

FAQ

Q1: The difference between the TA8435 and TB6560

There are some differences between the TA8435H and TB6560, main differences is the step resolution (one supports 1/8, another supports 1/16), drive current (one for max 2A steppers, another for max 3A steppers). Both of boards have been built in the optical isolation to protect computers.

Q2: What's in CD?

Please feel free to download the CD main contents at following links:

Mach3 demo version:

<http://www.machsupport.com/downloads.php>

Manual:

http://www.savebase.com/infobase/downloads/TB6560/TB6560_3axis_Driver.doc

Q3: Don't work.

Firstly, please follow strictly the setting photos in the manual for a configuration in MACH3, please feel free to download the manual at the following link:

http://www.savebase.com/infobase/downloads/TB6560/TB6560_3axis_Driver.doc

In addition, We recommend you a group of Neutral Parameters used for the settings of "Turning port": 320 steps, 600mm/min, 200 mm's/sec/sec, 5 Step Pulse and 5 Dir Pulse, which is specially used to test whether the board is normal or not.

If the problem still persists, please feel free to contact us and advise the following information to us for further check:

Please advise the following information to us for further check:

(1) Screen shots of pins and ports settings (including Motor outputs and Output signals) in the Mach3

(2) Screen shots of motor tuning settings in the Mach3 for ALL AXISES

(3) The specs of your STEPPER MOTORS (including the frame size, rated current, voltage and so on) and POWER SUPPLY (including the rated current and voltage)

(4) How did the Power LEDs and Axis working indicators work?

(5) When all connections are completed, did two power led light on? Also did four Axis working indicators for every axis ever light on/wink when you jog them?

(6) Are you using a parallel to PCI/USB adapter card for the LPT interface on your computer? Or is it the original print parallel port?

Please advise the information above ONE BY ONE.

Q4: Suitable Motor Turning Settings

We recommend you a group of Neutral Parameters used for the settings of "Turning port": 320 steps, 600mm/min, 200 mm's/sec/sec, 5 Step Pulse and 5 Dir Pulse, which is specially used to test whether the board is normal or not.

Q5: 4/6/8 Lead Motor Connection Diagram

Please check the following two photos:

<http://www.savebase.com/infobase/downloads/TB6560/TB6560-Wiring/TB3-Wiring.png>

http://www.savebase.com/infobase/downloads/TA8435H/wiring_diagram.PNG

Generally, please set the right wiring connection of the motor with XA+ =black, XA- =green, XB + =red, XB- = blue.

Q6: Selection of power supply

***Voltage Selection:**

12-16V DC power supply for Nema 17 stepper motors

16-24V DC power supply for Nema 23 stepper motors

24-36V DC power supply for Nema 34 stepper motors

(High voltage will burn up the chips or stepper motors!!!)

***Amperage Selection:**

Output current of the power supply can be calculated by the following expressions:

Output current = Rated current of your stepper motors * quantity + 2A

(For example, if you want to drive 3 * 3A Nema 23 stepper motors, theoretically 24V 11A DC power supply is recommended, but higher power such as 24V 15A also will be good.)

Q7: How to set suitable current for motors?

In theory, we have two formulas to calculate the current as the DIP SWITCH changes(25%, 50% 75% 100%), you use these two formulas for a reference when you set the DIP SWITCH, but we cannot guarantee the result you calculate in theory are completely consistent with the result in reality, which will certainly has some deviations. So it is just for a reference.

1.5 - 3A version board:

Current = $1.5 + (1.5/3) \times (\text{percentage}/25\% - 1)$

For example, you set the dip switch to 50%, the phase current = $1.5 + (1.5/3) \times (50\%/25\% - 1) = 2A$

0.5 - 2.5A version board:

Current = $0.5 + (2/3) \times (\text{percentage}/25\% - 1)$

For example, you set the dip switch to 50%, the phase current = $0.5 + (2/3) \times (50\%/25\% - 1) = 1.2A$

By the way, each dip switch controls each axis with motor individually.

Q8: Why the chips are easily burned up?

General speaking, the problem will be caused by three situations below.

Firstly, you didn't shut down the power when you plug or unplug these connectors to the board.

Secondly, the voltage of the power supply you used is too high to be suitable for the board, as to it, please check the Q6.

Thirdly, there are some Impurities on the board, which causes the short circuit on the board.

Q9: Work/compatible with other software, except MACH3?

Actually we recommend Mach3 as the Control Software because we have not tested other software on this board so we DO NOT guarantee the board will work with it. But if you insist to use other software please refer to the instructions for how to make it work with other software because actually the principium of most parallel control software is nearly the same, I think you just need to set the right pins and ports following the definitions of pins.

Q10: KCAM4 User Manual

Actually, we don't recommend you to use the other software except MACH3, because we don't guarantee whether other software (including the KCAM4) will work with the board or not, however, there is a KCAM4 User Manual at the following link:

http://www.kellyware.com/anonymous/KCAM4_User_Manual_4.0.25.pdf

We sincerely hope it can fully fit your needs.

Q11: Is the board for Unipolar or Bipolar motors?

For both Unipolar and Bipolar stepper motors.

Q12: Difference between 1.5A-3A version and 0.5A-2.5A version

The high version (using 0.15ohm resistor) can drive the steppers whose rated current is between 1.5A -3A while the low current version (using 0.22ohm resistor) for 0.5A - 2.5A, you cannot modify the drive current unless you have enough experience and confidence to replace the resistors on the boards for current adjustment. We DO NOT

take the responsibility of any damage caused by users' modification, please understand our situation!

Q13: How to distinguish the 1.5A-3A version and 0.5A-2.5A version by appearance

It's easy to distinguish your board's version; the 0.5A-2.5A version board's Resistance has a RED circle in the middle when the 1.5A-3A board's Resistance has a BROWN GREEN circle. So, you just have to check the circle's color in the middle of the resistance on the board after you get it.

Q14: If a USB/PCI to LPT Adapter can be used for this controller?

I don't know if the USB to LPT adapter can be used for this board but I am using a PCI to LPT adapter card for it and it works great. Please feel free to refer to the following instructions for guide:

<http://www.savebase.com/infobase/downloads/TB6560/PCI-Parallel-setting.doc>

Q15: Limitation of demo version

The limitation of the demo version is mainly that the DEMO version's functions less than the full version's, and the full version is more stable than the DEMO version. However, if you just use it to run some simple programs, the demo version is enough for you to use.

Q16: Something about Limit switch and E-stop

Please refer to the following picture:

<http://www.savebase.com/InfoBase/SAVEBASE/PKG/001488/Image/TB3-700.PNG>

From the top down the 4 pins are X-limit, Y-limit, Z-limit, E-stop.

And please do following the Limit setting in the instructions:

http://www.savebase.com/infobase/downloads/TB6560/TB6560_3Axis_Driver.doc

Q17: Something about Spindle motor? How to connect it?

This board can only control the on/off of the spindle motor because the output is a relay.

There are three pins on the spindle interface: M-out, GND, M-in. The M-out and GND is the output for spindle, but the M-in and GND is for the power of the spindle. Please note this board can only be used to power max 36V 7.5A DC motor!

Q18: Description of four-way input interface

<http://www.savebase.com/infobase/downloads/TB6560/Limit-Description.doc>

Q19: Something about Auto current reduction when motor is idle

The current will be reduced to a suitable value automatically when the motor is idle to decrease the heat consume of motors.

Q20: How to expand the 4th axis? What are the 4 pins near the LEDs?

Please feel free to check the following link first:

<http://www.savebase.com/InfoBase/SAVEBASE/PKG/001488/Image/TB3-700.png>

From this photo, you will notice 4 pins near three LEDs, that's right the expand port interface. We updated the photo to give you the definitions of every pin, you just need to connect the Dir, Direction, GND (NOTE: ENABLE port is not needed to be connected, and so is the +5V power which you need to give additional power for your single driver) of your single axis driver which is ready for the 4th axis to the corresponding pins and have a right pins & ports settings in the software according to the definition of 4 pins.

Q21: What's the decay mode?

Decay mode controls scheme results in reduced audible motor noise, increased step accuracy, and reduced power dissipation.

Q22: Full kit wiring diagram for reference:

For 24V10A Power Supply:

http://www.savebase.com/infobase/downloads/TB6560/TB6560-Wiring/3axis_24V10A_Connection_diagram.jpg

http://www.savebase.com/infobase/downloads/TB6560/PSU-connection/10A_connection.jpg

For 24V15A Power Supply:

http://www.savebase.com/infobase/downloads/TB6560/TB6560-Wiring/3axis_24V15A_Connection_diagram.jpg

http://www.savebase.com/infobase/downloads/TB6560/PSU-connection/15A_connection.jpg

Q23: Default DIP switches settings for test:

http://www.savebase.com/infobase/downloads/TB6560/DIP_Default_Setting.JPG

To Be Continued.....