Dual Radio:
Stay Connected

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Learning Outcomes

- After this course, learners will be able to:
  - Describe how the Dual-Radio System uses 2 separate wireless technologies and the purpose of each
  - Pair compatible Sonic hearing aids containing Dual Radio technology to a variety of wireless products
  - Explain how Sonic hearing aids with Dual Radio technology can access the Internet of Things via a smartphone

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hip with

Advanced Wireless Capabilities with Dual-Radio System

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3

Dual-Radio System

Fast and direct wireless transmissions with optimized battery life

4

hip with

Benefits of New Chip in SoundDNA

- Bluetooth® 2.4 GHz communication
- Power-efficient Near Field Magnetic Induction (NFMI) protocol

High transmission rate of sound data

2.4 GHz
Direct-to-ear streaming

↓ ↓ ↓

Dual-radio transmission without a significant increase in power consumption

Improved sound quality of the transmitted signal

Streaming without an intermediary device
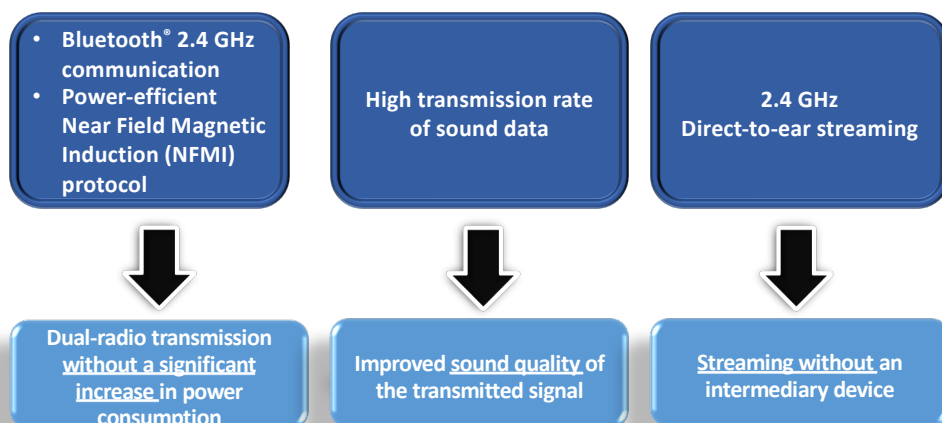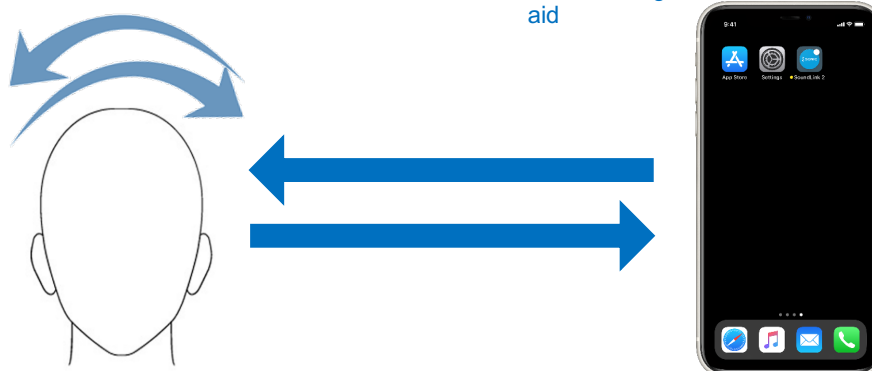
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Dual-Radio Wireless Technology

Two wireless systems integrated into one hearing aid

NFMI short distance ear-to-ear

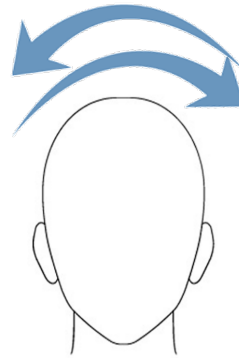2.4 GHz long distance direct-to-hearing aid

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Ear-to-Ear Wireless Transmission

- Near Field Magnetic Induction signal (NFMI)

- Transmit only over a short distance
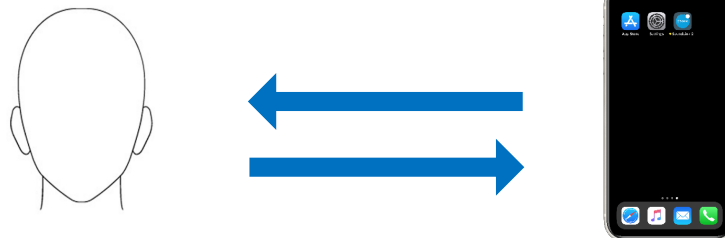
- Higher rate of information exchange

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Direct-to-Hearing Aid Wireless Transmission

- 2.4 GHz without an intermediary device

- Transmit over a long distance

- "Line-of-sight" connection to avoid interference

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hip with

Connectivity Portfolio

Phone Adapter 2

TV-A

Remote
RC-A

Wireless Programming

SoundLink 2
app for Apple®
and Android™

iPhone®
direct streaming

Sound Clip-A

Internet Connection
IFTTT

Made for
 iPhone | iPad | iPod

9

Technology Levels

Five Wireless Technology Levels

100 Premium	80 Advanced	60 Mid-Level	40 Basic	20 Entry
captivate.¹⁰⁰	captivate.⁸⁰	captivate.⁶⁰		
enchant.¹⁰⁰	enchant.⁸⁰	enchant.⁶⁰	enchant.⁴⁰	enchant.²⁰
	trek.⁸⁰		trek.⁴⁰	

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Captivate Styles

Captivate offers an array of wireless behind-the-ear styles

miniRITE   miniRITE T   miniRITE T R   BTE 1O5

2.4 GHz & NFMI Standard

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Enchant Styles

Enchant offers a full line of wireless styles*

Enchant CIC   Enchant ITC   Enchant HS/FS   Enchant miniRITE   Enchant miniRITE T   Enchant BTE 1O5

NFMI Optional*   2.4 GHz & NFMI Optional   2.4 GHz & NFMI Standard

*NOTE: 2.4 GHz not available in CIC (NFMI only)

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hip with

Trek Styles

Trek offers robust power with wireless capabilities

Trek SP   Trek UP

2.4 GHz & NFMI Standard

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Connectivity with SoundDNA

Streaming Phone Calls

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hip with

Made For iPhone Hearing Aid

- Streaming of phone calls, music and videos from iPhone®, iPad®, and iPod®.

Made for
 iPhone | iPad | iPod

32 ft | 10 m transmission range

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15

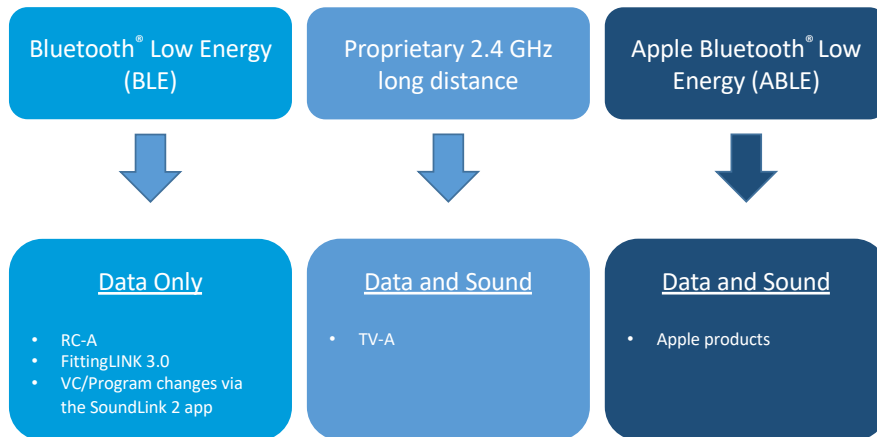## Made For iPhone Hearing Aid

- 3 Transmission Protocols
  - Standard Bluetooth® Low Energy (BLE) protocol
  - 2.4 GHz proprietary long-distance protocol
  - Apple Bluetooth® Low Energy protocol (Made for iPhone®)

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Three Bluetooth® Protocols

Bluetooth® Low Energy (BLE)	Proprietary 2.4 GHz long distance	Apple Bluetooth® Low Energy (ABLE)

Data Only	Data and Sound	Data and Sound
• RC-A • FittingLINK 3.0 • VC/Program changes via the SoundLink 2 app	• TV-A	• Apple products

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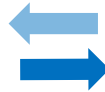# Standard Bluetooth® Low Energy (BLE) Protocol

Data

Data sent in both directions

18

hip with

2.4 GHz Proprietary Long Distance Protocol

Data and Sound →

Data →

TV-A

50 ft | 15 m transmission range

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Apple Bluetooth® Low Energy Protocol

Data and Sound →

Data →

Made for
iPhone | iPad | iPod

32 ft | 10 m transmission range

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hip with

continueED

Android™ Smartphones and Tablets

- Volume and program changes via the SoundLink 2 app
- No streaming of sound or music
- Enter the SoundClip-A

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SoundClip-A

Connect to Bluetooth devices

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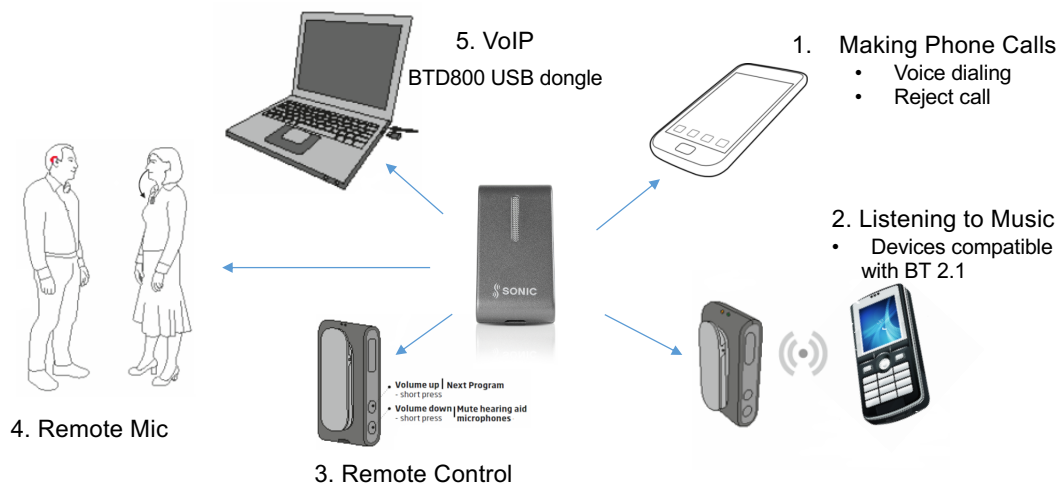Everyday Sounds Better

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hip with

SoundClip-A

- SoundClip-A is a wireless device for audio streaming from any Bluetooth 2.1 device to compatible hearing aids
- Remote mic functionality
- Basic remote control functions
- No lanyard required

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SoundClip-A Overview

5. VoIP
BTD800 USB dongle

1. Making Phone Calls
  - Voice dialing
  - Reject call

2. Listening to Music
  - Devices compatible with BT 2.1

- Volume up | Next Program
  - short press
- Volume down | Mute hearing aid
  - short press | microphones

4. Remote Mic

3. Remote Control

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hip with

connectED

TV-A

Direct streaming to your television

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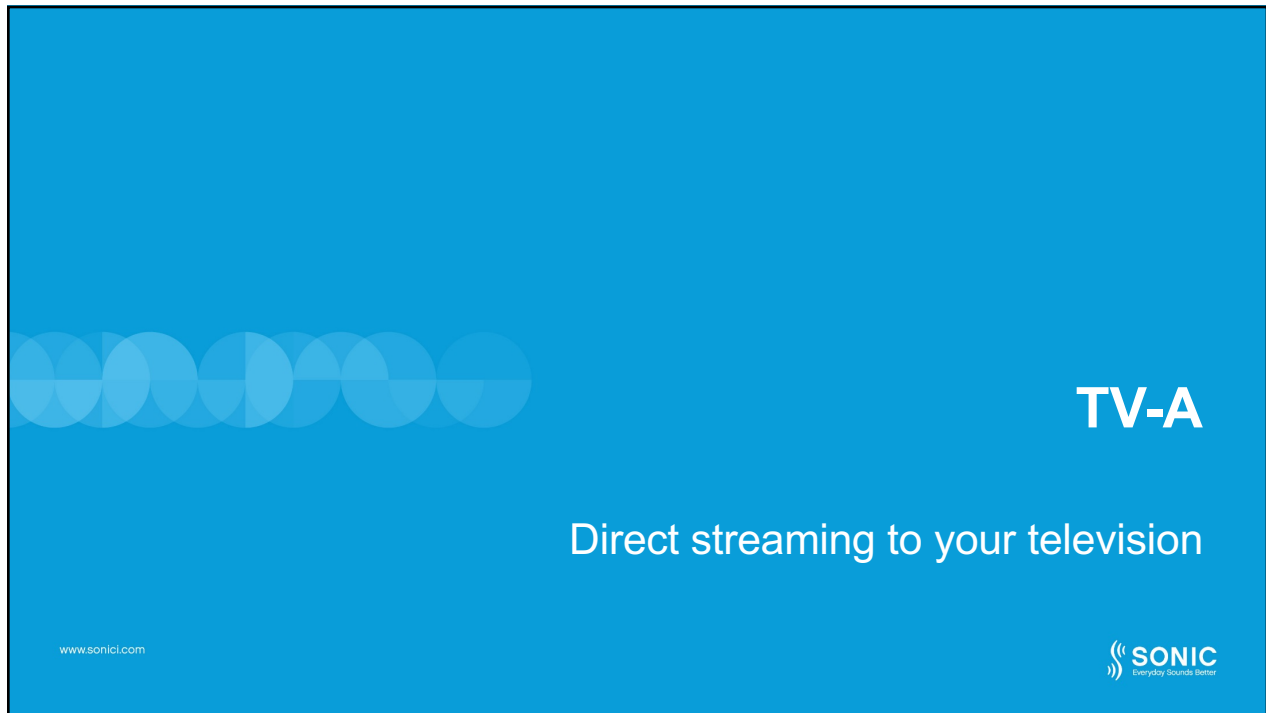Everyday Sounds Better

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TV-A

- 2.4 GHz direct streaming to hearing aids
- Unlimited number of pairings
- Streaming to multiple instruments at the same time
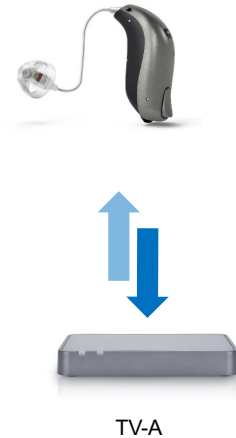- Digital stereo sound supported

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hip with

TV-A Direct Streaming

- Not compatible with products supporting SoundGate
- 50 ft | 15 m transmission range
- Regulate the volume of the streamed signal with
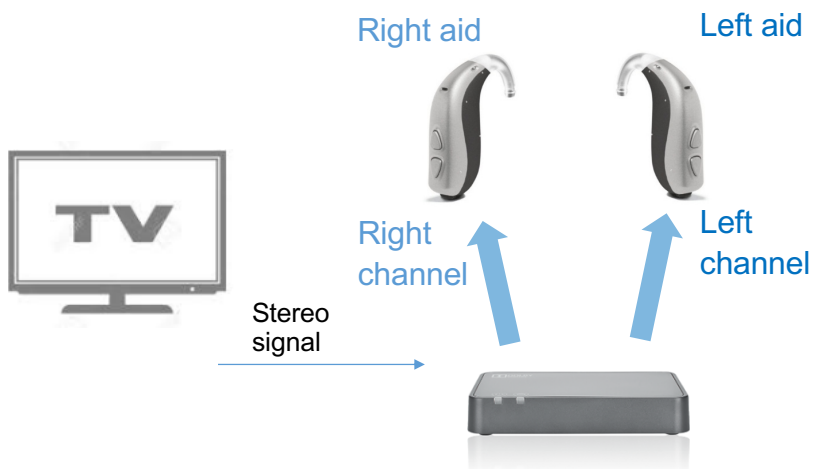 - RC-A or SoundClip-A
  - SoundLink 2
  - Ear Level Volume Control

TV-A

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TV-A Streams in Stereo

Right aid   Left aid

TV

Right   Left
channel   channel

Stereo
signal

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hip with

TV Program

- Available once device is paired to the TV-A
- Access the TV Program to hear streamed signal
  - Local push button
  - RC-A
  - SoundLink 2 app
- Program cycle depends on the programs already available in your hearing aids
  - Dedicated TV Program indicator
- Mute hearing aid microphones while TV Program is active

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RC-A

Remote Control

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hip with

RC-A

- Operates using 2.4 GHz BLE
- Not compatible with products supporting SoundGate

| Volume up |
| Volume down |
| Program change |
| Mute |

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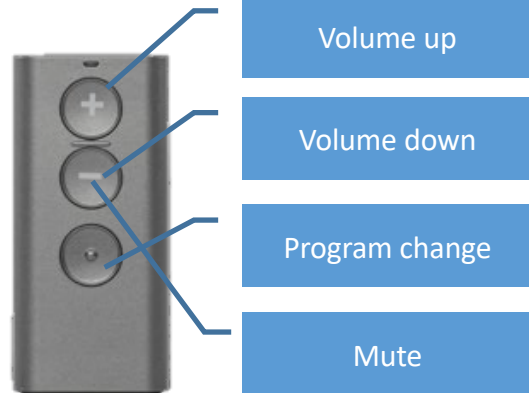
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RC-A

- RC-A will be printed on the back of the device
- 2x AAAA batteries
    - RC-A battery life is up to one year with normal use
- 6 ft / 1.8 m transmission range
- Keylock functionality available

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hip with

Pairing Procedures

Mobile Phones, TV-A,
SoundClip-A and RC-A

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Putting devices into Bluetooth pairing mode
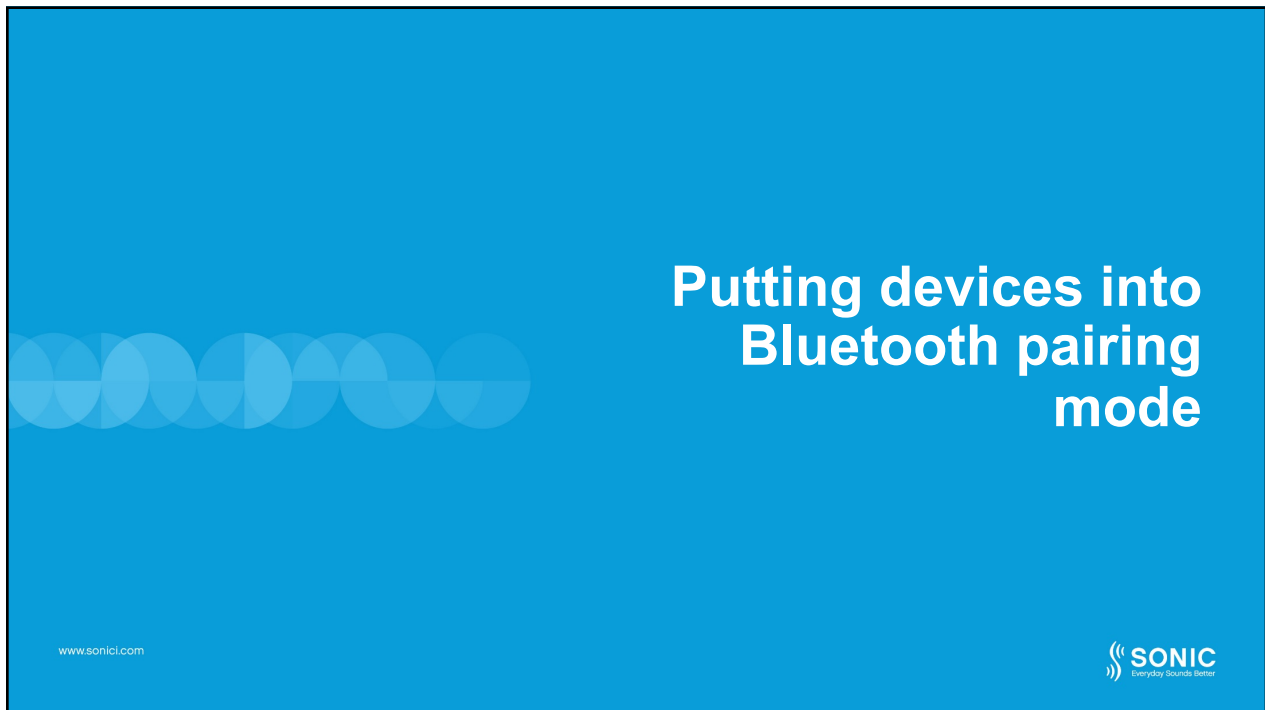
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hip with

Non-Rechargeable

- Ensure batteries are fresh and hearing aids have been programmed together in fitting software

- Open and close battery doors and
  wait for start up indicator

- Hearing aids will be in pairing mode for approximately 3 minutes
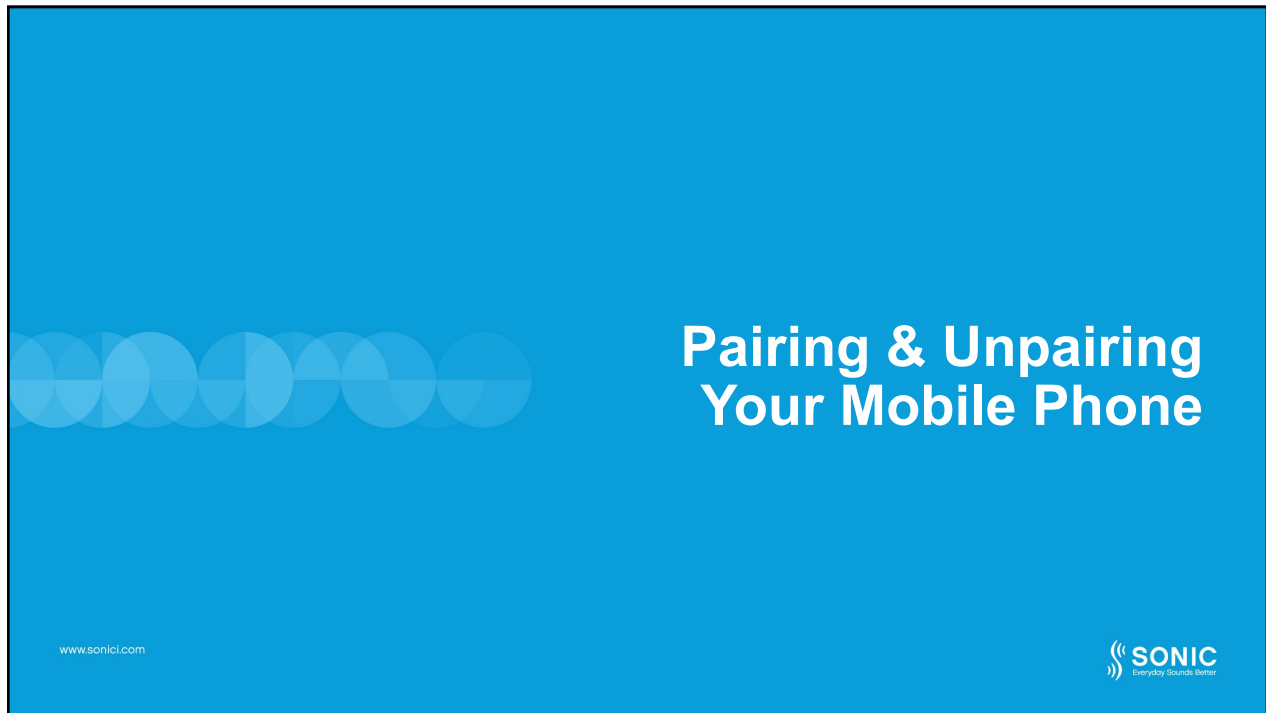
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Rechargeable (Li Ion)

- Ensure batteries are charged and hearing aids have been programmed together in fitting software
- Two options for rebooting hearing aids
  - Place hearing aids in and out of charging unit
  - Press and hold push button (top or bottom) for 5 seconds to shut aids down, to reboot press and hold bottom push button for 5 seconds
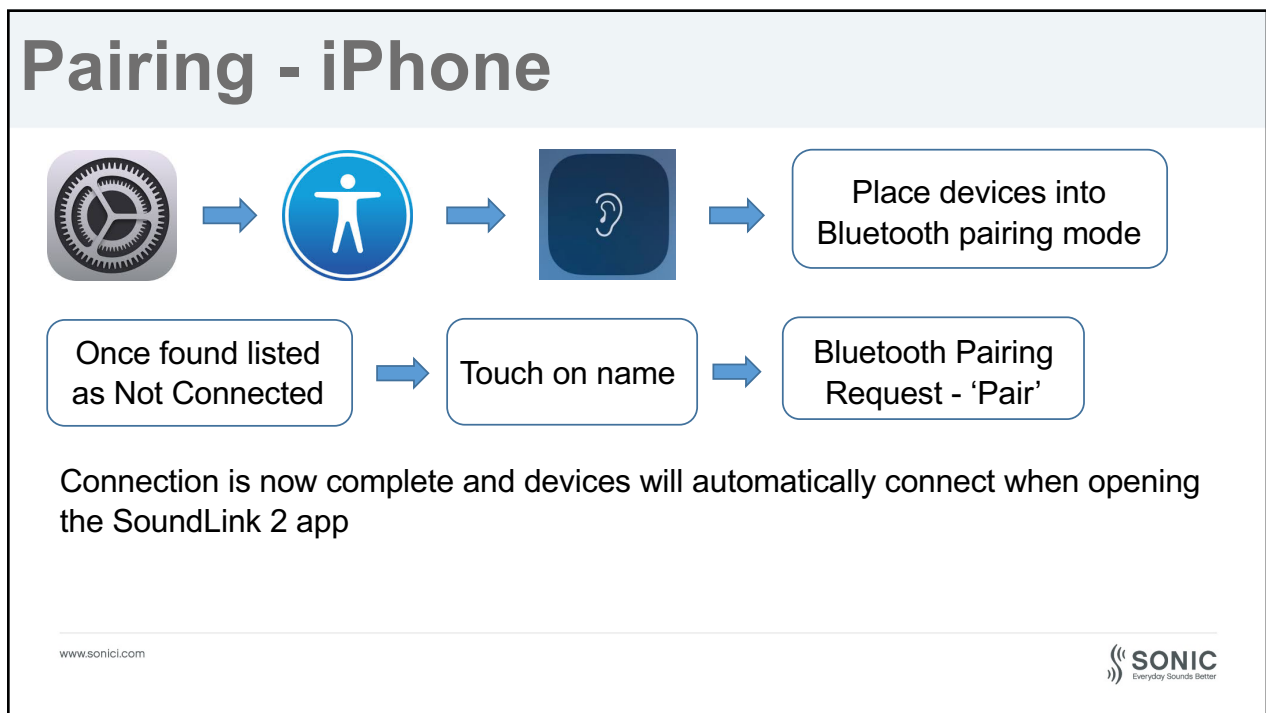- Hearing aids will be in pairing mode for approximately 3 minutes
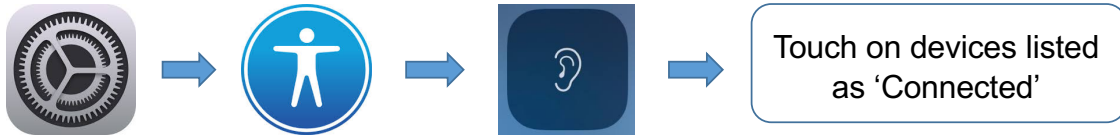
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Pairing & Unpairing Your Mobile Phone

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Pairing - iPhone

Place devices into Bluetooth pairing mode

Once found listed as Not Connected → Touch on name → Bluetooth Pairing Request - 'Pair'

Connection is now complete and devices will automatically connect when opening the SoundLink 2 app

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Unpairing - iPhone

Touch on devices listed as 'Connected'

Scroll to bottom of screen – 'Forget this device' – removed from both MFI settings and SoundLink 2 app

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Pairing- Android

Devices are paired directly through the app

Download and Install SoundLink 2 app

Ensure Bluetooth is on

Open app and place devices into Bluetooth pairing mode
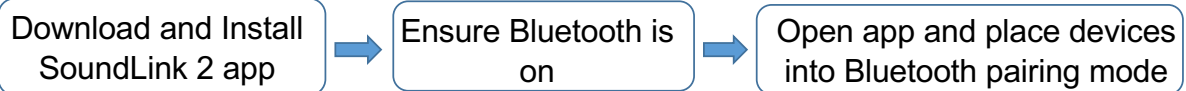
Once found device name will be listed- Touch on 'Pair' – Devices will then connect

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hip with

Unpairing- Android

Devices are removed in Bluetooth Settings

Press/hold Bluetooth icon to show Bluetooth Devices	Select 'Gear' icon next to each listed Hearing Aid	Select 'Unpair'

Hearing Aids will now show as 'Available Devices'	Turn Bluetooth OFF and then ON- devices will disappear
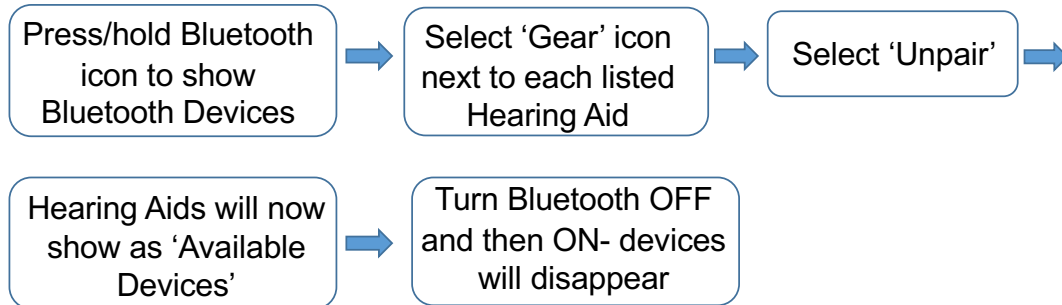
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SoundClip-A

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hip with

Pairing Hearing Aids to SoundClip-A

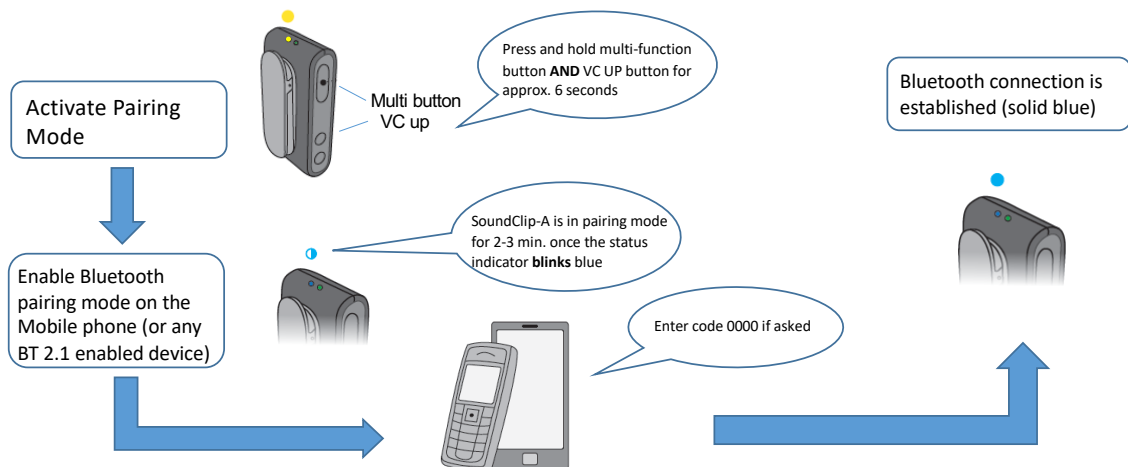Ensure SoundClip-A is powered OFF

Place devices into Bluetooth pairing mode

Switch SoundClip-A ON

SoundClip-A searches for the hearing aids (blinks yellow)

Press and hold multi-function button for approx. 6 seconds

Press and hold multi-function button for approx. 3 seconds, power indicator shows steady green light

Bring aids close to the SoundClip-A and to each other

20 cm

Bluetooth connection is established (solid yellow)

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Pairing SoundClip-A to Mobile Phone

Activate Pairing Mode

Enable Bluetooth pairing mode on the Mobile phone (or any BT 2.1 enabled device)

Multi button
VC up

Press and hold multi-function button **AND** VC UP button for approx. 6 seconds

SoundClip-A is in pairing mode for 2-3 min. once the status indicator **blinks** blue

Enter code 0000 if asked

Bluetooth connection is established (solid blue)

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cummins ed

TV-A

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Pairing with the TV-A

- Close proximity pairing (initial pairing)

- Fast and easy

- Make sure TV-A is powered on

- Place hearing aids into pairing mode and place on top of TV-A
  - Both power and TV indicators will be fading Blue

- Pairing is complete when power and TV indicators are blue for about 30 seconds
  - Power and TV indicators will be solid Blue for 30 seconds and then Power indicator will turn solid Red

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hip with

cornnSeD

How to pair the TV-A

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Removal of Paired Instrument

- Must perform a system reset to remove all pairings
- Press and hold the Setup button for more than 5 seconds
- Indicators fade to blue to confirm that all pairings have been removed

TV-A	Description
	No pairings

Fading

POWER L R IN OUT
Setup

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How to unpair the TV-A

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RC-A

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50

hip with

連携ED
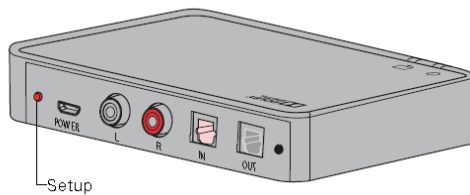
Pairing with the RC-A

- Close proximity pairing
- No need to pair in EXPRESSfit® Pro
- Place hearing aids into pairing mode and position 6-8 inches from RC-A
- Press and release any button to complete pairing
    - Status light will turn solid Green for 10 seconds

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How to pair the RC-A

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hip with

commsED

Removal of Paired Instrument

- RC-A can only be paired to one set of devices at a time
- Must clear RC-A if necessary to pair to different devices
- To clear pairing press and hold all three buttons for 5 seconds
  - Status light will turn sold Green for 10 seconds when cleared

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How to unpair the RC-A

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hip with
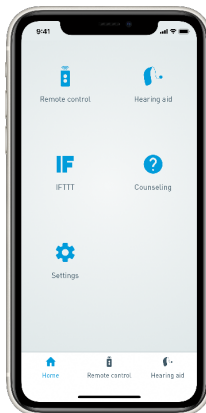
SoundLink 2 App

Android and iOS App

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SoundLink 2 Overview

Modify Tinnitus Sound
Support program

Available for iOS and
Android™ devices

Remote control functionality

Activate streaming from TV-A
Change volume of the TV-A

Activate streaming from SC-A
Change volume of the SC-A

Access the Internet of
Things (IFTTT)

Download on the App Store

GET IT ON Google Play

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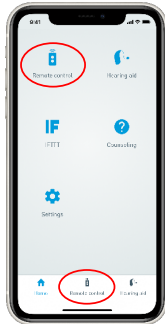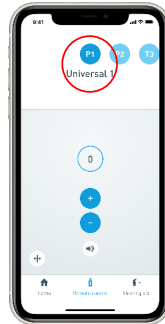
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hip with

commsceD

Select Programs
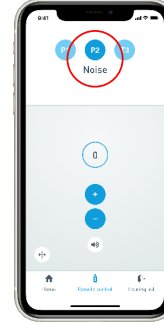
Touch 'Remote Control' from Home Screen

Current program is highlighted

Select the desired program

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Volume Options

- App will show the current program and current volume status
- Volume Increase
- Volume Decrease
- Mute
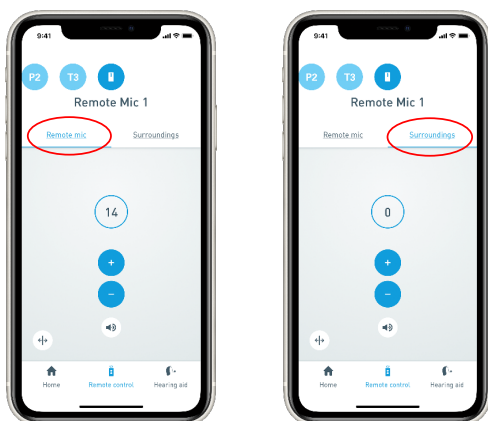- Adjust together or independently

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SoundClip-A

- Place near desired sound source
- Will transmit the sound directly to the hearing instruments
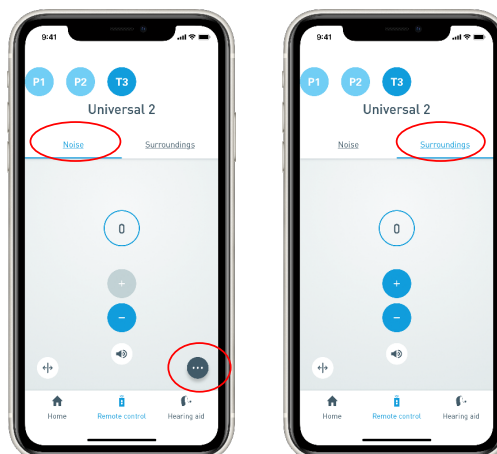- Adjust volume of both SC-A and HA microphone

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Tinnitus Options

- Available in app once tinnitus program added within software
- Adjust volume of both tinnitus sound support and HA microphones
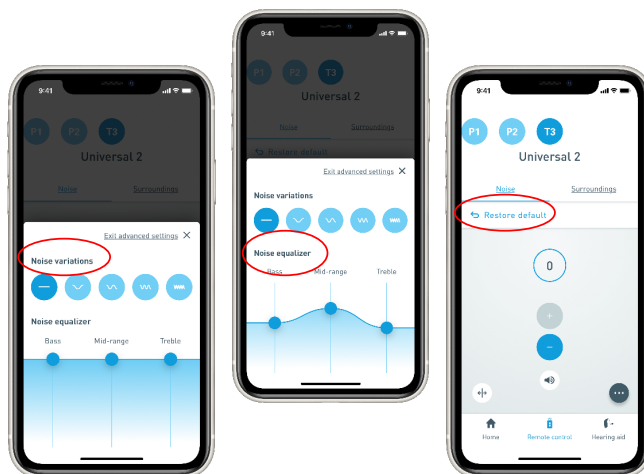- Tinnitus options

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hip with

Tinnitus Options

- Advanced Settings
  - Noise variations
  - Noise equalizer
- Restore defaults
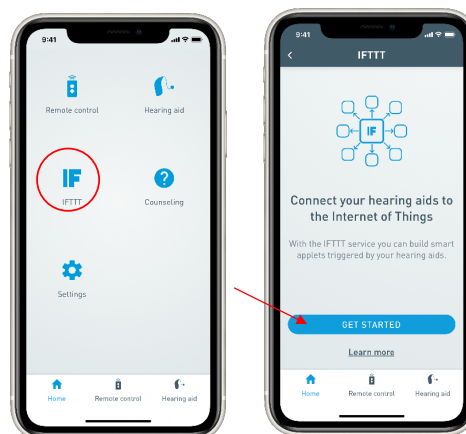- Adjustments within the app are based on programming

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Access IFTTT

- From Home screen select IF to access IFTTT
  - Connect to hundreds of internet based services
  - Create Applets
  - https://ifttt.com/go

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Internet Connectivity

If This Then That (IFTTT)
Internet Service

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Internet Connection

Connect hearing devices to other devices via the Internet of Things

64

If This Then That (IFTTT)

- Internet-based service
- Hundreds of internet-connected devices and services
  - 'Internet of Things'
- Connect various services, apps and devices to create 'recipes'

- Every day a new company enters the IFTTT world, offering greater opportunities

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Sonic devices and IFTTT

- All devices with 2.4 GHz
- Capable of connecting to various services and products
- Compatible iPhone®, iPad®, iPod® and Android™ devices
- IFTTT is **only** accessible via SoundLink 2 app on the smartphone or tablet
  - Without the app, device cannot be connected to the internet
  - Must set up an account within IFTTT
  - Smartphone/tablet needs to be connected to the internet

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hip with

continued

How are hearing aids connected with IFTTT?

IFTTT cloud*

| Device is connected with the smartphone | The smartphone is connected to the internet | IFTTT is a service to connect applications |

*many more applications are available

67

If This Then That

Applet

Weather…

WHEN the sun goes down

… THEN turn on the lights
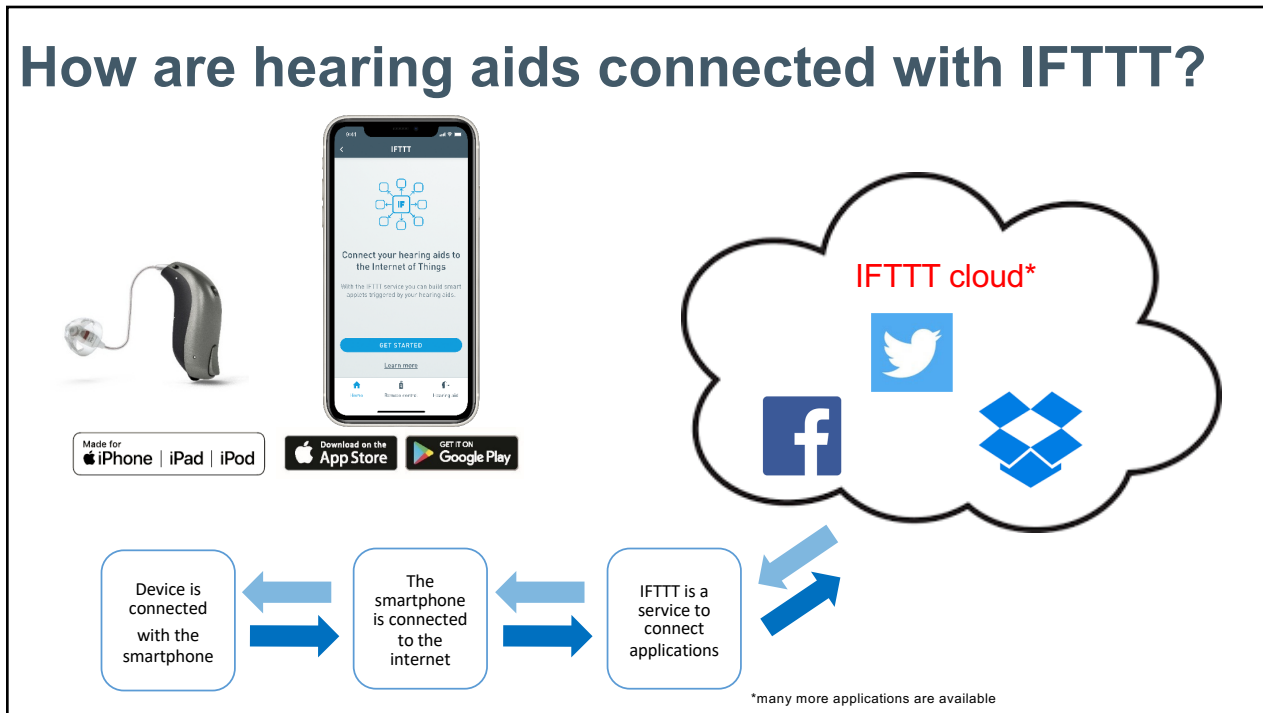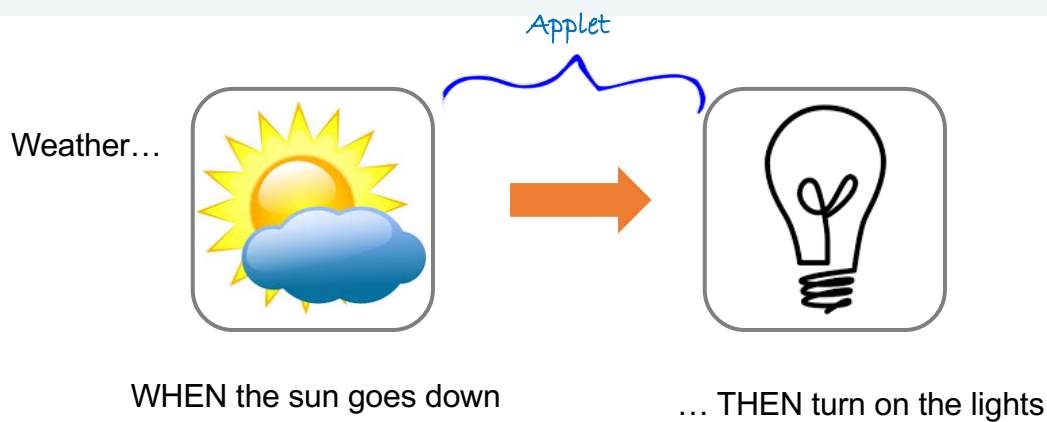
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hip with

Sonic Devices and GO Service

- GO service is the interface between Sonic devices and other services in IFTTT

IFTTT cloud*

If
➕ This
Then
That

Create your own

Made for iPhone | iPad | iPod

Download on the App Store

GET IT ON Google Play

*many more applications are available

69

GO Service: Available Triggers and Actions

https://ifttt.com/go

GO Triggers	GO Actions
• Program has changed	• Set a program
• Battery is low	• Increase the volume
• Connection to Bluetooth® device is lost	• Decrease the volume
• Connection to Bluetooth® device is established	• Play the text to speech
• Mute state is changed	• Set the volume
• Volume is changed	
• Power is on	

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Triggers and Actions

Applet using a GO Trigger

- If the hearing aid batteries are low, then send me a text message
- If the hearing aid is turned on, then send me a text message
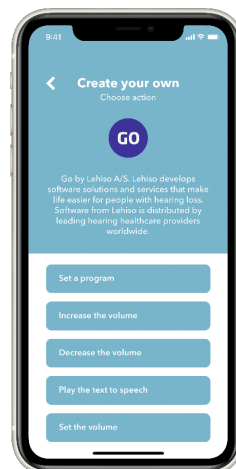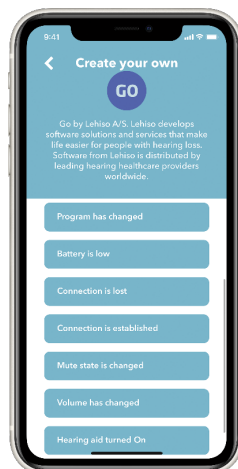
Applet using a GO Action

- When I arrive at work, then change the program in my hearing aids
- If motion is detected on my video doorbell, then play text to speech

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Triggers and Actions

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Example: Applet available on GO Service

Trigger Service:
GO

Action

Send message
when battery low

Trigger

Created by GO

by GO

Action Service:
Notification

36   works with

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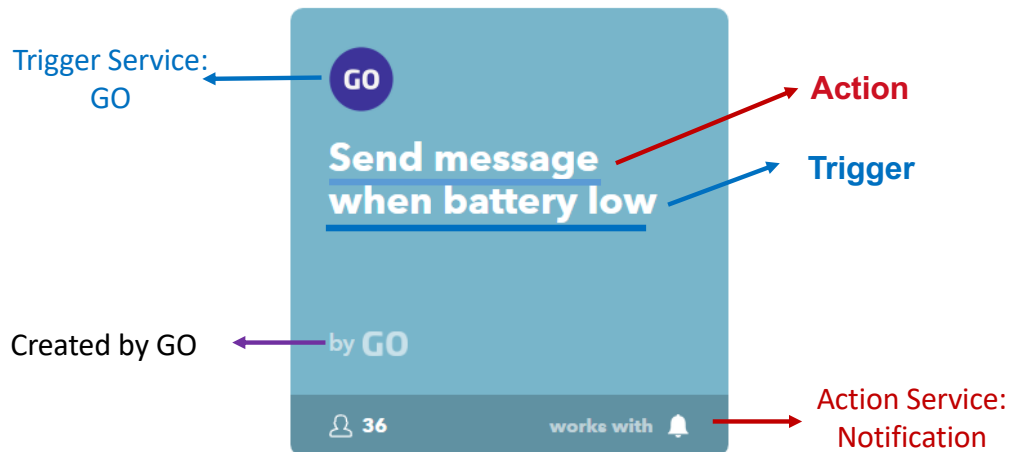
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Benefits of IFTTT

- Growing number of devices are internet connected
- Hearing aid is a part of this internet-based world
- Offers convenience and individualization

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Summary

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Connectivity Portfolio

Phone Adapter 2

TV-A

Remote RC-A

Wireless Programming

SoundLink 2 app for Apple® and Android™

iPhone® direct streaming

Sound Clip-A

Download on the App Store

GET IT ON Google Play

Made for iPhone | iPad | iPod

Internet Connection
IFTTT

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...hip with

...minueD

Sonic and Connectivity

- Full line of both custom and behind-the-ear products boasting full Bluetooth connectivity options
- Standard WL in BTE products, optional WL in custom products
- 2.4 GHz Direct-to-ear streaming to iPhone with no intermediary device
- SoundClip-A available for Android streaming, hands free use of phone and remote mic functionality
- Easy pairing between accessories and hearing aids
- Hassle-free connectivity
- Convenience and individualization

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Thank You!

SoundDNA Platform

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