

# Audio/Video Unit



OWNER'S MANUAL

**OCEANREEF**<sup>®</sup>  
connecting divers

**GAMMA-105 2010**



## GAMMA-105 MANUAL CONTENTS

WARNINGS.....	4
INTRODUCTION.....	5
COMPONENTS.....	6
OPERATING PROCEDURES FOR COMMUNICATION WITH THE GAMMA-105.....	9
OPERATING PROCEDURES FOR USE OF THE CAMERA.....	10
TROUBLESHOOTING .....	12
WARRANTY.....	13

## **WARNINGS, CAUTIONS, NOTES**

Pay special attention when accompanied by these symbols:



A **WARNING** indicates a procedure or situation that, if not avoided, could result in serious injury or death to the user.



A **CAUTION** indicates any situation or technique that could cause damage to the product, and could subsequently result in injury to the user.



A **NOTE** is used to emphasize important points, tips, and reminders.

## INTRODUCTION

The GAMMA-105 is an integrated audio/video system consisting of the M105 Digital and a CCD Micro Video Camera, which may be fixed in an underwater housing, attached to a Neptune mask, or held by the diver. This system makes it possible for those on the surface to communicate with an unlimited number of divers, within the range of the M105, while simultaneously monitoring the underwater video footage.

Audio and video features are integrated in a unique, compact, safety, strong and elegant waterproof case.



## COMPONENTS

The system consists of the following items:

### Surface unit



#### VIDEO SIDE

1. video input port
2. power switch
3. video out port
4. charger port
5. colour 7 inch monitor
6. remote controller

#### AUIDIO SIDE

7. antenna port
8. audio out port (cable optional)
9. on/off switch
10. microphone
11. headset port (headset optional)
12. volume adjustment
13. Incorporated speaker
  - antenna
  - 12v rechargeable battery
  - 12v Battery charger

**One surface/diver video cable (50 meters -165 ft long) (if sold separately code OR008575)**



The cable is a mini RG59 + 4x0.18mm<sup>2</sup> cable with a polyurethane jacket to better resist to salt water. The whole cable is covered with a rope made to resist to 4000N pull strength. It is equipped with an 4pin connector on the surface side and a 4 pin rubber connector on the diver side.



Do not try to connect a different kind of camera to the GAMMA-ALPHA 2010 surface unit! You will risk damage to your camera.



The video camera maybe handled or connected to the right side of your Neptune SPACE mask. The cable must be fixed to the BC avoiding direct tension.

**One CCD micro video camera with underwater housing (if sold separately PAL = code OR008574 - NTSC = code OR008573)**

It is a 1/3" super HAD CCD type with 380 TV lines resolution, 0.3 lux of minimum illumination, and 3.6mm lens.

it is a little camera already water resistant installed into an underwater housing that allow to reach 40 meters.

The video camera maybe handled or connected to the right side of your Neptune SPACE mask. The cable must be fixed to the jacked avoiding direct tension.



The camera is connected to the cable trough a 4 pin rubber connector that allow the diver, only in emergency situation, to disconnect and connect it again. If you leave the cable disconnected from the camera for a long time your connector will be damaged.



Do not try to connect a different kind of camera to the GAMMA-105 surface unit! You will risk to damage your camera and the surface unit.



## OPERATING PROCEDURES FOR COMMUNICATION WITH THE GAMMA-105

1. Place the GAMMA-105 on a surface that is secure from boat action and where the transducer cable will not trip anyone or be damaged.
2. Open the front cover of the unit and connect the transducer cable to the front panel. Switch on the unit. A short “beep” will be listened. If transducer cable is not plugged in the unit will not switch on. When not using the unit, disconnect the transducer cable or switch off the unit. This will conserve battery power.
3. Lower the transducer into the water. If using a boat, lower the transducer so it clears the hull. If the base station is set up on a beach, the transducer should be suspended from a buoy. Under no circumstance the transducer should lay on the bottom. If you lay the transducer on the bottom, transmitting and receiving signal strength will be reduced. The result will be no range and weak or no communications
4. Connect the hand-held microphone to the MIC port.
5. Adjust the volume to a comfortable listening level.
6. If you want to use 12 volt boat power or an alternate power source, ensure the power is capable of 12 volt DC @ minimum of 1 amp (**ensure polarity is correct**).
7. The unit will already be in the receive mode and listening for incoming signals. To talk to a diver and/or another surface station, hold the hand held microphone, press the push-to-talk (PTT) button located on the side of the hand held microphone and speak slowly. When you release the PTT button, the GAMMA-105 will return to the receive mode.

You must remember that all divers are bearing noise underwater (i.e. bubble, Biological or man made noise). When you depress the PTT button located on the hand held microphone, a "beep" will be sent out to all transceivers. This tone should get the attention of the divers you want to talk to.

Everyone hearing this tone should assume someone is going to talk and listen for the in coming message.

Everyone should talk in a moderate voice and speak a little slower than normal. Divers should try to be in a inhalation cycle when listening to a voice message. This will help eliminate bubble noise while listening to messages. However, **do not hold your breath while surfacing.**

## **OPERATING PROCEDURES FOR USE OF THE CAMERA**

The video camera maybe handled or connected to the right side of your Neptune mask. The cable must be fixed to the jacked avoiding direct tension.



It is fundamental to pay attention that the cable does not get stuck on the boat or on the seafloor. It is also very important to keep the cable slightly buoyant, by attaching a small buoy or floating device to the cable a few feet away from the camera. It is a good idea to connect the cable with a hook or retractor to the BC jacket, avoiding any traction between the surface and the camera. During the dive the surface operator must slowly feed the cable out to the underwater diver as needed, while keeping voice contact. It is not advised to simply throw the cable into the water. The same procedure should be used when the dive is completed and the cable has to be brought on board.

On the surface unit an operator can follow what the diver is seeing and, trough the video out port, can record or/and play the images on an external monitor.

When using the video out port it is possible to switch off the monitor to save power, the images will still be seen in the external device.



### **CHARGING WARNING**

The product is short-term short circuit prevented! Longer lasting short circuits (longer than 1 min.) must be prevented under all circumstances, otherwise parts of the charger or the electronic might be overloaded.

During charging the GAMMA-105 must be placed in a well ventilated area. Make sure to have enough air supply!  
Make sure not to have any open fire, open light and glimmers close to the charged batteries (danger of explosion due to gas)!

During charging the GAMMA-105 must be placed in a well ventilated area. Make sure to have enough air supply!  
Make sure not to have any open fire, open light and glimmers close to the charged batteries (danger of explosion due to gas)!  
This charger is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	WHAT TO DO
The unit does not turn on	Low battery	Recharge the batteries
The underwater wireless units does not receive	Power turned off Antenna not connected The antenna is not into the water or in a wrong position Damaged unit	Turn on the surface unit Connect it Check the position of the antenna Send for servicing
Surface is not receiving audio signal	Volume too low Power turned off Non functioning underwater units	Raise volume on the surface audio and check the power Turn on the surface unit Change underwater units
Surface not receiving video signal	Disconnected plugs General power off Monitor turned off Flooded camera	Connect plugs Switch on Switch on Send for servicing
Video signal not clear	System not at full speed	Wait some minutes
Colours not real	Wrong monitor settings	Adjust monitor parameters

## WARRANTY

(1) OCEAN REEF communication units are guaranteed to be free of material or manufacturing defects for a period of 24 months from the time the unit is purchased. For the duration of the guarantee, the Company's responsibility is limited to replacement of any parts that are defective in our opinion, and that have not been used incorrectly or handled negligently. The unit must be returned to the outlet from which it was bought, along with the warranty card. The cost of transport is to be prepaid by the customer.

(2) Even during the guarantee period, this guarantee shall not be valid where:

- Damage was caused by incorrect handling or carelessness.
- Damage was caused by the unit falling after it was purchased.
- Damage caused by fire, earthquake, floods, lightning, or other natural disasters, pollution or electrical charges.
- The warranty card is not produced.
- Our name, the date of purchase, and the seller's name do not appear on the warranty card.

(3) Additional warranty cards cannot be issued. Keep your certificate in a safe place where it cannot be lost.





MESTEL SAFETY S.r.l.  
Via Arvigo 2, 16010 Genova (Italia)  
Phone +39 010 6598 611 Fax +39 010 6598 622  
e-mail [ocean.reef@oceanreefgroup.com](mailto:ocean.reef@oceanreefgroup.com)

OCEAN REEF, Inc.  
1699 La Costa Meadows Dr. Suite 101 San Marcos, CA 92078  
Phone +1 760 744 9430 Fax +1 760 744 9525

OCEAN REEF on the Internet  
<http://www.oceanreefgroup.com>

© OCEAN REEF 2005