# SV7-Si Quick Setup Guide

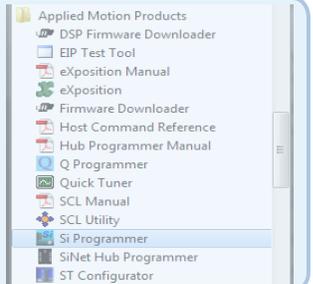**Applied Motion Products**

## Requirements

To begin, make sure you have the following equipment:

- A compatible servo motor.
- A small flat blade screwdriver for tightening the connectors (included).
- A personal computer running Microsoft Windows 98, NT, Me, 2000, XP, Vista, or 7.
- *Si Programmer™* software (available at www.applied-motion.com/products/software).
- For more detailed information, please download and read the *SV7 Hardware Manual*, available at www.applied-motion.com/support/manuals.
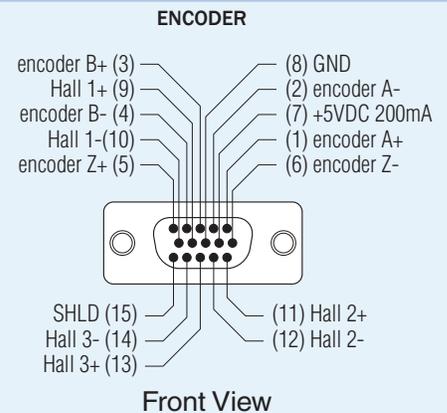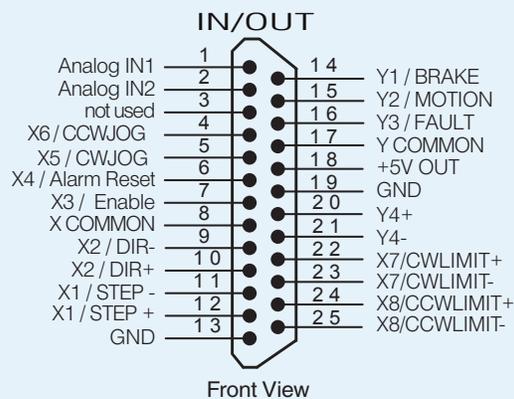
## Step 1

a) Download and install the *Si Programmer™* software.

b) Launch the software by clicking:

      Start / Programs / Applied Motion Products / Si Programmer

c) Connect the drive to your PC using the supplied programming cable. If your PC does not have a serial port you will need a USB to serial port (RS-232) adapter.

Applied Motion Products
- DSP Firmware Downloader
- EIP Test Tool
- eXposition Manual
- eXposition
- Firmware Downloader
- Host Command Reference
- Hub Programmer Manual
- Q Programmer
- Quick Tuner
- SCL Manual
- SCL Utility
- Si Programmer
- SiNet Hub Programmer
- ST Configurator

## Step 2

a) **Connect the I/O**

b) **Connect the Encoder**

- Applied Motion motor cables are available with connectors that mate directly to the encoder connector on the drive.

### IN/OUT

| Pin | Signal |
|---|---|
| 1 | Analog IN1 |
| 2 | Analog IN2 |
| 3 | not used |
| 4 | X6 / CCWJOG |
| 5 | X5 / CWJOG |
| 6 | X4 / Alarm Reset |
| 7 | X3 / Enable |
| 8 | X COMMON |
| 9 | X2 / DIR- |
| 10 | X2 / DIR+ |
| 11 | X1 / STEP - |
| 12 | X1 / STEP + |
| 13 | GND |
| 14 | Y1 / BRAKE |
| 15 | Y2 / MOTION |
| 16 | Y3 / FAULT |
| 17 | Y COMMON |
| 18 | +5V OUT |
| 19 | GND |
| 20 | Y4+ |
| 21 | Y4- |
| 22 | X7/CWLIMIT+ |
| 23 | X7/CWLIMIT- |
| 24 | X8/CCWLIMIT+ |
| 25 | X8/CCWLIMIT- |

Front View

### ENCODER

| | |
|---|---|
| encoder B+ (3) | (8) GND |
| Hall 1+ (9) | (2) encoder A- |
| encoder B- (4) | (7) +5VDC 200mA |
| Hall 1-(10) | (1) encoder A+ |
| encoder Z+ (5) | (6) encoder Z- |
| SHLD (15) | (11) Hall 2+ |
| Hall 3- (14) | (12) Hall 2- |
| Hall 3+ (13) | |

Front View

## Step 3

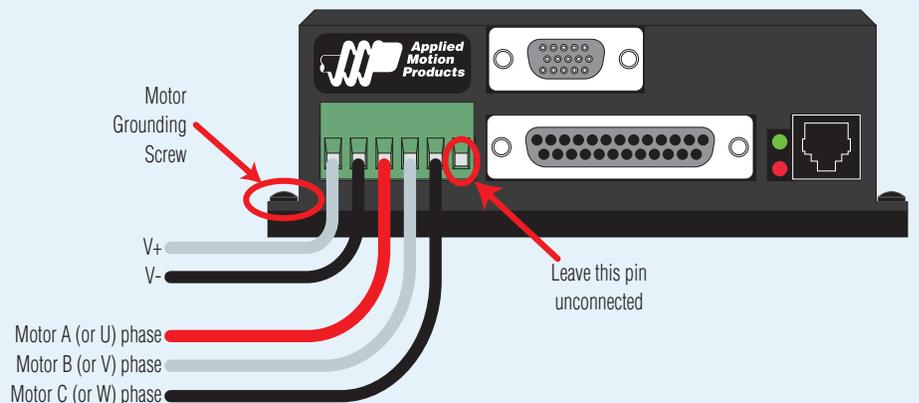a) **Wire the drive to the DC power source.**

**(Do not apply power until all connections to the drive have been made)**

Note, the SV7 drives accept DC power from 24-80 VDC.

b) **Wire the servo motor to the drive.**

For a non-Applied Motion Products motor, please refer to your motor specs for wiring information.

*Be sure to connect the motor case ground to the grounding screw as indicated, leaving the last pin on the motor/power connector unconnected.*

Motor Grounding Screw

Leave this pin unconnected

V+
V-
Motor A (or U) phase
Motor B (or V) phase
Motor C (or W) phase

920-0063A

## Step 4

a) With the *Si Programmer™* software running, select the appropriate COM port and apply power to the drive. The software will recognize the drive and update the main program to reflect appropriate configuration options.

## Step 5

a) If using an Applied Motion servomotor, click the "Open" button, then select "Servo Tuning" from the filter list. Select the file that most closely matches your inertia load. The file names indicate the inertia ratio for which they were optimized. For example, the file *V0200 48V 2.5X.svt* was optimized for the V0200 motor at 48V and a 2.5:1 inertia ratio.

b) From the main Si Programmer screen click the "Motor" button and execute the timing wizard, following the on-screen prompts. This will ensure that the drive can properly commutate the motor. When finished, click "OK" to return to the main screen.
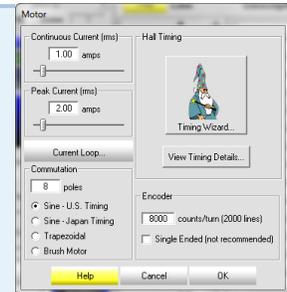
## Step 6

a) Click the "Tuning" button. If using a third-party motor, or if the sample tuning setting are insufficient for any reason, the system must be tuned manually. This screen has the same functionality as that found in *Quick Tuner™*, so it is recommended to consult the *Quick Tuner™* Software Manual for step-by-step tuning instructions.

*The Quick Tuner™ manual should be considered required reading for anyone tuning a servo system.*
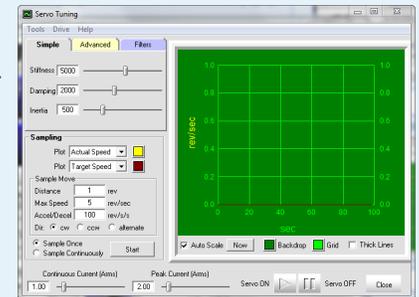
## Step 7

a) Click the button marked "Configure I/O", and specify any dedicated I/O functionality you may require. This screen also allows the user to specify how the program will react to drive faults and interrupts.

b) Download your settings to the drive to complete the drive commissioning procedure. Once this is done the drive is configured for use and the user is free to begin writing the Si program itself.

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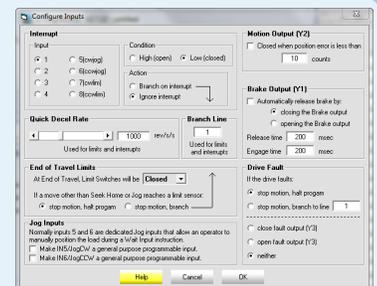
If you have any questions or comments, please call
Applied Motion Products Customer Support:
(800) 525-1609, or visit us online:
www.applied-motion.com.

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