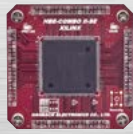


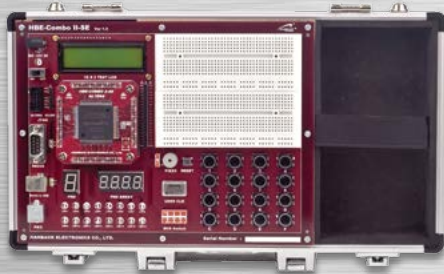
>>FPGA & SoC



ALTERA



XILINX



FPGA Digital Circuit Design Trainer based ALTERA/XILINX HBE-Combo II-SE

- TERA, XILINX can be replaced with modular devices
- Practical application examples using peripheral devices
- Examples of circuit and connection using BreadBoard

Features

- Considering the flexibility and scalability of FPGA devices, ALTERA and XILINX devices have been modularized to allow for replacement.
- It is configured to provide 1MHz, 1kHz, 1Hz and User Clock (7.3928MHz) clock through fixed clock pins. BreadBoard allows you to experiment with logic circuits and send and receive signals to and from the
- FPGA through the I / O pins.

Design Environment

- **ALTERA : Quartus II Web Edition**
- **XILINX : ISE Webpack Design Software**

Components



HBE-Combo II SE



User's Manual
and CD



AC Power Cable

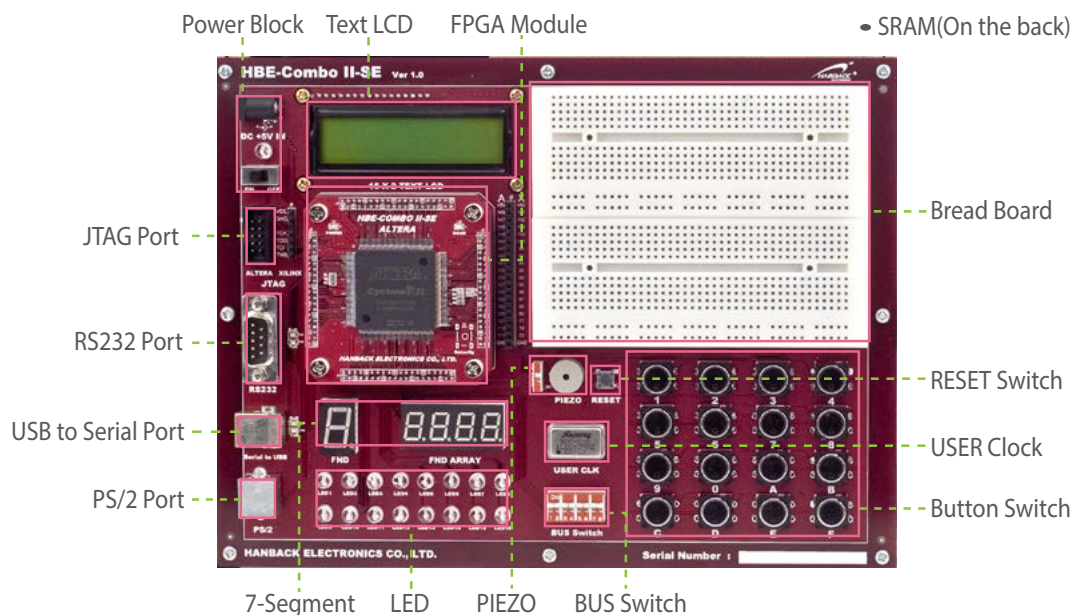


USB Cable
(A to B Type)



USB Download
Cable

Configuration and Names



FPGA

HBE-Combo II-DLD

HBE-Combo II

HBE-Combo II-SE

Hardware Specifications

Items		Specifications
FPGA	ALTERA	FPGA : Cyclone II Series(EP2C8Q208) User I/O : 138 PROM:EPCS4
	XILINX (Option)	FPGA : Spartan-3 Series(XC3S200Q208) User I/O : 141 PROM : XCF04
Clock		1MHz, 1kHz, 1Hz, USER Clock(7.3928MHz)
SRAM		4Mbit High Speed Static RAM 2EA
LED		5mm High brightness LED 16EA
Button Switch		User Push-button 16EA
Reset Switch		User Push-button 1EA(Low Active)
Dip Switch		User 8-bit DIP Switch 1EA
Piezo		5V Input Piezo 1EA
FND		Cathode Common : 1-digit 1EA, 4-digit 1EA
Character LCD		16 x 2 Display
UART		RS232 UART Port 1EA(FPGA I/O)
USB to Serial		USB to Serial Interface 1EA
PS/2		Total PS/2 Keyboard or PS/2 Mouse port 1EA
BreadBoard		Terminal Strip x 2, Bus Strip x 2
		Size : 117 x 91 mm
Accessory		I/Os : +5V, GND, 18pin FPGA Interface I/O
		DC +5V/1.5A Adoppter
Board Size		USB cable 1EA
		Altera/Xilinx JTAG Programming Cable(Optional)
		Base : 240 x 180 (mm)
		FPGA : 66 x 66 (mm)