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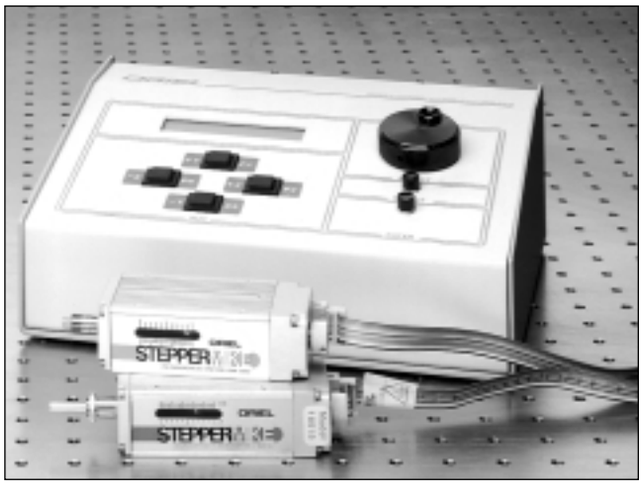
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RS-232 AND GPIB STEPPING MOTOR CONTROLLER



18709 Stepping Motor Controller with two Uni-polar Stepper Mikes™.

- **Simultaneous control of two channels**
- **Manual or computer control**
- **RS-232 and IEEE-488 computer interfaces**
- **Automatic backlash compensation**

The 18709 Stepper Motor Controller offers you the greatest control options for uni-polar Stepper Mikes™; You can command the motors:

- Manually, from the controller's front panel menu
- Via PC through the RS-232 communication link
- Via PC through the GPIB/IEEE-488 interface

The 18709 controls two stepping motors simultaneously and independently. It has a microcontroller to control the motion parameters: acceleration, deceleration ramping, and position; it also stores up to four control programs.

FRONT PANEL CONTROL

The front panel has a rotary adjust knob for moving the motor manually or for entering parameters. Four push buttons let you jog or continuously move the motor, and execute a stored program. An alphanumeric display shows the current position and other information.

TECH NOTE

A backlash feature lets you compensate for the backlash in your mechanical system. Set the backlash parameter to a non-zero value and the controller moves the motor a fixed number of steps in a specific direction. For example, if the number of steps is 100.0 and the backlash is -20.0, the controller will cause the motor to first take 120 steps, then take -20 steps to end up at 100 steps from where it started. Note, this feature is not available from the front panel.

MODES OF OPERATION

Jog:
The RUN buttons act as jog controls.

Index:
In this mode, the RUN buttons move the motor a set increment

Target:
Causes the RUN buttons to move the motor between two target positions

Continuous:
The RUN buttons make the stepper motor run continuously

Scan:
The RUN buttons initiate scans in the forward or reverse directions. You can set suitable scan parameters: beginning, end, rate, etc., and how often you want to repeat the scans.

Program:
The RUN buttons start one of two motion programs downloaded through the interface.

Coordinated Motion Mode:
Available only for the 18709 Dual Channel Controller, when you select this mode, the Target, Index and Continuous commands apply to both axes simultaneously.

SIMPLE TWO CHARACTER COMMANDS

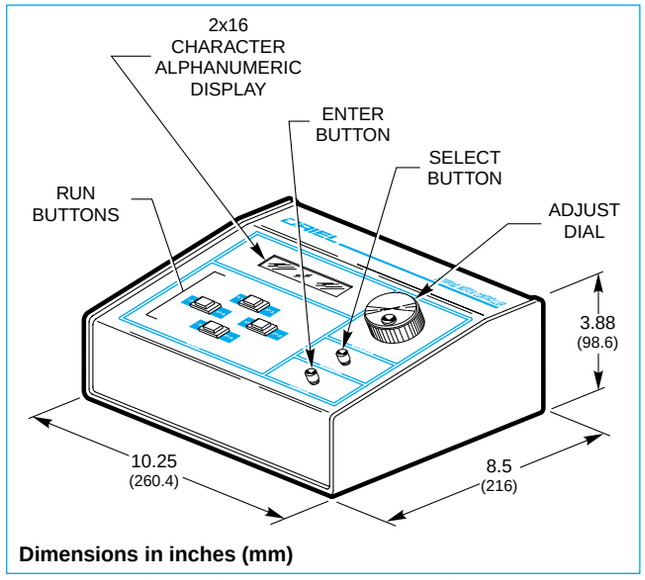
The 18709 uses the same two character ASCII Code commands regardless of the method of operation. The commands and programming examples are included in the instruction manual with each shipped unit.

FOR UNI-POLAR STEPPING MOTORS ONLY

This controller commands our uni-polar stepping motors (page 19-62), only. For control options for our **new** high-resolution bi-polar Stepper Mikes™, see page 19-60. We offer 2 and 4 channel controllers.



18709 Dual Channel Stepping Motor Controller with stepping motor driven horizontal stage and rotator.



Dimensions in inches (mm)

Fig. 1 Dimensional diagram of 18709 Dual Channel Stepping Motor Controller.

SPECIFICATIONS

Number of channels:	2
Data input/output:	300, 600, 1200, 2400, 4800, 9600,19200 baud
Compatible stepper motor:	2 or 4 phase uni-polar motor, 24 V, 0.5 A max. per phase
Maximum speed:	
Half step mode:	1000 steps/s
Full step mode:	500 steps/s
Computer interfaces:	RS-232 and GPIB/IEEE-488
Display:	2 line x 20 character alphanumeric LCD
Power requirements:	95-130, 208-250 VAC, 50/60 Hz switch selectable

ORDERING INFORMATION

18709	Dual Channel Stepping Motor Controller

Also see these catalog pages...

*See **page 19-62** for uni-polar stepping motors and **page 19-60** for our **new** bi-polar stepping motors. The bi-polar motors have significantly better resolution (0.25 or 1 µm vs 2.0 µm). (Note, the 18709 Controller will not operate the Bi-polar Stepper Mikes™.*

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