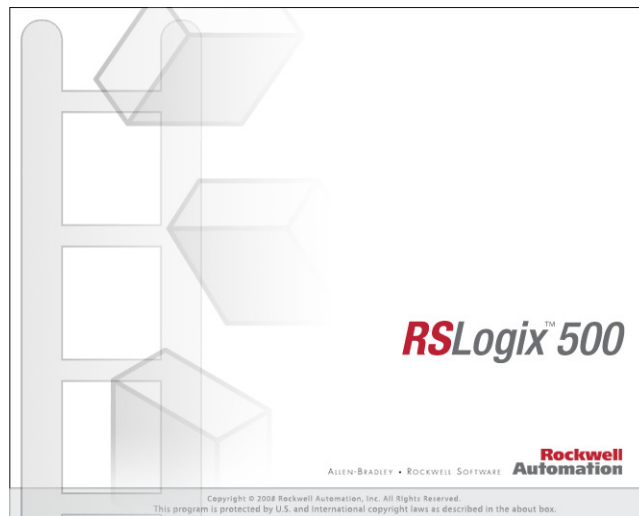


# RSLogix Micro Project Report





## Program File List

Name	Number	Type	Rungs	Debug	Bytes
[SYSTEM]	0	SYS	0	No	0
	1	SYS	0	No	0
MAIN	2	LADDER	3	No	121
900TC RSTR	237	LADDER	28	No	3780
900TC BKUP	238	LADDER	24	No	2621
PB&R LCD	252	LADDER	10	No	2131
PB&R RESTR	253	LADDER	8	No	549
PB&R BCKUP	254	LADDER	7	No	313
PB&R MAIN	255	LADDER	4	No	111



File	Rung	Page Title	Page
------	------	------------	------



If the Read from Restore Node# message succeeded, then configure the Restore Node# for the destination address in the MSG instructions. If the Read from Restore Node# message failed, but the Read from Default Node# message succeeded, then configure 99 for the destination address in the MSG instructions.

0000

900TC Allow Writes  
command MSG

MG237:0

EN

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

DN

900TC Allow Writes  
command MSG

MOV

Move  
Source N255:255  
0<  
Dest MG237:0.NOD  
99<

900TC STOP command  
MSG

MOV

Move  
Source N255:255  
0<  
Dest MG237:1.NOD  
99<

900TC Move to  
Protect Level  
command MSG

MOV

Move  
Source N255:255  
0<  
Dest MG237:2.NOD  
99<

900TC Move to Setup  
Area 1 command MSG

MOV

Move  
Source N255:255  
0<  
Dest MG237:3.NOD  
99<

900TC Restor MSG #1

MOV

Move  
Source N255:255  
0<  
Dest MG237:24.NOD  
99<

900TC Restor MSG #2

MOV

Move  
Source N255:255  
0<  
Dest MG237:25.NOD  
99<

## 900TC Restor MSG #3

MOV

Move  
Source N255:255  
0<  
Dest MG237:26.NOD  
99<

## 900TC Restor MSG #4

MOV

Move  
Source N255:255  
0<  
Dest MG237:27.NOD  
99<

## 900TC Restor MSG #5

MOV

Move  
Source N255:255  
0<  
Dest MG237:28.NOD  
99<

## 900TC Restor MSG #6

MOV

Move  
Source N255:255  
0<  
Dest MG237:29.NOD  
99<

## 900TC Restor MSG #7

MOV

Move  
Source N255:255  
0<  
Dest MG237:30.NOD  
99<

## 900TC Restor MSG #8

MOV

Move  
Source N255:255  
0<  
Dest MG237:31.NOD  
99<



## 900TC Restor MSG #9

MOV

Move

Source N255:255  
0<  
Dest MG237:32.NOD  
99<

## 900TC Restor MSG #10

MOV

Move

Source N255:255  
0<  
Dest MG237:33.NOD  
99<

## 900TC Restor MSG #11

MOV

Move

Source N255:255  
0<  
Dest MG237:34.NOD  
99<

## 900TC Restor MSG #12

MOV

Move

Source N255:255  
0<  
Dest MG237:35.NOD  
99<

## 900TC Restor MSG #13

MOV

Move

Source N255:255  
0<  
Dest MG237:36.NOD  
99<

## 900TC Restor MSG #14

MOV

Move

Source N255:255  
0<  
Dest MG237:37.NOD  
99<

## 900TC Restor MSG #15

MOV

Move

Source N255:255  
0<  
Dest MG237:38.NOD  
99<

## 900TC Restor MSG #16

MOV

Move

Source N255:255  
0<  
Dest MG237:39.NOD  
99<

## 900TC Restor MSG #17

MOV

Move

Source N255:255  
0<  
Dest MG237:40.NOD  
99<

## 900TC Restor MSG #18

MOV

Move

Source N255:255  
0<  
Dest MG237:41.NOD  
99<

## 900TC Restor MSG #19

MOV

Move

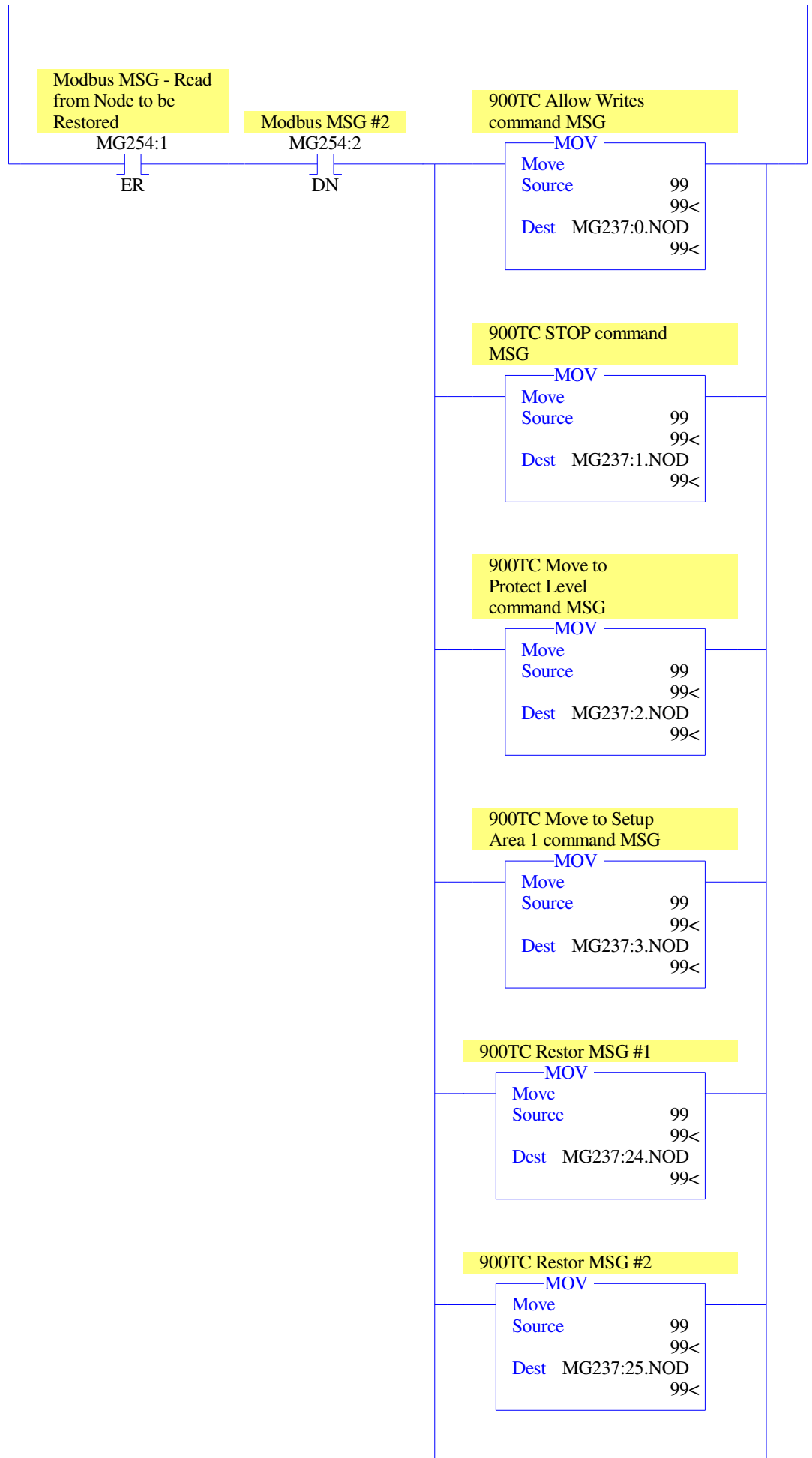
Source N255:255  
0<  
Dest MG237:42.NOD  
99<

## 900TC Restor MSG #20

MOV

Move

Source N255:255  
0<  
Dest MG237:43.NOD  
99<



## 900TC Restor MSG #3

MOV

Move	
Source	99
	99<
Dest	MG237:26.NOD
	99<

## 900TC Restor MSG #4

MOV

Move	
Source	99
	99<
Dest	MG237:27.NOD
	99<

## 900TC Restor MSG #5

MOV

Move	
Source	99
	99<
Dest	MG237:28.NOD
	99<

## 900TC Restor MSG #6

MOV

Move	
Source	99
	99<
Dest	MG237:29.NOD
	99<

## 900TC Restor MSG #7

MOV

Move	
Source	99
	99<
Dest	MG237:30.NOD
	99<

## 900TC Restor MSG #8

MOV

Move	
Source	99
	99<
Dest	MG237:31.NOD
	99<

## 900TC Restor MSG #9

MOV

Move	
Source	99
	99<
Dest	MG237:32.NOD
	99<

## 900TC Restor MSG #10

MOV

Move	
Source	99
	99<
Dest	MG237:33.NOD
	99<

## 900TC Restor MSG #11

MOV

Move	
Source	99
	99<
Dest	MG237:34.NOD
	99<

## 900TC Restor MSG #12

MOV

Move	
Source	99
	99<
Dest	MG237:35.NOD
	99<

## 900TC Restor MSG #13

MOV

Move	
Source	99
	99<
Dest	MG237:36.NOD
	99<

## 900TC Restor MSG #14

MOV

Move	
Source	99
	99<
Dest	MG237:37.NOD
	99<

## 900TC Restor MSG #15

MOV

Move	
Source	99
	99<
Dest	MG237:38.NOD
	99<

## 900TC Restor MSG #16

MOV

Move	
Source	99
	99<
Dest	MG237:39.NOD
	99<

## 900TC Restor MSG #17

MOV

Move	
Source	99
	99<
Dest	MG237:40.NOD
	99<

## 900TC Restor MSG #18

MOV

Move	
Source	99
	99<
Dest	MG237:41.NOD
	99<

## 900TC Restor MSG #19

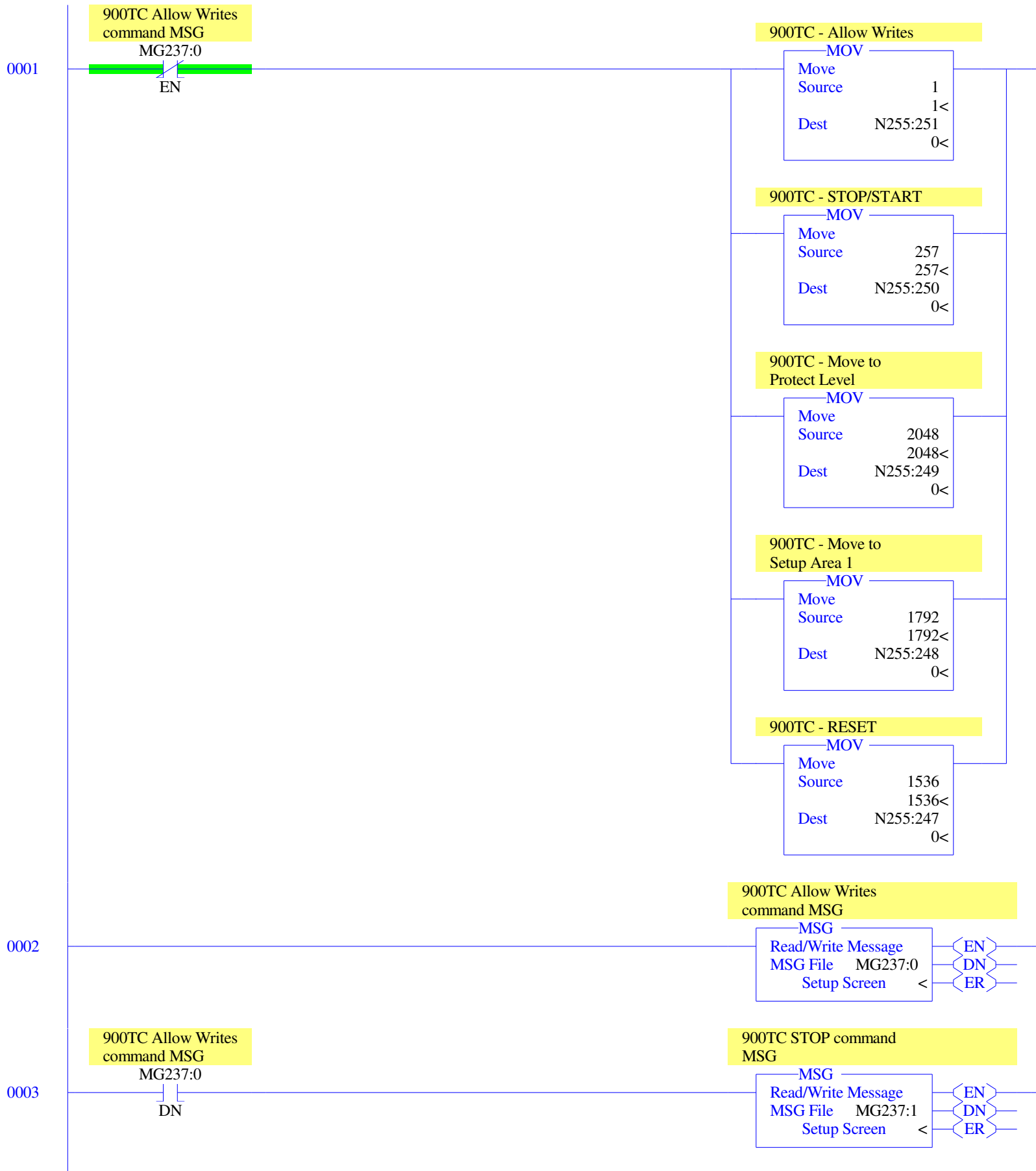
MOV

Move	
Source	99
	99<
Dest	MG237:42.NOD
	99<

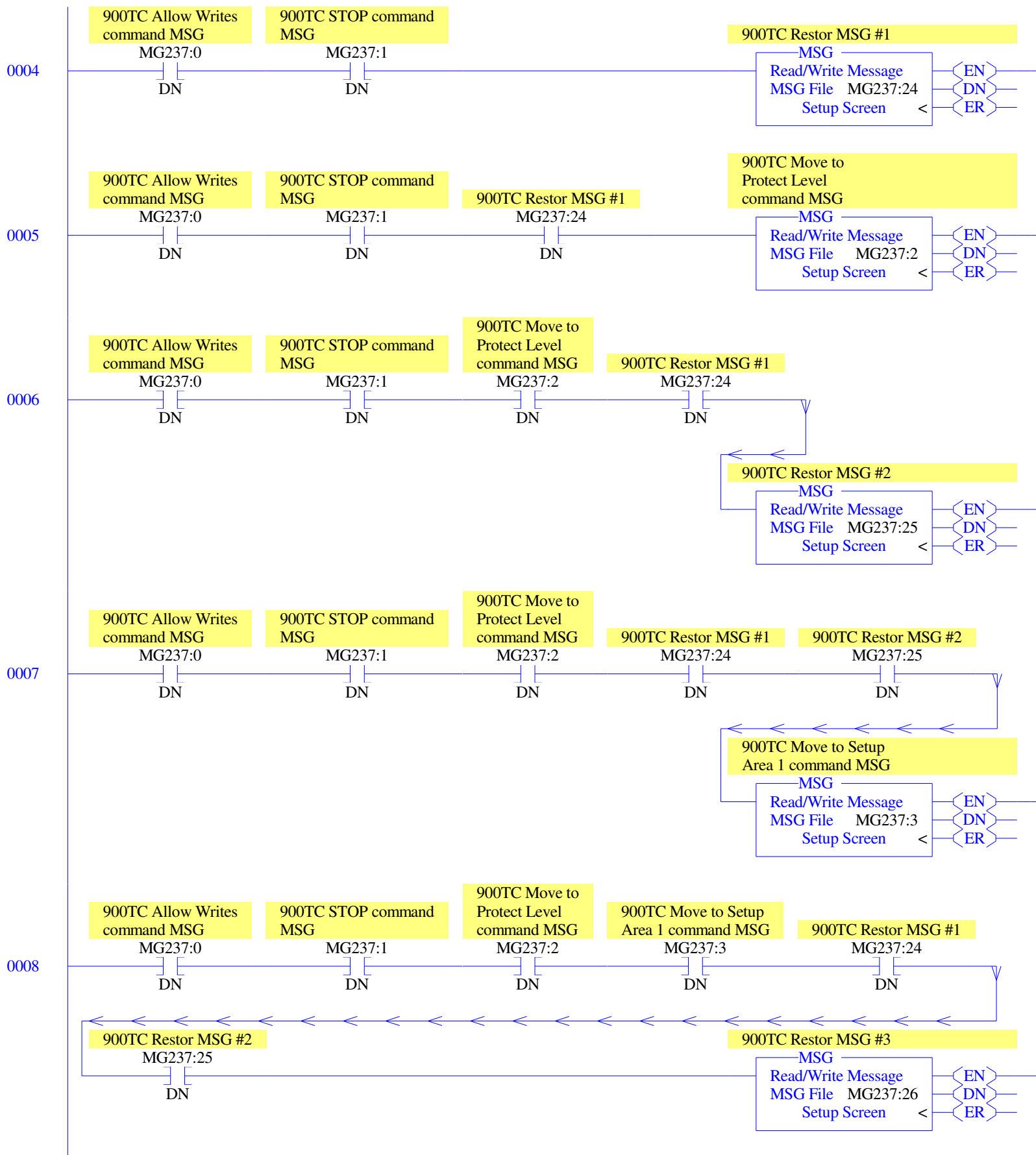
## 900TC Restor MSG #20

MOV

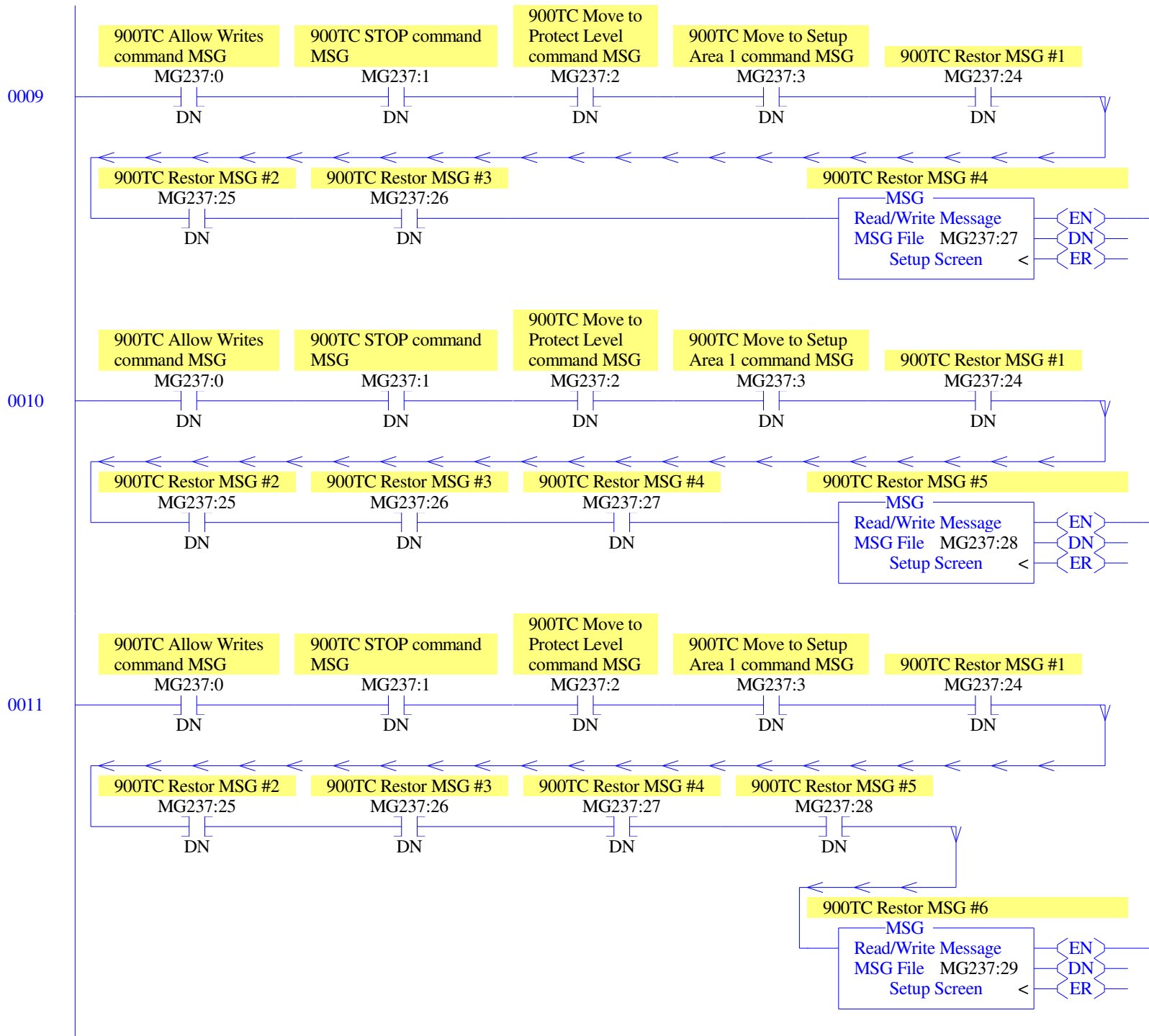
Move	
Source	99
	99<
Dest	MG237:43.NOD
	99<



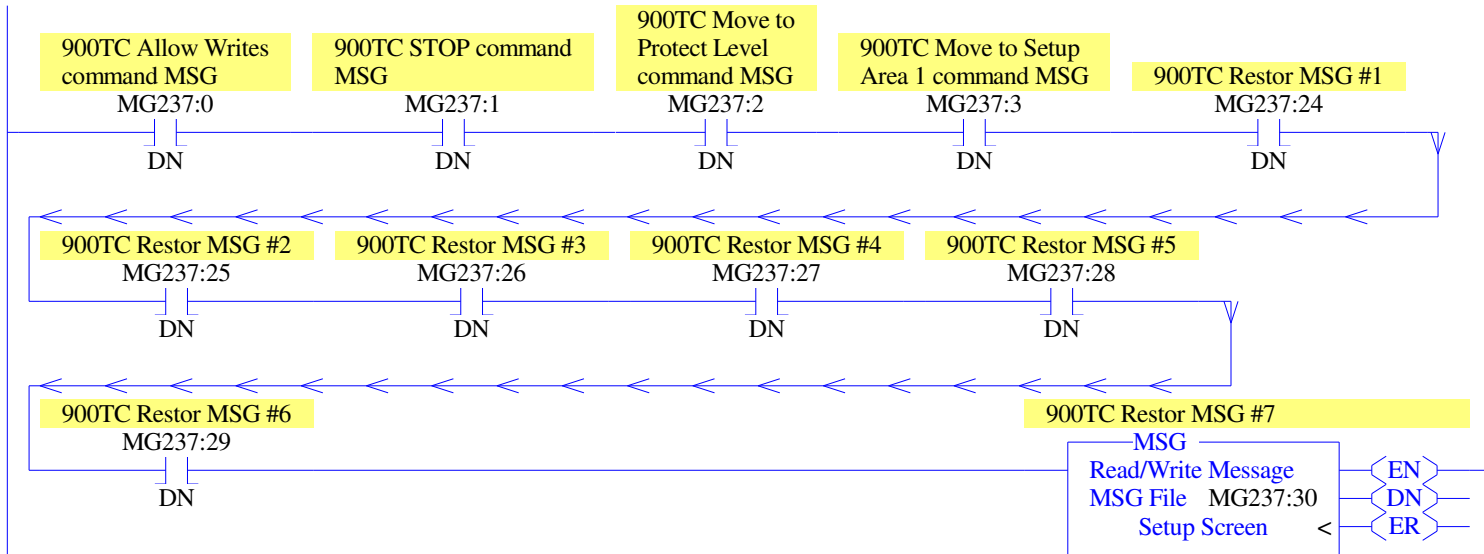
LAD 237 - 900TC RSTR --- Total Rungs in File = 28



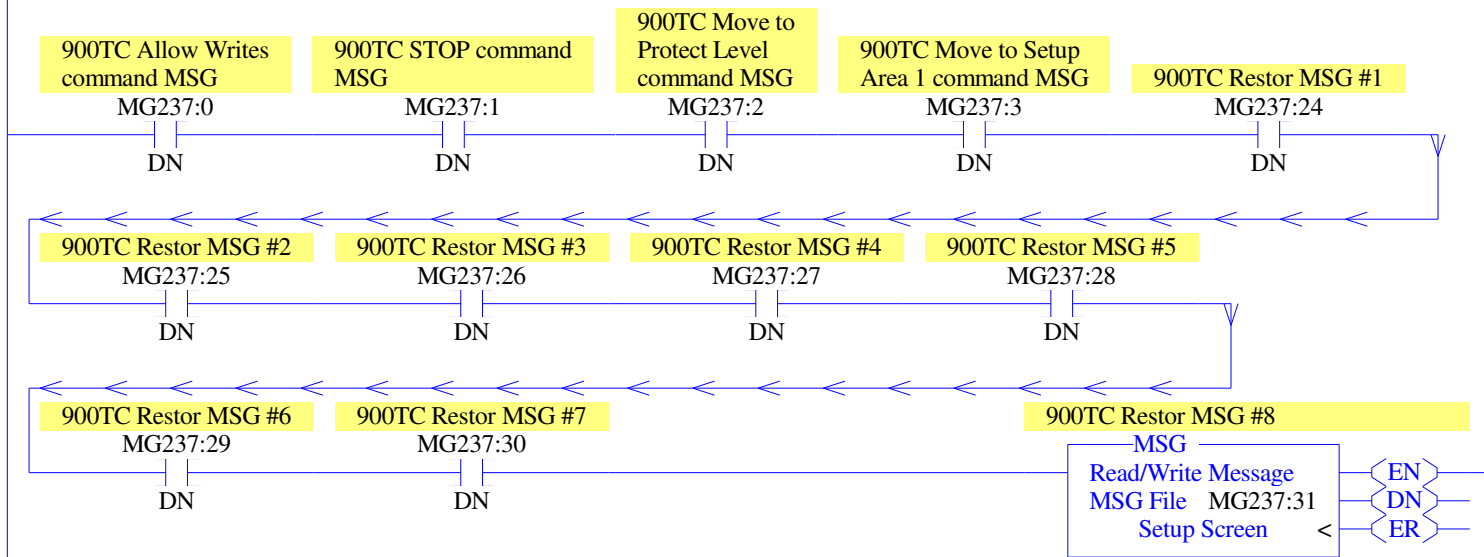




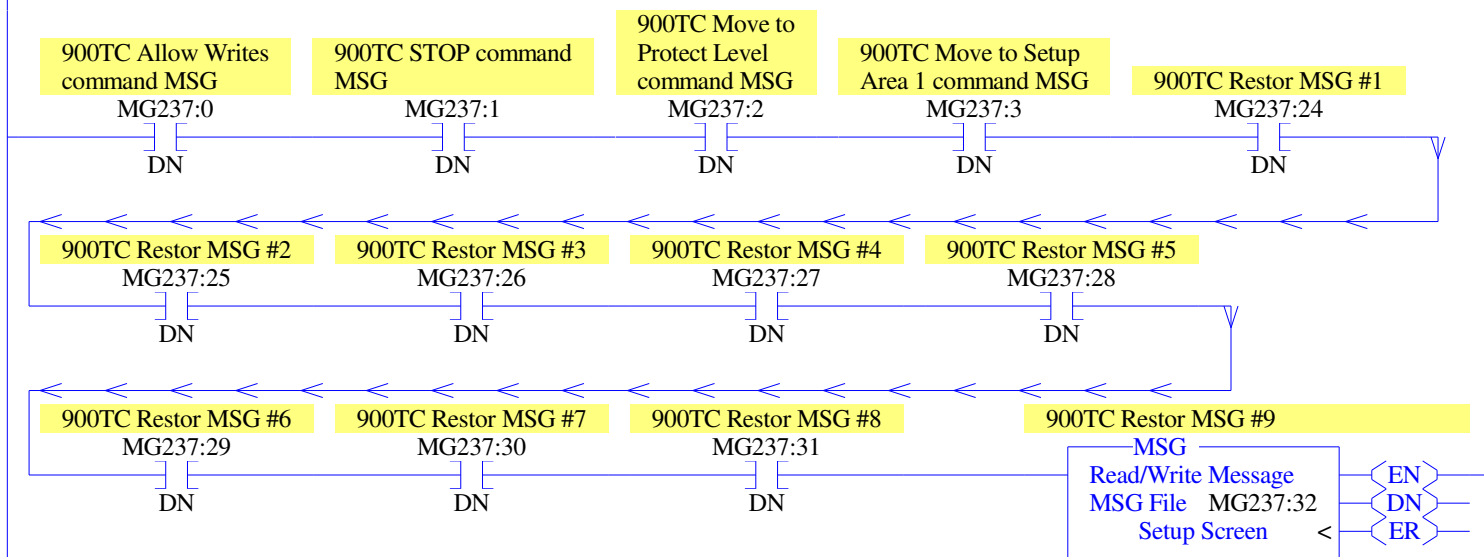
0012



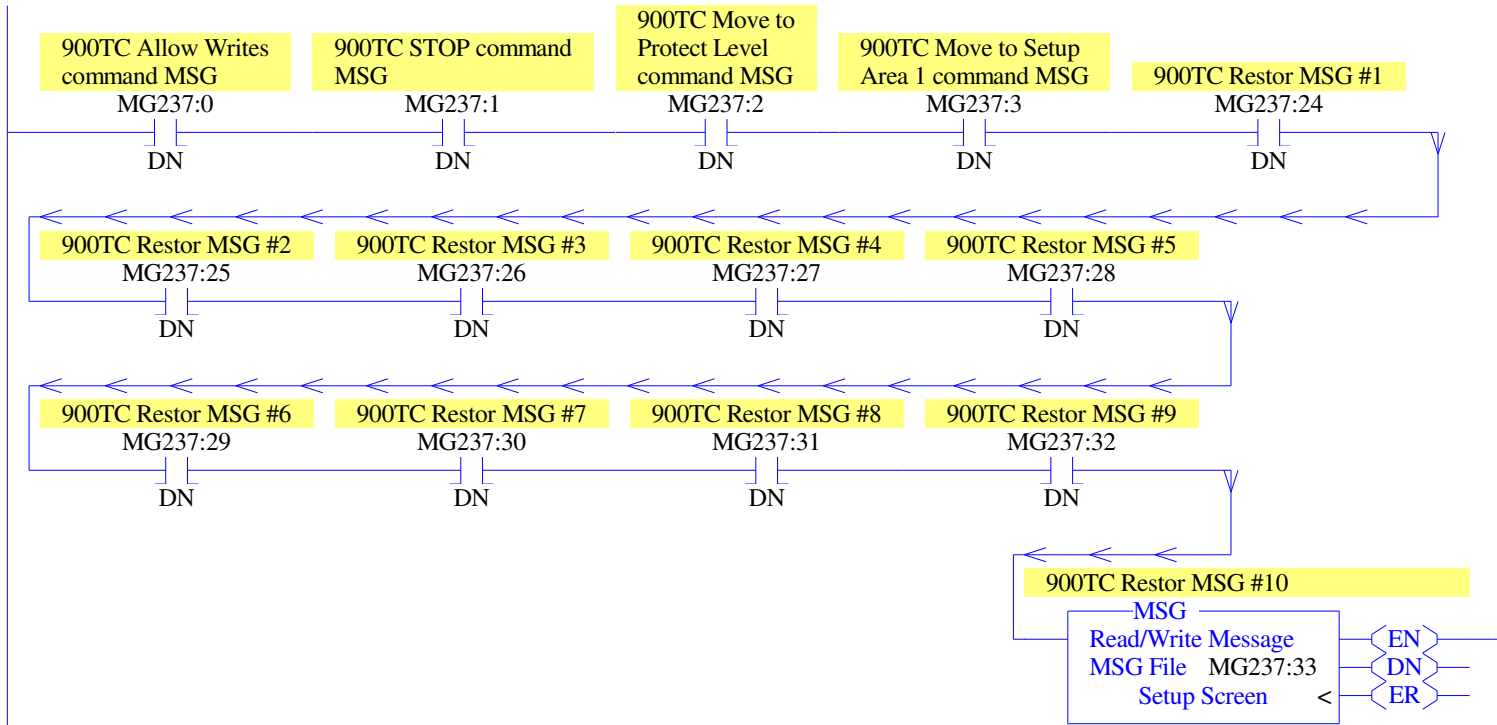
0013



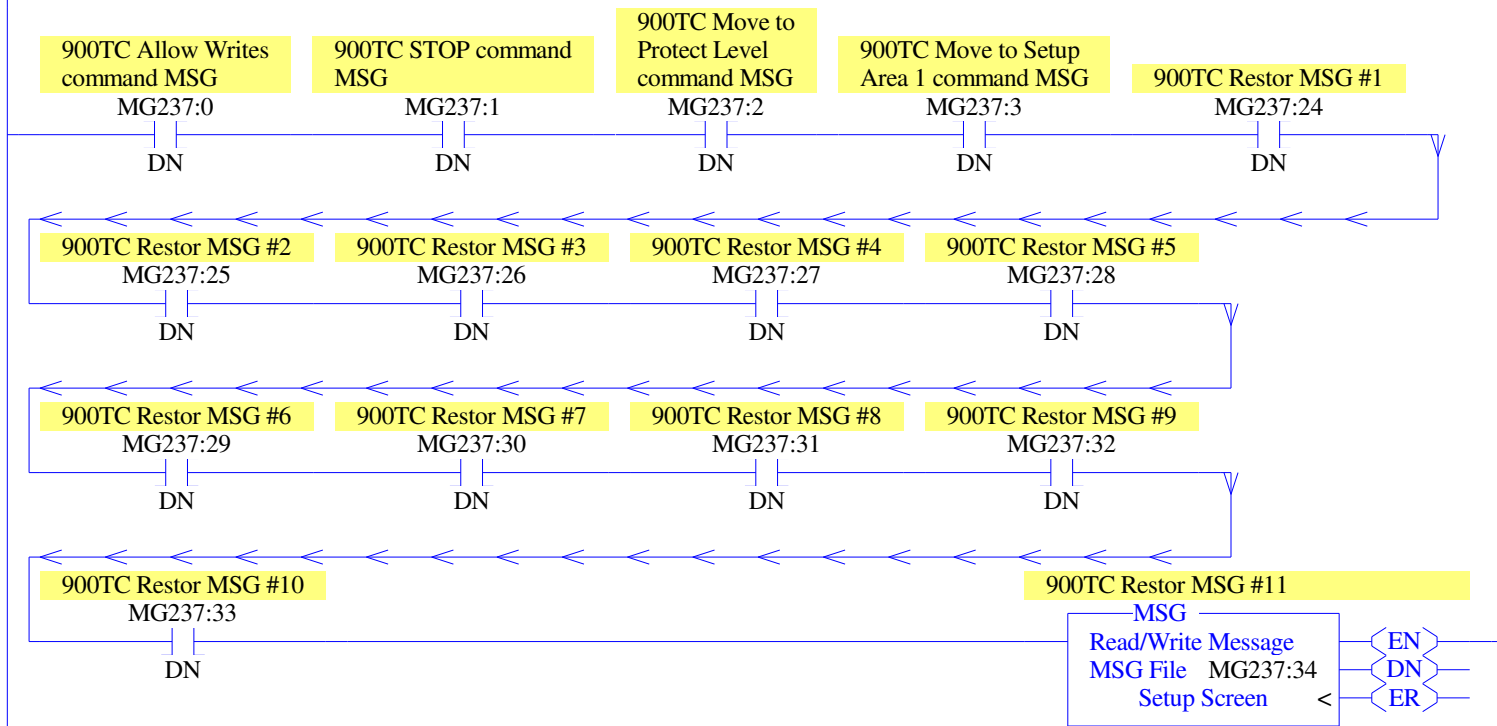
0014



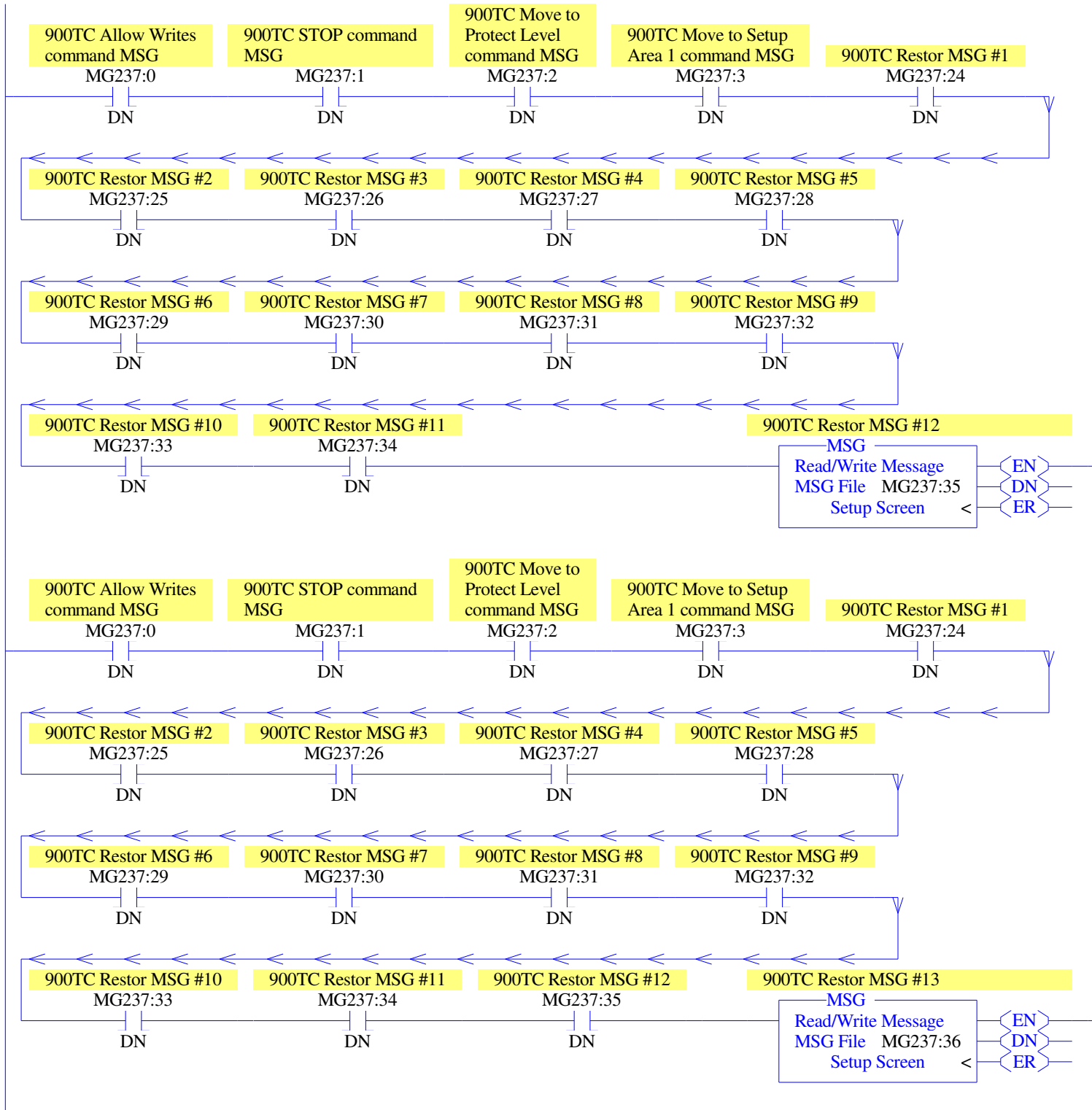
0015



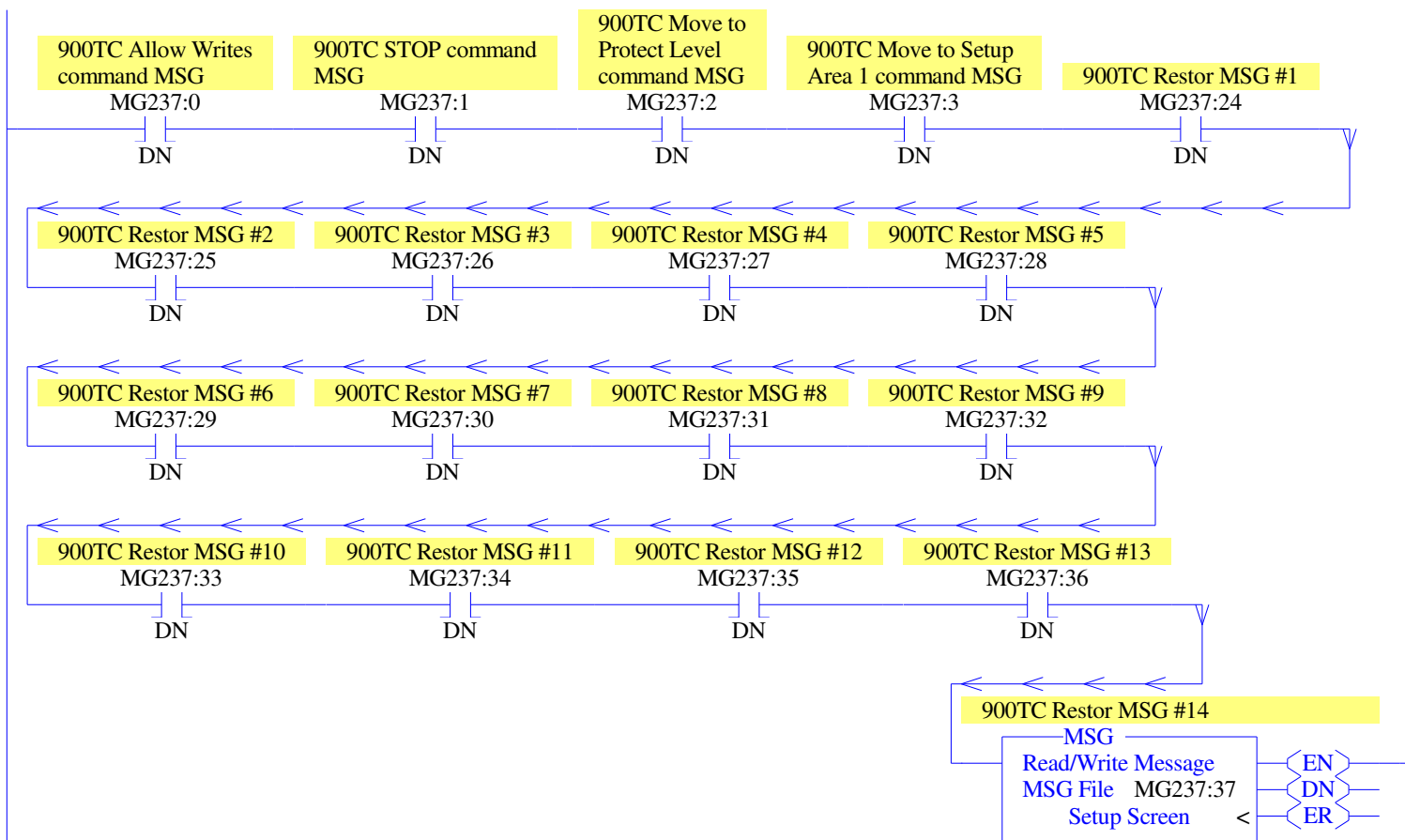
0016



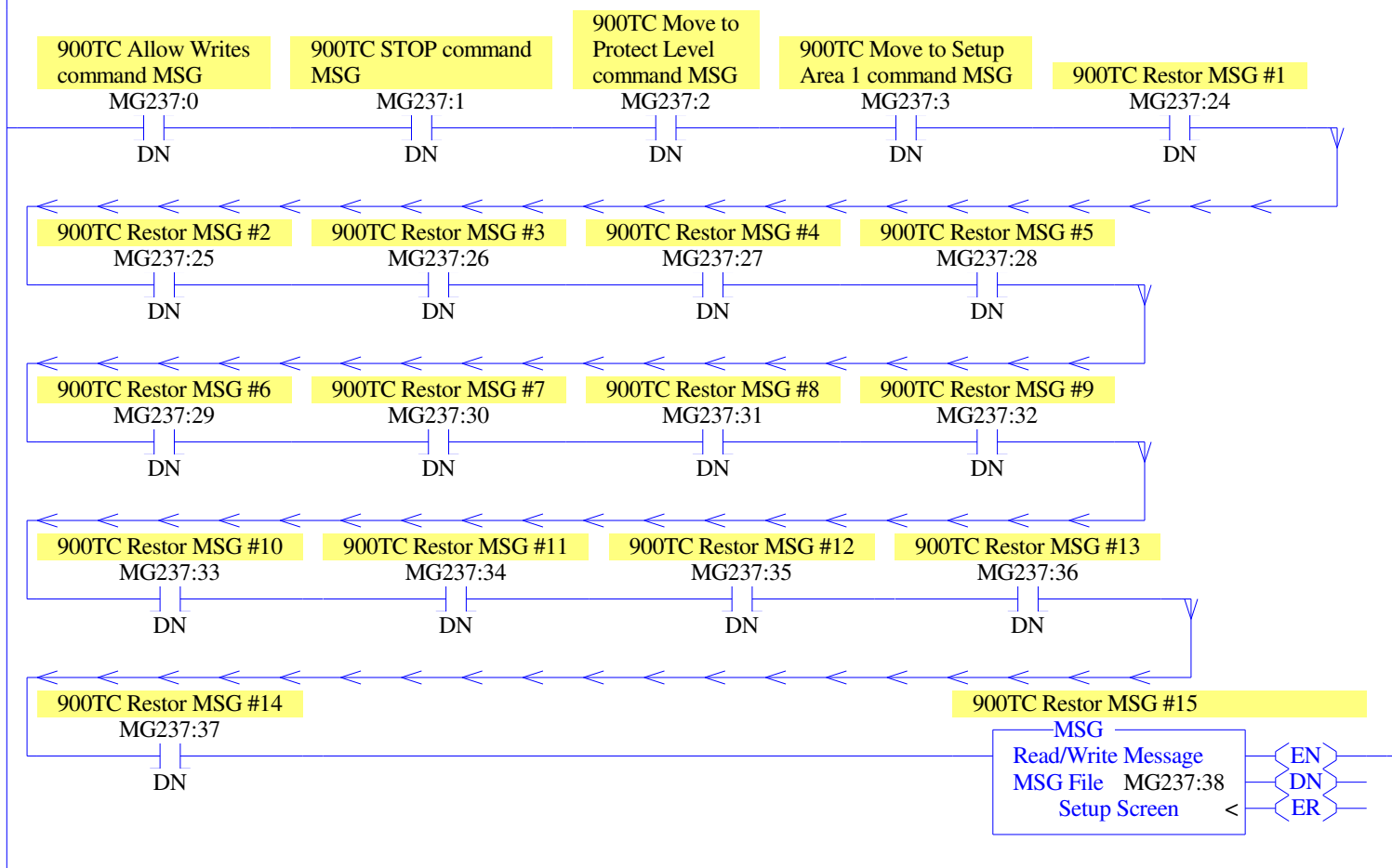
0017



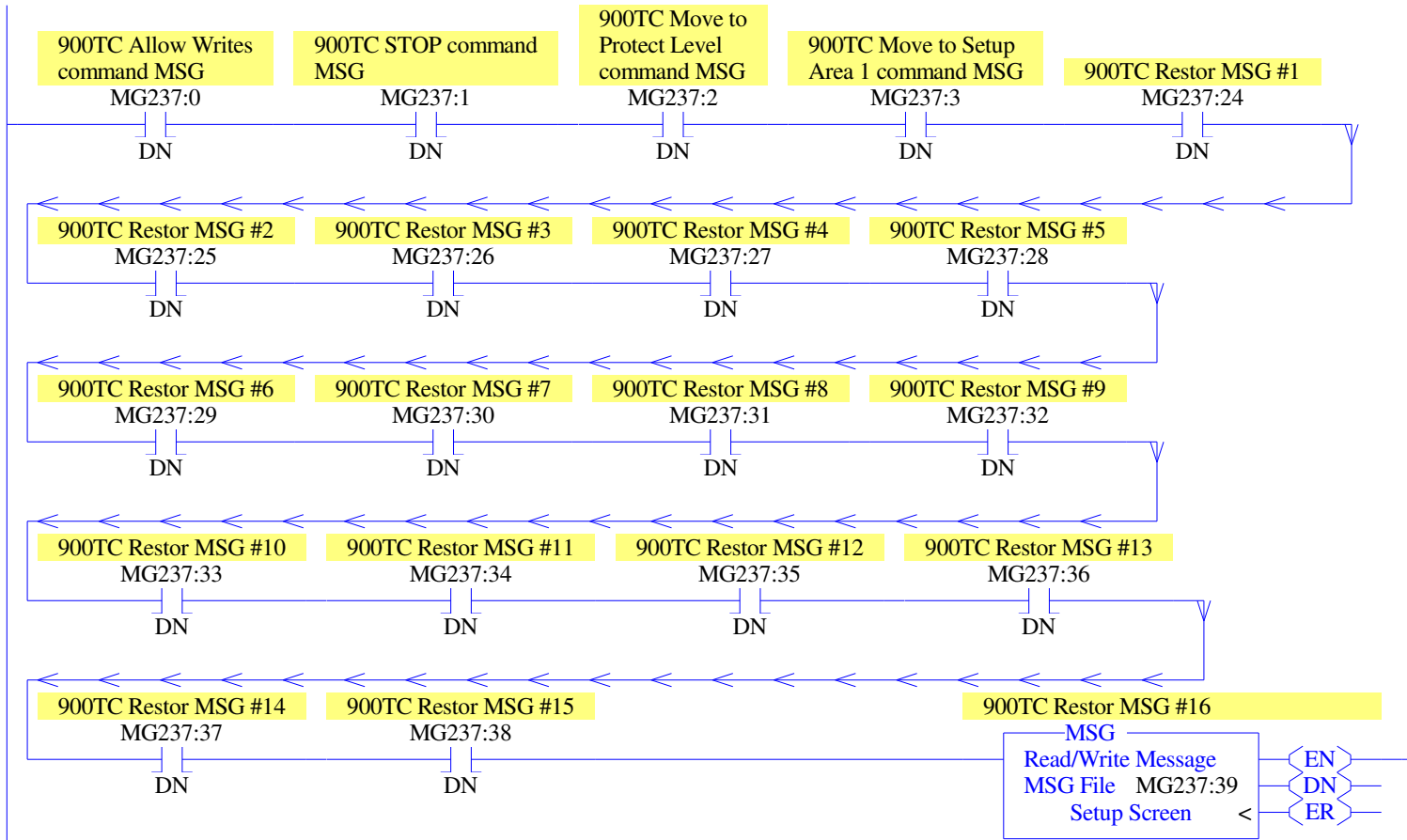
0019



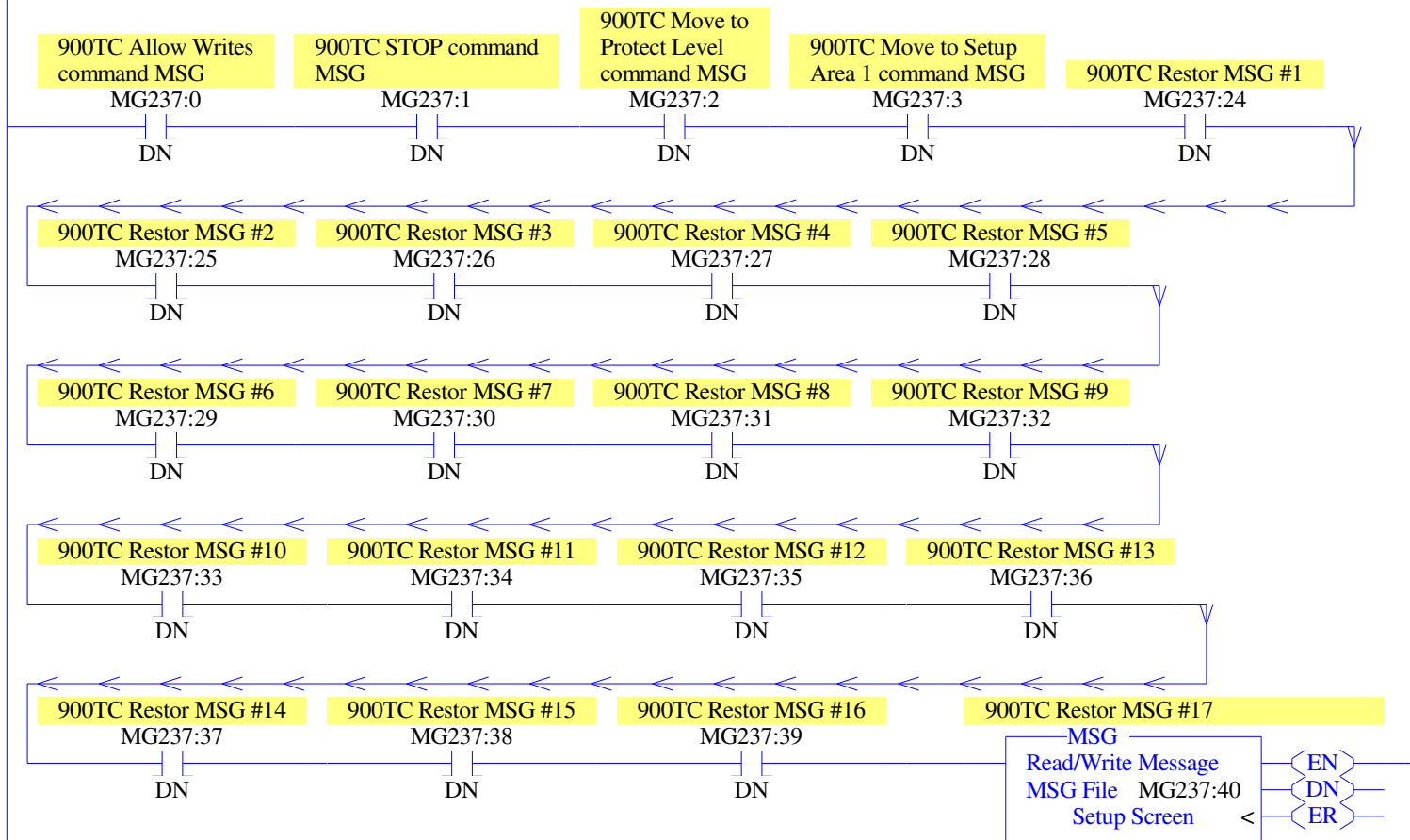
0020



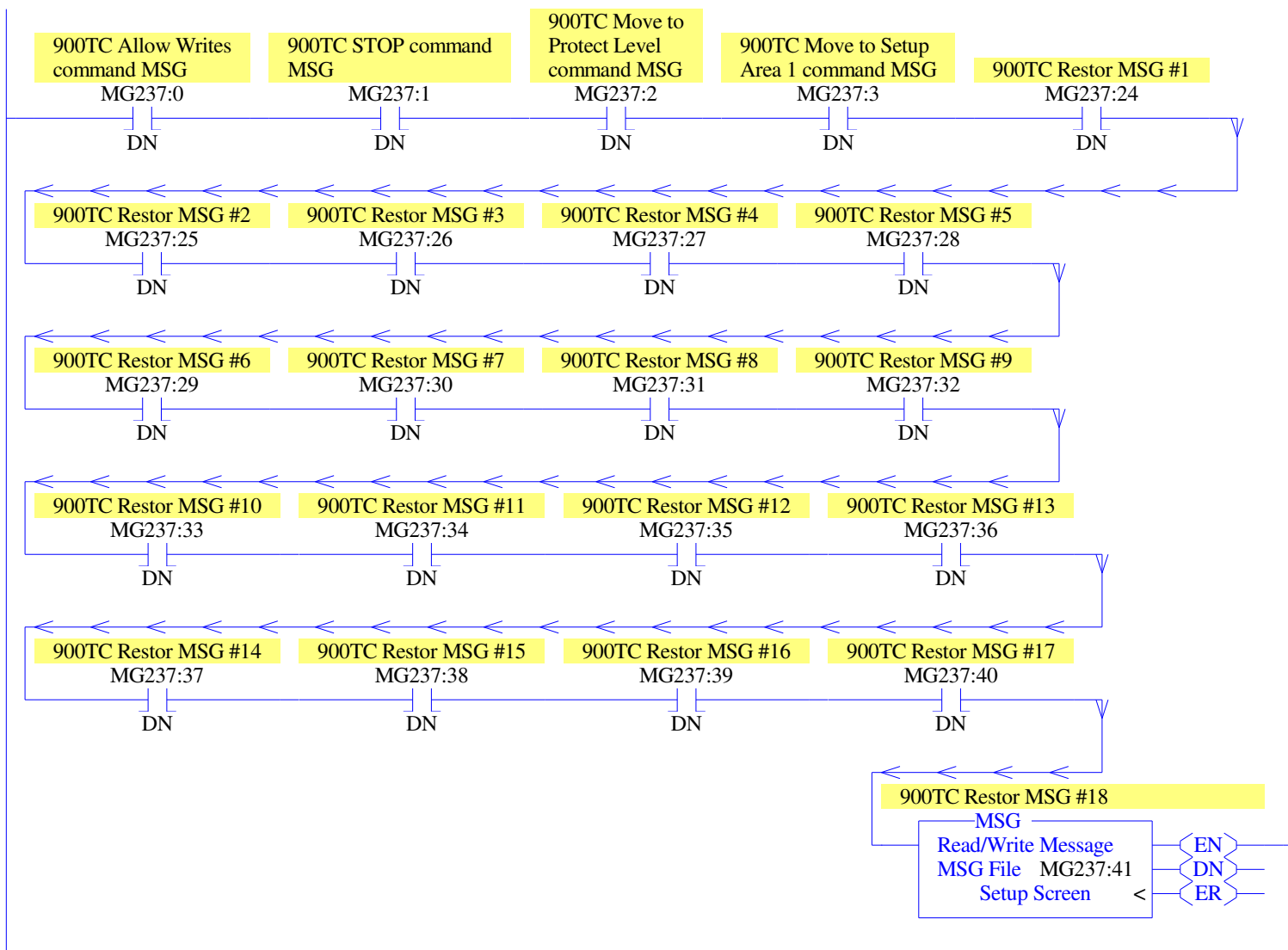
0021



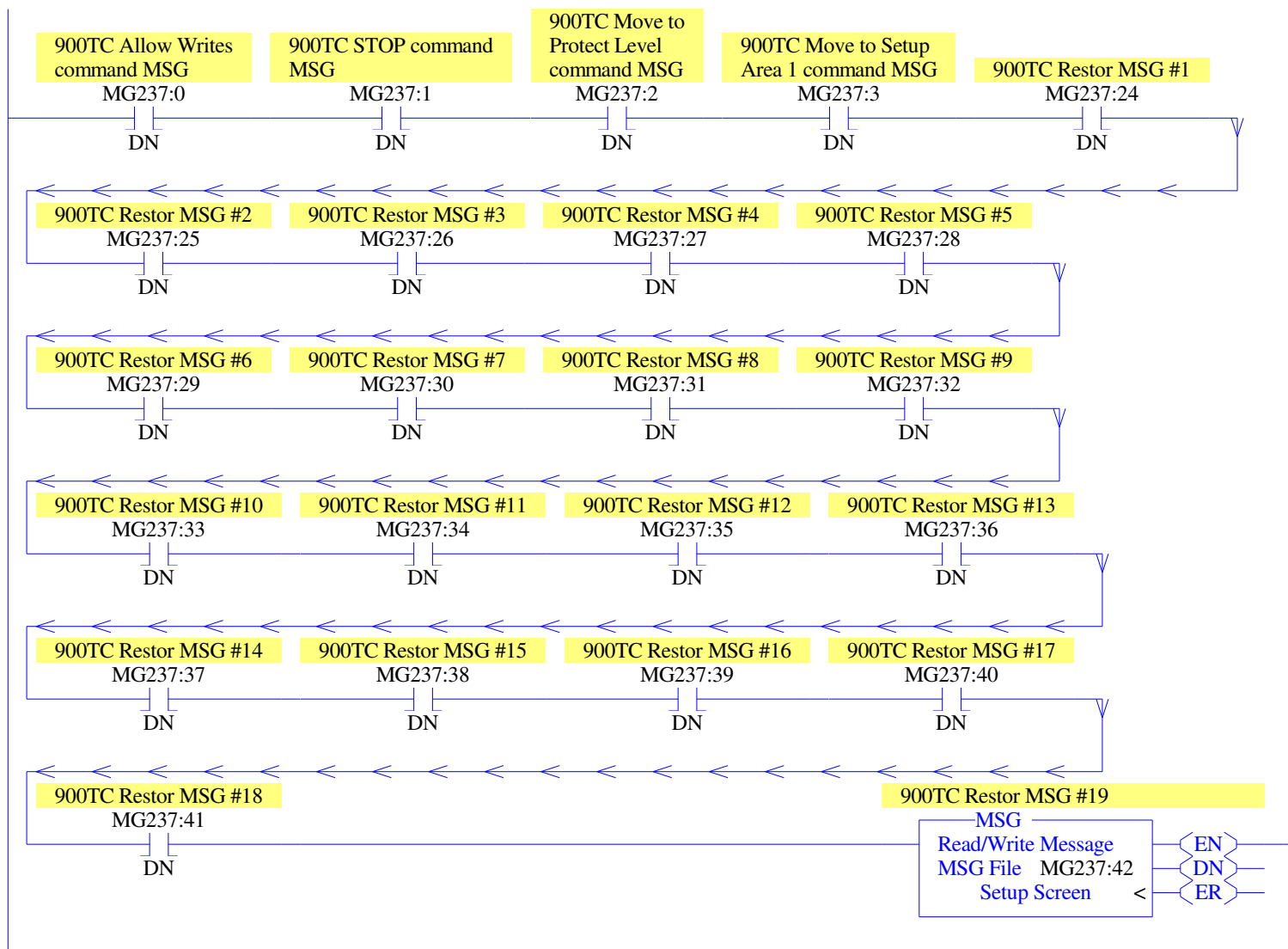
0022



0023

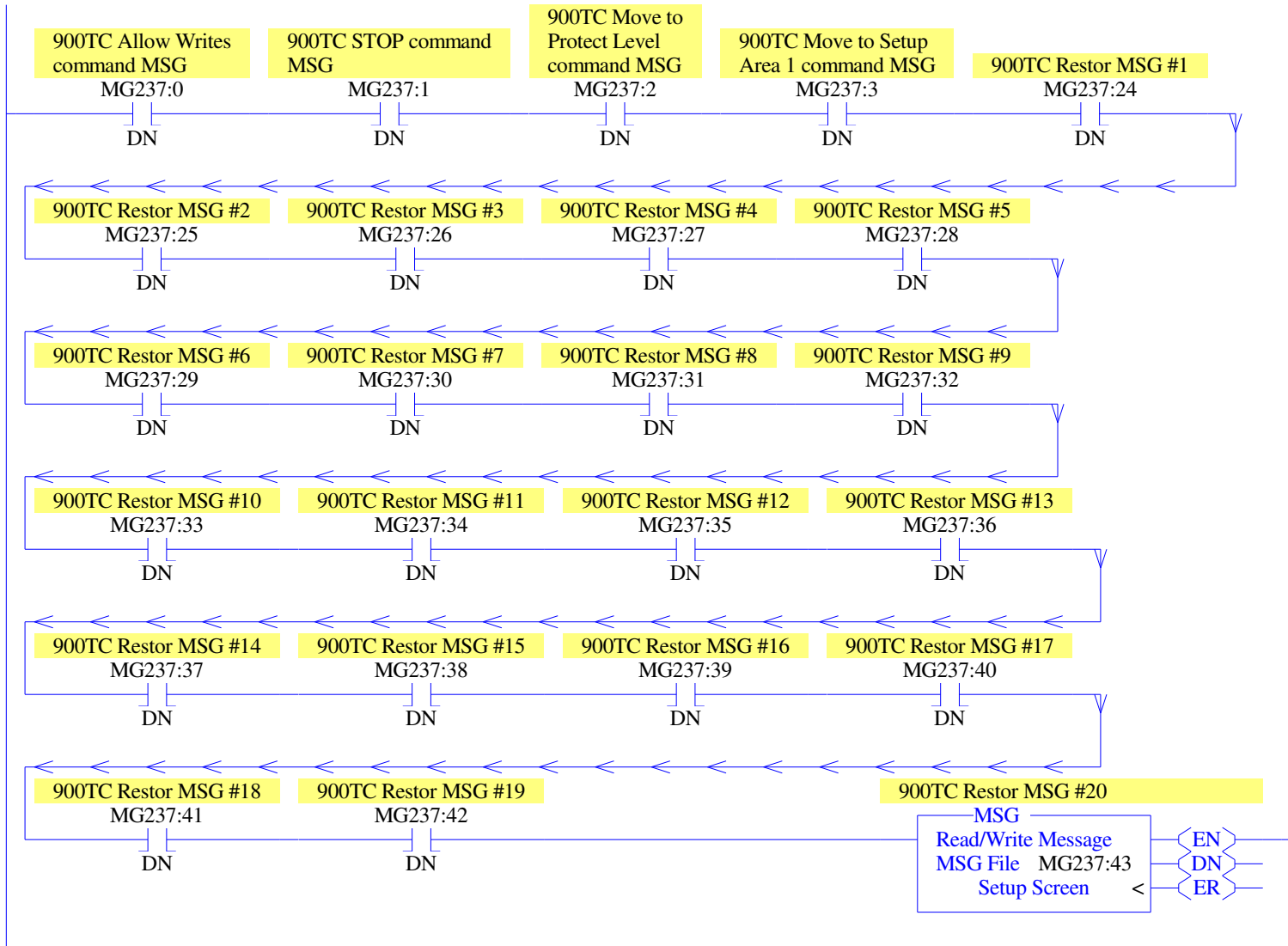


0024

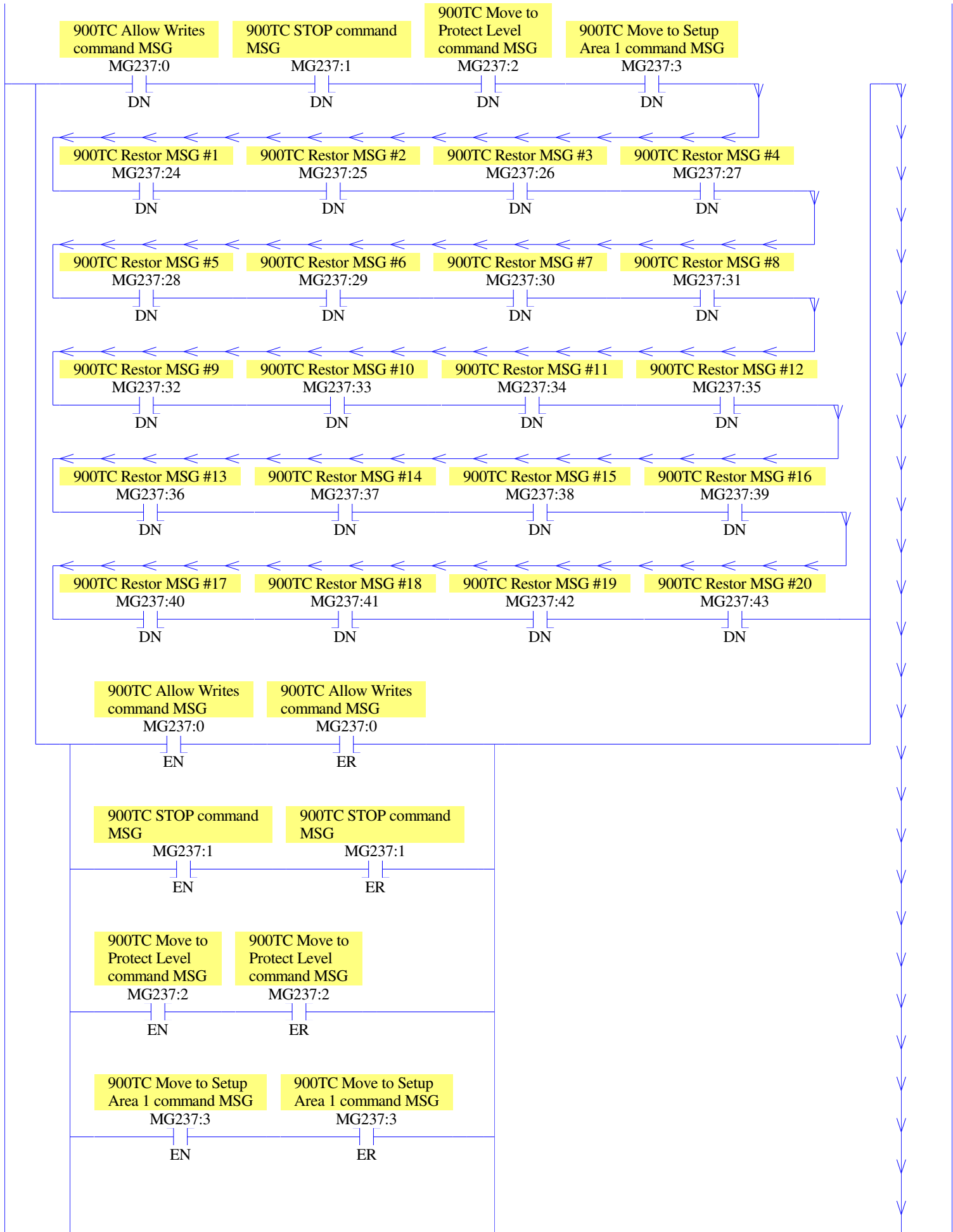


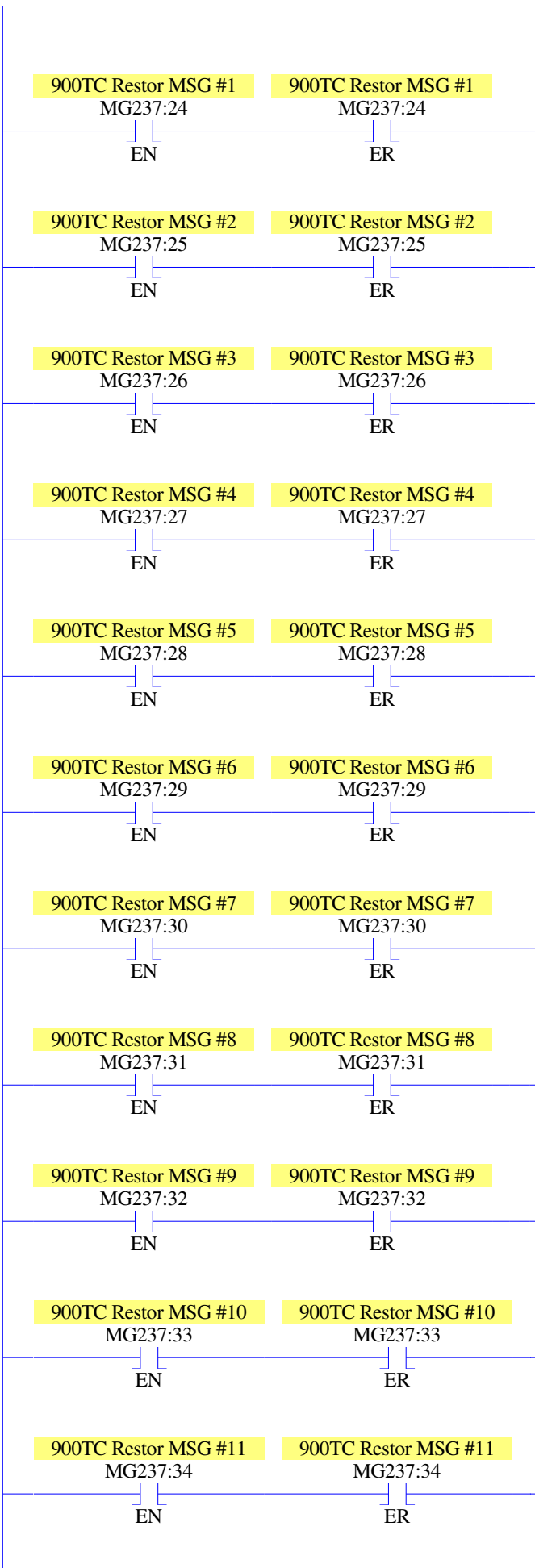


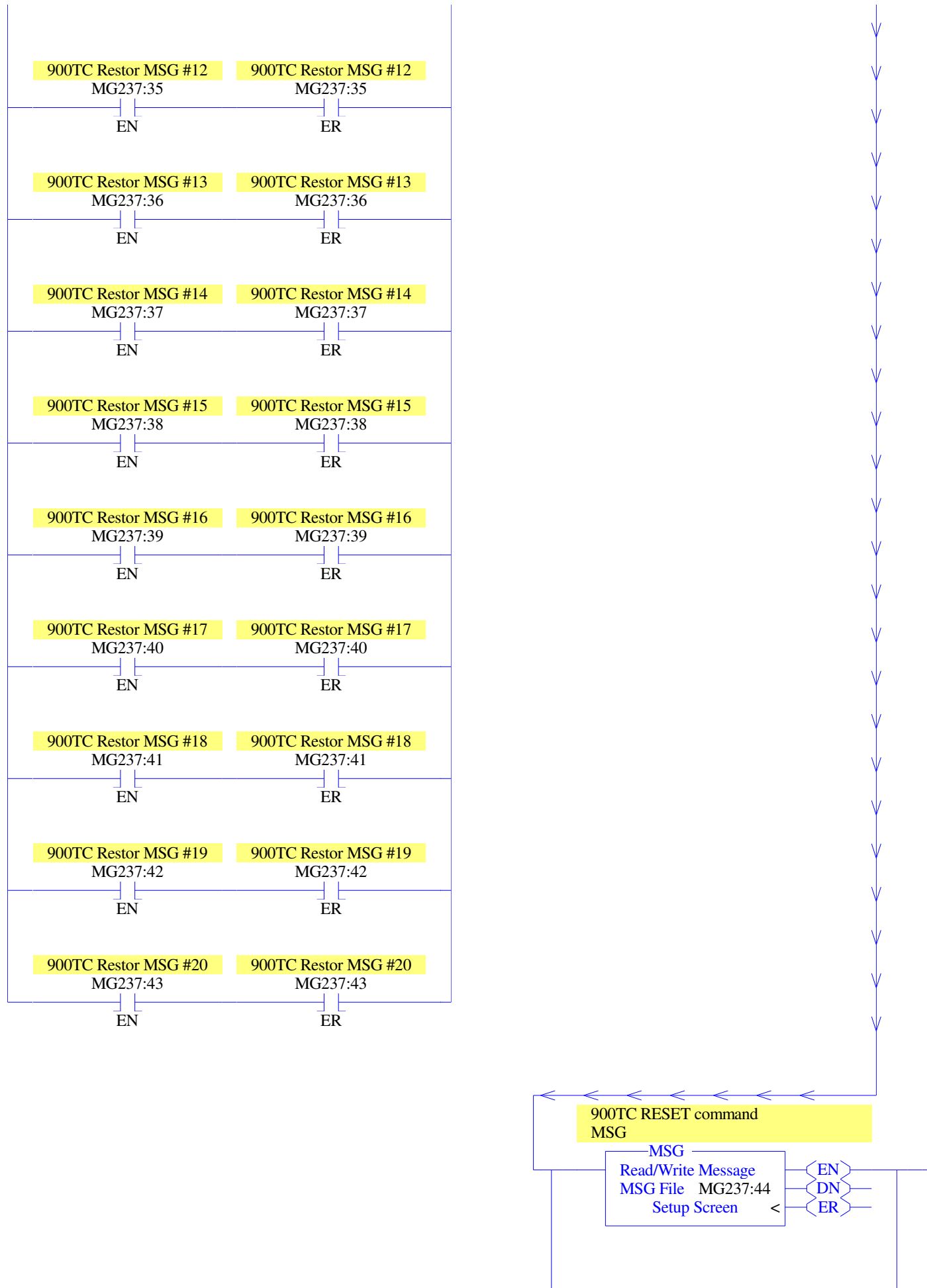
0025



0026







LAD 237 - 900TC RSTR --- Total Rungs in File = 28

Copy of  
Backup/Restore Node  
Address

MOV  
Move  
Source N255:255  
0<  
Dest N255:253  
0<

Restore Node Address

CLR  
Clear  
Dest N255:255  
0<

Backup Node Address

CLR  
Clear  
Dest N255:0  
0<

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

U  
EN

Modbus MSG #2

MG254:2

U  
EN

900TC Allow Writes  
command MSG

MG237:0

U  
EN

END

0027



This is the User Display/LCD subroutine that supports initiating the Parameter Backup & Restore functionality using the ML1100 LCD and keypad. This subroutine assumes that no other subroutines are attempting to use the User Display/LCD - therefore, search and verify that no other LCD instructions are found in the existing ladder logic before copying this subroutine into your controller.

This rung ensures that all of the control bits and words used by this subroutine are reset at every Program to Run transition.

0000

User Display/LCD ESC  
Key Indicator

LCD:0

ESC

First Pass

S:1

15

User Display/LCD OK  
Key Indicator

LCD:0

OK

User Display/LCD ESC  
Key Indicator

LCD:0

ESC

Copy of  
Backup/Restore Node  
Address

CLR

Clear  
Dest

N255:253

0&lt;

LCD Backup/Restore  
Control

CLR

Clear  
Dest

N255:252

0&lt;

Product Family Code

CLR

Clear  
Dest

N255:1

0&lt;

If a value outside the valid range of 0-24 is entered in for the backup node address (N255:0), this rung will clear N255:0.

Backup Node Address

LIM

Limit Test

Low Lim

25

25&lt;

Test

N255:0

0&lt;

High Lim

-1

-1&lt;

Backup Node Address

CLR

Clear  
Dest

N255:0

0&lt;

0001

If a value outside the valid range of 0-24 is entered in for the restore node address (N255:255), this rung will clear N255:255.

Restore Node Address

LIM

Limit Test

Low Lim

25

25&lt;

Test

N255:255

0&lt;

High Lim

-1

-1&lt;

Restore Node Address

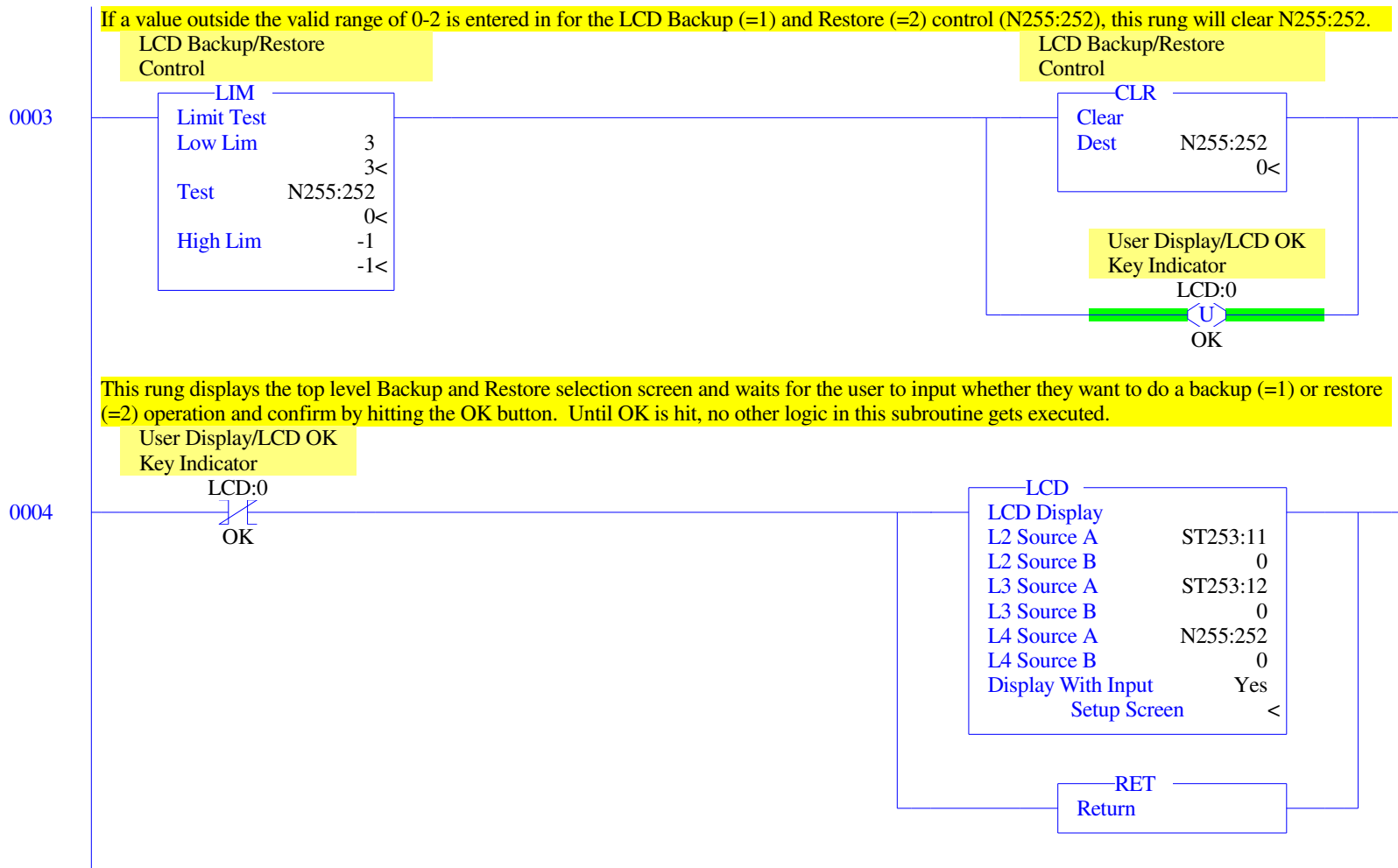
CLR

Clear  
Dest

N255:255

0&lt;

0002



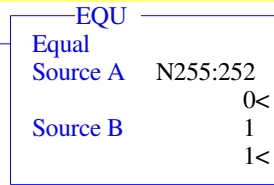


This rung displays one of three drive-independent Backup screens:

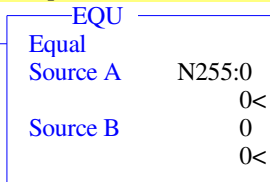
- 1) Backup node address selection screen.
- 2) Node #[N255:0] didn't respond error screen, where N255:0=1-24.
- 3) Node #[N255:0] responded with an unknown product family code error screen, where N255:0=1-24.

LCD Backup/Restore  
Control

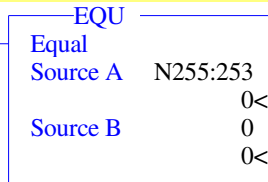
0005



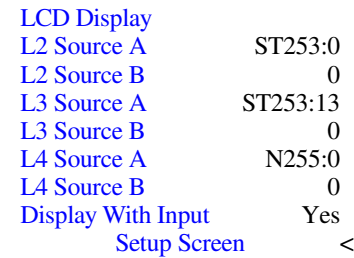
Backup Node Address



Copy of  
Backup/Restore Node  
Address



LCD



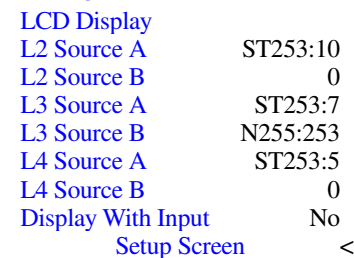
RET  
Return

Modbus MSG - Read  
from Node# [N255:0]

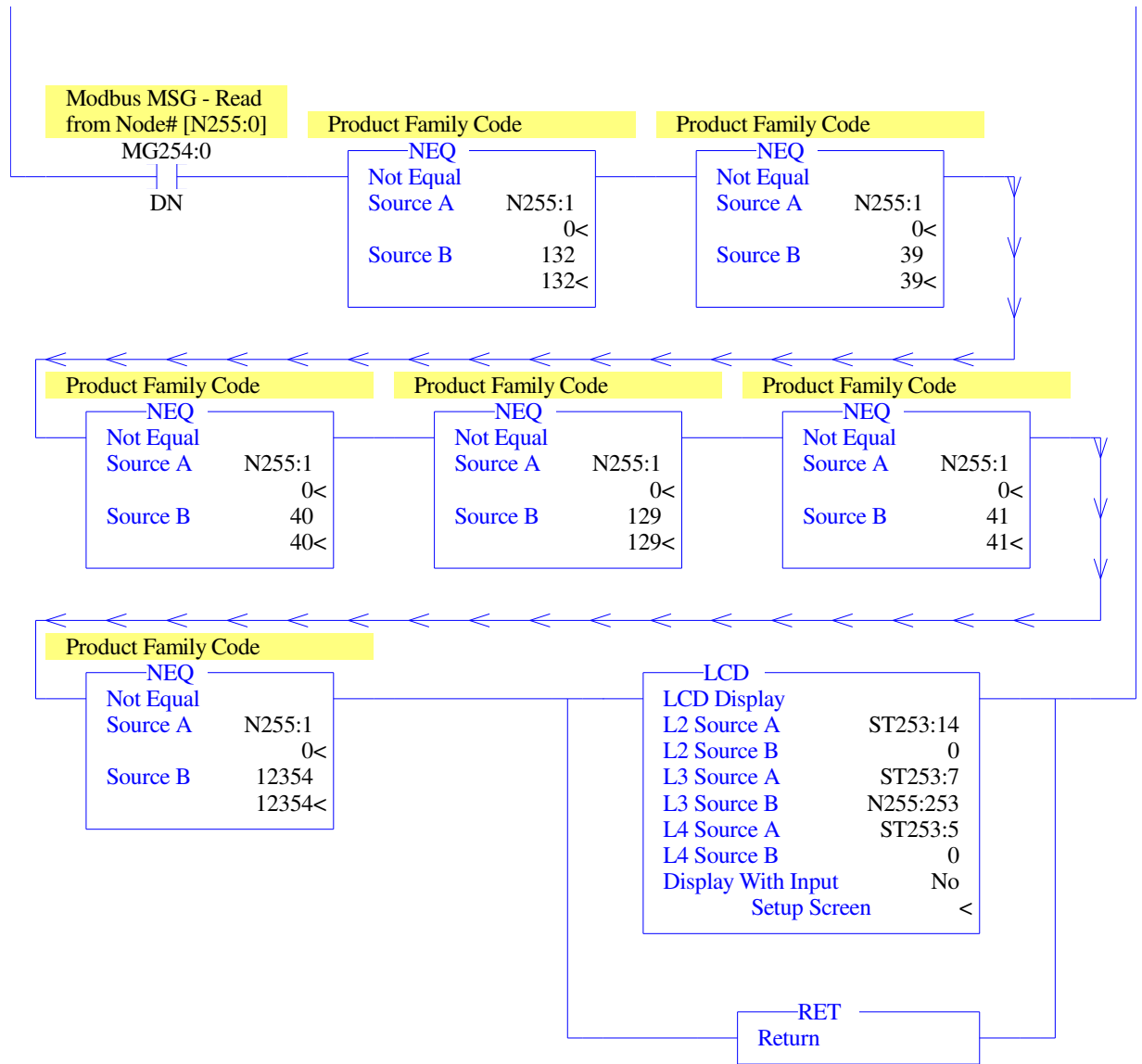
MG254:0

ER

LCD



RET  
Return

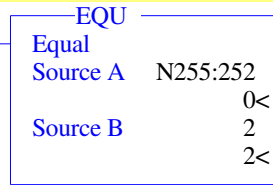


This rung displays one of three device-independent Restore screens:

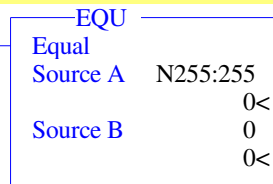
- 1) Restore node address selection screen.
- 2) Restore node didn't respond error screen.
- 3) Restore node responded with an unknown product code number error screen.

LCD Backup/Restore  
Control

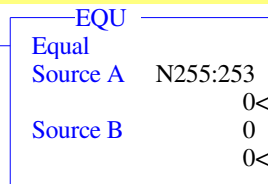
0006



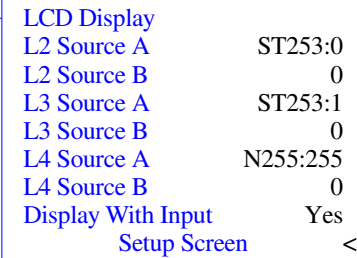
Restore Node Address



Copy of  
Backup/Restore Node  
Address



LCD



RET  
Return

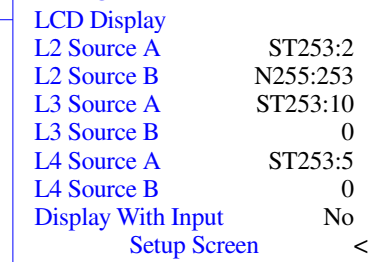
Modbus MSG - Read  
from Node to be  
Restored

MG254:1  
ER

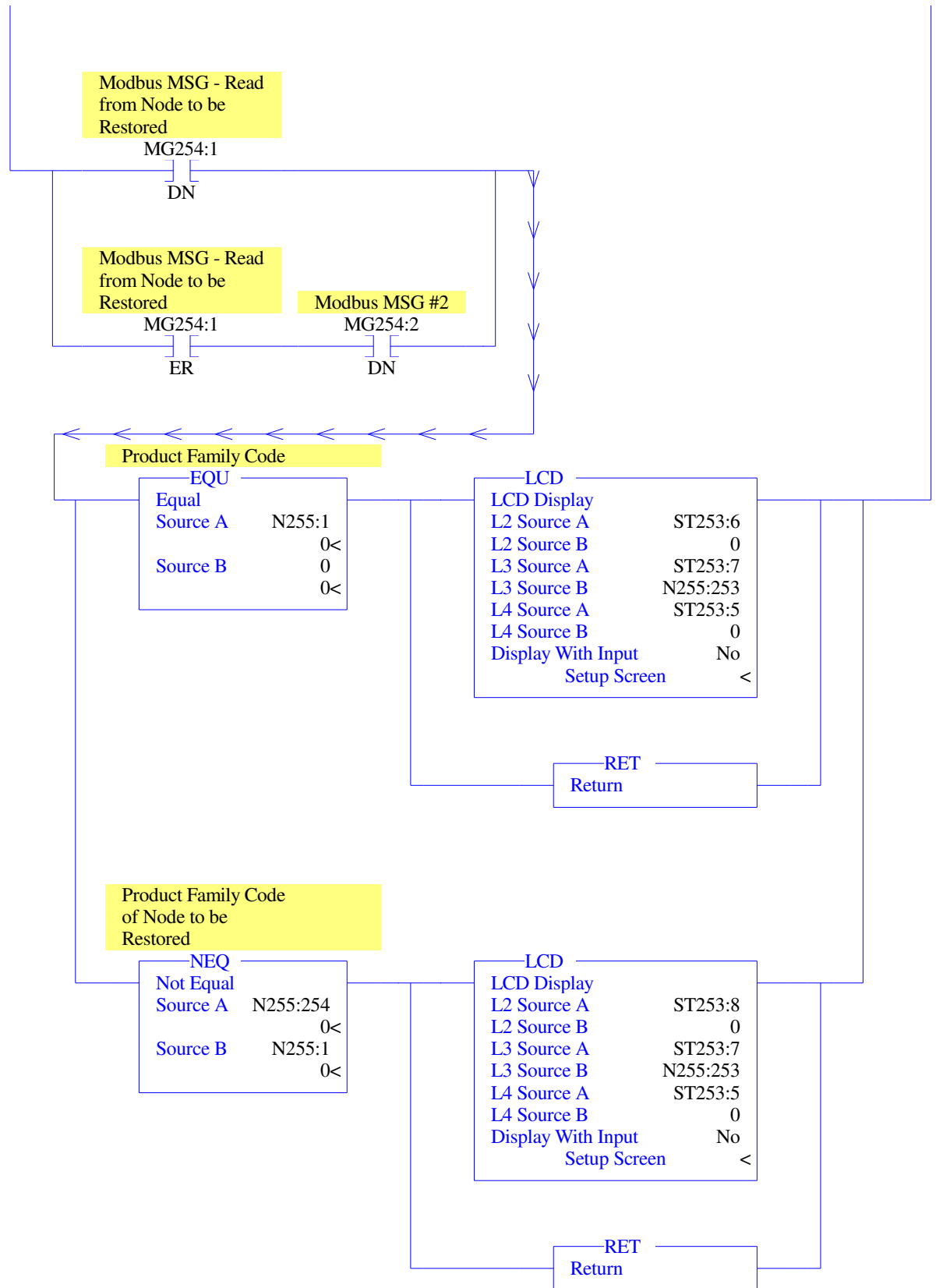
Modbus MSG #2

MG254:2  
ER

LCD



RET  
Return



The next two rungs are specific to Bulletin 900-TC and may be deleted if this device is not installed on the network. They display the screens indicating whether the attempted backup or restore to a particular 900-TC was successful or whether it failed.

0007

Product Family Code

LCD Backup/Restore  
Control

EQU

Equal	N255:1
Source A	0<
Source B	12354
	12354<

EQU

Equal	N255:252
Source A	0<
Source B	1
	1<

Modbus MSG - Read  
from Node# [N255:0]

MG254:0

DN

900TC Backup MSG #1

MG237:4

DN

900TC Backup MSG #2

MG237:5

DN

900TC Backup MSG #3

MG237:6

DN

900TC Backup MSG #4

MG237:7

DN

900TC Backup MSG #5

MG237:8

DN

900TC Backup MSG #6

MG237:9

DN

900TC Backup MSG #7

MG237:10

DN

900TC Backup MSG #8

MG237:11

DN

900TC Backup MSG #9

MG237:12

DN

900TC Backup MSG #10

MG237:13

DN

900TC Backup MSG #11

MG237:14

DN

900TC Backup MSG #12

MG237:15

DN

900TC Backup MSG #13

MG237:16

DN

900TC Backup MSG #14

MG237:17

DN

900TC Backup MSG #15

MG237:18

DN

900TC Backup MSG #16

MG237:19

DN

900TC Backup MSG #17

MG237:20

DN

900TC Backup MSG #18

MG237:21

DN

900TC Backup MSG #19

MG237:22

DN

900TC Backup MSG #20

MG237:23

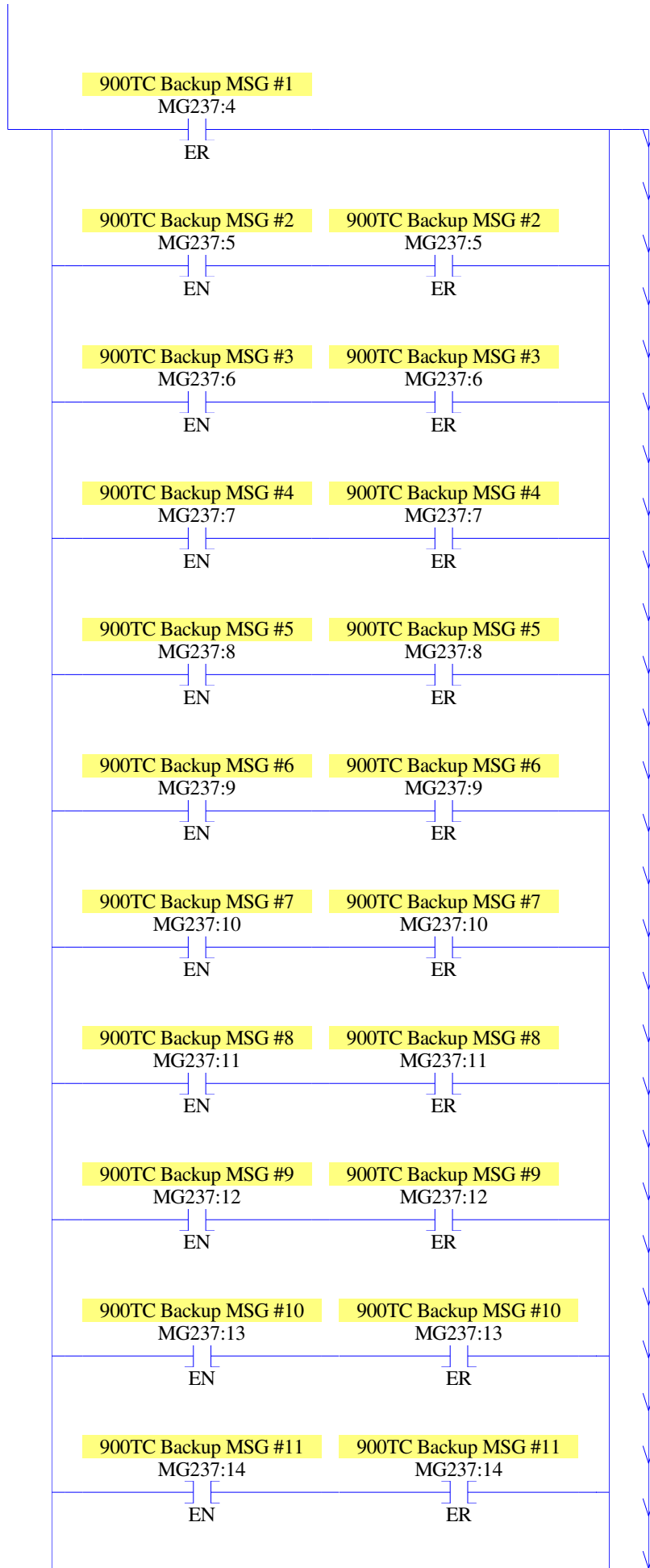
DN

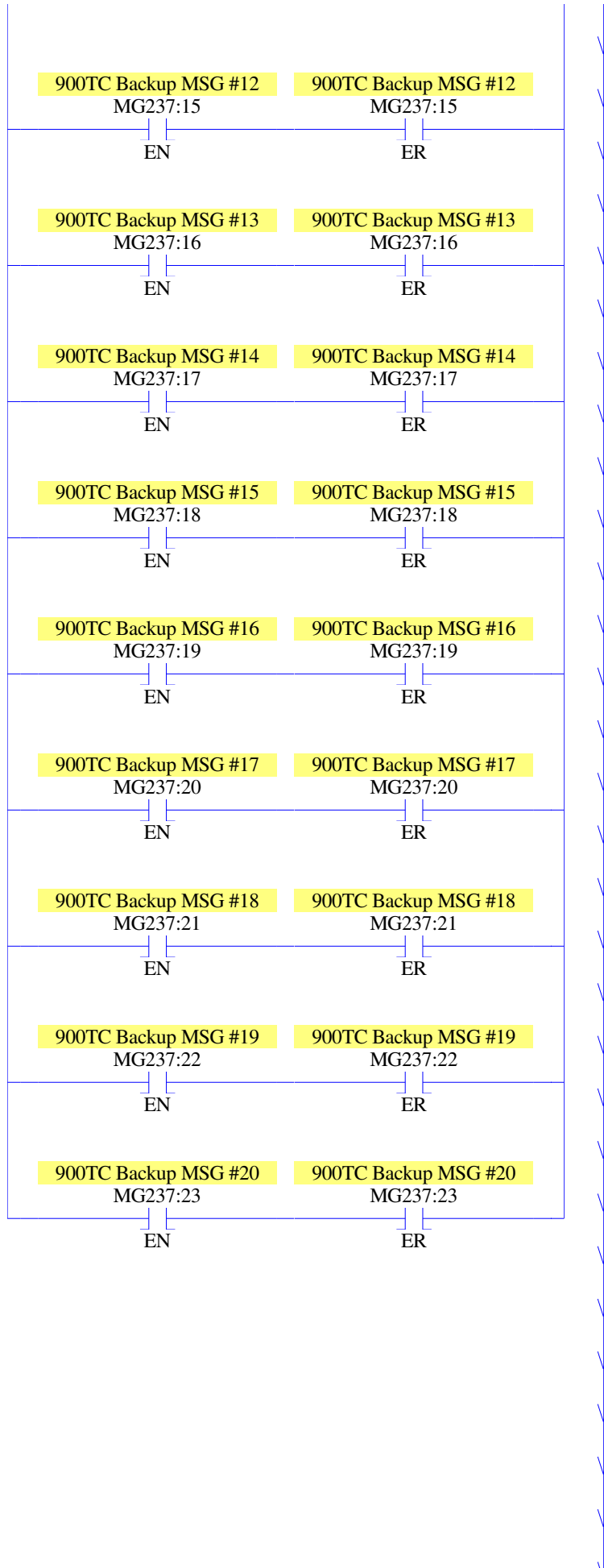
LCD

LCD Display	
L2 Source A	ST253:16
L2 Source B	0
L3 Source A	ST253:7
L3 Source B	N255:253
L4 Source A	ST253:5
L4 Source B	0
Display With Input	No
Setup Screen	<

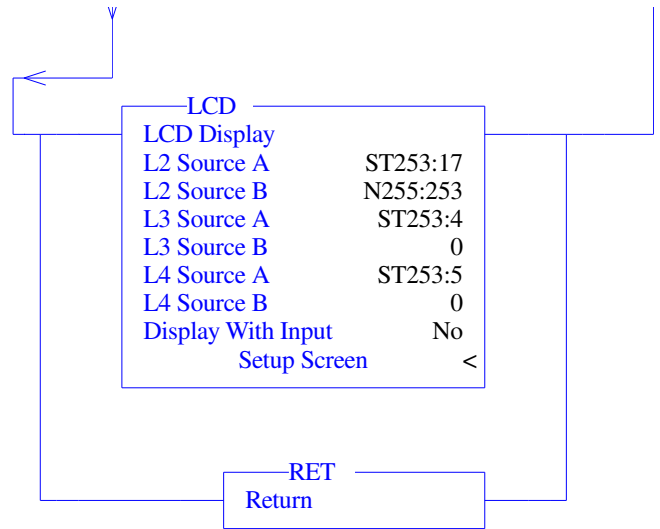
RET

Return

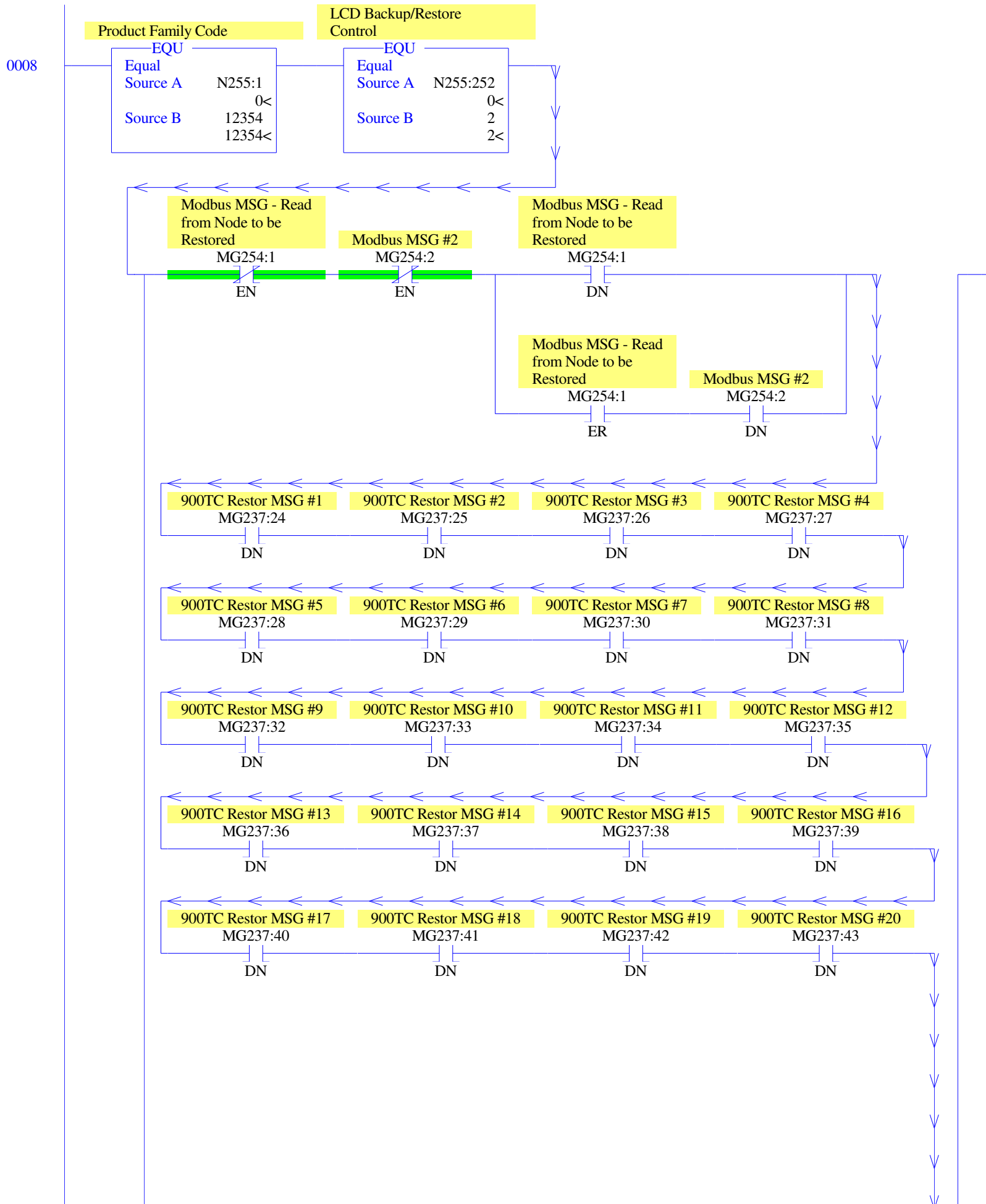


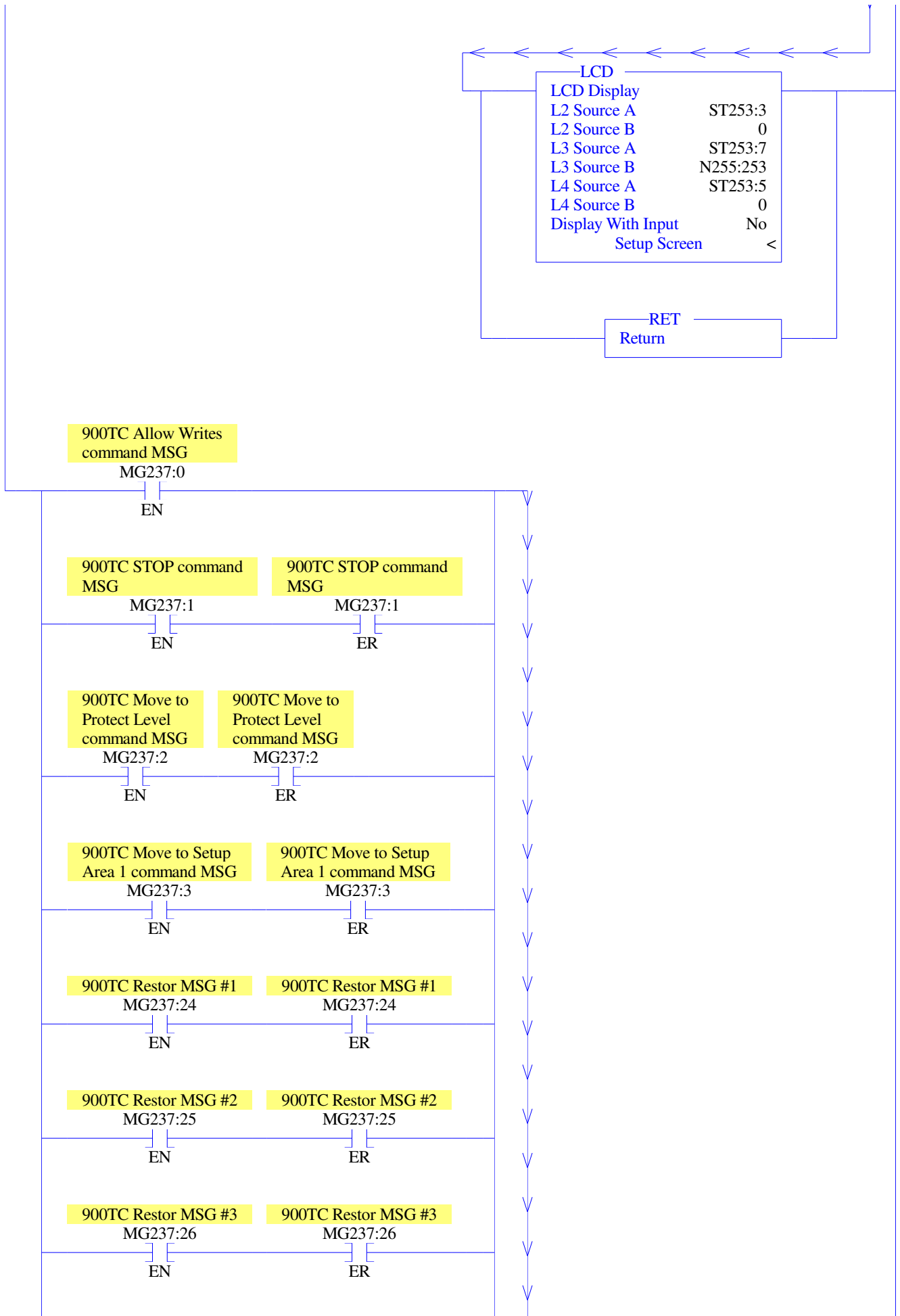


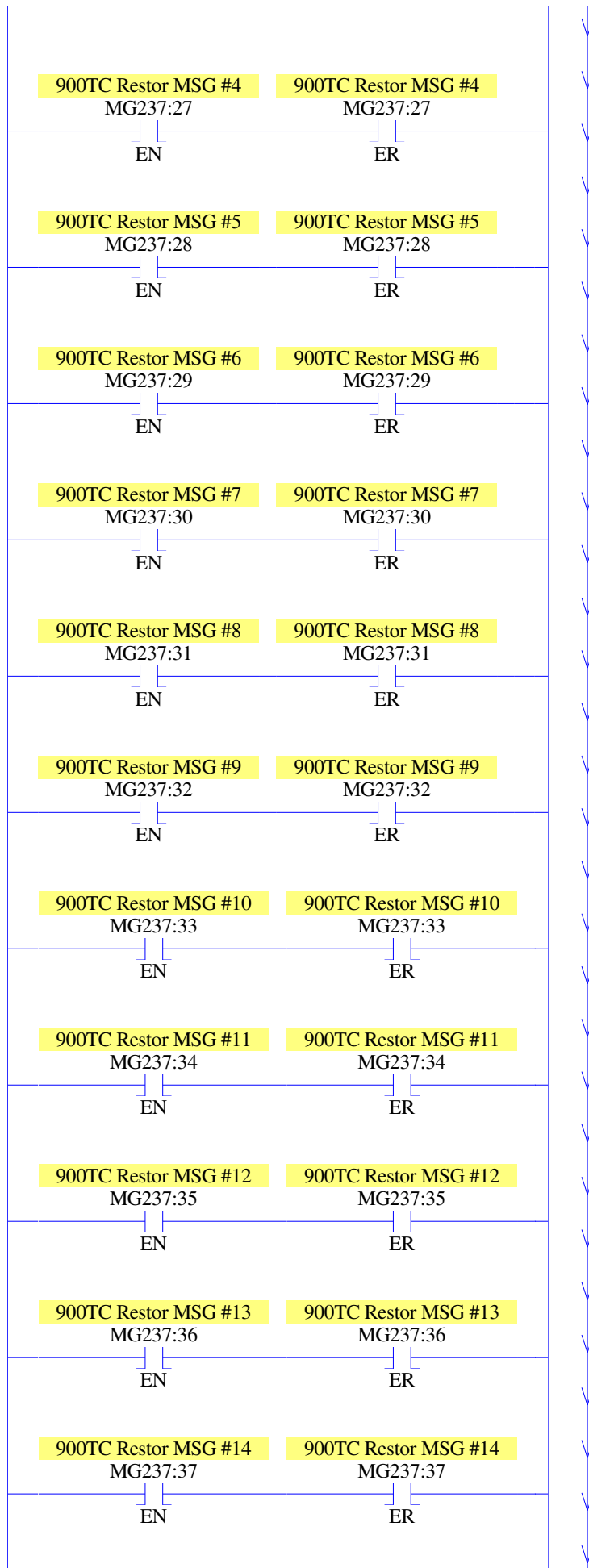
LAD 252 - PB&amp;R LCD --- Total Rungs in File = 10

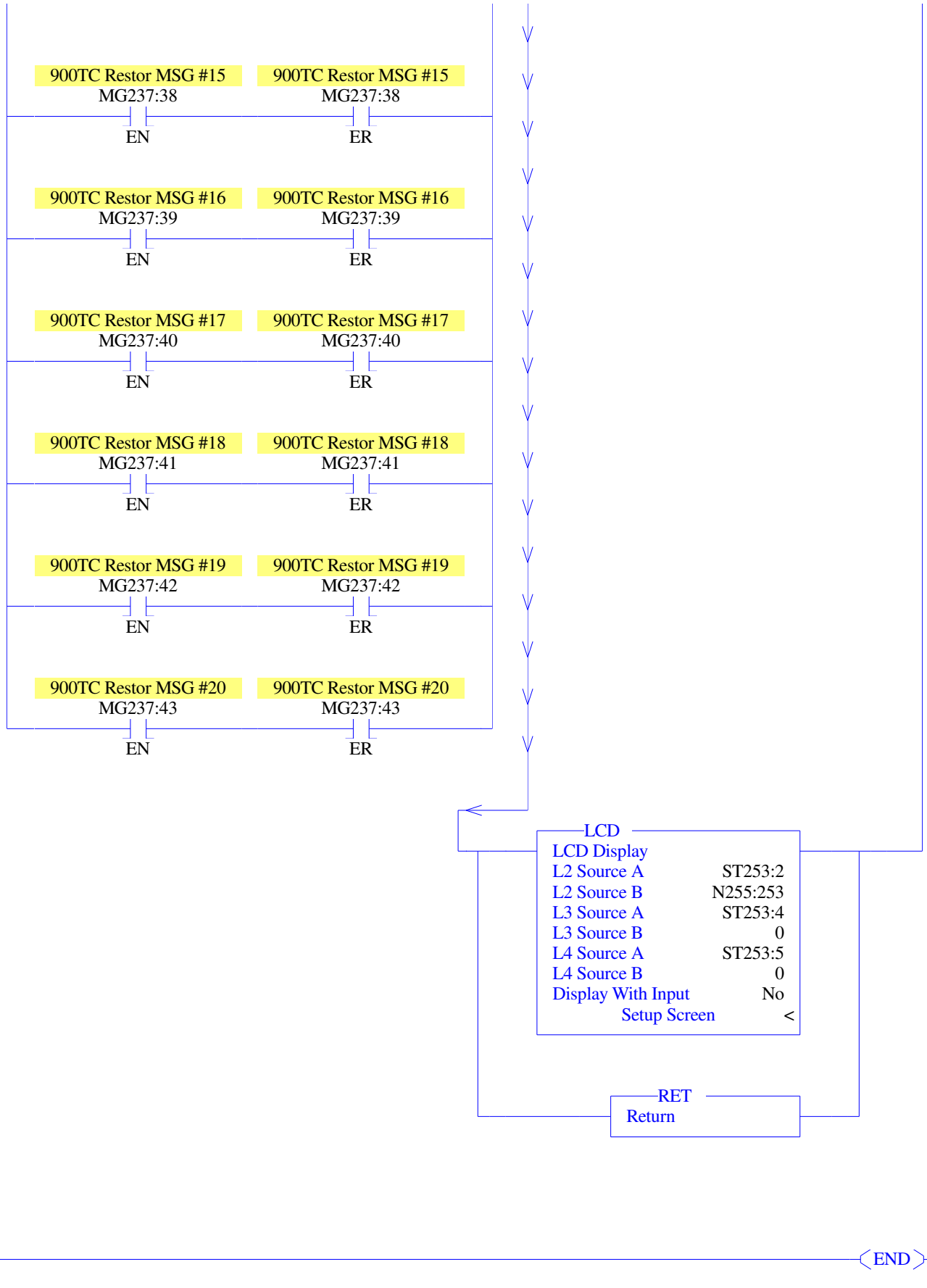












This is the main Modbus Device Parameter Restore subroutine.

This rung gets executed for one scan only at the beginning of a Restore operation. It clears out file N255 and loads in the Parameter file stored as Recipe Number x, where x equals the Node # stored in N255:255. Each Recipe File Number holds 32 words of Recipe Number x:

Recipe File Number 0: N255:0-31

Recipe File Number 1: N255:32-63

Recipe File Number 2: N255:64-95

Recipe File Number 3: N255:96-127

Recipe File Number 4: N255:128-159

Recipe File Number 5: N255:160-191

Recipe File Number 6: N255:192-223

Recipe File Number 7: N255:224-246

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

EN

Backup Node Address

FLL

Fill File	
Source	0
Dest	#N255:0
Length	128

FLL

Fill File	
Source	0
Dest	#N255:128
Length	124

RCP

Recipe	
Recipe File Number	0
Recipe Number	N255:255
File Operation	Load

RCP

Recipe	
Recipe File Number	1
Recipe Number	N255:255
File Operation	Load

RCP

Recipe	
Recipe File Number	2
Recipe Number	N255:255
File Operation	Load

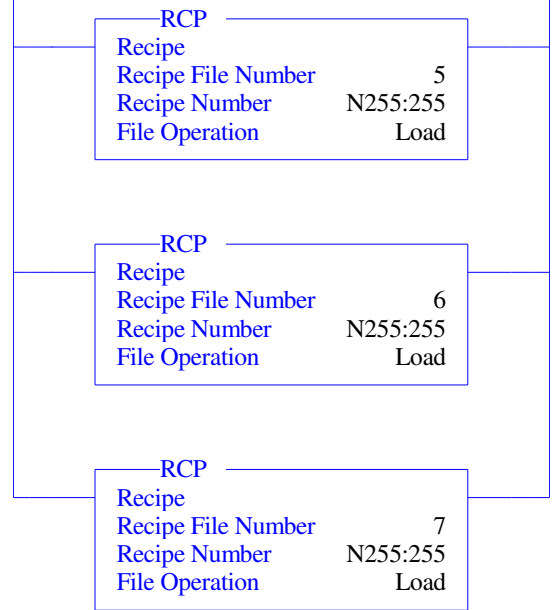
RCP

Recipe	
Recipe File Number	3
Recipe Number	N255:255
File Operation	Load

RCP

Recipe	
Recipe File Number	4
Recipe Number	N255:255
File Operation	Load

0000



This rung sets up the message instruction to read from the drive at its assigned Modbus address.  
This rung must be located before the MG254:1 message instruction rung.

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

EN

MSG Target Node#

MOV

Move

Source N255:255

Dest MG254:1.NOD

0< 99<

Modbus MSG - Read  
from Node to be  
Restored

MOV

Move

Source 9217

Dest MG254:1.TFN

9217< 9217<

Restore Node Address

LIM

Limit Test

Low Lim 17

Test N255:255

High Lim 24

17< 0< 24<

This message instruction attempts to read the Product Family Code from the Restore Node#.

Modbus MSG - Read  
from Node to be  
Restored

MSG

Read/Write Message

MSG File MG254:1

Setup Screen <

EN  
DN  
ER

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

DN

Modbus MSG - Read  
from Node to be  
Restored

MG254:1

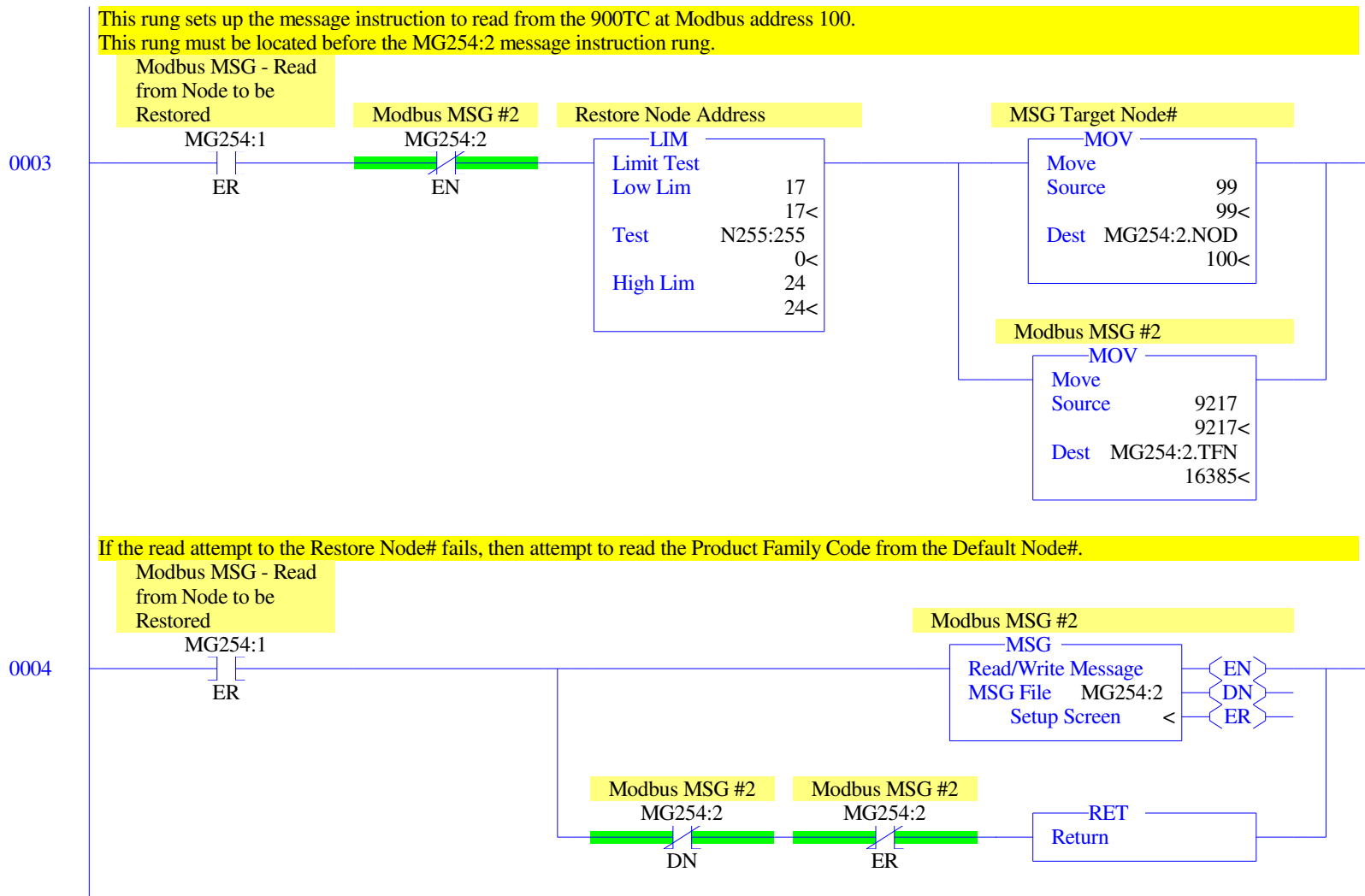
ER

RET

Return

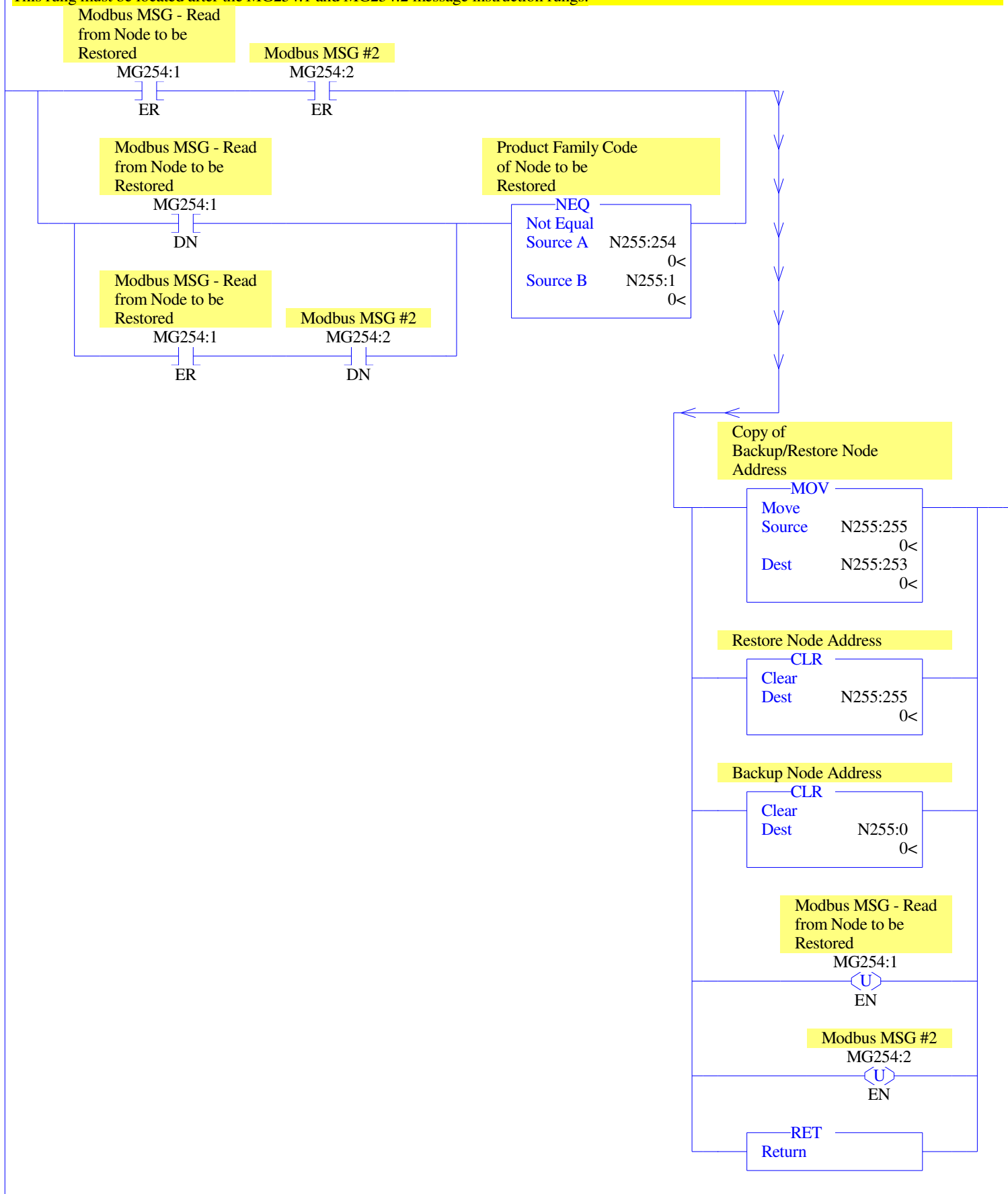
0001

0002

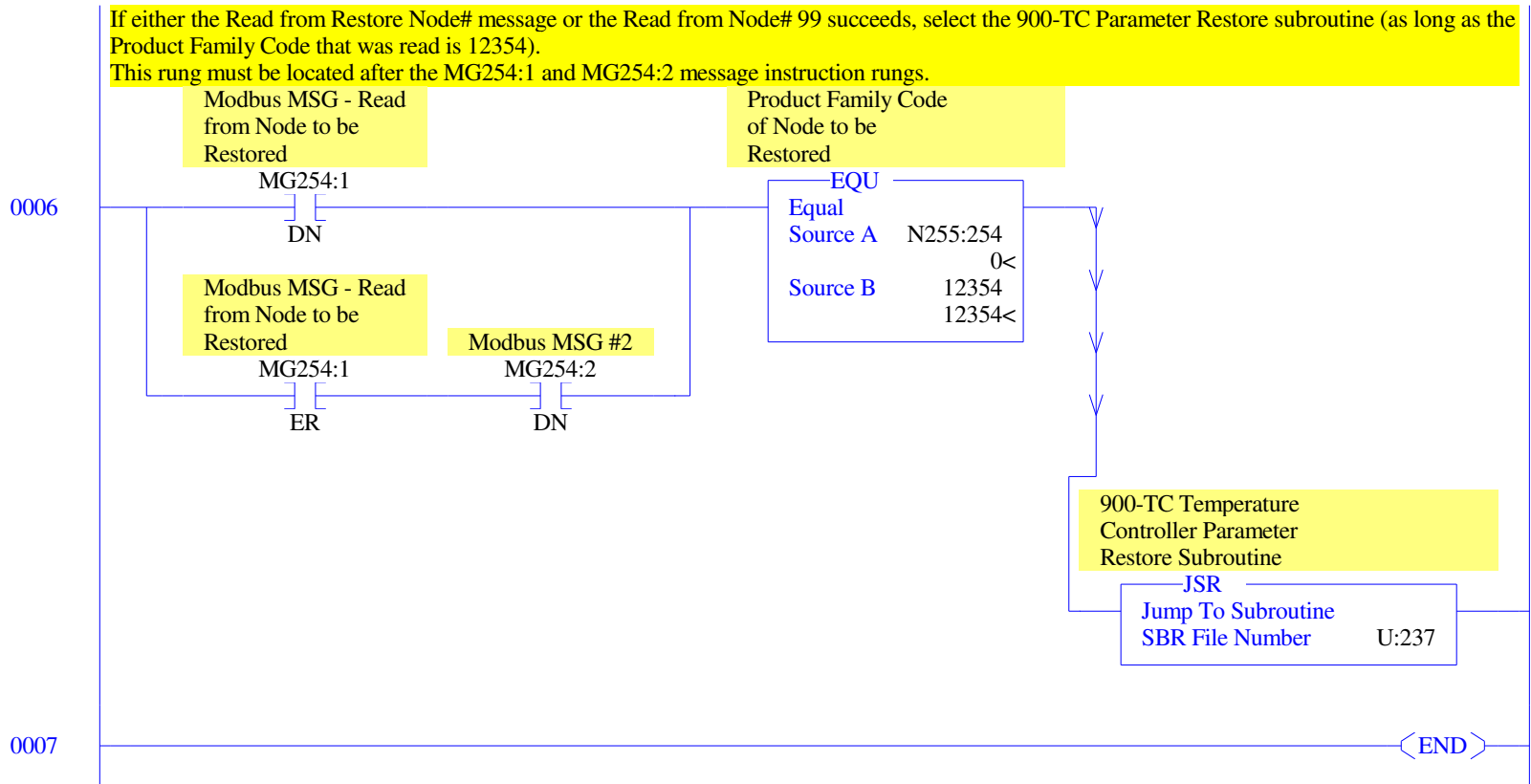


If both read messages fail, or if the Product Family Code successfully read by either message doesn't match the Product Family Code saved in the Recipe, this rung copies the Restore node # into N255:253, so that it can be displayed as part of the LCD Restore error screen, clears the Backup and Restore node addresses and resets the initial Restore MSG instruction enable bit. This rung must be located after the MG254:1 and MG254:2 message instruction rungs.

0005



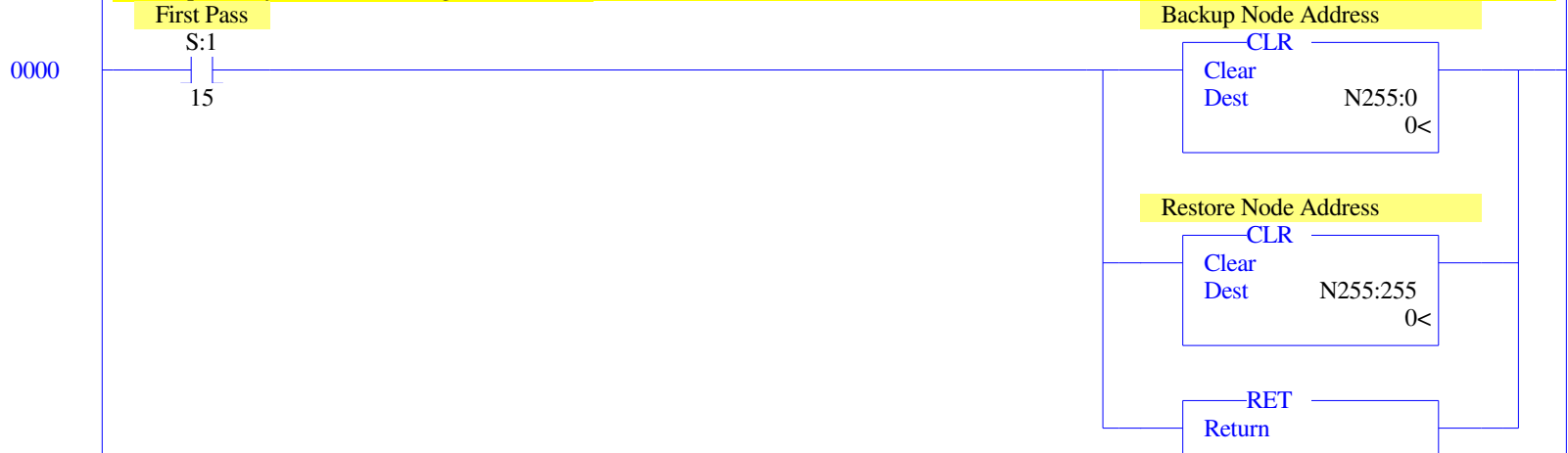




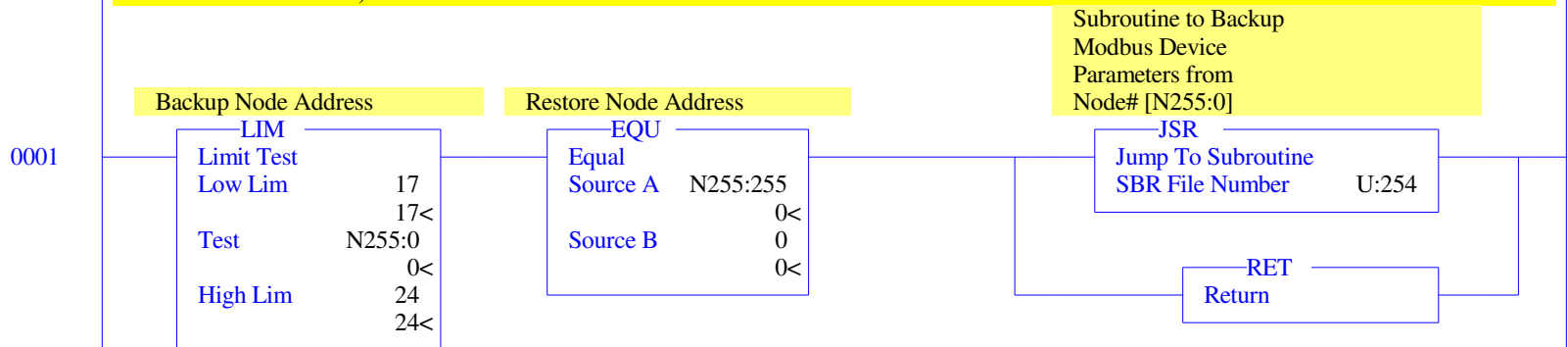


This is the main Parameter Backup & Restore subroutine.

This rung resets the backup node and restore node addresses to zero at every Program to Run transition, in case a backup or restore was interrupted at the last power cycle or Run to Program transition.



This rung executes the 900-TC Parameter Backup subroutine once a valid Backup node address of 17-24 is entered in for N255:0 (as long as the Restore node address is 0).



This rung executes the 900-TC Parameter Restore subroutine once a valid Restore node address of 17-24 is entered in for N255:255.

