

BULLETIN 1203-FM1 & 1203-FB1 USE WITH DEVICENET (SLC-500 AND 1747-SDN)

APPLICATION NOTE #

APRIL 3, 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-SDN, 1794-ADN and a 1203-FM1/FB1 module/base combination.

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 DeviceNet, 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

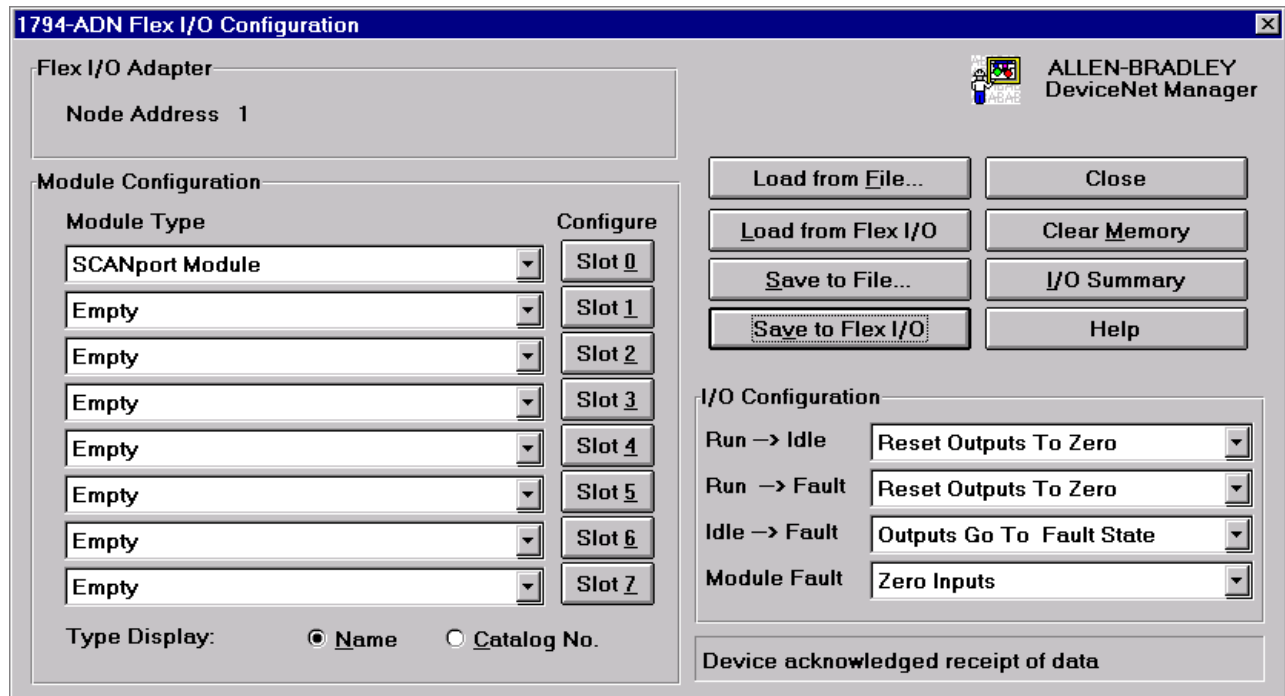
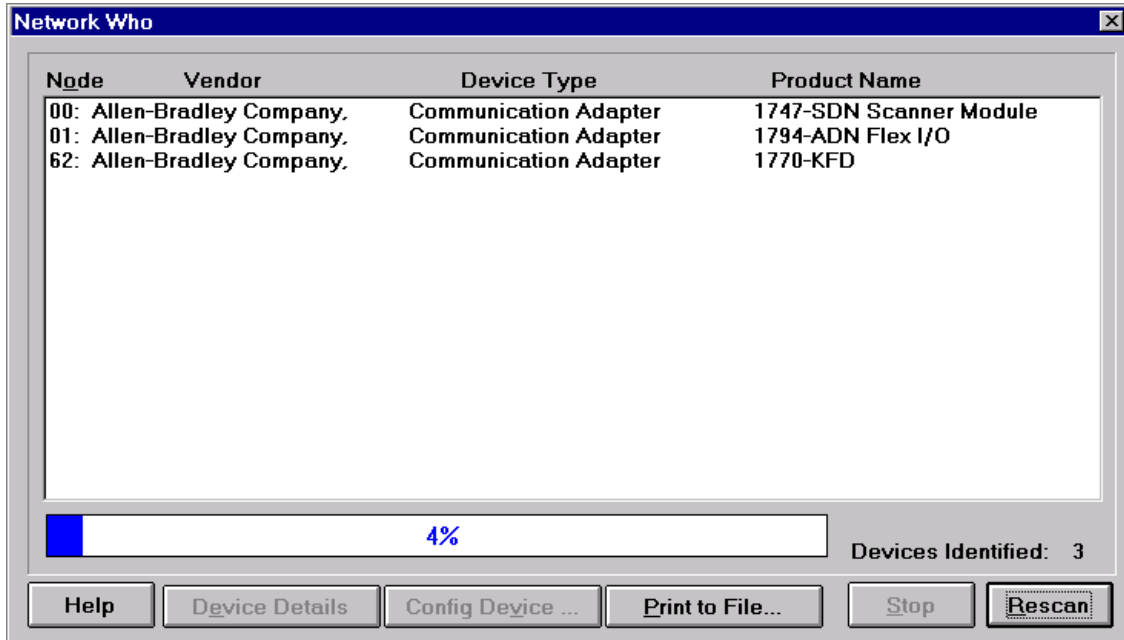
These example ladder programs were written to be simple and clear examples and contain no fault handling abilities. Consult the SLC-5/03, 1747-SDN, 1794-ADN and 1203-FM1/FB1 manuals for more information.

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.

Screen shots in this application note were obtained from RSLogix 500 version 1.2 and DeviceNet Manager version 2.0 software. Other programming software can also be used to perform similar functions.

DEVICENET CONFIGURATION

The following 11 screen prints show how to configure the 1747-SDN and 1794-ADN for the example program using DeviceNet Manager 2.0.



1203-FM1 SCANport Module Configuration

Module Slot Position: 0

I/O Data Sizes

Input Size: 6 words

Output Size: 5 words

Buttons: Save to Flex I/O, OK, Set for I/O Only, Cancel, Data Description...

Safe State Data

Output 0	0	Channel Enable Bits
Output 1	0	Channel 1 Logic Command Bits
Output 2	0	Channel 1 Analog Reference Data
Output 3	0	Channel 2 Logic Command Bits
Output 4	0	Channel 2 Analog Reference Data

Radix: Decimal Bin Hex Oct

1747-SDN Module Configuration : [SDN]

Module Settings

Project Name: _____ Network Name: _____

Module Name: _____ Node Address: 0

Access: DeviceNet

Slot: 1

I/O Comms: Enabled

Interscan Delay: 2 ms.

Bkgd Poll Ratio: 1

Load From: SDN, File..., Module Defaults

Save To: SDN, File...

Buttons: Assign Names from Project, Edit Scan List..., Close, Help

1747-SDN Scan List Editor : [WHO]

Node	Name	Mapped	Active	Rx Size	Tx Size	Type
01		No/No	Yes	14	10	P

Load From

 Save To

 Add Devices From
 Scan List Tools

Edit Selection
 Prod Type: Communication Adapter
 Vendor: Allen-Bradley Company, Inc.
 Cat No: 1794-ADN
 Revision: Major 1 Minor 4

Active In Scanlist
 Electronic Key
 Device Type
 Vendor
 Product No.

Slave Mode: Off

1747-SDN Auto Map Options

Regions to Map/Unmap

Input File: M1 File Start Word: 0
 Output File: M0 File Start Word: 0

Mapping Method

Node Order
 Size Order
 Byte Align All
 Word Align All

1747-SDN Datatable Map

	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
M1:1.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M1:1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M1:1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M1:1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Display Mode: Data Entry Browse Double-click on word to display bit mapping

Device Select: 01 Communication Adapter 1794-ADN

Data Map: Input Output Apply Segment

Map Segment: 1 2 3 4 Delete Segment

Map Data From: Poll Message Byte 0 Bit 0

Map Data To: M File M1: 0 Bit 0 No. Bits 112

Close Help Print to File

1747-SDN Datatable Map

	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
M0:1.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M0:1.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M0:1.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M0:1.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M0:1.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M0:1.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Display Mode: Data Entry Browse Double-click on word to display bit mapping

Device Select: 01 Communication Adapter 1794-ADN

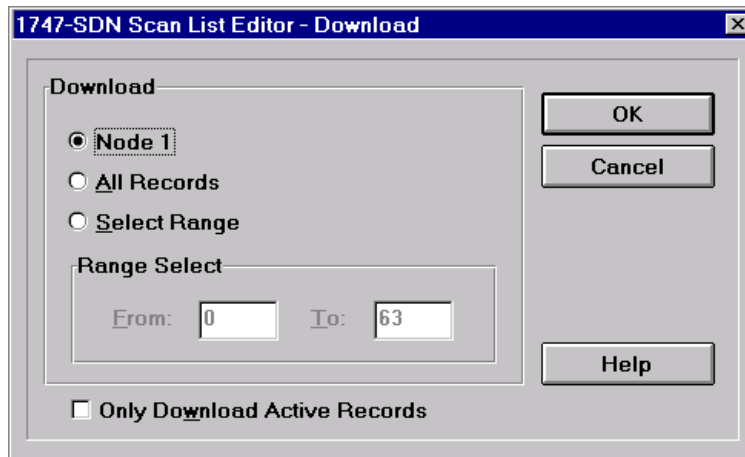
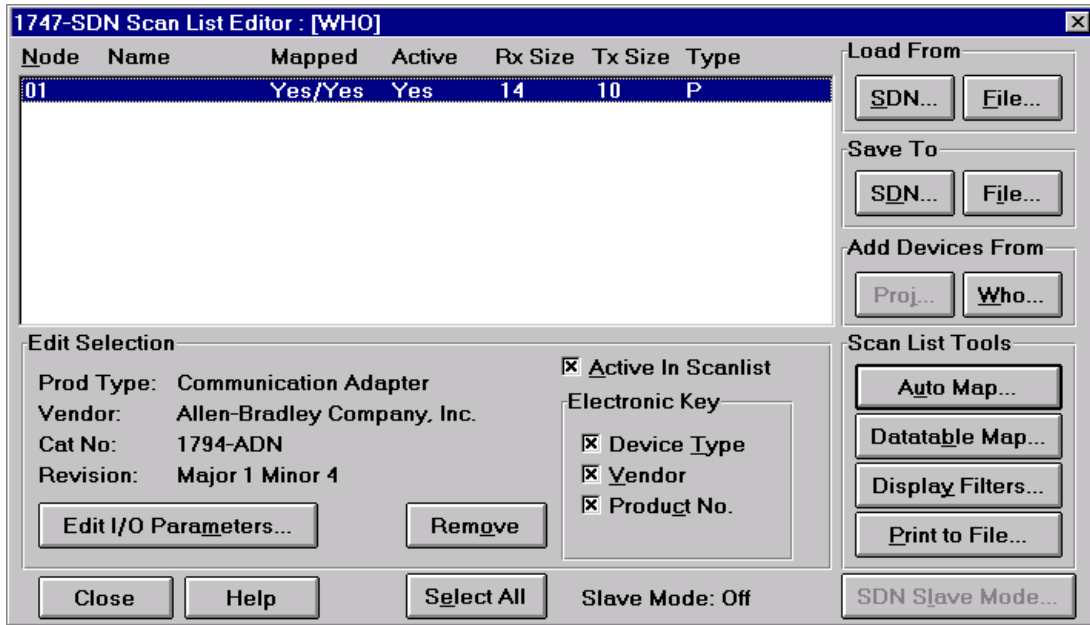
Data Map: Input Output Apply Segment

Map Segment: 1 2 3 4 Delete Segment

Map Data To: Poll Message Byte 0 Bit 0

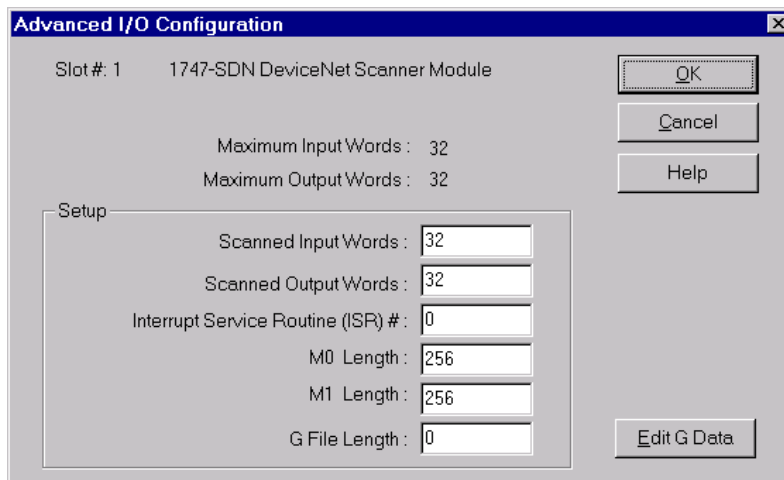
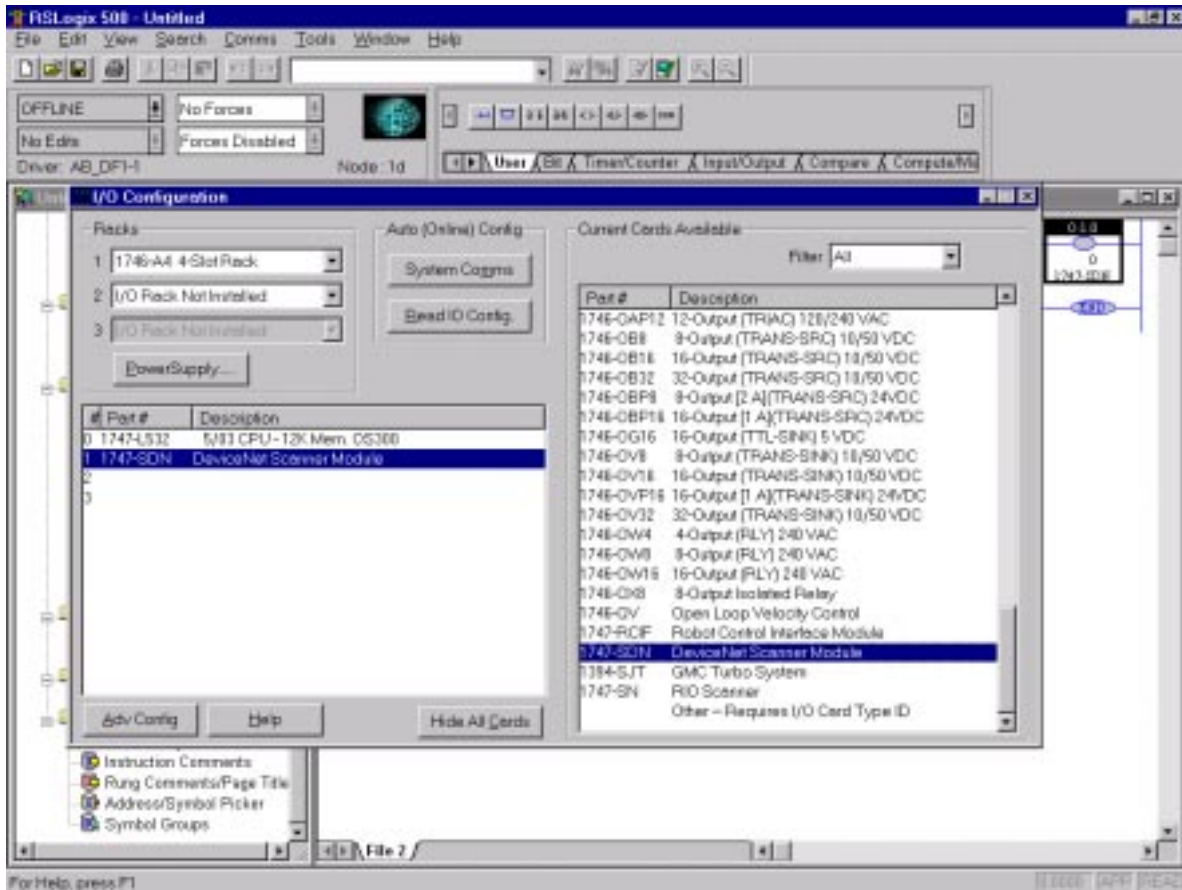
Map Data From: M File M0: 0 Bit 0 No. Bits 80

Close Help Print to File



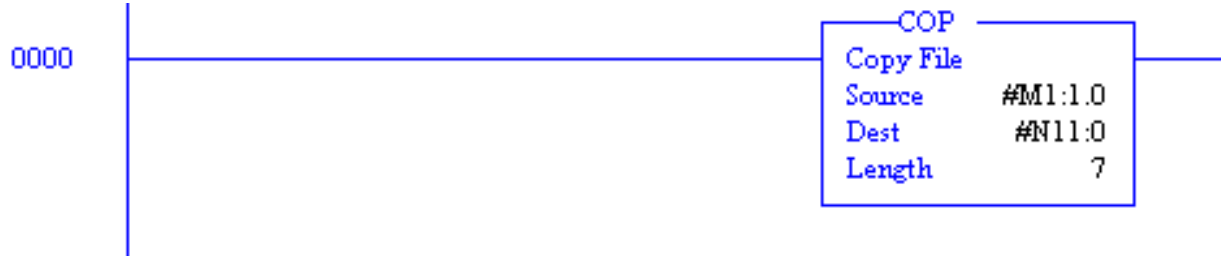
DEVICENET CONFIGURATION

The next 2 screen prints show how to configure the SLC-500 and the 1747-SDN for the example program using RSLogix 500.

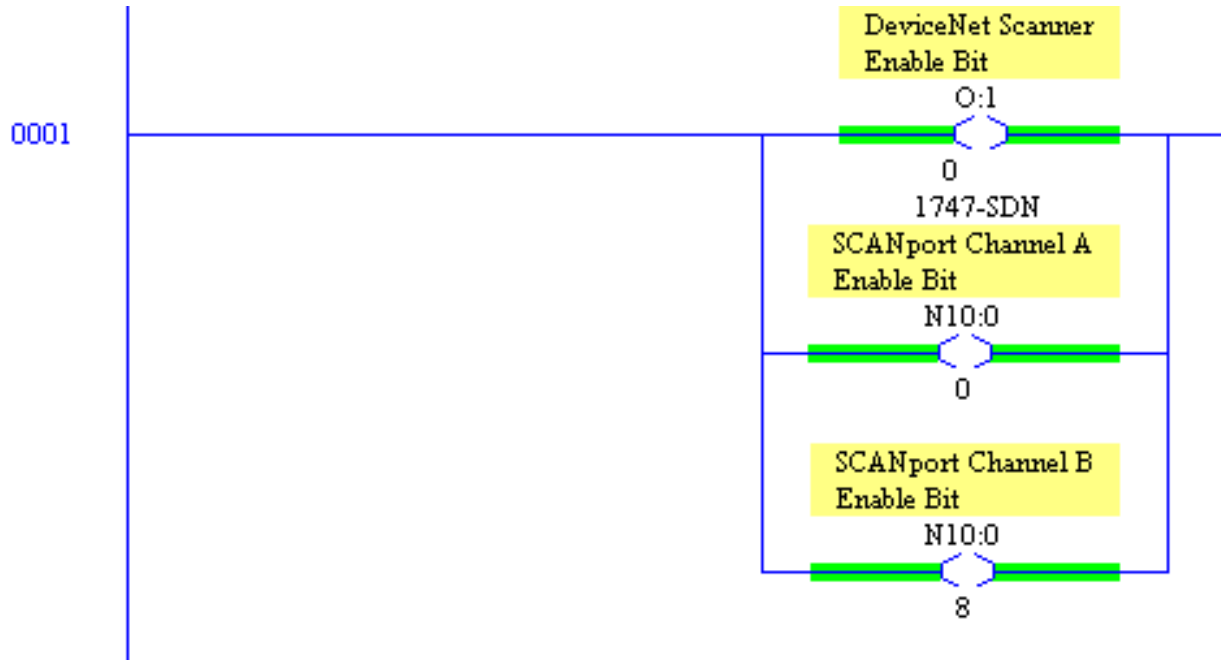


EXAMPLE LADDER PROGRAM

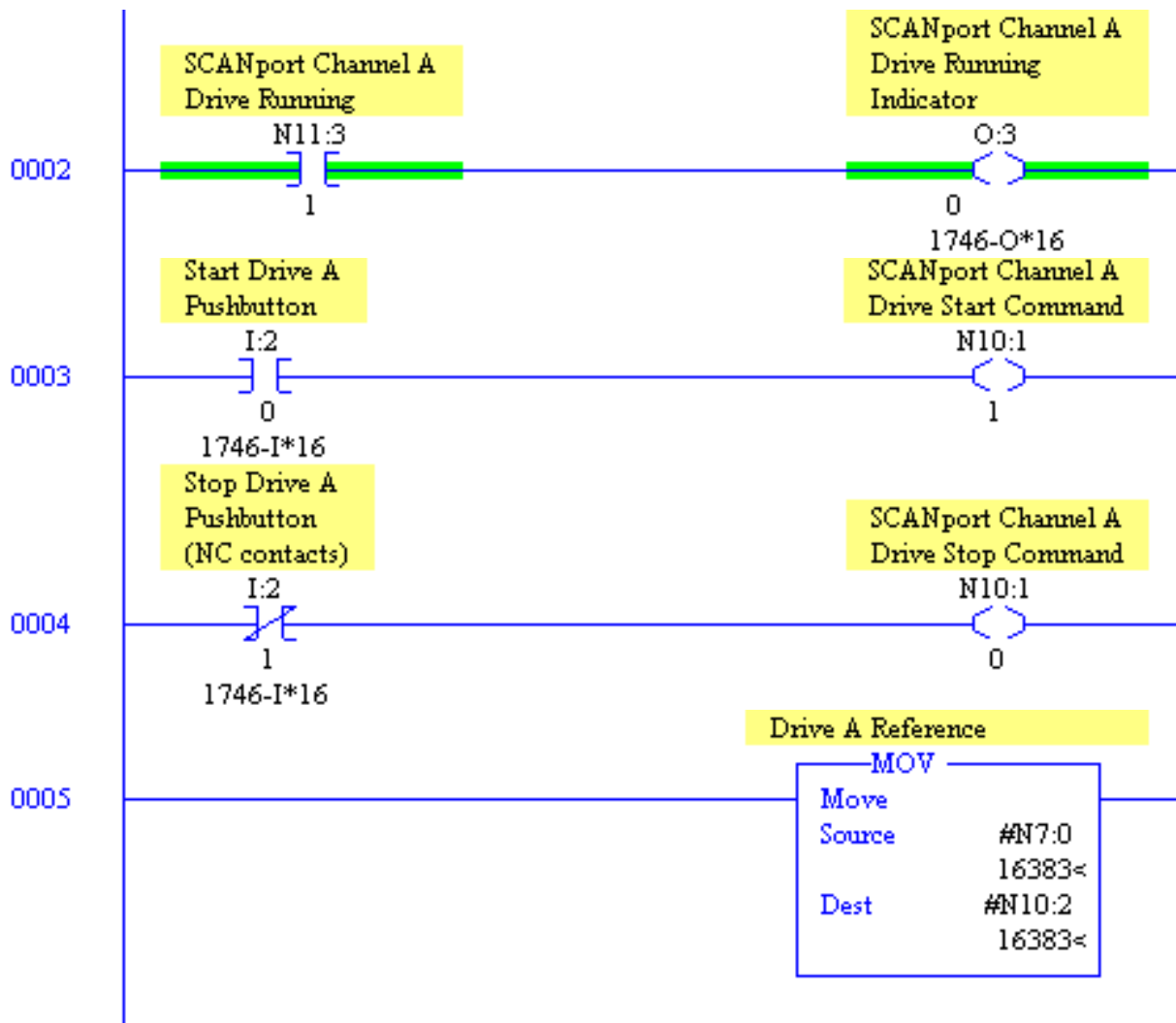
Rung #0 transfers the input image from the 1747-SDN scanner to a data table where the rest of the ladder program can access it without needing to execute an M-file transfer.



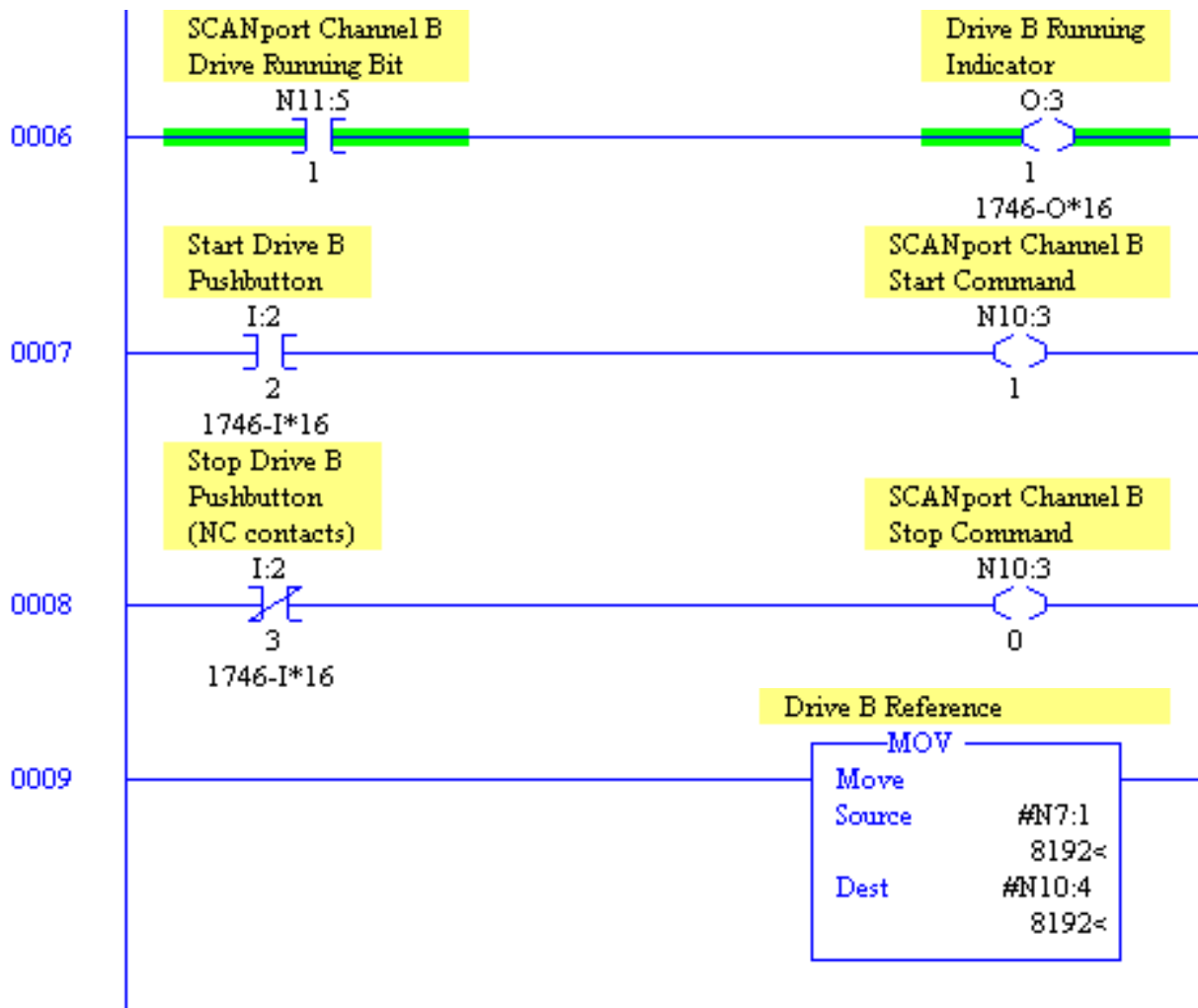
Rung #1 sets the enable bits for the DeviceNet Scanner and both SCANport Channels.



Rungs #2 through #5 are the control logic for the drive connected to Channel A on the 1203-FM1 module.



Rungs #6 through #9 are the control logic for the drive connected to Channel B on the 1203-FM1 module.



Rung #10 copies the output data generated in the previous ladder rungs into the 1747-SDN M0-file. This new data will then be sent out to the 1203-FM1.

