

## Bay LED Support on CI Design NSR Unit Using I<sup>2</sup>C with 3Ware AMCC Controller Card

### I. Introduction

This manual will go through the information of using the I<sup>2</sup>C method with 3Ware Controller Card ( 9650 SE) on CI Design NSR Enclosures using Horizontal Backplane Board 12-6429-02A, 12-6429-05A, 12-6429-06A.

This manual includes the steps of flashing the EPCT onto your 3Ware Controller Card thus enabling the drive bay Power LED and Status LED functions from the I<sup>2</sup>C Bus. The drive bay Activity LED is supported from the P11 of the HDD.

### II. Required materials:

#### 1. Cables



Figure 1 I<sup>2</sup>C Cables

#### 2. Software Kit

Download the appropriate 3ware ECPT Code from [www.cidesign.com](http://www.cidesign.com) or contact CI Design Engineer or your 3Ware Rep for software kit compatible with Ci Design chassis.

### III. Instructions for flashing your controller card

1. Download the 3ware ECPT Code and program, use the appropriate esconfig and ECPT file.
2. Unzip the kit and remember the location.
3. Run the esConfig.exe file.

Example: `esconfig -c0 -i xxxx.bin`

- -c# is the controller card port.
- -i install the CCU onto controller card.
- xxxx.bin is the name of the ECPT file.

4. After flashing is complete, the system must be restarted.

## IV. Settings on Backplane Board

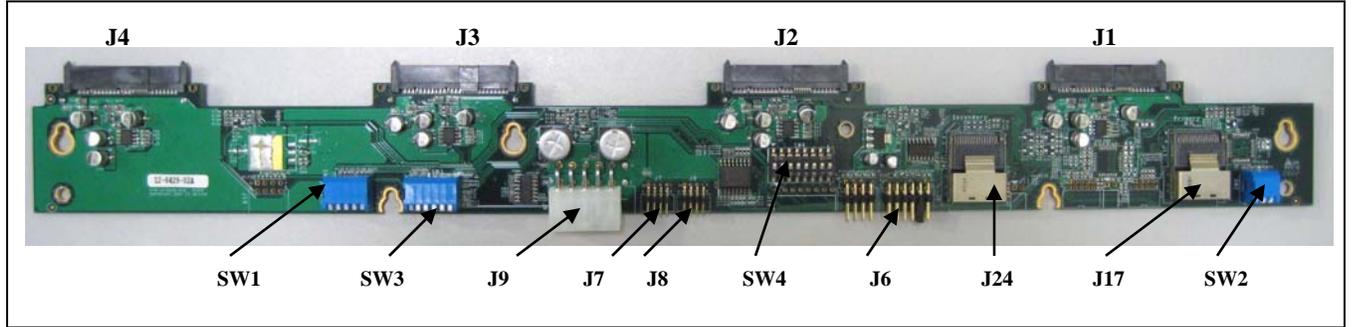


Figure 2 Backplane Board 12-6429-02A

HEADER	J6	Shunt-Jumper on pin 9 - 10																																					
SWITCH	SW1	All DIP keys → ON																																					
	SW3	DIP Key 1 → ON DIP Key 2-6 → OFF																																					
	SW4	All DIP keys → ON																																					
	SW2	<table border="1"> <thead> <tr> <th rowspan="2">Backplane Board</th> <th rowspan="2">Card Port</th> <th colspan="3">SW2 DIP POSITION</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0-3</td> <td>ON</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>2</td> <td>4-7</td> <td>ON</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>3</td> <td>8-11</td> <td>ON</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>4</td> <td>12-15</td> <td>ON</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>5</td> <td>16-19</td> <td>OFF</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>6</td> <td>20-23</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> </tbody> </table>	Backplane Board	Card Port	SW2 DIP POSITION			1	2	3	1	0-3	ON	ON	ON	2	4-7	ON	ON	OFF	3	8-11	ON	OFF	ON	4	12-15	ON	OFF	OFF	5	16-19	OFF	ON	ON	6	20-23	OFF	ON
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Table 1 Switch & Header Setting on Backplane Board

## V. Connection on Backplane Board

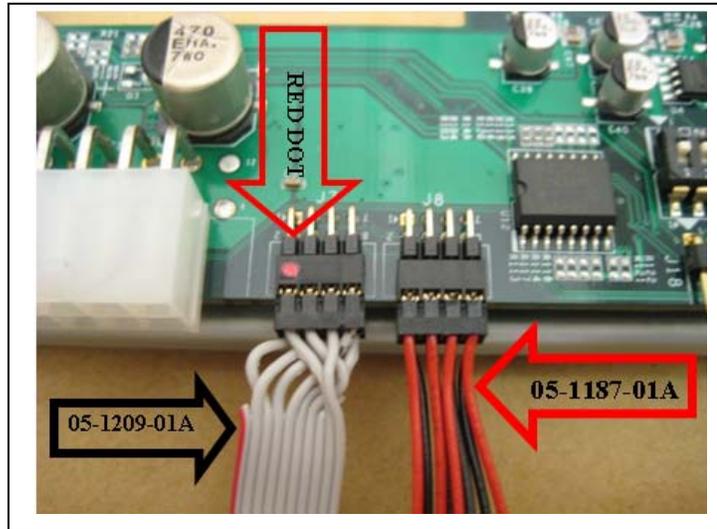
1. Data Cable Connection.

Data Cable Connector	HDD Type
J17	SATA / SAS (primary)
J24	SAS (secondary)

Table 2 Data Cable Connector on the board

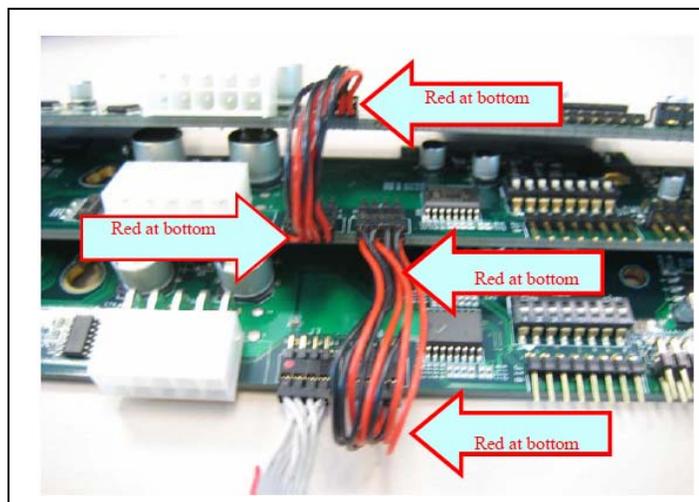
## 2. I<sup>2</sup>C Cable Connection

1. The I<sup>2</sup>C Cable 05-1209-01A must be installed on the First Backplane Board of the unit. Connect the 4x2 Cable Connector Housing to the J7 Header on the Board (“Red Point” of Housing Connector to pin #1 J7 Header). The SW2 of this First Board that connect to PORT 0 of the Card must be set to Binary 0 (ON ON ON).



**Figure 3 - I<sup>2</sup>C cable plugged into backplane**

2. The next/ Second Board (if any) must be daisy chained with the First Board using cable 05-1187-01A on J8 and J7. Please be consistent in the way of connecting this cable (Red wires to Odd pin number). The SW2 of this Second Board that connect to PORT 1 of the Card SW2 must be set to Binary 1 (ON ON OFF).
3. Repeat similar step no.2 if there is additional backplane boards. Refer to Table 1 for SW2 setting.



**Figure 4 Daisy Chain Connection**

### 3. Power Supply Cable Connection

Connect the Power Supply DC Cable to J9 on each Backplane Board (B/P).

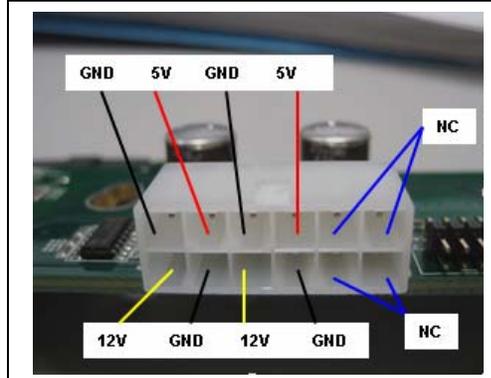


Figure 5 J9 Power Input Pin Out

### 4. HDD Connection

Engage the HDD on J1, J2, J3, J4.

## VII. I<sup>2</sup>C Cable Connection on Controller Card

1. The I<sup>2</sup>C 5x2 Cable Connector Housing connects to the 3Ware Card I<sup>2</sup>C Header (The Red Point of the Cable Housing Connector to Pin-1 of Card Header).

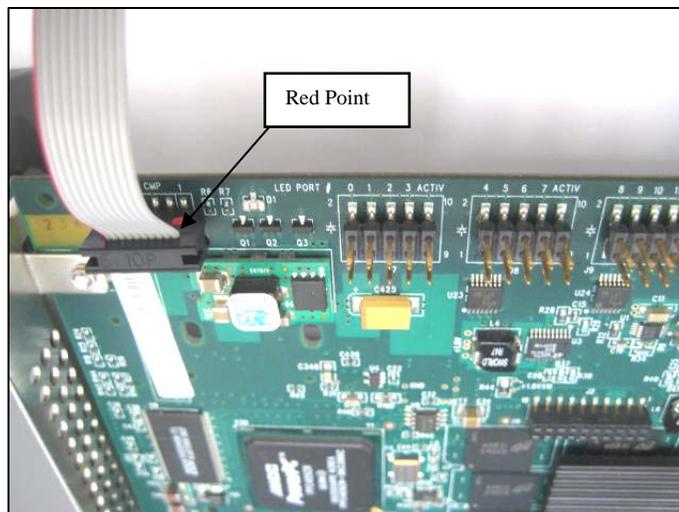


Figure 6 - I<sup>2</sup>C cable plugged into controller card

## VII. Description of LED codes

The following table describes the drive status LED code.

COLOR	STATUS
<b>Solid Green</b>	Drive OK
<b>Blinking Green</b>	Identify
<b>Black</b>	No Drive
<b>Red and Green</b>	Hot Spare
<b>Blinking Red and Green</b>	Rebuilding
<b>Solid Red</b>	Drive timeout or RAID DCB Error
<b>Blinking Red</b>	SMART threshold exceeded error or ECC error
<b>Blinking and Solid Blue</b>	Drive Activity

Table 3 Drive Bay Status LED Code Description

Drive time-out, DCB error, SMART threshold exceeded, or ECC error will retain across power cycle (non-volatile).

The exceptions are:

- ECC error if mapped out by drive (through RAID creation, initialize, write operation), firmware will report solid green instead of blinking red.
- DCB error result in solid red across power cycles, unless user creates new array using the same drive, which firmware will report solid green.
- SMART error will retain its status through initialization, rebuilding, and array creating by blinking red.
- Drive timeout error may or may not retain solid red, if firmware at any point can communicate with the drive after power cycle, reset, or hard reset.