

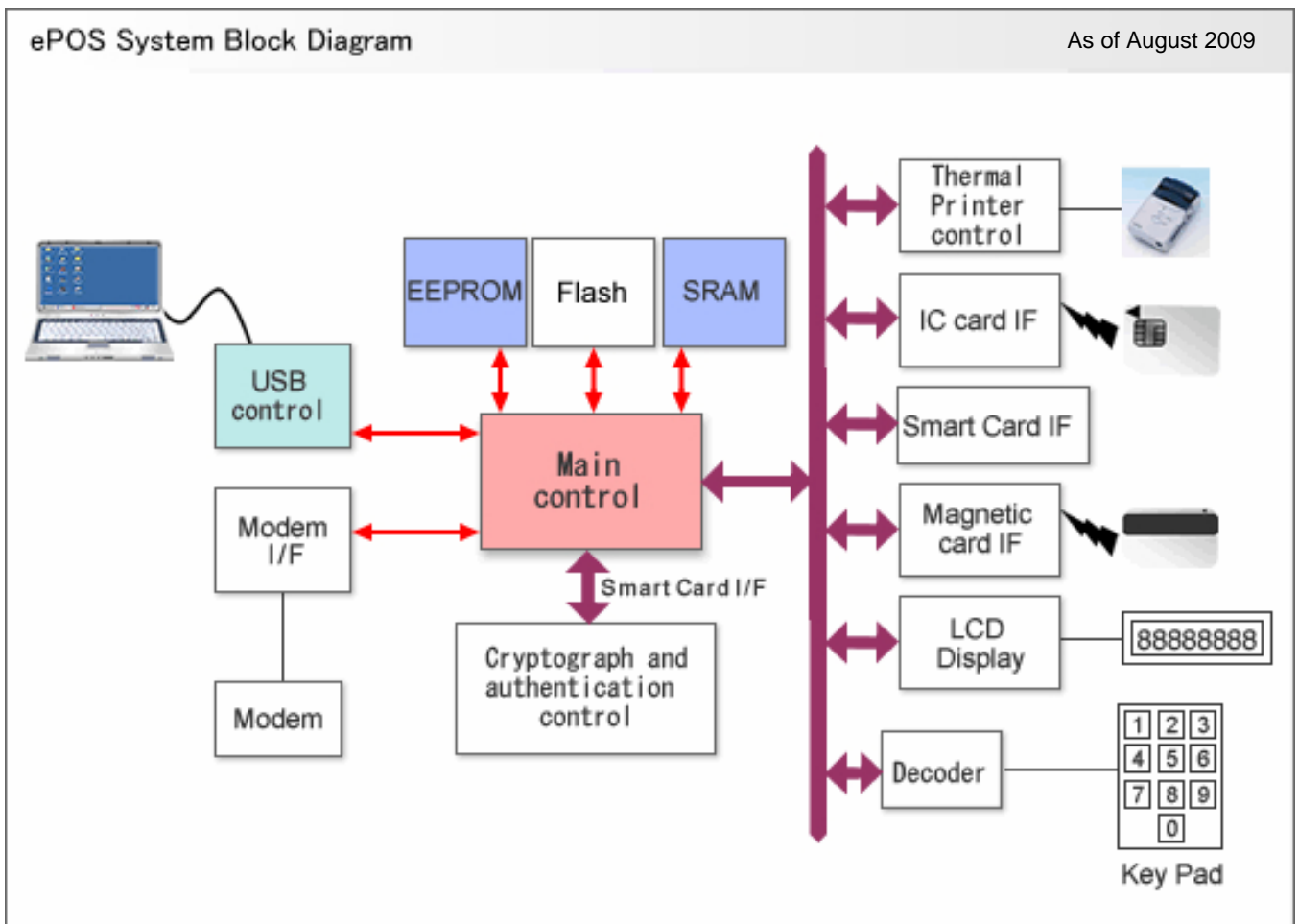
## Outline

As a countermeasure to card fraud caused by copying of the magnetic strip ("skimming"), there is at present an ongoing migration in the industry toward IC cards (Smartcards). When creating practical authentication software, a high performance 200 MHz class MCU is necessary for data coding and decryption.

The ePOS system that Renesas proposes combines the AE series that is specialised for coding and decryption with 16 or 32 Bit MCUs specialised for system control, in order to realize a tamper-proof high performance low cost system.

This system diagram only shows a sample configuration. Refer to the data sheet, etc. for performance and other attributes. Reproduction prohibited.

## System Block Diagram



## Recommended Device

As of August 2009

Block	Semiconductor device	Recommended product name	Features, etc.
Main control	ePOS microcomputer	H8S/2377F	ePOS microcomputer
		H8S/2215F	ePOS microcomputer with built-in USB2.0 (FSD)
		H8SX/1653F	
Cryptograph and authentication control	MCU for IC card	AE43C	Authentication and cryptograph
		AE45C	
		AE46C1	
Magnetic card control	Magnetic card IF	M56710FP	Magnetic card reader LSI
IC card control	IC card IF	-	
USB control	USB ASSP	M38K0, M37643	When full speed is required.
		M66291	
		M66592	When high speed is required.
	Zener diodes	HZD6.8Z4	Low capacitance (4 pF) optimal for use in USB terminal surge absorption
		RKZ6.8Z4MFAKT	
		HZM6.8Z4MWA	
Display	Microcomputer with built-in LCD	38000 Series	Sub-microcomputer with built-in LCD control function
Modem control	Modem IF	-	
Thermal printer control	Motor driver	-	
Memory	Low power consumption SRAM	M5M5256Dxxx	256 Kbit, x 8, 3.0-3.6 V
		M5MV108Dxxx	1 Mbit, x 8, 2.7-3.6 V
		M5M5V208Dxxx	2 Mbit, x 8, 2.7-3.6 V
		M5M5V216Dxxx	2 Mbit, x 16, 2.7-3.6 V
		R1LV0408Cxxx	4 Mbit, x 8, 2.7-3.6 V
		R1LV0416Cxxx	4 Mbit, x 16, 2.7-3.6 V
		M5M5W816xxx	8 Mbit, x 16, 2.7-3.6 V
		M5M5W817xxx	8 Mbit, x 8 x 16, 2.7-3.6 V
		R1LV1616xxx	16 Mbit, x 8 x 16, 2.7-3.6 V
		R1WV3216xxx	32 Mbit, x 8 x 16, 2.7-3.6 V
	EEPROM	R1EX24xxxA Series	I <sup>2</sup> C-bus
		R1EX25xxxA Series	SPI-bus

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