ALEBEL ELECTRONICS

Robot jockey

Description 1ˢᵗ model "A"

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Introduction

ALEBEL Establishment produces" **Model A**" that it is specially made for camel trainers to lead the camels remotely during training and races.
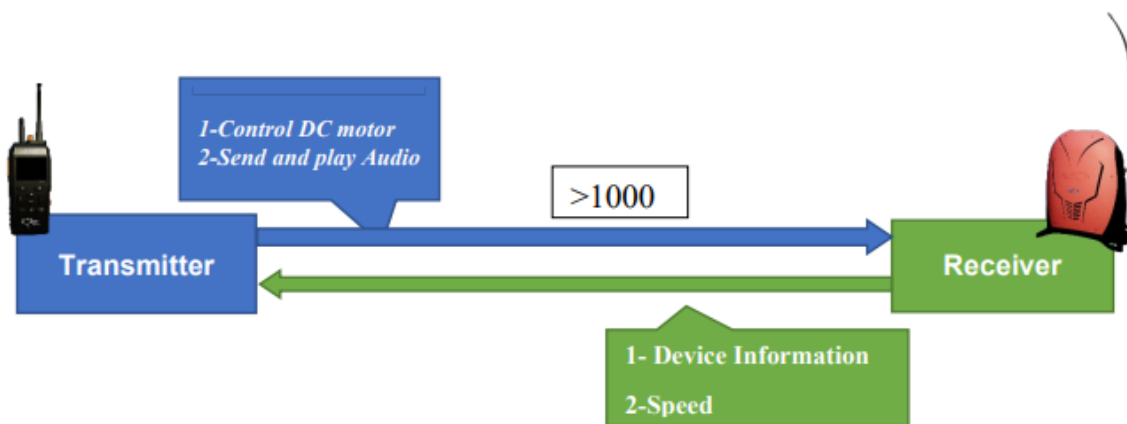
Model consists of two devices:

    Remote control. (RC)

    the Robot Jockey.

RC can control robot jokey over distance **> 3 KM** and has ability to connect with **some robot jockeys** at the same time.

Users will use RC to send a hitting command to the camel.

Description of the Remote control:

The **remote control** is a handheld wireless device engineered to manage and execute commands to robotic jockey systems mounted on racing camels. Designed for long-range communication and fast response, the device ensures reliable operation in outdoor desert environments where camel racing takes place.

Description of the Robot Jockey:

The **robot jockey** is a compact, lightweight, and remotely operated device mounted on a racing camel to simulate a human jockey. It is designed to perform essential racing functions such as whipping and voice playback, enabling remote control over the camel's performance during a race.

The main features of 1ST model "A":

1. Send voice and hitting commands from single device.
2. 3000 meters distance.
3. License-free frequency.
4. no interference with neighboring devices.
5. comply with the Camel Race Federation standards
6. Light weight.
7. Made entirely of plastic material.
8. Suitable for young and medium-age camels.
9. 10.User indications for battery status, on/off, Timing and many more.

Remote control:

Remote control consists of an **MCU, RF module, RF Transceiver, LCD, MIC, and Switches Control**.

MCU"STM32F507RGT6"

RF module" LoRaRYLR896" use for Transmit control commands, and Data simultaneously in both direction from remote-control to Jokey.

Switches Control to rotate the stick that hits the camel's leg to urge it to run, we used **two** Switches, **one for discreet** hits and **other for continuance** hits.

RF Transceiver "SA818S-U" that transmits walkie-talkie voice signals using **PTT Switch & MIC** and play it through speaker in jockey.

Timer Switch has three options: stop/start/reset.

LCD that displays important information to the user such as:

1. Remote-control 's Battery Level.
2. Jockey's Battery Level.
3. timer "Stopwatch"

rechargeable battery with its charging/discharging circuit**" BMS"** to feed the Remote- control circuits.

Robot Jockey:

Robot Jockey consists of an **MCU, RF module, RF Transceiver, Speaker, DC motor, and Switches Control**.

MCU"STM32F507RGT6"

RF module" LoRaRYLR896" use for receiving control commands from remote-control and transmit Data simultaneously to remote-control.

RF Transceiver "**SA818S-U**" that receive voice signals from RC and play it through speaker in jockey.