

LSI lineup for in-vehicle display systems

– support of integrated HMI solution –

Advantage

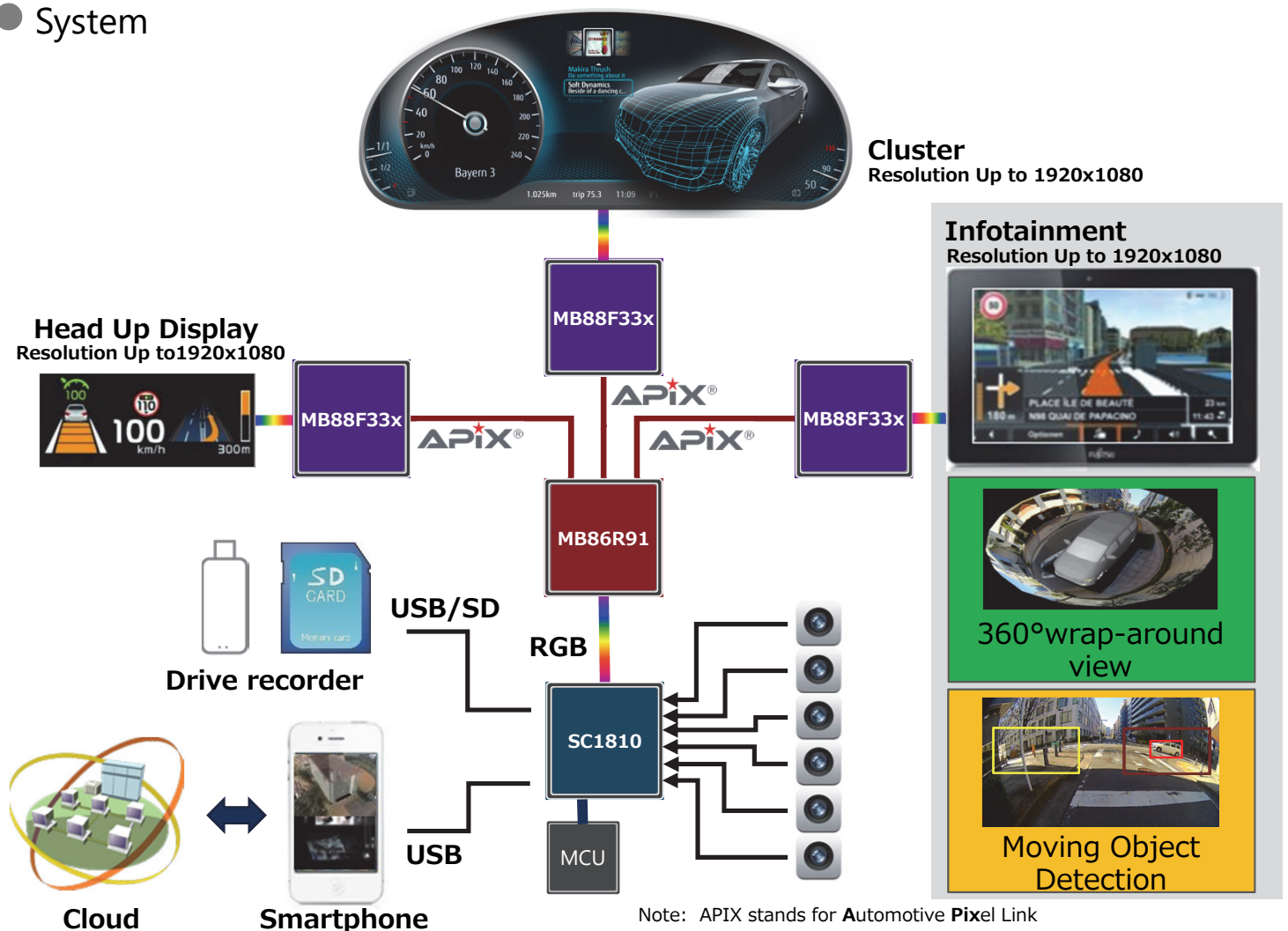
- Modularizing the display can reduce the BOM and enables a single SoC to control the content
- High-performance 2D, 3D engine creates a vivid and impressive display system
- Cooperation with the authoring tool enables cluster designs in reduced time

Overview

Unlike traditional in-vehicle display systems, the Socionext solution does not use a controller for each display. Instead Socionext integrates its high-performance graphics SoCs and ancillary chipsets to create an integrated HMI solution that enables low-cost, simple configurations. The system frees the designer from previous development cycles, which make it difficult to apply increasingly complex content and image input / output. The designer can develop systems using a common process, irrespective of the target platform.

Newly, SC1810 were added to the lineup. SC1810 have the world's first built-in OpenVX compliant hardware accelerator. The leading edge recognition system is possible.

System



Note: APiX stands for **A**utomotive **P**ixel **L**ink
APiX is a Point-to-Point Video and Data Link optimized for Automotive environment provided by Inova Semiconductor, which is Headquartered in Munich, Germany.

Lineup

Graphic Display Controllers

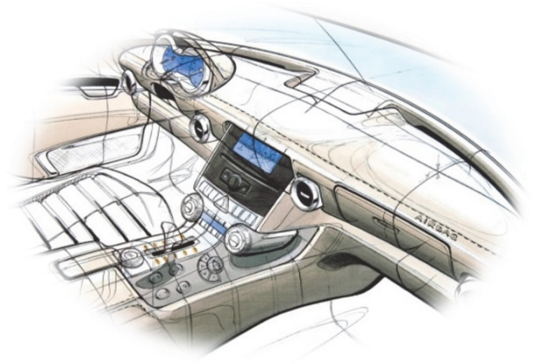
	MB88F332	MB88F333	MB88F334 MB88F336
Package	LQFP 208	LQFP 176	LQFP 208
Processor	-	-	-
Display Controller	1×up to 1280×480 RGB666/RSDS	1×up to 1280×480 RGB666/RSDS	1×up to 1920×768 RGB/RSDS/LVDS
Graphics	Socionext Sprite Engine	Socionext Sprite Engine	Socionext Pixel Engine
Video	-	-	-
Memory	External Serial Flash I/F Embedded 160KB NOR-Flash	- Embedded 160KB NOR-Flash	External Serial Flash I/F Embedded 32KB NOR-Flash
Standard I/O	I ² C Sound I/F UART SPI SMC PWM ADC	I ² C Sound I/F UART SPI SMC PWM ADC	I ² C Sound I/F UART SPI SMC PWM ADC
Network	-	-	-
APIX	APIX® RX 1port	APIX® RX 1port	APIX2® RX 1port

System On Chip

	MB86R12	MB86R24	SC1810 NEW!
Package	TEBGA 544	FCBGA 672	FCBGA 1024
Processor	Single Arm® Cortex™-A9 1×533MHz (Automotive)	Dual Arm® Cortex™-A9 2×533MHz (Automotive)	Quad Arm® Cortex™-A9 4×1066MHz (Automotive)
Display Controller	3×up to 1600×600@60Hz RGB/RSDS	2×up to 1920×720p 1×up to 1920×1080p RGB/FPD	3×up to 1920×1080@60Hz RGB/FPD/YUV(30Hz)
Graphics	Socionext 2D/3D Engine	Socionext 2D Engine PowerVR™ SGX543-MP1 3D Engine	Socionext 2D Engine PowerVR™ Series 8XE 3D Engine
Vision Processor	-	-	OpenVX™ Socionext Vison Processor Engine
Video	1×up to 1920×1080 3×up to 1280×720 Socionext Image Processor	6×up to 1920×1080 Socionext Image Processor MIPI-CSI2	6×up to 1920×1080 Socionext Image Processor MIPI-CSI2 Ethernet-AVB
Codec	-	-	H.264 Codec Motion-JPEG Decoder
Memory	DDR2-800 DDR3-800/1066 ×16 ×32	DDR3/3L-1066 ×16 ×32 ×64	DDR3-1866/DDR3L-1600 ×16 ×32 ×64
Standard I/O	I ² C, I ² S, UART, SPI	I ² C, I ² S, UART, SPI	I ² C, I ² S, UART, SPI
Network	CAN, Ethernet	CAN, Ethernet	CAN, Ethernet
APIX	APIX2® Tx 3port APIX2® Rx 1port	-	-

Companion Chip

	MB86R91
Package	FBGA 289
Automotive Interconnect	2× Automotive Interconnect (AIC) for connection to e.g. Socionext's MB9DF126 'Atlas' MCU
Video	1× LVDS video input, configurable as follows: <ul style="list-style-type: none"> • 2× 4 lanes with up to 615 Mbps/lane (8 bit color) • 2× 3 lanes with up to 615 Mbps/lane (6 bit color) • 1× 8 lanes with up to 375 Mbps/lane (8 bit color) • 1× 6 lanes with up to 455 Mbps/lane (6 bit color) 1× Digital RGB888 video input 1× MIPI CSI2 transmitter (D-PHY 1.0), configurable 2 or 4 lanes 1× Media Independent Interface (MII-M) 1× Media Independent Interface (MII-P)
APIX	APIX2® Tx 3port APIX2® Rx 1port



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