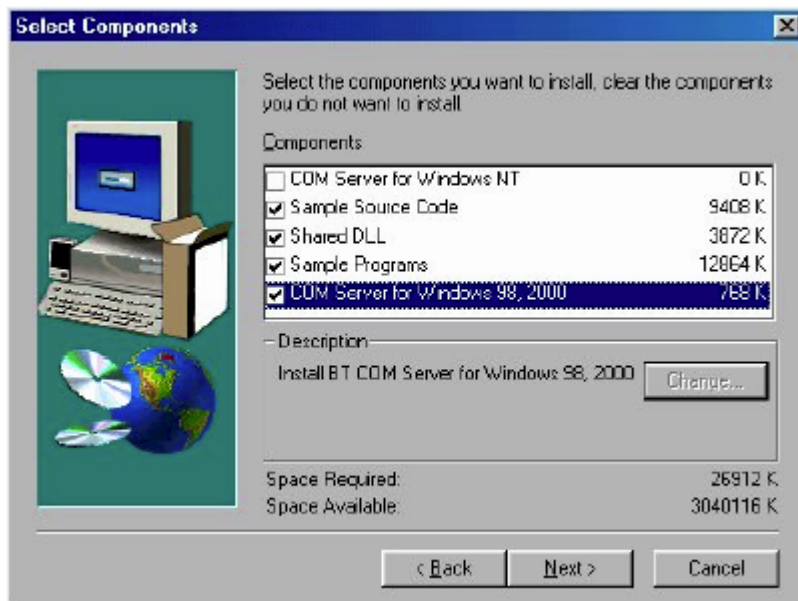
### 5.2 Installation procedure

The Tool Kit board should be disconnected until the installation procedure is completed, to avoid problems with the subsequent USB driver installation.

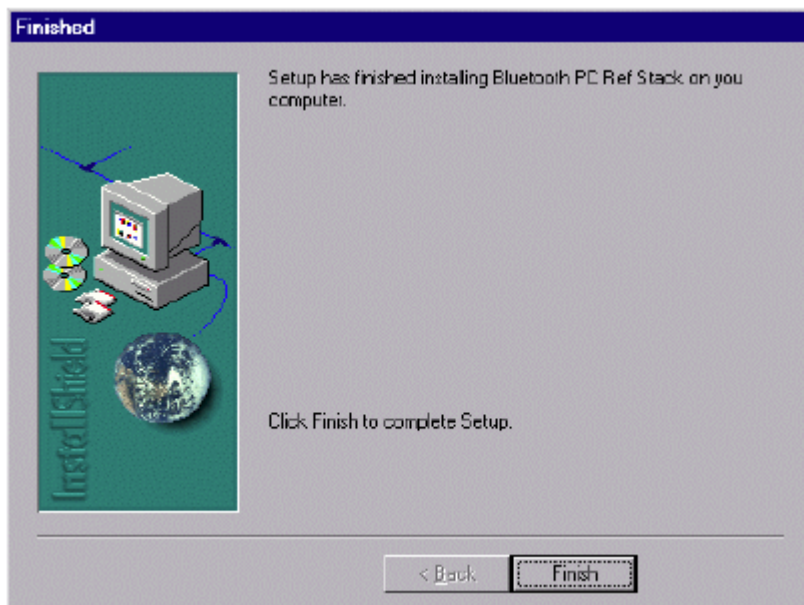
This release is delivered as an install shield, where you have to run 'setup' either by clicking the "Install PC Stack" button in the CD autostart picture, or to run it in the Bluetooth PC Reference Stack directory on the CD. This setup will also install the PC reference stack as a COM-server to your PC.



*Select destination folder*



Select components (Note: The "COM Server for Windows 98, 2000" supports USB)



Setup procedure complete

### 5.3 USB Driver installation

**Note:** *This section does not apply for Windows NT.*

After installing the Bluetooth PC Reference Stack software in a suitable directory, the USB driver has to be installed, if applicable (i.e. Windows 98, 2000). The factory installed jumper between pin 8 and 10 on the board jumper area is necessary.

Connect the Tool Kit to the USB port of the computer. The operating system will detect the new hardware and search for files needed. A dialog box will appear asking for files needed.

In this dialog browse to the ebtusb.sys file, located at C:/WINNT/System32/drivers on Win 2000 or C:/WINDOWS/System/drivers on Win 98. Press the OK button and the driver will be installed.

The driver should be loaded by the operating system when a Tool Kit is connected to the computer's USB port. The driver should be found under Universal Serial Bus Controllers in the Device Manager (Win 98).

### 5.4 New USB Driver and old hardware

The USB device description has been changed in the .inf file, and its filename been changed in the R2A release of the Bluetooth PC Reference Stack from "Ebtusb.inf" to "Ebtusb Irma-BP5\_13A.inf"

If the user have older hardware the new driver will work, but to make the system recognize the hardware the old ebtusb.inf from previous installation has to be present in the ..\system32\ catalog (Win 2000).

This ends up in two cases:

1. The user has an old PC Reference Stack release installed, and installs the new R2A release. The old .inf file remains, but the driver is updated. All hardware is recognized and the new driver is used.
2. The user installs R2A on a fresh computer. Old hardware is not recognized. The old ebtusb.inf file is needed. The .inf file should be copied to ..\system32 catalog (Win 2000). Then the old hardware is recognized and the driver should work without problems.

## **6. Bluetooth PC Reference Stack**

The Bluetooth PC Reference Stack is a PC ported version of the Bluetooth Host Stack, which is a software component developed by Ericsson to enable local wireless connections between devices such as mobile computers, handheld units, mobile phones, LAN access points, digital cameras headsets etc. This Bluetooth Host Stack is independent of operating system and hardware.

The Bluetooth Host Stack complies with the Bluetooth Specification and will be used in many Ericsson products. It is a Qualified pre-tested Component with the Covered Functionality of: HCI Driver, L2CAP, RFCOMM and SDP. The TCS and OBEX component are also included in this release.

The Bluetooth PC Reference Stack communicates with the Bluetooth Module from Ericsson on the Tool Kit via the HCI interface, which is standardized by the Bluetooth Special Interest Group (SIG).

Documentation of the interface and the functionality provided by the Bluetooth PC Reference Stack and the set-up procedure is included in 11 separate pdf-documents and one release note found in the target subfolder "doc".

### **6.1 Bluetooth PC Reference Stack Applications**

There are two sample applications with source code on the Tool Kit CD.

- A sample application that demonstrates connect/disconnect of a headset profile (with source code). This application is made in order to demonstrate the message flow towards the stack API, and it does not take care of the actual voice transfer.
- A sample application that demonstrates a chat application (with source code).

The sample applications utilize the COM server, which includes the Bluetooth PC Reference Stack (source code NOT included).

## 7. EC-Declaration of Conformity

### EU-Konformitätserklärung EC-Declaration of Conformity

Hersteller / Verantwortliche Person:  
Manufacturer / responsible person: ERICSSON Mobile Communications AB

Adresse / Address: Nya Vattentorget  
221 83 Lund  
Sweden

Erklärt, dass das Produkt / Declares that the product:

Typ / type: ERICSSON  
Modell / model: Bluetooth Application Tool Kit  
Verwendungszweck / Intended use: Development of Bluetooth products

bei bestimmungsmäßiger Verwendung den grundlegenden Anforderungen gemäß Artikel 3 der R&TTE-Richtlinie 1999/5/EG entspricht und daß die folgenden Normen angewandt wurden:  
complies with the essential requirements of Article 3 of the R&TTE 1999/5/EC Directive, if used for its intended use and that the following standards has been applied:

- 1 Gesundheit (Artikel 3.1.a der R&TTE-Richtlinie)  
Health (Article 3.1.a of the R&TTE Directive)  
angewendete Norm(en) n.a. Ausgabe ---  
applied standard(s) --- issue
- 2 Sicherheit (Artikel 3.1.a der R&TTE-Richtlinie)  
Safety (Article 3.1.a of the R&TTE Directive)  
angewendete Norm(en) EM 60950:1992 + A1:1992 + A2:1993 Ausgabe 1992  
applied standard(s) + A3:1995 + A4:1997 issue
- 3 Elektromagnetische Verträglichkeit (Artikel 3.1.b der R&TTE-Richtlinie)  
Electromagnetic compatibility (Article 3.1.b of the R&TTE Directive)  
angewendete Norm(en) ETS 300826 Ausgabe 11/1997  
applied standard(s) --- issue
- 4 Effiziente Nutzung des Funkfrequenzspektrums (Artikel 3.2 der R&TTE-Richtlinie)  
efficient use of the radio frequency spectrum (Article 3.2 of the R&TTE Directive)  
angewendete Norm(en) ETS 300328:11/1996 + A1:07/1997 Ausgabe 11/1996  
applied standard(s) --- issue

Lund, 2001-10-25  
(Ort und Datum der Konformitätserklärung)  
(Place and date of the declaration of conformity)

  
Lars Knutsson  
(Name und Unterschrift)  
(Name and signature)