



DR Gateway

DRGW User's Manual





Features of the DR Gateway

1. Main Features

- The DR Gateway enables you to monitor and control power consumption of installed appliances through WiFi and ZigBee Modem.
- The DR Gateway enables you to detect the maximum power consumption of home and control power consumption.
- The DR Gateway collects and saves real-time electricity rates and electricity consumption data using Internet connection with external network.
- The DR Gateway collects and saves power consumption of home and each appliance.
- The DR Gateway enables internet connectivity and sharing of standard wired and wireless network devices which connected to gateway.
- When connected to Broadband internet, the DR Gateway offers remote access from any internet enabled computer. This allows users to monitor and control their home appliances.

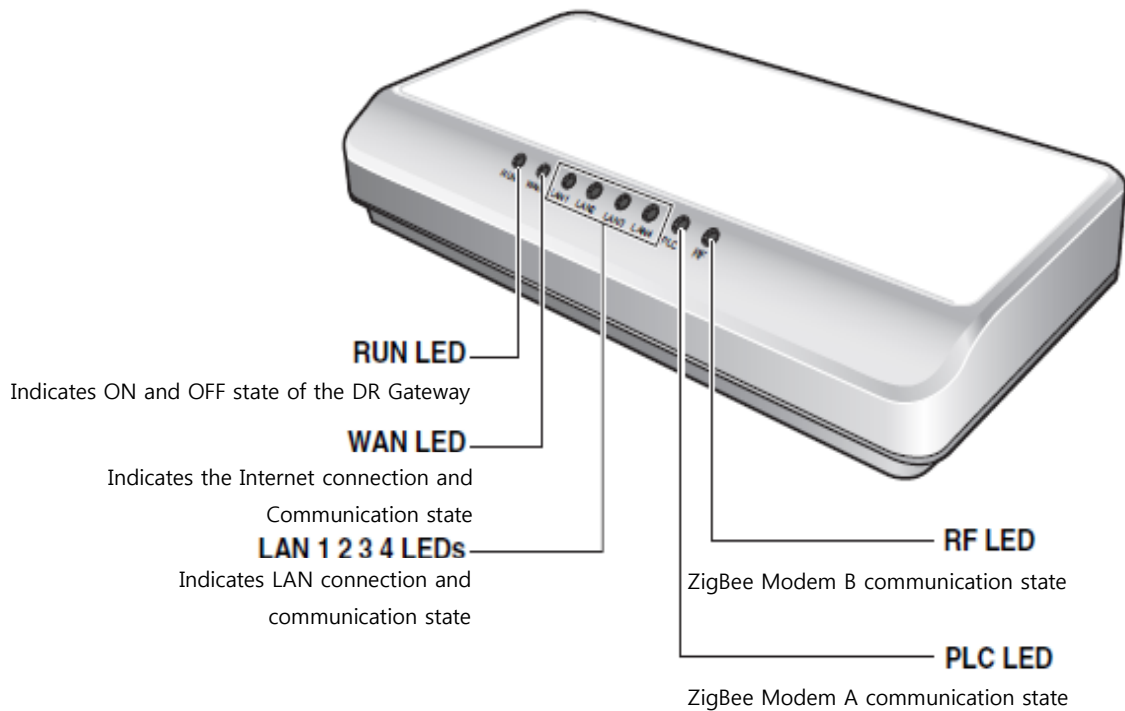
2. Product Specifications

Items	Specifications
Fast Ethernet	10Base-T / 100Base-Tx / 1000Base-T WAN 1 port / LAN 4 port
WiFi	IEEE 802.11b/g/n support
ZigBee	2 Channel built-in 802.15.4 support
Serial	RS-232C console port (For Services Use Only)
Power Source	Power Adapter : DC 5V / 2A Power Source : 110-220VAC 50Hz/60Hz
Temperature and Humidity	Operation Temperature : 0°C ~ 50°C

	Humidity : 10% ~ 90%
Size (L x W x H)	230 x 120 x 45 mm



Product Overview – Front



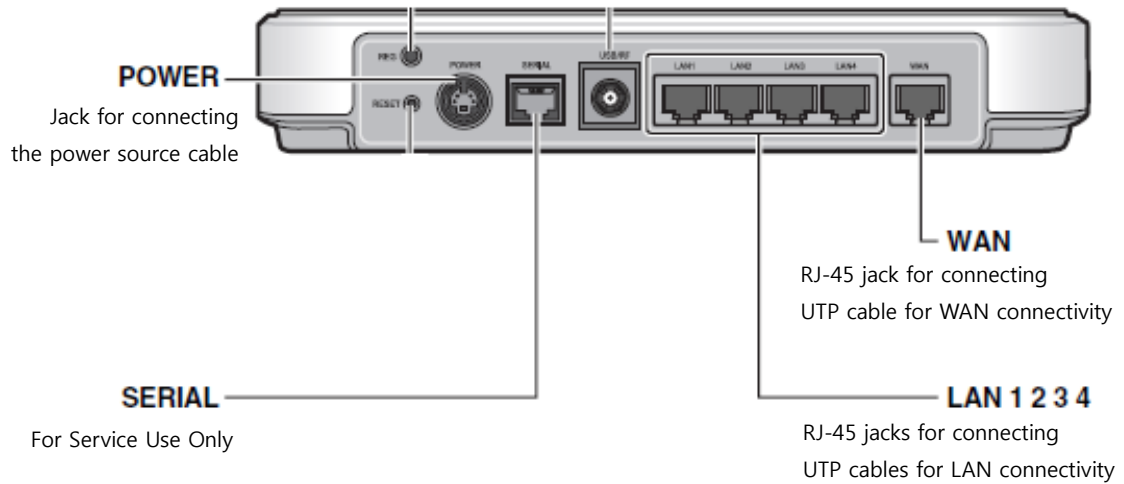
● Functions of LED

LED	State	Color	Functions
RUN	ON	Blue	Normal Operation
	OFF	None	No Power, or Abnormal State
WAN	ON	Blue	Normal linked state (1G bps network)
		Yellow-Green	Data transmission (1G bps network)
	BLINK	Blue	Normal linked state (100M/10M bps network)
		Yellow-Green	Data transmission (100M/10M bps network)
OFF	None	Not connected state	
LAN 1 2 3 4	ON	Blue	Normal linked state (1G bps network)
		Yellow-Green	Data transmission (1G bps network)
	BLINK	Blue	Normal linked state (100M/10M bps network)
		Yellow-Green	Data transmission (100M/10M bps network)
	OFF	None	Not connected state
PLC	BLINK	Blue	Data transmission of ZigBee Modem A

	OFF	None	Initial power on state of ZigBee Modem A
RF	BLINK	Blue	Data transmission of ZigBee Modem B
	OFF	None	Initial power on state of ZigBee Modem B



Product Overview – Back



● Accessories

- AC Adapter 1 EA
- LAN Cable 1 EA
- User's Manual



Safety Instructions

- Please make sure that you read and follow all safety instructions described in this manual.

Instructions for connecting the power source



Only use the AC adapter provided with the product.



Do not touch the power source plug with wet hands.



When using multi-outlet extension cord, do not exceed the rating specifications (voltage/current) of the extension cord.

- If exceeding the rating of the extension cord, it may result in a risk of fire.



Do not bend the power cord and ensure it is not placed under a heavy object.

- If the power source is left plugged in when the cord is damaged, it may result in a risk of electric shock and fire.



If water or other substances get inside the power source or the system, unplug the power source and contact your dealer.

- It may result in a risk of fire.



If the power source plug/outlet are covered with dust, clean them.

- It may result in a risk of fire.



Plug the power source to an outlet with a grounding terminal.

- Not using an outlet with a grounding terminal may result in a risk of electric shock.

Instructions when Installing



Cut off the power sources of all the peripheral devices connected to the product.



Unplug the power cord to turn the power off.



Do not attempt to repair any part of the power supply on your own. Contact your dealer if you believe that it requires repair or maintenance.



The system power cord must be plugged into a properly grounded outlet to prevent electric shock. Ensure that it is plugged into a grounded outlet.



Do not install the product in locations with high humidity. It may result in a risk of electric shock. Use the product within the operational humidity range specified in the manual.



Keep plastic packaging away from children.

- If they wear the plastic package on their heads, they can suffocate.



Do not block any of the product's ports or vents. Do not put any object inside the product.

- If ports or vents are blocked with any material, internal parts of the product can be damaged and result in a risk of fire or electric shock.



When installing the product, check the following before selecting the location.

- Air is clean.
- Proper ventilation is provided.
- Not in direct sunlight, or near heat sources.
- There is no vibration or physical shock.
- Well away from electric devices causing strong electromagnetic radiation.
- Outlet is properly grounded.
- Enough space to reach power cords.
- In areas where severe thunderstorm might occur, connect the system to a circuit breaker and separate the communication lines from the modem.



Connect power source directly to the outlet.

- Otherwise it may result in a risk of fire.



If there is any noise from the power source plug or the outlet, unplug the power source and contact your dealer.

- If the power source is left plugged in, it may result in a risk of electric shock and fire.

Instructions when using DR Gateway



When cleaning the product, make sure that you unplug all the power source cables before cleaning.

- It may result in a risk of electric shock.



Do not place cup or any container filled with chemical or water on or near the product.

- If chemical or other substances leak inside of the product, it can cause parts to be damaged and result in a risk of electric shock and fire.



Do not expose the product to direct sunlight.

- In particular, if the product is exposed to direct sunlight in an airtight space such as in a car, the inside temperature of the product increases and it can cause its shape to be deformed or it may result in a risk of fire.



If the product is dropped or broken due to any other reasons, disconnect the power and have it checked by your dealer.

- When using a damaged product, it may result in a risk of electric shock and fire.



Do not place candle, cigarette or other flame/heat source on or near the product.

- Candles and cigarettes may result in a risk of fire.



Connectors or ports should be connected to designated devices only.

- If undesigned devices are connected, it may result in a risk of electric shock and fire.



When attaching additional parts to the product or removing parts attached separately, read and follow the instructions in the manual carefully.



When cleaning the product, only use a cleaner specified for computer cleaning. Remove power to the product prior to cleaning. Reconnect power only after the cleaner has completely dried.

- When the product is activated without being dried completely, it may result in a risk of electric and fire.



If there is any unusual smell, stop using the product, separate the power source plug and all other connected lines and call your dealer.

- It may result in a risk of fire

Instructions on function extension and maintenance



Function extension and maintenance of the product must be entrusted to the service personnel.

- If you attempt to repair the product, it can injure you or cause system malfunction.



If you want to connect any other peripheral device to the product other than those recommended by Samsung Electronics, contact your dealer first.

- If you connect peripheral devices other than those recommended by Samsung, the product itself or the peripheral devices might get damaged.

Other instructions



Do not lift or move the product with the handle on the power supply.



When moving the product, you must first turn off the product and separate all cables from the product.



Do not attempt repairing the power supply on your own. If there is any problem in the power supply, contact your dealer.



Use only the AC Adapter that came with the product, and is specified in this manual.



Do not use the product in high humidity or heavy vapor.

- You should use within the temperature and humidity specified in the manual.



Before removing power from the product, unplug power from each of the devices connected to the product.



Note that electric current flowing from the power source, telephone and communication cable is dangerous.



Do not connect, release or install cable to the product during a fire, flood or thunderstorm.



Configuring Network Connection

1. Connecting Cable

1) Connecting Internet Line

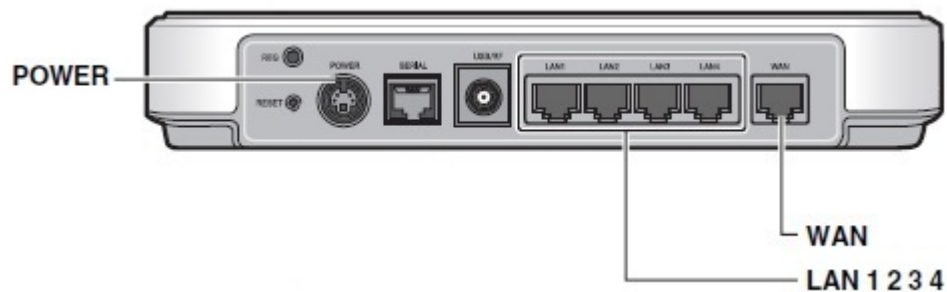
- Connect Internet Line to the WAN port on the right of the DR Gateway back side.

2) Connecting PC or Notebook

- Connect your PC network line to the LAN port on the DR Gateway back side using enclosed LAN cable or other UTP-5 cables.

3) Supply Power

- Connect power adapter to POWER port with enclosed power adapter and wait about 3 minutes.



Picture 1. DR Gateway Cable Connections

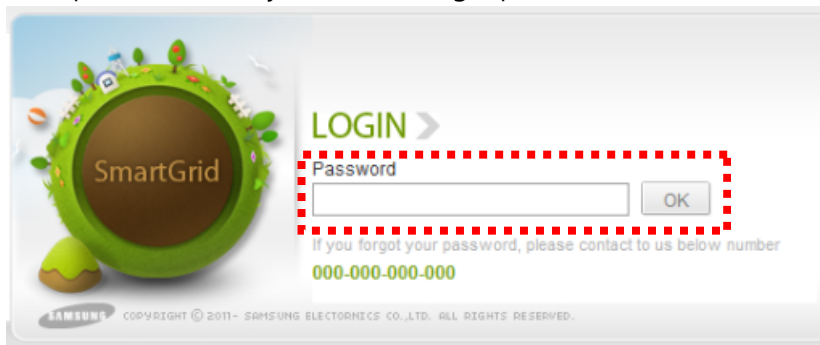
2. Configuring your PC Network

- 1) Open Local Network Connection Status window of the PC connected to DR Gateway.
- 2) Open TCP/IPv4 Property window of Local Network Connection.
- 3) Set TCP/IP Property to 'Get IP address automatically'.
- 4) Close Network Connection Status window.

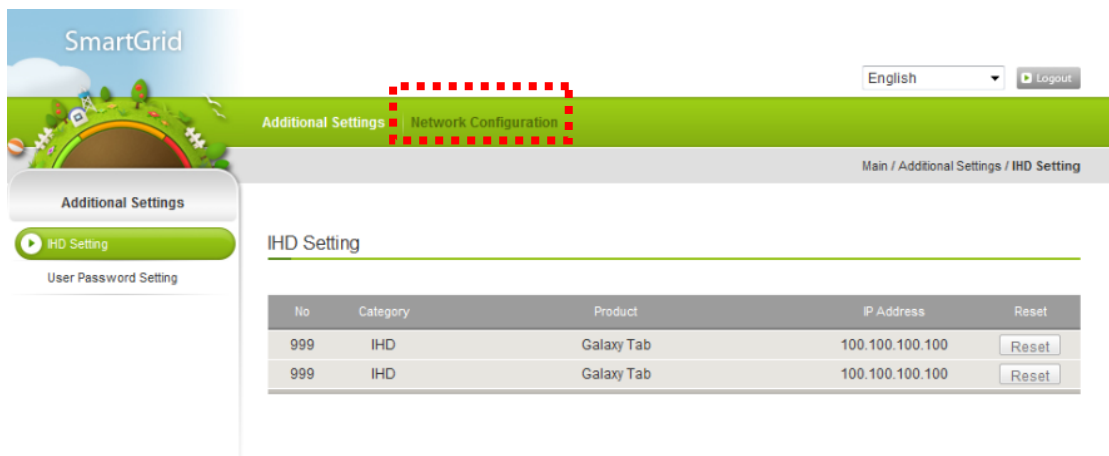
- Please Note below configuration changes. Wrong configuration value disables you to connect to DR Gateway
- Change only when using static IP address of Internet connection.
- Normally do not need to change configurations.

3. Network Configuring through Web browser

- 1) Open your web browser and navigate to http://192.168.1.1.
- 2) Input '000000' as your default Login password.



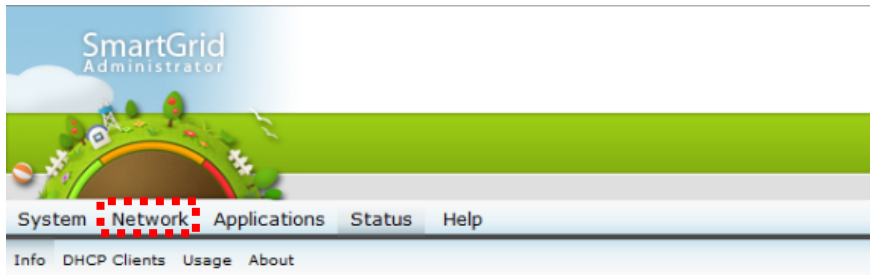
- 3) Click the 'Setup' button on the top of the first web page and click 'Network Configuration' tab. Then New Network Configuration Page will be shown.



4. Configuring Wireless Network Connection

Open Network Configuration Web page with above 3rd instruction.

- 1) Click 'Network' and 'Wireless' tab and move to Wireless configuration page.



System Information

Firmware	Freescale-RDS - PowerPC V4.2.3
Kernel	Linux 2.6.29.6-rt23 #14 Fri Mar 25 09:38:17 KST 2011
MAC	00:00:33:44:33:11
Device	MPC8308WMG
Board	ppc
Username	root
Web mgt. console	Webif ²
Version	r193

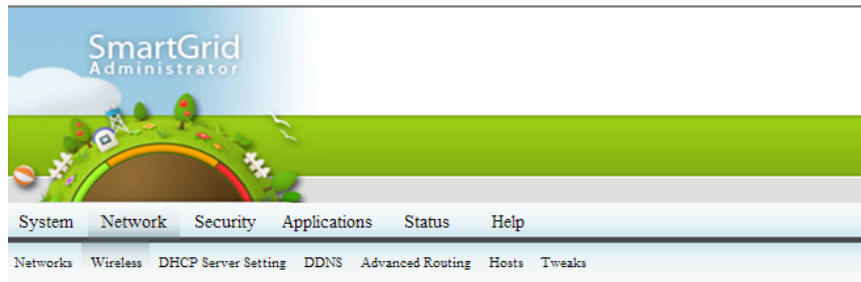


Wireless Configuration

Wireless Adapter ra0 Configuration

Radio	<input checked="" type="radio"/> On <input type="radio"/> Off
Mode	802.11B/G/N ▾
Channel	Auto ▾
VLAN ID (1~4094)	<input type="text" value="0"/> (0 Disable)
VLAN Priority	0 ▾

- 2) Configure SSID
 - A. Input your Wireless SSID in 'SSID' box.
 - B. Click '**Save Changes**' button on the right bottom.
- 3) Configure Authentication
 - A. Input your Authentication way and password for Wireless connection in the box of 'Network Authentication', 'Data Encryption Technique', 'Password(PSK)'
 - B. Click '**Save Changes**' button on the right bottom.



Wireless Configuration

Wireless Adapter ra0 Configuration

Radio	<input checked="" type="radio"/> On <input type="radio"/> Off
Mode	802.11B/G/N
Channel	Auto
VLAN ID (1~4094)	0 (0 Disable)
VLAN Priority	0

Wireless Virtual Adaptor Configuration for Wireless Card ra0

Network	lan
Mode	Access Point
ESSID Broadcast	<input checked="" type="radio"/> On <input type="radio"/> Off
802.11h	<input type="radio"/> On <input checked="" type="radio"/> Off
Bursting	<input type="radio"/> On <input checked="" type="radio"/> Off
WMM	<input checked="" type="radio"/> On <input type="radio"/> Off
Turbo	<input type="radio"/> On <input checked="" type="radio"/> Off
Tx Power	100%
SSID	DRGW
Network Authentication	WPA2 (PSK)
Data Encryption Technique	AES
Password (PSK)	••••••••
MAC Filter	Disabled

Wireless Adapter ra1 Configuration

No WiFi Adapter Detected

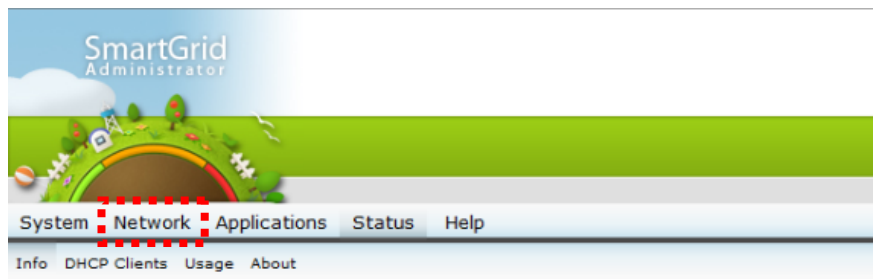
Save Changes

- Change this configuration when using static IP address of Internet connection.
- Please Note below configuration changes. Wrong configuration value disables you to connect to Internet

5. Configuring Internet Static IP

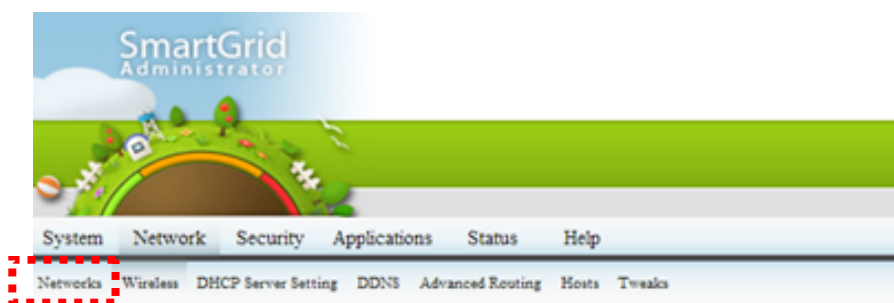
Open Network Configuration Web page with above 3rd instruction.

- 1) Click 'Network' and 'Network' tab and move to Wireless configuration page



System Information

Firmware	Freescall-RDS - PowerPC V4.2.3
Kernel	Linux 2.6.29.6-rt23 #14 Fri Mar 25 09:38:17 KST 2011
MAC	00:00:33:44:33:11
Device	MPC8308WMG
Board	ppc
Username	root
Web mgt. console	Webif ²
Version	r193



Wireless Configuration

Wireless Adapter ra0 Configuration

Radio	<input checked="" type="radio"/> On <input type="radio"/> Off
Mode	802.11B/G/N ▾
Channel	Auto ▾
VLAN ID (1~4094)	0 (0 Disable)
VLAN Priority	0 ▾

- 2) Change WAN Configuration section's 'Connection Type' as Static IP.
- 3) Input IP Address / Mask / Default Gateway.
- 4) Click '**Save Changes**' button on the right bottom.

The image shows the SmartGrid Administrator web interface. At the top, there is a navigation menu with tabs for System, Network, Security, Applications, Status, and Help. Below this, there is a sub-menu with links for Networks, Wireless, DHCP Server Setting, DDNS, Advanced Routing, Hosts, and Tweaks. The main content area is titled 'Network Configuration' and is divided into several sections:

- NAT Mode/Router Mode:** A section with a checkbox labeled 'Perform NAT' which is checked.
- LAN Configuration:** A section with a dropdown menu for 'Type' set to 'Bridged'. Below it are input fields for 'IP Address' (192.168.1.1), 'Netmask' (255.255.255.0), and 'Default Gateway'.
- WAN Configuration:** A section highlighted with a red dashed border. It contains a dropdown menu for 'Connection Type' set to 'Static IP', an empty 'MAC Address' field, and input fields for 'IP Address' (192.168.0.4), 'Netmask' (255.255.255.0), and 'Default Gateway' (192.168.0.1).
- WAN DNS Servers:** A section with a list of DNS servers. One server is listed as '192.168.0.1' with a 'Remove' link next to it. Below the list is an input field and an 'Add' button.

At the bottom right of the interface, there is a 'Save Changes' button, which is also highlighted with a red dashed border.

Certification and Safety approvals

FCC

FCC ID: [A3L-HEG-110](#)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Users are not permitted to make changes or modify the device in any way.

Changes or modifications not expressly approved by Samsung will void the user's authority to operate the equipment.

Part 15.105 (B)

Note : 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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

RF Exposure Statement (2.1091)

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.