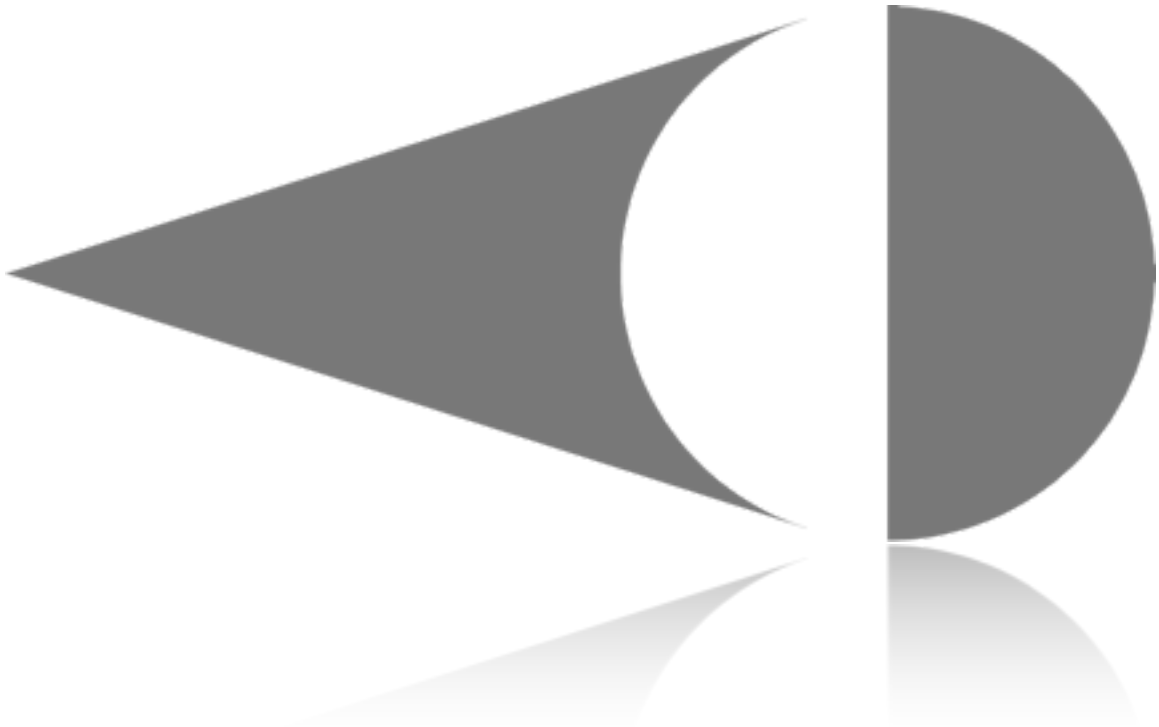

# User's Guide

Rev. A

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# User's Guide

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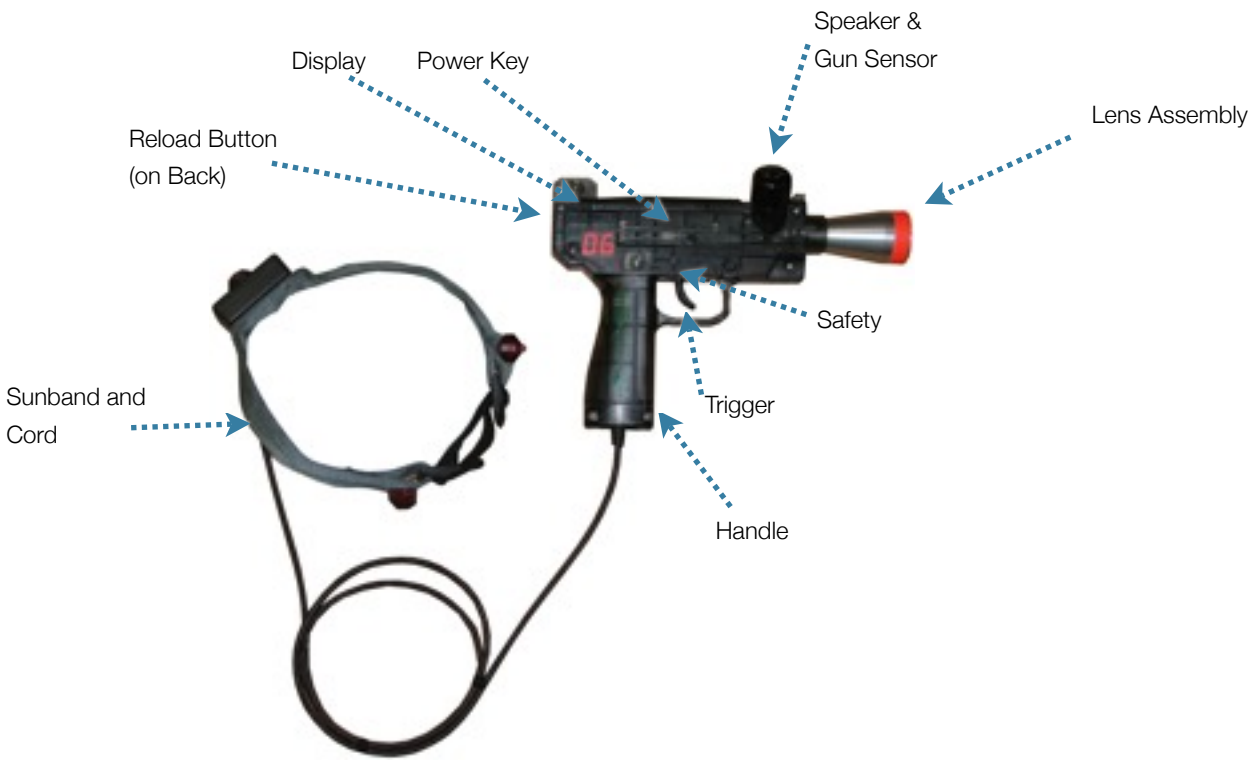
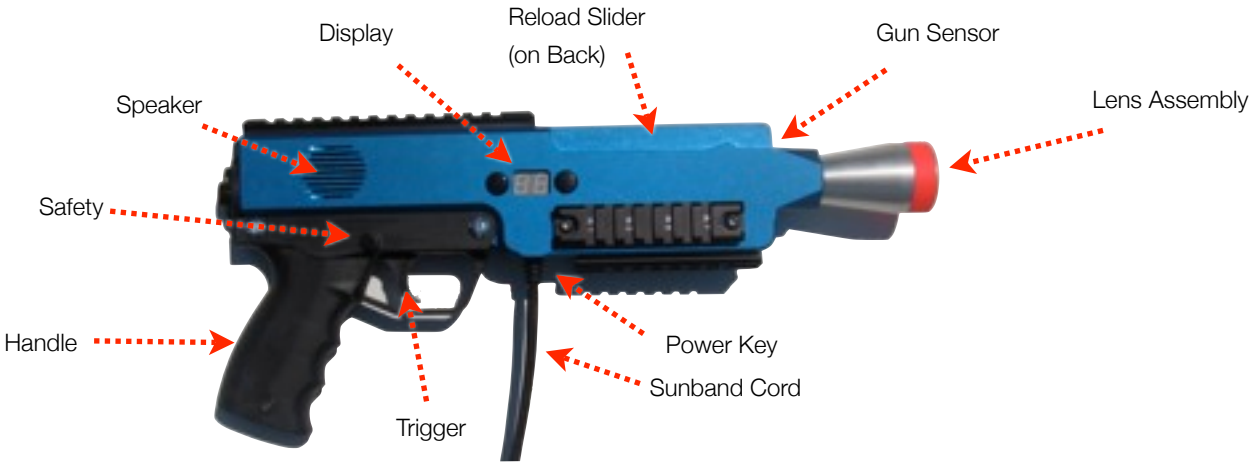
# 1. Illustrations

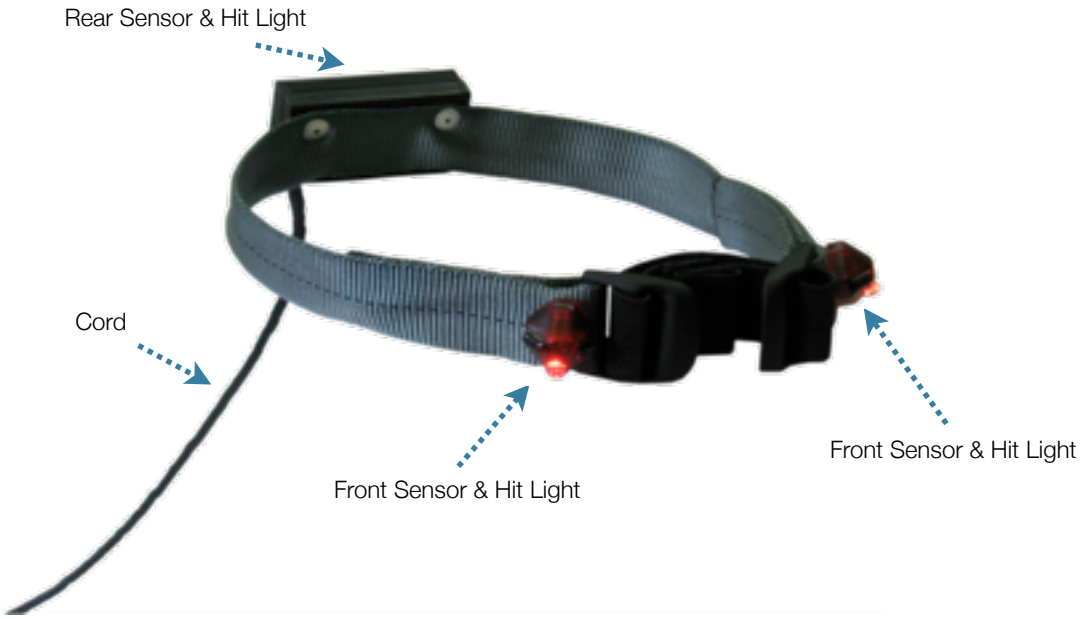
## Basic Parts of the Eclipse 310



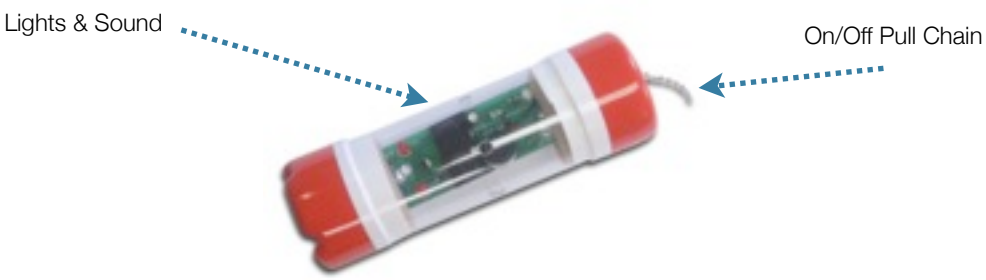

## Basic Parts of the S-7 TE



# Basic Parts of the Sunband




# Basic Parts of the Scorpion Grenade



# Basic Parts of the Game Controller

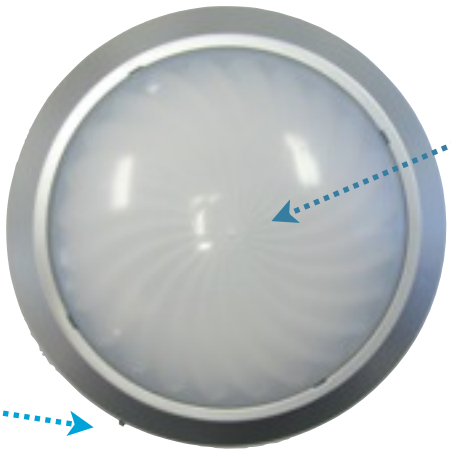
Display

Programming Buttons

On/Off Switch

Compartment for 9 Volt Battery
(Door on Back)

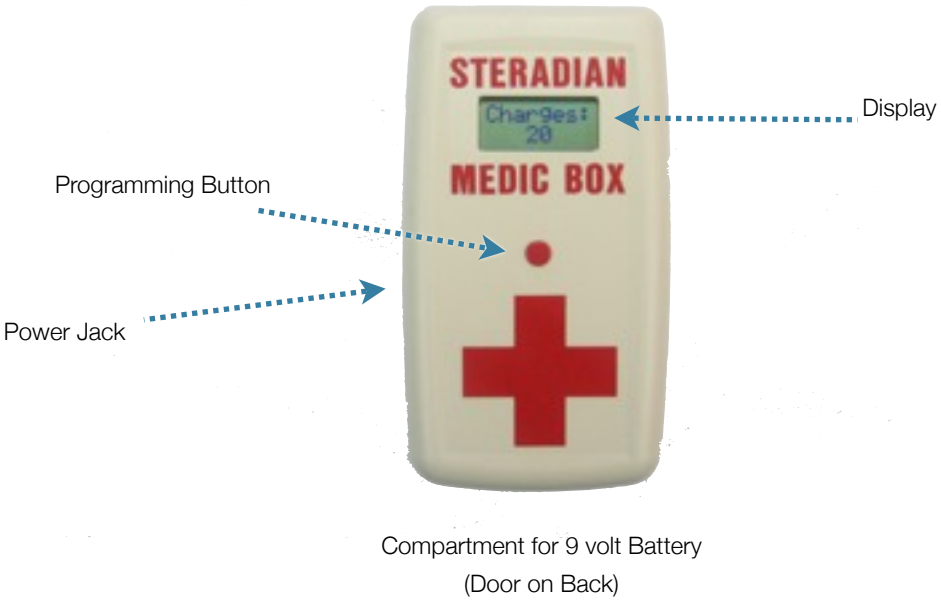
# Basic Parts of a Target



Push for On/Off

Switch for Delay Settings
(On side)

# Basic Parts of a Medic Box




# Basic Parts of an Ammo Box

# 2. Getting Started

## A Simple Game With Two Players

Once you have checked the items for damage during shipping, open up two guns from their bags. Place the Sunband around your head with the cord in the back. The zip-tie on the cord should stay. The loop in the cord is to adjust the length of the cord. If the cord is pulled upon, this loop also helps to ensure that the cord is not damaged.

Pull the power key out.

The guns arrive programmed with factory default settings (see 4.). The factory settings are set so it takes six hits to be out, then the gun will power down. It is also programmed to have unlimited ammunition.

If you are playing indoors, locate the lens reducers. They are the orange rubber plugs that come with the extra power key. Just push the reducer into the barrel of each gun. They will be snug. If you are playing outside, you do not need these.

Two of you can start playing; it is that easy!

Once you have played and you are done for now, open the white box that contains the charger. One comes with each gun. Plug the AC power cord into your 120v/220v wall outlet. The charger's green light will come on. Plug the other cord into the gun in the same hole where you pulled the key out. If the green light turns red, the gun is not fully charged yet. If the green light stays on, the gun is fully charged.

# 3. Running Your Own Game

## A Game with Multiple people

To ensure the game runs smoothly, a few things should be done before players arrive. Make sure the guns are fully charged. Attach them to a battery charger to see if the green light appears. If you are playing indoors, make sure each gun has a lens reducer in it. If there are red dot sights on the guns, turn them on to be sure they are working. If not, change their batteries. Check your Game Controller also. Now you are ready for everyone to arrive.

Each player should have a gun. Players can be divided into teams and/or given team arm bands.

Since *you* are running the game, *you* program the Game Controller or Scenario Master for what each gun is set with. There are many different settings to choose from using the Game Controller or Scenario Master. For more information, refer to the Game Controller User's Guide or Scenario Master User's Guide.

Once each player's gun has been programmed, the game can start. Make sure that all of the players know the field boundaries and rules. During each game, no player should be closer than five feet from an opponent. If any player falls or is hurt during a game, play should stop immediately and attention given to the player.

There are many different game scenarios to choose from. Make sure each player knows the rules and how the game is to be played. If playing with Medic Boxes or Scorpion grenades in your game, make sure that all players are aware of this. If you would like more information about the Medic Box, please refer to the Medic Box User's Guide. If Scorpion grenades are being used in the game, each player will need to be aware that when a Scorpion cord has been pulled, players have five seconds to get away from it before life points will be lost.

Depending upon the settings chosen through the Game Controller or Scenario Master, the game may end through a time limit you have set or because one team won. At the end of each game make sure you do not have players wrapping the Sunband cord around the gun. This will damage the cord over time. Make sure you retrieve all of your equipment. Charge the guns after each day of play.

## 4. What Do All of the Different Settings Do?

Your guns arrive programmed with factory default settings. You may want to change these settings for many reasons: different game scenarios, skill level of players, or to make your weapon simulate a semi or automatic weapon. If you want to change these factory default settings, use a Game Controller or Scenario Master. Listed below are the settings that can be changed and why you would want to change them.

**Shot Power** is the amount of life points each shot will take from another player when you hit them. The default is set to 1, so when a player is hit, it takes away one life point from the player who was hit and the number on their display goes down by 1. If you change this number to 2 then the display will go down by two. You might also do this if you want to simulate different weapon types, such as a shot gun vs. pistol. This setting is commonly left at 1, but can be increased to simulate a more powerful weapon.

**Shot Time** is the amount of time before your gun will fire again. The default is set to 0.3 seconds. You have to wait 0.3 seconds before the next shot will be fired from your gun even if you continuously hold down the trigger. You may want to change this if you want to simulate different weapons, such as a machine gun vs. a pistol. Increasing the number will make the gun fire slower. Decreasing this number to 0.1 would simulate a machine gun and increasing the number to 1.0 would simulate a pistol.

**Burst Size** is the maximum number of shots you can fire at a time. The default is 0 and allows for unlimited shots, so if you held the trigger down you would continuously fire until you ran out of ammo. This setting is used primarily for military simulation.

**Clip Size** is the amount of shots in each clip. Default is set at 0, which is unlimited, or you can choose any number from 1 to 99. This may be changed to challenge players. If you choose a low number the player will have to reload more often. For example, six shots per clip will simulate a revolver and 30 shots per clip will simulate a machine gun.

**Clips** are the number of reloads available to the player when the gun is powered on. Default is set at 0, which is unlimited. This may be changed to challenge players or if Ammo Boxes are being used in the game. Ammo Boxes are another source of shots for players who have run out. For more information, please refer to the Ammo Box User's Guide.

**Reload Time** is the amount of time it takes to load a clip. Default is set at 1 second. This may be changed to force a player to wait before firing again. If you increase this number it will increase the time to load each clip. Common settings are between 1 and 5.

**Hits** are the number of shots a gun will take before the player “dies” or is out. The default is set at 6 hits. This may be changed to give a player an advantage. If you have a new player and increase this number it will take longer before they are out of the game. If you decrease this number for a senior player, they will be out quickly unless they are careful.

**Cycle Time** is the amount of time between hits. This gives each player time to react before they take the next hit. The default is set at 1.0, which is one full second. It gives the player time to realize he was shot and to react. Senior players could be set at 0.1 and new players could be set at 2.0.

**Stun Time** is to simulate the reaction time of a person if they were really hit or hurt. If you take a hit, your gun won’t fire until the Stun time is up. Default is at 0.0, so that the player can defend themselves right away. This might be increased to balance out a player who has a lot of shot power.

# 5. Default Settings (How Your Gun Comes Programmed)

To return to these settings at any time, you can do a factory reset.

Start by turning the gun off with a power key.
On the Eclipse, hold down the reload button and trigger, then remove the power key. Release all buttons.
On the S-7, hold down both brightness buttons, then remove the power key. Release all buttons.

| Setting | Default | Description | Range |
|---|---|---|---|
| Shot Power | 1 | Life points taken from opponent when hit | 1 - 30 life points |
| Shot time | 0.3 seconds | Time before your gun will fire again | 0.1 - 9.9 seconds |
| Burst Size | 0 (unlimited) | Maximum number of shots the gun will fire at one time | 0 - 9 |
| Clip Size | 0 (unlimited) | Amount of shots in each clip | 0 - 99 |
| Clip | 0 (unlimited) | Amount of reloads available | 0 - 99 |
| Reload Time | 1 second | Amount of time it takes to load a new clip | 1 - 28 seconds |
| Hits | 6 shots | Amount of hits a player can take before the player is out | 0 - 99 shots |
| Cycle Time | 1 second | Amount of time between hits | 0.1 - 9.9 seconds |
| Stun Time | 0.0 seconds | Amount of collection time after a player has been hit | 0.0 - 9.9 seconds |

# 6. Maintenance and Care

There are some basic guidelines to follow to help your equipment last longer, have fewer repairs, and keep costs down.

If the Sunband cords are wrapped around the guns, it can cause wires in the Sunband cord to break and stop working.

If players hit the aluminum lens assemblies together or against hard objects, eventually the lenses can crack.

Humidity can build up for many reasons on the inside of the guns. If so, condensation may occur. Give it time to air out and it should work once it is dry.

Like all electronics, our gear does not like water, but will generally survive encounters with water.

There are several ways that you can store your guns. The main points to remember are to not hang the gun by the Sunband cord and to not wrap the Sunband cord around the gun.

Typically, gun batteries will maintain 70% of battery capacity after 2 years. Battery health will vary depending on many factors.

The equipment is manufactured to be durable and able to take heavy use. If players follow basic rules and owners are watchful, the repairs and maintenance costs can be kept very low.

## Charging Safety

The device does not operate when charging.
USE ONLY THE CHARGER PROVIDED. Use of any other charger could cause the batteries to explode, causing serious injury.
Do not expose the charger to moisture and water.
To reduce the risk of damage to the charger and cord, pull the charger by the plug, rather than the cord, when disconnecting the charger.

# 7. Specifications

| | S-7 | Eclipse |
|---|---|---|
| Battery | 7.4v Li-Ion 1500mAh | 7.4v Li-Ion 600mAh |
| Play Time | 20 Hours | 12 Hours |
| Outdoor Range* | 570 feet or 152 meters | 570 feet or 152 meters |
| Temperature | 0˚ F - 100˚ F | 0˚ F - 100˚ F |

*Tested in 150,000 Lux sunlight in clear conditions with a stable firing platform.

# 8. Contact Information

General information:

Web: www.steradiantech.com

Phone: 765-420-9201

Fax: 765-535-5040

Steradian Technologies, LLC
420 N 4th St. STE A
Lafayette, IN  47901
USA

Purchasing:

Email: sales@steradiantech.com

Phone : 765-420-9201

Repair:

Email: techsupport@steradiantech.com

Phone: 765-420-9201

# 9. Infra-Red Safety

Steradian Technologies designs and manufactures “Lasertag” equipment and accessories. Note that the term “Lasertag” is the name of the sport only, not the driving technology.

**Definition of “laser”**

Despite the name, Steradian Technologies does not manufacture any product which contains a real laser, which is an acronym for Light Amplification by Stimulated Emission of Radiation.

A laser is defined by emitting a high-intensity, narrow-spectral-width, highly directional beam of coherent light. A high-power laser is capable of causing damage if used incorrectly, which is why Steradian Technologies does not use them.

Steradian Technologies instead uses an IRLED.

**Definition of “IRLED”**

IRLED is an acronym for Infra-red Light Emitting Diode.

An IRLED is defined by emitting a low-intensity, wide-spectral-width, low-directionality beam of non-coherent light. An IRLED is what is used in a typical television remote.

Lensing:

Steradian Technologies uses lenses to focus the Infra-red beam into a useable pattern. Because LED’s are not a point-source, and due to the nature of optical lensing, the lens does not focus the beam to a level capable of causing any harm.

Straight from the source:

Vishay Telefunken makes the most powerful IRLED we use, the TSAL6100.

Here are some quotes from their IR safety document:

“Worldwide, there is no report on eye injuries caused by Incoherent diode emitters. Recent studies performed in the US showed that eye injuries (here: tests done on monkeys) due to even the brightest LEDs available are impossible.”

You can read the full text at http://www.vishay.com/docs/ir_safety.pdf

# 10. Steradian Technologies, LLC Warranty Policy

Steradian Technologies LLC products carry a limited 2 year parts and labor warranty against defects in materials or workmanship. We will repair or replace (at our discretion) the defective unit without charge for the parts or labor if the unit is returned to Steradian Technologies, LLC within the warranty period. This warranty does not cover damages caused by improper care, handling or use. Shipping costs are not covered by this warranty.

This limited warranty covers all defects encountered in normal use of the Product and does not apply in the following cases:

A) Loss of or damage to the Product due to abuse, neglect, mishandling, improper handing by you, alteration, accident, electrical current fluctuations, improper use, failure to follow operating or maintenance instructions in or environmental conditions prescribed in, Steradian Technologies LLC user's manual or other documentation, or services performed by someone other than a Steradian Technologies LLC repair facility. Without limiting the foregoing, dropping the Product, scratches, and abrasions will be presumed to have resulted from misuse, abuse or failure to operate the Product as set forth in the user's manual or other documentation for the Product.

B) Use or parts or supplies (other than those sold by Steradian Technologies LLC) that cause damage to the Product or cause abnormally frequent service calls or service problems.

C) If the Product has had its serial number or dating defaced, altered or removed.

Steradian Technologies LLC shall not be liable for loss of revenues or profits, inconvenience, expense for substitute equipment or service, storage charges, loss, or any other special, incidental or consequential damages caused by the use, misuse, or inability to use the product regardless of the legal theory on which the claim is based, and even if Steradian Technologies LLC has been advised of the possibility of such damages. Nor shall recovery of any kind against Steradian Technologies LLC be greater in amount than the purchase price of the product causing the alleged damage. Without limiting the foregoing, you assume all risk and liability for loss, damage or injury to you and your property and to others and their property arising out of the possession, use, misuse or inability to use the product sold by Steradian Technologies LLC not caused solely and directly by the negligence of Steradian Technologies LLC. This limited warranty shall not extend to anyone other than the original purchaser of the product, and states your exclusive remedy.

## Communication Regulation Information

### FCC compliance Statement

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

### European Community

Complies with European Directives:

EN 60950-1: 2001 and A11: 2004

Council Directive: 98/34/EEC

EMC Directive: 89/336/EEC Electromagnetic Compatibility with Amending Directives: 92/31/EEC, 93/108/EEC, 2004/263/EEC.

The charger used for the EUT shall be a Limited Power Source in the meaning of EN 60950-1.