4

D2–RMSM Setup Programming

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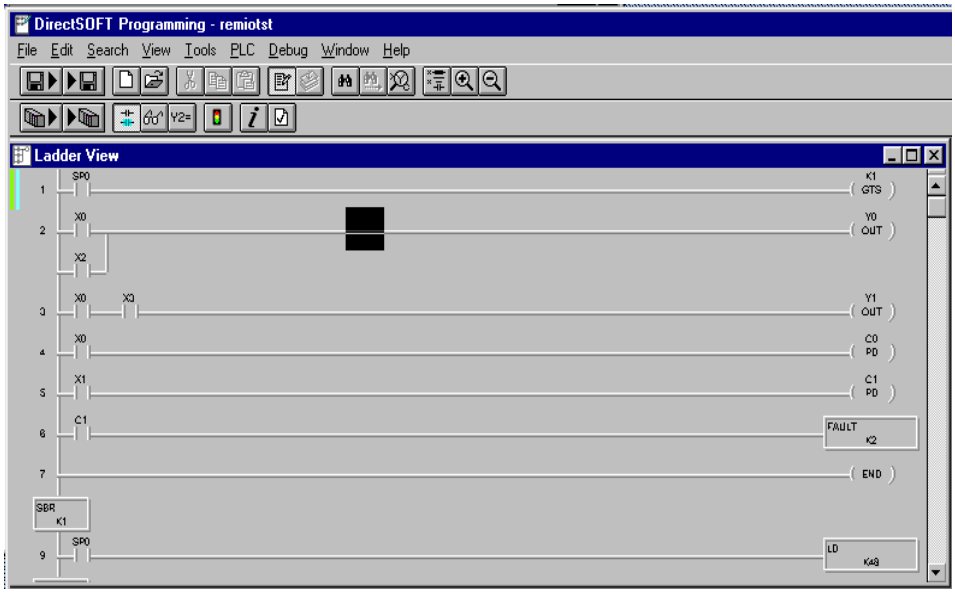
- Writing Your Remote I/O Setup
- Examples for Typical Configurations
- Changing Configurations
- Shared Memory Table for D2-RMSM

Getting Started with Your Programming

You can write your program using either a handheld programmer or a PC loaded with software such as ***Direct***SOFT. The examples that follow will show you how to do it using ***Direct***SOFT.

To get started, enter ***Direct***SOFT and carry out the normal ***Direct***SOFT setup procedures for communicating with your DL205 CPU. If you do not know how to do this, refer to your ***Direct***SOFT Manual. Your DL205 User's Manual has a very good coverage of the basic commands available and examples of using the commands to write general ladder logic. We will be showing you in this chapter only those commands that pertain to setting up your remote I/O initialization and its successful utilization.

First open ***Direct***SOFT from Windows and establish a link with your CPU. Then enter the Edit Mode for programming. You should now be looking at a screen similar to the one shown below:



The ***Direct***SOFT window shown above depicts a program that has already been written. Your window, of course, will be empty when you first enter it. The pages that follow will show you how to write each part of your initialization program.

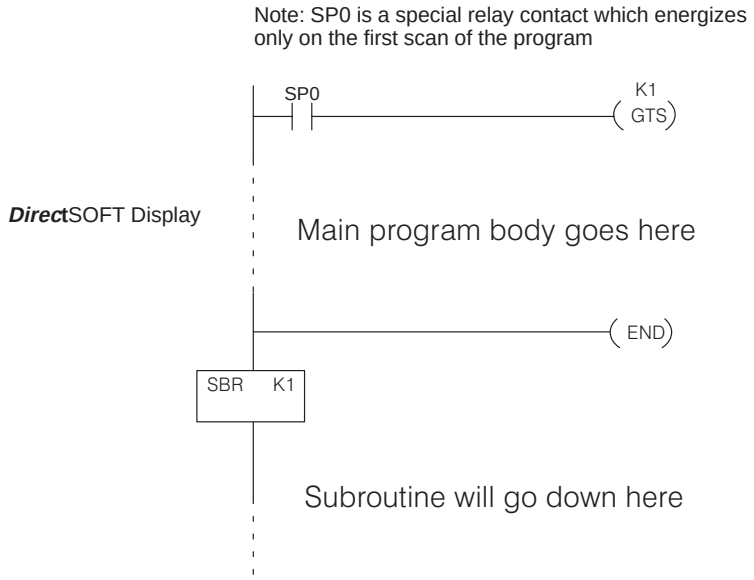
Writing Your Remote I/O Setup

Step 1: Decide How You Are Going to Call Your Program

Is your setup logic going to be in the main program body or is it going to be in a subroutine?

A subroutine for your remote I/O setup has an advantage over writing the code into the program's main body. Some remote I/O setup logic becomes quite lengthy. By putting the setup in a subroutine, you don't have to scroll through extra logic during routine troubleshooting procedures. We advise you to use a subroutine for your remote I/O initialization. Here's how:

Using the GTS Command for the Setup Logic



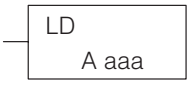
Step 2: Write the Setup Logic for Each Channel

Whether you choose to write the remote I/O setup program as a subroutine or as a part of the main program, the procedure is still the same. You have several things you must do for each channel of remote I/O:

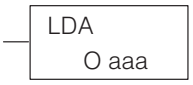
- Tell the remote master to initiate setup, and define the auto return to network option.
- Tell the remote master the starting V-memory address for inputs and outputs, and the total number of each for the channel. You do this with address *pointers* and constant data.
- Tell the remote master how many input and output points are located in each base.
- Tell the remote master to save the parameters in EEPROM (setup is complete).

To write the setup logic, we use the CPU instructions described below. If you are not familiar with these instructions, you may want to refer to the DL205 User Manual for more details and examples.

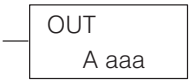
The Load instruction is a 16-bit instruction that loads the value (Aaaa), which is either a V-memory location or a 4-digit constant, into the lower 16 bits of the accumulator. The upper 16 bits of the accumulator are set to 0.



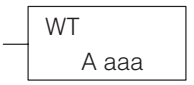
The Load Address instruction is a 16 bit instruction. It converts any octal value or address to the HEX equivalent value and loads the HEX value into the accumulator.



The OUT instruction is a 16 bit instruction that copies the values in the lower 16 bits of the accumulator to a specified V-memory location (Aaaa).



The WT instruction writes a block of data (1–128 bytes max.) to an intelligent I/O module from a block of V-memory in the CPU. The function parameters (module base/slot address, number of bytes, and the intelligent I/O module memory address) are loaded into the first and second level of the accumulator stack, and the accumulator by three additional instructions. In the WT instruction, Aaaa specifies the starting V-memory address where the data will be written from in the CPU.



You use these instructions to set up the configuration data in a block of V-memory which serves as a buffer. Use WT instructions to store the data to various shared memory locations in the Remote Master module. Use your worksheets to assist you in creating the setup logic.

Examples for Typical Configurations

Example 1: Addressing using X and Y memory

To illustrate the setup program for a system using X's as remote inputs and Y's as remote outputs, we will use the example system from Chapter 2, shown here with a completed Channel Configuration Worksheet.

The first block of logic tells the remote master to initiate the setup, and to enable the Auto Return to Network option. To find the D2–RMSM shared memory addresses used in the setup program, refer to the Shared Memory Table at the end of this chapter.

Write Configuration Byte

Main Base with Master

PS	CPU	16 I	16 I	16 O	16 O	
		X0-X17 V40400	X20-X37 V40401	Y0-Y17 V40500	Y20-Y37 V40501	

1st Remote

PS		16 I	16 I	16 O	16 O	16 O
		X40-X57 V40402	X60-X77 V40403	Y40-Y57 V40502	Y60-Y77 V40503	Y100-Y117 V40504

2nd Remote

PS		8 I	8 I	8 O	16 O	(8) O
		X100-107 V40404	X110-117	Y120-127 V40505	Y130-147 V40505+6	SPACE

3rd Remote

PS		16 I	16 I	16 I	12 O	12 O
		X120-137 V40405	X140-157 V40406	X160-177 V40407	Y160-177 V40507	Y200-217 V40510

Channel Configuration Sheet

D2–RMSM Remote Master Module

Master Slot Address 4 (1–7)

Protocol Selected RM–NET (RM–NET or SM–NET)

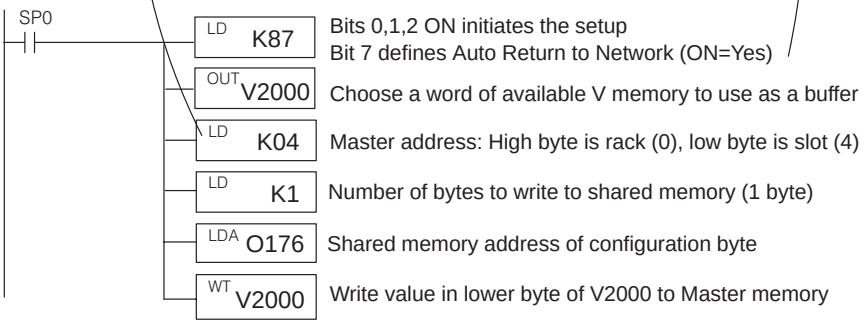
Circle one selection for each parameter (selections for each protocol are shown)

Configuration Parameter	RM–NET	SM–NET
Baud Rate (in KBaud), determined by required distance to last slave	19.2 **(38.4)**	19.2 38.4 153.6 307.2 614.4
Operator Interface	**(N/A)**	YES NO
Auto Return to Network (either protocol)	**(YES)**	NO

Starting Input V Memory Address: V 40402 **Starting Output V Memory Address: V 40502**

Total No. Inputs 96 **Total No. Outputs 112**

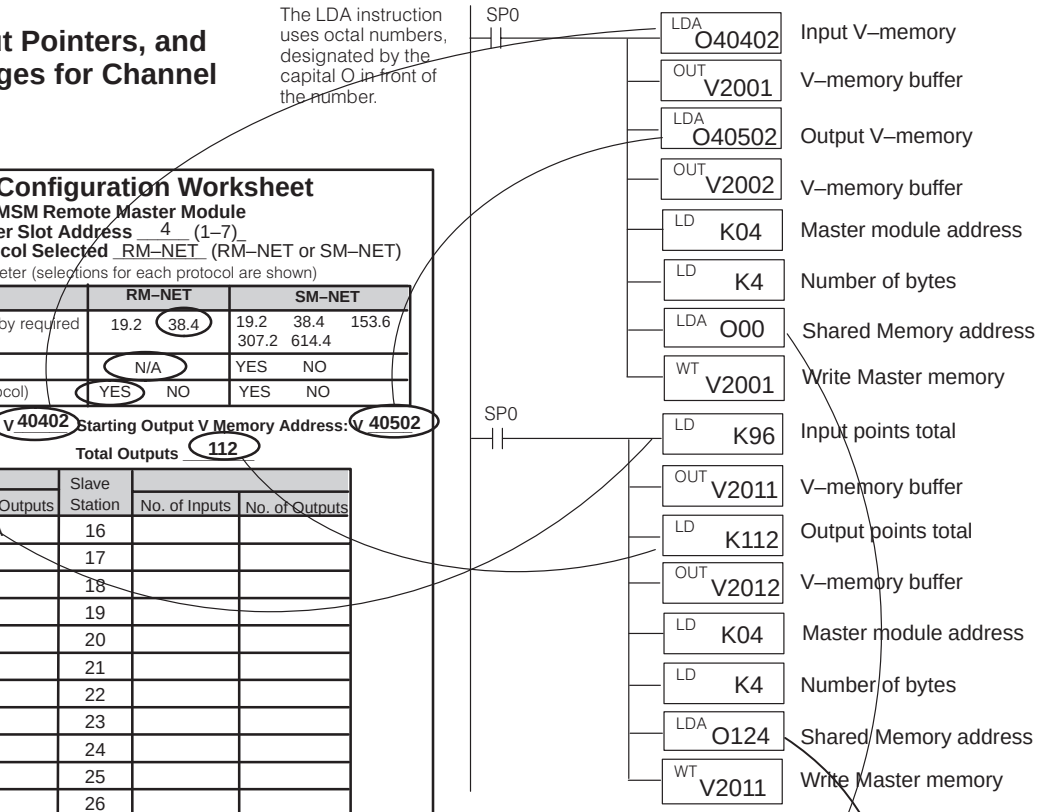
Slave Station	No. Inputs	No. Outputs	Slave Station	No. Inputs	No. Outputs
0	N/A	N/A	16		
1	**32**	**48**	17		
2	**16**	**32**	18		
3	**48**	**32**	19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		



This block of logic tells the remote master the starting V-memory addresses for the inputs and outputs, and the total number of each for the channel. Use the LD, LDA, and OUT commands to load the starting addresses and point totals into temporary memory, then write the values to the master's shared memory. The Quick Reference Table shows the correct shared memory addresses in octal.

Write Input and Output Pointers, and Input and Output Ranges for Channel

The LDA instruction uses octal numbers, designated by the capital O in front of the number.



Channel Configuration Worksheet

D2–RMSM Remote Master Module
Master Slot Address 4 (1–7)
Protocol Selected RM–NET (RM–NET or SM–NET)

Circle one selection for each parameter (selections for each protocol are shown)

Configuration Parameter	RM–NET	SM–NET
Baud Rate (in KBaud), determined by required distance to last slave	19.2 **38.4**	19.2 38.4 153.6 307.2 614.4
Operator Interface	**N/A**	YES NO
Auto Return to Network (either protocol)	**YES** NO	YES NO

Starting Input V Memory Address: V 40402 **Starting Output V Memory Address: V 40502**

Total Inputs 96 **Total Outputs 112**

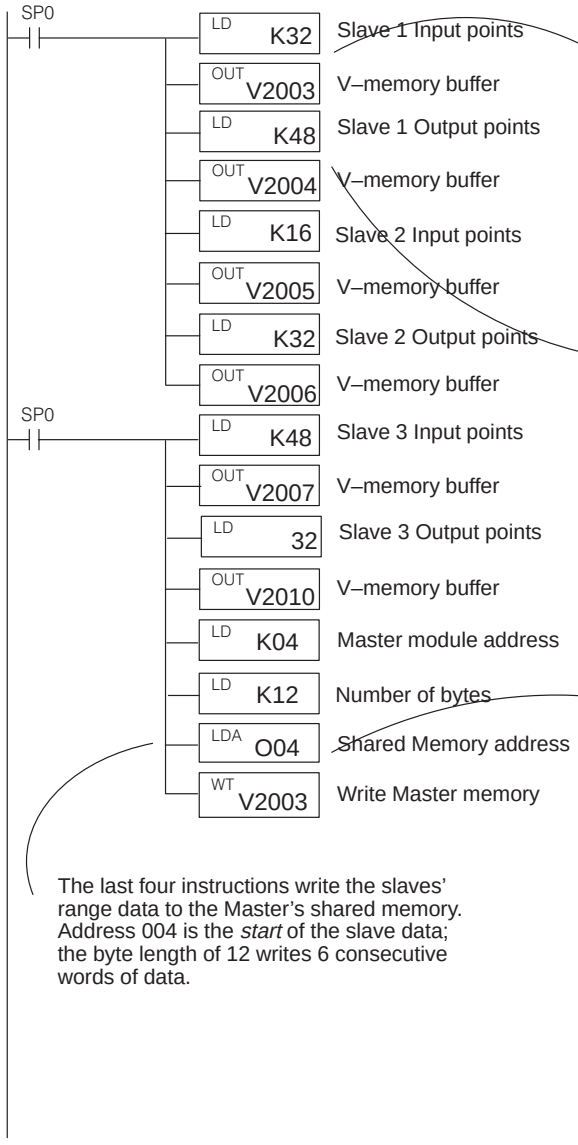
Slave Station	No. of Inputs	No. of Outputs	Slave Station	No. of Inputs	No. of Outputs
0	N/A	N/A	16		
1	**32**	**48**	17		
2	**16**	**32**	18		
3	**48**	**32**	19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		

Quick Reference Table of Shared Memory Addresses

D2–RMSM				
Setup Initiation Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Pts	Number of Output Pts
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036

This block of logic tells the remote master how many input and output points are located in each base. Each group of four instructions loads the I/O ranges for a slave into temporary memory, the values for which are retrieved from the Remote Slave Worksheets. The WT instruction stores the entire buffer area to the master's shared memory. The Quick Reference Table shows the correct shared memory addresses in octal.

Write Input and Output Ranges for each Slave



The last four instructions write the slaves' range data to the Master's shared memory. Address 004 is the *start* of the slave data; the byte length of 12 writes 6 consecutive words of data.

Channel Configuration Worksheet

D2–RMSM Remote Master Module
Master Slot Address 4 (1–7)
Protocol Selected RM–NET (RM–NET or SM–NET)

Circle one selection for each parameter (selections for each protocol are shown)

Configuration Parameter	RM–NET	SM–NET
Baud Rate (in KBaud), determined by required distance to last slave	19.2 **38.4**	19.2 38.4 153.6 307.2 614.4
Operator Interface	N/A	YES NO
Auto Return to Network (either protocol)	YES NO	YES NO

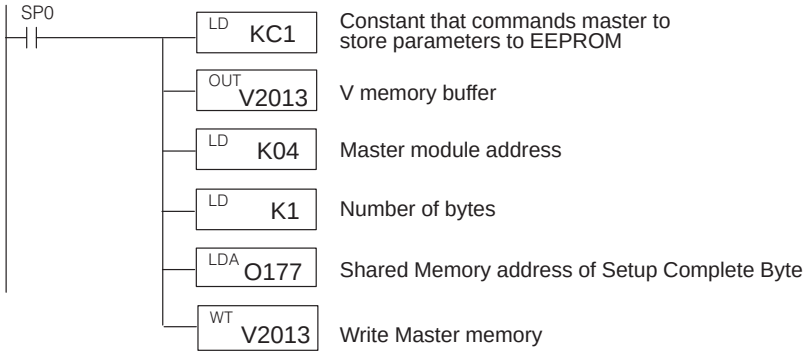
Starting Input V Memory Address: V 40402 **Starting Output V Memory Address: V 40502**
Total Inputs 96 **Total Outputs 112**

Slave Station	No. of Inputs	No. of Outputs	Slave Station	No. of Inputs	No. of Outputs
0	N/A	N/A	16		
1	**32**	**48**	17		
2	**16**	**32**	18		
3	**48**	**32**	19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		

Quick Reference Table of Shared Memory Addresses

D2–RMSM				
Configuration Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Pts	Number of Output Pts
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036

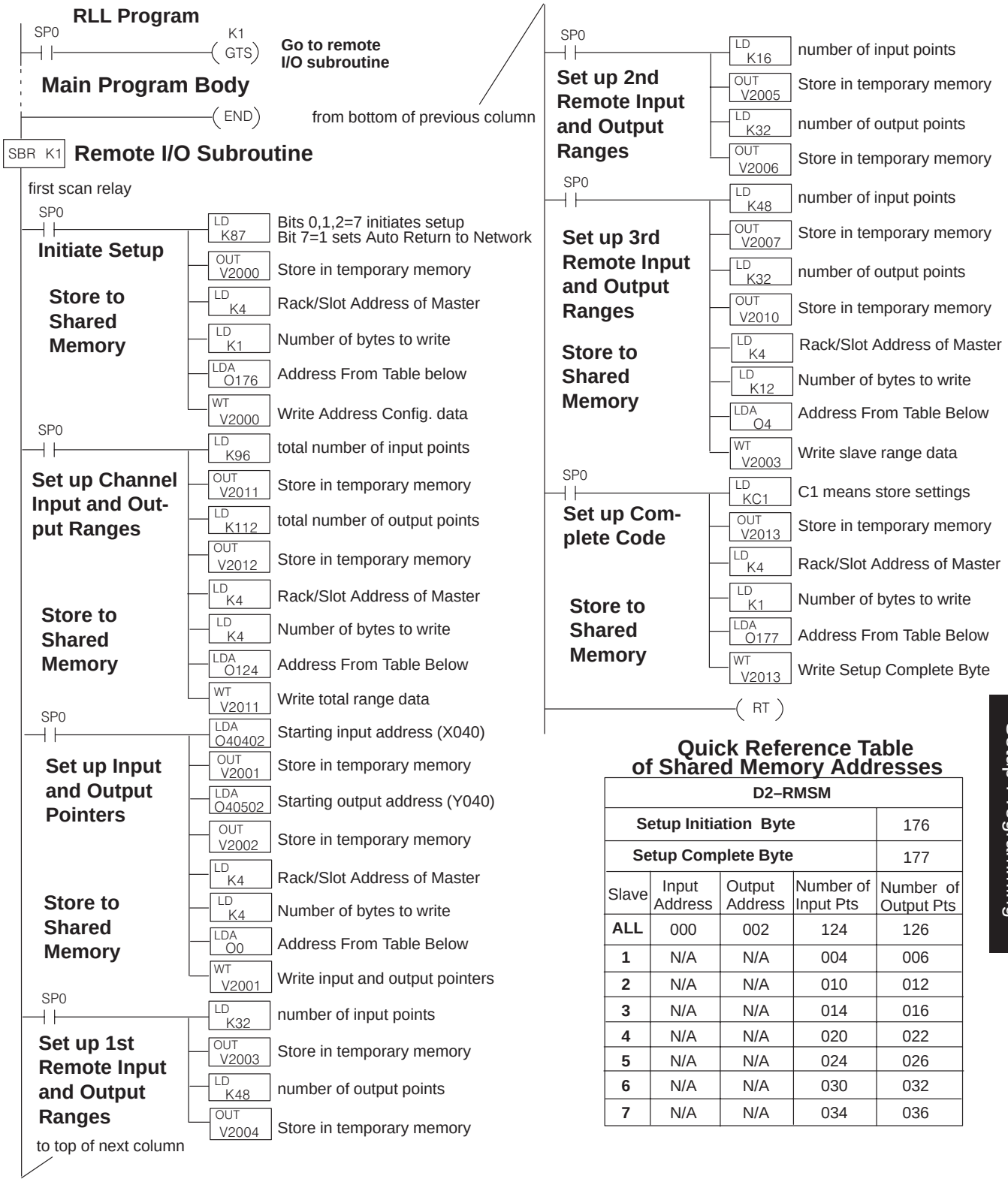
Write Setup Complete (store channel parameters to EEPROM)



We can now complete the setup program.This last block of logic tells the remote master to save the parameters in EEPROM (setup is complete). The setup complete logic structure is the same for any channel using a D2–RMSM as a master.

The completed setup program for this example is shown on the next page.

Completed Setup Program for X and Y Addressing



Quick Reference Table of Shared Memory Addresses

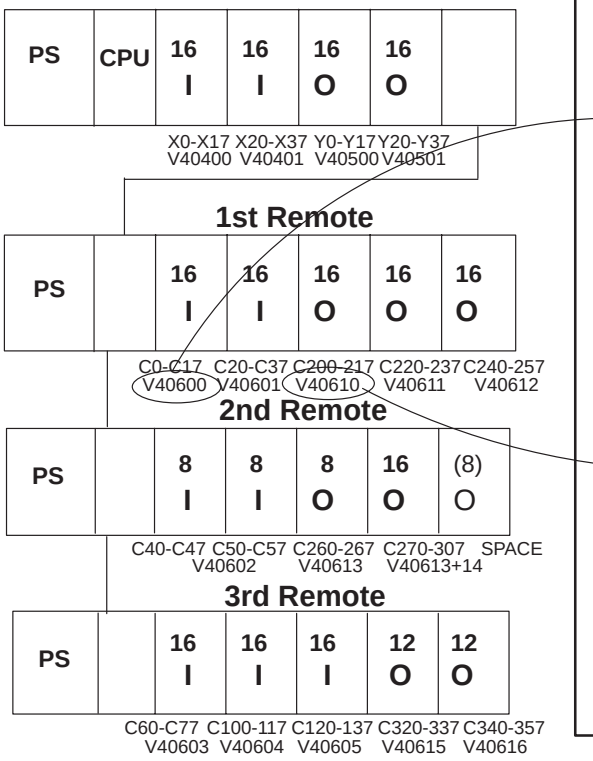
D2–RMSM				
Setup Initiation Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Pts	Number of Output Pts
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036

Example 2: Addressing using Control Relay Memory

In certain applications, you may need to address remote I/O as a memory type other than real inputs (X type) and/or real outputs (Y type). If you have used all available I/O references in the system, and need to add remote I/O, you can use the control relay (C type) memory as the I/O references. You may allocate C memory for inputs, outputs, or both.

To write a setup program with this option, we will use the system from Example 1. This example illustrates the difference in defining the pointer addresses; we have assigned both inputs and outputs to control relay references. Retrieve the V–memory addresses for the input and output control relays from the Reserved Memory Table in Appendix B. The rest of the setup logic is identical to Example 1.

Write Configuration Byte



Channel Configuration Worksheet

D2–RMSM Remote Master Module
Master Slot Address 4 (1–7)
Protocol Selected RM–NET (RM–NET or SM–NET)

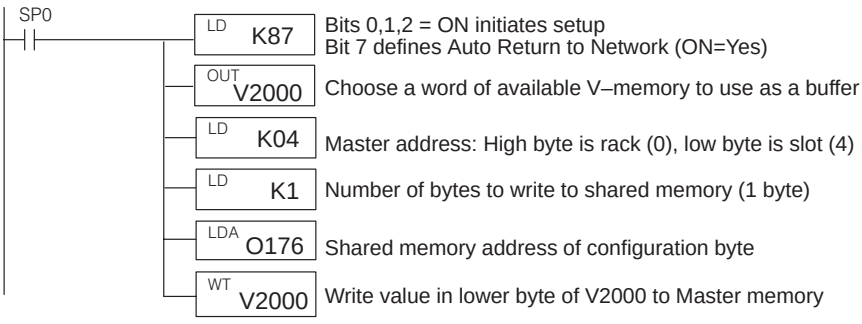
Circle one selection for each parameter (selections for each protocol are shown)

Configuration Parameter	RM–NET	SM–NET
Baud Rate (in KBaud), determined by required distance to last slave	19.2 **38.4**	19.2 38.4 153.6 307.2 614.4
Operator Interface	N/A	YES NO
Auto Return to Network (either protocol)	YES NO	YES NO

Starting Input V Memory Address: V 40600 **Starting Output V Memory Address: V 40610**

Total Inputs 96 **Total Outputs** 112

Slave Station	No. of Inputs	No. of Outputs	Slave Station	No. of Inputs	No. of Outputs
0	N/A	N/A	16		
1	**32**	**48**	17		
2	**16**	**32**	18		
3	**48**	**32**	19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		



This block of logic tells the remote master the starting V-memory addresses for the inputs and outputs, and the total number of each for the channel. The V-memory addresses correspond to C0 (for inputs) and C200 (for outputs). Load the starting addresses and point totals into temporary memory, then write the values to the master's shared memory. The Quick Reference Table shows the correct shared memory addresses in octal.

Write Input and Output Pointers, and Input and Output Ranges for Channel

Channel Configuration Worksheet

D2–RMSM Remote Master Module
Master Slot Address 4 (1–7)
Protocol Selected RM–NET (RM–NET or SM–NET)

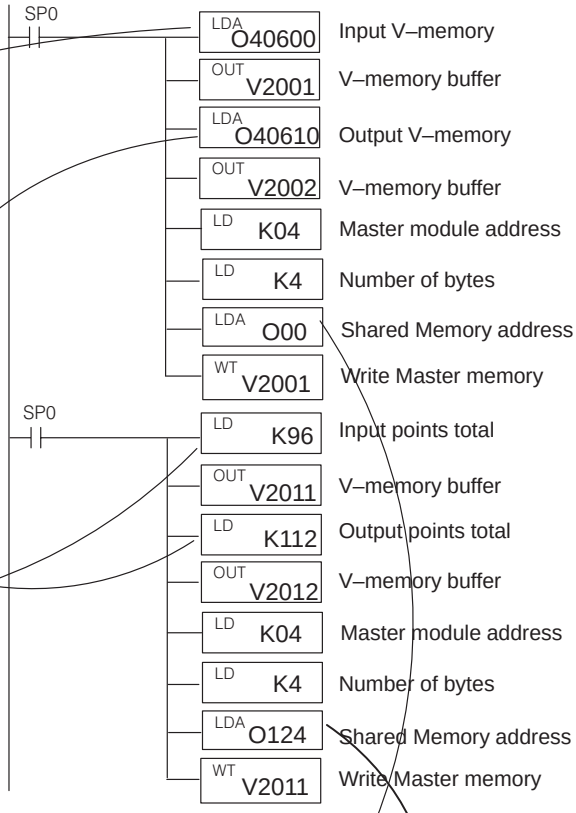
Circle one selection for each parameter (selections for each protocol are shown)

Configuration Parameter	RM–NET	SM–NET
Baud Rate (in KBaud), determined by required distance to last slave	19.2 **38.4**	19.2 38.4 153.6 307.2 614.4
Operator Interface	N/A	YES NO
Auto Return to Network (either protocol)	YES NO	YES NO

Starting Input V Memory Address: V 40600 **Starting Output V Memory Address: V 40610**

Total Inputs 96 **Total Outputs 112**

Slave Station	No. of Inputs	No. of Outputs	Slave Station	No. of Inputs	No. of Outputs
0	N/A	N/A	16		
1	**32**	**48**	17		
2	**16**	**32**	18		
3	**48**	**32**	19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		

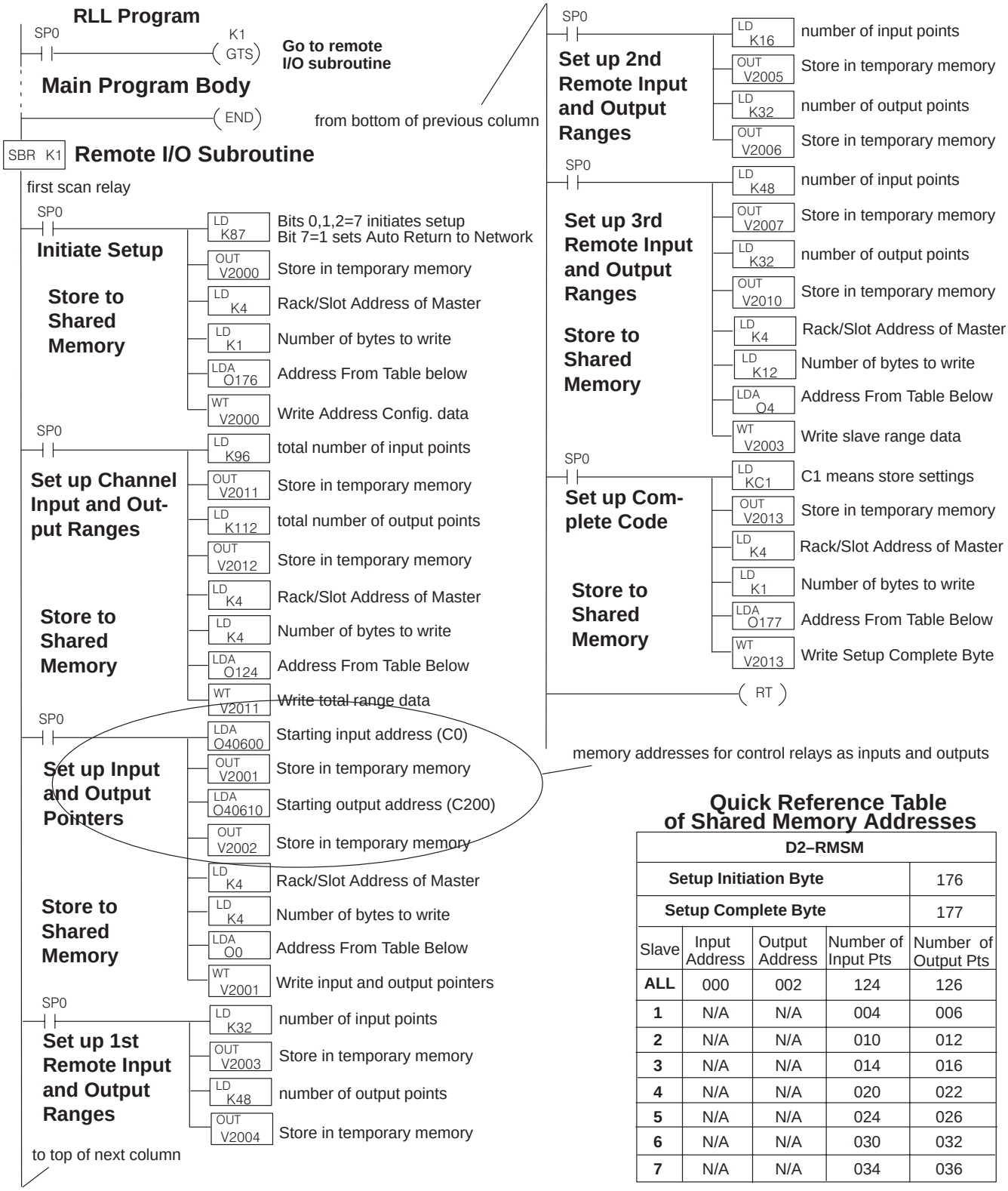


Quick Reference Table of Shared Memory Addresses

D2–RMSM				
Setup Initiation Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Pts	Number of Output Pts
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036

Since the logic for the slave range data and setup complete is identical to Example 1, we will now show the completed setup program on the next page.

Completed Setup Program for Control Relay Addressing



Quick Reference Table of Shared Memory Addresses

D2–RMSM				
Setup Initiation Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Pts	Number of Output Pts
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036

Changing Configurations

If you have stored a configuration to the D2–RMSM via the setup program and need to change it, follow these guidelines to ensure the module accepts the new configuration:

1. Change the constants in the setup program that are affected by the new system configuration. For example, if you add an I/O module to a remote slave unit, you must change the input or output range for that slave, as well as the range total for the channel. If the new range totals do not match the sum of the individual slave ranges, the D2–RMSM *will not* accept the new configuration. It will retain the old configuration, and give you an I/O error.
2. If you are removing a slave from the channel, you must change the logic of the setup program to clear that slave's range data in the D2–RMSM shared memory. Otherwise it will still see the old data from the previous configuration. For example, if you remove the third slave from our example system, you would load a constant of zero into the slave's input and output range data, located at buffer memory addresses V2007 and V2010. If removing I/O, remember to reduce the total I/O range values also.
3. After you have modified the setup program, cycle CPU power, or transition from the STOP to RUN mode to execute the new setup logic. This is necessary if the setup logic executes on the first CPU scan.

Shared Memory Table for D2–RMSM Remote Master

OCTAL ADDRESS	FUNCTION (Slaves 1–15)	FUNCTION (Slaves 16–31)	# Bytes
For memory addresses 000 to 077, the user's setup program must store the correct values into these locations.			
000	Starting V–memory address for inputs on the channel (in octal)	Number of input points for Slave 16	2
002	Starting V–memory address for outputs on the channel (in octal)	Number of output points for Slave 16	2
004	Number of input points for Slave 1	Number of input points for Slave 17	2
006	Number of output points for Slave 1	Number of output points for Slave 17	2
010	Number of input points for Slave 2	Number of input points for Slave 18	2
012	Number of output points for Slave 2	Number of output points for Slave 18	2
014	Number of input points for Slave 3	Number of input points for Slave 19	2
016	Number of output points for Slave 3	Number of output points for Slave 19	2
020	Number of input points for Slave 4	Number of input points for Slave 20	2
022	Number of output points for Slave 4	Number of output points for Slave 20	2
024	Number of input points for Slave 5	Number of input points for Slave 21	2
026	Number of output points for Slave 5	Number of output points for Slave 21	2
030	Number of input points for Slave 6	Number of input points for Slave 22	2
032	Number of output points for Slave 6	Number of output points for Slave 22	2
034	Number of input points for Slave 7	Number of input points for Slave 23	2
036	Number of output points for Slave 7	Number of output points for Slave 23	2
040	Number of input points for Slave 8	Number of input points for Slave 24	2
042	Number of output points for Slave 8	Number of output points for Slave 24	2
044	Number of input points for Slave 9	Number of input points for Slave 25	2
046	Number of output points for Slave 9	Number of output points for Slave 25	2
050	Number of input points for Slave 10	Number of input points for Slave 26	2
052	Number of output points for Slave 10	Number of output points for Slave 26	2
054	Number of input points for Slave 11	Number of input points for Slave 27	2
056	Number of output points for Slave 11	Number of output points for Slave 27	2
060	Number of input points for Slave 12	Number of input points for Slave 28	2
062	Number of output points for Slave 12	Number of output points for Slave 28	2
064	Number of input points for Slave 13	Number of input points for Slave 29	2
066	Number of output points for Slave 13	Number of output points for Slave 29	2
070	Number of input points for Slave 14	Number of input points for Slave 30	2
072	Number of output points for Slave 14	Number of output points for Slave 30	2
074	Number of input points for Slave 15	Number of input points for Slave 31	2
076	Number of output points for Slave 15	Number of output points for Slave 31	2

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
100 – 121	Reserved		18
122	Status of Rotary Switches on module – **Read Only**	Data is 00 to 1F hex, representing the address of the module set by the rotary switches.	1
123	Status of DIP Switches on module – **Read Only**	Bit status represents the setting of each switch on the module's DIP Switch , which sets configuration parameters. 0=OFF, 1=ON. Bit 0 SW1 status Bit 1 SW2 status Bit 2 SW3 status Bit 3 SW4 status Bit 4 SW5 status Bit 5 SW6 status Bit 6 SW7 status Bit 7 SW8 status	1
124	Number of input points committed to the entire channel	User's setup program stores the correct BCD value to this memory location.	2
126	Number of output points committed to the entire channel	User's setup program stores the correct BCD value to this memory location.	2

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
130 – 131	Communication stop mode selection (communication stops when any specified slave fails)	In communication stop mode, the master stops updating the entire channel when a communication error occurs with any specified slave station. To select this mode for each slave, turn ON the corresponding bit of the shared memory shown below. Address 130 / Address 131 Bit 0: Entire channel stops when any slave fails / Slave 16 Bit 1: Slave 1 / Slave 17 Bit 2: Slave 2 / Slave 18 Bit 3: Slave 3 / Slave 19 Bit 4: Slave 4 / Slave 20 Bit 5: Slave 5 / Slave 21 Bit 6: Slave 6 / Slave 22 Bit 7: Slave 7 / Slave 23 Bit 8: Slave 8 / Slave 24 Bit 9: Slave 9 / Slave 25 Bit 10: Slave 10 / Slave 26 Bit 11: Slave 11 / Slave 27 Bit 12: Slave 12 / Slave 28 Bit 13: Slave 13 / Slave 29 Bit 14: Slave 14 / Slave 30 Bit 15: Slave 15 / Slave 31	2

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
132 – 133	Slave removal mode selection (communication stops to only the slave(s) with a communication error)	In slave removal mode, the master stops updating only the slave(s) with a communication error. It continues updating the I/O for the other slaves on the channel. To select this mode for each slave, turn ON the corresponding bit of the shared memory shown below. Address 132 / Address 133 Bit 0 Not used / Slave 16 Bit 1 Slave 1 / Slave 17 Bit 2 Slave 2 / Slave 18 Bit 3 Slave 3 / Slave 19 Bit 4 Slave 4 / Slave 20 Bit 5 Slave 5 / Slave 21 Bit 6 Slave 6 / Slave 22 Bit 7 Slave 7 / Slave 23 Bit 8 Slave 8 / Slave 24 Bit 9 Slave 9 / Slave 25 Bit 10 Slave 10 / Slave 26 Bit 11 Slave 11 / Slave 27 Bit 12 Slave 12 / Slave 28 Bit 13 Slave 13 / Slave 29 Bit 14 Slave 14 / Slave 30 Bit 15 Slave 15 / Slave 31	2
134	Communication hold or resume mode	The program can cause the communications on a channel to stop by setting the first bit in this byte ON. After communication stops, only a mode transition of the CPU (from STOP to RUN) will restart the communications. The bit is not cleared automatically, so if using this mode, the user program should clear this byte on the first scan.	1
135 – 137	Reserved		3
140	Network Error Flags – **Read Only**	Bit status represents network errors detected by the D2–RMSM. 0=OK, 1=ERROR Bit 0 Configuration Error (see Address 142 for details) Bit 1 Communication Error (see Address 144 for details) Bit 2 Diagnostics Error (see Address 150 for details)	2

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
142	Configuration Error Code – **Read Only**	Error code in BCD 20 Total inputs exceeds 512 21 Total outputs exceeds 512 24 I/O address out of I/O range 25 I/O address allocated to bad range 29 A slave has more than 512 points 70 Discrepancy between current configuration and old one 71 A module is in the wrong slot 72 Slave configuration is different from old one 73 Different slave is there	1
143	Station Number of Configuration Error – **Read Only**	Station number in BCD	1
144	Communication Error Code – **Read Only**	Error code in BCD 01 slave does not respond 02 wrong I/O information 03 I/O update error : CRC check error	1
145	Station Number of Communication Error Code – **Read Only**	Station number in BCD	1
146	Communication Error Counter – **Read Only**	Number of communication errors detected since CPU went into RUN mode, in BCD	2
150	Diagnostics Error Code	Error code in BCD 0201 Terminal block removed 0202 module not present 0203 Blown fuse 0206 Low battery voltage 0226 Power capacity exceeded	2
152	Reserved		1
153	Station number of Diagnostics error – **Read Only**	Station number in BCD	1

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
154 – 157	Reserved		4
160	Current bus scan time – **Read Only**	BCD value of current bus scan, in msec	2
162	Bus scan time upper limit	User can store BCD value of bus scan upper limit, in msec. Default is 100 msec.	2
164	Shortest bus scan time – **Read Only**	BCD value of shortest bus scan detected since CPU went into RUN mode, in msec	2
166	Longest bus scan time – **Read Only**	BCD value of longest bus scan detected since CPU went into RUN mode, in msec	2
170	Bus scan counter – **Read Only**	BCD value of number of bus scans detected since CPU went into RUN mode	2
172	Overlimit Bus scan counter – **Read Only**	BCD value of number of bus scans which have exceeded the scan time upper limit	2
174 – 175	Reserved		2
176	Setup Initiation Byte (includes Auto Return to Network)	User's setup program stores the correct bit pattern to this memory location to configure the following modes: Bits 0,1, and 2 must be ON to initiate setup of remote slave addressing Bit 7 ON=Specifies that offline slaves can return to the network without cycling CPU	1
177	Copy Configuration to EEPROM (Setup Complete)	User's setup program stores a BCD value to this location to log the parameters stored by the setup program to the Master's EEPROM. C1 – Signifies that setup is complete. Hint: This should be the last function of your setup program.	1
200 – 374	Reserved		125

OCTAL ADDRESS	FUNCTION	DETAIL	# Bytes
375	Slave Page Selection	User's setup program stores a BCD value to this location to select the page of slave parameters for setup programming: 81 Slaves 1–15 82 Slaves 16–31	1
376 – 377	Reserved		2

Quick Reference Table of Shared Memory Addresses

D2–RMSM				
Setup Initiation Byte				176
Setup Complete Byte				177
Slave	Input Address	Output Address	Number of Input Points	Number of Output Points
ALL	000	002	124	126
1	N/A	N/A	004	006
2	N/A	N/A	010	012
3	N/A	N/A	014	016
4	N/A	N/A	020	022
5	N/A	N/A	024	026
6	N/A	N/A	030	032
7	N/A	N/A	034	036
8	N/A	N/A	040	042
9	N/A	N/A	044	046
10	N/A	N/A	050	052
11	N/A	N/A	054	056
12	N/A	N/A	060	062
13	N/A	N/A	064	066
14	N/A	N/A	070	072
15	N/A	N/A	074	076
2nd page of slave range data				
16	N/A	N/A	000	002
17	N/A	N/A	004	006
18	N/A	N/A	010	012
19	N/A	N/A	014	016
20	N/A	N/A	020	022
21	N/A	N/A	024	026
22	N/A	N/A	030	032
23	N/A	N/A	034	036
24	N/A	N/A	040	042
25	N/A	N/A	044	046
26	N/A	N/A	050	052
27	N/A	N/A	054	056
28	N/A	N/A	060	062
29	N/A	N/A	064	066
30	N/A	N/A	070	072
31	N/A	N/A	074	076