

CTRIO WORKBENCH, I/O MAP



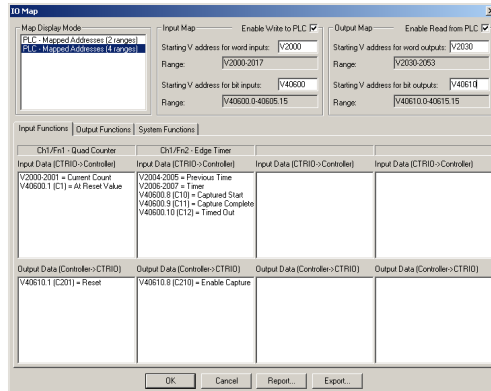
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I/O Map with DirectLOGIC PLC (4 ranges mode)



When using the CTRIO(2) module with a *DirectLOGIC* PLC in “4 ranges” mode, enter the starting V-memory location for the *word* inputs and outputs and the starting V-memory location for the *bit* inputs and outputs. Control relays (V40600 range) would usually be used for bit control. In the I/O Map dialog below, note that Input, Output and Systems Functions addresses shown are in word and Control Relay formats. Thus, word and Control Relay addressing will need to be used in the ladder logic program to address the CTRIO(2) control and status words/bits. Remember that the CTRIO(2) module will consume the address ranges listed in all four range fields.



I/O Map with *Direct*LOGIC PLC with CTRIO(2) in ERM/EBC Network

- DL
- Win
- NI

When using the CTRIO(2) module with a *Direct*LOGIC PLC in an ERM/EBC network, first configure the ERM network using the ERM Workbench utility. Then, from ERM Workbench, enter the CTRIO(2) module Starting input and output V-Map addresses into CTRIO Workbench I/O Map starting V-memory location for the *bit* inputs and outputs.



NOTE: If there is an 8-pt. discrete I/O module preceding the CTRIO module in the EBC base, enter the appropriate starting V-memory bit I/O address in CTRIO Workbench with a V40xxx.8 address as shown in the I/O Map example below (bottom right). This corrects the word offset created by the 8-pt. discrete I/O module. In the example below, note that V40416 Hi(8-15) is the starting ERM Workbench CTRIO input V-Map location due to the 8-pt. discrete input module preceding the CTRIO module.

I/O Module	I/O Points	PLC Start	PLC End	V-map	Notes
(reserved)	Slave Status Bits	X300	X317	V40414	
	ERM Status Word	X320	X337	V40415	
	Disable Slave Command Bits	Y300	Y317	V40514	
Slave 1	H2:EBC				Ethernet Address[00 E0 62 00 19 AD] on IPX:
Slave 1/Slot 0	8 Discrete Input	X340	X347	V40416 Lo(0-7)	
Slave 1/Slot 1	36 Discrete Input	X350	X367	V40416 Hi(8-15)/V40424 Lo(0-7)	
	96 Discrete Output	Y320	Y357	V40515/V40522	
	12 Word Output	V2100	V2113		16-bit Binary:
	8 Double Word Input	V2000	V2017		32-bit Binary:
	4 Double Word empty				
Slave 1/Slot 2	16 Doc				
Slave 1/Slot 3					

I/O Map with EBC/WinPLC

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- Win
- NI

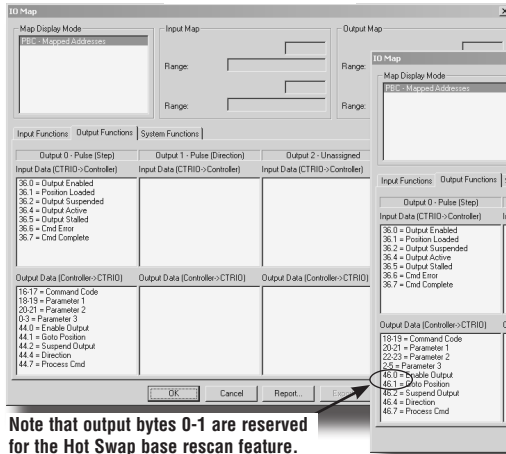
When using the CTRIO(2) module in an EBC/WinPLC system (non PLC system), the addressing will be shown as Native EBC/WinPLC addresses or if using Think&Do, the addressing can be shown as Native Think&Do addresses. Just click on the desired mode in the Map Display Mode field. The 8-pt module offset described in the note above does not apply to EBC/WinPLC or EBC/Think&Do systems.

I/O Map with an H2-PBC or T1H-PBC * Profibus DP Controller

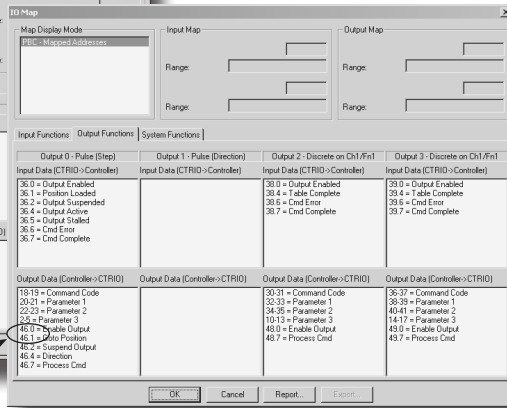
When using the CTRIO(2) module with an H2-PBC or T1H-PBC native Profibus addressing will be displayed in the I/O Map as shown below. For the T1H-PBC, the first two output bytes of memory are automatically reserved for the Hot Swap base-rescan feature. The H2-PBC does not support the Hot Swap feature.

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- Win
- NI

H2-PBC I/O Map



T1H-PBC I/O Map (see note below)

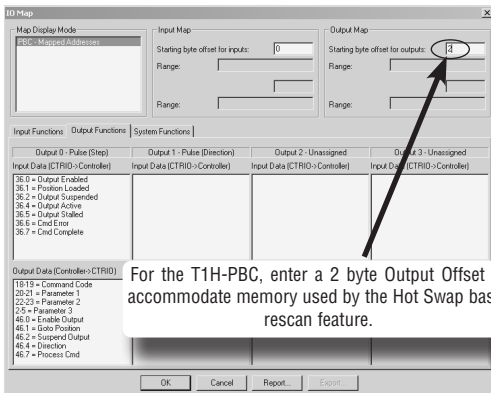


Creating an Offline File for H2-CTRIO(2)/T1H-CTRIO Module

For the T1H-PBC, enter a 2 byte Output Offset to accommodate memory used by the Hot Swap base-rescan feature. This does not apply to an H2-PBC system. The example shown below assumes the T1H-CTRIO module is the first module in the system.

The CTRIO(2) modules consume 44 bytes of input memory and 52 bytes of output memory. The maximum amount of I/O memory per H2/T1H-PBC station is 244 input bytes and 242 output bytes.

You may need to refer to the Profibus User Manuals (H2-PBC-M / T1H-PBC-M) for information on bytes used by discrete and/or analog I/O modules in order to determine the appropriate Starting input and output byte offset addresses for the CTRIO(2) module.



***NOTE: T1H-PBC is obsolete as of 08/20. No replacement available.**

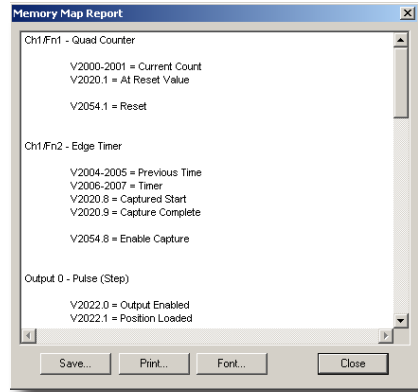
Printing a Memory Map Report

- DL
- Win
- NI

You can print an I/O Memory Map Report from the I/O Map dialog or save as a (.txt) file. Click on the **Report** button located near the bottom of the I/O Map dialog to display the **Memory Map Report** dialog.



The addresses listed in the Memory Map Report are a combination of the Input Functions, Output Functions and Systems Functions addresses shown in the I/O Map dialog. It is very convenient to have a printed list of the CPU/controller I/O memory used by the CTRIO(2) module while writing the control program.



Exporting to DirectSOFT

You can export a (.csv) file containing addressing and nicknames used in the I/O Map dialog. Click on the **Export** button located near the bottom of the I/O Map dialog to display the **Export to DirectSOFT** dialog shown below on the left.



- DL
- Win
- NI

The (.csv) file (shown below on right) contains a combination of the Input Functions, Output Functions and Systems Functions addressing and nicknames shown in the I/O Map dialog. This file can be imported into your *DirectSOFT* ladder logic program (*DirectSOFT*>File>Import>Element Documentation).

If you have more than one CTRIO(2) module in a system and intend to create a (.csv) file for more than one module, use the Add Prefix or Add Suffix option to distinguish one module nickname from the others. For example, add prefix or suffix "S1" to identify the CTRIO(2) module nicknames in slot 1.

