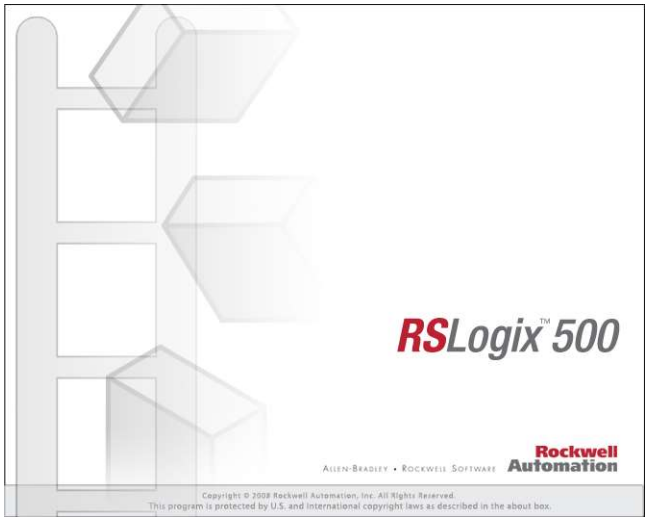
RSLogix Micro Project Report



Processor Information

Processor Type: Bul.1763 MicroLogix 1100 Series B

Processor Name: UNTITLED

Total Memory Used: 368 Instruction Words Used - 112 Data Table Words Used

Total Memory Left: 6288 Instruction Words Left

Program Files: 4

Data Files: 10

Program ID: 40b4

I/O Configuration

0	Bul.1763	MicroLogix 1100 Series B
1		
2		
3		
4		

Channel Configuration

CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Edit Resource/Owner Timeout: 60
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Passthru Link ID: 1
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Write Protected: No
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Comms Servicing Selection: Yes
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Message Servicing Selection: Yes
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex 1st AWA Append Character: \d
CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex 2nd AWA Append Character: \a

Source ID: 1 (decimal)
Baud: 19200
Parity: NONE
Control Line : No Handshaking
Error Detection: CRC
Embedded Responses: Auto Detect
Duplicate Packet Detect: Yes
ACK Timeout(x20 ms): 50
NAK Retries: 3
ENQ Retries: 3

CHANNEL 1 (SYSTEM) - Driver: Ethernet
CHANNEL 1 (SYSTEM) - Driver: Ethernet Edit Resource/Owner Timeout: 60
CHANNEL 1 (SYSTEM) - Driver: Ethernet Passthru Link ID: 1
CHANNEL 1 (SYSTEM) - Driver: Ethernet Write Protected: No
CHANNEL 1 (SYSTEM) - Driver: Ethernet Comms Servicing Selection: Yes
CHANNEL 1 (SYSTEM) - Driver: Ethernet Message Servicing Selection: Yes

Hardware Address: 00:00:00:00:00:00
IP Address: 0.0.0.0
Subnet Mask: 0.0.0.0
Gateway Address: 0.0.0.0
Msg Connection Timeout (x 1mS): 15000
Msg Reply Timeout (x mS): 3000
Inactivity Timeout (x Min): 30
Bootp Enable: No
Dhcp Enable Yes
SNMP Enable: No
HTTP Enable: Yes
Auto Negotiate Enable: Yes
Port Speed Enable: 10/100 Mbps Full Duplex/Half Duplex
Contact:
Location:

Program File List

Name	Number	Type	Rungs	Debug	Bytes
[SYSTEM]	0	SYS	0	No	0
	1	SYS	0	No	0
	2	LADDER	6	No	346
SIMULATOR	3	LADDER	11	No	557

Data File List

Name	Number	Type	Scope	Debug	Words	Elements	Last
OUTPUT	0	O	Global	No	12	4	O:3
INPUT	1	I	Global	No	18	6	I:5
STATUS	2	S	Global	No	0	66	S:65
BINARY	3	B	Global	No	1	1	B3:0
TIMER	4	T	Global	No	3	1	T4:0
COUNTER	5	C	Global	No	3	1	C5:0
CONTROL	6	R	Global	No	3	1	R6:0
INTEGER	7	N	Global	No	20	20	N7:19
FLOAT	8	F	Global	No	2	1	F8:0
SIMUL_INTS	100	N	Global	No	50	50	N100:49

0000

JSR
Jump To Subroutine
SBR File Number U:3

Move Position Switches to N7:0 (I:0.0/0, I:0.0/1, I:0.0/2, I:0.0/3)
Copy to LAST_KNOWN_STATION (N7:10) if result is 1 or 2 or 4 or 8

0001

RAW_STATION_BITS
MVM
Masked Move
Source I:0.0
0<
Mask 000Fh
15<
Dest N7:0
0<

RAW_STATION_BITS
EQU
Equal
Source A N7:0
0<
Source B 1
1<

LAST_KNOWN_STATION
MOV
Move
Source N7:0
0<
Dest N7:10
1<

RAW_STATION_BITS
EQU
Equal
Source A N7:0
0<
Source B 2
2<

RAW_STATION_BITS
EQU
Equal
Source A N7:0
0<
Source B 4
4<

RAW_STATION_BITS
EQU
Equal
Source A N7:0
0<
Source B 8
8<

Move Operator Select Switch Input to N7:1 (I:0.0/4, I:0.0/5, I:0.0/6, I:0.0/7)
Copy to TARGET_STATION (N7:11) if result is 1 or 2 or 4 or 8

0002

RAW_TARGET_BITS
MVM
Masked Move
Source I:0.0
0<
Mask 00F0h
240<
Dest N7:1
0<

RAW_TARGET_BITS
EQU
Equal
Source A N7:1
0<
Source B 16
16<

TARGET_STATION
DIV
Divide
Source A N7:1
0<
Source B 16
16<
Dest N7:11
1<

RAW_TARGET_BITS
EQU
Equal
Source A N7:1
0<
Source B 32
32<

RAW_TARGET_BITS
EQU
Equal
Source A N7:1
0<
Source B 64
64<

RAW_TARGET_BITS
EQU
Equal
Source A N7:1
0<
Source B 128
128<

Move forward if last known station is less than target station
Move backward if last know station is less than target station
If in between stations in either case, then continue last direction

0003

TARGET_STATION
GRT
Greater Than (A>B)
Source A N7:11 1<
Source B N7:10 1<

Foward travel limit
FOR_LIMIT
I:0
8
Bul.1763

RAW_STATION_BITS
EQU
Equal
Source A N7:0 0<
Source B 0 0<

MOVE_FORWARD
O:0
0
Bul.1763

MOVE_REVERSE
O:0
1
Bul.1763

MOVE_FORWARD
O:0
0
Bul.1763

0004

TARGET_STATION
LES
Less Than (A<B)
Source A N7:11 1<
Source B N7:10 1<

Reverse travel limit
REV_LIMIT
I:0
9
Bul.1763

RAW_STATION_BITS
EQU
Equal
Source A N7:0 0<
Source B 0 0<

MOVE_REVERSE
O:0
1
Bul.1763

MOVE_FORWARD
O:0
0
Bul.1763

MOVE_REVERSE
O:0
1
Bul.1763

0005

END

Manually set N100:1 to a value from 1 to 4 to simulate selector switch operation

Initialize selector switch and position to station 1

0000

First Pass
S:1
15

SELECT_STATION_1TO4

MOV
Move
Source 1
1<
Dest N100:1
0<

POSITION_7TO33

MUL
Multiply
Source A N100:1
0<
Source B 8
8<
Dest N100:0
0<

T4:0
RES

One-second timer to limit cart movement speed

0001

T4:0
DN

TON
Timer On Delay
Timer T4:0
Time Base 0.01
Preset 100<
Accum 0<
EN
DN

If timer expired and and cart is not at relevant over-travel limit a motor coil is energized, then move cart

0002

T4:0
DN

POSITION_7TO33

LES
Less Than (A<B)
Source A N100:0
0<
Source B 33
33<

MOVE_FORWARD

O:0
0
Bul.1763

POSITION_7TO33

ADD
Add
Source A N100:0
0<
Source B 1
1<
Dest N100:0
0<

POSITION_7TO33

GRT
Greater Than (A>B)
Source A N100:0
0<
Source B 7
7<

MOVE_REVERSE

O:0
1
Bul.1763

POSITION_7TO33

SUB
Subtract
Source A N100:0
0<
Source B 1
1<
Dest N100:0
0<

Bracket simulated selector switch (SELECT_STATION_1TO4 = N100:1) value to 1 to 4

N.B. Manually set N100:1 to a value from 1 to 4, inclusive, to simulate an operator changing the selector switch to direct the main program to move the cart.

0003

SELECT_STATION_1TO4

GRT
Greater Than (A>B)
Source A N100:1 0<
Source B 4 4<

SELECT_STATION_1TO4

MOV
Move
Source 4 4<
Dest N100:1 0<

SELECT_STATION_1TO4

LES
Less Than (A<B)
Source A N100:1 0<
Source B 1 1<

SELECT_STATION_1TO4

MOV
Move
Source 1 1<
Dest N100:1 0<

Extract fractional position (lower three bits of POSITION to POSITION_MOD8
Extract Station position (next higher three bits) to POSITION_DIV8

0004

POSITION_MOD8

AND
Bitwise AND
Source A N100:0 0000h<
Source B 7 7<
Dest N100:3 0000h<

POSITION_DIV8

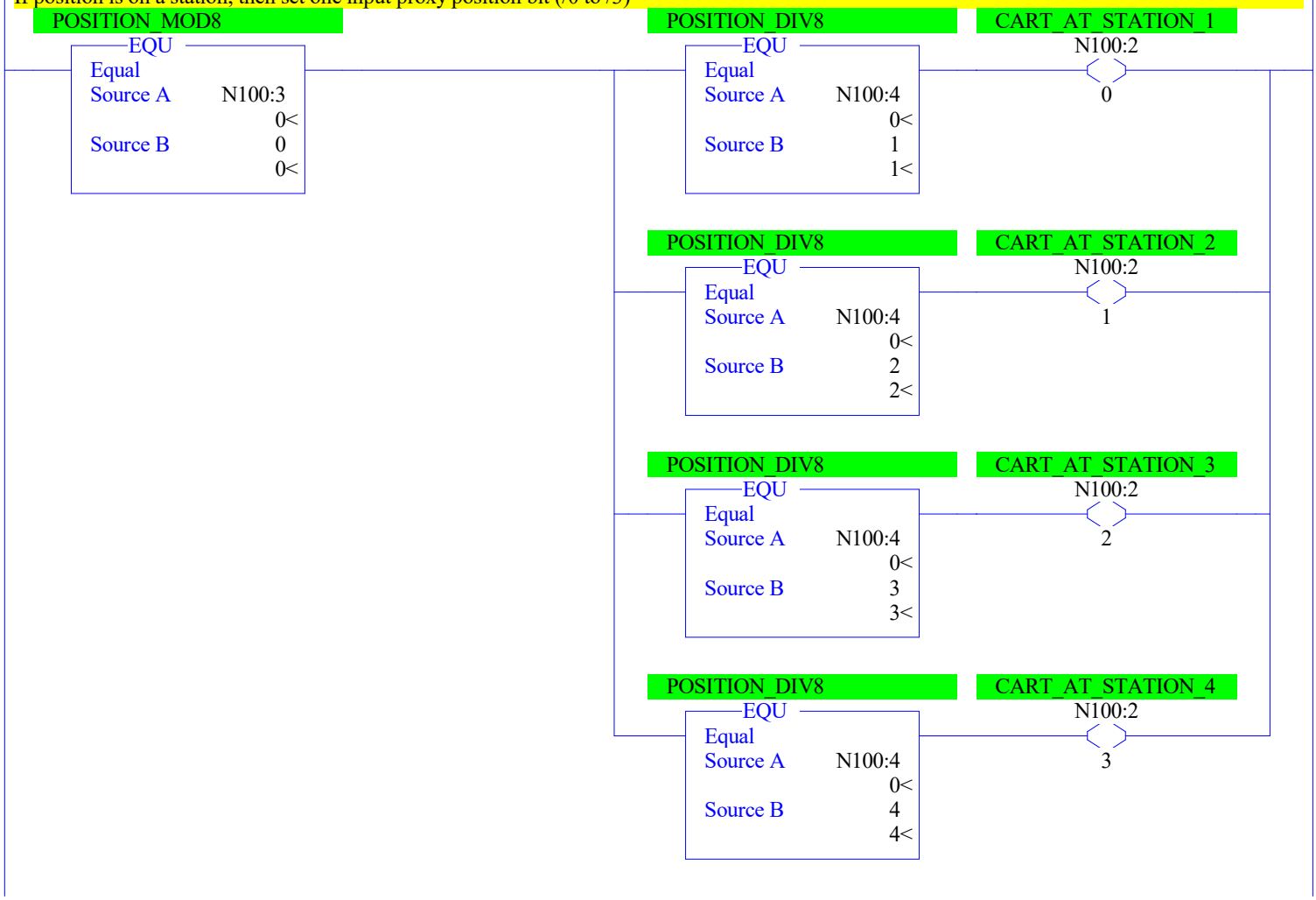
SUB
Subtract
Source A N100:0 0<
Source B N100:3 0<
Dest N100:4 0<

POSITION_DIV8

DIV
Divide
Source A N100:4 0<
Source B 8 8<
Dest N100:4 0<

If position is on a station, then set one input proxy position bit (/0 to /3)

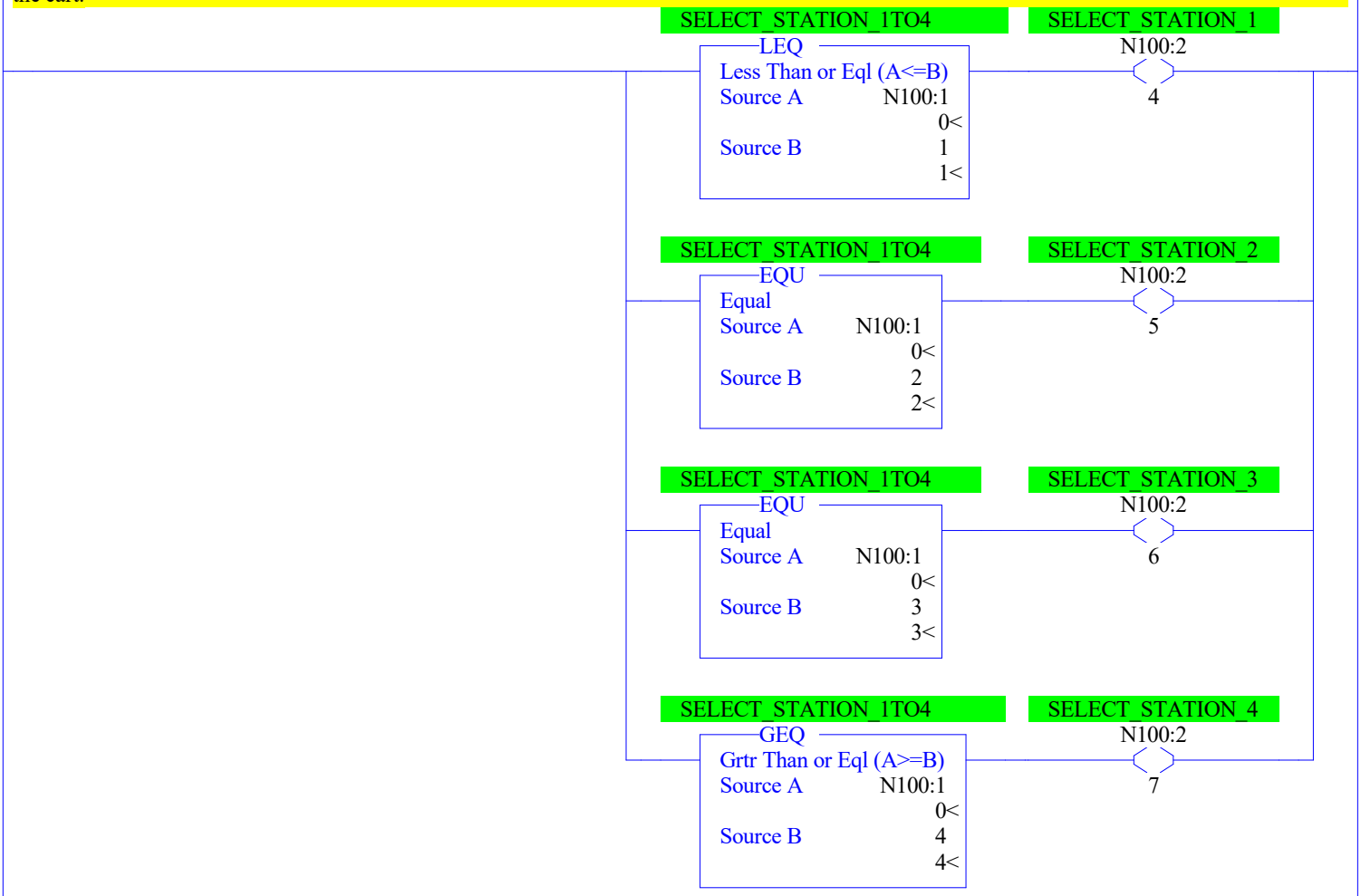
0005



Set one input proxy selector bit

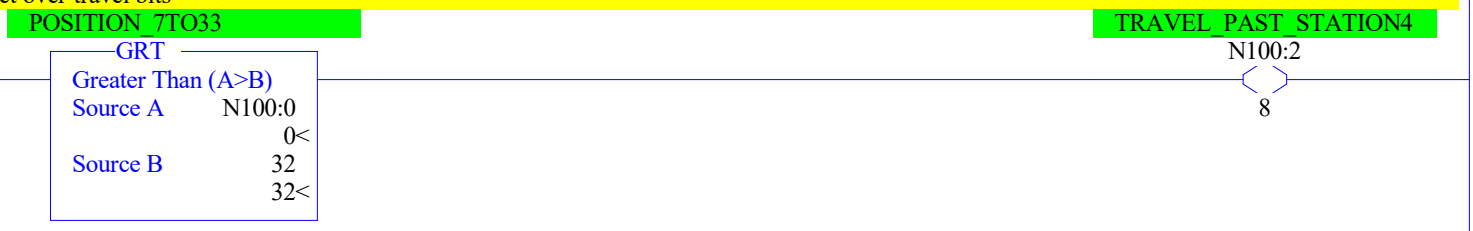
N.B. Manually set N100:1 to a value from 1 to 4, inclusive, to simulate an operator changing the selector switch to direct the main program to move the cart.

0006

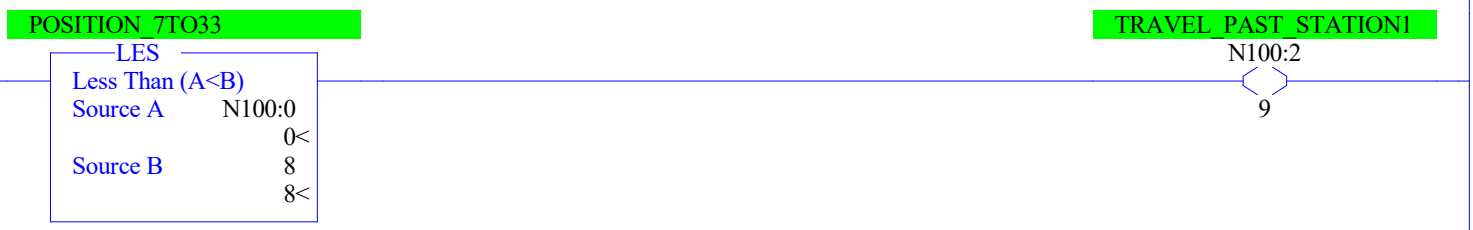


Set over-travel bits

0007

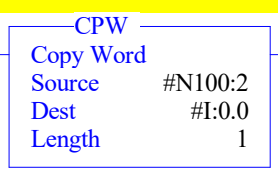


0008

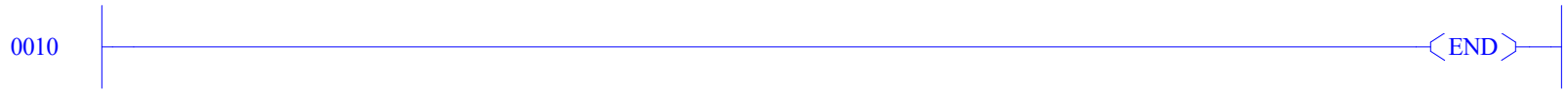


Copy bits to discrete input word, overriding what is already there
N.B. this will not work in CompactLogix and ControlLogix, because inputs are asynchronous

0009



LAD 3 - SIMULATOR - Simulator --- Total Rungs in File = 11



Data File O0 (bin) -- OUTPUT

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
O:0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
O:0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
O:0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
O:0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B

Data File I1 (bin) -- INPUT

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
I:0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
I:0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
I:0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
I:0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B
I:0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B-Analog
I:0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bul.1763	MicroLogix 1100 Series B-Analog

Main

Processor Mode S:1/0 - S:1/4 = Remote Program Mode
On Power up Go To Run (Mode Behavior) S:1/12 = 0
First Pass S:1/15 = No
Free Running Clock S:4 = 0000-0000-0000-0000

Proc

OS Catalog Number S:57 = 1100 User Program Type S:63 = 8001h
OS Series S:58 = A Compiler Revision Number S:64 =
OS FRS S:59 =
Processor Catalog Number S:60 =
Processor Series S:61 = A
Processor FRN S:62 =

Scan Times

Maximum (x10 ms) S:22 = 0
Watchdog (x10 ms) S:3 (high byte) = 10
Last 100 uSec Scan Time S:35 = 0
Scan Toggle Bit S:33/9 = 0

Math

Math Overflow Selected S:2/14 = 0 Math Register (lo word) S:13 = 0
Overflow Trap S:5/0 = 0 Math Register (high word) S:14-S:13 = 0
Carry S:0/0 = 0 Math Register (32 Bit) S:14-S:13 = 0
Overflow S:0/1 = 0
Zero Bit S:0/2 = 0
Sign Bit S:0/3 = 0

Chan 0

Processor Mode S:1/0- S:1/4 = Remote Program Mode
Node Address S:15 (low byte) = 0 Outgoing Msg Cmd Pending S:33/2 = 0
Baud Rate S:15 (high byte) = ?
Channel Mode S:33/3 = 0
Comms Active S:33/4 = 0
Incoming Cmd Pending S:33/0 = 0
Msg Reply Pending S:33/1 = 0

Debug

Suspend Code S:7 = 0
Suspend File S:8 = 0

Errors

Fault Override At Power Up S:1/8 = 0 Fault Routine S:29 = 0
Startup Protection Fault S:1/9 = 0 Major Error S:6 = 0h
Major Error Halt S:1/13 = 0
Overflow Trap S:5/0 = 0 Error Description:
Control Register Error S:5/2 = 0
Major Error Executing User Fault Rtn. S:5/3 = 0
Battery Low S:5/11 = 0
Input Filter Selection Modified S:5/13 = 0
ASCII String Manipulation error S:5/15 = 0

Protection

Deny Future Access S:1/14 = No
Data File Overwrite Protection Lost S:36/10 = False

Mem Module

Memory Module Loaded On Boot S:5/8 = 0
Password Mismatch S:5/9 = 0
Load Memory Module On Memory Error S:1/10 = 0
Load Memory Module Always S:1/11 = 0
On Power up Go To Run (Mode Behavior) S:1/12 = 0
Program Compare S:2/9 = 0
Data File Overwrite Protection Lost S:36/10 = 0

Forces

Forces Enabled S:1/5 = Yes
Forces Installed S:1/6 = No

Data File B3 (bin) -- BINARY

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	(Symbol)	Description
B3:0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Data File T4 -- TIMER

Offset	EN	TT	DN	BASE	PRE	ACC	(Symbol)	Description
T4:0	0	0	0	.01 sec	100	0		

Data File C5 -- COUNTER

Offset	CU	CD	DN	OV	UN	UA	PRE	ACC	(Symbol)	Description
C5:0	0	0	0	0	0	0	0	0		

Data File R6 -- CONTROL

Offset	EN	EU	DN	EM	ER	UL	IN	FD	LEN	POS	(Symbol)	Description
R6:0	0	0	0	0	0	0	0	0	0	0		

Data File N7 (dec) -- INTEGER

Offset	0	1	2	3	4	5	6	7	8	9
N7:0	0	0	0	0	0	0	0	0	0	0
N7:10	1	1	0	0	0	0	0	0	0	0

Data File F8 -- FLOAT

Offset	0	1	2	3	4
F8:0	0				

Data File N100 (dec) -- SIMUL_INTS

Offset	0	1	2	3	4	5	6	7	8	9
N100:0	0	0	0	0	0	0	0	0	0	0
N100:10	0	0	0	0	0	0	0	0	0	0
N100:20	0	0	0	0	0	0	0	0	0	0
N100:30	0	0	0	0	0	0	0	0	0	0
N100:40	0	0	0	0	0	0	0	0	0	0

Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	AB
I:0/8	FOR_LIMIT	Global	Foward travel limit			
I:0/9	REV_LIMIT	Global	Reverse travel limit			
N7:0	RAW_STATION_BITS	Global				
N7:1	RAW_TARGET_BITS	Global				
N7:10	LAST_KNOWN_STATION	Global				
N7:11	TARGET_STATION	Global				
N100:0	POSITION_7TO33	Global				
N100:1	SELECT_STATION_1TO4	Global				
N100:2	INPUT_PROXY	Global				
N100:2/0	CART_AT_STATION_1	Global				
N100:2/1	CART_AT_STATION_2	Global				
N100:2/2	CART_AT_STATION_3	Global				
N100:2/3	CART_AT_STATION_4	Global				
N100:2/4	SELECT_STATION_1	Global				
N100:2/5	SELECT_STATION_2	Global				
N100:2/6	SELECT_STATION_3	Global				
N100:2/7	SELECT_STATION_4	Global				
N100:2/8	TRAVEL_PAST_STATION4	Global				
N100:2/9	TRAVEL_PAST_STATION1	Global				
N100:3	POSITION_MOD8	Global				
N100:4	POSITION_DIV8	Global				
O:0/0	MOVE_FORWARD	Global				
O:0/1	MOVE_REVERSE	Global				
S:0			Arithmetic Flags			
S:0/0			Processor Arithmetic Carry Flag			
S:0/1			Processor Arithmetic Underflow/ Overflow Flag			
S:0/2			Processor Arithmetic Zero Flag			
S:0/3			Processor Arithmetic Sign Flag			
S:1			Processor Mode Status/ Control			
S:1/0			Processor Mode Bit 0			
S:1/1			Processor Mode Bit 1			
S:1/2			Processor Mode Bit 2			
S:1/3			Processor Mode Bit 3			
S:1/4			Processor Mode Bit 4			
S:1/5			Forces Enabled			
S:1/6			Forces Present			
S:1/7			Comms Active			
S:1/8			Fault Override at Powerup			
S:1/9			Startup Protection Fault			
S:1/10			Load Memory Module on Memory Error			
S:1/11			Load Memory Module Always			
S:1/12			Load Memory Module and RUN			
S:1/13			Major Error Halted			
S:1/14			Access Denied			
S:1/15			First Pass			
S:2/0			STI Pending			
S:2/1			STI Enabled			
S:2/2			STI Executing			
S:2/3			Index Addressing File Range			
S:2/4			Saved with Debug Single Step			
S:2/5			DH-485 Incoming Command Pending			
S:2/6			DH-485 Message Reply Pending			
S:2/7			DH-485 Outgoing Message Command Pending			
S:2/15			Comms Servicing Selection			
S:3			Current Scan Time/ Watchdog Scan Time			
S:4			Time Base			
S:5/0			Overflow Trap			
S:5/2			Control Register Error			
S:5/3			Major Err Detected Executing UserFault Routine			
S:5/4			M0-M1 Referenced on Disabled Slot			
S:5/8			Memory Module Boot			
S:5/9			Memory Module Password Mismatch			
S:5/10			STI Overflow			
S:5/11			Battery Low			
S:6			Major Error Fault Code			
S:7			Suspend Code			
S:8			Suspend File			
S:9			Active Nodes			
S:10			Active Nodes			
S:11			I/O Slot Enables			
S:12			I/O Slot Enables			
S:13			Math Register			
S:14			Math Register			
S:15			Node Address/ Baud Rate			
S:16			Debug Single Step Rung			
S:17			Debug Single Step File			
S:18			Debug Single Step Breakpoint Rung			
S:19			Debug Single Step Breakpoint File			
S:20			Debug Fault/ Powerdown Rung			
S:21			Debug Fault/ Powerdown File			
S:22			Maximum Observed Scan Time			
S:23			Average Scan Time			
S:24			Index Register			
S:25			I/O Interrupt Pending			

Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev. Code	AB
S:26			I/O Interrupt Pending			
S:27			I/O Interrupt Enabled			
S:28			I/O Interrupt Enabled			
S:29			User Fault Routine File Number			
S:30			STI Setpoint			
S:31			STI File Number			
S:32			I/O Interrupt Executing			
S:33			Extended Proc Status Control Word			
S:33/0			Incoming Command Pending			
S:33/1			Message Reply Pending			
S:33/2			Outgoing Message Command Pending			
S:33/3			Selection Status User/DF1			
S:33/4			Communicat Active			
S:33/5			Communicat Servicing Selection			
S:33/6			Message Servicing Selection Channel 0			
S:33/7			Message Servicing Selection Channel 1			
S:33/8			Interrupt Latency Control Flag			
S:33/9			Scan Toggle Flag			
S:33/10			Discrete Input Interrupt Reconfigur Flag			
S:33/11			Online Edit Status			
S:33/12			Online Edit Status			
S:33/13			Scan Time Timebase Selection			
S:33/14			DTR Control Bit			
S:33/15			DTR Force Bit			
S:34			Pass-thru Disabled			
S:34/0			Pass-Thru Disabled Flag			
S:34/1			DH+ Active Node Table Enable Flag			
S:34/2			Floating Point Math Flag Disable,Fl			
S:35			Last 1 ms Scan Time			
S:36			Extended Minor Error Bits			
S:36/8			DII Lost			
S:36/9			STI Lost			
S:36/10			Memory Module Data File Overwrite Protection			
S:37			Clock Calendar Year			
S:38			Clock Calendar Month			
S:39			Clock Calendar Day			
S:40			Clock Calendar Hours			
S:41			Clock Calendar Minutes			
S:42			Clock Calendar Seconds			
S:43			STI Interrupt Time			
S:44			I/O Event Interrupt Time			
S:45			DII Interrupt Time			
S:46			Discrete Input Interrupt- File Number			
S:47			Discrete Input Interrupt- Slot Number			
S:48			Discrete Input Interrupt- Bit Mask			
S:49			Discrete Input Interrupt- Compare Value			
S:50			Processor Catalog Number			
S:51			Discrete Input Interrupt- Return Number			
S:52			Discrete Input Interrupt- Accumulat			
S:53			Reserved/ Clock Calendar Day of the Week			
S:55			Last DII Scan Time			
S:56			Maximum Observed DII Scan Time			
S:57			Operating System Catalog Number			
S:58			Operating System Series			
S:59			Operating System FRN			
S:61			Processor Series			
S:62			Processor Revision			
S:63			User Program Type			
S:64			User Program Functional Index			
S:65			User RAM Size			
S:66			Flash EEPROM Size			
S:67			Channel 0 Active Nodes			
S:68			Channel 0 Active Nodes			
S:69			Channel 0 Active Nodes			
S:70			Channel 0 Active Nodes			
S:71			Channel 0 Active Nodes			
S:72			Channel 0 Active Nodes			
S:73			Channel 0 Active Nodes			
S:74			Channel 0 Active Nodes			
S:75			Channel 0 Active Nodes			
S:76			Channel 0 Active Nodes			
S:77			Channel 0 Active Nodes			
S:78			Channel 0 Active Nodes			
S:79			Channel 0 Active Nodes			
S:80			Channel 0 Active Nodes			
S:81			Channel 0 Active Nodes			
S:82			Channel 0 Active Nodes			
S:83			DH+ Active Nodes			
S:84			DH+ Active Nodes			
S:85			DH+ Active Nodes			
S:86			DH+ Active Nodes			
U:3						

Instruction Comment Database

Address	Instruction	Description

Symbol Group Database

Group_Name Description