

## Introduction

This publication describes the installation procedure for the 4100/4120-0154 and 4100-6048 VESDA Interface modules.

This document covers the following topics:

- Configuring, wiring, and installing a VESDA RS-232 Interface card in a 4100/4100U/4100ES FACP.
- Adding supervisory wiring to a VESDA power supply. This wiring is **only** required for VESDA power supplies, and is not required if VESDA detectors are powered by 4100 power supplies.

## Related Documentation

- Laser Focus Product Guide: This document ships with the Laser Focus. It gives instructions on installing, wiring and powering up the detector.
- Laser Compact Product Guide: This document ships with the Laser Compact. It gives instructions on installing, wiring and powering up the detector.
- Installation Sheet for VESDA LaserPlus and VESDALaserScanner: This document ships with the Laser Plus and the Laser Scanner. It gives instructions on installing, wiring and powering up the detector.
- Reference Document - LCD Programmer Product Guide: This document is available on the Xtralis web site and documents how to program using the LCD Programmer. The same method is used with the HLI.
- *Field Wiring Diagram for 4100 Power Limited (841-731) or,*
- *Field Wiring Diagram for Non Power Limited (841-995)*
- *4100ES Fire Alarm System Installation Guide (574-848)*

## In this Publication

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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.

**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.

# Setting Jumpers

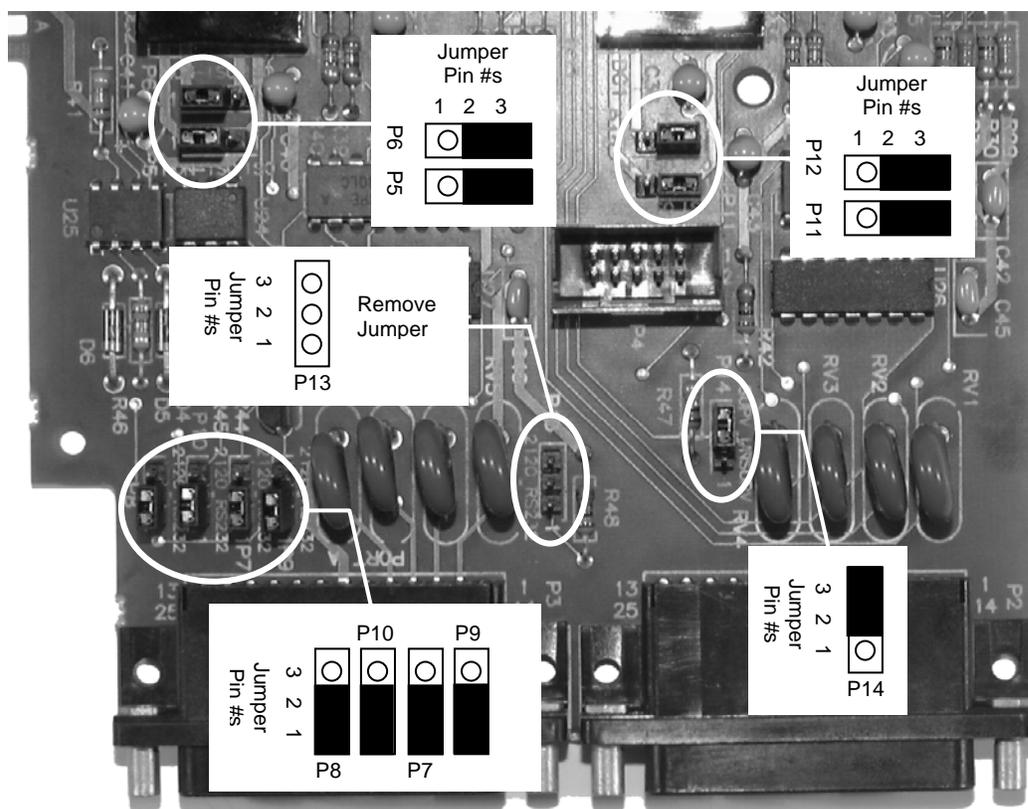
## Verifying Jumper Settings

All jumpers on the VESDA RS-232 interface daughter card are factory preset and should not require modification. If necessary, use this section to verify that the jumpers are in the correct positions. See Table 1 and Figure 1.

**Table 1. VESDA Default Jumper Settings**

P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
2-3	2-3	1-2	1-2	1-2	1-2	2-3	2-3	Remove Jumper	2-3

In the table above, 2-3 means you should place the jumper on pins 2 and 3, whereas a designation of 1-2 means you should place the jumper on pins 1 and 2.



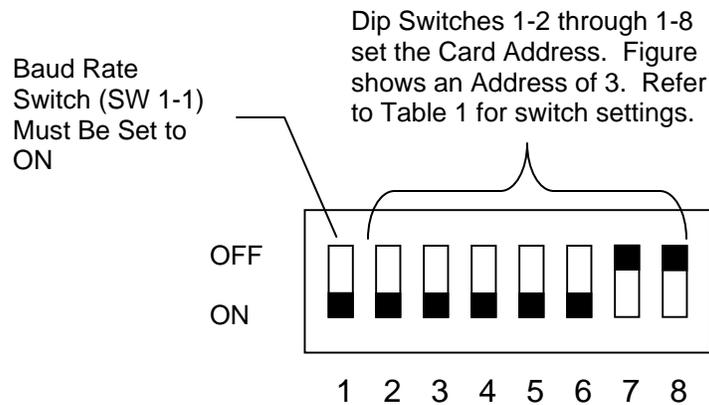
**Figure 1. Jumper Settings for VESDA RS-232 Interface Card**

# Setting Switches

## Switches

Switch SW1 on the VESDA RS-232 interface daughter card is a bank of eight dip switches. From left to right (see Figure 2) these switches are designated as SW1-1 through SW1-8. The function of these switches is as follows:

- **SW1-1.** This switch sets the baud rate for the serial communication line running between the VESDA RS-232 interface card and the 4100 CPU. Set this switch to ON.
- **SW1-2 through SW1-8.** These switches set the card's address within the 4100 FACP. (These switches must be set to the value assigned to the card by the Programmer.) Refer to Table 1 for a complete list of the switch settings for all of the possible card addresses. Move a switch to the down position to turn it ON or to the up position to turn it OFF.



**Figure 2. Jumper Settings for the VESDA RS-232 Interface Card**

*Continued on next page*

# Setting Switches, *Continued*

## Switches

**Table 2. 4100 Daughter 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	ON	OFF	62	ON	OFF	OFF	OFF	OFF	OFF	ON
3	ON	ON	ON	ON	ON	ON	OFF	63	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	ON	ON	ON	ON	ON	OFF	ON	64	OFF	ON	ON	ON	ON	ON	ON
5	ON	ON	ON	ON	ON	OFF	ON	65	OFF	ON	ON	ON	ON	ON	OFF
6	ON	ON	ON	ON	ON	OFF	OFF	66	OFF	ON	ON	ON	ON	OFF	ON
7	ON	ON	ON	ON	ON	OFF	OFF	67	OFF	ON	ON	ON	ON	OFF	OFF
8	ON	ON	ON	ON	OFF	ON	ON	68	OFF	ON	ON	ON	OFF	ON	ON
9	ON	ON	ON	ON	OFF	ON	ON	69	OFF	ON	ON	ON	OFF	ON	OFF
10	ON	ON	ON	ON	OFF	ON	OFF	70	OFF	ON	ON	ON	OFF	OFF	ON
11	ON	ON	ON	ON	OFF	ON	OFF	71	OFF	ON	ON	ON	OFF	OFF	OFF
12	ON	ON	ON	ON	OFF	OFF	ON	72	OFF	ON	ON	OFF	ON	ON	ON
13	ON	ON	ON	ON	OFF	OFF	ON	73	OFF	ON	ON	ON	OFF	ON	OFF
14	ON	ON	ON	ON	OFF	OFF	OFF	74	OFF	ON	ON	OFF	ON	OFF	ON
15	ON	ON	ON	ON	OFF	OFF	OFF	75	OFF	ON	ON	OFF	ON	OFF	OFF
16	ON	ON	ON	OFF	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	ON	ON	78	OFF	ON	ON	OFF	OFF	OFF	ON
19	ON	ON	OFF	ON	ON	ON	OFF	79	OFF	ON	ON	OFF	OFF	OFF	OFF
20	ON	ON	OFF	ON	ON	ON	ON	80	OFF	ON	OFF	ON	ON	ON	ON
21	ON	ON	OFF	ON	ON	ON	OFF	81	OFF	ON	OFF	ON	ON	ON	OFF
22	ON	ON	OFF	ON	ON	ON	OFF	82	OFF	ON	OFF	ON	ON	OFF	ON
23	ON	ON	OFF	ON	ON	ON	OFF	83	OFF	ON	OFF	ON	ON	OFF	OFF
24	ON	ON	OFF	ON	ON	ON	ON	84	OFF	ON	OFF	ON	ON	OFF	ON
25	ON	ON	OFF	ON	ON	ON	OFF	85	OFF	ON	OFF	ON	OFF	ON	OFF
26	ON	ON	OFF	ON	ON	ON	ON	86	OFF	ON	OFF	ON	OFF	OFF	ON
27	ON	ON	OFF	ON	ON	ON	OFF	87	OFF	ON	OFF	ON	OFF	OFF	OFF
28	ON	ON	OFF	ON	ON	ON	ON	88	OFF	ON	OFF	OFF	ON	ON	ON
29	ON	ON	OFF	ON	ON	ON	OFF	89	OFF	ON	OFF	OFF	ON	ON	OFF
30	ON	ON	OFF	ON	ON	ON	ON	90	OFF	ON	OFF	OFF	ON	OFF	ON
31	ON	ON	OFF	ON	ON	ON	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	ON	ON	94	OFF	ON	OFF	OFF	OFF	OFF	ON
35	ON	OFF	ON	ON	ON	ON	OFF	95	OFF	ON	OFF	OFF	OFF	OFF	OFF
36	ON	OFF	ON	ON	ON	ON	ON	96	OFF	OFF	ON	ON	ON	ON	ON
37	ON	OFF	ON	ON	ON	ON	OFF	97	OFF	OFF	ON	ON	ON	ON	OFF
38	ON	OFF	ON	ON	ON	ON	ON	98	OFF	OFF	ON	ON	ON	OFF	ON
39	ON	OFF	ON	ON	ON	ON	OFF	99	OFF	OFF	ON	ON	ON	OFF	OFF
40	ON	OFF	ON	ON	ON	ON	ON	100	OFF	OFF	ON	ON	OFF	ON	ON
41	ON	OFF	ON	ON	ON	ON	OFF	101	OFF	OFF	ON	ON	OFF	ON	OFF
42	ON	OFF	ON	ON	ON	ON	ON	102	OFF	OFF	ON	ON	OFF	OFF	ON
43	ON	OFF	ON	ON	ON	ON	OFF	103	OFF	OFF	ON	ON	OFF	OFF	OFF
44	ON	OFF	ON	ON	ON	ON	ON	104	OFF	OFF	ON	ON	OFF	ON	ON
45	ON	OFF	ON	ON	ON	ON	OFF	105	OFF	OFF	ON	ON	ON	ON	OFF
46	ON	OFF	ON	ON	ON	ON	ON	106	OFF	OFF	ON	ON	ON	OFF	ON
47	ON	OFF	ON	ON	ON	ON	OFF	107	OFF	OFF	ON	ON	ON	OFF	OFF
48	ON	OFF	ON	ON	ON	ON	ON	108	OFF	OFF	ON	ON	OFF	ON	ON
49	ON	OFF	ON	ON	ON	ON	OFF	109	OFF	OFF	ON	ON	OFF	ON	OFF
50	ON	OFF	ON	ON	ON	ON	ON	110	OFF	OFF	ON	ON	OFF	OFF	ON
51	ON	OFF	ON	ON	ON	ON	OFF	111	OFF	OFF	ON	ON	OFF	OFF	OFF
52	ON	OFF	ON	ON	ON	ON	ON	112	OFF	OFF	ON	ON	ON	ON	ON
53	ON	OFF	ON	ON	ON	ON	OFF	113	OFF	OFF	ON	ON	ON	ON	OFF
54	ON	OFF	ON	ON	ON	ON	ON	114	OFF	OFF	ON	ON	ON	OFF	ON
55	ON	OFF	ON	ON	ON	ON	OFF	115	OFF	OFF	ON	ON	ON	OFF	OFF
56	ON	OFF	ON	ON	ON	ON	ON	116	OFF	OFF	ON	ON	ON	ON	ON
57	ON	OFF	ON	ON	ON	ON	OFF	117	OFF	OFF	ON	ON	ON	ON	OFF
58	ON	OFF	ON	ON	ON	ON	ON	118	OFF	OFF	ON	ON	ON	OFF	ON
59	ON	OFF	ON	ON	ON	ON	OFF	119	OFF	OFF	ON	ON	ON	OFF	OFF
60	ON	OFF	ON	ON	ON	ON	ON								

# Installing the Motherboard into 2975-91xx Back Boxes (4100)

## Overview

The VESDA motherboard can be mounted to either 4100 Back Boxes (PID series 2975-91xx) or 4100U/4100ES Back Boxes (PID series 2975-94xx).

- The 4100/4120-0154 is used for systems with 4100 Back Boxes.
- The 4100-6048 is used for systems with 4100U /4100ES Back Boxes

This section describes mounting the 4100/4120-0154 version into 4100 Back Boxes.

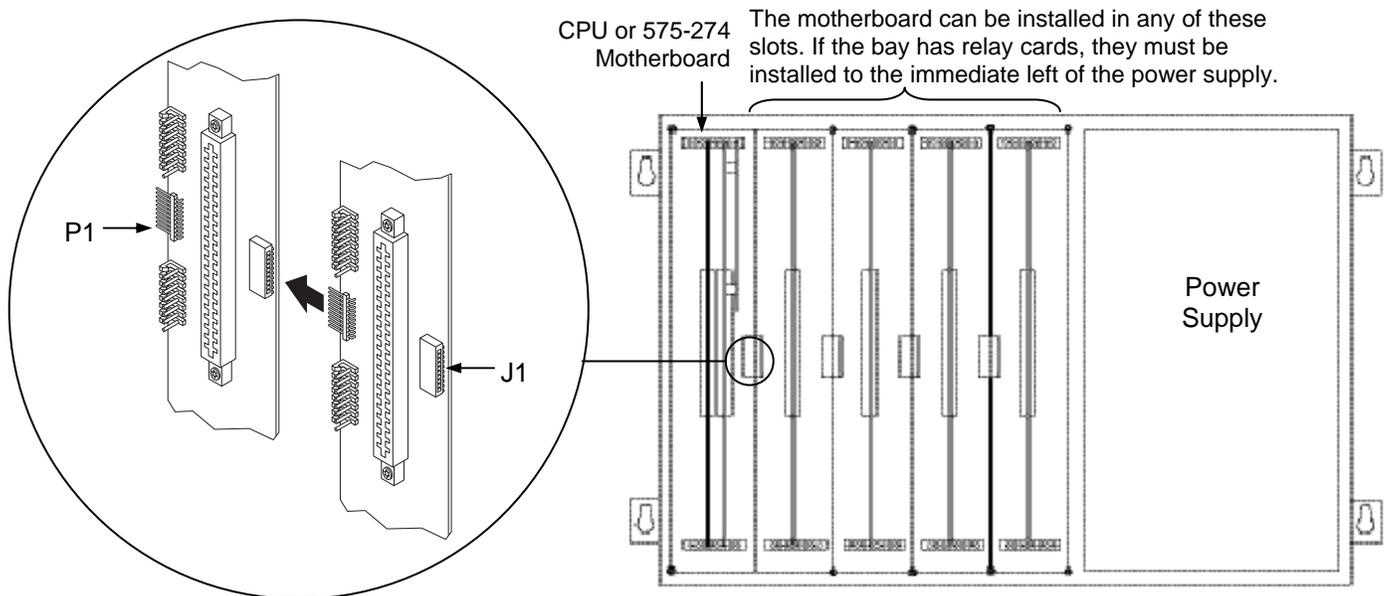
## Installing into a 2975-91xx Master Controller Bay

Use the following guidelines and instruction when installing into a master controller bay.

- If the 575-274 Master Motherboard is used, it must be installed in the leftmost position of this bay. If the 575-274 Master Motherboard is not used, the CPU motherboard must be installed in the leftmost position of the bay.
- The power supply must be installed in the rightmost position of the bay.
- Relay cards must be installed in the slots immediately to the left of the power supply. This is necessary to allow for the proper routing of non-power limited wiring (120 VAC wiring connected to the relay card).
- If used, the Class B motherboard (575-275) must be installed to the left of the relay cards. If a physical bridge is used with the Class B motherboard, it must be to the right of any motherboards using NICs. This allows for earth ground detection via the physical bridge.

Install the motherboard as described below.

1. Orient the motherboard so that the connector labeled J1 is on the right and the header labeled P1 is on the left.
2. Slide the motherboard you are installing to the left until the pins are completely inserted in the connector of a previously installed motherboard.
3. Secure the motherboard to the chassis with four torx screws.



**Figure 3. Installing the Motherboard into a 4100 Master Controller Bay**

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## Installing the Motherboard into 2975-91xx Back Boxes (4100), *Continued*

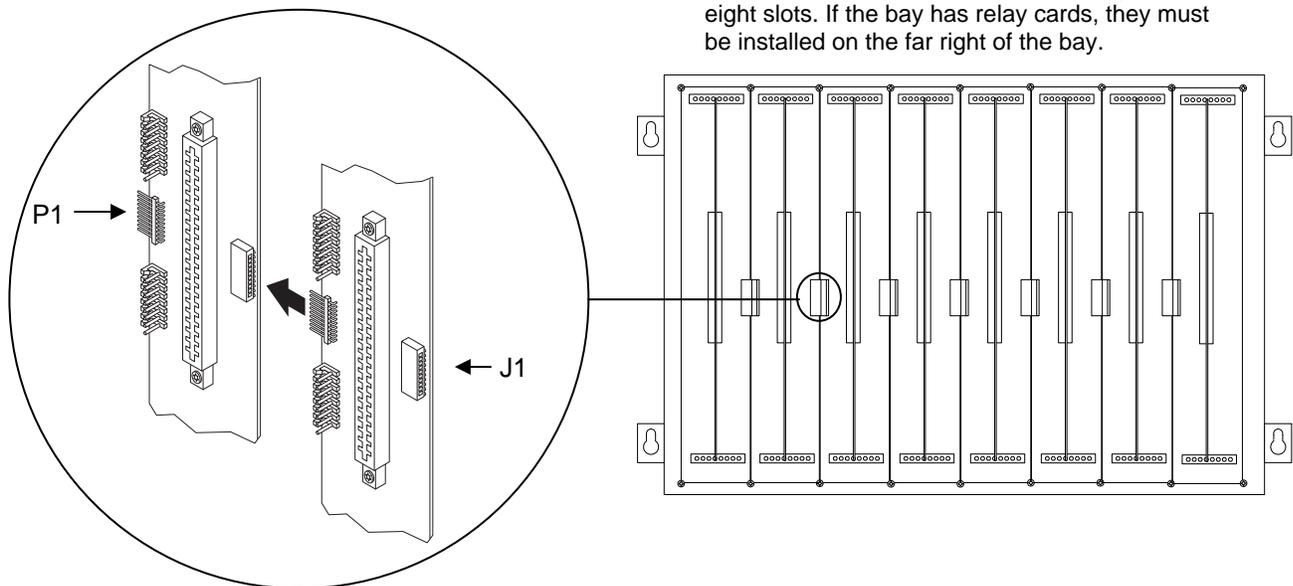
### Installing into a 2975-91xx Expansion Bay

Review the following guidelines before mounting the motherboard into a 2975-91xx Expansion Bay.

- If a power supply is installed in the bay, it must be installed on the far right of the bay and any relay modules must be installed in the slots immediately to its left.
- Relay cards **must be installed in the rightmost possible slots**. This is necessary to allow for the proper routing of non-power limited wiring (typically 120 VAC wiring), which could be connected to a relay module.
- If a 4100/4120-0155 SDACT, 4100-6052 Event Reporting DACT, 4100-6053 Point Reporting DACT, or a 4100/4120-0153 CCDACT is installed in the bay, it must be installed in the far left or far right slot. Neither of these modules contains the J1 or P1 connectors, which are used to distribute power and communications to adjacent modules.

Use the following directions and Figure 4 to install a motherboard into an expansion bay.

1. Orient the motherboard with the connector labeled J1 on the right and the header labeled P1 on the left.
2. Match the connector on the previously installed motherboard with the pins on the motherboard you are installing. Slide the motherboard to the left until the pins are completely inserted in the connector of the previously installed motherboard. If you are installing the leftmost board, the pins will remain unconnected.
3. Secure the motherboard to the chassis with four torx screws.



**Figure 4. Installing the Motherboard into a 4100 Expansion Bay**

4. If you are installing the leftmost motherboard, connect a 733-525 Power and Communication Harness. Continue to the next topic to connect the harness.

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## Installing the Motherboard into 2975-91xx Back Boxes (4100), *Continued*

### Connecting the 733-525 Harness

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If you need to connect a 733-525 Harness to a motherboard, refer to Figure 5 and follow these steps. Make sure to route the power and communication wiring on the left side of the bay.

1. Connect one end of the harness to a motherboard in an adjacent bay.

If the adjacent bay is a master controller bay, connect the harness to the P2 and P3 connectors of the master controller motherboard and continue to step 2.

If the adjacent bay is an expansion bay, connect the harness to the P2 and P3 connectors of the motherboard installed in the leftmost slot. (If a 4100/4120-0155 SDACT, 4100-6052 Event Reporting DACT, 4100-6053 Point Reporting DACT, or a 4100/4120-0153 CCDACT occupies the leftmost slot, connect the harness to the motherboard in the second slot from the left.) Connect the harness as follows:

- a. Insert the harness connector with the blue wire into the P2 connector. Note that the P2 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.
- b. Insert the harness connector with the white wire into the P3 connector. Note that the P3 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.

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## Installing the Motherboard into 2975-91xx Back Boxes (4100), *Continued*

### Connecting the 733-525 Harness

2. Connect the other end of the harness to the leftmost motherboard in the next bay, as described below. Make sure to route the wiring on the left side of the bay.
  - a. Insert the harness connector with the blue wire into the P2 connector. Note that the P2 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.
  - b. Insert the harness connector with the white wire into the P3 connector. Note that the P3 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.

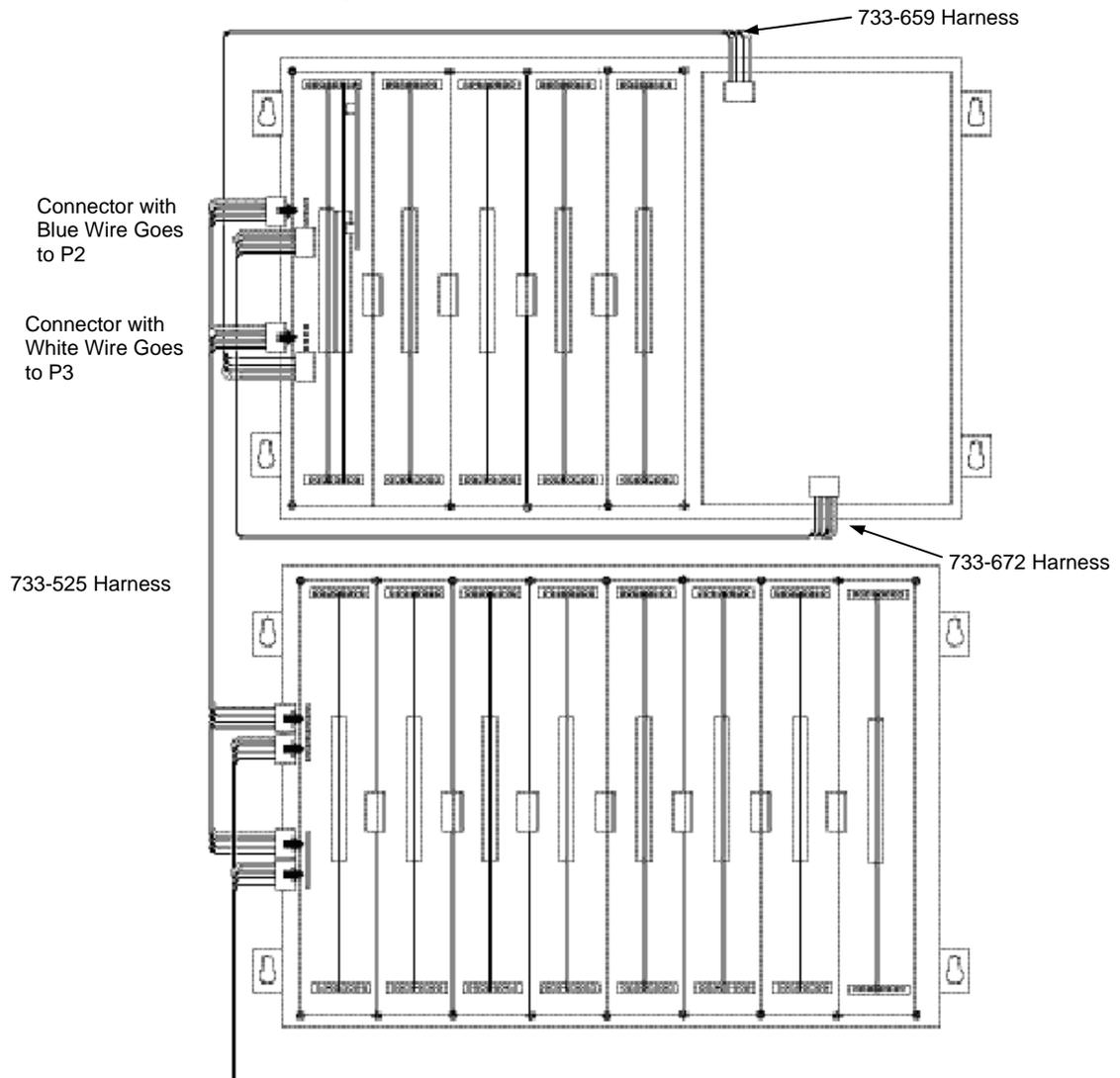


Figure 5. Power and Communication Wiring for Motherboards (4100)

# Installing Motherboards into 2975-94xx Back Boxes (4100U/4100ES)

## Overview

The VESDA motherboard can be mounted to either 4100 Back Boxes (PID series 2975-91xx) or 4100U/4100ES Back Boxes (PID series 2975-94xx).

- The 4100/4120-0154 is used for systems with 4100 Back Boxes.
- The 4100-6048 is used for systems with 4100U /4100ES Back Boxes

This section describes mounting the 4100-6048 version into 4100U/4100ES Back Boxes.

## Installing into a 2975-94xx CPU Bay

Up to two motherboards may be installed with the system CPU in the CPU bay.

Use the following directions to mount a motherboard into a CPU bay.

1. Orient the motherboard with the connector labeled J1 on the right and the header labeled P1 on the left.
2. Slide the motherboard to the right until the pins from P1 on the motherboard to the right are completely inserted in the motherboard's J1 connector.
3. Attach four lockwashers and metal standoffs to the chassis, and secure the motherboard to the chassis using four #6 screws.

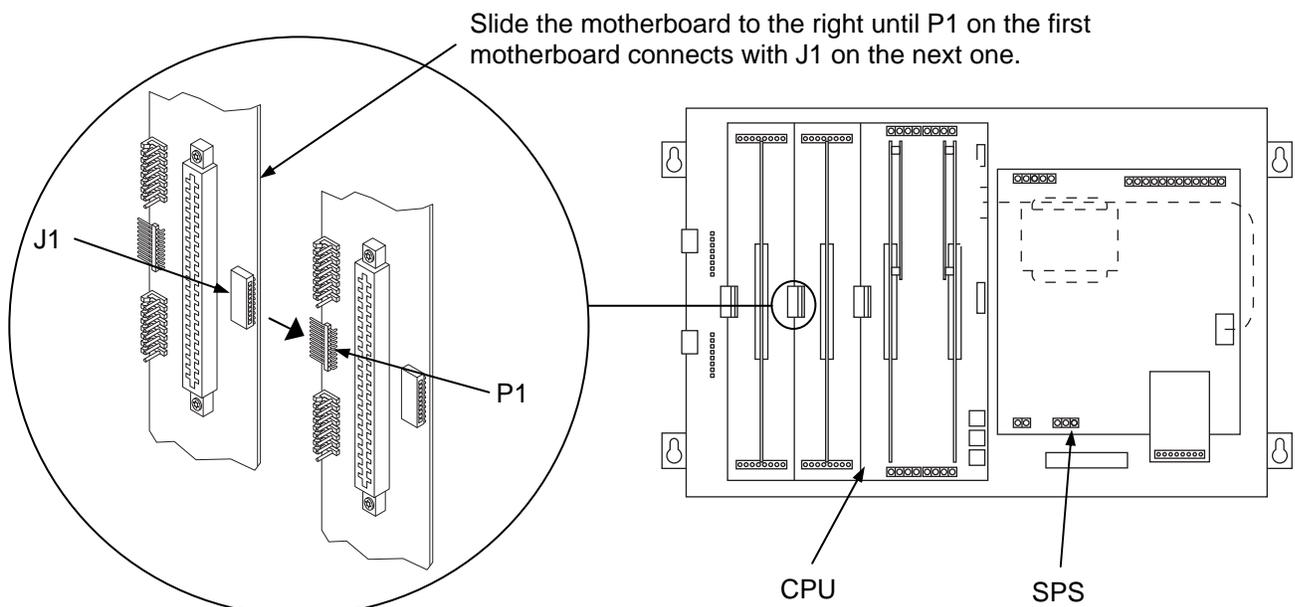


Figure 6. Installing the Motherboard into a 4100U/4100ES CPU Bay

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# Installing Motherboards into 2975-94xx Back Boxes (4100U/4100ES), Continued

## Installing into a 2975-94xx Expansion Bay

When installing 2 x 11 1/2-inch motherboards in a 4100U/4100ES expansion bay, adhere to the following guidelines:

- Each expansion bay assembly includes a chassis, two end supports, one LED/switch frame, and a power distribution interface (PDI) board.
- An expansion bay holds up to eight 4" x 5" modules. A double-size module, such as the expansion power supply (XPS), takes up two blocks of space as shown below.
- Up to seven 2" x 11 1/2" motherboards can be installed in an expansion bay **if no 4" x 5" modules are installed in the bay**. Motherboards are mounted on top of the PDI in expansion bays. The data and power that would normally be bussed via the PDI is instead routed across the boards via ribbon cable from one board to the next.
- As shown in Figure 7, motherboards can be installed alongside 4" x 5" cards, if necessary.
- The leftmost slot must not contain a motherboard.
- 4" x 5" cards must be added from right to left.
- Motherboards must be added from left to right.

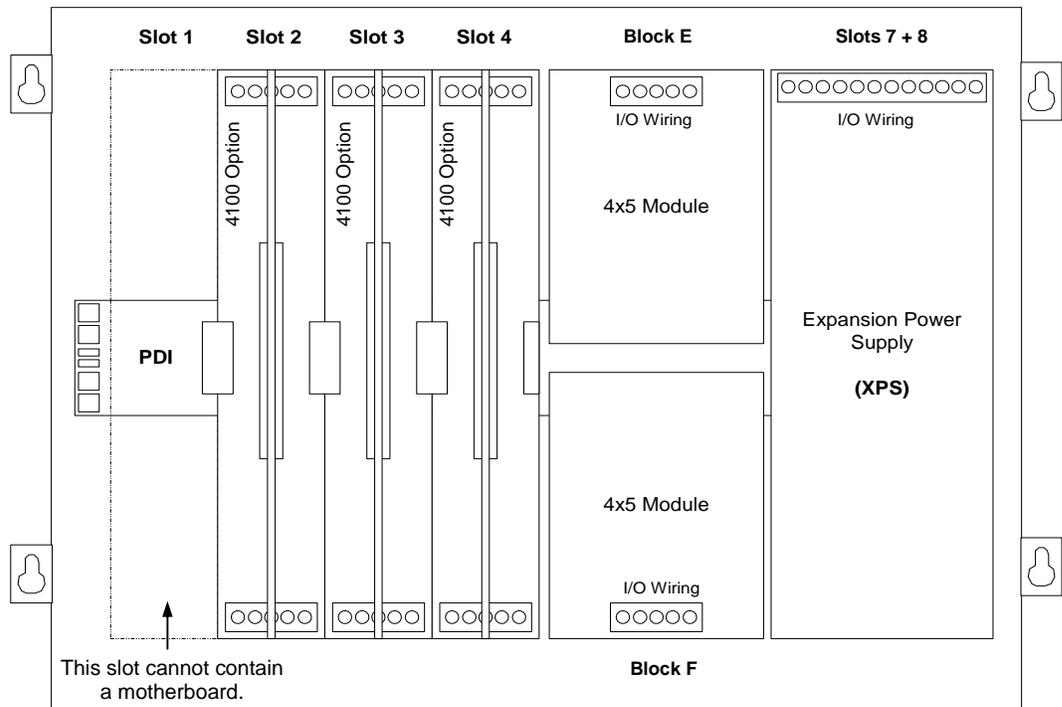


Figure 7. Installing the Motherboard in a 4100U/4100ES Expansion Bay

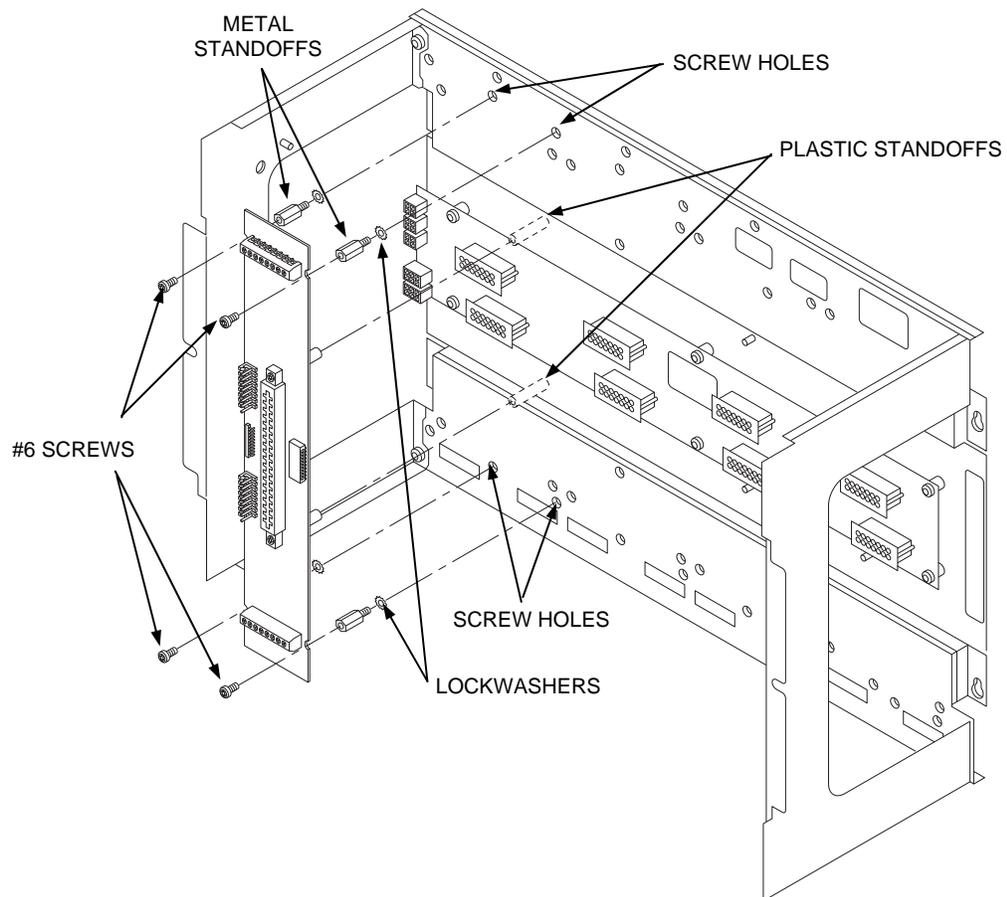
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# Installing Motherboards into 2975-94xx Back Boxes (4100U/4100ES), *Continued*

## Installing into a 2975-94xx Expansion Bay

Use the following procedure when installing motherboards in an expansion bay. Start with the second slot from the left and fill to the right.

1. Orient the motherboard with the connector labeled J1 on the right and the header labeled P1 on the left.
2. Attach four metal threaded standoffs and lockwashers into the screw holes on the chassis.
3. Attach two grey plastic standoffs to the motherboard socket mounting screws.
4. Secure the motherboard to the standoffs using four #6 torx screws as shown in Figure 8.



**Figure 8. Installing the Motherboard in a 4100U/4100ES Expansion Bay**

5. If you are installing the leftmost motherboard, connect a 733-525 Power and Communication Harness. Continue to the next topic to connect the harness.

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# Installing Motherboards into 2975-94xx Back Boxes (4100U/4100ES), *Continued*

## Connecting the 733-525 Harness

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If you need to connect a 733-525 Harness to a motherboard, refer to Figure 9 and follow these steps. Make sure to route the power and communication wiring on the left side of the bay.

1. Connect one end of the harness to a motherboard in an adjacent bay.

If the adjacent bay is a CPU bay with no additional motherboards, connect the harness to the P8 and P7 connectors of the CPU motherboard.

- Insert the harness connector with the blue wire into the P8 connector. Note that the P8 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.
- Insert the harness connector with the white wire into the P7 connector. Note that the P7 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.

If the adjacent bay is an expansion bay or a CPU bay with additional motherboards, connect the harness to the P2 and P3 connectors of the motherboard installed in the leftmost slot. (If a 4100/4120-0155 SDACT, 4100-6052 Event Reporting DACT, 4100-6053 Point Reporting DACT, or a 4100/4120-0153 CCDACT occupies the leftmost slot, connect the harness to the motherboard in the second slot from the left.) Connect the harness as follows:

- Insert the harness connector with the blue wire into the P2 connector. Note that the P2 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.
- Insert the harness connector with the white wire into the P3 connector. Note that the P3 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.

2. Connect the other end of the harness to the leftmost motherboard in the next bay, as described below. Make sure to route the wiring on the left side of the bay.

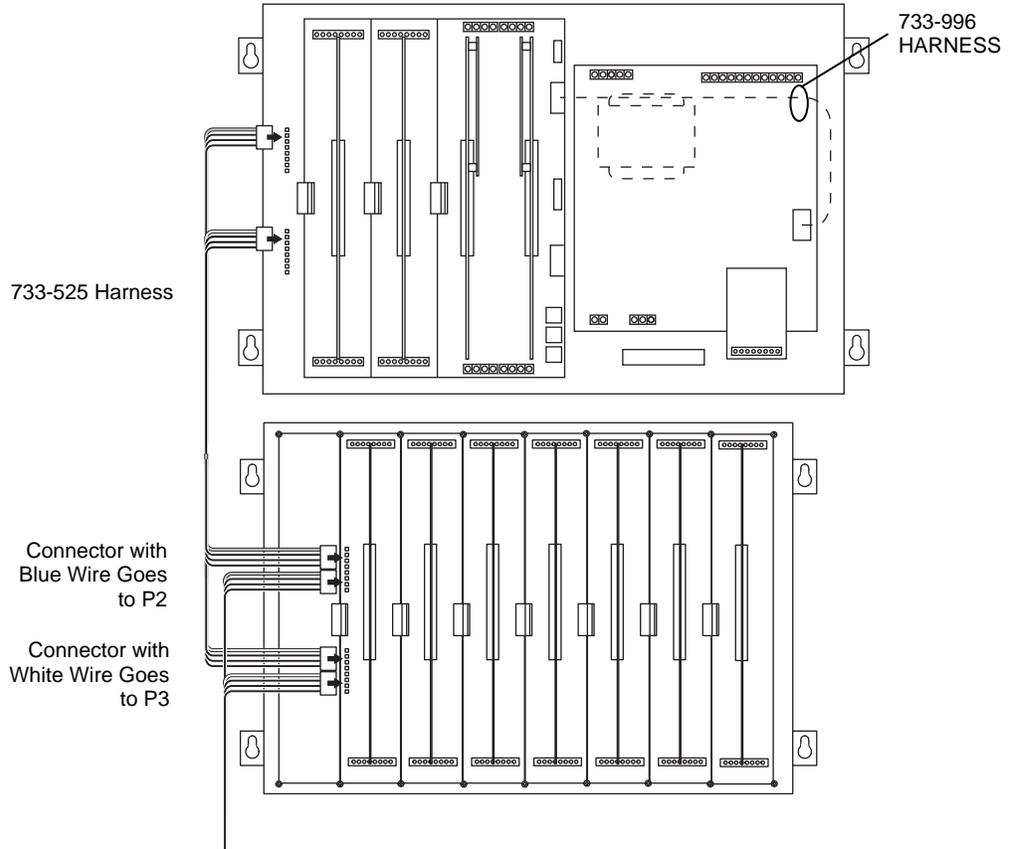
- Insert the harness connector with the blue wire into the P2 connector. Note that the P2 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.
- Insert the harness connector with the white wire into the P3 connector. Note that the P3 connector has eight pins. Insert the harness connector on either the top four pins or the bottom four pins, not in the middle.

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# Installing Motherboards into 2975-94xx Back Boxes (4100U/4100ES), Continued

## Connecting the 733-525 Harness



**Figure 9. Power and Communication Wiring for Motherboard (4100U/4100ES)**

## Installing the Daughter Card

### Installing the Daughter Card

The daughter card inserts into the connector located in the center of the motherboard. The connector is keyed so that the daughter card fits only one way. Before installing the card, examine the slot in the motherboard and the fingers on the daughter card and note where the key is located.

**Note:** The Figure 10 is a general-purpose illustration that applies to all daughter cards.

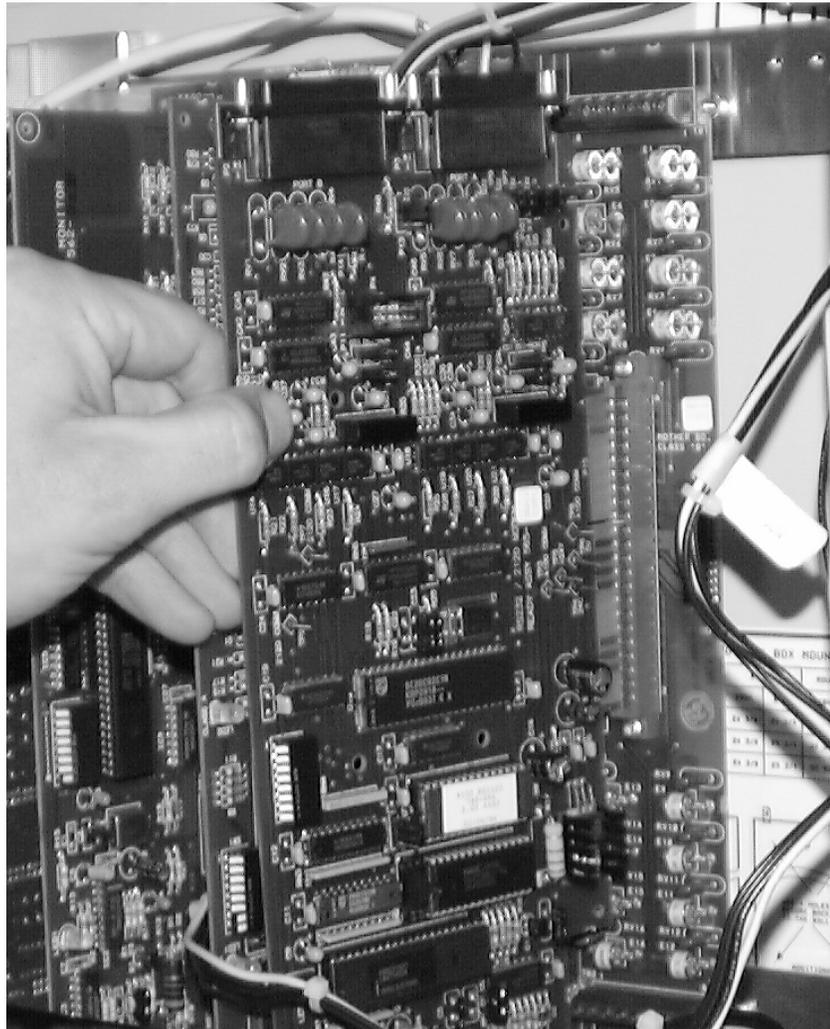


Figure 10. Installing the Daughter Card

# Wiring

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## General Guidelines

- All wires must be 18 AWG, minimum, twisted/shielded pair.  
The Maximum wiring distance is:
  - 18 AWG: 150 ft.
  - 16 AWG: 250 ft.
  - 14 AWG: 400 ft.
  - 12 AWG: 625 ft.
- All wiring is supervised.
- Conductors must test free of all grounds.
- All wiring must be done using copper conductors only.
- If shielded wire is used,
  - The metallic continuity of the shield must be maintained throughout the entire cable length.
  - The entire length of the cable must have a resistance greater than 1 Megohm to earth ground.
- Wires must not be run through elevator shafts.
- A system ground must be provided for earth detection and lightning protection devices. This connection must comply with approved earth detection per NFPA780.
- Only system wiring can be run together in the same conduit.

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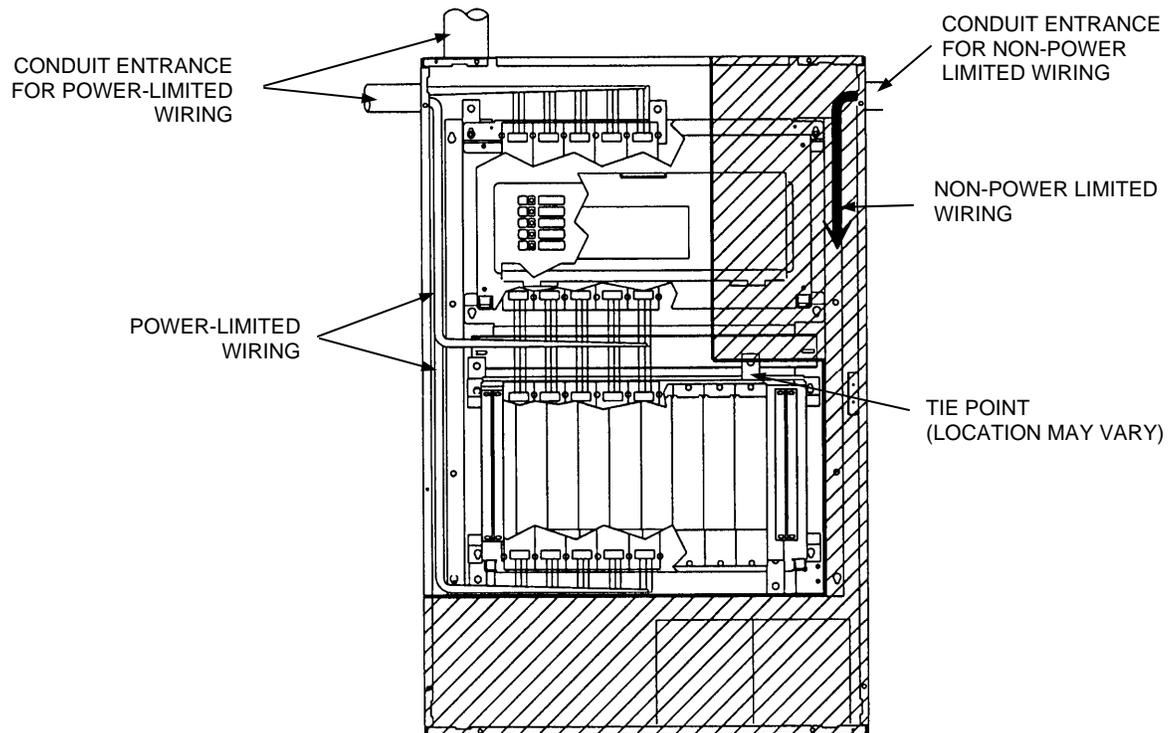
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## Wiring, Continued

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### Power-Limited Guidelines

- Non-power limited field wiring (AC power, batteries, City connection) must be installed and routed in the shaded areas shown in Figure 11.
- Power-limited field wiring must be installed and routed in the non-shaded areas shown in Figure 11, with the exception of City wiring.
- Excess slack should be kept to a minimum inside the back box enclosure. The wiring should be neatly dressed and bundled together using the wire ties provided with the equipment. Anchor power-limited wiring to tie points, as shown in Figure 11.



**Figure 11. Power-Limited Wiring**

- Tie the wiring located between bays to the internal wiring troughs, if applicable.
- When powering remote units or switching power through relay contacts, power for these circuits must be provided by a power-limited power supply that listed for fire-protective signaling use.

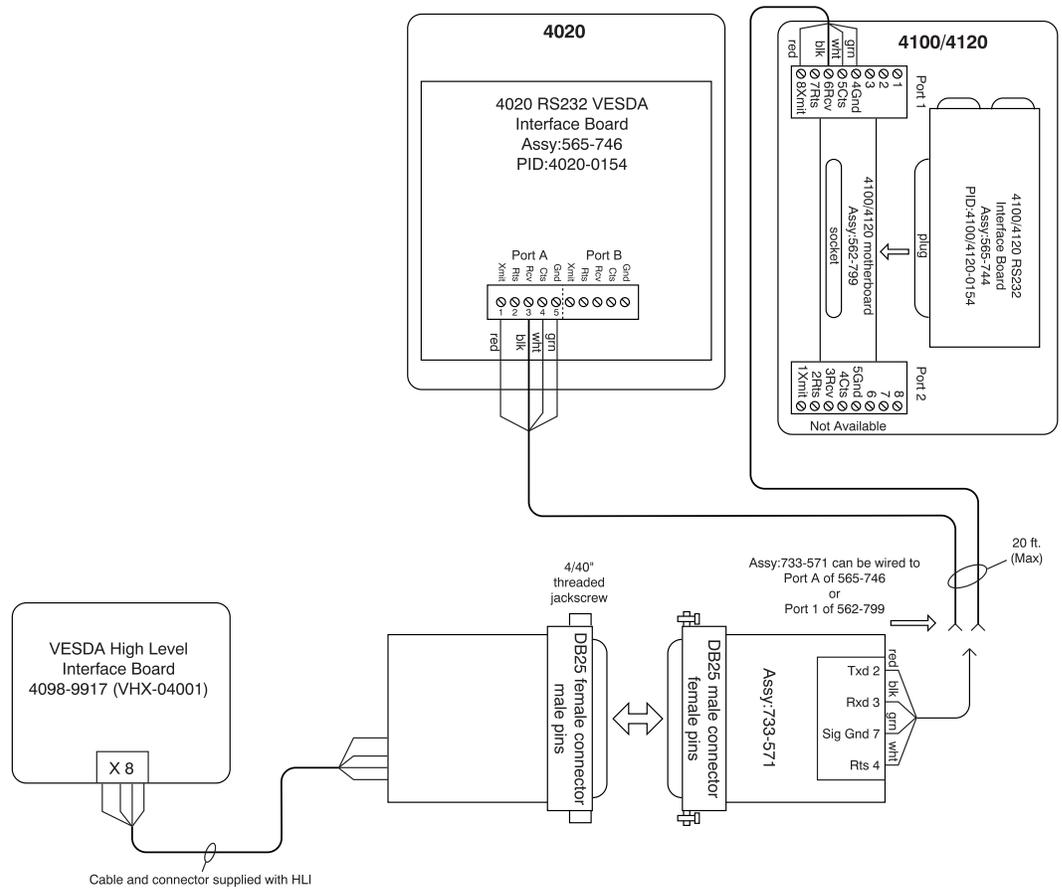
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# Wiring, Continued

## Connecting the 733-571 Harness

Wire the 733-571 Harness as shown in Figure 12. Connect the wires to the terminals located at the top of the motherboard.



**Figure 12. VESDA Wiring**

# Adding a Power Supervision Circuit for VESDA Power Supplies

## Overview

Power for the VESDA detectors must be from either a VESDA-supplied, UL-Listed power supply, or a Simplex 4100 supply. The nominal voltage is 24Vdc and the maximum power is 20W.

Installations where the VESDA detectors are powered by VESDA power supplies require the addition of a supervisory wiring circuit. In the event of a battery or power failure, the general purpose input (located on the detector termination card) to which this circuit connects generates a trouble message. This trouble is then routed back to the 4100 FACP as a FLOW trouble message, indicating that there is a problem with the power supply for the detector.

**Note:** This circuit is not required if the VESDA equipment is being powered by a 4100 power supply.

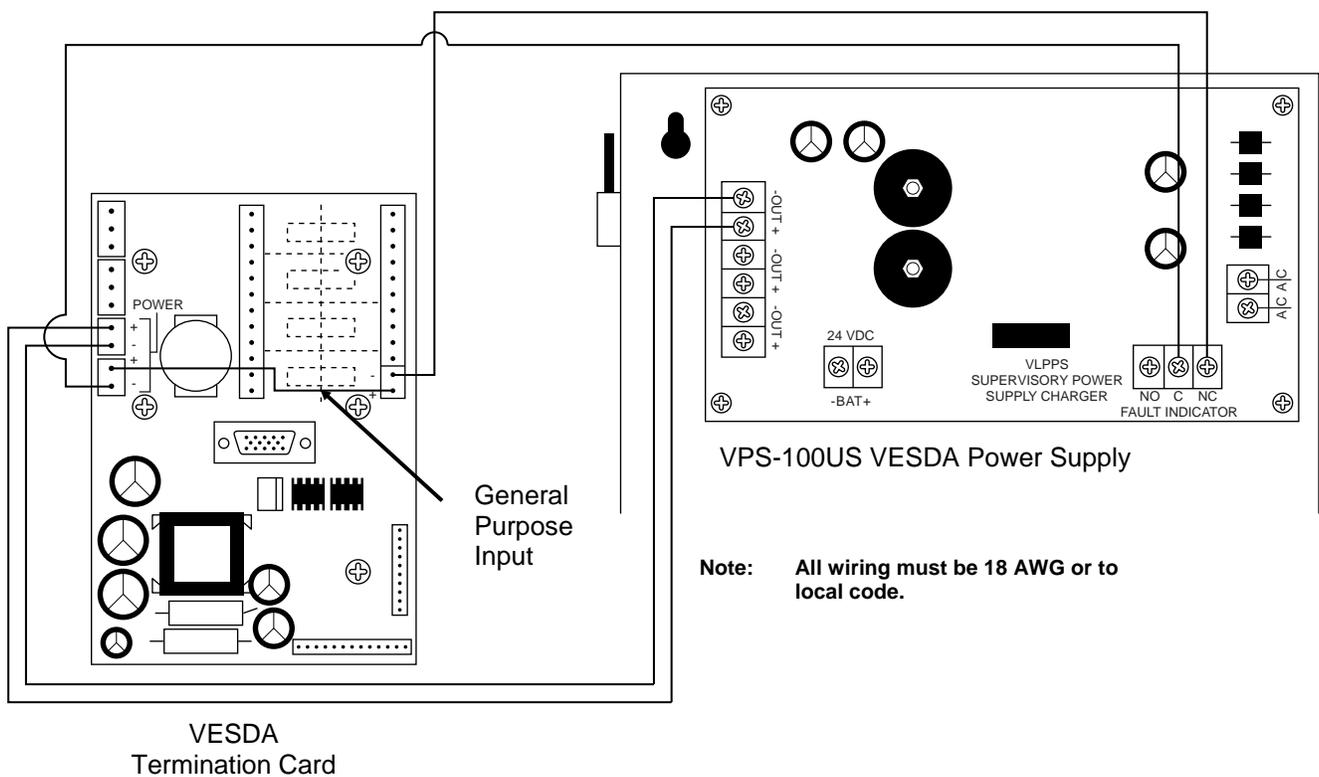


Figure 13. Power Supervision Circuit for VESDA Power Supplies

# Programming

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## Overview

Up to 30 VESDA devices can be programmed per VESDA Interface Card. Each VESDA device takes up 4 slots in the Programmer. Four slots are reserved for each VESDA unit because the Laser Scanner can have up to 4 channels ( 4 pipes, one for each channel).

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## Mapping

Table 3 explains how to map various VESDA devices into the devices shown in the ES Panel Programmer.

**Table 3. Programming VESDA devices**

VESDA Device	Programming
VESDA Laser Plus	Program as a VE70D
VESDA Laser Focus	Program as a VMIN50
VESDA Laser Compact	Program as a VMIN50
VESDA Laser Scanner	Program as a VSCAN

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## Alarm Levels

There are 3 levels of alarm for each VESDA device:

- Level Stage 1 Alarm
- Level Stage 2 Alarm
- Level Stage 3 Alarm

All three levels can be used in Custom Control to enact various output actions.

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