

Furrion Digital Wireless Camera System

Designed for 5th Wheel, RV, Caravan and Trailer applications

Furrion's new easy install wireless camera kit comes in two parts,

1. Furrion mount bracket prep kit. *Part No.* **FRCBRKT-BL**

2. Furrion Camera and Monitor Kit. *Part No.* **FRC12TA-BL**

Check if your RV or Trailer has been pre installed with the mounting bracket prep kit.

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Safety Instructions

Please Read these instructions carefully before installation and operating your Furrion reversing camera unit.

The following symbols are used throughout this manual to indicate potentially dangerous situations or mark important safety instructions.



WARNING: Indicates a potentially dangerous condition. Use extreme caution when performing this task.



CAUTION: Indicates a critical procedure for safe and proper operation of the controller.



NOTE: Indicates a procedure or function that is important for the safe and proper operation of the controller.

General Safety Information

- Read all of the instructions and cautions in the manual before beginning installation.
- There are no user serviceable parts inside the Furrion Rear camera system Do not disassemble or attempt to repair any part of the camera system.
- Disconnect all sources of power to the camera before installing.
- There are no fuses or disconnects on the Furrion reversing camera unit. Install external fuses/breakers as required.
- Do not allow water to enter the LCD Display.
- Connect 12V power cable to the camera unit using waterproof connectors.

Excessive heat can be caused from a loose connection.



Caution:

A battery or 12V DC electrical system presents a risk of electrical shock or burn hazard. Ensure all power sources are isolated before installation.



Warning:

These installation instructions are for the use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that specified in the operating instructions.



Caution:

To reduce the risk of fire, connect the camera only to a circuit provided with a maximum branch-circuit over current protection device.



Note:

Ensure to watertight connectors which connecting camera power supply cable to power source.



Warning:

Use 16AWG or larger cables to supply power to camera unit.



Warning:

Ensure to connect the rear camera to the correct polarity 12V DC power supply. Red = Positive.

Installation Safety Precautions

Use correct size cable and connectors for supplying power to your rear camera

Ensure the power supply circuit has circuit protection

Connect rear camera to a 12-14V DC circuit only

Use insulated tools when working with power supply

Use correct safety equipment when working at elevated levels

Ensure camera prep bracket gasket is correctly sealed and weatherproof.

Ensure correct polarity of DC power supply to camera

General information

Overview:

Thank you for purchasing a Furrion reversing camera system. Furrion's reversing camera system is one of the easiest rear view camera systems to install in your trailer, truck or RV. All that is required is a connection of a single DC power supply to the rear camera from a reversing power source.

The Furrion reversing camera system is using **digital wireless** technology giving the major benefit of superior signal transmission with low interference on a single bandwidth channel. This means the Furrion camera unit eliminates the interferences which other analogue signal systems are subject to, meaning the Furrion digital system gives you a clearer picture of what is behind you no matter where you are.

This Furrion system with integrated antenna attached to the camera has been specifically designed for use on trailers, trucks, 5th wheels, caravans and RV's. This system has been designed for extended range applications or security monitoring.

Features:

This unit can be used as a reversing camera, tow hitch monitor or security monitor.

This unit features:

- Wide angle viewing lens
- Night vision LED lights
- Camera mounting bracket to reduce glare
- Digital wireless signal for clear picture quality
- Easy installation
- Adjustable camera angle

Installation

FRCBRKT-BL

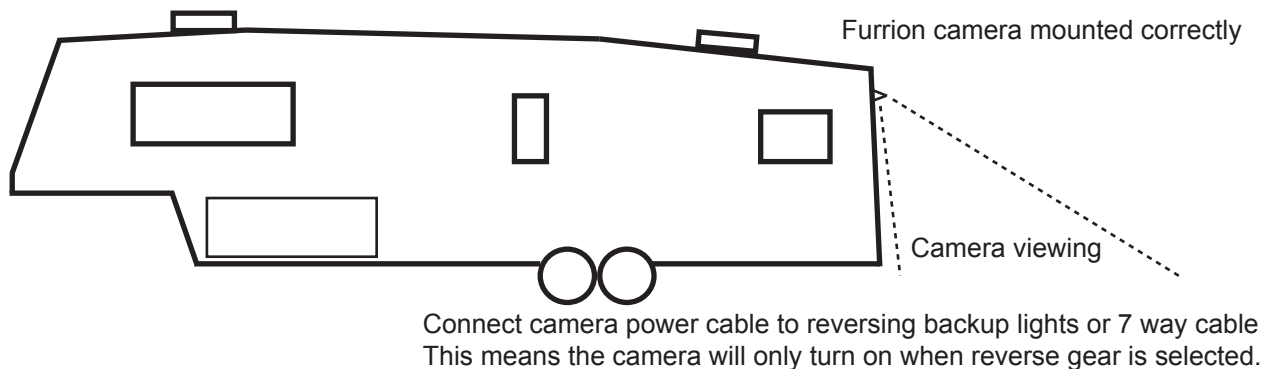
Furrion reversing camera mounting bracket installation:

The Furrion reversing camera prep kit includes:

- 1 x Reversing camera mounting bracket
- 1 x Mounting bracket gasket
- 1 x 6ft power cable
- 1 x Removable Bracket cover

When wiring the Furrion camera system as a reversing camera, the power supply for the camera must come from a reversing indication power source (backup lights) or transmission wiring. The power source can also be from the 7 way connection on your trailer using the green wire from the center pin for the back up light power source or from directly at the back up tail light circuit which feeds to the reversing bulbs.

For reversing camera use, mount the camera bracket on a elevated position at the rear of the trailer or RV.



Do not mount camera in a low position..

For reversing camera function, do not connect camera to a constant power source.

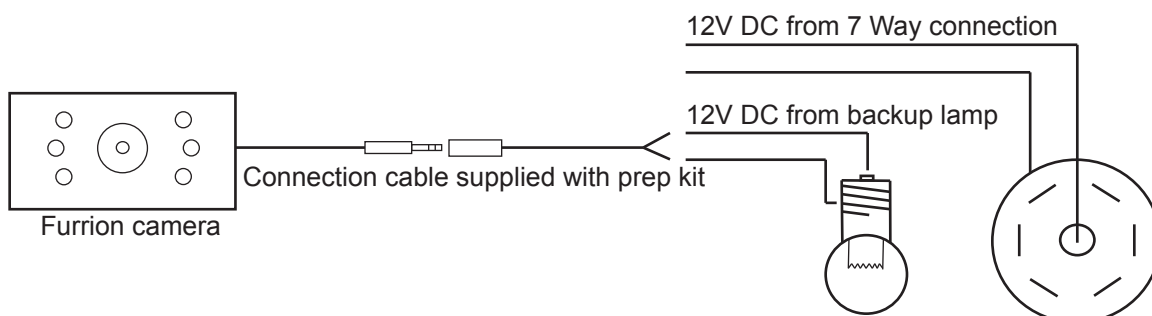
For best results, mount the camera in a high position to increase the viewing angle.

Mounting and wiring the camera prep bracket kit

Wiring:

For using your camera kit as a reversing camera system:

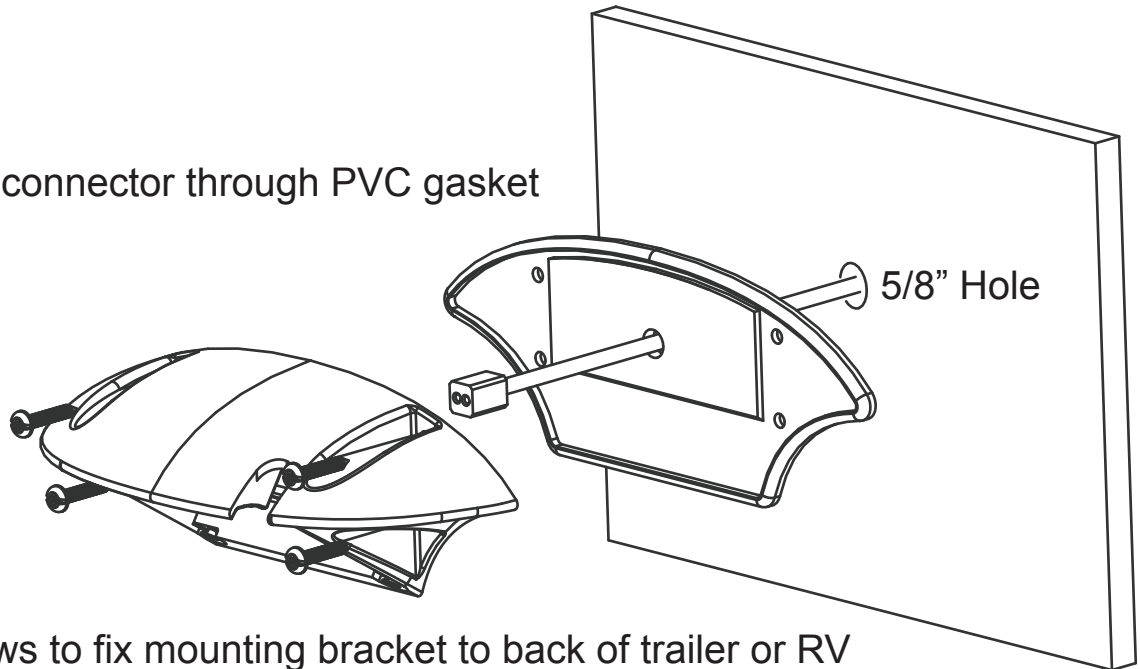
1. Isolate the 12V power system
2. To provide power to the wireless camera for use as a reversing camera, run a 2 core 16AWG internal cable from your reversing (back up) light on the rear of your trailer, truck or RV, or from your 7 way cable reversing power supply.
(7way reversing connections.. center pin #7 positive + Ground pin #1 negative).
3. Connect the camera prep kit power cable to the reversing wire from step 2. Supplied 6 ft power cable for the camera:
Red = Positive
Black = Negative
4. Find a suitable position to mount your camera mounting bracket on the rear of your trailer or RV. Make sure the mounting position is at the center line of the RV and is positioned as high as possible. Ensure the mounting surface is flat and has enough surface area for the entire mounting bracket to fit.
5. Drill a 5/8" through hole on the rear of the trailer or RV in the position where the camera is to be mounted. Use a grommit to protect cable.
6. Feed the power cable through the hole and gasket, before mounting the camera bracket with 4 screws



Use one of these power sources to supply 12V DC when the system is applied as a reversing camera

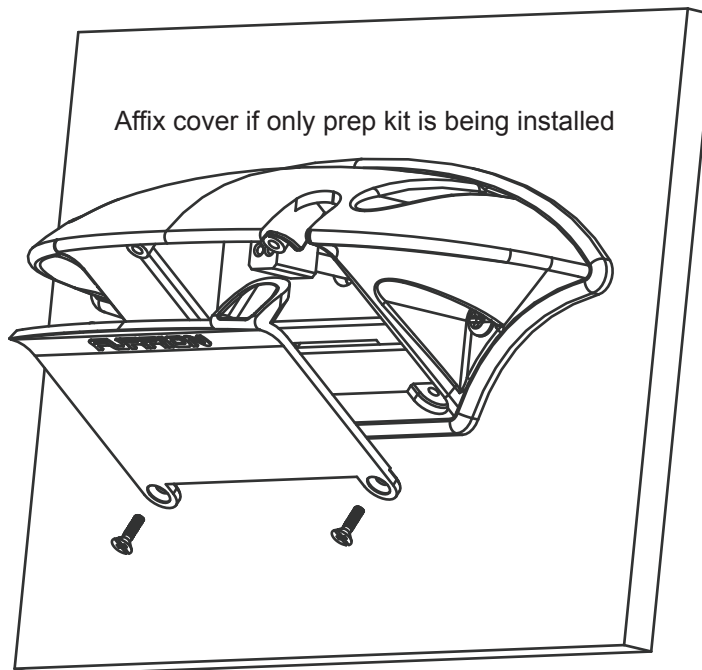
Mounting bracket installation

Feed connector through PVC gasket



Use 4 screws to fix mounting bracket to back of trailer or RV

Ensure the bracket is mounted securely and the gasket is watertight.



* If the camera bracket is being mounted as a prep kit without the camera, secure the wire connector inside the bracket and attached the cover. (as above)

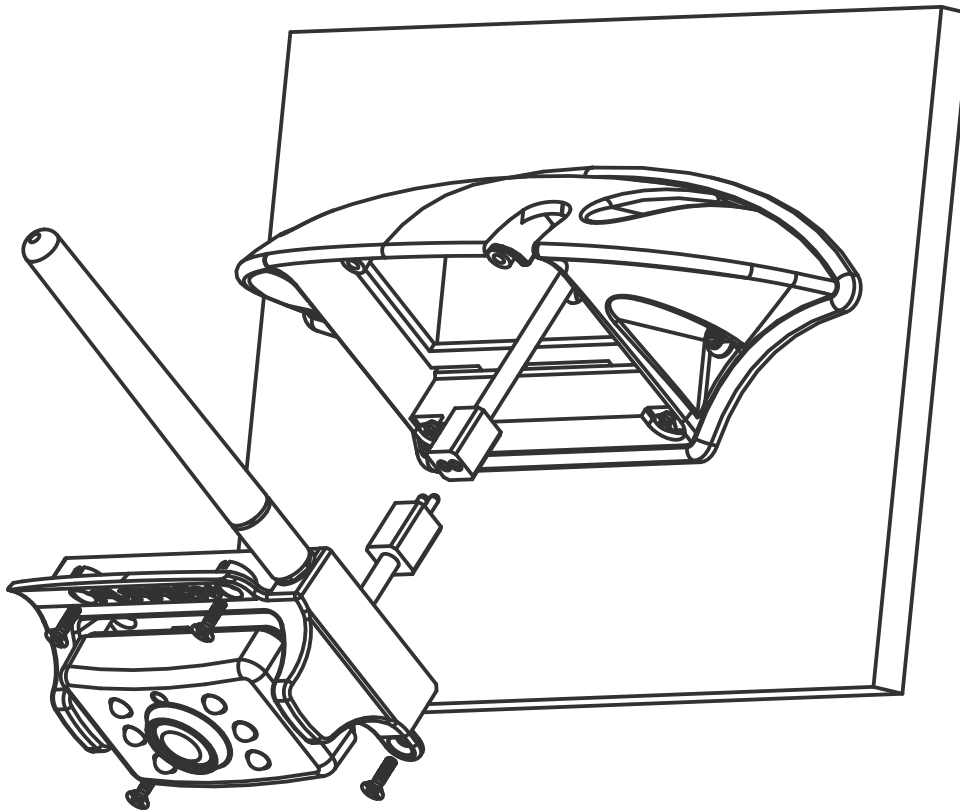
Installation of camera

If your RV or trailer has a Furrion reversing camera prep kit pre installed by the OEM manufacturer. You will need to contact your local dealer or go to furrion.com to purchase a Furrion FRC12TA-BL Camera and monitor installation kit.

To install the camera onto a pre installed mounting bracket:

1. Remove the cable cover which is held by 4 screws on the underside of the bracket
2. Locate the connector inside the prep kit mounting bracket
3. Connect the camera plug and socket together and install the camera with the 4 screws

See below:

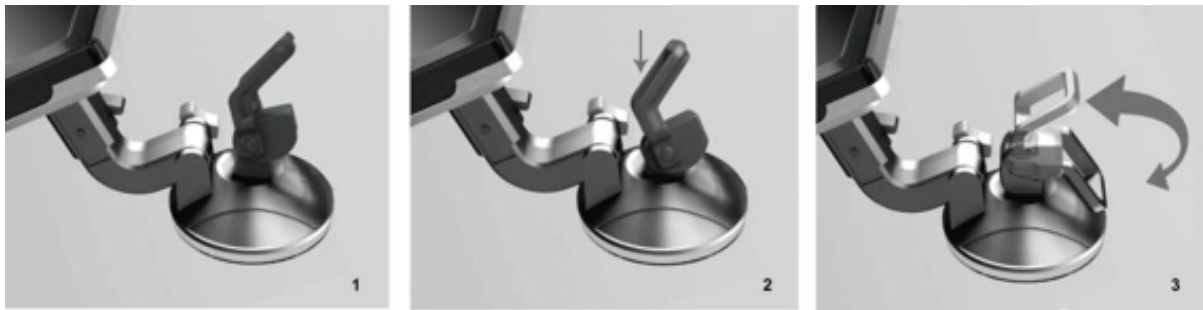


Camera viewing angle can be adjusted after camera is mounted

Monitor Installation

When choosing a location to mount the monitor, make sure the monitor is in an area that will not obstruct your vision while driving.

1. Before mounting the monitor, clean the mounting surface well.
2. Position the suction mount to the smooth surface which suits your requirement.
3. Press the suction cap against the smooth surface and press the lock down to attach and fix the mount to the surface.



Snap in the monitor to the suction mount.

4. Adjust the mounting arms to suit your view angle to the monitor and tighten the screws on the mount to fix the position.
5. Route the power cable to the vehicle's cigarette lighter socket/12/24 V power outlet. The cable must not interfere with the safe operation of the vehicle.
6. Insert the small 12/24 Volt DC plug of the power cable into the right side of the monitor.
7. Plug the 12/24 Volt cigarette lighter plug into the vehicle's cigarette lighter socket.

To maximize the effectiveness of the suction mount, it is recommended that the application be performed under the following conditions:

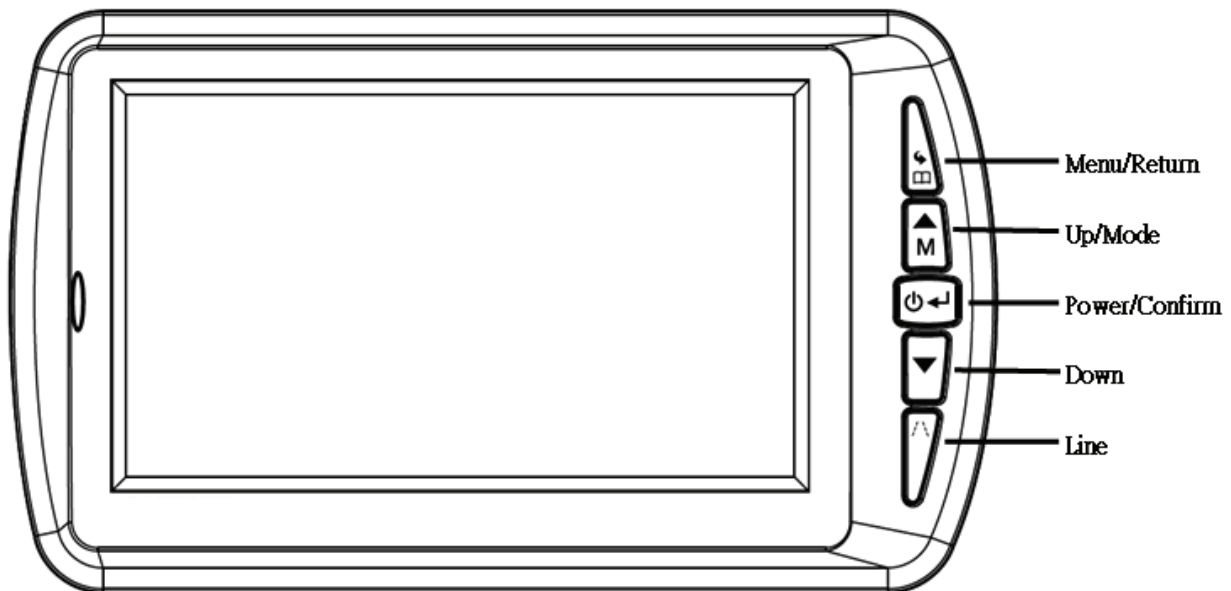
- Surface temperature should be between 21 and 38 degrees Celsius.
- Application below 10 degrees should be avoided.
- Application should not occur in direct sunlight.

Mounting should be protected from exposure to direct sunlight for a period of 24 hours.

NOTE: UNDER EXTREME BRIGHT LIGHT CONDITIONS, THE SCREEN IMAGE MAY TAKE A FEW SECONDS TO STABLIZE. PLEASE WAIT UNTIL THE IMAGE HAS STABLIZED BEFORE BACKING UP.

Operation

Once you have fitted the camera to your trailer, RV, truck or caravan you will need to pair the wireless camera with the LCD monitor before use. (This is only required at initial system commissioning to pair the camera with the LCD screen.)



Menu/Return	Press to show OSD or return to the previous menu
Up/Channel	Select forward in OSD operation
Power/Confirm	Confirm or enter in OSD operation, press and hold for 2S to turn off and press to turn on
Down	Select backward in OSD operation, press and hold for 5S to clear pairing when there is no OSD
Line	Guideline display selection

To connect camera unit and screen together:

1. Ensure both rear camera and LCD display have 12V DC power supplied (Vehicle may need to be running and in reverse gear to supply power to camera)
2. Press the power button on the LCD display to turn on
3. Press the MENU button on the display (this will bring up 4 icons on the screen)
4. Using the up and down buttons scroll across to PAIR icon
5. Press power/confirm button (short press) ("pairing" icon will be displayed)
6. Press the small button on the underside of the camera unit for 2 seconds
7. On successful pairing OK will be displayed on the LCD display.

If there is no operation of the camera displayed on the LCD display within 30 seconds of pairing. Repeat pairing process.



Note:

If you are having trouble pairing the devices, reduce the distance between the camera unit and the LCD display for the pairing process.

To remove or replace a paired camera from the LCD display memory, Exit the menu icons on the LCD display, then press and hold down the DOWN key for 5 seconds. This will erase all pairing memory stored on the LCD display. The pairing process must be completed again for the system to function.

LCD Display Menu Icons:

Signal strength indicator   Mirror/ rotated image indicator



Picture Settings



Rotate Camera Image

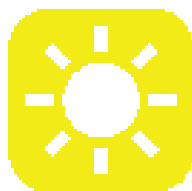


Connect Camera



Software Information

LCD Picture Settings Sub Menu Icons:



Brightness Adjust



Contrast Adjust



Color Adjust

Trouble Shooting

Monitor will not turn on

Ensure power cord is connected to the display correctly

Make sure the cigarette socket has power output of 12 - 14V DC

Check fuse in cigarette socket adapter

Camera and display will not pair

Check if camera unit is receiving power

Reduce the distance between camera and monitor while pairing

Ensure to hold the pairing button on the camera for 2 seconds

This icon flashes on the display:
(intermittent / weak signal)



Check antenna is installed correctly on camera unit. Ensure it faces vertically.

Distance between camera and display is too great.

Delete camera from LCD display memory then re pair camera to display

System testing:

1. Disconnect and reattach the vehicle's negative battery cable.
2. Turn the ignition key to the accessory position, do not start the vehicle.
3. Engage the parking brake, and then put the shifter in the reverse position. This will engage the camera unit and picture will be displayed.
4. After testing the unit and you are satisfied with the route you have chosen for the cabling, you must permanently install it.
5. Route all wires behind interior panels or under carpeting so they are hidden.

Technical specification of LCD Display:

1. Working voltage: DC12/24V
2. Working current: $\leq 180\text{mA}$
3. Standby current: $\leq 5\text{mA}$
4. Wireless communication distance: $\geq 100\text{M}$ (open area outdoors)
5. Working frequency: 2.4G
6. Size of LCD display: 4.3'
7. Effective pixels of LCD: 480*272
8. Sensitivity of receiver: $-87\pm 3\text{dBm}$
9. Working temperature: $-10/+50$

Technical specification of Camera unit:

1. Working voltage: DC12/24V
2. Working current: $\leq 220\text{mA}$
3. Transmitting distance: $\geq 100\text{M}$ (open area outdoors)
4. Size of image sensor 1/4 inch Color CMOS VGA
5. Quality of image: Max.25frame/sec @ QVGA
(frame rate adjusts dynamically according to the image)
6. Specification of camera:
Focal length f1.7mm, aperture F2.0, IR filter 850nm
7. IR emission wavelength: 850nm
8. IR view distance: $\geq 1.5\text{M}$
9. IR LED lit condition: Brightness $\leq 2\text{Lux}$
10. Working temperature: $-10/+50$

FCC Information and Copyright

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.

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.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.