



Commander

Installation and Operations Manual

**Instructions**

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**Dangerous Voltage**

This symbol is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

**Protective Grounding Terminal**

This symbol indicates a terminal that must be connected to earth ground prior to making any other connections to the equipment.

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301-0451-3 Rev. E (011711)

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Reno, Nevada 89521 USA

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Chapter 1: Introduction

Quick Start Guide

The following instructions will help you quickly install and configure your Commander for use on your network. For detailed information on each step, go to the page number listed to the right.

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Supported Devices

The PT49 Commander is supported by the following products:

- PTXL-xxxx-x-xx
- PT45-H016-x-xx
- -48VDC, XLS Series

Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8:00 AM to 5:00 PM, Monday-Friday, Pacific Time.

Server Technology, Inc.

1040 Sandhill Drive

Reno, Nevada 89521 USA

Tel: 775.284.2000

Fax: 775.284.2065

Web: www.servertech.com

Email: support@servertech.com

Equipment Overview

1. The power inlet connects the Commander to the electrical power source.
2. RJ12 Pass-Thru console communication ports.
3. One DB9 Modem connector for connection to an external modem.
4. One DB9 Link connector for connection to a supported Sentry device.

A number is printed next to each Pass-Thru console communication port. These numbers may be used in commands that require a name.

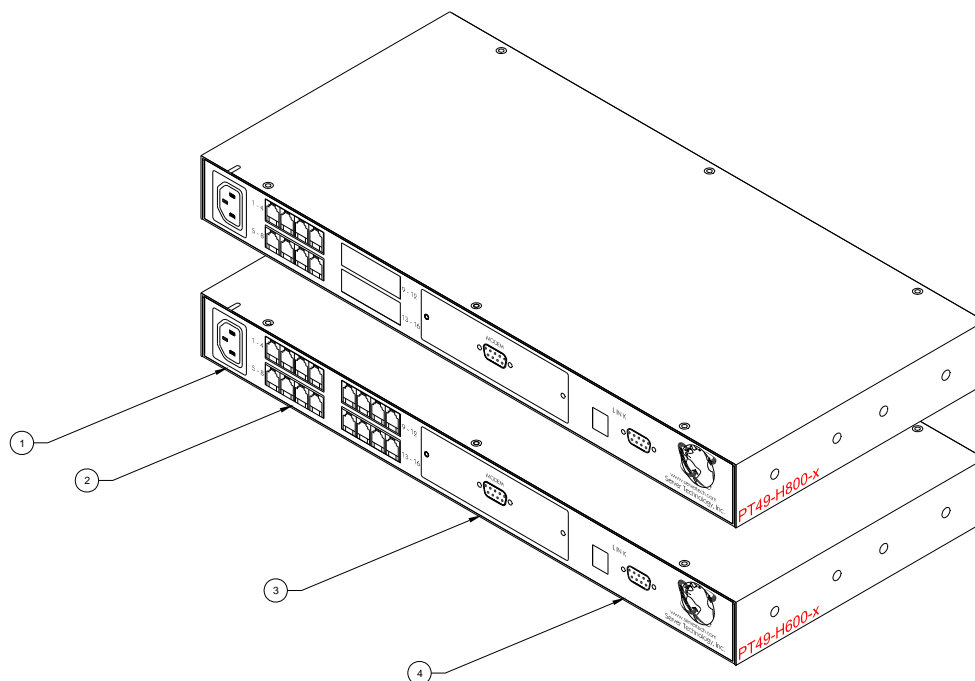


Figure 1. Sentry PT49 Commander Views

Chapter 2: Installation

Before installing your Commander, refer to the following lists to ensure that you have all the items shipped with the unit as well as all other items required for proper installation.

Standard Accessories



- Mounting bracket hardware: two mounting brackets and four screws
- DB9M to DB9F straight-thru cable
- DB9F to DB25M cable (for connection to an external modem)
- Pass-Thru cable/adaptor kit (*PT49-H800 – qty 2, PT49-H600 - qty 4*)
 - Four RJ12 to RJ12 crossover cables
 - RJ12 to DB25F adapter
 - RJ12 to DB25M adapter
 - RJ12 to DB9F adapter
 - RJ12 to DB9M adapter
- Input power cord retention clip
- Separate power input cord

Additional Required Items

- Phillip screwdriver
- Screws, washers and nuts to attach the Commander to your rack

Safety Precautions

This section contains important safety and regulatory information that should be reviewed before installing and using the Commander. For input and output current ratings, see *Power Ratings* on page 13.

	Only for installation and use in a Service Access Location in accordance with the following installation and use instructions.	<i>Destiné à l'installation et l'utilisation dans le cadre de Service Access Location selon les instructions d'installation et d'utilisation.</i>	Nur für Installation und Gebrauch an Anschlusszugriffspunkten gemäß der folgenden Installations- und Gebrauchsanweisungen.
	The plug on the power supply cord shall be installed near the equipment and shall be easily accessible.	<i>La prise sur le cordon d'alimentation sera installée près de l'équipement et sera facilement disponible.</i>	Der Stecker des Netzkabels muss in der Nähe der Ausrüstung installiert werden und leicht zugänglich sein.
	Always disconnect the power supply cord before opening to avoid electrical shock.	<i>Toujours déconnecter le cordon d'alimentation avant d'ouvrir pour éviter un choc électrique.</i>	Ziehen Sie vor dem Öffnen immer das Netzkabel heraus, um die Gefahr eines elektrischen Schlags zu vermeiden.
	WARNING! High leakage current! Earth connection is essential before connecting supply!	ATTENTION ! <i>Haut fuite très possible ! Une connection de masse est essentielle avant de connecter l'alimentation !</i>	ACHTUNG! Hoher Verluststrom! Ein Erdungsanschluss ist vor dem Einschalten der Stromzufuhr erforderlich!

Mounting

1. Select the appropriate bracket mounting points for proper mounting depth within the rack.
2. Attach the brackets to these mounting points with two screws for each bracket.
3. Install the enclosure into your rack, using the slots in each bracket. The slots allow about 1/4 inch of horizontal adaptability to align with the mounting holes of your rack.

NOTE: A mounting bracket kit for 23" wide racks or cabinets is available. Contact your Server Technology Sales Representative for more information.

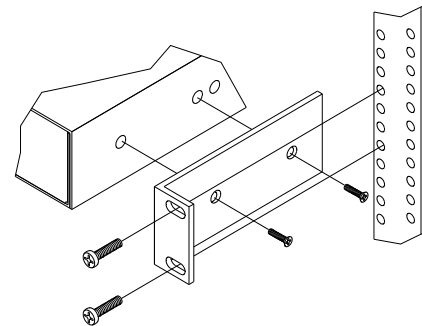


Figure 1. Mounting

Connecting to the Power Source

The input power cord must first be attached to the unit before connecting the unit to the power source.

To attach the power cord to the unit:

Install the retention clip; Pull the prongs out slightly and insert them into holes on the Commander, then insert the device's power cord and snap the clip over the cord.

To connect to the power source:

Plug the male end of the power cord into the AC power source.

Connecting to the Sentry

Connect the PT49 Commander to the Sentry with the provided DB9 straight-thru cable at the at the Modem port on the Sentry.

NOTE: A restart of the supporting Sentry is required after connection of the PT49 Commander.

Connecting Devices

Connect devices to the Pass-Thru ports. See *Data Connections* in Chapter 4: Appendices for more information on the Pass-Thru port.

Connecting to the Commander

Modem port

The Commander is equipped with a DB9 male Modem serial port for connection to an external modem using the supplied DB9 female to DB25 male serial cable. See *Data Connections* in Chapter 4: Appendices for more information on the Modem port.

NOTE: Commander's with the optional integrated Global Security Modem will have an RJ12 Telco port in lieu of above for connection to a standard telephone line.

Chapter 3: Operations

Configuration and operation of the PT49 Commander is performed and controlled through the standard Sentry interface and command structure. See the Installation and Operations Manual of your supported device for specific configuration and operational requirements and commands.

HTML Interface

The HTML interface is constructed of three major components: the System Location bar, the User/Navigation bar and the Control Screen. The System Location bar displays the Commander's location and IP address as well as the current Control Screen title. The User/Navigation bar displays the current user and privilege level and provides access to all HTML pages. And the Control Screen is used to display current data and allow changes to outlet states or system configuration.

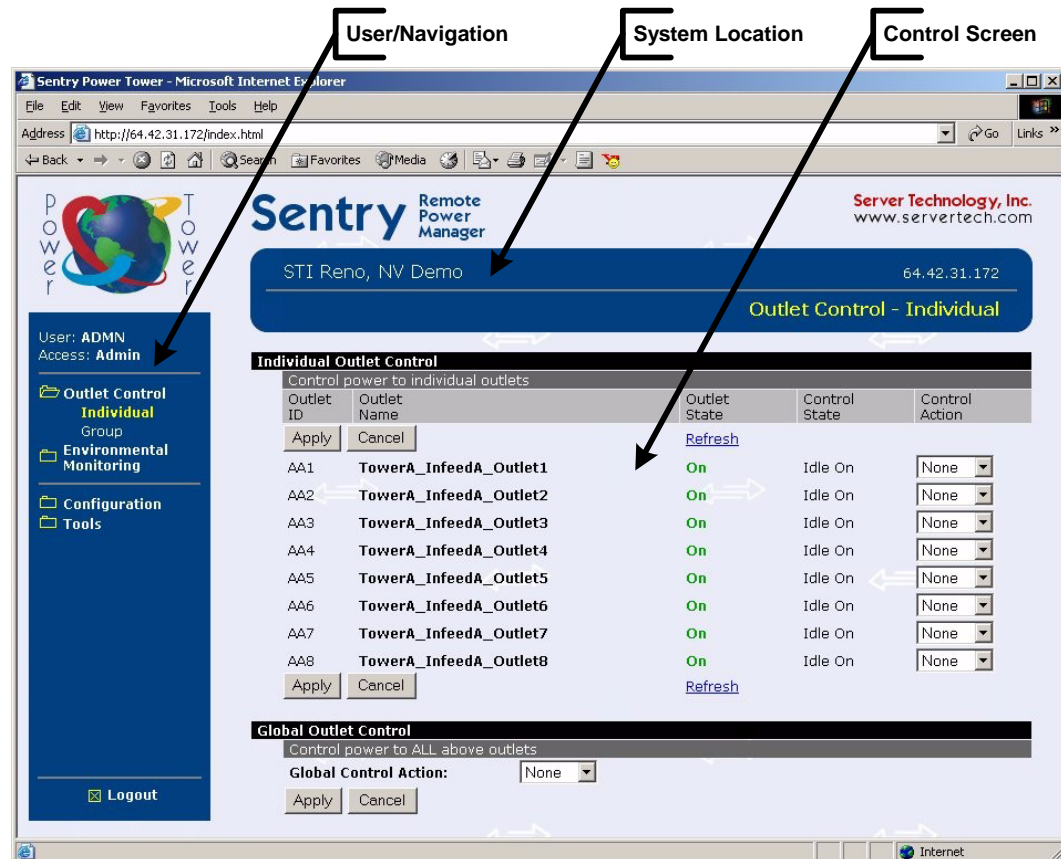


Figure 3.1 Example HTML page

Configuration

The Configuration section offers access to all configuration options for all serial/Pass-Thru ports. This section is available to administrative level users only.

Serial Ports

The Serial Ports configuration page is used for maintenance of all serial/Pass-Thru ports.

NOTE: Pass-Thru connections may only be initiated from the command line interface via a direct serial or Telnet session.

Creating a descriptive Pass-Thru port name:

Click on the **Edit** link in the Action column next to the port to be configured.

On the subsequent Serial Port Edit page, enter the descriptive name. Up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal, spaces are not allowed) are allowed. Press **Apply**.

NOTE: Port names '1' thru '64' are reserved system names and may not be used.

Setting the data-rate for all serial/Pass-Thru ports:

Select the serial/Pass-Thru port data-rate from the drop-down menu and press **Apply**.

Enabling or disabling serial/Pass-Thru port active signal checking:

Click on the **Edit** link in the Action column next to the port to be configured.

On the subsequent Serial Port Edit page, select **On** or **Off** from the DSR Check drop-down menu and press **Apply**.

Enabling or disabling modem initialization strings:

By default, the Sentry assumes an external modem is attached to the Modem port and sends initialization strings to that modem as necessary. The Commander series sends the initialization strings under the following conditions:

- System start – DSR is high and DCD is low
- Normal operations – If DSR transitions from low to high and DCD is low
- Normal operations – After a session initiated from the Modem port ends
- Normal operations – After a Pass-Thru connection to the Modem port is disconnected

Click on the **Edit** link in the Modem port Action column.

On the subsequent Serial Port Edit page, select **On** or **Off** from the Modem Initialization Strings drop-down menu and press **Apply**.

Editing modem initialization strings:

Click on the **Edit** link in the Modem port Action column.

On the subsequent Serial Port Edit page, enter the initialization string in the appropriate field and press **Apply**.

The Init1 and Init2 strings may be up to 48 characters. The Attention and Hang-up strings may be up to 16 characters.

Predefined Modem Initialization Strings

String Type	String	Description
Init 1	AT	Gets modem attention
Init 2	AT E0 Q1 S0=1 S2=64 S12=50 &C1 &D2	Initializes default settings required
Attention	@@@	Switches the modem to command mode
Hang-up	ATH	Forces a hang-up of an active connection

NOTE: The Commander does NOT support *variable data-rate mode*. The modem operating mode must be set to *fixed data-rate mode* to avoid the data-rate being changed after initialization.

The modem manual must be referred to as the command(s) required to set the configuration to *fixed data-rate mode* vary significantly from manufacturer to manufacturer. The modem should be configured directly from a PC using a terminal program and the command &W be used to save the new configuration to memory and set it to default.

Tools

The Tools section contains access to rebooting the unit, uploading new firmware as well as resetting the unit to factory defaults. This section is available to administrative level users only.

Restart

Performing a warm boot:

Select the **Restart** from the Action drop-down menu and press **Apply**.

NOTE: System user/outlet/group configuration or outlet states are NOT changed or reset with this command.

Command Line Interface

You may enter commands in any combination of uppercase and lowercase. You must enter all command characters correctly; there are no command abbreviations. There are two types of commands: operations and administration. A user must have administrative privileges to use the administration commands. The following tables list and briefly describe each command.

Operations Command Summary

Command	Description
Connect	Connects to a serial/Pass-Thru port
List Ports	Lists all accessible serial/Pass-Thru ports for the current user

Administrative Command Summary

Add Porttouser	Grants a user access to one or all serial/Pass-Thru ports
Delete Portfromuser	Removes access to one or all serial/Pass-Thru ports
List User	Displays all accessible outlets/groups/ports for a user
Set Modem Inits	Enables or disables Modem port initialization strings
Set Modem	Specifies Modem port initialization strings
Set Port Name	Specifies a descriptive field for a serial/Pass-Thru port
Set Port Dsrchk	Sets the DSR active signal checking for a serial/Pass-Thru port
Set Port Speed	Set the connection speed for all serial/Pass-Thru ports
Show Ports	Displays serial/Pass-Thru port configuration information

To display the names of commands that you may execute:

At the command prompt, press **Enter**. A list of valid commands for the current user appears.

Operations Commands

Serial/Pass-Thru Port Control

Displaying accessible serial/Pass-Thru ports

The List Ports command displays accessible serial/Pass-Thru ports for the current user.

To display accessible serial/Pass-Thru ports:

At the Sentry: prompt, type **list ports** and press **Enter**.

Example

The follow command displays all accessible serial/Pass-Thru ports for the current user:

```
Sentry: list ports<Enter>
      Port      Port
      ID        Name
      Console   CONSOLE
      Modem     MODEM
      1         router1
```

Connecting to a serial device

The Connect command allows Pass-Thru serial connection to devices attached to the standard serial Modem port or a Pass-Thru port.

To connect to a serial device:

At the Sentry: prompt, type **connect**, followed by the serial/Pass-Thru port name and press **Enter**.

Examples

The follow command connects to the serial device connected to the Pass-Thru port 1:

```
Sentry: connect 1<Enter>
```

The follow command connects to the serial device connected to the Pass-Thru port named router1:

```
Sentry: connect router1<Enter>
```

To disconnect from a serial device:

Type **!*break** and press **Enter**.

Administration Commands

Administration commands may only be issued by a user with administrative privileges, such as the predefined Admin user or another user who has been granted administrative privileges with the Set User Adminpriv command.

User Administration

Adding serial/Pass-Thru port access to a user

The Add PortToUser command grants a user access to a serial/Pass-Thru port. To grant access for more than one port, you must use multiple Add PortToUser commands.

To grant serial/Pass-Thru port access to a user:

At the Sentry: prompt, type **add porttouser**, optionally followed by a Port name and a username. Press **Enter**.

Examples

The following commands grants to user JaneDoe access to the Pass-Thru port Router1:

```
Sentry:add porttouser Router1 janedoe<Enter>
```

Deleting serial/Pass-Thru port access for a user

The Delete PortFromUser command removes a user's access to a serial/Pass-Thru port. You cannot remove access to any serial/Pass-Thru port for an administrative level user.

To delete serial/Pass-Thru port access for a user:

At the Sentry: prompt, type **delete portfromuser**, optionally followed by a Port name and a username. Press **Enter**.

Displaying user outlet, group and serial/Pass-Thru port access

The List User command displays all accessible outlets, groups and serial/Pass-Thru ports for a user.

To display user outlet, group and serial/Pass-Thru port access:

At the Sentry: prompt, type **list user**, optionally followed by a username. Press **Enter**.

Example

The following command displays information about the user JaneDoe:

```
Sentry: list user janedoe<Enter>
Username: JANEDOE
Outlet   Outlet
ID       Name
.A1      DataServer_1
.A2      WebServer_1
Groups:
  ServerGroup_1
  ServerGroup_2
More (Y/es N/o): Y
Ports:
Port     Port
ID       Name
Console  Console
Modem    Modem
1        router1
```

JaneDoe may access the following outlets, groups and serial ports: outlet A1 which has a descriptive name of DataServer_1, outlet A2 which has a descriptive name of WebServer_1, group ServerGroup_1 group ServerGroup_2, Console serial port, Modem serial port and Pass-Thru port 1 which has a descriptive name of router1.

Serial/Pass-Thru Port Administration

Creating a descriptive Pass-Thru port name

The Set Port Name command assigns a descriptive name to a Pass-Thru port. You may use this name in commands that require a port name as an alternative to using the port's absolute name.

To create an port name:

At the Sentry: prompt, type **set port name**, followed by the absolute outlet name and a descriptive name of up to 24 alphanumeric and other typeable characters (ASCII 33 to 126 decimal - spaces are not allowed). Port names are not case sensitive. Press **Enter**.

NOTE: Port names '1' thru '64' are reserved system names and may not be used.

Example

The following command adds the descriptive name Router1 to port 1:

```
Sentry: set port name 1 Router1<Enter>
```

Setting the serial/Pass-Thru ports data-rate

The Set Port Speed command sets the default data-rate for all serial/Pass-Thru ports. Valid data-rates are 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200.

To set the serial/Pass-Thru port data-rate:

At the Sentry: prompt, type **set port speed**, follow by the data-rate and press **Enter**.

Example

The following command sets the serial/Pass-Thru ports data-rate to 38400 BPS:

```
Sentry: set port speed 38400<Enter>
```

Enabling or disabling active signal checking for serial/Pass-Thru connections

The Set Port Dsrchk command enables or disables active signal checking for serial/Pass-Thru connections to devices attached to any of the available serial ports.

To enable or disable active signal checking for serial connections:

At the Sentry: prompt, type **set port dsrchk**, followed by serial port name, **on** or **off**, and press **Enter**, or Type **set port dsrchk all, on** or **off**, and press **Enter**.

Examples

The following command disables active signal checking for the Modem serial port:

```
Sentry: set port dsrchk modem off<Enter>
```

The following command enables active signal checking for Pass-Thru port 1:

```
Sentry: set port dsrchk 1 on<Enter>
```

The following command disables active signal checking for all serial/Pass-Thru ports:

```
Sentry: set port dsrchk all off<Enter>
```

Enabling or disabling modem initialization strings

The Set Modem command is used to enable or disable these initialization strings. For more information on modem initialization strings, see *Enabling or disabling modem initialization strings*: on page 8.

Predefined initializations strings are enabled by default.

To enable or disable the modem initialization strings:

At the Sentry: prompt, type **set modem inits**, followed by **on** or **off**, and press **Enter**.

Example

The following command disables the modem initialization strings for the Modem serial port:

```
Sentry: set modem inits off<Enter>
```

Editing modem initialization strings

The predefined modem initialization strings may be edited by an administrative user. The Init 1 and Init 2 strings may be up to 48 characters each and the Attention and Hang-up strings may be up to 16 characters.

For more information on the predefined initialization strings, see *Editing modem initialization strings*: on page 8.

Editing modem initialization strings:

At the Sentry: prompt, type **set modem**, followed by **attn**, **hangup**, **init1**, or **init 2** and the initialization string. Press **Enter**.

Examples

The following command set the Init 2 string to 'AT E0 Q1 S0=3 S2=64 S12=50 &C1 &D2':

```
Sentry: set modem init2 AT E0 Q1 S0=3 S2=64 S12=50 &C1 &D2<Enter>
```

Displaying serial/Pass-Thru port information

The Show Ports command displays information about all serial/Pass-Thru ports. This information includes:

- Serial/Pass-Thru port data rate
- Modem port initialization strings
- Descriptive port name, if applicable
- DSR signal checking settings

To display serial port information:

At the Sentry: prompt, type **show ports** and press **Enter**.

Example

The following command displays all serial/Pass-Thru port information:

```
Sentry: show ports<Enter>
Serial Port Configuration
  ALL Ports:
    Baud Rate: 38400
  Console Port:
    DSR Check: ON
  Modem Port:
    DSR Check: ON
  Initializations: ON
    Init String 1:  AT
    Init String 2:  AT E0 Q1 S0=1 S2=64 S12=50 &C1 &D2
    Attention String:  @@@
    Hang-Up String:  ATH
More (Y/es N/o): Y
Pass-Through Ports
  Port    Port    DSR
  ID      Name      Check
  1       Router1   ON
  2       Port_2   OFF
  3       Port_3   ON
  4       Port_4   ON
  5       Port_5   ON
  6       Port_6   ON
  7       Port_7   ON
  8       Port_8   ON
  9       Port_9   ON
  10      Port_10  ON
  11      Port_11  ON
  12      Port_12  ON
  13      Port_13  ON
  14      Port_14  ON
  15      Port_15  ON
  16      Port_16  ON
```

Chapter 4: Appendices

Appendix A: Technical Specifications

Standard Models

Model	Voltage	Inlet*	Pass-Thru Ports
PT49-H800-1-07	100-120V, 50/60Hz	IEC 60320/C14	8
PT49-H600-1-07	100-120V, 50/60Hz	IEC 60320/C14	16
PT49-H800-2-07	208-240V, 50/60Hz	IEC 60320/C14	8
PT49-H600-2-07	208-240V, 50/60Hz	IEC 60320/C14	16

* Standard supplied power input cords (Contact your account representative for other options):

1. IEC 60320/C13 to NEMA L5-15P for 100-120V units.
2. IEC 60320/C13 to IEC60320/C14 for 208-240V units.

Power Ratings

Model <i>Modele</i> Modell	Input Current Ratings ₁ <i>L'indice du courant d'entrée</i> Eingangsstromstärke		Output Current Ratings <i>L'indice du courant de sortie</i> Ausgangsstromstärke			
	Voltage <i>Tension</i> Spannung	Current <i>Courant</i> Strom	Voltage <i>Tension</i> Spannung	Outlet <i>Prise</i> Anschlussstelle		Total <i>Total</i> Insgesamt
PT49-Hx00-1-07	100-120V 50/60Hz	0.25	n/a	n/a		n/a
PT49-Hx00-2-07	208-240V 60Hz	0.12	n/a	n/a		n/a
	230V 50/60Hz	0.12	n/a	n/a		n/a

¹ All current ratings are in amperes. *Tous les indices de courant sont en ampères.* Alle Angaben der Stromstärke erfolgen in Ampere.

Physical Specifications

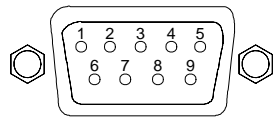
	Operating	Storage
Temperature	32° to 104° F (0° to 40° C)	-40° to 185° F (-40° to 85° C)
Elevation(above MSL)	0 to 10,000 ft (0 to 3000m)	0 to 50,000 ft (0 to 15000m)
Relative Humidity	10 to 90%, non-condensing	10 to 90%, non-condensing
	Dimensions (H x W x D)	Weight
PT49-Hx00	1.75 x 17.0 x 7.0 in. (45 x 432 x 178 mm)	8.2 lbs (3.7 kg)

Data Connections

Modem Port

Commanders without an integrated modem are equipped with a DB9-male RS-232C DTE Modem serial port. This connector is typically used to connect to an external modem, but may also be used to connect to any RS-232C device. A 9-pin female to 25-pin male cable is included for connecting the Sentry RPM to an external modem.

Pin	DTE Signal Name		Input/Output
1	Data Carrier Detect	DCD	Input
2	Receive Data	RD	Input
3	Transmit Data	TD	Output
4	Data Terminal Ready	DTR	Output
5	Signal Ground		
6	Data Set Ready	DSR	Input
7	Request to Send	RTS	Output
8	Clear to Send	CTS	Input



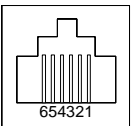
NOTE: To connect to a PC serial port, a null-modem adapter and a female-to-female gender changer are required in addition to the included cable.

Pass-Thru Port

The Commander is equipped with up to sixteen RJ12 DTE Pass-Thru ports for connection to serial devices. RJ12 crossover cables are provided for connection along with adapters for connection to standard RS-232C 9 and 25 pin, DTE and DCE serial ports.

For information on additional available adapters for non-standard applications, please review [Data & ShutDown Adapters, Cables & Kits](#) on the Server Technology website - Tech Library, Technical Notes.

Pin	DTE Signal Name		Input/Output
1	Signal Ground		
2	Data Set Ready	DSR	Input
3	Data Receive		Input
4	Data Transmit		Output
5	Data Terminal Ready	DTR	Output
6	Signal Ground		



Regulatory Compliance

Product Safety

Units have been safety tested and certified to the following standards:

- USA/Canada UL 60950:2003 and CAN/CSA 22.2 No. 60950-1-03
- European Union EN60950-1:2001

This product is also designed for Norwegian IT power system with phase-to phase voltage 230V.

USA Notification

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

Canadian Notification

This Class A digital apparatus complies with all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notification

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022 Electromagnetic Interference
- EN55024 Electromagnetic Immunity
- EN60950-1 Product Safety
- EN61000-3 Harmonics and Flicker



Products with the following mark comply with the RoHS Directive (2002/95/EC) issued by the Commission of the European Community.

Japanese Notification

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Recycling



Server Technology Inc. encourages the recycling of its products. Disposal facilities, environmental conditions and regulations vary across local, state and country jurisdictions, so Server Technology encourages consultation with qualified professional and applicable regulations and authorities within your region to ensure proper disposal.

Waste Electrical and Electronic Equipment (WEEE)



In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

For information on how to recycle this product responsibly in your country, please visit:

www.servertech.com/support/recycling.

Appendix B: Warranty, Product Registration and Support

Warranty

For [Server Technology Warranty](#) information, please see our website.

Product Registration

Registration is your key to special offers and services reserved for Registered Users.

- Excellent Technical Support Services
- Special Update and Upgrade Programs
- Warranty Protection
- Extended Warranty Service
- New Product Information

[Register your products online today!](#)

Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8:00 AM to 5:00 PM, Monday-Friday, Pacific Time.

Server Technology, Inc.

1040 Sandhill Drive

Reno, Nevada 89521 USA

Tel: 775.284.2000

Fax: 775.284.2065

Web: www.servertech.com

Email: support@servertech.com

Return Merchandise Authorization

If you have a unit that is not functioning properly and is in need of technical assistance or repair:

Please review Server Technology's [Return Merchandise Authorization](#) process on our website.



Server Technology

UK / EU / EMEA

Server Technology International

Sienna Court, The Broadway
Maidenhead, Berkshire SL6 1NJ
United Kingdom

+44 (0) 1628 509503 Tel

+44 (0) 1628 509100 Fax

salesint@servertech.com

NORTH AMERICA / ASIA

Server Technology, Inc.

1040 Sandhill Drive
Reno, NV 89521
United States

+1.775.284.2000 Tel

+1.775.284.2065 Fax

sales@servertech.com

www.servertech.com