

# Installation and Operation Manual

## REVOLABS SOLO™ DESKTOP Wireless Microphone System Models 02-DSKSYS, 04-DSKSYSEU



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Revolabs, Inc.

***Please Note:***  
***Microphones must be fully charged and paired to the Charger Base prior to first use.***



Revolabs Solo™ Desktop Manual 02-DSKMAN-PAP-11  
Mfg Part #91-8601-10N00 May 2007 (Rev 2.3)

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## Safety and General Information

**IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION. READ THIS INFORMATION BEFORE USING YOUR DEVICE.**

### FCC User Information

FCC Registration Number: 0014898290

FCC ID Number: T5V02DSKSYS Revolabs Solo™ Desktop Charger

FCC ID Number: T5V01EXEMIC Revolabs Solo™ Microphone

### FCC Notice to Users

*Users are not permitted to make changes or modify the equipment in any way. Changes or modifications not expressly approved by Revolabs, Inc. could void the user's authority to operate the equipment.*

*This device complies with Part 15 of the FCC Rules.*

*Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*

**IMPORTANT NOTE: Federal Communications Commission (FCC) Radiation Exposure Statement – This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.**

## Industry Canada Notice to Users

Operation is subject to the following two conditions: (1) This device may not cause interference and (2) This device must accept any interference, including interference that may cause undesired operation of the device Ref IC: RSS 210 Sec. 5.11. The term "IC:" before the certification/registration number only signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. See Ref IC Self-Marking 6(f) and RSP-100 Sec. 4.

IC ID Number: 6455A-02DSKSYS Revolabs Solo™ Desktop Charger  
IC ID Number: 6455A-01EXEMIC Revolabs Solo™ Microphone

## Restricted use with certain medical devices

### Hearing Aids

Some devices may interfere with some hearing aids. In the event of such interference, you may want to consult with your hearing aid manufacturer to discuss alternatives.

### Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

## Export Law Assurances

This product is controlled under the export regulations of the United States of America and Canada. The Governments of the United States of America and Canada may restrict the exportation or re-exportation of this product to certain destinations. For further information contact the U.S. Department of Commerce or the Canadian Department of Foreign Affairs and International Trade. The use of wireless devices and their accessories may be prohibited or restricted in certain areas. Always obey the laws and regulations on the use of these products.

## 02-DSKSYS North America UPCS Usage Restriction

Due to the UPCS frequencies used, this product is licensed for operation only in the United States of America and Canada.

## 04-DSKSYSEU European Union Usage Restriction

Due to the frequencies used, this product is licensed for operation only in the European Union countries.

## European Compliance

This equipment has been approved in accordance with Council Directive 1999/5/EC "Radio Equipment and telecommunications Equipment."



Conformity of the Equipment with the guidelines below is attested by the CE mark.

Model Numbers:

04-DSKSYSEU-BLK-11 Revolabs Solo™ Desktop Charger  
03-EXEMICEU-BLK-11 Revolabs Solo™ Executive Microphone  
05-TBLMICEU-OM-BLK-11 Revolabs Solo™ Table Microphone Omni  
05-TBLMICEU-DR-BLK-11 Revolabs Solo™ Table Microphone Cardioid

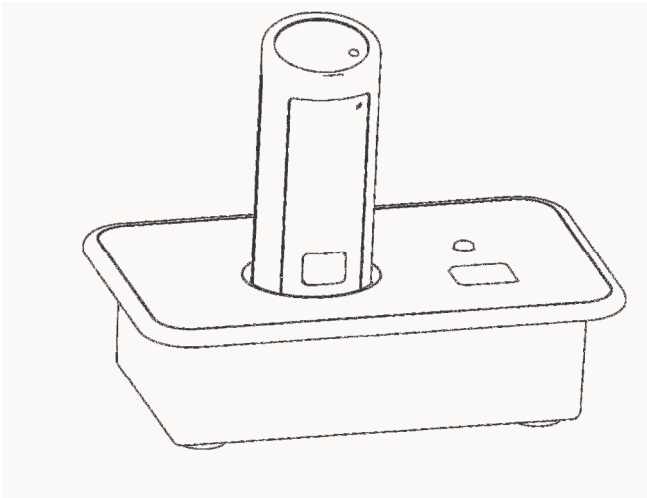
Standards to which Conformity is declared:

RF	ETSI EN 301 406 V 1.4.1 03/2001
EMC	ETSI EN 301 489-6 v1.2.1 (2002-04)

# Introduction

Congratulations on the purchase of a Revolabs digital wireless communication system! We are pleased that you have chosen the Revolabs Solo™ Desktop Wireless Microphone System with 1.9 GHz DECT technology. The Revolabs Solo™ Desktop provides high band-width audio from a compact wireless microphone enabling reliable, secure and un-tethered personal communication.

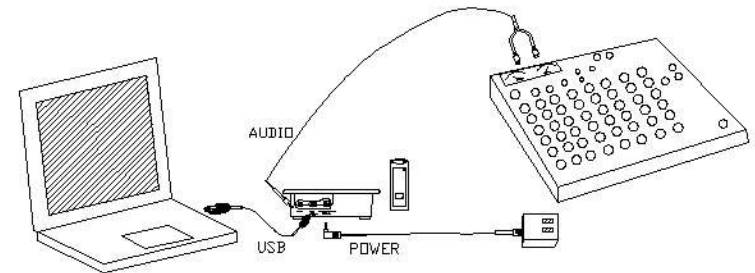
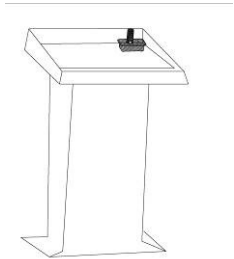
The Revolabs Solo™ Desktop Wireless Microphone System is a unique marriage of innovative technology and ergonomic stylish design. This product enhances audio communication in both personal and enterprise applications. The system uses Multi-Carrier, Time Division Multiple Access and Time Division Duplex (MC/TDMA/TDD) radio transmissions both to and from the microphone. This means that the system can co-exist with other wireless products such as wireless LANs (802.11 B&G) and cellular phones, and eliminates “buzzing” in the audio from cell phones.



# System Components

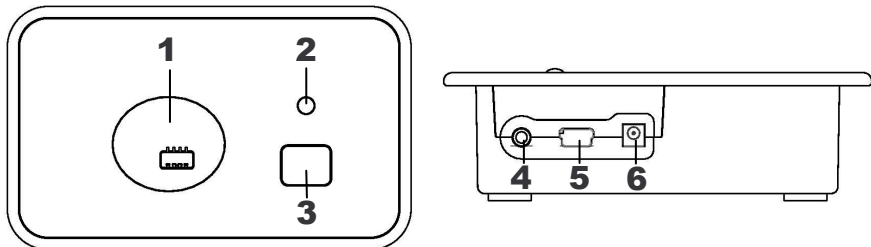


Your Revolabs Solo™ Desktop System package contains a compact Charger Base, a bi-directional (full duplex) wireless microphone, a 5V power supply adapter, a USB cable, and an external audio cable. There are many features that this system provides that increase the productivity of personal communication whether in standard hands free phone use, IP telephony, or even in large group conference applications.



## Revolabs Solo™ Desktop Charger Base

The Charger Base is used for storing and charging the Microphone when not in use. The Microphone must be properly inserted into the base and seated flush for charging to occur.



1. Charger Bay — charges Microphone
2. LED indicator — mute and pairing status indicator
3. **MUTE** button — duplicates the Microphone mute function
4. **AUDIO** port — 2.5mm analog in/out external audio connection (line level 0dB)
5. Mini **USB** connector — computer audio connection
6. **POWER** connector — power supply input

### Mute Button

Pressing the **MUTE** button toggles between muting (flashing RED LED status) and un-muting (flashing GREEN LED status) the Wireless Microphone.

**Note 1:** Pressing the **MUTE** button on a Microphone will similarly toggle between mute and un-mute and show on both status LEDs.

**Note 2:** Pressing and holding the **MUTE** button while plugging in the power adapter allows the user to reduce the range of the system from 60 feet (25M), to 20 feet (7M) or 6 feet (2M). The status LED on the charger will flash the power level setting 10 times, where 1 flash = full power, 2 flashes = mid power, and 3 flashes = low power. Reduce power levels for multiple system installations in confined areas if audio has interference noise.

### Power Module

The Charger Base requires 5VDC power. Plug the supplied AC adapter into a convenient 110-240VAC, 50-60Hz power outlet and the adapter into the power connector.



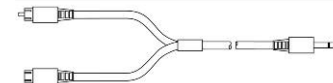
### USB Connection

Use the supplied cable to connect the mini USB connector to the Charger Base and the standard end to your computer USB port. Your computer will alert you that it has found new hardware, and the **solo-Desktop** operating software will automatically load. See the user settings specified above for adjusting the audio connections to your liking.



### External Audio Connection

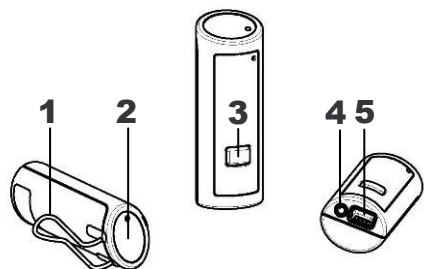
The Desktop System also provides a cable for connecting the Charger Base to an external audio or conferencing system. This feature can be used to amplify a presenter at a lectern, for example. The 2.5mm to RCA cable included with the system allows for the unbalanced low level audio from the Microphone to be connected into a mixer or conferencing system using the RCA male jack. Further, output from the mixer or conferencing system can be connected to the RCA female plug to be heard through the earpiece connected to the Microphone.



## Revolabs Solo™ Wireless Microphone

### Wearable Microphone

The wireless personal microphone can be worn on the user's shirt pocket, lapel or on a lanyard. It provides high quality full duplex audio between the user and the computer and/or phone system. The system allows the wearer to step out of the office or conference room and still participate in the call.



1. Pocket Clip — attaches microphone to the user
2. LED Indicator — visual status for mute, un-mute, and pairing
3. **Mute** Button — press to mute, un-mute and pair microphone
4. Earpiece Jack — accepts the 2.5mm plug for the earpiece
5. Charging Port — docks to all Revolabs Solo™ battery chargers

### TableTop Microphone

The Revolabs Solo™ TableTop Wireless Boundary Microphones enable multiple phone conference participants to use a single microphone. Units are placed strategically on the conference table to ensure that all participants can be heard clearly - without wires getting in the way or limiting the distance to the speaker unit.



1. **Mute** Button — press to mute, un-mute and pair microphone
2. LED display — visual status for mute, un-mute, and pairing
3. Integral grille — protects internal parts (non-removable)
4. Audio jack — accepts a 2.5mm plug for a powered speaker
5. Charging port — docks to all Revolabs Solo™ battery chargers
6. Rubber feet — non-slip, vibration absorbing pads

## Charging the Batteries

### How to Charge

1. Place the Microphone into the Desktop Charger Base.
2. During charging, the Microphone status LED indicator is solid RED and remains on until charging completes and then turns off. The Charger Base status indicator remains off during charging. The Microphone is always muted while in the Charger Base. The battery charges from fully depleted to fully charged in about two hours. It can be “quick-charged” to approximately 80% capacity in 45 minutes.
3. When charging completes, the Microphone RED LED turns off and Microphone is ready for use. **Note:** A fully charged battery provides approximately 8 hours of talk time.
4. If the Microphone is left in the Charger Base for an extended period, the LED will turn on again indicating a top-up charge.



### When to Charge

First-time use — before use the Microphone, charge it for 8 hours or overnight in the Charger Base (until microphone LED turns off).

Recharging — when the Microphone LED begins flashing alternating YELLOW and RED or YELLOW and GREEN, the battery needs recharging. Over time (years), batteries gradually wear down and require charging after a shorter period of use. This is normal.

The Lithium Polymer rechargeable battery that powers the Microphone is not user serviceable. Please see the Revolabs Knowledge Base website area ([www.revolabs.com](http://www.revolabs.com)) for replacement instructions and to assure that the proper disposal method is used. **Warning: Never dispose of batteries in a fire because they may explode.**



## Using the Wearable Microphone

1. Remove the Microphone from the Charger Base. The Microphone turns on and mutes automatically when removed from Charger Base (flashing RED LED).
2. The Wireless Microphone has a clip on the back which allows the Microphone to be easily clipped onto a shirt pocket, blouse or lapel. The Microphone can also be clipped on to a lanyard and be worn around the neck. Attach the Microphone as close to the mouth as possible (within 6 - 12 inches is recommended).
3. With the Microphone in the wearing position, un-mute the Microphone by pressing and releasing the **MUTE** button (confirm by viewing the flashing GREEN LED on both the Microphone and Charger Base).
4. To turn off the Microphone, return it to the Charger Base. You may also turn it off manually by pressing and holding the **MUTE** button for approximately 10 seconds until the LED turns solid RED and then releasing the mute button.
5. If the Microphone is moved out of range of the Charger Base (~65 feet) the connection will be dropped and the Microphone will mute (LED flashes alternating RED, YELLOW and GREEN). After 15 seconds the microphone will beep 5 times, and will continue beeping every 30 seconds to remind the user to return the microphone. If the microphone is moved back into range within 5 minutes the connection will automatically be re-established to its original state, and the beeping will cease. If not, the microphone will turn off after 5 minutes.

## Using the TableTop Microphone

1. Remove the microphone from the Charger Base. The microphones turn on and mute themselves automatically when removed from Charger Base (flashing RED LED), to reduce noise while placing the microphone on the table.
2. The TableTop microphone should be centered on the table in front of users, between 2 to 5 feet (.75 to 1.75m) away. It is always better to have the microphone as close to the person speaking as possible, but avoid placing the microphone where it might be blocked by laptops or meeting paperwork.

3. With the microphone in position, un-mute the microphone by pressing and releasing the **MUTE** button (confirm by viewing flashing GREEN LED).
4. To turn microphones off, return the microphone unit to the Charger Base or press and hold the **MUTE** button for ~10 seconds until the LED turns solid RED and release button.
5. If the microphones are placed too far from the Base Station (~100 feet (30 meters)) the connection will be dropped (LED flashes all colors) and the microphone will mute. After 15 seconds the microphone will beep 5 times, and will continue beeping every 30 seconds to indicate that it is out of range. Move the microphone closer to the Base Station and the connection will automatically be re-established to its original state, and the beeping will cease. If not, the microphone will continue beeping until it turns off in about 15 minutes.

## Adjusting the Volume

The volume of the Microphone is set at the factory and cannot be adjusted on the Wireless Microphone. It may be possible to change the volume on computer or IP calls by adjusting the software control parameters (see Computer Software Settings, below).

**Note:** *Moving the Microphone closer to the mouth will increase the volume.*

To change the volume on the earpiece, use the dial on the earpiece wire. Turning the dial towards the earpiece will increase the volume, and turning the dial towards the Microphone will decrease the volume.



## Pairing the Microphone to the Charger Base

“Pairing” creates an association between the Wireless Microphone and the Charger Base with a unique electronic serial number. When the Microphone and Charger Base have been previously paired, the Microphone will automatically try to connect to the Charger Base whenever it is lifted from the Charger Base.

**Remember, the Microphone is always muted (flashing RED LED) when it is removed from the Charger Base and the MUTE button needs to be pressed to make it “live” (flashing GREEN LED).**

The Microphone in new systems come paired to the Charger Base. However, if a replacement Microphone is ever required, it will need to be manually “paired.”

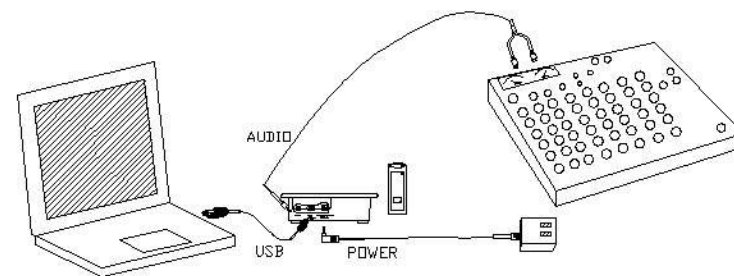
If a Microphone is lifted from the Charger Base and the Microphone LED slowly flashes alternating RED and GREEN for 10 seconds, it means that the Microphone needs to be paired to the system.

### Microphone Pairing Instructions

1. Make sure the Microphone is turned OFF (no LED activity). If the unit is ON, press and hold the **MUTE** button for 10 seconds until the LED turns solid RED (do not release when you hear two beeps), to turn the unit off, if needed. An alternative method of turning off is to place the Microphone in the Charger Base for less than 2 seconds.
2. Place the Microphone into pairing mode by holding the Microphone’s **MUTE** button down for ten seconds. The LED will turn solid GREEN and then solid RED. Release the **MUTE** button. The Microphone unit is now in pairing mode.
3. Within 5 seconds, push and hold the Charger Base’s **MUTE** button for six seconds to enter into pairing mode. The LED will be solid RED until pairing is confirmed, as indicated by a short GREEN flash followed by flashing RED on both the Microphone and the Charger Base. If pairing fails on either unit, the LED will flash alternately GREEN and RED for a few seconds.

## Installation

The Revolabs Solo™ Desktop system is easily installed into either the office or conference room environment. Simply plug the power supply into a convenient outlet and attach the USB cable to a computer or laptop, or connect the 2.5mm audio cables to an audio system.



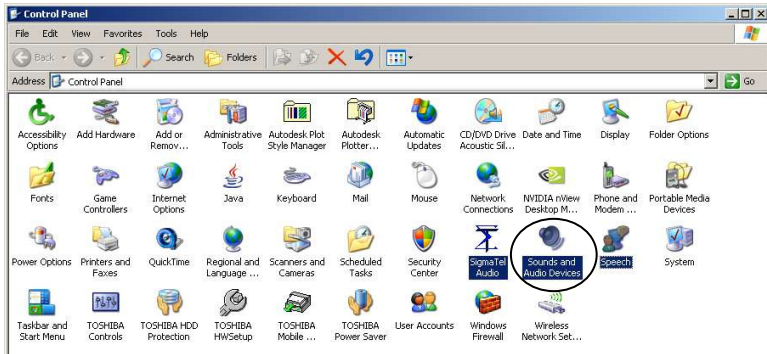
### Computer Software Set-up

Use the supplied cable to connect the mini USB connector to the Charger Base and the standard end to your computer USB port. Your computer will alert you that it has found new hardware, and the **solo-Desktop** operating software will automatically load.

It is possible to configure your computer settings to playback audio through the earpiece attached to the microphone (default settings) or through the computer speakers (internal or desktop). The examples shown below are using the Windows XP Operating System Classic settings - other Windows operating systems might look slightly different.



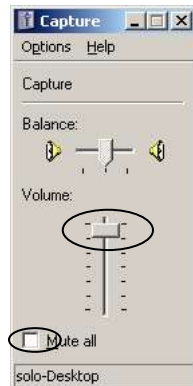
To modify the default microphone earpiece audio output settings open the control panel and then open Sounds and Audio Devices.



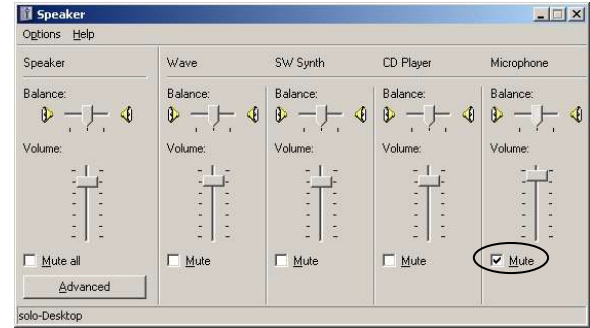
The **solo-Desktop** audio codec software will be selected and shown similar to the following screen (dependent on Windows operating system and other audio software previously installed).



Opening the Volume settings for “Sound recording” shows the levels selected for the microphone input (Capture) on the computer. Make sure that the level for the Microphone is close to the top (maximum) and that the Mute box is not checked.

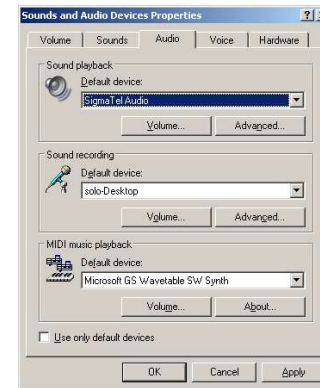


Opening the Volume settings for “Sound playback” allows you to control what you hear in the Microphone’s earpiece. Adjust the speaker level at the master Volume control if necessary. To prevent the Microphone directly feeding back its own audio to the earpiece (i.e. “sidetone”), check the “Mute” box in the “Microphone” volume control panel. It may be necessary to use the Options-Properties menu to display the “Microphone” volume control.

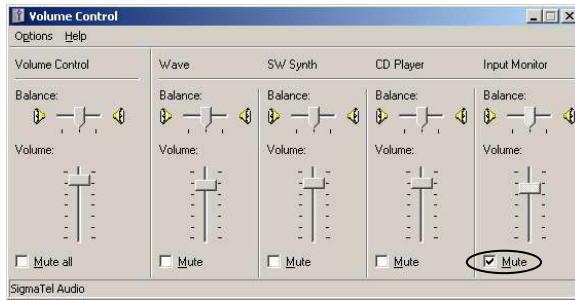


IP telephony and computer telephony applications (Skype, for example) may also offer options for controlling the audio levels and playback capabilities. Please consult the application guide for the software package for additional instructions.

To playback audio through the internal or external speakers of the computer instead of the earpiece, change the Sound playback Default device to your regular audio codec (SigmaTelAudio in this example) and click on Apply or OK.



*Note: Laptop computers with built-in microphones may continue to operate even when the **solo-Desktop** software is running. To prevent the built-in microphone audio feeding through to the speakers, check the Mute box on the laptop audio program Input Monitor, as shown below.*



## Using with a Revolabs Solo™ Executive System

The Revolabs Solo™ Desktop Microphone can be paired to a Revolabs Solo™ Executive Wireless Microphone System for users who wish to have a single microphone to use in both the office and in the conference room. This is accomplished by pairing the Desktop Microphone to the Executive Base Station and docking the Microphone in the Executive Charger Base. The Microphone can then be used in either system by placing the Microphone in the respective Charger for about 5 seconds.

## Revolabs Solo™ Desktop System Functions

The following table shows the functions supported by the system:

Function		
Charger Base LED Status	Wireless Microphone LED Status	Action
<b>Enter Pairing Mode</b>		
Off	Off	Press the Microphone <b>MUTE</b> button for about 8 seconds (LED solid RED), and then press the <b>MUTE</b> button on the Charger Base for about 7 seconds (LED solid RED).
<b>Mute / Un-mute</b>		
On	On	A short press of the Microphone <b>MUTE</b> button or Charger Base <b>MUTE</b> button causes flashing RED LED on each unit indicating that the Microphone has audio muted. Pressing either <b>MUTE</b> button again will un-mute Microphone (flashing GREEN LED on each unit).
<b>Turn Off Microphone</b>		
On	On	Press and hold the Microphone <b>MUTE</b> button for about 10 seconds, until the LED stays solid RED, and then release. Or Dock the Microphone into the Charge Base for less than 2 seconds.
<b>Turn On Microphone</b>		
Off	Off	Press and hold the Microphone <b>MUTE</b> button for about 3 seconds, until the LED shows solid GREEN. Or Dock the Microphone into the Charge Base for at least 4 seconds.

## LED Status Indications

The following LED patterns are shown on either the Microphone or the Charger Base.

LED pattern	Meaning
Solid GREEN (Microphone only)	Confirmation of power-up.
Solid RED	Pairing mode, or confirmation of powering-down, or battery charging.
GREEN flash every 1.5 seconds	Microphone connected and un-muted.
Two RED flashes every 1.5 seconds	Microphone connected and muted.
YELLOW flash alternating with either GREEN or two RED flashes	Microphone connected, battery low.
Alternating RED, YELLOW, GREEN, YELLOW (Microphone only)	Searching for a connection, or out of radio range. The Microphone will try to re-establish the link for about 15 minutes, and then turn off automatically. The Microphone will beep five times every 30 seconds as a reminder to bring the Microphone closer to the Charger Base.
Alternating RED, YELLOW, GREEN, YELLOW	Unpaired.
Rapid RED flashes continuing for more than a few seconds	Radio congestion – it is not possible to make a radio connection because there are already too many nearby users, or there is heavy radio interference. Interference may be caused by some types of digital cordless phones, and other Revolabs Solo™ installations.
Groups of five rapid RED flashes	Unit is faulty. Please contact your place of purchase for replacement.

## Warranty

Revolabs, Inc. warrants this product to be free of manufacturing defects. Repair or replacement of any defective part or unit (at the discretion of the Seller) will be free of charge for the period of one year.

Any attempt by the user to alter the equipment, or equipment damaged by negligence, accident, or Acts of God voids this warranty.

The Seller shall not be liable for any consequential damage resulting from the malfunction of this product. Should the user experience unsatisfactory performance from this equipment, contact the Seller to obtain instructions for return, or replacement, as deemed necessary.

This warranty is not transferable by the original end user.

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## Revolabs Solo™ Desktop Specifications

### Dimensions, (L, W, H) and Weight

Desktop Charger Base

3.9" (10 cm) x 2.4" (6 cm) x 1.0" (2.56 cm), 0.5 lb (0.23 kg)

Wireless Microphone

0.9" (2.4 cm) x 0.8" (1.95 cm) x 2.6" (6.68 cm), 0.05 lb (0.02 kg)

Shipping Weight

1.5 lbs (0.68 kg)

### Radio Frequency

02-DSKSYS 1.92 to 1.93 GHz (UPCS North America)

04-DSKSYSEU 1.88 to 1.90 GHz (DECT EU)

### Connectors

Desktop Charger Base

Power – 5VDC, proprietary 0.7mm connector

Mini USB – 5 pin connector, USB 2.0

Audio unbalanced In/Out – 2.5mm

Tip: Audio Out (line level, 0dBV)

Ring: Audio In (line level, 0dBV)

Shield: GND

Wireless Microphone

Power – proprietary 4 pin connector

Audio – 2.5mm mono audio

**Microphone patterns** Executive unidirectional – cardioid.

TableTop omni-directional and uni-directional available.

### Power Requirements

Power Adapter 110 - 240VAC, 50-60Hz to 5VDC, 300mA

**Battery** Lithium Polymer, up to 8 hours talk time

**Charge Time** 2.0 hours approx.

**Range** 65' (20 meters) approx. (no obstructions)

**Audio Bandwidth** 100-8000 Hz

**Encryption** 128-bit DSAA (DECT Standard Authentication Algorithm) authentication, per the DECT standard

### Environmental Requirements

Temperature 40° to 105° F (5° to 40° C) operating

Humidity 20% to 85%