AM4FA Demo Board
Ver.A
User Manual

佑華微電子股份有限公司
新竹市光復路二段295號9樓之1號
電話: 03-573 6660
傳真: 03-573 6661
www.ealpha.com.tw

Alpha Microelectronics Corp.
9F-1, 295, Sec. 2, Kuang Fu Rd., Hsinchu, Taiwan
Tel : +886-3-573 6660
Fax: +886-3-573 6661
www.ealpha.com.tw

Rev 1.1 2005/05/24

Contents

1. AM4FA_DB Oscillator Setup

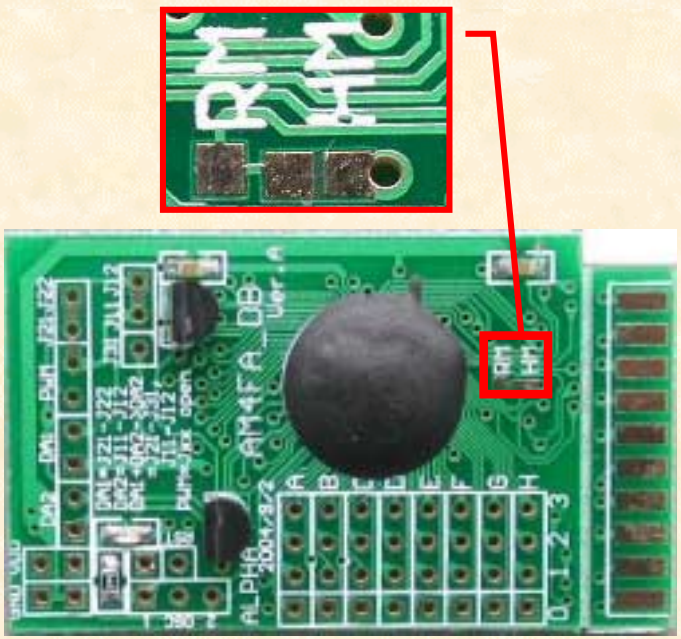
➢ Oscillator Operating Mode

R M	: Resistor Mode
H M	: High Frequency Crystal Mode

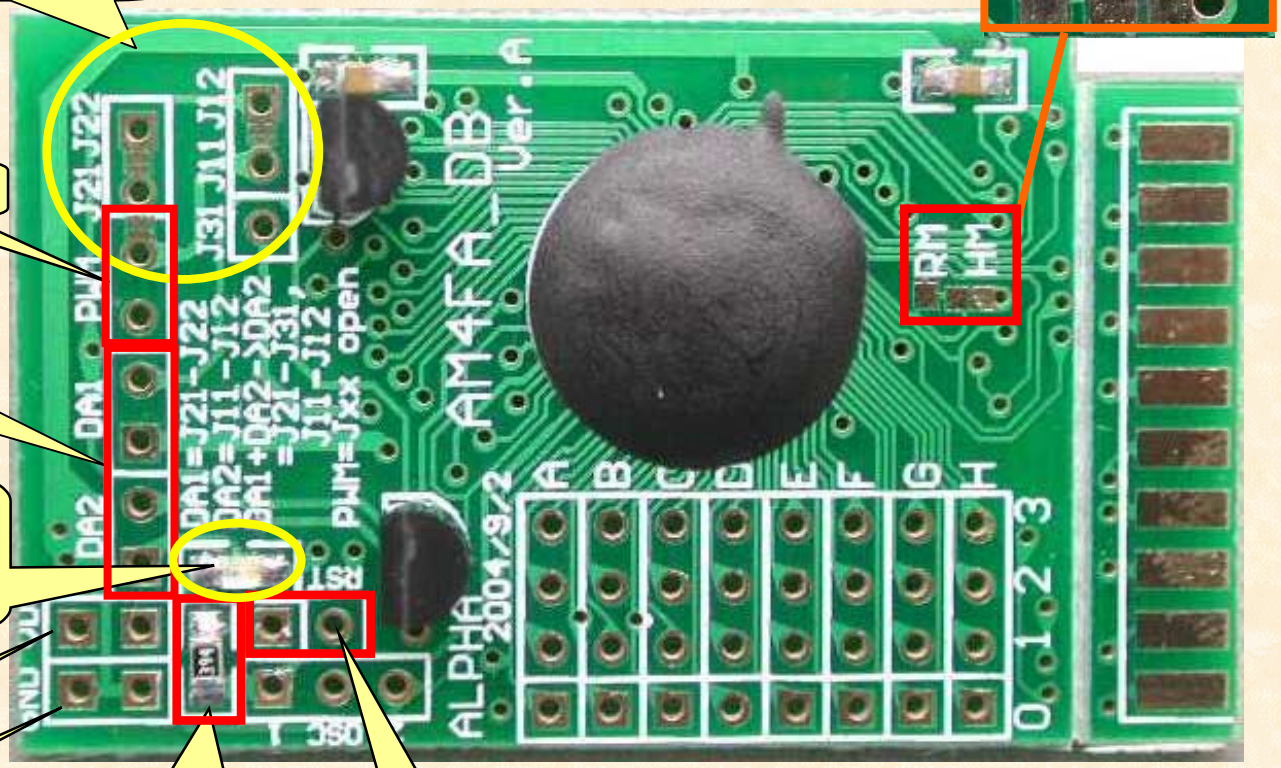
Oscillator Mode	OSC_S1
RM	0
HM	1

➢ Oscillator Operating Mode Setup

Oscillator Type	GND	OSC_S1	VDD
R (RM)	GND →	OSC_S1	
H (HM)		OSC_S1 →	VDD



1-1. Resistor Mode (RM)



Voice Output (PWM/DAC) setup jumper

You can choose the RM oscillator type through this option. (Default is RM)

PWM Output

DA1/DA2 Output

Working Indicator LED. This LED is light when IC don't enter sleep mode. (Real Chip is not supported)

VDD

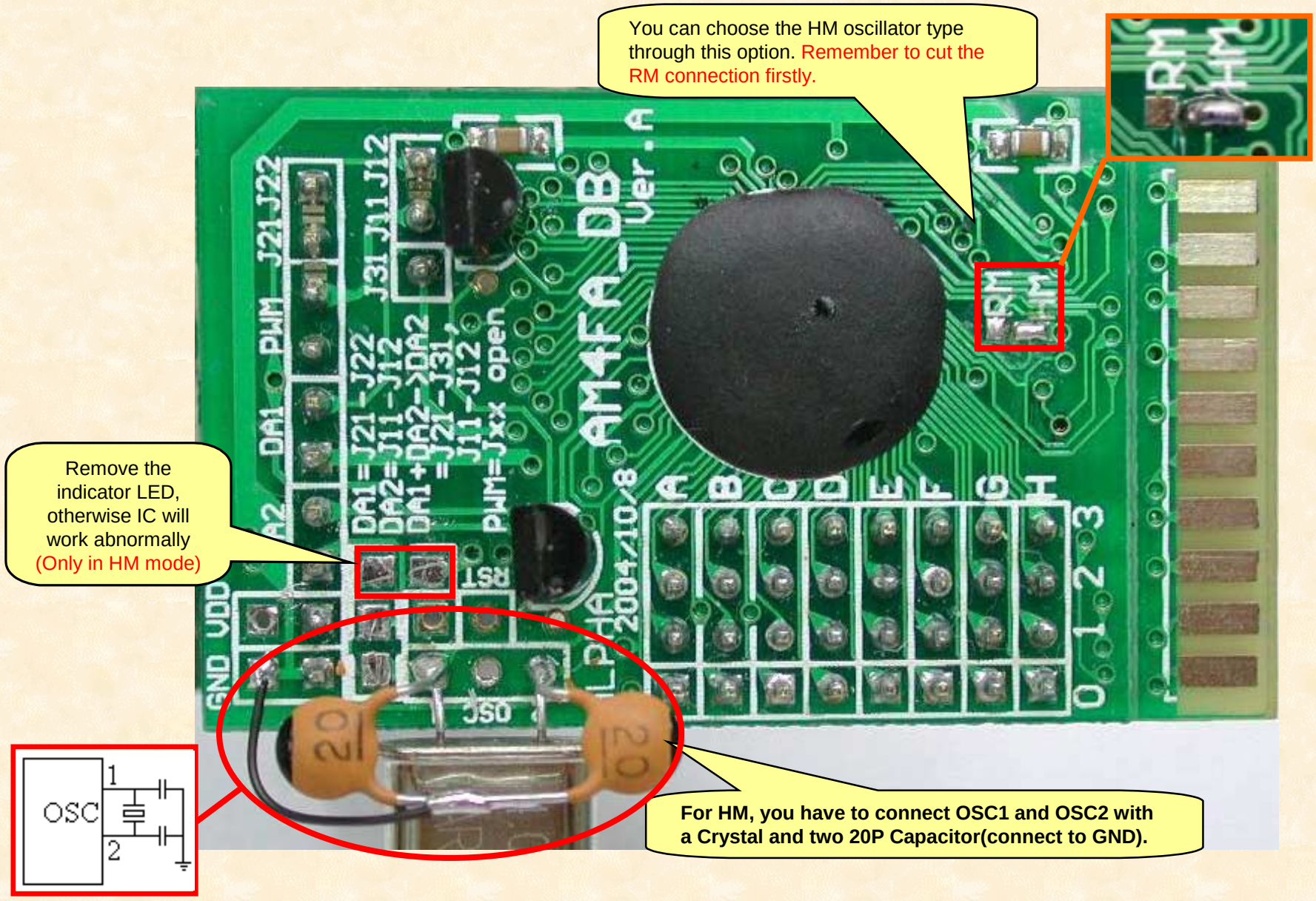
GND

For RM, you have to connect OSC1 and VDD with a resistor Rosc.

Reset Key

OSC Freq.	8M Hz	16M Hz
Rosc	390K Ohm	190K Ohm

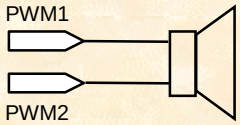
1-2. High Frequency Crystal Mode (HM)



2. AM4FA_DB PWM/Cout Setup

2-1 PWM Output

PWM output => All jumpers open



***** To use PWM output, please ensure to open J11/J12/J21/J22/J31, otherwise demo board will be permanently damaged.***

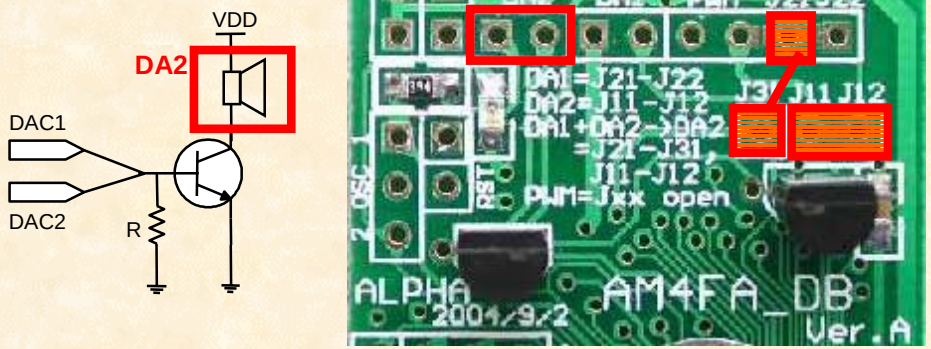
2-2 Current Output (Cout)

1. DA1 output => Short J21-J22

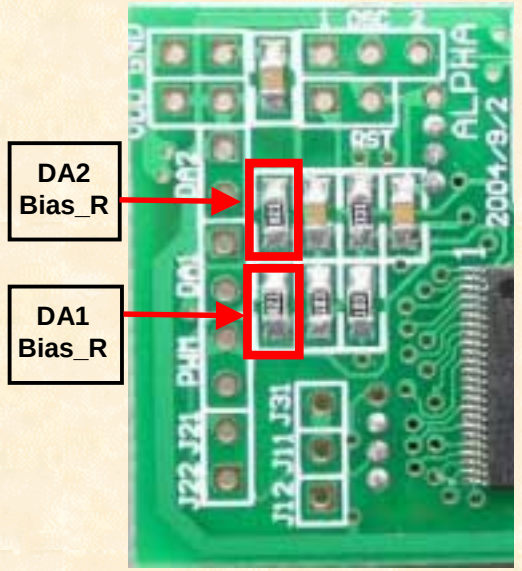
2. DA2 output => Short J11-J12

3. Mix DA1/DA2 signal then output to DA2

=> Short J21-J31 and J11-J12

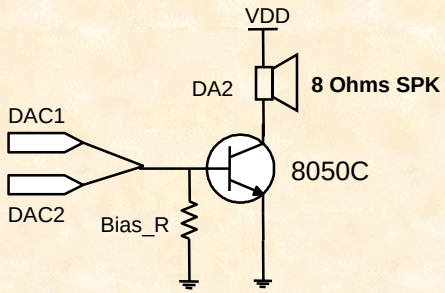


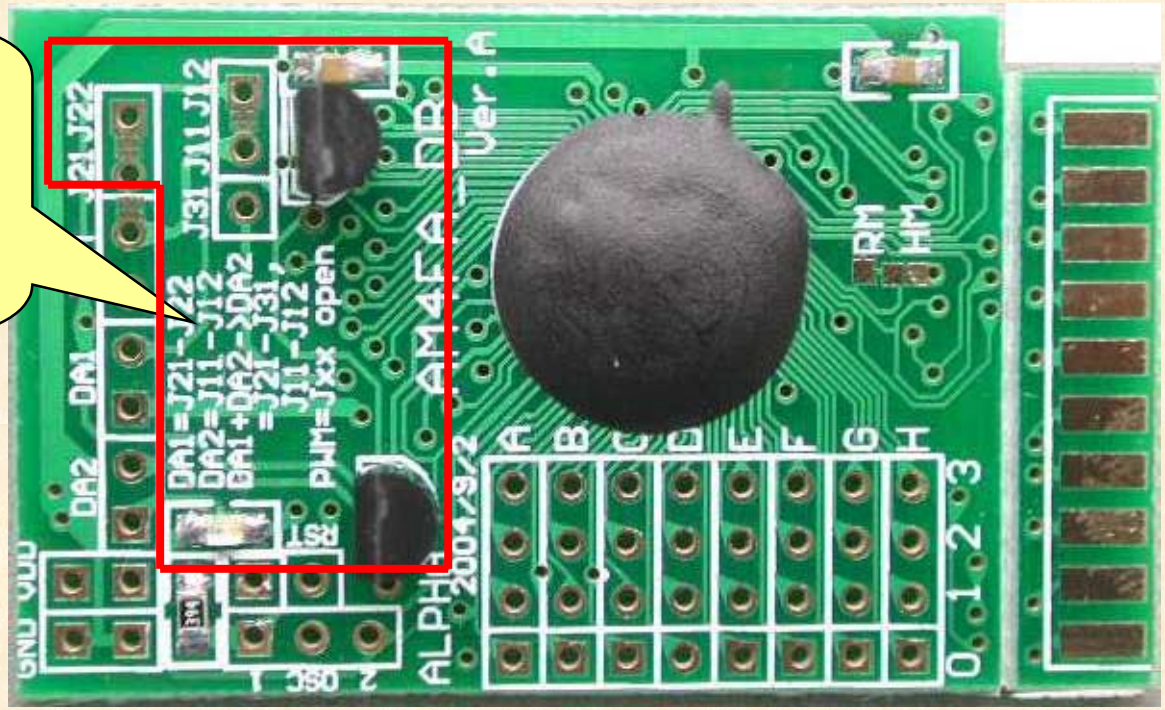
Backside DAC Bias_R



2-3 Cout Current & Bias_R Setup

The current output circuit.
You must connect the transistor (8050) and the bias resistor. The value of the bias resistor should be chosen to match with the Current Control option. Otherwise, voice quantity may be affected. **(This is no use for PWM output.)**





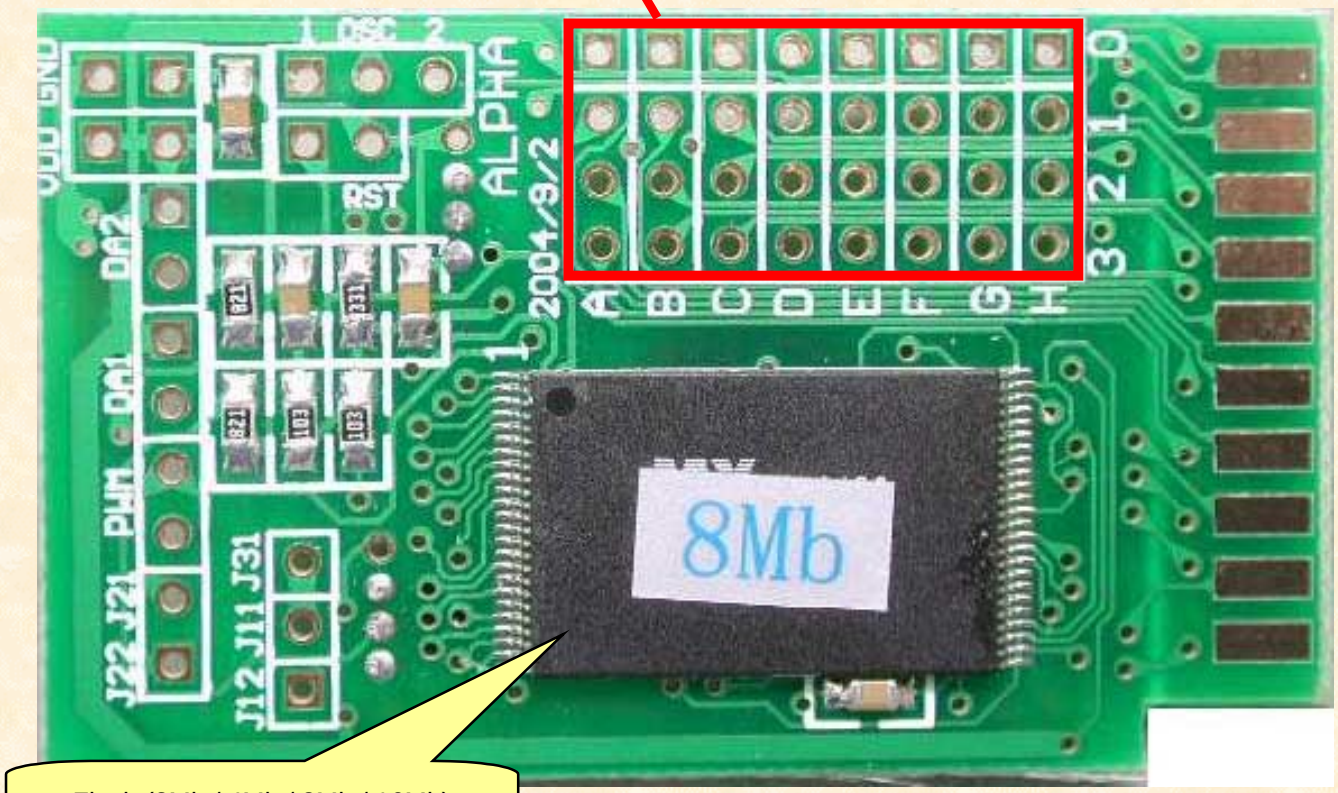
When using one 8050C (*B*=185, TO-92), DA1+DA2=>DA2, the following are suggested. (Vdd=3V)

Current Control	0	1	2	3	4*	5	6	7
Each DAC output	0.92mA	1.42mA	1.9mA	2.34mA	**2.8mA**	3.22mA	3.66mA	4.06mA
Bias_Resistor	2.7k ohms	1k ohms	630 ohms	470 ohms	**350 ohms**	290 ohms	250 ohms	210 ohms

* Default is 2.8mA (Half Scale=1.4mA) for each DAC by *EzCode* system.

3. AM4FA_DB I/O Pin Map

1	PRA0	5	PRB0	9	PRC0	13	PRD0	17	PRE0	21	PRF0	25	PRG0	29	PRH0
2	PRA1	6	PRB1	10	PRC1	14	PRD1	18	PRE1	22	PRF1	26	PRG1	30	PRH1
3	PRA2	7	PRB2	11	PRC2	15	PRD2	19	PRE2	23	PRF2	27	PRG2	31	PRH2
4	PRA3	8	PRB3	12	PRC3	16	PRD3	20	PRE3	24	PRF3	28	PRG3	32	PRH3

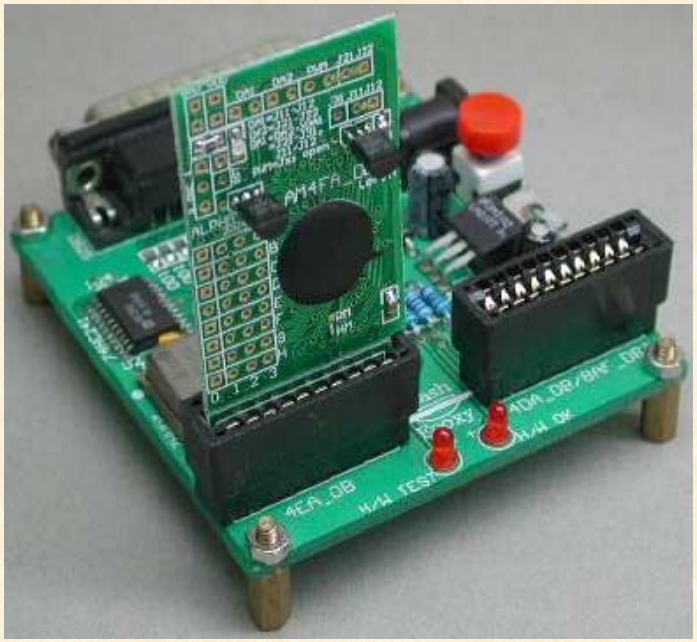


(Back Side)

4. AM4FA_DB Download Board Setup

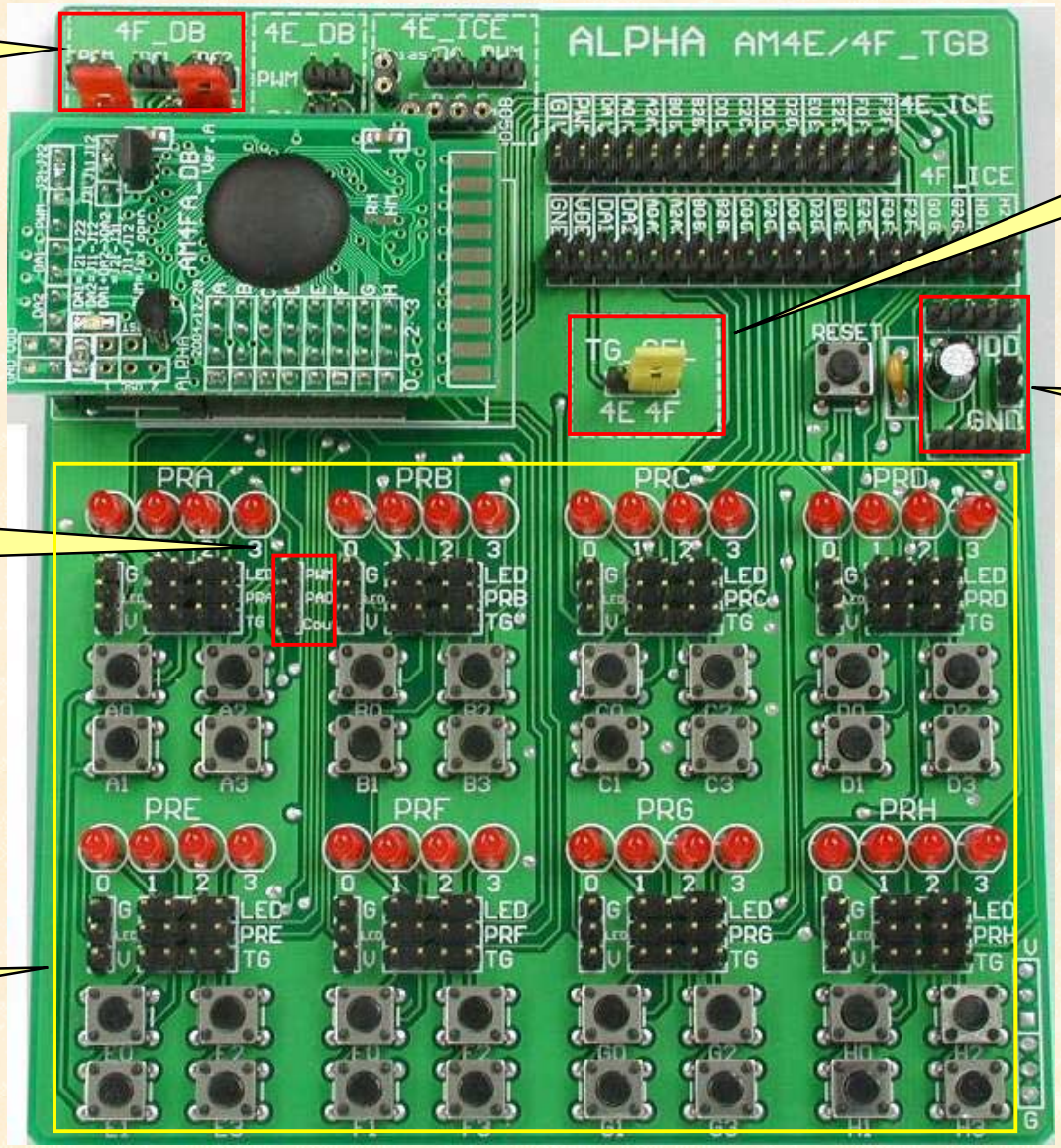
The AMXXFDL_V3 supports all the flash-type demo board such as AM9AA_DB, AM4DA_DB, AM4EA_DB, AM4FA_DB and AM8AF_DB. Please plug the demo board into the corresponding socket in the correct direction as the figures below:

(AMXXFDL_V3 Download Board)



(Insert AM4FA_DB)

5. AM4FA_DB Target Board Setup



6. AM4EA_DB Target Board Setup