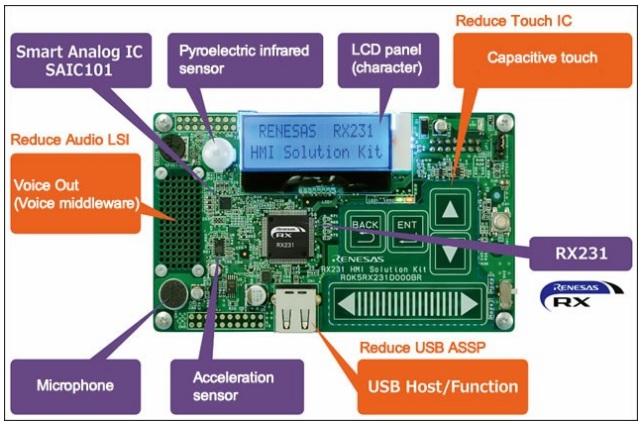
R0K5RX231D000BR (RX231 HMI Solution Kit)

This solution is a high-function version of the R0K578L1CD000BR (RL78/L1C HMI Solution Kit).

(1)System Demo close to the actual product is available.
(2)Development period and system cost can be reduced.
(3)Sensor controlling application can be realized MCU and Smart Analog IC.

Product Info Design Support Documents Ordering



Enlarge

Features

HMI Evaluation board
- High power efficiency 32-bit MCU "RX231" built-in Capacitive Touch detection and USB Host I/F.
- Smart Analog IC "SAIC101" for controlling 16-bit A/D Converters and the amplifier gain.
- Capacitive Touch switch function
- Voice memo function (with Speaker and Microphone)
- LCD Panel (Character)
- Pyroelectric infrared sensor, Acceleration sensor
- USB Connector (Host/Function)

Battery box (Excluding AAA battery)

Release note (Users manual and Schematic diagram, Part list are ready to download from following URL)

Note: Demo software is programed in Flash ROM for USB, LCD, Capacitive Touch, Voice Memo, Sensor control, Pedometer etc.

【Example】

(1)System Demo close to the actual product is available.
・Combination of HMI such as Touch switch, sensor input, LCD display, voice sound record and playback, etc.
・Sensor application waking up MCU by a sensor input trigger.
⇒ Reducing the period for planning and specification developing

(2)Utilize this product as a reference for user's development.
Reducing the number of external components and peripheral IC and the dimension size of the PCB by integrated functions of "RX231" and "SAIC101".
・RX231: Touch sensor IC and sound playback IC, USB I/F IC can be reduced.
・SAIC101: The discreet components such as an operation amplifier and a resister can be reduced.
⇒ Reducing the development time and resource, a system cost

(3)Reducing software development period by utilizing sample software as the reference.
⇒ Reducing 20% of Software development period.

Downloaded from Arrow.com.

(4)The development of Power saving and M2M application is ready.
Smart Analog IC automatic calibration by MCU is available.
⇒Realizing sensor controlling system with high reliability.

Sample software

This software has developed by Firmware Integration Technology(FIT) module which Renesas developed and inherited FIT features. It is easy to develop user application program when user uses this software as the base program.

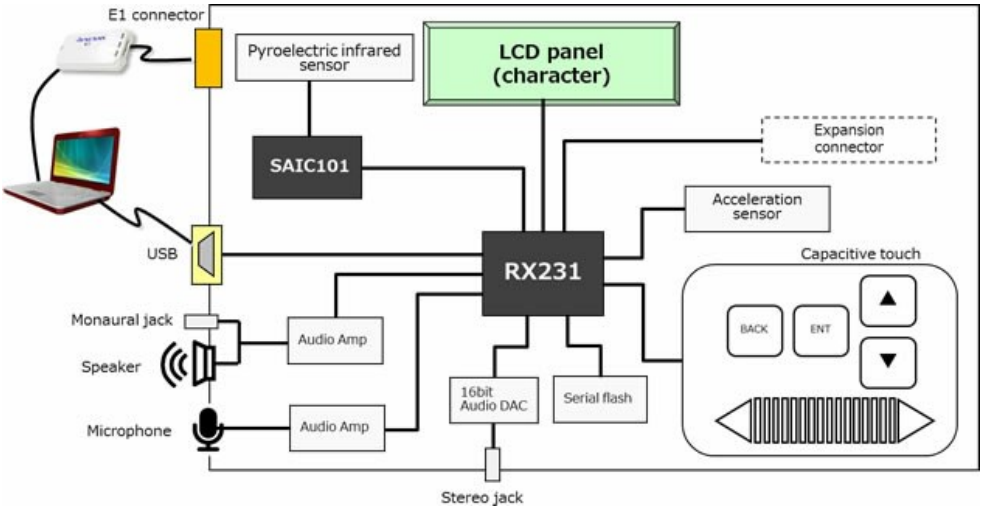
Key Features

Item		Specifications
Dimensions		120×70×27 mm (battery box: 70×48×20 mm)
Power supply		(a)Battery box (three AA batteries)
		(b)AC adapter (sold separately)
		(c)USB micro-B (USB bus-powered)
Input voltage		3.5V-5.5V
Environmental conditions		Operating: 10 to 35°C, Storage: - 10 to 50°C
Microcontroller		RX231 : R5F52318ADFP (ROM/RAM:512KB/64KB, PKG : 100LQFP)
Smart Analog IC		SAIC101 : RAA7301013CBG
Flash memory		MX25L6433FM2I-08G(64Mbit)
Oscillation device		Oscillator : 16MHz, 32.768kHz,
		Oscillation (module) : 11.2896MHz
Sensors		・Pyroelectric infrared sensor (Detected by SAIC101)
		・Acceleration sensor (Detected by RX231)
Display		・LCD displays: 1 (16 characters x 2 lines)
		・LED displays: 2 (LED1 - green, LED2 - orange)
Key input		・Cap touch (4 buttons, 1 slider)
		・Mechanical push button (interrupt, reset)
		・Mechanical slide (mode switch, USB boot)
Voice record/playback (S/W encoding/decoding)	**Playback**	・1.2 W power amp (TS4990IST)
		・Circuit board mounted speaker
		・Earphone jack (monaural)

Downloaded from Arrow.com.

	Recording	・Capacitor microphone
		・Op-amp (HA1630D06TEL-E)
Music playback		・16-bit audio DAC (PCM1774RGPT)
		・40mW+40mW headphone output (stereo)
Standard interface		・USB Standard-A
		・USB micro-B
Evaluation interface		・for wireless module evaluation (24 5602 024 000 829 H+)
		・for function expansion (2.54mm pitch through-hole)
Debugging interface		E1 connector

Block Diagram



Ordering Information

Product Name	Orderable part number	Availability
RX231 Human Machine Interface Solution Kit	R0K5RX231D000BR	Please see here for more details.
RX231 Human Machine Interface Solution Kit Base Demo Software	RTK5RX2310P00000ZR	

Downloaded from Arrow.com.

© 2010-2018 Renesas Electronics Corporation. All rights reserved.

Downloaded from Arrow.com.