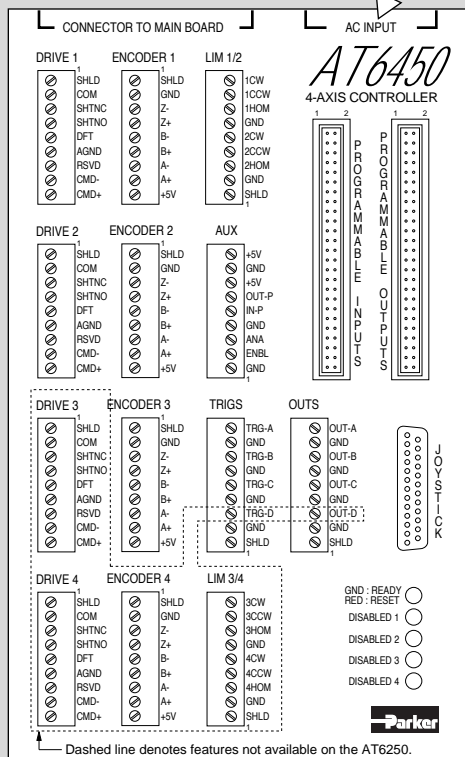


Connections

See also pages 7-23

The DC input version (AT6n50-DC) has a 5-pin screw terminal connector for DC power input (see page 20 for connections).



PIN OUTS NOT LABELED

PROG. INPUTS		PROG. OUTPUTS	
Pin	Function	Pin	Function
49	+5VDC	49	+5VDC
47	Input #1 (LSB)	47	Output #1 (LSB)
45	Input #2	45	Output #2
43	Input #3	43	Output #3
41	Input #4	41	Output #4
39	Input #5	39	Output #5
37	Input #6	37	Output #6
35	Input #7	35	Output #7
33	Input #8	33	Output #8
31	Input #9	31	Output #9
29	Input #10	29	Output #10
27	Input #11	27	Output #11
25	Input #12	25	Output #12
23	Input #13	23	Output #13
21	Input #14	21	Output #14
19	Input #15	19	Output #15
17	Input #16	17	Output #16
15	Input #17	15	Output #17
13	Input #18	13	Output #18
11	Input #19	11	Output #19
9	Input #20	9	Output #20
7	Input #21	7	Output #21
5	Input #22	5	Output #22
3	Input #23	3	Output #23
1	Input #24 (MSB)	1	Output #24 (MSB)

Even numbered pins are connected to logic ground.
MSB = Most Significant Bit; LSB = Least Significant Bit

JOYSTICK

Pin	Function
1-4	Analog Channels 1-4
8	Shield (chassis gnd)
14	Isolated Logic gnd
15	Axes Select Input
16	Velocity Select Input
17	Release Input
18	Trigger Input
19	Auxiliary Input
23	+5VDC Output

Pins 5-7, 9-13, 20-21, 24-25 are reserved

I/O SPECIFICATIONS & INTERNAL SCHEMATICS

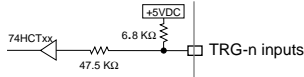
Power (see page 20 for connection instructions):
 PC Card.....5VDC @ 2.5A from the PC-AT bus.
 120VAC version...90-132VAC, 50/60Hz, 1.5A @ 120VAC, single-phase.
 (or connect 5VDC ±10% @ 1.6A to a +5V terminal)
 240VAC version...90-264VAC, 50/60Hz, 0.75A @ 240VAC, single-phase.
 (or connect 5VDC ±10% @ 1.6A to a +5V terminal)
 DC version.....+5VDC @ 1.6A; ±15VDC @ 50mA.

Enable, Drive Fault, Limits, and Joystick Inputs (pg. 7, 8, 12, & 14)



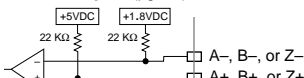
Specs: HCMOS-compatible*; voltage range = 0-24VDC.

Trigger Inputs (pg. 15)



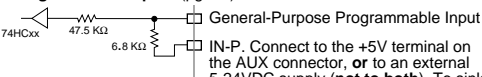
Specs: TTL (low ≤ 0.4V, high ≥ 2.4V); voltage range = 0-24VDC.

Encoder Inputs (pg. 13)



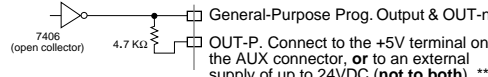
Specs: Differential comparator. Use 2-phase quadrature encoders; max. frequency = 1.6 MHz; min. time between transitions = 625 ns. TTL levels (Low ≤ 0.4V, High ≥ 2.4V); range = 0-5VDC.

Programmable Inputs (pg. 16)



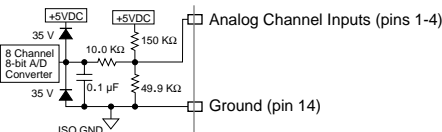
Specs: HCMOS-compatible*; voltage range = 0-24VDC.

Programmable Outputs, includes OUT-A through OUT-D (pg. 16)



Specs: Open collector output. Outputs will sink up to 30mA, or source up to 5mA at 5-24VDC.

Joystick Analog Inputs (pg. 14)



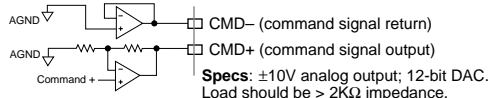
Specs: Voltage range = 0-2.5VDC, 8-bit. Must not exceed 5VDC.

Drive Shutdown Outputs (pg. 8-11)



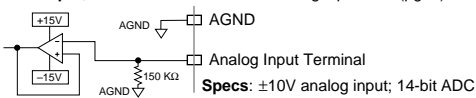
Specs: Solid state relay. Max. rating = 175VDC, 0.25A, 3W.

Drive Command Output (pg. 8-11)



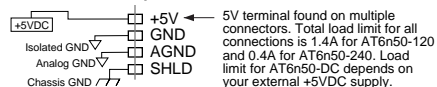
Specs: ±10V analog output; 12-bit DAC. Load should be > 2KΩ impedance.

ANI Input, from the OPT-AT6N50-A analog input card (pg. 7)



Specs: ±10V analog input; 14-bit ADC.

Terminals found on multiple connectors



ANA Output (supplemental ±10V output): see details on page 8.

* HCMOS-compatible levels: Low ≤ 1.00V, High ≥ 3.25V.
 ** Disconnect from +5V terminal BEFORE connecting an external 5-24VDC supply.

Troubleshooting

See also pages 27-32

- LEDs – see drawing below.
- Status information (see command descriptions in *6000 Series Software Reference*):
 - General status information.....TASF, TSSF, TSTAT
 - Limits (end-of-travel, home).....TASF, TLM
 - ENBL input.....TINOF (bit #6)
 - Programmable inputs and TRG-n.....TIN, INFNC
 - Programmable outputs and OUT-n.....TOUT, OUTFNC
 - Gains (currently active).....TGA IN
- ENBL input must be grounded to GND terminal to allow motion.
- CW & CCW inputs must be grounded to GND terminal to allow motion (or disable with LHØ command).
- Connecting OUT-P or IN-P to the +5V terminal and to an external supply will damage the AT6n50.
- To help prevent electrical noise, shield all connections at one end only.
- Error messages while programming or executing programs – see *6000 Series Programmer's Guide*.
- Error messages while downloading the operating system – see error table on page 31.
- Tuning – see pages 24 & 33-45 (if you own Servo Tuner, refer to the *Servo Tuner User Guide*).
- PC card address and interrupt conflicts – see page 4 & 30.
- Technical support – see phone numbers on inside of front cover, and the HELP command response.

ANI Option Card Only
 RED: Receiving power from AT bus.
 OFF: No power.

Green: High density cable connected
 OFF: Cable not connected properly

When power is applied, the status LED on the AT6n50 card will be off and the status LED on the AUX board should be red. If the LED on the AUX board is off, the AUX board does not have AC power. After the operating system is downloaded, the status LEDs on the AUX board and the AT6n50 card will turn green indicating the system is ready for operation. If both status LEDs do not turn green after downloading the operating system, an error has occurred. The operating system downloader (Motion Architect or the AT6250.EXE or AT6450.EXE program from your DOS support disk) issues an error message if the downloading operation is not successful (refer the Downloading Error table on page 31).

After power up, the DISABLED status LEDs will be red until you issue the DRIVE1111 command to enable the drives, at which time the LEDs will turn off. These LEDs will again turn red if the drives are shut down—possible causes are:

- Shutdown commanded with DRIVE command.
- Drive fault input (DFT) is active.
- Enable input (ENBL) is not grounded.
- Maximum allowable position error (set with the SMPER command value) is exceeded.
- Kill command (K, !K or <CTRL>K) was issued, or a Kill input or user fault input was activated while the Disable Drive on Kill feature was enabled (refer to the KDRIVE command).