RX64M Group

RX Driver Package Release Note

R01AN2534EJ0101
Rev.1.01
Jan 5, 2015

Contents

1. Operating Environment

This product runs under the operating environment described below.

Table 1.1 Operating Environment

Microcontroller	RX64M Group
Evaluation board	Renesas Starter Kit+ RX64M
Integrated development environment (IDE)	e^2 studio, V3.1.2 or later Or: CS+ V3.00.00 or later
Cross tools	RX Family C/C++ Compiler Package V2.02.00 or later
Emulator	E1, E20

2. User's Manual

Please read the following user's manuals together with this document.

Table 2.1 User's Manual

Manual Name	Document Number
RX64M Group RX Driver Package User's Manual	R01AN2460EJ0101

3. Product Structure

The table below lists the FIT modules included in this product.

Table 3.1 RX64M Group RX Driver Package FIT Modules

Type	Module	FIT Module Name	Version
Board Support Package	Board support package	r_bsp	2.70
Device Driver	Interrupt Controller (IRQ)	r_irq_rx	1.30
Device Driver	Data transfer controller (DTC)	r_dtc_rx	2.01
Device Driver	DMA controller (DMAC)	r_dmaca_rx	1.01
Device Driver	General-purpose I/O	r_gpio_rx	1.30
Device Driver	Multi-function pin controller (MPC)	r_mpc_rx	1.30
Device Driver	Compare match timer (CMT)	r_cmt_rx	2.40
Device Driver	Compare Match Timer W (CMTW)	r_cmtw_rx	1.00
Device Driver	Real-Time Clock (RTC)	r_rtc_rx	2.10
Device Driver	Serial Communications Interface with FIFO (SCI: Asynchronous/Clock Synchronous)	r_scif_rx	1.00
Device Driver	Serial Communications Interface (SCI: Simple I2C Bus)	r_sci_rx64m	1.00
Device Driver	I2C Bus Interface (RIIC)	r_riic_rx	1.05
Device Driver	Serial Peripheral Interface (RSPI: Device Driver for Serial Memory Control)	r_rspi_smstr_rx	1.07
Device Driver	Quad Serial Peripheral Interface (QSPI: Device Driver for Serial Memory Control)	r_qspi_smstr_rx	1.06
Device Driver	USB basic firmware	r_usb_basic	1.00
Device Driver	USB host communication device class	r_usb_hcdc	1.00
Device Driver	USB host human interface device class	r_usb_hhid	1.00
Device Driver	USB host mass storage class	r_usb_hmsc	1.00
Device Driver	USB peripheral communication device class	r_usb_pcdc	1.00
Device Driver	USB peripheral mass storage class	r_usb_pmsc	1.00
Device Driver	Ethernet controller PTP controller (EPTPC)	r_ptp_api_rx	1.01
Device Driver	Ethernet controller (ETHERC)	r_ether_rx	1.00
Device Driver	12-Bit A/D Converter (S12AD)	r_s12ad_rx64m	1.00
Device Driver	D/A Converter (DAC)	r_dac_rx	2.10
Device Driver	Flash Memory (Flash API)	r_flash_rx	1.11
Device Driver	Sampling rate converter (SRC)	r_src_api_rx	1.10
Device Driver	Serial Sound Interface (SSI)	r_ssi_api_rx	1.00
Device Driver	Parallel Data Capture Unit (PDC)	r_pdc_rx	1.00
Device Driver	Byte Queue Buffer (Data Management)	r_byteq	1.20
Device Driver	Long Queue Buffer (Data Management)	r_longq	1.20
Middleware	M3S-S2-Tiny (ADPCM encoding/decoding library)	r_s2_rx	3.01
Middleware	M3S-T4-Tiny (TCP/IP protocol stack library)	r_t4_rx	2.01
Middleware	M3S-TFAT-Tiny (FAT file system)	r_tfat_rx	3.00
Middleware	DHCP Client Module	r_t4_dhcp_client_rx	1.01
Middleware	DNS Client Module	r_t4_dns_client_rx	1.01
Middleware	FTP Server Module	r_t4_ftp_server_rx	1.02

Type	Module	FIT Module Name	Version
Middleware	HTTP Server Module	r_t4_http_server_rx	1.03
Interface	POSIX Wrapper	r_posix	1.00
Interface	Socket API Module for M3S-T4-Tiny	r_socket	1.20
Interface	Interface Conversion for Ethernet Controller Driver Module for M3S-T4-Tiny	r_t4_driver_rx64m	1.01
Interface	File driver for FTP server and Web server Module	r_t4_file_driver_rx	1.00
Interface	M3S-TFAT-Tiny Memory Driver Interface Module	r_tfat_driver_rx	1.00

4. Cautions

4.1 Use of evaluation version

This product include the M3S-T4-Tiny (TCP/IP protocol stack library) of evaluation version.

We provide the evaluation version as a sample code for customers adopting Renesas microcontrollers. In addition, we do not offer any technical supports for the evaluation version.

For the commercial version, please go to the below URL.

http://www.renesas.com/mw/t4

5. Changes

I did added or updated the following modules.

- Board support package Updated
- Data transfer controller (DTC) Updated
- Compare match timer (CMT) Updated
- Compare Match Timer W (CMTW) Added
- Real-Time Clock (RTC) Added
- Serial Communications Interface with FIFO (SCI: Asynchronous/Clock Synchronous) Added
- Serial Communications Interface (SCI: Simple I2C Bus) Added
- I2C Bus Interface (RIIC) Added
- Serial Peripheral Interface (RSPI: Device Driver for Serial Memory Control) Updated
- 12-Bit A/D Converter (S12AD) Added
- D/A Converter (DAC) Added
- Flash Memory (Flash API) Added
- Sampling rate converter (SRC) Updated
- Parallel Data Capture Unit (PDC) Added
- Byte Queue Buffer (Data Management) Added
- Long Queue Buffer (Data Management) Added
- M3S-T4-Tiny (TCP/IP protocol stack library) Updated
- DHCP Client Module Added
- DNS Client Module Added
- FTP Server Module Added
- HTTP Server Module Added
- POSIX Wrapper Added
- Socket API Module for M3S-T4-Tiny Updated
- Interface Conversion for Ethernet Controller Driver Module for M3S-T4-Tiny Update
- File driver for FTP server and Web server Module Added
- M3S-TFAT-Tiny Memory Driver Interface Module Added

Website and Support

Renesas Electronics Website
http://www.renesas.com/

Inquiries
http://www.renesas.com/contact/

M3S-T4-Tiny (TCP/IP protocol stack library)
http://www.renesas.com/mw/t4

M3S-TFAT-Tiny (FAT file system)
http://www.renesas.com/mw/tfat

M3S-S2-Tiny (ADPCM encoding/decoding library)
http://www.renesas.com/mw/s2

Revision History

		Description	
Rev.	**Date**	**Page**	**Summary**
1.00	Sep 1, 2014	-	First edition issued
1.01	Jan 5, 2015	-	Updated existing modules to latest modules. Added new release modules to the package.

General Precautions in the Handling of MPU/MCU Products

The following usage notes are applicable to all MPU/MCU products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Handling of Unused Pins
   Handle unused pins in accord with the directions given under Handling of Unused Pins in the manual.
   — The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.
2. Processing at Power-on
   The state of the product is undefined at the moment when power is supplied.
   — The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed. In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.
3. Prohibition of Access to Reserved Addresses
   Access to reserved addresses is prohibited.
   — The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.
4. Clock Signals
   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.
   — When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.
5. Differences between Products
   Before changing from one product to another, i.e. to a product with a different type number, confirm that the change will not lead to problems.
   — The characteristics of an MPU or MCU in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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