Redundant Master Controller Installation Instructions

Introduction

This publication describes the installation procedure for the 4100-9121, 4100-9122, and 4100-9222 redundant master controller panels.

This product is compatible with the 4100U and the 4100ES Fire Alarm Control Panels (FACP).

Contents of Shipment

The table below lists the contents of assembly number 742-729 (PID# 4100-9121).

Part #	Description	Qty
637-525	Redundant Master Controller w/ SPS (Primary CPU Bay)	1
637-358	Redundant Master Controller w/o SPS (Secondary CPU Bay)	1
734-073	Power/Comms Harness	1
734-074	Redundant Back-Up Harness	1
733-525	Power/Comms Harness	1

The table below lists the contents of assembly number 743-239 (PID# 4100-9122).

Part #	Description	Qty
637-935	Flexible User Interface Redundant Master Controller w/ SPS (Primary CPU Bay)	1
637-933	Flexible User Interface Redundant Master Controller w/o SPS (Secondary CPU Bay)	1
734-073	Power/Comms Harness	1
734-074	Redundant Back-Up Harness	1
733-525	Power/Comms Harness	1

The table below lists the contents of assembly number 743-670 (PID# 4100-9222).

Part #	Description	Qty
650-108	Flexible User Interface Redundant Master Controller w/ SPS (Primary CPU Bay)	1
650-109	Flexible User Interface Redundant Master Controller w/o SPS (Secondary CPU Bay)	1
733-525	Power/Comms Harness	1
734-008	Power/Comms Harness	1
734-074	Redundant CPU Harness	1

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Cautions and Warnings

Cautions and Warnings

READ AND SAVE THESE INSTRUCTIONS- Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED- Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.

ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.

STATIC HAZARD - Static electricity can damage components. Handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

EYE SAFETY HAZARD - Under certain fiber optic application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.

FCC RULES AND REGULATIONS – PART 15 - This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES To ensure proper system operation, this product must be tested in accordance with NFPA 72® after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions, known to be affected by a change, must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

General Description

Introduction

The 4100U and the 4100ES product lines support the option for a redundant master controller (CPU). This is achieved through the use of two CPU bays, a primary and a secondary. The primary bay contains the primary CPU and the additional controller cards necessary to switch to the secondary CPU if a trouble occurs. The system power supply (SPS) is located in the primary CPU bay.

The secondary CPU bay houses the secondary CPU that is mounted to a two-inch wide, class B motherboard. Figure 1 shows a typical layout of the components within an FACP with a Redundant Master Controller. More specific details pertaining to each bay are discussed later in this section.

The 4100-9121 includes the standard 2x40 operator interface, while the 4100-9122 and 4100-9222 versions of the redundant master controller includes a Flexible User Interface. The Flexible User Interface is a front panel assembly that features a large screen display instead of the standard 2x40 display.

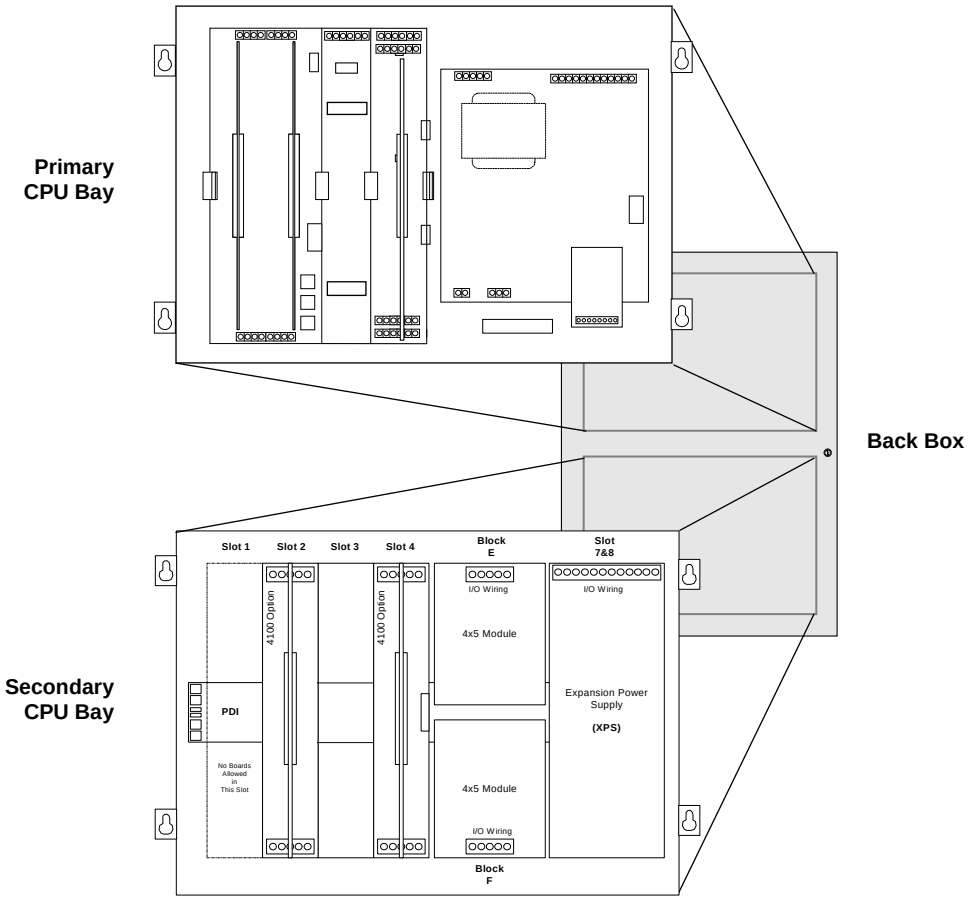

Figure 1. Primary and Secondary CPU Bays

Installation Overview

The two bays are shipped together with all necessary components installed. The procedure for installing the redundant master controller is to install a back box assembly (shipped separately), mount the PDM (shipped separately) and electronics bays to the back box, interconnect the bays, and wire AC power and batteries to the system.

Continued on next page

The Primary CPU Bay

The primary CPU bay in the redundant master controller configuration (see Figure 2) contains a CPU motherboard with an attached CPU daughter card, or master controller.

The CPU switcher card adjacent to the CPU motherboard is the relay card that switches the communications bus from the primary CPU card to the CPU card in the secondary CPU bay. The 24 Point I/O card monitors the communications with the primary CPU. SPM1 on the 24 Point I/O is shorted (via factory-wiring) to program the 24 Point I/O for communications monitoring. In the event of failure of the primary CPU, the 24 Point I/O card activates I/O point 1. I/O point 1 is wired to the CPU Switcher card via harness. A relay on-board the CPU Switcher card transfers 4100 communications from the Primary CPU to the Secondary CPU. All slave cards and modules in the FACP system must be wired to the right of slot 3 or in another bay wired after the CPU Switcher.

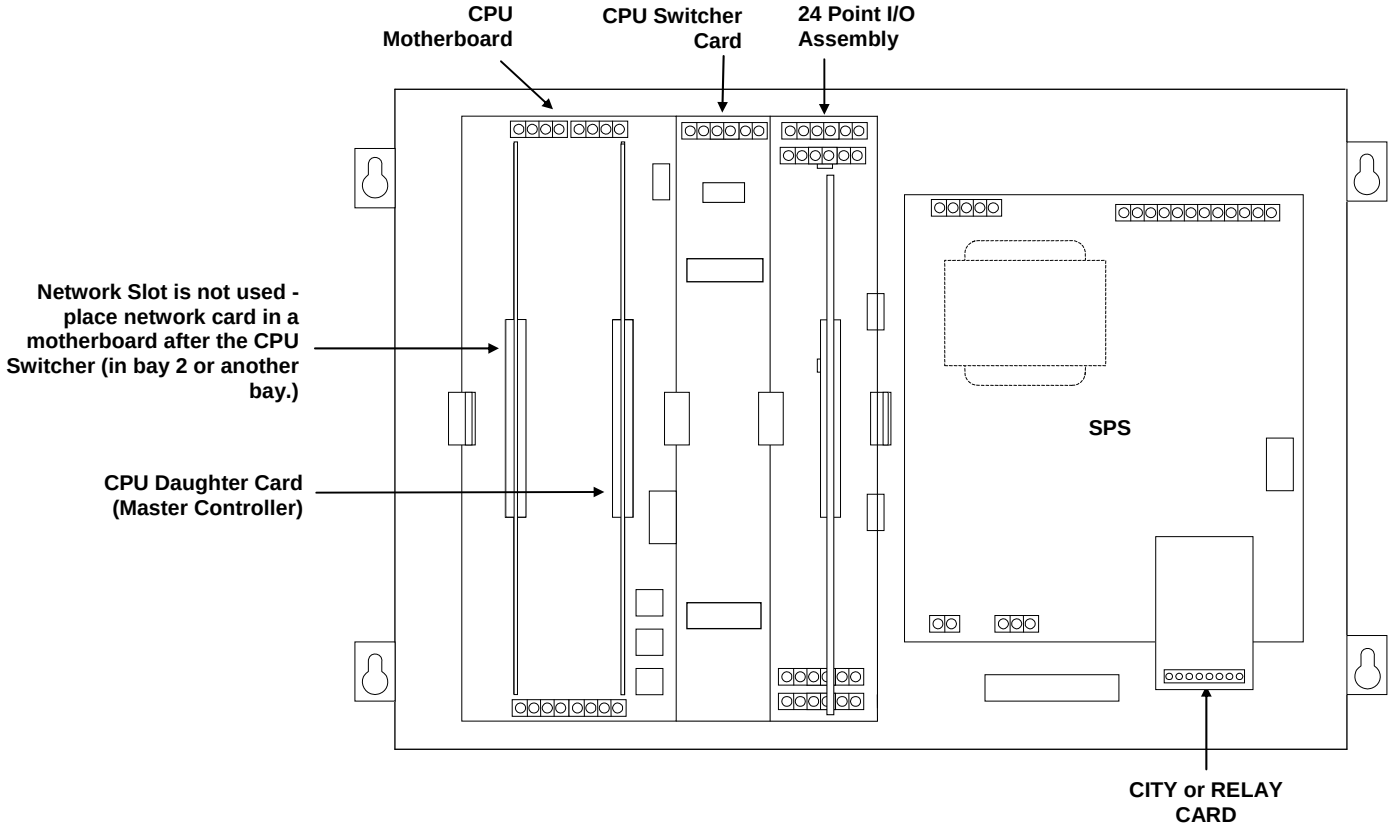

Figure 2. Primary CPU Bay Configuration

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The Primary CPU Bay

Figure 3 shows the entire primary CPU bay assembly with a 2 x 40 (2 lines of 40 characters each) operator interface. Figure 4 shows the entire primary CPU bay assembly with a Flexible User Interface. All of the preinstalled components within the bay are shown in the illustration.

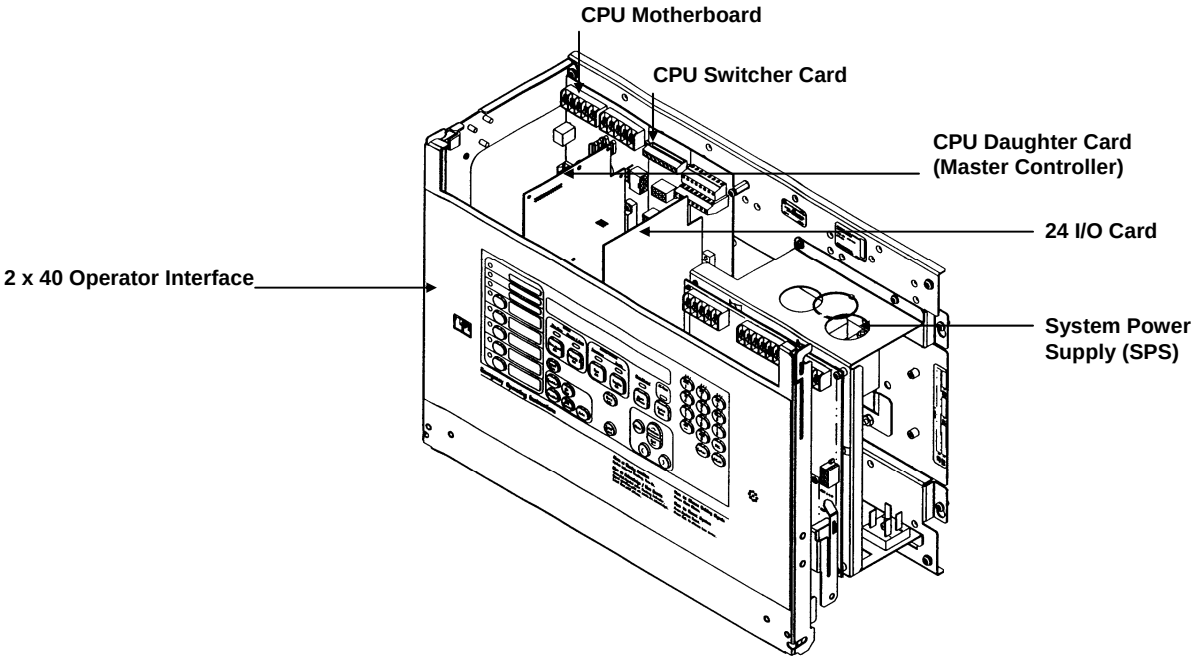

Figure 3. Primary CPU Bay (4100-9121 Model Shown)

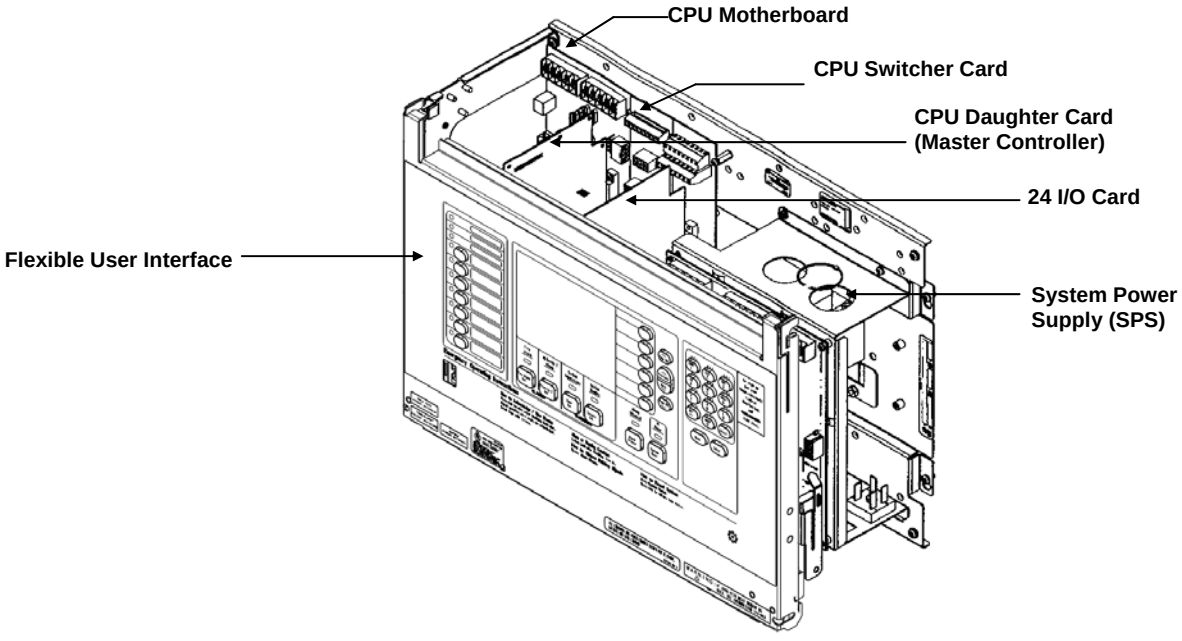

Figure 4. Primary CPU Bay (4100-9122 Model Shown)

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The Secondary CPU Bay

The secondary CPU bay in the redundant master controller configuration (see Figure 5) always consists of at least a CPU motherboard with a daughter card (the secondary master controller) and a power distribution interface (PDI) module - the same PDI contained in all expansion bays. These are the preinstalled components of the secondary CPU bay.

The Class B CPU motherboard is two inches wide, and mounts to the second slot from the left (as in other expansion bay configurations, the first slot must remain empty). Note there is no slot for a network interface card on this motherboard. There is also no system power supply in the secondary CPU bay. However, as the illustration shows, an expansion power supply can be installed in a secondary CPU bay. The illustration also shows two 4" X 5" slave cards and a second full-length motherboard. These components are not standard, and vary with different configurations and applications.

No full-length motherboard can be mounted to the immediate right of the CPU motherboard (slot 3 in Figure 5) because the configuration of the bay forbids a direct power and communications connection between the secondary CPU motherboard and the rest of the full-length motherboards installed in the bay.

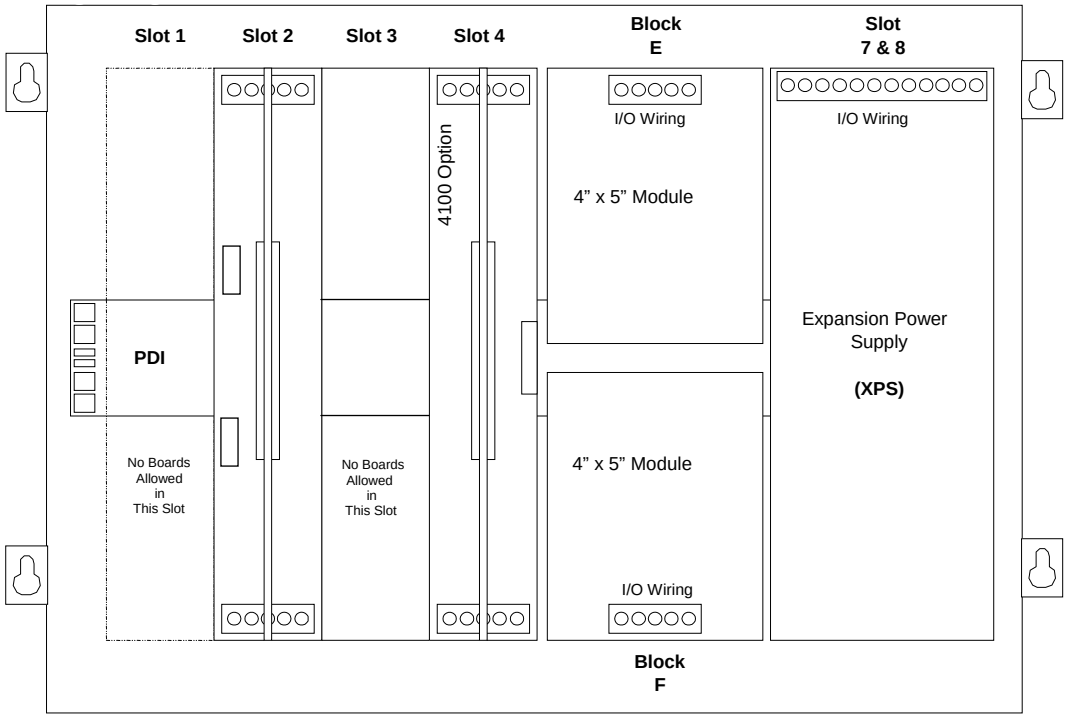

Figure 5. Secondary CPU Bay Configuration

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The Secondary CPU Bay

Figure 6 shows the entire secondary CPU bay assembly with a 2 x 40 operator interface. All of the preinstalled components within the bay are shown in the illustration.

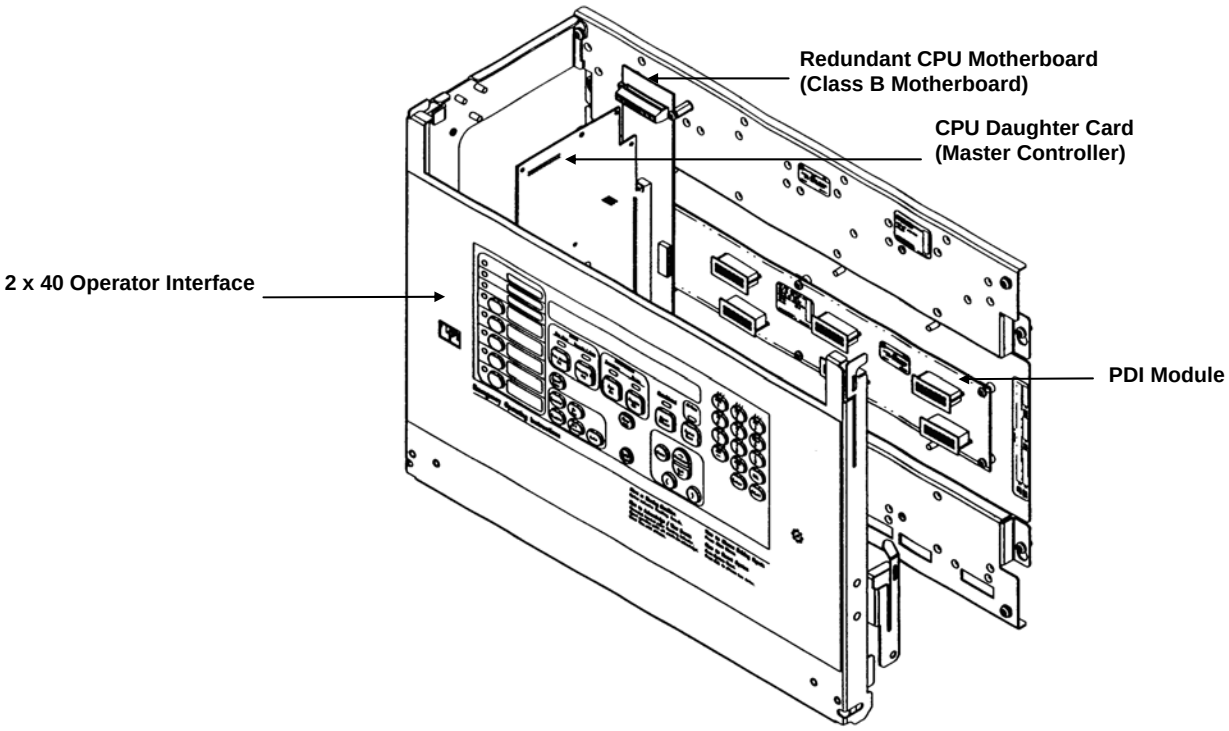

Figure 6. Secondary CPU Bay (4100-9121 Model Shown)

The Secondary CPU Bay that is included with the 4100-9122 does not include a display. The Flexible User Interface is a communicating slave within the FACP system, so when comms is switched to the secondary CPU, the Flexible User Interface communicates with that CPU.

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Mounting the Back Box

Introduction

Two system back boxes are available, accommodating two or three CPU/expansion bays. Back boxes are available in either red or beige, and can include either solid or glass doors. This section contains guidelines for flush and surface back box mounting. For more information on back box installations, see *Back Boxes and Accessories Installation Instructions* (579-117).

Note: Back boxes are shipped in containers separate from the CPU and expansion bays. If CPU and expansion bay containers are shipped with back box containers, store the CPU and expansion bay containers in a safe, clean, and dry location until the back box installation is completed, and you are ready to install the CPU and expansion bay(s).

List of Back Boxes

Table 1. Back Box Specifications

PID	Size	Height	Color
2975-9411	2 Bays	40” (1,016 mm)	Beige
2975-9412	3 Bays	56” (1,422 mm)	
2975-9408	2 Bays	40” (1,016 mm)	Red
2975-9409	3 Bays	56” (1,422 mm)	

List of Doors

Table 2 lists the specifications for the various enclosure doors.

Table 2. Enclosure Door Specifications

PID	Size	Height	Door Type	Color
4100-2122	2 Bays	40” (1,016 mm)	Glass	Red
4100-2123	3 Bays	56” (1,422 mm)		
4100-2132	2 Bays	40” (1,016 mm)	Solid	Red
4100-2133	3 Bays	56” (1,422 mm)		
4100-2102	2 Bays	40” (1,016 mm)	Glass	Beige
4100-2103	3 Bays	56” (1,422 mm)		
4100-2112	2 Bays	40” (1,016 mm)	Solid	Beige
4100-2113	3 Bays	56” (1,422 mm)		

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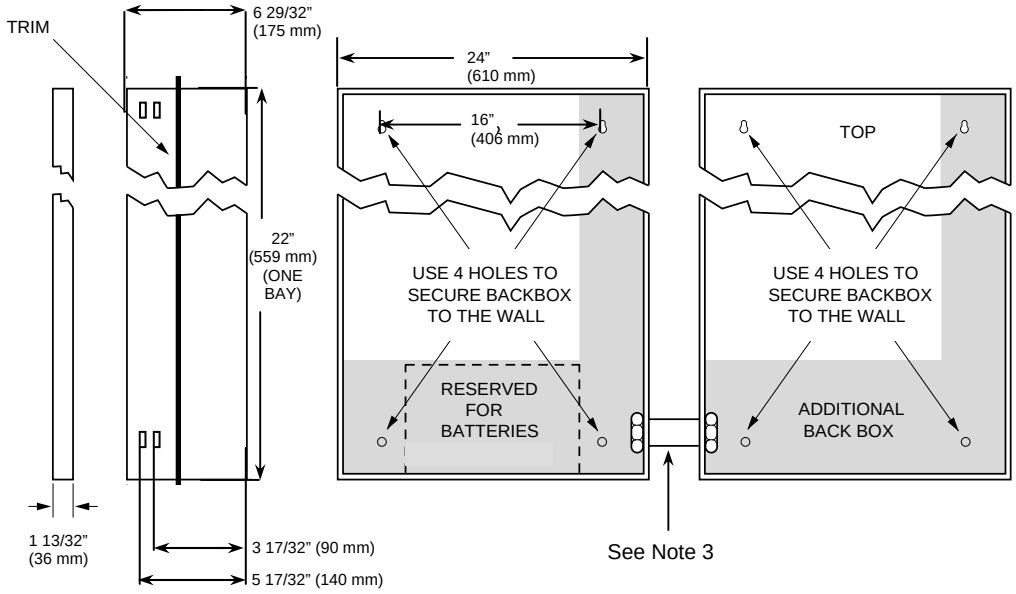
Installing the Back Box

Install the back box as shown in Figure 7. Use the holes in the back box to secure it to the wall.

Notes:

- For mounting to a wooden wall structure, the back box must be attached with four 1-½-inch-long (38 mm) lag bolts and four ½-inch-diameter (13 mm) washers.
- For surface mounting, secure the box to the wall using the tear drop and mounting holes on the back surface. For flush and semi-flush mounting, secure the box to the wall studs using the knockouts on the sides of the box. Note that the front surface of the box must protrude at least 3 inches (76 mm) from the wall surface for semi-flush installations.
- Power-limited systems have back box entrance and routing restrictions for field wiring. Do *not* locate power-limited wiring in the areas of the back box shown shaded in Figure 7. Do *not* use the upper right, right, or bottom knockouts for entrance of power-limited wiring. Those areas are reserved for non power-limited circuitry such as AC power, batteries, and the city connection.



Notes:

1. Dimensions shown are typical for all surface and semi-flush installations.
2. Use suitable punch when conduit is required and no knockout is present.
3. Minimum distance between boxes is 3 ¼ inches (83 mm). Maximum distance between boxes is 6 inches (152 mm).
4. Do not install any power-limited wiring in the shaded area of the back box as shown in Figure 7. This area is reserved for non power-limited devices and circuits (for example, AC power, batteries, and city circuits). The non power-limited area is determined by the internal barriers, but is always below and to the right of these barriers.

Figure 7. Back Box Installation Diagram

Installing the PDM in the Back Box

Installing the PDM

The power distribution module (PDM) for a box mount consists of a module, its cover, and the insulator/marker strip (see Figure 8).

1. Locate the four threaded standoffs inside the back box.
2. Remove the cover from the replacement PDM.
3. Line up the insulator/marker strip with the four standoffs. Face out the proper side of the strip according to your use of 120 V or 240 V power.
4. Screw PDM onto the strip using the four plastic support posts (supplied).

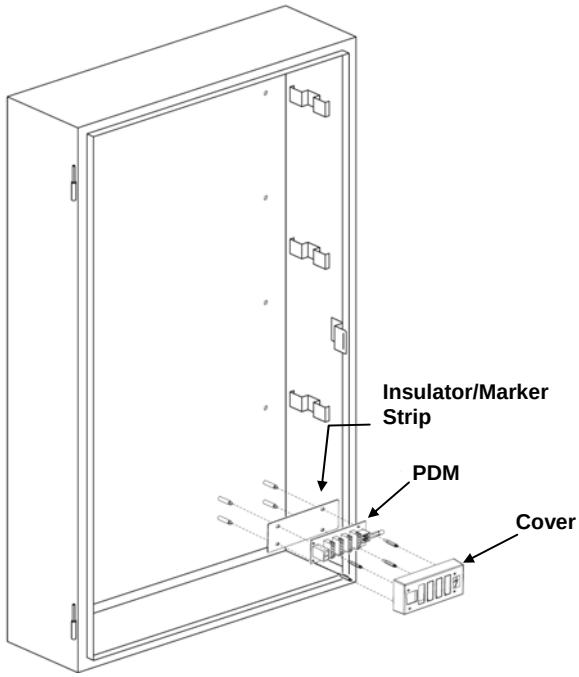


Figure 8. Mounting the PDM Bracket (2-Bay Box Shown)

Table 3. Recommended Torque for Mounting Hardware

Screw / Nut Size	Recommended Torque
No. 6	7.9 to 8.7 inch/ounces (569 to 626 cm/grams)
No. 8	16.1 to 17.8 inch/ounces (1,159 to 1,282 cm/grams)
No. 10	26.8 to 29.7 inch/ounces (1,930 to 2,139 cm/grams)

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Installing the CPU Bays

The CPU bays for each back box are secured inside a cardboard shipping container when shipped from the factory. Before installing the CPU bays, you must first remove them from the shipping studs that secure them to the shipping container.

Perform the following procedure to install each of the CPU bays.

1. In the locations shown in Figure 9, partially install four bay mounting screws for each bay. Fasten the screws securely enough to hold the weight of the bays but leave them extended enough so that the bays can be hung on them.
2. Hang each bay onto the proper set of partially installed mounting screws. Install the primary CPU bay (the one containing the SPS) above the secondary CPU bay (the one with the PDI and no SPS) in the back box.
3. Tighten the screws to complete the installation of the bay. Refer to Table 3 for the recommended torque when mounting hardware.

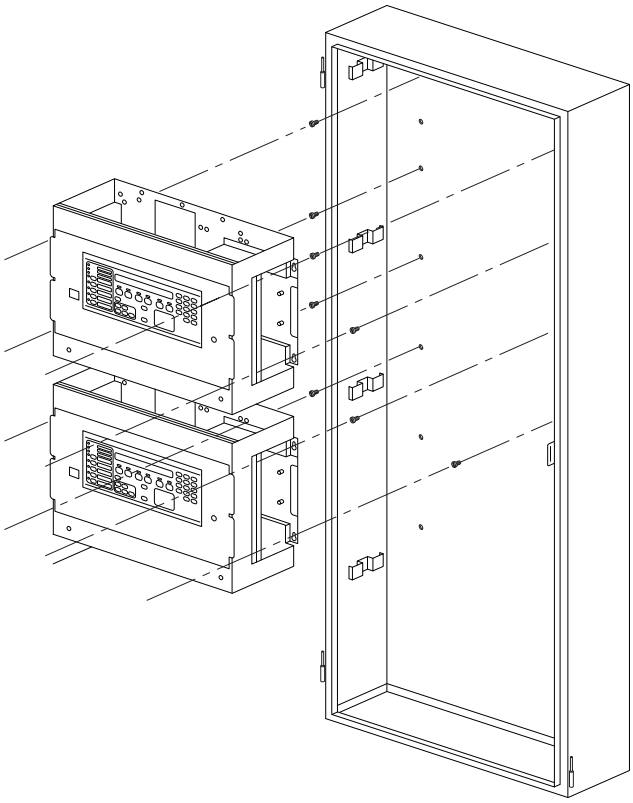

Figure 9. Installing the CPU Bay Assembly (4100-9121 Model Shown)

Configuring System Components

Overview

The CPU, SPS, and all other component modules located in the electronics assemblies you have installed in the back box must be configured to operate correctly in the system via their switch and jumper ports. This section describes the hardware configuration for the preinstalled components in the primary and secondary CPU bays.

CPU Motherboard Configuration (Primary CPU Bay)

1. The CPU motherboard in the primary CPU bay is not used for external RUI comms or for network card location.

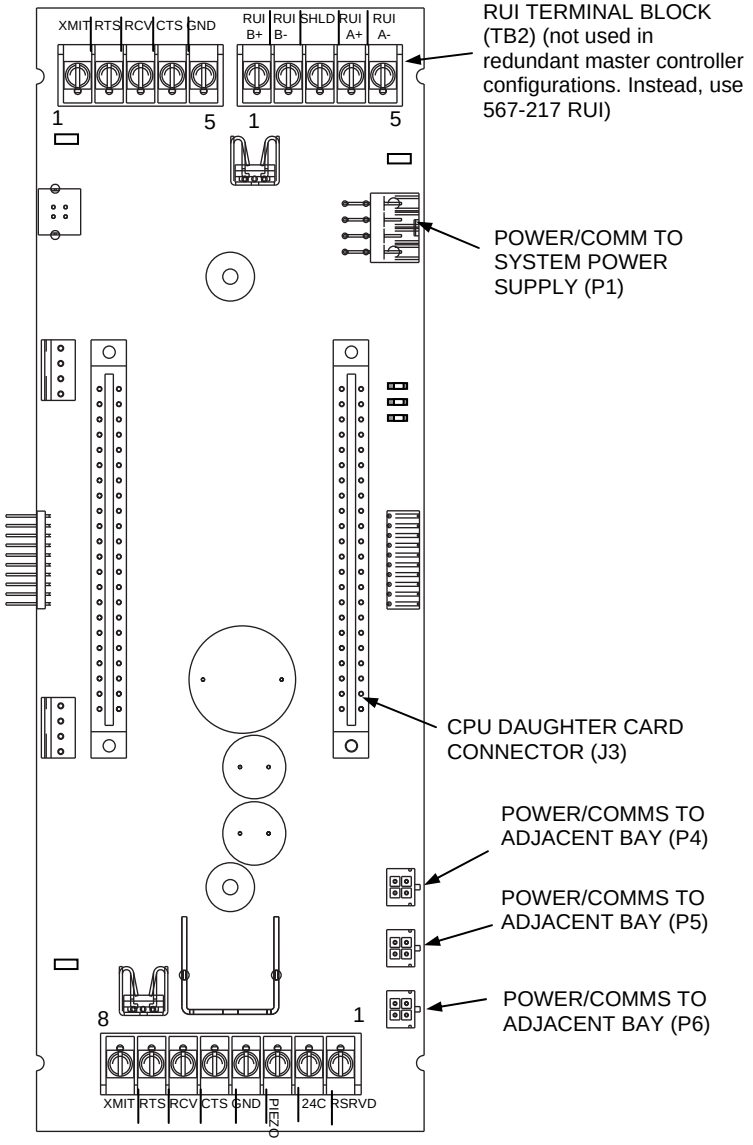

Figure 10. CPU Motherboard Connection Labels

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SPS Configuration

The SPS must be configured as follows (refer to Figure 11 for the locations of jumpers and switches called out below):

1. Using DIP switch SW1, set the SPS device address. Use the address table in Appendix B.
2. If the SPS IDNet outputs are being used, you may change P2 to configure the IDNet shield connection. Jumper pins 1 and 2 to connect the shield to 0 V (default), or jumper pins 2 and 3 to connect the shield to earth ground.
3. P3 configures relay 3 on the 4100-6033 Alarm Relay Card. Jumper pins 1 and 2 to remove trouble monitoring on relay 3 (default). Jumper pins 2 and 3 to have relay 3 activate when there is a trouble. If the relay card is not installed, pins 2 and 3 activate the 4100-6031/6032 City Card when there is a trouble.
4. Jumper pins 1 and 2 of P1 to monitor for earth faults. Jumper pins 2 and 3 to disable monitoring of earth faults.

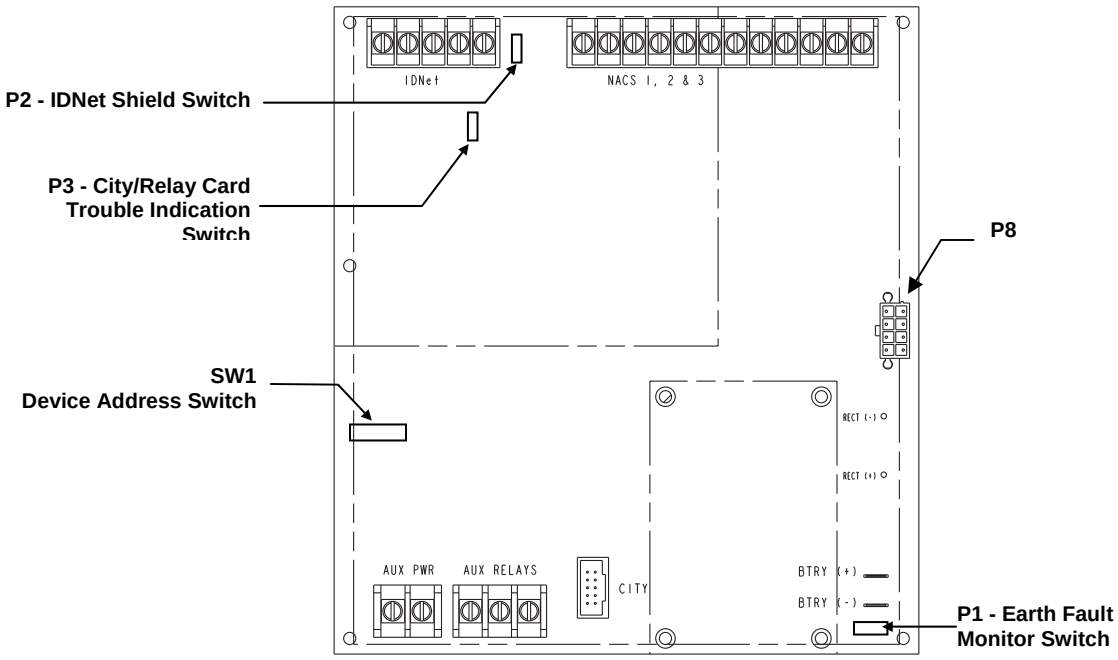

Figure 11. Configuring the SPS

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Master Controller (CPU Daughter Card) Configuration

The CPU daughter card in both the primary and secondary CPU bays contains a jumper for setting battery backup.

- Jumper pins 1 and 2 to activate battery backup.
- Jumper pins 2 and 3 to turn off battery backup.

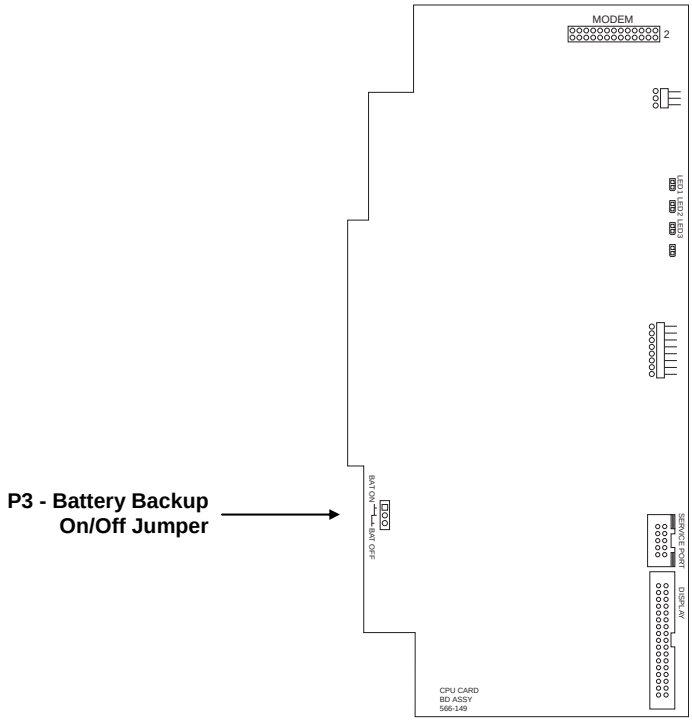

Figure 12. CPU Daughter Card

Power Distribution Interface (PDI) Configuration

Jumpers P4 and P5 on the power distribution interface (PDI) are for setting the power source used by the PDI.

- Jumper pins 1 and 2 of P4 and P5 to set the PDI to draw power from P1 on the card.
- Jumper pins 2 and 3 of P4 and P5 to set the PDI to draw power from an expansion power supply installed in the secondary CPU bay.

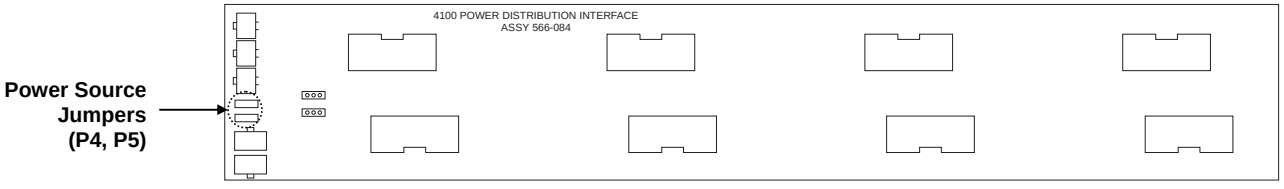

Figure 13. The Power Distribution Interface (PDI)

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24-Point I/O Daughter Card Configuration

20 Ohm, 1 W drive resistors (382-110) on the 24-point I/O card must be placed on **R20** and **R23**, as shown below. These correspond to Drives 1 and 4, respectively.

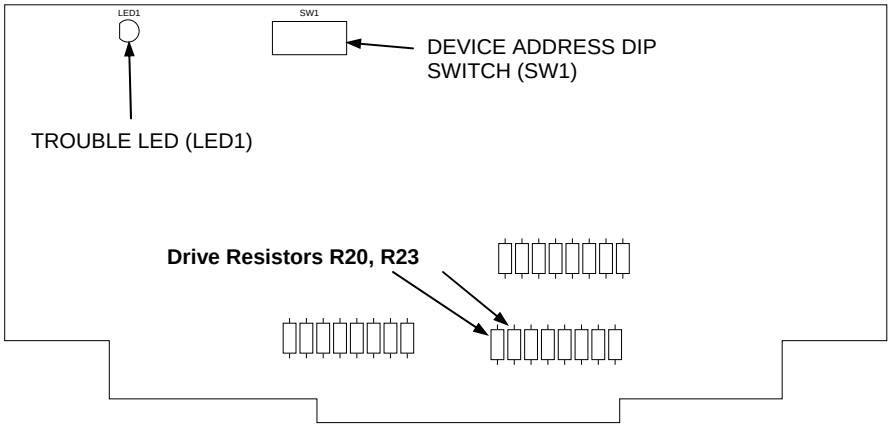

Figure 14. The 24-Point I/O Card

Wiring the CPU Bays

Interconnecting the Primary and Secondary CPU Bays

The primary CPU bay connects to the secondary CPU bay with the 734-074 harness. The eight-pin connector on the harness, labeled E, connects to P8 on the system power supply (SPS) in the primary bay. This connection provides 24 V power to the CPU switcher board at P3 and P4 via two more of the harness connectors. These two connectors, the largest of the connectors from 734-074, branch off into two more connectors giving the harness its total of seven connectors.

Refer to Figure 15 and follow the instructions below to connect the two bays with the backup harness assembly, part number 734-074.

1. Attach the 8-pin connector to P8 on the system power supply (SPS).
2. Attach the 18-pin connector to P3 on the CPU switcher card.
3. Attach the 14-pin connector to P4 on the CPU switcher card.
4. Attach the 4-pin connector extending from P3 on the CPU switcher card to the top 4 pins of P2 on the class B, CPU motherboard in the secondary CPU bay.
5. Attach the 4-pin connector extending from P4 on the CPU switcher card to the top 4 pins of P3 on the class B, CPU motherboard in the secondary CPU bay.
6. Connect the two wires extending from P3 on the CPU switcher card to TB1 on the 24 point I/O card to the immediate right of the CPU switcher card. Connect the red and white wire to TB1-5 and the black and white wire to TB1-8.
7. Connect the two wires extending from P4 on the CPU switcher card to TB2 on the 24 point I/O card to the immediate right of the CPU switcher card. Connect the red and black striped wire to TB2-15 and the 24 C wire to TB2-16.

Distributing Power/Comms to Expansion Motherboards in the Secondary CPU Bay

The redundant master controller configuration requires that no full-length motherboard be connected directly next to the secondary CPU motherboard. For this reason, the power and communication signals must be sent to the first expansion motherboard (the one furthest to the left) via two harnesses, part numbers 733-525 and 734-073. (If an expansion motherboard is not present, then make a connection to the I/O card in Bay 1. Do not use Harness 733-525.) Refer to Figure 15 and follow the instructions below to distribute the power and communications signals.

Use harness 734-073 to make the following connections between the PDI and the first expansion motherboard:

1. Connect the four-position connector at one end of the harness to P1 on the PDI in the secondary CPU bay.
2. Connect the two connectors at the other end of the harness to the bottom half of P2 and P3 on the first full-length expansion motherboard (or to the I/O card if no full-length motherboard is present). Connect the plug containing the termination of the blue wire to P2.

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Wiring the CPU Bays, *Continued*

Distributing Power/Comms to Expansion Motherboards in the Secondary CPU Bay

Use the 733-525 harness to make the following connections between the 24-point I/O card in the primary CPU bay and the first expansion motherboard in the secondary CPU bay.

1. Connect the four-position plug containing the blue wire to the lower four pins of P2 on the 24-point I/O card in the primary CPU bay.
2. Connect the other four-position plug with the blue wire to the upper four pins of P2 on the first expansion motherboard in the secondary CPU bay.
3. Connect the four-position plug containing the white wire to the lower four pins of P3 on the 24-point I/O card in the primary CPU bay.
4. Connect the other four-position plug with the white wire to the upper four pins of P3 on the first expansion motherboard in the secondary CPU bay.

Bay Interconnection Illustration

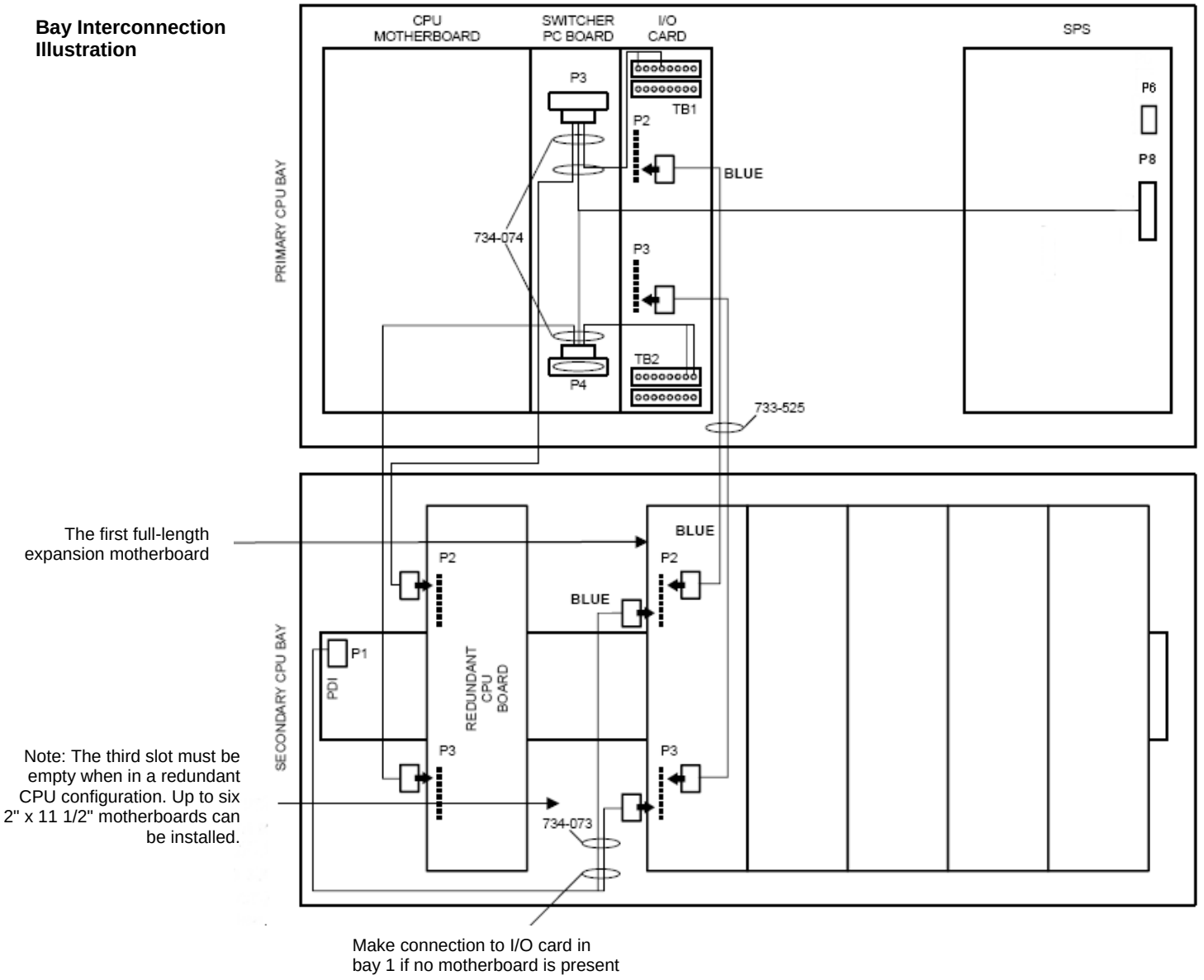

Figure 15. Wiring the Primary and Secondary CPU Bays

On model 4100-9122, connect power and comms to P7 or P9 on the Flexible User Interface to the SPS, P6 with the 4-wire harness provided.

Connecting Power to the System

Guidelines

Review the following guidelines before interconnecting modules and bays.

- The SPS provides 24 V power to the CPU motherboard.
- The CPU motherboard provides 8 V (3 A capacity) for use by Legacy 4100 slave cards. 24 V card power is routed through the motherboard for slave card use.
- 4100 internal comms and power are harnessed to other bays. Do not connect the 8 V at P7 to an 8 V converter on a Goldwing or remote interface card.
- 24 V card power from the SPS is rated at 2 A.
- Incoming AC Power to the power distribution module (PDM) must be from a dedicated branch circuit.

System Power

The FACP is powered by the SPS, which in turn gets its power from the power distribution module (PDM). The SPS in redundant CPU systems is located in bay one. The power distribution module (PDM) takes power directly from the AC mains and the two backup batteries, and distributes power to each bay in the FACP.

In expansion bays, the PDM may connect to as many as three modules in addition to the primary SPS: a secondary system power supply (SPS), remote power supply (RPS), or an expansion power supply (XPS).

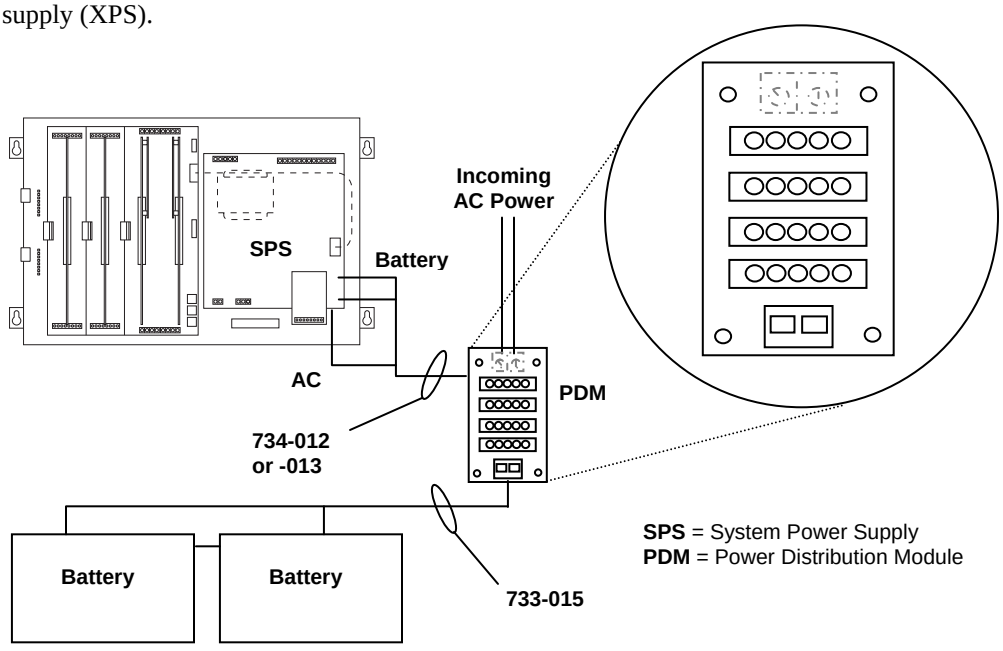

Figure 16. System Power

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Connecting System Power

Use the instructions below to properly connect power from the PDM to the panel.

1. Wire 120 VAC to the PDM, keeping AC wires at least 1 inch away from all other wires. AC power must be kept to the right side of the cabinet, in the non-power-limited area.
2. Connect batteries to P5 on the PDM using harness 734-015.
3. Connect the PDM to the SPS using harness 734-012 (734-013 for International versions).
   - Feed red and black wires through the side rail to the front of the SPS to prevent wire damage when the front panel is inserted.
   - Connect the separate red and black wires (with yellow female terminations) to plugs P5 (black) and P4 (red) on the SPS.
   - Connect the white and black wires, which terminate together in a white snap-on connector, to the bulkhead connector at the bottom of the SPS assembly, as shown below.

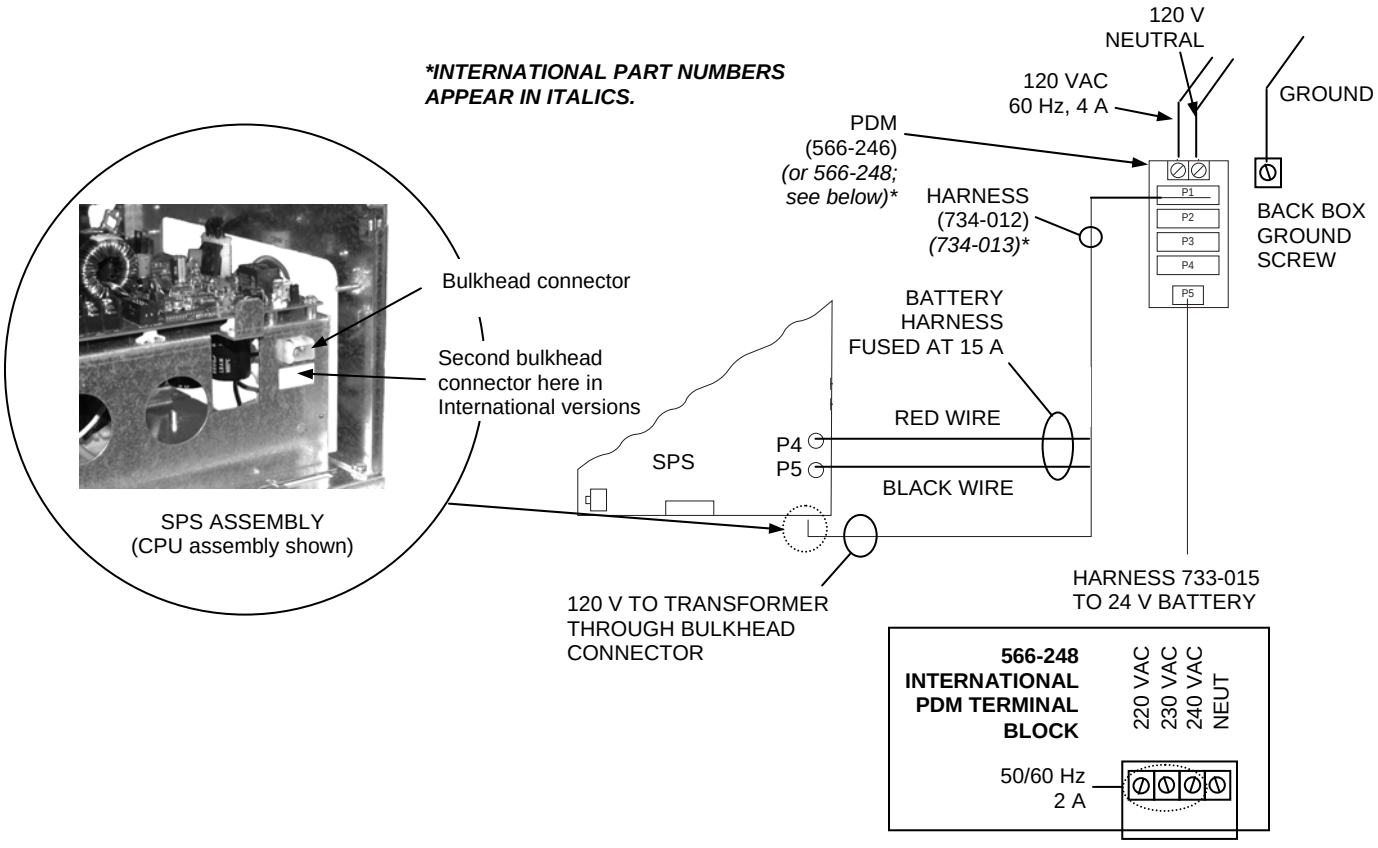

Figure 17. SPS Assembly Connector

Testing/Troubleshooting

Overview

This section contains testing and troubleshooting information, specifically for switching from one CPU to another.

Transferring to the Secondary CPU

Testing. In order to test the system for proper transfer to the secondary (backup) CPU, hold the primary CPU daughter card's warm start/reset switch down for roughly one minute. When the switch occurs, the relays on the switcher card can be heard transferring, and the second CPU will begin annunciating troubles. Once this happens, you no longer have to hold down the warm start/reset switch. Missing Card troubles that were being annunciated by the secondary CPU should eventually clear.

Troubleshooting. If the transfer does not occur, and you cannot hear the relays transferring on the switcher card, make sure a 0 Ohm resistor is installed between TB2-11 and TB2-12 on the 24-point I/O motherboard. This jumper is not supervised, so the panel does not indicate a trouble condition if it is not installed.

Transferring to the Primary CPU

Testing. In order to test the system for proper transfer back to the primary CPU, press the appropriate button on the second-bay master display and hold down for one second. The button is programmable, and is typically on the top left of the display; see the *ES Panel Programmer's Manual* (574-849) for details. When the switch occurs, the relays on the switcher card can be heard transferring, the secondary CPU begins annunciating Missing Card troubles, and Missing Card troubles start to clear from the primary CPU.

Troubleshooting. If the transfer does not occur, do the following:

1. Make sure the red wire is installed between TB2-15 and TB2-16 on the 24-point I/O motherboard.
2. Make sure the harness is properly connected, and that the switcher card is functioning properly. The +24 V comes from P4-14 on the switcher card, and the 24 C comes from P4-11 on the switcher card.

Appendix A: System Power Supply Specifications

LEDs

The SPS has the following LEDs:

LED1 (yellow). Illuminates when NAC 1 is in Alarm or Trouble.

LED2 (yellow). Illuminates when NAC 2 is in Alarm or Trouble.

LED3 (yellow). Illuminates when NAC 3 is in Alarm or Trouble.

LED4 (yellow). Illuminates to indicate a communications loss with the system CPU; normally off.

LED5 (yellow). Indicates IDNet status.

- Slow blink: Class A or open circuit trouble.
- Fast blink: Short circuit trouble.
- On steady: No devices detected.
- Normally off.

LED6 (yellow). Indicates power supply status.

- Single blink: Positive earth ground
- Double blink: Negative earth ground.
- Triple blink: Battery trouble.
- Quadruple blink: Charger trouble.
- On steady: Overcurrent fault.
- Normally off.

LED7 (green). Indicates AC mains status.

Continued on next page

Input/Output/Battery Specifications

Table 4 summarizes the specifications for the SPS.

Table 4. Input and Output Specifications

General Specifications	
AC Input	220/230/240 VAC, 50 or 60 Hz, 2A (4100-9222) OR 120 VAC, 60 Hz, 4A (other models)
DC Output	Minimum: 19.9 VDC Maximum: 31.1 VDC Ripple: 2 VDC p-p @ full load (9 A)
IDNet Output (see Note)	30 or *35 V
Battery Charger Specifications	
Input Voltage Range	21-33 VDC
Output Float Voltage	27.4 VDC ±500 mV @ 20°C (68° F), temperature compensated at –24 mV/°C (0° to 49° C or 32° to 120° F)
High Voltage Output	29.1 V @ 3.3 A, no temperature compensation
Output Current Limit	Minimum: 1.4 A Maximum: 3.3 A

Note: When it is necessary to activate large numbers of output devices on IDNet peripherals (such as piezo sounders), the output voltage is increased to 35 V to provide sufficient voltage at the end of line to activate the piezo. The higher voltage state is an alarm condition for the purpose of standby battery calculation. The 30 V output is the normal condition and is used to prolong battery standby. The system CPU will activate the boost feature when 10 LED, piezo, or other outputs are activated.

Continued on next page

SPS Current Consumption

Table 5 summarizes battery standby capabilities for the SPS. Voltage assumed is 24 V, which is the rated battery voltage for lead-acid type batteries.

Table 5. SPS Current Specifications

Standby Conditions	Current
• No alarms (NACs normal) • IDNet LED ON, no IDNet devices connected	175 mA
Add to above for each additional set of 50 IDNet devices in standby, with IDNet at 30 V	40 mA
Total current for fully loaded IDNet channel (250 devices) in standby	375 mA
Alarm Conditions	**Current**
• 3 NACs ON • IDNet LED ON, no IDNet devices connected	185 mA
Add to above for each set of 50 IDNet devices in alarm, 20 LEDs ON	80 mA
Add to above for each set of 50 IDNet devices in alarm, LEDs OFF	50 mA
Total current for a fully loaded IDNet channel (250 devices) in alarm, 20 LEDs ON	475 mA

Appendix B: Device Configuration DIP Switch

Overview

Addressable cards include a bank of eight DIP switches. From left to right (see Figure 18, below) these switches are designated as SW*x*-1 through SW*x*-8. The function of these switches is as follows:

- **SW*x*-1**. This switch sets the baud rate for the internal FACP communications line running between the card and the CPU. Set this switch to ON.
- **SW*x*-2 through SW*x*-8**. These switches set the card's address within the FACP. Refer to Table 6 for a complete list of the switch settings for all of the possible card addresses.

  Note: You must set these switches to the value assigned to the card by the FACP Programmer.

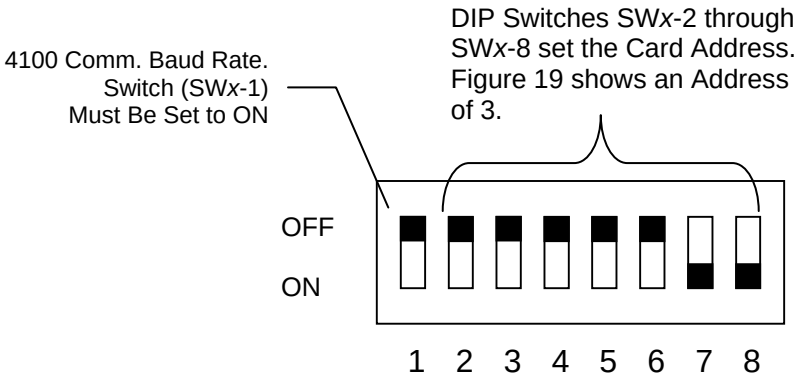

Figure 18. DIP Switch SW*x*

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Appendix B: Device Configuration DIP Switch, *Continued*

Card Address Table

Table 6. Card Addresses

Address	SW 1-2	SW 1-3	SW 1-4	SW 1-5	SW 1-6	SW 1-7	SW 1-8	Address	SW 1-2	SW 1-3	SW 1-4	SW 1-5	SW 1-6	SW 1-7	SW 1-8
1	ON	ON	ON	ON	ON	ON	OFF	61	ON	OFF	OFF	OFF	OFF	ON	OFF
2	ON	ON	ON	ON	ON	OFF	ON	62	ON	OFF	OFF	OFF	OFF	OFF	ON
3	ON	ON	ON	ON	ON	OFF	OFF	63	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	ON	ON	ON	ON	OFF	ON	ON	64	OFF	ON	ON	ON	ON	ON	ON
5	ON	ON	ON	ON	OFF	ON	OFF	65	OFF	ON	ON	ON	ON	ON	OFF
6	ON	ON	ON	ON	OFF	OFF	ON	66	OFF	ON	ON	ON	ON	OFF	ON
7	ON	ON	ON	ON	OFF	OFF	OFF	67	OFF	ON	ON	ON	ON	OFF	OFF
8	ON	ON	ON	OFF	ON	ON	ON	68	OFF	ON	ON	ON	OFF	ON	ON
9	ON	ON	ON	OFF	ON	ON	OFF	69	OFF	ON	ON	ON	OFF	ON	OFF
10	ON	ON	ON	OFF	ON	OFF	ON	70	OFF	ON	ON	ON	OFF	OFF	ON
11	ON	ON	ON	OFF	ON	OFF	OFF	71	OFF	ON	ON	ON	OFF	OFF	OFF
12	ON	ON	ON	OFF	OFF	ON	ON	72	OFF	ON	ON	OFF	ON	ON	ON
13	ON	ON	ON	OFF	OFF	ON	OFF	73	OFF	ON	ON	OFF	ON	ON	OFF
14	ON	ON	ON	OFF	OFF	OFF	ON	74	OFF	ON	ON	OFF	ON	OFF	ON
15	ON	ON	ON	OFF	OFF	OFF	OFF	75	OFF	ON	ON	OFF	ON	OFF	OFF
16	ON	ON	OFF	ON	ON	ON	ON	76	OFF	ON	ON	OFF	OFF	ON	ON
17	ON	ON	OFF	ON	ON	ON	OFF	77	OFF	ON	ON	OFF	OFF	ON	OFF
18	ON	ON	OFF	ON	ON	OFF	ON	78	OFF	ON	ON	OFF	OFF	OFF	ON
19	ON	ON	OFF	ON	ON	OFF	OFF	79	OFF	ON	ON	OFF	OFF	OFF	OFF
20	ON	ON	OFF	ON	OFF	ON	ON	80	OFF	ON	OFF	ON	ON	ON	ON
21	ON	ON	OFF	ON	OFF	ON	OFF	81	OFF	ON	OFF	ON	ON	ON	OFF
22	ON	ON	OFF	ON	OFF	OFF	ON	82	OFF	ON	OFF	ON	ON	OFF	ON
23	ON	ON	OFF	ON	OFF	OFF	OFF	83	OFF	ON	OFF	ON	ON	OFF	OFF
24	ON	ON	OFF	OFF	ON	ON	ON	84	OFF	ON	OFF	ON	OFF	ON	ON
25	ON	ON	OFF	OFF	ON	ON	OFF	85	OFF	ON	OFF	ON	OFF	ON	OFF
26	ON	ON	OFF	OFF	ON	OFF	ON	86	OFF	ON	OFF	ON	OFF	OFF	ON
27	ON	ON	OFF	OFF	ON	OFF	OFF	87	OFF	ON	OFF	ON	OFF	OFF	OFF
28	ON	ON	OFF	OFF	OFF	ON	ON	88	OFF	ON	OFF	OFF	ON	ON	ON
29	ON	ON	OFF	OFF	OFF	ON	OFF	89	OFF	ON	OFF	OFF	ON	ON	OFF
30	ON	ON	OFF	OFF	OFF	OFF	ON	90	OFF	ON	OFF	OFF	ON	OFF	ON
31	ON	ON	OFF	OFF	OFF	OFF	OFF	91	OFF	ON	OFF	OFF	ON	OFF	OFF
32	ON	OFF	ON	ON	ON	ON	ON	92	OFF	ON	OFF	OFF	OFF	ON	ON
33	ON	OFF	ON	ON	ON	ON	OFF	93	OFF	ON	OFF	OFF	OFF	ON	OFF
34	ON	OFF	ON	ON	ON	OFF	ON	94	OFF	ON	OFF	OFF	OFF	OFF	ON
35	ON	OFF	ON	ON	ON	OFF	OFF	95	OFF	ON	OFF	OFF	OFF	OFF	OFF
36	ON	OFF	ON	ON	OFF	ON	ON	96	OFF	OFF	ON	ON	ON	ON	ON
37	ON	OFF	ON	ON	OFF	ON	OFF	97	OFF	OFF	ON	ON	ON	ON	OFF
38	ON	OFF	ON	ON	OFF	OFF	ON	98	OFF	OFF	ON	ON	ON	OFF	ON
39	ON	OFF	ON	ON	OFF	OFF	OFF	99	OFF	OFF	ON	ON	ON	OFF	OFF
40	ON	OFF	ON	OFF	ON	ON	ON	100	OFF	OFF	ON	ON	OFF	ON	ON
41	ON	OFF	ON	OFF	ON	ON	OFF	101	OFF	OFF	ON	ON	OFF	ON	OFF
42	ON	OFF	ON	OFF	ON	OFF	ON	102	OFF	OFF	ON	ON	OFF	OFF	ON
43	ON	OFF	ON	OFF	ON	OFF	OFF	103	OFF	OFF	ON	ON	OFF	OFF	OFF
44	ON	OFF	ON	OFF	OFF	ON	ON	104	OFF	OFF	ON	OFF	ON	ON	ON
45	ON	OFF	ON	OFF	OFF	ON	OFF	105	OFF	OFF	ON	OFF	ON	ON	OFF
46	ON	OFF	ON	OFF	OFF	OFF	ON	106	OFF	OFF	ON	OFF	ON	OFF	ON
47	ON	OFF	ON	OFF	OFF	OFF	OFF	107	OFF	OFF	ON	OFF	ON	OFF	OFF
48	ON	OFF	OFF	ON	ON	ON	ON	108	OFF	OFF	ON	OFF	OFF	ON	ON
49	ON	OFF	OFF	ON	ON	ON	OFF	109	OFF	OFF	ON	OFF	OFF	ON	OFF
50	ON	OFF	OFF	ON	ON	OFF	ON	110	OFF	OFF	ON	OFF	OFF	OFF	ON
51	ON	OFF	OFF	ON	ON	OFF	OFF	111	OFF	OFF	ON	OFF	OFF	OFF	OFF
52	ON	OFF	OFF	ON	OFF	ON	ON	112	OFF	OFF	OFF	ON	ON	ON	ON
53	ON	OFF	OFF	ON	OFF	ON	OFF	113	OFF	OFF	OFF	ON	ON	ON	OFF
54	ON	OFF	OFF	ON	OFF	OFF	ON	114	OFF	OFF	OFF	ON	ON	OFF	ON
55	ON	OFF	OFF	ON	OFF	OFF	OFF	115	OFF	OFF	OFF	ON	ON	OFF	OFF
56	ON	OFF	OFF	OFF	ON	ON	ON	116	OFF	OFF	OFF	ON	OFF	ON	ON
57	ON	OFF	OFF	OFF	ON	ON	OFF	117	OFF	OFF	OFF	ON	OFF	ON	OFF
58	ON	OFF	OFF	OFF	ON	OFF	ON	118	OFF	OFF	OFF	ON	OFF	OFF	ON
59	ON	OFF	OFF	OFF	ON	OFF	OFF	119	OFF	OFF	OFF	ON	OFF	OFF	OFF
60	ON	OFF	OFF	OFF	OFF	ON	ON								