



**Newport**

# **ESP300**

## **Firmware**

Version 3.09

Revision Date: May 4, 2005

## **Newport Corp. World Wide Web Server**

You can access a variety of Newport Corporation information sources via the Newport Web Server, <http://www.newport.com>.

## **Technical Support**

Please review the User's Manual first if you are experiencing difficulties with the product. The following Technical Support information is listed below if you still need help.

Tel: 1-800-222-6440  
Fax: 1-949-253-1479  
Email: [rma.service@newport.com](mailto:rma.service@newport.com)  
Internet: <http://support.newport.com>

# What's New

The following is a list of added features and corrections to the ESP firmware:

## VERSION 3.09 May 4, 2005

### ESP Firmware

Fixes: None

1. Corrected problem with GPIB communication time-out being generated intermittently.
2. Corrected problem with not being able to make contour motion.

Feature Enhancements:

1. Made micro-step factor for commutated stepper motors programmable.

## VERSION 3.08 September 9, 2002

### ESP Firmware

Fixes: None

Feature Enhancements:

1. Set bit #15 in system fault configuration (ASCII command, ZZ) in order to be able to specify custom identification names to axes. Use "ID" command to specify the custom name, and "SM" command to save the name in controller's non-volatile flash memory. The characters specified should be alpha-numeric.

## VERSION 3.07 August 2, 2002

### ESP Firmware

Fixes:

1. Corrected problem with not being able to jog CMA actuators without encoder feedback at low jog speeds through front panel.
2. Corrected problem with not being able to jog stages through front panel after enabling and disabling joystick feature.

Feature Enhancements:

1. Allow negative values for linear compensation factor.
2. Allow positive values for left travel limit and negative values for right travel limit. Left travel limit value has to be lower than the right travel limit value.

## VERSION 3.06 May 2, 2002

### ESP Firmware

Fixes:

1. Corrected problem with "0WS" command always returning motion done when any one of the axes is disabled.
2. Corrected problem with obtaining homing aborted error without any motion happening when "xxOR0" command is issued.

Feature Enhancements:

1. Added support for driving 3Amp driver cards.

VERSION 3.05 November 8, 2001

ESP Firmware

Fixes: None

Feature Enhancements:

1. Increased stepper motor control commutation update rate to 10KHz (from 2.5KHz) for improved positioning speed and smoothness.
2. Added the ability to abort from stored programs when a program is executing one of the following wait functions: wait for DIO low, wait for DIO high, wait for position, and wait for stop. Refer to the description of ASCII commands: AP, UL, UH, WP, and WS for further details.

VERSION 3.04 August 14, 2001

ESP Firmware

Fixes:

1. Corrected problem with serial communication causing intermittent stalling of stepper motor driven stages.
2. Corrected problem with not being able to perform homing (OR command with parameters 3—6) and moving to a limit (MT command) when a stage is already at the limit.
3. Corrected problem with ignoring software limits under joystick operation.
4. Corrected problem with stage runaway when velocity is decreased on the fly to very low values in trapezoid mode.
5. Corrected an intermittent problem where by the homing process is aborted without appropriate justification.
6. Corrected intermittent GPIB lockup problem. Also, added support the National Instruments "Scan for instruments" program.
7. Corrected problem with issuing "0XX" at the beginning of a stored program text file download.
8. Corrected problem with a stage not reaching desired position when commanded to stop (ST command) during deceleration phase of S-curve trajectory profile.
9. Corrected problem with not being able to save preset home position (SH command) to non-volatile flash memory.

10. Corrected problem with not being able to spin motors continuously even after 32-bit position counter has reached maximum value when commanded to move indefinitely (MV command).
11. The status of DIO port C is masked when DIO port direction is queried using BO command. Note that this port is not available on ESP300 motion controller.
12. Improved clarity of some error messages.

Feature Enhancements:

1. Add support for setting the low speed used during origin search for an axis. Refer ASCII command, "OL".
2. Added support for waiting until a selected digital I/O input bit goes HIGH or LOW. Refer ASCII commands, "UH" and "UL".
3. Upon timeout during homing, the controller now generates two error messages: HOMING TIME-OUT followed by HOMING ABORTED.
4. If "TP" command is issued without an axis parameter or with the axis parameter set to zero (0), it reports the position of all axes comma delimited.

VERSION 3.03 April 13, 2000

ESP Firmware

Fixes:

1. MV (Move Indefinitely) defaults to positive direction if "+" sign is not issued as a parameter.
2. Corrected problem with being able to change the direction of motion with MV command.
3. Motor winding can be changed to half-winding from full-winding by setting bit#11 in amplifier configuration (Refer ZA command).
4. Fixed problem with slaving a DC motor driven stage to a stepper motor driven stage or vice versa.

Feature Enhancements: None

VERSION 3.02 January 13, 2000

ESP Firmware

Fixes:

1. Corrected problem with handling micro-step factor greater than 100.
2. Corrected problem with Move Absolute (PA) command when a stage/actuator is at a positive hardware limit.

Feature Enhancements: None

VERSION 3.01 December 2, 1999

## ESP Firmware

### Fixes:

1. Corrected problem with stored program execution (e.g., runs only 14 times)

### Features:

1. Added GPIB (IEEE-488) interface support
2. Added the following commands:

AM	<i>Set analog input mode</i>
CL	<i>Set closed loop update interval</i>
DB	<i>Set position deadband</i>
EO	<i>Automatic execution on power on</i>
FP	<i>Set floating point display precision</i>
OM	<i>Set home search mode</i>
OR	<i>Search for home</i>
PH	<i>Get hardware status</i>
RA	<i>Read analog input</i>
RQ	<i>Generate service request</i>
SA	<i>Set device address</i>
SH	<i>Set home preset position</i>
TS	<i>Get controller status</i>
TX	<i>Get controller activity</i>
ZU	<i>Get ESP system configuration</i>
ZZ	<i>Set system configuration</i>

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