

"Interactive Aquatic System" User's Manual

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1. INTRODUCTION

You have just acquired the AMPHICOM "Interactive Aquatic System" and we thank you for your confidence. It is an original system, unique in the world, which will allow you to communicate at any time directly with swimmers while they are carrying out their work in the water. With a range of nearly 80 meters (260 ft.), it will allow you to communicate from one end to the other of the pool.

Simple to use, light and practical, this system is the essential tool for running your training, relaxation or aquatic exercise sessions in the pool. It will allow you to give specific advice to your swimmers and make sessions more fun and enjoyable.

The swimming pool activity system includes:

- An AQUA FM TX PRO transmitter (autonomous radio transmitter unit).
- AQUA FM PRO (snorkel radio receivers).
- A microphone-headset.
- A stereo audio 3.5mm jack—jack cable.

The microphone-headset is connected to the transmitter to allow you to give vocal instructions to swimmers. An audio input makes it possible to connect to an external source (cassette, CD, MP3 player etc.) and thus broadcast music or other pre-recorded messages.

Each swimmer, equipped with an AQUA FM PRO snorkel receiver, can hear these messages giving assistance or advice during his exercises.

Communication is simple and effective without sound interference and without disturbing other users. Radio wave reception is ensured by the high sensitivity of the receiver which forms part of the snorkel.

Since radio waves are not propagated under water, reception does not occur on complete immersion. The radio snorkel functions normally again when you return to the surface.

WE RECOMMEND THAT YOU READ THE USER MANUAL CAREFULLY - IT HAS BEEN SPECIALLY DESIGNED TO ANSWER ALL YOUR QUESTIONS.

2. AQUA FM TX PRO TRANSMITTER:

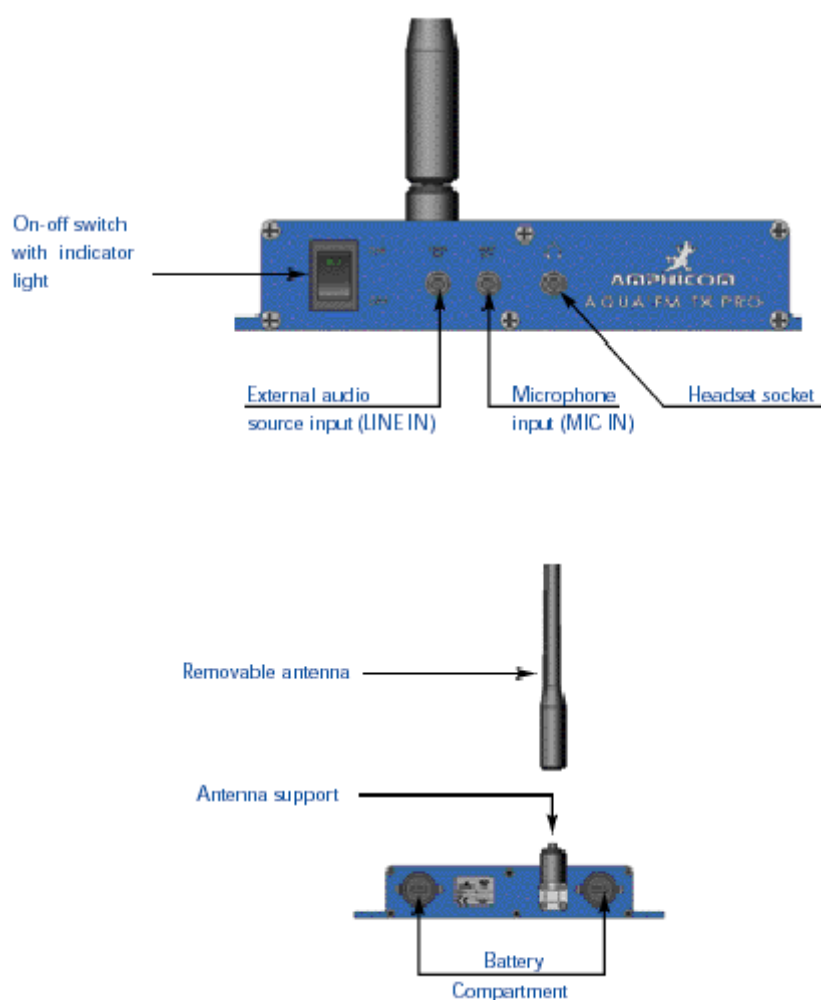
2.1. DESCRIPTION

The AQUA FM TX PRO transmitter is a radio transmitter which uses the 49.86 MHz frequency band. The electronic components contained are treated to withstand a humid working environment (e.g. on the side of a swimming pool). It functions with 4 AA (LR06) type batteries or with rechargeable batteries. It is completely autonomous and can therefore be used close to the swimming pool, placed on a table, bench, etc.

The transmitter has a range of about 80 m (260 ft.) in an open area. It can also be used in an adjacent room.



THE AQUA FM TX PRO IS NOT WATERTIGHT. IT MUST BE PROTECTED FROM BEING SPLASHED WITH WATER AND MUST NEVER BE IMMERSED.



2.2. THE MICROPHONE-HEADSET

The microphone-headset is connected to the transmitter via two 3.5mm stereo jack-plugs:

- **Red plug for the microphone**
- **White plug for the earphones**

The micro-headset will allow you at any time to:

- check the signal which is being sent to the users.
- give instructions to the users.

The transmitter is equipped with an automatic balance system which gives the microphone message priority over the message from the external audio source. This system requires adjustment for optimal functioning (see the USE heading for more details).

Out-of-doors or in a noisy environment you are advised to speak fairly loudly and close to the microphone.

2.3. THE EXTERNAL AUDIO SOURCE

The AQUA FM TX PRO transmitter has been designed to be used with a wide range of audio sources. You can therefore connect:

- all types of portable stereo players (cassette, CD, MD, MP3 etc....) by using the headset output on the player.
- all audio sources by using a high impedance output (of LINE type, 1 V max.).

Do not use a high level loudspeaker type output!!!

If in doubt, contact your retailer.



Using an audio source plugged in to an electrical socket is not advisable if the product is placed near the water. Use battery operated equipment.

Use the adaptor cable supplied to connect the audio source to the 'LINE IN' input of the transmitter. The volume of the external source should be adjusted for optimal use of the automatic balance system (see MICRO-HEADSET and USE heading).

2.4. USE

- Place the transmitter so that it is protected from any splashing with water.
- Screw the antenna onto its support.
- Attach the micro-headset to the corresponding socket (see MICRO-HEADSET heading).
- Attach the external audio source to the corresponding socket (see EXTERNAL AUDIO SOURCE heading).
- Put the On-Off switch to the ON position.
The green light (operation indicator) starts to flash.
- Check that the transmitter is functioning correctly using the headset and one of the snorkel receivers.

The transmitter is designed so that messages from the micro-headset are heard in preference to messages from the external audio source. To do this, it is equipped with an automatic balance system. When you speak into the microphone, the external audio source sound level is decreased so that the user distinctly receives your message.

This system requires checking to be sure the talk-music mixing is correctly balanced. To do that, adjust the level of your external audio source, if this is possible, so as to obtain satisfactory functioning for the user of the receiver.

All that remains is to switch on the snorkels (see heading 3) to begin your session.

2.5. BATTERY REPLACEMENT

The transmitter functions with 4 AA (LR06) batteries.

To replace the batteries:

- Check that the On-Off switch is in the OFF position.
- Using a coin, give each battery compartment stopper a quarter turn (anti-clockwise).
- Remove the batteries (2 per compartment).
- Insert the new batteries observing the polarities indicated on the inside of the stopper (the + of the batteries directed towards the exterior of the compartment).
- Close each stopper by giving it a quarter turn (clockwise).



ONLY CHANGE THE BATTERIES IN AN ENCLOSED PLACE AWAY FROM ANY POSSIBILITY OF BEING SPLASHED WITH WATER.

The transmitter is equipped with an automatic closedown system when the batteries have run down. Once the batteries reach a level of discharge which is critical for its functioning, the transmitter automatically shuts down (the functioning indicator light goes out and radio transmission stops). It can be restarted after replacing the batteries.

NOTES ON DRY BATTERIES:

- Observe polarity on changing the batteries (indicated on the battery stoppers).
- Do not mix different types of batteries or new and old batteries.
- Never recharge dry batteries, do not heat them and do not take them apart.
- If a leak occurs, wipe up all the liquid.

2.6. PRECAUTIONS

- The AQUA FM TX PRO transmitter must be used with care. It must be protected from knocks and any rough handling. It must also be protected from external damage by the sun or chemical products (chlorine, products for disinfecting and decontaminating snorkels, etc.).
- Do not use the transmitter in very hot, cold or dusty places.
- Do not use the transmitter during a thunderstorm.
- **The AQUA FM TX PRO transmitter is not watertight.** It must be protected from being splashed with water and must never be immersed.
- Do not try to open or dismantle the unit.
- If you do not intend to use the AQUA FM TX PRO for more than a month, remove the batteries to avoid any damage caused by the batteries' electrolyte or corrosion.
- **The AQUA FM TX PRO must be stored in a dry cool place protected from sunlight.** Do not keep it near a heating appliance.
- Check that the antenna fixing screw is kept clean.
- **Do not pick up the transmitter by its antenna.**

NON-OBSERVANCE OF THESE RULES WILL NULLIFY THE GUARANTEE.

NOTES:

- Under certain circumstances, the transmitter can be adversely affected by external electromagnetic radiation.
- To avoid any interference between several transmitters, you are not advised to use any other AQUA FM TX PRO or similar transmitter (same transmission frequency) within a radius of 1 kilometer (3/4 mile).

2.7. MAINTENANCE

To clean the unit, use a soft cloth dampened with a neutral detergent solution. Do not use strong solvents, such as alcohol or benzene.

2.8. TECHNICAL SPECIFICATIONS

- Transmission frequency: FM Type. Single channel in the 49.82 – 49.90 MHz band
- Output power: 10000 μ V/m @ 3 meters max.
- Range: About 80 meters (260 ft.) in an open area
- Power supply: Functions with 4 AA (LR06) batteries.
Use alkaline batteries.
Batteries not supplied.
Can be used with rechargeable batteries.
- Autonomy (with batteries): Nominal: approx. 20 hours.
- Temperature for use: 0 – 50° C (32 – 120° F)
- Storage temperature: -10 – 65° C (14 – 150° F)
- Dimensions: 200 x 33 x 180 mm (l / h / d; excluding antenna) (7 7/8 x 1 1/4 x 7 in.)
- Weight: About 730 g (25.8 oz.) not including batteries
- Norms: FCC part 15
- Accessories supplied: Micro-headset and adaptor cable
- Others: Automatic balance

Micro-headset supplied

- Microphone: Electret, 40 – 12500 Hz, 1.4 kOhms, 12mV/Pa
- Headset: Mono, 20 – 22000 Hz, 320 Ohms, sound pressure 96db
- Plugs: 2 3.5mm stereo jacks

The specifications of this product may be modified without notice.

2.9. DECLARATION OF CONFORMITY

This device complies with Part15 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.

In accordance with FCC requirements, changes or modifications not expressly approved by AMPHICOM could void the user's authority to operate this product.

Note: This equipment has been tested and found to comply with limits for a Class B digital device, pursuant to Part15 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.

For further information, contact:

AQUASPHERE US
2340 Cousteau Court
VISTA, CA 92083, USA
Tel 1 (760) 597-5082
Fax 1 (760) 597-4914
seal@aqualung.com

3. GUARANTEE

The AMPHICOM AQUA FM TX PRO transmitter and the AQUA FM PRO snorkels are guaranteed for a period of a year from the date of purchase. These products are intended for leisure and sports use.

The guarantee applies to any part recognized as defective by AMPHICOM services following a defect in manufacture or material. It does not cover trial accessories provided free of charge (e.g. cassette reader) nor parts subject to normal wear such as the AMPHICOM active mouthpiece, the expiration valve (snorkel) and the sealing ring of the battery stopper (snorkel)

This guarantee does not cover periodic maintenance costs and / or costs of normal repair which may be required during the period of the guarantee. Also excluded is any damage resulting from incorrect use and/or negligence including particularly but not limited to:

- Any attempt at repair, alteration or dismantling of the product by an unauthorized person.
- All damage caused by incorrect use or external causes such as excessive heat, mechanical shock, chemical products, accidents, fire, etc.
- Non-standard maintenance.
- Incorrect fitting of batteries or of the battery stoppers.
- Incidents caused during transport of the product or any other cause outside of the AMPHICOM's control.

This guarantee does not apply to normal wear of the product.

The non-observance of precautions, conditions of use and of maintenance stipulated in this guide annuls the guarantee. Any maintenance and repair must be carried out exclusively by the AMPHICOM's authorized technical services.

If during the period of guarantee, the product is recognized by AMPHICOM as being defective, it will be repaired or replaced free of charge (at AMPHICOM's choice) by AMPHICOM or its distributor. Transport and handling expenses are borne by the buyer.

Any defective parts replaced remain AMPHICOM's property. The time necessary for the replacement of parts, repair or modification of the product will in no case extend the length of the guarantee.

Any responsibility produced by the sale of this product is expressly limited to this guarantee. Any other claim, loss or damage is excluded.

The guarantee can be obtained from AMPHICOM retailers on presentation of the dated proof of purchase.

4. TRANSMITTER TROUBLESHOOTING

PROBLEM	ACTION
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You should carry out the action advised in order and only go on to the next action if the problem remains.

In the event of difficulties, contact your AMPHICOM distributor.

1) The green indicator light does not light up	<ul style="list-style-type: none"> a) Check that the ON-OFF switch is in the ON position. b) Replace the batteries. c) If the problem persists, contact your AMPHICOM distributor.
2) Poor transmission quality	<ul style="list-style-type: none"> a) Replace the batteries. b) Check that the antenna is correctly fitted and that the screw thread is clean. c) Check that the micro-headset and the audio source are correctly connected. d) Check that there is no external electromagnetic interference. e) If the problem persists, contact your AMPHICOM distributor.
3) The snorkels do not receive the messages broadcast	<ul style="list-style-type: none"> a) Check for problems 1) and 2). b) Take the snorkels and go through the switching on steps again (see 3.2: Use: the radio). If necessary, replace the batteries in the snorkels. c) If the problem persists, contact your AMPHICOM distributor.
4) The automatic balance does not function	<ul style="list-style-type: none"> a) Check that the micro-headset is correctly connected. b) Increase the volume of your microphone if it allows you to do so. c) Decrease the volume of the audio source or use a less powerful audio source. d) If the problem persists, contact your AMPHICOM distributor.
5) Electromagnetic disturbance or interference	<ul style="list-style-type: none"> a) Identify the source of interference (e.g. mobile phone or AQUA FM TX PRO transmitter close by). b) Move the source of interference away from your transmitter.
6) Worn or missing parts	Consult your AMPHICOM distributor.