STX-RLINK

Raisonance's in-circuit debugger/programmer for ST7, uPSD, STR7 and STR9

The ***RLink*** (STX-RLINK) is Raisonance's versatile, low-cost, in-circuit debugger and programmer for ST7, uPSD, STR7 and STR9 microcontrollers. It connects to application or evaluation boards for in-circuit programming and debugging via an industry standard JTAG connection for ARM® core-based and uPSD microcontrollers, or via STMicroelectronic's In-Circuit Communication (ICC) connection for ST7 microcontrollers.

RLink driven by Raisonance's RIDE integrated development environment provides both in-circuit debugging and programming of applications for ST7 and uPSD, and in-circuit programming of STR7/9 microcontrollers. In combination with Raisonance's free RFlasher programming software, RLink can be used as a very-low cost, dedicated in-circuit programmer for ST7, uPSD or STR7/9.

Figure 1. RLink and connection adapters

Architecture

RLink – Raisonance's in-circuit debugging and programming tool supports both JTAG and ICC protocols and connects to your application board via one of three adapters:

- 10-pin ICC adapter for ST7 microcontrollers
- 14-pin JTAG adapter for uPSD microcontrollers
- 20-pin JTAG adapter for STR7 and STR9 microcontrollers

RIDE – Raisonance's integrated development environment drives the RLink and offers seamless control of software development tools (compiler, assembler, linker, debugger, etc.) from an intuitive graphical interface. It offers full integration of the relevant C/C++ toolsets, project management, code editor and SIMICE instruction set simulator. The *optional* Code Compressor, the post link code optimizer is available for both ST7 and uPSD.

RFlasher – Raisonance's easy-to-use device programming interface that drives RLink, allows you to erase, program view and verify microcontroller memory. RFlasher also includes ***automated mode*** for automatic execution of programming sequences for mass programming and ***project mode*** that allows you to save your programming configuration.

Key Features

RLink:

- In-circuit debugging and programming
- Connection to application board via JTAG standard, or ST standard ICC connection
- USB interface to host PC
- Powered from USB

Note: RLinks included with REva starter kits for STR7/9 (STRxxx-SK/RAIS from ST) and Professional Kits for STR7/9 (STX-PRO/RAIS from ST) allow debugging of both STR7 and STR9 microcontrollers.

Note: The RLink does not include trace support for ARM core-based devices with Embedded Trace Macrocell™ such as STR9. Tools with trace capability are available in the STR9 Professional Developer Kit from Raisonance (STR9-DK/RAIS) with Signum JTAGjet, and in the STR91x Advanced Developer's Kit from IAR (STR91X-DK/RAIS) with J-Trace.

RIDE:

All versions include:

- Free downloads of evaluation versions from *www.raisonance.com*
- Free ***RFlasher*** programming software
- High-level language debugging
- Color syntax highlighting editor
- Project manager

RIDE for STR7/9

- GNU C/C++ toolset for ARM
- ***SIMICE*** simulator for STR7/9
- Available in free evaluation version that includes the unlimited GNU C/C++ compiler.

RIDE for ST-uPSD

- RC-51 ANSI C compiler
- ***SIMICE*** simulator for 8051 core-base devices
- Available in free evaluation version with 4KB code-size limited version of the RC51 compiler, unlimited debugging.
- Supports *softExpress* for configuration of uPSD microcontrollers
- Supports ***CComp-51*** code compressor *optional* post-link code optimizer. Applies optimizations such as inlining, factorization and peepholing.

RIDE for ST7

- Cosmic C and Metrowerks C toolsets for ST7
- ***SIMICE-ST7*** simulator
- ***RBuilder*** application builder (requires use of a C compiler) for quick, easy configuration of ST7 peripherals and generation of associated application source code.
- Supports ST7-EMU3 and ST7-DVP3 series emulators
- Supports ***CodeCompressor***, Raisonance's optional post-link code optimizer. Applies optimizations such as inlining, factorization and peepholing.
- Available in free evaluation version with unlimited debugging.

Note: RIDE for ST7 is compatible with the free 16K code-size limited version of the Cosmic C toolset. For more information and free downloads, refer to www.cosmic-software.com.

Ordering information

Raisonance development tools can be ordered from Raisonance or from your nearest ST Distributor or sales office. When ordering the RLink from ST, use the order code STX-RLINK.

For more information, documentation and downloads, please refer to *www.raisonance.com*. For supported microcontrollers refer to *www.raisonance.com* or the STMicroelectronics microcontroller support site, *www.st.com/mcu*.

Revision history

Date	Revision	Changes
1-December-2005	1	Initial release.
8-February-2006	2	• Corrected to indicate in-circuit debugging capabilities and Code Compressor for ST7
20-June-2006	3	• Added STR9 microcontroller family to supported devices

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST’s terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST’S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZE REPRESENTATIVE OF ST, ST PRODUCTS ARE NOT DESIGNED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS, WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.
Nomadik is a registered trademark of STMicroelectronics in Hong Kong, Japan, South Korea, Taiwan, International (China, Switzerland, Norway, Singapore, Turkey) European Community (CEE countries). Registration is pending in Canada, USA and Israel.
Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2006 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com