



BULLETIN 1203-FM1 & 1203-FB1 Use with ControlNet (PLC-5/40C, 1794-ACN)

APPLICATION NOTE # CNET - 1

May 27, 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-5/40C, 1794-ACN and 1203-FM1/FB1 module and base. This document also explains how to set safe state data using a CIO transfer instruction.

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 ControlNet, 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

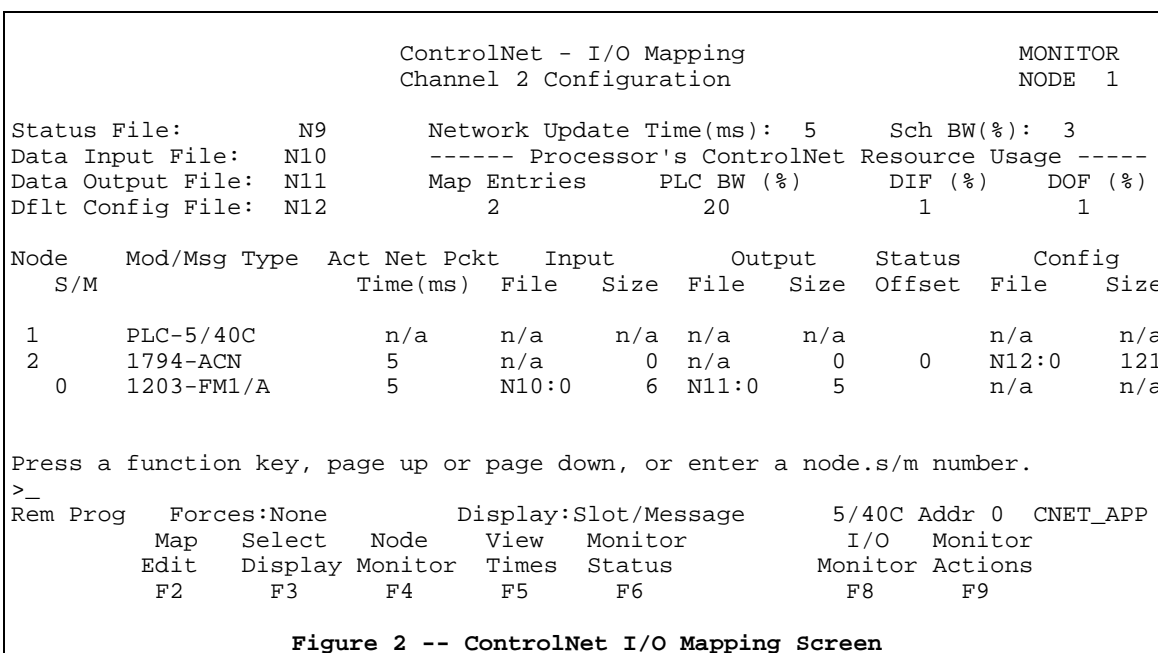
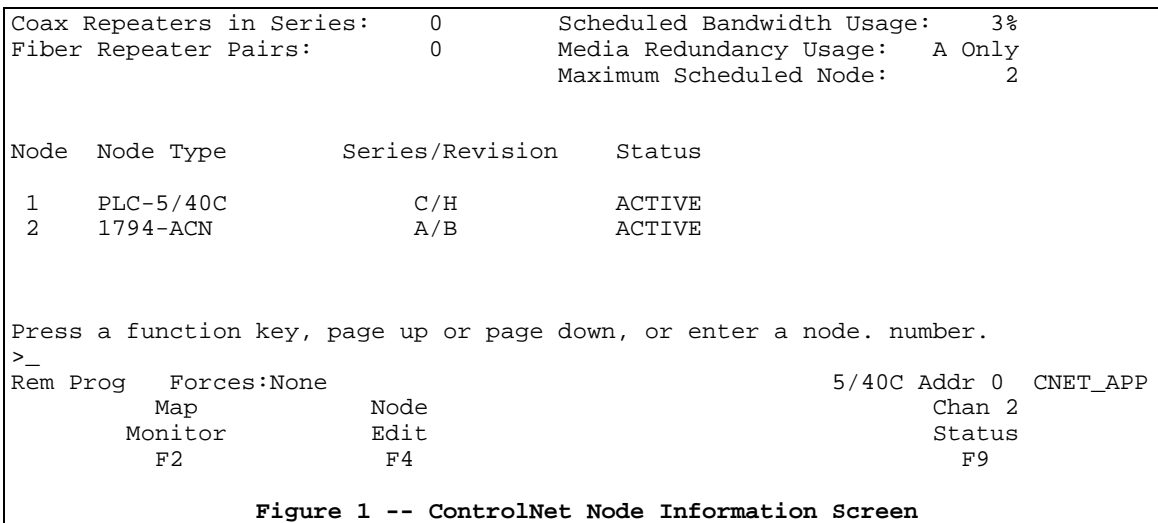
These example ladder programs were written to be simple and clear examples and contain no fault handling abilities. Consult the PLC-5C, 1794-ACN and 1203-FM1/FB1 manuals for more information.

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.

ControlNet Configuration

The three screen prints in Figures 1 through 3 show the configuration of the ControlNet and Flex I/O system for the example program.

ControlNet - Node Information		MONITOR
Channel 2 Configuration		NODE 1
Diagnostics file:	N7	Network Update Time(ms): 5



**ControlNet
Configuration (Continued)**

```

ControlNet - I/O Action
Channel 2 Configuration
MONITOR
NODE 1

Node 2 1794-ACN

Module Type      Fault Action      Idle Action      Fault Action
Slot             From Idle

0 1203-FM1/A     Reset             Safe             Fault

Press a function key.
>_
Rem Prog   Forces:None      5/40C Addr 0  CNET_APP
          Map           Edit
          Monitor      Actions
          F2            F9

Figure 3 -- ControlNet I/O Action Screen
    
```

Ladder Program Section 1

The section of program shown in Figure 4 enables both SCANport channels on the 1203-FM1 module.

```

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

Figure 4 -- Enabling the SCANport Channels

Ladder Program Section 2

The section of program shown in Figure 5 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.

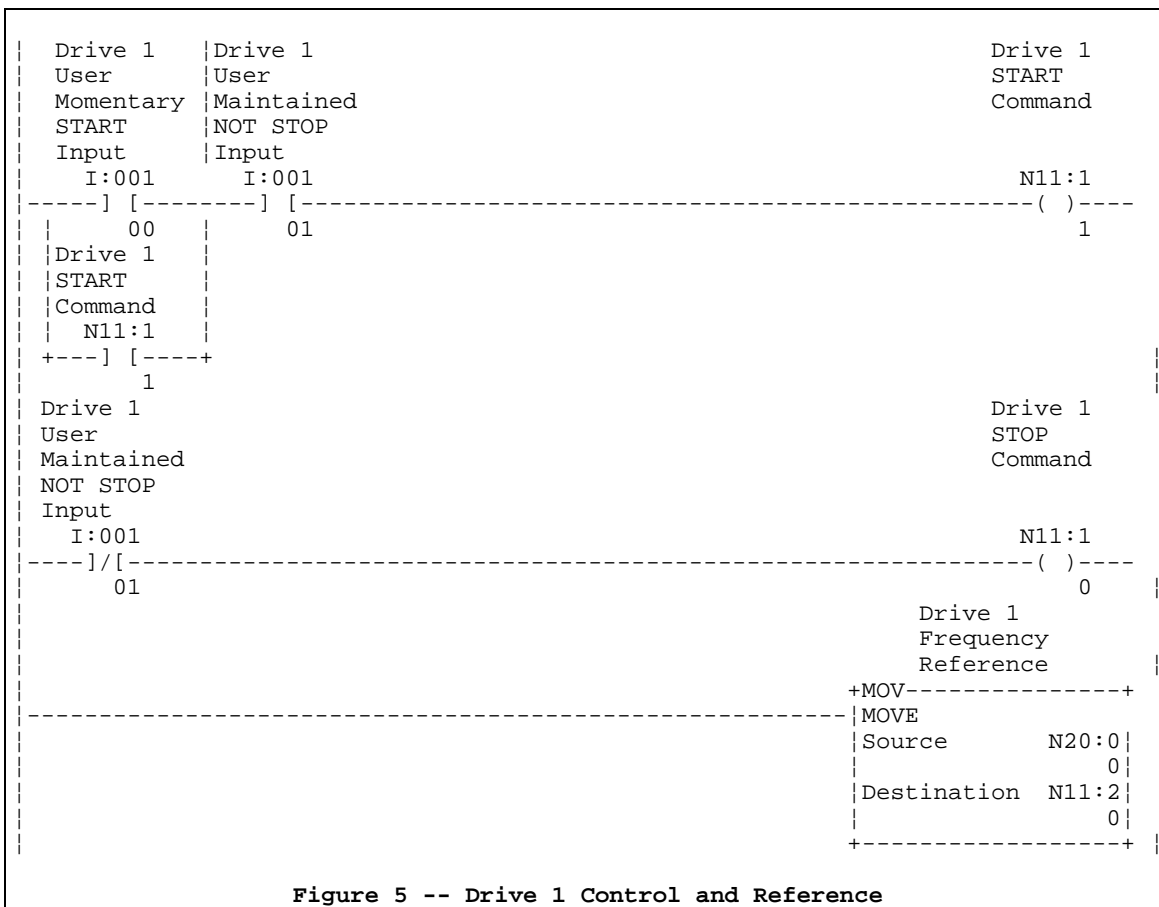
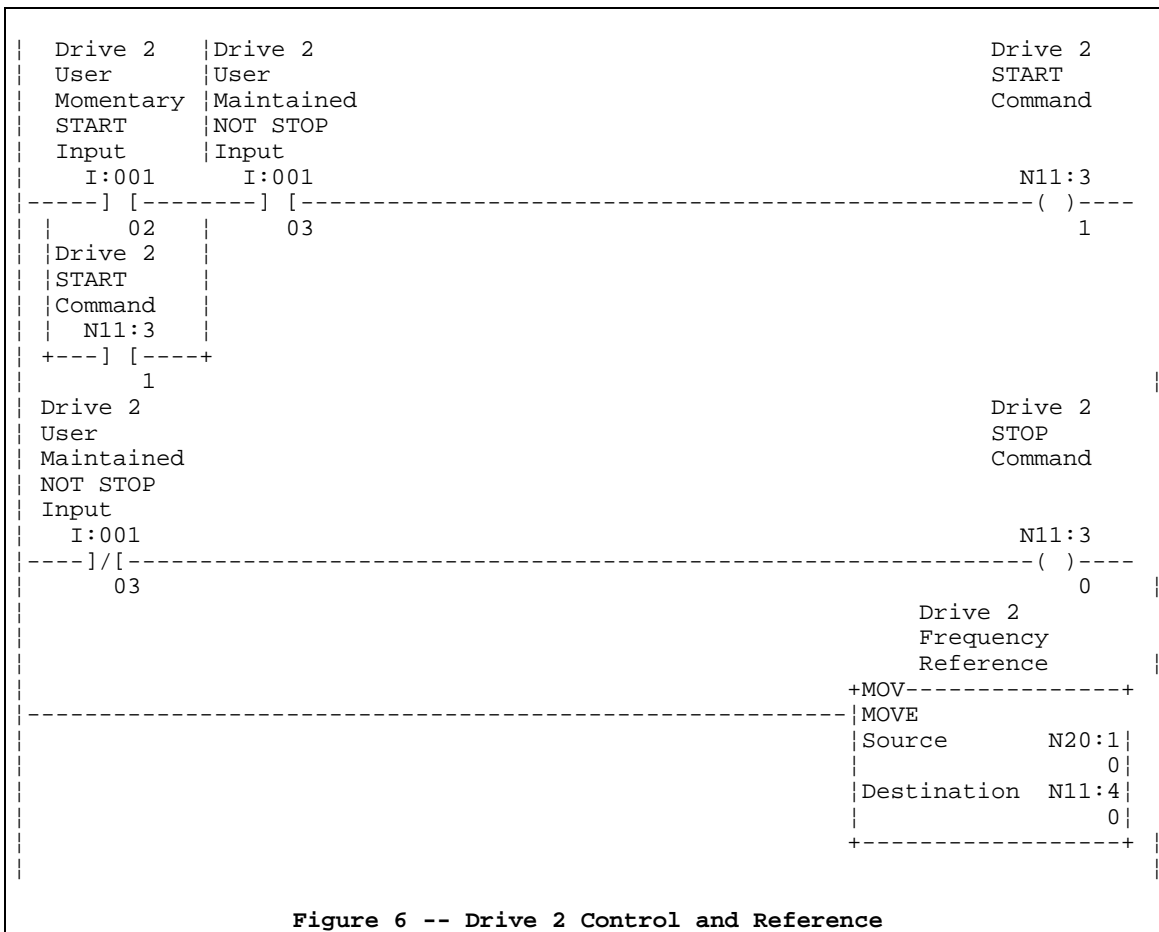


Figure 5 -- Drive 1 Control and Reference

Ladder Program Section 3

The section of program shown in Figure 6 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 5 except for the changes in addresses.



Input Data Table File

The data table file shown in Figure 6 is the input data read from the 1203-FM1 via ControlNet.

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 ControlNet.

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

Setting Safe State Data

The program segment shown in Figure 8 will write safe state data to the 1203-FM1. The user must have configured the module to use safe state data (refer to Figure 3).

S:1						B3
--] [-----	15					(L)-
						0
B3					+CIO-----+	
--] [-----	0				CNET I/O TRANSFER	+(EN)-
					Control block	CT20:0+(DN)
						+(ER)
					+-----+	
					CT20:0	B3
					+--] [-----	(U)-+
					EN	0

Figure 8 -- ControlNet I/O Transfer Block

CIO Transfer Block Data Table File

The data table file shown in Figure 9 configures the CIO transfer block to write five words of safe state data from N21 (starting at word 0) to the 1203-FM1.

Data Monitor for ControlNet I/O Transfer Block CT20:0
