



Illuminati Magic

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## Overview

Second Sight is the smallest and most sensitive RFID reader/writer available and can detect playing cards up to  $4\frac{1}{2}$  inches (110mm) away.

Invisible RFID chips embedded in each playing card communicate the suit and value to Second Sight, which instantly vibrates the suit and value of the card.

Additionally, Second Sight broadcasts this information to nearby iPhones, Thumpers and Notifier Modules.

Apple users benefit from direct integration into the iPhone and Apple Watch, with customizable images and audio messages. There is no need to remember complex vibration sequences - you can receive the information in plain English via a discreetly hidden Bluetooth earpiece.

Second Sight is not limited to just playing cards – it can function with any object that you can attach a microscopic RFID Tag. The custom RFID tags also facilitate third-party integration, enabling a myriad of automated reveals offered by CUPP, UTP, Prevision, and Inject.

At only 77x37x2.7mm, Second Sight is incredibly small, with a range that allows you to detect the cards with a single gesture. When paired to an iPhone, the reader can be placed under a table for hands-free performance.

Second Sight has been designed to function with multiple notification systems, including Thumpers, miniaturized color LCD as well as audio announcements using an earpiece.



# What's Included



### Second Sight



### User Manual

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### **Reading the Cards**

To read the playing cards, turn on Second Sight and move it close to a playing card.

The best range can be found when the flat face of Second Sight is facing the flat side of the playing card.

Second Sight can detect up to three playing cards. However, the reading distance will reduce when reading multiple playing cards as follows:

CARD	MAXIMUM READ DISTANCE
Single Card	4½" (110mm)
Two Cards	1½" (40mm)
Three Cards	1¼ " (30mm)

The Unifi App has duplicate detection built into it, so that multiple RFID scans that occur within one second are ignored, to ensure you do not receive unnecessarily duplicated notifications.

# Switching On and Off

### When Turning Second Sight On

When Second Sight is off, press and hold the On Button for one second.

Second Sight will flash the Blue Status LED twice and vibrate twice.

Once Second Sight has powered up, the Status LED will change to Magenta and Second Sight will pair with the Unifi App.

Once Second Sight has paired with the Unifi App, the status LED will change to Blue and turn off after 30 seconds.

### **Turning Second Sight Off**

When Second Sight in on, press and hold the On Button for two seconds.

Second Sight will slowly flash the Blue Status LED twice and generate a single, long vibrate.

#### Automatic Off function

Second Sight will automatically turn off after sixty minutes of no activity or if the battery becomes flat.

# **Charging Second Sight**

Remove Second Sight from the box and connect it to the charging cable found underneath the plastic packaging.

Insert the cable into any standard USB Port – a White LED indicates the unit is charging. When fully charged, the White LED will turn off.

The battery will last up to six hours on a single charge, depending upon use.

When the battery is flat, Second Sight will emit a long vibrate signal and automatically turn itself off.

Please charge Second Sight before using it for the first time. Charging may take up to two hours.



# **Charging LED**

LED	DESCRIPTION
Steady	If the White LED is illuminated, this indicates that Second Sight is charging.
Off	If the White LED is off, and Second Sight is plugged in, then this indicates that Second Sight is fully charged.

# **Status LED**

LED	DESCRIPTION
Blue	The Blue LED indicates that Second Sight has paired with the Unifi App.
	Once Second Sight has paired with the Unifi App, the Blue LED will remain on for thirty seconds.
Red	When Second Sight is programming RFID Tags, the Red Status LED will be illuminated.
	If Second Sight is running low on power, then it will flash the Red LED every five minutes.
Magenta	When Second Sight is turned on, it is available to be paired for three minutes. After three minutes, Second Sight will disable pairing mode.

# Architecture

It is beneficial to understand how the Unifi platform works – once you have a solid understanding of the system architecture, you will be able to develop your own unprecedented, mindblowing routines.

The Dice, Dominoes, Poker Chips, Second Sight, Magneto, Color Sense, and Pen Sense all transmit on the "Industrial, Scientific & Medical" (ISM) band.

Every Thumper and Notifier within range receives signals from the Unifi devices and responds accordingly.

You may have multiple Thumpers and Notifiers receiving the same message (for example, if you have a backstage assistant who needs to prepare a revelation for you).

Additionally, Unifi utilizes Bluetooth Low Energy (BLE) – a bidirectional communications protocol that is used extensively in the technology industry.

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Many electronic mentalism vendors utilize BLE as it provides an extremely reliable and open standard, permitting high levels of interoperability.

BLE is a "peer-to-peer" communications protocol – one device connected to another device and was not intended to be a broadcast protocol (hence why Unifi utilizes the ISM Band to broadcast signals).

The Thumper and Second Sight support both ISM Band and BLE communications, allowing them to communicate with the Unifi App.

The Unifi App integrates with the Apple Watch, enabling you to utilize your Apple Watch as a peak device as well as a remote control to send predictions to third-party platforms.

# Vibrate Signal Overview

Second Sight utilizes Roman Numerals to vibrate the value of the card, with the first vibrate sequence indicating the suit (in CHaSeD order) and the second vibrate sequence representing the value.

A short vibrate signal indicates a value of one, whereas a long vibrate sequence represents a value of five.

This allows information to be relayed to the performer more quickly than having a single vibrate pattern. For example, a six is vibrated with one long vibrate, followed by a short vibrate. Without the Roman Numeral encoding format, Second Sight would be required to vibrate six times, which would take longer to communicate.

By default, the short vibrate sequences last for 0.20 seconds and the long vibrate sequences last for 0.60 seconds.

A one-second gap separates successive vibrate sequences.

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#### Suits

CHaSeD is an acronym for Clubs, Hearts, Spades, and Diamonds as follows:

SUIT	VIBRATE PATTERN
Clubs	•
Hearts	
Spades	
Diamonds	

NUMBERS	VIBRATE PATTERN
Ace	•
Two	••
Three	•••
Four	
Five	_
Six	
Seven	
Eight	
Nine	
Ten	
Jack	·
Queen	
King	

# Wearing Second Sight

Second Sight is a highly sensitive RFID Reader, designed to read RFID Tags up to distances of 4½ inches (110mm).

Second Sight can be located in a whole host of positions, including:

- Under your wristwatch band.
- On your forearm, where it is held into place by an armband.
- In your top suit pocket.
- Under the table or a close up mat.



Additionally, Second Sight has two transmitters built into it. The first transmitter sends messages to the Thumper and Notifier Modules and the second transmitter to the Unifi App.

Second Sight has been tuned to maximize its transmission characteristics; however, environmental factors influence its reception.

Generally speaking, you should expect to obtain 30 feet (10 meters) from Second Sight to the iPhone, with a similar distance between Second Sight and the Thumper and Notifier modules.

The human body comprises primarily of water (which absorbs radio signals) and the greater the distance between the Second Sight and the body, the better the transmission.

If you have Second Sight directly against your skin, then the transmission characteristics are reduced as your body absorbs a portion of the transmitted radio signal.

# Unifi iOS App

The Unifi App is not required to utilize Second Sight; however, it provides a multitude of features and enables you to set programming options on Second Sight.

The Unifi Thumper App may be downloaded from https://apps.apple.com/us/app/unifithumper/id1406787289

You may download the Unifi App by scanning this Quick Reference Code.



#### Second Sight Menu

The Second Sight menu comprises of four options: Pair Second Sight, Second Sight Options, Read RFID tags and Write RFID tags.

For Second Sight to communicate with the Unifi App, it first must be paired with your iPhone.

Even when Second Sight is not paired with your iPhone, Second Sight can communicate with Notifier and the Thumper, but the advanced programming options are only available through the Unifi App.



### **Pairing Second Sight**

To pair Second Sight with the Unifi App, select "Pair Second Sight," and turn on Second Sight. The status LED will change to Magenta, and you will have three minutes to pair Second Sight with the Unifi App.

Second Sight will appear in the Unpaired devices list. To pair Second Sight with the Unifi App, tap on the Second Sight that you would like to pair.

Once Second Sight has successfully paired, the status LED will change to Blue and turn off after 30 seconds.

Once you have initially paired Second Sight with the Unifi App, it will automatically reconnect each time it turns on.

In the paired Second Sight list, you will see the firmware version of Second Sight as well as its battery level.

Second Sight can communicate with the iPhone up to a maximum of 30 feet (10 meters).

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When Second Sight pairs with your iPhone, the Unifi App will download its configuration to Second Sight.



To unpair, a Second Sight from the Unifi App, tap on the paired Second Sight, and confirm that you would like to unpair this unit. Note that only one Second Sight unit may be paired with the Unifi App at a time.

### **Second Sight Options**

Within the Second Sight options, there is the Settings menu (to customize the name of Second Sight and turn options on or off) and also vibrate settings to adjust the strength and timing of the vibrate sequences.



### Second Sight Settings

#### Description

Second Sight has a user-configurable name, displayed during the pairing process. The majority of the time, you will leave this in the default setting of "SIGHT," but if you are working in an environment where other Second Sight users are working, it may be advantageous to customize the name of your device.

### Enable Unifi

In addition to Bluetooth, Second Sight incorporates an ISM Band transmitter, that enables it to broadcast signals to the Thumper and Notifier, as well as other devices on the same frequency.

If you do not wish to use Notifier or have the vibrate sequences appear on your Thumper, then it is preferable to disable the Unifi output, as this will reduce the power consumption and extend battery life.

#### Enable PMR

Additionally, legacy devices such as the PMR are supported by Second Sight, allowing you to transmit signals to third-party Thumpers.

If you are not using third-party Thumpers, then it is best to disable this option to extend the battery life.

Second Sight will emulate the Roman Numeral vibrate pattern on third-party Thumpers, transmitting a combination of short and long vibrate signals to indicate the card value and suit.



### Vibrate Settings

Second Sight incorporates an onboard vibrator that will indicate the suit and value of a playing card or play a custom vibrate sequence.

5:23 <b>-</b>		. ni S	
	Vibrate Set	ttings	
VIBRATOR			
Enable Vib	rator		
Number Of Vibration R	epeats	No Repeats	; >
Time Perio Between R	d epeats	5 Seconds	; >
VIBRATE LENGT			
0 Sec	•	1	Sec
Weakest –		Stron	gest
0 Sec 🔶		10	Sec

#### **Enable Vibrator**

This option enables or disables the onboard vibrator.

Depending upon your presentation style, you may wish to turn off the vibrator. For example, if Second Sight is mounted inside a wooden box or underneath a close-up mat, then it is preferable to disable the vibrator.

Second Sight can transmit information to the Thumper, which will vibrate the corresponding signals.

#### Number of Vibration Repeats

This is the number of (additional) times that Second Sight will repeat the vibrate sequences.

This can be useful if you are using Second Sight in vibrate only mode and you would like a confirmation of the vibrate sequence. By default, this is set to "No Repeats."

#### Time Period between vibrates

This is the time between successive repeats. For example, you could configure Second Sight to provide you with two repeats, separated with an interval of ten seconds between the vibrate sequences.

#### Vibrate Length

The "Vibrate Length" adjusts the length of the vibration sequence for a short and a long vibrate. By default, a short vibrate is 0.20 seconds, and a long vibrate sequence is 0.60 seconds.

#### Vibrate Strength

The "Vibrate Strength" adjusts the strength of the onboard vibrate motor.

The weaker the vibrator is, the quieter the vibrator is, and the opposite is also true, the stronger the vibrator is, the louder the vibrator is. By default, the vibrator is set to maximum strength.

#### Vibrate Delay

The "Vibrate Delay" is the delay between obtaining an RFID Scan and the commencement of the vibrate sequence.

This is beneficial in an environment where you are concerned that the spectator could inadvertently feel the vibrate motor. For example, if you have a spectator holding a card between their hands and in the process of scanning the card, the vibrator is triggered. If you add a vibrate delay, you can obtain the RFID scan, but delay the vibrator from activating.

### **Read RFID Tags**

The Read RFID tags display every RFID tag that Second Sight has read and shows the assigned graphics.

You may tap on an RFID tag to customize it, erase the RFID tag, or clear the list by tapping in the top right.

Second Sight stores essential information on the RFID tag itself, including the description, playing card suit and value (if used) and also the custom vibrate sequence. Additionally, every RFID tag is assigned a unique Electronic Serial Number (ESN).

The Unifi App, stores additional information about each RFID tag, including the image, CUPP and UTP values and the Search URL. This data is used to communicate with third-party prediction systems and display images on the iPhone and Apple Watch.



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## Write **RFID** tags

The Write RFID tags feature enables you to create custom RFID gaffs.

In the following example, we are going to create a custom gaff for "Princess Leia" as well as configuring a couple of RFID gaffs for a lotto and time prediction.

When you tap Program, Second Sight will change the status LED to Red, to indicate that it will program the next RFID Tag that gets close to it.

Once the RFID Tag has been written (or after 30 seconds), Second Sight will turn the Red LED off.

5:24 🕫		Ĵ
Write RFI	ID Tags	
CUSTOMISE RFID TAG		
Description	Princess Leia	>
Numerical Value	No Numerical Value	>
Suit	No Suit	>
THIRD PARTY INTEGRATION		
CUPP	0	>
UTP	0	>
VIBRATION CUSTOMISATION		
First Vibrate Sequence	0	>
Second Vibrate Sequence	0	>
Faux Search URL		>
Cancel	Program	

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#### Description

The description field is used to assign a name to the RFID tag (up to 18 characters). The description is used for a range of applications: drinks, movie tickets, famous people, Poker Chips, the sides of a cardboard Dice – virtually anything that can fit an RFID tag.

The description is stored in the RFID tag, in addition to being stored in the Unifi App. As the RFID tag stores the description, Second Sight can transmit this description to Notifier. This enables you to use the Unfi App to create custom gaffed objects and then have them function with Notifier.

The description is also used for "Textto-Speech" announcements and with the third-party platforms such as Prevision.

#### **Numeric Value**

The numeric value is a specialized field, designed for the RFID Playing Cards and has valid ranges Ace through to King.

### Suit

The suit is a specialized field, designed for RFID Playing Cards and has valid ranges of Clubs, Hearts, Spades, and Diamonds.

#### CUPP

The CUPP field is the numerical value to send to the CUPP Printer. The Unifi App has been designed to operate in the "Lotto Mode" of operation and does not support other modes of operation.

As an example of the CUPP field, you could have an RFID gaffed photo of Lotto Numbers or RFID gaffed "Ping Pong" balls with numbers printed on them.

Each time you perform an RFID Scan on the object and press the "Send to CUPP" on either the Thumper or the Apple Watch, then this result is loaded into the CUPP.

Once you have loaded the required number of lotto results for the prediction, this is sent to the CUPP for printing.

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### UTP

The UTP field in the numerical value sent to the UTP Clock. As time consists of hours and minutes, you will need to configure the UTP interface to indicate the number of digits that you would like to send to the UTP.

For example, the digits "1,2,3,4" could represent 12:34 pm or these digits could represent 1:23 pm (with the four discarded).

If the UTP has been configured for one event for the hour and two events for the minute, then the scan of 1,2,3 would be interpreted as 1 for the hour and 23 for the minute.

If the UTP is configured for one event for the hour and one event for the minute, then the scans of 1,2,3 would be interpreted as 1 for the hour and 2 for the minute (with the three disregarded).

#### Vibration Customization

Second Sight supports custom vibrate sequences and permits two custom vibration sequences per RFID tag. The vibrate sequences are played sequentially, with a one-second gap between each vibrate.

The vibrate sequences must be below 15 (three long vibrates).

NUMBERS	VIBRATE PATTERN
1	•
2	
3	
4	••••
5	_
6	_·
7	
8	
9	
10	
11	·
12	
13	
14	
15	

Typically, the first vibrate sequence is an "index," and the second vibrate sequence is the "value." For example, you could configure the following: Page 34

NUMBERS	FIRST VIBRATE
1	Back to the Future
2	Wall Street
3	The Matrix
4	Star Wars
5	ET

The second vibrate sequence could be configured as follows:

NUMBERS	FIRST VIBRATE
1	Luke Skywalker
2	Han Solo
3	Princess Leia
4	Darth Vader
5	Yoda

In this situation, I generally order my two lists in the sequence of my favorite movies, followed by an ordered list of who are the main characters.

A vibrate sequence of .... (four short vibrate signals), followed by a \_ (one long vibrate signal) would indicate Star Wars and Yoda.

#### Search URL

The Search URL is the URL that will be "pushed" to your Search landing page.

Unifi supports two landing pages www.googłe.co and www.googłe.org.

Refer to the Search section in the Unifi App manual for additional information on how to customize and manage the search landing pages.

All commercial web sites, such as Google, Amazon, Baidu, eBay, Facebook, Wikipedia, YouTube, Twitter, Linkedin, Instagram, Netflix, et al. have Web API calls that enable you to pass various parameters.

This provides a high degree of flexibility for the revelation process, as the URL may contain any web site address.

Several examples are included below:

Amazon.com Bohemian Rhapsody CD:

https://www.amazon.com/s?k=bohemi an+rhapsody+cd Google Image search for Princess Leia:

https://www.google.com/search?q=Pri ncess+Leia&tbm=isch

These can also be direct links to images, videos, or music on your web site.

Please find following some ideas of URL's that could be used for the revelation.

- A song revelation, with the RFID tag embedded into the CD Cover.
- A movie revelation, with the RFID tag embedded into movie posters or inside movie tickets.

The easiest method to obtain the URL is to perform a search on Google and then copy and paste the resulting URL into the Unifi configuration.

**Note:** It is essential to include the full URL with the description, inclusive of the http:// or https:// parameters.

#### **Image Customization**

The image customization function allows you to assign a custom graphic to an RFID tag, directly from your iPhone.

You can assign an image from your photo library or your camera on your iPhone.

To assign a custom image to an RFID tag, tap on the camera icon.



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After you have attached an image to the RFID tags, a thumbnail of the graphic is displayed in the Status screen, as well as on the Apple Watch.





# Notifier

Notifier is an optional display module that may be used in conjunction with Second Sight, to display the result of RFID Scans.

Please refer to the Notifier User Manual for detailed instructions; an abridged user guide is included below.

Notifier will display the result of RFID Scans of playing cards on its LCD. Note that Notifier also integrates with Dice, Domino, Poker Chips, Magneto, Pen Sense, and Color Sense, so additional images may also be displayed.



Notifier will split the screen into two, four of six segments to display a history of RFID Scans, as demonstrated below:



If the RFID Tag is programmed with a custom description, then rather than displaying the playing card suit and value, the text description will be shown, as demonstrated below:



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# **RFID Deck**

The Second Sight Deck has been designed for magicians.

These cards are not made by hand – the chips and antenna are incorporated into the cards during the manufacturing process, ensuring that each card is perfectly thin and flat.

The deck can be shuffled and handled in the same way as an ordinary deck and is designed to last a lifetime.

The playing cards are manufactured using PVC, which makes them 100% plastic. This provides an unprecedented level of protection and making them virtually indestructible.

In addition to the standard 52 Playing Cards, also included is a blank card and a double-sided card, enabling you to perform a host of sleight-of-hand effects, without needing to switch decks.

The RFID Playing Cards may be programmed through the Unifi App.

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The Phoenix Deck incorporates two special features.

Firstly, there is a one-way design built into the face of every playing card, where the suit is subtly closer to the value in one direction:



Secondly, there is a one-way design built into the back of the playing card, where a line is missing in one direction:



# **Deck Programming**

Second Sight incorporates two programming modes, to allow you to easily program a sequence of numeric codes or a full deck of playing cards.

### Numeric Programming

The Numeric Programming mode enables you to quickly program RFID tags with the numbers one through to thirteen, in order.

To activate numeric programming mode, ensure Second Sight is off and then press and hold the On Button for four seconds (until you see the Blue LED flash slowly).

Once you have programmed thirteen cards, Second Sight will revert to the normal mode of operation.

You can exit the programming mode at any stage by pressing the On/Off Button.

### Card Programming

The Card Programming mode enables you to quickly program a full set of RFID Playing Cards in order.

To activate the card programming mode, ensure Second Sight is off and then press and hold the On Button for ten seconds (until you see the Blue LED flash rapidly).

The programming order is:

- Ace through to King of Clubs.
- Ace through to King of Hearts.
- Ace through to King of Spades.
- Ace through to King of Diamonds.

After you have programmed all 52 playing cards, Second Sight will revert to the normal mode of operation.

Once you have programmed all 52 cards, Second Sight will revert to the normal mode of operation.

You can exit the programming mode at any stage by pressing the On/Off Button.

# Tech Talk

Second Sight uses a high-end multiformat, multi-protocol RFID Reader / Writer that supports the following formats; ISO 14443A, ISO 14443B, JIS X 6319-4, ISO 15693, ICODE EPC, ISO, and 18000-3.

Our RFID Playing Cards are ISO 14443A as are our RFID tags.

While you are free to use any RFID tags with Second Sight, Illuminati Magic will only support RFID tags that have been verified to be working with Second Sight - but all of the above formats are possible with future plans under development.

Each tag stores the 18-character ASCII Text Description, the custom vibrates sequences as well as the Card Suit and Value (if they are playing cards).

This allows programming of RFID objects to be configured and work with other Unfi platforms.

For example, if a third-party developed a wooden ESP chip, then they could be programmed with the ASCII Text for each symbol (Circle, Square, Wave, Star, and Cross) and a custom vibrate sequence.

This allows third parties to configure their products and they will work "out of the box" without any configuration required by the performer (unless you want to assign a custom graphic or send the RFID to a third-party reveal system).

# Help and Support

If you require any assistance, please contact our support hotline at <a href="support@illuminati-magic.com">support@illuminati-magic.com</a>.

I would encourage you to register at our web site at www.illuminatimagic.com and our Facebook Group.

The full Unifi manual is available at <u>www.illuminati-magic.com/unifi-online-</u><u>help.html</u>

You may download the Unifi App by scanning this Quick Reference Code:





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