A. HE83715 Introduction

HE83715 is a member of 8-bit Micro-controller series developed by King Billion Electronics Ltd. Users can chose any one of combination among【128 dots LCD Driver + 16 Bit I/O Port】…【64 dots LCD Driver + 32 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. And the 7-bit current-type D/A converter and PWM device provide the complete speech output mechanism. The 64K ROM Size can be used in the storage of speech (20 seconds at 3Kbytes per second), graphic, text etc. This IC is applicable to the small/medium systems such as Data Bank, Medium Class Educational Toy, Lower Second Voice Recording System etc..

The instruction set of HE83715 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. HE83715 Features

- Operation Voltage： 2.2V – 5.5V
- System Clock： DC ~ 8MHz @ 5.0V
  DC ~ 4MHz @ 2.2V
- Internal ROM： 64K Bytes(64K Program ROM)
- Internal RAM： 16K 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..
- 16~32 bit Bi-directional I/O port. Mask Option can select PUSH-PULL or OPEN DRAIN output mode for each I/O pin.
- One built-in OP comparator.
- 128~64 dots LCD driver (A、B TYPE selectable).
- One 7-bit current-type DAC output.
- PWM device.
- Two external interrupts and three internal timer interrupts.
- Three 16-bit timer.
- Instruction set： 32 instructions, 4 addressing mode. 14-bit DATA POINTER for RAM and 16-bit TABLE POINTER for ROM.

C. Application Circuit