



**PIXEM**  
YOUR IN/DOOR & OUTDOOR  
PERSONAL CAMERAMAN

**PIXEM User Manual  
V1.0  
February, 2019**

## **Congratulations!**

Congratulations on purchasing your PIXEM, the very efficient and easy to use robotic camera. You are about to shoot quality videos of indoor and outdoor activities, at distances up to 330ft (100m). This user manual lists the contents of the package, how to install and start your PIXEM, to set it up, and how to get the best of it. With PIXEM, film sport, trainings, lessons, conferences, ceremonies, Arts and entertainment, recreative activities... and much more!

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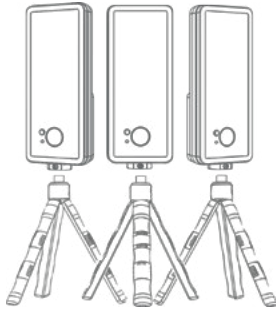
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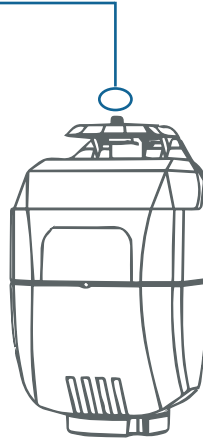
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# Supplied items

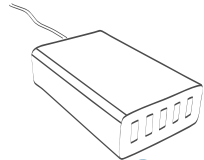
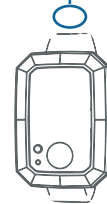
Micro-beacons (x3)  
Mini tripods (x3)



PIXEM Robot



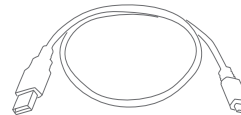
Watch & wristband  
PIXEM



USB Charger & power cord



Wireless charger and  
its cable for the watch



USB cables (x4)



smartphone & tablet  
holder



# Before starting

**1. CHARGING THE BATTERIES**

**2. INSTALLING THE PIXEM  
APP**

# Charging the batteries

The complete charging of each device takes about 2 hours.

Plug the USB charger into the socket thanks to the power cord. Plug the USB cables on the USB charger.

## ***Recharge the PIXEM robot.***

Plug one of the USB cables to the plug «5V DC» at the back of the PIXEM robot. A red LED lights up during the recharge and turns off when the robot is charged.

To avoid self-discharge of the robot, unplug the robot after the end of the robot charge, turn the robot ON for a few seconds and then turn it OFF before storing it.

## ***Recharge the PIXEM micro beacons.***

Plug USB cables in each one of the micro beacons plug located behind as shown. The red LED of the micro-beacon lights up during the recharge, and turns off when the micro-beacon is charged.<sup>1</sup>

## ***Recharge the PIXEM watch.***

Plug the wireless charger to one of the USB cables connected to the USB charger. Just put the watch on the wireless charger. The red LED of the watch lights up during the recharge, and goes down when the watch is charged.<sup>1</sup>

You can also recharge the PIXEM devices with a computer. Connect the USB cable to a USB port on your computer.



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<sup>1</sup> Sometimes the red light flashes at the end of the charge. It is not a problem, the item is charged

# Installing the PIXEM App

## Apple

PIXEM application is compatible with iPad Air and newer & iPhone 5s and newer :

*iPad Air, iPad mini 2, iPad Air 2, iPad mini 3, iPad mini 4, iPad Pro 1 & 2, iPad 2017 & 2018 iPhone 5S, iPhone 6 (Plus), iPhone 6S (Plus), iPhone SE, iPhone 7 (Plus), iPhone 8 (Plus), iPhone X, iPhone XS, iPhone XS Max, iPhone XR, ...*



## Android

PIXEM application is compatible with Android 5 and newer smartphones & tablets equipped with Bluetooth 4 and newer:

*Android code names : 5.x → Lollipop, 6.x → Marshmallow, 7.x → Nougat, 8.x → Oreo, 9.x → P\**

The Android version can be seen in your smartphone parameters. The Bluetooth version can be seen in the technical specifications of your smartphone that can be found on internet







# Getting started

1. SETTING UP YOUR PIXEM
2. SETTING UP THE BEACONS
3. STARTING THE TRACKING
4. STARTING RECORDING

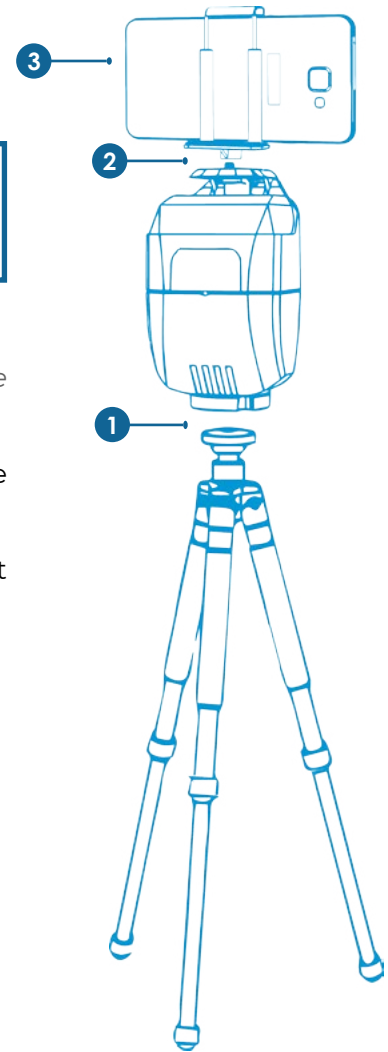


# Setting up the PIXEM

## NOTICE


Before using PIXEM for the first time, you must check that the firmware of the PIXEM is up to date (refer to page 28)

1. Screw the robot on a tripod equipped with a standard 3/8" screw (*check that the motor is switched off before screwing or unscrewing the device*).
2. Screw the smartphone & tablet holder onto the robot with the 1/4" screw of the PIXEM robot.
3. Clip your smartphone or tablet into the holder. Make sure that the clip does not press the buttons on the side of your smartphone or tablet.



# Setting up the beacons

**The watch is located by the beacons thanks to triangulation techniques which is why the beacons are essential both INDOOR and OUTDOOR.**

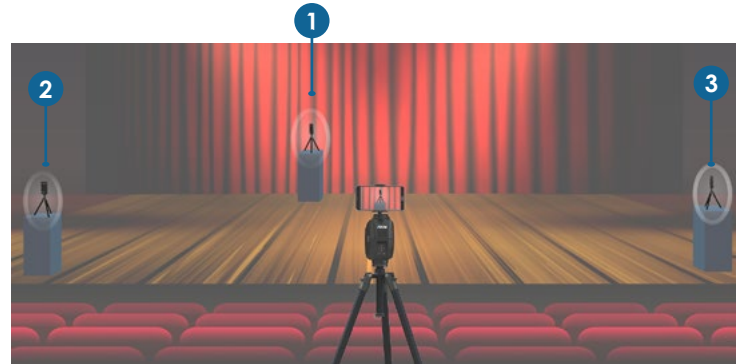
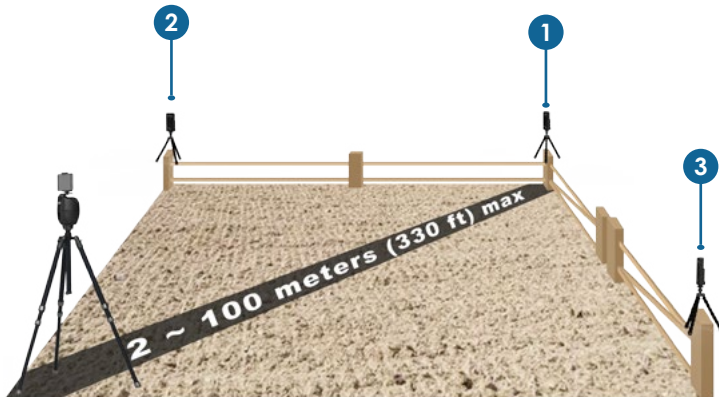
After screwing the beacons on the mini-tripods, switch ON each beacon by pressing its  button until the green light turns ON.

Place the PIXEM robot and the 3 beacons around the area you want to film following these instructions:

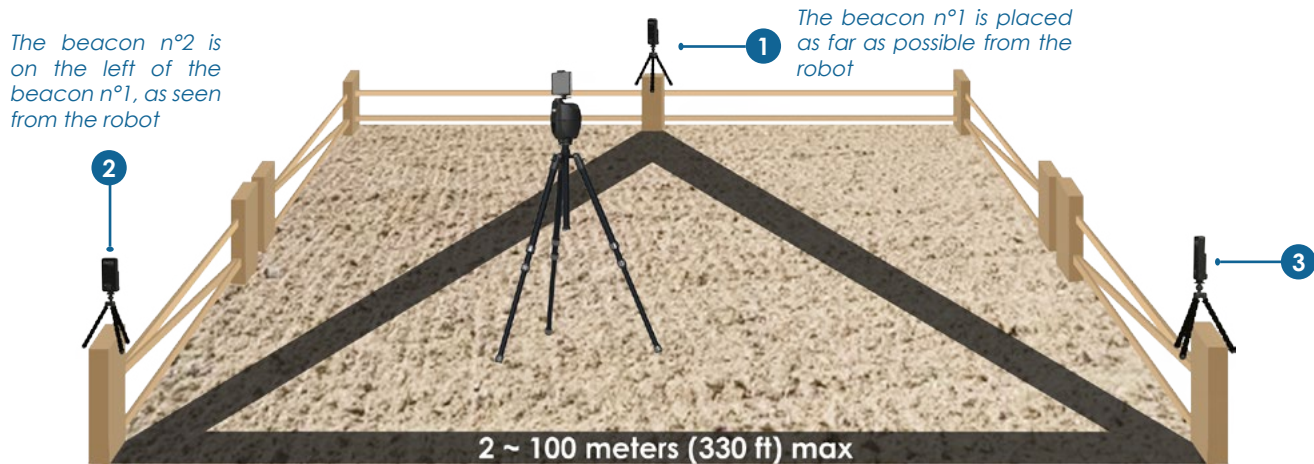
- **Place the beacon n°1 as far as possible from the robot** (but not more than 330ft or 100m). It will improve the left-right accuracy of the tracking (*beacon numbers are written at the back of each beacon*).
- **Place the beacons n°2 on the left of the beacon n°1, as seen from the robot.**
- The beacon n°3 can be placed on the left or on the right of other beacons.

*The beacon n°2 is on the left of the beacon n°1, as seen from the robot*

*The beacon n°1 is placed as far as possible from the robot*

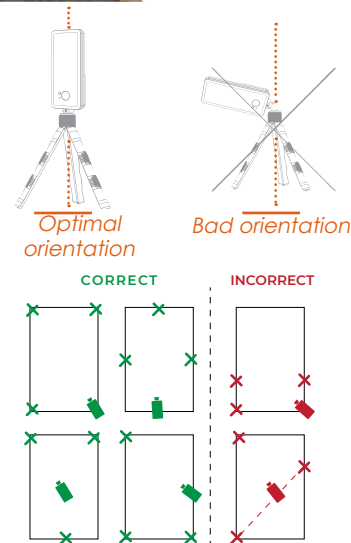


The PIXEM robot can also be placed at the middle of the 3 beacons.



The positions of the beacons are very flexible, but tracking and accuracy are better with proper configurations:

- Check that there are direct lines of sight between the beacons, and between the robot and each beacon. Or at least check that any obstacle is small.
- Keep the robot, the beacons, and the watch at more than 20-30 cm (10 inches) from the walls or from massive metallic parts. Avoid operating near a big electrical transformer, powerful antenna, etc.
- The best height for the beacons is 1 to 2m (3 to 6 ft) from the ground. The three beacons need to be on the same level and perpendicular to the ground.
- The distance between the beacons, and the distance between the robot and the beacons, must be smaller than 330ft (100m).




# Connecting the robot with your smartphone or tablet

**Check that the watch is OFF.**

Switch ON the PIXEM robot by pressing the power button  at the rear of the robot until the green light starts to flash.

Switch your smartphone or tablet ON. Activate the bluetooth on your smartphone or tablet. Do not try to connect the phone with the robot at this time. The connection is made through the PIXEM application.

Launch the PIXEM app and select «use the PIXEM app with a PIXEM robot». **Connect the PIXEM app to the robot by pressing briefly the pairing button  at the rear of the robot** (*refer page 16 for more tips on using the app*).




The PIXEM robot and your smartphone or tablet are now connected. The uncrossed robot logo is now visible in the upper right corner of the PIXEM app.

# Start tracking

Adjust the tripod horizontally and set the TILT angle of the camera by screwing more or less the screw at the rear of the robot.

By rotating the tripod, or using robot buttons  and , place the beacon n°1 at the center of the screen. The important point is the left-right positioning (not the up/down position). Use the ZOOM cursor on the top of the PIXEM app to improve the accuracy. A 50cm (20 inches) accuracy is enough.



Switch ON the watch by pressing its starter button  until the green light turns ON. The system initializes during about 10 to 30 seconds. When the watch LED is blinking regularly, the initialisation is finished and the robot is tracking the watch.

# Start / Stop Recording

Start and stop recording by pressing BRIEFLY the watch button.

- ▶ When your smartphone/tablet is **recording**, the green LED of the watch is ON
- ▶ When your smartphone/tablet is **NOT recording**, the green LED of the watch is blinking

Some delay might occur when you start/stop recording. In this case, the green LED of the watch will blink quickly until your order is taken into account.







# Using the PIXEM app


**1. PIXEM APP OVERVIEW**

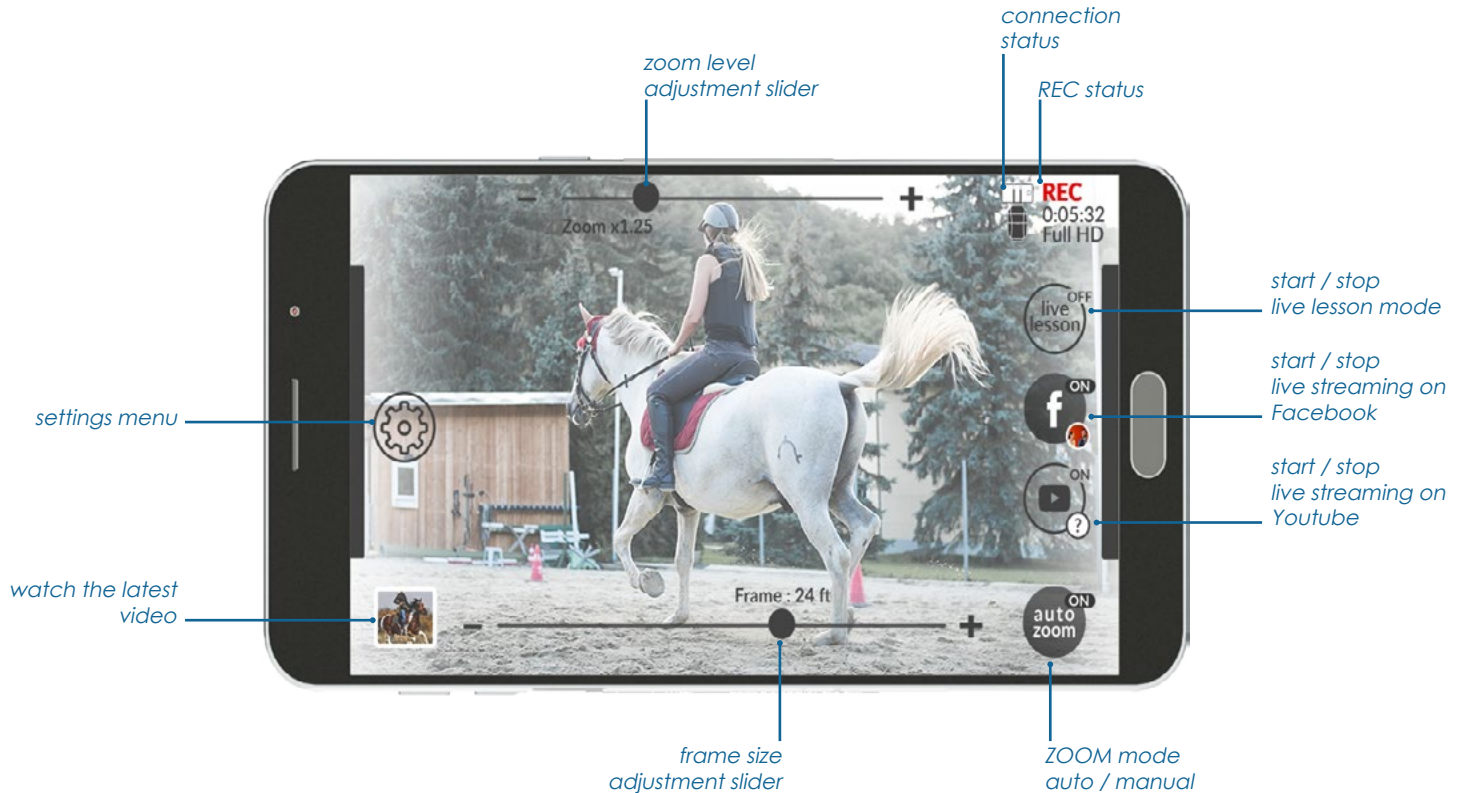
**2. SETTING MENU**

**3. CONFERENCES,  
CEREMONIES, CLASSROOMS  
SPECIAL SETTINGS**

# PIXEM App overview

To connect a PIXEM robot to the app:

- > activate the bluetooth on your smartphone / tablet
- > launch the PIXEM app
- > turn the robot ON then briefly press the button  on the rear of the robot.





## PIXEM robot not detected

To connect the app to the robot:

1. check that the bluetooth is activated on your smartphone / tablet
2. check that the robot is on then briefly press the robot's power button to start the connection with the application



## PIXEM robot connected to the app

**STBY**

01h 42m  
Full HD

standby (not recording)

available recording time (depends on the memory of the device)

video quality

**REC**

0:05:32  
Full HD

record in progress

video duration

video quality

## auto zoom

the app automatically zooms in & out according to your movements



You can set the size of the frame using the frame size selection slider on the bottom of the app

The app will automatically zooms in & out to keep the frame, no matter what your moves are



Frame : 24 ft

## manual zoom

the app does not zoom in & out



You can set the zoom level using the zoom level selection slider on the top of the app



Zoom x1.25



### live lesson

for streaming with a delay of less than 1 second (available soon)



live streaming on facebook  
**NOT connected**



live streaming on facebook  
**connected**



live streaming on facebook  
**in progress**



live streaming on youtube  
**NOT connected**



live streaming on youtube  
**connected**



live streaming on youtube  
**in progress**

watch the latest video



open **settings** menu



# Settings menu

<b>Video resolution</b>	Select the resolution of the video FULL HD (1080p), HD (720p) or DVD (420p).
<b>Zoom limit</b>	<p>By default, the zoom level is limited to ensure optimal image quality. Above a certain limit, a zoom level too high may affect the quality of the recorded image. The limit depends on each phone / tablet.</p> <p>You can change this default limit. In this case, the application will zoom to the limit you have chosen. The image quality may be affected if the limit is too high.</p>
<b>Default auto zoom</b>	<p>If ON, the <b>auto zoom</b> will be activated each time the application is connected to a PIXEM robot.</p> <p>If OFF, the <b>manual zoom</b> will be activated each time the application is connected to a PIXEM robot.</p>
<b>Frame unit</b>	Select the unit of the frame size (meter or foot).
<b>Store tracks</b>	If ON, the watch tracks are stored on the microSD card.
<b>360° Endless</b>	<p>if ON, the robot is able to rotate 360° endless.</p> <p>If OFF, rotation is limited to 360°. This limit can be useful when a cable is connected to the robot (must be set before a watch is switched ON).</p>
<b>Stop Mode</b>	if ON, tracking becomes insensitive to small movements.
<b>Tracking Smoothness</b>	<p>HARD - reactive tracking, ideal for sports filming.</p> <p>SOFT - the right compromise between reactivity and softness. Ideal for filming a person in motion on stage.</p> <p>SUPER SOFT - softest tracking mode. Ideal for filming a conference when the speaker remains still or moves slowly</p>

## ROBOT EXPERT SETTINGS

*DO NOT change the following parameters unless you have time and patience. MOVE 'N SEE recommend that you keep the default parameters. MOVE 'N SEE will not support users for the following parameters adjustment. These options allow you to stop the robot rotation under certain conditions, which is useful for avoiding undesirable robot movements when the subject is practically immobile.*

The motor stops if the subject stays [N] seconds inside a radius of [D] meters

<b>Stop Position Mean Duration</b>	Set the time duration [N] in seconds from 0 to 10 seconds. Default value: 3 seconds.
<b>Stop Distance Threshold</b>	Set the radius length [D] in meters from 0,7 to 3 meters. Default value: 0,7 meters.

## Conferences, ceremonies, classrooms special settings

Here are the recommended settings for filming a speaker:

360° Endless: DISABLE  
Stop Mode: ENABLE  
Tracking Smoothness: SOFT



# TIPS & TRICKS



**1. HOW TO INCREASE THE  
AUTONOMY**

**2. HOW TO FILM FROM AN  
ELEVATED LOCATION**

# How to increase the autonomy

## 1. Use powerbanks

Beacons and robot are designed to be powered while using. You can plug power banks to the robot and the beacons to increase the autonomy of your PIXEM. A powerbank with a capacity of 3000mAh will extend the autonomy by 4 or 5h.



## 2. Use the mains outlets

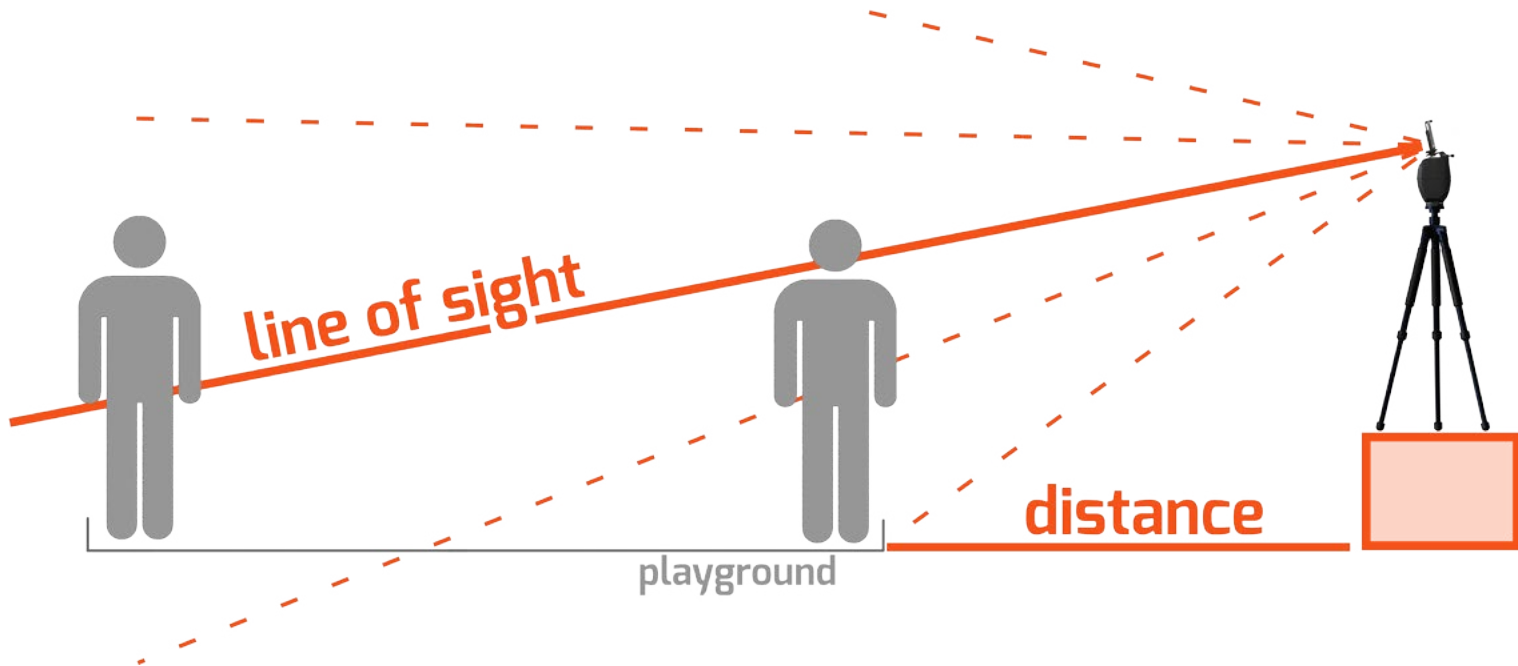
You can plug the PIXEM robot and the beacons to the sockets. This is useful to film longer, and to install your system in a fixed position.

- > For the beacons, use 3 micro-USB chargers 5V DC, 700 mA min.
- > For the PIXEM robot, use a micro-USB charger 5V DC, 2A min (or the one which is provided).



# How to film from an elevated location

PIXEM can be used to film from an elevated location. Just set the TILT axis with the screw at the rear of the TILT axis, and chose the distance between the camera and the area you want to film, as shown below. With appropriate settings, the auto-zoom will keep you in the frame.



*The best settings depend on the configuration of the premises, of the auto-zoom level, and of the kind of framing you prefer. So there is no hard and fast rule for those settings.*



# MULTI-USER Mode

Use several watches with your  
PIXEM robot.

(if you use only one watch, you are  
not concerned by this chapter)

## 1. PAIRING PROCEDURE

## 2. MULTI WATCHES TRACKING



# Pairing procedure

You need to pair the robot, the beacons and the watches together to use a single robot with several watches.

Check that all devices (robot, watches and beacons) are OFF.

**Press and hold** the **zoomIN** button on the robot, then press briefly



Release the **zoomIN** button **when the green and red lights blink together**.

The robot enters into the pairing mode and the green light flashes twice intermittently. ✨ ✨ — ✨ ✨ —

Pair the 3 beacons and the watches by starting them closer than 1 meter (3 ft) from the robot. The green light of the beacons and the watches blinks 4 times intermittently once the pairing is completed ✨ ✨ ✨ ✨ — ✨ ✨ ✨ ✨ —

Turn OFF the robot, the beacons and the watches.

## Notes:

The pairing is saved for future use.

Do not turn OFF the robot before pairing all devices.

You must pair at least one watch and 3 beacons to the robot.

You can add up to 15 additional watches.

1. Press on hold  
ZoomIN button

3. Release ZoomIN  
button when the  
green and red lights  
blink together



2. Briefly press POWER  
ON





# Multi watches tracking

*All devices must be paired together to be able to run into the MULTI-USER mode.*

Turn OFF all watches. Follow the PIXEM set up procedure, until the beginning of the tracking. The robot starts to track the first watch ON.

Once the tracking begins, turn ON the additional watches by pressing the  button. The **green** light of each watch starts to blink slowly.

press the  button of a watch to be tracked and filmed. The light is **full green** when the watch is filmed. Stop recording by pressing the  button again. The **green** light flashes when the camera is not recording.







# Technical informations

1. INSTALLING A NEW FIRMWARE
2. DESCRIPTION OF THE LEDs
3. SPECIFICATIONS
4. BATTERIES INFORMATIONS
5. F.A.Q
6. TROUBLESHOOTING
7. CUSTOMER SUPPORT
8. PRECAUTIONS & SAFETY

# Installing a new firmware

Firmware v3.1 is already installed on your PIXEM. To take advantage of the latest improvements, install any new firmware version available from: <https://shop.movensee.com/ccc>

We recommend to upgrade all devices (the robot, the watch and the 3 beacons) at the same time. Make sure that all devices are fully charged before starting the procedure.

## 1. Download the last firmware version

Download the latest firmware version at <https://shop.movensee.com/ccc>

Save the firmware on a micro-SD card formatted with the FAT32, FAT16 or FAT12 format (*usually, micro-SD cards with a capacity lower than 32Gb are formatted with a correct format*). The file must be saved in the root directory of the memory card, not in a sub-directory. This file is meant to be opened directly on and by PIXEM (do not try to open it from your computer).

**Check that the name of the file is update.mnp without any ...(1) or ...(2) at the end of the name.**

Insert the micro-SD card in the robot slot on the robot side.



## 2. Start the UPGRADE mode

Press and hold **TurnRight** button on the robot, then briefly press on power button.

Release **TurnRight** button when the **red** light starts to blink.

1. Press on hold **turnRIGHT** button

3. Release **turnRIGHT** button when the red light starts to blink

## 3. UPGRADE each device

Next, you have to upgrade each element one after the other (not all at the same time):

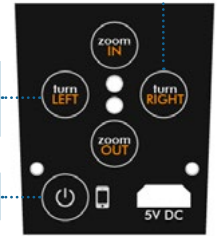
**For the robot:** Press briefly **TurnLeft** button. The green LED blinks rapidly during the upgrade, and stops when it is finished.

**For a watch or a beacon (switched OFF before the procedure):**

- Start the « upgrade » mode: press its started button during several seconds, until its green LED blinks
- Release the button, and press it again briefly to launch the upgrade. The green LED blinks rapidly during the upgrade, and turns full green when it is finished.

4. Press **turnLEFT** button to upgrade the robot

2. Briefly press **POWER ON**



### Is there a problem? Don't panic....

- If the upgrade is aborted (error, switch OFF,...), you can start again the procedure.

If during step 2, the red LED does not blink:

- Check that the micro-SD card capacity is lower than 32Gb and formatted with the FAT32, FAT16, or FAT12 format;
- Check that the upgrade file is stored at the root of the card and not in a sub-directory;
- Check that the card is inserted correctly in the robot slot.

# Description of LEDs



## start procedure

LED status		Description
●	LEDs off	The robot is off
☀	green LED blinking slowly	The robot is initializing

## tracking





LED status		Description
☀	green LED blinking slowly	the camera is on standby
☀	green LED blinking quickly	the watch requests the start or stop of the REC
●	green LED ON	the camera is recording

## recharging





LED status		Description
●	red power LED is ON	The robot is recharging
☀	red power LED is blinking	The recharge is ending
●	red power LED is off	The battery is full



## upgrade procedure

LED status		Description
	red LED blinking	The robot is in upgrade mode
	red LED ON	The robot is in upgrade mode but the robot cannot read the «update.mnp» file
	green LED blinking quickly red LED blinking slowly	The robot is upgrading
	red LED blinking slowly (after the previous step)	The upgrade has been done

## Bluetooth

LED status		Description
	blue LED off	Bluetooth is off
	blue LED blinking quickly	The robot is ready to be paired with the app
	blue LED blinking slowly	The robot has already been paired with an app, but the app is not currently connected
	blue LED ON	An app is connected with the robot



## tracking

LED status		Description
●	LEDs off	The watch is off
☀	green LED blinking slowly	The watch is ON but not filmed by the camera
☀	green LED blinking quickly	The watch requests the start/stop of the REC
●	green LED ON	The watch is ON and filmed by the camera

## recharging

LED status		Description
●	red LED ON	The watch is recharging
☀	red LED blinking	The recharge is ending
●	red LED is off	The battery is full



## upgrade procedure

LED status		Description
☀	green LED blinking slowly	The watch is in upgrade mode
☀	green LED blinking quickly	The watch is upgrading
●	green LED ON	The upgrade is completed





### tracking

LED status		Description
●	LEDs off	The beacon is off
●	green LED ON	The beacon is ON

### recharging

LED status		Description
●	red LED ON	The beacon is recharging
☀	red LED blinking	The recharge is ending
●	red LED is off	The battery is full

### upgrade procedure

LED status		Description
☀	green LED blinking slowly	The beacon is in upgrade mode
☀	green LED blinking quickly	The beacon is upgrading
●	green LED ON	The upgrade is completed

# Specifications

## **INDOOR and OUTDOOR**

PIXEM tracks a watch with the same performance inside or outside

## **RANGE**

330ft = 100 meters

## **AUTOMATIC ZOOM**

With compatible smartphones & tablets.  
Fixed otherwise.

## **REC CONTROL FROM THE WATCH**

With compatible smartphones & tablets.

## **ROTATIONS**

PAN: Rotations 360° endless. 120°/s max (45mph at 30ft; 72km/h at 10m).  
TILT: Manual rotations.

## **MAXIMUM LOAD**

Up to 5lbs (2,5Kg)

## **MOTOR NOISE**

Very silent motor. You can use a bluetooth microphone (not provided) or any equivalent accessory to capture any distant voice.

## **MULTI USERS**

Track 1 to 16 watches.

## **AUTONOMY**

ROBOT 4h, WATCH 3h, Micro-BEACONS 3h.  
Li-Ion Batteries. All chargers included: WIRELESS CHARGER for the watch. Standard USB chargers for the robot and the micro-beacons  
The robot and the micro-beacons CAN BE PLUGGED IN A WALL SOCKET in order to film all day long in a conference room or an arena. It also allows to set up PIXEM for months or years at the same place.

## **TRANSPORT**

Designed to be very easy to pack and to take with you everywhere. In any standard photo bag > 8,7x3,9x5,9in (> 22x10x15cm).

## **DIMENSIONS**

Robot: 6.7x4.0x4.0 in - 280 Oz  
17x10x10 cm - 800 g  
Beacon: 4.0x2.0x0.8 in - 2.3 Oz  
10.5x5x2 cm - 65 g  
Watch: 2.8x2.0x0.8 in - 1.9 Oz  
7x5x2 cm - 50g

## **WARRANTY**

2 Years

# More information about PIXEM batteries

The robot, the watch and the three beacons include a Lithium-Ion battery you need to charge before starting to use PIXEM. The devices need about 2 hours to be fully charged if completely unloaded. Once charged, the robot is able to run for more than three hours. The watch and the beacons batteries can run between 2 and 3 hours and a half.

1. Battery charge capacity tends to decrease over time and use.
2. Lithium-ion batteries typically have a lifespan of between 300 to 500 charge cycles and are expected to retain around 80% of their original battery capacity after 300 charge cycles, or after about one year of use.
3. High or low ambient temperatures may negatively affect battery performance, resulting in a loss of up to 70% of charge capacity. The batteries should be stored at a temperature between 10° to 30°C.
4. If you do not use your PIXEM for an extended period, the batteries should be charged between 40% to 60% every two months.
5. To avoid self-discharge of the robot, unplug the robot after the end of the robot charge, turn the robot ON for a few seconds and then turn it OFF before storing it.

Normal drop in battery capacity over time and use is not covered by the warranty

## **What kind of tripod do I need?**

You need a tripod with a 3/8" screw. It is bigger than the usual 1/4" screw generally used for cameras. Do not use a tripod with a head, because of poor stability (except very high cost tripods!) and because it has a 1/4" screw.

## **How long can I film with a smartphone/tablet?**

It all depends on the memory available on your phone. It is usually possible to add a micro-SD card to increase your phone's storage capacity. With 128GB of memory, you can film for 24 hours in HD.

## **Is it necessary to measure everything manually in detail to set-up the beacons at precise locations?**

No. It is like the GPS: you don't need to know the position of each satellites, it is automatic. Just put the 3 micro-beacons somewhere around your playground, switch them on, and you are done.

## **Is it an issue if I go outside the area set-up by the beacons?**

No. You can go outside the area set up by the beacons and still be framed. And of course if you are going too far the camera will lose you, and it will find you again when you come back.

## **Can I use PIXEM in a building with metallic walls?**

Yes. Just take care to have all the elements of PIXEM a few inches (a few centimeters) away from the metal.

## **Can I use PIXEM robot without the three beacons?**

The three easy to set up beacons included with the PIXEM allows the robot to be responsive, precise and to film from 330ft (100meters): it is exactly what makes PIXEM a unique technological product. The three beacons are used by the watch to calculate 10 times per second the position of the robot which explains exactly why you need the beacons to enjoy your PIXEM experience.

## **Does PIXEM have an automatic tilt?**

PIXEM has a manual tilt you can set before filming. For most activity on a level ground, you don't need the automatic tilt. As an example, refer to this video taken from the stadium stands, above the arena:

[https://youtu.be/ILNN-ya\\_lIw](https://youtu.be/ILNN-ya_lIw)

## **Is it possible to live stream with the PIXEM App? What is the delay?**

Use the free PIXEM app to live streaming your videos on facebook, youtube or other social medias\* as our own PIXEM LIVE Platform with full privacy management.

*\*Skype and FaceTime cannot accept a video from another app, so the PIXEM app video will not have a real time live streaming, they will have a random delay of about 10 to 40 sec.*

**How long does the beacon battery last?**

**What if I need to film for a longer period?**

The beacons battery lasts about 3 hours. If you still need more time to film, you can always use a power bank (not included). Just plug the power bank to the beacon and that's it!

**Is it possible to plug the robot and the beacons to a wall socket ? Do they work or do they only recharge?**

The robot and the beacons can be plugged in a wall socket, and they work. It is a solution for filming all day long, and also to install PIXEM at a fixed place.

**What are the maximum and minimum operating temperatures?**


As any electronic devices, PIXEM operation is not guaranteed at temperatures below 0°C or temperatures above 40°C. In real life we have many customers using PIXIO since more than two year in cold countries, Canada, Sweden, Iceland, Norway, Finland etc., and they never had any problem in cold weather. And in our lab we tested PIXEM at -18°C.

Batteries usually have less autonomy in the cold, this is probably the main consequence.

# Troubleshooting

NOTICE

We recommend that you regularly update PIXEM firmware to enhance PIXEM behaviour.  
Refer to the complete update procedure page 28.

CONNECTION		
PROBLEM	CAUSE	SOLUTION
I cannot connect my smartphone or tablet to the PIXEM robot	You try to connect your devices in the Bluetooth settings of your smartphone/tablet instead of using the PIXEM app	<p>Activate the bluetooth on your smartphone or tablet (do not try to connect the phone with the robot at this time).</p> <p>Launch the PIXEM app and select «use the PIXEM app with a PIXEM robot».</p> <p>Switch the robot ON.</p> <p><b>Connect the PIXEM app to the robot by pressing briefly the pairing button  at the rear of the robot.</b> Its blue light will flash rapidly during the connection procedure. The light will light up in fixed blue when your devices are connected</p>

TRACKING		
PROBLEM	CAUSE	SOLUTION
The PIXEM robot does not start tracking <i>whereas the watch LED blinks irregularly.</i>	The robot, the watch, and the beacons cannot start their radio communications correctly.	Place the robot and the beacons following the instructions page 12 «Micro-beacons location» and start again the system. If the tracking does not start after about 20 seconds, you can help by holding the watch above your head a few seconds. As soon as the tracking starts, you can put your hand down.
The PIXEM robot does not start tracking <i>whereas the watch LED blinks regularly.</i>	The watch starts on the upgrade mode.	Turn ON the watch by pressing the button until the green light turns ON the release the button immediately.
The PIXEM robot rotations are always in the wrong direction of rotation.	The beacons are not placed correctly.	The beacon n°2 must be on the left of the beacon n°1, as seen from the robot. Follow the instructions given page 12 «Micro beacons set-up» and start again the system.
Sometimes, the robot is shaky, and/or too late.	Distances are too long, and/or an external element is perturbing the system.	Place the beacons and the robot following the instructions given page 12 «Micro-beacons location» and start again the system.
The PIXEM works well at short range but malfunctions at long range	The radio communication malfunctions	1. Verify that the beacons are not placed on the ground. The beacons must be settled at 1m to 2m from the ground.  2. Place the robot and the beacons following the instructions page 12 «Micro-beacons location» and start again the system.



TRACKING		
PROBLEM	CAUSE	SOLUTION
The PIXEM robot always films on my side.	The beacon n°1 was not well at the center of the frame before starting the watch, and/or the beacon n°1 was much closer to the camera than the whole area you want to film, and/or the robot is not screwed enough to the tripod	<ol style="list-style-type: none"> <li>1. Re-start the system, checking that the beacon n°1 is well at the center (right-left) of the camera screen before starting the watch. Check that the distance between the beacon n°1 and the camera is similar to the maximum distance of the area you want to film (half this distance is a minimum).</li> <li>2. Check that the robot is well screwed to the tripod.</li> </ol>

ZOOM / REC		
PROBLEM	CAUSE	SOLUTION
I cannot start recording from the watch and the zoom is fixed	The app is not connected to the robot	<ol style="list-style-type: none"> <li>1. activate the bluetooth on your smartphone or tablet</li> <li>2. launch the PIXEM app</li> <li>3. turn the robot ON then briefly press the button on the rear of the robot.</li> </ol>

RECHARGE		
PROBLEM	CAUSE	SOLUTION
The watch does not recharge (the red LED is OFF)	<p>The watch battery is already charged or The watch is not properly placed on the charger</p>	<ol style="list-style-type: none"> <li>1. Check that the watch is not already charged.</li> <li>2. Check that the watch is positioned on the right side of the charge (the side without marks).</li> <li>3. Check that the watch is in direct contact with the charger.</li> </ol>
The robot or a beacon does not recharge (the red LED is OFF)	The battery device is already charged	Check that the device is not already charged (the red LED does not turn ON if the battery is charged).

RECHARGE		
PROBLEM	CAUSE	SOLUTION
The robot discharges when OFF	The robot is self-discharging	To avoid self-discharge of the robot : unplug the robot after the end of the robot charge, turn the robot ON few seconds and then turn it OFF before store it.

FIRMWARE UPDATE		
PROBLEM	CAUSE	SOLUTION
I cannot upgrade my system (the red led remains ON)	The PIXEM robot cannot read the file.	<ol style="list-style-type: none"> <li>1. Check that the micro-SD card has been formatted with FAT32 option.</li> <li>2. Check that the file is in the root directory of the micro-SD card and not in a sub-directory.</li> <li>3. Check that the microSD card is inserted into the PIXEM robot slot (not in the camera).</li> <li>4. Check that the name of the file does not include any ...(1) or ...(2) at the end of the name or does not include the file extension twice (eg <b>update.mnp.mnp</b>). If so, rename the file <b>update.mnp</b> or <b>update</b> if your computer does not display the extension files.</li> </ol>
After an update, the PIXEM malfunctions	You did not updated all the devices (robot, watch and the 3 beacons)	Update all devices (robot, watch and the 3 beacons)

# Customer support

Our qualified team will guarantee you fast support in case of questions or problems with your equipment. Our objective is to have your product in a good working order.

If you need help, please check carefully the manual, the FAQ, and if necessary contact MOVE 'N SEE by phone, e-mail or mail.

Phone (France): +33 (0) 9 70 75 13 15 (no additional charge)

E-mail (after-sales): [ccc@movensee.com](mailto:ccc@movensee.com)

Mail (after sales): MOVE 'N SEE - SAV, 38 rue Jim SEVELLEC, 29200 BREST

MOVE 'N SEE products have a 2 years legal warranty against hidden defects originating from a materials defect, or from a design or manufacturing defect affecting the products delivered and rendering these unfit for use. Opening the product or a part of the product voids the warranty.

To return a product, you must first contact MOVE 'N SEE to explain the problem.

If the technical department at MOVE 'N SEE decides that the product needs to be returned to them, you will be given a return code. You can then return the product along with the accessories in its original packaging. The return code must be clearly marked on the exterior of the packaging.

As soon as we receive your package, our technicians will inspect and analyse the problem item.

If the guarantee detailed in the conditions of sale are applicable, it will be repaired or replaced free of charge.

In all other cases, you will be sent a free quote for repairs. You will then have the choice:

- to refuse the quote, in which case the product will be returned to you at your own expense.

- to accept the quote. In this case, repairs will begin on reception of your payment. The product will then be returned to you once the repairs have been completed.

# Precautions and safety

## Batteries:

If the internal batteries are mishandled, the batteries can burst, cause a fire or even chemical burns. Observe the

following cautions. Do not disassemble. Do not crush and do not expose the batteries to any shock or force such as hammering, dropping or stepping on it. Do not short circuit and do not allow metal objects to come into contact with the batteries terminals. Do not expose to high temperature above 60°C (140°F) such as in direct sunlight or in a car parked in the sun. Do not incinerate or dispose of in fire. Do not handle damaged or leaking lithium ion batteries. Be sure to charge the batteries using the chargers provided or a device that can charge the batteries. Keep the batteries out of the reach of small children. Keep the batteries dry. Don't replace the batteries yourself. Dispose of used batteries promptly.

To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture. Do not place objects filled with liquids, such as vases, on the apparatus. Do not expose the batteries to excessive heat such as sunshine, fire or the like.

The product includes small parts. Keep it out of the reach of small children.

Cables may cause strangulation. Keep it out of the reach of small children.

The PIXEM watch, wherever it is on the subject or a vehicle, is a prominence that may cause injury for the subject itself or other people around him. The armband can interact with other equipments. The user is fully responsible for the use of the product and for security of its activities. The responsibility of MOVE 'N SEE cannot be engaged in case of injury or death.



**For customers in the European Union**

PIXEM conforms to the CE norm.

It conforms to the IEEE 802.15.4 standard UWB PHY with the following details:

- band: 5 (central frequency : 6489.6MHz bandwidth : 499.2 MHz)
- Power:  $\leq -41.3\text{dBm/MHz}$  PIRE
- Modulation: BPM-BPSK

The importer is responsible for checking conformance with local norms of the country of use.

## Disposal of Old Electrical & Electronic Equipment

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.



## For customers in the USA



### RECYCLING LITHIUM-ION BATTERIES:

Lithium-Ion batteries are recyclable. You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you. For more information

regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.call2recycle.org/>



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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 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.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.