OPERATOR INTERFACE PRODUCTS APPLICATION NOTE

Subject: SLC500 Addressing in SoftScreen for Windows   AN 1054B
Date: 12/02/96   Revised 4/11/97
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For various reasons, the method of defining a SLC 500 address differs in SoftScreen as compared to Allen Bradleys APS programming software. This document describes to two major areas of concern.

1.   I/O Addressing

When talking to I/O modules, AB always refers to the slot number of the rack, but SoftScreen accesses the direct memory data table and does not know which rack a module is plugged into. Addresses in SoftScreen are determined by counting the input and output words.

In this example, the output module in slot 5 would be **I:5** to the AB but to SoftScreen it's **I:3** and **I:4** since it's the third and fourth input registers in the data table. The module in slot 7 would be **O:4** to SoftScreen. To refer to discrete bits you still need to add the bit modifier: **O:3/5** for bit 5. Input and Output modules have their own separate areas within the data table. Accordingly, the module in slot 6 would be **I:5** to SoftScreen since it's the fourth input register in the data table. SoftScreen doesn't care about the actual physical location.
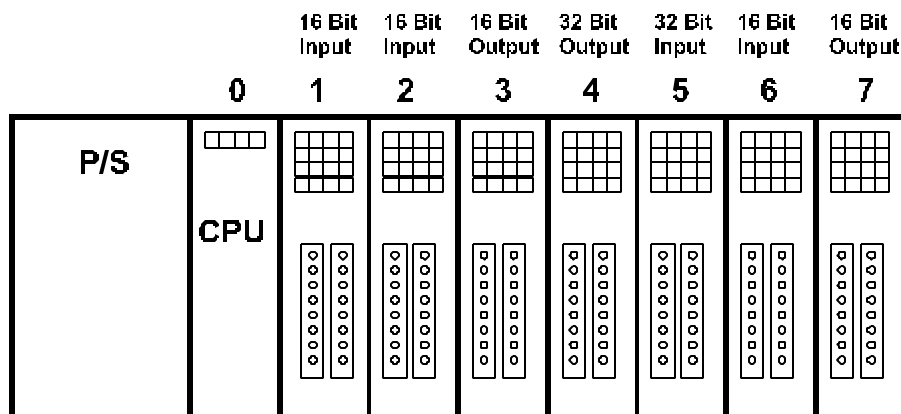
	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
A-B	I:1	I:2	O:3	O:4 O:4.1	I:5 I:5.1	I:6	O:7
SoftScreen	I:1	I:2	O:1	O:2 O:3	I:3 I:4	I:5	O:4

Note: This table is valid for this example PLC configuration only.

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When addressing individual bits on the I/O modules, simply add **/x** to indicate which bit. For example, to read bit 17 in slot 4 of this example PLC you use **O:3/2**. Remember that the first word for this slot contains bits 0-15 and the second word holds bits 16-31.

Another method to determine the Softscreen address is to look at the data table as displayed by AB's programming software. Then you simply count the number of registers and assign new numbers to them. For example:

Module	**AB**	**SoftScreen**	**Comments**
OA16	O:1	O:1	
IA16	I:2	I:1	
IB32	I:3	I:2	
	I:3.1	I:3	
1747KE	I:4	I:4	This card uses one input register
IB32	I:5	I:5	
	I:5.1	I:6	
OA16	O:6	O:2	Second output register in data table

Note: This is an data table from an actual SLC503 and not the example PLC on the previous page.

You must also remember to add the **/x** to read any bit status. If you simply assign a tag to address **I:1** in this example, you would be reading the entire register, not a bit status. To read the individual bits for this register, use **I:1/0** through **I:1/15**.

Note: When addressing the second word in a 32bit module, be sure to use this addressing scheme instead of the AB method such as I:5.1 for the second word. The AB method may work for some racks but will definitely not work for any expansion racks. You must use the method described on these pages.

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2.   Internal Bit Addressing

Addressing internal bits is also different in SoftScreen than in APS. Allen-Bradley refers to each bit file as one large file and all that needs to be specified is the file number and the bit number. SoftScreen addressing must include the word number as well.

In this example of a SLC500 data file, the highlighted ONE bit would be *B3:37* to APS but in a SoftScreen application, it must be defined as **B3:2/5**. This translates to File B3, word 2, bit 5.

address	15		data	0
B3:0	0000	0000	0000	0000
B3:1	0000	0000	0000	0000
B3:2	0000	0000	0010	0000
B3:3	0000	0000	0000	0000
B3:4	0000	0000	0000	0000
B3:5	0000	0000	0000	0000
B3:6	0000	0000	0000	0000
B3:7	0000	0000	0000	0000
B3/37 = 1				