



BlueKeeper™ Wireless Audio Gateway



User Guide

Welcome

Thank You

Thank you for purchasing a JK Audio BlueKeeper Wireless Audio Gateway. Please read this guide for instructions on setting up and using your new product.

Getting Assistance

If you have technical or application questions, call us **M-F: 8:30am-5:00pm (CT)**

In the US & Canada (Toll-Free)
800-552-8346

All other countries:
815-786-2929

Email us at:
support@jkaudio.com

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

Limited Warranty

The BlueKeeper 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.

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Features

Features

HD Voice (Wide-Band Speech)*

Bluetooth Wireless Technology

Send XLR Line Input

Mic/Line Switch

3.5mm Stereo Line Input

3.5mm Mono Line Input

Caller XLR Line Output

3.5mm Stereo Line Output

3.5mm Mono Mic Level Output

3.5 mm Stereo Headphone Jack

Send and Caller Signal Level LEDs

Send and Caller Volume Controls

In the Box

Universal Power supply with detachable cord

HD Voice

While standard phone calls have a narrow bandwidth of 300 Hz to 3.4 kHz, 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

HD Voice is available on many third party headsets and cell phones. 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.

Introducing the BlueKeeper

JK Audio combines Bluetooth Wireless Technology with professional audio electronics in a convenient desktop design. BlueKeeper pairs to your cell phone like a Bluetooth wireless headset. Connect your favorite microphone and headphones for dramatically improved sound quality at both ends of the call.

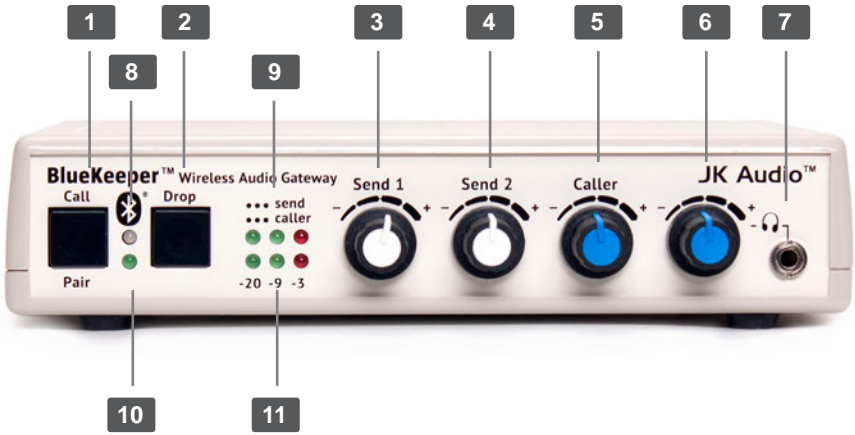
BlueKeeper allows you to send mic and line level signals into your wireless phone while maintaining excellent separation between your voice and the caller. The stereo output jack provides your voice on one channel and only the caller's voice on the other channel. The balanced XLR output jack contains only the caller's voice.

The 3.5 mm stereo line input jack allows recordings to be sent into the Bluetooth device. The 3.5 mm stereo line output jack provides your full bandwidth send mix on the left channel and Bluetooth caller audio on the right channel. The headphone output gives you a mix of the XLR input, 3.5 mm input, and Bluetooth audio.

Ready to go?

The BlueKeeper controls and connectors are clearly marked and ready for operation. If this is your first exposure to a hybrid, we suggest that you read the entire manual to allow you to take advantage of all these features.

Getting to Know Your BlueKeeper



Controls & Indicators

1. Call/Pair Button

Use this button to control the access Bluetooth functions, answer incoming calls or redial the last number called.

2. Drop Button

Press this button to drop (hang up) a call.

3. Send 1 Level

Adjusts the signal level that you are sending into the phone call, through the female XLR input.

4. Send 2 Level

Adjusts the signal level that you are sending into the phone call, through the 3.5mm mini jack input.

5. Caller Level

Adjusts the level of the incoming caller's audio as it is going out the output jacks.

6. Headphone Level

Adjusts the signal level coming from the 3.5mm front panel headphone jack.

7. Headphones

The 3.5mm stereo headphone jack contains a mix of both the Send input audio and the Caller audio.

Indicators Cont'd

8. Bluetooth LED

Indicates Bluetooth Status (see page 8).

9. Send LEDs

Displays the signal level sent to the caller. The goal is to drive the send audio at levels high enough to avoid noise, but not so loud as to cause excessive clipping. Adjust the **<Send>** level controls so that you rarely see flashes of the red -3 dB peak Send LED. These flashes should occur only during loud speech bursts. If the red LED stays lit for extended periods you can assume that much of your speech is being clipped or distorted. In this case you should lower the **<Send>** volume control for the input that is causing the clipping.

The **<Send 1>** volume control will set the level of any audio connected to the **<Send 1>** XLR jack on the back of the BlueKeeper. The **<Send 2>** control will set the level of the **<Send 2>** mini jack on the back of the BlueKeeper. These two inputs will be combined on the LED meter and on the Left channel of the stereo output mini jack.

10. Power LED

Lit when unit is plugged in and receiving power.

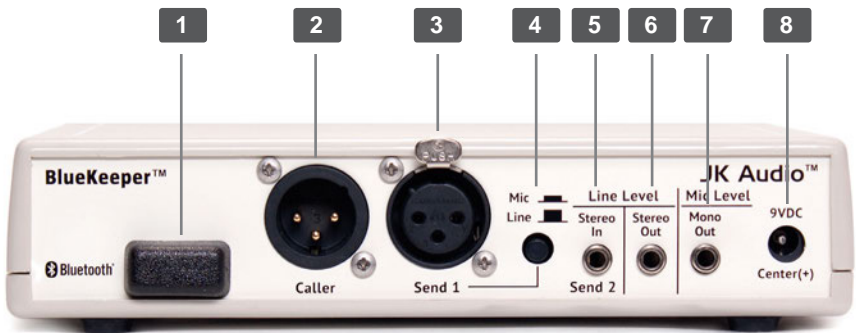
11. Caller LEDs

Displays the signal level coming in from the cell phone, after the DSP. This signal level will not change when you adjust the **<Caller>** knob. If you see the red -3 dB peak Caller LED light more than occasionally, you should lower the volume on your cell phone to avoid overdriving and distortion.

The **<Caller>** level control knob does not change what you see on these LEDs. Adjust the **<Caller>** level control to give you the best signal level at the **<Caller>** XLR output or the right channel of the stereo output mini jack.

You can listen to the combined audio level in your headphones. After setting the Send levels for the highest level you can send without distortion as indicated by the LED meter, listen to the audio in your headphones and set the **<Caller>** level to match the Send level. Or if your recording device has a meter, you can use that to match the **<Caller>** level to the Send level.

Getting to Know Your BlueKeeper



Inputs & Outputs

- 1. Bluetooth Antenna**
Do not obstruct.
- 2. Caller Output**
Male balanced XLR output contains only the caller's voice.
- 3. Send 1 Input**
Female balanced XLR input for signals going out to the cell phone.
Mic or line level input.
- 4. Mic / Line switch**
Sets the front end sensitivity of the Send 1 XLR jack. Set to <Mic> if you intend to connect a dynamic microphone directly to the Send 1 jack. Set to <Line> if you are connecting to the output of a mic mixer.
- 5. Send 2 Stereo Input**
3.5 mm <Stereo In> mini jack for signals going into the cell phone.
Line level.

Inputs & Outputs Cont'd

6. Stereo Output

3.5 mm **<Stereo Out>** mini jack contains both Send and Caller audio channels with levels determined by the **<Send 1>** and **<Send 2>** level controls and the **<Caller>** level control. Left channel contains your local Send audio and right channel contains the Caller's audio from the cell phone.

7. Mono Output

3.5 mm **<Mono Out>** mini jack contains a mix of **<Send 1>**, **<Send 2>** and **<Caller>** audio with levels controlled by each of the input control knobs on the front of the unit. This output is at Mic level and is suitable for connecting to the Mic input on a computer or other recording device.

8. Power Jack

For connection only to the supplied 9VDC regulated power supply.

Getting Connected

Note: There are 2 ways to set up the audio equipment for BlueKeeper.

- If you are only using **one mic**, please continue to **Step 3**.
- If you are using a **mixer with two or more mics**, please skip to **Step 6**.

Setting up for One Mic/Headphone (No Mixer)

1. Connect a dynamic microphone cable to the **<Send 1>** jack on the hybrid. Be sure to set the BlueKeeper **<Mic/Line>** switch to the **<Mic>** position.
2. Connect a headphone to the front of the BlueKeeper.
3. Connect a stereo cable from the mini-jack **<Stereo Out>** on the BlueKeeper to the **<Line In>** on your computer sound card or other recording equipment that has a stereo input. Continue to **Step 12**.



Setting up for two or more Mics and a Mixer (Mix Minus Caller)

Note: A mix-minus signal is an audio signal that contains a mix of your local microphones plus any other audio, minus the Caller's own voice. Sending the Caller's audio back to the BlueKeeper will cause an echo, or feedback.

4. Connect the BlueKeeper **<Caller>** output to any **Line** input on the mixer.
5. Connect microphone(s) to the mic inputs on your mixer.
6. Connect the mixer's Mix-Minus bus or **Aux Send** output (this may be labeled **FX** or **Mon** but any Aux bus will work) to the **<Send 1>** input on BlueKeeper. Set the BlueKeeper **<Mic/Line>** switch to the **Line** position.
7. **If your mixer doesn't have a mix-minus bus:** Whichever input channel you have the **<Caller>** connected to, turn the corresponding **Aux** control to minimum. All **Aux** controls for other channels should be set for audio sent to the phone line. Each **Aux Send** bus is completely separate from all other outputs, so these Aux controls will not affect what is heard on the Main outputs or on any other Aux buses.

Tip: Using an Aux Send bus that is **Pre-Fader** allows you to control the levels of each channel to the main output without affecting what is sent to the phone call.

Getting Connected

8. Connect your headphones to the mixer.
9. Use Main Outputs to send audio to recording device or broadcasting equipment inputs.



Completing Setup

10. Connect the supplied DC power supply to the back of the BlueKeeper and then to an AC power outlet.
11. Adjust the <Send> level controls so that you consistently light the green -20 dB and -9 dB and rarely light the red -3 dB peak Send LED. These flashes should occur only during loud speech bursts. If the red LED stays lit for extended periods you can assume that much of your speech is being clipped or distorted. Set the <Caller> control for good recording level of the caller audio at the output jack.
12. Finally, pair your Cell Phone (see page 9).

Bluetooth Wireless Technology

When attempting to put the unit into Idle or Pairing mode, you should power the unit off then back on (by disconnecting and reconnecting the power cord) before pressing the <Pair> button.

Note: If you put the unit into the wrong state due to releasing the <Pair> button at the wrong time, holding the <Pair> button for “X” seconds will not put it into the desired mode.

Pairing Mode

Hold the <Pair> button for **5** seconds, then release to activate *Pairing Mode*. Once the pairing process is complete, the unique device ID of the paired device is stored in Bluekeeper’s Connection History. Subsequent connections can be made from *Idle Mode*.

In Pairing Mode, any Bluetooth enabled device within range can pair with your BlueKeeper. 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.

Idle Mode

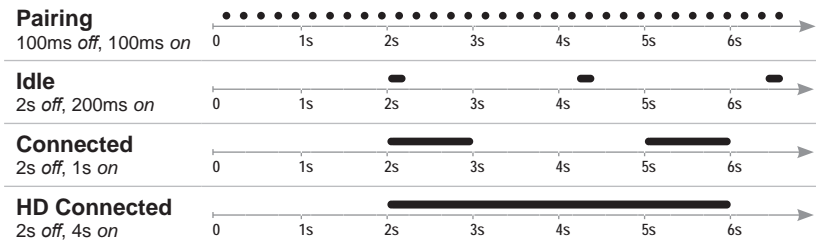
Hold the <Pair> button for **2** seconds, then release to activate *Idle Mode*. In *Idle Mode*, BlueKeeper searches for paired devices.

Connected Mode

After bonding is complete, the connection to that device is secure. BlueKeeper returns to *Idle Mode* when a connection is dropped or terminated.

Bluetooth Status LED

The blue LED on the top of the unit flashes in different sequences to indicate the current connection status.



Pairing to a Cell Phone with Bluetooth Wireless Technology

When you are 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. Connect BlueKeeper to power, then hold the **<Pair>** button for **5** full seconds. After you release the **<Pair>** button, the blue LED should flash rapidly if BlueKeeper is in *Pairing Mode*.
2. On your device, find and select the option to set up a connection. When the cell phone has found the new device, select from the list the device ID of "JKBKxxxx" where: **xxxx** = last four digits of the serial number.
3. If asked for a pin, enter "0000".
4. When bonding is complete, the blue LED will flash at a rate of **2** secs *off*, **1** sec *on* (**2** seconds *off*, **4** seconds *on* for HD mode). Once BlueKeeper has been added to your cell phone, subsequent connections can be made more quickly from *Idle Mode*.

Placing a call with BlueKeeper

1. To place an outgoing call, dial the number on your cell phone and the call will be active on BlueKeeper. To redial the last number or answer an incoming call, press the **<Call>** button.
2. When your call is completed, press the **<Drop>** button on BlueKeeper.

Note: If you do not hear your cell phone ring, you may need to check the Bluetooth headset settings on your phone. The phone may send a beep to your headphone instead of ringing to indicate an incoming call.

Disconnecting from a device with Bluetooth Wireless Technology

To disconnect your cell phone, disconnect the Bluekeeper from your phone's Bluetooth menu, turn off Bluetooth on your phone, power off your phone or BlueKeeper, or take the cell phone out of range.

Connection History

BlueKeeper retains a history of the 16 most recent devices. To clear the connection history and return to factory reset, from the power off state, hold the **<Call>** button in for at least **20** seconds. The Bluekeeper will clear the history and then go into Pairing mode.

FAQs

1. **What is the range of the Bluetooth transmitter/receiver?**

BlueKeeper will transmit and receive audio signals up to 66 feet (20 meters) from your Bluetooth device. The maximum range of this product is achieved when a clear line of sight is maintained between connected devices, but may also be limited by interference due to the environment. While this product offers extended range capabilities, maximum usable range is limited by the weaker of the two paired/connected devices.

2. **Will the digital hybrid provide phantom power for a condenser mic?**

No, this device will not provide phantom power. If you connect a microphone directly to the BlueKeeper, you should use a dynamic mic.

3. **Why is there a Send 2 mini-jack on the back of my BlueKeeper?**

This is a second line level input to the BlueKeeper. Here you can connect another device, such as a MP3 player or computer, to add audio to the conversation. This enables you to play background music or other sound bites during your discussion. Do not connect a microphone to this jack.

4. **How do I record onto my computer and edit the files?**

You will need to purchase or download any audio editing software of your choice. You may also need to edit the audio configuration files on your computer or in your software to allow recording in stereo. BlueKeeper just enables you to access the audio from your cell phone or other connected Bluetooth device.

5. **Why does my laptop only record half of the conversation? I am using the Stereo output on the BlueKeeper and I have a stereo cable.**

Many laptop computers only have a mic input, which is mono. If you want to record 2 track stereo audio, you will need to either get a sound card with a stereo line level input for your laptop or use a USB or FireWire interface product. However, the BlueKeeper has a mono, mic level output that can be connected directly to the mic input of your laptop if available. This will allow both sides of the conversation to be recorded onto one mono track in your software. This jack will not work with a TRRS headset jack on your laptop/tablet.

6. **Why does my laptop / tablet not receive audio from the Bluekeeper for recording?**

Many newer laptops / tablets only have a TRRS headset jack. If you want to record 2 track stereo audio, you will need to either get a sound card with a stereo line level input for your laptop or use a USB or FireWire interface product.

If you would like to record from the mixed Mono Out of Bluekeeper, you will need to get an appropriate TRRS to mic / headphone adapter.

7. There is a loud hum on the output of my BlueKeeper, even when nothing else is connected. What else could it be?

Make certain you are using the regulated power supply that was shipped with this unit. Power supplies are not all the same.

8. Can I still use my phone to take regular calls or do I have to disconnect the BlueKeeper when I am not using it?

If you would like to use your phone normally while it is connected to the BlueKeeper, you will need to select “Handset” or “Speaker” from the phone’s call menu instead of “Bluetooth”. This will allow you to have a conversation on your phone without the audio being routed via Bluetooth to the BlueKeeper.

9. Can I pair my BlueKeeper to two cell phones and send my audio to two locations simultaneously?

No, a BlueKeeper can only be connected to one mobile device with Bluetooth Wireless Technology at a time.

10. What is the difference between Mic Level and Line Level?

Mic level is typically 20-30 dB lower than Line level and needs a pre-amp to bring it up to Line level. While many audio recording or playing devices will have an 1/8” input, it is important for you to know what type of input it is. Usually a mic input will be mono and will use a pre-amp circuit, and a line input will be stereo.

Check your cable also to be sure it is compatible with the type of input/output you are using. A stereo mini cable will have two black rings and a mono cable will have one black ring on the plug. On many mixing consoles, the XLR input will be mic level and the 1/4” TRS inputs will be line level.

11. My Bluetooth device has the latest Bluetooth version (Bluetooth 4.0) but your product does not. Will there be a compatibility problem?

No, the latest Bluetooth version should be backwards compatible with older Bluetooth versions.

12. I have a stereo mixer with no Aux bus and only one set of outputs. How do I create a mix-minus setup?

If your mixer does not have an **Aux Send** bus, you can use **Pan** controls with the **Left** and **Right** outputs. Pan the **Caller** to the **Right** output. Then connect only the **Left** output to the BlueKeeper **<Send 1>** input. Leave the microphones panned to the middle and send the **Right** channel output containing the mixed audio to your recording device.

Instead, you may also send the mix-minus signal from the L channel RCA output to the **<Send 2>** input if necessary.

Technical Information

Specifications

| Input | Impedance / Level |
|----------------------|--|
| Balanced Female XLR: | 1k ohms / 15 mV RMS; -34 dBu nom.; Mic/Line Pad Switch = +6 dBu max |
| 1/8" (3.5mm) Stereo: | 20k ohms / 250 mV RMS; -10 dBu nom.; +6 dBu max |

Output

| | |
|------------------------|--|
| Balanced Male XLR: | 200 ohms / 500 mV RMS; -4 dBu nom.; +14 dBu max; Caller Only |
| 1/8" (3.5mm) Mono: | 50 ohms / 15 mV RMS; -34 dBu nom Mixed Send and Caller |
| 1/8" (3.5mm) Stereo: | 50 ohms / 250 mV RMS; -10 dBu nom; +6 dBu max Left = Send; Right = Caller |
| Headphone 1/8" Stereo: | 8 ohms / ½ watt per channel Mixed Send and Caller |

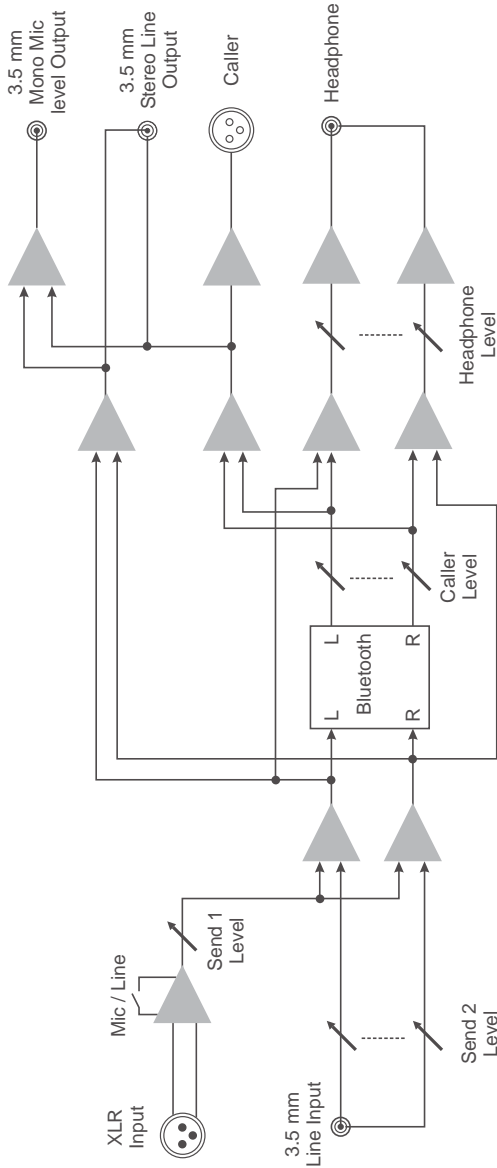
Bluetooth Wireless Technology

| | |
|---------------------|--|
| Standard: | Bluetooth 3.0 |
| Range: | 66 ft (20 meters) |
| Frequency Response: | Hands-Free (Full Duplex): 300 Hz– 3.4 kHz Hands-Free (Full Duplex HD Voice): 50 Hz– 7 kHz |

Misc.

| | |
|------------|-----------------------------------|
| Isolation: | 1500 VAC |
| Power: | 120-240 VAC Power Supply |
| Size: | 7" x 6" x 1.6" (18 x 15 x 4.2 cm) |
| Weight: | 2.2 lbs. (1kg) |

Block Diagram



FCC Compliance Notice

FCC Part 15 Subpart A 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/her own expense.

Changes or modifications not expressly approved by JK Audio can void the user's authority to operate the equipment.

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: BlueKeeper Wireless Audio Gateway
Model Numbers: BlueKeeper

Conforms to the following Product Specifications:

Safety: CAN/CSA-C22.2 No. 60950-01-03
UL Standard 60950-01 1st edition

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 55022:2006
AS/NZS CISPR 22: 2006
ETSI EN 300.328 V1.6.1: 2000
FCC Part 15, Subpart B
ICES-003

Bluetooth Radio: EN 300.328
FCC Part 15.247
FCC ID QOQWT32AE
IC 5132A-BGTWT32AE

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

R&TTE 1999/5/EC
EMC 89/336/EEC, 92/31/EEC, 93/68/EEC
RoHS Directive 2015/863

The Technical File containing supporting documentation is maintained at:

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Compliance Manager
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BlueKeeper™

Wireless Audio Gateway



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