



PCS150R Pro:Centric™ Server

Installation & Setup Guide Warranty

For Customer Support/Service, please call: **1-888-865-3026**

The latest product information and documentation is available online at:
www.LGolutions.com/products



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.

REGULATORY INFORMATION:

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 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

IMPORTANT SAFETY INSTRUCTIONS

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.

(Continued on next page)

IMPORTANT SAFETY INSTRUCTIONS

(Continued from previous page)

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.

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 mounted in the rack, make sure appropriate hardware is used. **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).

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IMPORTANT SAFETY INSTRUCTIONS

(Continued from previous page)

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.

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.

PCS150R Installation on a Flat Surface

To install the PCS150R on a level surface (table top, shelf, etc.):

- Install the equipment in an environment compatible with the maximum operating ambient temperature (T_{ma}) specified by the manufacturer (see Specifications information in this document).
- Place spacers or rubber feet (not provided) on the bottom of the PCS150R.
- Carefully place the PCS150R on the level surface.
- 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.

Table of Contents / Setup Checklist

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Setup Checklist

Check the items listed below before you begin the 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.
Accessories provided: 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 will also 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.
- ___ Carefully follow the installation procedure for the PCS150R (see page 9).
- ___ Complete the system setup for the PCS150R (see pages 10 to 12).

PCS150R Product Description

The PCS150R Pro:Centric server is a stand-alone, remotely-controlled processor and controller for the Pro:Centric system. This device 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. With appropriate post-processing, the ASI or RF signal can then be used for either IP or RF distribution in a lodging site application.

Features

- Two output options: ASI or RF
- RF output channel programmable
- Remote programming capability via Ethernet
- Unit does not require local monitor, keyboard, or mouse connection
- Small, lightweight chassis
- 19-inch rack-mountable
- 1U height profile to minimize rack space usage

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

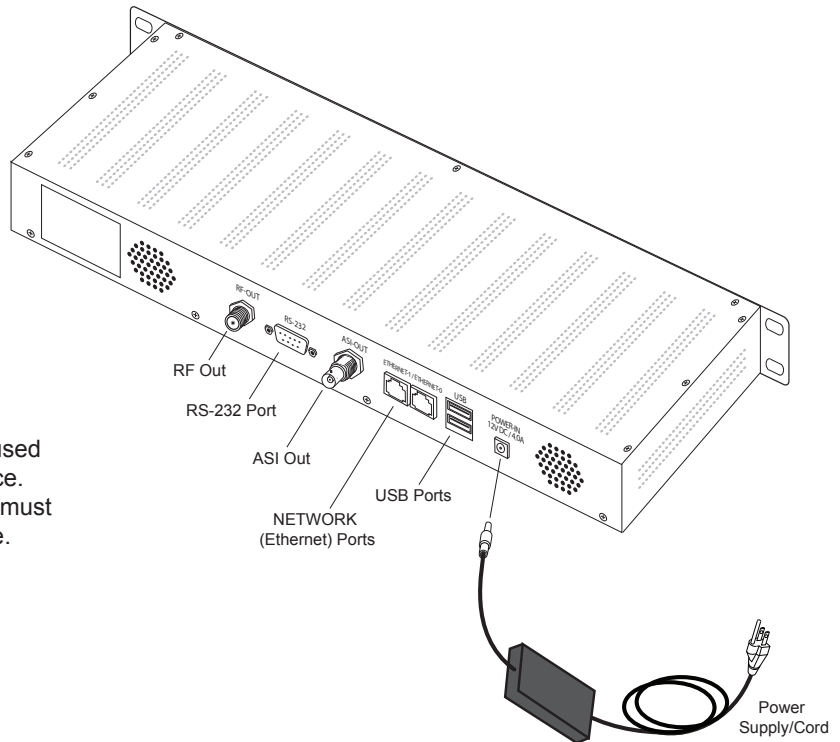
Rear and Front Panel Overviews

PCS150R Rear View



Disconnect Device

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

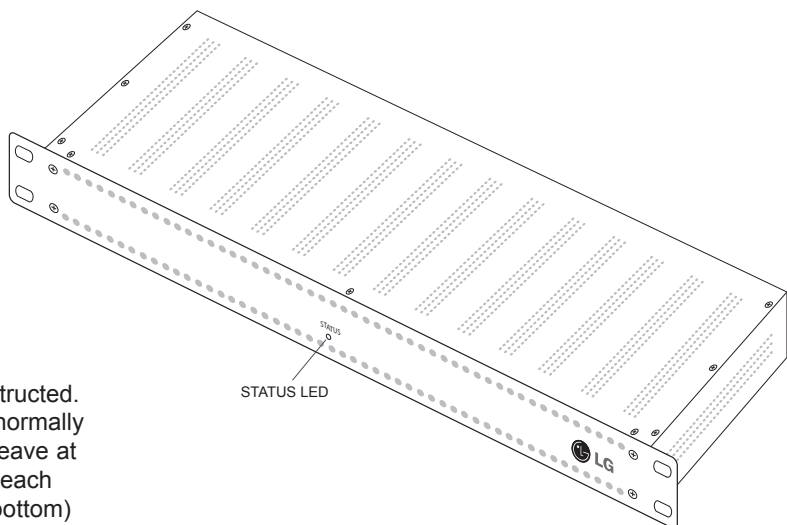


PCS150R Front View



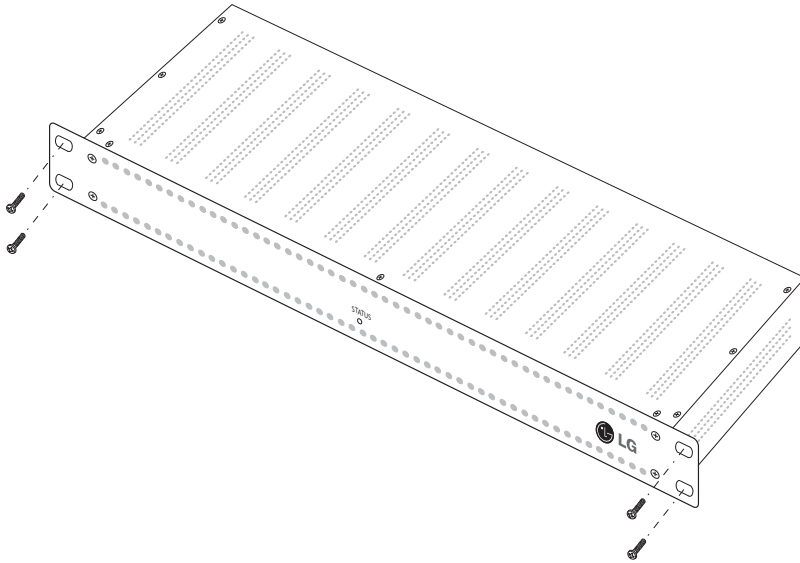
Ventilation Holes

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.



Typical PCS150R 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_{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 unit.

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

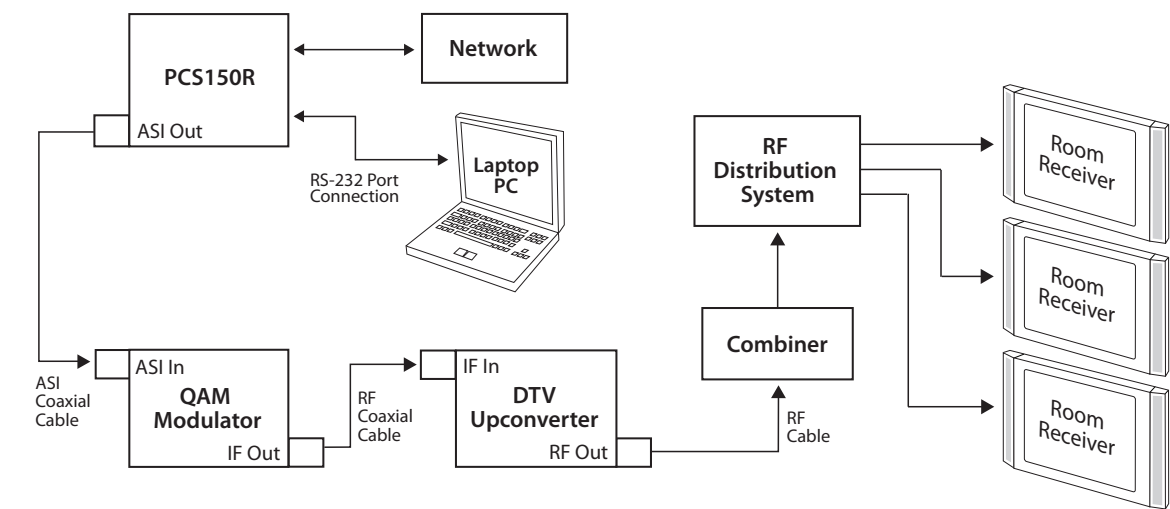
The apparatus with Class I construction must be connected to a mains socket outlet with a protective earthing connection.

System Setup

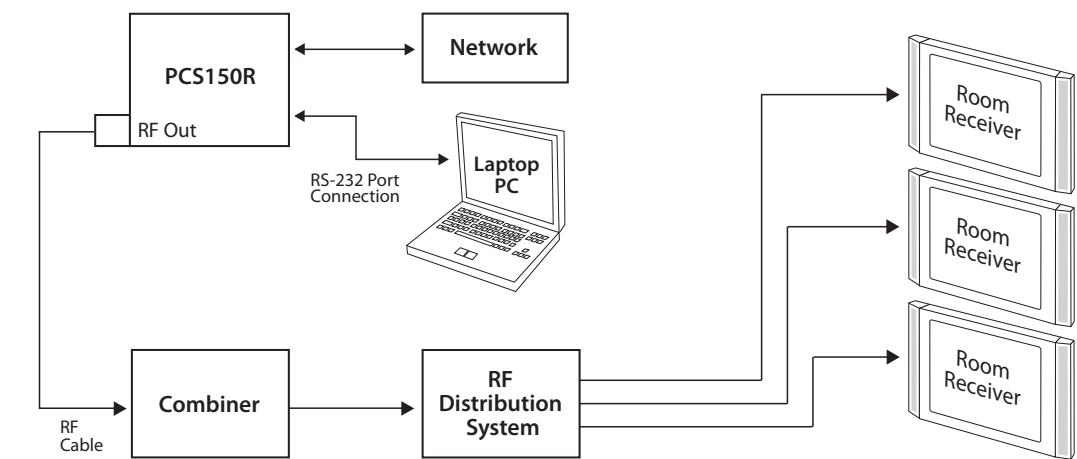
Refer to the following diagrams, and complete the system installation as described on pages 11 and 12.

Typical Setup Flow Charts for the PCS150R

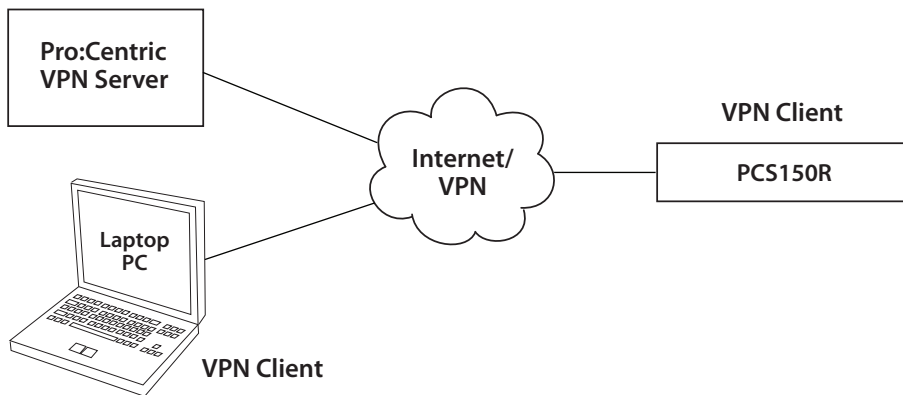
ASI Output



RF Output



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.
 -  **Note: The BNC cable must be less than 30 feet (9.2 meters) in length.**
 - Connect an RF coaxial cable between IF OUT on the modulator and IF IN on the upconverter.
2. 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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System Setup (Cont.)

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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 v4.5
SN:                001-12410005
Hardware ID:       1.1.0.1
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:        69
Local time:        Wed May 18 16:08:12 CDT 2011
```

7. Check the Eth0 IP field in the display. By default, the PCS150R uses DHCP; thus, the DHCP server 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 the Eth0 IP field is blank, refer to Troubleshooting information on page 23.
8. Make the appropriate connection to the RF distribution system:
 - 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.



Caution: 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.

9. Configure the ASI or RF output parameters in the Pro:Centric Server Admin Client. 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).

PCS150R Configuration Options

This section describes configuration options for the PCS150R.



Note: Before you proceed with any additional server configuration, the system should be installed and operating as described in the system setup procedure on pages 11 and 12.

Also note that configuration updates will generally require that you reset the PCS150R. Make sure to reset the unit when directed to do so.

Network and Communication Options

There are two options for establishing communication with the PCS150R:

- Direct connection to the PCS150R RS-232 port

Connect a PC to the RS-232 port on the PCS150R rear panel using a DB9 Male-to-DB9 Female RS-232 straight-through serial cable (Example: Cables Unlimited PCM-2100-06 serial cable) and, if necessary, a USB 2.0-to-serial DB9 adapter (Example: Cables Unlimited USB-2920 adapter).

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

- Network connection to the PCS150R Ethernet port

Use an SSH client to establish communication with the PCS150R. The default network setting for the PCS150R is DHCP, in which case the server assigns an IP address to the PCS150R. If necessary, consult the network administrator to obtain the IP address that has been assigned to the PCS150R.

Log In to the PCS150R

If necessary, consult the network administrator to obtain the “admin” user password before proceeding.

1. Establish communication with the PCS150R using one of the communication options described above. Once communication is established, you should see a login prompt.
2. At the `pcs150r login:` prompt, type **admin** and press **Enter**.
3. At the `Password:` prompt, type the admin password and press **Enter**.
4. At the `Command >` prompt, either:
 - Press **Enter** to display the PCS150R Main Menu (see example on following page).
 - Type the desired command and press **Enter**.

The following sections describe each of the configuration commands.

PCS150R Configuration Options (Cont.)

Example: PCS150R Main Menu

```
-----  
Main Menu  
-----  
info          System information  
video         Configure video parameters  
setip         Setup TCP/IP  
tz            Timezone setup  
pwd           Change password  
update        Update  
updser        Update via serial link  
vpn           VPN setup  
reset         Reset board  
exit          End the session
```

Command >

Note: You can always press **Enter** at the Command > prompt to display the Main Menu.

View System Information

1. Log in to the PCS150R as described on the previous page.
2. At the Command > prompt, type **info** and press **Enter**.

The 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 v4.5  
SN:          001-12410005  
Hardware ID: 1.1.0.1  
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:      10.7.0.1  
RF config:   Mode 3, QAM-B, RF: 6 MHz, 5.36 MSps, ASI: 38.81 Mbps  
RF channel:  69 *  
Local time:  Wed May 18 16:08:12 CDT 2011
```

It is recommended that you record this information for future reference. If you find it necessary to call customer service or engineering support, please have this information available.

* This field only appears if RF output is configured for QAM-B modulation. If RF output is configured for DVB-C modulation, the display will identify the RF frequency (in KHz).

PCS150R Configuration Options (Cont.)

Configure Video Parameters

This option enables you to view current settings and/or configure new settings, as required.

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **video** and press **Enter**.

The system displays the current video parameters and prompts for a selection, for example:

Current video configuration:

1) Program number	47 (default)
2) PMT PID	4096 (default)
3) Video PID	4097 (default)
4) Elementary PID1	4098 (default)
5) Elementary PID2	4099 (default)
6) Elementary PID3	4100 (default)
7) Elementary PID4	4101 (default)

Select parameter to change or press Enter to accept:

3. To return to the `Command >` prompt without making any changes, you can simply press **Enter**. Otherwise, select the appropriate option, depending on the parameter you wish to change:

- Program Number: Type **1** and press **Enter** to change the video program number.

At the `Enter new value for Program number [47]:` prompt, type a new program number and press **Enter**. The system will redisplay the video configuration, showing your update.

Note: The video channel major number is the RF data channel assigned for Pro:Centric operation (Installer Menu item 119 DATA CHANNEL) and the video channel minor (program) number is as configured in this step (default program number = 47). Refer to Commercial Mode Setup documentation for the TV in question for further information.

- PMT ID: Type **2** and press **Enter** to change the PMT (Program Map Table) PID (packet ID).

At the `Enter new value for PMT PID [4096]:` prompt, type the new PMT ID and press **Enter**. The system will redisplay the video configuration, showing your update.

- Video PID: Type **3** and press **Enter** to change the video PID.

At the `Enter new value for Video PID [4097]:` prompt, type the new video PID and press **Enter**. The system will redisplay the video configuration, showing your update.

Note: Assign video and elementary PIDs as necessary according to the system's network distribution requirements.

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PCS150R Configuration Options (Cont.)

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- Elementary PID: There are four Elementary PIDs. Type **4**, **5**, **6**, or **7**, depending on which Elementary PID you wish to change, and press **Enter**.

At the `Enter new value for Elementary PID# []:` prompt, type the new Elementary PID and press **Enter**. The system will redisplay the video configuration, showing your update.

Note: Assign video and elementary PIDs as necessary according to the system's network distribution requirements.

4. At the `Select parameter to change or press Enter to accept:` prompt, select another parameter to change, if desired, and follow the prompts, or press **Enter** to accept the displayed configuration parameters and return to the `Command >` prompt.

Configure the TCP/IP Settings

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **setip** and press **Enter**.

The system displays an overview of the current TCP/IP network configuration followed by a Network Configuration Menu, for example:

```
Current Network Configuration
```

```
Interface eth0
```

```
Host name:      pcs150r
Using DHCP:     YES
```

```
Interface eth1
```

```
Host name:      pcs150r
Using DHCP:     YES
```

```
DNS servers
```

```
Primary DNS:    68.94.156.1
Secondary DNS:  68.94.157.1
```

```
-----
Network Configuration Menu
```

```
-----
eth0      Configure eth0
eth1      Configure eth1
dns       Configure dns
exit      Exit network configuration
```

```
Choose item to modify >
```

(Continued on next page)

PCS150R Configuration Options (Cont.)

(Continued from previous page)

3. Either:

- Continue with step 4 for information on modifying the configuration a PCS150R Ethernet port.
- Go to step 9 for information on modifying the DNS configuration.
- To exit the Network Configuration Menu without modifying any settings, type **exit** at the Network Configuration Menu > prompt.

4. Type **eth0** or **eth1**, as applicable, to modify the configuration of the desired Ethernet port. Then, press **Enter**.

5. At the Host name [pcs150r]: prompt, either press **Enter** to accept the default value in square brackets, or type a new host name and then press **Enter**.

6. At the Using DHCP (Y/N) [Y]: prompt, type **y** if the PCS150R uses DHCP, or type **n** to specify the network IP addresses. Then, press **Enter**.

7. If the PCS150R is NOT using DHCP, type the information requested at each of the following prompts. Press **Enter** after each entry.

This host IP address []: *(Type the host IP address in the format xxx.xxx.xxx.xxx.)*

Network mask []: *(Type the netmask in the format xxx.xxx.xxx.xxx.)*

Gateway IP address []: *(Type the IP address of the default gateway in the format xxx.xxx.xxx.xxx.)*

8. Once you enter the gateway address, the system will redisplay the Network Configuration Menu.

- To modify the configuration of the second Ethernet port, repeat steps 4 to 7.
- To modify the DNS configuration, continue with step 9.
- If no additional network configuration is required, go to step 10.

9. To change the DNS configuration, type **dns** and press **Enter**.

At each of the following prompts, type the information requested. Press **Enter** after each entry.

Configuring DNS

Primary DNS IP address []: *(Type both the primary and secondary DNS*

Secondary DNS IP address []: *IP addresses in the format xxx.xxx.xxx.xxx.)*

Once you enter the secondary DNS IP address, the system will redisplay the Network Configuration Menu. You can select another option to modify (see previous steps) or you can exit as described below.

(Continued on next page)

PCS150R Configuration Options (Cont.)

(Continued from previous page)

10. When you are finished with network configuration, type **exit** 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, for example:

```
New Network Configuration
Interface eth0
  Host name:          pcs150r
  Using DHCP:        YES
Interface eth1
  Host name:          pcs150r
  Using DHCP:        YES
DNS servers
  Primary DNS:        68.94.156.1
  Secondary DNS:       68.94.157.1
Do you want to save the new configuration? (Y/N):
```

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

If you opt NOT to save the new configuration, the system will return immediately to the Main Menu `Command >` prompt. Otherwise, the system will confirm the configuration updates and prompt you to reset the PCS150R:

```
New configuration has been saved. Please restart the system.
```

12. Reset the PCS150R (see “Reset the PCS150R” on page 22).

Set the Time Zone

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **tz** and press **Enter**.

The system displays the current time zone information for the PCS150R and prompts you to specify whether or not you wish to change the time zone.

```
Current time zone is: America/New York
Change the time zone? [y/n]:
```

3. Either:
 - Type **n** and press **Enter** to return to the Main Menu `Command >` prompt without changing the current time zone.
 - Type **y** and press **Enter** to change the time zone. Then, continue with step 4.

(Continued on next page)

PCS150R Configuration Options (Cont.)

(Continued from previous page)

4. The system displays the following prompt for a location, followed by a list of options:

```
Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
```

At the `#?` prompt, type the number that corresponds to the appropriate option for your location, and then press **Enter**.

5. The system displays the following prompt for a country, followed by a list of options:

```
Please select a country.
```

At the `#?` prompt, type the number that corresponds to the appropriate option for your country, and then press **Enter**.

6. The system displays the following prompt for a region, followed by a list of options:

```
Please select one of the following time zone regions.
```

At the `#?` prompt, type the number that corresponds to the appropriate option for your region, and then press **Enter**.

After you specify the time zone region, the system displays an overview of your location selections and prompts for confirmation, for example.

```
The following information has been given:
```

```
United States
Central Time
```

```
Therefore TZ='America/Chicago' will be used.
```

```
Local time is now:      Tue May 24 16:23:10 CST 2011.
```

```
Universal Time is now:  Tue May 24 22:23:10 UTC 2011.
```

```
Is the above information OK?
```

```
1) Yes
```

```
2) No
```

```
#?
```

7. Either:

- Type **1** and press **Enter** if the information in the display is correct. The system will confirm the setting and then prompt you to reset the PCS150R:

```
Time zone has been set. Please reset the board.
```

```
Continue with step 8.
```

- Type **2** and press **Enter** to return to the initial location prompt and reset the time zone (repeat this procedure from step 4).

8. Reset the PCS150R (see “Reset the PCS150R” on page 22).

PCS150R Configuration Options (Cont.)

Change the Login Password

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **pwd** and press **Enter**.

The system prompts for the current password:

```
Changing password for admin
Old password:
```

3. Type the current password and press **Enter**. The system will then prompt you to type and retype the new password:

```
New password:
Retype password:
```

4. Type and then retype the new password at the prompts. Press **Enter** after each entry.

Once you complete the Password fields successfully, the system displays confirmation:

```
Password for admin changed by admin.
```

Update PCS150R Application or OS Software via Ethernet



Caution: Do NOT initiate simultaneous menu sessions while a software update is in progress. Doing so may interfere with the active process and may corrupt the system configuration and/or cause the PCS150R to cease normal operation.

This option enables you to update the PCS150R application or OS software via the Ethernet. Refer to “Update PCS150R Application or OS Software via Serial Link” on the next page for information on updating software via a serial link.

The appropriate update file must be provided by LG. The system will not download an improper file.

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **update** and press **Enter**.

The system prompts for the update filename:

```
PCS150R Update Tool v1.2
Copyright (C) 2010 Zenith Electronics LLC
Enter update filename:
```

3. Type in the filename and press **Enter**.

The system will initiate the download and confirm progress, for example:

```
Downloading file: pcs150r_app_xxxx.upd
```

4. When the update is successfully completed, the system may prompt you to reset the PCS150R. If necessary, reset the server (see “Reset the PCS150R” on page 22).

PCS150R Configuration Options (Cont.)

Update PCS150R Application or OS Software via Serial Link



Caution: Do NOT initiate simultaneous menu sessions while a software update is in progress. Doing so may interfere with the active process and may corrupt the system configuration and/or cause the PCS150R to cease normal operation.

This option enables you to update the PCS150R application or OS software via a serial link to the PCS150R. Refer to “Update PCS150R Application or OS Software via Ethernet” on the previous page for information on updating software via the Ethernet.

The appropriate update file must be provided by LG. The system will not transfer an improper file.

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **updser** and press **Enter**.

The system prompts for the file:

```
PCS150R Serial Update Tool v1.1
Copyright (C) 2010 Zenith Electronics LLC
Send file using XMODEM
```

3. At the system prompt, transfer the new application/OS file using Xmodem protocol.
For example, in HyperTerminal, select **Transfer** and then **Send File....** In the Send File window, enter or select the appropriate filename in the Filename field, and select **Xmodem** in the Protocol field.
The system will display progress messages as well as the result of the update process (which may take several minutes).
4. When the update is successfully completed, the system may prompt you to reset the PCS150R. If necessary, reset the server (see “Reset the PCS150R” on page 22).

Update the VPN Setup

This option enables you to update the VPN client via a serial link to the PCS150R. The appropriate update file must be provided by LG. The system will not transfer an improper file.

1. Log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **vpn** and press **Enter**.

The system prompts for the file:

```
Send VPN client file using Xmodem ...
```

3. At the system prompt, transfer the new VPN client file using Xmodem protocol.
For example, in HyperTerminal, select **Transfer** and then **Send File....** In the Send File window, enter or select the appropriate filename in the Filename field, and select **Xmodem** in the Protocol field.

(Continued on next page)

PCS150R Configuration Options (Cont.)

(Continued from previous page)

The system will display progress messages as well as the result of the update process (which may take several minutes).

4. When the update is successfully completed, the system may prompt you to reset the PCS150R. If necessary, reset the server (see “Reset the PCS150R” below).

Reset the PCS150R

1. If not already logged in, log in to the PCS150R as described on page 13.
2. At the `Command >` prompt, type **reset** and press **Enter**.

The reset will be initiated immediately. After reset, the PCS150R resumes normal operation.

Logout

At the `Command >` prompt, type **exit** and press **Enter** to end the current session.

Troubleshooting / Specifications

Troubleshooting

If the PCS150R is not connecting to the network during system setup, i.e., the Eth0 IP field in the System Information display (see setup procedure on page 12) 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.
-

Specifications

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

DC Input: +12V DC @ 4.0 Amps
Impedance at ASI Out jack: 75 ohms
Level at ASI Out jack: 800 mv
Ethernet: 10/100/1000BaseT

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

Document Revision History / Notes

Document Revision History

Date	Description
May 2011	Revision A: New document

Product documentation is available online at: www.LGolutions.com/products. From the Products page, select **TVs, Systems & Solutions**, then **Head End Systems**, then **Pro:Centric Server** (click **Show [+]** to view the list of products), then **PCS150R**. Click the **Literature & Downloads** tab at the bottom of the PCS150R page, and select the required document(s) from the Downloads list.

Notes

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GPL EXECUTABLES: Linux kernel 2.6.33, LTIB 10.1.1, bash-2.05b, busybox-1.1.3, e2fsprogs-1.34, ethtool-3, gawk-3.1.3, lrzsz_0.12.21, lzo-2.03, mtd-utils-1.2.0, net-tools-1.60, ntpclient_2003_194, openvpn-2.1.1, pciutils-2.1.11, ppp-2.4.1, procps-3.1.11, screen-4.0.2-1, skell-1.13, time-1.7

LGPL LIBRARIES: eglibc 2.8, libelf-0.8.5, termcap-2.0.8

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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.
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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.
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