

# Collage-MX51

Loaded with Freescale i.MX51(ARM Cortex-A8) Evaluation Board

**RoHS**

Support various OS

<b>Android</b>	
<b>WinCE</b>	
<b>Linux</b>	

● WinCE BSP & Linux BSP

- (1) Windows CE 6.0
- (2) Linux/Android2.3

Option:  
Windows Embedded Compact7 BSP

800MHz	DDR2 512MB
NOR Flash2MB	Support touch pane
5inch TFT LCD	WSVGA1024 × 600
DVI external image output	SOUND
USB	SD slot × 2
LAN	JTAG connector



Touch panel

Sophia Systems has full hardware, BSP, and JTAG emulator for support development of i.MX51

All configurations are subject to change without notice.

## Features

### 1 Compact size for Demonstration

Compact size (W143mm × D99mm × H39mm) for carry. Possible to use touch panel and voice to confirm the last image for more higher level demonstrations.



### 2 Speedy support

#### Possible to create prototypes fast

Include BSP for WindowsCE and Linux, and design information. Using enhancing connector, possible to develop user original prototype in a short development cycle.

#### Possible to develop software fast

About OS, possible to boot SD. Include WindowsCE and Linux2 SD. Possible to develop application software without OS startup process.

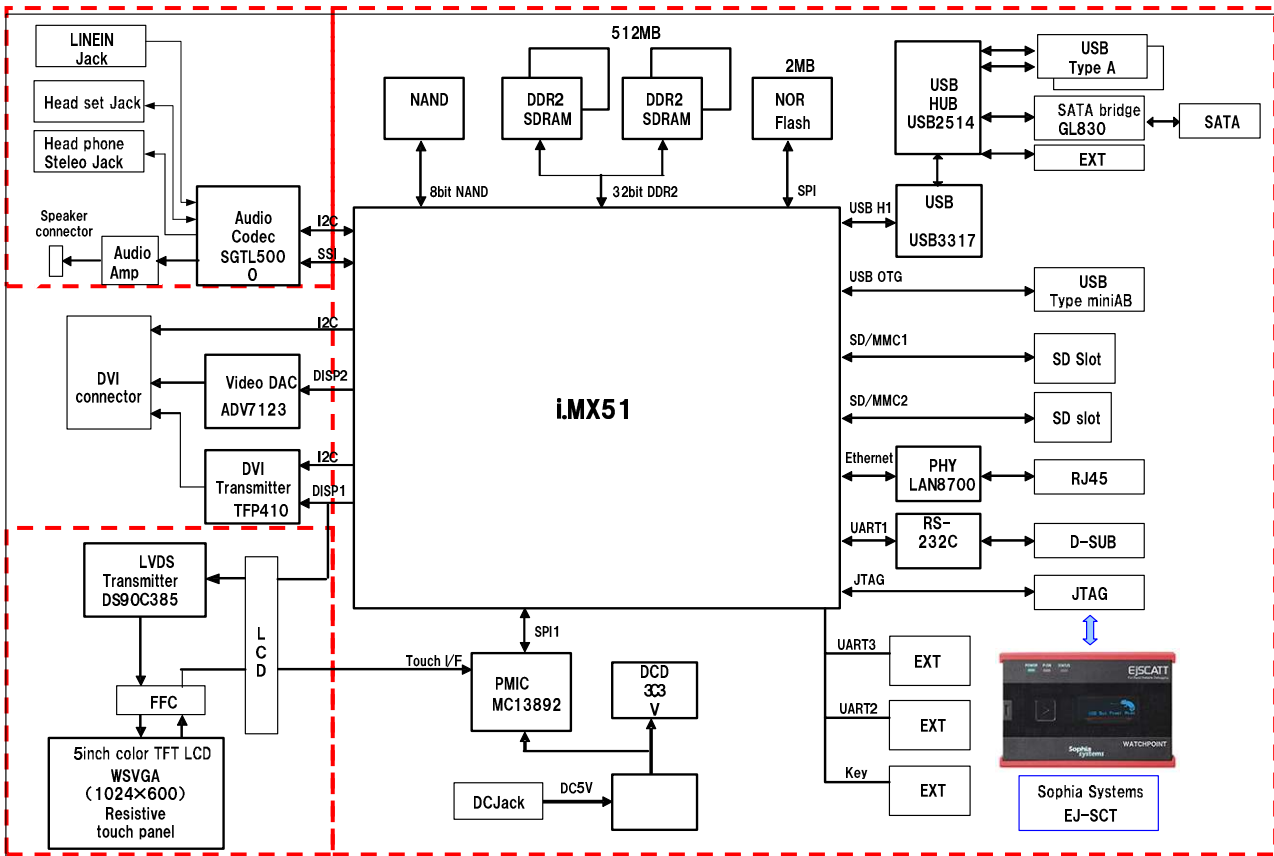


Easier to image actual system

### 3 Develop hardware & software simultaneously for shortened development time.

Possible to develop software before finish hardware, and expedite the overall system development period.  
Possible to save cost.

## Block diagram



## Hardware specification

## Software spec

Freescale-i.MX51 spec		Support RoHS
Item	Specification	
CPU	Freescale i.MX515 (Cortex-A8)	
Operating frequency	800MHz (Max)	
Memory	RAM	DDR2 512MB Max 200MHz
	Flash memory	NOR Flash 2MB
LCD	Display type	5 inch color TFT LCD
	Display resolution	WSVGA (1024 x 600 dots)
	Display colors	260,000 colors
Touch panel	Resistive film type touch panel	
Display function	LED	
I/F	Card slots	SD card slot 2ch
		SATA connector
	USB	HOST 2ch (A connector), support OTG 1ch, mini(AB connector)
LAN	Ethernet 10/100BASE-T RJ45	
JTAG	20pin For emulator made by Sophia	
External image output	DVI connector	
Sound input/output	Stereo headphone jack	
	Stereo headphone jack	
	Headphone set (Monaural output, monaural mike input)	
CODEC	SGTL5000	
Connector for extension	UART × 2	
	USB	
	I <sup>2</sup> C	
	SPI	
	CSI	
	KEY	
	NAND	
Power	External power	DC5V (±5%)

## BSP

### WinCE 6.0/WEC7

[Driver]

- Bootloader (SD boot, SPI NOR boot)
- GPU (OpenGL ES 2.0/1.1, OpenVG 1.1) (Direct3D Mobile) · LCD · backlight
- Touch panel · Key · Ethernet · SD card
- USB HOST · USB OTG · Sound
- Suspend · Resulm · RTC

### Linux/Android2.3

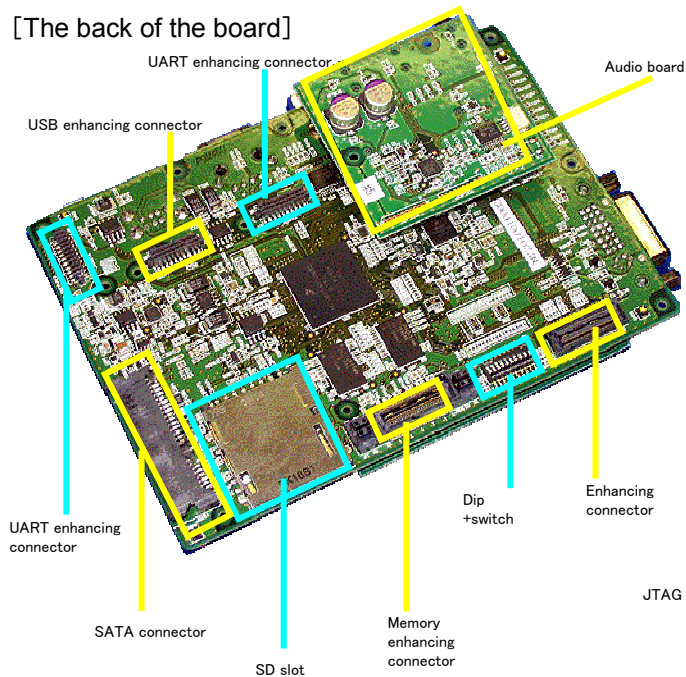
[Driver]

- Bootloader (SD boot, NFS boot)
- GPU (OpenGL ES 2.0/1.1, OpenVG 1.1)
- Serial · SD card
- USB HOST · USB OTG
- DVI · LCD · Touch panel
- Ethernet · Sound · Key

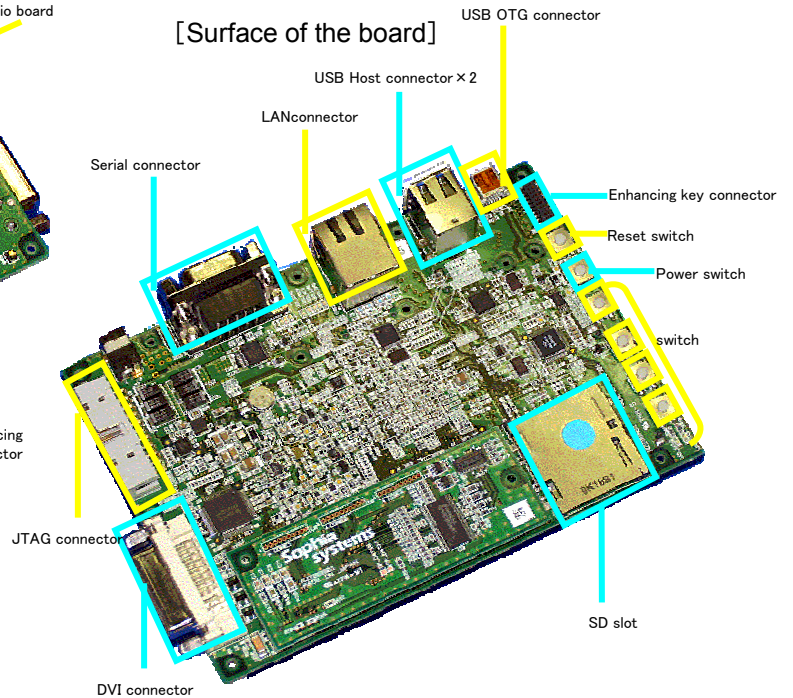
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## Collage-MX51 Main loaded parts

[The back of the board]



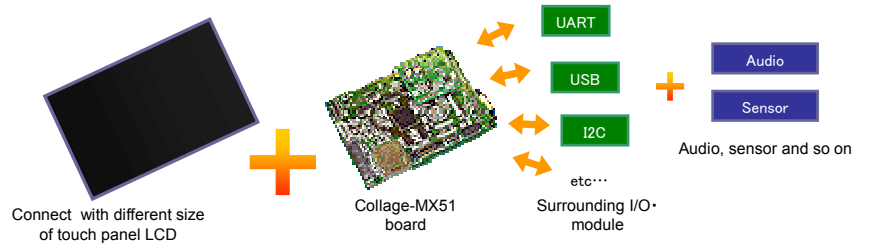
[Surface of the board]



## Using board for custom

Using Collage-MX51 as base platform for quicker release. The board loaded with image display, voice communication, touch panel LCD, interface and so on may be used for various purposes.

- Possible to connect with different size of touch panel LCD
- Surrounding I/O, module
- Customize audio, sensor and any device



## ODM/OEM example



Terminal for Driver  
[Main technical]  
GPS·Wireless communication·Sound·image control  
Battery control·SD card



Example: KINTETSU RAILCAR ENGINEERING CO.,LTD  
Driver support system [ GPS train navi]

## Option available

Option for wireless device of i.MX51

- WiMAX SDK (Planning )
- Felica SDK (Planning)

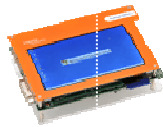
## Hard

- BDA006  
Collage-MX51

### Configurations

- Collage-MX51 hard
  - AC adaptor
  - Serial cable
  - LAN
  - CD, DVD
  - SD (for Win, Linux/ Android)
- (manual, WindowsCE6.0 BSP, Linux/Android BSP)

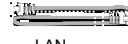
### Collage-MX51 hard



BSP for WindowsCE  
BSP for Linux/Android  
manual



AC adaptor



LAN



Serial cable

## Option BSP

- U60417  
Collage-MX51 WEC7 BSP



BSP for Windows  
EmbeddedCompact7  
manual

Note BSP updates provided\*1  
(Possible to download the latest version from our website,  
please contact to [intsales@sophia-systems.co.jp](mailto:intsales@sophia-systems.co.jp) for more details.)

Best choice for Windows Embedded  
Compact7 development.

## Option line-up

	● Collage-WiMAX	● NFC	● JTAG emulator EJ-SCT for hard/soft debugging	● Debugger WATCHPOINT WP DBG for EJS ARM	● OS-WATCHPOINT software
Outline					
			Move OS, boot loader development, Write to on-board flash	Debugger soft for EJSCT ARM series	Software for control OS development and debugger
Configurations	Please contact for details	Please contact for details.	SCD001 JTAG emulator AC adaptor	SCM0790E WP debugger JTAG cable (20pin-20pin)	U43475E or U42499E support Windows CE or Linux
Price	Please contact for details.	Please contact for details.	◎Brush up BSP source, best choice for professional prototype development. Please reference details.	◎Sophia Support Service [SSEN] ※Has to purchase the SSS contact for support service when first time purchased the unit.	◎For WinCE development Platform Builder-WATCHPOINT Option software [U43475E] WP4MSPB ARM (SSEN for first year is not included in package) ◎For Linux development Linux kernel/low double module WP add in software [U42499E] WP4LKG (※SSEN is included in the package)
Others				[Contents] Update version free and have free support service for one year.	

\*1 Software updates provided for 12 months from the product purchase date.

## Solution set

The below tools are necessary for debugging.  
[Collage-MX51] and JTAG-ICE, debugger, BSP, software for OS debugging.

### Configurations:

- Collage-MX51 [BDA006] evaluation board (with CE BSP, Linux BSP)
- EJSCT [SCD001] JTAG emulator
- WATCHPOINT debugger [SCM0790E] WP DBG for EJS ARM
- WATCHPOINT software for each OS  
[ U43475E]WP4MSPB ARM for WinCE  
or [U42499E] WP4LKG for Linux  
(※choose one from above)

### ※Below is support service information.

- (1) Sophia support service For WATCHPOINT software updates. SSEN
- (2) Sophia support service For WinCE software SSEN
- (3) Linux software SSEN for first year is included.

## Custom support

- Collage-MX51 (without case)



- Possible to change touch panel LCD
- Surrounding I/O, module
- Audio, sensor

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●All configurations are subject changes without notice. ●Has to purchase SSS for support service.

**Sophia systems™**

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