

# Netra™ ft 1800

## Hardware Release Notes

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THE NETWORK IS THE COMPUTER™

**Sun Microsystems, Inc.**  
901 San Antonio Road  
Palo Alto, CA 94303-4900 USA  
650 960-1300 Fax 650 969-9131

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# Netra ft 1800

## Hardware Release Notes

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This document contains important information regarding installation and use of the Netra ft 1800 system and its electrical connections. These additions and changes refer to the corresponding sections in the *Netra ft 1800 Installation Guide*, the *Netra ft 1800 User's Guide* and the *Netra ft 1800 Hardware Reference Manual*.

- *Netra ft 1800 Installation Guide* pages 18 to 21: replace with “23-inch, 24-inch and 600mm Mountings” on page 4 to page 7 of these Notes.
- *Netra ft 1800 Installation Guide*, “DC Source Site Requirements” on pages 44 to 47: replace with “DC Source Site Requirements” on page 8 to page 14 of these Notes.
- *Netra ft 1800 User's Guide*, Section 12.5 “Replacing a Motherboard”: add the information in “Replacing a Motherboard” on page 15 of these Notes.
- *Netra ft 1800 Hardware Reference Manual*, Chapter 8 “Power Supply Units”: add the information in “Uninterruptible Power Supply Interface” on page 18.



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**Caution** – Installation of the system should only be undertaken after reading these Notes.

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## 23-inch, 24-inch and 600mm Mountings

The 23-inch, 24-inch and 600mm mounting kits consist of the following items:

**TABLE 1** 23-inch, 24-inch and 600mm Mounting Flange Kits

Quantity	Item	Part number		
		23-inch	24-inch	600mm
1	Front left-hand mounting flange	340-4592	340-5445	340-5328
1	Front right-hand mounting flange	340-4591	340-5446	340-5329
2	Rear top mounting flange	340-5449	340-5447	340-5331
2	Rear bottom mounting flange	340-5450	340-5448	340-5427
8	Support rails	340-5330	340-5330	340-5330
6	Cable hook bracket with hooks already installed	340-5553	340-5553	340-5553
40	M5 6mm panhead screws (for front flanges)	N/A	N/A	N/A
16	M5 8mm countersunk screws (for support rails)	N/A	N/A	N/A

Refer to FIGURE 1 on page 5 for the 23-inch kit, FIGURE 2 on page 6 for the 24-inch kit and FIGURE 3 on page 7 for the 600mm kit.

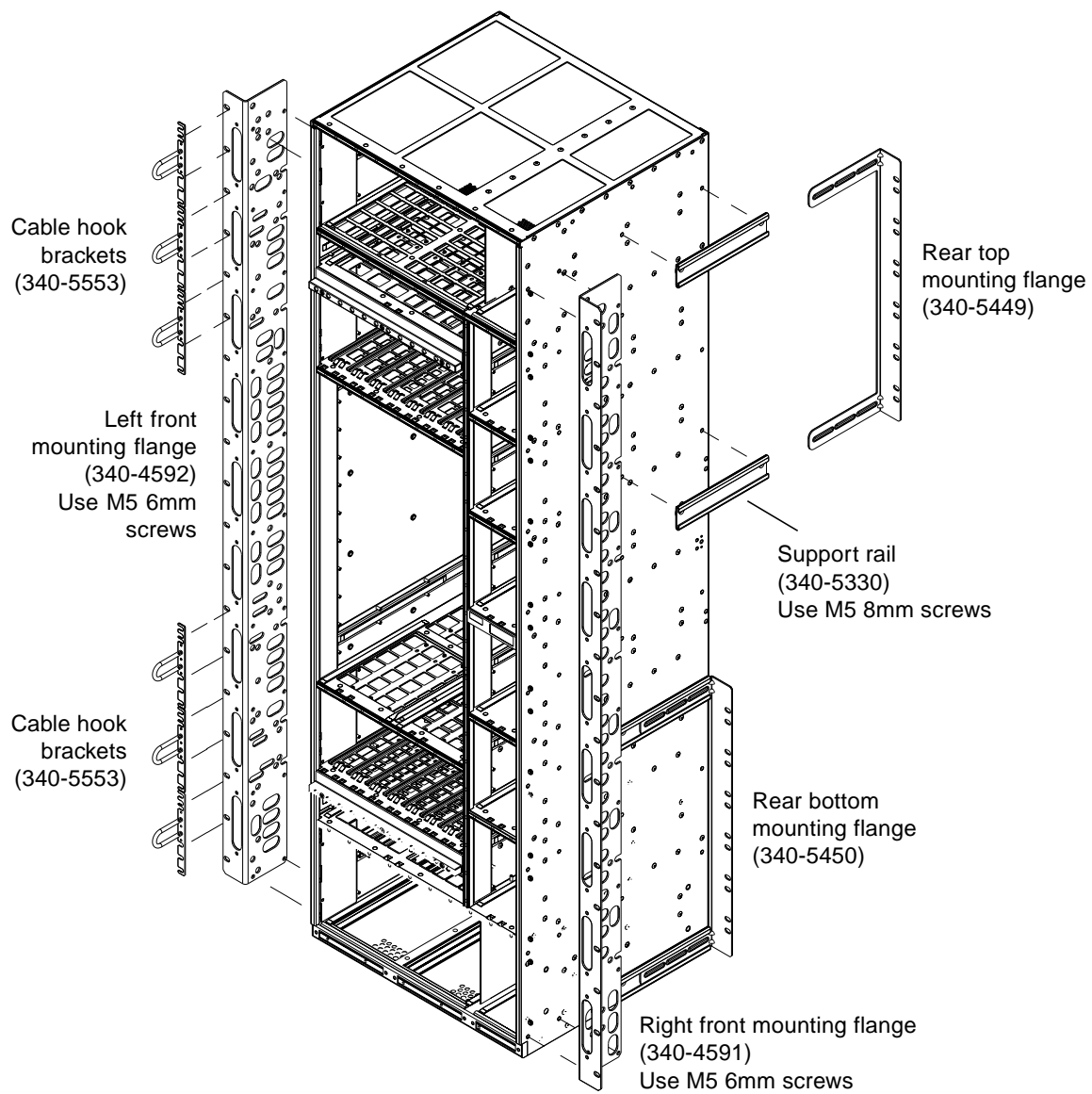
The sides of the system chassis are provided with tapped screwholes as shown in FIGURE 2-2 on page 14 of the *Netra ft 1800 Installation Guide*.

Fit the front mounting flanges using the screwholes in columns C and D, or just column C, or just column D.

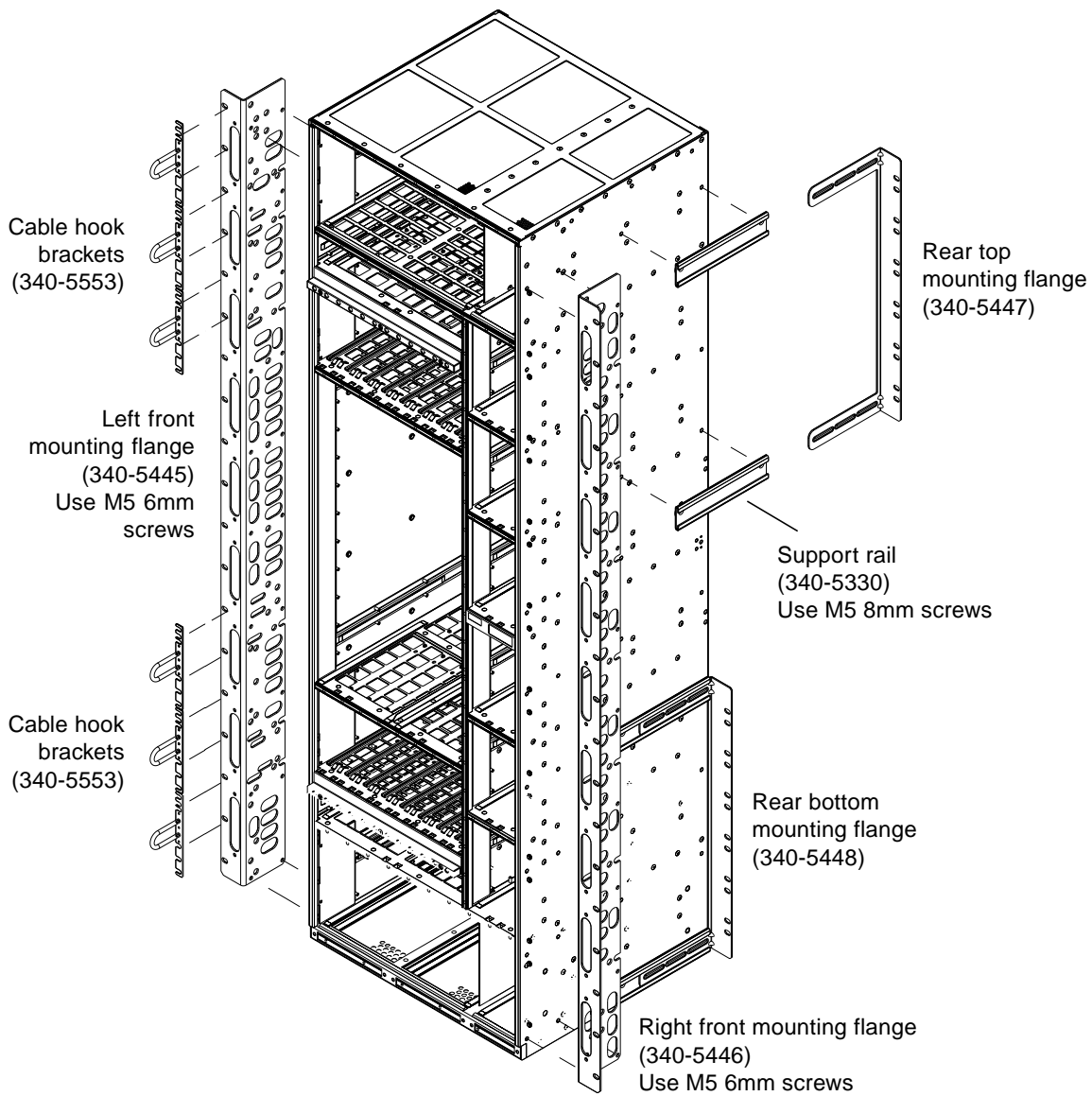
Screw the eight support rails to holes A and B in rows 1, 4, 7 and 10 on each side of the chassis, using the M5 8mm countersunk screws supplied (see FIGURE 1, FIGURE 2 and FIGURE 3).

Locate the chassis in the rack so that the front mounting flanges are flush with the front of the rack. From the rear of the chassis, slide each rear mounting flange in turn into its support rail and secure the flange to the rack. Finally, screw the two front mounting flanges to the rack.

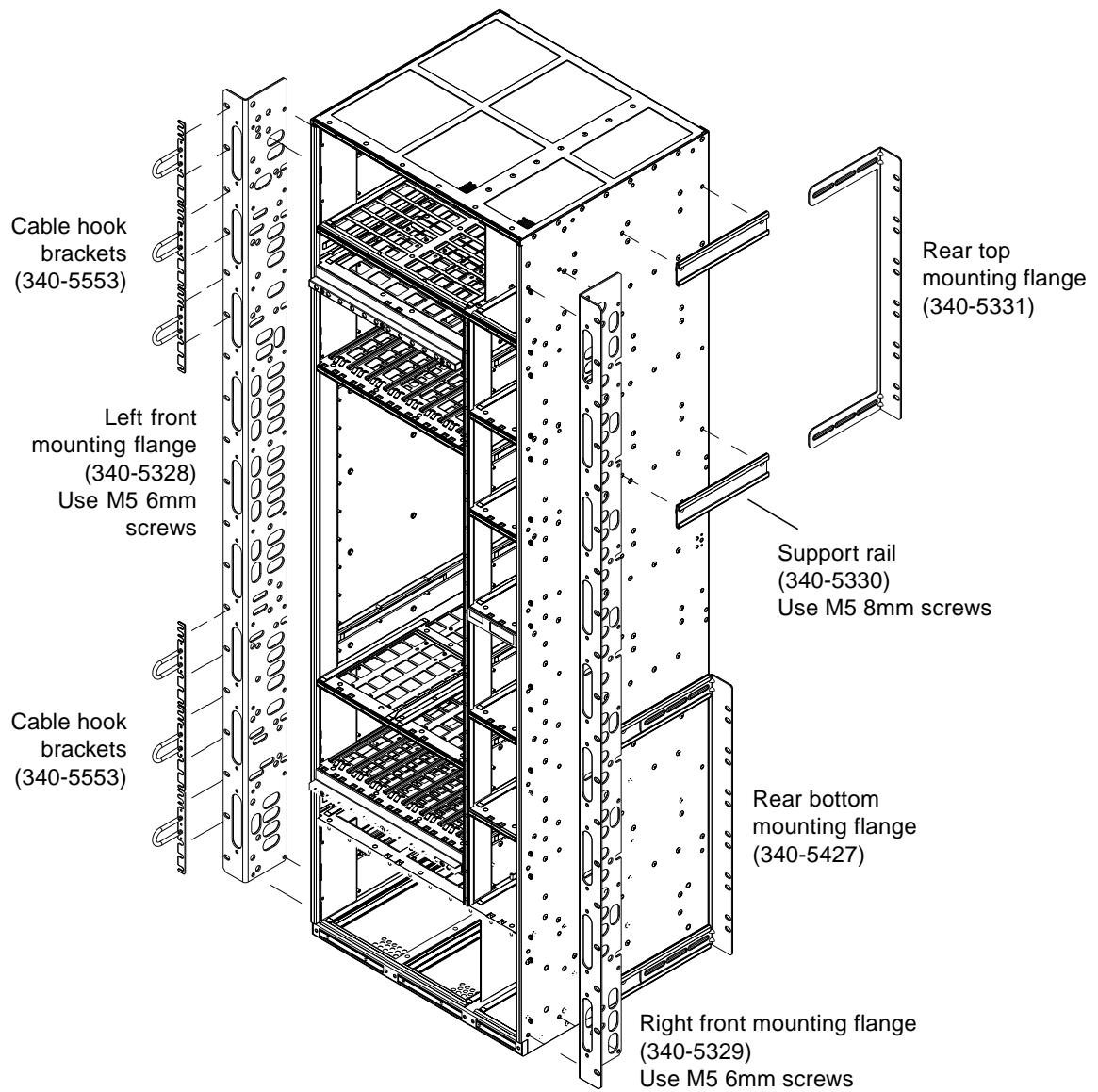
**Note** – The rear mounting flanges on these kits, unlike those in the 19-inch kit, have two sets of holes for fixing them to the rear of the rack, which enable them to be used on either side of the chassis.



**FIGURE 1** 23-inch Rack Mounting Flange Kit



**FIGURE 2** 24-inch Rack Mounting Flange Kit



**FIGURE 3** 600mm Rack Mounting Flange Kit

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## DC Source Site Requirements

The DC source site requirements are as follows:

- Suitable for use in –48 VDC ((classified SELV) nominal or –60 VDC (classified TNV-2) nominal systems.
- The supply source must be electrically isolated by double or reinforced insulation from any hazardous AC or DC source.
- The DC source must be reliably connected to earth (for example, battery room positive bus is connected to the grounding electrode).
- The DC source must be capable of providing up to 925W of continuous power per feed pair. The sum of all three feeds on one side will be less than 1500W for single-feed and 3000W for dual feed.

## Overcurrent Protection Requirements

Overcurrent protection devices must be provided as part of each host equipment rack.

The supply source must be electrically isolated from any AC source or other voltages by double or reinforced insulation.

Circuit breakers meeting the requirements shown in TABLE 2 must be fitted between the DC source and the Netra ft 1800 such that they are ON in the UP position.

**TABLE 2** Overcurrent Protection Requirements

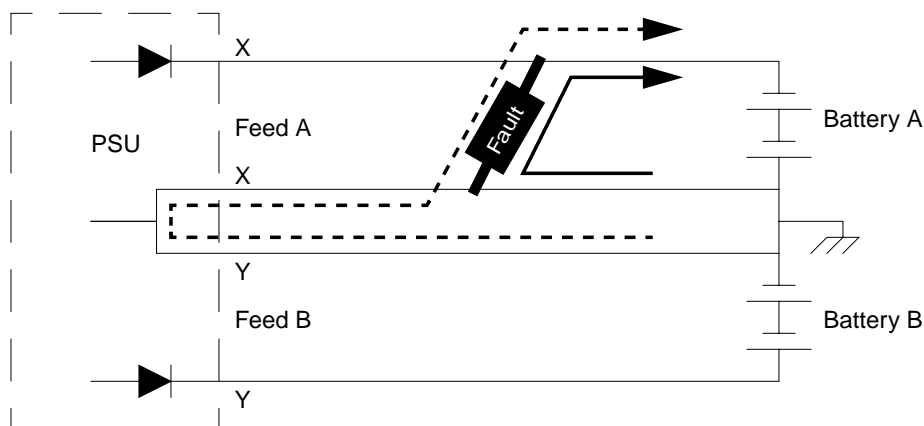
<b>Current rating</b>	30A maximum
<b>Voltage</b>	Maximum 60 VDC rated in –48 VDC power systems Maximum 75 VDC rated in –60 VDC power systems
<b>Type</b>	Fast trip
<b>Protection</b>	EITHER: Double pole breaking (both grounded and ungrounded conductor open on fault) OR: Single pole breaking ungrounded conductor (–48V) to open on fault.  Circuit breakers can be used in configurations to match those shown in FIGURE 7 on page 12, FIGURE 8 on page 13 and FIGURE 9 on page 14. Double Pole breakers MUST be used in the configuration shown in FIGURE 6 on page 11.

**TABLE 2** Overcurrent Protection Requirements (*Continued*)

<b>Contact gap</b>	Minimum 3 mm
<b>Nuisance tripping</b>	Circuit breaker must not operate when presented with an inrush current of 27 amps and a duration of 2.5 microseconds
<b>Quantity</b>	One per feed, up to 12 per system



**Caution** – Double pole circuit breakers are required for installations with dual feeds to any Netra ft 1800 PSU but without a local common return point. The reason for this is the possibility of high currents looping in the return conductors and through the PSU due to a fault elsewhere in the installation. FIGURE 4 shows the fault situation where a problem external to the Netra ft 1800 causes an unrestricted current flow through the PSU (shown by the dotted line).



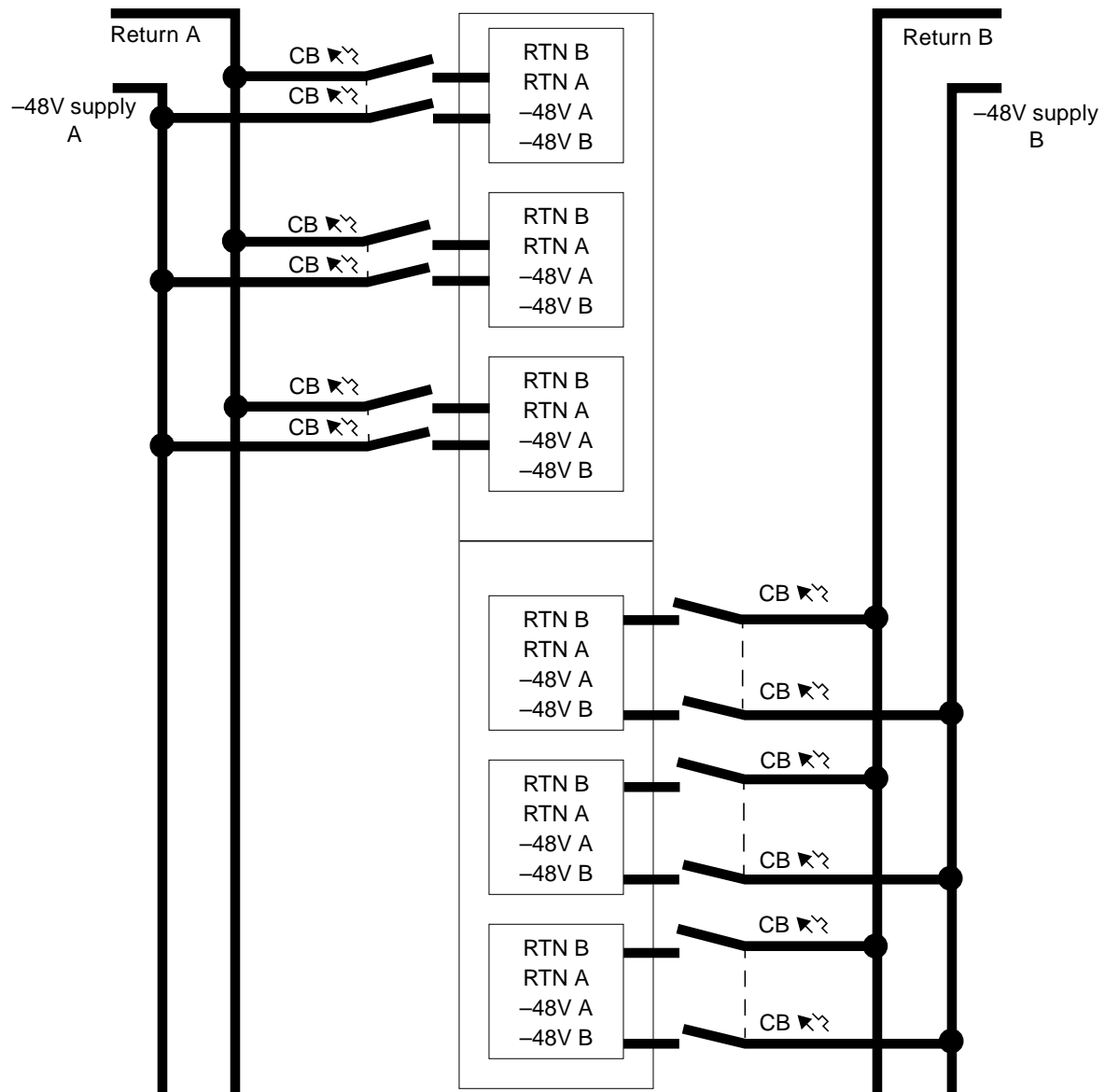
**FIGURE 4** PSU Fault Situation



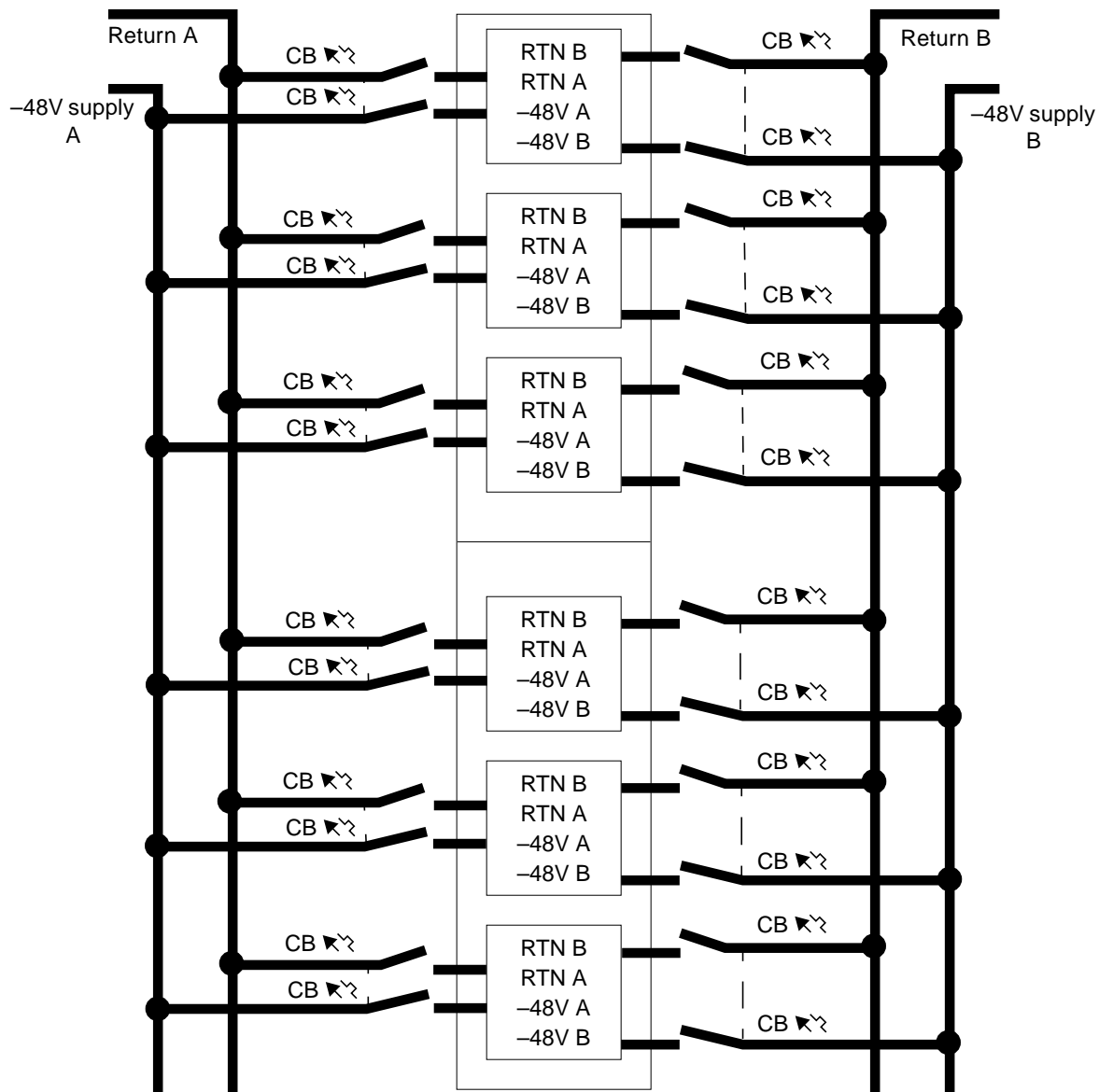
**Caution** – Only by placing double pole circuit breakers at X-X and Y-Y can the return path through the PSU be broken.

**Note** – Four single pole breakers do not provide an alternative, as one of the breakers in the return can be open without indicating a failure in the PSU.

**Note** – Overcurrent devices must meet applicable national and local electrical safety codes and be approved for the intended application.

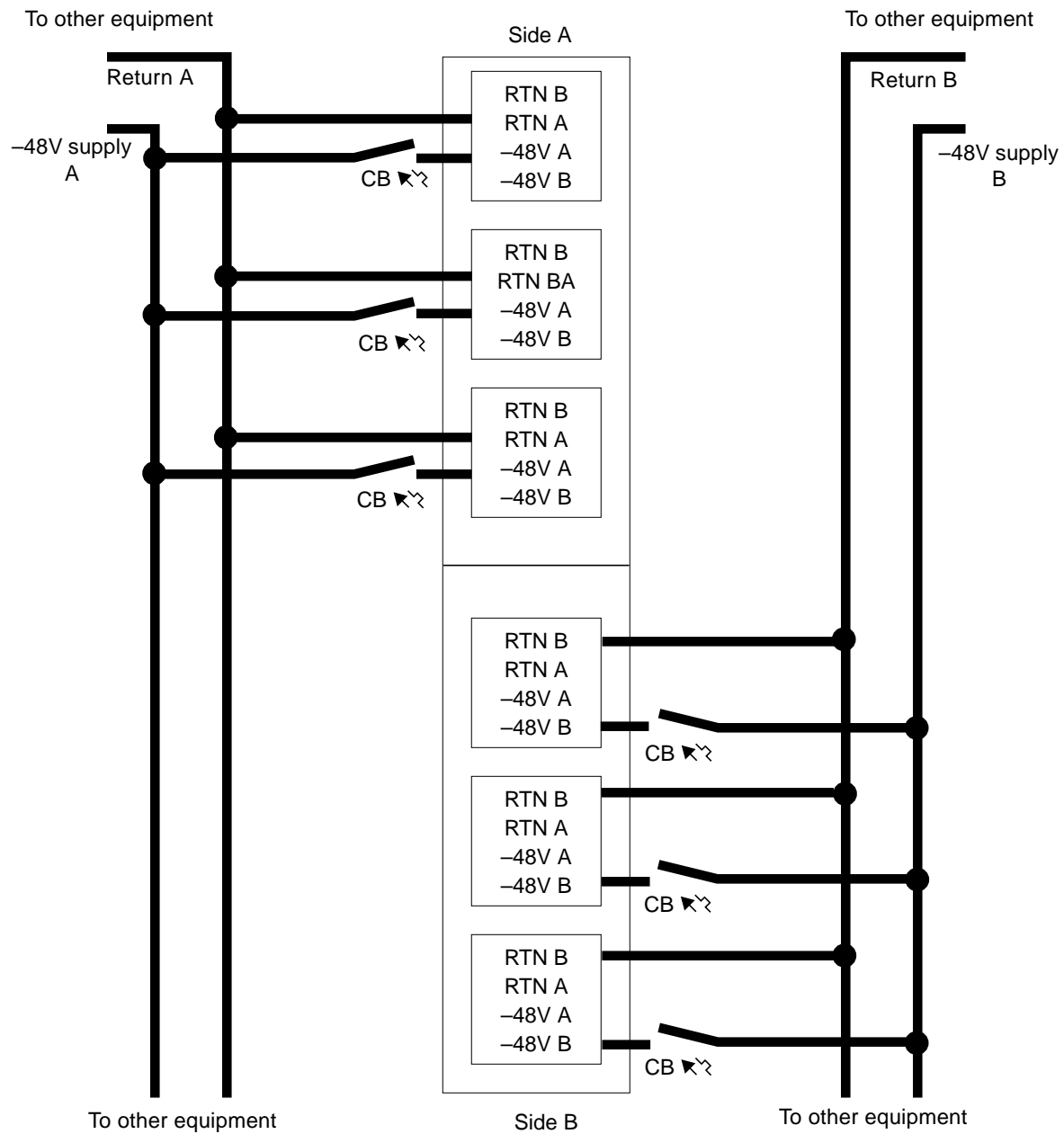


**FIGURE 5** Circuit Breakers for Single Power Rails

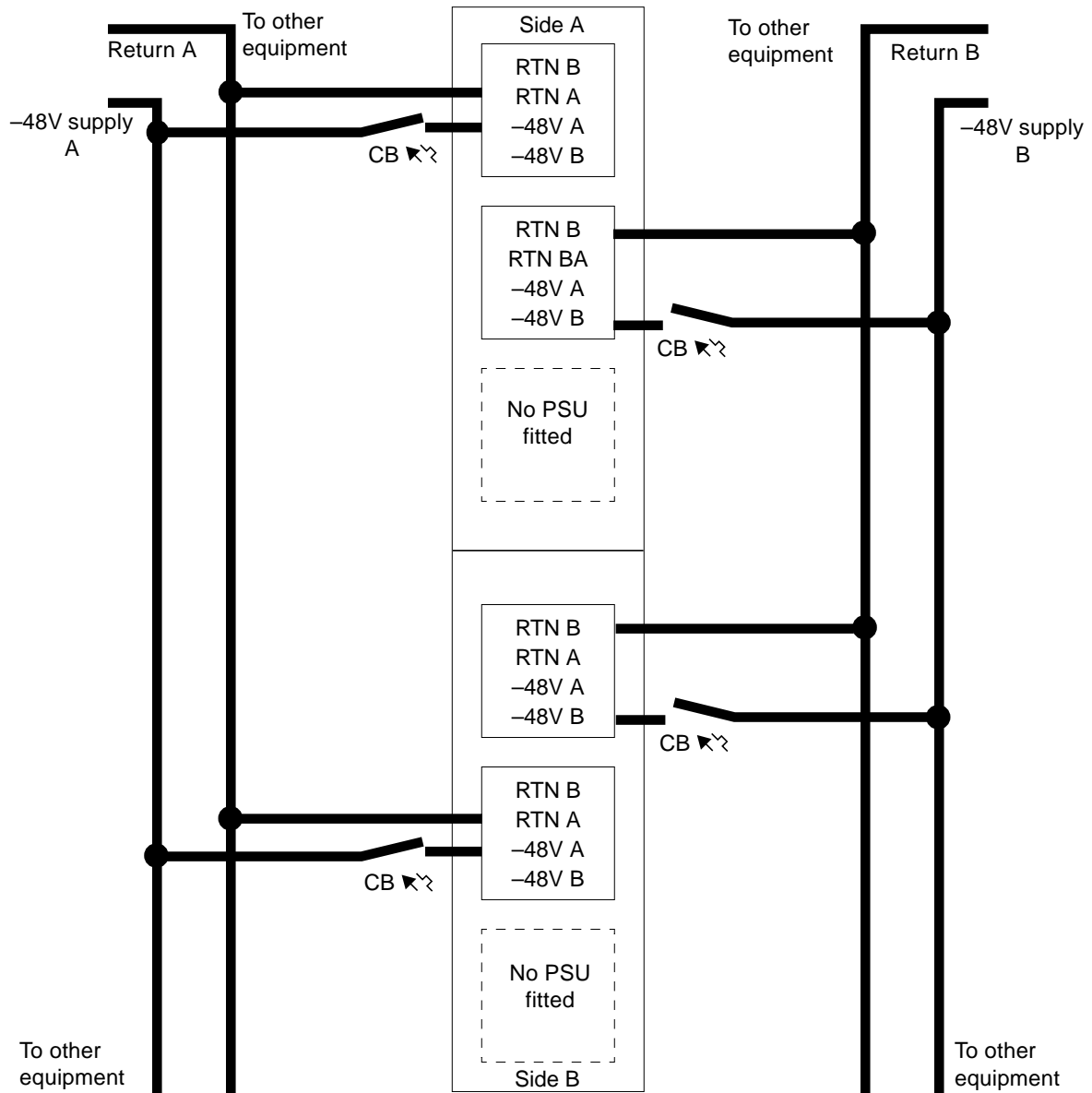


**FIGURE 6** Circuit Breakers for Dual Power Rails

**Note** – Dual feed configuration with independent return circuits to source. Double pole circuit breakers must be used.

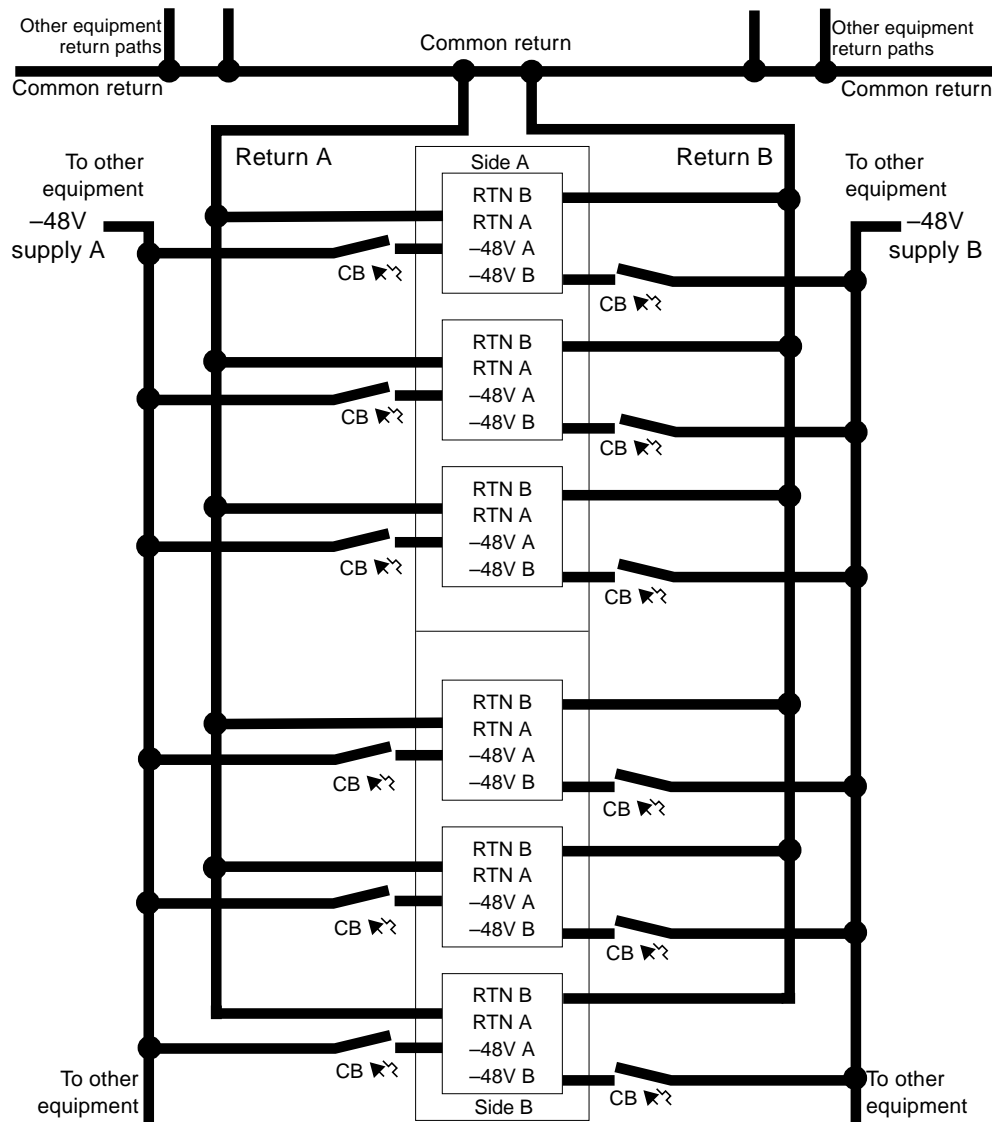


**FIGURE 7** Sided Independent Feeds with Single Pole Circuit Breakers



**FIGURE 8** Side-independent Feeds to Each PSU with Single Pole Circuit Breakers (double pole can be used)

**Note** – This is only applicable for smaller Netra ft 1800 configurations, that is, those with only two PSUs per side configured to provide redundancy.



**FIGURE 9** Dual Feeds with Local Common Return – Single Pole Circuit Breakers (double pole can be used)



**Caution** – To meet the criterion of a Local common return, the return lines from the Netra ft 1800 must go directly to the Common point without linking to the returns from other equipment. The Return A and Return B lines for each PSU must be adjacent on the Common point (within 100 mm of each other).

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## Replacing a Motherboard

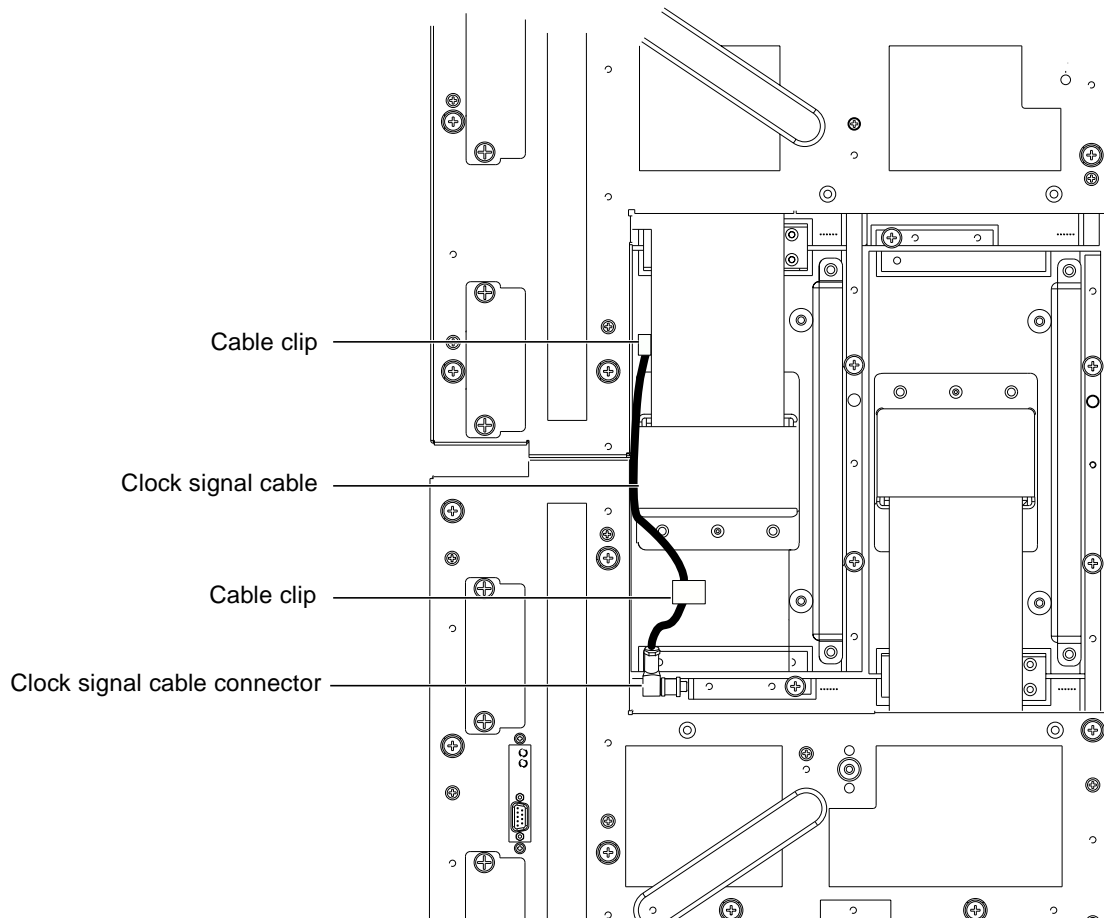
Refer to the *Netra ft 1800 User's Guide*, Section 12.5 “Replacing a Motherboard”.

On page 12-22, replace Step 9 with the following:

- Gently disconnect the brass connector that secures the clock signal coaxial cable by pulling it to the left.

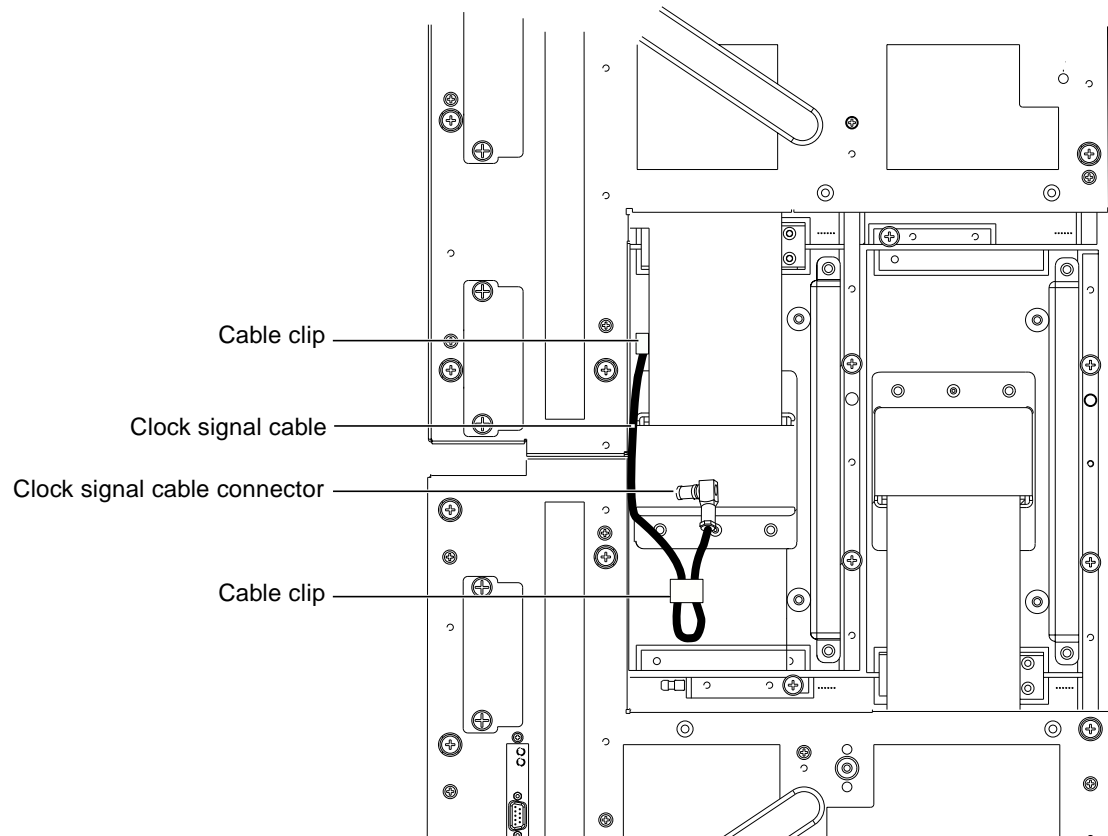
Refer to FIGURE 10.

Ensure the brass connector does not come into contact with the motherboard.



**FIGURE 10** Clock Signal Cable Connector Location

- Secure the cable using the cable clip provided, as shown in FIGURE 11.



**FIGURE 11** Securing the Clock Signal Cable

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## Uninterruptible Power Supply Interface

An uninterruptible power supply (UPS) connector is located on each motherboard and is provided to allow for the future implementation of an external power supply interface. There is currently no software support for this.

The interface is intended to monitor the status information provided by the UPS, and is isolated from the rest of the motherboard by opto-isolators. The input lines are individually surge- and spike-protected.

A three-feed UPS can be monitored via the 9-pin female D-type connector, which has the pinout shown in TABLE 3.

**TABLE 3**     UPS Connector Pinout

Pin	Signal Name	Description
1	ISO_UPA_PRES/L	UPS present
2	ISO_AC_FAIL0/L	AC input 0 failed
3	ISO_AC_FAIL1/L	AC input 1 failed
4	ISO_BAT0_OK/L	Battery 0 status
5	ISO_BAT1_OK/L	Battery 1 status
6	ISO_BAT2_OK/L	Battery 2 status
7	ISO_AC_FAIL2/L	AC input 2 failed
8	ISO_SIG_GROUND	Signal reference
9	Spare	Spare
Shell	FRAME_GROUND	Chassis ground

The status lines are all connected to a maintenance bus device. The UPS present and the three AC failure lines are gated together to generate an AC\_OK/L line, which indicates that the UPS is present and at least one of the AC input feeds is functional.