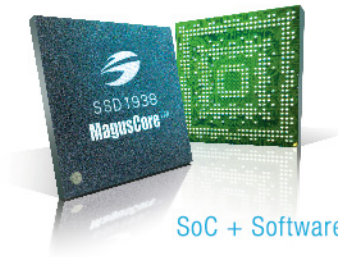


DISPLAY SYSTEM SOLUTION

Multimedia Solution

Total Solutions for Display Systems



SoC + Software + Applications

MULTIMEDIA PROCESSOR

The **MagusCore™** family of **System-on-Chip (SoC) solutions** from Solomon Systech is an application processor platform designed for portable multimedia applications. The multimedia processor, based on dual-core architecture, has integrated an advance RISC Machine core with highly power-efficient multimedia core, DSP or VPU, for high performance multimedia applications. The SoC supports a wide range of multimedia formats including MPEG-2/4, H.264 for playback and recording applications up to full HD resolution.

MagusCore™ SoC enables very cost competitive design using integrated peripherals and memory interfaces such as TVout, Ethernet Mac, SDHC, TSI, touch sensing ADC, mDDR, eMMC, and 64-bit ECC capabilities. Its integrated power management mechanism, frequency scaling, graphic acceleration engines, content based or system based energy saving features will benefit any battery-powered devices and make products eco friendly.

The **MagusCore™** Product Development Kit comes with a comprehensive set of hardware drivers, robust Linux kernel and reference software applications. Using an Android software can quickly make an existing **MagusCore™** product web connected to enable smooth viewing of on-line videos. Solomon Systech also works with third parties to provide professional and high quality application software such as DLNA, Web Browser, Office Viewer, Adobe Flash, USB streaming, WiFi streaming, etc. Customers can obtain the licenses directly through Solomon Systech and quickly adopt these to meet the time-to-market needs.

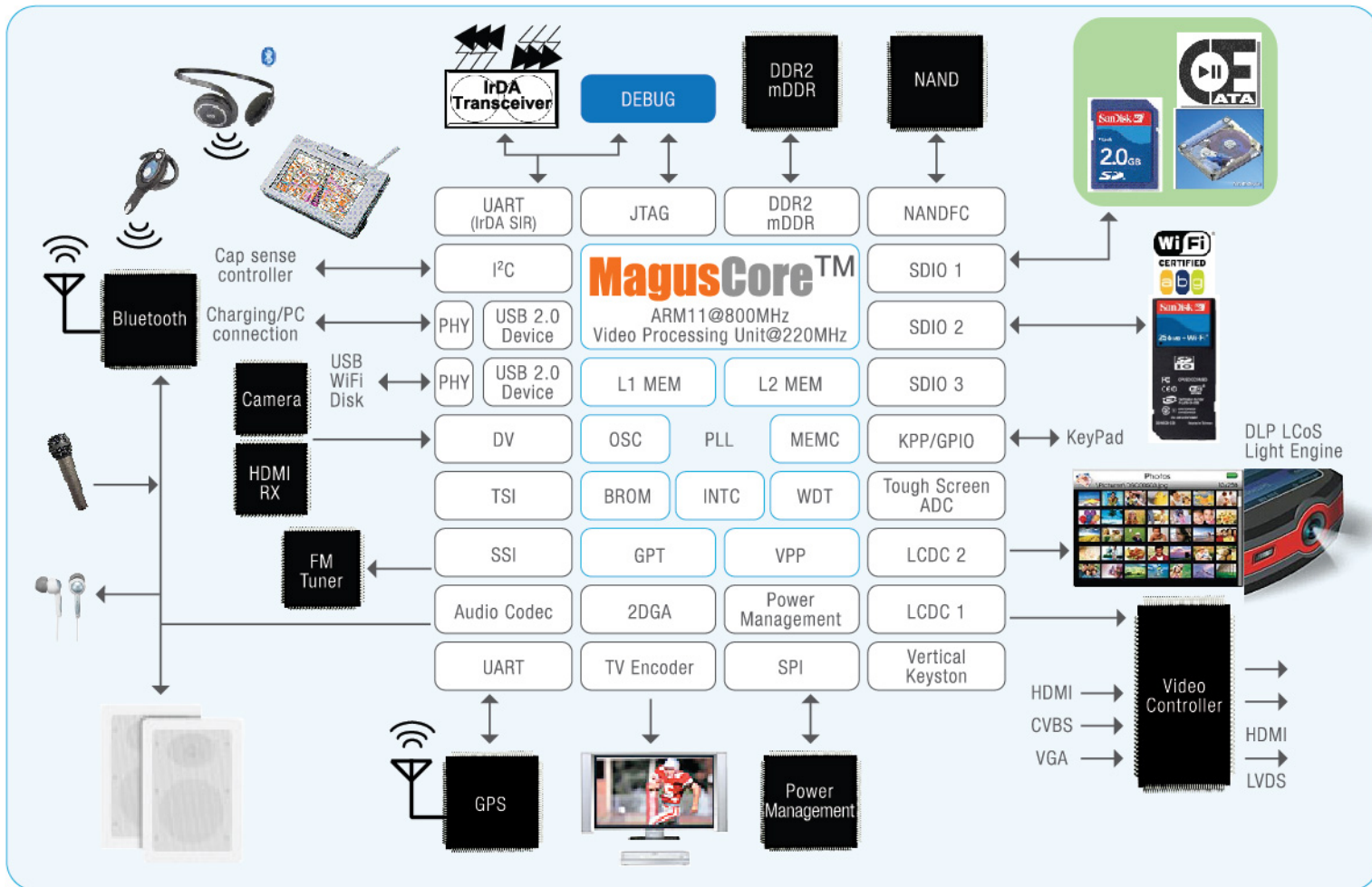
Applications: Projectors, Android MID, DVR, PMP, PND, MDTV, Surveillance Systems, etc

SSD1938	SSD1936	SSD1935	SSD1933
150lm 3D Projector Pico-Projector 200lm, DLP iPhone 250lm Projector 320lm Projector 300lm Pocket Projector 5/7 7" A. Pad 200lm Main-stream Projector Android Media Box Smart Meter	4.3" A. Pad 5" AV Recorder A.GPS Tracker 100lm DLP Car Surveillance 18lm Projector Music Instrument Android Remote Control WinCE Pico Car Navigation System	CMMB, DVB-T, GPS, FM 15 lumen Pico-Projector GPS Watches Network Security Camera Mini-DVR 15lu Lazer Pico-Projector	4.3" WQVGA CMMB 3.5" QVGA DVB-T 7" PND + CMMB Digital Photo-frame

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MagusCore™ SoC FEATURES



MagusCore™ SoC provides high quality multimedia playback and recording functions for various display units, low cost system design by higher integration of value-added multimedia subsystems, and high performance system connectivity working with external multimedia terminal or wireless devices. The SoC architecture delivers cost competitive system solutions and enables eco-friendly products.

KEY FEATURES

High Performance RISC core:

- « 800MHz ARM11, 528MHz ARM9

Mobile Multimedia core:

- « 220MHz VPU, 420MHz DSP

High Quality Multimedia

- « Multi-format, up to Full HD video decode
- « Multi-format up to 720p video encode
- « 2D graphics engine for GUI acceleration
- « Content adaptive dynamic backlight control
- « Sleep mode-with fast wake-up control

High System Integration

- « High fidelity audio codec (100dB)
- « USB 2.0 host and USB 2.0 device
- « DV-in support BT656 and BT1120 HD interfaces
- « High speed RGB888 input for 3D video
- « Built-in NTSC/PAL TV encoder
- « Built-in touch panel controller
- « Vertical keystone correction
- « SDHC/SDIO/eMMC

System Connectivity (Wired and Wireless Devices)

- « Connectivity with HDMI, analogue front-end decoder, Ethernet PHY
- « Connectivity with WiFi, GPS, Bluetooth, FM Radio, 2G/3G cellular radio
- « Support CMMB, DMB-T/H, DVB-T digital TV standards

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SELECTION GUIDE

	SSD1938	SSD1937	SSD1936	SSD1935
ARM Core	ARM1176JZF	ARM1176JZF	ARM926EJ	ARM926EJ
Maximum Clock Speed	800MHz	800MHz	528MHz	240MHz
DSP/VPU Core	VPU@220MHz	VPU@220MHz	DSP@420MHz	DSP@270MHz
Display Support	2	1	1	1
Maximum LCD Resolution	HD(1920x1080)	HD(1920x1080)	WVGA(800x600)	WVGA(800x480)
LCD Display Port Width	24-bit			
Smart LCD Support	✓	✓	✓	✗
Video Encoding Capability	720p	✗	D1	D1
Video Decoding Capability	F-HD (1080p)	F-HD (1080p)	720p	D1
Video Format	H.263 BP/MP/HP H.264 HP MPEG2 HP MPEG4 SP/ASP VC-1 SP/MP/AP WMV9 SP/MP DivX RealVideo ver.8/9/10 Sorenson MJPEG	H.263 BP/MP/HP H.264 HP MPEG2 HP MPEG4 SP/ASP VC-1 SP/MP/AP WMV9 SP/MP DivX RealVideo ver.8/9/10 Sorenson MJPEG	H.263 BP H.264 BP MPEG2 MP MPEG4 SP/ASP VC-1 DivX Sorenson JPEG	H.263 BP H.264 BP MPEG2 MP MPEG4 SP/ASP VC-1 DivX Sorenson JPEG
System Connectivity				
USB2.0	Host x 1 Device x 1	Host x 1 Device x 1	Host x 1 Device x 1	OTG x 1
SDHC/SDIO/MMC	3	2	2	2
I ² C	1			
SPI	2	1	2	2
UART	4	2	4	3
TSI	✓	✗	✓	✗
I ² S	✓	✓	✓	✓
System Integration				
Audio Codec(100dB)	✓	✓	✓	-
2D Graphic Acceleration	2DGA	2DGA	Draw 2D	Draw 2D
Dynamic Backlight Control	✓	✓	✓	✓
NTSC/PAL Encoder	✓	✓	✓	✓
Touch Panel Controller	✓	✓	✓	✓
Ethernet Mac	✓	✓	✗	✗
Keystone correction	✓	✓	✗	✗
Camera Interface				
Maximum Sensor Resolution	12Mpixel	✗	12Mpixel	12Mpixel
Video Input Processor	✓	✗	✓	✓
BT1120	✓	✗	✓	✓
BT656	✓	✗	✓	✗
Memory Interface				
DDR2	✓	✓	✗	✗
Mobile DDR	✓	✓	✗	Embedded 32MBytes
NAND Flash	64bit ECC MLC SLC	64bit ECC MLC SLC	24bit ECC MLC SLC	8bit ECC MLC SLC
NOR Flash	✓	✗	✗	✓
SPI NOR Flash	✓	✓	✗	✗
Boot Mode				
NAND Boot	✓	✓	✓	✓
USB Boot	✓	✓	✓	✓
UART Boot	✓	✓	✓	✓
NOR Boot	✓	✗	✗	✓
SPI Boot	✓	✗	✗	✗
SD Boot	✓	✓	✗	✗
eMMC Boot	✓	✓	✗	✗
Technology	90 nm	90 nm	90 nm	130 nm
Ball Pitch	0.65 mm	0.65 mm	0.80 mm	0.80 mm
Package	TFBGA-373 15x15 mm	TFBGA-235 12x12 mm	TFBGA-289 15x15 mm	TFBGA-268 15x15 mm

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TOTAL SOLUTION - LINUX APPLICATIONS



MagusCore™ system solution with Linux open platform enables cost effective and high quality video playback for advanced display systems such as projectors, and high definition video recording for products such as IP cameras.

SSD1935, with stacked mobile DDR, allows more power efficient and compact portable product design. **SSD1938** integrates many advanced image processing features for projector products, and the dual LCD controllers are designed for very low cost 3D projectors as well as display systems requiring a secondary display unit for friendlier user interface design. **SSD1937** targets very cost sensitive full-HD products that operate at a very small memory footprint.

MagusCore™ solution, supporting a number of LAN connected functions, and focused product applications which allow instant sharing of user contents or instant access of Internet contents, will bring wireless multimedia to a new dimension.

KEY FEATURES

- « Operating system, Linux 2.6.29
- « Proven interface design with advance projector optical light engines (Pico to Main-stream)
- « Native display resolution WXGA 1280x800 and WVGA 800x480
- « Support full HD video playback using GStreamer Player
- « Support up to 720p recording
- « Support high quality stereo music
- « Support photo viewing (64 Mpixels per second JPEG decode)
- « Support MicroSD/T-Flash memory card
- « Support USB Speaker
- « Support USB device as a mass storage unit
- « Support Media content playback from a USB thumb drive
- « Vertical keystone correction for projector application
- « Optional 3rd Party Software
 - USB streaming - PC presentation projection via a USB 2.0 connection
 - WiFi streaming - PC presentation projection via a WiFi 802.11n connection.
 - Office viewer (Word, PPT, Excel, PDF)
 - DLNA connectivity
 - HTML5 Browser

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TOTAL SOLUTION - ANDROID APPLICATIONS



Android operating system enables products to enjoy instant access to the Internet world and the use of the vast amount of Android APKs. The [SSD1936](#) and [SSD1938](#) Android solutions have been adopted in Android PMP, smart phones, GPS trackers, advertising machines, medical devices and media boxes.

For more power efficient designs, the mobile DDR option can significantly increase the battery life of portable devices, while the content adaptive backlight control and CABC feature can reduce the LCD backlight power by 30% during video playback.

KEY FEATURES

- « Operating system: Android 2.3
- « Internal 2GB NAND flash and 256MB DDR2 memory
- « Native resolution 800x480 and 1024x768 powered by **MagusCore™** 2DGA graphic engine
- « Support multi-point capacitive touch panel controller SSD2533
- « Support H.264, MPEG4, MPEG2, FLV, MJPEG and MKV video playback
- « Support MP3, AAC, WMA, RA, WAV and FLAC audio playback
- « Support JPEG, BMP and PNG
- « Support Enhanced 'Magic' graphic scalar for different video resolutions
- « Support 3.2Mpixel or VGA (640x480) CMOS camera sensor
- « Support microSD/ T-Flash memory card up to 16GB
- « Support NTSC/PAL TV-output (Composite) standards
- « Support HDMI transmit for full HD video playback
- « Support USB WiFi or SDIO WiFi
- « Support USB2.0 Thumb Drive
- « Support Ethernet connectivity
- « Support 2G/3G cellular radio
- « Support Bluetooth 2.1
- « Support FM radio
- « Support GPS
- « Support NFC

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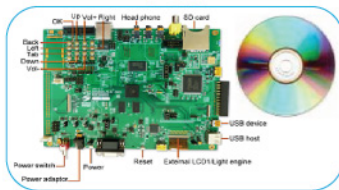


PRODUCT DEVELOPMENT KIT

MagusCore™ Product Development Kit (PDK) provides a complete tool chain to facilitate rapid product development. It consists of Application Development Board hardware (ADS), Board Support Package (BSP) software and a flash download tool. Field proven reference software is also available for applications such as projectors and Android PMP. New features or new product derivatives can be easily created to capture the market window.

DEVELOPMENT SUPPORT

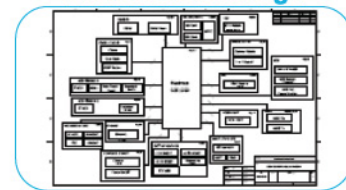
PDK



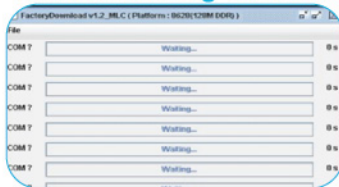
Application Notes



Reference Design



Manufacturing Utilities



Customer Presentation



Technical Training



SELECTION GUIDE

Part Number	Product Development Kit (BSP + Reference Application SW)
ADS-WE8626-PI	SSD1935, Projector Reference SW, BSP, Linux 2.6.24, Office Viewer
SSD1936KIT*	SSD1936SOM; 480X272, WQVGA; Linux 2.6.24, Embedded BSP
SSD1938KIT*	SSD1938SOM; 800X480, WVGA; Linux 2.6.29/Android 2.3
ADS1938G24-L-AO	SSD1938, BSP, WXVGA, Linux 2.6.29, USB/WiFi Projection, DLNA, Browser, Office Viewer
ADS1938G24-A-AO	SSD1938, WVGA, Android 2.3 BSP, 256MB DDR2, D2533

*Please contact WE3 salesperson for more information: sales@we3technology.com

SOLOMON SYSTECH LIMITED

Solomon Systech Limited is a leading semiconductor company providing IC products and system solutions that enable a wide range of display applications for smartphones, smart TVs, smart projectors and other smart devices including consumer electronics products, portable devices, industrial appliances and green energy applications such as LED lighting.

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