Android RIL setup user guide

1VV0300959 Rev.0 – 2011-10-05

Making machines talk.

APPLICABILITY TABLE

PRODUCT
HE863 FAMILY

SW Version
R2.00.00

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Notice

While reasonable efforts have been made to assure the accuracy of this document, Telit assumes no liability resulting from any inaccuracies or omissions in this document, or from use of the information obtained herein. The information in this document has been carefully checked and is believed to be entirely reliable. However, no responsibility is assumed for inaccuracies or omissions. Telit reserves the right to make changes to any products described herein and reserves the right to revise this document and to make changes from time to time in content hereof with no obligation to notify any person of revisions or changes. Telit does not assume any liability arising out of the application or use of any product, software, or circuit described herein; neither does it convey license under its patent rights or the rights of others.

It is possible that this publication may contain references to, or information about Telit products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that Telit intends to announce such Telit products, programming, or services in your country.

Copyrights

This instruction manual and the Telit products described in this instruction manual may be, include or describe copyrighted Telit material, such as computer programs stored in semiconductor memories or other media. Laws in the Italy and other countries preserve for Telit and its licensors certain exclusive rights for copyrighted material, including the exclusive right to copy, reproduce in any form, distribute and make derivative works of the copyrighted material. Accordingly, any copyrighted material of Telit and its licensors contained herein or in the Telit products described in this instruction manual may not be copied, reproduced, distributed, merged or modified in any manner without the express written permission of Telit. Furthermore, the purchase of Telit products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Telit, as arises by operation of law in the sale of a product.

Computer Software Copyrights

The Telit and 3rd Party supplied Software (SW) products described in this instruction manual may include copyrighted Telit and other 3rd Party supplied computer programs stored in semiconductor memories or other media. Laws in the Italy and other countries preserve for Telit and other 3rd Party supplied SW certain exclusive rights for copyrighted computer programs, including the exclusive right to copy or reproduce in any form the copyrighted computer program. Accordingly, any copyrighted Telit or other 3rd Party supplied SW computer programs contained in the Telit products described in this instruction manual may not be copied (reverse engineered) or reproduced in any manner without the express written permission of Telit or the 3rd Party SW supplier. Furthermore, the purchase of Telit products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Telit or other 3rd Party supplied SW, except for the normal non-exclusive, royalty free license to use that arises by operation of law in the sale of a product.

Usage and Disclosure Restrictions

License Agreements

The software described in this document is the property of Telit and its licensors. It is furnished by express license agreement only and may be used only in accordance with the terms of such an agreement.

Copyrighted Materials

Software and documentation are copyrighted materials. Making unauthorized copies is prohibited by law. No part of the software or documentation may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without prior written permission of Telit

High Risk Materials

Components, units, or third-party products used in the product described herein are NOT fault-tolerant and are NOT designed, manufactured, or intended for use as on-line control equipment in the following hazardous environments requiring fail-safe controls: the operation of Nuclear Facilities, Aircraft Navigation or Aircraft Communication Systems, Air Traffic Control, Life Support, or Weapons Systems (High Risk Activities"). Telit and its supplier(s) specifically disclaim any expressed or implied warranty of fitness for such High Risk Activities.

Trademarks

TELIT and the Stylized T Logo are registered in Trademark Office. All other product or service names are the property of their respective owners.

Copyright © Telit Communications S.p.A. 2011.

Contents

1. Introduction

1.1. Scope

Scope of this document is to show how to install Telit RIL library in an Android device.

1.2. Audience

This document is intended for those who want to use Telit modules with an Android device.

1.3. Contact Information, Support

For general contact, technical support, to report documentation errors and to order manuals, contact Telit Technical Support Center (TTSC) at:

TS-EMEA@telit.com
TS-NORTHAMERICA@telit.com
TS-LATINAMERICA@telit.com
TS-APAC@telit.com

Alternatively, use:

http://www.telit.com/en/products/technical-support-center/contact.php

For detailed information about where you can buy the Telit modules or for recommendations on accessories and components visit:

http://www.telit.com

To register for product news and announcements or for product questions contact Telit Technical Support Center (TTSC).

Our aim is to make this guide as helpful as possible. Keep us informed of your comments and suggestions for improvements.

Telit appreciates feedback from the users of our information.

1.4. Document Organization

This document contains the following chapters (sample):

"Chapter 1: "Introduction" provides a scope for this document, target audience, contact and support information, and text conventions.

"Chapter 2: "Building Telit RIL library" describes how to compile and build Telit RIL Android library.

"Chapter 3: "Installing Telit RIL library" describes how to install Telit RIL Android library.

"Chapter 4: "Document history" describes the releases of this document.

1.5. Text Conventions

Danger – This information MUST be followed or catastrophic equipment failure or bodily injury may occur.

Caution or Warning – Alerts the user to important points about integrating the module, if these points are not followed, the module and end user equipment may fail or malfunction.

Tip or Information – Provides advice and suggestions that may be useful when integrating the module.

All dates are in ISO 8601 format, i.e. YYYY-MM-DD.

1.6. Related Documents

- Telit_HE863-Family_Hardware_User_Guide (1vv0300891)
- Telit_HE863-Family_Software_User_Guide (1vv0300893)

2.   Building Telit RIL library

This chapter describes how to build the RIL library from the source files.
In order to receive the updated version of RIL source files please contact Telit Technical
Support (1.3).

2.1.   Compiling the code

- Copy all the files inside the source code package to your platform RIL
  directory of the building host system (usually `<name of the
  platform>/hardware/ril/reference-ril/`).

- Rebuild the entire platform or rebuild only the library: in the latter case the
  library should be manually copied in the Android filesystem to
  `/system/lib/`.

Please refer to your Android distribution documentation for details on how to build the
platform or a specific component.

3. Installing Telit RIL library

This chapter describes how to install the RIL library in an Android device.

3.1. Package content

The package `TelitRILAndroid_R2.00.00.tar.gz` contains the following files:

- `chat`
- `hsdpa_connect`
- `libreference-ril.so` (compiled for AM3517EM)
- `options`
- `set.prop.sh`
- `startPPPD.sh`

3.2. Kernel requirements

For proper installing Telit RIL driver, Android Linux kernel should have cdc-acm and ppp support.

Modem ports in Android system should be:

`/dev/ttyACM0`

`/dev/ttyACM3`

3.3. Copying the required files

For proper installing Telit RIL driver several files should be copied inside Android device:

- Copy `chat` in /system/bin

- Copy `libreference-ril.so` in `/system/lib` (if not already done using the building system)

- Copy `set.prop.sh` in `/system/etc`

- Copy `startPPPD.sh` in `/system/etc`

- Copy `options` in `/system/etc`

- Copy `hsdpa_connect` in `/system/etc`

3.4. Changing Android configuration files

For proper installing Telit RIL driver some configuration files inside Android device should be changed:

- Add the following lines in `init.rc`:

```
chown radio system /dev/ttyACM0
chown radio system /dev/ttyACM3
chown radio system /system/etc/startPPPD.sh
chown radio system /system/etc/set.prop.sh

service ril-daemon /system/bin/rild
socket rild stream 660 root radio
socket rild-debug stream 660 radio system
user root
group radio cache inet misc audio vpn net_admin
```

- Add the following lines in `default.prop`:

```
rild.libpath=/system/lib/libreference-ril.so
rild.libargs=-d /dev/ttyACM0
```

4.   Document History

Revision	Date	Changes
0	2011-10-05	First issue