OPERATOR INTERFACE PRODUCTS APPLICATION NOTE

Subject: Configuring an Opto 22 Controller using Mystic Software AN# 1094A
Date: February 7, 2000
Name:

Description: Programming and Configuration of Opto 22 Controller using Mystic Software

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Hardware Configuration

The cable pinouts used to connect from the SoftScreen engine directly to the Mistic 200 programming port via RS-485 is as follows:

SoftScreen Engine	Mistic Programming Port
2	RX+
5	COM
6	TX-
1	RX-
7	TX+

For RS-485, the Mistic port must be via the terminal block.

The cable pinouts used to connect from the SoftScreen engine via RS-232 to the Mistic 200 programming port are as follows:

SoftScreen Engine	Mistic Programming Port
2	2(TXD)
3	3(RXD)
4	9(DTR)
5	7(GND)
7	4(RTS)
8	5(CTS)

For RS-232, the Mistic port must be via the 9-pin port

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Starting Cyrano 200
Type cyrano from cyrano sub-directory.

After starting Cyrano 200, select load from the menu. Press the up arrow key until the FILE NAME button is highlighted then press the Enter key. You will get a flashing cursor in the FILE NAME box. Now press the Del key several times to delete the old name, than type in your new name. The ACCEPT button is highlighted. Press the Enter key or your mouse left button.

Adding A New I/O Unit
Select the configure menu the top bar. Next select **I/O Unit** from the menu. The ADD button at the window will be highlighted. Press the Enter key to get the ADD I/O UNIT Window. From this window you can configure your I/O unit. Type in the name and press Enter. The highlight will move down to the TYPE box. Select the I/O type using the right arrow key and press enter. The highlight now moves down to the PORT selection box. Select the port type (local or remote) and press Enter. The highlight moves down to the ADDRESS selection box. Type in a number for the port ADDRESS. (The address must correspond to the **brick**.) The ACCEPT button will be highlighted when all selections are made. Press the Enter key and you will be back to the CURRENT I/O UNITS window. Press the right arrow key several times to highlight the EXIT button at the bottom of the screen. Now press the Enter key and you will be returned to the chart drawing screen.

Adding I/O Points
To define the I/O point, first select **Configure** menu from the top bar. Next select the I/O **Point** command from the menu. You will get the I/O UNIT window which will display a list of all the I/O units that have been defined. You must select an I/O unit for adding I/O points. You will get a window for adding I/O Point. The screen will always show the maximum number of I/O points that can he defined (16 for digital units, 8 for analog unit). Select the channel you want to configure and press Enter key. The configure I/O point window will be displayed and you can configure your I/O point from here. The NAME box will be highlighted Type the I/O point name

(must be a unique name) and press Enter key. On type selection box, select the I/O point type with the arrow key (DIN or DOUT) and press Enter key. The highlight moves down to the MODULE selection box. Here you select your module type using the arrow key and press the Enter key. After all selections are made, the ACCEPT button will be highlighted you then will press the Enter key. The configure digital I/O point window will appear. Press the arrow key several times to highlight the EXIT button at the bottom of the window, then press the Enter key to return you to the SELECT I/O UNIT Window. Press the Esc key or the right mouse button to return to the chart drawing window.

Drawing The Chart

After adding I/O units and I/O points, you will be back to the chart drawing screen. BLOCK-0 will always appear as the first block for every new chart. Start your program with BLOCK-0. The program always executes the POWER-UP chart first and it starts with BLOCK-0.

To complete the chart, we need to (1) draw the blocks (2) draw the interconnecting lines and (3) fill in the details inside the blocks.

To draw the operation block, select the operation tool from the side menu bar, position the block to the desired location and click the left mouse button to paste. To draw interconnecting lines, select the CONNECT tool from the side bar and click the left mouse button, drag the line to the block you want to connect and click on the left mouse button.

Naming The Blocks

We can now give the blocks more meaningful names. To choose a name for a block, select the NAME fool, move the tip of the mouse pointer to the block and click the left mouse button. Type in the new block name and press Enter. The pop-up window changes to allow you to accept or cancel your name selection.

Adding The Details

The DETAIL tool allows you to add operations to the operation blocks and add conditions to the condition blocks. To add details for a block, first select the DETAIL tool from the side bar. Next, position the tip of the mouse button inside the block and click the left mouse button. A pop up window is displayed which allows you to ADD, DELETE or CHANGE details and to EXIT when finished. Select ADD when highlighted by pressing the Enter key. You will get a series of popup windows which you can select the operation and the operands which go with the operation. The first window is the ITEM EDITOR window with a blinking cursor, which prompts you for the name of the operation. Pressing the Enter key without typing anything will allow you to select an operation (Digital point, Analog point, General purpose, Logical, Chart, PID, String, Mathematical etc....). First you must select a group and then you select an operation from that group. After selecting a group you will get a DIGITAL POINT window which list all digital point operations, (e.g. clear all latches, disable Digital point, Get counter value, Get frequency, pulse on, pulse off, start counter, stop counter, Turn on, turn off etc...) Use the arrow key to make the selection and press the Enter key. You will be returned to the ITEM EDITOR window. Press the Enter key when all selection has been made. This will give you a list of all the I/O points configured in the I/O unit selected. Highlight the exit button and press the Enter key, which returns you to the chart drawing screen.

Saving Your Work

You can save your work in a DOS file on the drive or subdirectory that you are currently using. To do this just select the File menu and select Save. You will get the save file window. The ACCEPT button will be highlighted. Press the Enter key to save,

Running Your Program

You have to configure your system and the target processor G4LC32 before compiling and downloading your program.

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System configuration
Select configure from the top bar menu and select Mistic. From the window displayed select the address, baud rate and COM Port to match your hardware.

Target configuration
Press the SETUP key on the G4LC32 front panel and press Enter. You will get a display similar to this:

VIEW MODE:
HOST PORT: COMI
PROCESSOR ADDR: 255

Make sure that the address you select from the CONFIGURE MISTlC COMMUNICATIONS window agrees with the PROCESSOR ADDR. Then, configure the board for the proper COM port address, interrupt and baud rate and set the termination resistors. Make sure that the jumpers for the configured COM port is set properly:

For 2wire Terminated 4-8 is jumped
For 4wire Terminated l-5 is jumped
For 2 wire Non-terminated 6-10 is jumped
For 4 wire Non-terminated No jumper is installed

Press the REQ key till you get a display similar to the following:

PROCESSOR IS IN
NONAUTOBOOT MODE
PROCESSOR WILL RUN FROM RAM

This is the default setting.

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To download your program to the target G4LC32, select System from the top bar. The debug command will be highlighted. Press the Enter key or the left mouse button. If your communications port is well configured, CYRANO 200 will compile your program and will download it to the target G4LC32. Press Enter key and another window comes up, from this screen you can RUN, STOP OR DEBUG your program.