



A. HE83760M Introduction

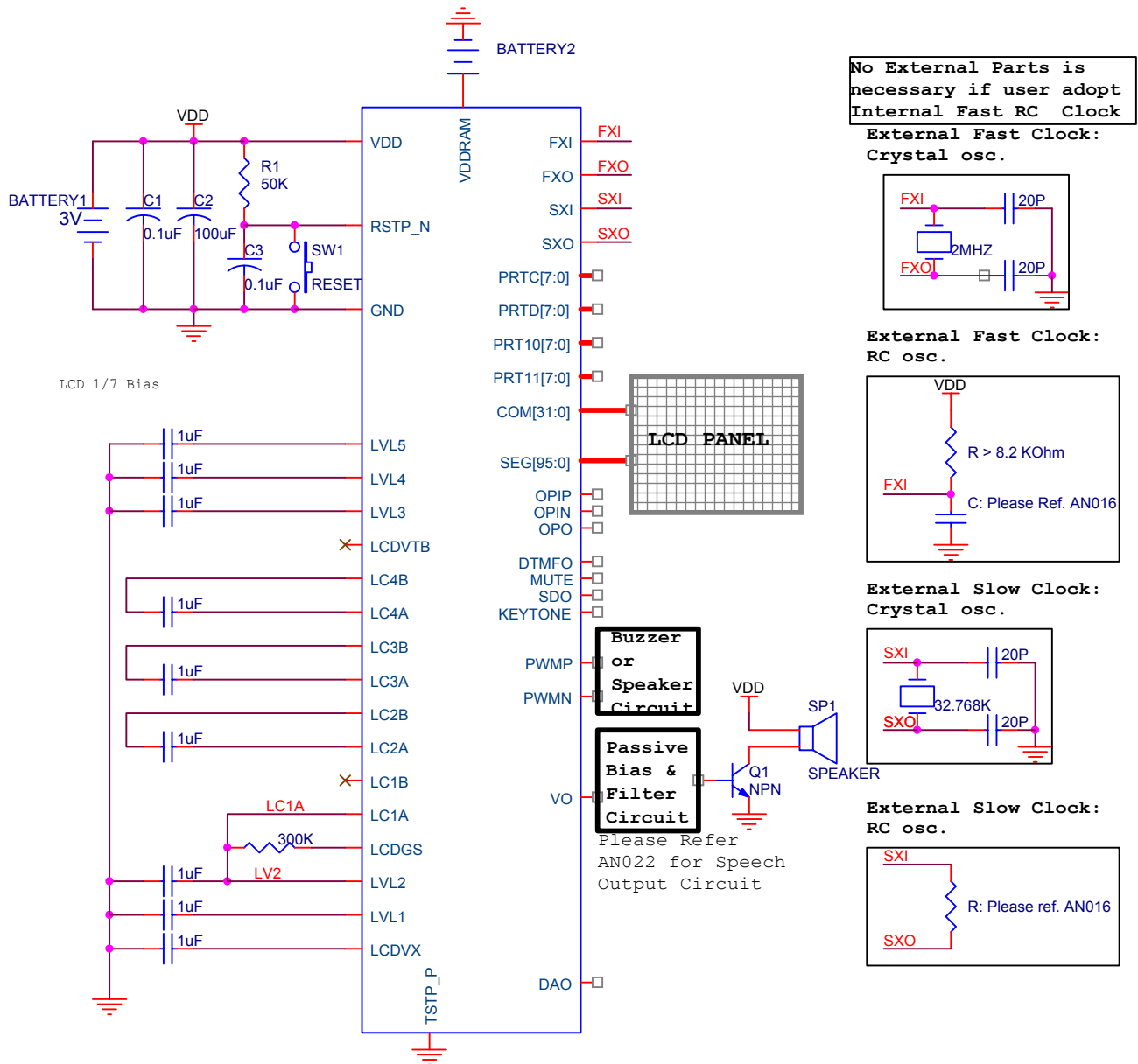
HE83760M is a member of 8-bit Micro-controller series developed by King Billion Electronics Ltd. This IC has built-in 3072 pixels LCD driver, and also have 32-bit I/O ports. The built-in OP comparator can be used with light, voice, temperature and humidity sensor or used to detect the battery low. The 7-bit current-type D/A converter and PWM drive output provide the complete speech output mechanism. The built-in DTMF generator can generate the PSTN dialing tone directly. The 2M byte ROM and 16K byte RAM can be used in the storage of large speech data, image and text etc. HE83760M can be used in Translator、Data Bank、Pocket Dialer、Educational Toy、Digital Voice Recording System etc.

The instruction sets of HE80000 series 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 performance of HE83760M is enough for most of battery operation system.

B. HE83760M Features

- Operation Voltage: 2.4V ~ 3.6V
- System Clock 4MHz ~ 8MHz
- Clock Source: Internal/External Fast clock, Internal/External slow clock
- Dual Clock System : Normal (Fast) clock 32.768KHz ~ 8MHz
Slow clock 32.768 KHz
- Operation Mode : DUAL、FAST、SLOW、IDLE、SLEEP Mode.
- Internal ROM: 2M Bytes (64K Program ROM, 1984K Data ROM)
- Internal RAM: 16K Bytes.
- Watch dog timer.
- 32 Bi-directional I/O ports.
- 3072 pixels LCD driver (B Type) with built-in regulator for LCD display, without LCD contrast control function. The maximum LCD voltage must be lower than 8.5V.
- LCD COM X SEG : 32 X 96
- LCD Bias : 1/7
- LCD Charge Pump: 3, 4, and 5 times of LVREG
- One 7-bits current-type DAC output.
- One built-in OP comparator.
- PWM device.
- Built-in DTMF Generator.
- Recording function
- Speech recognition function
- Two external interrupts and three internal timer interrupts.
- Two 16-bit timers and one time-base timer.
- Instruction set : 32 instructions, 4 addressing mode. 14-bit DATA POINTER for RAM and 21-bit TABLE POINTER for ROM.

C. Application Circuit



83760M with Type- IV LCD Driver is totally different from 83760 with Type-I LCD Driver. Please refer AN025.