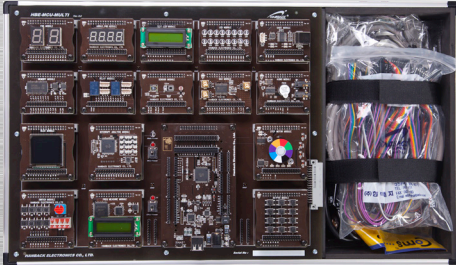


# >>Microprocessor

## Arduino Compatible Platform for Creative Engineering

### HBE-MCU-Multi-Arduino



- ATMEL CPU module (ATmega2560) can be used for creative science application.
- Provides in module type
- Perfect compatibility with Arduino development environment
- Various sample sources for basic exercises of Arduino
- Fully compatible with Arduino expansion board

### Product Overview

The 8-bit based MCU product is the basic educational theme for processors that has been used in the education field for a long time. However, in the case of products designed to fit the past cramming method of education, it was impossible to configure the creative functions according to users. It is begun to use Arduino in creative engineering to supplement the shortcomings and to share development resources that have been opened around the world. HBE-MCU-Multi-Arduino uses ATmega2560 among the Arduino boards, and its functions are modularized independently. This is a micro-embedded education system that is designed to quickly apply various project classes and user's requirements including basic education. You can use the development environment of Arduino as it is, or mount Arduino expansion platform.

### Product Features

- The ATmega2560 device is designed as a module in a removable connector structure.  
It is fully compatible with Arduino board, so it uses the Arduino development environment.
- MCU module and function module can be connected in various ways.
- Each functional module is configured as a detachable module type, enabling users to separate and utilize them from the base board as they want.

## Microprocessor

- Provides signal and power analysis modules (such as interrupts and frequenc) that can improve the efficiency of MCU learning and design.
- Provides dedicated measurement points for easy signal analysis of MCU and applications.
- Various input switches and output displays are provided.
- Various sensor modules can be installed.
- Provides application modules for sensor training.
- Various sample program sources are provided for application training using Arduino.
- Supports a wide range of design environments at the application product design level from basic processor training.

3D PRINTER

SMART NUCLEO

HBE-Arduino-Sensor

HBE-MCU-Multi

HBE-MCU-Multi-SENSOR

HBE-MCU-Multi II - ST

HBE-MCU-Multi Mini(AVR)

### HBE-MCU-Multi-Arduino

HBE-CAN

## Product Specification

### • MCU

Item	Manufacturer	Model Name	Software	Specification
AVR	ATMEL	ATmega 2560	Arduino software	Up to 16 MIPS Throughput at 16MHz, ISP Program 256KB FLASH, 8KB SRAM, 4KB EEPROM 12-Ch PWM, 16-Ch 10bit ADC I <sup>2</sup> C, SPI, 2ea 8bit Timer, 4ea 16 Bit Timer 4ea UART

### • Application

Item	Category	Specifcation
Display	LED	16 Digit RED LED
	FND	2 Digit 7-Segment
	Array	4 Digit Array 7-Segment
	Text LCD	2 Line 16 Char Text LCD Back Light
	OLED	128 x 128 Dot, 262K Color

# Microprocessor

## >>HBE-MCU-Multi-Arduino

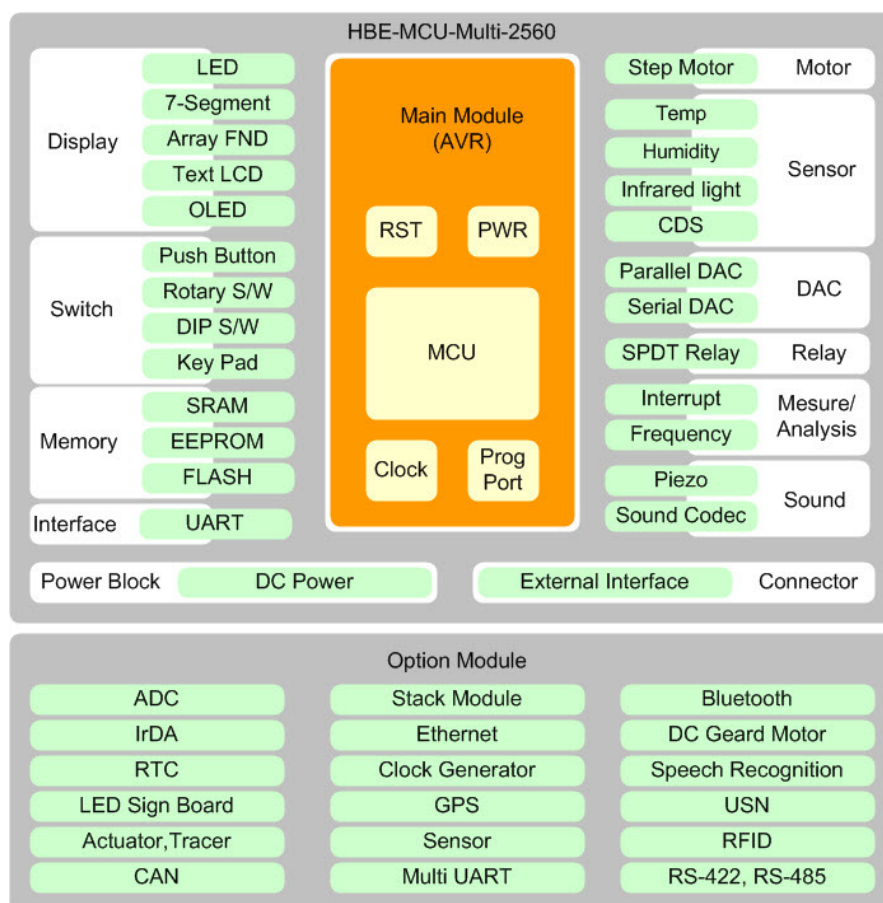
### • Application

Item	Category	Specifcaton
Motor	Step Motor	5V Stepping Motor
Relay	Relay	Dual Ch Relay 2EA
Memory	SRAM	512K bits(65,536 * 8-bit)
	EEPROM	16k bits(2k * 8-bit), I <sup>2</sup> C interface
	FLASH	512K bits(65,536 * 8-bit), SPI Interface
Audio	Piezo	Piezo 1EA
	Sound	Stereo Codec(UP to 96k), MIC Input 1 Port, Stereo Speaker Output 1 Port
DAC	Parallel DAC	800k SPS, 8-bit interface
	Serial DAC	300k SPS, SPI interface
Sensor	Temperature	-40~124°C Range, I <sup>2</sup> C I/F
	Humidity	0~100% Range, I <sup>2</sup> C I/F
	Photo Diode	Visible Light Sensor
	CdS	Infrared Light Sensor
Interface	RS232	Up to 460kbps Data rate
	USB	Up to 1Mbps Data rate RS232 to USB Interface
Measure	Frequency	Up to 100KHz Freq Measure Frequency & Duty Display
Analysis	Interrput	8-Interrput Input analysis Rising, Falling State Display
Input	Key Pad	3 x 4 Key Pad
	Switch	Push Button 8EA, 16 Step Rotary Switch, 8 Pole DIP Switch

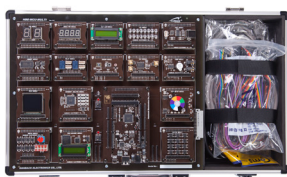
### Education Contents

Curriculum	Specifcaton
Microcontrolle Using HBE-MCU Multi Arduino (AVR)	<div> <p><a href="#">Overview of Arduino</a></p> <ul style="list-style-type: none"> <li>- AVR Microcontroller</li> <li>- Arduino Development Environment</li> <li>- Basic structure of Arduino program</li> </ul> <p><a href="#">Arduino Practice 1</a></p> <ul style="list-style-type: none"> <li>- GPIO input / output control</li> <li>- Interrupt</li> <li>- Timers &amp; counters</li> <li>- Timers &amp; PWM</li> <li>- UART</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>- A / D converter</li> <li>- External memory interface</li> <li>- Serial interface</li> </ul> <p><a href="#">Arduino Practice 2</a></p> <ul style="list-style-type: none"> <li>- Stepping motor rotation</li> <li>- Entering password using KeyPAD</li> <li>- LED brightness control using DAC function</li> <li>- Digital frame using OLED</li> </ul> </div>

## Block Diagram



## Contents



HBE-MCU Multi Arduino



User Manual & CD



AC Power Cable



Jumper Cable  
(8pin\*5EA, 4pin\*10EA,  
2pin\*10EA)



USB Cable (A to B type)

## Microprocessor

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