



## Stream it! – RZ now in new version 2.0!



### Overview

The Stream it! – RZ solution kit is an out-of-the-box evaluation and development platform for streaming applications, such as IP based video and radio streams, as well as security applications, such as video surveillance and video/fingerprint based access control.

Stream-it! – RZ is also best suited for all kinds of web server based applications in the home automation, energy and industrial automation segments.

In order to enable a fast development ramp, Renesas provides several related application specific quick start guides, complete with sample software and easy-to-follow set-up instructions.

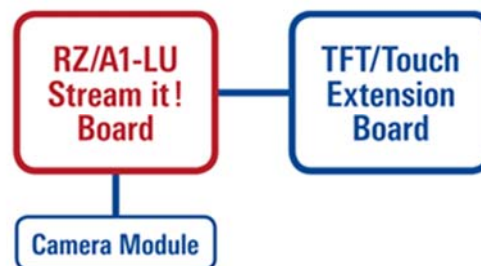


## Target applications for Stream it! – RZ – V2.0

- MJPEG streaming
- Webservice
- Webradio
- h.264 video encoding
- WiFi

## Stream it! – RZ – V2.0 enhancements

The second generation of the very popular Stream-it! – RZ solution kit has been improved in four dimensions. First, Stream-it! – RZ - V2.0 features a much more feature-rich RZ/A embedded MPU (eMPU), called RZ/A1-LU. Second, in addition to the camera module, the solution kit now comes with a touch enabled 4.3 inch TFT-LCD (thin-film transistor liquid crystal display) module and an optional Wi-Fi module required for many of the streaming centric quick start guide applications. Third, the related software offering, including many downloadable source code packages has been vastly extended. And last, but not least, the eMPU main board has been enriched with additional functionality, while remaining software compatible.



## Stream it! – RZ – V2.0 in action!

Stream it! – RZ – V2 comes with a pre-loaded demo package for quick evaluation. Next to a simple touch based selection menu, designers can test the new solution kit in a sample game scene, a notepad scene or a camera scene. Additional software examples will be added to this website continuously.



## Stream it! – RZ – V2.0 is based on RZ/A1-LU

Version 2.0 of the new Stream-it! - RZ solution kit is based on the ARM Cortex™-A9 based RZ/A1-LU MPU with 3MB of embedded SRAM, giving the designer the unique opportunity to work with MPU performance at MCU cost. Compared with RZ/A1-L, which served as the brain of the original Stream-it solution kit, RZ/A1-LU has been enhanced with various high-end features, such as JPEG compression in hardware, dual DDR QSPI interface for fast serial NOR Flash connections and Ethernet AVB for high-speed audio and video transfer. On the security side, RZ/A1-LU comes equipped with enhanced secure JTAG, enhanced secure boot loader and a true random number generator (TRNG). The EthernetAVB has a dedicated direct memory access controller (AVB-DMAC) for transferring transmitted Ethernet frames to and received Ethernet frames from respective storage areas in the on-chip RAM at high speed.



	RZ/A1-LC	RZ/A1-L	RZ/A1-LU	RZ/A1-M	RZ/A1-H
CPU	ARM Cortex-A9	ARM Cortex-A9	ARM Cortex-A9	ARM Cortex-A9	ARM Cortex-A9
clock	400MHz	400MHz	400MHz	400MHz	400MHz
SRAM	2MB	3MB	3MB	5MB	10MB
Resolution	800x480px	800x480px	800x480px	1024x600px	1280x800px
QSPI	SDR	SDR	DDR	DDR	DDR

Please see RZ/A1-L hardware manual

[https://www.renesas.com/eneu/doc/products/mpumcu/doc/rz/r01uh0437ej0300\\_rz\\_a1l.pdf?key=293f24d61bb9758cd1a583e7b07cd4ac](https://www.renesas.com/eneu/doc/products/mpumcu/doc/rz/r01uh0437ej0300_rz_a1l.pdf?key=293f24d61bb9758cd1a583e7b07cd4ac)

Please see RZ/A1-M/H hardware manual

[https://www.renesas.com/en-eu/doc/products/mpumcu/doc/rz/r01uh0403ej0300\\_rz\\_a1h.pdf](https://www.renesas.com/en-eu/doc/products/mpumcu/doc/rz/r01uh0403ej0300_rz_a1h.pdf)

## **Package Content**

- Stream it! – RZ –V2 board
- Touch/TFTmodul (4.3 inch)
- Camera module
- JTAG on-chip debugger
- Quick Start Guide
- CDROM, including user manual, demo applications and more.

## **Documentation**

- Hardware Manual
- Quick Start Guide for set up
- Quick Start Guide for use cases
- Schematics
- CE Declaration
- RoHS Declaration

## **Software Downloads**

- Pre-loaded demo package

## **Stream it! – RZ – V2.0 Partner Network**

A solution in the semiconductor space can be defined as a complete offering of hardware, software and services enabling the broadest range of customers to quickly, easily and flexibly start development of their applications. In today's complex world with the highest requirements in all aspects, such a complete solution can only be achieved by efficiently and effectively collaborating partners. Renesas Electronics has very successfully brought together a team of partners, which all lead in their respective fields, resulting in a highly optimized solution.

Hardware partners	Component	Software partners	Software
Murata	2.4 GHz IEEE 802.11b/g/n Wi-Fi module	Murata	WICED SDK for RZ/A
NDK	Crystal Units (32 kHz, 25 MHz, 48 MHz)	Consilient Technologies	h.264, AAC
Macronix	Serial Flash memory (64 MB)	Oryx Embedded	TCP/IP, web server, web radio
Würth Elektronik	Connectors, headers, inductors, switches, etc.	freeRTOS	Operating system used for demo software
ON Semiconductor	Power switch, EEPROM, ESD protection, Reset monitor	SEGGER	RTOS, middleware, security and communication stacks for RZ/A family
Winbond	High-speed SDRAM (32 MB)		
SEGGER	Debug probes		



## Ordering Information

Part number: **YSTREAM-IT-RZ-V2**