iristick

User guide

Iristick.G2
Iristick.G2 PRO

for iOS *(iPhone® only)*

Disclaimer

When refering to the Iristick.G2, the information in this user guide is applicable to both the Iristick. G2 and Iristick. G2 PRO, unless stated otherwise.

For safety glass purposes, the Iristick.G2 and Iristick.G2 PRO are identical. They share the same frame and ocular and thus have the same specifications regarding safety glasses.

https://www.iristick.com

Welcome to Iristick

Welcome to the beginning of your enterprise AR journey. With the Iristick industrial smart safety glasses, you will experience the endless possibilities of augmented reality.

Your new pair of Iristick smart glasses - Iristick.G2 - is the result of more than five years of experience, research and development and our constant pursuit of perfection. Our goal is to make a wearable device that can truly support various frontline workers in the field and connect them to the correct information and support from remote experts in real-time.

Iristick.G2 is manufactured by Iristick NV in Antwerp, Belgium. Proud winner of a Red Dot Design Award (2018), H2020 European Commission Innovation Grant (N°811820) in 2018 and holder of multiple patents.

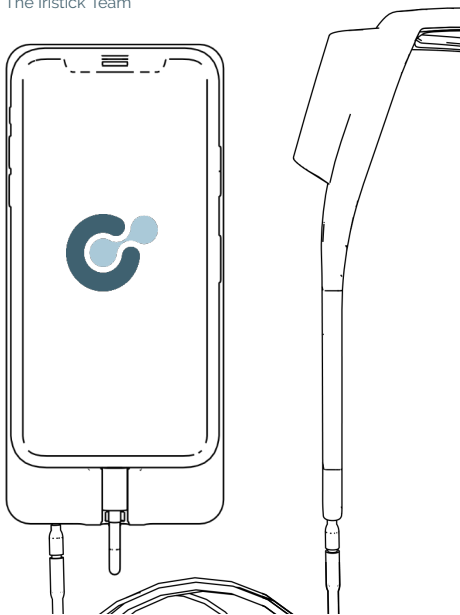Thank you for your support.

The Iristick Team

Table of contents

Please download the latest version of this user guide at https://go.iristick.com/user-guide as Iristick may update this user guide without giving notice.

Important user information

Safety guidelines & warnings

⚠ **- Use of controls or adjustments, or carrying out procedures, other than those specified herein may result in hazardous radiation exposure.**
- Never aim any laser towards an aircraft or moving vehicle.
- Do not use the Iristick.G2 while operating a vehicle.
- Always push the heads-up display up, out of the line-of- sight when not in use.
- Never use a charger and/or adapter that looks damaged and/or has been tampered with.
- Do not charge and/or use the Iristick.G2 in humid environments.
- Do not submerge the Iristick.G2 and/or any of the accessories in any kind of liquid, in order to avoid electrocution.
- Do not use and/or charge the Iristick.G2 in ATEX (explosive atmospheres).
- Do not open the Iristick. G2 and/or any of its accessories, in order to avoid fire or electrocution.
- Always disconnect the headset from the pocket unit by removing the coaxial cable in-between before cleaning the Iristick.
- Always disconnect the pocket unit from its charger and the phone before cleaning the pocket unit and/or the charger.
- Stop using the Iristick.G2 and/or the mobile phone if you experience nausea, dizziness and/or any other complication that might be caused by wearing and/or using the Iristick. G2 and/or the mobile phone.

Temperature

The Iristick.G2 has been designed to work in environments with a temperature between -5°C and 55°C (23°F and 131°F). Temperatures outside this range may damage the Iristick, resulting in malfunctions.

Warranties & duties

The Iristick.G2 and its accessories come with a 1-year worldwide limited warranty which starts counting on the date of purchase as stated on the invoice.
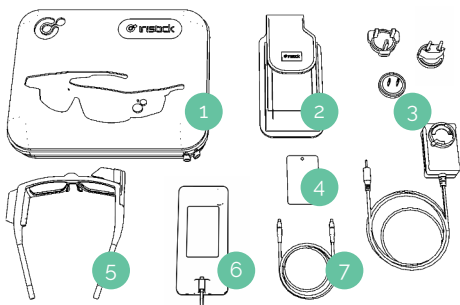
SAR

As the Iristick. G2 does not transmit any radio frequency such as Bluetooth, Wi-Fi or cellular radiation, a meaningful SAR-value cannot be measured. The amount of radiation the other electronics transmit is negligible.

Of course, the phone used in combination with the Iristick.G2, has its own measured SAR value.

Package contents

1. **Carrying case** to store and protect the Iristick.G2 and its accessories.

2. **Pouch** to package and protect both the smartphone[1] and pocket unit and clip to a belt.

3. **Barrel jack charging adapter** which charges the pocket unit and the phone when connected. Comes with swappable, regional plugs.

4. **Hook and loop tape** for mounting a mobile phone onto the pocket unit.

5. **Headset:** the actual smart safety glasses.

6. **Pocket unit**: a battery and the connection between the headset and iPhone®[2] with Lightning® connector.

7. A **coaxial cable** to connect the headset to the pocket unit.

Optional accessories:

- **iPhone** with standard accessories.
- **Extra pocket unit(s)** for more battery power.
- **In-ear headphones** with microphone and 2.5mm plug.
- **Insertable prescription glasses**.

ⓘ *- One or more accessories might already be included in your package.*

- Please contact us at info@iristick.com for more information about the available accessories.

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[1] See https://go.iristick.com/phones to check for phone compatibility.
[2] iPhone is a trademark of Apple® Inc.

Quick start

You can use this section to get started with your Iristick.G2 right away and refer to the sections in the manual if parts are unclear. However, it is still advisable to read through the complete manual in order to learn all the ins and outs of the Iristick.G2.

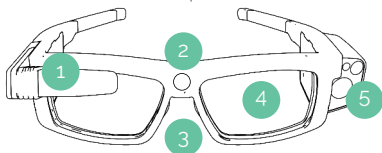Please follow the steps below to continue with the quick start:

1. Use an iPhone with at least iOS 12.0 installed.
    Phone > Phone compatibility (p. 11).

2. Download and install an Iristick-compatible application from the Apple App Store[3].
    Software > Setup > step 1 (p. 14).

    You can also use the **Iristick Examples** app from the App Store to test and get to know all features.
    Software > Iristick Examples app (p. 16).

3. Connect the phone to the pocket unit via the Lightning connector, open the app on the phone and use the **Shake to Wake** feature to get a connection.
    Software > Setup > step 2 (p. 14).
    Software > Setup > step 3 (p. 14).
    Software > Setup > step 4 (p. 14).

4. Connect the headset to the pocket unit with the coaxial cable and allow the dialog box for screen recording.
    Software > Setup > step 5 (p. 15).
    Software > Setup > step 6 (p. 15).

5. Adjust the display to your eye.
    Adjustments > Heads-up display (p. 20).

6. Use the touchpad and/or voice commands to navigate through the application of use.
    Navigating > Touchpad (p. 23).
    Navigating > Voice commands (p. 24).

(i) - *Please visit https://go.iristick.com/software for an overview of all supported software.*
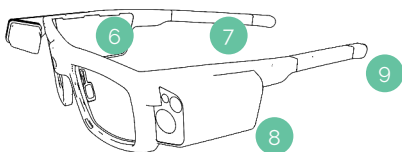

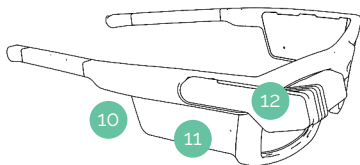3   The App Store® is a trademark of Apple Inc.

Headset

1. **Heads-up display** which can be adjusted in four directions and rotated to personal preference.
2. **Center camera** for a view from the user's perspective.
3. **Adjustable nose pads** for user comfort.
4. **Certified safety glass**[4].
5. **Zoom module** with 6x optical zoom, laser and LED.

6. **Dual microphones** with beamforming, optimized for video calls and voice commands[5].
7. **Cold-bendable temple tips** for user comfort.
8. **2.5mm audio jack** for mono audio with microphone.
9. **Coaxial connection** between headset and pocket unit.

10. **Speaker** which is aimed towards the ear.
11. **Capacitive touch pad** which supports the gestures swipe forward, backward and down and single tap, double tap and long tap.
12. **9-axis sensor**: accelerometer, gyroscope, head motion detector, magnetic field detector and measurement of the absolute rotation of the headset.

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4   EN 166 S and ANSI Z.87 - see Certifications (p. 31) for more information.
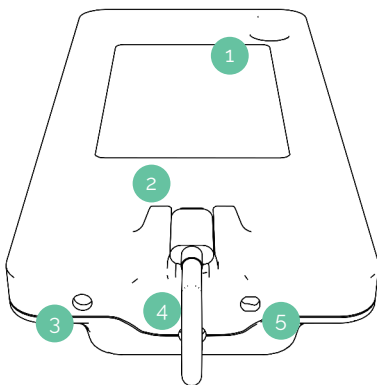
5   Voice commands are only available on the Iristick.G2 PRO.

Pocket unit

The pocket unit provides the headset with power and allows communication between the headset and the phone through the coaxial cable.

It has the following features:

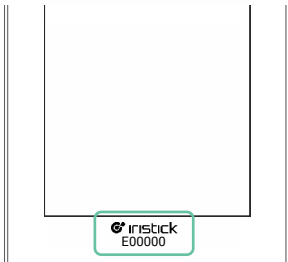1. **Hook and loop bed** for mobile phone.
2. **Lightning connection** for iPhone.
3. **Coaxial connection** to connect the headset.
4. **LED indicator** for battery status.
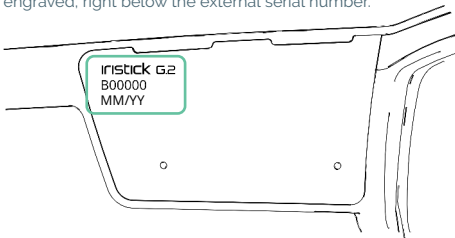5. **Charging port** to charge the pocket unit with the 15V barrel jack charging adapter[6].

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[6] Please refer to Charging & status > Connecting the charger (p. 18) for more information about the barrel jack charging adapter.

Serial & model number

The serial number shown on the outside of both the headset and pocket unit, is the serial number of the casing and looks like E00000 (pocket unit – in the middle of the top surface) and B00000 (headset – on the left inner panel).

ⓔ iristick
E00000

The headset also has the manufacturing date (month/year) engraved, right below the external serial number.

iristick G2
B00000
MM/YY

The internal serial number of the headset and pocket unit can be read-out by connecting the Iristick.G2 to a mobile phone and launching the **Iristick Examples** application. This is the serial number of the internal hardware and looks like 123456789E12x[7] (pocket unit) or 123456789B12x[7] (headset). The last part of the internal serial number shows the model number. A pocket unit has E12x as its model number and a headset has B12x.

ⓘ - *It is advised to take note of the serial numbers of both the headset and pocket unit.*

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[7] The serial number may contain a trailing letter (e. g. 'A') to indicate a hardware revision.

Phone

Phone compatibility
The Iristick.G2 relies on the software that is being used on the iPhone. This software (app) should be adapted to work with the Iristick headset.

The Iristick.G2 product line is compatible with the iPhone 8 or newer devices[8], with at least iOS 12.0 installed. iPads and iPods are excluded.

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[8] See https://go.iristick.com/phones to check for phone compatibility or send us an email at support@iristick.com.

Hook and loop tape

The phone will stick to the top surface of the pocket unit when the hook and loop tape is adhered to the back of the phone.

The easiest way to do this, is as follows:

1. Clean the back of the phone (or case) with an alcohol wipe.
2. Stick the hook and loop tape halfway onto the back of the phone.
3. Press firmly, especially at the edges of the tape.

ⓘ *- The adhesive will reach its maximum strength after 48 hours, but you are able to use your phone directly. Only be sure to not detach within these 48 hours.*

Software

First connection

To avoid battery drainage, the iOS pocket unit has a feature built-in that we like to call **Shake to Wake**. This means that the pocket unit should be shaken gently after connecting the iPhone.

Synchronizing the firmware

On iOS, the application itself is in charge of managing and maintaining the Iristick set. Upon connection with the iPhone and launching the application, it will check for differences in the firmware version of the application, headset and pocket unit. If necessary, the devices will be synchronized automatically within a minute.

A firmware synchronization will only be necessary when firmwares are out of sync. This could happen when the Iristick device is used with different iPhones or even different applications that contain different firmware versions. Every application holds its own firmware version and synchronizes if necessary.

After a successfull synchronization, the pocket unit will shut down. Please give the pocket unit another **Shake to Wake**.

(i) *- When the Iristick.G2 gets disconnected while synchronizing, a fail-safe recovery mechanism will be triggered and the old firmware will be reloaded. Simply reconnect and try again.*
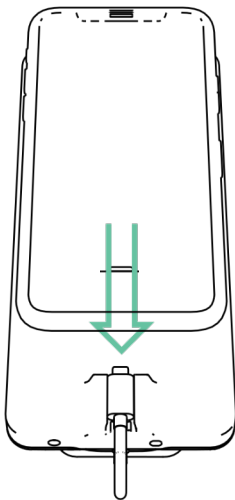
Setup

Please follow the steps below to set up the Iristick device on iOS:

1. Download and install the app to use with the Iristick via the App Store.

    [Download on the App Store] [9]

    (i) - *Please refer to https://go.iristick.com/software for all compatible solutions.*

2. Connect the iPhone to the pocket unit via Lightning by and stick the phone to the surface. The phone will stick to the surface of the pocket unit, thanks to the hook and loop tape[10].

3. Open the application to use with the Iristick.G2.

4. **Shake** the pocket unit gently **to wake**.
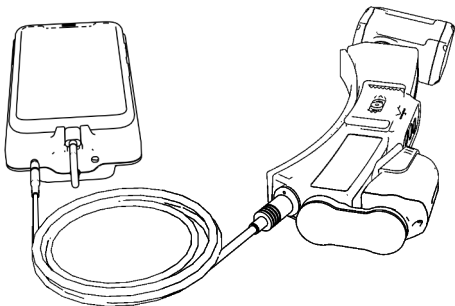
    (i) - *The pocket unit's firmware might be synchronized.*
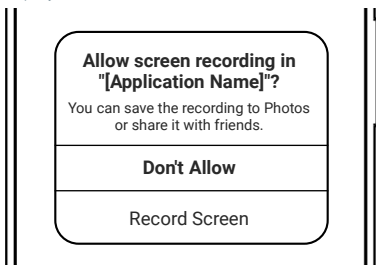
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9   The Apple logo® is a trademark of Apple Inc.
10 See Phone > Hook and loop tape (p. 12) for more information on how to attach the hook and loop tape to the phone.

5. Connect the headset to the pocket unit with the coaxial cable.

ⓘ – *The headset's firmware might also be synchronized.*

6. Tap '**Record Screen**' in the application's dialog box on the phone to allow '**Allow screen recording in [Application Name]?**' to activate the heads-up display. This mirrors the phone's screen onto the heads-up display.

**Allow screen recording in
"[Application Name]"?**

You can save the recording to Photos
or share it with friends.

Don't Allow

Record Screen

Status

The status of the connection with the Iristick.G2 is shown by the LED on the pocket unit:

● The LED on the pocket unit is dark blue if only the pocket unit is connected to the phone and initialized properly by the application.

● It will turn bright blue when the headset is also connected.

(i) - *If the LED is off, please **Shake** the pocket unit **to Wake**. The LED should turn on.*

Iristick Examples app

The Iristick Examples app is a simple application that serves as an example to showcase all the features the Iristick. G2 has to offer. Its main goal is to function as an example to developers as the source code is available for download on our developer page after requesting access[11].

It also allows for taking pictures and recording videos with the Iristick.G2 smart glasses.

(i) - *Please note that this application is changing rapidly and may have unforseen bugs.*

Partners

Refer to our webpage https://go.iristick.com/partners to get to know our partners and the software solutions they have built for Iristick. You can contact them directly or send us an email at either info@iristick.com or support@iristick.com if you would like us to bring you into contact with the right software partner for the best-fitting solution.

If you happen to be a developer and you would like to join our partner program to get your software running on Iristick, please visit https://go.iristick.com/developers or send us an email at info@iristick.com in order to get in touch with us. Our sales team is happy to help.

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[11] Please check SDK & development (p. 27) for more information on how to gain access.

Charging & status

Pocket unit status

Check the battery status of your Iristick. G2 before use by shaking the pocket unit gently back and forth. The LED indicator at the front of the pocket unit will indicate the level of charge and the connection status:
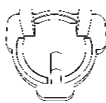
- 🟢 Green = charged.
- 🟡 Yellow = battery is running low.
- 🔴 Red = depleted. Please charge the pocket unit.
- 🔵 Dark blue = connected to a mobile phone.
- 🔵 Bright blue = connected to both headset and smartphone.
- ✷ Blinking (any color above) = charging (with color status).

Swappable plugs

The AC/DC adapter comes with 3 interchangeable plugs for the following regions:
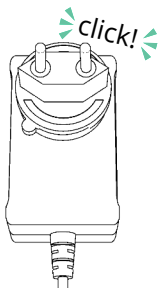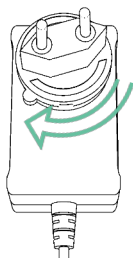

EUR
Europe

GBR
Hong Kong, Qatar, Republic of Ireland, Singapore and the United Kingdom
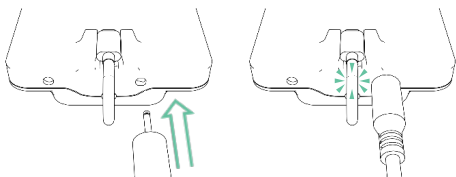
USA
Japan and North America

To apply one of the plugs, push the plug onto the adapter and twist a few degrees to the right, until you hear a "click" sound.

click!

To change the plug, twist the plug a few degrees to the left while pushing the "push" button.

Connecting the charger

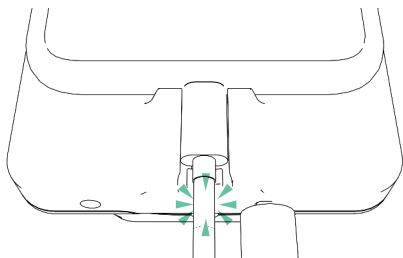Simply connect the AC/DC adapter as shown below, to charge the pocket unit.

During charging, the LED will blink according to its status.

When the pocket unit is completely charged, the LED will stay solid green. Charging a depleted pocket unit should take around 2 hours[12] maximum.

Charging the phone & pocket unit together

The Iristick pocket unit supports being charged along with the connected iPhone. Simply connect the charger to charge both devices simultaneously while keeping the iPhone connected as well.

You can always check the LED of the pocket unit to see in which mode your device is in.

It may take up to 6 hours to completely charge both the pocket unit and an iPhone with a compatible 15V charger[11]. Therefore, it is advised to charge both devices seperately.

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[12] Please refer to Charging & status > Battery & charger (p. 19).

Battery & charger

The battery type used in the Iristick's pocket unit[13] is a Lithium-Ion battery with a capacity of 1200mAh at 11.1V and is designed to be recharged. The pocket unit of the Iristick.G1 charges only with DC 15V (barrel jack). Please only use chargers with the following specifications:

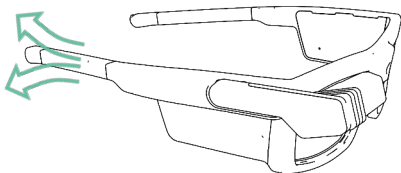**AC/DC adapter (via barrel jack only):**
INPUT: 100~240V, 50/60Hz, 0.5A
OUTPUT: 15V = 1.0A

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[13] Please refer to Pocket unit (p. 9) to get to know its features.
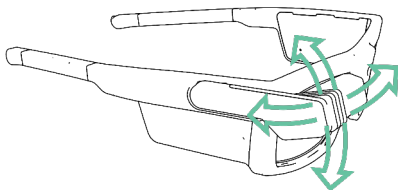
Adjustments

Temples

The temples can be adjusted to fit around the head or ears.

Heads-up display

The arm of the heads-up display can also be adjusted in four directions to the wearer's comfort. Line up the display right above the eye or completely out of sight for an unobstructed view.

The heads-up display itself can also be rotated (or tilted) in two directions: to the front or to the back.

(i) - *Best practice on how to position the heads-up display is to push the arm to the outside (right) and rotate the heads-up display itself downwards.*

- *The heads-up display can only rotate (tilt) 30 to 40 degrees.*

Adhesive lenses

Hydrotac® lenses are soft, pliable, plastic lenses shaped in a half moon. The lenses cling to the inside of our safety glasses through molecular attraction.

No adhesives are needed and they leave no residue. They are instantly and easily installed with water and may be removed and reinstalled at any time.

These lenses can be purchased at multiple online and offline stores.

Insertable prescription glasses

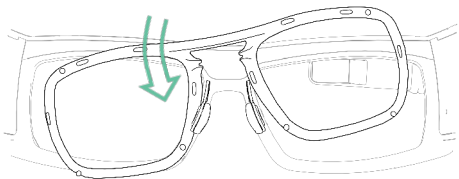The Iristick. G2's headset is designed to fit prescription glasses to make the device usable for everyone. This, however, makes the Iristick.G2 personal and can be costly. Therefore, we also offer the possibility to use insertable prescription glasses. In this way the Iristick. G2 can be shared among multiple users, each with their own prescription.

You can purchase the frame of insertable prescription glasses by contacting your contact person or by sending us an email at info@iristick. com. Our optician partner creates you a fitting frame according to your prescription.

To insert the inserts, please follow the steps below:

1. Place the insert sideways in the glasses.
2. Hook one side behind the nose pad by pushing down.

3. Hook the other side behind the other nose pad as well.

4. Adjust the nose pads as they might have been moved.

Navigation

Touchpad

In order to navigate through the items on the heads-up display, you can use the touchpad on the right side of the headset to select an item. The following gestures can be recognized:

- **Swipe forward**: swipe your finger over the touchpad from the back towards the front, away from the ear.

- **Swipe backward**: swipe your finger over the touchpad from the front towards the back, towards the ear.

- **Swipe down**: swipe your finger over the touchpad in a downward motion.

- **Single tap**: briefly touch ("tap") the touchpad.
- **Double tap**: tap twice in quick succession.
- **Long tap**: a single tap, but held for a longer time.

Voice commands

The Iristick.G2 can be controlled by voice commands. The voice commands that can be used and their availability depend on the application[14].

The voice commands are available in multiple languages[15] and depend on the language of the phone. If the language of the phone is not available as voice command language, English will be used as default.

Voice commands can be used in enviroments with ambient background noise up to 90 dBA and there is no training needed. Offline, on-device processing allows for usage without an active internet connection.

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[14] Some applications, like some remote assistance solutions, may not have voice commands enabled to avoid interference while talking.

[15] Please refer to https://go.iristick.com/voice-commands for the available languages.

Maintenance

Cleaning the glasses

The Iristick. G2 glasses can be cleaned with any regular screen cleaning spray that does not contain alcohol. Please make sure the cleaning spray states that it is **safe for all screen types**.

ⓘ - From time to time, alcoholic disinfectant can be used to disinfect the Iristick. G2's plastic body and lenses but please make sure to remove all alcohol residues afterwards with a slightly damp cloth as alcohol residues may damage it over time.

Spray the fluid directly on the glasses: one spray on each side on each glass, resulting in four sprays in total. Wipe the glasses with the cleaning cloth or use a microfiber-base cloth.

To avoid scratching or damaging the plastic surface of the safety glass, please:

·   Make sure to blow off most dust and other particles before cleaning.

·   Always use a clean (piece of) cloth.

·   Never use paper or clothing as it may contain small but sharp particles.

·   Always use a spray to clean the glasses.

Storing the glasses

The case has been designed to fit the complete Iristick.G2 set, including the mobile phone and accessories. The set is best protected when using the following order of packaging:

1. Put the headset in place first.

2. The pocket unit goes in the middle.

3. The phone goes on top of the pocket unit and they stick together when the metal plate has been applied.

ⓘ *- Please make sure to shut down the phone and disconnect the phone from the pocket unit to avoid potential overheating and battery draining.*

4. Place the pouch upside down on top of the phone so it functions as a cushion.

5. The accessories go on the other side in the bag.

SDK & development

The Iristick SDK for iOS can be used for developing your own customized applications using the Iristick features. Please contact our support team for access at support@iristick.com.

Examples & source code
You can download the **Iristick Examples** application via the App Store for a brief understanding of the capabilities of the Iristick smartglasses. The source code of this sample application can also be found on our developer page, after requesting access.

Partner program
If you are a developer or have developers in your company and you want your software running on the Iristick smartglasses, please contact us to join our partner program. Take a look at https://go.iristick.com/developers or send us an email at info@iristick.com in order to get in touch with us. Our team is happy to help.

Safety information glasses

Name and address of the manufacturer:
Iristick NV
Lamorinierestraat 123, box 001
2018, ANTWERP, BELGIUM

Number of safety standard:
EN166:2001
Regulation 2016/425

Model identification:
Iristick.G2

Instructions for storage, use and maintenance:
Please refer to page 31 in this User Guide.

Instruction for cleaning and disinfection:
Please refer to page 30 in this User Guide.

Details of the field of use, protection capabilities and performance characteristics:
Iristick. G2 are common, general safety glasses for eye protection. The safety glasses are intended for basic use, protection against unspecified mechanical hazards. Not intended for protection against chemicals or high speed particles.

Details of suitable accessories and spare parts:
No spare parts available for the Iristick.G2. When glasses are damaged, please stop using and contact supplier.

The Iristick.G2 smart glasses can only be transported in the supplied case.

Markings on the frame:
CE is the conformity according to PPE Regulation 2016/425 and this declaration of conformity is available on the website: https://go.iristick.com/certificates

$C\epsilon$

Z87: ANSI Z87.1 - Eye protection standard according to the American National Standards Institute.

CDRH LN 56 2019: Complience according to the following two standards of laser safety:
- EN 60825-1:2007 (NB-0462)
- EN 60825-1:2014

Marking significance on the frame:

IRI   EN 166   S

Signification of the manufacturer ———
The number of this standard ———
Symbol for increased robustness ———

Marking significance on the ocular:

IRI   1   S

Identification of the manufacturer ———
Optical class ———
Increased robustness ———

Conformity assessment done by:
APAVE SUD EUROPE SAS
CS60193
13322 MARSEILLE CEDEX 16
FRANCE
NB 0082

⚠ **- Materials which may come into contact with the wearer's skin could cause allergic reactions to susceptible individuals.**

- Eye-protectors against high speed particles worn over standard ophthalmic spectacles may transmit impacts, thus creating a hazard to the wearer.

ⓘ *- If protection against high speed particles at extremes of temperatures is required then the selected eye-protector should be marked with the letter T immediately after the impact letter (i.e. FT, BT or AT). If the impact letter is not followed by the letter T then the eye protector shall only be used against high speed particles at room temperature.*

Troubleshooting

We would be more than happy to help you out with any questions about or issues with your Iristick. G2 device. Please visit https://support.iristick.com and refer to the available help sections.

If you have a specific question or issue that is not listed in the FAQ or you need more help, simply send us an email at support@iristick.com and we will help you get an answer or solve the issue. Please provide us with the following information:

· The internal and/or external serial number[16] of both the headset and pocket unit.

· The model number of the iPhone.

· The iOS version[17] running on the iPhone.

· A description of the problem.

· Symptoms you observe.

· Any additional information that can be of any use, like the internet connection used (3G, 4G, 5G, Wi-Fi 2.4GHz, 5GHz, …), the location and/or apps that you have been trying to use.

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[16] The serial numbers can be found on the outside and in the **Iristick Examples** application when the Iristick. H1 is connected. Please refer to Serial & model number (p. 10) for more information.

[17] The iOS version can be found in your phone's settings..

Certifications

CE
The Iristick.G2 is fit for use in all European Union countries, Norway and Switzerland.

C E

EN60950
Safety standard for audio, video or information communication technologies and the convergence of new technologies into state-of-the-art tech.

EN55032-CISPR32 Class B ITE (Information Technology Equipment)
This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

IEC 60825-1:2014
IEC 60825-1:2014 class one is applicable to the safety of laser products emitting laser radiation in the wavelength range 180 nm to 1 mm.

**CLASS 1
LASER PRODUCT**

This product complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

EN 166 S
Frame and lens must withstand the impact of a 22 mm steel ball weighing 43 grams striking the frame and lens at a speed of approximately 5,1 m/s. The lens must remain in the frame and may not shatter. The frame must remain intact as well.

FDA compliance
This product complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

Manufacturing information
Manufactured by Iristick NV, Lamorinièrestraat 123, 2018 Antwerp, BELGIUM.

See   https://go.iristick.com/certificates   for   all   our certifications.

Environmental information

Waste electrical & electronic equipment

This symbol on the product indicates that, under the European Directive 2012/19/EU governing waste from electrical and electronic equipment, this product must not be disposed of with other municipal waste. Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. For more information about recycling of this product, please contact your local city office or your municipal waste disposal service.

Disposal of batteries in the product

This product contains batteries covered by the Directive 2006/66/EC which must be collected and disposed of separately from municipal waste. If the battery contains more than the specified values of lead (Pb), mercury (Hg) or cadmium (Cd), these chemical symbols will appear below the crossed-out wheeled bin symbol. By participating in separate collection of batteries, you will help to ensure proper disposal and to prevent potential negative effects on the environment and human health.

RoHs compliance

Iristick. G2 certifies that all materials used to make our products meet RoHs Compliance standards. Please contact us at either info@iristick.com or support@iristick.com for more details.
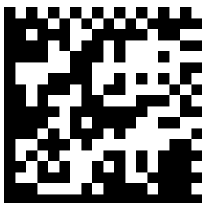
Barcode examples

UPC_A

1 23456 78901 2

UPC_E

0 123456 5

QR Code

Iristick.G2 PRO

Data Matrix

Iristick.G2 PRO

Aztec

Iristick.G2 PRO

PDF417

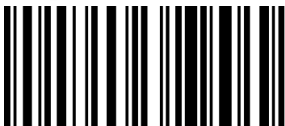**Iristick.G2 PRO**

CODE_128

1234567890

CODE_39

IRI-1234

CODE 93

1 234567 890128

EAN_8

IRI-1234-/+

EAN_13

1234 5014