



A.HE83R142 Introduction

HE83R142 is a member of 8-bit Micro-controller series developed by King Billion Electronics Ltd.

Users can chose any one of combination among 【1024 dots LCD Driver + 16 Bit I/O Port】... 【896 dots LCD Driver + 24 Bit I/O Port】 etc. The built-in OP comparator can be used with (light 、voice 、temperature 、humility) sensor and used as battery low detection. The 7-bit current-type D/A converter and PWM device provide the complete speech output mechanism. The 256K ROM Size can be used in the storage of speech 、graphic 、text etc.. . It can be applicable to the medium systems such as Small-Scale Dictionary, Data Bank, Educational Toy, Digital Voice Recording System etc. It also can be connected to SRAM or Flash RAM for recording function.

The instruction set of HE83R142 are quite easy to learn and simple to use. Only about thirty instructions with four-type addressing mode are provided. Most of instructions take only 3 oscillator clocks (machine cycles). The processing power is enough to most of battery operation system.

B.HE83R142 Features

- Operation Voltage : 2.4V – 5.5V
- System Clock : DC ~ 8MHz @ 5.0V
DC ~ 4MHz @ 2.4V
- Internal ROM : 256K Bytes
- Internal RAM : 4K Bytes
- Dual Clock System : Normal (Fast) clock : 32.768K ~ 8MHz
Slow clock : 32.768KHz
- Operation Mode : DUAL 、FAST 、SLOW 、IDLE 、SLEEP Mode.
- With WDT (WATCH DOG TIMER) to prevent deadlock condition.
- 16~24 bit Bi-directional I/O port. Mask Option can select PUSH-PULL or OPEN DRAIN output mode for each I/O pin. 8 of them are shared with LCD segment pins.
- One built-in OP comparator.
- 1024~896 dots LCD driver (B TYPE selectable). (No LCD contrast control function)
- Build in LCD Voltage Regulator.
- One 7-bit current-type DAC output.
- PWM device.
- Two external interrupts and three internal timer interrupts.
- Two 16-bit timers and one Time-Base timer.
- Instruction set : 32 instructions, 4 addressing mode. 12-bit DATA POINTER for RAM and 18-bit TABLE POINTER for ROM.