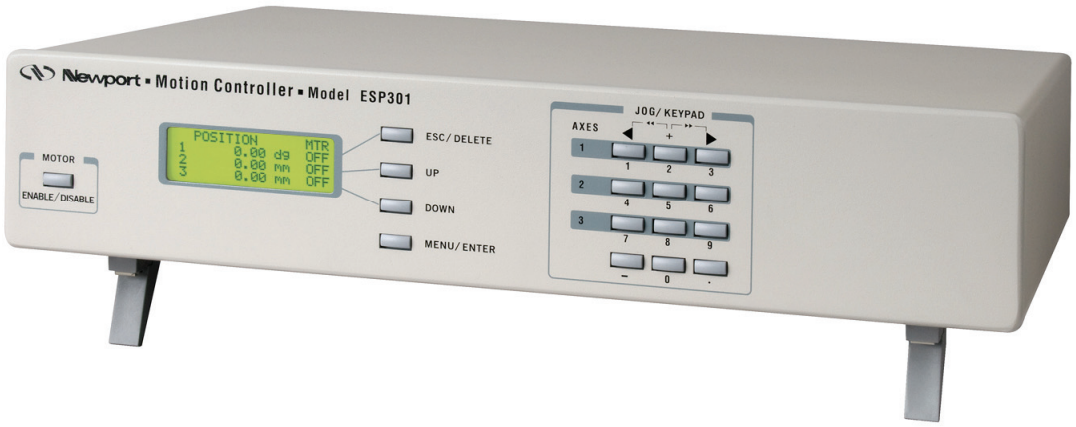
# ESP301

## *Integrated 3-Axis Motion Controller/Driver*




# Controller GUI Manual

**V1.0.x**

Newport®
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# ESP301
# Integrated 3-Axis
# Motion Controller/Driver

## 1.0 Introduction

### 1.1 Purpose

The purpose of this document is to provide instructions on how to use the ESP301 Applet.

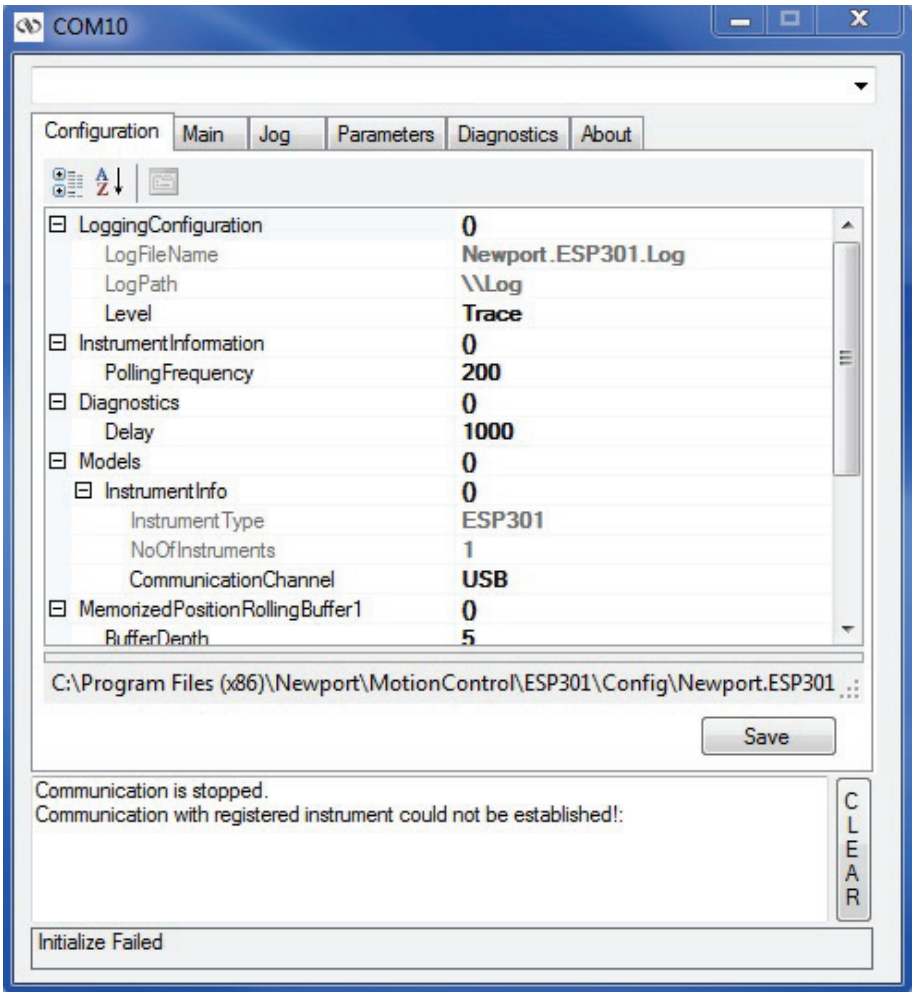
### 1.2 Overview

The ESP301 Applet is a software application that has a graphical user interface (GUI) which allows the user to interact with the ESP301 controller with encoder feedback.

# 2.0 User Interface

## 2.1 Configuration

The Configuration tab allows the user to view and / or change information related to the logging configuration and the instrument settings. Read only values are displayed for the log file name and the log file path. The logging level may be changed to any of the settings in the drop-down list on the right hand side. Trace is the most detailed of the settings and when this setting is selected the applet logs everything. Critical Error is the least detailed of the settings and when this setting is selected the applet will only log errors that are defined to be critical.




The polling interval defines the number of milliseconds between each time the applet polls the ESP301 for the latest information. The user may change the polling interval by entering a value.

The **Save** button allows to save the current settings to the configuration file.

## Configurable settings

The following table describes all the settings that can be change by the user.

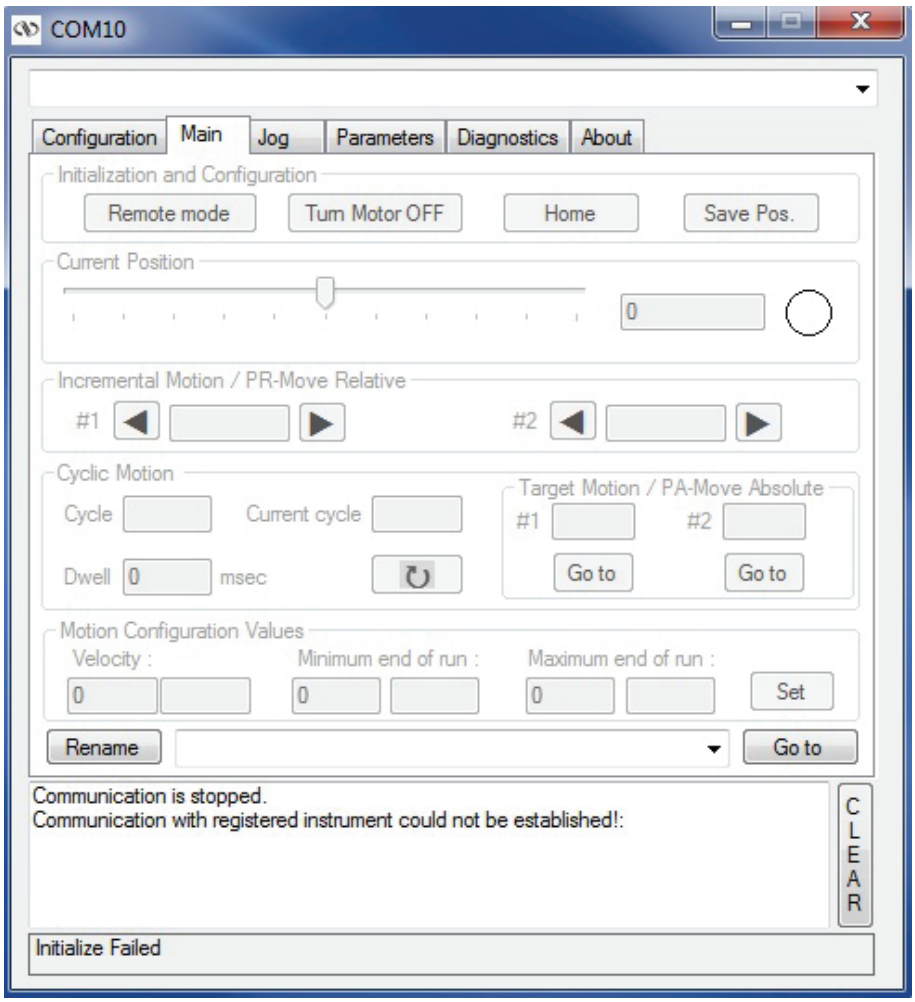
| Parameter | Description Values | | Default |
|---|---|---|---|
| | **LoggingConfiguration** | | |
| Level | Logging level. Trace is the most detailed of the settings and when this setting is selected the applet logs everything. Critical Error is the least detailed of the settings and when this setting is selected the applet will only log errors that are defined to be critical. | Trace Detail<br>Equipment<br>Message Info<br>Warning Error<br>Critical Error | **Trace** |
| | **InstrumentInformation** | | |
| PollingFrequency | The polling interval defines the number of milliseconds (delay) between each time the applet polls the instrument for the latest information. | An Integer | **200** |
| | **Diagnostics** | | |
| Delay | The Delay defines the number of milliseconds (delay) between each command of a file of commands in the diagnostics tab. | An Integer | **1000** |
| | **Models\InstrumentInfo** | | |
| CommunicationChannel | The communication channel | USB | **USB** |
| | **MemorizedPositionRollingBuffer** | | |
| BufferDepth | MaxItem defines the maximum number of memorized positions by the applet. | | **5** |
| Positions | The list of the memorized position. The format is "Name of position #1;X position #1;Y position #1;Name of position #2;X position #2;Y position #2…" | | |

## 2.2 Axis

The combo box at the top of the window allows selecting the axis (1 to 3).

## 2.3 Main

The Main tab displays the main controls in the applet like a virtual front panel. It is updated each time the polling interval timer expires.




**"Initialization and Configuration"**

In the "Initialization and Configuration" area, the first button allows to change the Local/Remote state. The second button allows doing an action on the motor: ON, OFF and Stop Motion. The third button allows going to the home position. The last button "Save Pos." allows memorizing the current positions in the combo box. As soon as a new position is memorized, this is displayed in the trace.

**"Current Position"**

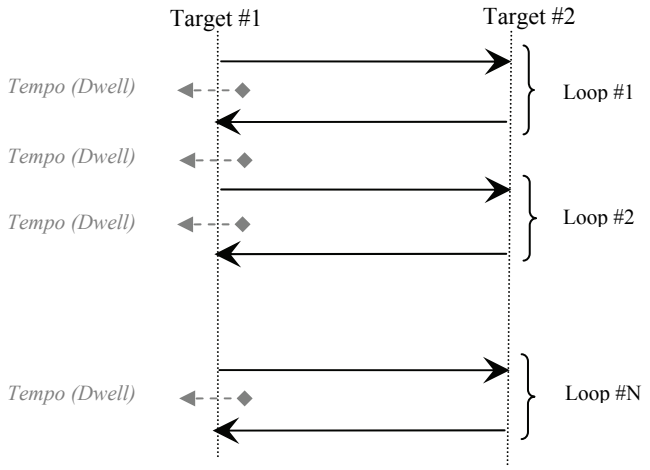
In the "Current Position" area, the current position is displayed in a text box and visualize in a slider. The slider limits are defined with the ends of run. A led shows the current controller state. When you move the mouse over the led, the controller state is displayed in an information balloon.

**"Incremental Motion / PR-Move Relative"**

In the "Incremental Motion / PR-Move Relative" area, two steps can be defined. For each step, a relative move can be performing in the negative direction or a positive direction.

**"Cyclic Motion" and "Target position / PA-Move Absolute"**

In the "Cyclic Motion" area, a motion cycle is configured with a number of cycles (Cycle) and a temporization time in milliseconds (dwell). The motion cycle gets the defined target positions from the "Target position / PA-Move Absolute' area to perform the cycle.




In the "Target position / PA-Move Absolute" area, two target positions can be defined. The "Go to" button allows executing the absolute move to go to the specified target position.

**"Motion Configuration Values"**

In the "Motion Configuration Values", the current ends of run and the velocity are displayed in a disabled text box: "Minimum end of run", "Maximum end of run" and "Velocity". These ends of run and the velocity can be modified and saved with the "Set" button.

**Memorized positions**

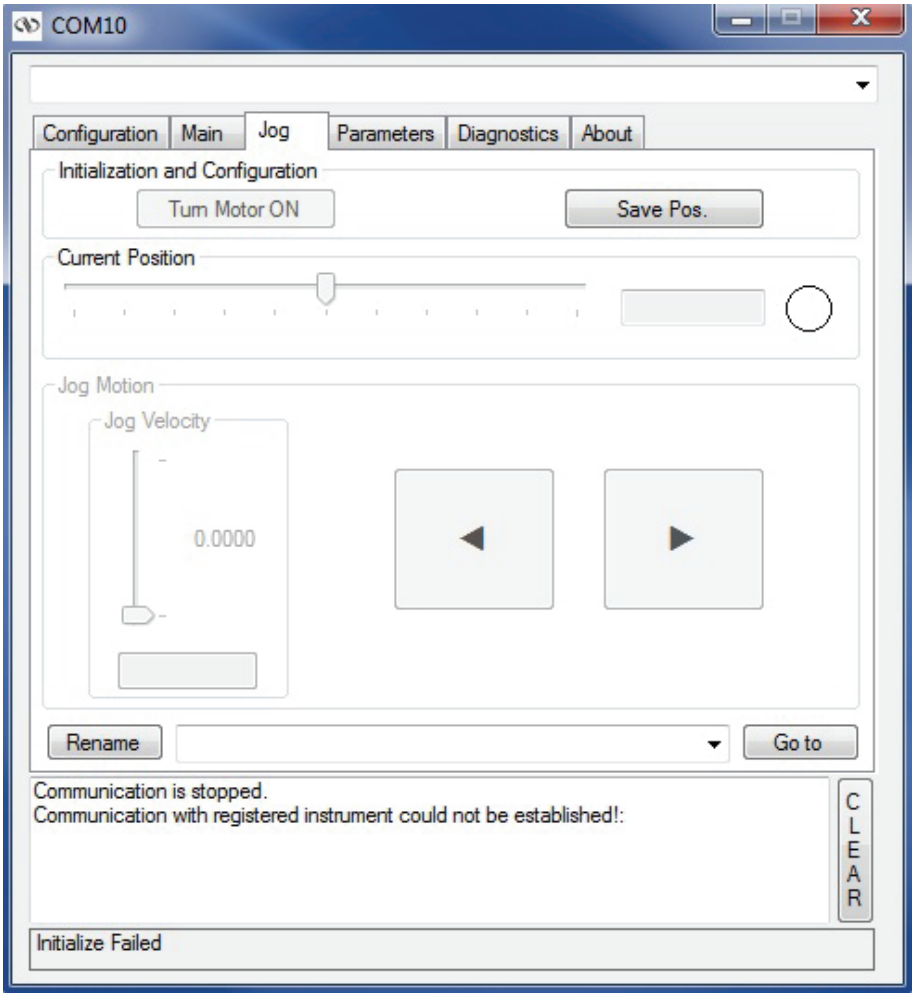
The combo box allows memorizing the positions get by the "Save Pos." button. Each of these positions can be renamed or deleted. To execute an absolute move to go to one of these memorized positions, select one item of the combo box and click on "Go to" button. When the mouse moves over to the combo box, the positions of the selected memorized position are showed in an information balloon.

**Rename a memorized position:** Select an item of the combo box, edit the position name to change it and click on the "Rename" button to save the new position name.

**Delete a memorized position:** Select an item of the combo box, click right on the mouse and select the "Delete" menu to delete the selected memorized position.

## 2.4 Jog

The Jog tab allows entering in the position Jog mode.




**"Initialization and Configuration"**

In the "Initialization and Configuration" area, the first button allows to change the Local/Remote state. The second button "Save Pos." allows memorizing the current positions in the combo box. As soon as a new position is memorized, this is displayed in the trace.

**"Current Position"**

In the "Current Position" area, the current position is displayed in a text box and visualize in a slider. The slider limits are defined with the ends of run. A led shows the current controller state. When you move the mouse over the led, the controller state is displayed in an information balloon.

**"Jog Motion"**

In the "Jog Motion" area, an indefinitely move (MV) can be performing in the negative direction or a positive direction. The moving starts when a button is down until the button is up.

**"Jog Velocity"**

In the "Jog Velocity" area, the slider allows to define the jog velocity. The slider's scale is logarithmic.

**Memorized positions (defined by axis)**

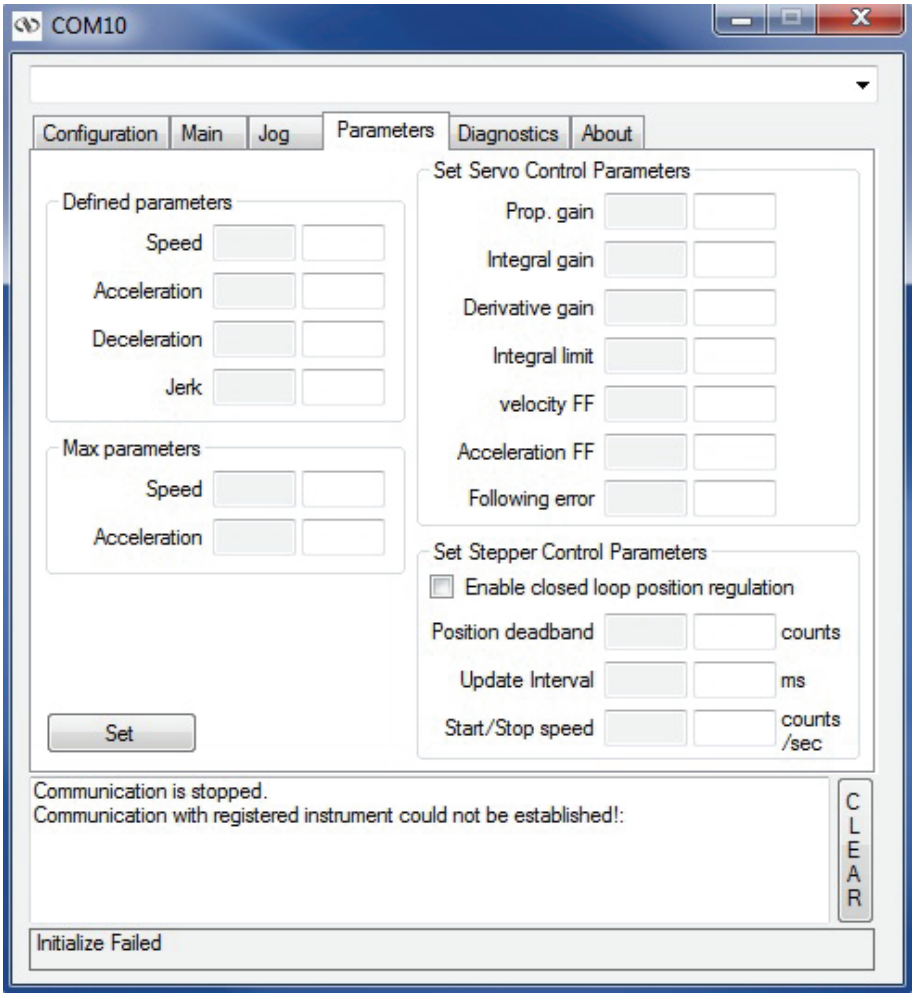
The combo box allows memorizing the positions get by the "Save Pos." button. Each of these positions can be renamed or deleted. To execute an absolute move to go to one of these memorized positions, select one item of the combo box and click on "Go to" button. When the mouse moves over to the combo box, the positions of the selected memorized position are showed in an information balloon.

**Rename a memorized position:** Select an item of the combo box, edit the position name to change it and click on the "Rename" button to save the new position name.

**Delete a memorized position:** Select an item of the combo box, click right on the mouse and select the "Delete" menu to delete the selected memorized position.

## 2.5 Parameters

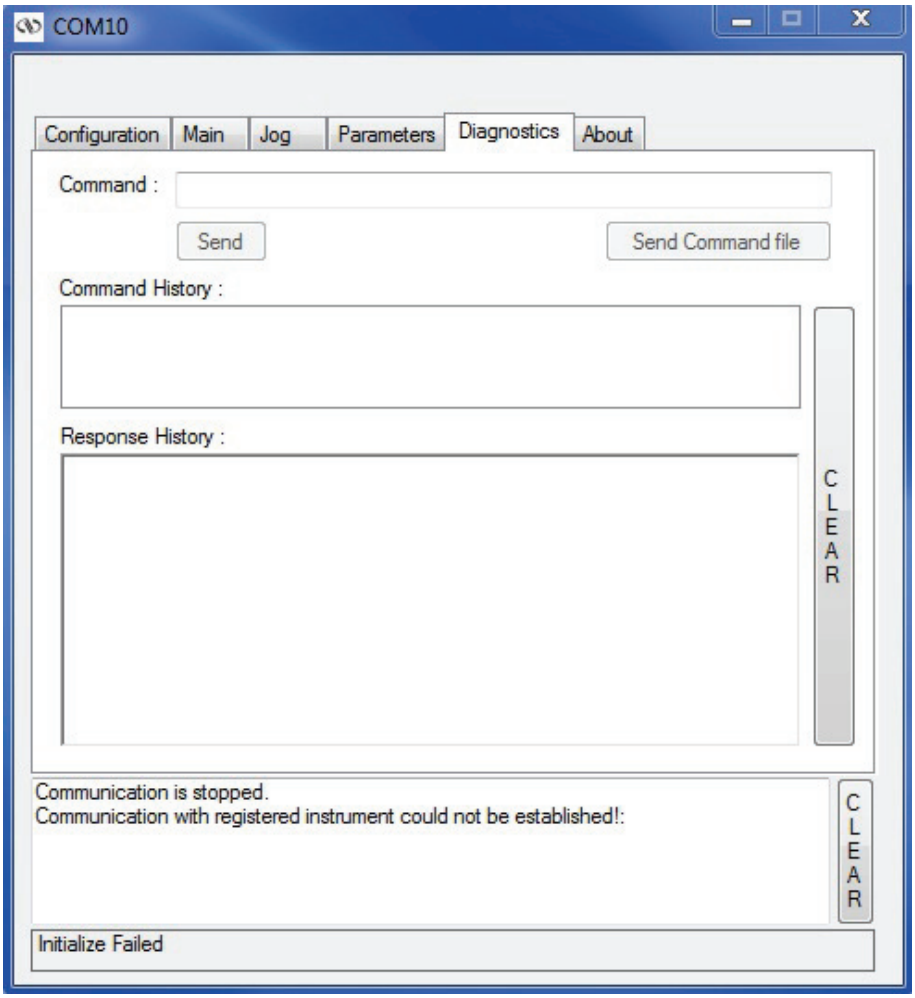
The Parameters tab allows to display and to change the parameters of the instrument.



## 2.6 Diagnostics

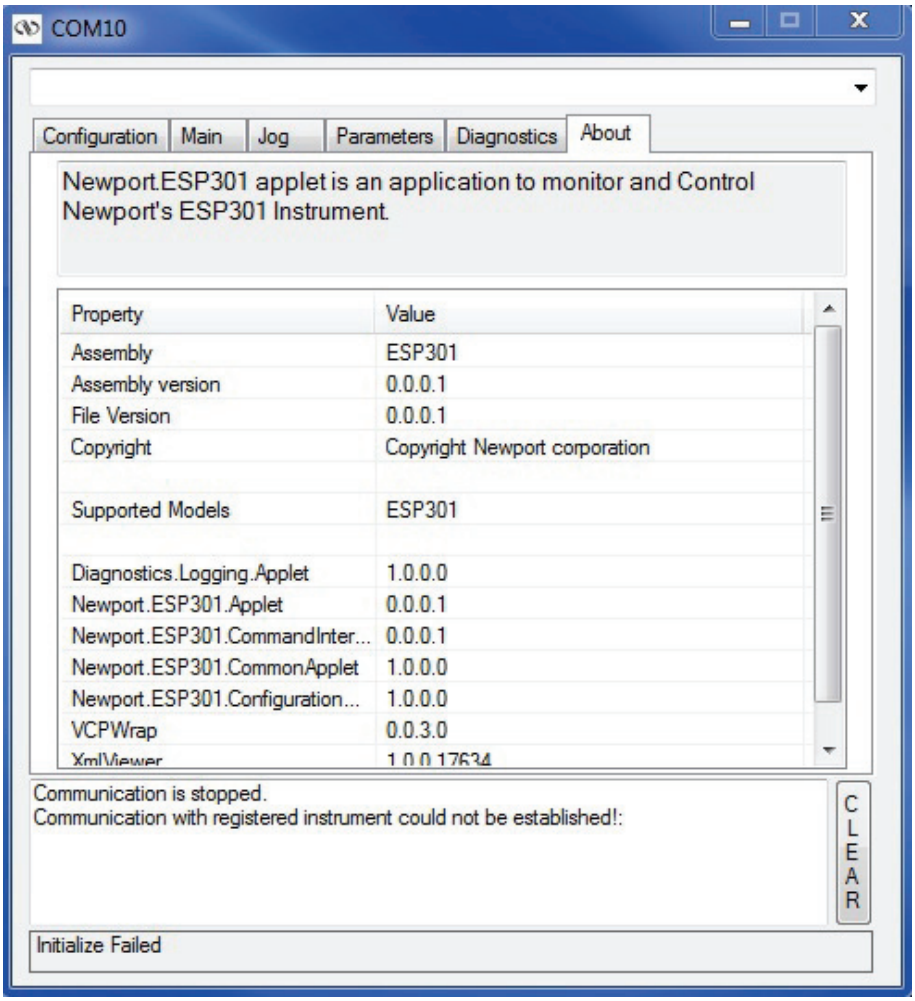
The Diagnostics tab allows the user to enter instrument commands and to view the history of commands sent and responses received. This list of commands and the syntax of each command can be found in the user's manual for the instrument.

A file of commands can be sent line by line to the instrument with the "Send Command file" button.



## 2.7 About

The About tab allows to display information about the applet and the connected instrument. It displays the applet name, version, and copyright information. It also displays the instrument model and instrument key (serial number).



# Service Form

**Your Local Representative**

Tel.: _____

Fax: _____

Name: _____

Company: _____

Address: _____

Country: _____

P.O. Number: _____

Item(s) Being Returned: _____

Model#: _____

Return authorization #: _____
*(Please obtain prior to return of item)*

Date: _____

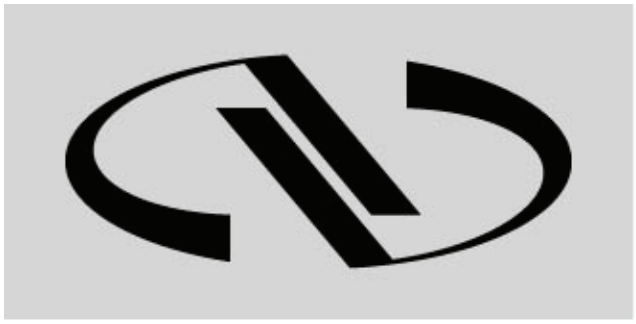
Phone Number: _____

Fax Number: _____

Serial #: _____

Description: _____

Reasons of return of goods (please list any specific problems): _____



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