Interloop™

WIRED/WIRELESS INTERCOM BELT PACK

User Guide

JK Audio

Welcome

Thank You

Thank you for purchasing the JK Audio Interloop.
Please read this guide for instructions on using it.

Getting Assistance

If you have technical or application questions:

In the US & Canada, call us toll free at: **800-552-8346**

All other countries dial: **815-786-2929** (M-F 8:30-5:00pm Central Time Zone)

Email us at: support@jkaudio.com

Or, check out our FAQ section for answers to common questions.

Limited Warranty

Interloop is covered by a 2 year warranty to be free from defective workmanship and materials. To obtain service, contact JK Audio by phone or email for return authorization. Once authorized, you will carefully pack and ship the faulty product and all accessories to us. You will pay for shipping to us and we will pay for return back to you.

This warranty does not cover damages due to accident, weather, fire, flood, earthquake, misuse, unauthorized repairs or modifications, or damages occurred in shipping, only defective workmanship or materials.

THERE ARE NO EXPRESSED OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTY HERE MADE.

Use Caution to Prevent Hearing Loss

Interloop contains a headphone amplifier that is more powerful than the typical consumer product.

JK Audio products are designed for the broadcast industry. The broadcast professional must be able to hear headphone signals over the ambient noise level. From the cheering crowd at a football game to trackside at a car race, the program material or cues must be heard at high volumes without distortion.

Road Safety

Never use headphones while driving or cycling, etc. It can be dangerous to turn up the volume even while walking. Doing so may hinder your hearing and can be hazardous on the roadways or at pedestrian crossings.

Note: While Interloop was designed to be very rugged and durable, it is not waterproof and care should be taken to keep the unit dry.

Features

- HD Voice*
- Bluetooth Wireless Technology
- 2.4 GHz Encrypted Digital Wireless
- 3-pin XLR Male and Female Intercom Jacks
- Send and Receive Volume Controls
- PTT Button
- Connects to Bluetooth Headsets, Phones, & Notebooks
- Intercom Powered with 9 Volt Battery Backup

* **HD Voice**. While standard phone calls have a narrow bandwidth of 300 to 3400 Hz, HD Voice calls offer 50 Hz to 7 kHz bandwidth. The additional 1.5 octaves on the low end gives voice a more natural sound, while the additional upper octave dramatically improves speech clarity and intelligibility.

Wireless HD Calls. To take advantage of this extended bandwidth, both phones on the call must support HD Voice, and both phones must be on the same carrier, in coverage areas that support HD Voice.

Bluetooth® 7 kHz HD VOICE

Overview

Introducing the Interloop

JK Audio combines Bluetooth Wireless Technology with Two-Wire Intercom systems in a rugged new belt pack design.

Interloop™ works with industry standard Two-Wire, Party-Line intercoms, connecting to the existing intercom system like any other belt pack. Using Bluetooth Wireless Technology, Interloop™ allows wireless connection to a variety of audio devices. A rear panel switch selects Headset or Phone connection. Headset mode allows you to connect to a Bluetooth enabled headset for wireless freedom. Phone mode allows you to connect to a wireless phone to let others join in, or connect to a notebook or laptop to provide remote voice access using communications applications such as Skype™.

HD Voice 7 kHz audio bandwidth for rich,natural voice clarity is available on many third party headsets and cell phones. Bluetooth devices that are not HD Voice compatible will only have a bandwidth of 3.4 kHz.

Powered by the intercom system, yet uses less current than a typical belt pack. Includes 9 VDC battery backup, holding the wireless connection while changing cables.

While Interloop™ will work with any Bluetooth enabled headset, most headsets were designed to work a short distance from the phone. JK Audio BSET-HS1 Bluetooth Headset offers increased range and performance making it the perfect match.

OR

Headset Mode

Connect to a Bluetooth enabled headset and leave your beltpack behind.

Phone Mode

Connect to a Bluetooth enabled wireless phone or computer to provide remote voice access to the party-line.

Controls & Indicators

1) Send Control

Controls the audio level from the Bluetooth device into the intercom.

2) Bluetooth LED

See section on Bluetooth Wireless Technology.

3) Talk LED

4) Receive Control

Controls the audio level from the intercom into your Bluetooth device.

5) Power Indicator

Indicates when the power is turned on.

6) Talk Button

Push-on, push-off operation with solid state logic.

7) Power Button

The power button applies power to the belt pack and immediately starts the Bluetooth radio in Idle mode, searching for the last paired device.

Getting Connected

1) Role Switch

Select Headset if you will be using Interloop with a Bluetooth enabled headset or any device that emulates a headset.

Select Phone if you will be using Interloop with a cell phone or other master device.

2) Pair button

Momentary MFB (Multi Function Button).

3) Intercom

Male and Female loop-through XLR jacks.

Intercom Audio

In bridging mode, Interloop provides minimal loading to the intercom audio line, typically >15k ohms impedance.

In talk mode, a soft start solid state relay engages audio transmission with a nominal 200 ohms output impedance into the intercom line. A temporary loss in intercom power will automatically release the solid state talk relay even if the 9V battery backup is installed.

Send Level Control

Most Intercom Belt Packs do not include front panel transmit level controls. However, most belt packs use industry standard headsets with known sensitivity characteristics.

Bluetooth devices encompass a wide range of sensitivities, and therefore require an extra degree of flexibility.

Sidetone Null

A screwdriver slot on the side of the unit allows fine tuning of the intercom hybrid circuit to remove or minimize echo. This adjustment is made by connecting Interloop to a powered intercom circuit, and engaging the Talk button while monitoring the Bluetooth return signal. While speaking into the Bluetooth device, insert a small flat blade screwdriver and adjust the null trim pot back and forth to find the minimum or desired sidetone level.

Configuring your Interloop

XLR connections

Pin 1 = Common
Pin 2 = Intercom Power
(optional power + audio)
Pin 3 = Audio (default)

Audio Channel Selection

An internal slide switch selects either Pin 3 or Pin 2 as the audio channel. Interloop uses an electronic inductor based voltage regulator to carefully extract power from the intercom, and a high pass filter to send and receive audio from either Pin 3 or Pin 2.

To access the channel select switch:

1. First turn off the Interloop power switch and disconnect the XLR cables.
2. Remove the battery drawer.
3. Remove the two screws that secure the battery drawer housing.
4. Carefully slide the battery housing out from the aluminum chassis, just enough to allow access to the circuit board. The battery box wiring will remain connected during this operation.
5. Locate the slide switch located near the XLR jacks.
6. Slide the switch towards the XLR jacks to select Pin 3 audio.
7. Slide the switch away from the XLR jacks to select Pin 2 audio.
8. Carefully return the battery box to its original position, then reinstall the screws and battery drawer.

Bluetooth Status LED

The blue LED on the front of the unit flashes in different sequences to indicate the current connection status. **When attempting to put the unit into Idle or Pairing mode, you should power the unit off then back on before pressing the MFB**. If you put the unit into the wrong state due to releasing the MFB at the wrong time, holding the MFB for "X" seconds will not put it into the desired mode.

Pairing Mode

In *Pairing Mode*, any *Bluetooth* wireless technlogy enabled device within range can pair with your Interloop. To put the unit in *Pairing Mode,* press the blue MFB for **6** seconds while the unit is on. The blue LED will flash rapidly at a rate of **100ms** *off,* **100ms** *on*. Once the pairing process is complete the unique device ID is stored in Connection History. Subsequent connections can be made automatically from *Idle Mode*.

Idle Mode

When the power switch is turned on, Interloop starts in Idle Mode. In *Idle Mode*, Interloop searches for paired devices. The blue LED will flash at a rate of **2** seconds *off,* **200ms** *on*.

Connected Mode

After bonding is complete, the blue LED will flash at a slower rate of **2** secs *off,* **1** second *on* **(2 secs *off*, 4 secs *on* for HD Voice).** The connection to that device is secure.

Pairing to a Mobile Device with *Bluetooth* Wireless Technology

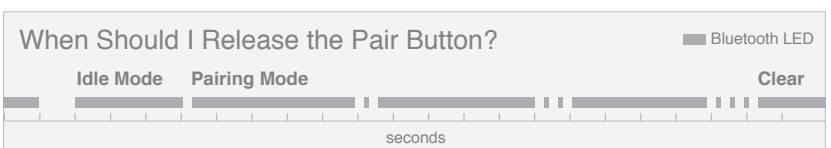
When you're first connecting to a new device, you should be in an environment with no other *Bluetooth* wireless technology enabled devices within range that might also be in *Pairing Mode.*

1. Starting with the Power switch *Off*, set the Phone/Headset switch to the Phone position.
2. Press and hold the brown Pair button on the Interloop while turning the Power switch On. Hold for **6** seconds. After you release the Pair button, the blue LED should flash rapidly if Interloop is in *Pairing Mode*.
3. On your device, find and select the option to set up a connection. If this is the first time you have paired with this device, select the option to add an audio device. When the cell phone has found the new device, select from the list the device ID of "JKINTxxxx" where: xxxx = last four digits of serial number
4. Enter the pin number as "0000".
5. When bonding is complete, the blue LED will flash at a rate of **2** secs *off*, **1** sec *on* **(2 secs *off*, 4 secs *on* for HD Voice)**. Once Interloop has been added to your cell phone, subsequent connections can be made more quickly from *Idle Mode*.

Pairing to a Headset with *Bluetooth* Wireless Technology

When you're first connecting to a new device, you should be in an environment with no other *Bluetooth* wireless technology enabled devices within range that might also be in *Pairing Mode.*

1. Starting with the Power switch *Off*, set the Phone/Headset switch to the Headset position.
2. Following manufacturer's instructions, set your Headset to *Pairing Mode*.
3. Press and hold the brown Pair button on the Interloop while turning the Power switch On. Hold for **6** full seconds. After you release the Pair button, the blue LED should flash rapidly if Interloop is in *Pairing Mode*.
4. Interloop will automatically pair to the first device it finds that is in Pairing Mode. The next time you pair to the same headset, you can connect from *Idle Mode* instead of *Pairing Mode*.



Connection History

Interloop retains the most recent 16 headset and 16 phone devices in memory. To clear connection history and return to factory reset, from the power-off state set the switch to the Headset or Phone position, then hold the Pair button in for at least **20** seconds. After resetting, Interloop will return to *Pairing Mode*.

Reconnecting to a Device

When reconnecting to a device that is still in Interloop's pairing history, the device that will be in Slave mode should be powered up first. Then when the Master device is turned on, it will find the Slave device during its power up cycle.

When reconnecting to your cell phone, the switch on Interloop should be set to Phone and the Interloop should be turned on first.

When reconnecting to your Bluetooth headset, the switch on Interloop should be set to Headset and the headset should be turned on first.

Disconnecting from a device with Bluetooth Wireless Technology

Since Interloop has no other function when Bluetooth is powered down, you may simply turn off the Power switch to disconnect from the Bluetooth device.

If you wish to leave Interloop powered up while Bluetooth is powered down, simply press and hold the Pair button for **5** seconds.

Switching Between Phone and Headset

The Role Select switch is only monitored during the power-up sequence. You must power-down, select the desired function, then power-up for the change to take effect.

Technical Information

Specifications

XLR Intercom Channel	
Output Level	0 dBv (775 mV) nominal
Terminating Impedence	200 ohms
Bridging Impedence	>15k ohms
Pin 1	Common
Pin 2	Power (optional Power + Audio)
Pin 3	Audio
Bluetooth (3.0)	
Profile	Hands Free (HF)
Distance	40 feet (12 meters)
Frequency Response	Hands-Free (phone): 300 Hz - 3.4 kHz Hands-Free (HD Voice): 50 Hz -7 kHz
Power	+12 to +35 VDC, 55 mA Intercom Power with 9 VDC battery backup
Size	4.7” x 3.75” x 1.65” (12 x 9.5 x 4.2 cm)
Weight	10 ounces (275 grams)

FCC Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by JK Audio can void the user's authority to operate the equipment.

Declaration of Conformity

Declaration of Conformity

Manufacturer's Name	JK Audio, Inc.
Manufacturer's Address	1311 E 6th Street Sandwich, Illinois 60548 USA
Declares that the product:	
Product Name	Interloop™ Wired / Wireless Belt Pack
Model Numbers	Interloop
Conforms to the following Product Specifications:	
ESD	ESD: EN 61000-3-2, 3-3, 4-3, 4-4, 4-5, 4-6, 4-11 EN 301 489-17 V1.2.1
Emissions	EN 55022:1998, +A, 2000+A3, 2003 Class B ETSI EN 300.328 V1.6.1: 2000 FCC Part 15 FCC ID QOQWT32AE IC Radio Standards

Declaration of Conformity

The product herewith complies with the requirements of the following Directives and carries the CE marking accordingly:

R&TTE Directive 1999/5/EC
EMC Directive 89/336/EEC, 92/31/EEC, 93/68/EEC
RoHS Directive 2002/95/EC

The Technical File containing supporting documentation is maintained at:

JK Audio, Inc (Corporate Headquarters)
Compliance Manager
1311 E 6th Street
Sandwich, Illinois 60548 USA
815-786-2929 phone
815-786-8502 fax

Interloop™
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CE

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JK Audio, Inc.
1311 E 6th St.
Sandwich, IL 60548
United States
Telephone: 815.786.2929
Toll Free: 1.800.jkaudio
Fax: 815.786.8502
www.jkaudio.com

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