

# Bad Bitch User Manual

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## **Warning!**

The Bad Bitch was designed and build only to recover the submarine. The user assumes the responsibility of using it for any other purpose!

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# 1 Introduction

The Bad Bitch is used to recover the sunken miniature submarine from the tank. This user manual describes how to assemble the Bad Bitch and how to successfully use it to accomplish the recovery mission. The manual contains also hints about the required software.

# 2 System description

The Bad Bitch consists of a buoy floating on the sea surface and a rover equipped with a camera and a claw. The Bad Bitch is controlled through a computer keyboard. Table 1 gives the complete list of parts that compose the Bad Bitch.

Table 1: List of parts composing the Bad Bitch.

Part	Quantity
Claw with arm	1
Rover body	1
Rover wheels	4
DB cable	1
Camera receiver	1

# 3 Assembly

Describe how to assemble the thing

Required tools

- Screw drive
- ..

Put part A on B..

## **4 Required software**

### **4.1 Bluetooth communication**

The Bad Bitch is remotely controlled through bluetooth serial communication. After establishing the bluetooth connection with the Bad Bitch, you have several ways to communicate with the system. One possibility is to use the open source software PUTTY. PUTTY is an SSH and telnet client. To download and install PUTTY, use the following link to select your platform and follow the instructions: <https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>.

### **4.2 Camera software**

## **5 Starting the Bad Bitch**

To start the Bad Bitch, press the Start Button on the buoy.

### **5.1 Starting the camera**

The camera receiver has to be connected to of the computer USB ports. Then start

### **5.2 Establishing the bluetooth connection**

### **5.3 Using serial communication**

## **6 System control**

The Bad Bitch is controlled through the keyboard. Table 2 summarizes the keys that control the Bad Bitch.

Table 2: Keys controlling the system.

Character	Action
'q'	Move the winch rope up
'a'	Move the winch rope down
'x'	Hold the winch
'z'	Release the winch
'w'	Move the claw servo $5^\circ$ toward closing
's'	Move the claw servo $5^\circ$ toward opening
'e'	Move the camera servo $5^\circ$ to the left
'r'	Move the camera servo $5^\circ$ to the right
'i'	Move the rover forward
'm'	Move the rover backward
'k' or space	Stop the rover
'l'	Turn the rover to the right
'j'	Turn the rover to the left