CPU Board
Upgrade Procedure
for CPU Board Upgrade Kit PN 22292000

Overview

Purpose

This procedure details how to upgrade the computer in your MAX Series or DS Series dispense system from CPU board PN 2025-0064 to CPU board PN 2025-0121.

Safety notices

⚠️ *Only qualified maintenance or technical personnel fully aware of all safety precautions should perform this procedure.*

IMPORTANT: Follow all instructions in the order listed.

Requirements

Software required

⚠️ Implementation of this procedure requires the dispense system to operate with FLOware®Software version 2.9.3 or later.

Parts required

CPU board upgrade kit PN 22292000 includes:

CPU board	PN 2025-0121
network interface card	PN 2025-0120
CPU board Upgrade Procedure	PN 22240102
CMOS Setup Procedure for 2025-0121	PN 22240103

Tools required

- Phillips screwdriver
- Size 2 hex key or 5/64 hex key
- wire snips

Content

P/N 22240102, Version 1.1
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1 - Replace CPU board

To replace CPU board PN 2025-0064 with CPU board PN 2025-0121:

1. Prepare dispense system for upgrade:
    a. Perform the standard dispense system power off procedure.
    b. Unplug the dispense system Main Power cable from facility power source.

2. Open computer case.

3. Ground yourself.

4. Disconnect the CPU board (PN 2025-0064) from these items:

|	
A	Computer power supply / power connection
B	IDE drive 1 / removable hard drive/master hard drive
C	IDE drive 2 / slave hard drive / CD drive cable
D	Floppy drive
E	COM 1 / serial port COM 2 / serial port - if present, disconnect.
F	USB ports
not shown	Serial ATA drive(s) - if present, disconnect.
not shown	ATXCTRL1 control cable - if present, disconnect

Figure 1: *CPU board PN 2025-0064 disconnected and removed from computer.*
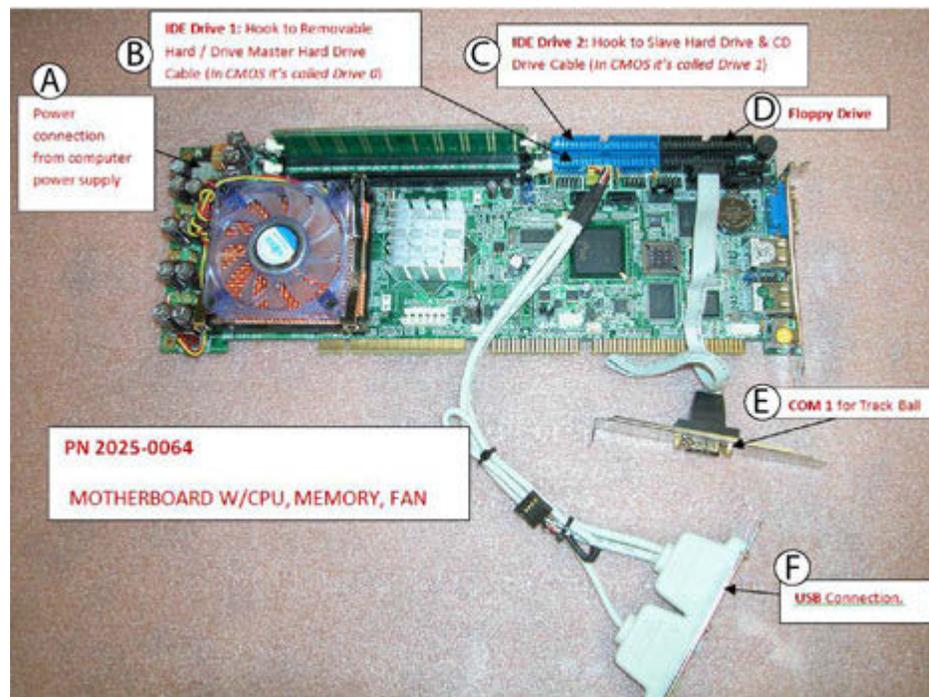
5. After completely disconnecting the existing CPU board (PN 2025-0064), remove it from the computer. Recycle the CPU board.

6. Install CPU board (PN 2025-0121) in same slot from which you removed the old CPU board.

A	CPU board (SBC, motherboard)

Figure 2: *Location of CPU board PN 2025-0121 installed in computer box.*
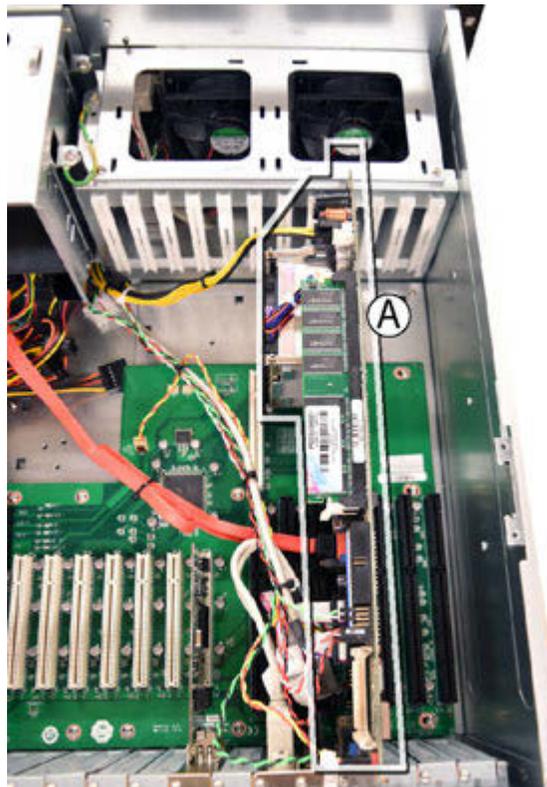
7. Connect CPU board PN 2025-0121 to these components:

Item	Description	Details
A	Power supply	• CN2 in Figure 7 (page 9) • Power source connector - CN2 (pg 15)
B	Fan	FAN2 in Figure 7 (page 9)
C	Floppy drive	If Floppy drive is present: FDD1 in Figure 7 (page 9)
D	Serial ports	CPU board PN 2025-0121 comes with its own serial ports: • COM1 and COM2 in Figure 7 (page 9) • COM ports - COM1, COM2 (pg 10)
E	USBs	• USB1, USB2, USB3, and USB4 in Figure 7 (page 9) • Internal USB connectors - USB1, USB2, USB3, USB4 (pg 11)
F	Serial ATA drives	If Serial ATA drives are present: • SATA1 and SATA2 in Figure 7 (page 9) • SATA drive connectors - SATA1, SATA2 (pg 14)
G	IDE drives (2 plug ins)	IDE1 and IDE2 in Figure 7 (page 9)
H	Front panel (wire bundle)	• CN1, ATXCTL1, and PW_SW1 in Figure 7 (page 9) • System front panel connector - CN1 (pg 12)

Figure 3: *CPU board PN 2025-0121 fully installed/connected to components*
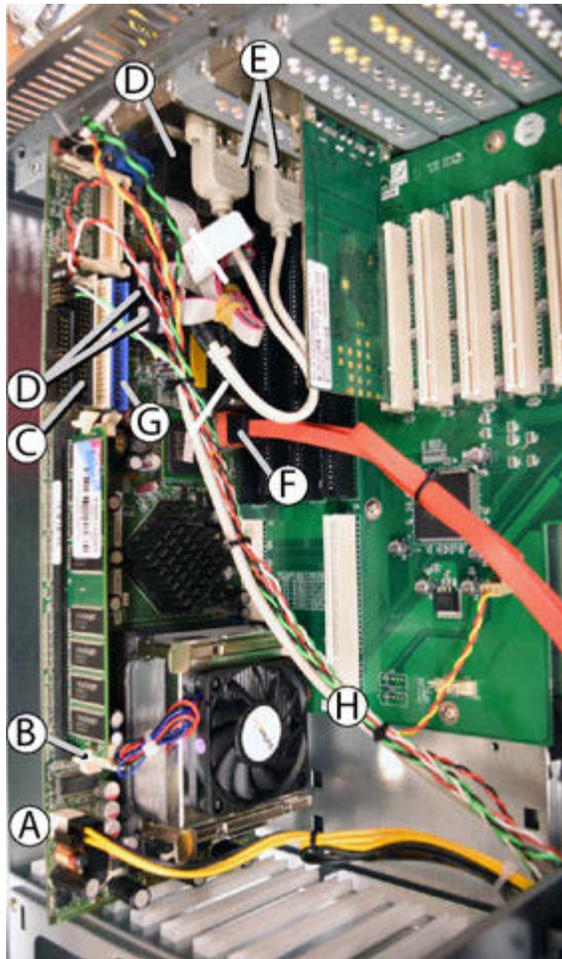
8. Adjust wiring to optimize ventilation.

9. Perform 2 - Install and setup network interface card (pg 5) procedure.

2 - Install and setup network interface card

1. Install network interface card (2025-0120) in PC1 slot.
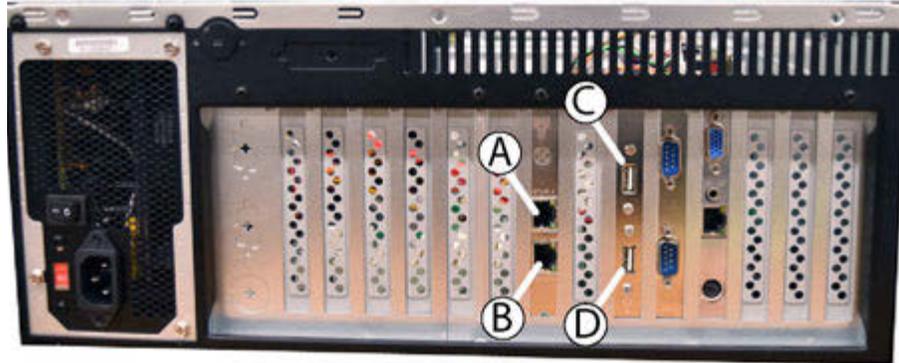
A network interface card (NIC)

Figure 4: . Location of network interface card

2. Connect indicated devices to the Ethernet ports (Items A & B) located on the back panel:

A	network device (switch or back panel) port
B	Cyclops vision processor port
C	spare USB port
D	spare USB port

Figure 5: *Port locations - computer rear view*

3. Close the computer case.

4. Power on the dispense system:
    a. Plug the dispense system Main Power cable back into facility power source.
    b. Perform the standard dispense system power on procedure.

5. Perform 3 - Set CMOS parameters (pg 6) procedure.

3 - Set CMOS parameters

1. Set the computer CMOS parameters for the new CPU board. Follow details in *CMOS Setup Procedure for 2025-0121* (PN 22240103).

2. Perform 4 - Update configuration settings (pg 7) procedure.

4 - Update configuration settings

For the new CPU board to function as desired, the dispense system configuration settings must be configured.

⚠️ This procedure requires the dispense system to operate with FLOware®Software version 2.9.3 or later.

To change configuration settings, access the `ds.options.cfg` file through low level:

1. Access low level:
    a. Turn on the machine.
    b. As the computer performs a system check, press ESC a couple times. Immediately after the initial post, a prompt displays:

        ```
        Press ESC for Alternate OS...
        ```

    c. Press the ESCAPE key to enter the Alternate Operating System.
    d. At the password prompt, type the following and press ENTER:

        ```
        2148
        ```

    e. Answer NO to each of the next two questions.

        ```
        Start Low Level Drivers (I/O and Video) (y/n): n
        Start X Windows (y/n): n
        ```

    f. At the `$` prompt, type the following and press ENTER:

        ```
        su dispenser
        ```

2. Type the following command prompt to access the `ds.options.cfg` file:

    ```
    vedit /appl/etc/config/ds.options.cfg
    ```

3. To change the configuration settings, locate and edit the following lines to match **values** shown here:

    HINT: To access a search dialog, press F2.

    ```
    VisType1 = 1010
    VisType2 = 1010
    VisType1PCindex = 0
    VisType2PCindex = 1
    ```

4. Press ESC to access the Escape Menu dialog.

5. In the Escape Menu dialog, press X or select EXIT and press ENTER. The Exit VEDIT dialog displays.

6. In the Exit VEDIT dialog, press Y or select YES and press ENTER.

7. Perform the standard dispense system shutdown procedure. Changes to the configuration file will take effect the next time the dispense system powers on.
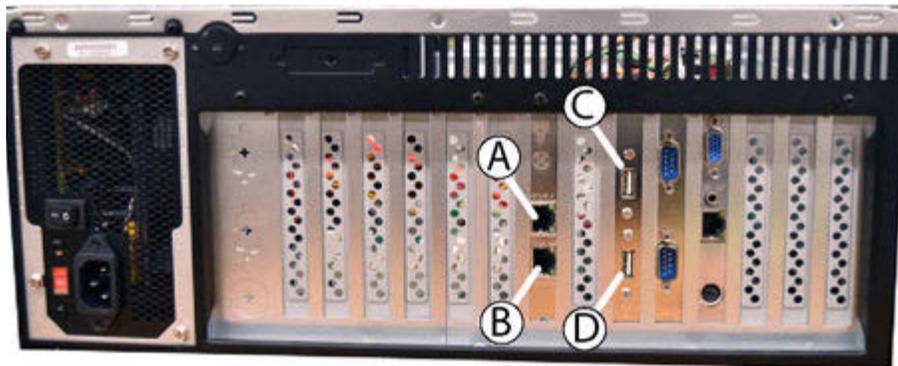
References

External USB ports

When the CPU board upgrade is complete, two external spare USB ports (Items C & D) become available.

A	network device (switch or back panel) port
B	port for Cyclops vision processor port
C	spare USB port
D	spare USB port

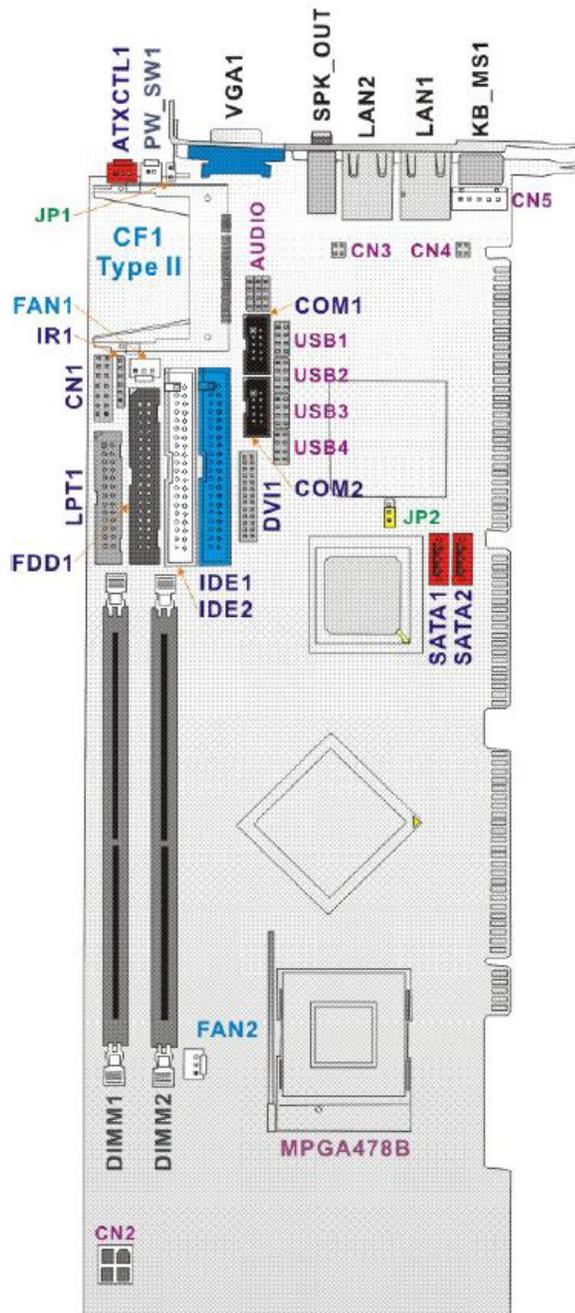***Figure 6:*** *Port locations - computer rear view*

Peripheral interface connectors

CPU board layout

The locations of peripheral interface connectors - onboard peripheral connectors, backplane peripheral connectors, and onboard jumpers - are shown here.
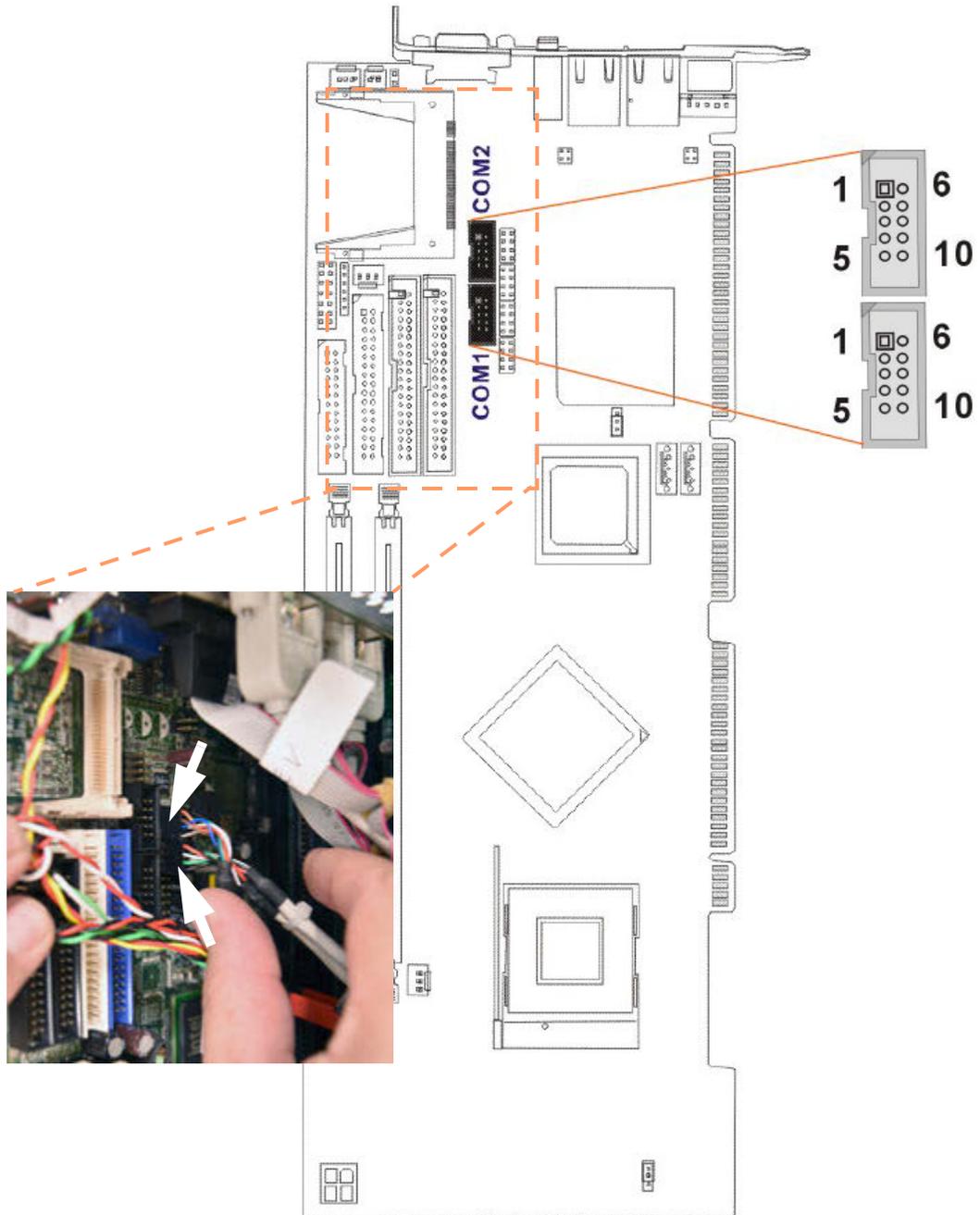
***Figure** 7: Peripheral interface connector locations*

Internal peripheral connectors

COM ports - COM1, COM2
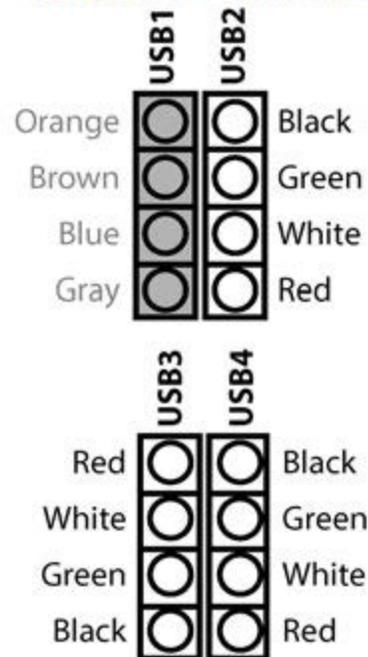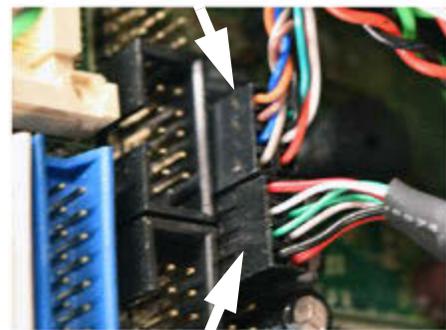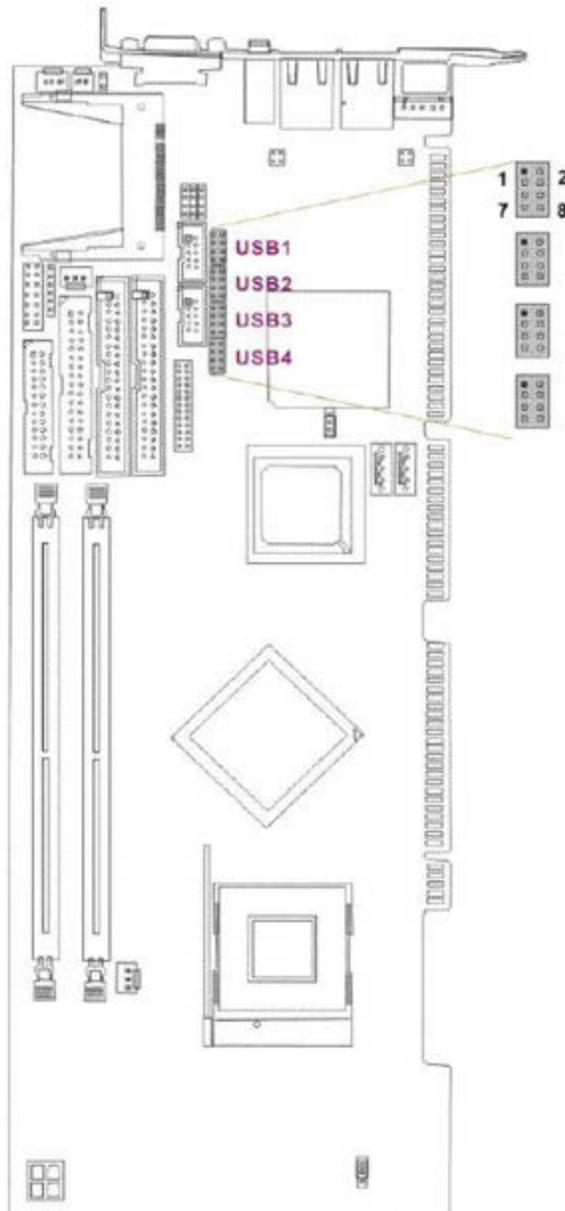
Figure 8: *COM port locations*

Internal USB connectors - USB1, USB2, USB3, USB4

Four 2x4 pin connectors provide connectivity to eight USB 2.0 ports. The USB ports are used for I/O bus expansion.

Table 1: USB Port Connector Pinouts

PIN	Description	PIN	Description
1	VCC	2	GND
3	DATA0-	4	DATA1+
5	DATA0+	6	DATA1-
7	GND	8	VCC

Figure 9: USB port connector locations

NOTE: If the *non-standard "orange/brown/blue/gray" wires* aren't present, then rewire using standard *"red/white/green/black" pattern.*

System front panel connector - CN1

The system panel connector connects to the system chassis front panel LEDS, the chassis speaker, the power switch, and the reset button.

- The ATXCTL1 connection should already exist when upgrading the CPU board. The connection may look different than shown in this procedure. The included cable should work in most cases.
- If the PS_SW1 connection does not already exists in the computer prior to this upgrade, you will not be able to connect the power switch.

⚠️ *If you have questions about the connections, contact our GPD Global Service Department for help.*

***Table 2:** System Panel Connector Pinouts*

	PIN	Description	PIN	Description	
Power LED	1	+5V	2	Speaker+	Speaker
	3	N/C	4	N/C	
	5	GND	6	N/C	
	7	N/C	8	Speaker-	
	9	N/C	10	Reset PIN1	Reset Button
	11	GND	12	Reset PIN2	
HDD LED	13	HDD LED+	14	HDD LED-	HDD LED

~ continued ~

Figure 10: *Front panel connection locations: CN1, ATXCTL1, and PW_SW1*
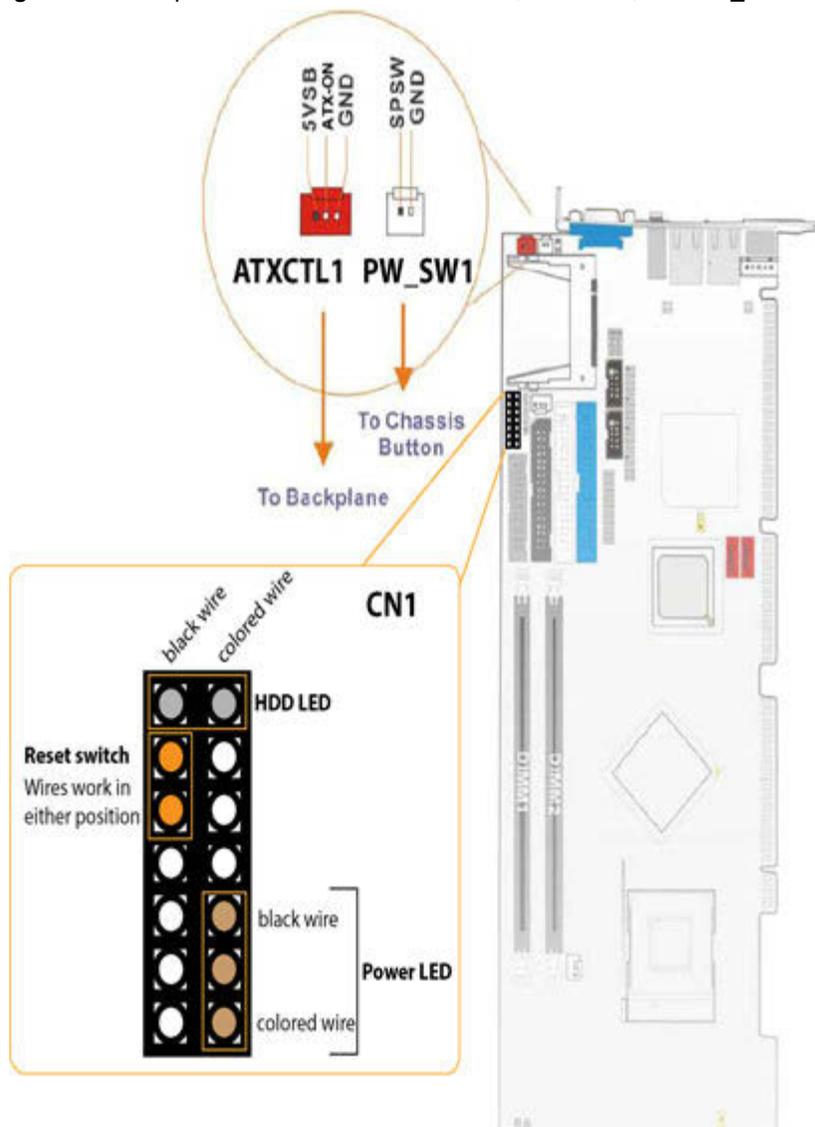
MAX Series dispense systems only

Connect preexisting wires in the computer case to the new CPU board per this guide:

Table 3: *Wire-to-Pin Guide*

Connector	Wire	Pin Position
ATXCTL1	STB+5V	Refer to CN1 wire colors and locations detailed in Figure 10 (page 13)
	PS ON	
PW_SW1	colored (not black) wire	
	black wire	
CN1	HDD LED pin	
	Reset switch	
	Power LED	

SATA drive connectors - SATA1, SATA2

The SATA drive ports provide connectivity to SATA drives with a maximum data transfer rate of 150MB.

Figure 11: SATA drive locations
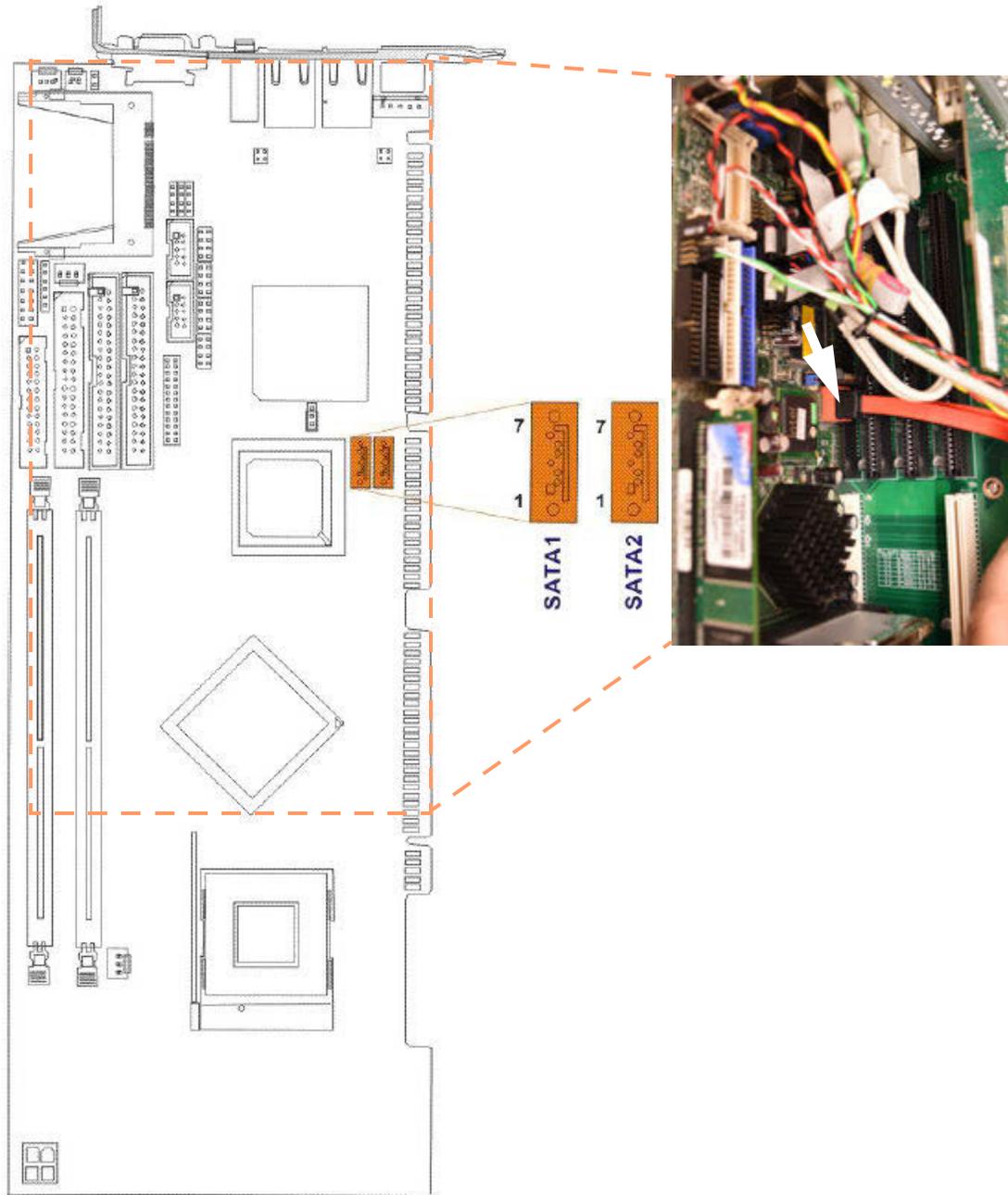
Power source connector - CN2

This connector supports the ATX-12V power supply.

Figure 12: Power source location