
Subject: Q Programming Examples
Applies to: All Q Programmable Drives and Integrated Motors
Date: November 6, 2019
Author: Chris Dickens

Introduction

This application note attempts to help users more quickly understand and begin using the Q programming language from Applied Motion Products.

If you are completely new to Q programming, a three-part online video series covers drive configuration and programming basics.

- Part 1 - <https://youtu.be/qvN5T2bXfKQ>
- Part 2 - https://youtu.be/mxi8sN7T_jU
- Part 3 - <https://youtu.be/omM0qf1wwZg>

A full list of Q commands, parameters and data registers can be found in the Host Command Reference: <https://www.applied-motion.com/hcr>

The *Q Programmer* software is included with many of our configuration applications, such as *Step-Servo Quick Tuner* and *SVX Servo Suite*. Which configuration software you use depends on the hardware you have. A stand-alone version of *Q Programmer* is also available. All software applications from Applied Motion Products can be downloaded for free from our website: <https://www.applied-motion.com/products/software>

Provided below is a short description of the difference between Q segments and programs. Example segments and programs accompanying this application note can be found on our website by downloading APPN0051: <https://www.applied-motion.com/support/application-notes>

Q Segments

Q segments are discrete sections of the larger Q program. There are a total of 12 segments in a Q program. Each segment can be loaded into the *Q Programmer* software individually and has the file extension *.qsg*. The Q segment examples provided with this application note are useful to understand move commands as well as the basics of looping, handling inputs and branching.

To run a Q segment, open a *.qsg* file by clicking the Open button within the desired segment tab of *Q Programmer*. See Image 1. Click the Download button to download the segment followed by the Execute button to execute it.

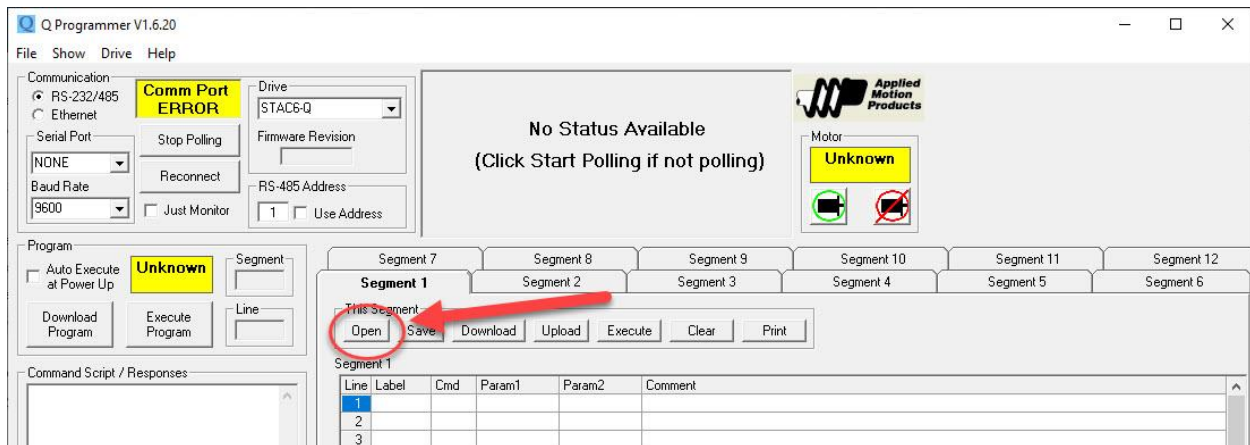


Image 1: The Open button within the Segment 1 tab is highlighted

Q Programs

Q programs contain a total of 12 Q segments and enable users to organize the Q program to best fit their needs. For example, it may be best to devote each segment to a single task. Or it may be better to string multiple segments together to create one long program. Q programs have the file extension `.qpr`. To open a Q program, click the File menu in *Q Programmer* then Open Program. See Image 2. Click Download Program to download the program (all 12 segments) and then Execute to execute the program starting with segment 1. The Q program examples provided with this application note are useful for learning more complicated functionality and how to program across multiple segments.

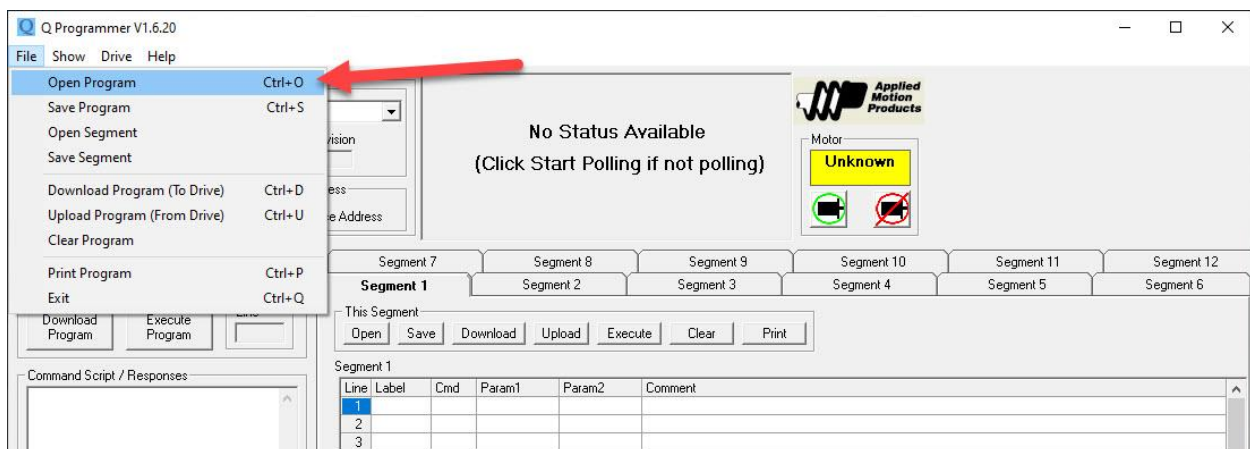


Image 2: The Open Program command sits within the File menu of Q Programmer.

Conclusion

Example Q segments and programs are provided with this application note to help users get up and running quickly and efficiently with *Q Programmer*. All examples are commented and ready to be executed with few or no changes required. Examples are found in the compressed file (.zip) with this application note. See Image 3.

Name	Type	Compressed size	Size	Date modified
 Multi-Segment Project Examples(.qpr)	File folder			
 Single Segment Examples (.qsg)	File folder			
 APPN0051-Q-Programming-Examples.pdf	Adobe Acrobat Document	126 KB	174 KB	11/7/2019 9:48 AM

Image 3: Folder structure of the compressed file accompanying this application note.

If you have any questions, please get in touch with our Application Engineers by calling 1-800-525-1609 or emailing support@applied-motion.com.