



C Series Controllers

C2000 and C4000 Hardware Quick Start Guide

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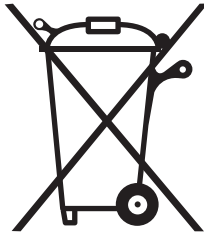
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Juniper Networks is committed to environmentally responsible behavior. As part of this commitment, we work to comply with environmental standards such as the European Union's *Waste Electrical and Electronic Equipment (WEEE) Directive* and *Restriction of Hazardous Substances (RoHS) Directive*.

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In accordance with Article 11(2) of Directive 2002/96/EC (WEEE), products put on the market after 13 August 2005 are marked with the following symbol or include it in their documentation: a crossed-out wheeled waste bin with a bar beneath.



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Quick Start Overview

This guide is an abridged version of the C Series hardware installation documentation and is intended for experienced installers who want to expedite the installation process. Follow the steps in this guide to get your C Series Controller up and running quickly.

1. Preparing the Site

Ensure that your installation site meets the requirements in Table 1.

Table 1: C2000 Model and C4000 Model Specifications

Category	Specification
Temperature	<ul style="list-style-type: none"> ■ Operating: 50° to 104°F (10° to 40°C) ■ Storage: -40° to 158°F (-40° to 70°C)
Relative humidity	<ul style="list-style-type: none"> ■ Operating: 8% to 90% (noncondensing) ■ Storage: 5% to 95% (noncondensing)
Heat dissipation	<ul style="list-style-type: none"> ■ C2000 model—500 W, 1706 BTU/hour maximum ■ C4000 model—700 W, 2389 BTU/hour maximum
AC input	
Power required	<ul style="list-style-type: none"> ■ C2000 model <ul style="list-style-type: none"> ■ 90–132 VAC (115V nominal); 180–264 VAC (230V nominal) ■ C4000 model <ul style="list-style-type: none"> ■ 90–264 VAC
AC line frequency	<ul style="list-style-type: none"> ■ 47–63 Hz
Power	<ul style="list-style-type: none"> ■ C2000 model—500 W; C4000 model—700 W
DC input	
Voltage	<ul style="list-style-type: none"> ■ -36V to -75 VDC
Current	<ul style="list-style-type: none"> ■ -48 V nominal
Power	<ul style="list-style-type: none"> ■ 500 W (C2000 model)
Space requirements	<ul style="list-style-type: none"> ■ 3 feet (90 cm) behind system or rack. ■ Do not block air vents on front or back of the system.

To complete the installation of the router in a rack, you need:

- A Phillips screwdriver
- A utility knife
- Eight 10-32 x 3/8 Phillips screws (provided) for each model to be installed

For detailed installation guidelines and considerations, see *C2000 and C4000 Hardware Guide, Chapter 11, Installation Guidelines and Requirements*.

2. Installing the System

When installing the system on a table top or in any other freestanding mode, be sure to leave enough space around the system for adequate ventilation. Position the system with easy access to the connections that it needs for power, local communications, and remote communications.

For rack installation, we recommend that you use a standard EIA distribution rack. You can install the system using the front or mid-mount brackets.



WARNING: Three people are required to install the router in a rack: two to lift the system into position and one to screw it to the rack.

To install the system in the rack:

1. If you are installing the system with the mid-mount brackets, use the provided screws to attach the brackets to the chassis. Use one bracket on each side. (See Figure 1.)
2. With one person standing on the left side of the chassis and another standing on the right side, lift the router into the rack.
3. Position the router in its designated location in the equipment rack. Make sure the holes of the mounting brackets align evenly with the holes of the equipment rack on both sides.
4. Starting at the bottom of the system, secure the router in the equipment rack by using 10-32 x 3/8 Phillips screws.

Figure 1: C2000, Front Oblique View

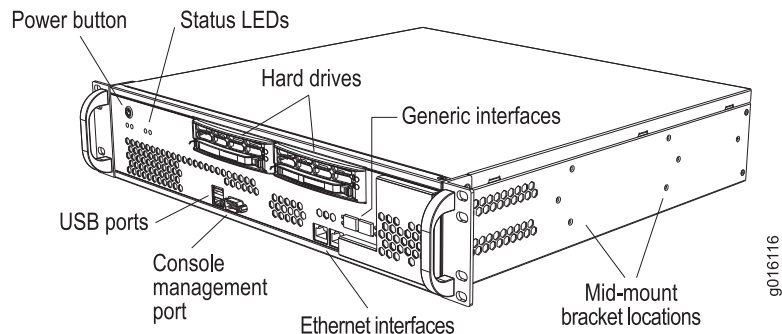
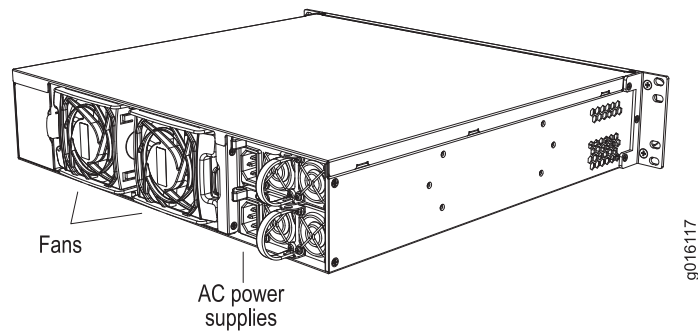
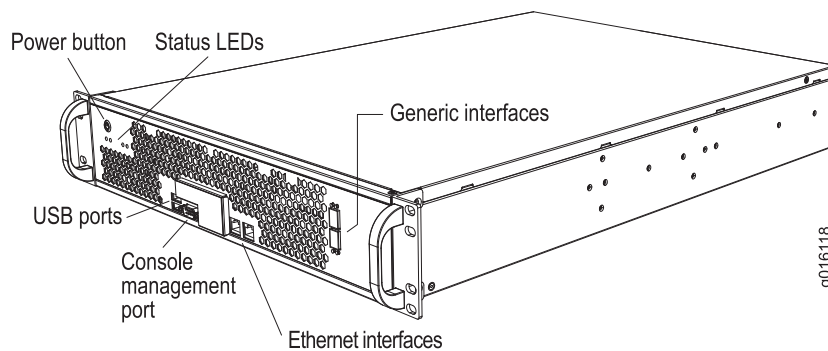
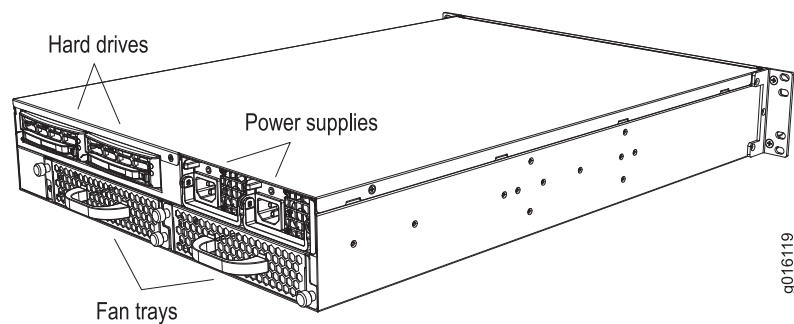


Figure 2: C2000, Rear Oblique View**Figure 3: C4000, Front Oblique View****Figure 4: C4000, Rear Oblique View**

3. Cabling the System

Before powering up the system, you must set up a management console. The console enables you to communicate with your system during the power-up process and to manage your system using the command-line interface (CLI).

When connecting a console directly to the system, use a cable appropriate for your terminal connector. The cable must have a female DB-9 connector to attach to the RS-232 port on the system.

Management Ports

The management section of the system has three ports for management access:

- Two 10/100Base-T Ethernet ports—Each accepts an RJ-45 (male) connector, providing an out-of-band connection for LAN access through a Telnet session, SSH, or SNMP.
- One RS-232 management port—Accepts a DB-9 (female) connector. This port provides direct CLI access from a console terminal.

Connecting to a Network

1. Insert an Ethernet cable (RJ-45) connector into the 10/100Base-T (RJ-45) port (Figure 1 and Figure 3) on the system until it clicks into place.
2. Connect the other end of the cable to the appropriate Ethernet network for an out-of-band connection.

Connecting to a Console Terminal

1. Insert a female DB-9 connector into the RS-232 port (Figure 1 and Figure 3), and tighten the screws.
2. Connect the other end of the cable to your terminal's serial port (VT100/ANSI).

Ethernet Interfaces

Port **ETH0** and **ETH1** on the C2000 model and the C4000 model accept RJ-45 10/100/1000Base-T Ethernet (copper) interfaces. Port **ETH2** and port **ETH3** on the C2000 model and the C4000 model accept SFPs. See Figure 1 and Figure 3.

Power

After you have correctly cabled the system, you can then attach the power cord. See Figure 2 and Figure 4. See *C2000 and C4000 Hardware Guide, Chapter 7, System Specifications* for complete power requirements for the system.

1. Insert the power cord into the AC power IEC receptacle.
2. Insert the other end of the power cord into an appropriate AC power source.



NOTE: To provide redundancy, do not terminate Power A and Power B leads at the same power source.

4. Powering On the C Series Controller

For specifications on the electrical requirements for the system, see *C2000 and C4000 Hardware Guide, Chapter 7, System Specifications*.

1. Verify that the power source is operational and turned on.
2. Inspect all power connections to the system.

3. Confirm that all connections are secure.
4. Press the PWR button.
5. Monitor the LEDs to verify that the system is booting properly.

When the prompt appears on the system console, you can log in and configure the system.

5. Setting Up Management Access and Logging In

You can monitor and manage the system through either of these methods:

- Console terminal—Connect a console (PC, Macintosh, or UNIX workstation) directly to the system's RS-232 serial port.
- Remote console—Connect 10/100Base-T port (ETH0) to an Ethernet network, and run SSH or Telnet from a remote console.

To communicate with the system, you must have a terminal emulation program running on your PC or Macintosh. You can use any terminal emulation program, such as HyperTerminal. A UNIX workstation can use the emulator TIP.

To log in to the system:

1. Start your terminal emulation program using the following settings:
 - Bits per second: 9600
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: none

2. Enter the username.

```
SRC-PE Release 3.2 [V.3.2.0.R-0]
localhost login:root
```

3. Enter the password.

```
Password:password
```

You are now logged in as root user.

4. To access the CLI, enter the cli command.

```
[root@localhost ~]# cli

--- SRC CLI 3.2 build CLI.R.3.2.0.000
(c) 2005-2009 Juniper Networks Inc.
root@localhost>
```

6. Configuring the Juniper Networks Database

Each C Series Controller contains a Juniper Networks database. The database stores SRC data, sample data, configuration information, and user profiles. You must enable the Juniper Networks database the first time you power on the system.

Typically, you run the database in standalone mode only in testing environments. In standalone mode, the database does not communicate with other Juniper Networks databases; there is no data distribution and no redundancy.

In the following example, a standalone database is enabled. For more information about community mode, see *SRC PE Getting Starting Guide, Chapter 19, Managing the Juniper Networks Database (SRC CLI)*.

To enable a Juniper Networks database to run in standalone mode:

1. From configuration mode, access the configuration statement that configures the Juniper Networks database.

```
user@host# edit system ldap server
```

2. Enable standalone mode.

```
[edit system ldap server]
user@host# set stand-alone
```

7. Configuring Hostname and Domain Parameters

To set hostname and domain parameters:

1. Enter configuration mode.

```
root@host> edit
```

2. Configure the hostname.

```
[edit]
root@host# set system host-name host-name
```

For example:

```
[edit]
root@host# set system host-name my-hostname
```

3. Configure either a list of domain names to search, or create the domain name. We recommend configuring a list of domain names to search.

To configure a list of domain names to search:

```
[edit]
root@host# set system domain-search [domain-name1, domain-name2, ...]
```

For example:

```
[edit]
```



```
root@host# set system domain-search [my-domain.juniper.net
domain.juniper2.net]
```

To configure the domain name:

```
[edit]
root@host# set system domain-name domain-name
```

For example:

```
[edit]
root@host# set system domain-name my-domain.juniper.net
```

8. Configuring the System for Remote Access

To allow remote access to the system, you must configure the generic interfaces. You can specify an IP address with mask or a broadcast address with mask for an interface. For more information, see *SRC PE Getting Starting Guide, Chapter 7, Configuring Remote Access to a C Series Controller (SRC CLI)*.

To configure the generic interfaces:

1. From configuration mode, access the configuration statement that configures the interface.

```
user@host# edit interfaces eth0
```

2. Specify the unit, family, and IP address for the interface.

```
[edit interfaces eth0]
user@host# set unit number family inet address address
```

For example, to configure an interface with only an IP address:

```
[edit interfaces eth0]
user@host# set unit 0 family inet address 192.2.0.10/24
```

3. (Optional) Specify the broadcast address for the interface.

```
[edit interfaces eth0]
user@host# set unit number family inet broadcast broadcast
```

For example, to configure an interface with only a broadcast address:

```
[edit interfaces eth0]
user@host# set unit 0 family inet broadcast 192.2.0.255
```

4. Verify the interface configuration.

```
[edit interfaces eth0]
user@host# show
unit 0 {
  family {
    inet {
      broadcast 192.2.0.255;
    }
  }
}
```

9. Configuring the System to Accept SSH and Telnet Connections

To configure the system to accept SSH connections:

1. From configuration mode, access the `[edit system services ssh]` hierarchy level.
2. (Optional) Specify whether or not to allow root login through SSH.

```
[edit system services ssh]
user@host> set root-login (allow | deny | deny-password)
```

where:

- `allow`—Allow users to log in to the C Series Controller as root through SSH.
- `deny`—Disable users from logging in to the system as root through SSH.
- `deny-password`—Allow users to log in to the system as root through SSH when the authentication method (for example, RSA authentication) does not require a password. (Default)

To configure the system to accept Telnet connections:

- In edit mode, type the following command.

```
[edit]
user@host# set system services telnet
```

10. Adding an Admin User Account

Although `root` access is used for initial configuration of the system, user accounts are used to enter commands and statements at the CLI. Therefore, you must set up an admin account to allow further configuration. You can use a built-in class, such as `super-user`.

To configure an account for an administrative user:

1. Create an account for an administrative user.

```
[edit]
user@host # edit system login user user
```

For example:

```
[edit]
user@host # edit system login user myadmin
```

2. Set the class for the administrative user to the login class that you created.

```
[edit system login user myadmin]
user@host # set class class
```

For example:

```
[edit system login user myadmin]
user@host # set class super-user
```

3. Specify the name of the administrative user.

```
[edit system login user myadmin]
user@host # set full-name "John Doe"
```

4. Set the CLI editing level to expert.

```
[edit system login user myadmin]
user@host# set level expert
```

5. (Optional) Specify that a space be used for command completion.

```
[edit system login user myadmin]
user@host # set complete-on-space on
```

6. Verify that the configuration for the administrative user is correct.

```
[edit system login user myadmin]
user@host# show
class super-user;
full-name "John Doe";
uid 506;
gid 100;
level expert;
complete-on-space on;
```

7. Set the password of the user.

```
[edit]
user@host# edit system login user myadmin authentication
[edit system login user myadmin authentication]
user@host# set plain-text-password
```

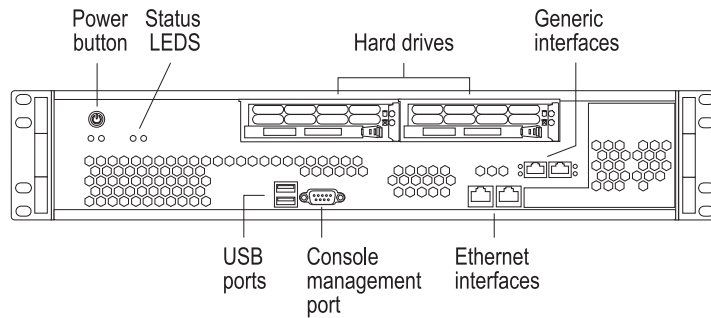
Troubleshooting

If you encounter a system problem, you can open a support case with the Case Manager link at <http://www.juniper.net/cm/> or call 1-888-314-JTAC (toll-free in the USA, Canada, and Mexico). For international or direct-dial options, see <http://www.juniper.net/support/requesting-support.html>.

Configuring and Operating the C Series Controller

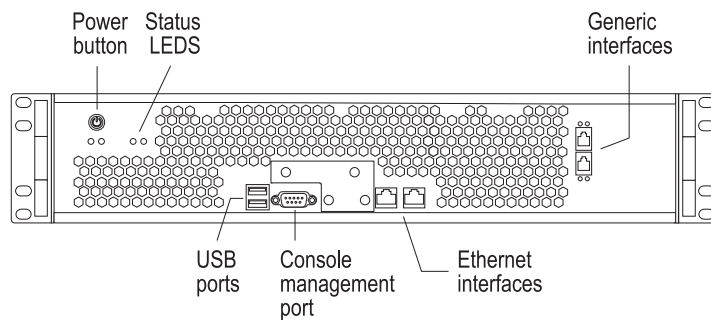
You are now ready to configure your system. See the *C2000 and C4000 Hardware Guide* and the *SRX PE Getting Started User Guide* for more information about using the C Series Controller.

Figure 5: C2000, Front View



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Figure 6: C4000, Front View



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Obtaining Documentation

To obtain the most current version of all Juniper Networks technical documentation, see the products documentation page on the Juniper Networks Web site at <http://www.juniper.net/>.

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