

BULLETIN 1203-FM1 & 1203-FB1 USE WITH 1747-SN REMOTE I/O SCANNER (SLC-500)

APPLICATION NOTE #

APRIL 14, 1997

PURPOSE

The purpose of this document is to provide guidelines for wiring and control schemes for SCANport devices including Bulletin 1305 and 1336 PLUS AC Drives. This document is a suggestion only. Users must ensure that installations meet applicable codes and are suitable for the existing conditions.

WHAT THIS NOTE CONTAINS

This document contains information and an example ladder program that demonstrate how to control two 1305 drives using a SLC-5/03, 1747-SN, 1794-ASB and 1203-FM1/FB1 module and base.

INTENDED AUDIENCE

This application note should be used by personnel familiar with the hardware components and programming procedures necessary to operate SCANport devices. It is also assumed that the user has some familiarity with Remote I/O, the SLC-500 and ladder programming.

WHERE IT IS USED

The diagrams, parameter settings and auxiliary hardware used in this application note are designed to address specific issues in many different applications. Some changes by the user may be necessary to apply the concepts of this document to a specific application.

APPLICATION CONSIDERATIONS

These example ladder programs were written to be simple and clear examples and contain no fault handling abilities. Consult the SLC-500, 1747-SN, 1794-ASB and 1203-FM1/FB1 manuals for more information.

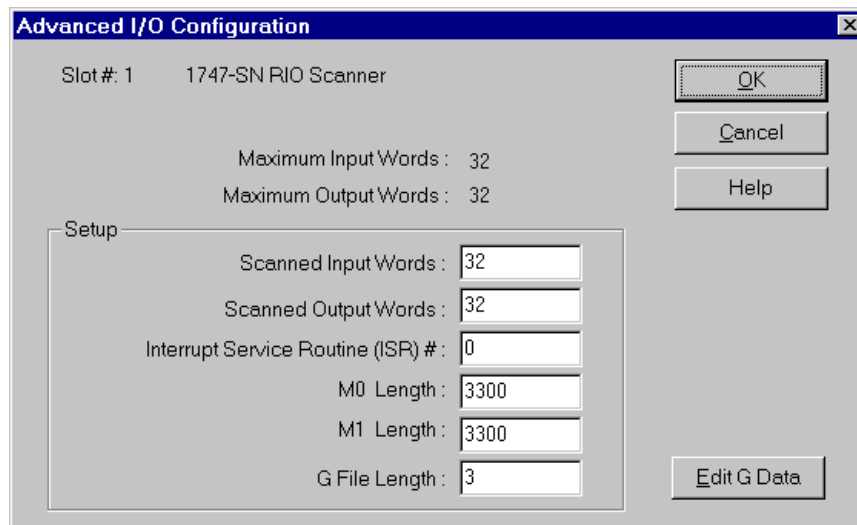
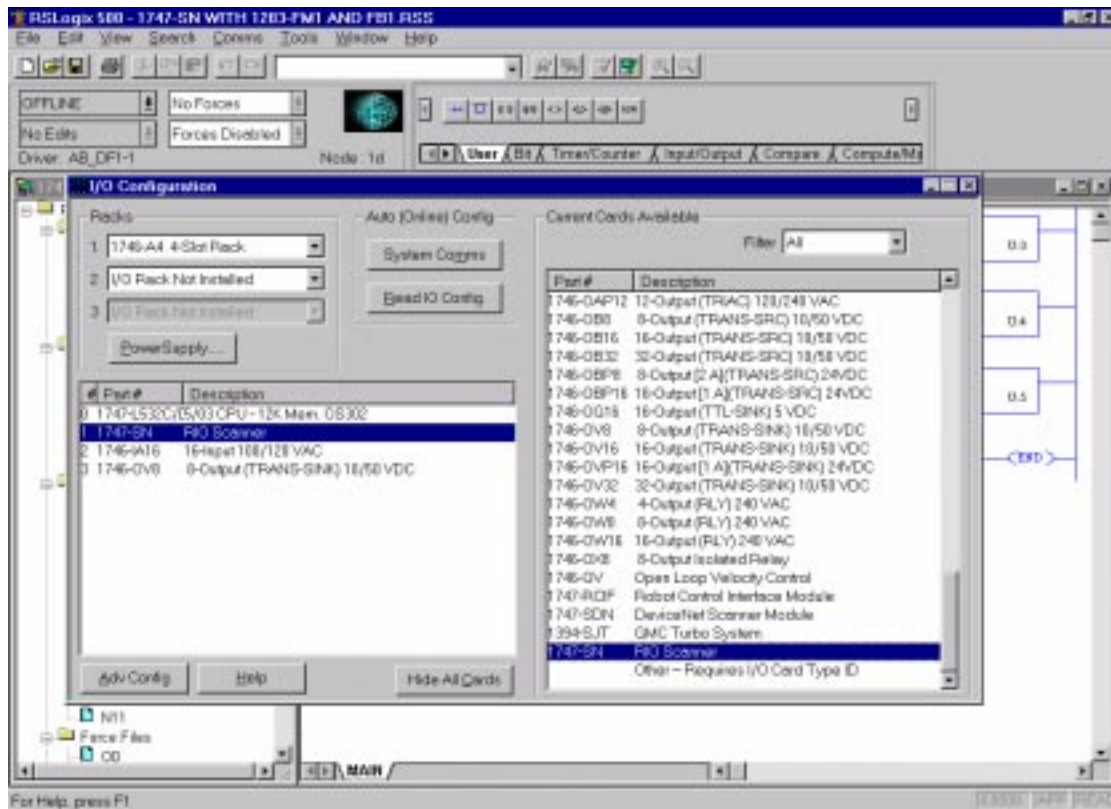
SCANport devices may assign different meanings to bits in the Logic Command and Status words. The usage of the Reference and Feedback words may also vary. Consult the manual for your SCANport device for more information.

SYSTEM CONFIGURATION

The next three screen prints show the configuration of the SLC and Remote I/O system for the example program.

An SLC-5/03, the 1747-SN, a 1746-IA16 and a 1746-OV8 are installed in a four-slot SLC rack.

The Flex I/O is configured as rack 0 with a 1203-FM1/FB1 module and base combination installed in the first slot. No other modules are installed.



1747-SN G File Configuration

PRIMARY DEVICES

| | | | | |
|----------------|---------|-------------------------------------|----------|----------------------------|
| Logical Rack 0 | Group 0 | <input checked="" type="checkbox"/> | 1/4 Rack | Device #1 - IO words 0 + 1 |
| | Group 2 | <input type="checkbox"/> | | |
| | Group 4 | <input type="checkbox"/> | | |
| | Group 6 | <input type="checkbox"/> | | |
| Logical Rack 1 | Group 0 | <input type="checkbox"/> | | |
| | Group 2 | <input type="checkbox"/> | | |
| | Group 4 | <input type="checkbox"/> | | |
| | Group 6 | <input type="checkbox"/> | | |
| Logical Rack 2 | Group 0 | <input type="checkbox"/> | | |
| | Group 2 | <input type="checkbox"/> | | |
| | Group 4 | <input type="checkbox"/> | | |
| | Group 6 | <input type="checkbox"/> | | |
| Logical Rack 3 | Group 0 | <input type="checkbox"/> | | |
| | Group 2 | <input type="checkbox"/> | | |
| | Group 4 | <input type="checkbox"/> | | |
| | Group 6 | <input type="checkbox"/> | | |

Complementary Mode

Enabled

Devices...

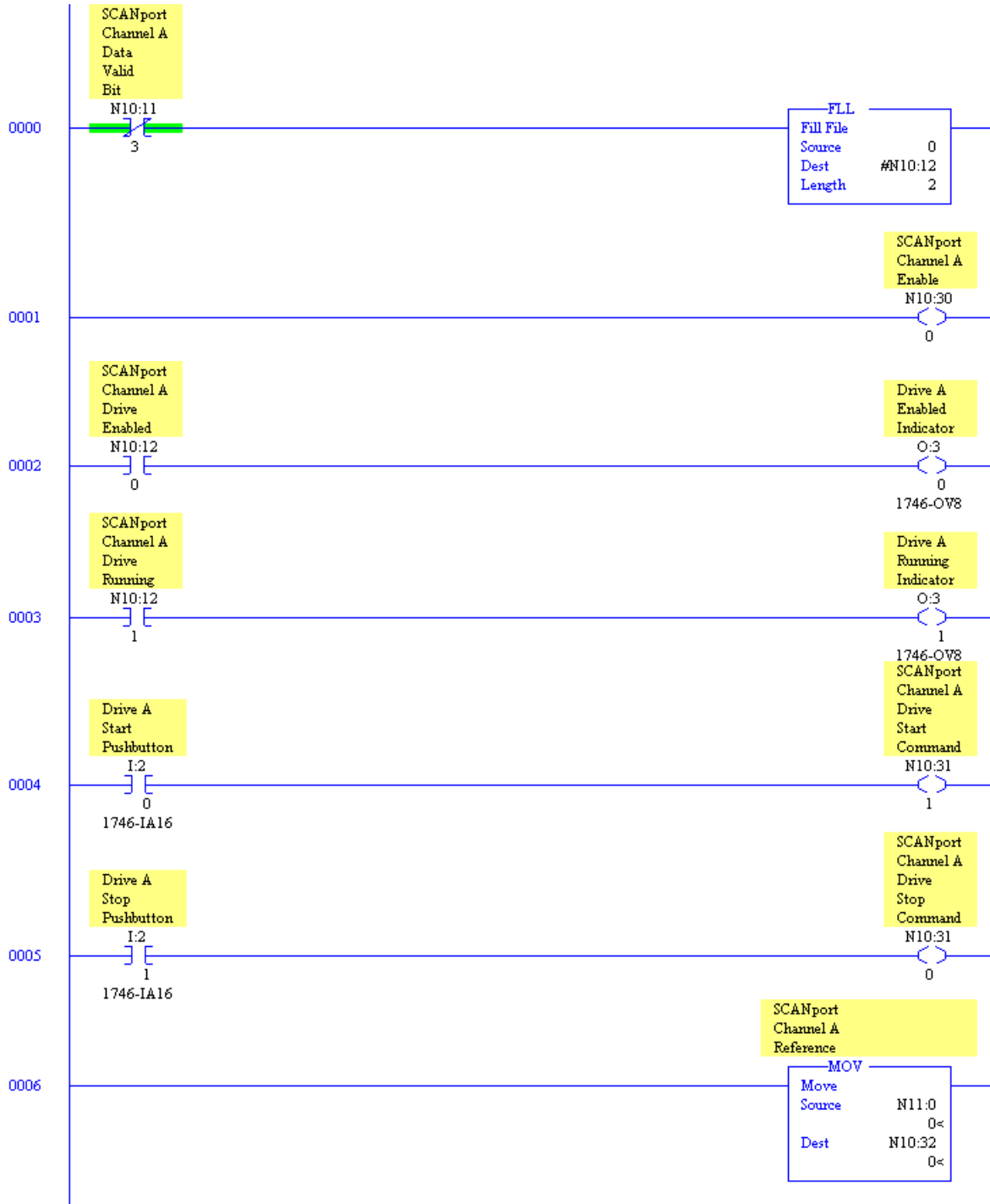
OK

Cancel

Help

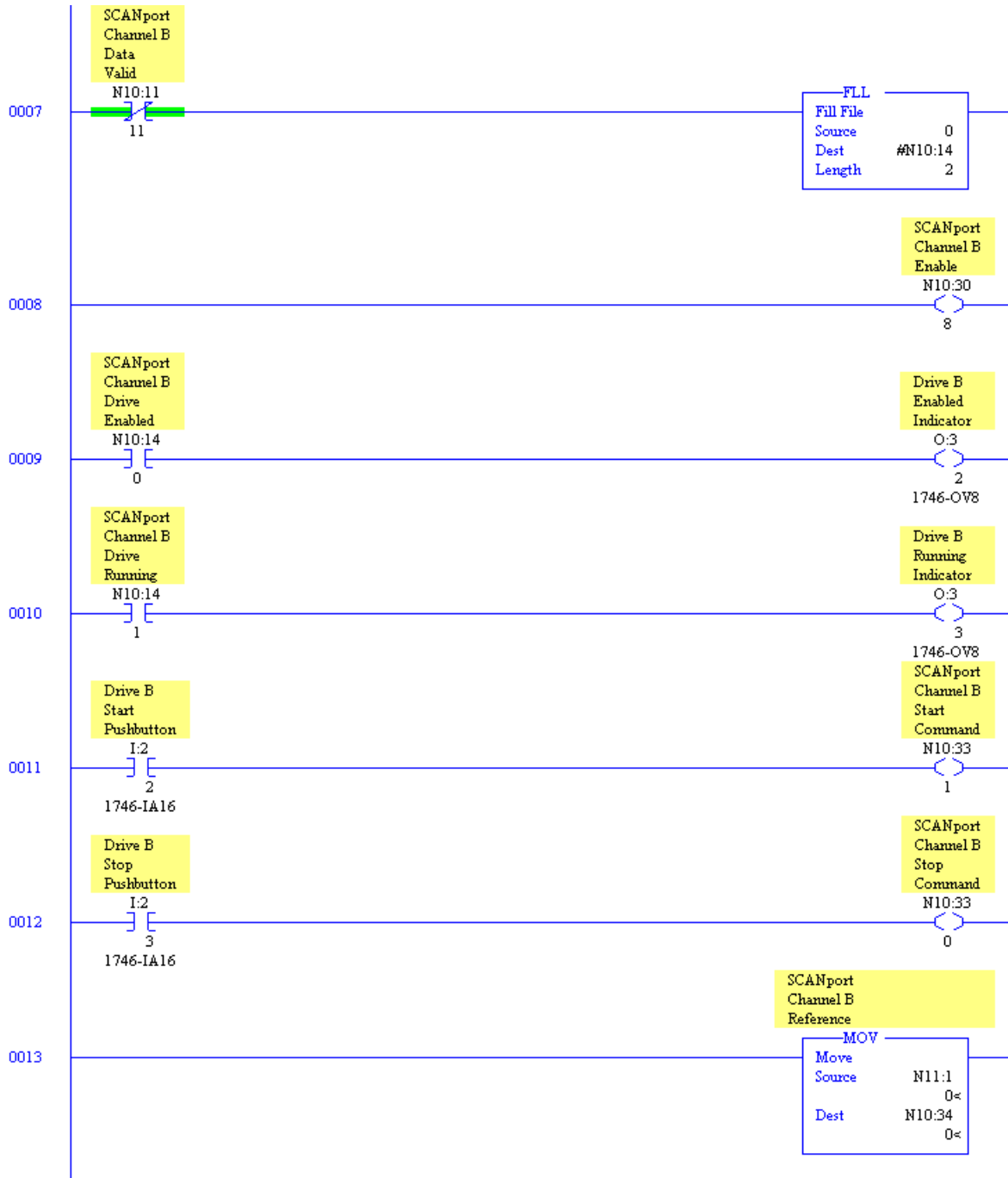
LADDER PROGRAM -- DRIVE 1 START/STOP AND REFERENCE

The section of program shown below provides start/stop control and a frequency reference to the 1305 drive connected to SCANport channel 1.

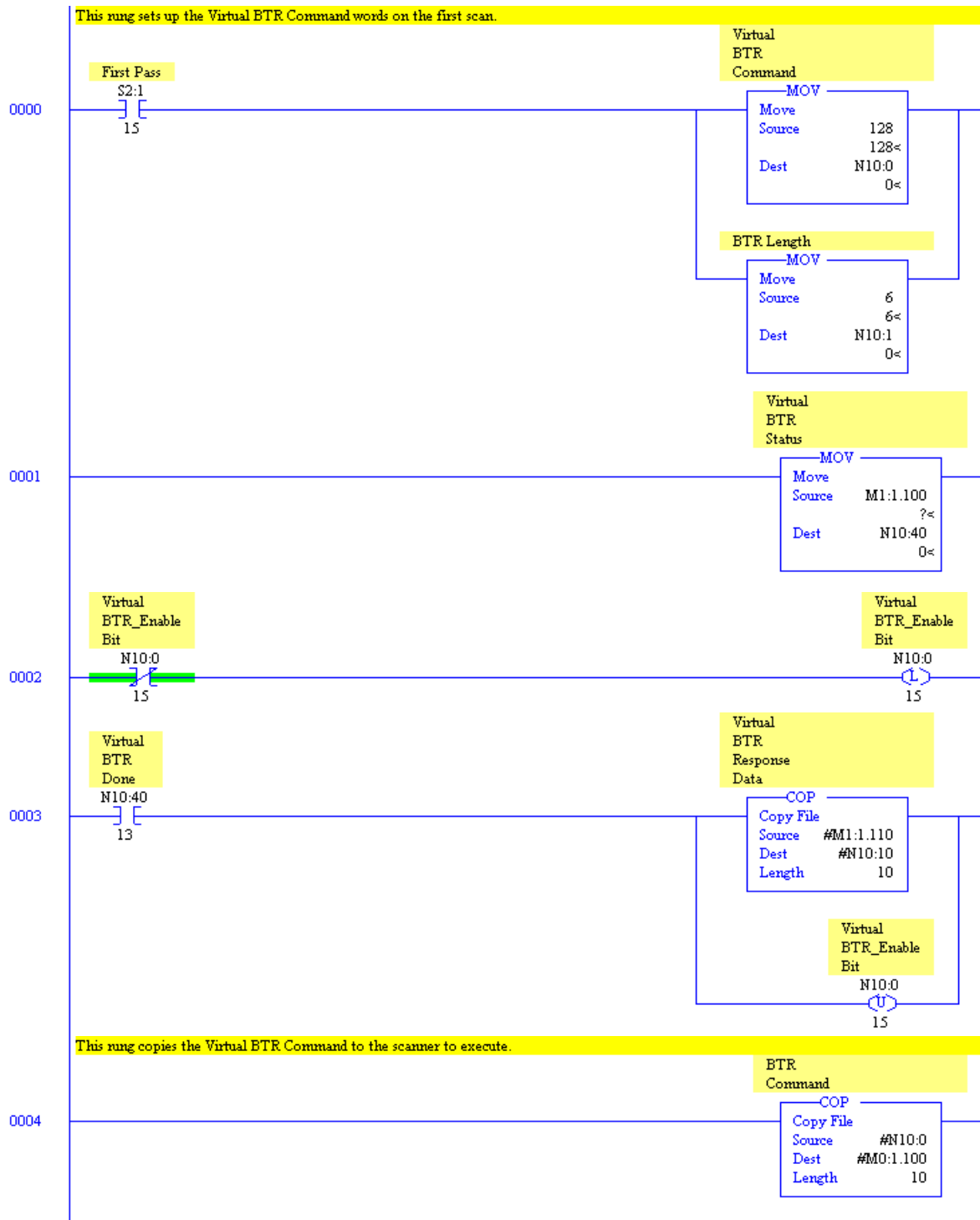


LADDER PROGRAM -- DRIVE 2 START/STOP AND REFERENCE

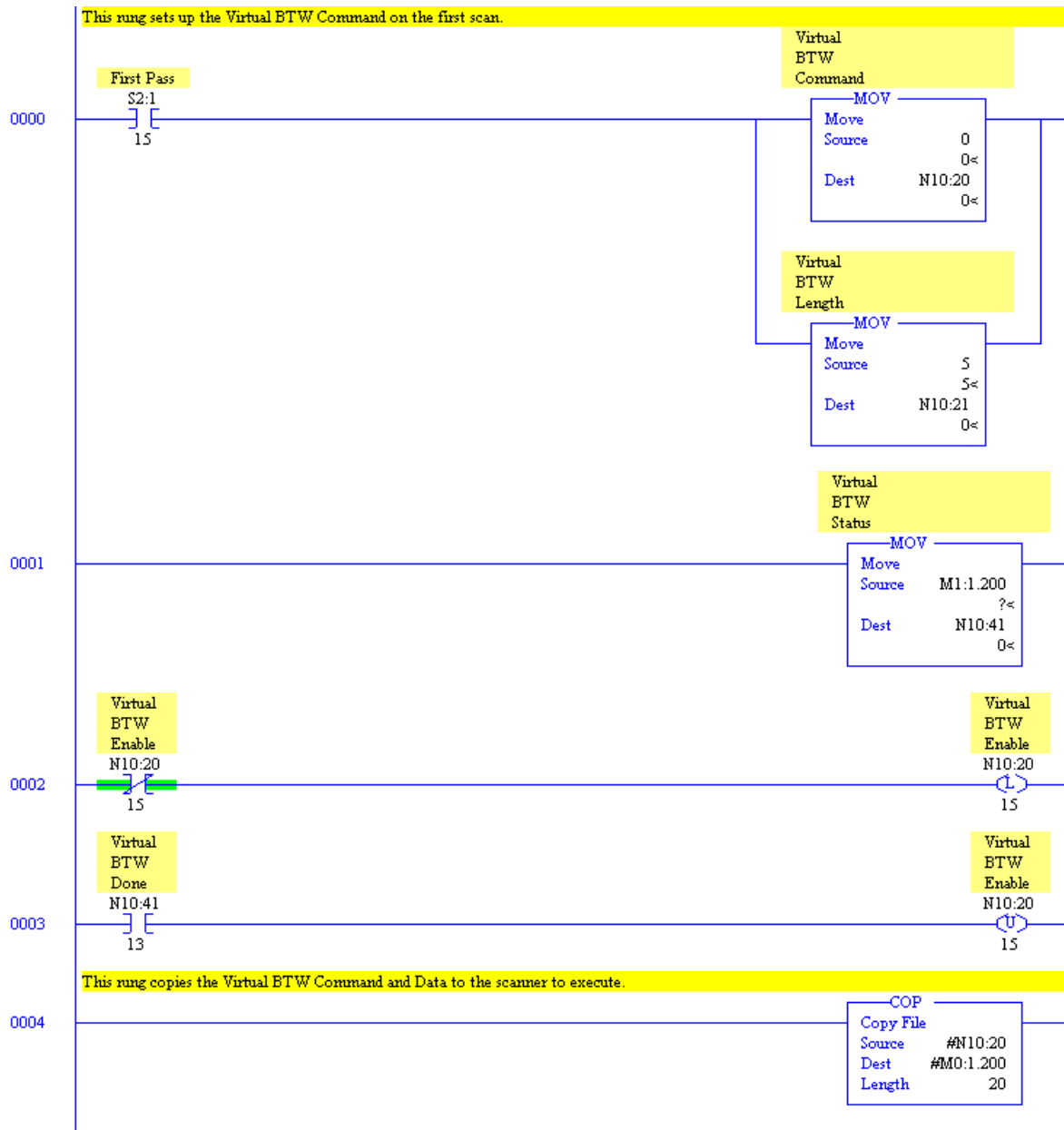
The section of program shown below provides start/stop control and a frequency reference to the 1305 drive connected to SCANport channel 2. This section functions identically to that shown in the previous section except for the changes in addresses.



LADDER PROGRAM -- BLOCK TRANSFER READ FROM 1203-FM1 MODULE



LADDER PROGRAM -- BLOCK TRANSFER WRITE TO 1203-FM1 MODULE



M1-FILE STRUCTURE (BLOCK TRANSFER STATUS DATA)

The data below shows the Block Transfer Buffer structure in the M1-file.

| Address | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----------------|--|---|---|---|--|---|---|---|---|---|
| M1:e.x00 | a | b | c | d | | | | | | |
| | | | | | | | | | | |
| | | | | | - BT Error Code | | | | | |
| | | | | | - Address - Decimal Rack, Group, Slot | | | | | |
| | | | | | 100 1,0,0 | | | | | |
| | | | | | 120 1,2,0 | | | | | |
| | | | | | 140 1,4,0 | | | | | |
| | | | | | 220 2,2,0 | | | | | |
| | | | | | - Actual length of data transfered | | | | | |
| | - Block Transfer Status Flags | | | | | | | | | |
| | When True: Indicates: | | | | | | | | | |
| | M1:e.x00/10 BT Enabled and Waiting(EW) | | | | | | | | | |
| | M1:e.x00/12 BT Error (ER) | | | | | | | | | |
| | M1:e.x00/13 BT Done (DN) | | | | | | | | | |
| | M1:e.x00/14 BT Started (ST) | | | | | | | | | |
| M1:e.x10 - x73 | If a BTR this area will contain the data received from the 1203-FM1. If a BTW this area is not used. | | | | | | | | | |
| | e = Slot number of the 1747-SN RIO Scanner module | | | | | | | | | |
| | x = Block Transfer Buffer Number (1 through 32) | | | | | | | | | |

INPUT DATA TABLE FILE

Shown below is the input data read from the 1203-FM1.

| Address | 0 | 1 | 2 | 3 | 4 | 5 |
|---------|--------------------------|------|------|-------|------|-------|
| N10:10 | 0 | 2570 | 3855 | 16383 | 3855 | 32767 |
| | | | | | | |
| | -Reserved (always zero) | | | | | |
| | -SCANport Channel Status | | | | | |
| | -Drive 1 Logic Status | | | | | |
| | -Drive 1 Feedback | | | | | |
| | -Drive 2 Logic Status | | | | | |
| | -Drive 2 Feedback | | | | | |