

# Sun Fire™ E25K/E20K/15K/12K Systems A211 Power Supply Unit

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This document contains the procedures for upgrading the power modules and power supply units on the following Sun Fire™ system cabinets:

- E20K-BASE
- E25K-BASE
- E20K-BASE-2
- E25K-BASE-2
- E20K-BASE-2-Z
- E25K-BASE-2-Z
- All F12K cabinets
- All F15K cabinets

The systems have two power modules, each holding three hot-swappable power supplies. One module is on the front of the system and the other module is on the rear. Both must be replaced to accommodate the A211 power supply units. The A211 power supplies and power module are keyed to prevent intermixing with older power supplies and power modules.



**Caution** – The A211 power supplies require System Management Software (SMS) 1.6 with patches 124319-02 (or higher) and 123300-05 (or higher) or subsequent compatible versions.

For the latest patch information go to <http://sunsolve.sun.com>. Installation information and README files are included in the patch download.

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For your protection, observe the following safety precautions:

- Follow all cautions and instructions marked on the equipment.
- Always use proper ESD equipment and procedures when handling boards and components.
- Never push objects of any kind through openings in the equipment. They might touch dangerous voltage points or short out components that can result in fire or electric shock.
- Refer servicing of equipment to qualified personnel.

## Powering Off for Power Module Removal



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**Caution** – The power module is NOT a hot-swappable component. This procedure requires a complete shutdown of the domains and system controllers, and disconnection of all AC power to the system.

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1. As a superuser on the domains, systematically shut down all running domains by typing:

```
domain_name# shutdown -y -g seconds -i 0
```

where *seconds* is the amount of time before shutdown.

2. On the main System Control board (SC), power off the domain hardware by typing:

```
sc% poweroff
```

This command powers off the entire system with the exception of the power supplies, fans, and the SCs. Refer to `poweroff(1M)` for more information.

3. Shut down the System Control boards:

- a. As a superuser on the spare SC, shut down the spare SC by typing:

```
sc_spare# shutdown -y -g seconds -i 0
```

where *seconds* is the amount of time before shutdown.

- b. On the main SC, power off the spare SC by typing:

```
sc% poweroff SCx
```

where *x* is 0 or 1, dependent upon which SC is the spare.

c. As a superuser on the main SC, shutdown the main SC by typing:

```
sc# shutdown -y -g seconds -i 0
```

where *seconds* is the amount of time before shutdown.

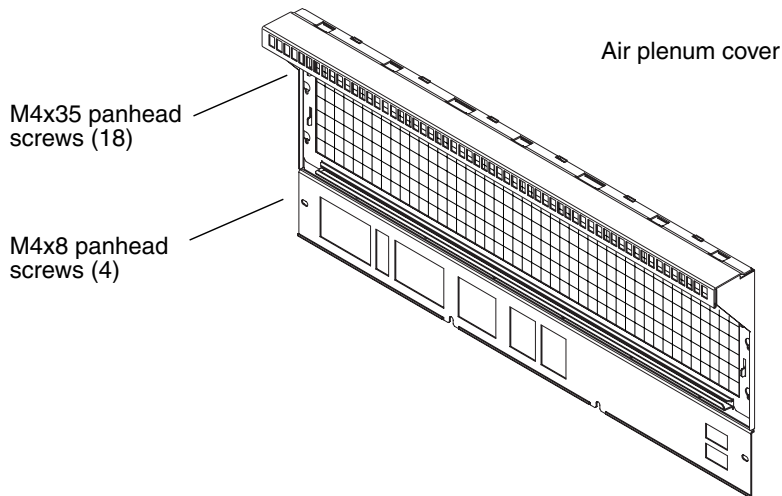
4. Open the cabinet doors.
5. Power off the AC0 and AC1 circuit breakers for all power supplies in the system.
6. Label and disconnect the AC power cords (12 cords possible, six per side) with the labels provided in the shipping kit.

## Removing a Power Module



**Caution** – Be sure you are properly grounded before you begin the hardware upgrade. There are ground points at the top left and top right of the cabinet in both front and rear.

1. Route I/O cables away from the power module, ensuring not to disconnect any cables.
2. Remove the power supplies from the power module.
3. Remove the eighteen (18) M4x35 panhead screws from the top, sides, and bottom of the air plenum cover.
4. Remove the four (4) M4x8 panhead screws from the side and bottom of the air plenum cover.



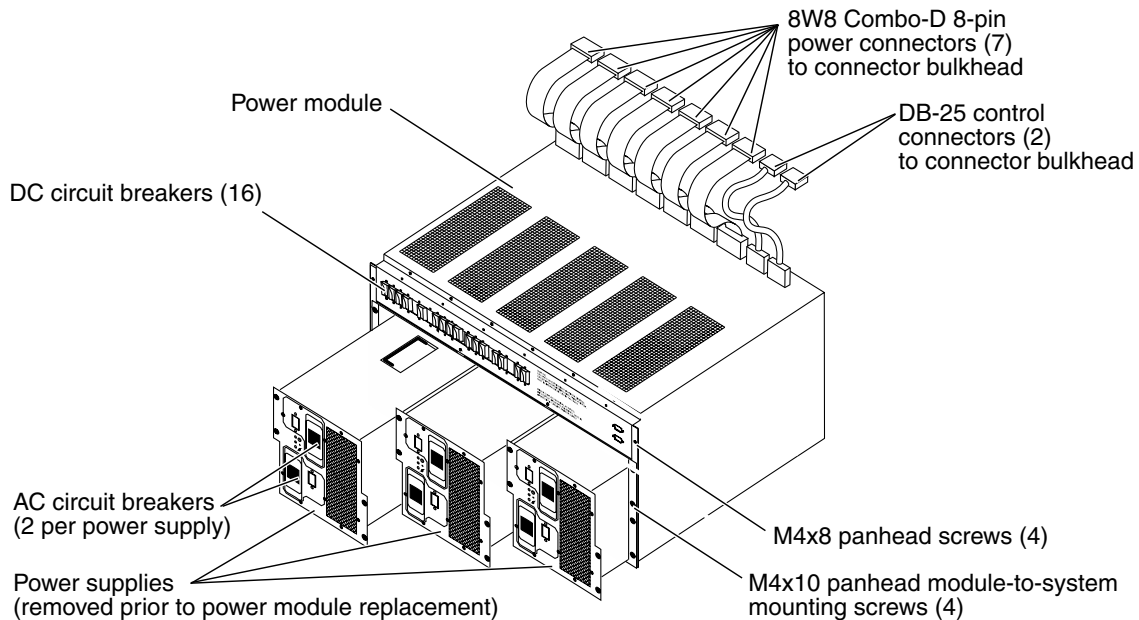
**Caution** – Handle the EMI honeycomb panel carefully to prevent damage to the screen.

5. Remove the air plenum cover, air-inlet EMI honeycomb panel, and air filter from the system and place them on a flat sturdy surface.
6. Loosen the jackscrews on the seven (7) 8W8 Combo-D 8-pin DC power connectors (on the left side) and the two (2) DB-25 control connectors (on the right side).
7. Disconnect the cables from the mounting bulkhead of the power chassis.
8. Remove the four (4) M4x10 panhead screws attaching the power module front flanges to the system chassis.



**Caution** – The power module weighs 48 lb. (21.82 kg). Although the unit can be lifted by one person, it is suggested that two people, one on each side, maneuver the power module into position. Use proper heavy-lifting procedures when removing this unit.

9. With one person on each side of the power module, grasp the front (at the power supply opening) and the bottom and slide the power module outward from the cabinet.
10. Place the power module on a flat sturdy surface.
11. Disconnect the cables, and set them aside.  
The cables will be attached to the new power module.



12. Repeat Step 1 through Step 11 for the power module on the rear of the system.

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## Installing a Power Module

1. Secure the power module end of the seven (7) 8W8 Combo-D 8-pin DC power connectors and two (2) DB-25 control connectors to the new power module.

The cables were disconnected from the previous power module during removal.

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**Note** – The power module weighs 48 lb. (21.82 kg). Although the unit can be lifted by one person, it is suggested that two people, one on each side, maneuver the power module into position. Use proper heavy-lifting procedures when installing this unit.

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2. With one person on each side of the power module, grasp the front (at the power supply opening) and the bottom and slide the power module into the system chassis.
3. Secure the power module to the system chassis with the four (4) M4x10 panhead module-to-system mounting screws.
4. Secure the system end of the seven (7) 8W8 Combo-D 8-pin DC power connectors (on the left side) and the two (2) DB-25 control connectors (on the right side) to the mounting bulkhead of the power chassis, and hand tighten the jackscrews.



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**Caution** – Handle the EMI honeycomb panel carefully to prevent damage to the screen.

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5. Install the air plenum cover and its air-inlet EMI honeycomb panel and air filter.
6. Secure the air plenum cover with eighteen (18) M4x35 panhead screws at the top, sides, and bottom, and four (4) M4x8 panhead screws at the side and bottom.
7. Install the A211 power supplies.
8. Ensure that all DC circuit breakers are in the on position.
9. Ensure that all AC circuit breakers are in the off position.
10. Restore the I/O cables to their original location.
11. Repeat Step 1 through Step 10 for the power module on the rear of the system.

## Powering On After Power Module Upgrade

1. Connect the AC power cords to the A211 power supplies.
2. Power on the AC0 and AC1 circuit breakers for all power supplies in the system.
3. Close the cabinet doors.
4. Once the main SC is booted, log in and start the domain(s) by typing:

```
sc% setkeyswitch -d domain_id on
```

where *domain\_id* is the domain letter A-R. Execute one `setkeyswitch` command for each domain to be started.

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