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RACAL INSTRUMENTS™
1261B/BL
VXI MAINFRAME

Publication No. 980800 Rev. A

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FOR YOUR SAFETY

Before undertaking any troubleshooting, maintenance or exploratory procedure, read carefully the **WARNINGS** and **CAUTION** notices.



This equipment contains voltage hazardous to human life and safety, and is capable of inflicting personal injury.



If this instrument is to be powered from the AC line (mains) through an autotransformer, ensure the common connector is connected to the neutral (earth pole) of the power supply.



Before operating the unit, ensure the conductor (green wire) is connected to the ground (earth) conductor of the power outlet. Do not use a two-conductor extension cord or a three-prong/two-prong adapter. This will defeat the protective feature of the third conductor in the power cord.



Maintenance and calibration procedures sometimes call for operation of the unit with power applied and protective covers removed. Read the procedures and heed warnings to avoid “live” circuit points.

Before operating this instrument:

1. Ensure the proper fuse is in place for the power source to operate.

2. Ensure all other devices connected to or in proximity to this instrument are properly grounded or connected to the protective third-wire earth ground.

If the instrument:

- fails to operate satisfactorily
- shows visible damage
- has been stored under unfavorable conditions
- has sustained stress

Do not operate until performance is checked by qualified personnel.

EC Declaration of Conformity

We

Astronics Test Systems

declare under sole responsibility that the

1261B/BL VXIbus Mainframe, P/N 407374-XXXXX
1261B Option 53 Current Sharing Supply, P/N 407420

conform to the following Product Specifications:

Safety: EN61010-1

EMC: CISPR 11:1990/EN 55011 (1991): Group 1 Class A
IEC 801-2:1991/EN 50082-1 (1992): 4 kV CD, 8 kV AD
IEC 801-3:1984/EN 50082-1 (1992): 3 V/m, 27-500 MHz
IEC 801-4:1988/EN 50082-1 (1992): 1 kV

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Irvine, CA, October 21, 1997

Quality Manager

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Amendment
1261B Revision M, Foot Replacement & Addition of Ground Label
October 21, 1997

1. The unit you have may contain a different foot assembly than the one documented.

   The latest version is made up of the following 2 parts for each foot:

   a. Part Number 921515, Foot, Bumper, .38 high x .77 dia., FSC 54106 (Bruce Plastics, Pittsburg, PA) Manufacturer's Part Number 0943-0014.

   b. Part Number 616257, Screw, PPH, Sems Assy., 6-32x.500, FSC 78189, Manufacturer's P/N SEMS W/SQ CONE WA.

   c. These 2 parts replace item 5 (P/N 610873), item 7 (P/N 615059), and item 11 (P/N 921054).

2. Add item 38 (P/N 921509) ground label below the bottom screw on the EMS, SMS or blank panel. This is located on the right side, rear view of the 1261B.

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DOCUMENT CHANGE HISTORY

Revision	Date	Description of Change
A	10/07/10	Revised per EO 30291 UL Regulations require UL data removal on page A-5. Revised and replaced first 4 pages. Manual now rev. letter controlled. Added document change history page v in front of chapter 1. Removed Chap 6 and 7 the information needed is included in the first 4 pages starting at the cover.

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1

Getting Started

Product Description

The Model 1261B High Power Mainframe is a 13-slot VXIbus Mainframe suitable for the most power hungry applications. The Model 1261BL 600 Watt mainframe is suitable for applications with modest power requirements. Both fully comply with the VXIbus Specification 1.4 requirements and are VXI*plug&play* compatible.

Key Features

Figures 1-1 through **1-7** show the key features of the 1261B/BL.

Ease of Use

- **Fast Setup.** The 1261B/BL backplane uses active-automatic VME interrupt acknowledge and bus grant daisy chaining. Manual configuration of backplane switch settings or jumpers has been eliminated.
- **Universal AC Input.** The 1261B/BL AC input is both auto-voltage and auto-frequency ranging. The chassis does not require the configuration of a voltage selection switch.
- **Plug-in Power Supply and Fans.** The 1261B/BL modular system design results in a virtually wireless mainframe with low MTTR and high MTBF. See **Figure 1-3.**
- **Variable Recess Rack Mounting.** The adjustable rack mount ear provides variable (0.625 inch increments) recess rack mounting capability. See **Figure 1-7.**

Bench Top Model (7U Footprint)

The 1261B/BL Bench Top is a high performance VXI mainframe that is only 7U (12.220 inches) tall.

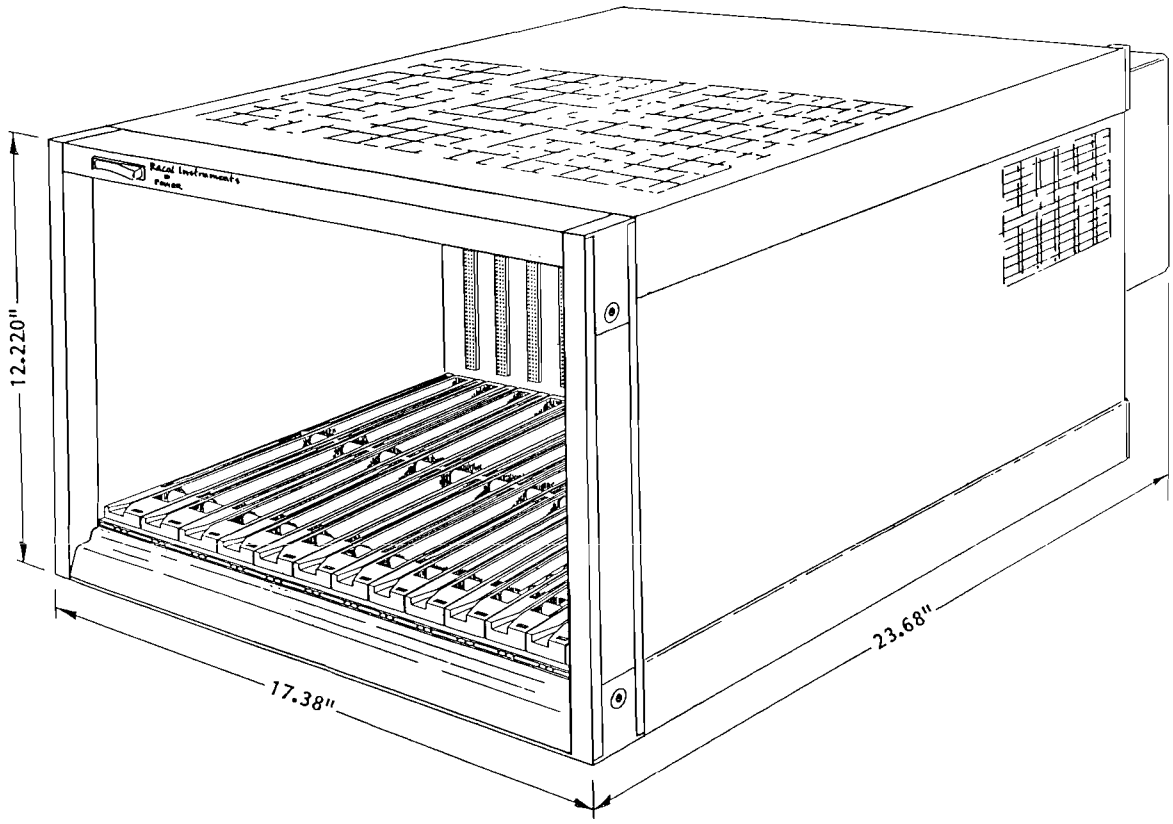


Figure 1-1 1261B/BL Bench Top (7U Tall) MainFrame

VXI*plug&play* Rack Mount Model (9U Footprint)

The 1261B Rack Mount mainframe is designed to the VXI*plug&play* 9U tall (15.720 inches) footprint. (Not standard with 600W power supply and quiet fan assembly)

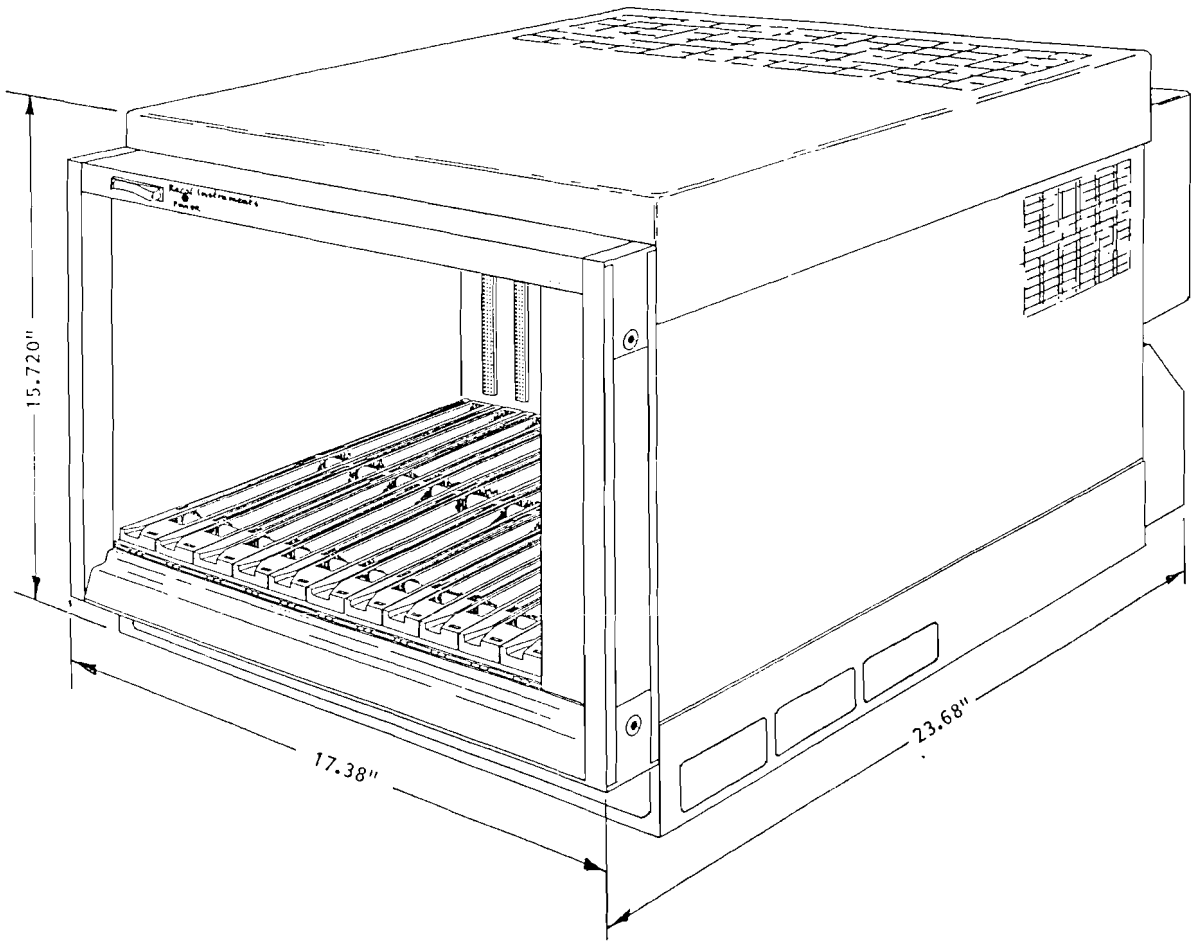


Figure 1-2 1261B Rack Mount (9U Tall) Mainframe, Plug & Play

Modular Mainframe Design

The 1261B/BL highly modular design is virtually wireless with low MTTR and high MTBF.

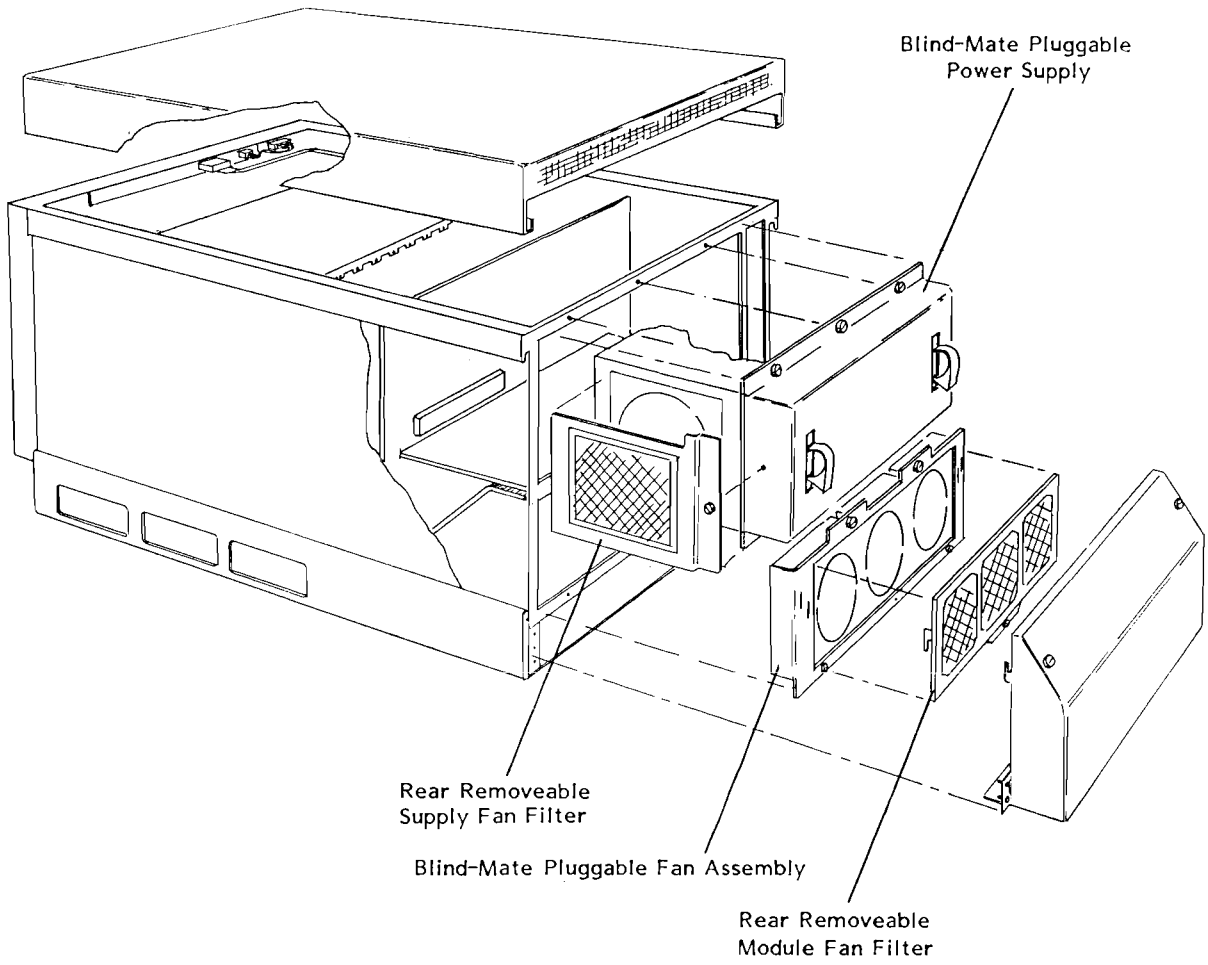


Figure 1-3 Modular Service Friendly Mainframe Design Features

Available DC Power

Figure 1-4 depicts the 1261B/BL high power plug-in power supply. **Table 1-1** lists the available DC current for each VXI voltage for the 1261B and 1261BL.

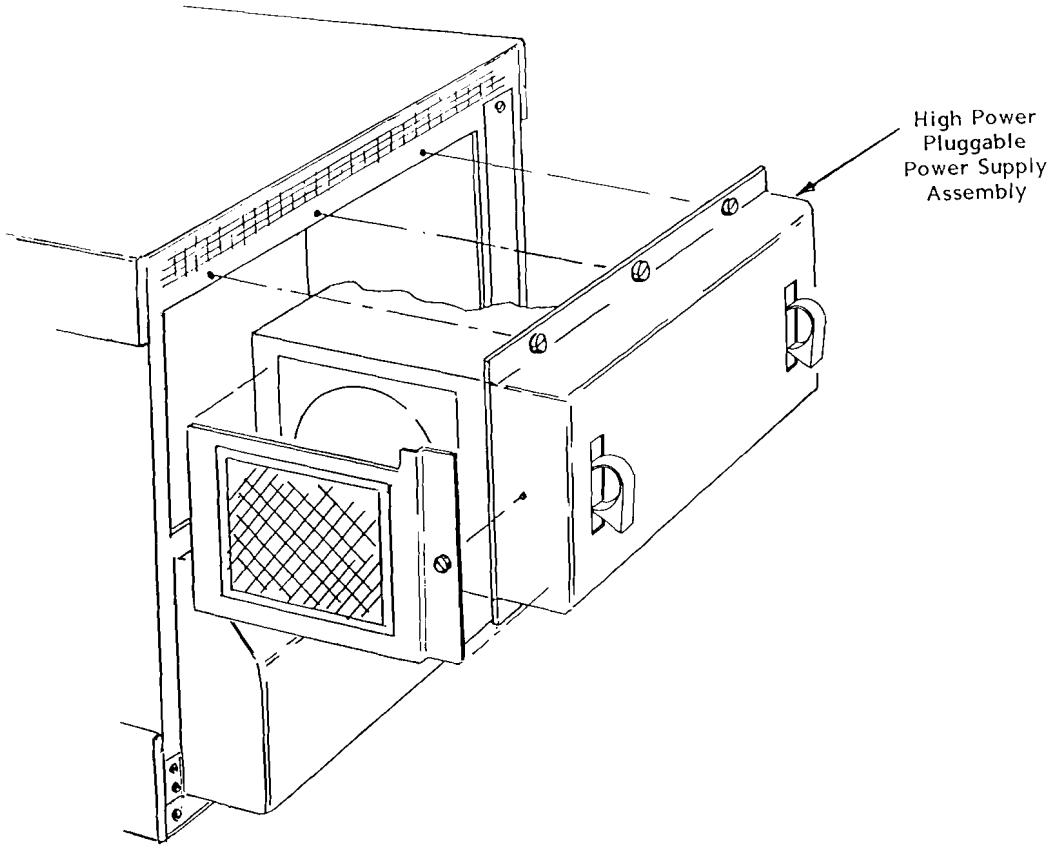


Figure 1-4 1261B/BL High Power Pluggable Power Supply

VXI Voltage	1261B Available DC Current	1261BL Available DC Current
+5V	80/120 Amps (See Note)	60 Amps
-5.2V	60 Amps	45 Amps
-2V	30 Amps	30 Amps
+12V	13 Amps	10 Amps
-12V	13 Amps	10 Amps
+24V	12/18 Amps (See Note)	10 Amps
-24V	12 Amps	10 Amps

Note: Option 53 Current Sharing Supply required for +5V > 80 Amps and +24V > 12 Amps.

Table 1-1 1261B/BL Available DC Current

High Capacity Positive Pressure Cooling System

The 1261B/BL uses forced air positive pressure cooling to direct air to the VXI modules

Bench Top Cooling System

Figure 1-5 details the bench top cooling system.

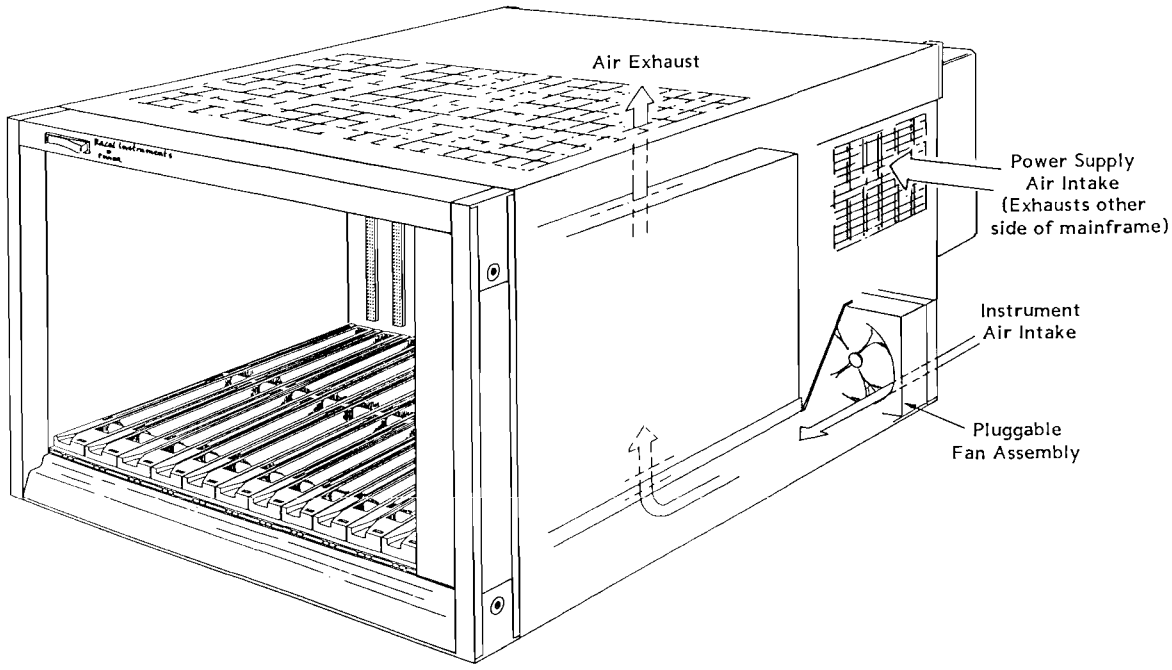


Figure 1-5 1261B/BL Bench Top Mainframe Positive Pressure Cooling System

Rack Mount Cooling System

Figure 1-6 details the 1261B Rack Mount cooling system. The 1261B Rack Mount has air intake at the bottom sides and exhausts at the top rear, consistent with industry standard rack mount cooling practice.

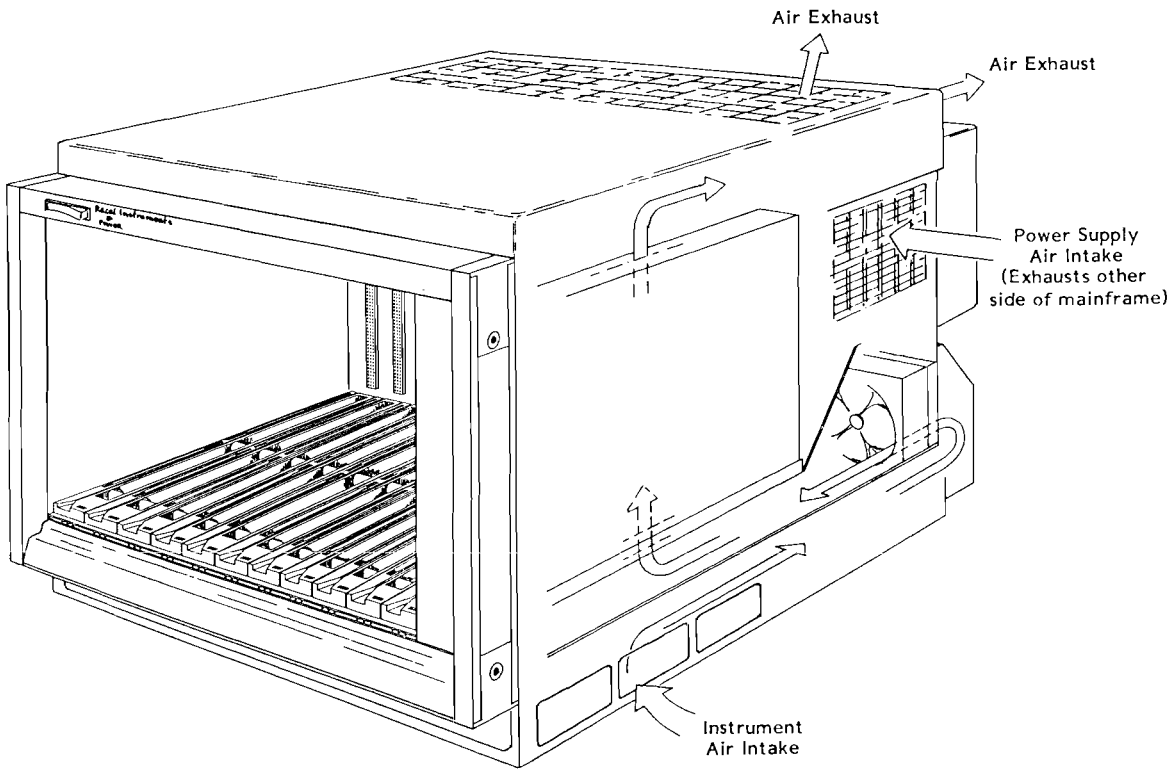


Figure 1-6 1261B Rack Mount Mainframe Positive Pressure Cooling System

Rack Mount Features

The 1261B/BL is available with a wide variety of options for both rack mount (9U) and bench top (7U) models.

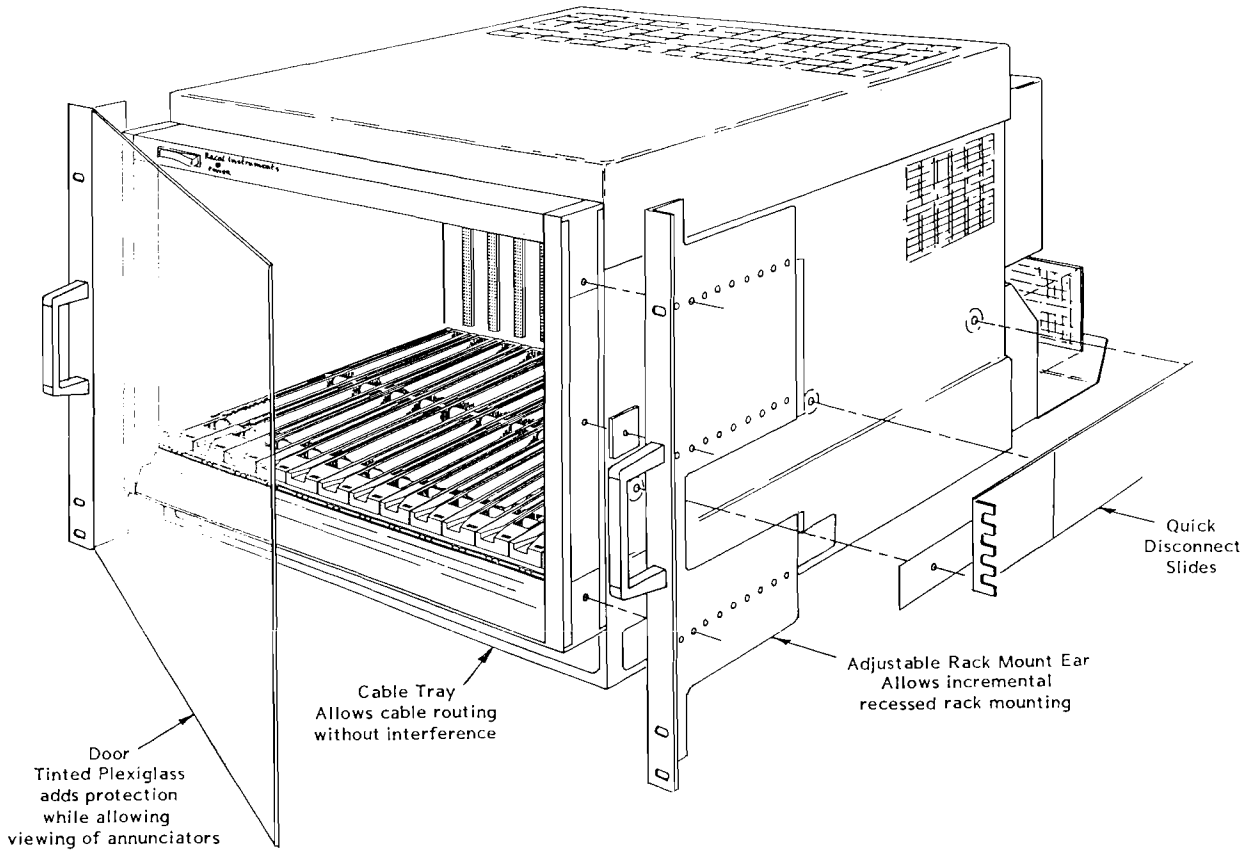


Figure 1-7 Rack Mount and Cable Tray Option Components

The adjustable rack mount ear provides variable recessed rack mounting capability.

Backplane

The 1261B/BL has a jumperless auto-configurable backplane using active-automatic daisy chaining for the VME Interrupt acknowledge and bus grant daisy chain signal lines. This eliminates the need to manually configure the backplane.

Distribution of the CLK10 reference clock is full differential providing a low skew timing source.

Power is supplied to the backplane through a direct connection to the 1261B/BL power supply eliminating wiring and sub-backplane interconnect boards. The result is increased reliability and improved dynamic current performance.

Items Shipped With The 1261B/BL

Qty	Item	Part Number
1	Instruction Manual	980800
1	Power Cable	602262
6	Card Guide Covers	456271

Spares Ordering Information

	Spares Ordering Information		
Model	**Description**		**Part Number**
1261B Power Supply	Spare Power Supply Module	1261B Only	407377-900
1261B Fan Assembly	Spare 2 Speed Fan Module	1261B Only	407375-001
1261BL Power Supply	Spare Power Supply Module	1261BL Only	407377-902
1261BL Fan Assembly	Spare 2 Speed Fan Module	1261BL Only	407376-001
Card Guide Cover	Spare Card Guide Cover	1261B/1261BL	456271
Blanking Plate	Blanking Plates (to fill empty module slots)	1261B/1261BL	404836
Front Door Assembly	Replacement Front Door (7U)	1261B/1261BL	407429
Front Door Assembly	Replacement Front Door (9U)	1261B/1261BL	407430

Optional Equipment

Options			
Model	**Description**		**Part Number**
Option 01	7U Rack Mount w/Slides Only	1261B/1261BL	407389
Option 02	7U Rack Mount w/Slides and Door	1261B/1261BL	407390
Option 03	7U Rack Mount w/Door	1261B/1261BL	407391
Option 04	7U Rack Mount (Ears Only)	1261B/1261BL	407392
Option 11	9U Rack Mount w/Slides Only	1261B/1261BL	407393
Option 12	9U Rack Mount w/Slides and Door	1261B/1261BL	407394
Option 13	9U Rack Mount w/Door	1261B/1261BL	407395
Option 14	9U Rack Mount (Ears Only)	1261B/1261BL	407396
Option 21	1U Cable Tray (9U)	1261B Only	407397
Option 22	2U Cable Tray (9U)	1261B Only	407398
Option 23	Application Specific Front Panel (AFSP) 9U	1261B Only	407399
Option 51	Backplane w/Connector Shrouds Installed	1261B/1261BL	407418
Option 52	Inter-Module Mainframe Shield Kit	1261B/1261BL	407419
Option 53	Current Sharing Supply	1261B Only	407420
Option 54-1	Front Extension Mount Assembly For installing 1261B in 24" Rack (7U) See **Figure A-5**	1261B/1261BL	407431
Option 54-2	Front Extension Mount Assembly For installing 1261B in 24" Rack (9U) See **Figure A-6**	1261B Only	407421
Option 71	230 Volt Option	1261B/1261BL	407401
Option 721	1U Cable Tray (7U)	1261B/1261BL	407518-001
Option 722	2U Cable Tray (7U)	1261B/1261BL	407518-002
Option 723	3U Cable Tray (7U)	1261B/1261BL	407518-003

2

Configuring The 1261B/BL

Using This Chapter

This section includes procedures to install and configure the 1261B/BL mainframe. Use this chapter to:

- Review installation site considerations.
- Install VXI modules, card guide covers, or optional blanking plates.
- Install the 1261B/BL rack mount options, and install the mainframe into an instrument rack.
- Install and connect the Current Sharing Supply (Option 53, P/N 407420).
- Connect safety ground.

AC Mains Power

The 1261B/BL AC input is both auto-voltage and auto-frequency ranging, and requires no voltage switch selection.

When the standard 1261B/BL is shipped, it is configured for 120 VAC operation. If Option 71 (P/N 407401) is ordered, the 1261B/BL is configured for 230 VAC operation. Should it be necessary to replace the AC mains fuse (F400), refer to Chapter 7 **Removal and Replacement of The AC Mains Fuse**.

WARNING **For your protection from electrical shock when operating at mains frequencies greater than 63Hz, connect the chassis safety ground terminal to permanent earth ground. See Figure 2-11.**

Site Considerations

The 1261B 9U Mainframe is designed primarily to operate in an instrument rack, while the 1261B/BL 7U chassis are designed to operate as bench top units. If the 7U 1261B/BL is installed in a rack, allow 1.75 inches of clearance above the unit to permit the free flow of air through the exhaust vents in the top cover. Refer to **Figures 1-5** and **1-6** for vent locations for the 1261B/BL bench top (7U) and 1261B rack mount (9U) mainframe, respectively. Determine how you will use your 1261B/BL (bench or rack mount) and follow the appropriate installation instructions.

Installing VXI Modules

Install C-size modules directly into the mainframe by first placing the module's card edges into the front module guides (top and bottom). Slide the module to the rear of the mainframe until the module connectors mate solidly with the backplane connectors. Secure the module's front panel to the mainframe using the module's front panel mounting screws.

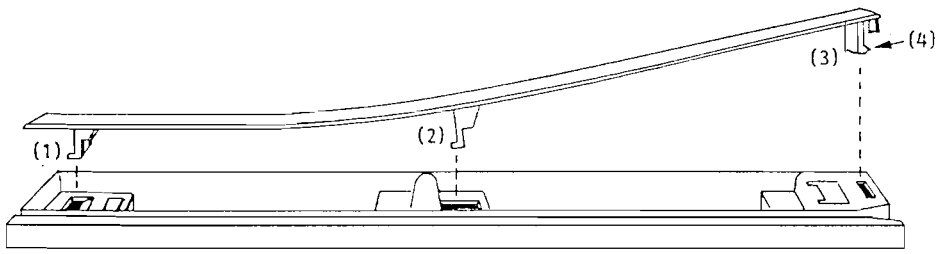
The easiest way to install B-size modules is with a "B to C-size adapter" allowing a B-size module to be installed just like a C-size.

Installation and Removal of Card Guide Covers (Airflow Directors)

In order to improve cooling of used slots in the VXI mainframe, a limited number of airflow directors, P/N 456271, may be installed at empty slot locations to redirect otherwise wasted airflow.

CAUTION

To maintain a balanced airflow throughout the system when using airflow directors, do not cover more than six empty slots at any time. If module density is low, space airflow directors evenly across the mainframe.



Mainframe Rear Mainframe Front

Figure 2-1 Airflow Directors

1. Facing the front of the VXI mainframe, with one hand hold the airflow director by the front end where the "Racal" logo appears.

2. Select the slot to be covered by the director, and place the hook at the rear of the director into the rectangular hole at the rear of the cardguide (1). Slight downward pressure on top of the director (with the other hand) at the rear may be required to engage the hook into the cardguide.

3. Slightly flex the director upwards at the front, maintaining pressure at the rear, and lower the center hook of the director into the center rectangular hole in the cardguide (2).

4. Press down and back to allow both center and rear hook to engage fully into the cardguide.

5. Lower the front of the director and allow the snap-in hook to rest on the cardguide (3).

6. With a slotted screwdriver or similar flat-bladed tool, depress the spring hook (4) at a slight downward angle, applying light pressure to the logo area. This will cause the snap-hook to firmly seat the director into place.

7. To remove the airflow director, depress the snap-in hook (4) from the front with a flat-bladed tool. This will unlatch the hook and allow removal from the cardguide at the front end.

8. Pull forward to release the fixed hooks at the center and rear.

Installing Blanking Panels

In order to optimize module cooling performance, install optional blank panels (P/N 404836) into unused or empty slots. Secure with two captive mounting screws. Refer to **Figure 2-2.**

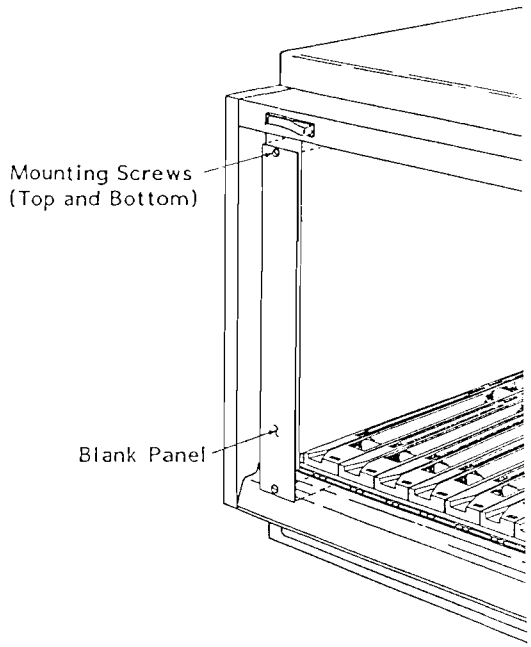


Figure 2-2 Blanking Panels

Installing The Rack Mount Options

First, perform the procedure **Installing The Slides Into The Rack**, provided below, when installing:

- Option 01 7U Rack Mount w/Slides Only
- Option 02 7U Rack Mount w/Slides & Door
- Option 11 9U Rack Mount w/Slides Only
- Option 12 9U Rack Mount w/Slides & Door

Next, perform the procedure **Preparing The Mainframe For Rack Mounting** when installing:

- All Rack Mount Options

Finally, perform procedure **Installing The Mainframe Into The Rack** when installing:

- All rack Mount Options

Reference **Figures 2-3, 2-4, 2-5** and **Table 2-1** while performing the installation of the rack mount kits.

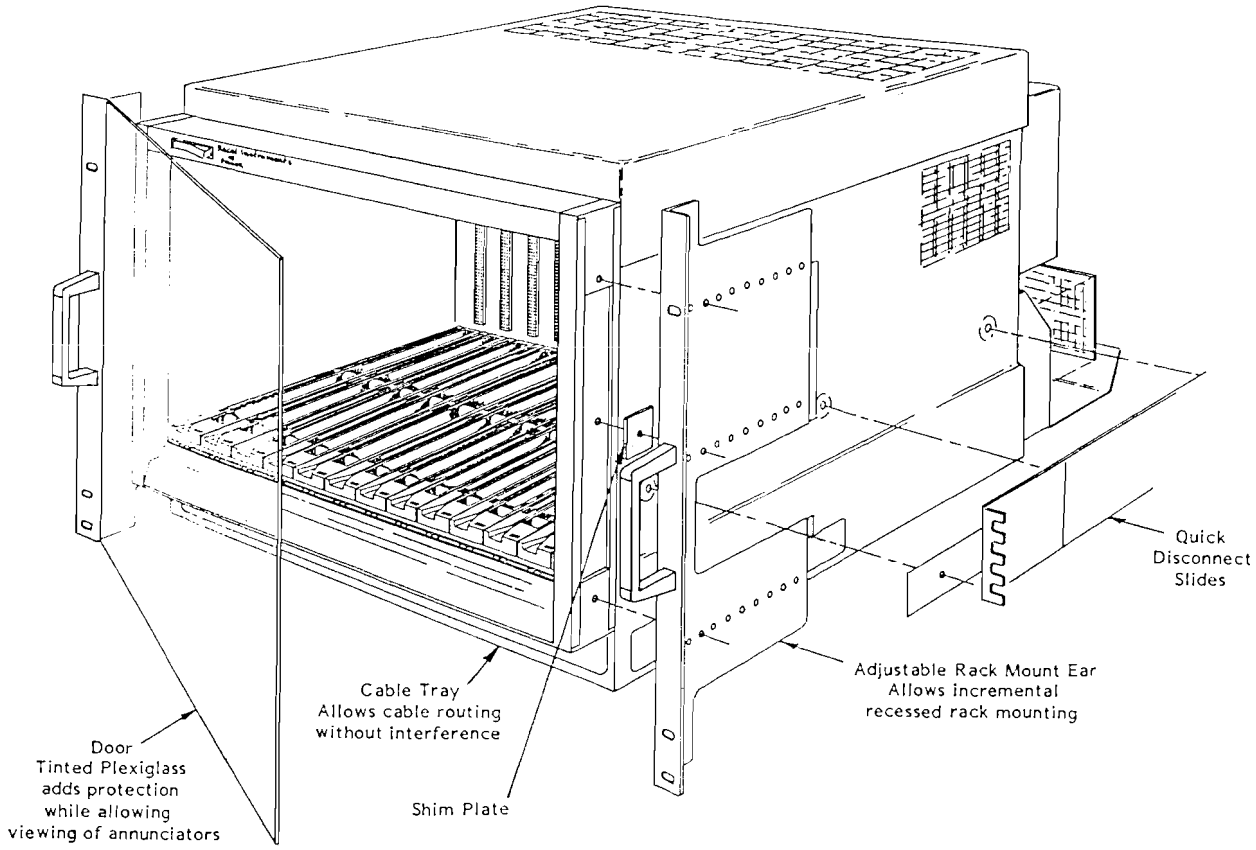


Figure 2-3 Rack Mount Options Major Components (9U Mainframe shown)

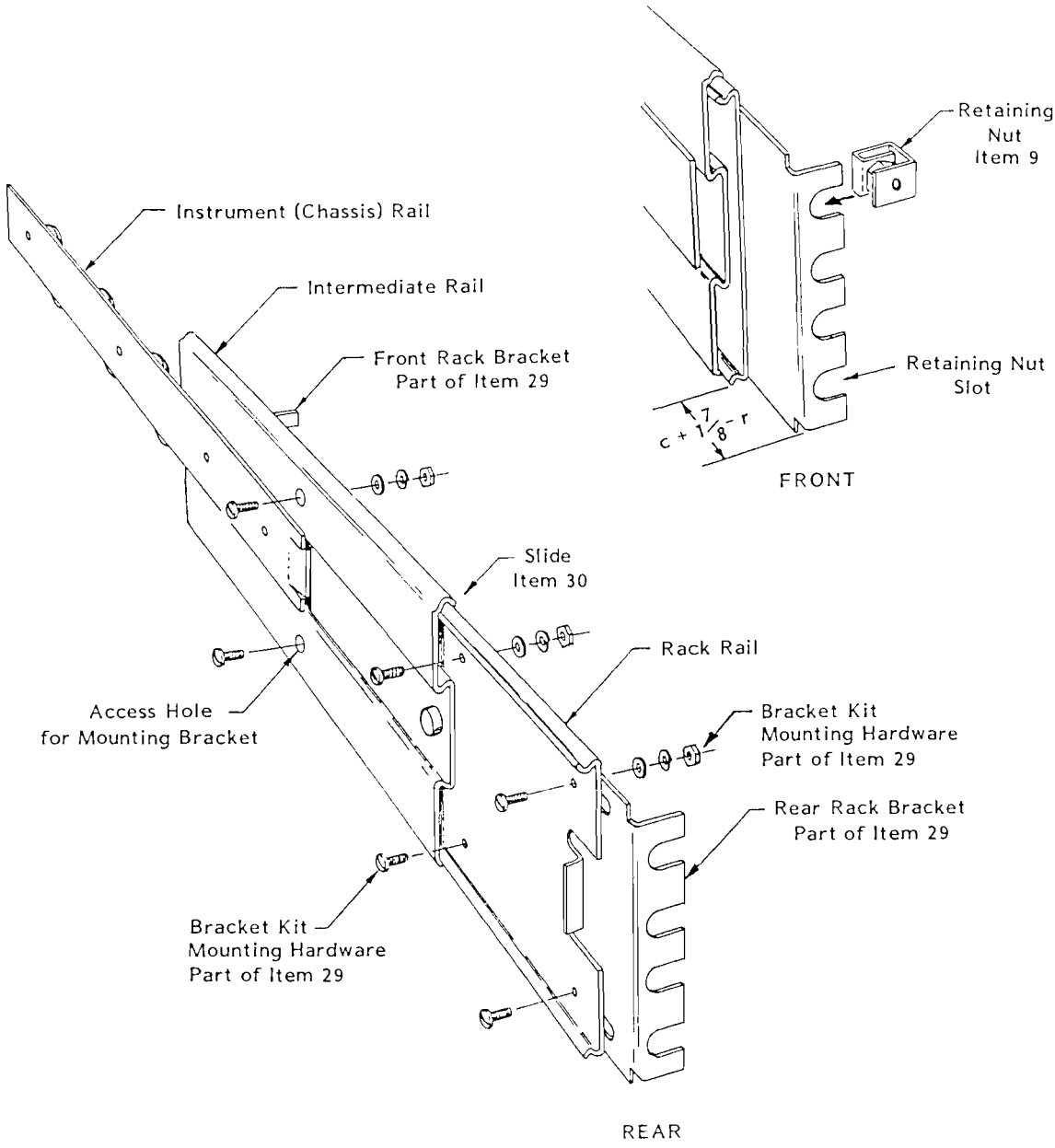


Figure 2-4 Slide and Bracket Components

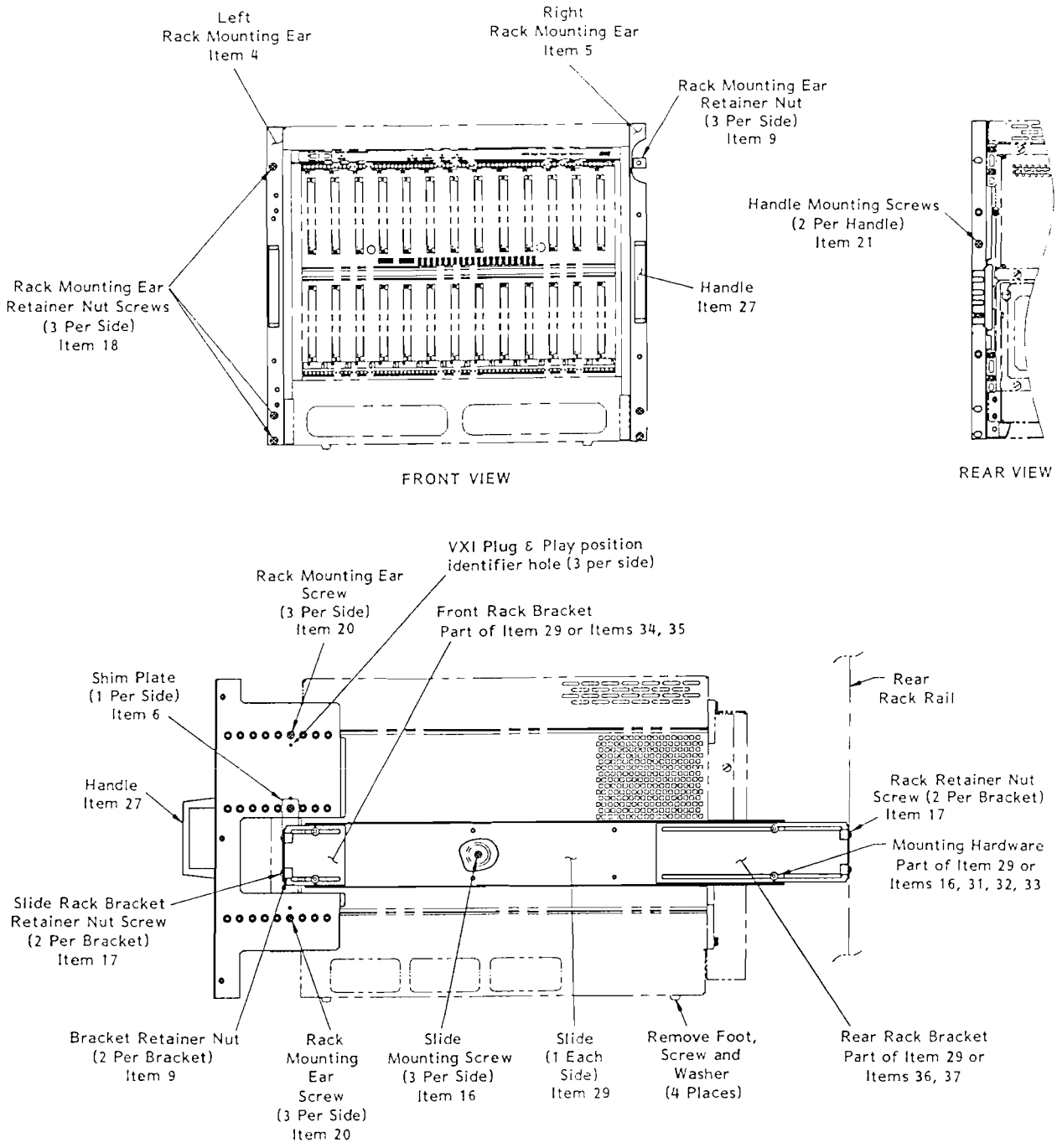


Figure 2-5 Preparing The Mainframe For Rack Mounting

Table 2-1 Rack Mount Components

ITEM	DESCRIPTION	QTY 9U	PART NUMBER 9U	QTY 7U	PART NUMBER 7U
2	Front Door Assembly	1	407403	1	407403-001
4	Left Rack Mount Ear	1	456387-001	1	456418-001
5	Right Rack Mount Ear	1	456387-002	1	456418-002
6	Rack Mount Shim Plate	2	456424	2	456424
9	Nut Retainer	14	610920	14	610920
16	Phillips Panhead #10-32 x .375 screw	10	615089	18	615089
17	Phillips Panhead #10-32 x .50 screw	8	615091	8	615091
18	Phillips Panhead #10-32 x .75 screw	6	615093	6	615093
20	Phillips Flathead #8-32 x .75 screw	6	615577	6	615577
21	Phillips Flathead #10-32 x .50 screw	4	615590	4	615590
27	Rack Slide Handle	2	921275	2	921275
29	Slide Bracket Mounting Kit	1	921317	-	-
30	Quick Disconnect Slide 24 inch	2	921424	2	921424
31	Hexnut #10-32	4	617007	12	617007
32	Flat Washer #10	4	617130	12	617130
33	Lockwasher #10	4	617130	12	617130
34	Brk, Slide Mtg, Fnt LH	-	-	1	456417-001
35	Brk, Slide Mtg Fnt LH	-	-	1	456417-002
36	Brk, Slide Mtg, Rear RH	-	-	1	456420-001
37	Brk, Slide Mtg, Rear LH	-	-	1	456420-002

Installing The Slides Into The Rack

The assistance of a second person may be needed for the following instrument rack assembly. Secure the slide mount assembly in the designated location of the instrument rack using the procedure below.

NOTE

To insure slide bracket kits are installed correctly to the slides, it is necessary to install the rack mounting ears (Items 4 and 5) to the mainframe at the desired recess.

If the mounting rail of the instrument rack is tapped for #10-32 screws, drill out two places for each bracket using a ¼ inch diameter bit. Proceed with the assembly.

Refer to **Figures 2-3, 2-4, 2-5** and **Table 2-1.**

1. Take the 1261B/BL mainframe and remove the button head cap screw securing plastic trim pieces at top and bottom of front side rails, both sides. Remove trim pieces and slide trim plate from both side rails.

2. Reinsert plastic trim pieces top and bottom, position rack mounting ears (Items 4 and 5) to give desired recess and secure loosely with two flat head screws (Item 20) each side, passing through the trim piece holes.

3. Insert rack mount ear shim plate (Item 6) in each side rail groove and slide up behind rack mount ear. Align hole in shim and ear and secure with flat head screw (Item 20) both sides. Tighten top and bottom screws (Item 20).

NOTE

To comply with VXI*plug&play* receiver interconnection specification for interlocking receivers using interconnect adaptors, secure the rack mount ear using the mounting holes adjacent to the identifier hole (See Figure 2-5). This results in meeting the requirement of 100.58 mm (3.960 in) from the front surface of the rack mount ear to the mounting surface of the VXI module front panel.

---

4. Depending on rack style (front or internal mounting rail), choose appropriate rack brackets (long or short) Item 29, for front and rear slide attachment. Attach brackets to slide assembly using bracket kit hardware. Leave loose for final adjustment. Install #10-32 retaining nuts (Item 9) into rack bracket slots - 8 places.

5. Measure distance "c" (inches) between rear of rack mount ear and front of the mainframe. Measure distance "r" (inches) from front of front rack mounting rail to rack slide bracket mounting surface in the rack.

6. Firmly secure front slide bracket to slide at distance *d* from front of slide where $d = c + 1\frac{7}{8} - r$. (Note: *d* may be a negative number in which case bracket is mounted behind leading edge of slide).

7. Hold the front end of the slide mount assembly behind the front "mounting" rail of the rack, while the second person holds the rear end of the assembly.

8. Lightly secure the front slide bracket to the front mounting rail using two Phillips Panhead #10-32 x ½ screw (Item 17). Place the front slide bracket firmly against the mounting rail before seating these screws.

9. Adjust the length of the rear slide bracket so it touches the inside of the rear mounting rail. Tighten the rear bracket-to-slide assembly screws.

10. Lightly secure the rear slide bracket to the rear mounting rail using two Phillips Panhead #10-32 x ½ screws (Item 17). Place the rear slide bracket firmly against the mounting rail before seating these screws.

11. Install the other slide mounting assembly in the same manner.

12. Set the front dimension between the two slide mount assemblies at 16-13/16 inches (+1/16,-0) and firmly secure the front brackets to the mounting rail.

13. The distance between the two slide mount assemblies at the rear bracket should also be set at 16-13/16 inches (+1/16,-0). Should a filler-plate be required to secure the slide mount assembly to the rear rack mounting rail at 16 -13/16 inches (+1/16,-0), use the dimensions given in **Figure 2-6** to determine filler-plate size. The rear rack-bracket may require adjustment to accommodate the thickness of filler-plate.

14. Firmly secure the rear rack bracket to the rear rack mounting rail (or filler-plate) using two Phillips Panhead #10-32 x ½ screws in each bracket (Item 17).

The slides are now positioned to accept the mainframe.

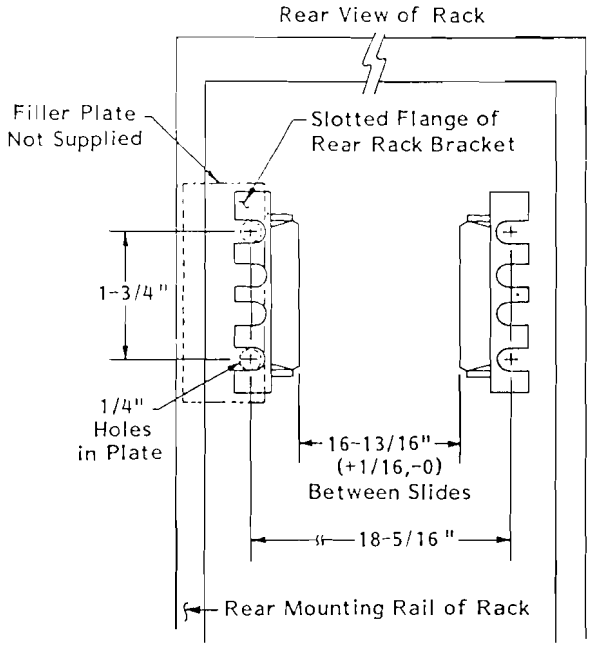


Figure 2-6 Rear End Slide Mount Rack Dimensions

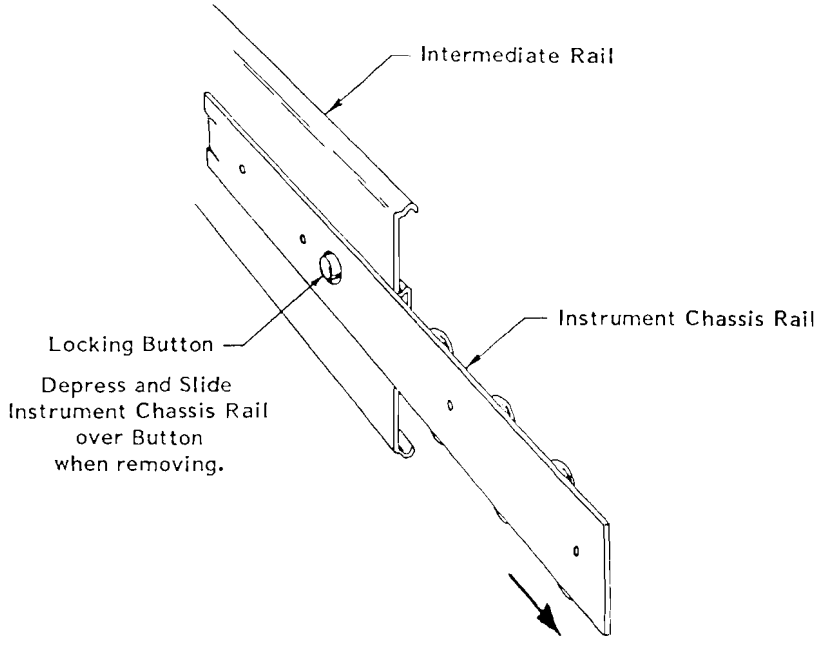


Figure 2-7 Instrument Rail Removal

Preparing The Mainframe For Rack Mounting

(Omit steps 4 and 5 for options without slides)

Complete the steps below while referring to **Figures 2-3, 2-4, 2-5** and **Table 2-1.**

1. Secure rack mount ears (Items 4 and 5) to the mainframe. See **Installing The Slides Into The Rack,** Items 1, 2 and 3.

2. Install handles (Item 27) onto rack mount ears (Items 4,5) with screws (Item 21).

3. Remove bottom feet, screws and washer - four places.

4. Remove plastic rivets (3 per side) at slide mount screw hole locations (Item 16).

5. Remove the instrument (mainframe) rail from slide assemblies installed in rack. This is easily done by first extending the instrument rail out until it locks in the open position as shown in **Figure 2-7.** Depress the locking button and hold it in to unlock the rail. Slide the rail over the button and completely out of the slide mount assembly.

   Mount the instrument (chassis) rails to the mainframe left and right hand side panels using screws (Item 16).

Installing The Mainframe Into The Rack

(Omit step 1 for options without slides)

Assistance of a second person or a mechanical lift will be needed to align and engage the mainframe with the slide assemblies in the rack.

NOTE **If slides are not used to mount the mainframe in the rack, right angle runners or a base plate MUST be used to support the mainframe.**

.

CAUTION **DO NOT attempt to support the mainframe in the rack with the rack mount ear only.**

---

1. Install the mainframe with its two attached instrument rails onto the quick disconnect slide mount assemblies (installed in the instrument rack). Be sure the mainframe is properly aligned and square with the slide assemblies. Remember to depress the locking buttons when inserting the instrument rails into the slide mount assemblies. When properly installed, the instrument should slide freely on the slide rails. If binding occurs, slide bracket-to-rack rail mounting screw should be loosened and re-adjusted to relieve binding.

2. The following assembly is required to lock the instrument into its operating position in the rack: (each side)

    a. If rack rail is not tapped, slip three self-anchoring #10-32 retaining nuts (Item 9) onto the mounting rail of the rack (each side). These nuts should be aligned with the slots in the rack mounting ears previously attached to the mainframe (Items 4 and 5).

    b. Slide the instrument fully into the rack until the rack mounting ears strike the slide screws or front rail. Secure the instrument in place using six Phillips Panhead #10-32 x 3/4 screws (Item 13).

Rack mount Installation is now complete.

Installing Option 54-1 and 54-2 Receiver Front Extension

Instructions for installing Option 54-1 and 54-2 Receiver Front Extension Mount Assembly (P/N 407421 and 407431) onto the 1261B/BL are included in the kit that is shipped with the option. See **Figures A-5** and **A-6** for side view and dimensions.

Installing Inter-Module Shields Option 52

Instructions for installing Option 52 Inter-module Shields (P/N 407419) onto the 1261B/BL are included in the kit that is shipped with the option.

Installing ASFP Panel Option 23

Instructions for installing Option 23 ASFP Panel (P/N 407399) onto the 1261B are included in the kit that is shipped with the option.

Installing Rack Mount Door

NOTE **The door is part of Options 02, 03, 12 and 13. The door will not function if the rack mount ear is installed at the first or second row of holes behind the flange.**

Refer to **Figure 2-8** and **Table 2-2** and perform the following steps to install the rack mount door.

1. Install lower halves of the two hinges (part of Item 2) to the rack mount ears with flat head screws (Item 4).

2. Install upper halves of hinges on the door with pan head screws (Item 3).

3. Install door stop (Item 5) on opposite rack mount ear with self-tapping screws (Item 6).

4. Align hole in door hinges with hinge pins on rack mount ears and mate together.

5. Latch door into place by turning latch knobs fully counter clockwise. Close door and turn knobs clockwise until door is secure.

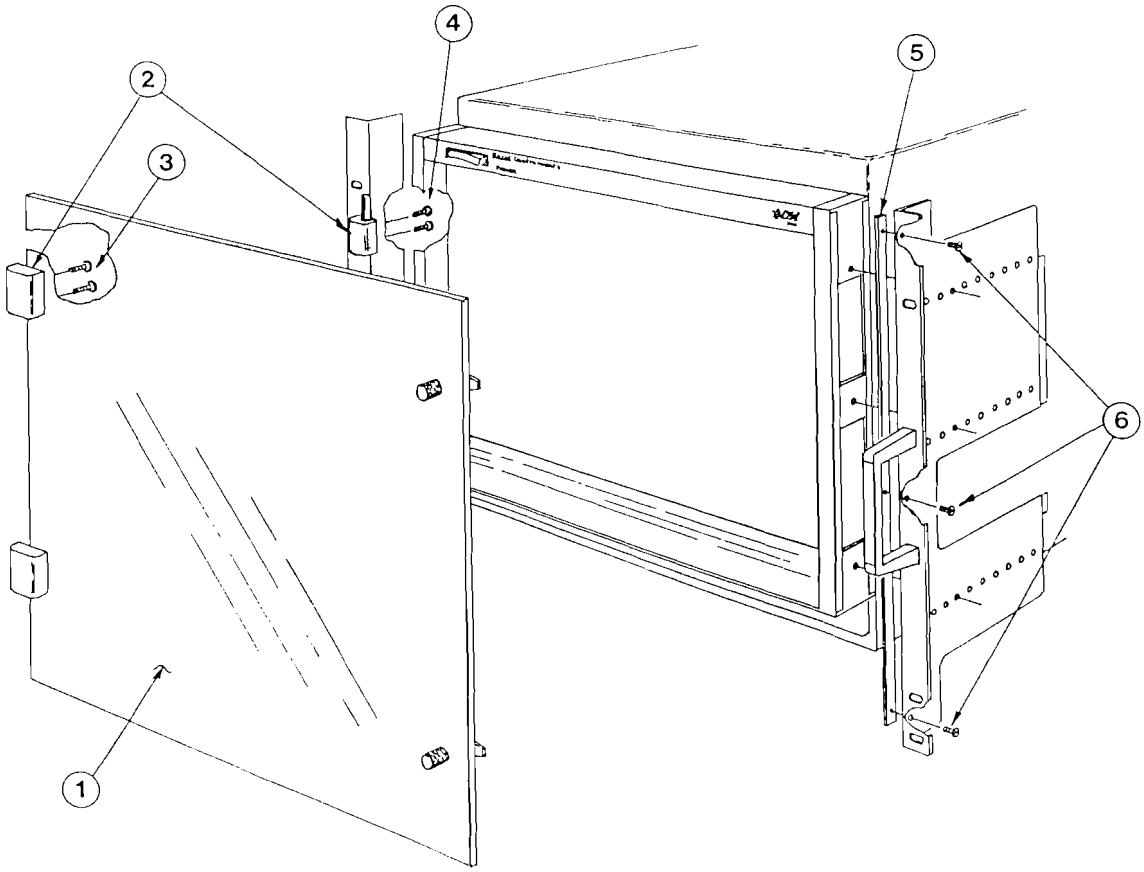


Figure 2-8 Installing Rack Mount Door

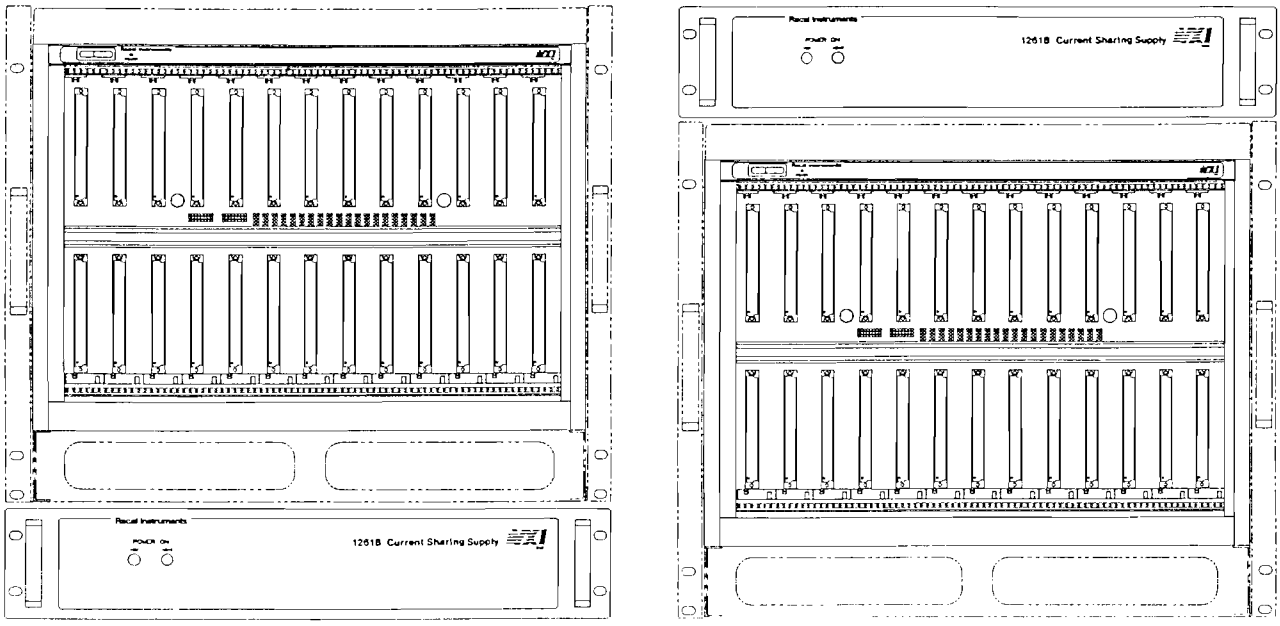
Table 2-2 Door Components

ITEM	DESCRIPTION	QTY	9U P/N (Shown)	7U P/N
1	Door Assembly	1	407430	407429
2	Hinge, Black Nylon	2	921161	921161
3	Screw, PPH, 10-24 x .500	4	611396	611396
4	Screw, PFH, 10-24 x .500	4	611238	611238
5	Bar, Door Stop	1	456416-002	456416-001
6	Screw, PFH, 6-20 x .312	3	616482	616482

Installing Option 53 Current Sharing Supply Into a Rack (For Use With 1261B Only)

The Current Sharing Supply Option 53 (P/N 407420) may be supported by rails (recommended) or by the front panel when securely mounted to the rack with the mounting screws supplied. The supply weighs 12 lbs including power cord and cable. Its mounting position is limited by the 40 inch interconnect cable (P/N 407427). Allow 1.75 inches of clearance around any 1261B venting holes. Refer to **Figure 2-9.**

A dimensional outline drawing for the Current Sharing Supply Option 53 is shown in **Figure A-7.**



Directly Below 1261B 9U Rack Mount Directly Above 1261B 9U Rack Mount

Figure 2-9 Rack Mounting Considerations For The Current Sharing Supply

1. Select the position of the current sharing supply, above, or below the 1261B Mainframe.
2. (Recommended). Install support rails at selected position and place the current sharing supply onto the rails.
3. Secure the rack mount ears to the rack with the four Phillips Panhead #10-32 x .75 screws supplied, whether or not rails are used.

Connecting Option 53 Current Sharing Supply (For Use With 1261B Only)

CAUTION **Before completing the procedure below, ensure that J400 on the 1261B mainframe and J500 on Option 53 Current Sharing Supply are disconnected from AC power.**

Refer to **Figure 2-10 Connecting The Current Sharing Supply Option 53** and the procedure below.

1. Connect the 40 " current share interconnection cable (p/n 407427) included in the Option 53 kit between **J411** on the 1261B rear panel and **J511** on the Current Sharing Supply rear panel. Be sure to tighten jack screws securing DSUB connectors at each cable end.

2. Connect the AC power cord to 1261B mainframe.

3. Connect the AC power cord to Current Sharing Supply.

4. Refer to Chapter 3 **Operating With the Current Sharing Supply** to apply DC power to the mainframe.

WARNING

Before beginning this procedure, ensure that J400 on 1261B and J500 on Current Share Supply is disconnected from AC power.

1. Connect cable assembly (P/N 407427) from J411 on the 1261B to J511 on the Current Share Supply. Be sure to tighten jack screws securing D-sub connectors at each end.
2. Connect AC power cord to 1261B Mainframe.
3. Connect AC power cord to Current Share Supply.
4. Refer to Section 3, Operating with the Current Share Supply, to apply DC power to the mainframe.

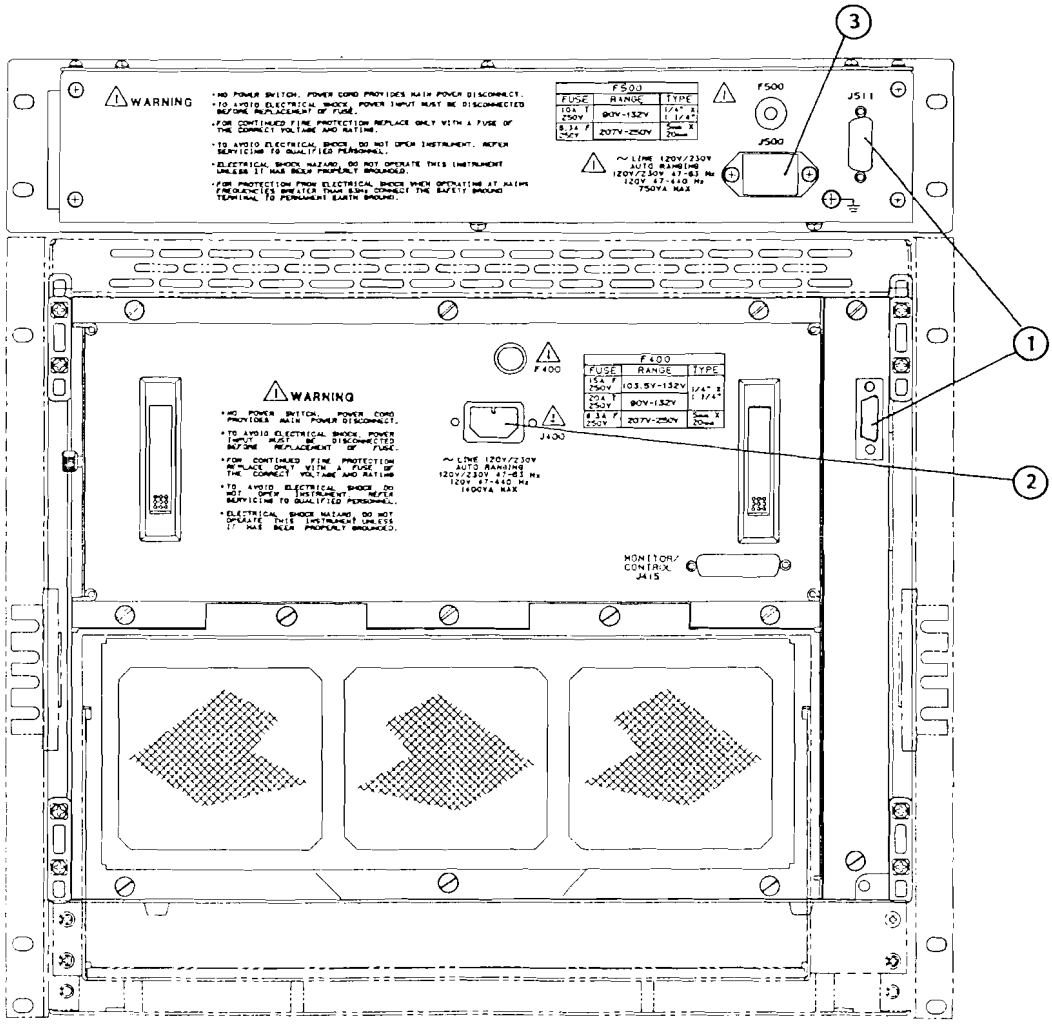


Figure 2-10 Connecting The Current Sharing Supply Option 53

Connecting Safety Ground

Omit this procedure if you do not intend to operate the 1261B/BL at frequencies greater than 63Hz. When operating the 1261B/BL at mains frequencies between 47 Hz and 63 Hz, use the Chassis (Safety) Ground connection to connect the grounds of one or more instruments to the mainframe. This ensures a common ground connection between instruments.

NOTE **For your protection from electrical shock when operating at mains frequencies greater than 63Hz, connect the chassis safety ground terminal to permanent earth ground. See Figure 2-11.**

---

1. Connect a 16 AWG (1.3mm² or larger) wire to the 8-32 chassis (safety) grounding screw using a toothed grounding lug. The wire insulation must be green with a yellow stripe or non-insulated (bare).

2. Attach the opposite end of the wire to permanent earth ground using toothed washers or a toothed lug.

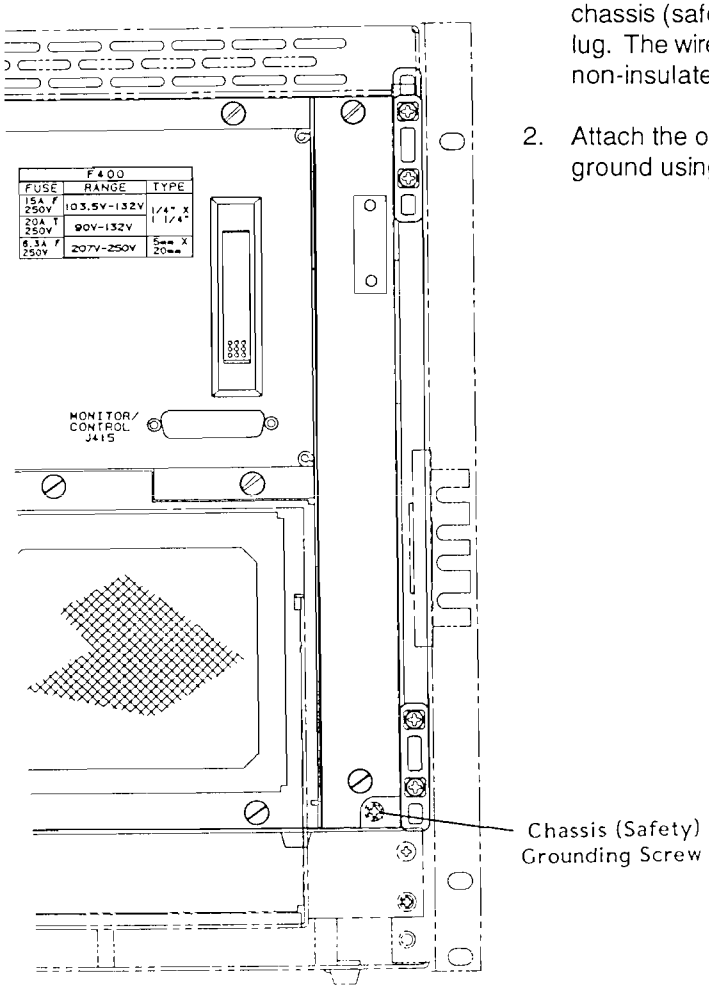


Figure 2-11 Connecting Safety Ground

Fan Speed (HI-LO) Selection

The 1261B/BL is shipped with the fan speed switch configured to the HI setting for rack mount (or High Speed Fan) models, and to the LO setting for bench top (or Low Noise Fan) models. If your application required more cooling or lower acoustic levels you may re-configure the fan speed switch as described below, and in **Figure 2-12** Fan Speed (HI-LO) selection.

1. Disconnect AC power from the mainframe.
2. On rackmount (9U) mainframes only, loosen the two captive thumbscrews on the fan cover assembly and allow it to swing open. It will pivot about its base allowing access to the module fan filter and frame.
3. Loosen the lower center captive thumbscrew on the module fan filter frame. Lift it up and toward the rear to remove the frame and filter from the rear of the module fan assembly.
4. Locate the toggle switch located on the fan plate and select desired fan speed (UP=HI), (DOWN=LO).
5. Align the hooks on the back of the filter frame with the slots on the fan assembly. Insert the frame and push down to engage.
6. Tighten the captive thumbscrews to secure the fan filter frame.
7. On the rack mount mainframe only, swing the module fan cover upwards and forward, and secure with thumbscrews.

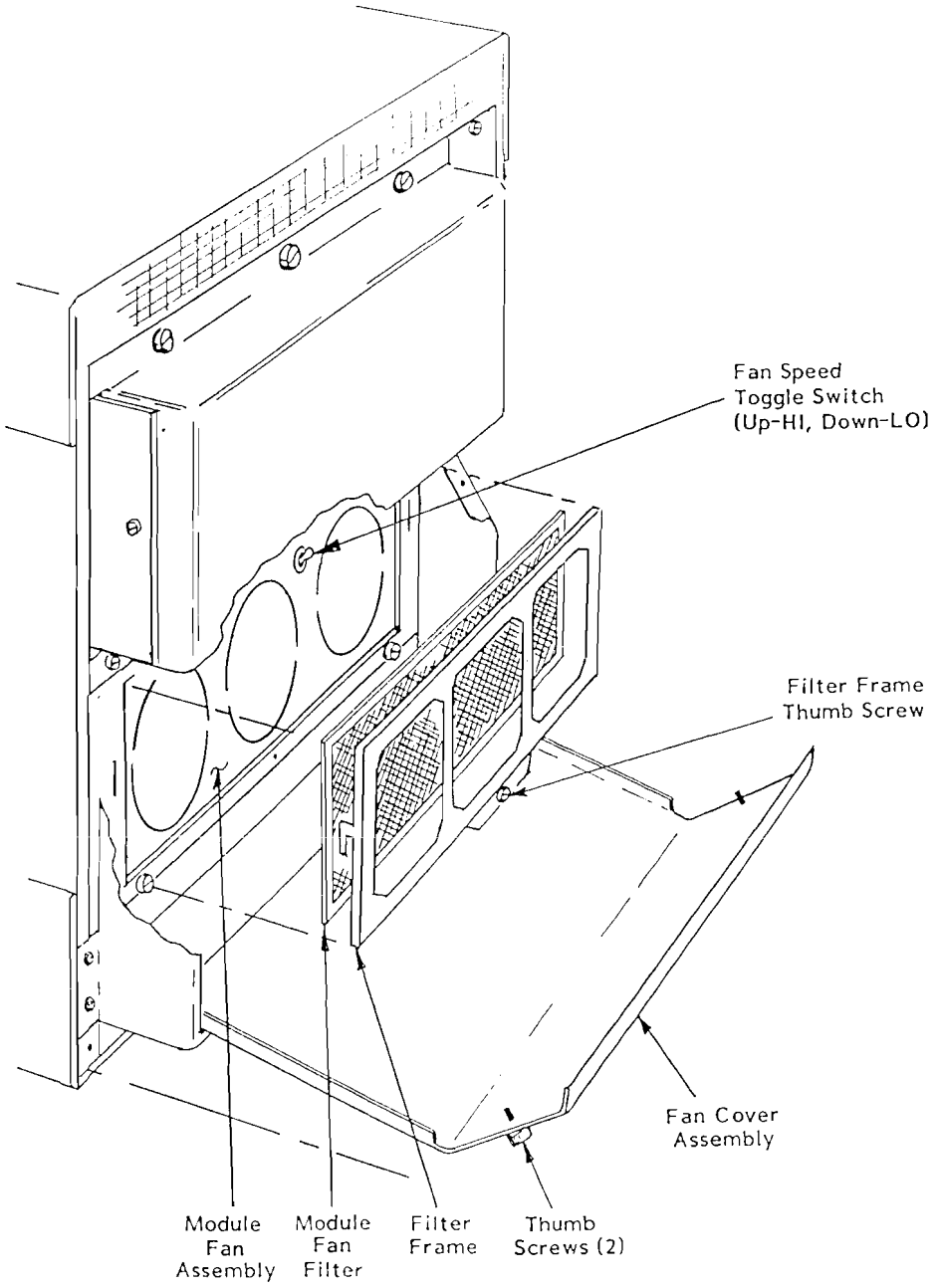


Figure 2-12 Fan Speed (HI-LO) Selection

3

Operating The 1261B/BL

Using This Chapter

Use this Chapter to:

- Review front and rear panel controls and indicators.
- Power the mainframe on/off using the front panel switch.
- Power the mainframe on/off using the remote inhibit rear panel input.
- Power the mainframe on/off when the Current Sharing Supply Option 53 is connected to the 1261B.
- Perform basic functional check of the mainframe VXI voltages.
- Review Rear Panel Switch and Connector Reference for pinouts and descriptions of all rear panel connectors.

Front Panel

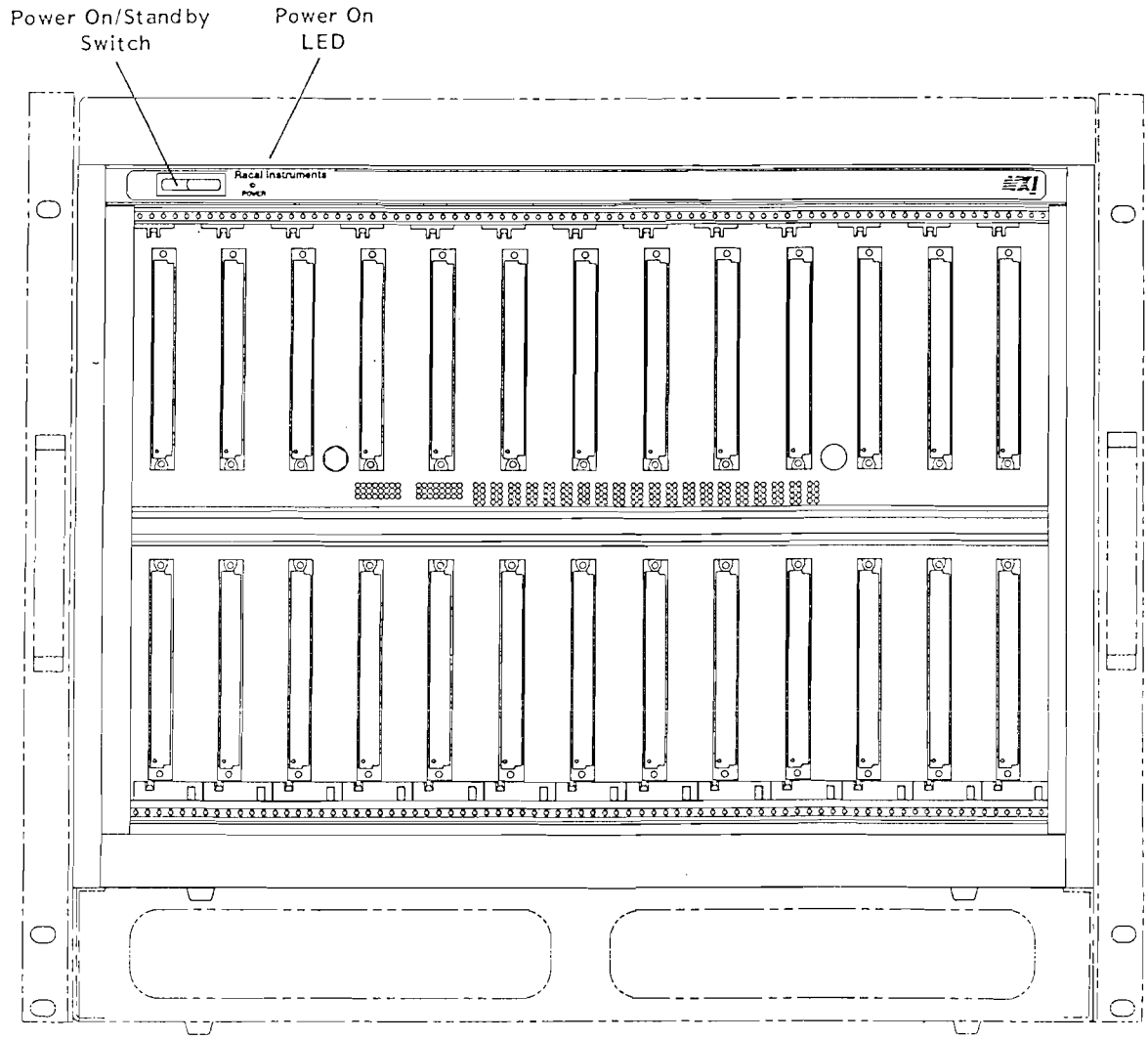


Figure 3-1 1261B/BL Front View

Rear Panel

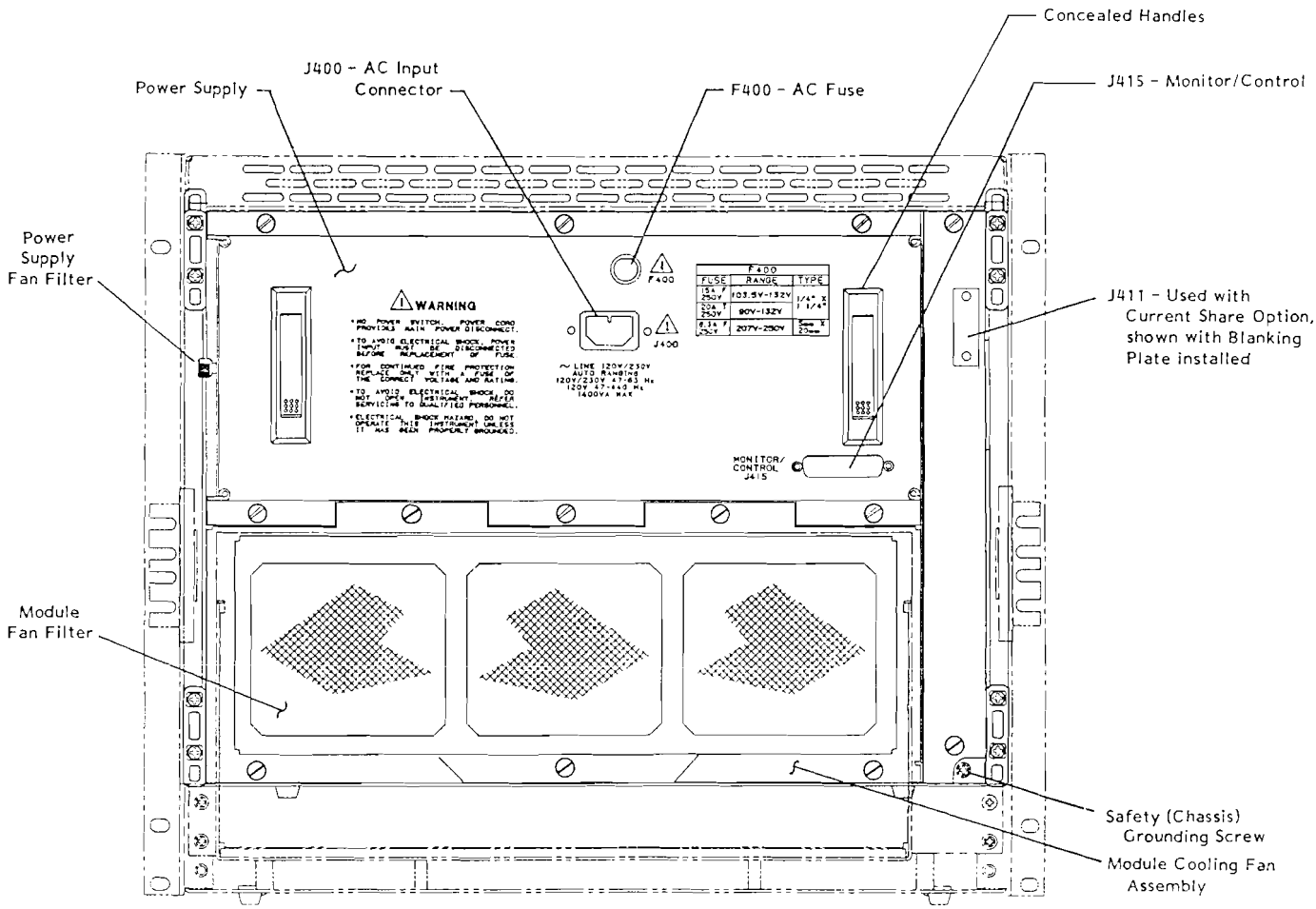


Figure 3-2 1261B/BL Rear View

Powering On The Mainframe

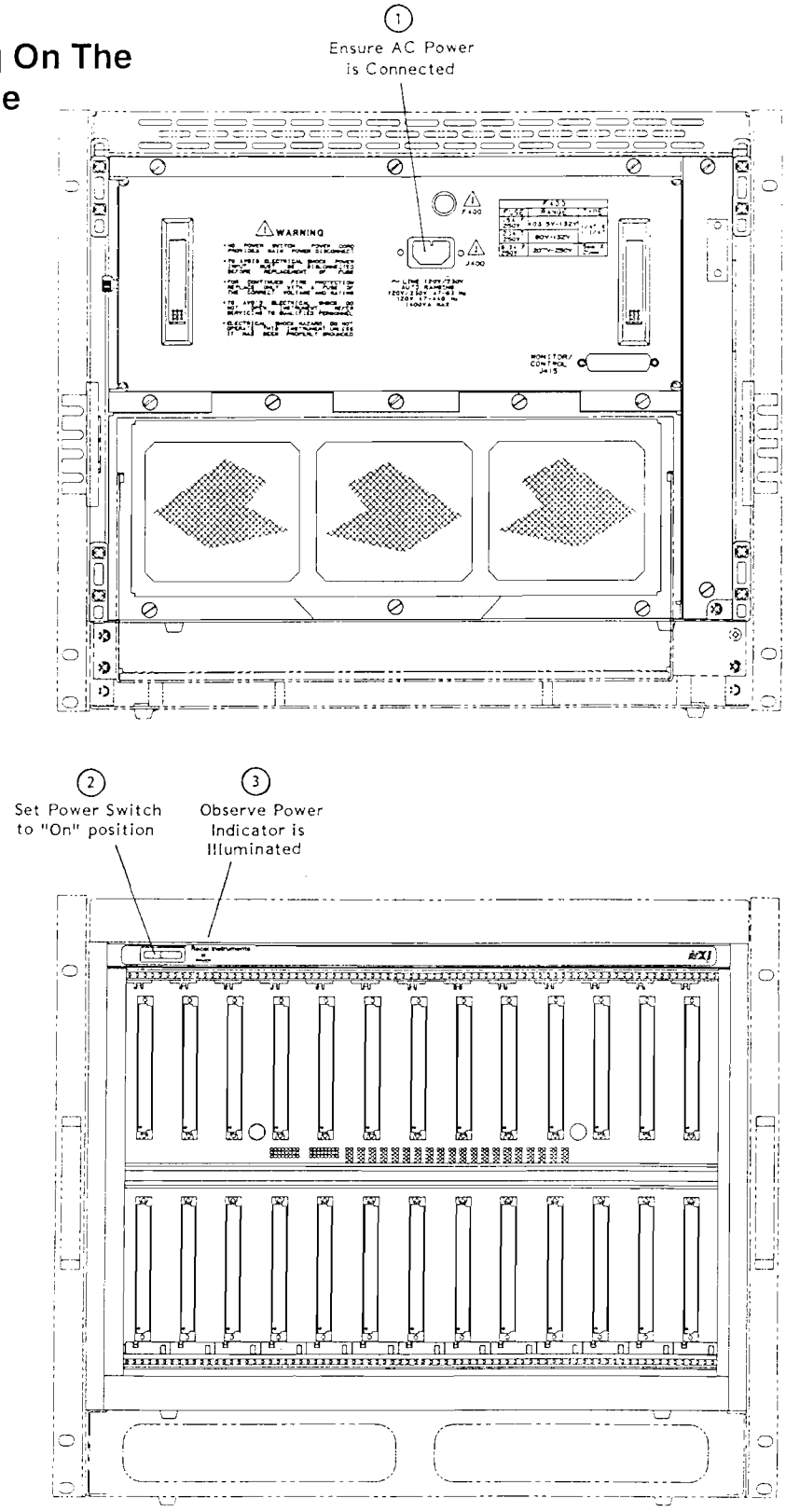
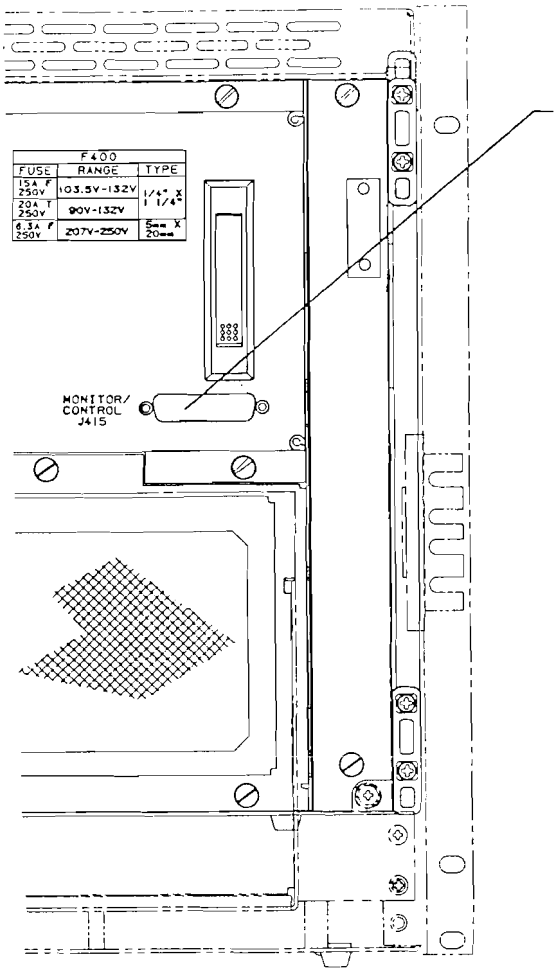


Figure 3-3 Powering On The Mainframe

Using Remote Power On/Standby Switching



Pin	Function
23	Remote INHIBIT*
2,4,14 or 24	Logic Ground (GND)

1. Connect a user supplied cable (or equivalent) between J415 (female 25 DSUB) and a remote switch, or open collector driver. The switch (or driver) should connect to J415 pin 23 (INHIBIT*) and to one of the GND pins.

2. Complete Steps in **Figure 3-3 Powering On The Mainframe.**

3. Place in **Standby**, DC power to mainframe **off**, by closing remote switch shorting pin J415-23 to Logic Ground (INHIBIT* to GND) or by driving J415-23 to a TTL low with an open collector driver which can sink 10mA of current.

4. Opening the remote switch (or deasserting the open collector driver) re-applies DC power to the mainframe (**Power On**) provided the front power switch is in the **on** position.

Figure 3-4 Using Remote Power On/Standby Switching

Operating With The Current Share Option (For Use With 1261B Only)

1. Mainframe must be configured for Current Share operation as described in **Section 2.**
2. Complete steps in **Figure 3-3 Powering On The Mainframe.**
3. Observe +5V status and +24V status indicators are green. The system is now ready for operation.

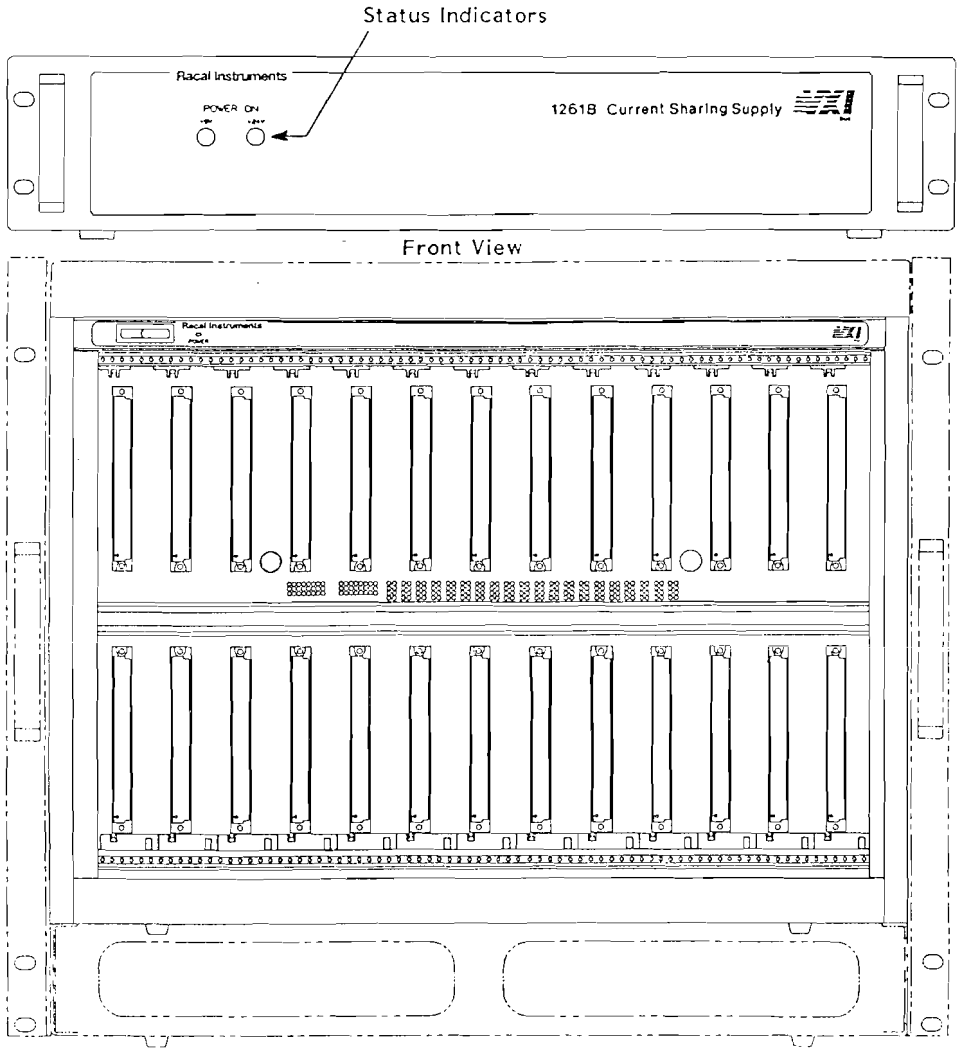
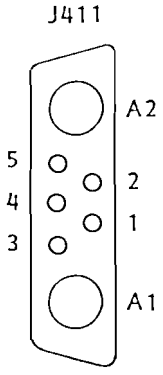


Figure 3-5 Operating With The Current Share Option

Table 3-1 J411 Option 53 Current Sharing Supply
(P/N 407420) Interface Connector

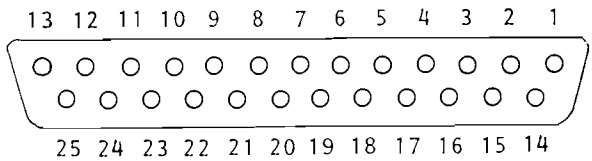


Pin	Signal	Description
A1	+5V	+5V power input from the Option 53, Current Sharing Supply (P/N 407420)
A2	GND	+5V Return, Logic Ground
1	+5 CUR SHARE	+5V current sharing analog control output to the Option 53, Current Sharing Supply (P/N 407420)
2	GND	+24V Return, Logic Ground
3	+24 CUR SHARE	+24V current sharing analog control output to the Option 53, Current Sharing Supply (P/N 407420)
4	+24V	+24V power input from the Option 53, Current Sharing Supply (P/N 407420)
5	SHARE ENABLE*	Output signal used to enable the Option 53, Current Sharing Supply (P/N 407420). This signal sinks a minimum of 10 mA at 0.4 VDC. SHARE ENABLE* is asserted (driven low) whenever DC power is applied to the mainframe (see **Powering On The Mainframe** and **Using Remote Power On/Standby Switching** earlier in this chapter).

Table 3-2 J415 Rear Panel Monitor/Control Connector

Pin	Signal	Description
1	-24 VMON	VXIbus Voltage Monitor Output
2	GND	Logic Ground
3	-2 VMON	VXIbus Voltage Monitor Output
4	GND	Logic Ground
5	+24 IMON	Power Supply Current Monitor Output
6	-12 IMON	Power Supply Current Monitor Output
7	-2 IMON	Power Supply Current Monitor Output
8	-5.2 VMON	VXIbus Voltage Monitor Output
9	RSV	Reserved
10	+5 STANDBY	VXIbus +5V Standby Input
11	+5 VMON	VXIbus Voltage Monitor Output
12	ACFAIL*	VXIbus ACFAIL* Input or Monitor Output (see note)
13	RSV	Reserved
14	GND	Logic Ground
15	-12 VMON	VXIbus Voltage Monitor Output
16	+24 VMON	VXIbus Voltage Monitor Output
17	+12 VMON	VXIbus Voltage Monitor Output
18	+12 IMON	Power Supply Current Monitor Output
19	-24 IMON	Power Supply Current Monitor Output
20	-5.2 IMON	Power Supply Current Monitor Output
21	+5 IMON	Power Supply Current Monitor Output
22	+5 STANDBY	VXIbus +5V Standby Input
23	R INHIBIT*	Power Supply Remote Inhibit Input
24	GND	Logic Ground
25	SYSRESET*	VXIbus SYSRESET* Input or Monitor Output (see note)

Note: **Refer to VXIbus and VMEbus specifications for details on using the ACFAIL* and SYSRESET* signals. If you use these signals, do not violate VXIbus or VMEbus electrical specification.**



Basic Functional Check

The functional check consists of checking the 1261B power supply voltages to the VXIbus limits at rear panel connector J415 using a digital voltmeter.

Referring to **Table 3-3**, connect one lead of the voltmeter to a supply pin at J415. Connect the reference lead of the voltmeter to one of the ground pins. Compare each voltage reading to the values listed in **Tables 3-3.**

Table 3-3 Power Supply Voltages at J415

J415 Pin	Supply	VXI Acceptable Voltage Range
11	+5V	4.875V to 5.25V
15	-12V	-12.6 to 11.64V
1	-24V	-25.2V to -23.28V
3	-2V	-2.1V to -1.9V
17	+12V	11.64V to 12.6V
16	+24V	23.28V to 25.2V
8	-5.2V	-5.46V to -5.044V
2,4,14 or 24	Logic Ground	

If the voltages are within the specified ranges, the mainframe complies with VXI voltage limit specifications.

4

Understanding The 1261B/BL

Overview

Overview

The 1261B/BL Mainframe consists of the following major functional blocks.

- Power Supply
- Backplane
- Cooling System

Figure 4-1 shows the functional block diagram of the 1261B/BL Mainframe.

Power Supply

The power supply accepts power from the AC mains and converts it to DC to power the following:

- VXI modules installed into the backplane
- Backplane terminations and daisy chaining logic
- Module Cooling Fans
- Front Panel Annunciator

Power Supply Interconnection

Power is supplied to the backplane through board-to-board connector P52 eliminating any wiring and sub-backplane interconnect boards. This design reduces the path impedance between the supply and the VXI modules receiving power, which results in improved dynamic current performance. See **Appendix A** for specifications.

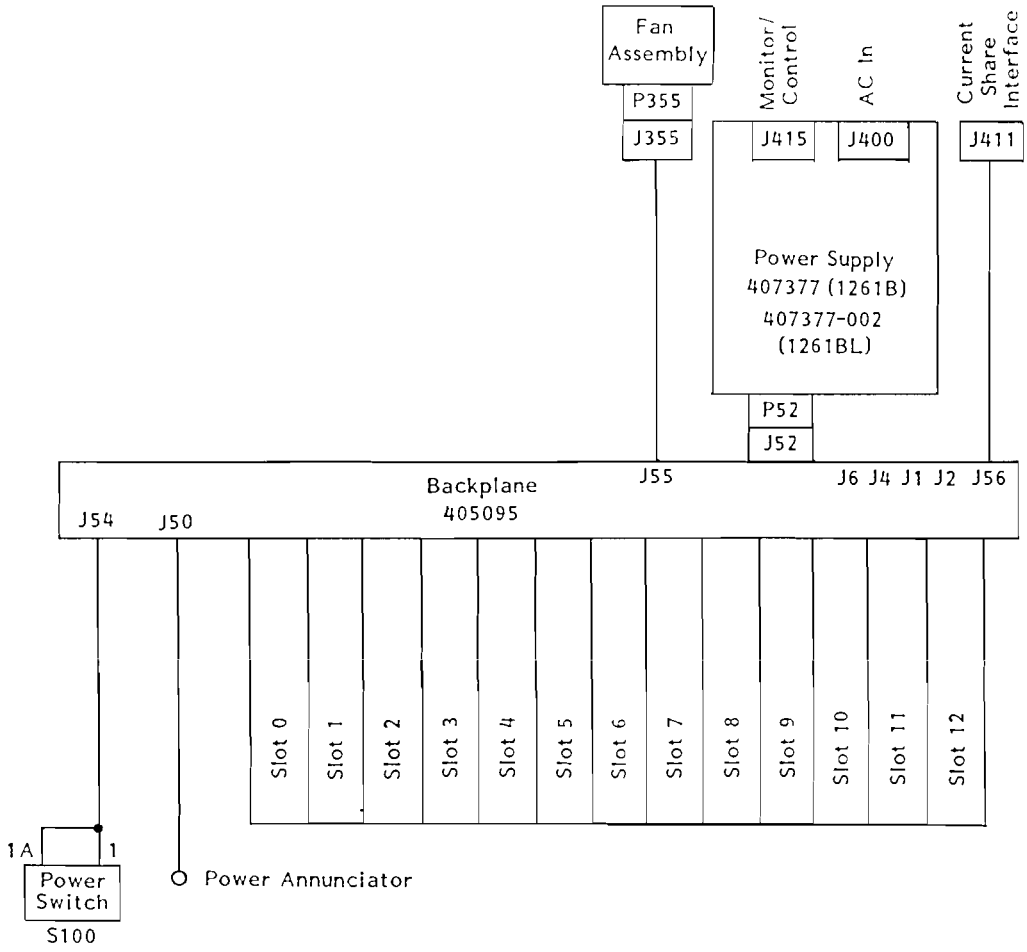


Figure 4-1 Functional Block Diagram for 1261B/BL Mainframe

Power Supply Protections

The seven VXIbus power supply outputs are protected for:

- Over-voltage
- Over-current
- Over-temperature

The AC input of the power supply includes protections for:

- Input current limit (15 Amps)
- Over-temperature

See **Appendix A** for specification details pertaining to the above protections. If any of the above protections are active, the power supply is shutdown. This means it has, effectively, turned itself off to protect the system. The Power On/Standby switch or the Remote Inhibit input must be cycled to turn the mainframe back on. Refer to **Powering On The Mainframe** and **Using Remote Power On/Standby Switching** in **Chapter 3.**

Backplane

The Backplane serves several functions

- Rigid mechanical interface which accommodates a lifetime of insertions of VXI modules and the plug-in power supply.
- Supplies DC voltages and currents to modules.
- Connects the VME communications interface across P1 and P2 from slot 0 to slot 12.
- Connects the VXI extensions across P2 rows a and c from slot 0 to slot 12.
- Connects the Power/Standby switch, and module cooling fans with the power supply.

Backplane Interconnections

The Power On/Standby switch (S100) connects to the backplane through a polarized locking wire-to-board header at J54.

The module cooling fans connect to the backplane through a polarized locking wire-to-board header at J56.

The power supply mates with the backplane through board-to-board connector J52.

Cooling System

The Module Fan assembly, located at the bottom rear of the mainframe, houses three cooling fans.

Rack Mount Cooling System

Module cooling air enters at the bottom sides of the 1261B Rack Mount mainframe and is filtered as it is drawn through the fan assembly.

The incoming air is forced downward into a pressurized plenum below the VXI modules. The high pressure in the plenum forces the air up through a metered plate into the VXI modules. The air passing over components in the modules absorbs heat and exits at the top of the module.

The 1261B Rack Mount mainframe exhausts module cooling air at the rear of the mainframe.

Bench Top Cooling System

Filtered air enters at the bottom rear of the 1261B/BL Bench Top mainframe through the fan assembly.

The incoming air is forced downward into a pressurized plenum below the VXI modules. The high pressure in the plenum forces the air up through a metered plate into the VXI modules. The air passing over components in the modules absorbs heat and exits at the top of the module.

Cooling air is exhausted through the top of the mainframe in the 1261B/BL Bench Top mainframe.

Cooling The Power Supply

The power supply assembly contains a speed controlled fan for its own internal cooling. Filtered air enters through the one side of the mainframe and exits at the opposite side after passing through the power supply.

5

Maintenance

What's In This Chapter

This chapter provides procedures for inspecting and cleaning the 1261B/BL, removing and replacing mainframe components, and isolating problems to the module level. Refer to **Chapter 6 Understanding The 1261B/BL** for theory of operation information.

Service Strategy

The service procedures in this manual provide removal and replacement procedures to repair the 1261B/BL to the module level. Module level repairs are accomplished by exchanging faulty modules with known good modules or parts. No component-level repair is provided in this manual.

Service Interval

Clean the power supply filter and mainframe module fan filter at a maximum interval of six months. Depending upon the amount of usage and ambient dust levels in the operating environment, the filters may require more frequent cleaning.

Clean dust from the mainframe exterior (and interior) as needed, based on the operating environment. Periodic cleaning reduces instrument breakdown and increases reliability.

Preparation

The information in this section is designed for use by qualified service personnel. Read the **For Your Safety** at the front of this manual and **Service Strategy** before attempting any procedures in this chapter. Refer to **Chapter 3 Operating The 1261B/BL** for information on the location of controls, indicators, and connectors used with the mainframe.

CAUTION

Many components within the mainframe are susceptible to static discharge damage. Service the mainframe only in a static-free environment. Observe standard handling precautions for static-sensitive devices while servicing the mainframe. Always wear a grounded wrist strap, or equivalent, while servicing the mainframe.

Inspection and Cleaning

The mainframe is inspected mechanically and electrically before shipment. It should be free of marks or scratches and should meet or exceed all electrical specifications. To confirm this, inspect the mainframe for physical damage incurred during transit. Retain the mainframe packaging if reshipment is necessary.

Cleaning procedures consist of exterior and interior cleaning of the mainframe and cleaning fan filters. Refer to your module user documentation for information on cleaning the individual VXIbus modules.

CAUTION **Always power off the mainframe and disconnect the power cord before cleaning or servicing the mainframe.**

Interior Cleaning

Use a dry, low-velocity stream of air to clean the interior of the mainframe. Use a soft-bristle brush for cleaning around components. If you must use a liquid for minor interior cleaning, use a 75% isopropyl alcohol solution and rinse with deionized water.

Exterior Cleaning

Clean the exterior surfaces of the mainframe with a dry lint-free cloth or a soft-bristle brush. If any dirt remains, wipe with a cloth moistened in a mild soap solution. Remove any soap residue by wiping with a cloth moistened with clear water. Do not use abrasive compounds on any part of the mainframe.

Avoid getting moisture inside the mainframe during exterior cleaning - use just enough moisture to dampen the cloth.

CAUTION **Do not wash the front or rear panel connectors or switches. Cover these components while cleaning the mainframe.**

Do not use chemical cleaning agents; they may damage the mainframe. Avoid chemicals that contain benzene, toluene, xylene, acetone, or similar solvents.

Cleaning The Power Supply Filter

The supply filter is easily removed from the rear of the mainframe as shown in **Figure 5-1.**

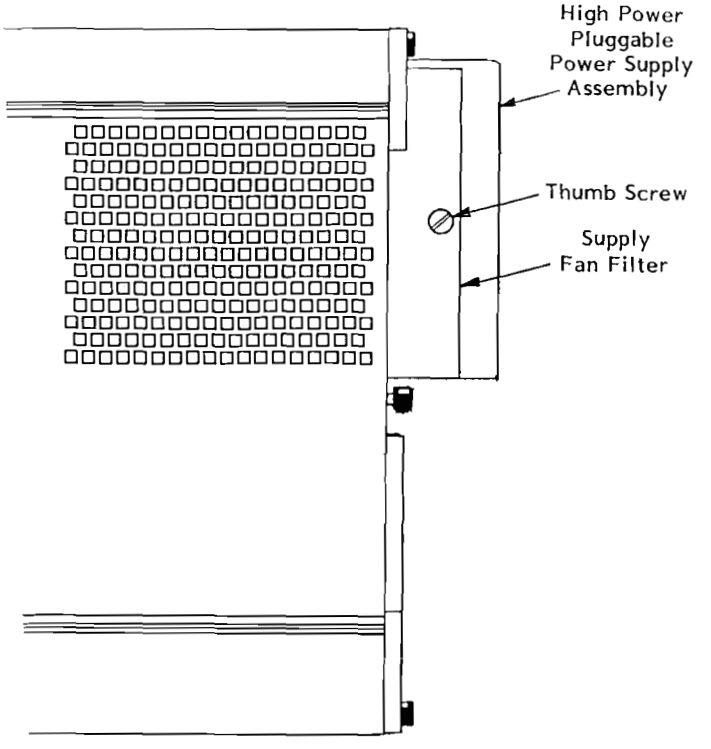


Figure 5-1 Cleaning The Supply Fan Filter

1. Loosen the captive thumb screw retaining the supply fan filter.

2. Remove the supply fan filter towards the rear.

3. Clean the supply fan filter by washing in mild soap solution, vacuuming or blowing air through the filter. Rinse the filter with water and dry before replacing it in the mainframe.

Cleaning The Module Fan Filter

The module fan filter is easily removed from the rear of the chassis as shown in **Figure 5-2.**

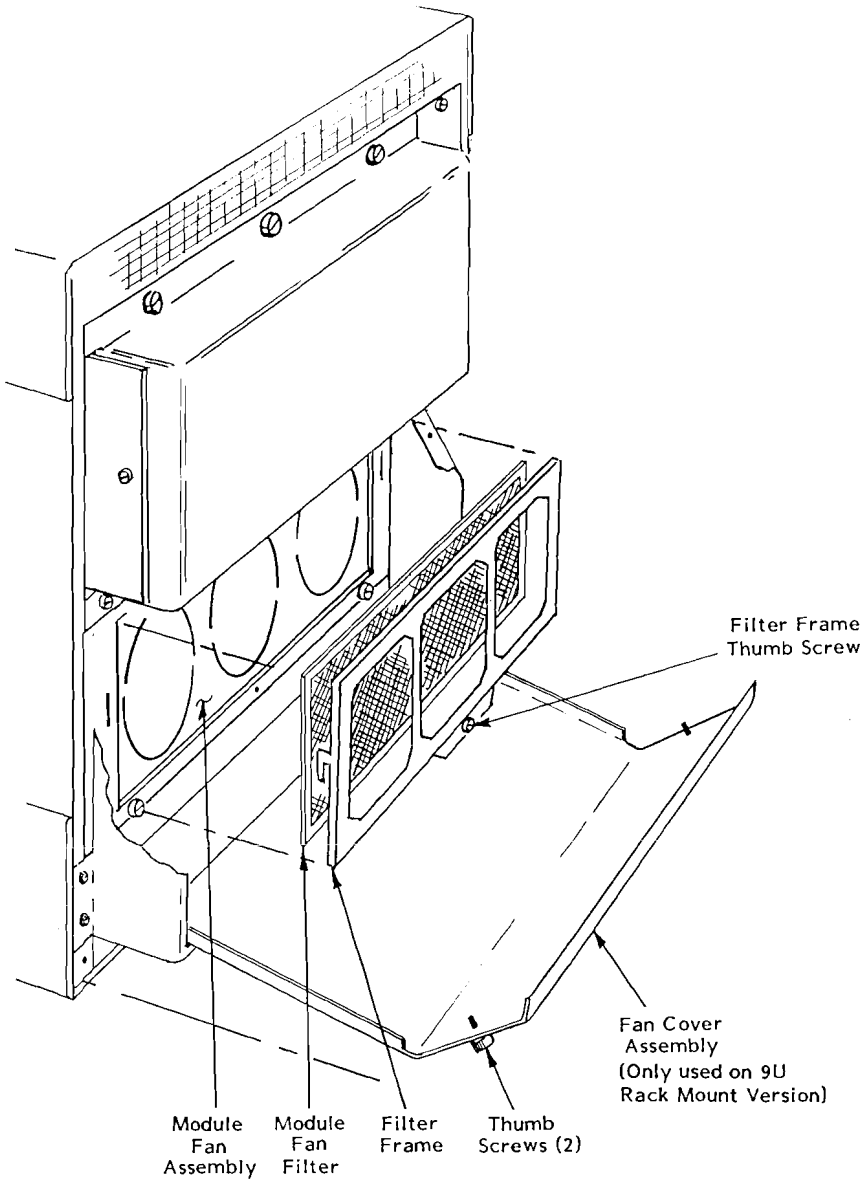


Figure 5-2 Cleaning The Module Fan Filter

1. On rackmount (9U) mainframes only, loosen the two captive thumbscrews on the fan cover assembly and allow it to swing open. It will pivot about its base allowing access to the module fan filter and frame.

2. Loosen the lower center captive thumbscrew on the module fan filter frame. Lift it up and towards the rear to remove the frame and filter from the rear of the module fan assembly.

3. Clean the fan filter by washing, in mild soap solution, vacuuming or blowing air through the filter. Rinse the filter with water and dry before replacing it in the mainframe.

4. To replace, install the filter into the frame.

5. Align the hooks on the back of the filter frame with the slots on the fan assembly. Insert the frame and push down to engage.

6. Tighten the captive thumbscrew to secure the fan filter frame.

7. On rackmount mainframe only, swing the module fan cover upwards and forward, and secure with thumbscrews.

Modular Component Removal and Replacement

The following procedures describe how to remove and replace module-level components of the 1261B/BL Mainframe. Perform these procedures only as necessary as part of installation (e.g. fuse replacement), mainframe service, or repair. Refer to the **Assembly Drawings** in this chapter for an overview of the assembly and disassembly of the mainframe. See **Troubleshooting** for assistance in fault isolation.

CAUTION **Always power off the mainframe and disconnect the power cord before cleaning or servicing the mainframe.**

Tools Required

The only tool required to disassemble the 1261B/BL chassis to the module level is a medium flat blade screwdriver.

(Exception: 9U fan assembly removal requires #2 phillips screwdriver and 7/64 hex key wrench.)

Removal and Replacement of The Module Fan Assembly

The plug-in module fan assembly may be removed and replaced as described in the following steps. Refer to **Figure 5-3 and 5-4.**

1. On rackmount (9U) mainframes only, loosen fan cover thumbscrews, lower cover and disengage from housing. Remove two phillips head screws per side and two socket-head cap (Allen) screws and lockwashers inside rear of cabletray. Pull bottom of housing away and downwards disengaging retaining hooks from rear of module fan assembly. This will expose the fan assembly for removal. Omit this step for benchtop (7U) mainframes.

2. Loosen the lower center captive thumbscrew on the fan filter frame. Lift it up and towards the rear to remove the frame and filter from the rear of the module fan assembly.

3. Loosen the four captive thumbscrews which secure the module fan assembly to the mainframe.

4. Ensure that all four thumbscrews are disengaged from the mainframe. Grasp the module fan assembly by the bottom right and top left floating thumbscrew.

5. Remove the module fan assembly by pulling gently toward the rear of the mainframe while gripping the assembly by the two thumbscrews.

6. To reinstall the module fan assembly, first align the assembly with the rear of the mainframe.

7. Insert the fan assembly by gently pushing it forward into the mainframe making sure the electrical connector is properly mated.

8. Tighten the four thumbscrews securing the module fan assembly.

9. Place filter in the filter frame and align the hooks on the back of the filter frame with the slots on the module fan assembly. Insert the frame and push down to engage.

10. Tighten the captive thumbscrew to secure the fan filter frame.

11. On rackmount mainframe only, engage the hooks on rear of fan cover assembly with the slots in the rear of the fan assembly. Push up to seat and secure with hardware removed in Step 1.

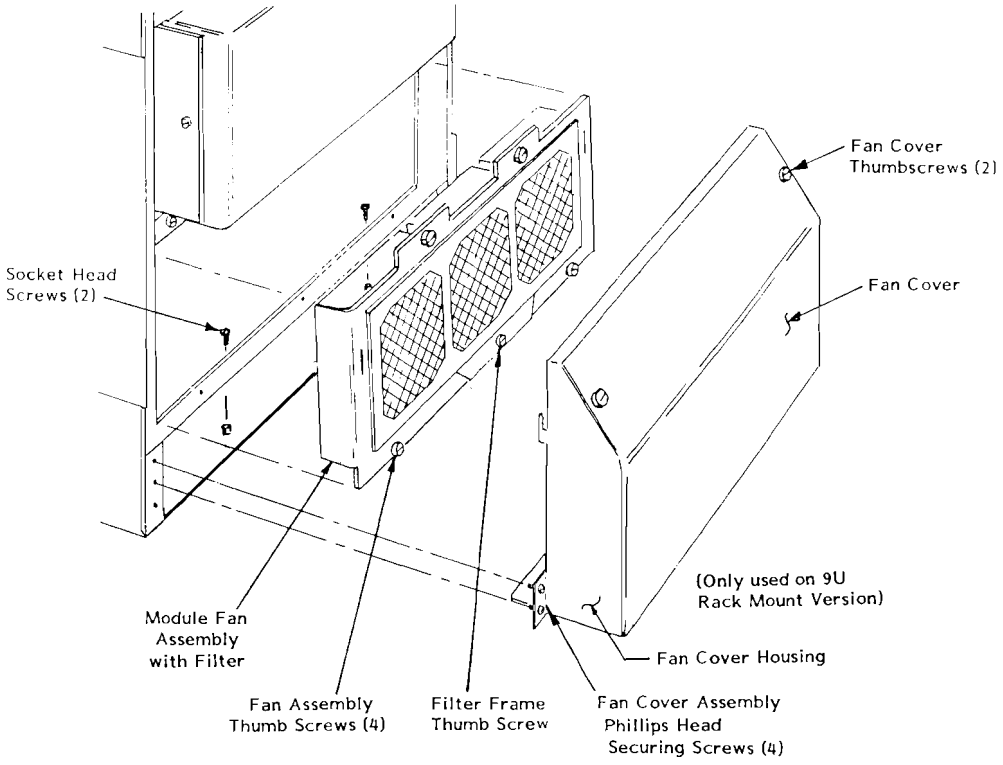


Figure 5-3 Module Fan Assembly Detail

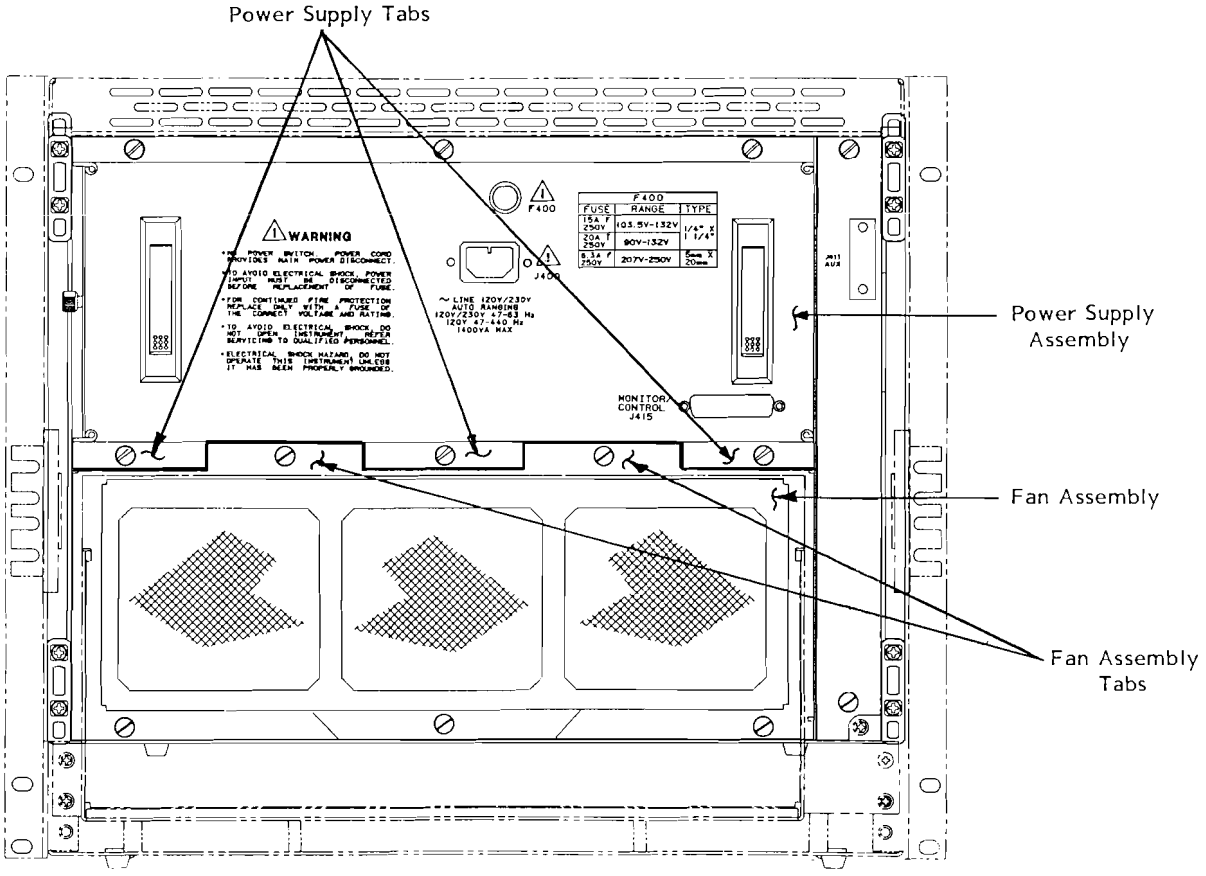


Figure 5-4 Aligning The Module Fan Assembly

Removal and Replacement of The Power Supply Assembly

To remove and install the power supply assembly from the mainframe. Refer to **Figure 5-5** and perform the steps below.

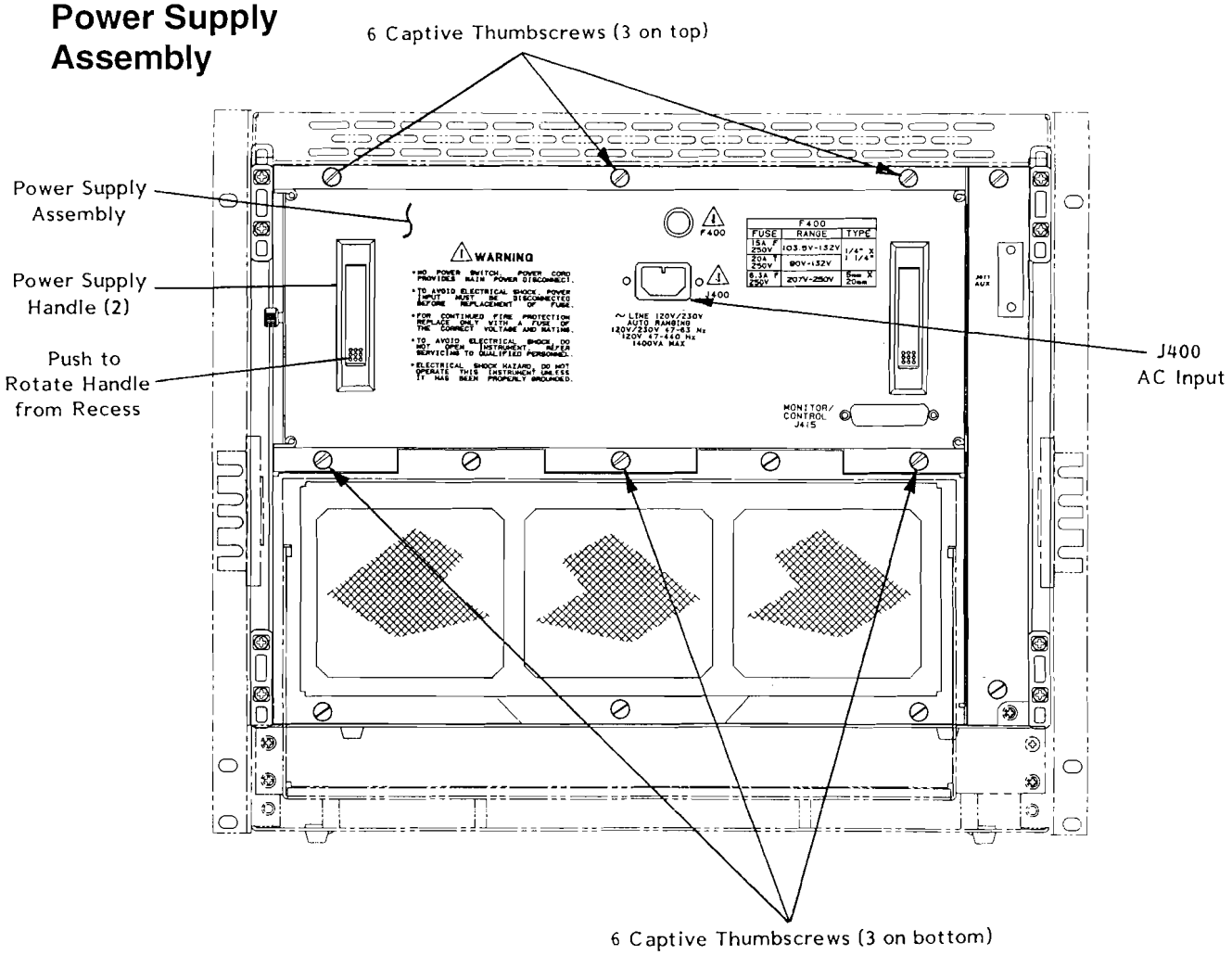


Figure 5-5 Power Supply Rear View

1. Unplug the AC power cord from the rear panel of the 1261B/BL.

2. Loosen the six captive thumbscrews which secure the power supply to the mainframe. See **Figure 5-5** for locations of these six thumbscrews. Ensure that the threads of the six thumbscrews are disengaged from the captive pem nut on the mainframe.

3. Push the base of the recessed handles to rotate and expose the mainframe handles.

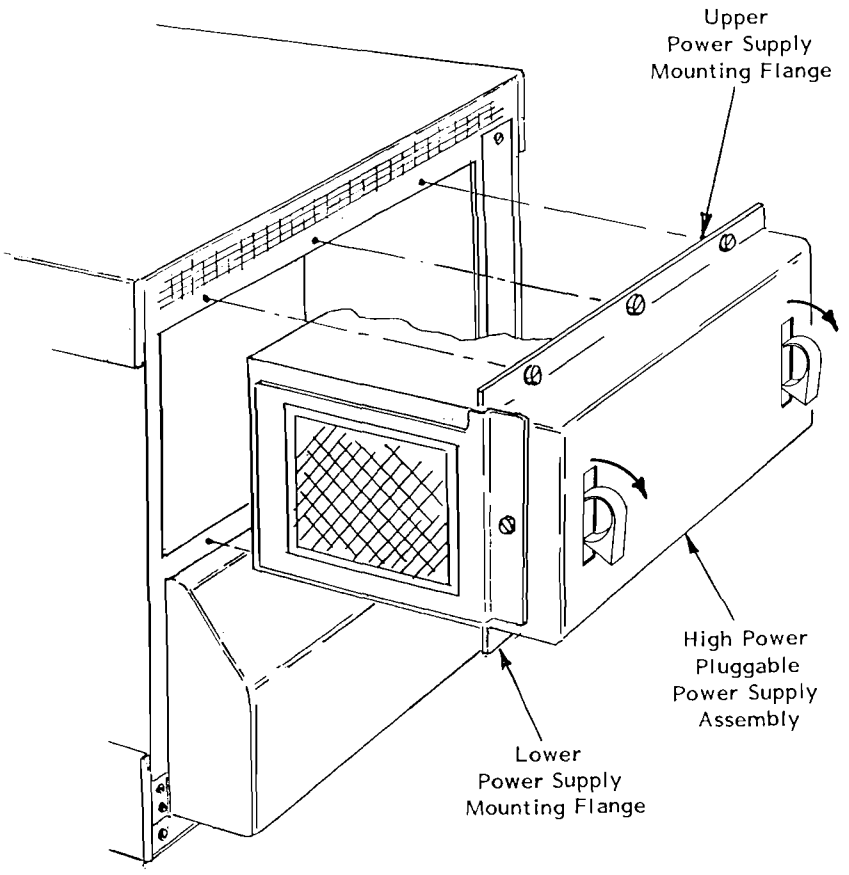


Figure 5-6 Removing The Power Supply

4. Firmly grasp each handle and pull evenly using a slight side to side rocking motion. If the power supply is difficult to remove, recheck to make sure all the thumbscrews are disengaged.

5. To reinstall a power supply into the mainframe, first align the power supply with the cavity at the rear of the mainframe. Note that the silkscreen on the supply rear panel will read correctly when the supply is in the proper orientation. Use the alignment of the threads on the upper fasteners as a visual guide.

6. Gently guide the power supply forward until engagement of the blind-mate connector is felt.

7. Exert pressure by using the palm of hand to assist final engagement.

8. When fully seated tighten the six thumbscrews. Do not over-tighten.

Removal and Replacement of The AC Mains Fuse

Complete the steps below while referring to **Figure 5-7.**

Warning **To avoid electrical shock, the AC mains power input must be disconnected before replacement of the fuse.**

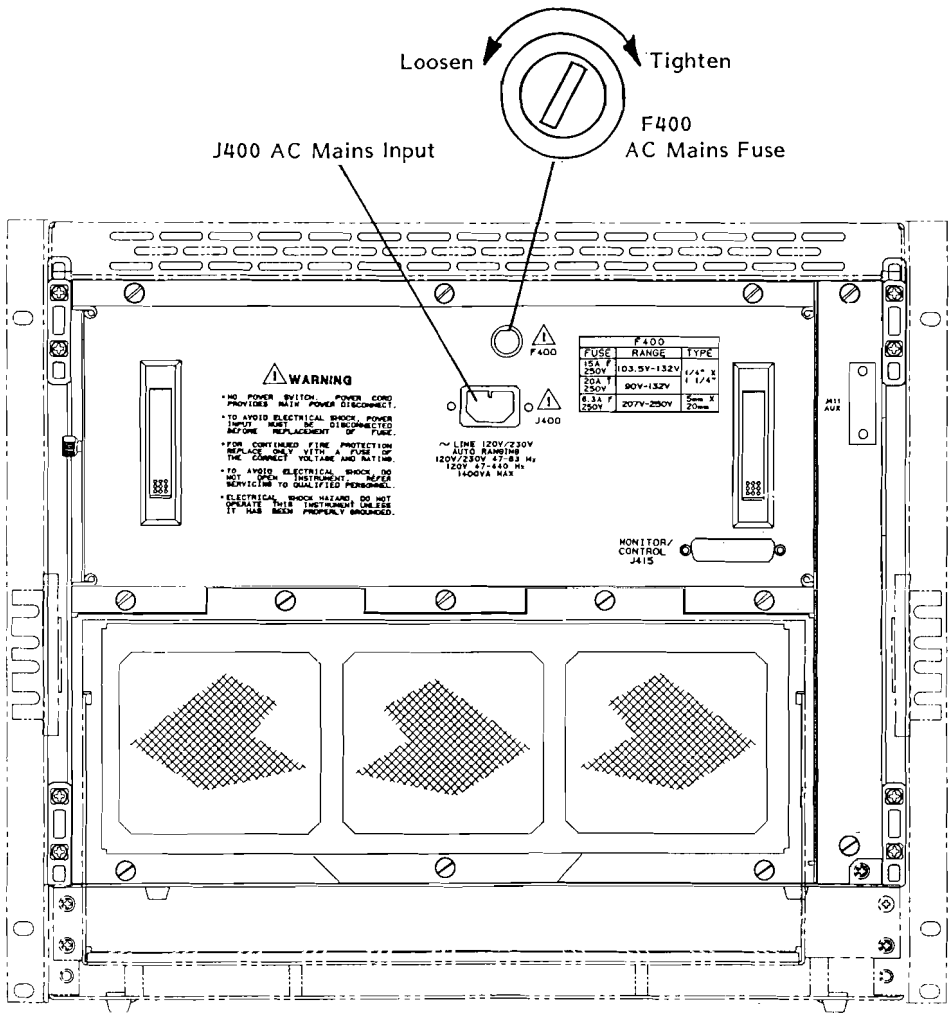


Figure 5-7 Removing and Replacing The AC Mains Fuse

1. Ensure AC mains input (J400) is disconnected.

2. Insert flat blade screwdriver into fuse carrier slot at F400 in power supply rear panel and rotate counter clockwise to remove.

3. To replace fuse, insert the fuse carrier and fuse assembly into fuse housing opening for F400 on power supply.

4. Insert flat blade screwdriver into fuse carrier and rotate clockwise to lock fuse assembly in place.

Removing and Replacing The Card Guides

Complete the steps below while referring to **Figure 5-8** to remove and replace the card guides. The procedure applies to top and bottom card guides.

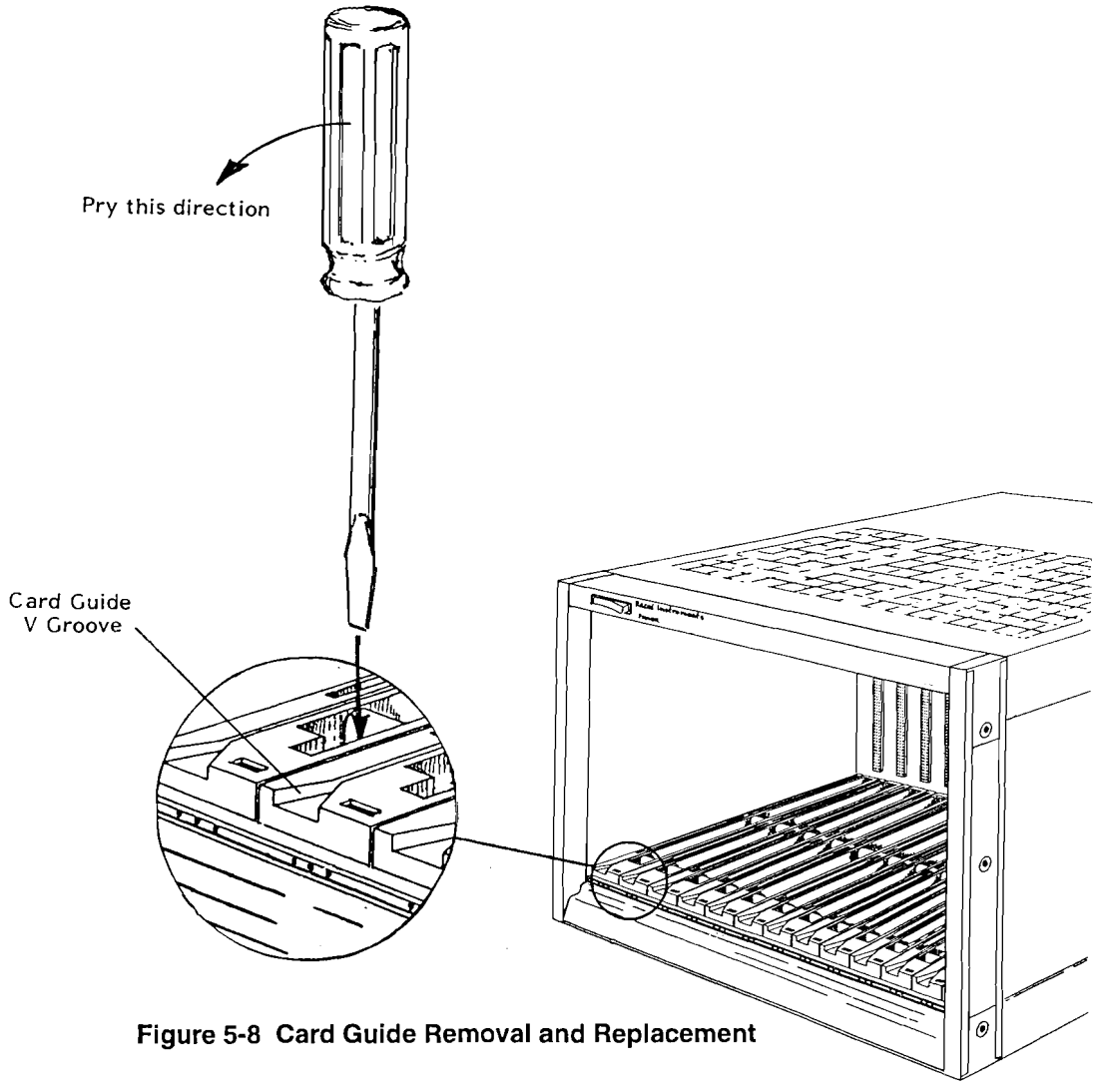


Figure 5-8 Card Guide Removal and Replacement

1. Insert a flat blade screwdriver into the slot in front of the retaining hook.

2. Gently pry the tab of the retaining hook to the rear, and lift the card guide, releasing it at the front.

3. Gently pull the card guide forward releasing it from the center and rear retaining hooks. Bowing the card guide is required to clear the front rail.

4. To replace, align the card guide with the mainframe front ensuring that the "V" groove is at the front.

5. Gently push down and to the rear to engage the hooks at the rear and middle of the card guide. Bowing the card guide is required to clear the front rail.

6. Allow the front retaining hook to rest on the front rail.

7. Insert a flat blade screwdriver into the slot in front of the retaining hook.

8. Gently pry the tab of the retaining hook to the rear, and press down the front of the card guide to snap into position.

Troubleshooting The 1261B/BL

To troubleshoot the 1261B/BL VXIbus mainframe to its component module level use **Table 5-1** and **Understanding the 1261B/BL** in **Chapter 6.**

Table 5-1 Troubleshooting

PROBLEM	POSSIBLE CAUSES	WHAT TO DO
"Power" annunciator does not come on	• 1261B/BL mainframe not connected to power source.	• Make sure that the 1261B/BL is connected to a live electrical outlet. Try operating another piece of equipment from this outlet.
	• Power/On/Standby switch not switched on.	• Set the front Power On/Standby switch to the **ON** position (See **"Powering On The Mainframe"** in **Chapter 3**).
	• Remote inhibit input on rear panel of power supply is active.	• Remove the inhibit by opening the remote switch (or deasserting the remote open collector driver). See **"Using Remote Power On/Standby Switching"** in **Chapter 3.**
	• Blown AC Mains Fuse.	• Unplug AC mains power and check the fuse. See **"Removing and Replacing the AC Mains Fuse"** in **Chapter 5.**
	• Power supply protections are active causing the supply to be "shutdown".	• Refer to **"Power Supply Protections"** in **Chapter 4.** • Cycle power to clear fault. If fault persists remove installed VXI modules (cycle power) until fault is cleared.
	• Power supply not fully seated.	• Verify that the power supply assembly is fully seated and all six thumbscrews are fastened. See **"Removing and Replacing the Power Supply"** in **Chapter 5.**
	• Faulty wiring to front panel Power On/Standby Switch	• Verify integrity of wiring to Power On/Standby switch. Contact customer service.

NOTES

1. CONNECTION FROM 405095-J54 TO S100 ITEM (4) AS FOLLOWS:
   - 405095-J54-3 TO S100-1
   - 405095-J54-5 TO S100-1a

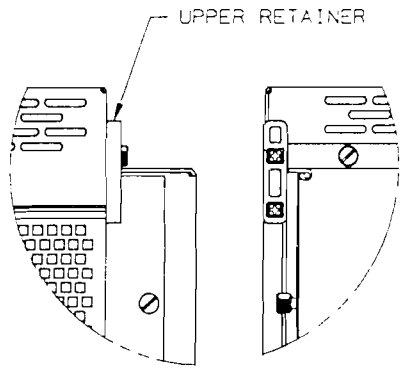
3. FOR -0X1XX MODELS USE ITEM (28) , QTY. 3.
   FOR -0X2XX MODELS USE ITEM (27) , QTY. 3.

5. APPLY CE MARKING LABEL ITEM (38) TO SIDE PANEL APPROXIMATELY WHERE SHOWN.

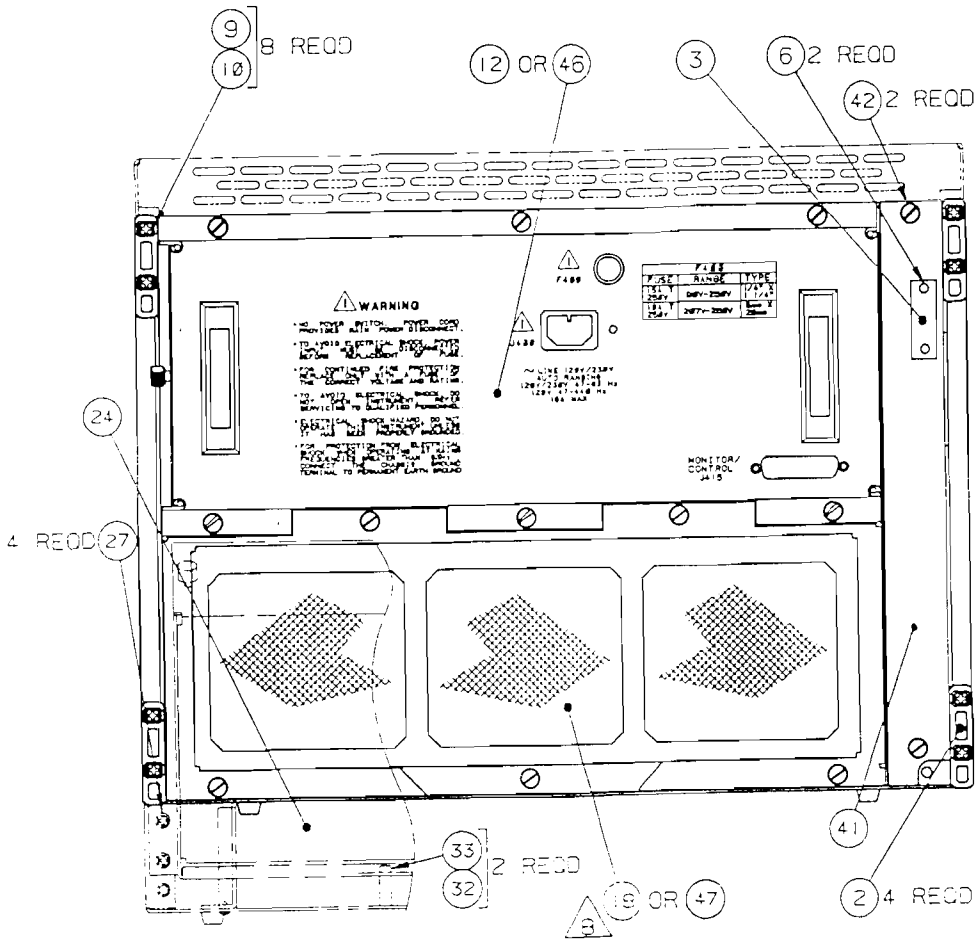
7. PRINT BAR CODE IDENTIFICATION LABEL WITH PERTINENT DATA USING BRADYCODE BAR CODE SOFTWARE AND AFFIX APPROXIMATELY WHERE SHOWN. (SOFTWARE PART NO. 800522).

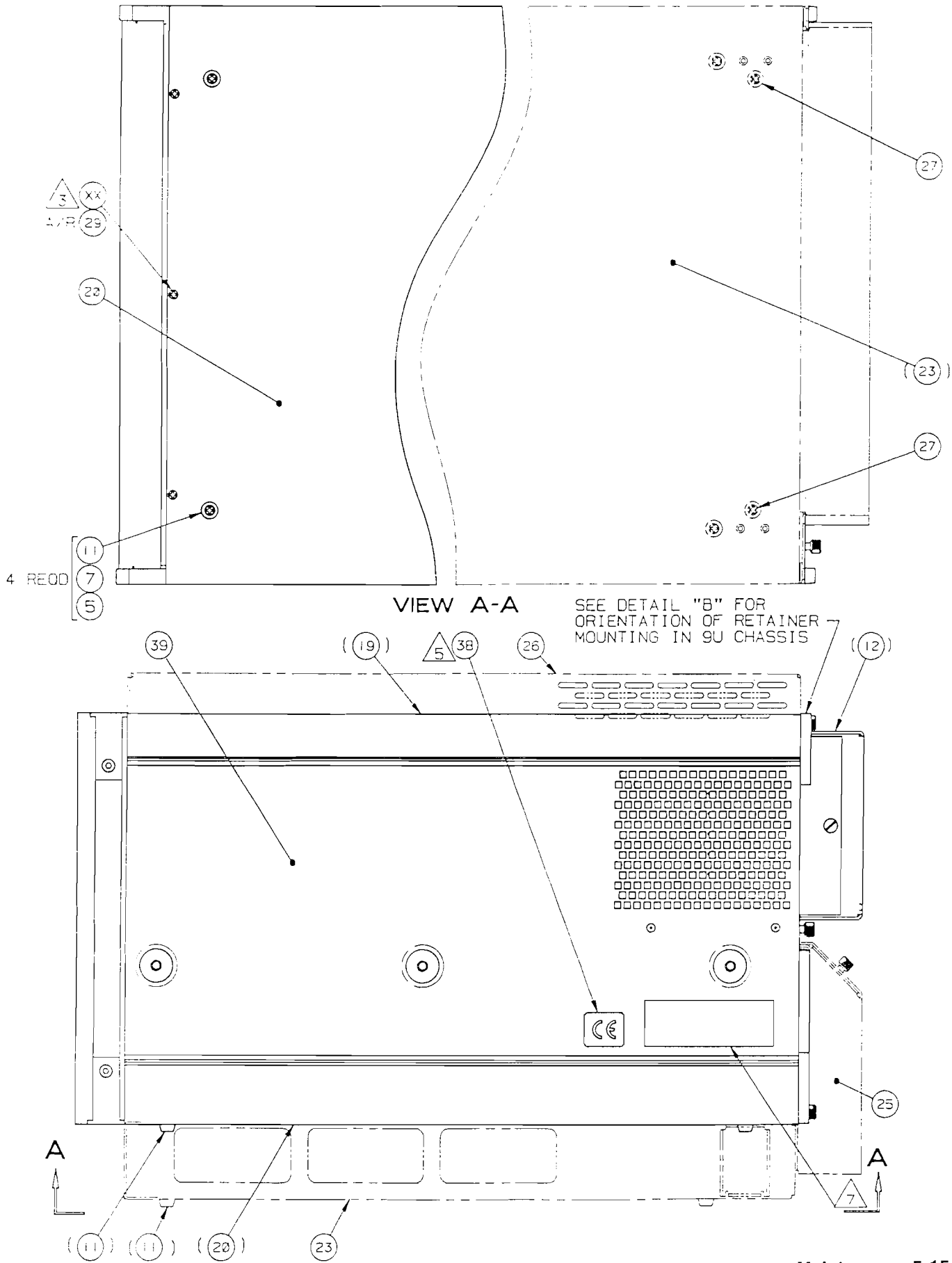
8. FOR -0X120 MODELS SET FAN SPEED TO LOW BEFORE SHIPPING.
   FOR -0X220 MODELS SET FAN SPEED TO HIGH BEFORE SHIPPING.

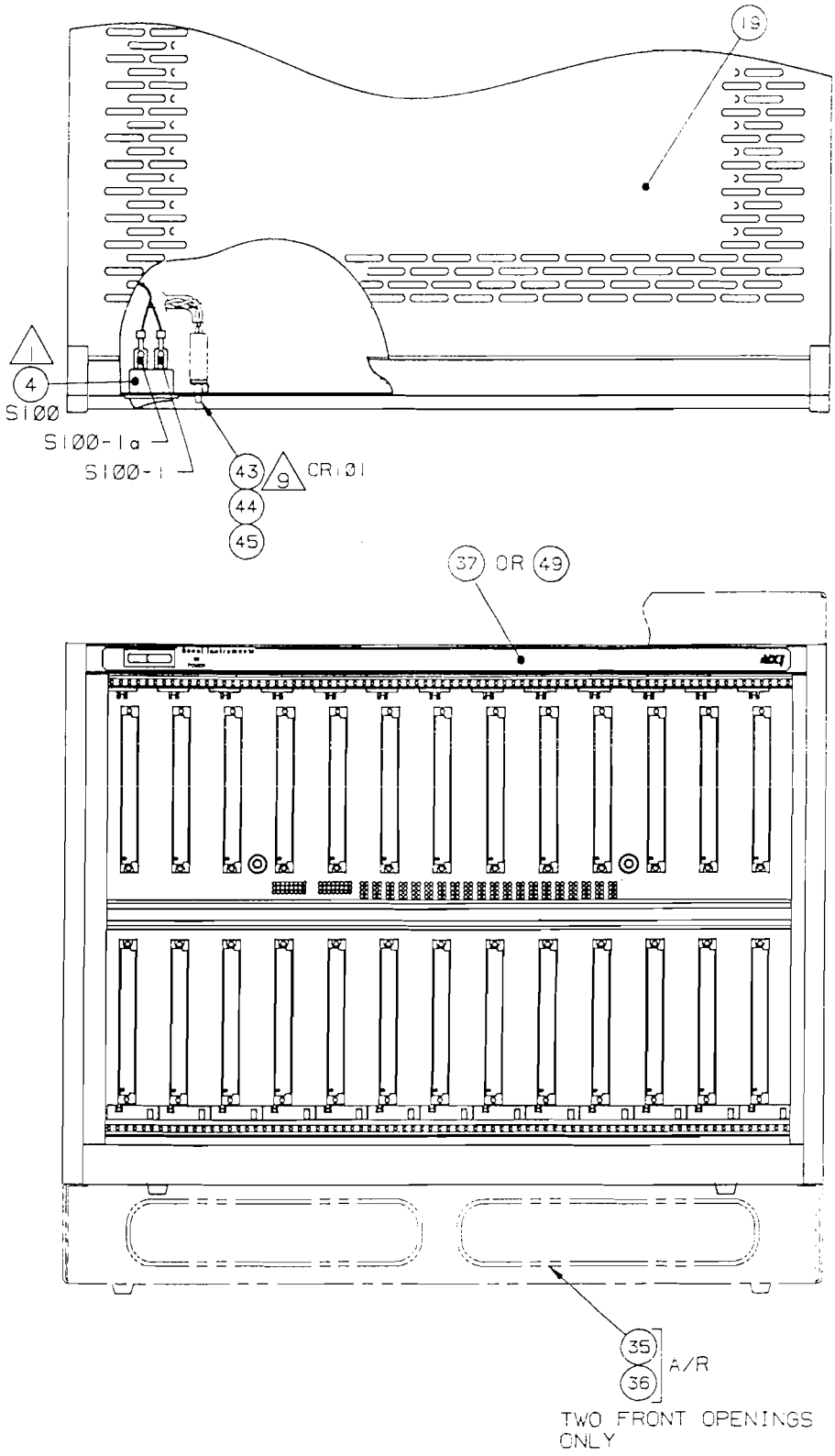
9. CONNECTION FROM 405095-J50 TO CR101 ITEM (43) AS FOLLOWS:
   -405095-J50-9 TO CR101 (+) WHT WIRE
   -405095-J50-10 TO CR101 (-) BLK WIRE.



DETAIL B




VIEW A-A
SEE DETAIL "B" FOR
ORIENTATION OF RETAINER
MOUNTING IN 9U CHASSIS
4 REQD
A
A


51
1
4
S100
S100-1a
S100-1
43
9
CR101
44
45
37 OR 49
35
36
A/R
TWO FRONT OPENINGS ONLY

407374-01120/01220 - 1261B KEY (REV. L)

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
CR101	210149	DIODE,LIGHT EMITTING,GREEN,WITH CABLE, 2.1V	72619	558-0201-001
S100	602235	SWITCH, ROCKER, SNAP-IN	21793	602235
(2)4	456341	FOOT, REAR	21793	456341
(3)1	456379	PANEL,CONNECTOR, FILLER	21793	456379
(5)4	610873	WASHER, FLAT, #6 SS, MS NA5620-C6L	-	-
(6)2	611327	RIVET, SNAP, SR, BLACK (.118-.157)	06915	SR-3055BK
(7)4	615059	SCREW, PPH, 6-32 X .375	-	-
(9)8	617103	WASHER, FLAT, LIGHT, #6	-	-
(10)8	618112	SCREW, PPH, 6-20 X .500, TAPPING, TYPE B	-	-
(11)4	921054	RECESSED BUMPER	6T698	101-BN-1026
(12)1	407377	POWER SUPPLY ASSY, 1261B	21793	407377
(18)1	407375-001	FAN ASSY, 2 SPEED, 1261B	21793	407375-001
(19)1	456352	COVER, TOP, 7U CHASSIS	21793	456352
(20)1	456353	COVER, BOTTOM, 7U CHASSIS	21793	456353
(23)1	456382	CABLETRAY, STANDARD W/9U CHASSIS	21793	456382
(24)1	456383	COVER, REAR, 9U CHASSIS	21793	456383
(25)1	456384	BRACKET, REAR COVER, 9U CHASSIS	21793	456384
(26)1	456386	ENCLOSURE, TOP EXTENSION, 9U CHASSIS	21793	456386
(27)9	616256	SCREW, PPH, SEMS ASSY, 6-32X.375, 9U CH.	78189	SEMS W/SQ CONE WA.
(28)3	615558	SCREW, PFH, 100 DEG., CSK, 6-32 X .375, 7U	-	-
(29)A/R	920962	LOCTITE, 242, MED STR., 7U CHASSIS	05972	272
(30)1	602262	CORD, POWER, 15A	MEGAE	17005-14M
(32)4	615718	SCREW, SLOTTED HEX, 6-32 x .312, 9U CHASSIS	-	-
(33)4	617128	WASHER, LOCK, #6, LIGHT SERIES, 9U CHASSIS	-	-
(34)6	456271	COVER, CARD GUIDE	21793	456271
(35)A/R	610388	GROMMET, CATERPILLAR, .040 THICK, 9U CH.	03296	G51H-A
(36)A/R	921452	LOCTITE, PRISM 411, CLR, 9U CHASSIS	05972	PRISM411
(37)1	456376-003	OVERLAY, FRONT PANEL, 1261B KEY	21793	456376-003
(39)1	407378-001	ENCLOSURE ASSY, 1261B KEY	21793	407378-001
(40)1	980800	INSTRUCTION MANUAL, 1261B KEY	21793	980800
(41)1	456553	PLATE, COVER, REAR, 1261B KEY	21793	456533
(42)1	616253	SCREW, PPH, SEMS ASSY, 4-40 X .375	78189	SEMS W/SQ CONE WA.
(44)1	610777	CABLE TIE	16956	08-432
(45)1	611323	CLIP, CABLE TIE, ADHESIVE BACK	06383	ABM1M-A-C
(46)1	456583	STIFFENER, CENTER, CABLE TRAY, 9U CH	21793	456583

FSC	SUPPLIER
03296	NYLON MOULDING TEMPLE CITY, CA
05972	LOCTITE CORP. HARTFORD, CT
06383	PANDUIT CORP. TINLEY PARK, CA
06915	RICHCO PLASTIC CO. CHICAGO, IL
16956	DENNISON MFG. CO. FRAMINGTON, MA
21793	RACAL INSTRUMENTS INC. IRVINE, CA
6T698	PLASTIGLIDE MFG. CORP. HAWTHORNE, CA
72619	DIALIGHT CORP. BROOKLYN, NY
78189	ILLINOISE TOOL WORKS, INC. (SHAKEPROOF DIV.) ELGIN, IL
MEGAE	MEGA ELECTRONICS NEW BRUNSWICK, NJ

407374-02133 - 1261BL (REV. N)

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
CR101	210149	DIODE,LIGHT EMITTING,GREEN,WITH CABLE, 2.1V	72619	558-0201-001
S100	602235	SWITCH, ROCKER, SNAP-IN	21793	602235
(2)4	456341	FOOT, REAR	21793	456341
(3)1	456379	PANEL,CONNECTOR, FILLER	21793	456379
(5)4	610873	WASHER, FLAT, #6 SS, MS NA5620-C6L	-	-
(6)2	611327	RIVET, SNAP, SR, BLACK (.118-.157)	06915	SR-3055BK
(7)4	615059	SCREW, PPH, 6-32 X .375	-	-
(9)8	617103	WASHER, FLAT, LIGHT, #6	-	-
(10)8	618112	SCREW, PPH, 6-20 X .500, TAPPING, TYPE B	-	-
(11)4	921054	RECESSED BUMPER	6T698	101-BN-1026
(19)1	456352	COVER, TOP, 7U CHASSIS	21793	456352
(20)1	456353	COVER, BOTTOM, 7U CHASSIS	21793	456353
(28)3	615558	SCREW, PFH, 100 DEG., CSK, 6-32 X .375, 7U	-	-
(29)A/R	920962	LOCTITE, 242, MED STR.	05972	272
(30)1	602262	CORD, POWER, 15A	MEGAE	17005-14M
(34)6	456271	COVER, CARD GUIDE	21793	456271
(39)1	407378-001	ENCLOSURE ASSY, 1261B	21793	407378-001
(40)1	980800	INSTRUCTION MANUAL, 1261B/BL	21793	980800
(41)1	456553	PLATE, COVER, REAR, 1261B	21793	456533
(42)1	616253	SCREW, PPH, SEMS ASSY, 4-40 X .375	78189	SEMS W/SQ CONE WA.
(44)1	610777	CABLE TIE	16956	08-432
(45)1	611323	CLIP, CABLE TIE, ADHESIVE BACK	06383	ABM1M-A-C
(47)1	407376-001	FAN ASSY, LOW NOISE, 1261BL	21793	407376-001
(48)1	407377-002	POWER SUPPLY ASSY, 1261BL	21793	407377-002
(49)1	456376-004	OVERLAY, FRONT PANEL, 1261BL	21793	456376-004

A

Specifications

SPECIFICATIONS

This chapter contains the complete specifications for the 1261B/BL Mainframe.

Table A-1 AC Input Specifications

Characteristic	Description
Input Voltage Range	90 V_{RMS} to 250 V_{RMS}
Input Frequency Range	47 Hz to 440 Hz, 120 V operation 47 Hz to 63 Hz, 230 V operation
Power Consumption	1440 W line power maximum
Fuse Rating 90 V - 250 V Operation 207 V - 250 V Operation	 0.25 in x 1.25 in, Slow Blow, 15 A, 250 V 5 mm x 20 mm, Slow Blow, 10 A, 250 V
Inrush Current	70 A maximum, cold start or after 1 minute cool down
Input current	15 A maximum at 90 V_{RMS} 8 A maximum at 207 V_{RMS}
Power Disconnect	Front Panel Power On/Standby Switch: Rear panel connection allows for remote inhibit operation. Power cord provides main power disconnect. The Power On/Standby switch must be in **Power On** position prior to use of remote inhibit.
Protections	Input Current Limit (15 A)
Power Factor Correction	Over entire input voltage range, 47 Hz to 63 Hz

Table A-2 DC Output Power

Characteristic	Description 1261B	Description 1261BL
Maximum Power Available To Chassis	1100 W, 0°C to 45°C, 180 V - 250 V, derate 10W/°C above 45°C 1000 W, 0°C to 55°C, 100 V - 250 V 900 W, 0°C to 55°C, 90 V - 100 V	675W, 0°C to 55°C, 90 V - 250 V
Power Available to Slots 0 - 12	925 W, 100 V - 250 V 825 W, 90 V - 100 V	600 W, 90 V - 250 V
DC Current Capacity (I_{MP})	**Voltage** **I_{MP} (Steady-State Current)** +24V 12 A/18A* +12 V 13 A +5 V 80 A/120 A* -2V 30 A -5.2 V 60 A -12 V 13 A -24 V 12 A +5 V STDBY 0 A (1 A max, user supplied) * Option 53 Current Sharing Supply is required to deliver +5 V @ 120 Amps, or +24 V @ 18 Amps.	**Voltage** **I_{MP} (Steady-State Current)** +24V 10 A +12 V 10 A +5 V 60 A -2V 20 A -5.2 V 30 A -12 V 10 A -24 V 10 A
Dynamic Current (I_{MD})	**Voltage** **I_{MD} (Amps $_{pp}$)** +24 V 6.5 +12 V 3 +5V 15 -2 V 4.5 -5.2 V 9 -12 V 3 -24 V 6.5	**Voltage** **I_{MD} (Amps $_{pp}$)** +24 V 5 +12 V 3 +5V 9 -2 V 4.5 -5.2 V 7 -12 V 3 -24 V 5
DC Voltage Regulation	**Voltage** **Tolerance, ΔV** +24 V +1.2V, -720 mV +12 V +600 mV, -360mV +5V +250 mV, -125 mV -2V -100 mV, +100 mV -5.2 V -260 mV, +156 mV -12 V -600 mV, +360 mV -24 V -1.2 V, +720 mV	**Voltage** **Tolerance, ΔV** +24 V +1.2V, -720 mV +12 V +600 mV, -360mV +5V +250 mV, -125 mV -2V -100 mV, +100 mV -5.2 V -260 mV, +156 mV -12 V -600 mV, +360 mV -24 V -1.2 V, +720 mV

Characteristic	Description 1261B	Description 1261BL
Maximum Load Ripple/Noise	**Voltage** **Ripple/Noise** +24 V 150 mV_{pp} +12 V 50 mV_{pp} +5 V 50 mV_{pp} -2 V 50 mV_{pp} -5.2 V 50 mV_{pp} -12 V 50 mV_{pp} -24 V 150 mV_{pp}	**Voltage** **Ripple/Noise** +24 V 150 mV_{pp} +12 V 50 mV_{pp} +5 V 50 mV_{pp} -2 V 50 mV_{pp} -5.2 V 50 mV_{pp} -12 V 50 mV_{pp} -24 V 150 mV_{pp}
Maximum Induced Ripple/Noise	**Voltage** **Ripple/Noise** +24 V 150 mV_{pp} +12 V 50 mV_{pp} +5 V 50 mV_{pp} -2 V 50 mV_{pp} -5.2 V 50 mV_{pp} -12 V 50 mV_{pp} -24 V 150 mV_{pp}	**Voltage** **Ripple/Noise** +24 V 150 mV_{pp} +12 V 50 mV_{pp} +5 V 50 mV_{pp} -2 V 50 mV_{pp} -5.2 V 50 mV_{pp} -12 V 50 mV_{pp} -24 V 150 mV_{pp}
Protections	Over voltage protection Over temperature protection Over current protection	Over voltage protection Over temperature protection Over current protection
VXI Supply Rear Panel DC Voltage Monitors (J415 Connector)	**Voltage** **Tolerance, ΔV** +24 V +1.2V, -720 mV +12 V +600 mV, -360mV +5V +250 mV, -125 mV -2V -100 mV, +100 mV -5.2 V -260 mV, +156 mV -12 V -600 mV, +360 mV -24 V -1.2 V, +720 mV	**Voltage** **Tolerance, ΔV** +24 V +1.2V, -720 mV +12 V +600 mV, -360mV +5V +250 mV, -125 mV -2V -100 mV, +100 mV -5.2 V -260 mV, +156 mV -12 V -600 mV, +360 mV -24 V -1.2 V, +720 mV
VXI Supply Rear Panel DC Current Monitors (J415 Connector)	**Voltage** **No Load Value** **Full Load Value** +24 V 0 V 5 V +12 V 0 V 5 V +5 V 0 V 5 V -2 V 0 V 5 V -5.2 V 0 V 5 V -12 V 0 V 5 V -24 V 0 V 5 V 7% Accuracy at full load value (5 V), typical	**Voltage** **No Load Value** **Full Load Value** +24 V 0 V 5 V +12 V 0 V 5 V +5 V 0 V 5 V -2 V 0 V 5 V -5.2 V 0 V 5 V -12 V 0 V 5 V -24 V 0 V 5 V 7% Accuracy at full load value (5 V), typical

Table A-3 Cooling

Characteristic	Description
Per Slot Cooling Capacity	**Figure A-1** shows the worst slot cooling curve of the mainframe.
Cooling System	Forced air circulation (positive pressurization).
Slot Airflow Direction	P2 to P1, bottom of module to the top of module
Mainframe Intake, Bench Top	Bottom rear of mainframe
Mainframe Exhaust, Bench Top	Top of mainframe.
Mainframe Intake, Rack Mount Model	Bottom sides of mainframe, consistent with industry rack mount cooling practice
Mainframe Exhaust, Rack Mount Model	Rear of mainframe, top rear of mainframe, consistent with industry rack mount cooling practice.
Filter Access (Power Supply and Module Fans)	Filter accessible from rear of the mainframe

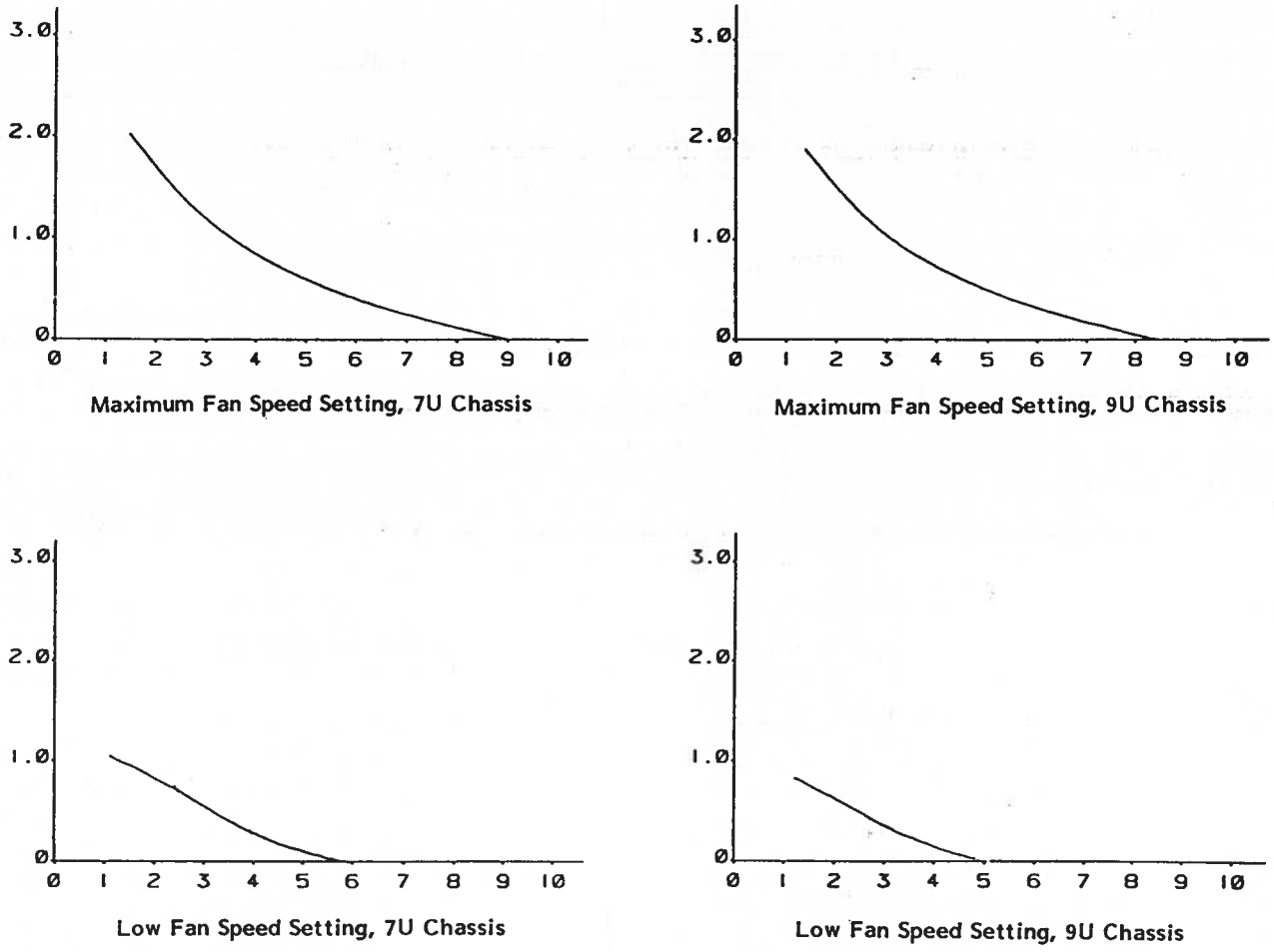


Figure A-1 Mainframe Worst Case Slot Cooling Curve

Table A-4 Safety

Characteristic	Description
Safety Characteristics	IEC 1010-1, and CAN/CSA-22.2 No. 1010.1
IEC Characteristics	Installation Category II Pollution Degree 2 Safety Class 1

Table A-5 Environmental

Characteristic	Description
Classification	MIL-T-28800E Type III, Class 5, Style E or F
Temperature Operating Non-operating	Meets the limits stated in MIL-T-28800E for Type III, Class 5 0°C to 55°C -40°C to 71°C
Relative Humidity Operating Non-operating	 Up to 95% at up to 30°C and up to 45% at up to 55°C Up to 95% at up to 55°C
Altitude Operating Non-operating	 15,000 ft. 40,000 ft.
Random Vibration Operating Non-operating	Three axis, 30 minutes total, 10 minutes per axis 0.27 g_{RMS} total from 5 Hz to 55 Hz 2.28 g_{RMS} total from 5 Hz to 55 Hz
Functional Shock Operating	 Half sine, 30 g, 11 ms duration. Meets functional shock requirements of MIL-T-28800E, Type III, Class 5
User Bench Handling (Operating)	Each edge lifted four inches and allowed to free fall onto a solid wooden bench surface.
Electromagnetic Compatibility (EMC) Emissions Enclosure AC Mains	Emissions shall be within the limits specified by the following requirements: EN 55011 Class B, FCC Part 15 Class B limits for radiated emissions (Class A if equipped with Option 53) EN 60555-2 AC power harmonic emissions EN 55011 Class B, FCC Part 15 Class B limits for conducted emissions
Immunity, Enclosure, Radio Frequency Electromagnetic Field	No mainframe failures when the mainframe is subjected to a 3 V/m electromagnetic field over the frequency range of 27 MHZ to 500 MHZ.
Immunity, Enclosure, Electrostatic Discharge (ESD)	Up to 8 kV with no change to control settings or impairment of normal operation.
Immunity, Fast Transients, Common Mode	Port — Peak Voltage — Tr/Th — Rep Frequency Signal&Control — 0.5 kV — 5/50 ns — 5 kHz DC Power — 0.5 kV — 5/50 ns — 5 kHz AC Power — 1.0 kV — 5/50 ns — 5 kHz
MTBF	61,887 Hours
MTTR	< 5 minutes

Table A-6 Backplane

Characteristic	Description
Bus Grant/Interrupt Acknowledge	Solid state, auto-configuring (jumper less)
VXIbus CLK10 Distribution	Full differential

Table A-7 Mechanical

Characteristic	Description
Overall Dimensions 7U Standard Mainframe Height Width Depth	 12.22 in (31.0 cm) 17.38 in (44.1 cm) 23.68 in (60.1 cm)
9U Mainframe with Rack Mount Height Width Depth	 15.72 in (39.9 cm) 19.00 in (48.3 cm) 23.68 in (60.1 cm) to 28.38 in (72.1 cm) in 0.625 inch (1.58 cm) increments, user selectable Standard cable tray used in 9U mainframe provides 16.12 (40.9) x .62 (1.6cm) cable exit area from rear of mainframe.
1U Cable Tray, Option 21 (9U mainframe) Height Width Depth	**See Figure A-4** for overall mainframe dimensions 1.75 in (4.45 cm) 17.25 in (43.8 cm) 20.12 in (51.1 cm)
2U Cable Tray, Option 22 (9U mainframe) Height Width Depth	**See Figure A-4** for overall mainframe dimensions 3.50 in (8.89 cm) 17.25 in (43.8 cm) 20.12 in (51.1 cm
1U Cable Tray, Option 721 (7U) Height Width Depth	**See Figure A-2** for overall mainframe dimensions 1.75 in (4.45 cm) 17.25 in (43.8 cm) 20.12 in (51.1 cm)
2U Cable Tray Option 722 (7U) Height Width Depth	**See Figure A-2** for overall mainframe dimensions 3.50 in (8.89 cm) 17.25 in (43.8 cm) 20.12 in (51.1 cm
3U Cable Tray Option 723 (7U) Height Width Depth	**See Figure A-2** for overall mainframe dimensions 5.25 in (13.33 cm) 17.25 in (43.8 cm) 20.12 in (51.1 cm)
Weight Bench Top (7U mainframe) Rack Mount (9U mainframe)	 46 lbs (20.7 kg) with no modules installed 52 lbs (23.7 kb) with no modules installed

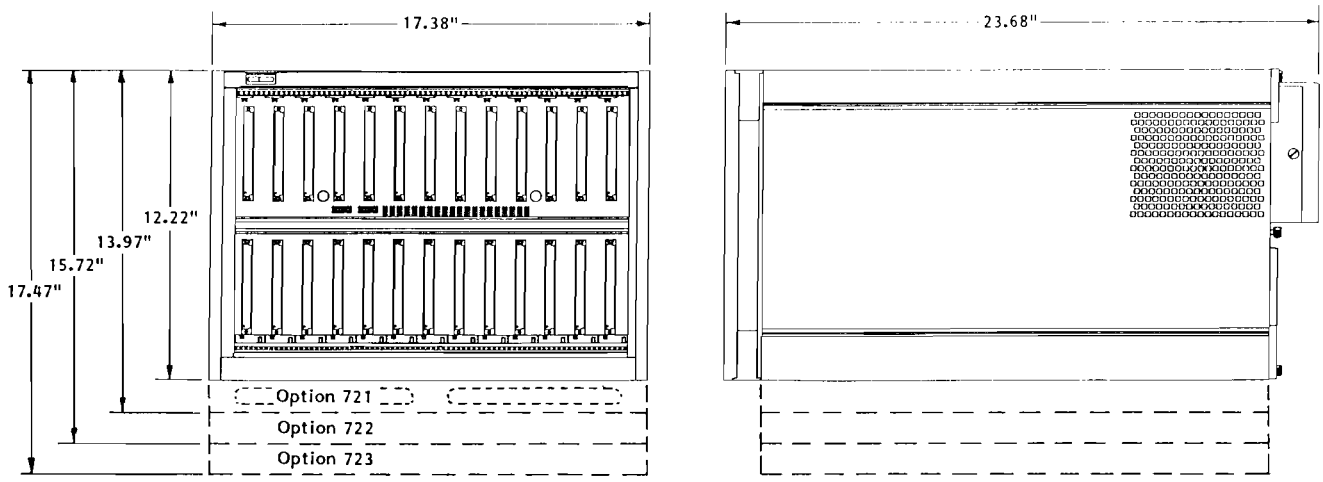


Figure A-2 Front View and Side View of Bench Top (7U) 1261B/BL Mainframe with 1U, 2U & 3U Cable Tray Options

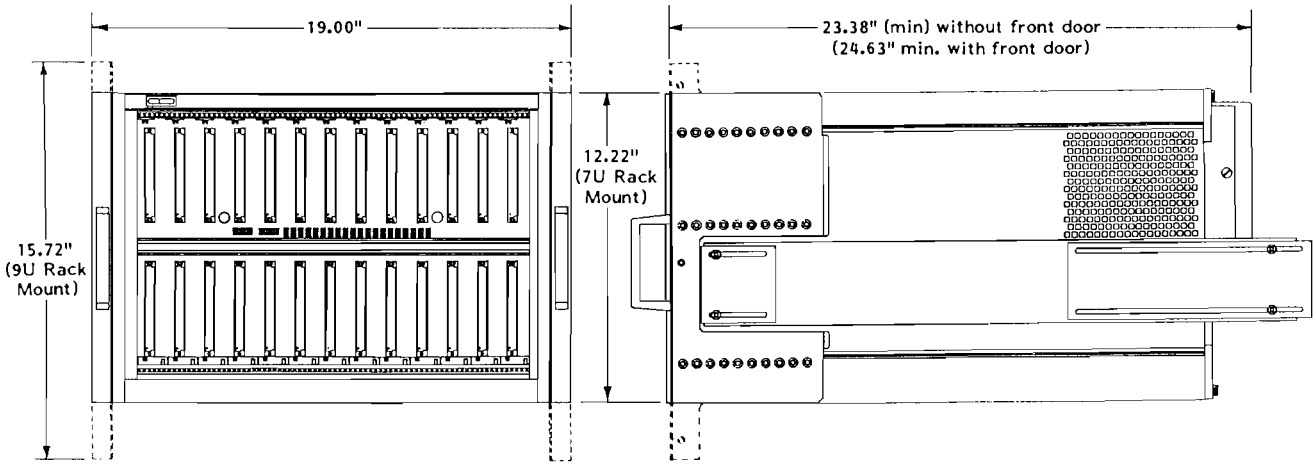


Figure A-3 Front View and Side View of 1261B/BL Bench Top Model With 7U and 9U Rack Mount Ears

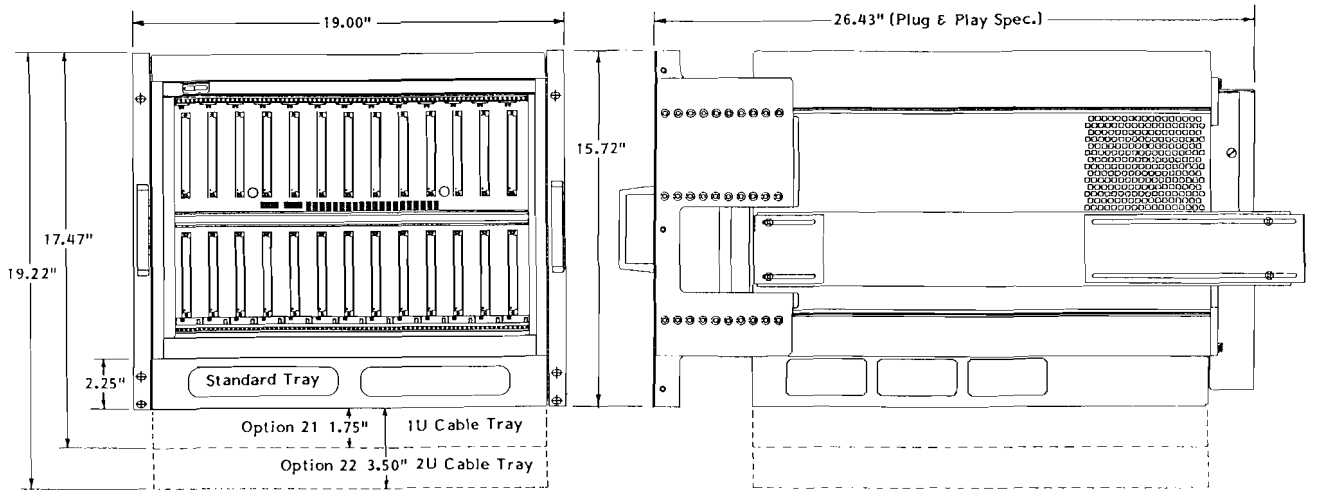


Figure A-4 Front View and Side View of 1261B/BL Rack Mount Model With Rack Mount and Cable Tray Options

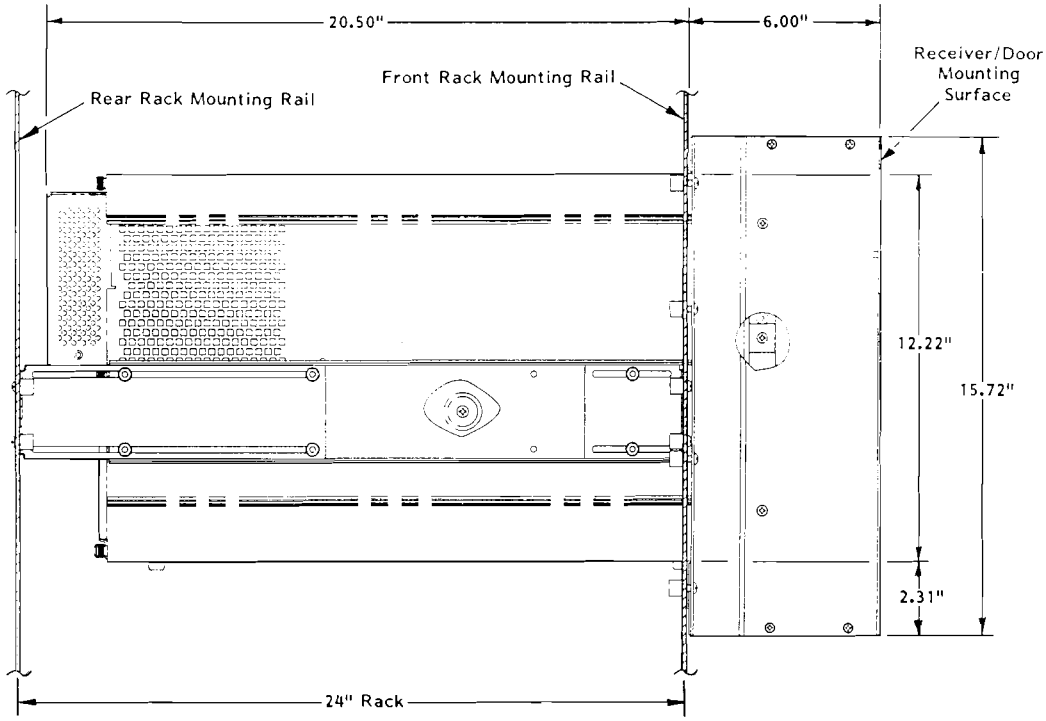


Figure A-5 Side View of 1261B/BL 7U Mainframe With Option 54-1 Installed

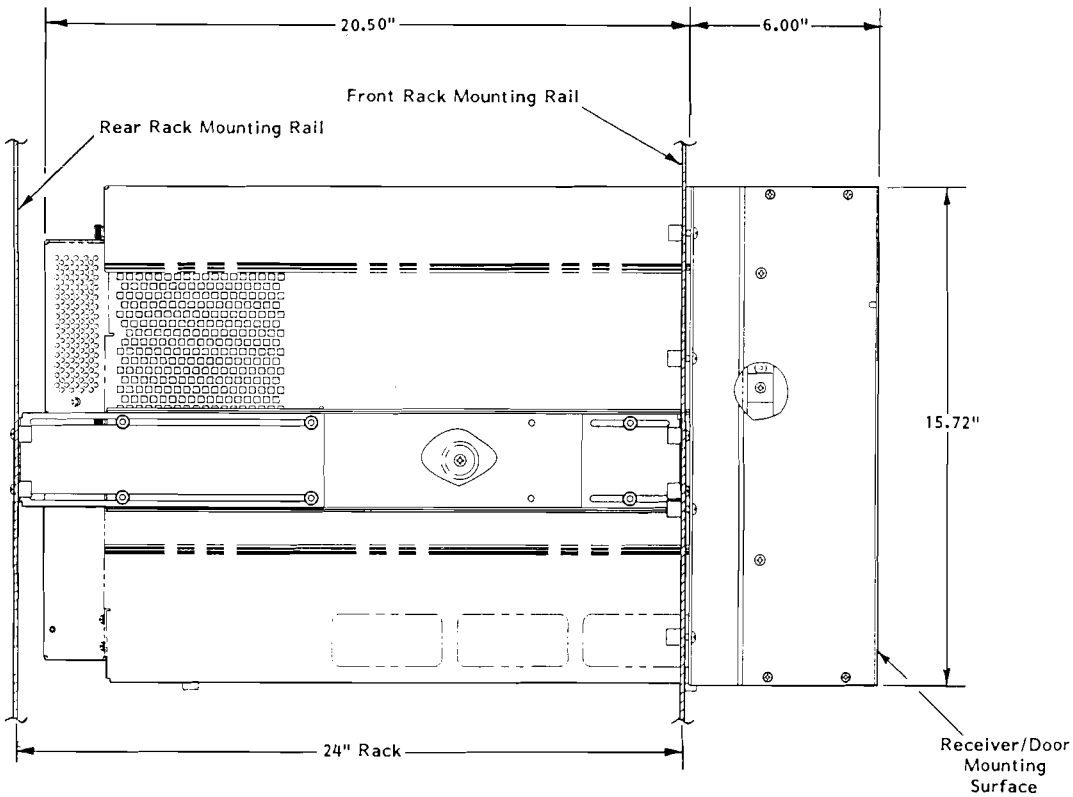


Figure A-6 Side View of 1261B 9U Mainframe With Option 54-2 Installed

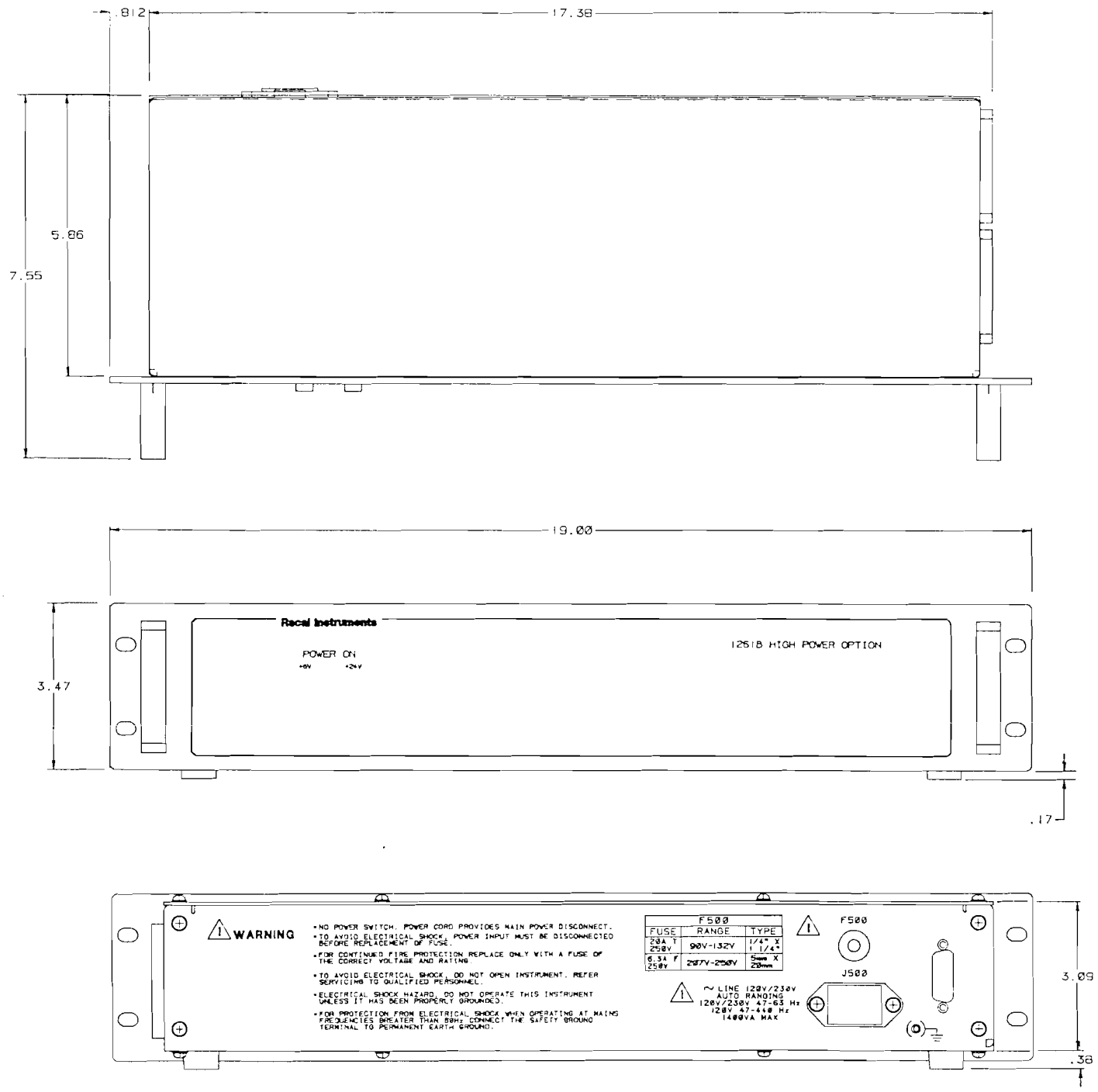


Figure A-7 Current Sharing Supply, Option 53 Views
(For Use With 1261B Only)

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