



深圳市海天雄电子有限公司
Shenzhen Haitianxiong Electronic Co., Ltd.

CES-EDU210A

Product Manual

Android Teaching Experimental Platform

Rev. V1.0

Date : 2016-06-17



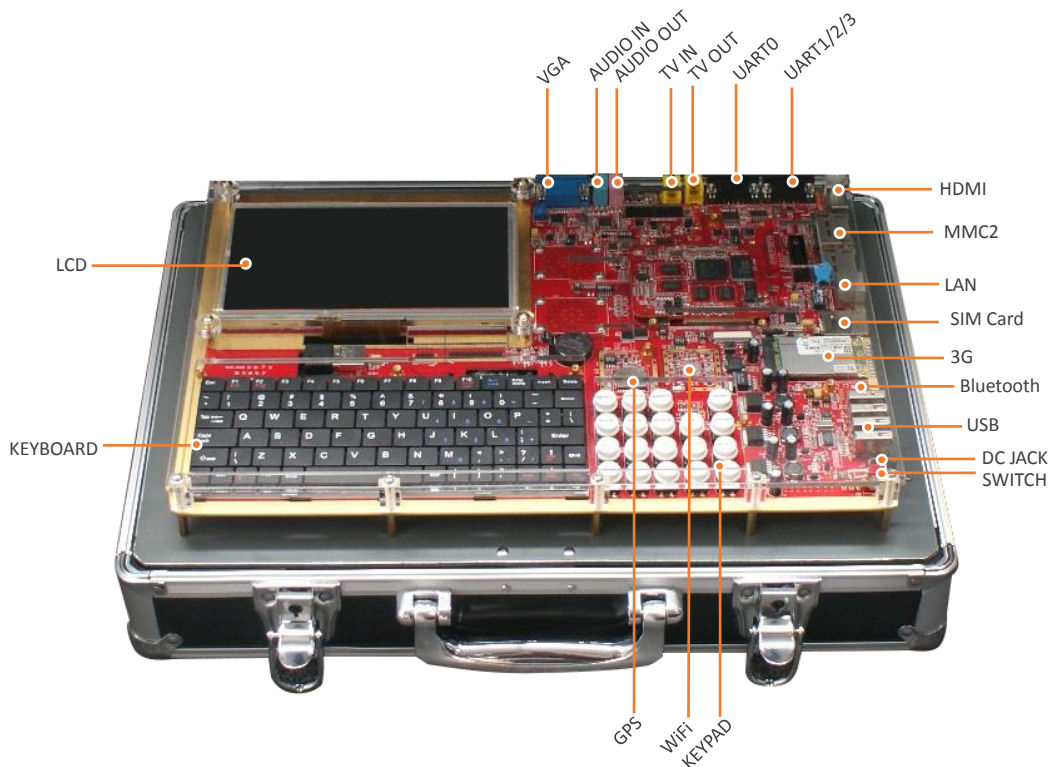
Introduction

Android is becoming the number one intelligent terminal system in the era of mobile internet, causing a great demand for Android developers. More and more colleges and universities arranged android classes in the teaching plan of information professional. In order to meet the teaching needs, Haitianxiong Electronic developed the CES-EDU210A teaching platform combined with the actual product development experience.

A8 Android teaching platform using Samsung Cortex-A8 as the processor, running Android 4.0 ICS operating system, integrating LAN, 3G, WiFi, GPS communication modules, offering UART, USB, TV, LCD peripherals, combining with keys, LED lights, ADC / DAC, amplifier and other practical circuits.

The teaching experiment platform offering "Android embedded system" course, "Android network communication" course, "Android application development foundation" course, "Android 2D game development foundation" course, "Android 3D game development foundation" course. Teaching resources are rich, including syllabus, teaching progress, curriculum PPT and experimental projects.

Function interface



Hardware parameters

CPU	Samsung S5PV210 , ARM Cortex-A8 architecture, frequency at 1GHz
Memory	1GB SAMSUNG K4T1G084QQ DDR2 memory chip
FLASH	1GB SAMSUNG K9K8G08U0A NAND FLASH chip
PMU	A set of intelligent power management circuit, using Maxim MAX8698C management chip
3G	Using ZTE AD3812 module , PCI Express Mini Card interface
WiFi	Mavrel88w8686 , fully compatible with IEEE802.11b/g international , SDIO interface
GPS	1 high-precision GPS module with SIRF Star III module Sensitivity: -159Dbm for tracking -144Dbm at capture
Bluetooth	Support USB Bluetooth interface module, high-speed Bluetooth communication data
Camera	Support 3 million pixel camera
Ethernet	1 * 10M / 100M Ethernet interface, using DM9000AEP NIC chip













Audio	1 * I2S bus circuit, input / output, double 8 ohm / 2W amplifier, high quality WM8580A audio chip
SD/HSMMMC	4* SDIO port for MMC / SD WIFI
USB OTG	1*USB OTG
USB HOST	4*USB HOST 2.0
Display interface	Support VGA / LVDS / TFT multi-display capabilities, the platform with 7-inch LCD touch screen, pixel 800 * 480, LED backlight, 16: 9 widescreen 16.7M true color, four-wire resistive touch screen
UART	4*UART
HDMI	1*HDMI 1.3
RTC	Internal RTC (with back-up lithium battery)
External Power Supply	12V / 5A power supply, with power switch and indicator
Installation Method	The motherboard is fixed by reeling on the board of the experimental chassis, with transparent acrylic board added to cover the motherboard and avoid the device damage for students' frequent contact
Size	43*30*15CM
CPU	Samsung S5PV210 , ARM Cortex-A8 architecture, frequency at 1GHz

Software parameters——Android 4.0

Operating System	Android 4.0
Kernel	Linux 3.0.8
System Boot Program	U-boot-1.3.4
Serial Debugging Tool	DNW1.01
Cross Compilation Tools	Arm-2009q3
File Format	Ramdisk , YAFFS2
GUI	Android 4.0

3G	Support SMS, Internet and other functions
WiFi	Support 802.11b/g
Camera	Support CMOS Camera , CCD Camera and USB UVC Camera
GPS	Supports SIF III global positioning
LAN	10M / 100M adaptive network port driver, support for wired internet
HDMI	Support HDMI output, images and sound
Audio	IIS audio interface , support for playback and recording capabilities
LCD	7-inch resistive touch LCD display
TOUCH	Four-wire resistive touch LCD display
I2C Driver	Audio、 Camera、 HDMI are driven by I2C communication
USB HOST	Support HOST function, mouse, keyboard, U disk, etc.,
USB OTG	Support ADB and UMS functions, providing source code
Keypad	8*8 button functions, providing source code
SD/MMC	Support high-speed SD / MMC card
UART	Support serial communication
RTC	Supports RTC function
2D/3D Driver	2D / 3D Hardware Acceleration
Bluetooth	Support Bluetooth communication
MFC Driver	Multi-Format video codec

Product configuration list

	User CD		Power adapter
	Experimental tutorial		Touch pen
	Serial line		Camera (optional)
	cable		3G module (optional)
	USB cable		SD card (optional)
	USB to serial port		Bluetooth module (optional)

Service Support

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Disclaimer

This manual information is for reference only, and is subject to change without notice.

For more product information, please visit www.nrisc.com

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