

LG PCS150R Pro:Centric Server Warranty



Broadcast Products Welcome to the LG family! We believe that you will be pleased with your new PCS150R Pro:Centric Server. Please read this warranty carefully, it is a "LIMITED WARRANTY" as defined under Federal Law. This warranty gives you specific legal rights, and you may also have other rights that vary from state-to-state within the U.S.A.

LG's RESPONSIBILITY

Warranty Term	One year parts and labor from date of purchase or delivery date.
Parts	New or remanufactured replacements for factory-defective parts may be used. Such replacement parts are warranted for the remaining portion of the original warranty period.
Warranty Service	Warranty service is provided at LG. Customer pays for shipping charges to LG; LG pays for return shipping charges to return PCS150R Pro:Centric Server to customer. Call 1-888-865-3026 for further information.
Not Covered	<p>This warranty covers manufacturing defects and does not cover installation, adjustment of customer controls, installation or repair of antenna systems, cable converters or cable company-supplied equipment; it also does not cover damage due to misuse, abuse, negligence, acts of God or other causes beyond the control of LG. Any alteration of the product after manufacture voids this warranty in its entirety.</p> <p>THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND LG SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES OF ANY KIND, INCLUDING LOST REVENUES OR PROFITS IN CONNECTION WITH THIS PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.</p>

OWNER'S RESPONSIBILITY

Effective Warranty Date	Warranty begins on the date of delivery of the PCS150R Pro:Centric Server. For your convenience, keep the dealer's dated bill of sale or delivery ticket as evidence of the purchase date.
Installation Guide	Read the Installation & Setup Guide carefully so that you will understand the operation of the PCS150R Pro:Centric Server and how to adjust the settings.
Warranty Service	For warranty service information, call 1-888-865-3026. Parts and service labor that are LG's responsibility (see above) will be provided without charge. Other service is at the owner's expense. If you have any problem in obtaining satisfactory warranty service, call 1-888-865-3026 . You must provide the model number, serial number and date of purchase or date of original installation.

For Customer Support/Service, please call:

1-888-865-3026

www.LGsolutions.com



Pro:Centric®




Pro:Centric is a registered trademark of LG Electronics Inc. Java is a trademark of Oracle. All other trademarks or registered trademarks are the property of their respective owners.

PCS150R Pro:Centric® Server

Installation & Setup Quick Reference | Warranty


The latest product information and documentation is available online at:
www.LGsolutions.com





WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN



WARNING:
TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

L'appareil ne doit pas être exposé à des égouttements d'eau ou des éclaboussures et de plus qu'aucun objet rempli de liquide tel que des vases ne doit être placé sur l'appareil.

WARNING:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. ***Wash hands after handling.***

REGULATORY INFORMATION:

This equipment has been tested and found to comply with the limits for a Class B 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 should be required to correct the interference at his own expense.

CAUTION:

Do not attempt to modify this product in any way without written authorization from LG Electronics U.S.A., Inc. Unauthorized modification could void the user's authority to operate this product.

COMPLIANCE:

The responsible party for this product's compliance is: LG Electronics U.S.A., Inc. 2000 Millbrook Drive, Lincolnshire, IL 60069, USA • Phone: 1-847-941-8000

Marketed and Distributed in the United States by LG Electronics U.S.A., Inc.
2000 Millbrook Drive, Lincolnshire, IL 60069

Product Type	Pro:Centric Server
Model Number/Range	PCS150R

Those products identified by the Product Type and Model Range above from LG Electronics, Inc. ("LGE") contain the open source software detailed below. Please refer to the indicated open source licences for the terms and conditions of their use.

Components	License
bash, busybox, das u-boot, dev, e2fsprogs, ethtool, gawk, grep, hotplug, iptables, linux kernel, lrzsz, lzo, merge, mtd-utils, net-tools, ntpclient, openvpn, pciutils, procinfo, procp, screen, skell, sysconfig, syslogd, time	GPL 2.0
eglibc, gmp, Java SwingLabs, libelf, termcap	LGPL 2.0/2.1

The source code and other important information for the above may be obtained free of charge from LGE at <http://opensource.lge.com>. LGE will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping and handling) upon e-mail request to opensource@lge.com. This offer is valid for three (3) years from the date on which you purchased the product.

Please be informed that LG Electronics products may contain open source software listed in the table below.

Components	License
Apache Ant, Apache Commons EL, Apache Commons FileUpload, Apache Commons IO, Apache Commons Logging, Apache Commons Modeling, Apache Commons Net, Apache Derby, Apache HttpComponents, Apache Jakarta, Apache James, Apache Tomcat 6.0	Apache License v2.0
flex, portmap, tcp-wrappers	BSD License
curl	Curl License
dhcp	MIT License
openssh	OpenSSH License
OpenSSL	OpenSSL License
sudo	sudo License
zlib	zlib/libpng License

Dimensions

Height: 1.692 inches (42.977 mm)
Width: 19.0 inches (482.6 mm) (for EIA standard 19-inch rack mount)
Depth: 8.5 inches (215.9 mm)
Weight: 3.45 pounds (1.56 kgrms) rack-only weight

Environmental Storage Conditions

Temperature: -20° to 70° Celsius
-4° to 158° Fahrenheit
Humidity: 95% non-condensing

Environmental Operating Conditions

Temperature (Tma): 0° to 40° Celsius
32° to 104° Fahrenheit
Humidity: 95% non-condensing

Electrical

RF Out Connector: 75 Ohm, Type 'F'
Frequency: VHF/UHF 54–864 MHz
Active Output Level at RF Out jack: -6 dBm (+42 dBmV) Min., -2 dBm (+46 dBmV) Typ.
Frequency Accuracy: ±5 ppm
Impedance at ASI Out jack: 75 Ohms
Level at ASI Out jack: 800 mv
DC Input: +12V DC @ 4.0 Amps
Ethernet Connectors (2): 10/100/1000BaseT
USB Ports (2): USB 2.0

Modulation Specifications

Standard: ITU-T J.83 Annex B (QAM-B)
Constellations: 256-QAM
Symbol Rate: 256-QAM 5.360537 MBaud
Interleaving: Fixed I = 128, J = 1

Standard: DVB-C
Constellations: 64-QAM, 256-QAM
Symbol Rate: 64-QAM 6.9 MBaud
64-QAM 6.111 MBaud
256-QAM 6.9 MBaud
256-QAM 6.111 MBaud

Note: Design and specifications subject to change without prior notice.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination in order to avoid injury from tip-over.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

14. Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your INSTALLATION, consult your product dealer or local power company.

15. Overloading

Do not overload wall power outlets and extension cords as this can result in a risk of fire or electric shock.


16. Disconnect Device

The AC mains plug is used as the disconnect device. The disconnect device must remain readily operable.

17. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product. Do not use liquid cleaners or aerosol cleaners.

18. Outdoor Use

 **Warning: To prevent fire or shock hazards, do not expose this product to rain or moisture.**

19. Wet Location

Do not use this product near water or moisture or in an area, such as a basement, that might become flooded. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

20. Test Equipment

In some cases, LG has supplied or recommended the use of test equipment and devices for the setup and testing of the equipment. The operation and maintenance of test equipment is described in their associated instruction manuals. Please refer to these manuals for explicit instructions regarding the safe use and handling of the equipment.

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21. Damage Requiring Service

Unplug this product from the wall power outlet and refer servicing to qualified service personnel under the following conditions:

- a. If the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the product.
- c. If the product has been exposed to rain or water.
- d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- e. If the product has been dropped or the cabinet has been damaged.
- f. If the product exhibits a distinct change in performance.



Caution: Refer all servicing to qualified service personnel.

22. Servicing



Caution: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electrical shock, do not perform any servicing other than that described in the operating instructions unless you are qualified to do so.

23. Replacement Parts

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

24. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

This section provides introductory PCS150R installation and setup troubleshooting information. Refer to the extended Installation & Setup Guide for additional troubleshooting information.

Equipment Setup Review

Make sure all connectors and connections are tight and secure on all entertainment system components.

Network Setup

If the network is configured for DHCP but the PCS150R has not been assigned an IP address, i.e., the Eth0 IP field in the PCS150R System Information display is blank:

1. Check the ETHERNET-0 connector on the rear panel of the PCS150R. Make sure the cable connection is tight and secure.
2. Observe the green LED on the ETHERNET-0 port. Once the PCS150R is connected to the network, the LED will be lit continuously.
3. Contact the network administrator to verify the network status and check that the DHCP server is working properly.

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10. Make the appropriate connection to the RF distribution system or IP distribution network depending on the PCS150R output option to be used.
- ASI output: Connect the RF output on the upconverter to the RF distribution center combiner, and balance the RF signal so that the Pro:Centric signal level at the TV(s) is between 0 to +7 dBmV.
 - RF output: Connect RF OUT on the PCS150R to the RF distribution center combiner, and balance the RF signal so that the Pro:Centric signal level at the TV(s) is between 0 to +7 dBmV.
 - IP output: Connect a CAT5E or better Ethernet cable between the ETHERNET-1 port on the PCS150R rear panel and the institution's IP distribution network.



Caution (ASI/RF Output only): For proper system performance, the Pro:Centric signal level at the TV input (ANTENNA IN) must be between 0 to +7 dBmV. Note that additional equipment may be required to adjust the signal level.

11. Configure the ASI/RF or IP output parameters in the Pro:Centric server Admin Client "RF/IP Configuration" screen. Refer to the ***Pro:Centric Server Admin Client User Guide*** for further information.
- Note:** By default, the server output is enabled for QAM-B modulation (RF output).
12. Check one or more room receivers to make sure all content is properly mapped and available.

PCS150R Rack Installation (also see page 9)

To install the PCS150R in a rack:

- Carefully slide the PCS150R into a standard 19-inch equipment rack.
- When mounting in the rack, make sure to use the appropriate hardware. ALL FOUR MOUNTING SCREWS MUST BE USED.
- This equipment is not designed to support other devices. Do NOT stack other equipment on the top of the PCS150R.
- Rear cabling must be dressed and supported so that the weight of the cabling is not a strain on the PCS150R connectors.
- MOUNTING OF THE EQUIPMENT IN THE RACK SHOULD BE SUCH THAT A HAZARDOUS CONDITION IS NOT ACHIEVED DUE TO UNEVEN MECHANICAL LOADING.

Rack-mount Considerations

- A. Elevated Operating Ambient**
- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer (see Specifications information in this document).

B. Reduced Air Flow

Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. To ventilate the system normally and avoid overheating, leave at least 1 inch (2.5 cm) on each side (including top and bottom) of the PCS150R. Do NOT stack other equipment on the top of the PCS150R. Also, ensure that the unit's AC power adapter is never stacked or bundled with other AC power adapters. Each adapter should have adequate ventilation and should be isolated from other heat sources.

C. Circuit Overloading

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring.

D. Reliable Earthing

Maintain reliable earthing of rack-mounted equipment. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

E. Mains Outlet Earthing

The apparatus with Class I construction must be connected to a mains socket outlet with a protective earthing connection.

The LG PCS150R Pro:Centric® server is a stand-alone, remotely-controlled processor and controller for the Pro:Centric system. The server can be used to capture data from an Internet source, assemble the data as display pages, and output the pages in DTV format over an ASI or RF interface or an IP stream.

Features

- Three output options: ASI, RF, or IP
- Remote management capability over Ethernet
- Small, lightweight chassis
- 19-inch rack-mountable
- 1U height profile to minimize rack space usage

An Internet browser-based Admin Client graphical user interface (GUI), provided for system integrator (SI) partners and lodging/institution administrators, facilitates support and maintenance of the Pro:Centric system. The Admin Client enables users to remotely manage system backups, output configuration, software updates, portal/information section content, TV configuration settings, etc.

Note: Design and specifications subject to change without prior notice.

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- If you changed the configuration of the port(s), you will be prompted to reset the system. At the `Command >` prompt, type **reset** and press **Enter**. The reset process may take up to two minutes, after which the PCS150R resumes normal operation.

9. (Optional) Set the date and time on the PCS150R.

By default, the PCS150R is synchronized with an NTP client and configured for the US Eastern time zone. If the PCS150R is connected to the Internet, the NTP client will periodically update the time setting on the PCS150R. You can set the time zone as required. If the PCS150R is not connected to the Internet, you also have the option to disable NTP client synchronization and specify date and time data manually.

Note: The Time setup ("time") command indicated below is available only with PCS150R version 5.2 or later software. (Check the System Information display header, as necessary, to verify the PCS150R software version.)

- This step requires that you log in to the PCS150R.
 - If you are already logged in, continue with step (b).
 - Otherwise, below the System Information display (after boot-up), you should see a login prompt. (If the prompt is not automatically displayed, press **Enter** to refresh the screen.)
At the `login as:` prompt, type **admin** and press **Enter**. Then, type the admin user password (provided by LG) at the `password:` prompt.
- Use the PCS150R "tz" and/or "time" commands, as necessary, to set the date and time on the PCS150R.
 - Use the "tz" command and follow the system prompts to change the time zone.
 - Use the "time" command and follow the system prompts to change the NTP configuration or manually configure the date and time parameters on the PCS150R.

Refer to the extended Installation & Setup Guide for further information on these commands.

- If you changed the time zone and/or the NTP configuration, you will be prompted to reset the system. When you have completed your date and time configuration activities, at the `Command >` prompt, type **reset** and press **Enter**. The reset process may take up to two minutes, after which the PCS150R resumes normal operation.

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8. This step describes how to set a static IP address for the ETHERNET-0 and/or ETHERNET-1 port(s).



Caution: Setting a static IP address for the PCS150R ETHERNET-0 port (for remote management purposes) is optional. However, if you will be using IP output from the PCS150R, you MUST configure the ETHERNET-1 port as described in step (d) below.

- a) This step requires that you log in to the PCS150R. Below the initial System Information display, you should see a login prompt. (If the prompt is not automatically displayed, press **Enter** to refresh the screen.)
- At the `login as:` prompt, type **admin** and press **Enter**. Then, type the admin user password (provided by LG) at the `password:` prompt.
- b) At the `Command >` prompt, type **setip** and press **Enter**. The system will display the current network configuration, followed by the Network Configuration Menu.
- Use the Network Configuration Menu commands and follow the system prompts to configure the port(s). Refer to the extended Installation & Setup Guide for further information on the commands.
- c) Use the “eth0” and “dns” commands to configure the ETHERNET-0 port, as necessary.
- d) Use the “eth1” command to configure the ETHERNET-1 port, if required, for PCS150R IP output. Note the following additional requirements for the eth1 port configuration:
- The ETHERNET-1 port must be configured with a static IP address that is on the same network as the TV(s).
 - Depending on the PCS150R software version, you may be prompted to enter a gateway IP address. Do NOT specify a gateway IP address for this port. If the prompt for the gateway IP address shows a default value in square brackets, press the **space bar** once and then press **Enter** to ensure the field remains empty.
- e) When you are finished with network configuration, type **exit** and press **Enter** at the Network Configuration Menu `>` prompt. The system will display an overview of the new network configuration and then prompt for confirmation to save the changes:

`Do you want to save the new configuration? (Y/N):`

Type **y** or **n** and press **Enter**, as appropriate.

Note: Review the New Network Configuration overview carefully before you confirm the configuration settings. Ensure each of the addresses was entered correctly.

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Check the following items before you begin PCS150R installation and setup procedures.

ASI Output (Optional)

- If the system is using ASI output, install the modulator and upconverter that will receive the ASI output signal from the PCS150R. Refer to the manufacturer's documentation.

PCS150R

- Unpack the PCS150R Pro:Centric server unit and all accessories.

PCS150R Accessories: <ul style="list-style-type: none"> • AC Power Cord and Adapter

- Select the location for mounting the PCS150R. Ensure that adequate ventilation is available.
- Obtain the necessary attachment hardware to mount the PCS150R chassis in its targeted location.
- Plan and install the necessary cabling and network (Ethernet) and AC power access for the PCS150R.

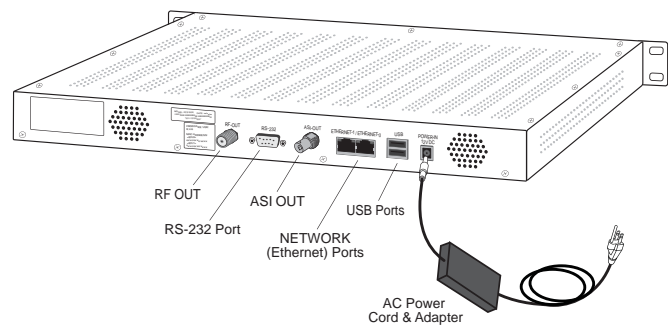
You also will need the following to connect a PC directly to the PCS150R for system setup verification purposes:

- DB9 Male-to-DB9 Female RS-232 straight-through serial cable (Example: Cables Unlimited PCM-2100-06 serial cable).
- (Optional) USB 2.0-to-serial DB9 adapter (Example: Cables Unlimited USB-2920 adapter). If there is no serial port on the PC, use the adapter to connect the serial cable to the PC.

Refer to the **PCS150R Pro:Centric Server Installation & Setup Guide** for further installation and configuration information.

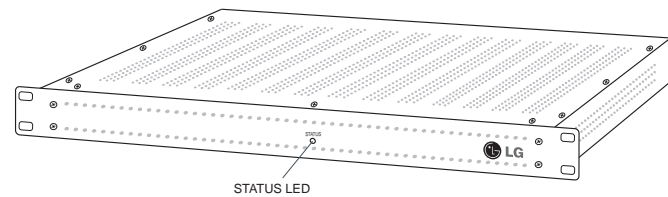
Product documentation is available online at: www.LGolutions.com.

PCS150R Rear View



Disconnect Device
The AC mains plug is used as the disconnect device. The disconnect device must remain readily operable.

PCS150R Front View



Ventilation Holes
Air flow must not be obstructed. To ventilate the system normally and avoid overheating, leave at least 1 inch (2.5 cm) on each side (including top and bottom) of the PCS150R. Do NOT stack other equipment on the top of the PCS150R.

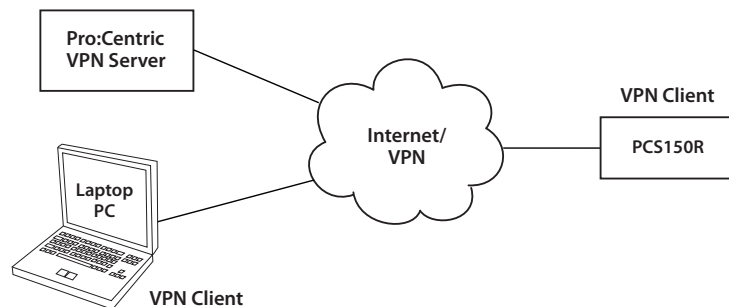
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6. Plug the AC power cord into a powered AC line receptacle. When power is applied, the Status LED on the PCS150R front panel will light, and you will see boot-up messages on the PC.
- When the boot-up is complete, a System Information display identifies important information about the PCS150R, including the unit serial number, hardware ID (firmware version), software versions, MAC addresses, and IP addresses, for example:
- ```
PCS150R Pro:Centric Server v5.2
SN: 001-12150025
Hardware ID: 1.1.0.17
OS version: Linux 2.6.38-zenith+
OS release: #204 Mon May 2 17:21:54 CDT 2011
Eth0 MAC: 00:0C:63:3B:00:55
Eth0 IP: 192.168.10.77
Eth1 MAC: 00:0C:63:3B:00:65
Eth1 IP: n/a
VPN IP: n/a
RF config: Mode 3, QAM-B, RF: 6 MHz, 5.36 MSps, ASI: 38.81 Mbps
RF channel: 75
Local time: Wed Mar 06 16:08:12 EST 2013
```
7. Check the Eth0 IP (ETHERNET-0 IP Address) field in the System Information display. By default, the PCS150R uses DHCP; thus, the DHCP server, if configured, assigns an IP address to the PCS150R once the PCS150R successfully connects to the network.
- If the Eth0 IP field shows an IP address, the PCS150R is up and running on the network. If you wish to configure a static IP address for the ETHERNET-0 port and/or if you need to configure a static IP address for the ETHERNET-1 port (for IP output purposes), continue with step 8. Otherwise, you can go to step 9 at this time.
  - If the network is configured for DHCP, but the Eth0 IP field is blank, refer to “Network Setup” troubleshooting information on page 17.
  - If the network is not configured for DHCP, you will need to configure a static IP address for the PCS150R ETHERNET-0 port as described in step 8.

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## VPN Network Connections Overview



## Typical System Installation

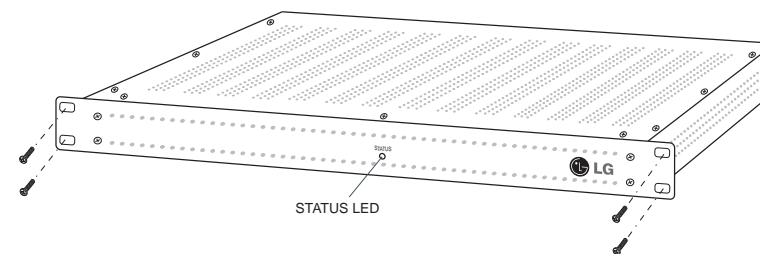
(see also Typical Setup Flow Charts and VPN Network Connections Overview diagrams)

1. If your system is using ASI output, make the following two connections; otherwise, go to step 2.
  - Connect a 75 ohm BNC-to-BNC coaxial cable between ASI OUT on the PCS150R and ASI IN on the modulator.
  - Connect an RF coaxial cable between IF OUT on the modulator and IF IN on the upconverter.
- ⚠ **Note: The BNC cable must be less than 30 feet (9.2 meters) in length.**
2. To enable remote management, connect one end of a CAT5 RJ-45 Ethernet cable to the ETHERNET-0 port on the PCS150R rear panel, and connect the other end of the cable to the institution's network.
3. Connect the PCS150R power supply to the POWER connector on the PCS150R rear panel.
4. Use the straight-through serial cable and, if necessary, the USB adapter to connect a PC to the RS-232 port on the PCS150R rear panel. (This step will enable you to verify the network connection once power is applied in step 6.)
5. Using HyperTerminal or an equivalent terminal emulation program on the PC, configure the serial port as follows: Bits per second = 115200; Data bits = 8; Parity = None; Stop bits = 1; Flow Control = None

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## Typical Rack Installation

1. Carefully slide the chassis into a standard 19-inch equipment rack.
2. Use all four mounting screws to secure the chassis to the rack.



## Rack-mount Considerations

### A. Elevated Operating Ambient

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer (see Specifications information in this document).

### B. Reduced Air Flow

Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. To ventilate the system normally and avoid overheating, leave at least 1 inch (2.5 cm) on each side (including top and bottom) of the PCS150R. Do NOT stack other equipment on the top of the PCS150R. Also, ensure that the unit's AC power adapter is never stacked or bundled with other AC power adapters. Each adapter should have adequate ventilation and should be isolated from other heat sources.

### C. Circuit Overloading

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring.

### D. Reliable Earthing

Maintain reliable earthing of rack-mounted equipment. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

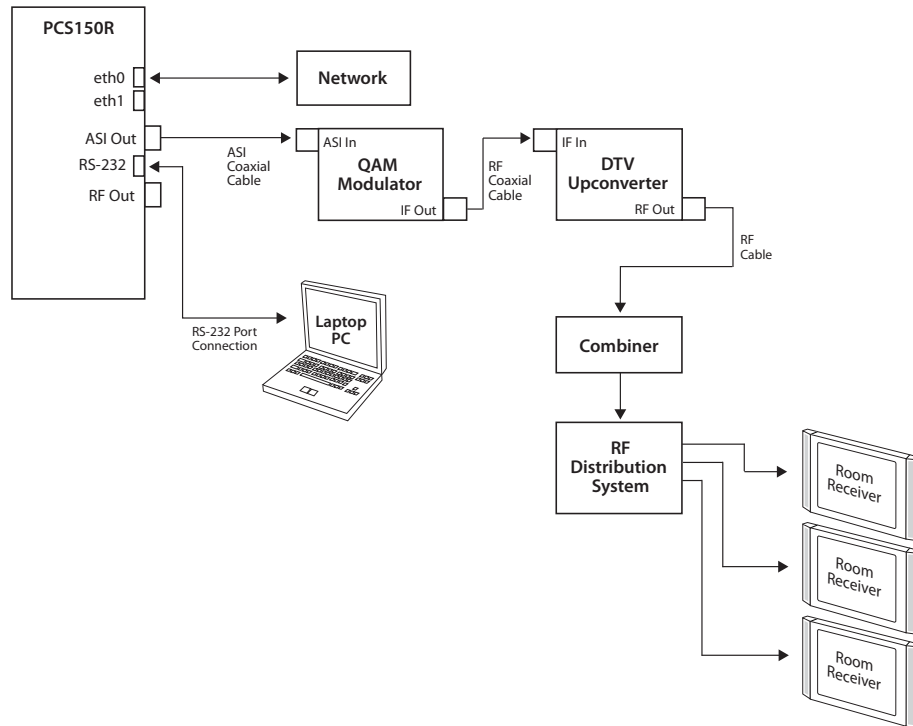
### E. Mains Outlet Earthing

The apparatus with Class I construction must be connected to a mains socket outlet with a protective earthing connection.

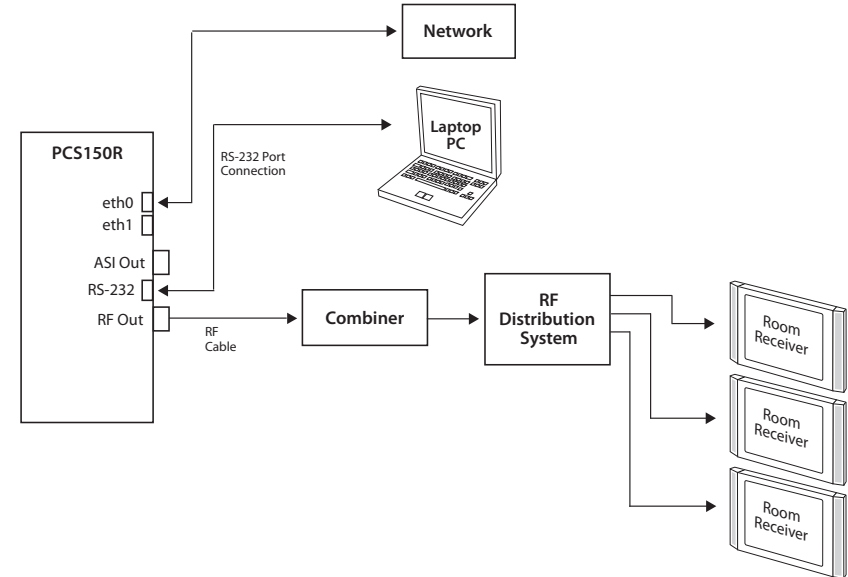
Refer to the following diagrams, and complete the system installation as described on pages 12 to 16.

**Caution:** Do NOT make system connections until instructed to do so during the system installation procedure. In some instances, configuration steps must be performed before physical connections are made.

## Typical Setup Flow Chart for PCS150R with ASI Output



## Typical Setup Flow Chart for PCS150R with RF Output



## Typical Setup Flow Chart for PCS150R with IP Output

