MODEL 789A-3 SCAN CONTROLLER

- Selectable Speeds
  Local Mode — 0.1 to 999.9 Å/Min. (Most Monochromators)
  RS232 — Dependent on Monochromator and Grating (Consult factory.)
- Selectable baud rates: 300, 1200, 2400, 4800, 9600, 19.2K, and 39K (Factory set to 9600)
- Limit interlock system
- Operates in either direction
- Slew function permits high speed go to
- Motor interlock system
- LEDs provide status Information at a glance
- RS232 communications standard, IEEE available
- LED digital display available

The Model 789A-3 scan controller provides the user with a low cost, high resolution, easy to use, stepper motor scanning system.

The Model 789A-3 comes complete with a stepping motor to fit McPherson mono-chromators or sample handling accessories. The cabling for power and limit switches, controller, and power supply are furnished with this controller. Selectable features include scanning direction, rate, and motor enable/disable. User friendly front panel controls selection of all functions. Our standard smart serial interface permits selectable features to be changed remotely. No analog to digital or I/O boards required.

For users interested in controlling devices via TTL or C-MOS logic, consult factory for details.

Please specify 110 V/60 Hz or 220/50 Hz with your order, also indicate the model number of the instrument to be fitted if not ordering with the instrument.

SPECIFICATIONS

Power	115/220 VAC, 50/60 Hz, 29 Watts
Motor	24 volts @ 1.0 amp/phase (NEMA-23) (Consult factory for other available motors.)
Physical Dimensions	Width: 8.38 In (21.27 cm) Height: 5.22 In (13.26 on) Depth: 14-38 In (36.51 cm)
Motor Resolution	36,000 step/rev - Standard, Up to 50,000 step/rev available
Weight	8.75 lbs (3.98 Kg)

Command	Description
ESC	ABORT/TERMINATE
@	SOFT STOP
^C	RESET*
B	JOG SPEEDS SLOW FAST
C	RESTORE/INITIALIZE
F	FIND HOME
G	GO FROM ADDRESS/TRACE[2]
I	INITIAL VELOCITY
J	JUMP TO ADDRESS
K	RAMP SLOPE
L	LOOP ON PORT[2]
M	MOVE AT CONSTANT SPEED[1]
O	ORIGIN SET
P	PROGRAM[2]
Q	QUERY (list) PROGRAM[2]
R	RELATIVE INDEX

Command	Description
S	STORE PARAMETERS AS DEFAULTS[2]
T	TRIP POINT SET
+	+ STEP COMMAND
-	- STEP COMMAND
V	SLEW VELOCITY
W	WAIT IN MILLISECONDS
X	EXAMINE PARAMETERS
Z	DISPLAY POSITION
[	READ NON-VOLATILE MEMORY
\	WRITE TO NON-VOLATILE MEMORY
]	QUERY HARDWARE STATUS
^	QUERY MOTION
_	PROFILE

* all daisy chained devices respond
[1] Continuous Motion (distance not set)
[2] For Internal Program Only (see sample program below)

Program Example: Utilizing a Model 207 monochromator in conjunction with a 600 G/mm grating.

Objective: To scan the instrument at a rate of 10 Å/Min. over a range of 5 Å. After completion of the scan, change direction and slew back to the starting wavelength at a rate of 2000 Å/Min. Motor resolution is set to 36000 steps/rev.

Program Entry:

P84 (CR)	
84 V60	60 steps/sec (1 0 Å/min)
87+ 1800	5 Å wavelength range (1800 steps)
93 W1	Wait 1 millisecond to change velocity.
96 V12000	Change V to 12000 steps/sec. (2000 Å/Min.)
98-1800	Change direction & return 1800 steps.
102 P (CR)	Stores program, exits to command mode.

Q84 (CR)	To verify or review program.
(CR)	To scroll through the program.
G84 (CR)	To run program.