



## A. HE82015 Introduction

HE82015 is a member of 8-bit Micro-controller series developed by King Billion Electronics Ltd. It is a power speech controller. The 7-bit current-type D/A converter and PWM device provide the complete speech output mechanism. The 128K ROM Size can be used in the storage of speech (40 seconds at 3Kbytes per second). In order to simplify IC function, this IC have not exit follow list circuit, **Slow Clock, Internal Power-ON Reset, TP automatic increase, Timer2 and Watch-dog Timer**. Please pay attention.

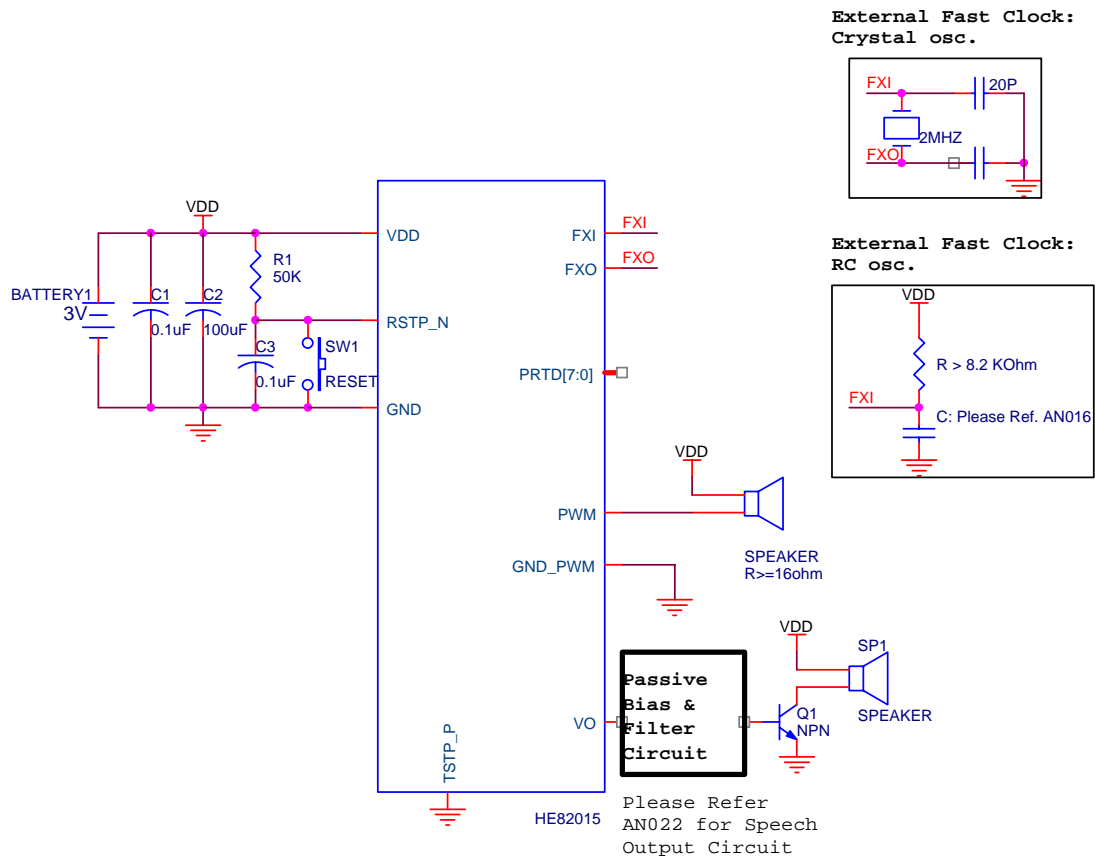
The instruction set of HE82015 are quite easy to learn and simple to use. Only about thirty instructions with four-type addressing mode are provided. Most of instructions take only 3 oscillator clocks (machine cycles). The processing power is enough to most of battery operation system.

## B. HE82015 Features

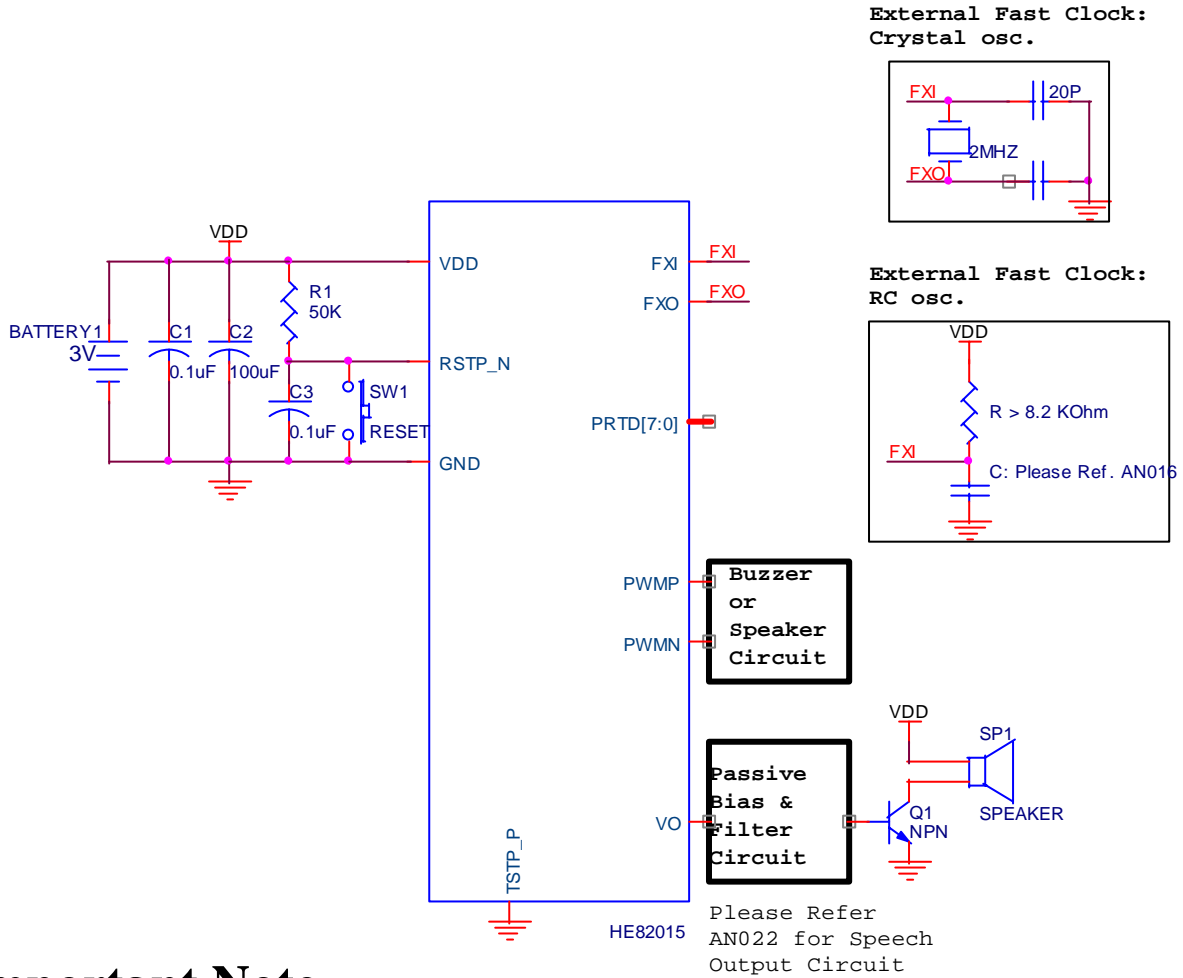
- Operation Voltage : 2.4V – 5.5V
- System Clock : DC ~ 8MHz @ 5.0V  
DC ~ 4MHz @ 2.4V
- Internal ROM : 128K Bytes(64K Program ROM, 64K Data ROM)
- Internal RAM : 128 Bytes.
- Single Clock System : Normal (Fast) clock : 32.768K ~ 8MHz
- Operation Mode : FAST、 SLEEP Mode.
- 8 bit Bi-directional I/O port. Mask Option can select PUSH-PULL or OPEN DRAIN output mode for each I/O pin.
- One 7-bit current-type DAC output.
- PWM device.
- Two external interrupts and one internal timer interrupt.
- One 16-bit timer. (Clock Source reference by Fast Clock)
- Instruction set : 32 instructions, 4 addressing mode. **7-bit DATA POINTER** for RAM and **17-bit TABLE POINTER** for ROM.

## C. Application Circuit

### Version A1:

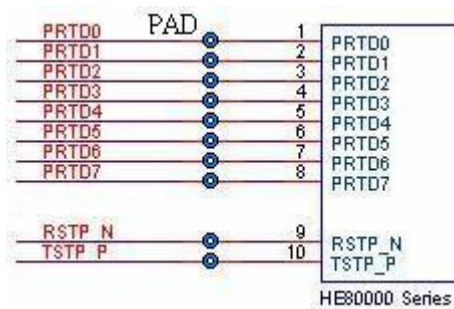


Version B1:



## I. Important Note

1. Please bonds the TSTP\_P, RSTP\_N and PRTD[7:0] with test point on PCB (can be soldered and probed) as you can, then KB can do some IC testing job on PCB. Neither VDD nor GND connection is necessary for TSTP\_P. The following figure is an example (Testing point with through hole).



## J. Updated Record

Version	Date	Section	Original Content	New Content
V3.3	Nov 20, 2001	B, G I, J	2.2V (VDD operation voltage)	2.4V New Section