UNRobotix

QC CERTIFICATE

Product: Adventure Armor Mixed-Reality FPV Racing Kit

Serial#:

Result: QC PASSED

SCAN TO GET THE MOBILE APP

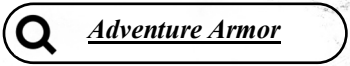


TABLE OF CONTENTS

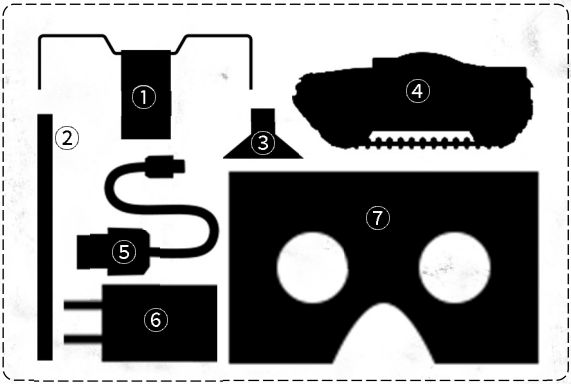
GENERAL INFORMATION 1
I. OVERVIEW 1
II. QUICK START GUIDE 2
III. HARDWARE SPECS 5
IV. SYSTEM REQUIREMENTS 7
INFILTRATOR MK1 8
I. OVERVIEW 8
II. POWER BUTTON 10
III. OPTICAL TURRET 11
IV. STATUS INDICATOR 12
REMOTE SIGHT 12
MIXED REALITY BEACONS 15
ADVENTURE ARMOR MOBILE GAME 16
I. GAME MENUS 16
II. 2D CONTROL INTERFACE 18
III. HOLOGRAPHIC CONTROL INTERFACE 18
TROUBLESHOOTING 20

GENERAL INFORMATION

I. OVERVIEW

The Adventure Armor Mixed-Reality FPV Racing Kit (hereinafter "the Kit") provides every item you will need to turn a living room, a backyard, a miniature craftwork, a small place in the forest or anywhere you could imagine into a mixed reality gaming environment, where you will find plenty of joy from playing the *Adventure Armor* mobile game within.

The Kit contains the following items:

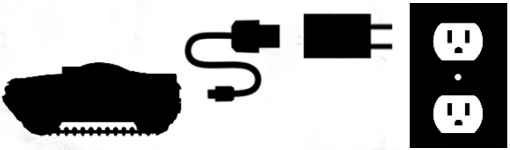


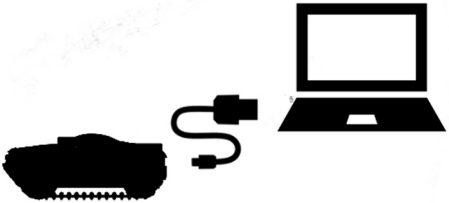
①Time Attack Cards	×11
②Beacon poles	×22
③Beacon bases	×22
④Infiltrator MK1	×1
⑤USB cable	×1
⑥Charger	×1
⑦Remote sight	×1

II. QUICK START GUIDE

This guide demonstrates a few steps to set up the items to make them game-ready.

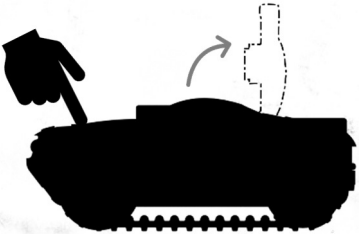
Step 1: use the USB cable and the charger to charge Infiltrator MK1 from AC outlet, or use the USB cable only to charge from a computer's USB port.



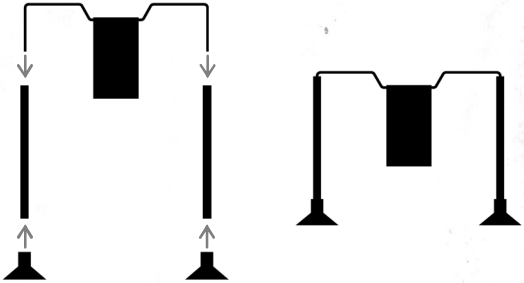


***Warning: avoid letting children use the charger.**

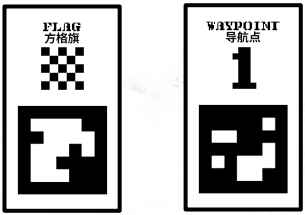
Step 2: when Infiltrator MK1 is fully charged, the status indicator light will automatically turn off. Flip the optical turret 90 degrees up. Press and hold the power button for 3 seconds until the status indicator light start blinking. Place Infiltrator MK1 on the field.



Step 3: assemble a Time Attack Card, two beacon poles and two beacon bases into a Mixed-Reality beacon.



Step 4: place at least one “Flag” beacon and the “Waypoint 1” beacon on the field which is considered to be the gaming environment.



Step 5: scan the QR code shown below or on the back of the package to download the *Adventure Armor* mobile game from Apple App Store or Google Play. Follow the in-game tutorial to start a game.

III. HARDWARE SPECS

Infiltrator MK1	
Exterior dimensions	64mm × 44mm × 27mm
Wheelbase	40mm
Ground clearance	4mm
Approach angle	45°
Weight	32g
Engine power	240mW

Engine torque	12mN·m
Top speed	1.17km/h
Battery capacity	300mAh
Charging voltage	5V
Working radio frequency	2.4GHz
Remote control distance	5m
Video resolution	1280×720
FOV	60°

Remote sight	
IPD	64mm
FOV	78°
Applicable myopia	< D 5.00
Compatible mobile devices	Android/iOS phones w screen sizes range from 4 to 6 inches
Weight	111g
Major material	Paper, PC

IV. SYSTEM REQUIREMENTS

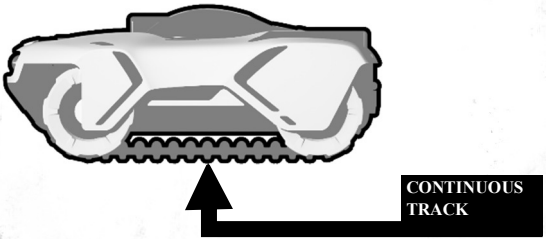
Android platform	
Operating System	Android 6.0 or higher
SoC	Qualcomm Snapdragon 820 equivalent or higher
Memory	2GB or higher
Storage	Minimum 150MB available
Sensors	Camera, touch screen, accelerometer, gyroscope

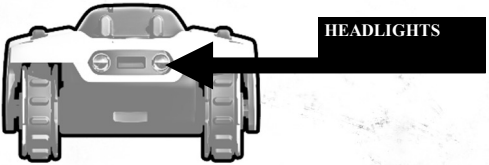
iOS platform	
Operating System	iOS 9.0 or higher
SoC	Apple A9 or higher
Memory	2GB or higher
Storage	Minimum 250MB available
Sensors	Camera, touch screen, accelerometer, gyroscope

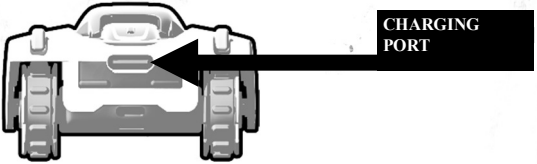
INFILTRATOR MK1

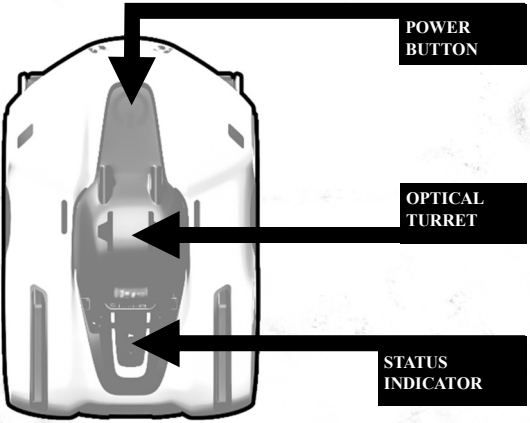
I. OVERVIEW

Infiltrator MK1 is a tracked reconnaissance vehicle. It can be remotely controlled by the mobile game *Adventure Armor*.






CHARGING PORT


POWER BUTTON
OPTICAL TURRET
STATUS INDICATOR

II. POWER BUTTON

The power button can be either clicked or held down. The three tables below describe how these actions behave under specific status.

Status 1: power is off	
Click	Turn on the headlights for 5 seconds. Click again repeatedly before time runs out will keep the headlights constantly on. It is useful when you are looking for a handy flashlight.
Press and hold for 3 seconds	Power up Infiltrator MK1 to get it ready for establishing a connection to the *Adventure Armor* mobile game.

Status 2: power is on but not connected to the game	
Click	Manually turn on the headlights for 5 seconds. Click again repeatedly before time runs out will keep the headlights constantly on.

Press and hold for 3 seconds	Power down Infiltrator MK1.
Idle for 5 minutes	Infiltrator MK1 will automatically power down to save energy.

Status 3: power is on and connected to the game	
Click	No response. Since the headlights control is overridden by the game.
Press and hold for 3 seconds	Power down Infiltrator MK1.

III. OPTICAL TURRET

Optical turret is equipped with a camera.

Please flip it up 90 degrees before starting a game, otherwise you will not be able to see the streaming video captured by Infiltrator MK1 on your smartphone or remote sight.

Do not forget to flip the optical turret down before putting Infiltrator MK1 in your pocket, backpack or handbag, otherwise

the camera may be damaged.

***Warning: do not bend the orange flexible printed circuit by hand. Always let it naturally bended by flipping the optical turret.**

IV. STATUS INDICATOR

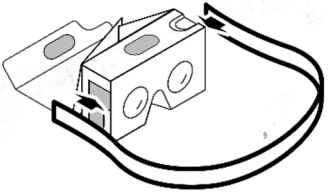
Status indicator is an orange signal bulb that blinks in specific frequency to indicate the status of Infiltrator MK1.

Status	Signal frequency
Power is off	Constantly off
Being charged	Blink slow
Power is on	Blink fast

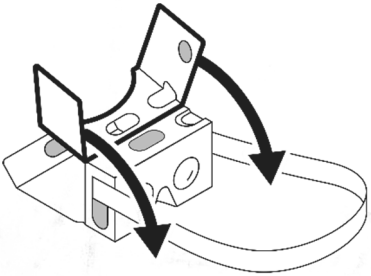
REMOTE SIGHT

Remote sight allows you to access the holographic control interface. For more information about this interface, please refer to the in-game tutorial.

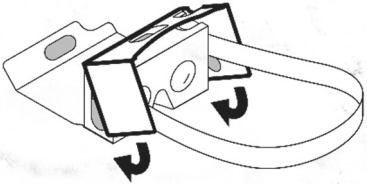
To set up the remote sight, simply follow the 3 steps below:



①

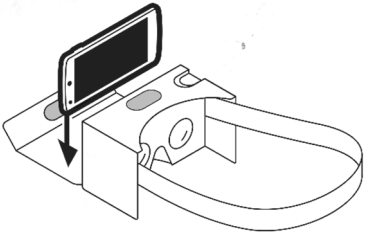


②



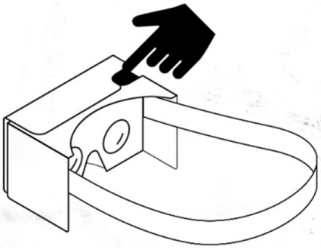
③

Place your smartphone in the remote sight as shown below when the game asks you to:



***Note: for the first time, press the gear button and scan the QR code printed on the bottom of the remote sight. This operation will correct the image distortion automatically.**

A trigger is located on the top right corner of the remote sight. Push it for interaction in the holographic control interface:

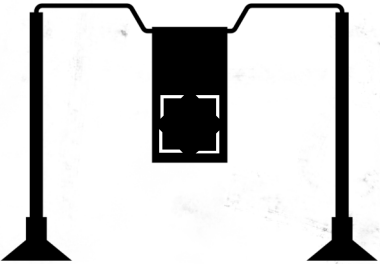


***Note: press the cover of remote sight tightly after placing the smartphone so the vacuum sticker could prevent the phone from slipping out.**

MIXED REALITY BEACONS

Mixed Reality beacons have specially designed patterns that can be read efficiently by the *Adventure Armor* mobile game's Computer Vision feature.

The pattern is located at the position shown below on the Time Attack Card.



***Note: if the game has difficulty reading the Mixed Reality beacons in dark, try turn on the headlights.**

ADVENTURE ARMOR MOBILE GAME

I. GAME MENUS

In the root menu, there are several buttons to access corresponding sub-menus.

Championship:

The main entrance to start a racing game. In this sub-menu, you will be able to create a local game, share the game to the online server, join an online game, view leaderboard, or start a race. Game started from championship will try to read the Mixed Reality beacons on the gaming field, in order to analyze scores.

Freeplay:

Start a game immediately without analyzing scores. you will be able to control Infiltrator MK1 freely for exploring, practicing, taking photos and recording videos.

Settings:

This sub-menu provides various options to set up languages, sound effects, music, etc. And advanced settings for fine tuning Infiltrator MK1's handling.

Memoirs:

Here stores the captured photos and videos. In this sub-menu, you can select, delete, share these media files, or copy them to the gallery of the smartphone.

Manual:

This is the in-game manual that contains detailed guides and tutorials for the game. It is recommended to read the manual before starting the game for the first time.

Credits:

Displays members and groups involved in the development of the *Adventure Armor* mobile game.

II. 2D CONTROL INTERFACE

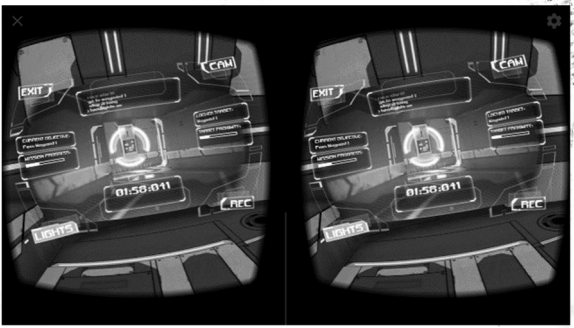
The 2D control interface provides possibility to play the game without wearing remote sight. This interface is sufficient to finish a race. Two control mechanisms are provided in this interface: virtual joystick control and tilt control.

For detailed instruction of using the 2D control interface, please refer to the in-game manual.

III. HOLOGRAPHIC CONTROL INTERFACE

To get the best gaming experience, holographic control interface is strongly recommended. In this interface, a 360-degree panoramic control chamber is simulated. And the Infiltrator MK1

can be controlled via head motion sensing.



The Visualized Artificial General Intelligence (V.A.G.I.) character named UNI is sitting by your side as a co-driver to assist

you with operating the Infiltrator MK1. Simply chat to her and you will know what to do. For more information about using the holographic control interface, please refer to the in-game manual.

TROUBLESHOOTING

Problem	Solution
Cannot power up Infiltrator MK1	Fully charge Infiltrator MK1 and try again
Cannot connect to Infiltrator MK1	Restart Infiltrator MK1 and make sure the *Adventure Armor* mobile game's permissions are all enabled, then try again
No streaming video	Make sure the optical turret is flipped up. Fully charge Infiltrator MK1, restart and try again
Infiltrator MK1 do not go straight when I want it to	Try steering calibration in the settings menu, or tell UNI

No sounds or music	Check the SFX or music volume in the settings menu, or tell UNI
Infiltrator MK1 only spin around	Check if any continuous tracks get stuck
Difficult to read Mixed Reality beacon	Turn on the headlights
Cannot read Mixed Reality beacon at all	Tell UNI to switch on Computer Vision
Images or texts are upside down	Flip your smartphone upside down
The image distortion in my remote sight looks awkward	Press the gear button and scan the QR code printed on the bottom of the remote sight

FCC WARNING
Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 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.

The device has been evaluated to meet general RF exposure requirement.
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.