Thank you for purchasing our precision products for your motorized project. Please review our **Documentation** link on our website www.excitron.com, where you will find the motor/controller User Manual and related documentation.

Here are some notes for proper installation, setup, and operation. CNC Gcode/Robot file reading and execution is included.

Power Supply hookup:

It is very important that you provide an ***Emergency AC Power Off Switch*** for safety reasons. An inline fuse on the AC power line is recommended. Excitron's motors, controllers, power supplies may not be used for life support equipment. Due to manufacturing, small scratches may be present on the controller or motor. We assert that your controller and motor is absolutely new, so please ignore any scratches.

Pay special attention to the **T** (Trq%) value, which is a percent of full rated torque, 100% being full rated torque. We suggest you run at T =050 to 080 for optimum torque vs. noise and heat. Please read all instructions first. If torque is too high, and running at low speeds constantly, you may lose steps.

AC voltages are high and very dangerous; always seek competent help in wiring your power supply. A grounded 3 wire AC power cord or a 2 prong cord is included. Use an AC rated power switch to turn the power supply off and on— do not plug and unplug the Controller cable with power on. DO NOT USE A SWITCH IN THE DC output, this isolates the power supply capacitors from the motor, and may result in high voltage.

Most of our enclosed power supplies have a black jacketed 2 conductor cable, the white wire is +V, and the outside shield is ground (-V). Check your DC grounds, so that no item is "floating". If proper grounding does not exist, then serial communications, input/output pins, and the controller itself may not function, and could be damaged. We ship our 320 watt power supplies with a ground strap between the AC ground and the DC ground. Always seek professional help.

Keep the DC power supply wires short--no longer than 2', 8 inches is ideal. A 3-4' length may create up to +_10 volt electrical noise, and switching power supplies may not regulate well.

All stepper motors require a filter capacitor to reduce electrical noise and for smooth stepping. We add capacitors inside the X Controller, 600 uF to 3,400 uF, depending on motor size,.

Warning! Use caution when operating, severe injury can result from the motor rotating. Long wires act like antennas and may cause erratic dangerous motion.

If you received a power supply along with your X Controller/motor, then we pre-soldered the wires, assemble, and test for you at no charge. The X controllers have one 4-pin Power header and 1 or 2 3-pin I/O headers. These are 24K gold plated. The 3 pin I/O cable only goes into the 3 pin header, and is provided open-ended for your connector choice.

Quick Setup for Excitron Controllers

Excitron's stepper motor **Controllers** make your motion control simple. They contain all the electronics and power for thousands of motorized applications—and they run right out of the box by simply typing a "**G**". If you also purchased our Switch Assembly, or add your own switches, then pushing a switch will cause motion.

Included is a smart phone USB cable. If you download a USB serial app, this cable and the *included* Excitron USB-TTL cable enables control with your smart phone!

Stepper motors rotate one small step at a time, and are special because both position and speed can be precisely controlled, unlike any other type of motor. Our motors can run continuously for 30 years.

Our part number system indicates the stepper motor size, and all X controllers have 2 TTL serial ports for communication to other X Controllers and to any computer. USB-TTL and RS232-TTL serial port adapters are optional and available.

Our experts are happy to assist you in selecting the best controller, stepper motor, and accessories for your project.

Remember to check out our Leadscrew Sliders, Belt Sliders, Wire Sliders, and Rotary Tables for your motorized projects.

See online the latest X Controllercoder Manual.pdf and the Excitron_X_Features.pdf for all details of our exciting new X Controller.

For a quick start:

- Make sure the AC-DC power supply is off or unplugged.
- Connect the Power supply 4-pin housing (this is a 1 x 4 pin standard Molex) ,0.100" pitch female black housing) to the X **Controller** 4-pin header.
- Turn on your power supply. The small X Controller LED on the top cover should be ON bright.
- Start Realterm, Putty, Hyperterminal (or any equivalent program) with 115,200 baud, 8 bits, no hardware handshaking.
- At power-up the **X Controller** displays:

  Excitron v5.07 X86-118   400 0000000 +18ºC 24v

  X>
  (controller name varies)

- Type **G** to run the stepper motor.
- Type **I** to see some **Controller** information and the current motion profile #01 values.
- Change direction (**C** or **W**), **V**sps, or number of steps **N**, type **G**, and see the difference.
- Type **?** for a brief command help list.
- The **Controller** is in Profile Mode on power-up, and will respond to any serial command. Input Profile, and Auto-Home Modes create standalone functionality, whereupon no PC is needed.
- The new Gcode/Robot commands are accessed with by **Q**. You return to Motion Profiles with a **Q**.
- You can view and change variables that concern how the Controller operates by typing little **c** then ~.

Enjoy!   Feel free to contact us at info@excitron.com.

…make it a great day!

Excitron's Engineering Team