

# 1 Installation Process

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## Site Planning

Site Planning Guide Document

▲ Please mark up your copy - send comments to Jennifer Vaid in Tech Pubs (e-mail: [jvaid@auspex.com](mailto:jvaid@auspex.com) **or** [techpubs@auspex.com](mailto:techpubs@auspex.com))

Space planning

Environment

Electrical Site Prep

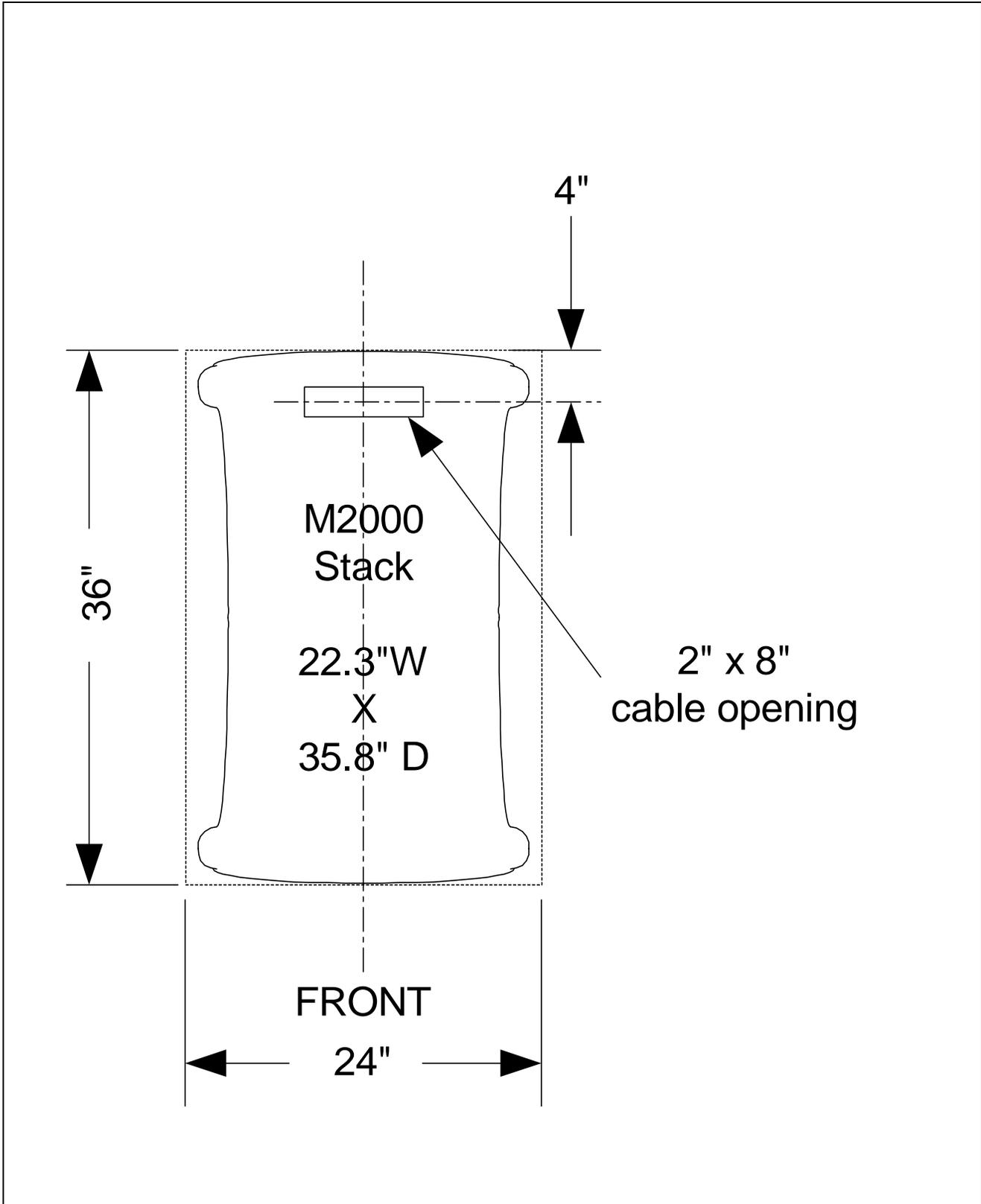
AC and DC power distribution

## Physical Hardware Install

Hardware Installation Guide

▲ Please mark up your copy - send comments to Beverley Andalora in Tech Pubs (e-mail: [andalora@auspex.com](mailto:andalora@auspex.com) **or** [techpubs@auspex.com](mailto:techpubs@auspex.com))

Physical Installation Notes



**M2000 Stack Footprint**

## Space Planning

### Stack Element Footprint:

- ▲ 24" W x 36" D
- ▲ Cable Opening Location
- ▲

### Service Clearances

- ▲ 36" Front and Rear (Recommended)
- ▲ 24" front and Rear (Minimum)
- ▲

### Normal computer equipment ESD precautions

- ▲ Avoid carpeted areas (unless ESD protected)
- ▲ Clean, low dust environment

### Accessory Equipment:

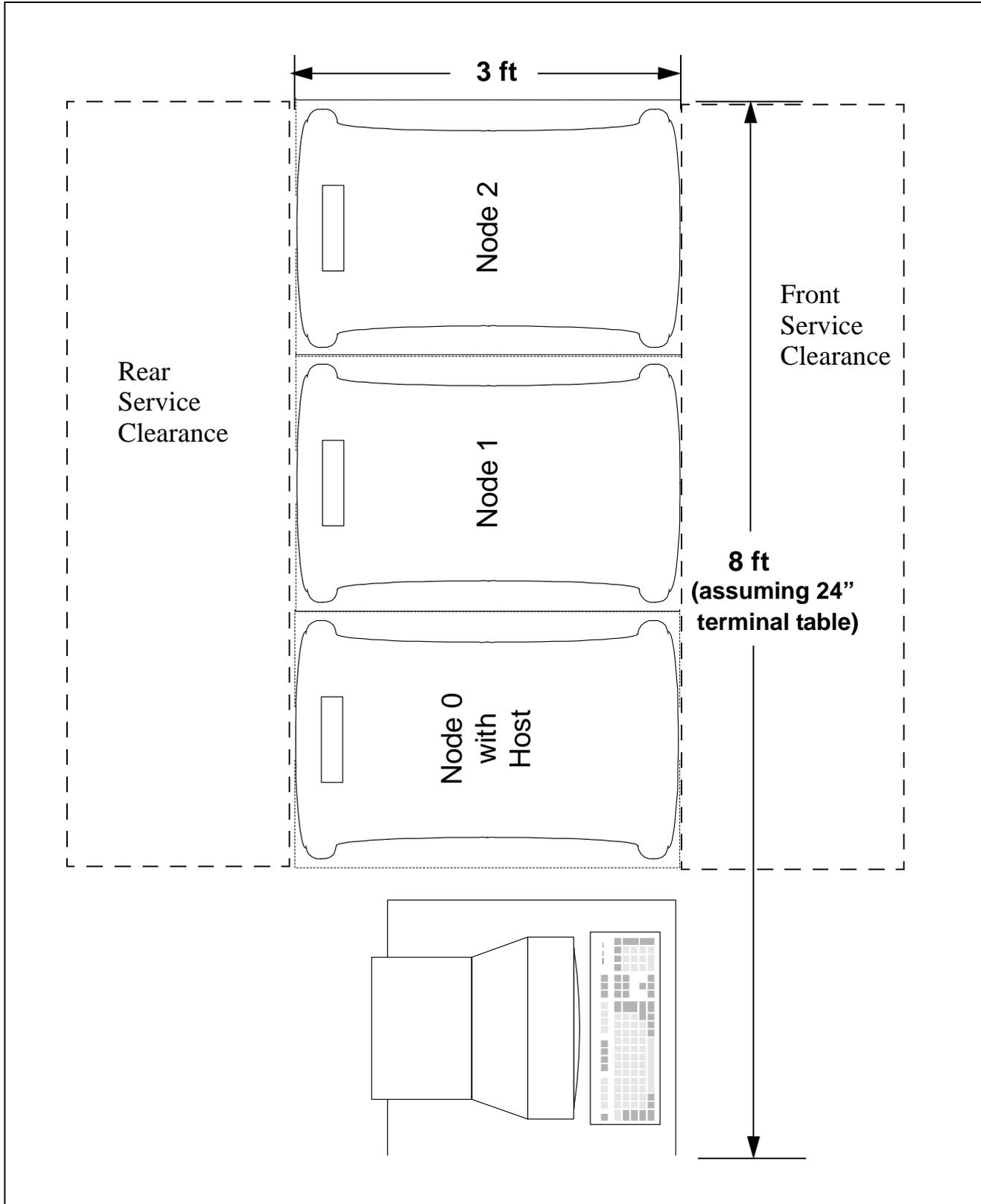
- ▲ Monitor, Keyboard, Mouse location (Desk / Terminal Table?)

**Note:** Extension cables may be required (not furnished) if monitor, keyboard and mouse are not immediately adjacent to node containing the host processor. (PC compatible VGA monitor, PS/2 keyboard and PS/2 mouse).

- ▲ Tape Drives or other 3rd party equipment?

### Delivery path for the system:

- ▲ doorways, steps, bumps, aisle widths
- ▲ shipping package for full stack:
  - 33.5"W x 46"D x 68.5"H
  - 1000 pounds



**3 Node M2000 Floor plan**

# Environment

## Temperature:

- ▲ 20 to 25 deg C recommended for best reliability
- ▲ 5 deg C to 40 deg C maximum operating range if altitude <7000 ft
- ▲ 5 deg C to 30 deg C if altitude is above 7000 ft

## Humidity:

- ▲ 40% to 50% relative humidity (non-condensing) recommended
- ▲ 20% to 80% relative humidity (non-condensing) allowable

Raised-floor computer room recommended for multi-node systems

## System Heat Output:

Number of HDDAs	Base node	Expansion node
1	1336 watts (4562 BTU/hr)	1046 watts (3572 BTU/hr)
2	2033 watts (6943 BTU/hr)	1743 watts (5952 BTU/hr)
3	2730 watts (9330 BTU/hr)	2440 watts (8340 BTU/hr)

Consult with the customer's facilities engineer or an HVAC (Heating, Ventilating and Air Conditioning) specialist to ensure the air conditioning will be able to maintain the ambient temperature within 68F to 77F with the added heat load of the system.

**Table 3. Electrical power requirements**

Number of HDDAs	Base node	Expansion node
1	1.336 KVA	1.046 KVA
2	2.033 KVA	1.743 KVA
3	2.73 KVA	2.44 KVA

Table 4 lists the electrical input specifications.

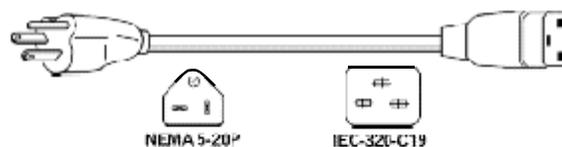
**Table 4. Electrical input specifications**

Input	Power Supply
Nominal input voltage range	120 VAC or 200–240 VAC
Operating input voltage range	108–132 VAC or 180–264 VAC
Current rating	12 A per 120V power cord 7A per 200-240 VAC power cord
Input service rating	20 A (120V) or 10A (200-240 V)
Frequency	50–60 ±3 Hz
Inrush current	60 A peak max per power cord (at 264 VAC)
Power factor	>.96 (115 VAC)
Electromagnetic Immunity	FCC and VDE Level A <span style="float: right;">Not verified for Alpha</span>

### In North America

For North American customers, the server is shipped with a NEMA 5-20, 120 V-20 amps.

Figure 4 shows the NEMA 5-20 power plug.



**Figure 4. NEMA 5-20 power plug**

## M2000 Electrical Requirements

# Electrical Site Prep

AC Power Requirements (System stacks):

120 VAC in US, Canada, Mexico

200-240 VAC outside North America (REQUIRED in Japan)

Electrical Outlets:

NEMA 5-20 Receptacles



5-20R



5-15R

Dedicated Branch Circuits rated 20 amps each:

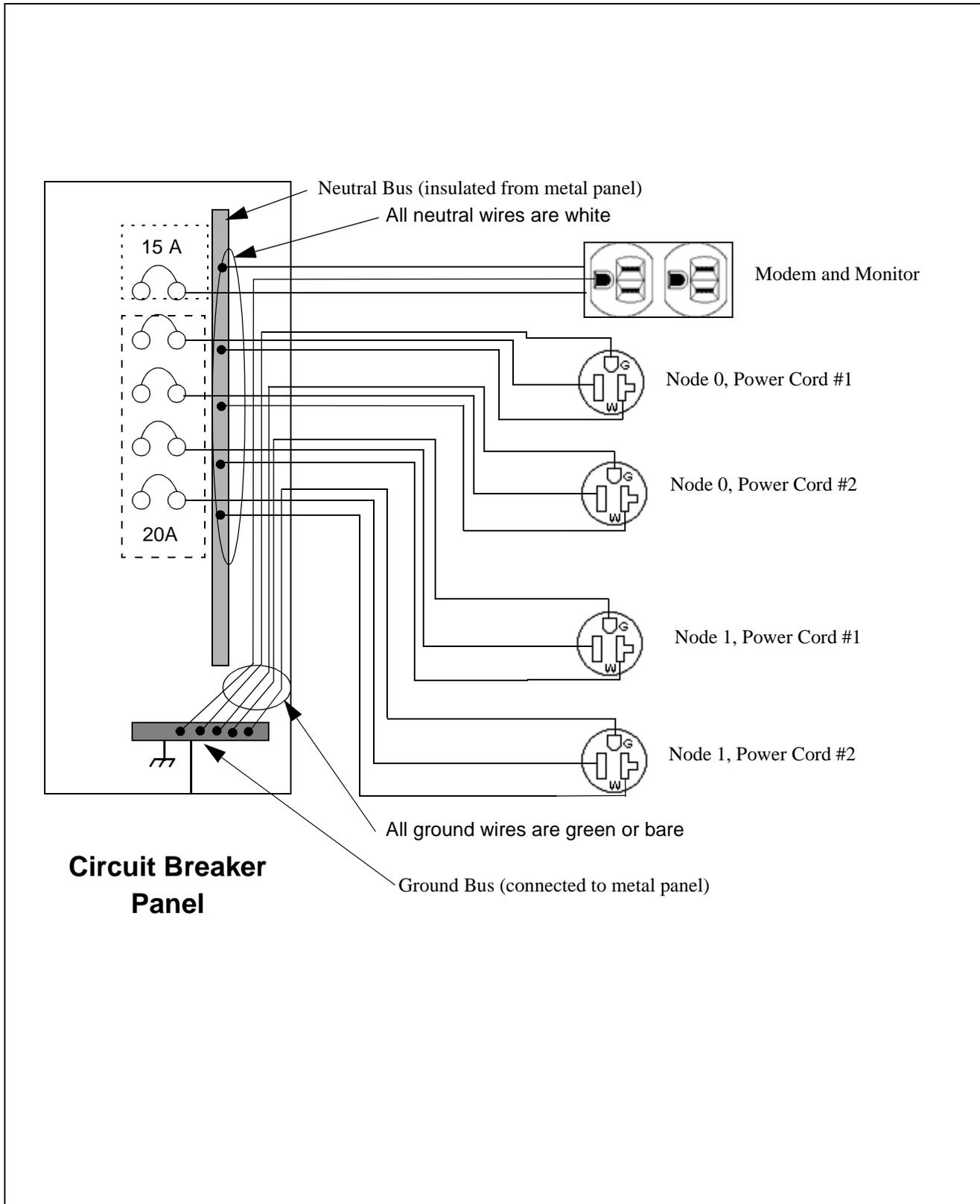
- ▲ 2 per node (most configurations)
- ▲ 1 per node for 1 HDDA (entry level config)

Plan for monitor and service modem AC power:

- ▲ Receptacle near console monitor location
- ▲ AC receptacle for modem power (plug-in transformer) within 6 inches of the cable opening at the base of the 1st node. You may need to provide an outlet strip.

Install analog phone line for service modem:

- ▲ RJ-11 phone jack at the base of the system
  - US/Canada Modem comes with 6 ft RJ-11 cord
  - 5 ft required internal to system stack
- ▲ May need to supply a long RJ-11 cord to reach to the phone jack



**Example Branch Circuit Wiring**

# Guidelines for Electrical Power

Plan to be successful rather than hope it works.

(Hope Is Not A Method: What Business Leaders Can Learn from America's Army, by Gen. Gordon R. Sullivan).

## Plan the electrical installation:

**Install electrical receptacles where they will be needed.**

**Dedicated branch circuits for the system.**

▲ Shared circuits OK for monitor, modem, other small peripherals.

**ALL receptacles for the system and peripherals originate from the **SAME** circuit breaker panel.**

▲ Don't use wall convenience receptacles for system equipment

**Individual, dedicated, copper ground wire for each branch circuit:**

▲ Green insulated or bare copper wire (not aluminum)

▲ In addition to the conduit/raceway metallic bonding

▲ Run with the AC wires, internal to the conduit or raceway

▲ From the same ground bus, in the same circuit breaker panel

▲ And in compliance with local & national electrical codes

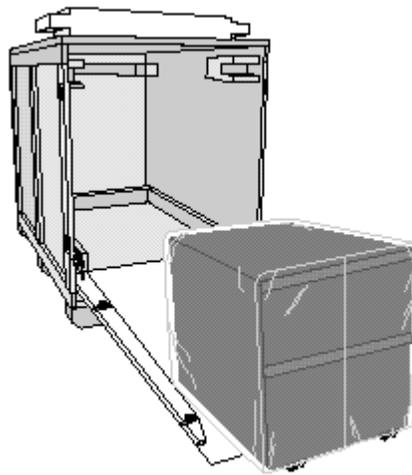


Figure 1-5. Rolling the cabinet down the ramp

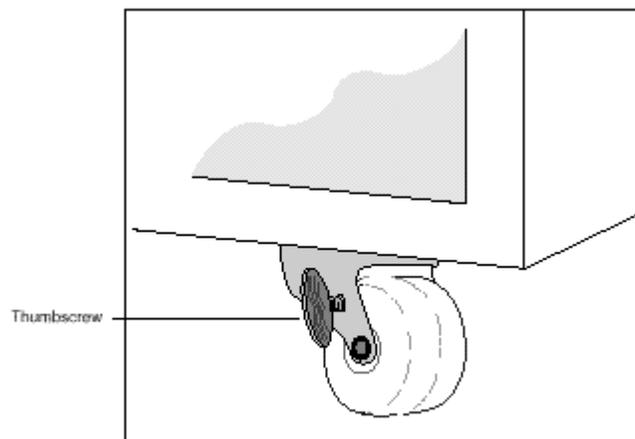


Figure 2-1. Locking the casters

## Physical Installation

# Physical Installation Notes:

## Unpack

Each stack shipped fully assembled

Shipping package for full stack:

- 33.5”W x 46”D x 68.5”H
- 1000 pounds

## Setup

Locking Casters - No leveler feet

Floor mounting brackets available (“earthquake brackets”)

## Cable Up

Connect AC power cords to the pre-installed receptacles

▲ Establishes grounding for the system

Attach inter-cabinet cables (multi-node systems only)

▲ SCI and Environmental Monitor

Attach monitor, keyboard, mouse

Attach modem

Attach external peripherals (if any)

Connect to networks

## Power On

Turn on each Power Shelf circuit breaker switch (rear)

Turn on Host power switch (front of host)

