

MARVEL
AVENGERS
ENDGAME

IRON MAN

MK50 ROBOT BY UBTECH



Product Manual

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Robot Features Overview



IN THE BOX

- Iron Man MK50 Robot
- Micro USB charging cable
- Augmented Reality (AR) Tracking Mat
- Quick Start Guide
- Legal Guide

Quick Start Guide

1. Unbox your Iron Man MK50 Robot by UBTECH, then connect it to power using the included micro USB to ensure he's fully charged.
2. While your robot charges, download and install the 'Iron Man MK50 Robot' APP onto your Android or iOS device.



3. When you're ready, locate the power switch on the back of your robot's neck and turn it ON.
 - 1 – Toggle the power switch UP to power ON.
 - 0 – Toggle the power switch DOWN to power OFF.

After you turn on your robot, Tony Stark's AI assistant, FRIDAY, will get the robot "ready to connect" to the APP.

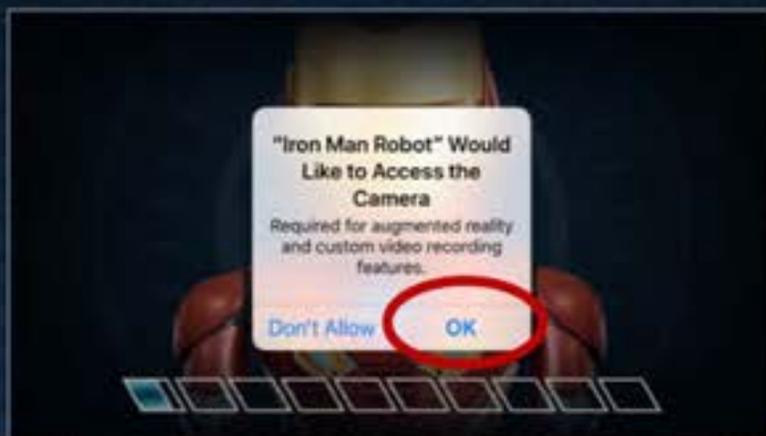
4. Make sure Bluetooth is active on your device, then launch the Iron Man MK50 Robot APP.
Note: When the APP launches, you need to allow it access to your device's camera in order to use the APP's augmented reality features or record your own content.
5. After a few simple setup questions, your robot will automatically connect to the APP.

The first time your robot connects, he will be updated with the very latest features and content. Keep your robot plugged in while the auto-update is in progress. When the update is complete, unplug your robot.

Your Iron Man MK50 Robot is ready for action!

Getting Started

When the Iron Man MK50 Robot APP is launched for the first time, you will be asked to allow the APP access to your device's hardware. You need to allow each permission or you won't be able to use certain features of the APP.



iOS camera access permission popup

Note: The exact permission requests you receive will depend on whether you're using an Android or iOS device.

SETUP STEPS – Preferred Language and Terms of Use

When the Iron Man MK50 Robot APP is launched for the first time, you will need to complete two steps before your robot can connect.

1. Select your preferred language. This selection affects all on-screen text, and the language FRIDAY speaks in the APP. If you choose the simplified Chinese (简体中文) or traditional Chinese (繁体中文) options, FRIDAY will speak Chinese. If you choose any other language, FRIDAY will speak English.

Note: You can change your language option at any time in the Settings menu.

2. You need to accept the UBTECH Robotics Terms of Use.



Connecting Your Robot

Every time the APP is launched it will automatically connect to your robot.

Whenever the APP is looking for your robot, and trying to connect to it, a "LOOKING FOR ROBOT" popup will appear in the middle of the screen.



When your robot connects, the popup will go away and Tony Stark will say that the "armor is connected to mobile device interface."

Your Iron Man MK50 Robot is ready for action!

Basic Connection Troubleshooting

If your robot is not connecting to the APP, confirm the following:

1. Your robot is ON.
2. Your device's Bluetooth is active.
3. Your device is in range of your robot. *Keep your device within 30ft.*
4. Your device has a charge above 20%. *Some devices enter a low power mode that can affect Bluetooth connections.*

For additional connection support, check out the Iron Man MK50 Robot product pages at www.ubtrobot.com/products/ironman.

SETUP STEP – Creating your 4-digit password

When the APP is launched for the first time, you will be asked to create a unique, 4-digit password. Your password is used to ensure that only your device can access content you record and upload to your robot. If you ever want to connect to your robot using a different device, you need to install the APP on the new device and enter your password.



Your custom recorded content is NEVER stored in the cloud!

SETUP STEP – Registering your robot

When the APP is launched for the first time, you will be asked to provide a valid email address to register your robot. If you want to skip this step, simply tap the 'skip' button in the upper right hand corner.

Note: You can change your language option at any time in the Settings menu.



Your email address is used for retrieval purposes only. UBTECH will not sell, share or use your email address in other manner. View the privacy policy at www.ubtrobot.com/products/ironman.

Main Menu

The Iron Man MK50 Robot APP acts as a mobile interface with your robot. The Main menu gives you access to three important areas: Settings, Protocols and Nanotech (AR combat testing.)



Settings - Adjust your APP and robot settings, and view all in-game help panels in one location.



Nanotech - Engage in augmented reality tests to enhance Iron Man's nanotech weaponry.



Protocols - Directly control your robot using your smart device, activate Guard Mode or code animated sequences.

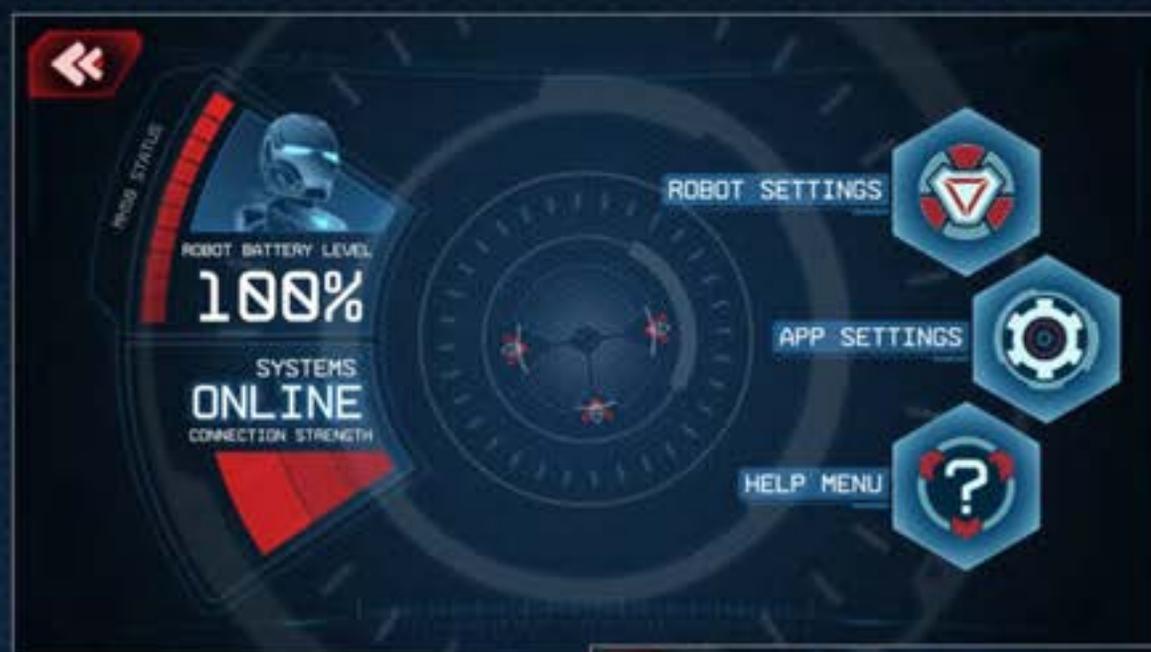
Skipping Tony Stark and FRIDAY Conversations

Beginning on the Main menu and continuing through the APP experience, Tony Stark and FRIDAY will talk to each other – FRIDAY from the APP and Stark from the robot. Their dialogue will always appear subtitled on your device and in your preferred language.

Their dialogue can contain useful information, but you can press  to skip past conversations whenever you want.

Settings Menu

The Settings menu offers three option icons: Robot Settings, APP Settings and Help. In addition, two elements on the left part of the screen show your robot's current battery level and connection strength.



Robot Settings

Adjust your robot's sound volume and spoken language, change your 4-digit password, check your firmware version or enter a registration email.



APP Settings

Adjust your APP's sound volume, change your preferred language, or launch your device's browser to view the FAQ.



Help Menu

View all of the in-game help panels in one location. Need more help? Check out the support pages at www.ubtrobot.com/products/ironman



Protocol Selection Menu

Protocols let you control your robot directly through your smart device or by programming your robot to animate and react to its sensors. To get started with a protocol, just select an icon on the Protocol Selection menu.



Mobile Command – Use your smart device to control your robot's motors, audio, video and LED lights.



Iron Guard – Put your robot into a special Guard Mode by assigning unique reactions to each of its three sensors.



Custom Protocols – Use block coding to create unique custom animated sequences.

Saving content to your robot

When necessary, the APP will automatically save data to your robot. While your APP is saving data, a special animated icon will appear in the upper right hand corner.

To prevent loss of data or progress, don't turn off your robot or device when this icon is showing!



Mobile Command Protocol

The Mobile Command Protocol lets you use your smart device to send commands directly to your Iron Man robot.

Use the movement controls on the right and left parts of the screen to operate your robot's head, arm, waist and leg motors.



NOTE: To protect your robot from damage, leg motor controls are disabled when your robot is plugged into a charger. Also, if your robot's infrared sensor detects the edge of an elevated surface, it will automatically stop walking forward and take several steps backward.

Playing Tony Stark Actions, Audio and Video

In the center of the Mobile Command interface is a scrollable content menu that lets you trigger more dynamic content.



Actions – Play pre-scripted animations that show off your robot's heroic moves.



Audio – Trigger witty Tony Stark quips.



Video – Retract your robot's faceplate to reveal Tony Stark's animated face.



LED Lights – Control your robot's LED lights.

Using Custom Content in Mobile Command

When the toggle element above the content menu is set to STARK, the menu shows Tony Stark audio and video options. Every time you play an Action, Audio or Video it will appear that he is wearing the MK50 armor.

Switching the toggle from "STARK" to "ME" will change the options in the menu to your own custom recorded content. Now, when you play an Action, Audio or Video it will appear that YOU are in the armor!



Playing Custom Recorded Actions, Audio and Video



Actions – Play pre-scripted animations featuring your own custom audio phrases!



Audio – Record and play your own witty quips through the robot.



Video – Record your own face video and surprise friends and family when you pop up Iron Man's faceplate to reveal YOU ARE IRONMAN!



LED Lights – Operates the same in STARK and ME modes.

Custom Content Recorder

You can record and use your own custom content in every protocol.

Custom content is recorded, uploaded to your robot, then played through its speaker or on its LCD, making it appear as if you're wearing the MK50 Iron Man armor.

Whenever you see a MIC or CAMERA icon attached to a content button, you can tap it to record and save custom audio or video into that slot using the content Recorder.



Custom Audio – When you see this MIC icon, you can tap it to load the custom audio recorder.



Custom Video – When you see this CAMERA icon, you can tap it to load the custom video recorder.

Microphone Permission

The first time the custom audio or video recorder is accessed, you need to give the APP permission to access your device's microphone. If you don't allow permission you won't be able to record any custom content.



iOS permission popup

Tapping a MIC or CAMERA icon will launch the custom content recorder. The audio and video versions of the recorder are very similar. In both, a large RECORD button appears on the right side of the screen.



To Record Audio Content...

Tap the RECORD button, then speak into your device's microphone. You can record a phrase up to 4 seconds long.

To Record Video Content...

Position your face within the head template. For the BEST result, fill the template shape as much as possible.

Note that the RECORD button will not become active until your face is detected. Once your face is detected, tap the RECORD button and record a 4-second face video. It might take a few tries to get it right!

Reviewing and Uploading Custom Content

The 'play arrow' button can be used to review your recording.

Tap the 'checkmark' to upload your newly recorded content to your robot, and return to your active protocol.

Recording Tips

- Some device cameras can't detect your face if you get too close. Move to a distance at which your face can be detected, then tap RECORD and immediately move closer to get a nice close-up video!
- Locate and look directly into your camera when it's recording.
- Your video will look better on the robot if you don't move your head around too much.

Iron Guard Protocol

The Iron Guard Protocol lets you put your robot into a special Guard Mode. In this mode, Iron Man will be on the lookout for intruders! When Guard Mode is activated, your robot will immediately begin monitoring its MICROPHONE, LIGHT and MOTION sensors. When a sensor is triggered, your robot will perform whatever "action" you assigned to that sensor.



Microphone Sensor – Your robot will play an action when it detects a sound loud enough to trigger its sensor.



Light Sensor – Your robot will react if he detects a change in the room's LIGHT level. Your robot's light sensor is sensitive enough to detect if someone walks up to it.



Motion Sensor – Your robot will react if his personal MOTION sensor detects that he has been picked up and tilted.

To start customizing the Iron Guard protocol, just tap the  on one of the three sensor badges to add an action.

Picking Actions in Iron Guard

There are dozens of unique robot actions you can assign to your robot's sensors. To pick an action, just select one from the scrollable content menu on the left side of the screen. When you tap and highlight an action, its details will appear on the right side of the screen



Action Categories

Actions are divided into different categories represented by the four icons above the scrollable menu.



STARK Actions – Your robot will perform a pre-scripted animation using Tony Stark audio or video.



STARK Conditional Actions – Using Tony Stark audio or video, your robot will request input (like a password.) Your robot's follow-up reaction is based on the response he receives to the request.



USER (CUSTOM) Actions – Your robot will perform a pre-scripted animation using audio phrases or video that you create!



USER (CUSTOM) Conditional Actions – Using your custom recorded audio or video, your robot will request special input (like a password) in your own voice! Your robot's follow-up reaction is based on the response he receives to the request.

To assign the highlighted ACTION to the sensor, just tap the  in the lower right corner to confirm your choice.

Using Custom Content in Iron Guard

Like all Protocols, you have the opportunity to record your own custom audio and video content and use it in your Iron Guard protocol. To assign an ACTION to a sensor that uses your own recorded voice or video content, do the following:

1. Select either the  or  (CUSTOM) category icon.
2. Select an ACTION in the list, then tap each  or  icon in the details section to record the required custom content for that ACTION. Above each custom content slot is a "phrase" designed to help guide you in what to say when recording your own audio or video, but don't let that stop you from saying whatever you want!

Note: If the text to the left of the icon says "EMPTY," then no content has been recorded for that option slot yet.



3. Tap the  in the lower right hand corner to assign your customized action to the sensor.

Passwords

CONDITIONAL ACTIONS are special actions in which your robot will make a request like: "give me the password!" or "pick me up" or "sing a song." Based on the input the robot receives next, his follow-up reaction will be different!

In the case of a PASSWORD action, you must choose one of the four pre-set passwords (Avengers, Pepper, Happy Hogan or Rhodey.) When Iron Man detects an "intruder" he will request the password. The password you chose must be spoken out loud within 5 seconds or Iron Man will NOT be happy!

Experiment with CONDITIONAL ACTIONS and custom content to create some unique and amusing interactions with your robot!

Activating and Deactivating Guard Mode

To activate Guard Mode, tap the **ACTIVATE IRON GUARD** button at the bottom of the Sensor Selection screen. You must assign a reaction to at least one sensor in order to activate Guard Mode.



When your robot is in Guard Mode, his eyes will continually “blink.”

Guard mode is a simple way to quickly setup your robot to guard your room. Just assign a response to each motor and place your robot on the floor, a desk or a shelf, and walk away. Intruders are in for a surprise!

Note: If possible, plug your robot in while he's “standing guard.”

Iron Man will remain in Guard Mode until you cancel it. To exit Guard Mode, simply cover the top of Iron Man's head with your palm for 1 second. This will trigger your robot's wake sensor and deactivate Guard Mode

IRON GUARD ACTIVATED!

Iron Man is in Guard Mode.

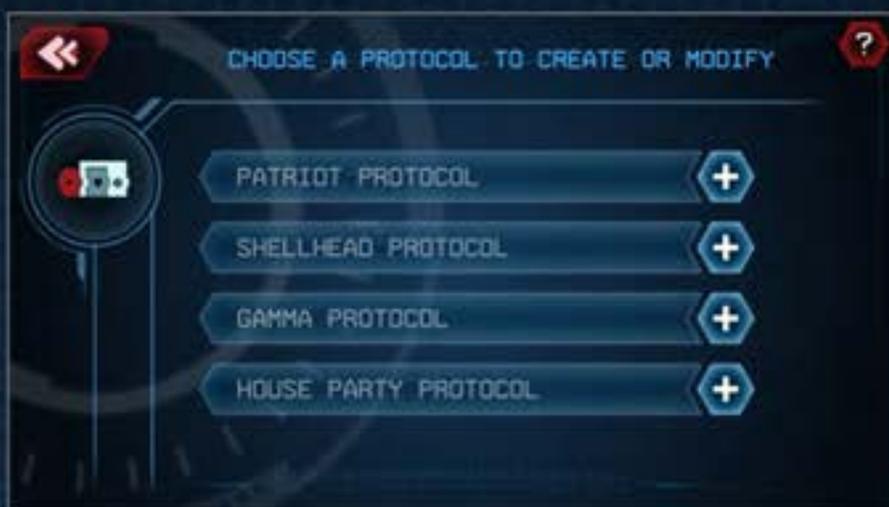
He will respond if he hears a SOUND, senses a change in LIGHT level or if he's MOVED.

To exit Guard Mode, cover the head of your robot with your palm.

Custom Protocols

You can code and upload custom animation sequences to your Iron Man MK50 Robot in the form of voice-activated Custom Protocols.

To create a new Custom Protocol, tap the **+** next to any one of the four named save slots - PATRIOT, SHELLHEAD, GAMMA or HOUSE PARTY.



NOTE: As you work on a protocol, your progress will be saved automatically.

When you begin a new Custom protocol, you have the option of starting with a 'blank script' or selecting one of three pre-designed scripts.



The first time you use the Custom protocol features, it's helpful to start with one of the script Presets so you can see how a very simple sequence works.

The Workspace

Everything you need to code a great animation sequence for your robot can be found in the Custom Protocol workspace.

Back

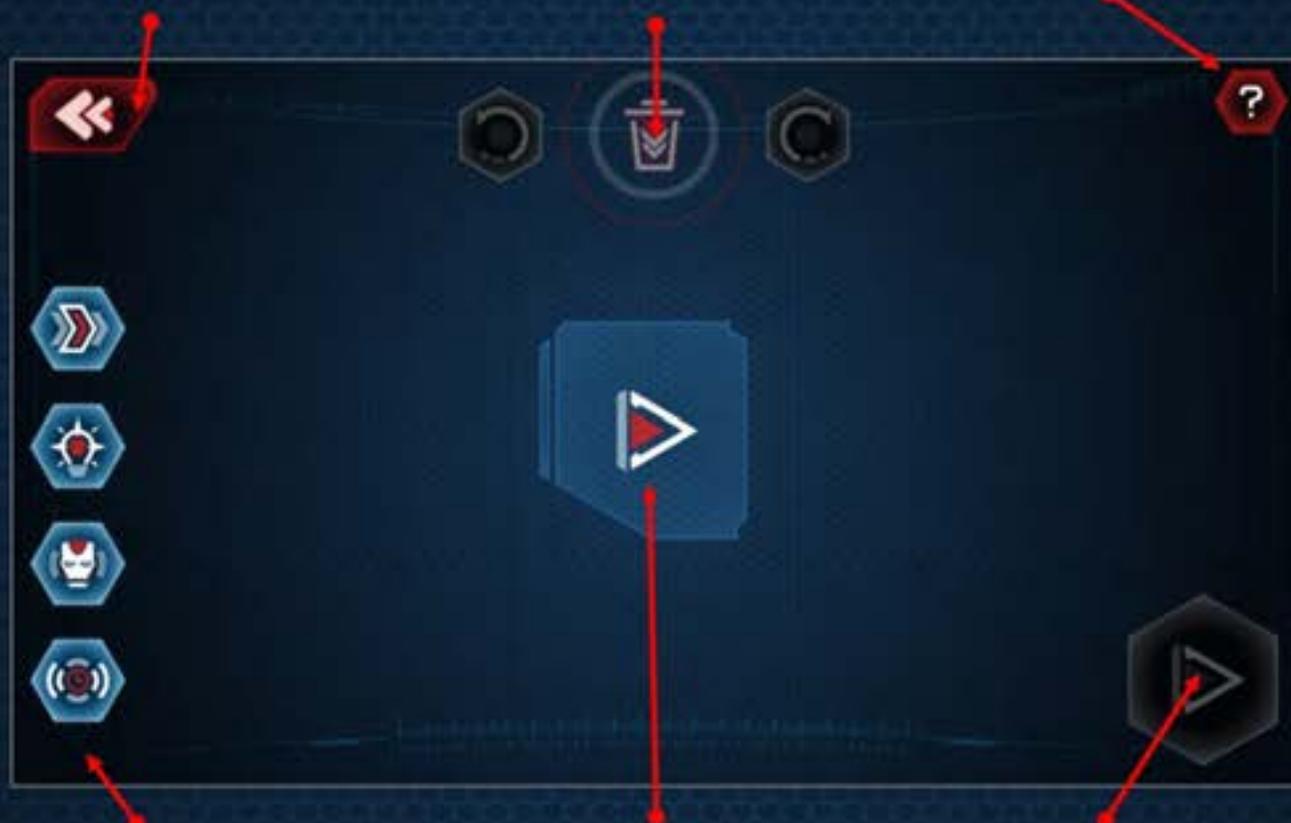
Tapping 'back' will take you to the custom protocol selection menu. Your current progress will be saved before you exit the workspace!

Trash | Undo | Redo

Delete command blocks by dragging them over the trash and letting go. You can UNDO and REDO actions by tapping the 'arrow' icons.

Help Panels

Tapping 'help' will bring up the Custom Protocol help panels.



Category Icons

Command Blocks are organized into four Categories: Movements, Lights, Audio and Flow Control. Tapping a Category icon will present its contents as a scrolling list of icons.

Start Block

The 'start block' marks the beginning of your Custom Protocol sequence.

Preview

Tapping the 'preview' icon will immediately upload your protocol and play it on your robot. The 'preview' icon will not become active until at least 1 command block has been added.

Command Blocks

Custom Protocols are created by dragging Command Blocks from the category panels, and arranging them in the workspace.

Each Command Block represents an instruction to your robot that tells it when to perform an action or use one of its features. There is a Command Block for every feature your robot has, including: motor movement, light controls, audio phrase and pre-scripted animation

Command Blocks are organized into four Categories.



Add Movements – Control your robot's motors individually or drop in a pre-scripted animation to speed things up!



Control Lights – Trigger any of your robot's 9 controllable LED locations.



Play Audio – Trigger Tony Stark or user custom closed helmet audio and open helmet audio + video phrases.



Control Flow – Control the flow of your code sequence with special blocks like LOOP, or WAIT for a special event like a sensor trip.

To start coding a sequence, tap a Category icon to expand the Category panel and reveal its Command Blocks.

Scroll the list to view all of the Command Blocks in the panel.

Drag any Command Block in the list onto the Workspace, and attach it to the 'start block'.



By attaching multiple Command Blocks to each other, it's easy to create a sequence that's as simple or as complex as you want.



At any time (after placing at least 1 Command Block,) you can tap  to upload and play the Custom Protocol sequence on your robot.



When your robot plays a protocol, the line of Command Blocks in the workspace will highlight as each action is played. This makes it easier to locate points in your sequence where you might want to make an edit.

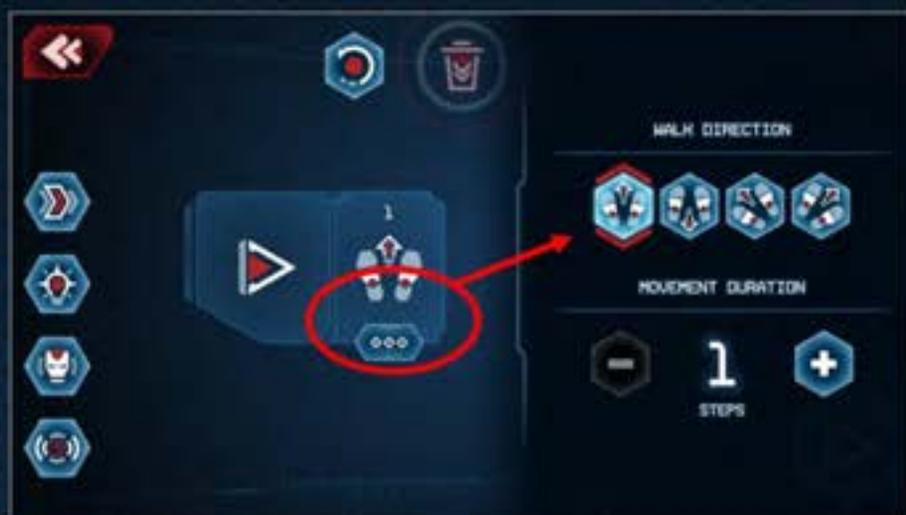
Voice Activating your Custom Protocols

Fun Tip! When your robot is not connected to the APP, you can command it to perform any custom protocol that you've uploaded to it simply by speaking out loud the name of the protocol. Just say "Patriot", "Shellhead", "Gamma" or "House Party".

If you speak the name of a protocol you haven't uploaded yet, FRIDAY will tell you to connect to the mobile interface to create the Protocol.

Command Block Properties

Command Blocks have properties that you can adjust to get just the effect that you want. To see a Command Block's properties, tap the  element at the bottom of a block and its property panel will slide in.



Properties allow you to adjust the animation type, timing or some other detail. Explore every block's properties to make your sequence as unique as you want!

Flow Icons

By default, a Command Block will wait for the previous block to finish before playing.

When a flow icon appears between two connected blocks you can control whether one block **WAITS** for the previous block to finish playing, or whether it starts playing at the same time as the previous block.



Pause – Command Blocks connected by this icon will play one after the other. The second block waits for the previous block to finish.



Continue – Command blocks connected by this icon will start to play at the same time. The second block will not wait for the previous block to finish before playing.

You can tap any flow icon to toggle it between **Pause** and **Continue** mode depending on how you want your animation to work.

Nanotech

What good is Iron Man MK50 armor without the chance to use it to defend the universe? The Iron Man MK50 Robot experience picks up after Avengers: Infinity War as Stark looks to improve his armor's nanotech. Selecting the NANOTECH option from the Main menu will let you play through wave-based augmented reality combat tests as Tony Stark is challenged by FRIDAY's intense nano-simulator training.



During AR play, you stand behind your robot, and scan the area in front of it with your device, targeting enemies and engaging them with Iron Man's nanotech weapon systems.



AR Setup

Once per session, you will need to setup your robot for AR play. This is a simple and you should be able to get setup just by following FRIDAY's instructions and the in-game prompts.

Setup Steps

1. Understand that you will be standing behind your robot during AR play, as Iron Man's enemies ALWAYS approach from the front. However, during setup, you will need to look at your robot from the front in order to validate that he is present.
2. **PLACE YOUR MAT** - With (1) in mind, place your AR tracking mat on a flat surface and in a location that has enough space for you to stand behind it, but also allows you to get in front of it, which is required for the robot verification step. The floor, or a low table top that you can walk around is a nice option.
3. **ACQUIRING AR TRACKING** - Once your tracking mat is placed, you will be asked to look at it with your device, which will recognize it and automatically move to the next step.
4. **PREP THE PLAY AREA** - AR elements are now active. If you pan your device around, you will see a projected blue shape. Make sure the area within this shape is relatively free of obstruction. Feel free to move your mat by picking it up and placing it somewhere else or dragging it to a new location.
5. **PLACE YOUR ROBOT** - Continuing, a blue 3D projection of the robot will appear on the tracking mat. If you haven't already, place your robot so that he is oriented correctly and fits perfectly within the 3D projected Iron Man.
6. **VERIFY YOUR ROBOT** - Lastly, move to the front of your robot and point your device so that it can see both the mat and the front of your robot. It's important that you hold your device steady as it's verifying that your robot is present and in the right position. This step can time out if the robot is not verified in time. If that happens, just hit 'READY' and try again.

Your Iron Man MK50 Robot is ready for AR play!

Augmented Reality Play

When your robot is setup, play transitions to the Armor Lab - an augmented reality environment from which you can 'START' nano-simulator AR combat tests.

After each successful test, Iron Man will return to the Armor Lab and show off a new piece of nanotech that was unlocked based on information learned during the test. In addition, completing a test will unlock the next test.



AR Levels

Each AR environment is a reconstruction of a New York location. Feel free to explore the area by moving around your room and using your device as a "window" into the environment.

But don't get distracted. FRIDAY will not be going easy on you!

The very first time you encounter a level, help popups clearly explain the level's victory condition, new enemies and how to use your new weapon.



AR Combat

During AR combat tests, Iron Man will be attacked by several WAVES of nano-drone enemies. To complete each test, you must destroy all enemy waves. In later levels, the victory condition will change from destroying drone waves to eliminating a single "boss" enemy.

Targeting Enemies

From a position just behind your robot you can move your device around and search for incoming enemies. Target an enemy automatically by looking at it (point the targeting element in the center of the screen at the enemy) or by tapping an enemy on the screen. When an enemy is targeted, a special target reticle appears around it. A curved meter on the left and right side show the enemy's re-charge status and "health," respectively.

Whatever weapon you fire will always strike the TARGETED ENEMY.



Enemies can be located easily by checking the mini map in the bottom left corner. Each red arrow represents an incoming enemy!

Locate and target the enemies.

Nanotech Weapons

You will unlock a new nanotech weapon (or weapon upgrade) every time you complete a test for the first time.

To fire a weapon, just TAP or HOLD its icon as indicated below.



← **Repulsors** – Iron Man starts the game with his iconic Repulsors. The Repulsors have two fire modes:

Blast mode – Rapidly TAP the Repulsor icon to fire blasts from Iron Man's Repulsors. Blasts reduce an enemy's re-charge meter and do light damage.

Beam mode – HOLD the Repulsor button down to fire a powerful beam that does heavy damage to the target.



← **Nano shield** – HOLD the Nano shield button to protect Iron Man from ALL incoming damage. Once the shield takes a hit it will automatically power off after 2 seconds to re-charge.



← **Micro-missiles** – TAP to Fire a barrage of missiles that can go over cover and cause heavy splash damage to multiple enemies.



← **EMP** – TAP to lob an electromagnetic pulse grenade over cover to stun a large group of enemies. The upgraded version also damages enemies.



← **Unibeam** – HOLD to fire a continuous beam of energy from Iron Man's chest RT, causing massive damage to all enemies in its path. Note that the Unibeam fires straight from Iron Man's chest and some enemies can be too high to hit.

Tips & Tricks : AR Play

- You will experience the best augmented reality tracking if your room has plenty of light. Not enough light, or strong direct light that reflects off the tracking mat or your robot, can make tracking more difficult
- If your device ever loses tracking, the AR environment can appear to flip, tilt or twitch. If this happens, just move close to the tracking mat and aim your device at the tracking mat until tracking is acquired.
- Each weapon takes a different amount of time to 're-charge,' making it temporarily unavailable just after firing. Make sure you work this into your strategy!
- A new weapon (or weapon upgrade) is unlocked whenever a test is completed for the first time. As each new weapon is unlocked, its icon will appear above the Repulsor icon during AR combat testing.
- Enemies can only attack if their re-charge meter fills completely. Use your Repulsor Blasts (tap the Repulsor icon) to prevent an enemy from attacking by reducing its re-charge meter.
- Use Micro-missiles to hit enemies in cover. Micro-missiles are unlocked after you complete Test #2.
- Because your device is working hard during AR play, even high end devices will get hotter than usual. If you're device heats up too much, just take a break from AR for a bit and let it cool down. We recommend creating a Custom Protocol!
- Please note that augmented reality play is a device intensive task. Certain device will run AR features better than others. For a list of supported devices, visit www.ubtrobot.com/products/ironman
- AR play can drain your device's battery faster than usual. For the best play experience, make sure your device is fully charged.

In-Game Help

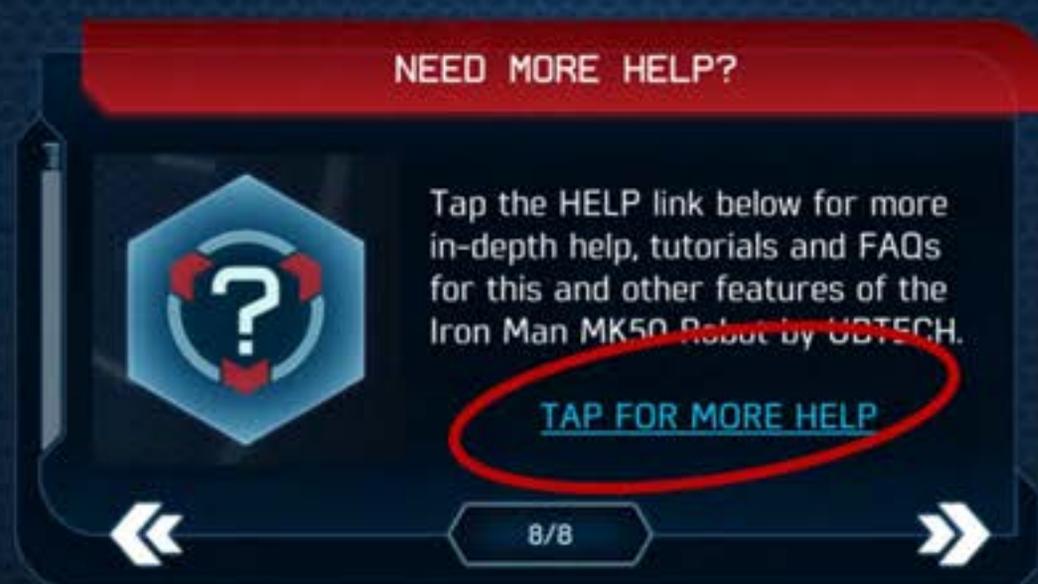
The first time you experience most of the features in the Iron Man MK50 Robot APP, a series of help panels will automatically be displayed. These In-game help panels provide basic information to get you started.

If you want to see the help panels again, tap the  icon in the upper right hand corner of the screen to see the panels for that screen.

To view all of the APP's Protocol and AR help panels in one location, choose the HELP MENU icon on the Settings Menu

Need More Help?

If you want additional help, including FAQs and video tutorials, the last in-game help panel in every series provides a link that will launch your device's browser to the Iron Man Product site, when tapped.



If you would like to view the video tutorials or browse the Iron Man MK50 Robot product site on your computer, please visit www.ubtrobot.com/products/ironman.

For more direct support, please email ironman.service@ubtrobot.com