



BULLETIN 1203-FM1 & 1203-FB1 Use with Remote I/O (PLC-5)

APPLICATION NOTE # RIO - 2

May 28, 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 PLC-5/40, 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 PLC-5 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 PLC-5, 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.

Remote I/O Configuration

The screen print in Figure 1 shows the configuration of the Remote I/O system for the example program.

The Flex I/O is configured as rack 1 with a 1203-FM1/FB1 module and base combination installed in the first slot. No other modules are installed.

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Scanner Mode
Channel 1B Configuration

Diag. file:      N21                      Baud rate:      57.6kB
Complementary I/O:DISABLED

Rack   Starting   Rack   Range
Address Group     Size
  1         0       1/4   010-011*
  0         0         0     000-000
  0         0         0     000-000
  0         0         0     000-000
  0         0         0     000-000
  0         0         0     000-000
  0         0         0     000-000
  0         0         0     000-000

Press a function key, page up or page down, or enter a value.
>_
Rem RUN      Forces:None                    5/40C Addr 0 RIO__APP
Accept      Auto      Clear   Insert  Delete  Chan 1B Select
Edits      Config   List   to List fr List Status Option
F1         F5       F6     F7     F8     F9     F10

Figure 1 -- RIO Scanner Configuration

```

Ladder Program -- SCANport Channel Enables

The section of program shown in Figure 2 enables both SCANport channels on the 1203-FM1 module.

```

Channel 1
SCANport
Enable
N11:0
----- ( ) -----
0
Channel 2
SCANport
Enable
N11:0
+---- ( ) ----+
8

Figure 2 -- Enabling the SCANport Channels

```

Ladder Program -- Drive 1 Start/Stop and Reference

The section of program shown in Figure 3 provides start/stop control and a frequency reference to the 1305 drive connected to SCANport channel 1.

The User Start is a normally open pushbutton while the User Stop is a normally closed pushbutton.

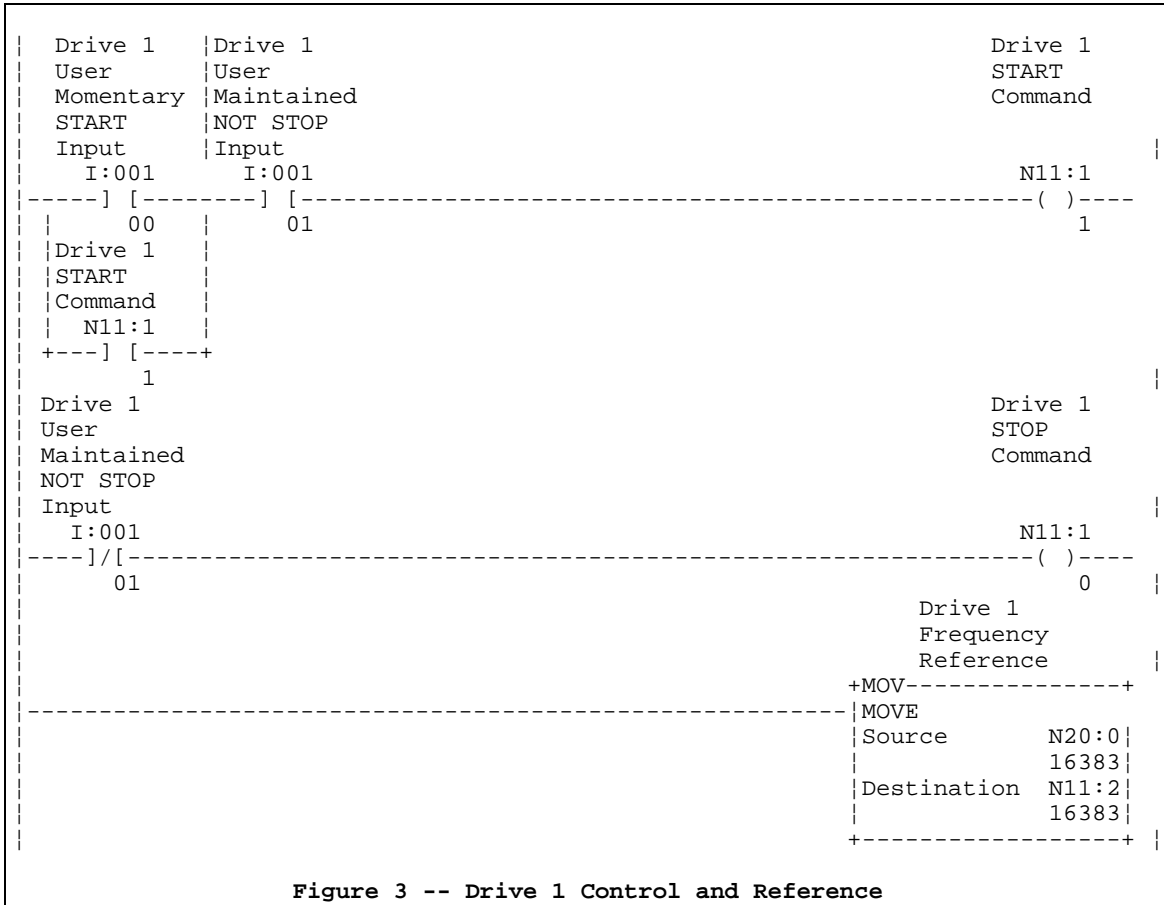


Figure 3 -- Drive 1 Control and Reference

Ladder Program -- Drive 2 Start/Stop and Reference

The section of program shown in Figure 4 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 Figure 3 except for the changes in addresses.

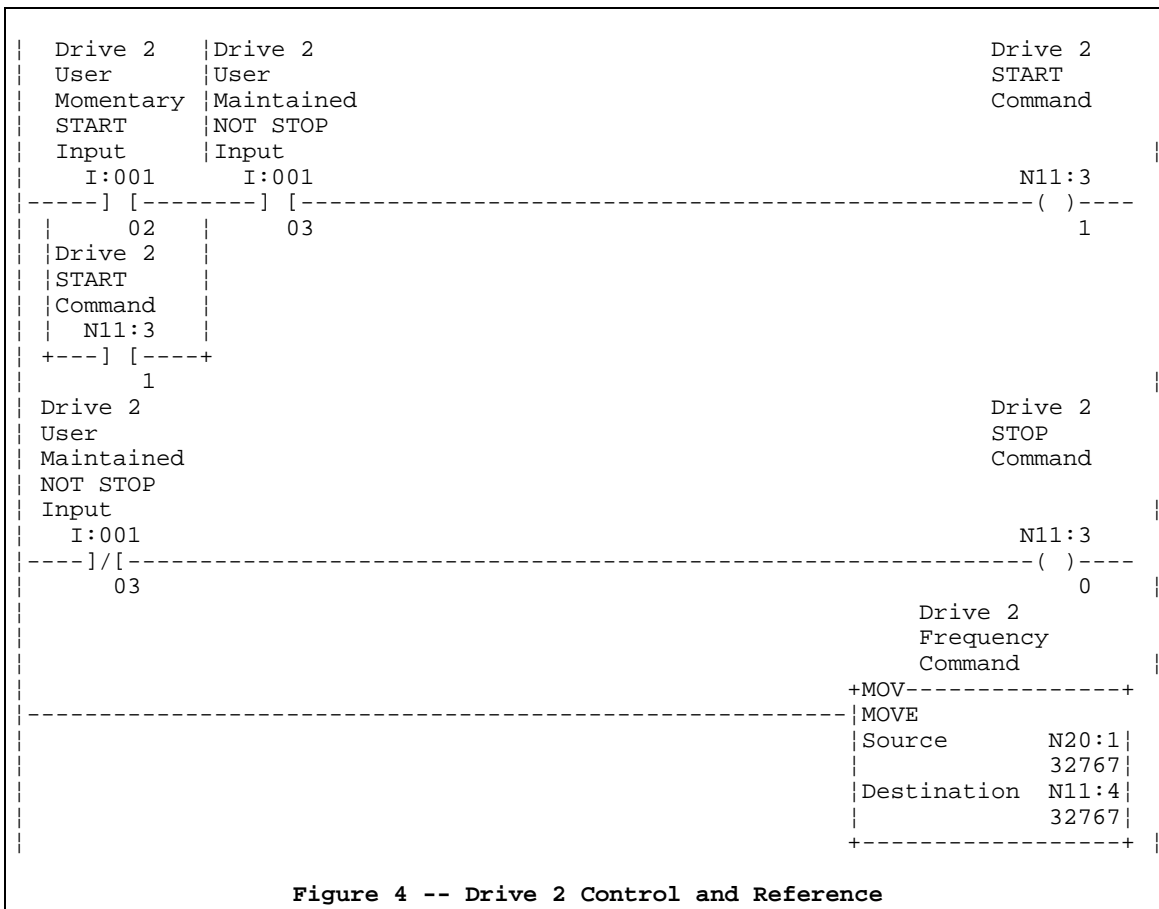
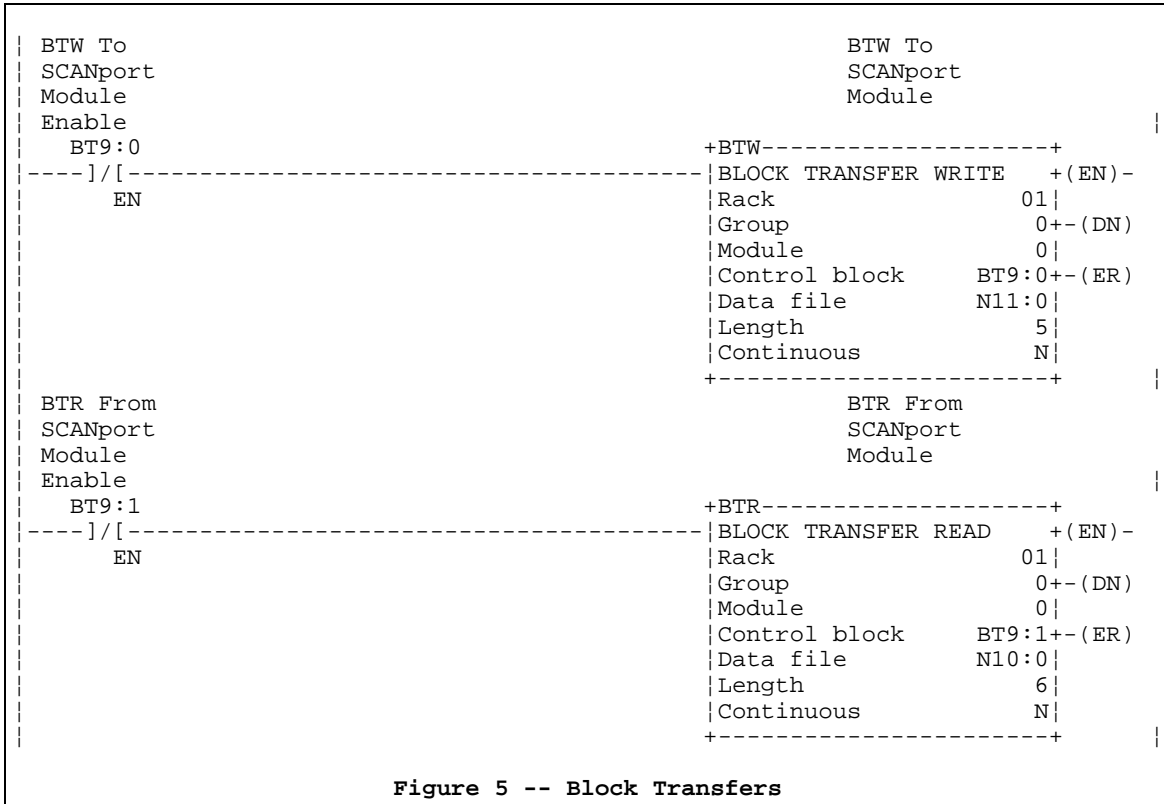


Figure 4 -- Drive 2 Control and Reference

Ladder Program -- Block Transfers to 1203-FM1 Module

The section of ladder program shown in Figure 5 performs the actual block transfers to and from the 1203-FM1 module.

If more block transfers will be used to remote racks, the block transfer instructions should be interlocked so that each block transfer is enabled in a fixed sequence. Failing to do so can result in some block transfers being executed more often than others or not being executed at all.



Input Data Table File

The data table file shown in Figure 6 is the input data read from the 1203-FM1 via Remote I/O.

Address	0	1	2	3	4	5
N10:0	0	2570	3855	16383	3855	32767

						-Drive 2 Feedback
						-Drive 2 Logic Status
						-Drive 1 Feedback
						-Drive 1 Logic Status
						-SCANport Channel Status
						-Reserved (always zero)

Figure 6 -- Input Data Table File

Output Data Table File

The data table file shown in Figure 7 is the data to be sent to the 1203-FM1 via Remote I/O.

Address	0	1	2	3	4	
N11:0	257	2	16383	2	32767	

						-Drive 2 Reference
						-Drive 2 Logic Command
						-Drive 1 Reference
						-Drive 1 Logic Command
						-SCANport Channel Enables

Figure 7 -- Output Data Table File